

## SAAB

99  
Sonett III

### DESCRIPTION

Brake system is hydraulically operated, using a tandem master cylinder and a power brake booster (99 models only). Disc brakes, consisting of a brake rotor and dual piston fixed caliper, are used on all four wheels on 99 models. Sonett III models are equipped with disc brakes, consisting of a rotor and single piston floating caliper, on the front wheels and leading-trailing shoe/drum type brakes on the rear wheels. Parking brake is mechanically actuated, operating on the front brakes (99 models), and on the rear brakes (Sonett III).

### ADJUSTMENT

#### DISC BRAKES

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

#### DRUM BRAKES

Apply pressure to brake pedal several times to center brake shoes. Turn square headed adjusting bolt on brake backing plate until brake drums are locked. Back off adjuster until wheels are just free to turn.

#### PARKING BRAKE

**99 Models** — Raise and support front of vehicle and remove wheels. With parking brake fully released, align hole in rotor with star wheel adjuster. Using a suitable brake adjusting tool, rotate adjuster until wheel locks, then back off adjuster approximately two teeth and ensure wheel rotates freely. Repeat adjustment on other front wheel. When properly adjusted, parking brake should be fully applied when brake lever is pulled six notches.

**Sonett III** — *NOTE* — *Rear brakes must be adjusted before adjusting parking brake.* Raise and support rear of vehicle. Remove right front seat and fully release parking brake lever. Tighten adjusting nut on left side of lever until left rear wheel locks. Back off on nut until wheel just rotates freely, then back off an additional turn. Repeat procedure for right side. When properly adjusted, parking brake should be fully applied when lever is pulled up three notches.

#### HYDRAULIC SYSTEM BLEEDING

Connect bleeder tube to bleeder screw, and submerge open end of tube in a jar half full of clean brake fluid. Open bleeder screw, and push brake pedal down quickly, allowing it to return slowly. Repeat procedure until fluid flows from bleeder tube with no sign of air. On last downward stroke, close bleeder screw.

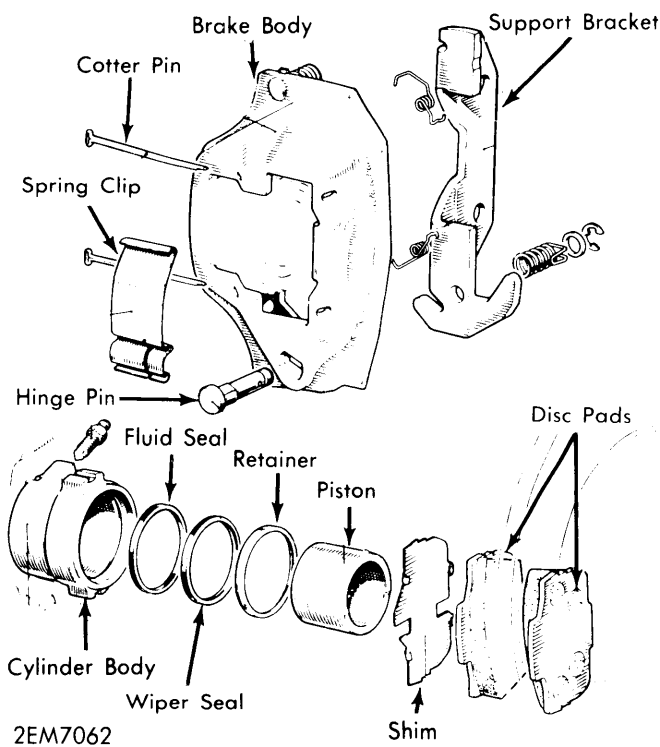
### REMOVAL & INSTALLATION

#### DISC BRAKE PADS

**Removal** — Remove disc pad guard (if necessary), and remove pad retainer locking pins. Remove retaining spring from caliper, and remove disc pads from vehicle.

**Installation** — Using suitable tool, push piston(s) back into caliper bore until it bottoms. On Sonett models install dampening shim with recesses facing down. On all models install brake pads into caliper assembly. Install pad retaining

spring, locking pins and if equipped, guard plate. Apply brakes several times to position pads against rotor.



