SUBARU

1600
1800

DESCRIPTION

Service brake system is a diagonally split, dual hydraulic circuit with tandem master cylinder and vacuum suspended type power brake unit. Front brakes are automatic adjusting, Bendix type disc. Rear brakes are leading/trailing type drum. Parking brake is mechanically actuated on FRONT brakes.

ADJUSTMENT

REAR DRUM BRAKE SHOES

Raise and support vehicle. Loosen adjuster lock nut and turn adjuster until wheel locks. Back off adjusting nut 180°. Clearance between drum and shoes should then be .0004-.0006" (.10-.15 mm).

PEDAL HEIGHT & FREE PLAY

Brake pedal height (measured from floorboard to pedal pad center) should be 5.3-5.9" (135-150 mm). To adjust pedal height, loosen stop light switch lock nut and position out of way. Loosen brake operating rod lock nut and turn operating rod until correct pedal height is obtained. Tighten operating rod lock nut. Adjust brake pedal free play to .20-.43" (5-11 mm) with stop light switch. Tighten stop light switch lock nut.

STOP LIGHT SWITCH

Stop light switch is located under instrument panel, above brake pedal. To adjust stop light switch, loosen lock nut and position switch so contact plunger touches pedal arm stopper. Check operation of switch. Brake lights should glow when contact plunger moves .07-.13" (1.8-3.3 mm). If not, adjust switch and tighten lock nut.

PARKING BRAKE

With service brakes properly adjusted, pull parking brake lever several times. Loosen lock nut at equalizer and turn adjusting nut until clearance "A" is obtained. See *Fig. 1*. Then tighten lock nut. Depress service brake pedal slightly (repeatedly) until parking brake locks front wheels with a lever stroke of 6-7 notches.

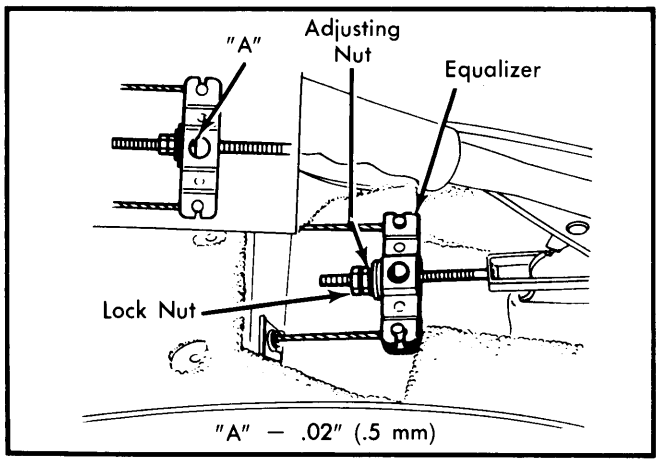

Fig. 1 Location for Adjusting Parking Brake

BRAKE WARNING LIGHT

A dual warning light is mounted on all models. Light should glow when parking brake is applied (ignition on). A sensor is also located in master cylinder reservoir to indicate low fluid level. To test sensor, remove reservoir cap to allow float to drop. Bulb should glow (ignition on and parking brake released).

REMOVAL & INSTALLATION

FRONT DISC PADS

Removal – Raise and support vehicle; remove tire and wheel. Remove parking brake cable. Remove lower pin and stop plug, then rotate caliper body up away from the disc. Remove pads, springs and shims from caliper support bracket.

Installation – Turn piston clockwise with piston wrench (925590000) to seat piston in caliper bore and align notches. See *Fig. 2*. Install shim on outer pad only (if required), then install pads and springs. Rotate caliper body down and install stop plug and pin. Reconnect parking brake cable. Depress brake pedal several times to set pad-to-rotor clearance.

