1963-73 MERCEDES BENZ

All Models (1963-73)

DESCRIPTION

Three brake systems are used; drum type brakes on all four wheels, disc brakes on front and drum brakes on rear, and disc brakes on all four wheels. A single circuit master cylinder was used on early models and a dual circuit master cylinder is used on all late models. Some late models also have power assist. Parking brake on early models which had four wheel disc brakes, used an auxiliary caliper bolted to main brake caliper. Later models have integral drum type, which is located inside of brake rotor.

ADJUSTMENT

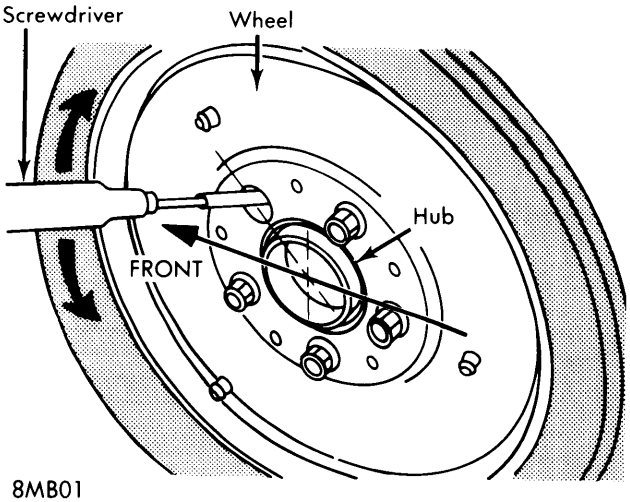
DISC BRAKES

Disc brakes are self-adjusting, therefore no adjustment in service is required.

PARKING BRAKE

Parking Brake (Drum) – Adjustment is made by turning wing nut on brake lever (early models) or by turning nut on relay lever (late models). Parking brake should lock rear wheels when lever handle is pulled out between two and four inches.

Parking Brake (Four Wheel Disc) – On all models except 280 SL, parking brake should lock rear wheels when lever is pulled out eight notches. On 280 SL, rear wheels should lock when lever is pulled out three notches. To adjust (on all models), raise and support rear of vehicle, remove one lug nut, and rotate wheel until lug nut hole is at 45° angle to horizontal plane. Hole should now be lined up with parking brake ratchet adjuster. Using a screwdriver inserted through lug nut hole, turn adjuster wheel until rear wheel can no longer be rotated by hand. Back off adjuster two or three teeth or until rear wheel can again be turned by hand. Repeat procedure for opposite side.



PARKING BRAKE ADJUSTMENT

HYDRAULIC SYSTEM BLEEDING

Single Circuit System – On all vehicles equipped with either all drum brakes or all disc brakes, bleed master cylinder, power unit (if installed) and then bleed each wheel. *NOTE – Always start with wheel farthest from master cylinder.* On vehicles equipped with front wheel disc and rear drum brakes, bleed master cylinder, power unit (if installed), disc brakes and then bleed drum brakes.

Dual Circuit System – If both circuits have been worked on, bleed push rod space and then bleed other space. Bleed brakes at wheels as previously outlined.

REMOVAL & INSTALLATION

LINING REPLACEMEMENT (DRUM BRAKES)

Removal – Raise and support vehicle, remove wheels and remove drums. Remove return springs, screws and washers. Remove retainters holding shoes to backing plate. Remove bolts securing wheel cylinders and remove shoes.

Installation – To install lining, reverse disassembly procedure.

DISC PADS

Removal – Raise and support vehicle with safety stands, remove wheels. Remove cover plate, except models with vented brakes. Knock out retaining pins with a drift punch and remove cross spring. Using a suitable tool, remove brake pads.

Installation – Clean caliper and rotor with a brush. Using suitable tool (111 589 07 37 00) force piston back into caliper and insert pads. Install retaining spring and pins, install cover plate (if equipped) and replace wheels.

BRAKE CALIPER

Removal – Raise and support vehicle, and remove wheel. Disconnect brake lines at caliper assembly, and plug lines to prevent entry of foreign matter. Remove caliper attaching bolts, and remove caliper assembly from vehicle.

Installation – To install caliper assembly, reverse removal procedure. Tighten all nuts and bolts, and bleed hydraulic system.

BRAKE ROTOR

Removal – 1) Raise and support vehicle on safety stands, remove wheels. For front rotors, remove brake calipers as previously outlined. Remove wheel hub, with rotor, attach hub to a suitable fixture (136 589 05 31 00) and remove bolts securing rotor to hub.

2) On rear, brake rotors are attached to axle by bolts. Remove caliper, remove bolts securing rotor to axle and remove rotor.

Installation – To install rotor, reverse removal procedure. Tighten all nuts and bolts, and bleed hydraulic system.