FRONT DISC BRAKE ASSEMBLY  
(SONETT III)

#### DISC BRAKE CALIPER

**Removal** — Raise and support vehicle, and remove wheel. Disconnect hydraulic line at caliper, and remove caliper mounting bolts. Lift caliper assembly, and remove from vehicle.

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

#### DISC BRAKE ROTOR

**Removal (99 Models)** — Remove caliper. *NOTE* — *Do not allow caliper to hang from hydraulic line after removal; support out of way.* Remove two brake rotor retaining screws and lift rotor from hub. *NOTE* — *To remove front rotors it may be necessary to back off parking brake.*

**Removal (Sonett III)** — Remove caliper and support out of way. Remove axle nut and pull hub and rotor assembly from vehicle using a suitable puller. Separate rotor from hub.

**Installation (All Models)** — To install caliper assembly, reverse removal procedure. Tighten all nuts and bolts. If hydraulic line was disconnected, bleed hydraulic system. Adjust parking brakes (if necessary).

#### BRAKE DRUM

**Removal** — Raise and support vehicle, and remove wheel. Remove cotter pin and axle nut. Release parking brake lever, and loosen shoe adjuster. Using suitable puller (784002), remove brake drum from vehicle.

## SAAB (Cont.)

**Installation** — To install, reverse removal procedure, making sure all internal components are properly positioned. Adjust brake shoes.

## BRAKE SHOES

**Removal** — Raise and support vehicle, and remove wheel. Remove brake drum. Remove brake shoe mounting springs, clips, and pins. Lift brake shoes from wheel cylinder, and disconnect parking brake link. Remove remaining springs and cables.

**Installation** — Connect brake shoe return springs to brake shoes. Reposition parking brake lever on shoes, then position shoes on backing plate, with ends of shoes connected to wheel cylinder. Install brake shoe mounting springs, clips, and pins.

## MASTER CYLINDER

**Removal (99 Models)** — Siphon fluid as necessary from master cylinder reservoir. Disconnect hydraulic lines from cylinder and cap all openings. Remove attaching nuts and separate master cylinder from power booster.

**Removal (Sonett III)** — Clutch master cylinder must be removed before brake master cylinder removal. *NOTE* — See *Clutch Master Cylinder Removal in CLUTCH Section*. Disconnect electrical leads from stop light switch. Disconnect hydraulic lines from master cylinder and cap all openings. Separate hose from fluid reservoir. Remove attaching bolts and lift off master cylinder.

**Installation (All Models)** — To install, reverse removal procedure, tighten all nuts and bolts and bleed hydraulic system.

## POWER BRAKE BOOSTER

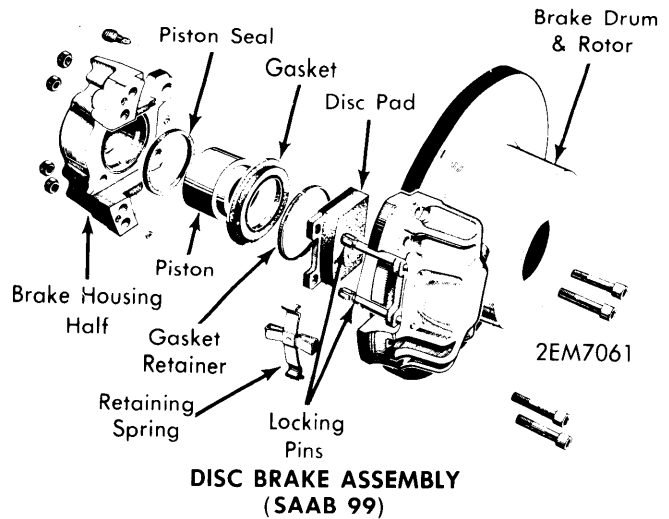
**Removal & Installation (99 Models Only)** — With master cylinder removed, lift air cleaner from vehicle. Disconnect clip securing speedometer cable to booster unit. Separate vacuum hose from booster. Disconnect booster push rod from brake pedal, remove attaching bolts and lift booster from vehicle.