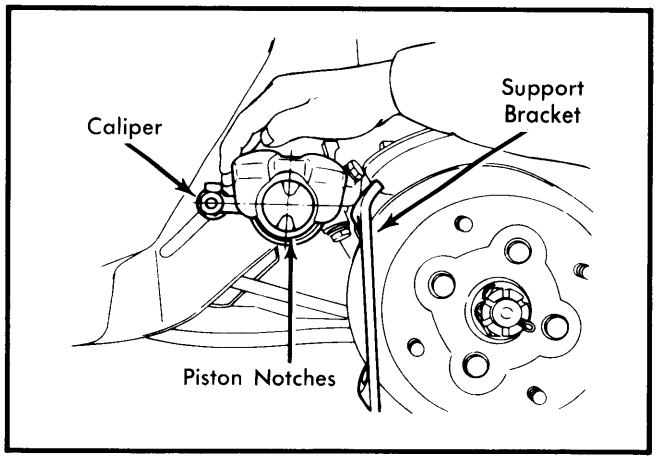

Fig. 2 Aligning Caliper Piston Notches for Replacing Disc Brake Pads

FRONT DISC CALIPER

Removal – Raise and support vehicle; remove tire and wheel. Remove pads as previously described. Disconnect and plug hydraulic line at caliper and remove parking brake cable. Remove caliper assembly. DO NOT remove support bracket unless rotor is being removed.

Installation – Apply silicone grease to lock pin and guide pin. Install caliper assembly, pads and parking brake cable. Install hydraulic line, then bleed hydraulic system.

FRONT DISC ROTOR

Removal – Raise and support vehicle; remove tire and wheel. Remove disc pads as previously described. Remove caliper assembly and hang from frame with wire; DO NOT disconnect hydraulic line. Remove caliper mounting bracket bolts and bracket. Using a puller, pull rotor and hub assembly from axle. Remove hub-to-rotor bolts and separate rotor from hub.

SUBARU (Cont.)

NOTE – *Replace mounting bracket when rotor is replaced.*

Installation – To install, reverse removal procedure and tighten hub-to-rotor bolts evenly. Depress brake pedal several times to seat pads.

REAR BRAKE DRUM

Removal – Raise and support vehicle; remove tire and wheel. Remove dust cap and wheel bearing components (2-wheel drive). Remove cotter pin and castle nut on 4-wheel drive. Remove brake drum. Loosen brake adjustment if necessary and use puller if required to pull off brake drum.

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

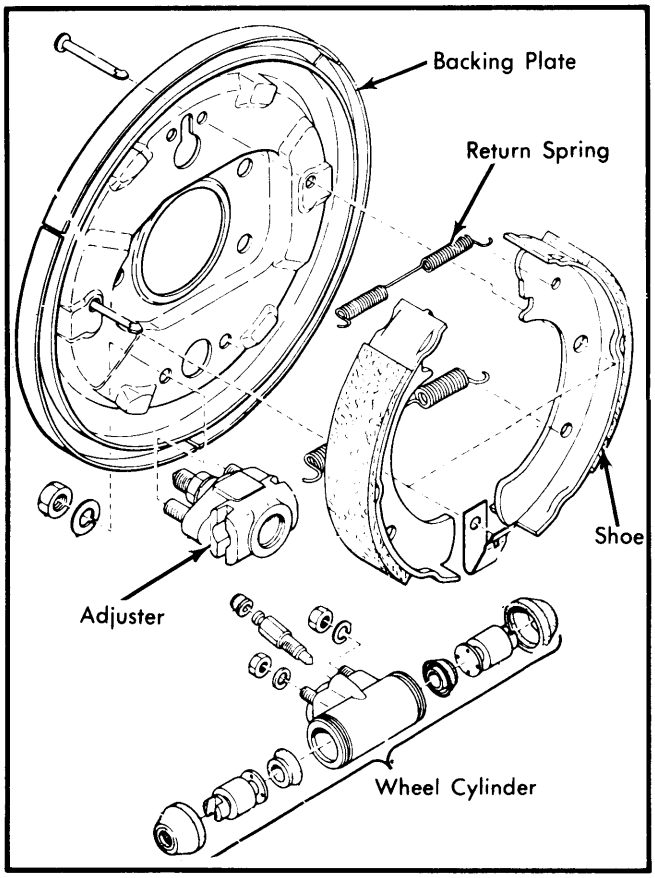

Fig. 3 Exploded View of Rear Drum Brake Assembly

REAR BRAKE SHOES

Removal – With brake drum removed, remove and plug hydraulic line from wheel cylinder. Remove backing plate bolts and remove complete assembly. Separate shoes from backing plate by removing hold down springs then disconnect lower end first and then remove upper end from wheel cylinder. Separate return springs from shoes.

