

# Rear Suspension

## MERCEDES-BENZ

230  
240D  
300D  
280  
450

### DESCRIPTION

Rear suspension is independent with coil springs and semi-trailing arms. Rear axle carrier is mounted to body at three 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 ABSORBERS

**NOTE** — Shock absorbers should be removed only when vehicle is on wheels or when semi-trailing arm is supported.

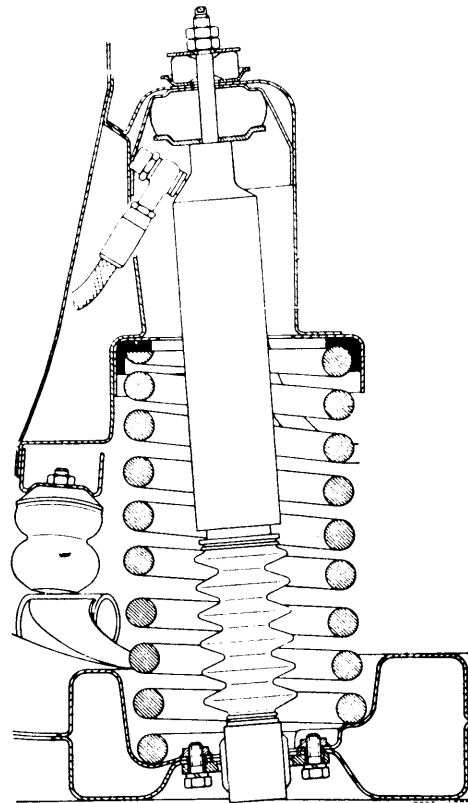


Fig. 2 Rear Spring and Shock Absorber Configuration

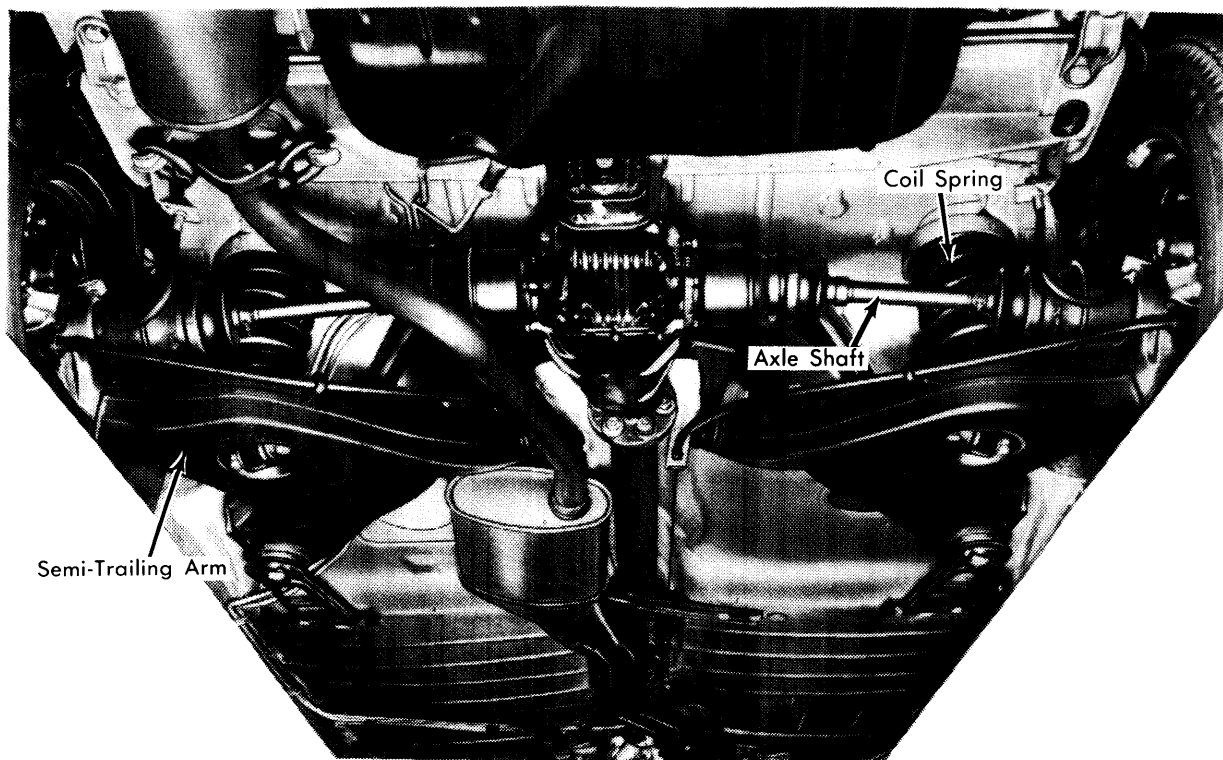


Fig. 1 Rear to Front View of Typical Mercedes Benz Rear Suspension

## MERCEDES-BENZ (Cont.)

**Removal** – Vehicles with coupe top, remove top and open flap. All models, remove rear seat and backrest. Remove locking lever off of 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 rear shock absorbers, reverse removal procedure.

