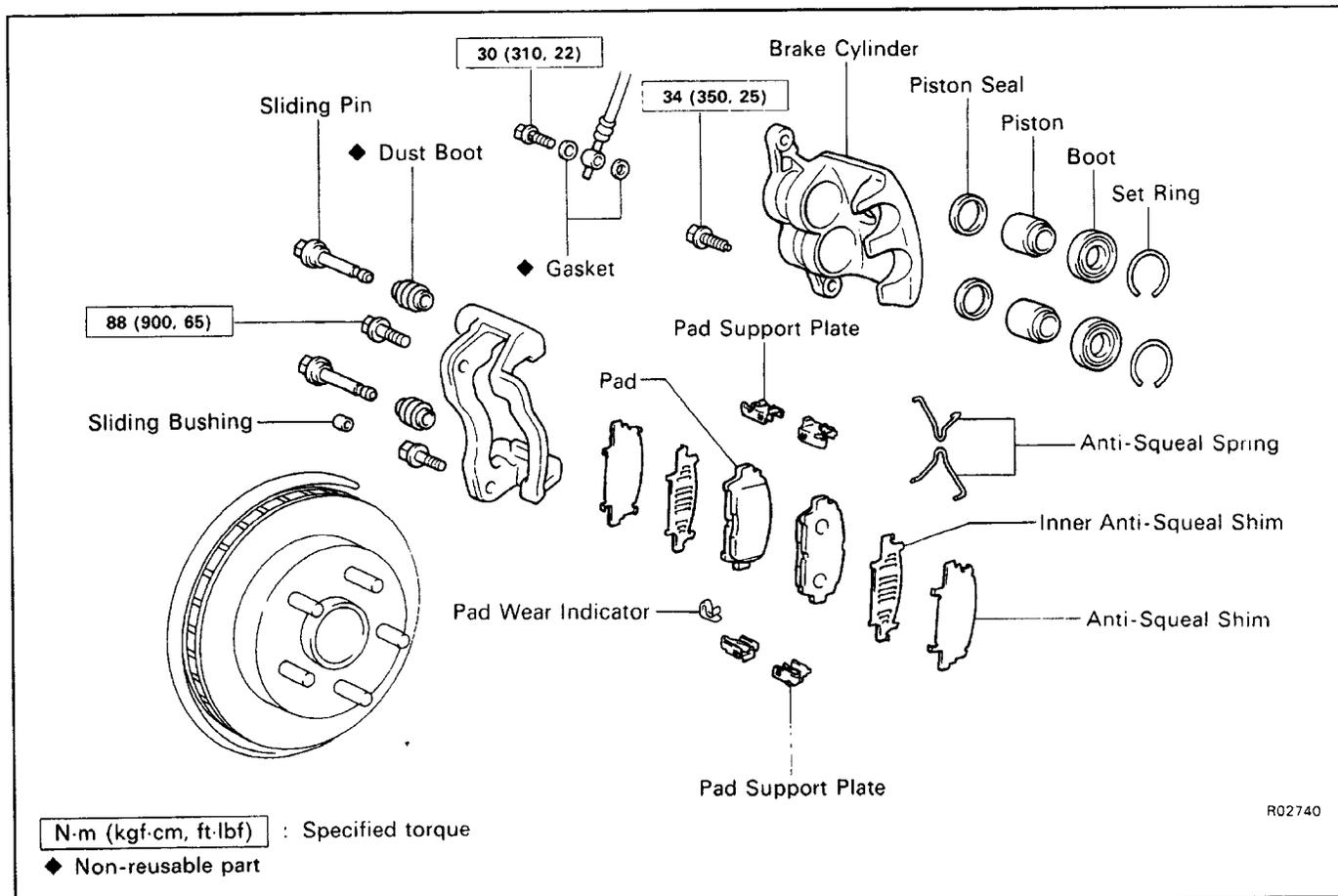


# FRONT BRAKE

## PE36T DISC (For 3S-GTE)

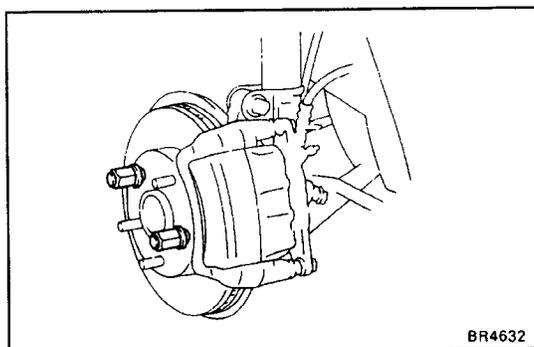
### COMPONENTS

BR062-01



R02740

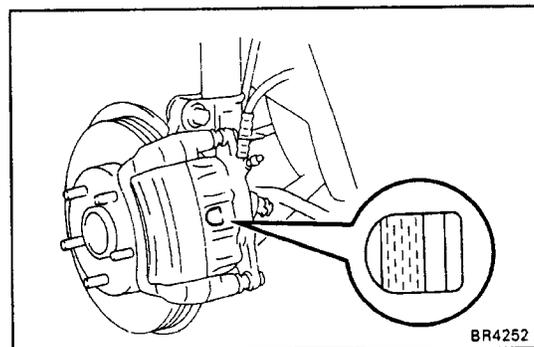
BR063-01



## BRAKE PADS REPLACEMENT

### 1. REMOVE FRONT WHEEL

Remove the wheel and temporarily fasten the rotor disc with hub nuts.

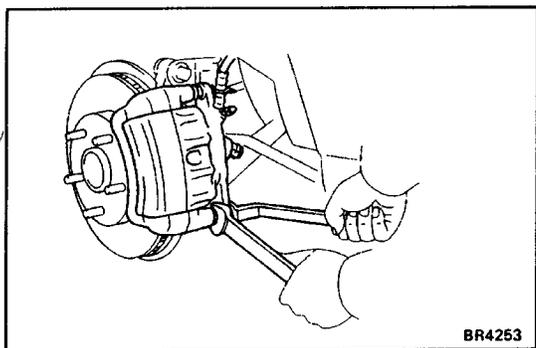


### 2. INSPECT PAD LINING THICKNESS

Check the pad thickness through the cylinder inspection hole and replace the pads if it is not within specification.

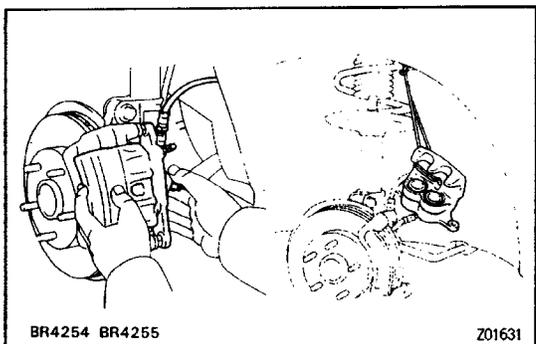
**Minimum thickness:**

**1.0 mm (0.039 in.)**



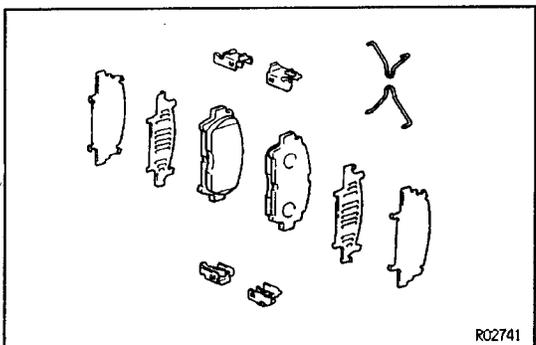
### 3. REMOVE CYLINDER FROM TORQUE PLATE

- (a) Hold the sliding pin and loosen the two installation bolts.
- (b) Remove the installation bolts.



