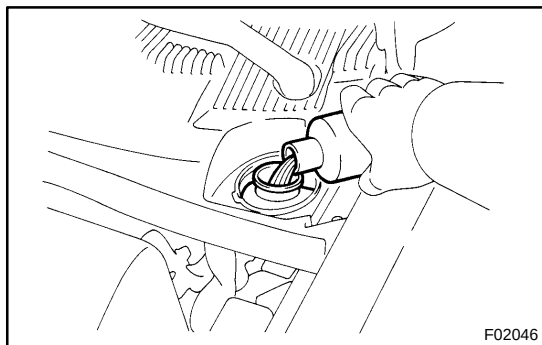




BRAKE FLUID BLEEDING

BR016-04

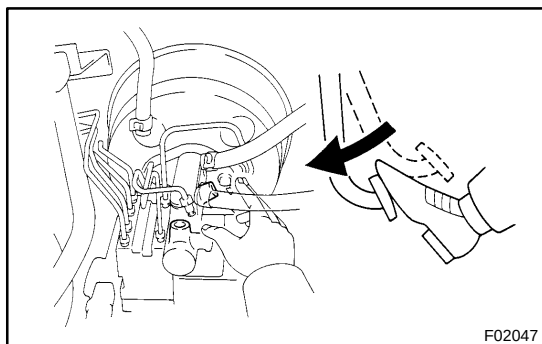
HINT:

If any work is done on the brake system or if air in the brake lines is suspected, bleed the air from the system.

NOTICE:

Do not let brake fluid remain on a painted surface. Wash it off immediately.

1. **FILL BRAKE RESERVOIR WITH BRAKE FLUID**
Fluid: SAE J1703 or FMVSS No. 116 DOT3

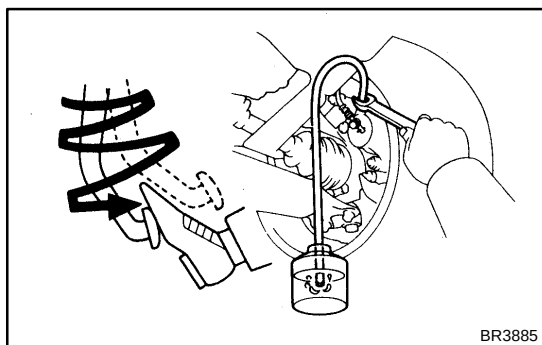
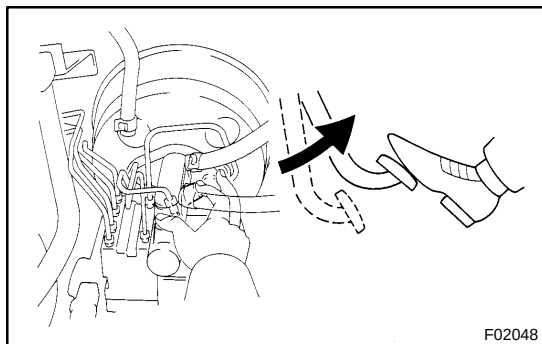


2. **BLEED MASTER CYLINDER**

HINT:

If the master cylinder has been disassembled or if the reservoir becomes empty, bleed the air from the master cylinder.

- (a) Disconnect the brake lines from the master cylinder.
SST 09023-00100
- (b) Slowly depress the brake pedal and hold it.
- (c) Block off the outlet plug with your finger and release the brake pedal.
- (d) Repeat (b) and (c) 3 or 4 times.



3. **BLEED BRAKE LINE**

- (a) Connect the vinyl tube to the caliper or wheel cylinder bleeder plug.
- (b) Depress the brake pedal several times, then loosen the bleeder plug with the pedal held down.
- (c) At the point when fluid stops coming out, tighten the bleeder plug, then release the brake pedal.

Torque: (Bleeder plug)

Front brake caliper: 8.3 N·m (85 kgf·cm, 74 in·lbf)

Rear wheel cylinder: 8.5 N·m (87 kgf·cm, 75 in·lbf)

- (d) Repeat (b) and (c) until all the air in the fluid has been bled out.
- (e) Repeat the above procedure to bleed the air out of the brake line for each wheel.

