

AUDI 5000

5000

DESCRIPTION

Brake system is hydraulically operated, utilizing a tandem master cylinder and dual diaphragm power brake unit. Front brakes consist of rotors attached to wheel hub and single piston floating calipers. A wear indicator mounts in the outboard brake pad and signals the need for pad replacement via a dashboard light. A pressure regulator mounted under the body is operated by a spring attached to the rear axle. Rear brakes are leading-trailing shoe/drum type, using a dual piston wheel cylinder. Parking brake is cable actuated, operating rear brake assembly.

ADJUSTMENT

FRONT DISC BRAKES

Front disc brakes are self-adjusting, therefore, no adjustment is necessary.

REAR DRUM BRAKES

Raise and support rear of vehicle and release parking brake. Remove plug near wheel cylinder and tighten star adjuster with screwdriver until lining hits drum. Back off 6-8 teeth. Ensure that wheel can be turned by hand.

NOTE — Due to residual pressure in brake regulator, right rear brake shoes might not fully release from drum. Before adjustments or brake drum removal, move lever on regulator toward rear axle to release pressure.

PARKING BRAKE

Raise and support rear of vehicle and adjust rear brakes. Loosen adjusting nut at compensator bar. Lift lever to first ratchet stop, then tighten nut until neither wheel can be turned by hand. Release lever and ensure that both wheels rotate freely. Check operation of brake warning light.

BRAKE PRESSURE REGULATOR

Checking & Adjusting — 1) If car is to be adjusted with weight off wheels, bounce rear of car several times and measure from top of rim to fender lip on both sides. Measurement must be made with trunk empty, gas tank full, and driver in car. Install spring tensioners and lift car. Remeasure to ensure rim-to-fender distance has not changed. Adjust tensioners if necessary.

2) If adjustment is made with weight on wheels, spring tensioners are not necessary. Press brake pedal firmly and release suddenly, checking that lever on brake pressure regulator moves.

3) Connect pressure gauges to left front and right rear wheels. Bleed pressure gauges. Apply pressure to pedal until front gauge reaches level indicated in specifications. Check rear pressure. Increase pressure and recheck readings.

Brake Pressure Values

Front	Rear
710 psi	485-550 psi
1420 psi	810-880 psi

NOTE — DO NOT adjust brake pressure regulator when pressure is applied to brake pedal.

4) If pressure is too high at rear axle, release spring tension by loosening bolt and moving toward front of car. If pressure is too low, loosen and move toward rear of car. Tighten bolt and recheck pressures. See Fig. 1.

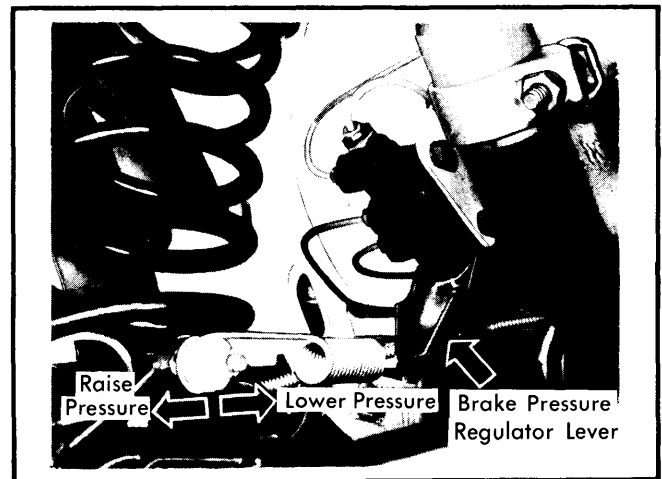


Fig. 1 Brake Pressure Regulator Adjustment

HYDRAULIC SYSTEM BLEEDING

Fill master cylinder reservoir with brake fluid and maintain level throughout bleeding operation. Attach a hose to bleeder screw, and immerse opposite end in a container partially full of brake fluid. Open bleeder screw approximately one-half turn, depress brake pedal, close bleeder screw, and slowly return pedal. Continue operation until bubbles are no longer seen in discharged fluid. Bleeding sequence is right-rear, left-rear, right-front, left-front. When bleeding, push lever on regulator rearward.

REMOVAL & INSTALLATION

FRONT DISC BRAKE PADS

Removal — 1) Detach wear indicator wire at connector. Remove retaining clip and drive out retaining pins.