- (c) Remove the brake cylinder and suspend it so the hose is not stretched.

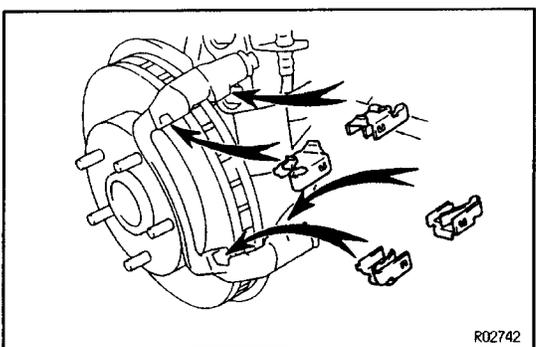
HINT: Do not disconnect the brake hose.



### 4. REMOVE FOLLOWING PARTS:

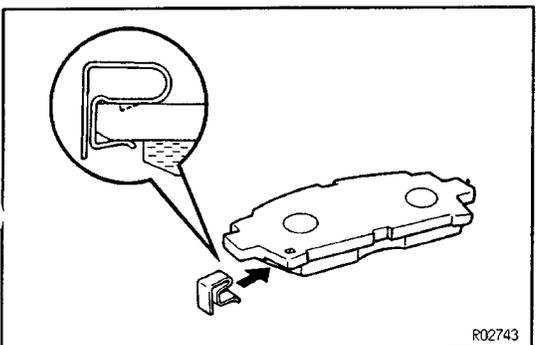
- (a) Two anti-squeal springs
- (b) Two brake pads
- (c) Four anti-squeal shims
- (d) Pad wear indicator plate
- (e) Two pad support plates

### 5. CHECK ROTOR DISC THICKNESS AND RUNOUT (See page BR-22)



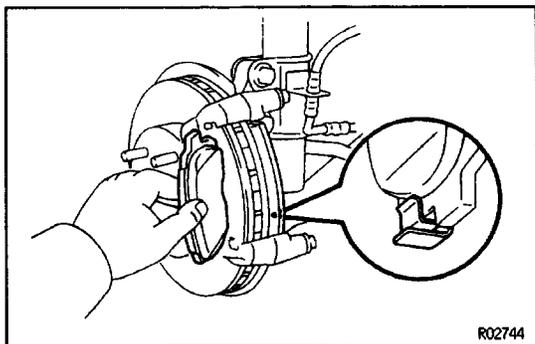
### 6. INSTALL PAD SUPPORT PLATES

Install the two pad support plates.



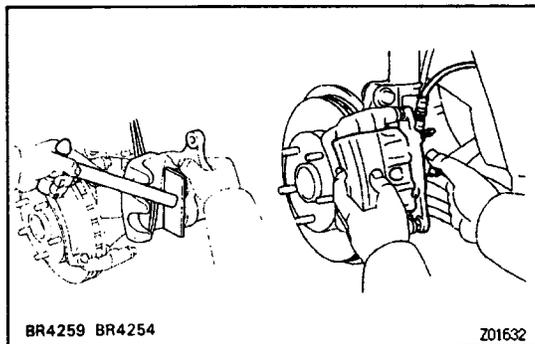
### 7. INSTALL NEW PADS

- (a) Install a pad wear indicator plate on the inside pad.
- (b) Apply disc brake grease to both sides of the two inner anti-squeal shims.
- (c) Install the two anti-squeal shims to the each pad.



R02744

- (d) Install inside pad with the pad wear indicator plate facing downward.
- (e) Install outside pad.
- NOTICE:** There should be no oil grease adhering to the friction surfaces of the pads or the rotor disc.
- (f) Install the two anti-squeal springs.

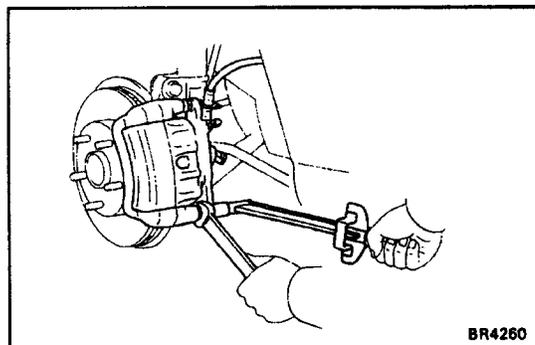


BR4259 BR4254

Z01632

## 8. INSTALL CYLINDER

- (a) Draw out a small amount of brake fluid from the reservoir tank.
  - (b) Place a wooden plate on the piston, and press in the piston with a hammer handle or similar implement.
- HINT: If the piston is difficult to punch in, loosen the bleeder plug and push in the piston while letting some brake fluid escape.

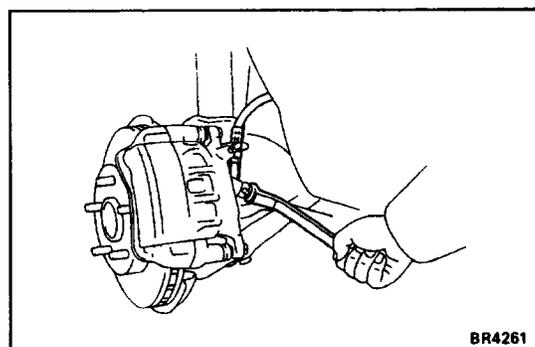


BR4260

- (c) Temporarily install the cylinder on the torque plate with two installation bolts.
  - (d) Hold the sliding pin and torque the installation bolts.
- Torque: 34 N-m (350 kgf-cm, 25 ft-lbf)**

## 9. INSTALL FRONT WHEEL

## 10. CHECK THAT FLUID LEVEL IS MAX LINE

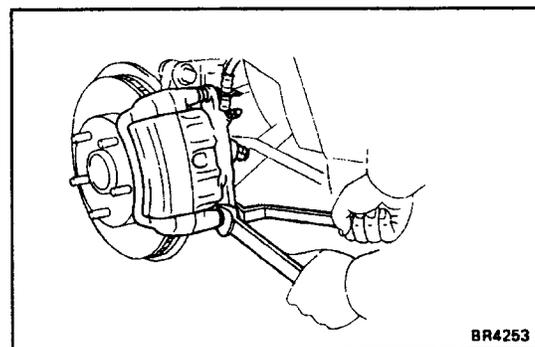


BR4261

## CYLINDER REMOVAL

### 1. DISCONNECT FLEXIBLE HOSE

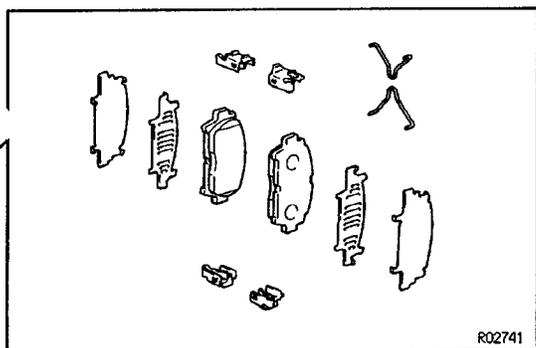
- (a) Remove the union bolt and two gaskets from the brake cylinder, then disconnect the flexible hose from the brake cylinder.
- (b) Use a container to catch the brake fluid as it drains out.