### COIL SPRINGS

**Removal** – Remove shock absorber as previously outlined. Raise and support rear of vehicle on safety stands. Raise semi-trailing arm until it is approximately level. Using suitable spring compressor (115 589 00 31 00), compress spring. Carefully lower semi-trailing arm and remove spring with rubber mounting.

**Installation** – To install rear coil spring, reverse removal procedure.

### REAR STABILIZER BAR

**Removal** – Raise and support rear of vehicle with safety stands, remove wheels. Disconnect connecting rod from stabilizer on both sides of vehicle. Remove stabilizer bar holding brackets. Loosen exhaust pipe mounts (rubber rings) and lower slightly. Remove stabilizer bar in a downward direction.

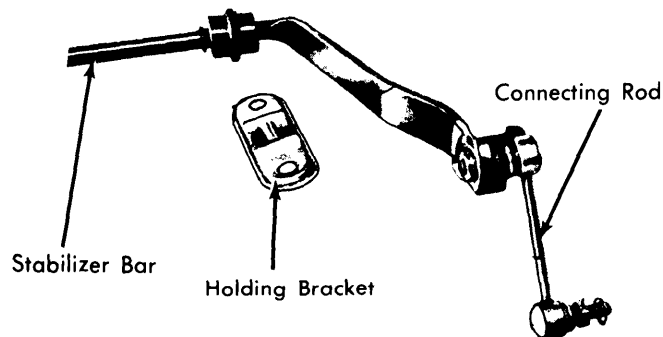


Fig. 3 Stabilizer Bar and Mounting Locations

**Installation** – To install rear stabilizer bar, reverse removal procedure.

### REAR SUSPENSION & AXLE

**Removal** – 1) Raise and support vehicle with safety stands, remove wheels. Disconnect and remove exhaust system. Disconnect parking brake control cables at frame and compensating lever.

2) Loosen clamp nut and disconnect drive shaft intermediate bearing from frame. **NOTE** – On three piece drive shaft, loosen front clamp nut only. Disconnect rear of drive shaft and slide forward, out of centering position.

3) Remove shock absorber and coil spring as previously outlined. Disconnect and plug brake lines. Disconnect stabilizer bar holding clamps from frame.

4) Place jack with suitable jack top (116 589 10 61 00) under rear suspension. Disconnect supporting plates, front and rear rubber mounts from frame. Carefully lower jack and remove rear suspension from vehicle. Remove rear rubber mount from axle.

**CAUTION** – When lowering and moving rear suspension, make sure cover plates of disc brakes are not damaged.

**Installation** – To install rear suspension and axle, reverse removal procedure.

### DIFFERENTIAL WITH AXLE SHAFTS

**Removal** – 1) Drain oil from differential. Disconnect brake caliper on right hand side and support to prevent damage to brake line. Remove bolt attaching rear axle shafts to rear axle shaft flanges, on both sides, and force rear axle shafts out of rear axle shaft flanges. **NOTE** – If required, loosen right side rear shock absorber at upper mount and lower semi-trailing arm to deflection stop.

2) If required, remove exhaust system. Loosen clamp nut and disconnect drive shaft intermediate bearing from frame. **NOTE** – On three piece drive shaft, loosen front clamp nut only. Disconnect drive shaft from differential and push out of centering alignment.

