Rear Suspension

MERCEDES-BENZ

240D, 300 Series, 380 Series

NOTE: For 300TD components not covered in this article, see Automatic Level Control article in this section.

DESCRIPTION

Mercedes-Benz rear suspension is independent type with coil springs and semi-trailing arms. Rear axle carrier is mounted to body at 3 points and supports rear axle assembly. Axle shafts serve as upper control arms to rear wheels.

Wheel hubs are supported by semi-trailing arms which run forward to pivot points on rear axle carrier and body. Shock absorbers are mounted inside of coil springs, attached to body on top and to semi-trailing arms on bottom. Stabilizer bar is mounted to body and to wheel hubs at ends.

ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & ADJUSTMENTS

See Wheel Alignment Specifications & Adjustments in WHEEL ALIGNMENT section.

REMOVAL & INSTALLATION

SHOCK ABSORBER

Removal (Exc. 300TD)

1) Shock absorbers should be removed only when vehicle is resting on wheels or when semi-trailing arm is supported. On vehicles with coupe top, remove top and open flap.

2) On all models, remove rear seat and backrest. Remove locking lever from top flap and unscrew lining. Remove nut and rubber ring of upper shock mount. Remove lower shock mount on semi-trailing arm. Remove shock absorber in a downward direction.

Installation

To install, reverse removal procedure.

COIL SPRING

Removal

1) Remove shock absorbers as previously outlined. Raise vehicle and support with safety stands. Raise semi-trailing arm until approximately level.

2) Using spring compressor, compress coil spring. Carefully lower semi-trailing arm and remove spring with rubber mounting.

Installation

To install, reverse removal procedure.

REAR SUSPENSION & AXLE

REMOVAL

1) Raise vehicle and support with safety stands. Remove wheel assemblies. Disconnect exhaust system. Detach parking brake control cables at frame and compensating lever.

2) Loosen clamp nut and disconnect drive shaft intermediate bearing from frame. Disconnect rear of drive shaft and slide forward, out of centering position.

NOTE: On 3-piece drive shaft, loosen front clamp nut only.

3) Remove shock absorber and coil spring as previously described. Detach and plug brake lines. Disconnect stabilizer bar holding clamps.

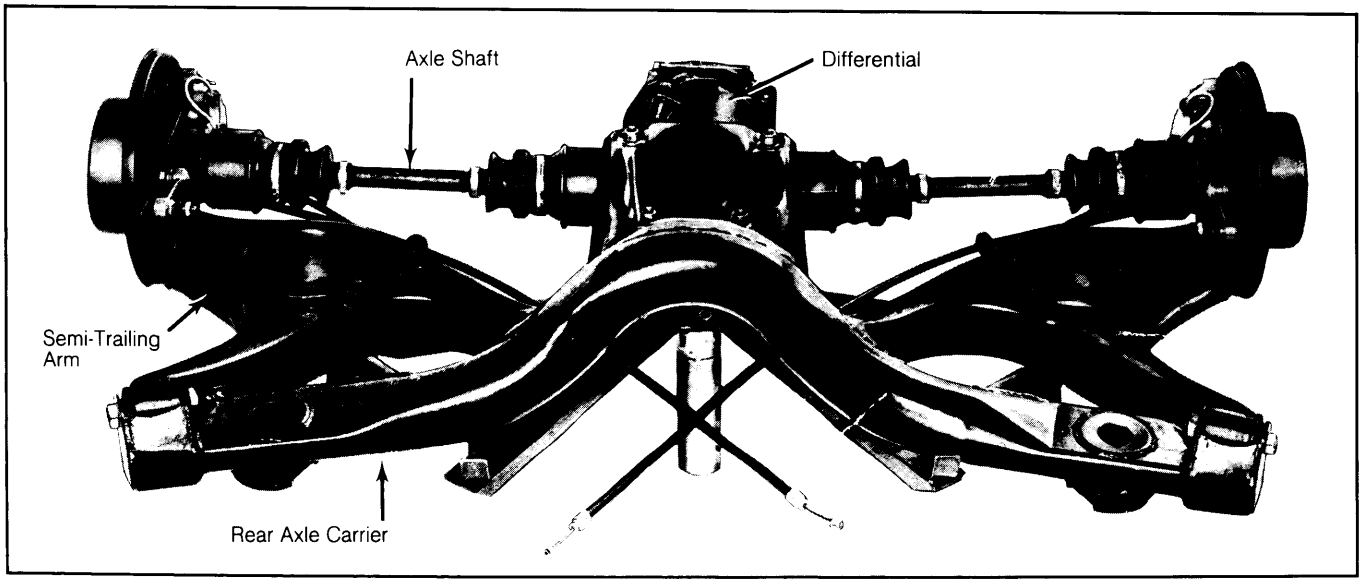
4) Place floor jack under rear suspension. Disconnect supporting plates and front and rear rubber mounts from frame. Carefully lower jack and remove rear suspension from vehicle.

5) Remove rear rubber mount from axle. When lowering and removing rear suspension, be sure cover plates of disc brakes are not damaged.