1963-73 MERCEDES BENZ (Cont.)

MASTER CYLINDER

Removal – Drain master cylinder of brake fluid. Disconnect and plug brake lines, disconnect electrical wires. Remove bolts securing master cylinder to power booster and remove master cylinder.

Installation – To install master cylinder, reverse removal procedure. Fill system with fluid and bleed air out of system.

POWER BRAKE UNIT

Removal – Drain master cylinder brake fluid, and remove master cylinder from vehicle. Disconnect vacuum line at power booster, and disconnect push rod at brake pedal. Remove power brake unit attaching hardware, and remove assembly from vehicle.

Installation – To install, reverse removal procedure, tighten all nuts and bolts, and bleed hydraulic system.

WHEEL CYLINDER (DRUM BRAKES)

Removal – 1) On vehicles equipped with front drum brakes, remove shoes and hollow screws. Unscrew bolts securing wheel cylinder to backing plate and remove wheel cylinder. On vehicles equipped with drum brakes in the rear, remove drums and force shoes away (outward) from cylinder without disconnecting shoes. Disconnect brake line from wheel cylinder and remove bolts securing cylinder to backing plate. Remove wheel cylinder.

Installation – To install wheel cylinders, reverse removal procedure and bleed hydraulic system. If necessary readjust brakes.

OVERHAUL

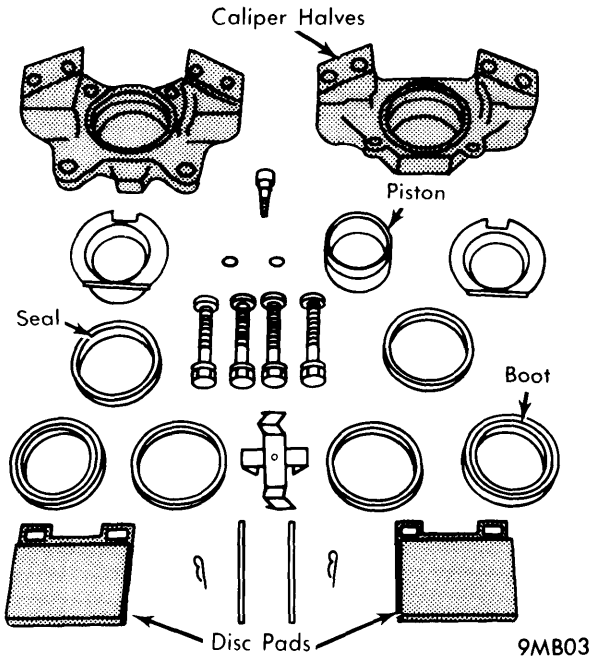
BRAKE CALIPER

Disassembly – With caliper and brake pads removed, remove interconnecting line (if equipped). Using suitable tool, clamp or hold one piston while applying air pressure (approx. 7 psi) to force other piston(s) out of caliper. Release piston clamping device, plug line to piston removed and use same method to remove other piston(s). Remove piston seals from grooves in cylinder bores.

Inspection – Clean piston with brass wire brush or rag, do not use emery cloth as this could damage chrome surface. Check and clean cylinder bores with polishing cloth or fine emery paper. If piston is scored or heavily rusted, replace caliper.

CAUTION – Clean brake parts with alcohol or brake fluid only.

Reassembly – Lubricate new piston seals with brake fluid and insert into grooves in cylinder bores. Install pistons and dust caps with heat shields.



SINGLE PISTON CALIPER

WHEEL CYLINDER (DRUM BRAKES)

Disassembly – Unscrew bleed screw from wheel cylinder. Remove actuating pin, metal boot and rubber boot. Then remove piston, cup, cup expander and stop spring.

Inspection – Clean all parts in brake fluid. Check wheel cylinder bore and piston for wear, rust or scoring. Replace parts as necessary.

Reassembly – Coat all parts with brake fluid before assembling. Use all new rubber cups and boots. To reassemble, reverse disassembly procedure.

MASTER CYLINDER

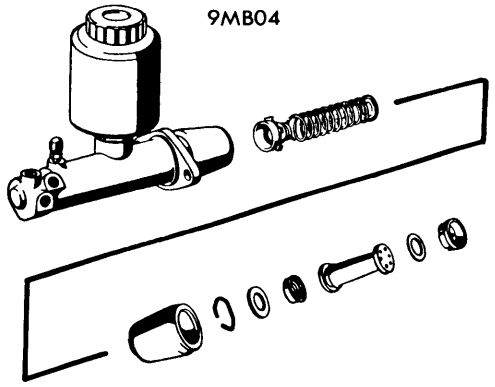
Disassembly (Single Circuit) – Remove fluid reservoir and rubber boot from master cylinder. Pry out piston stop ring. Remove stop washer and piston (with secondary cup). Remove washer, primary cup, pressure spring and check valve.

