

# BRAKE SYSTEM

## Article Text

1994 Suzuki Swift

For Xeon

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### ARTICLE BEGINNING

1994 BRAKES  
Suzuki Brake System

Swift

### DESCRIPTION

Hydraulically operated brake system uses a tandem master cylinder, with a vacuum-assisted power brake booster and single piston, sliding caliper disc brakes. Swift GT has 4-wheel power disc brakes. Some Swift models have self-adjusting rear drum brakes. All models have cable actuated rear parking brakes.

### BLEEDING BRAKE SYSTEM

#### BLEEDING PROCEDURE

**CAUTION:** DO NOT allow reservoir to run dry during brake bleeding procedure. Use only clean brake fluid. Ensure no dirt or other foreign matter contaminates brake fluid. DO NOT mix different brands of brake fluid, as they may not be compatible. DO NOT spill brake fluid on vehicle, as it may damage paint. If brake fluid contacts paint, immediately wash with water.

Raise and support vehicle. Fill master cylinder reservoir to maximum mark with clean brake fluid. Bleed brakes in sequence. See BRAKELINE BLEEDING SEQUENCE table. After bleeding brakes, depress brake pedal with a force equal to an abrupt stop. If sponginess exists, repeat bleeding procedure.

#### BRAKELINE BLEEDING SEQUENCE TABLE

Application	Sequence
Swift .....	RR, LF, LR, RF

### ADJUSTMENTS

#### MASTER CYLINDER PUSH ROD

Push piston rod several times to ensure reaction disc is in place. Set Booster Piston Rod Gauge (09950-98210 or 09950-96010) on master cylinder, and push pin on gauge until it contacts piston. Turn gauge upside down and place it on booster. Adjust clearance by turning adjusting bolt of booster piston rod.

#### BRAKE PEDAL HEIGHT & FREE PLAY

1) Start engine. Depress brake pedal several times. Depress brake pedal with approximately 66 lbs. (30 kg) of load and measure from top of pedal pad to floorboard. Clearance must not be less than 2.4" (60 mm).

2) If clearance is less than specified, check for worn rear brake shoes, air in brakelines, malfunction of rear brake shoe adjuster or booster push rod length out of adjustment.

3) On all models, pedal free play should be .04-.31" (1.0-8.0 mm). If free play is not as specified, check stoplight switch for correct position and adjust (if necessary).

#### STOPLIGHT SWITCH

Loosen stoplight switch lock nut. Pull brake pedal up. Adjust stoplight switch position so clearance between end of switch thread and brake pedal contact is .02-.04" (0.5-1.0 mm). Tighten lock nut.

#### PARKING/EMERGENCY BRAKE

**NOTE:** Before adjusting parking brake, ensure pedal height is correct and brake shoes are not worn beyond limit.

Loosen lock nut on end of parking brake cable. Hold cable nut to prevent cable from twisting and tighten adjusting nut. Pull parking brake handle slowly with 44-55 lbs. (20-25 kg) and count clicks. There should be 4-9 clicks. After adjustment, ensure rear wheels turn freely with parking brake off.

## FRONT WHEEL BEARINGS

NOTE: Swift have sealed wheel bearings, which are not adjustable.

## REMOVAL & INSTALLATION

### FRONT DISC BRAKE PADS

#### Removal & Installation

Raise and support vehicle. Remove caliper pin bolts. Remove caliper from caliper carrier and suspend with wire. Remove brake pads and anti-rattle clips. To install, reverse removal procedure. Bleed brake system (if necessary).

### FRONT DISC BRAKE CALIPER

#### Removal & Installation

Raise and support vehicle. Remove front wheel. Remove caliper pin bolts. Remove caliper from caliper carrier. Disconnect brake flexhose. Plug all line openings. To install, reverse removal procedure. Bleed brake system.

### FRONT ROTOR

#### Removal & Installation

1) Raise and support vehicle. Remove front wheel. Remove caliper and wire aside. Mount dial indicator and check rotor runout before removal. Maximum runout is .004" (.10 mm) for Swift.  
2) Remove caliper carrier. Install two 8-mm bolts into rotor holes between wheel studs. On Swift, remove screws before installing 8-mm bolts. Alternately tighten bolts and pull rotor from hub. To install, place rotor on hub and reverse removal procedure.

### REAR DISC BRAKE PADS

#### Removal & Installation (Swift GT)

1) Raise and support vehicle. Remove rear wheels. Ensure parking brake is fully released. Remove caliper pin bolts.  
2) Remove parking brake cable-to-caliper clip. Disconnect parking brake cable from caliper. Remove caliper and support with wire. Remove brake pads.  
3) Using Piston Installer (09945-16030), rotate piston clockwise until fully seated in caliper. Install NEW brake pads. Reverse removal procedure to complete installation.