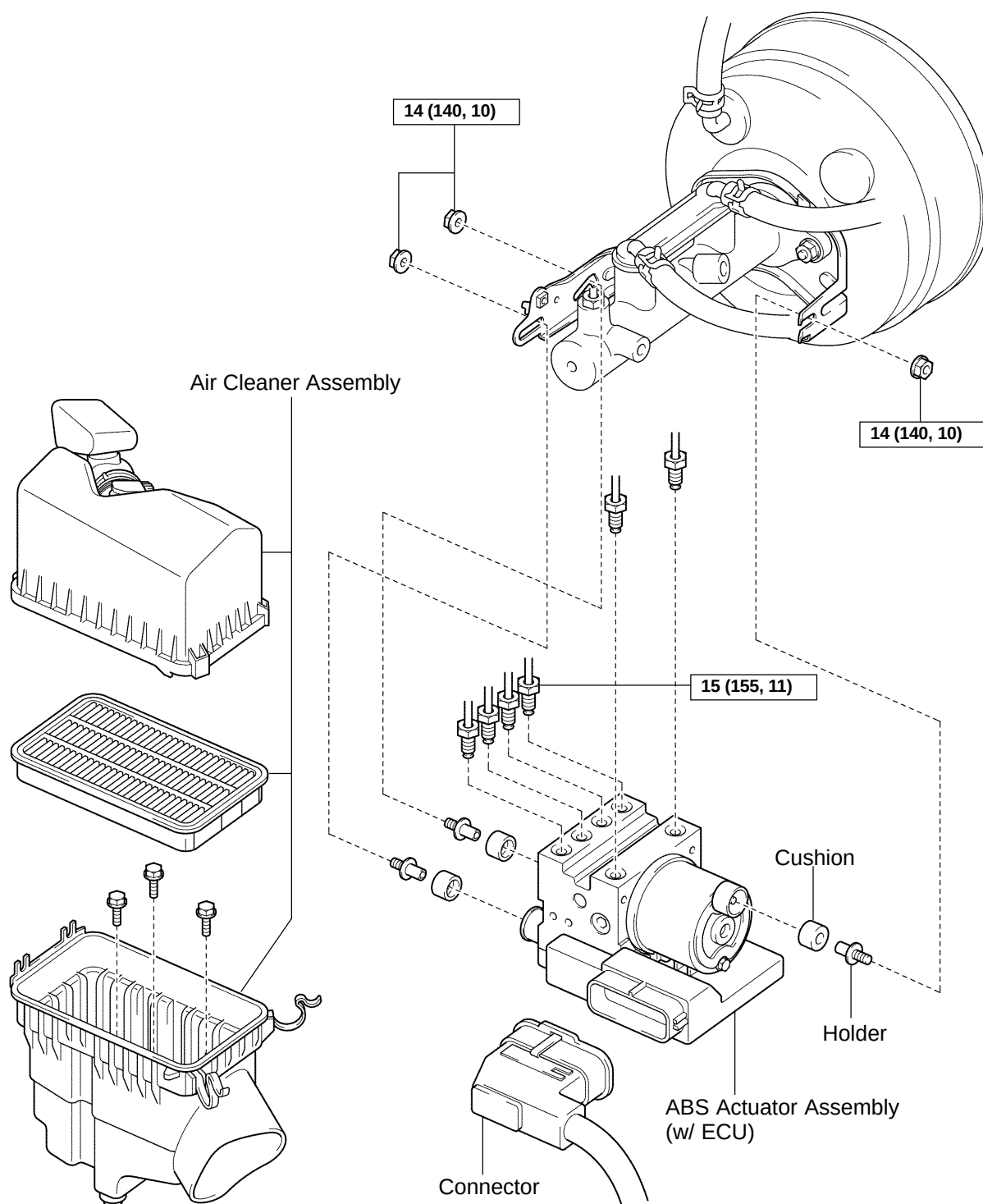
4. CHECK FLUID LEVEL IN RESERVOIR

Check the fluid level and add fluid if necessary.