BR4253

### 2. REMOVE CYLINDER FROM TORQUE PLATE

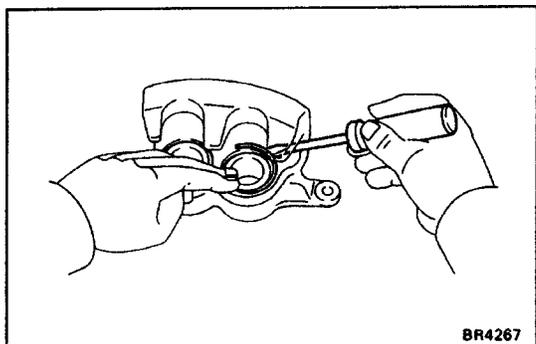
- (a) Hold the sliding pin and loosen the two installation bolts.
- (b) Remove the two installation bolts.
- (e) Remove the cylinder from the torque plate.



R02741

### 3. REMOVE FOLLOWING PARTS:

- (a) Two anti-squeal springs
- (b) Two brake pads
- (c) Four anti-squeal shims
- (d) Pad wear indicator
- (e) Two pad support plates



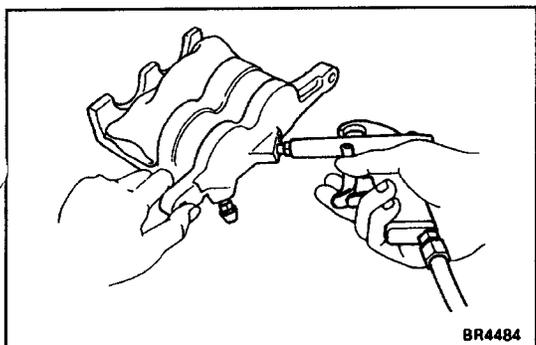
BR4267

## CYLINDER DISASSEMBLY

BR005-01

### 1. REMOVE CYLINDER BOOT SET RINGS AND CYLINDER BOOTS

Using a screwdriver, remove the cylinder boot set rings and cylinder boots from the cylinder.

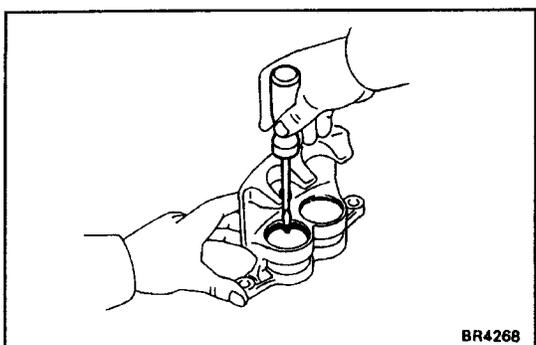


BR4484

### 2. REMOVE PISTONS

- (a) Place a piece of cloth or similar article between the pistons and the cylinder.
- (b) Use compressed air to remove the pistons from the cylinder.

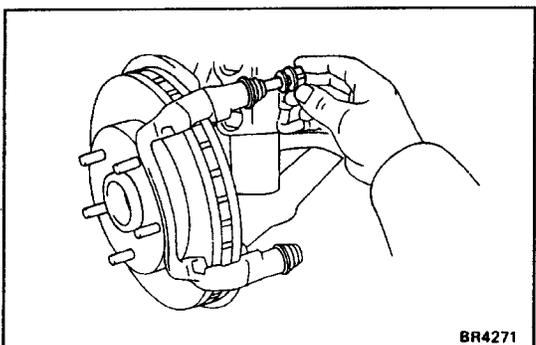
**CAUTION:** Do not place your fingers in front of the piston when using compressed air.



BR4268

### 3. REMOVE PISTON SEALS

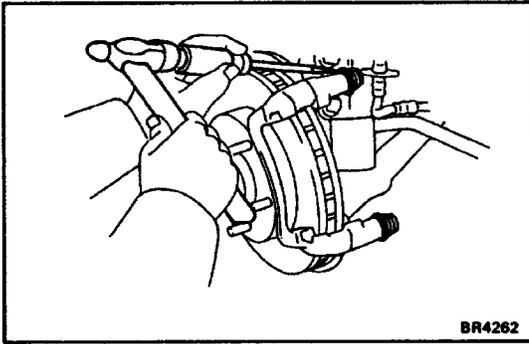
Using a screwdriver, remove the piston seals from the cylinder.



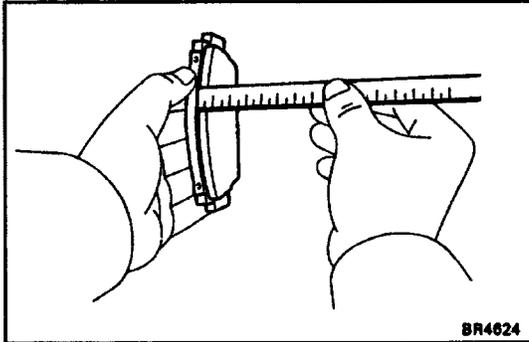
BR4271

### 4. REMOVE SLIDING PINS AND DUST BOOTS

- (a) Remove the two sliding pins from the torque plate.



(b) Using a chisel and hammer, tap out the two dust boots.



## FRONT BRAKE COMPONENTS INSPECTION

BR086-01

### 1. MEASURE PAD LINING THICKNESS

**Standard thickness:**

**10.0 mm (0.39 in.)**

**Minimum thickness:**

**1.0 mm (0.039 in.)**

Replace the pad if the thickness is less than the minimum or if it shows sign of uneven wear.

### 2. MEASURE ROTOR DISC THICKNESS

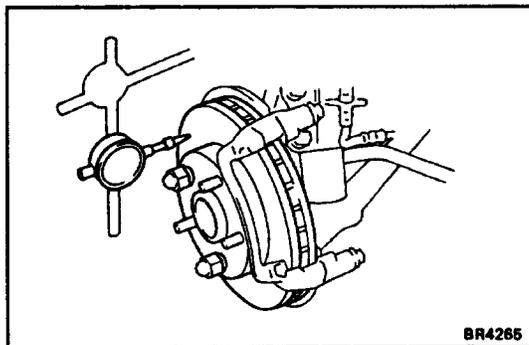
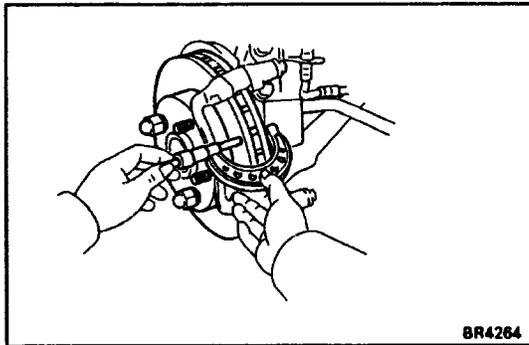
**Standard thickness:**

**30.0 mm (1.181 in.)**

**Minimum thickness:**

**28.0 mm (1.102 in.)**

If the disc is scored or worn, or if thickness is less than minimum, repair or replace the disc.



### 3. MEASURE ROTOR DISC RUNOUT

**HINT:** Before measuring the runout, confirm that the front hub bearing play is within specification.

Measure the rotor disc runout at 10 mm (0.39 in.) from the outer edge of the disc.