### REAR DISC BRAKE CALIPER

#### Removal & Installation (Swift GT)

1) Raise and support vehicle. Remove rear wheels. Remove brake flexhose and drain fluid into a container. Release parking brake lever and remove caliper pin bolts.  
2) Remove parking brake cable-to-caliper clip. Disconnect parking brake cable from caliper lever.  
3) To install, reverse removal procedure. Turn caliper piston counterclockwise to achieve correct brake pad-to-rotor clearance. Fill and bleed system.

### REAR DISC BRAKE ROTOR & HUB

#### Removal & Installation (Swift GT)

1) Raise and support vehicle. Remove rear wheels. Remove brake caliper. Remove caliper carrier. Remove rotor screws.  
2) Install two 8-mm bolts into rotor holes between wheel studs. Alternately tighten bolts and pull rotor from hub. Remove spindle dust cap. Unstake hub nut. Remove hub nut and washer. Discard hub nut. Use a slide hammer to remove hub.  
3) To install, reverse removal procedure. Tighten NEW hub nut to specification. See TORQUE SPECIFICATIONS.

### REAR DRUM

#### Removal & Installation (Except GT)

1) Raise and support vehicle. Remove wheel and spindle cap. Remove spindle nut. Ensure parking brake is fully released. Loosen adjustment nut on parking brake cable.  
2) To increase drum-to-shoe clearance, remove plug from back side of backing plate. Insert screwdriver into hole until it contacts shoe hold-down spring. Push screwdriver toward front of vehicle depressing hold-down spring and releasing tension on parking brake lever.  
3) Remove brake drum. If drum sticks, use Slide Hammer.

(09942-15510) and Adapter (09943-17911).

4) Install brake drum using NEW spindle nut. Tighten spindle nut to specification. See TORQUE SPECIFICATIONS. Install backing plate plug. Adjust parking brake. See PARKING BRAKE under ADJUSTMENTS.

## REAR BRAKE SHOES

### Removal & Installation (Except GT)

Remove brake drum. Remove shoe hold-down springs. Remove brake shoes. Remove brake shoe strut and return springs. Check springs and brake shoe strut ratchet for wear or damage. To install, reverse removal procedure. Pump brake pedal several times to set automatic adjuster.

### Installation

Maximize shoe-to-drum clearance by placing screwdriver between rod and ratchet and pushing down on ratchet. Install brake drums and 4 brake drum-to-axle nuts. Before moving vehicle, apply brakes firmly 3-5 times to obtain proper brake shoe-to-drum clearance.

## REAR WHEEL CYLINDER

### Removal & Installation

With brake drum and shoes removed, disconnect hydraulic line from wheel cylinder and cap line. Remove mounting bolts and remove wheel cylinder. To install, reverse removal procedure.

## MASTER CYLINDER

NOTE: DO NOT permit brake fluid to contact painted surfaces.

### Removal & Installation

Disconnect connector at fluid level sensor (if equipped). Loosen brakelines on master cylinder. Remove 2 nuts and washers attaching master cylinder to brake booster. Disconnect brakelines from master cylinder and plug outlet holes. Remove master cylinder. To install, reverse removal procedure. Bench bleed NEW master cylinder and bleed system after installation.

## POWER BRAKE BOOSTER

### Removal & Installation

1) Remove master cylinder. Disconnect vacuum hose from booster. Disconnect push rod clevis from brake pedal arm. Remove 4 nuts attaching booster to firewall. Remove booster.

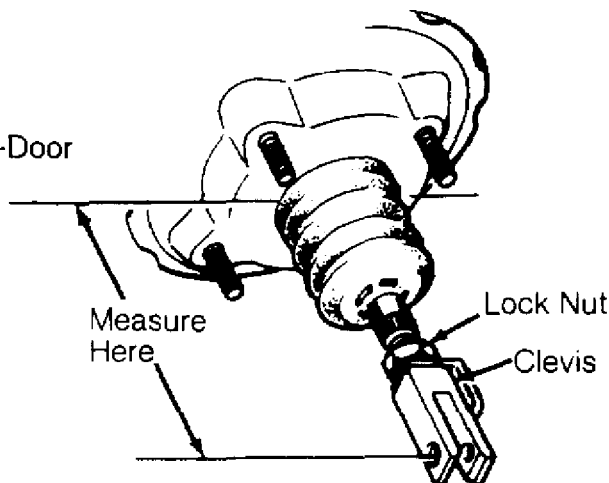
2) To install, reverse removal procedure. Bleed hydraulic system. Check and adjust push rod clevis measurement from booster firewall mounting surface (with gasket attached) to center of brake pedal clevis pin hole. See Fig. 1.

