

Rear axle

Limited slip differential rear axle

Model 107.048

With the limited slip differential there will be enough traction to move the vehicle in case one of the rear wheels starts slipping. More torque is transmitted to the wheel with good traction and driving-off, for example during the winter months, is improved. During straight ahead driving, vehicle straight-line stability is also improved.

The limited slip differential has clutch discs between the differential side gear and the axle shaft. On each axle shaft five clutch discs are installed with the friction lining on one or both sides. Five additional discs without friction lining are placed in-between and are prevented from rotating by tabs engaged in the differential case. The friction discs are splined to the axle shafts.

The remaining construction is similar to standard rear axle differentials.

Functional description

The differential pinions transfer a higher axial force to the non-turning differential side gear. From there the increased force is transmitted through the clutch discs, which are compressed, and transfer a portion of the differential case torque to the side gear and therefore to the non-spinning wheel.

Note:

In extreme cases (one wheel spinning on ice) the differential will only lock up slightly, because of the low transmitted torque and therefore the axial load on the pinion and side gear is relatively low.

In the above example, the friction discs will transfer only a slight additional torque to the stopped wheel. A limited slip differential cannot prevent spinning of a single wheel on glare ice.

Oil type:

M-B Limited Slip Differential Oil 000 583 09 04

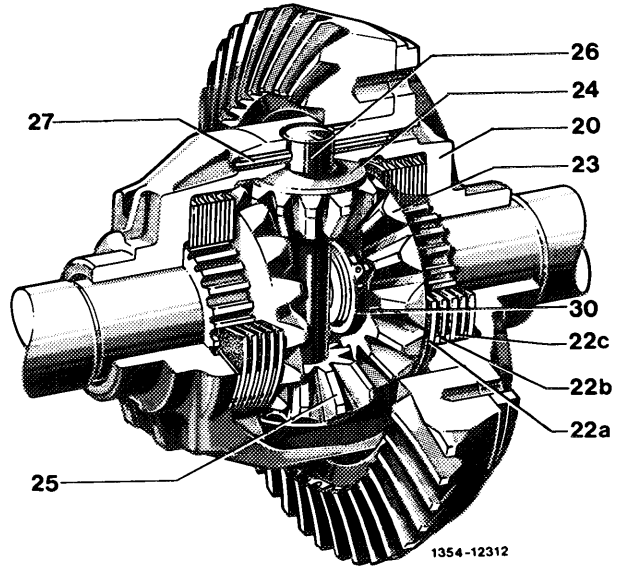


Fig. 35/1 Limited slip differential

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|-----|-------------------------------------|----|---------------------------|
| 20 | Differential case | 24 | Spherical washer |
| 22a | Friction disc with one-sided lining | 25 | Differential pinion |
| 22b | Friction disc without lining | 26 | Differential pinion shaft |
| 22c | Friction disc with two-sided lining | 27 | Roll pin |
| 23 | Differential side gear | 30 | Retaining ring |

Rear axle model 107

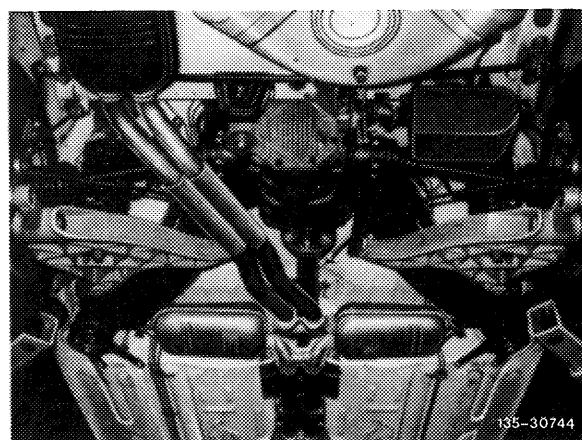


Fig. 35/2

Wheel guidance is basically the same as on the previous 107 model (Fig. 35/2).

Axle carrier

With the new elastically mounted rear axle center piece and available space, the rubber mounting at the rear has been offset by 124 mm to the left (Fig. 35/3). As a result, different loads must be carried by the left and right front rubber mounts respectively. The rubber mounts are therefore identified with L for left side and R for righthand side installation (Fig. 35/4).

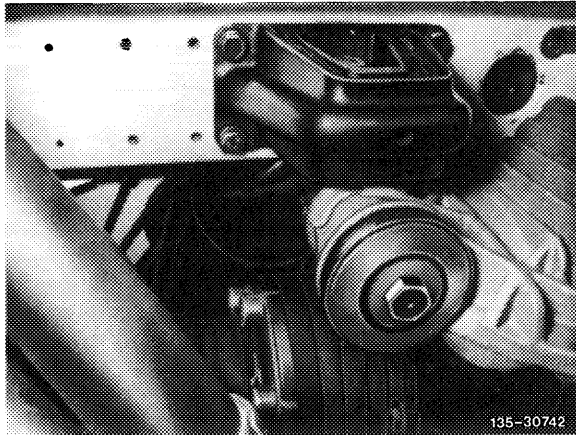


Fig. 35/3

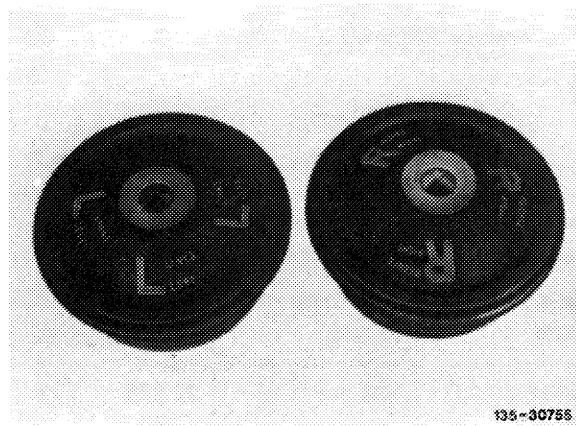


Fig. 35/4

Center piece mounting

The rear axle center piece is elastically mounted to the rear axle carrier, at the front in two, and at the rear in one rubber bushing. As a result good noise and vibration dampening are obtained. At the front mounting one rubber bushing each is installed at the bottom (54b) between the axle carrier and housing; on top there is one threaded rubber bushing (54a) at the axle carrier (Fig. 35/6).