2) Pull out inner brake pad. Press floating frame and cylinder outward and remove outer brake pad. Remove wear indicator from hole in pad.

Installation — 1) Press piston into caliper bore.

NOTE — Fluid will rise in master cylinder reservoir. Siphon sufficient fluid to prevent overflowing.

2) Position piston using 20° gauge (VW P84 or equiv.). Insert brake wear indicator in outboard pad and install pads.

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3) Slide in retaining pins and install clip. Connect wear indicator wire. Pump brake pedal several times to position pads. Bleed hydraulic system if necessary.

FRONT DISC BRAKE CALIPER

Removal — With wheel and tire removed, take out disc brake pads. Disconnect hydraulic line from caliper, Remove mounting bolts and take off caliper.

Installation — Reverse removal procedure to complete installation. Bleed hydraulic system.

FRONT DISC BRAKE ROTOR

Removal — With wheel and tire removed, take off caliper. Do not disconnect hydraulic line unless necessary. Remove rotor carefully.

Installation — To install rotor assembly, reverse removal procedure. Bleed hydraulic system if necessary.

REAR BRAKE DRUM

Removal — Raise and support vehicle. Remove wheel and tire assembly. Loosen brake adjuster and move brake pressure regulator lever toward rear axle. Pry off dust cap, remove cotter pin and hex nut. Remove drum, making sure retaining washer and bearing do not fall out.

Installation — To install, reverse removal procedure, adjust brakes and adjust wheel bearings. See *Wheel Bearing Adjustment* in *WHEEL ALIGNMENT* Section.

REAR BRAKE SHOES

Removal — With brake drums removed, loosen parking brake cable adjusting nut. Remove return springs, shoe hold down