Installation – To install, reverse removal procedure and note the following: Return springs are installed with coils on inside of shoe assemblies (next to backing plate). Return springs are not interchangeable; lower spring is thicker diameter. Adjust brakes and bleed hydraulic system.

MASTER CYLINDER

Removal & Installation – Siphon brake fluid from reservoir. Disconnect warning light electrical connection. Remove hydraulic lines. Remove retaining nuts and remove master cylinder from power brake unit. To install, reverse removal procedure and bleed hydraulic system.

POWER BRAKE UNIT

Removal & Installation – From inside vehicle, remove cotter pin and disconnect push rod from brake pedal. Remove power brake retaining nuts from firewall. In engine compartment, remove master cylinder retaining nuts. Disconnect vacuum hose at power brake unit and wiring harness from master cylinder. Position master cylinder to one side without damaging hydraulic lines. Remove power brake unit. To install, reverse removal procedure and bleed hydraulic system.

OVERHAUL

FRONT CALIPER

Disassembly – **1)** Thoroughly clean exterior of caliper with clean brake fluid. Remove outer pad clip and bleed screw. Remove dust boot retainer and dust boot. Apply compressed air or liquid to fluid inlet and force piston out of caliper bore.

2) Carefully remove guide pin boot and piston seal. Remove parking brake lever cap ring and lever cap, then remove snap ring from lever and spindle assembly.

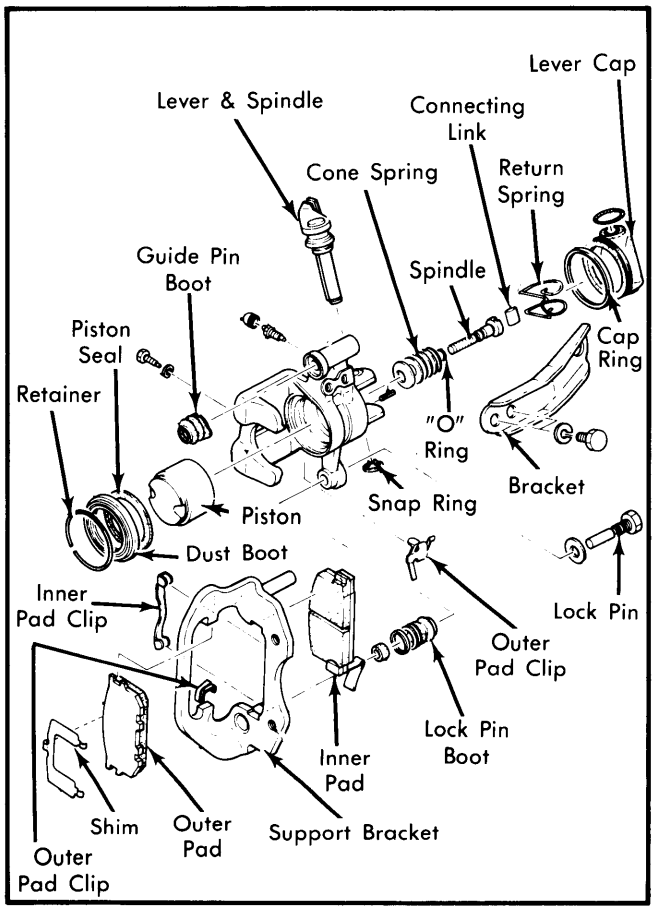

Fig. 4 Exploded View of Front Disc Caliper Assembly

SUBARU (Cont.)

3) Mount caliper assembly in soft-jaw vise and install puller (925471000) to release spring washer tension. With spring tension released, pull out lever and spindle. Remove puller and remove connecting link, return spring, spindle and cone spring.