Fluid: SAE J1703 or FMVSS No. 116 DOT3

ABS ACTUATOR COMPONENTS

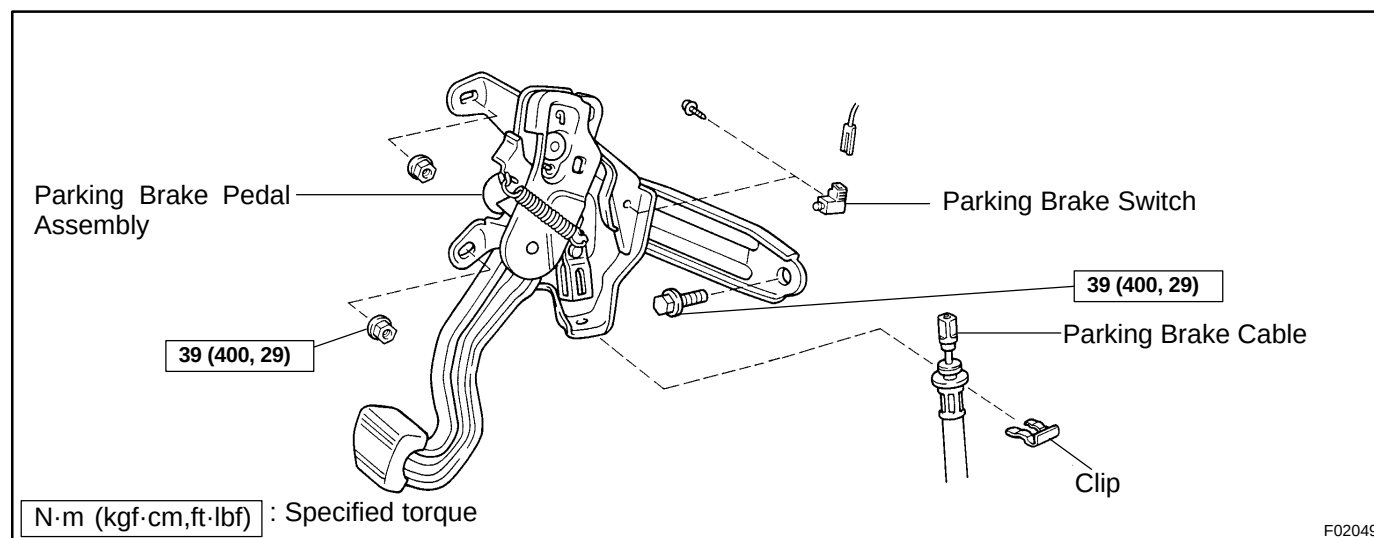
BR01Z-03



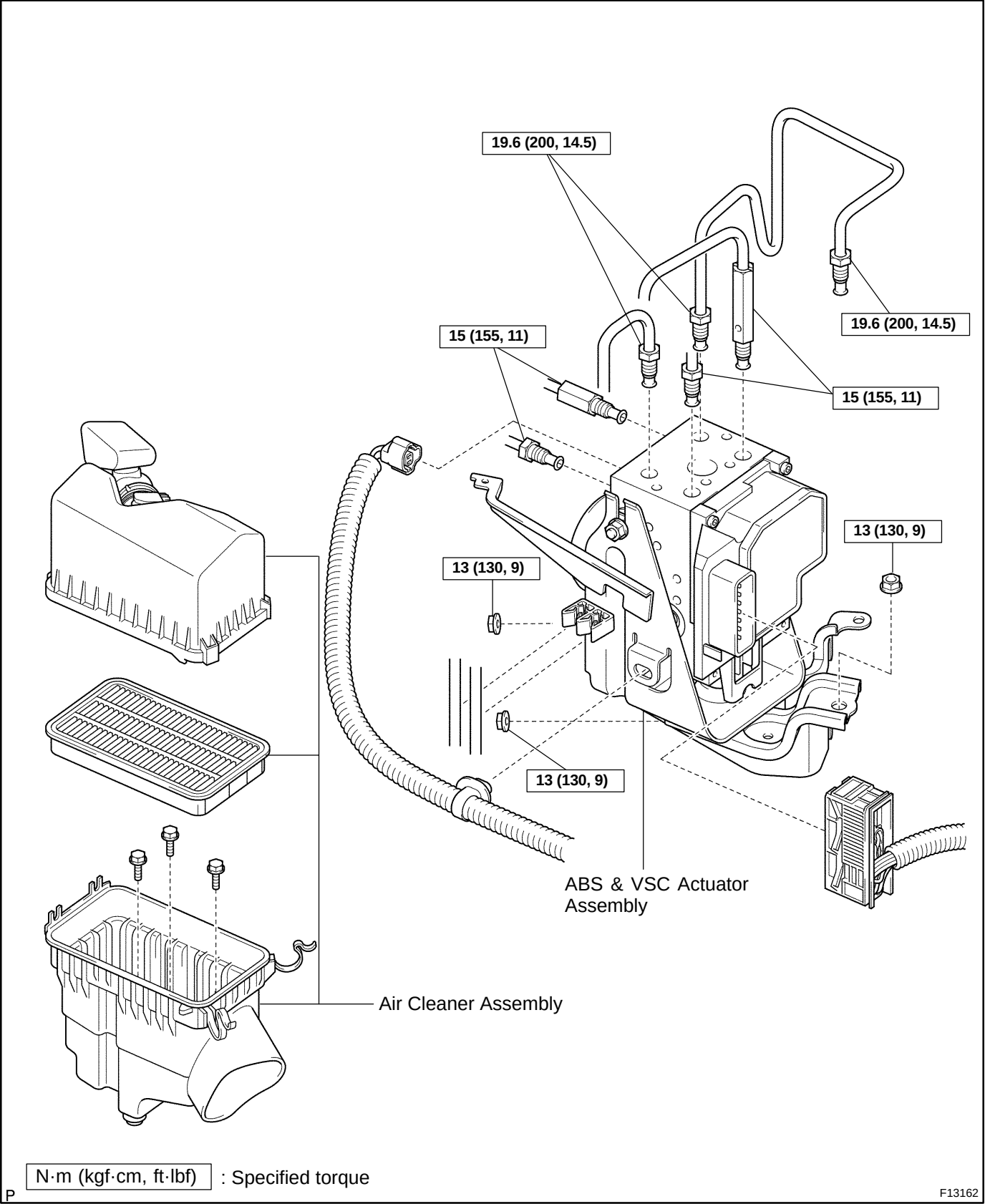
P **N·m (kgf·cm, ft·lbf): Specified torque**