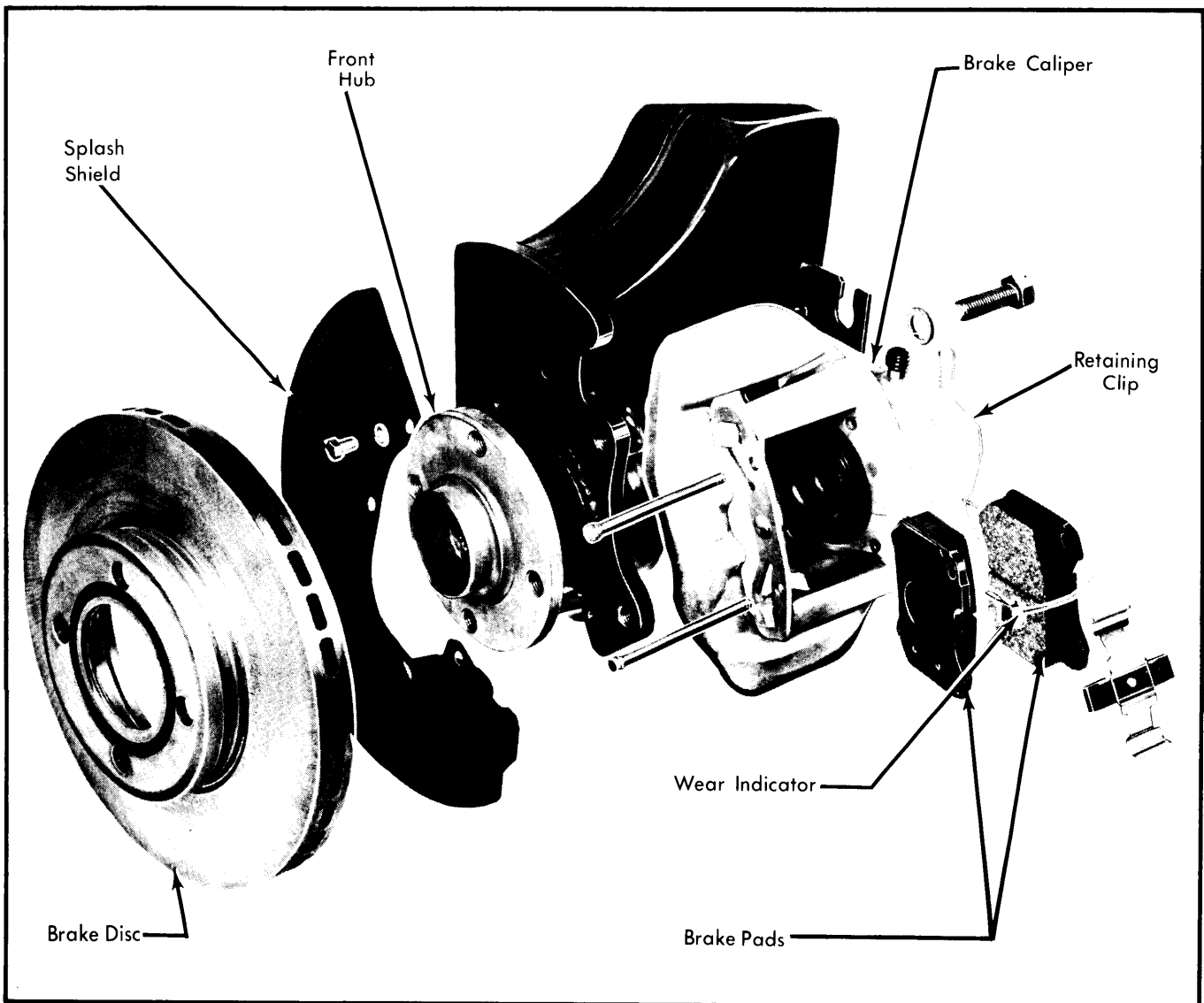


Fig. 2 Front Disc Brake Assembly

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pins, springs and retainers. Remove brake shoes and disconnect parking brake cable.

Installation — To install, reverse removal procedure, noting the following: Grease adjuster threads. Ensure that brake shoes are correctly positioned on brake cylinder pistons.

REAR BRAKE WHEEL CYLINDER

Removal — With drum and shoes removed, disconnect hydraulic line. Plug to prevent loss of fluid. Remove retaining screws and wheel cylinder.

Installation — Reverse removal procedure, adjust brakes and bleed hydraulic system.

MASTER CYLINDER

Removal — Siphon fluid from master cylinder reservoir and remove hydraulic lines. Disconnect cylinder mounting nuts. Separate master cylinder from power unit.

POWER BRAKE UNIT

Removal — Siphon fluid from master cylinder reservoir and remove hydraulic lines. Disconnect cylinder mounting nuts. Separate master cylinder from power unit.

Installation — To install, reverse removal procedure and note the following: Replace "O" ring between master cylinder and power unit. Replace filter on power unit before inserting into firewall. Bleed hydraulic system.

NOTE — Clevis and brake lever each have two holes. Install clevis pin only in holes closest to front of car.

Check Valve — Large diameter side fits into power unit. To test, remove vacuum line and check valve. Blow into large diameter hole — valve should open. In the other direction, valve must close. Replace as necessary.

Installation — Replace "O" ring seal between master cylinder and power brake unit. Reverse removal procedure and bleed hydraulic system.