**Maximum disc runout:**

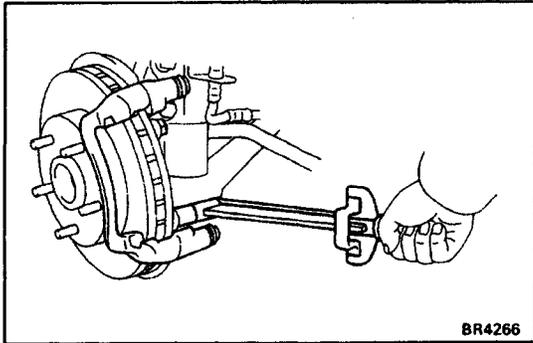
**0.07 mm (0.0028 in.)**

If the runout is greater than the maximum, inspect and adjust if following the procedure below.

Then replace the disc if necessary.

- (a) Remove the torque plate from the knuckle.
- (b) Remove the hub nuts of the temporarily installed disc and pull off the rotor disc.
- (c) Check that the hub axial play is within specification, and replace the bearing if not within specification.  
(See page [SA-12](#))

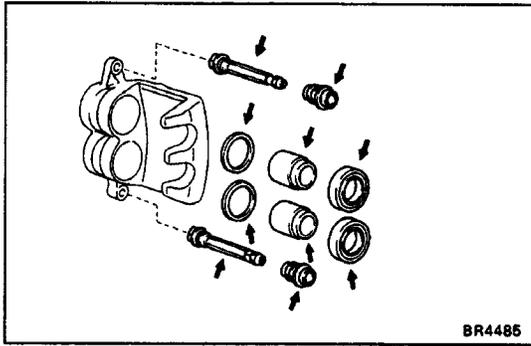
- (d) Install the rotor disc and measure the disc runout, then shift the rotor disc one fifth of a turn or one fourth of a turn, and measure the disc runout. Similarly measure the runout at each position, and select the position where the runout is minimum.



- (e). (n this position, if the runout is within specification, install the torque plate and torque the mounting bolts.  
**Torque: 88 N-m (900 kgf-cm, 65 ft-lbf)**
- (f) If not within specification, replace the rotor disc, and repeat (d) and (e).

## CYLINDER ASSEMBLY

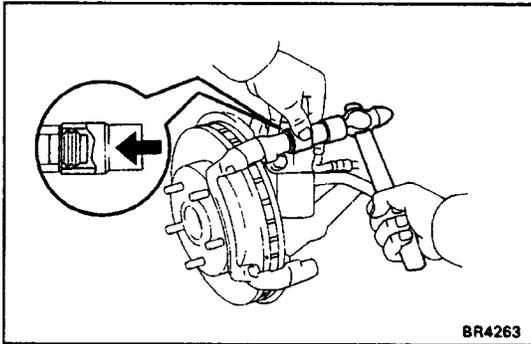
1. APPLY LITHIUM SOAP BASE GLYCOL GREASE TO PARTS INDICATED WITH ARROWS



BR4485

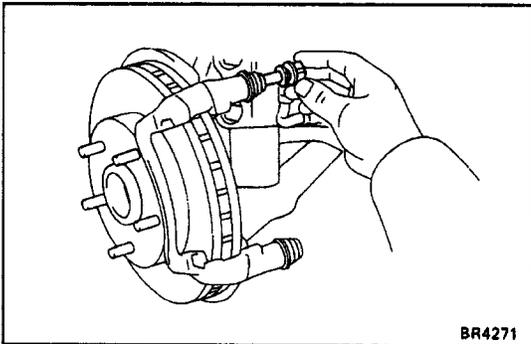
2. INSTALL DUST BOOTS AND SLIDING PINS

- (a) Using a 19 mm socket wrench and hammer, tap in two new dust boots into the torque plate.
- (b) Confirm that the metal plate portion of the dust boot fits snugly in the torque plate.



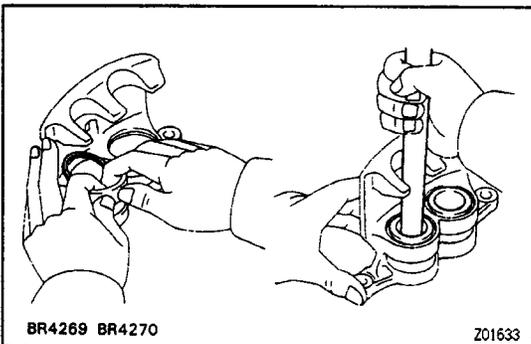
BR4263

- (c) Insert two sliding pins into the torque plate.  
**NOTICE:** Insert the sliding pin with sliding bushing into the bottom side.



BR4271

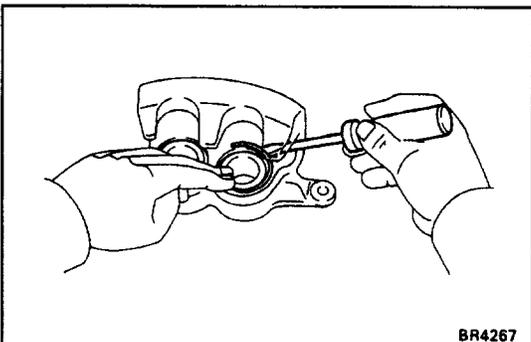
3. INSTALL PISTON SEALS AND PISTONS IN CYLINDER



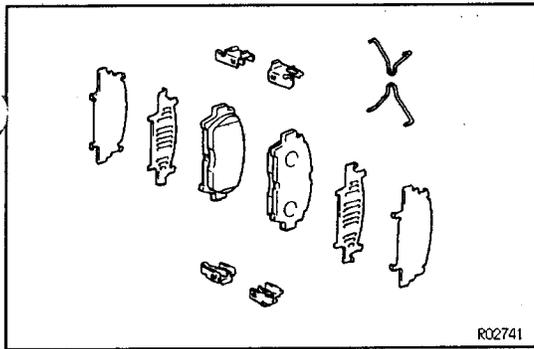
BR4269 BR4270

Z01633

4. INSTALL CYLINDER BOOTS AND CYLINDER BOOT SET RINGS



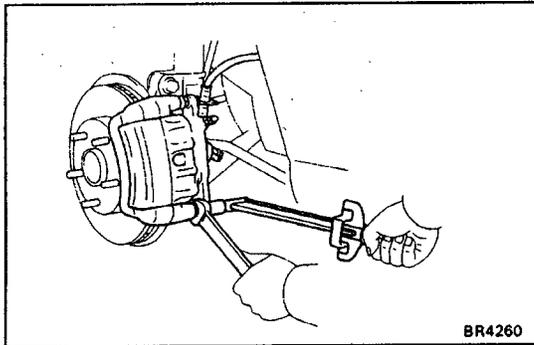
BR4267



## CYLINDER INSTALLATION

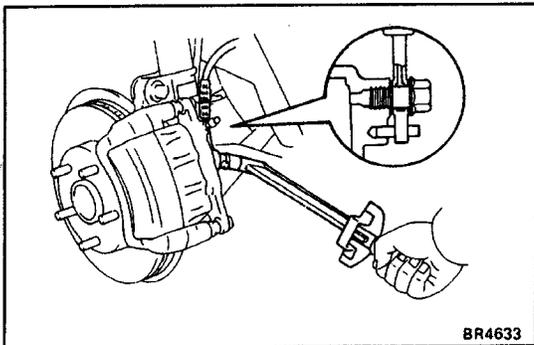
### 1. INSTALL FOLLOWING PARTS:

- (a) Two pad support plates
- (b) Pad wear indicator
- (c) Four anti-squeal shims
- (d) Two brake pads
- (e) Two anti-squeal springs



### 2. INSTALL CYLINDER

- (a) Temporarily install the cylinder on the torque plate with two installation bolts.
- (b) Hold the sliding pin and torque the installation bolts.  
**Torque: 34 N-m (350 kgf-cm, 25 ft-lbf)**



### 3. CONNECT FLEXIBLE HOSE

Install the flexible hose on the brake cylinder with two new gaskets.