Disassembly (Dual Circuit) – Remove fluid reservoir from master cylinder. Remove check valves from cylinder housing. Push piston into cylinder bore slightly and remove piston stop screw and piston lock ring. Remove rear piston, washer, seals and rings. Remove front piston, and spring.

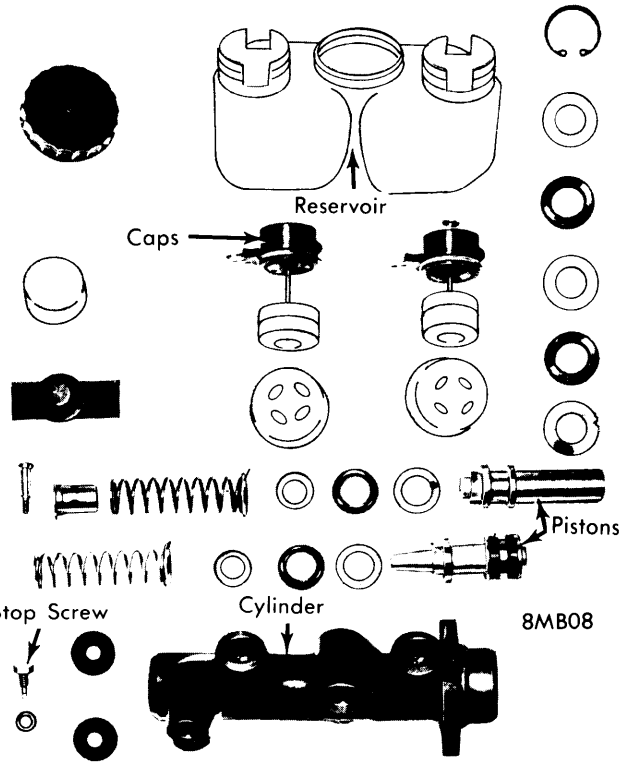
Inspection – Clean all parts with alcohol or brake fluid. Check bore in housing and piston for scoring and rust. Small rust spots in housing may be removed with polishing cloth. Scored or badly rusted parts cannot be repaired, replace complete master cylinder.

Reassembly – To reassemble master cylinders, reverse disassembly procedure.

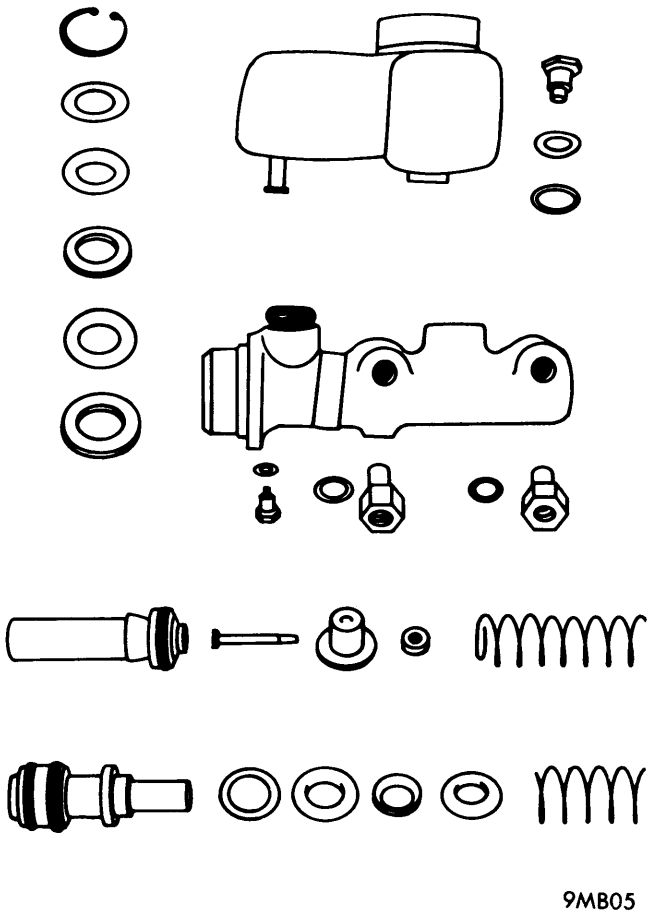
1963-73 MERCEDES BENZ (Cont.)