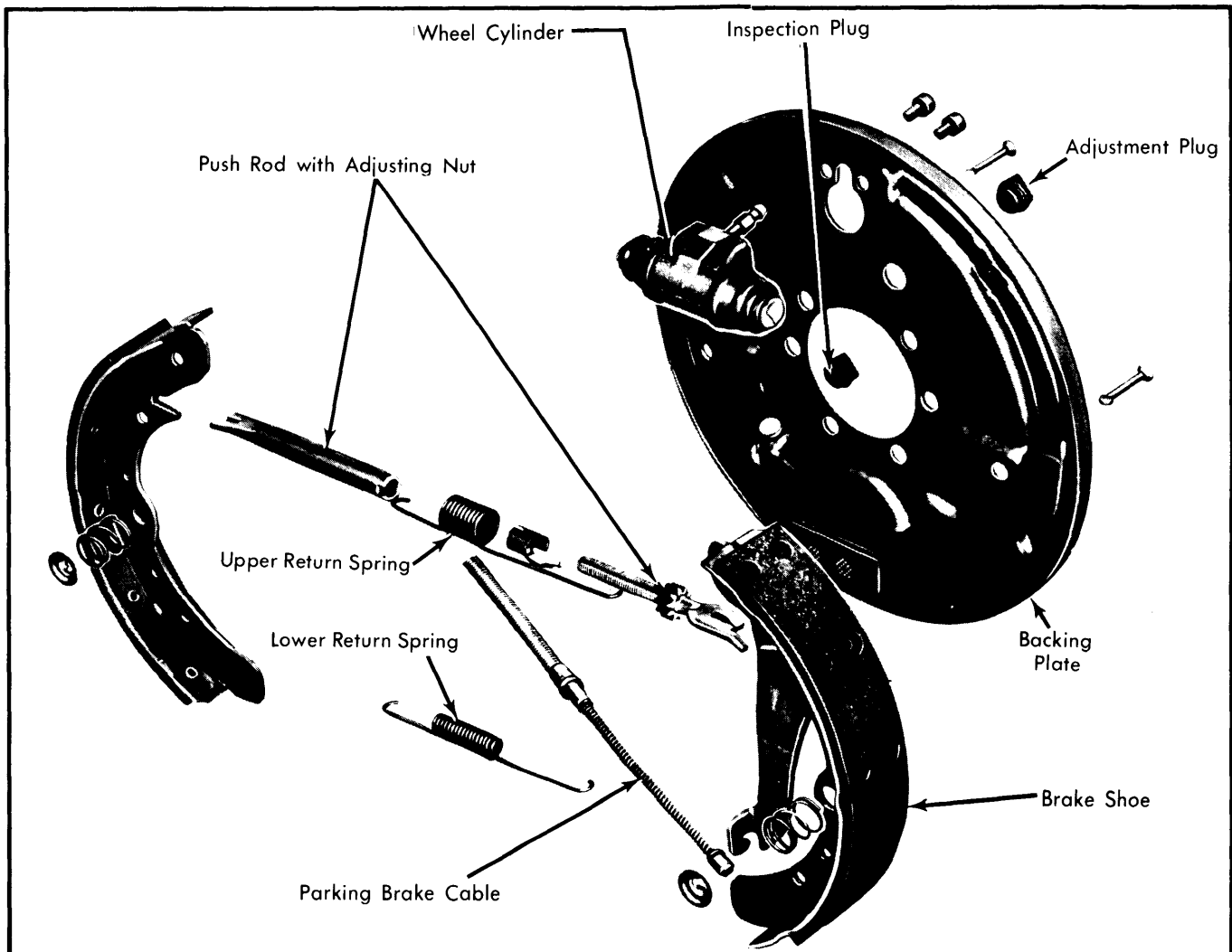


Fig. 3 Rear Drum Brake Assembly

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OVERHAUL

FRONT DISC BRAKE CALIPER

Disassembly — Remove disc brake pads and wear indicator. Push brake caliper mounting frame off floating frame. Pry out circlip and remove dust seal by hand. Place a small block of wood in floating frame and remove piston by applying compressed air to fluid inlet. Remove seal from caliper bore using plastic or wood rod.

Cleaning & Inspection — Clean all parts in alcohol only. Check cylinder bore and piston for damage. Parts are serviced by replacement only.

Reassembly — Coat all parts with ATE brake cylinder paste (or equivalent), reverse disassembly procedure and note the following: Use new seals, dust boots and retaining rings when reassembling. Make sure machined surface of piston face makes a 20° angle to wall of caliper bore. Install disc pads after caliper has been installed on vehicle.