**Torque: 30 N-m (310 kgf-cm, 22 ft-lbf)**

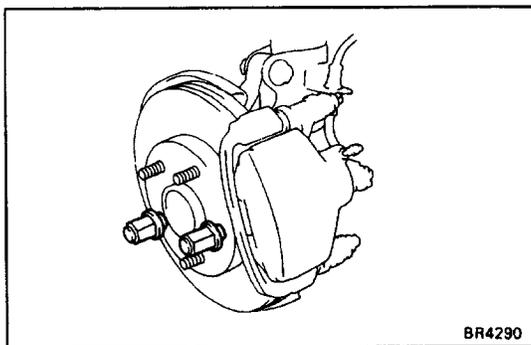
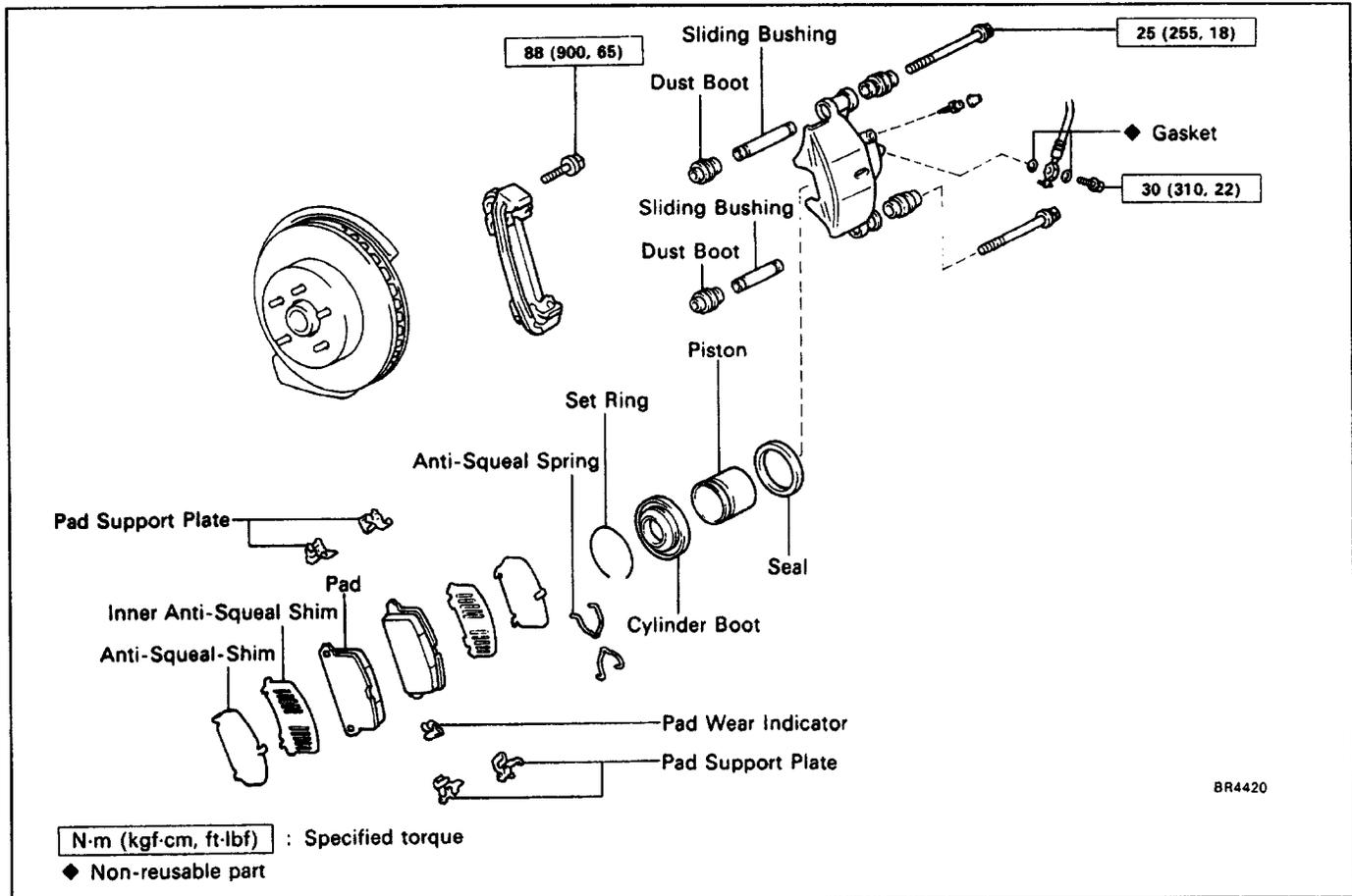
**HINT:** Install the flexible hose lock securely in the lock hole in the brake cylinder.

### 4. FILL BRAKE RESERVOIR WITH BRAKE FLUID AND BLEED BRAKE SYSTEM

(See page [BR-9](#))

### 5. CHECK FOR LEAKS

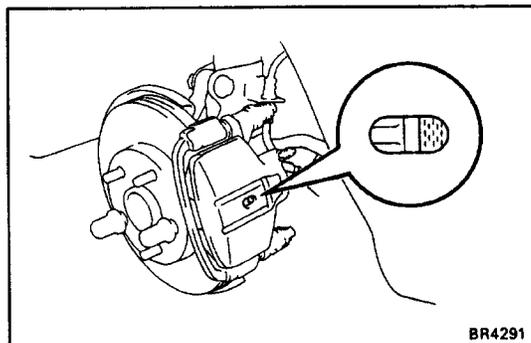
## PD51 DISC (For 5S-FE) COMPONENTS



## BRAKE PADS REPLACEMENT

### 1. REMOVE FRONT WHEEL

Remove the wheel and temporarily fasten the rotor disc with hub nuts.

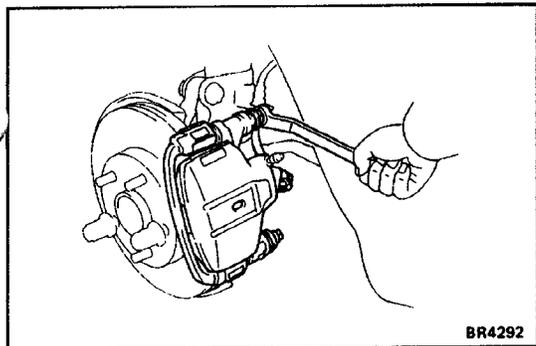


### 2. INSPECT PAD LINING THICKNESS

Check the pad thickness through the cylinder inspection hole and replace the pads if it is not within specification.