Installation

To install, reverse removal procedure.

Fig. 1: Rear Suspension Trailing Arm, Differential & Axle Carrier



MERCEDES-BENZ (Cont.)

DIFFERENTIAL WITH AXLE SHAFTS

Removal

1) Drain fluid from differential. Detach brake caliper from right rotor and support out of the way. Remove axle shaft-to-flange attaching bolts (both sides) and force rear shafts out of shaft flanges.

NOTE: It may be necessary to loosen right shock absorber upper mount and lower semi-trailing arm to deflection stop.

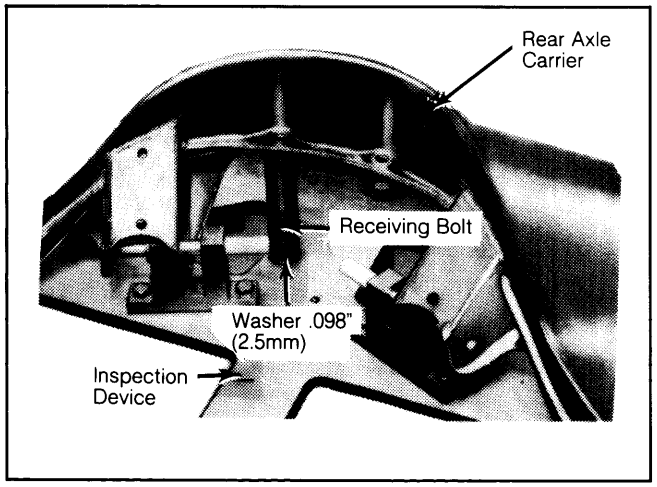
2) If required, remove exhaust system. Loosen clamp nut and detach drive shaft intermediate bearing from frame. Remove drive shaft from differential and push from centering alignment.

NOTE: On 3-piece drive shaft, loosen front clamp nut only.

3) Support differential with floor jack and support tool (115 589 35 63 00). Disconnect rear rubber mount from body. Disconnect differential from rear axle carrier. Lower floor jack and remove differential with axle shaft.

CAUTION: When moving differential with axle shafts, make sure that axle shafts are supported and do not drop down, as this might damage inner joints.

Fig. 2: Proper Washer Placement for Rear Axle Carriers without Spot Welds



Installation

1) Check all rubber parts and replace as necessary. To install differential with rear axle shafts, reverse removal procedure.

2) Tighten down all nuts and bolts, except when connecting drive shaft to differential. These bolts must be torqued after vehicle has been rolled forward and backward to seat parts. Install exhaust system, if removed.

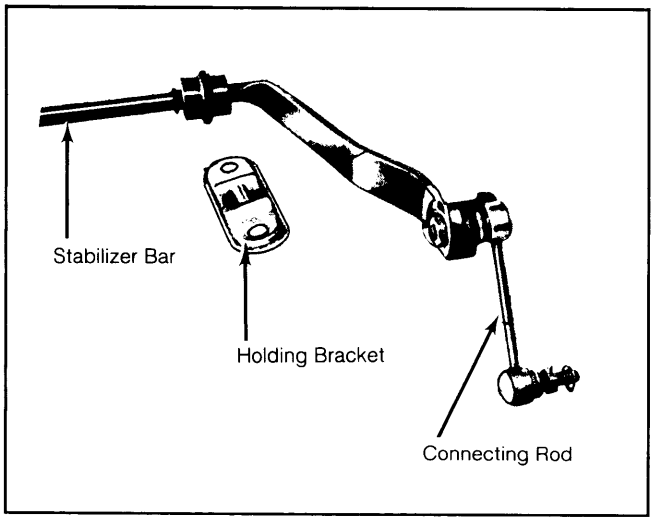
REAR STABILIZER BAR

Removal

1) Raise vehicle and support with safety stands. Remove wheel assemblies. Detach connecting rod from stabilizer on both sides of vehicle.

2) Remove stabilizer bar holding brackets. Loosen exhaust pipe mounts (rubber rings) and lower slightly. Remove stabilizer bar in a downward direction

Fig. 3: Stabilizer Bar and Mounting Locations



Installation

To install, reverse removal procedure.

NOTE: When installing rear stabilizer bar, ensure that bend of bar is pointing upward.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Axle Shaft-to-Axle Shaft Flange	69 (94)
Brake Caliper Bolts	23-29 (31-39)
Differential-to-Rear Axle Carrier	72 (98)
Drive Shaft Clamp Nut	
2-Piece	145 (197)
3-Piece	
Front	23-29 (31-39)
Rear	145 (197)
Front Rubber Mounts-to-Frame	29 (39)
Rear Rubber Mount-to-End Cover	101 (137)
Rear Rubber Mount-to-Frame	18 (24)
Semi-Trailing Arm-to-Rear Axle Carrier	87 (118)
Shock Absorber Lower Mount	33 (45)
Supporting Plate-to-Frame	23-29 (31-39)
Torsion Bar Bearing Bolts	47 (64)
Torsion Bar Connecting Rod Ball Joints	33 (45)