

1965-73 SAAB

95 (1965-73)
 96 (1965-73)
 97 Sonnet (1965-73)
 99 (1970-73)

DESCRIPTION

Saab brake system consists of two independent systems: one a hydraulic footbrake and the other a mechanically operated handbrake. Service brakes on all 95 and 96 models through 1966 are drum brakes, 99 models use all disc brakes, and all other models utilize disc front and drum rear brakes. Front drum brakes use two single-acting wheel cylinders while rear brake cylinder is smaller and double acting. Handbrake is located between front seats and when pulled, locks rear drums. Sport, Monte Carlo 850 and 96 models incorporated a pressure regulating valve until 1967. Valve is installed in rear wheel brake lines to prevent premature locking of wheels. After 1968 all models imported use a tandem master cylinder. One half of cylinder supplies hydraulic pressure to left front and right rear wheels, other half feeds right front and left rear wheels. Some models employ the use of a power assist unit (servo).

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 vehicle, and remove front wheel. Fully release parking brake lever. Using a screwdriver inserted in hole in front brake drum, turn brake adjuster until front rotor is just free to turn. Back off adjuster approximately two notches.

All Other Models — Remove front seat and place parking brake lever in fully released position. Adjust left side hex nut until parking brake just locks drum. Back off nut until wheel is just free to rotate. Repeat procedure for right side. Check operation of parking brake. Brake is correctly adjusted when wheel is free to rotate with lever applied two notches, but locks with lever applied three notches or more.

BLEEDING SYSTEM

On all models except 99, bleeding sequence is both rear wheels and then both front wheels, simultaneously. Begin by inserting tubular hoses connected to bleed fittings into half-full containers of brake fluid. Open both bleed fittings and push pedal down quickly, letting it return slowly. Repeat procedure until all air bubbles stop. On last downward stroke, close bleed fitting.

NOTE — Vehicles equipped with pressure regulator: fluid will be shut off to rear wheels if pedal is depressed too hard before bleed fitting is opened.

REMOVAL & INSTALLATION

DISC BRAKE PADS

Removal — On all except 95 and 96 models, remove guard plate and locking pins, using a drift. Remove pad retaining spring and take out pads. On 95 and 96 models, remove cotter pins and spring holding pads. Lift out pads. **NOTE** — At this time inspect rotor and dust seals. If seals are damaged, replace. If rotor is scored, grooved or burred, resurface.

Installation — On all except 95 and 96 models, fit disc pads, ensuring they slide in position easily and have some degree of movement. Position spring, locking pins and guard plate. On 95 and 96 models, push piston into cylinder bore and insert pads. Install spring and cotter pins. Apply brakes several times to bring pads against rotor and check operation.

LINING REPLACEMENT (DRUM BRAKES)

Removal (Front) — Working on lower shoe, remove piston locking springs. Remove brake shoe set springs. Slip shoe from wheel cylinder and disengage backing plate peg from adjuster lever. Remove upper shoe in similar manner. Once shoes are off, remaining components can be removed.

Installation — Before mounting lining to backing plate, refit adjuster mechanism and reposition primary and secondary return springs. Refit upper shoes ensuring backing plate peg engages adjuster lever hole. Refit lower shoe in similar manner. Install mounting springs with pins and clips. Install brake drum.

Removal (Rear) — Remove brake shoes mounting springs, clips and pins. Lift brake shoes from wheel cylinder and disconnect handbrake link. Remove any remaining components while shoes are off. **NOTE** — It is advisable to use a clamp to hold wheel cylinder together if rebuilding is not necessary.

Installation — Reconnect return spring between shoes. Reposition handbrake link first in front then in rear shoe. Install brake shoe mounting springs, clips and pins. Install brake drum.

BRAKE CALIPER

Removal — Disconnect caliper brake line. Remove two caliper mounting bolts and lift caliper unit from vehicle.

Installation — To install, reverse removal procedure.

BRAKE ROTOR (DISC)

Removal — Remove tire and wheel. Remove two bolts mounting caliper to steering knuckle. Swing caliper to one side and support it. Loosen handbrake adjuster so lining will clear drum. On 99 models, remove rotor retaining screws and lift rotor from car. On all others, use suitable puller (784002) to remove wheel hub and rotor.