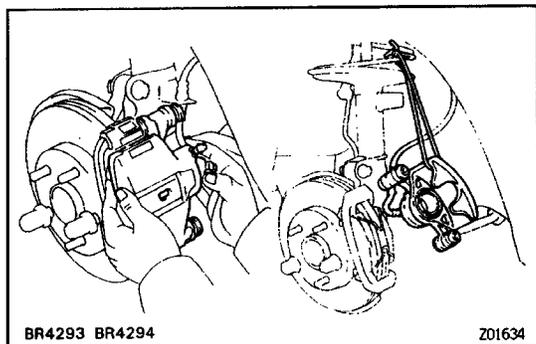
**Minimum thickness:**

**1.0 mm (0.039 in.)**



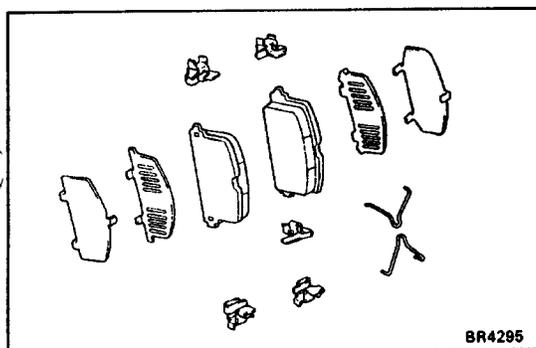
### 3. REMOVE CYLINDER FROM TORQUE PLATE

- (a) Remove two installation bolts from the torque plate.



- (b) Remove the brake cylinder and suspend it so the hose is not stretched.

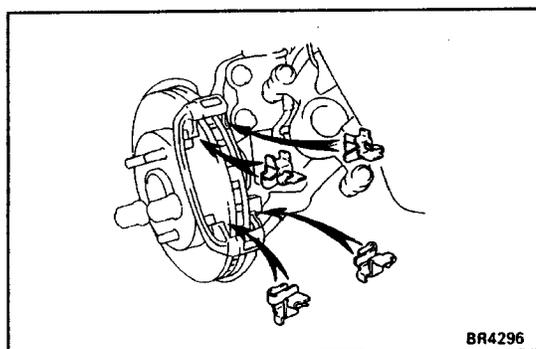
HINT: Do not disconnect the brake hose.



### 4. REMOVE FOLLOWING PARTS:

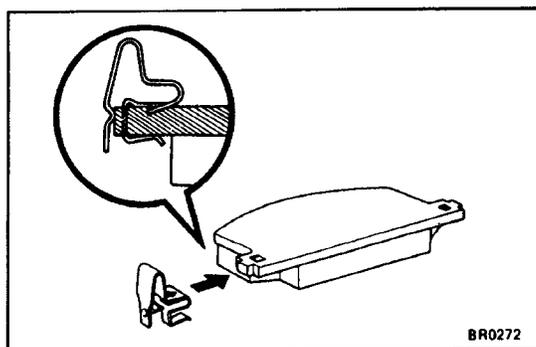
- (a) Two anti-squeal springs
- (b) Two brake pads
- (c) Four anti-squeal shims
- (d) Pad wear indicator plate
- (e) Four pad support plates

### 5. CHECK ROTOR DISC THICKNESS AND RUNOUT (See page BR-30)



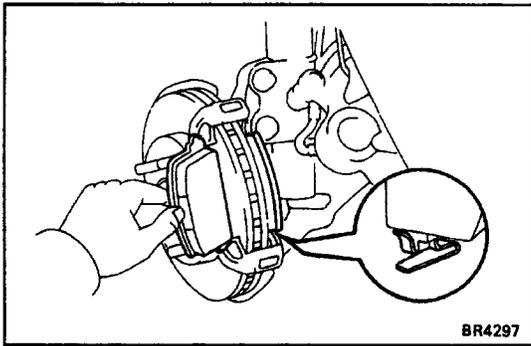
### 6. INSTALL PAD SUPPORT PLATES

Install the pad support plates.



### 7. INSTALL NEW PADS

- (a) Install a pad wear indicator plate on the inside pad.
- (b) Apply disc brake grease to both sides of the two inner anti-squeal shims.
- (c) Install the two anti-squeal shims to the each pad.

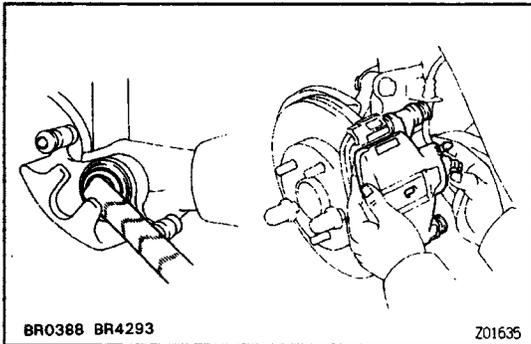


(d) Install inside pad with the pad wear indicator plate facing downward.

(e) Install outside pad.

**NOTICE: There should be no oil or grease adhering to the friction surfaces of the pads or the rotor disc.**

(f) Install the two anti-squeal springs.

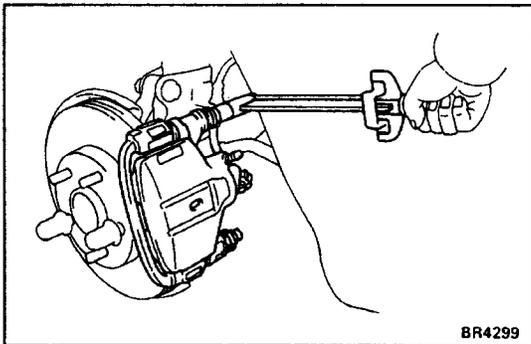


## 8. INSTALL CYLINDER

(a) Draw out a small amount of brake fluid from the reservoir tank.

(b) Press in the piston with a hammer handle or an equivalent.

**HINT:** If the piston is difficult to push in, loosen the bleeder plug and push in the piston while letting some brake fluid escape.



(c) Install the brake cylinder.

(d) Install and torque the two installation bolts.

**Torque: 25 N-m (255 kgf-cm, 18 ft-lbf)**

## 9. INSTALL FRONT WHEEL

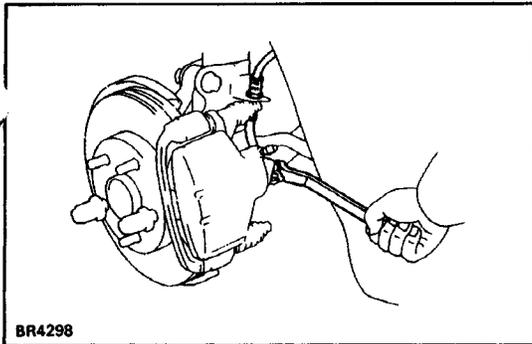
## 10. CHECK THAT FLUID LEVEL IS MAX LINE

BR008-01

## CYLINDER REMOVAL

### 1. DISCONNECT FLEXIBLE HOSE

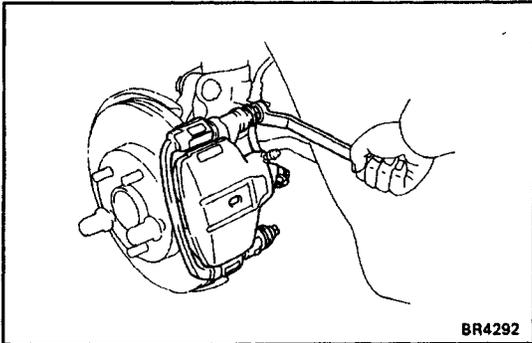
- Remove the union bolt and two gaskets from the brake cylinder, then disconnect the flexible hose from the brake cylinder.
- Use a container to catch the brake fluid as it drains out.



BR4298

### 2. REMOVE CYLINDER FROM TORQUE PLATE

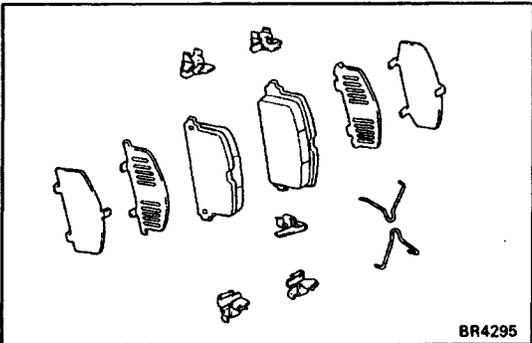
Remove the two installation bolts and cylinder.