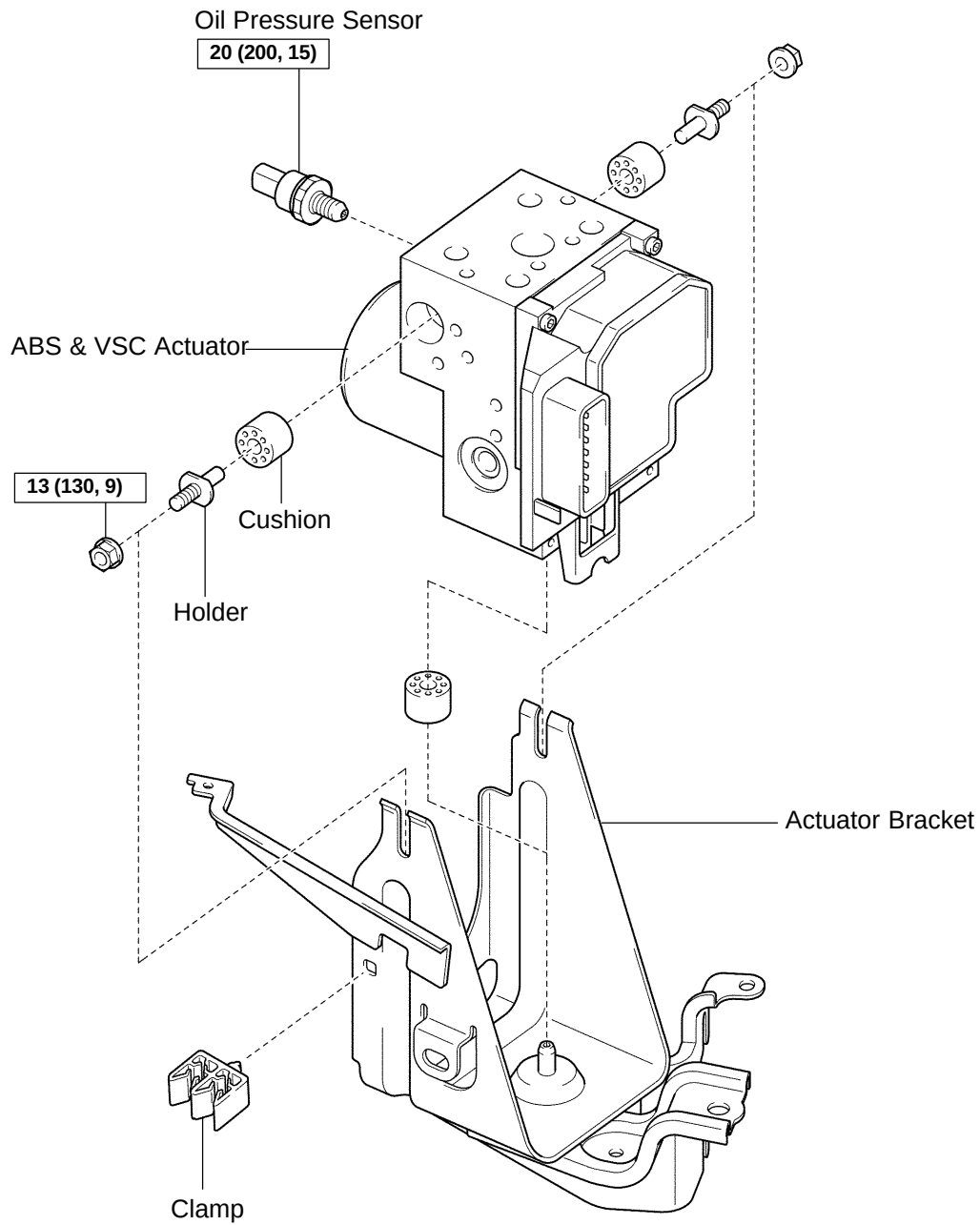
F13164

COMPONENTS



COMPONENTS