Installation — To install, reverse removal procedure.

BRAKE DRUM

Removal — Remove wheel, cotter key and spindle nut. Release handbrake and loosen rear shoe with adjusting screw. Front brake shoe self-adjuster must be disengaged before pulling drum. Using suitable puller (784002), remove drum.

Installation — To install, reverse removal procedure noting the following: Ensure front self-adjusters are engaged before repositioning drum. Adjust brakes after reinstallation.

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NOTE — If servo is used, remove servo and master cylinder as a unit.

MASTER CYLINDER

Removal — On all models except 95, 96, 99 & Sonett models (1969-70), disconnect brake line from master cylinder and push rod from brake pedal. Remove mounting bolt located inside vehicle under dash and nut on mounting stud in engine compartment. On 95, 96 & Sonett (1969-70) models a power assist unit (servo) may be used. Remove servo and master cylinder as a complete unit. Remove steering shaft cover. Disconnect brake lines at master cylinder and vacuum hose at servo unit. Disconnect pedal and remove the four nuts holding servo. Lift assembly from vehicle. On model 99, master cylinder can be removed after disconnecting brake lines and removing two cylinder to servo mounting nuts.

Installation — To install master cylinder, reverse removal procedure and bleed hydraulic system.

OVERHAUL

BRAKE CALIPER

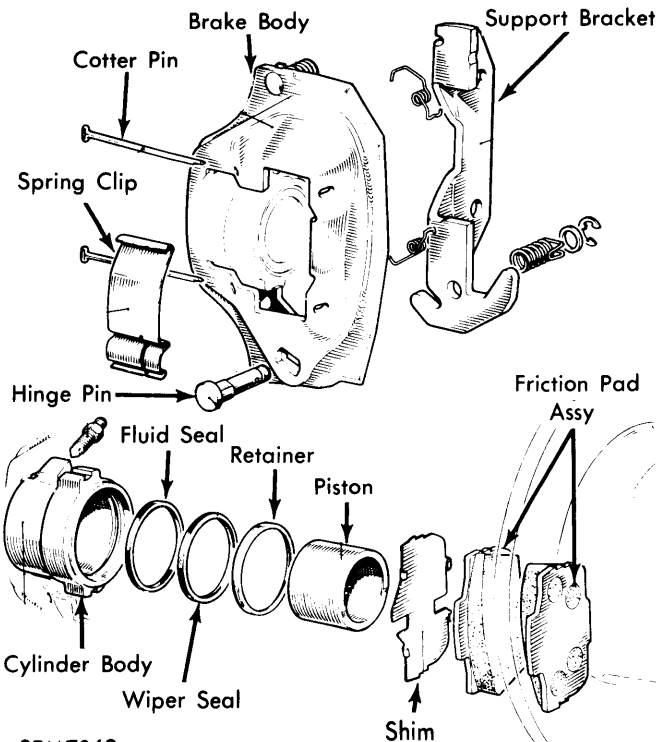
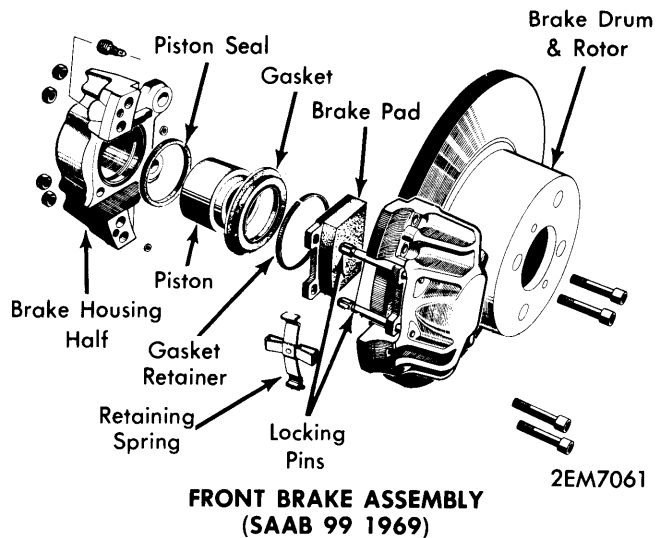
Disassembly, 95, 96 & Sonett (1967-70) — With brake pads removed and caliper hanging loose, push pedal down to force piston far enough from cylinder that it can be removed by hand. Disconnect caliper brake line. Remove two springs holding cylinder in place and lift off. Piston seal should now be accessible. Remove seal from groove. Replace wiper seal, if necessary.