BR4292

### 3. REMOVE FOLLOWING PARTS:

- Two anti-squeal springs
- Two brake pads
- Four anti-squeal shims
- Pad wear indicator
- Four pad support plates

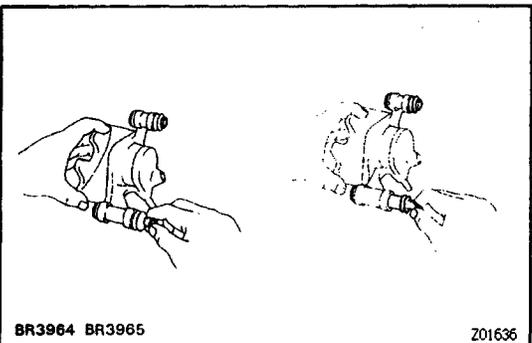


BR4295

## CYLINDER DISASSEMBLY

### 1. REMOVE FOLLOWING PARTS:

- Two sliding bushings
- Four dust boots

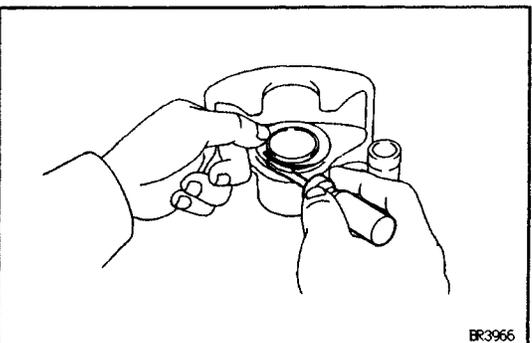


BR3964 BR3965

Z01636

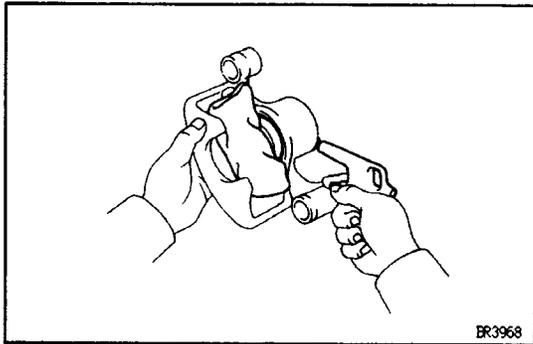
### 2. REMOVE CYLINDER BOOT SET RING AND CYLINDER BOOT

Using a screwdriver, remove the cylinder boot set ring and cylinder boot.



BR3966

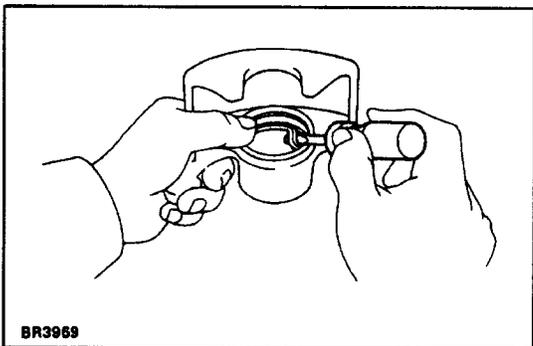
BR00C-01



### 3. REMOVE PISTON FROM CYLINDER

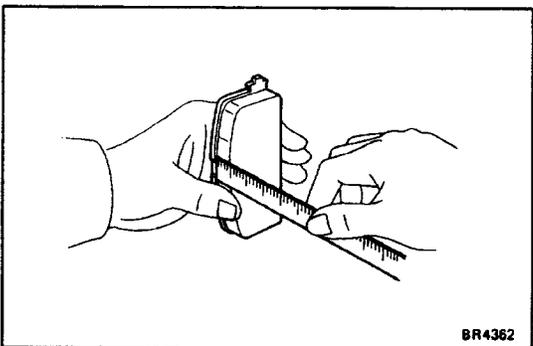
- (a) Put a piece of cloth or an equivalent between the piston and the cylinder.
- (b) Use compressed air to remove the piston from the cylinder.

**CAUTION:** Do not place your fingers in front of the piston when using compressed air.



### 4. REMOVE PISTON SEAL FROM BRAKE CYLINDER

Using a screwdriver, remove the piston seal.



## FRONT BRAKE COMPONENTS INSPECTION

BR06D-01

### 1. MEASURE PAD LINING THICKNESS

**Standard thickness:**

**10.0 mm (0.39 in.)**

**Minimum thickness:**

**1.0 mm (0.039 in.)**

Replace the pad if the thickness is less than the minimum or if it shows sign of uneven wear.

### 2. MEASURE ROTOR DISC THICKNESS

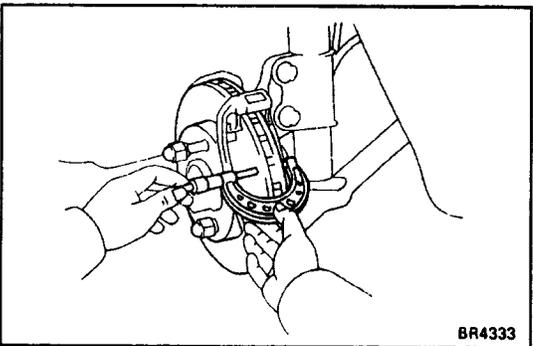
**Standard thickness:**

**25.0 mm (0.984 in.)**

**Minimum thickness:**

**24.0 mm (0.945 in.)**

If the disc is scored or worn, or if thickness is less than minimum, repair or replace the disc.



### 3. MEASURE ROTOR DISC RUNOUT

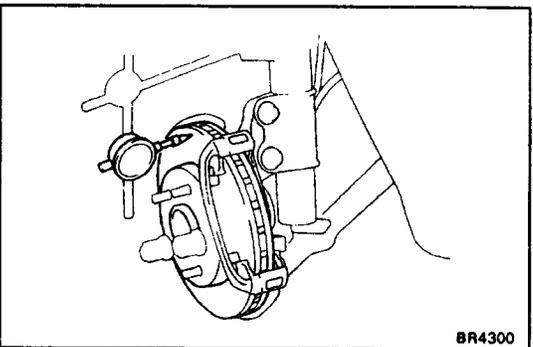
**HINT:** Before measuring the runout, confirm that the front hub bearing play is within specification.

Measure the rotor disc runout at 10 mm (0.39 in.) from the outer edge of the rotor disc.

**Maximum disc runout:**

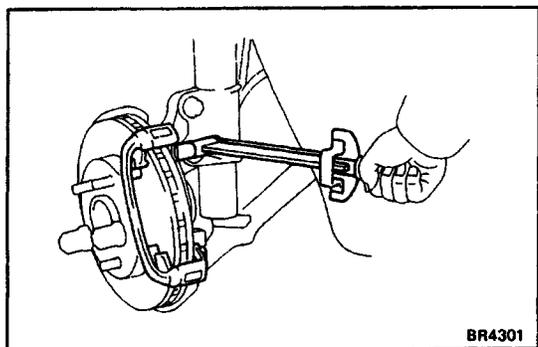
**0.07 mm (0.0028 in.)**

If the runout is greater than the maximum, inspect and adjust if following the procedure below.