## OVERHAUL

## BRAKE CALIPER

**Disassembly (99 Models)** — With brake caliper removed from vehicle, attach suitable clamp (784132) to one piston. Apply compressed air at brake line connection to force opposite piston from cylinder bore. *CAUTION* — Use extreme care when removing piston, to prevent personal injury. Pry piston seal from groove in cylinder. After reassembling piston, repeat procedure for other piston.

**Reassembly (99 Models)** — Coat new seal with clean brake fluid, and position seal in groove in cylinder. Rotate seal with fingers to seat in groove. Lightly coat piston with clean brake fluid, and insert into cylinder bore. Install dust boot. Using suitable clamp (784132), press piston and boot into cylinder.

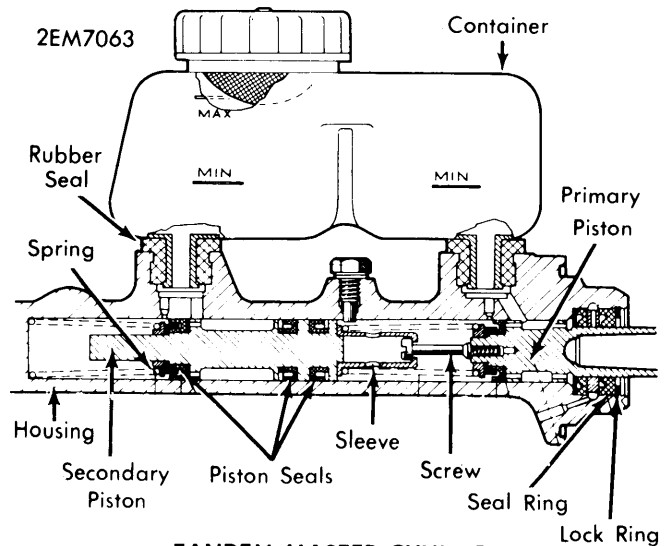


**Disassembly (Sonett III)** — Remove caliper assembly from brake rotor, but do not disconnect hydraulic line. Depress brake pedal slowly to force piston out of caliper bore far enough for it to be removed by hand. Disconnect hydraulic line from caliper and plug opening. Remove springs securing caliper to support and separate caliper from support bracket. Using a screwdriver, remove piston seal and wiper seal from caliper bore.

**Reassembly (Sonett III)** — Lubricate wiper seal and piston seal with suitable lubricant and install into caliper bore, ensuring that they are properly seated. Coat piston and caliper bore with lubricant and install piston, with recess in contact surface facing downward. Install dust boot and retainer. Assemble caliper to support bracket and install retaining springs.

## MASTER CYLINDER

**Disassembly (99 Models)** — With master cylinder separated from booster, remove primary piston lock ring. Loosen piston stop screw on top of master cylinder and pull out primary and secondary piston assemblies and springs. Disassemble piston assemblies, noting number and position of parts used.



TANDEM MASTER CYLINDER  
(SAAB 99)

## SAAB (Cont.)

**Disassembly (Sonett III)** – Remove dust boot, retaining plate and push rod from master cylinder. Push in on spring retainer and remove spiral clip. Remove outer lock ring, nylon bearing, cup and washer. Using suitable tool (784199), remove inner lock ring and pull out piston assemblies. Disassemble piston assemblies, noting number and position of parts used.

or scoring. Replace any damaged parts. *NOTE* – *Manufacturer recommends replacing rubber parts whenever cylinder has been disassembled.*

**Reassembly (All Models)** – To reassemble, reverse disassembly procedure and note the following: Ensure all lock rings are properly seated.

**Inspection (All Models)** – Clean all parts in clean brake fluid. Inspect cylinder bore and pistons for distortion, pitting

### POWER BRAKE BOOSTER

*NOTE* – *Power brake booster is serviced as a complete assembly only. Do not attempt to overhaul.*

### 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)
Model 99	10.63 (269)	.008 (.2)	.....	.413 (10.5)	.375 (9.5)	.....
Sonett III	10.50 (267)	.008 (.2)	.....	.375 (9.5)	.355 (9.0)	.....

### BRAKE DRUM SPECIFICATIONS

Application	Drum Diameter In. (mm)	Original Diameter In. (mm)	Maximum Refinish Diameter In. (mm)	Discard Diameter In. (mm)
Sonett III	8.00 (203)	8.00 (203)	8.060 (205)	.....