Cleaning & Inspection – Clean all components with brake fluid and ensure that inner cylinder wall is not scratched or corroded. Replace any damaged parts.

Reassembly – **1)** Coat piston seal with silicone grease and insert into cylinder by hand. Coat piston, piston boots and cylinder wall with brake fluid; hand insert piston. Install boot and retainer.

2) Lightly coat spindle and "O" ring with silicone grease. Insert spindle and install spring washers with puller (925471000). Lubricate and install connecting link (thick side in slot.) Install parking brake lever assembly, snap ring, lever cap and retainer.

REAR WHEEL CYLINDER

Disassembly – Remove boot and take out piston with cup. DO NOT separate cup unless replacement is available.

Cleaning & Inspection – Clean all parts in brake fluid only. If cylinder is out of round or burred, replace as an assembly; DO NOT hone.

NOTE – *Removal of fluid reservoir requires installation of new reservoir.*

Reassembly – To reassemble, reverse disassembly procedure and ensure piston cup is not installed in reverse direction.

MASTER CYLINDER

Disassembly – Remove level indicators and filters, then drain excess fluid. Push primary piston into cylinder bore and remove stop bolt and primary piston circlip. Remove stop washer and gasket, then remove primary and secondary piston assemblies. Remove check valve plug and valve assembly.

NOTE – *Do not disassemble piston assemblies. Piston cup replacement requires replacement of piston assemblies.*

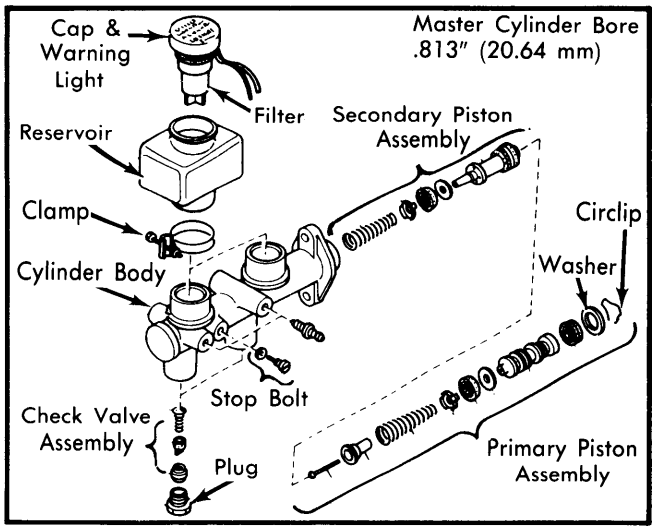

Fig. 5 Exploded View of Master Cylinder

Cleaning & Inspection – Clean all components in brake fluid. Inspect cylinder bore for smoothness and roundness. Replace cylinder if scored or out of round. DO NOT hone cylinder. Inspect piston-to-cylinder clearance and replace if worn.

Reassembly – To reassemble master cylinder, reverse disassembly procedure.

POWER BRAKE UNIT

Manufacturer does not recommend disassembly of this unit. Replace as complete assembly.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Caliper Lock Pin	33-54 (4.6-7.5)
Support Bracket Mounting Bolts	36-51 (5.0-7.0)
Backing Plate Mounting Bolts	23-32 (3.2-4.4)

DRUM BRAKE SPECIFICATIONS

Application	Wheel Cyl. Bore Diameter In. (mm)	Drum Diameter In. (mm)	Original Diameter In. (mm)	Maximum Refinish Diameter In. (mm)	Discard Diameter In. (mm)
1600 & 1800	.625① (15.88)	7.09 (180)	7.09 (180)	.....	7.17 (182)

① – Station Wagon and all 4-wheel drive vehicles have wheel cylinder bore of .687" (17.46 mm).

DISC BRAKE SPECIFICATIONS

Application	Caliper Bore Diameter In. (mm)	Lateral Runout In. (mm)	Parallelism In. (mm)	Original Thickness In. (mm)	Minimum Refinish Thickness In. (mm)	Discard Thickness In. (mm)
1600 & 1800	2.125 (53.97)	.004 (.10)	.....	.492 (12.5)	.....	.394 (10)