**Then replace the disc if necessary.**

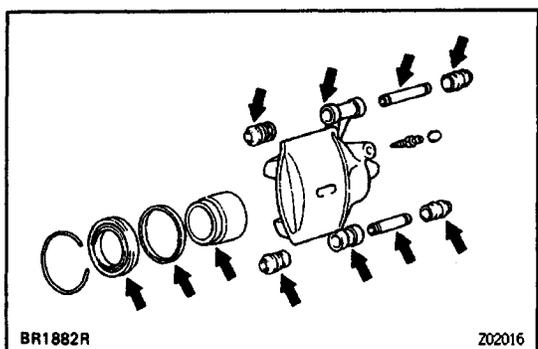
- (a) Remove the torque plate from the knuckle.
- (b) Remove the hub nuts the temporarily installed disc and pull off the rotor disc.
- (c) check that the hub axial play is within specification, and replace the bearing if not within specification. (See page SA-12)
- (d) Install the rotor disc and measure the disc runout, then shift the rotor disc one fifth of a turn or one fourth of a turn, and measure the disc runout. Similarly measure the runout at each position, and select the position where the runout is minimum.



- (e) In this position, if the runout is within specification, install the torque plate and torque the mounting bolts.

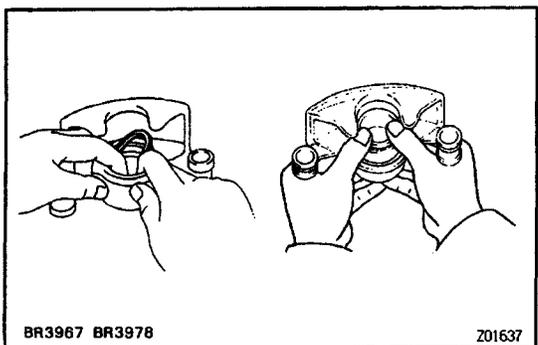
**Torque: 88 N-m (900 kgf-cm, 65 ft-lbf)**

- (f) If not within specification, replace the rotor disc, and repeat (d) and (e).

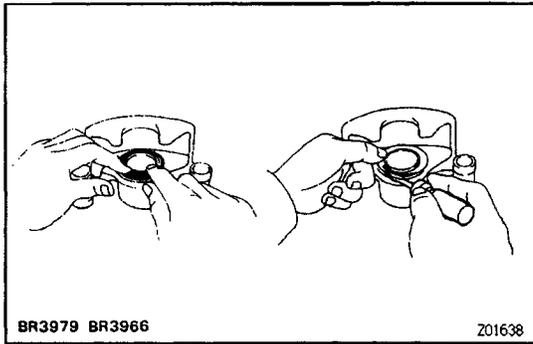
**CYLINDER ASSEMBLY**

BR08E-01

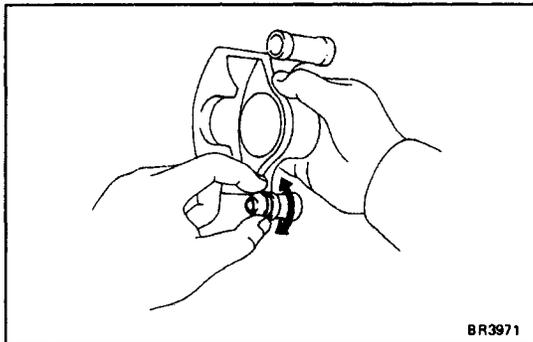
1. APPLY LITHIUM SOAP BASE GLYCOL GREASE TO PARTS INDICATED WITH ARROWS



2. INSTALL PISTON SEAL AND PISTON IN CYLINDER

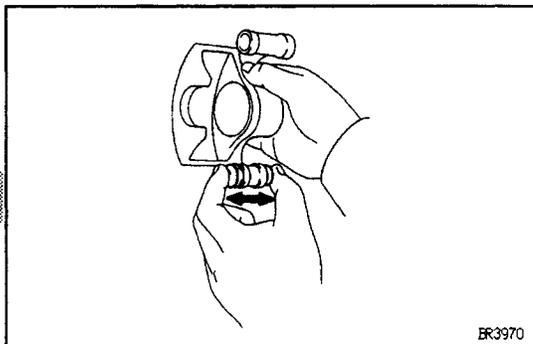


### 3. INSTALL CYLINDER BOOT AND RING IN CYLINDER

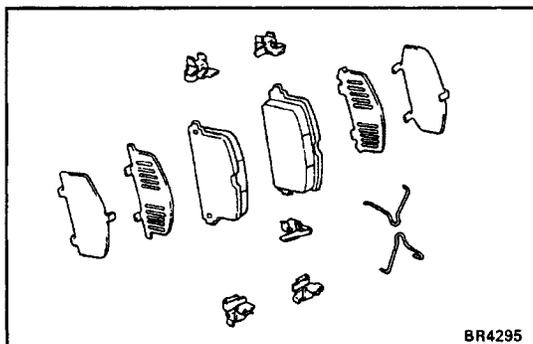


### 4. INSTALL DUST BOOTS AND CYLINDER SLIDING BUSHINGS

- (a) Install the dust boots into the brake cylinder.
- (b) Insure that the boots is secured firmly to the brake cylinder grooves.



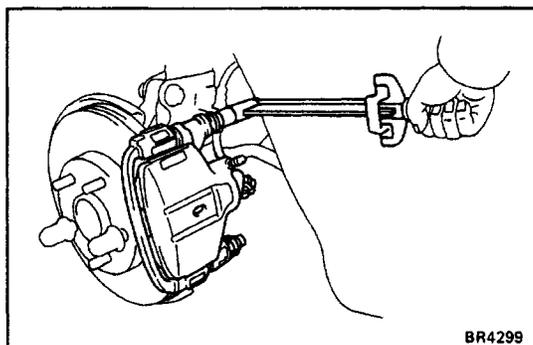
- (c) Install the bushing into the boots.
- (d) Insure that the boots is secured firmly to the bushing grooves.



### CYLINDER INSTALLATION

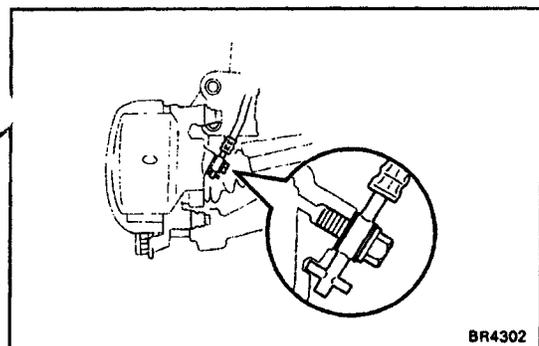
#### 1. INSTALL FOLLOWING PARTS:

- (a) Four pad support plates
- (b) Pad wear indicator
- (c) Four anti-squeal shims
- (d) Two brake pads
- (e) Two anti-squeal springs



#### 2. INSTALL CYLINDER

- (a) Install the brake cylinder.
- (b) Install and torque the two installation bolts.  
Torque: 25 N-m (255 kgf-cm, 18 ft-lbf)



### 3. INSTALL FLEXIBLE HOSE

Install the flexible hose on the brake cylinder with two new gaskets.

**Torque: 30 N-m (310 kgf-cm, 22 ft-lbf)**

HINT: Insert the flexible hose lock securely in the lock hole in brake cylinder.

### 4. FILL BRAKE RESERVOIR WITH BRAKE FLUID AND BLEED BRAKE SYSTEM

(See page [BR-9](#))

### 5. CHECK FOR LEAKS