SINGLE CIRCUIT MASTER CYLINDER



LATE DUAL CIRCUIT MASTER CYLINDER



EARLY DUAL CIRCUIT MASTER CYLINDER

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Front Caliper Mounting Bolts	83 (11.4)
Rear Caliper Mounting Bolts	78 (10.7)
Master Cylinder Attaching Bolts	14 (1.9)
Rotor-to-Hub Bolts	83 (11.4)

DISC BRAKE ROTOR SPECIFICATIONS

Application	Disc Diameter In. (mm)	Lateral Runout In. (mm)	Parallelism In. (mm)	Original Thickness In. (mm)	Minimum Refinish Thickness In. (mm)	Discard Thickness In. (mm)
1963-66						
All (Exc. 250 & 350)						
Front	9.96 (253.0)	.0004 (.012)	.0012 (.03)	.50 (12.7)	.480 (12.2)	.460 (11.7)
Rear	10.03 (255.0)	.0004 (.012)	.0012 (.03)	.50 (12.7)	.480 (12.2)	.460 (11.7)
250 & 350						
Front	10.74 (273.0)	.0004 (.012)	.0012 (.03)	.50 (12.7)	.480 (12.2)	.460 (11.7)
Rear	10.98 (279.0)	.0004 (.012)	.0012 (.03)	.40 (10.0)	.381 (9.7)	.370 (9.4)

1963-73 MERCEDES BENZ (Cont.)

DISC BRAKE ROTOR SPECIFICATIONS (Cont.)

Application	Disc Diameter In. (mm)	Lateral Runout In. (mm)	Parallelism In. (mm)	Original Thickness In. (mm)	Minimum Refinish Thickness In. (mm)	Discard Thickness In. (mm)
1967-69						
200,200D,230,230S & 230SL						
Front	9.96 (253.0)	.0004 (.012)	.0012 (.03)	.50 (12.7)	.480 (12.2)	.456 (11.6)
300 SEL 6.3						
Front & Rear	10.74 (273.0)	.0004 (.012)	.0012 (.03)	.748 (19.0)	.728 (18.5)	.708 (18.0)
All Others						
Front	10.74 (273.0)	.0004 (.012)	.0012 (.03)	.50 (12.7)	.480 (12.2)	.456 (11.6)
Rear	10.98 (279.0)	.0004 (.012)	.0012 (.03)	.40 (10.0)	.381 (9.7)	.356 (9.4)
1970-71						
450						
Front	10.74 (273.0)	.0004 (.012)	.0012 (.03)	.866 (22.0)	.846 (21.5)	.826 (21.0)
Rear	10.98 (279.0)	.0004 (.012)	.0012 (.03)	.40 (10.0)	.381 (9.7)	.356 (9.4)
280						
Front	10.74 (273.0)	.0004 (.012)	.0012 (.03)	.748 (19.0)	.728 (18.5)	.708 (18.0)
Rear	10.98 (279.0)	.0004 (.012)	.0012 (.03)	.40 (10.0)	.381 (9.7)	.370 (9.4)
300						
Front	10.74 (273.0)	.0004 (.012)	.0012 (.03)	.748 (19.0)	.728 (18.5)	.708 (18.0)
Rear	10.98 (279.0)	.0004 (.012)	.0012 (.03)	.748 (19.0)	.736 (18.7)	.724 (18.4)
All Others						
Front	10.74 (273.0)	.0004 (.012)	.0012 (.03)	.50 (12.7)	.472 (12.0)	.456 (11.6)
Rear	10.98 (279.0)	.0004 (.012)	.0012 (.03)	.40 (10.0)	.381 (9.7)	.370 (9.4)
1972-73						
300 Front & Rear①	10.74② (273.0)	.0004 (.012)	.0012 (.03)	.748 (19.0)	.708 (18.0)	.700 (17.8)
350 & 450						
Front	10.74 (273.0)	.0004 (.012)	.0012 (.03)	.866 (22.0)	.826 (21.0)	.814 (20.7)
Rear	10.98 (279.0)	.0004 (.012)	.0012 (.03)	.40 (10.0)	.370 (9.4)	.354 (9.0)
All Others						
Front	10.74 (273.0)	.0004 (.012)	.0012 (.03)	.50 (12.7)	.456 (11.6)	.433 (11.0)
Rear	10.98 (279.0)	.0004 (.012)	.0012 (.03)	.40 (10.0)	.370 (9.4)	.354 (9.0)

① – Models 300 & 350 apply to 1972 only.
② – Rear disc diameter is 10.98" (279.0 mm).

1963-73 MERCEDES BENZ (Cont.)

BRAKE SYSTEM SPECIFICATIONS				
Application	Drum Diam. In. (mm)	Wheel Cylinder Diameter		Master Cylinder
		Front In. (mm)	Rear In. (mm)	Diameter In. (mm)
1963-69 All	9.05 (230.0)	①	①	.938 (23.81)

① — Two sizes are used: ¾ & ⅞.