Reassembly — Install piston seal in cylinder groove and ensure it is properly seated. Insert piston into cylinder with recess in contact surface facing friction pad and pointing downward. If installing wiper seal, do not force piston to bottom of bore.

Fit wiper seal in retainer with groove facing piston. Press retainer and seal in vise to seat. Install caliper and bleed system.

Disassembly, 99 (1969-70) — Attach suitable clamp (784132) to one piston and force compressed air into brake line connection; piston will be forced from cylinder. Pry seal from groove in cylinder. After reinstalling new piston and seal, repeat procedure on other piston.

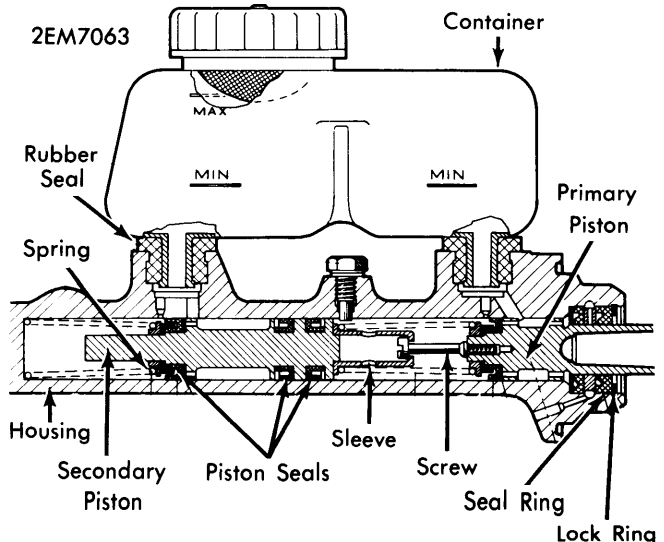
Reassembly — Coat new seal with brake fluid. Position seal in groove and rotate it with fingers to seat in place. Insert piston, lightly coated with brake fluid, into cylinder bore. Insert dust boot and, with screw clamp (784132), press piston and boot into cylinder. Repeat procedure for other piston. After installing, bleed system.



**DISC BRAKE COMPONENTS
(SAAB 95, 96 & SONETT 1967)**

MASTER CYLINDER

Disassembly, 95, 96, & Sonett — Remove boot and push rod. Depress spring and retainer; remove circlip. Lightly tap cylinder on bench to remove guide bearing, secondary cup and plain washer. Using suitable tool (784199), remove inner circlip, primary and secondary pistons with stop. Once apart,



**TANDEM MASTER CYLINDER
(SAAB 99)**

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components may be further disassembled. Remove outlet adaptors with gaskets.

Installation – To reassemble, reverse disassembly procedure.

Disassembly, 99 (1969-70) – Separate power assist unit from master cylinder. Remove lock ring and stop screw. Extract primary and secondary pistons with springs and seal. If necessary, components may be further disassembled.

Cleaning & Inspecting – Clean all parts in approved grade brake fluid. Inspect cylinder bore and piston for distortion or imperfections. Replace any components that are damaged.

Reassembly – After pre-assembling insert secondary piston with spring and seal into cylinder bore. Insert primary piston with spring and fit lock ring. Install and bleed hydraulic system.

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	10.61 (269.5)	.008 (.20)413 (10.5)	.374 (9.5)	.372 (9.4)
All Others	10.50 (266.7)	.008 (.20)374 (9.5)	.355 (9.0)	.354 (8.9)

BRAKE DRUM SPECIFICATIONS

Application	Drum Diameter In. (mm)	Original Diameter In. (mm)	Maximum Refinish Diameter In. (mm)	Discard Diameter In. (mm)
All Models	8.00 (203.2)	8.00 (203.2)	8.060 (204.7)	8.066 (204.9)