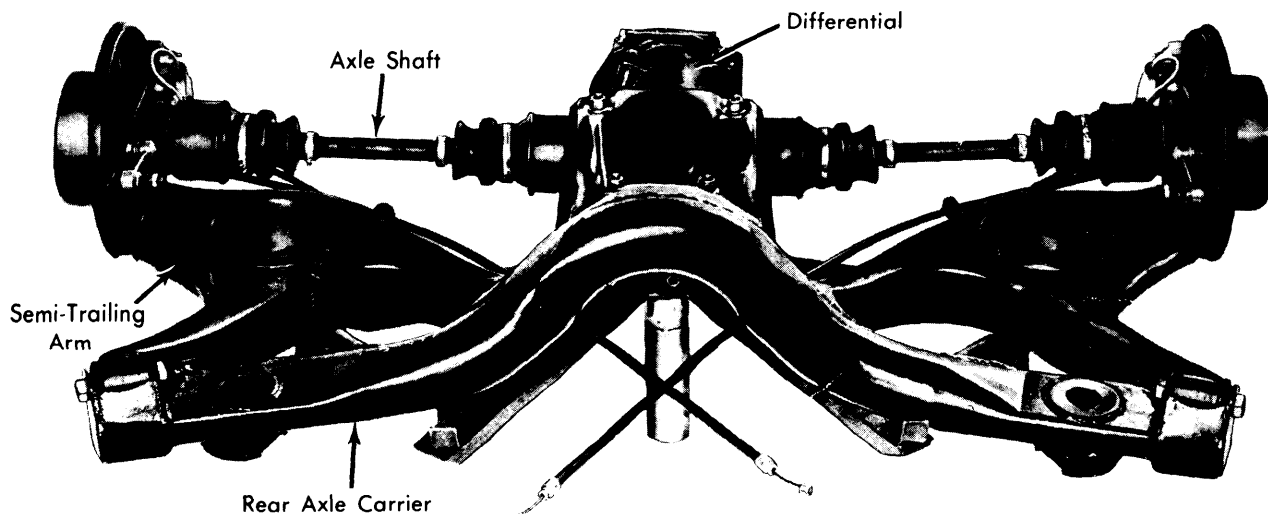


Fig. 4 Typical Mercedes Benz Rear Suspension with Components Removed

# Rear Suspension

## MERCEDES-BENZ (Cont.)

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

**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.

**Installation** — Check all rubber parts and replace as necessary. To install differential with rear axle shafts, reverse removal procedure. 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 AXLE CARRIER

**Removal** — Remove rear suspension, differential with rear axle shafts and semi-trailing arms as previously outlined.

**Inspection** — Using inspection tool (Fig. 6), check rear axle carrier. When checking rear axle carriers without spot welded washers, place a .098" (2.5 mm) thick washer under receiving bolt (Fig 5).

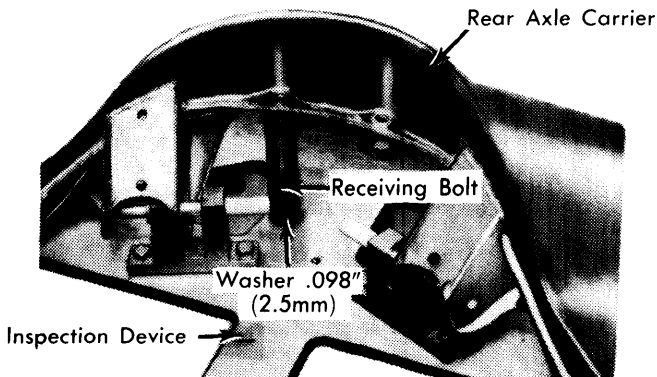
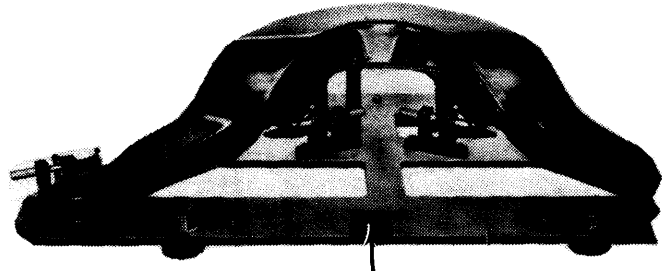


Fig. 5 Proper Washer Placement for Rear Axle Carriers without Spot Welds

**Installation** — To install rear axle, reverse removal procedure.



Inspection Device

Fig. 6 Inspection Tool 115 589 04 23 00

### TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Shock Absorber Lower Mount.....	33 (4.6)
Torsion Bar Bearing Bolts.....	47 (6.5)
Torsion Bar Connecting Rod	
Ball Joints.....	33 (4.6)
Rear Rubber Mount-to-End Cover.....	101 (14.0)
Rear Rubber Mount-to-Frame.....	18 (2.5)
Front Rubber Mounts-to-Frame.....	29 (4.0)
Supporting Plate-to-Frame.....	23-29 (3.2-4.0)
Drive Shaft Clamp Nut	
(Two Piece).....	145 (20.0)
Drive Shaft Clamp Nut (Three Piece)	
Front.....	23-29 (3.2-4.0)
Rear.....	145 (20.0)
Semi-Trailing Arm-to-Rear	
Axle Carrier.....	87 (12.0)
Axle Shaft-to-Axle Shaft Flange.....	69 (9.5)
Differential-to-Rear Axle Carrier.....	72 (10.0)
Brake Caliper Bolts.....	23-29 (3.2-4.0)