Samurai & Sidekick 2-Door

4.94-4.98"  
(125.5-126.5 mm)

Sidekick 4-Door  
6.60-6.64"  
(167.6-168.6 mm)

Swift  
4.51-4.54"  
(114.5-115.5 mm)



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Fig. 1: Adjusting Push Rod Clevis  
Courtesy of Suzuki of America Corp.

## OVERHAUL

NOTE: When overhauling caliper, if cylinder bores are pitted or scored beyond repair by light honing, replace entire assembly.

## FRONT BRAKE CALIPER

NOTE: Use illustration for exploded view of front brake caliper assembly. See Fig. 2.

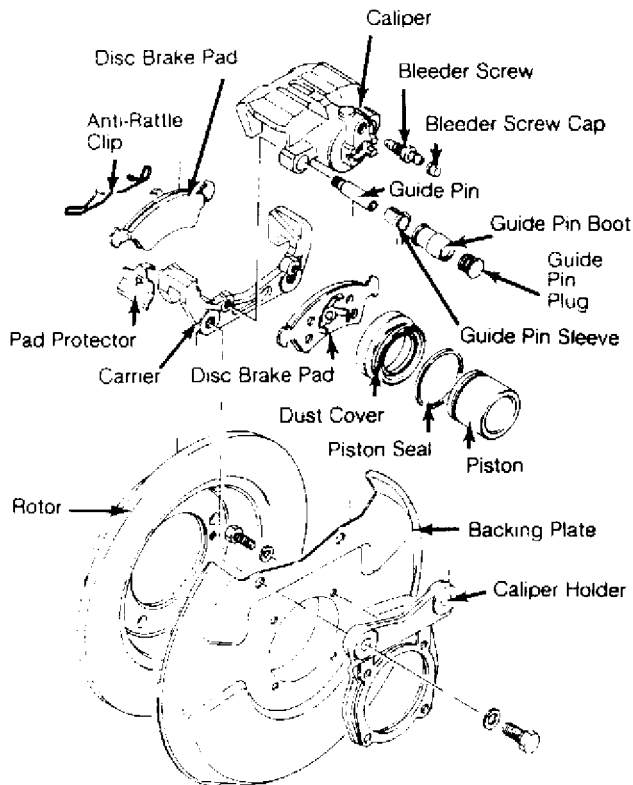
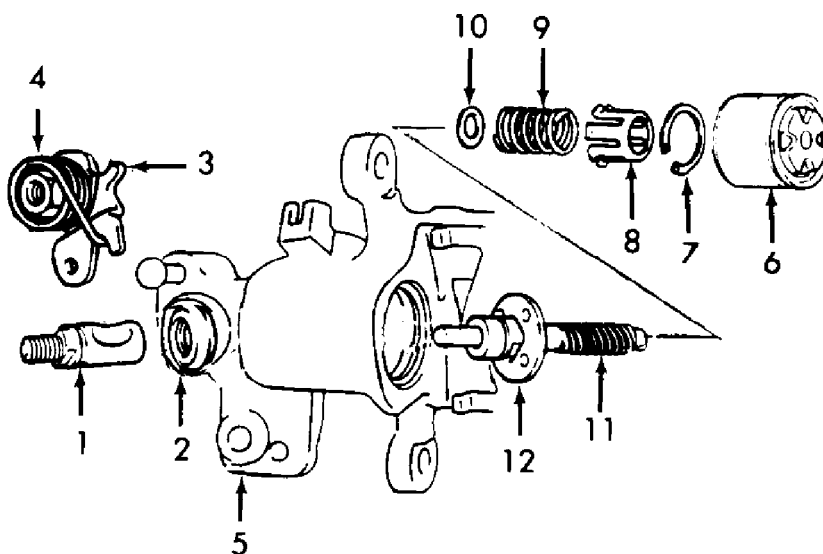


Fig. 2: Identifying Front Disc Brake Components (Typical)  
Courtesy of Suzuki of America Corp.

## REAR BRAKE CALIPER

NOTE: Use illustration for exploded view of rear brake caliper assembly (Swift GT). See Fig. 3. Use Piston Installer (09945-16030), to remove and install caliper piston.



- |                           |                       |
|---------------------------|-----------------------|
| 1. Camshaft               | 7. Snap Ring          |
| 2. Camshaft Boot          | 8. Outer Spring Seat  |
| 3. Camshaft Lever         | 9. Spring             |
| 4. Camshaft Return Spring | 10. Inner Spring Seat |
| 5. Caliper                | 11. Screw Rod         |
| 6. Piston                 | 12. Key Plate         |

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Fig. 3: Exploded View Of Rear Brake Caliper (Swift GT)  
Courtesy of Suzuki of America Corp.