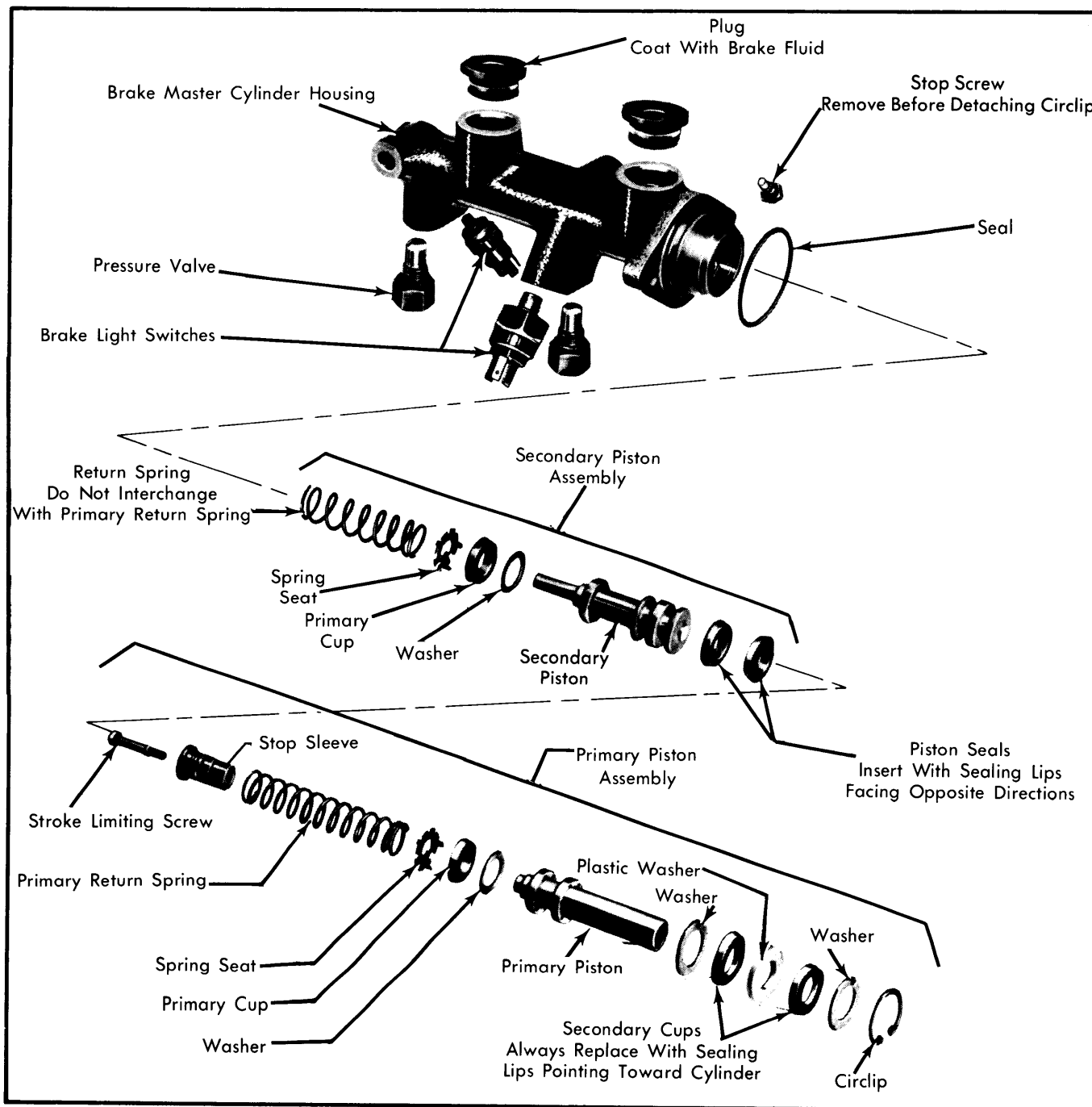


Fig. 4 Master Cylinder Component Relationship

Brakes

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REAR WHEEL CYLINDER

Disassembly – Thoroughly clean outside of cylinder. Remove end boots, piston and seal assemblies and spring. Remove dust cap and bleeder screw.

Cleaning & Inspection – Clean all parts in alcohol only. Check all parts for rust, corrosion or wear. If necessary, replace complete cylinder.

Reassembly – Reverse disassembly procedure and note the following: Use all new rubber parts. Apply a thin coat of brake cylinder paste to all parts during assembly.

MASTER CYLINDER

Disassembly – Thoroughly clean outside of master cylinder. Remove hydraulic fluid reservoir, stop screw and circlip. Withdraw primary and secondary piston assemblies. Disassemble piston assemblies.

Cleaning & Inspection – Clean all parts in alcohol only. Dry with compressed air and check that all passages are free from

obstruction. Check cylinder bore for rust, corrosion or other damage. Inspect bore and piston for wear. Replace complete if necessary.

Reassembly – Reverse disassembly procedure and note the following: Lubricate primary piston shaft with silicone grease supplied with kit. Replace all rubber parts. Coat all other parts with brake cylinder paste. See Fig. 4.

POWER BRAKE UNIT

Manufacturer does not recommend overhaul of power brake unit.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Caliper-to-Frame	68-75 (9.5-10.5)
Master Cylinder-to-Power Unit	18 (2.5)
Power Unit-to-Firewall	18 (2.5)

BRAKE DRUM SPECIFICATIONS

Application	Drum Diameter In. (mm)	Original Diameter In. (mm)	Maximum Refinish Diameter In. (mm)	Discard Diameter In. (mm)
Audi 5000	9.005 (230)	9.005 (230)	9.094 (231)	9.135 (232)

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)
Audi 5000	10.157 (258)	.004 (.1)	.0008 (.02)	.866 (22)807 (20.5)