The tightening torque of self-locking hex. socket screws is 60 Nm. At rear the mounting consists of a rubber bushing (57a) between the rear axle carrier and end cover, and a rubber bushing (57b) below the end cover (Fig. 35/6). Fastening is by a special screw (57d) with a spherical contact surface and sleeve (57c). The tightening torque is 110 Nm.

Rear axle shafts

To reduce vibration at higher rpms the rear axle shafts are provided with constant velocity joints similar to model 126 Coupe but without damping collars (Fig. 35/5). The screw tightening torque of the rear axle shaft is 70 Nm for M10 (threads and screw head lubricated) and 135 Nm for M 12 x 1.5 (unlubricated) screws.

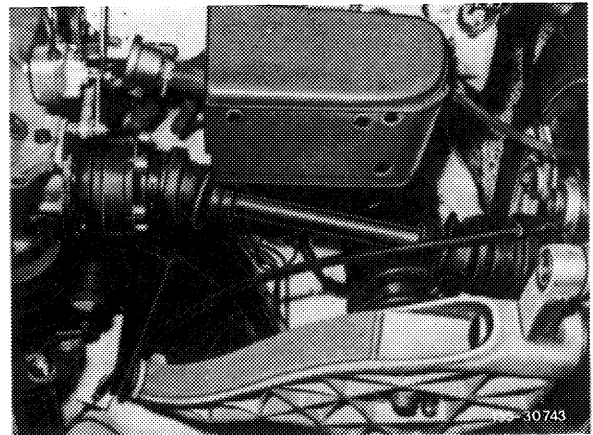


Fig. 35/5

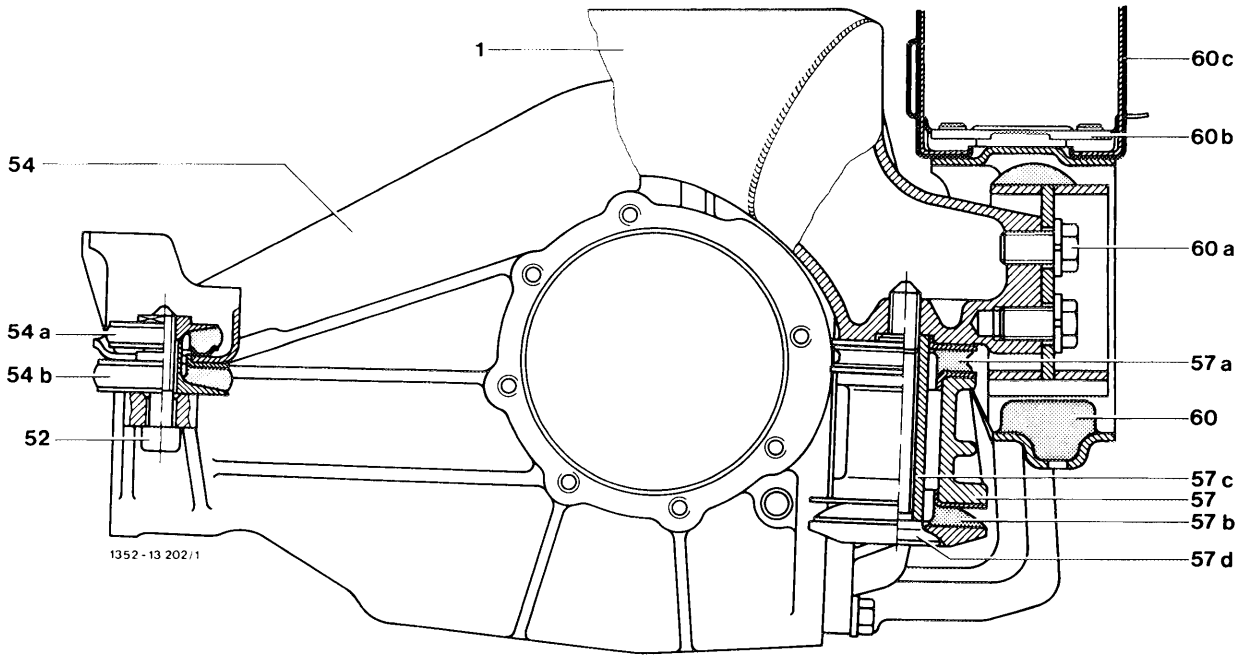


Fig. 35/6

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|-----|--------------------------------|-----|------------------------------|-----|--------------------------------------|
| 1 | Rear axle carrier | 54b | Rubber bushing front - below | 57c | Sleeve |
| 52 | Self-locking hex. socket screw | 57 | Rear axle end cover | 57d | Screw with spherical contact surface |
| 54 | Rear axle center piece | 57a | Rubber bushing - top | 60 | Rear rubber bushing |
| 54a | Rubber bushing front - top | 57b | Rubber bushing - below | 60a | Hex head screw |

Gear set

The rear axle ratio is shown in the table below.

Model	Rear axle center piece		Rear axle shaft with constant velocity		
	Ring gear dia. in mm	Ratio	Innter joint Ball dia. in mm	Outer joint Bolt circle dia. in mm	Ball dia. in mm
107.048	210	2.47	23.812 (15/16")	102	22.225 (7/8")