## REAR WHEEL CYLINDER

NOTE: Use illustration for exploded view of rear wheel cylinder assembly. See Fig. 4.

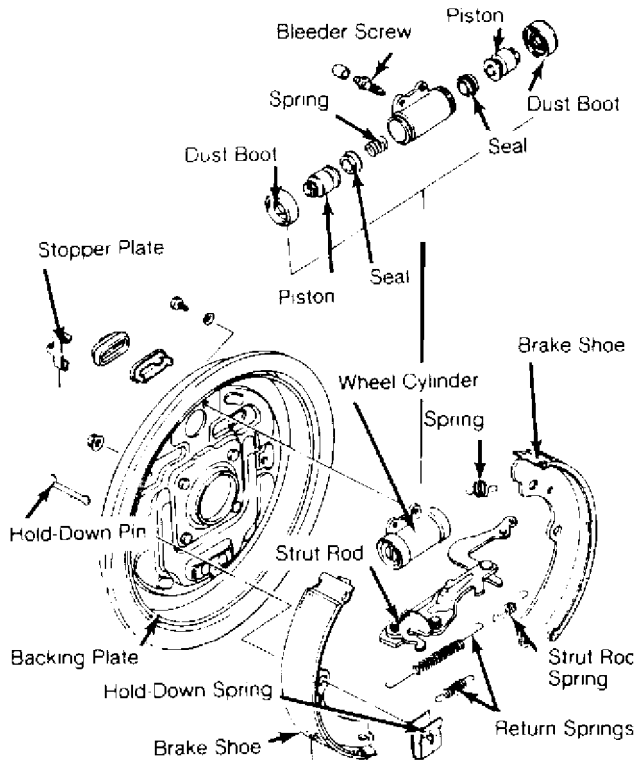


Fig. 4: Identifying Rear Brake Assembly Components (Typical)  
Courtesy of Suzuki of America Corp.

### MASTER CYLINDER

NOTE: Use illustration for exploded view of master cylinder assembly. See Fig. 5.

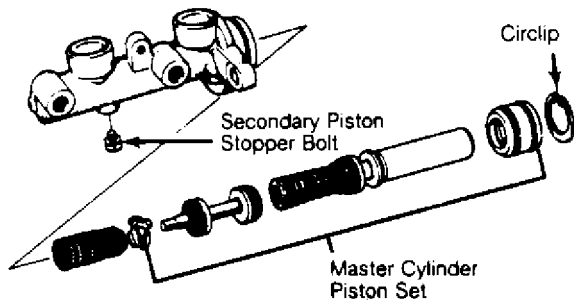


Fig. 5: Identifying Master Cylinder Components (Typical)  
Courtesy of Suzuki of America Corp.

### TORQUE SPECIFICATIONS

#### TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Backing Plate Nut	14-20 (19-27)
Brake Hose Bolt	15-18 (20-24)
Brakeline Flare Nut	10-13 (14-18)
Caliper Carrier Bolt	51-72 (69-98)
Caliper Guide Pin	19-22 (26-30)
Hub Nut (Swift)	111-148 (150-200)
Rear Spindle Nut (Swift)	59-89 (80-120)
Wheel Bearing Lock Nut	65 (88)
Wheel Lug Nut	
Swift	37-51 (50-69)
	INCH Lbs. (N.m)
Brake Booster Mounting Nut	89-142 (10-16)
Master Cylinder Nut	89-142 (10-16)
Master Cylinder Stopper Bolt	71-106 (8-12)

### DISC BRAKE SPECIFICATIONS

DISC BRAKE SPECIFICATIONS TABLE

Application	In. (mm)
Lateral Runout (Maximum)	
Swift .....	.004 (.10)
Parallelism .....	(1)
Original Thickness	
Swift	
Front .....	.73 (18.5)
Rear .....	.39 (10.0)
Master Cylinder Diameter .....	(1)
Discard Thickness	
Swift	
Front .....	.65 (16.5)
Rear .....	.32 (8.1)
Pad Discard Thickness (2)	
Swift	
Front .....	.32 (8.1)
Rear .....	.24 (6.1)

(1) - Information not available from manufacturer.  
 (2) - Thickness includes backing pad material.

**DRUM BRAKE SPECIFICATIONS**

DRUM BRAKE SPECIFICATIONS TABLE

Application	In. (mm)
Drum Diameter	
Original	
Swift .....	7.1 (180.0)
Discard Diameter	
Swift .....	7.2 (183.0)
Wheel Cylinder Diameter .....	(1)
Shoe Discard Thickness (2)	
Swift .....	.11 (2.8)

(1) - Information not available from manufacturer.  
 (2) - Thickness includes backing shoe material.

**END OF ARTICLE**