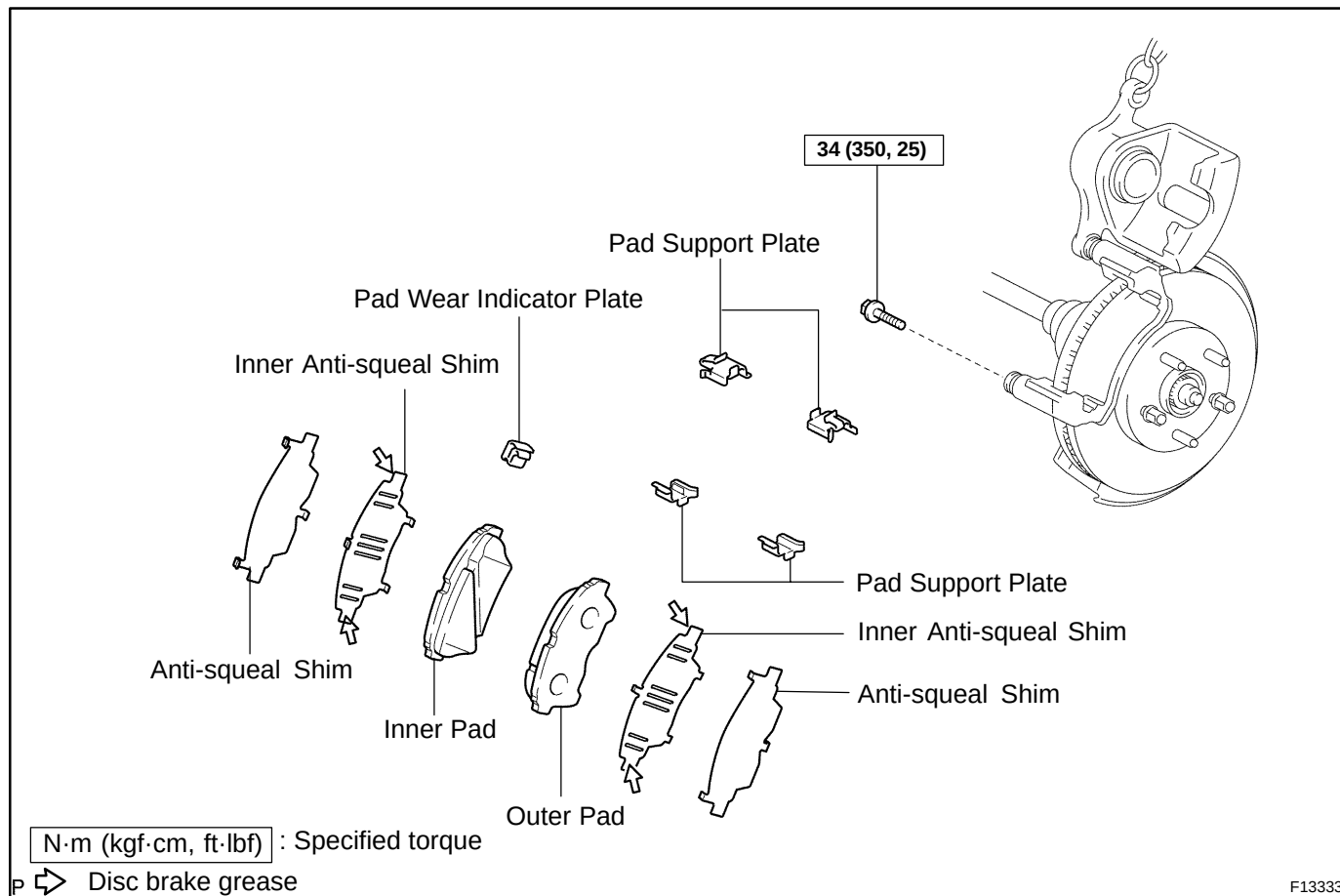


P N·m (kgf·cm, ft·lbf) : Specified torque

F13163

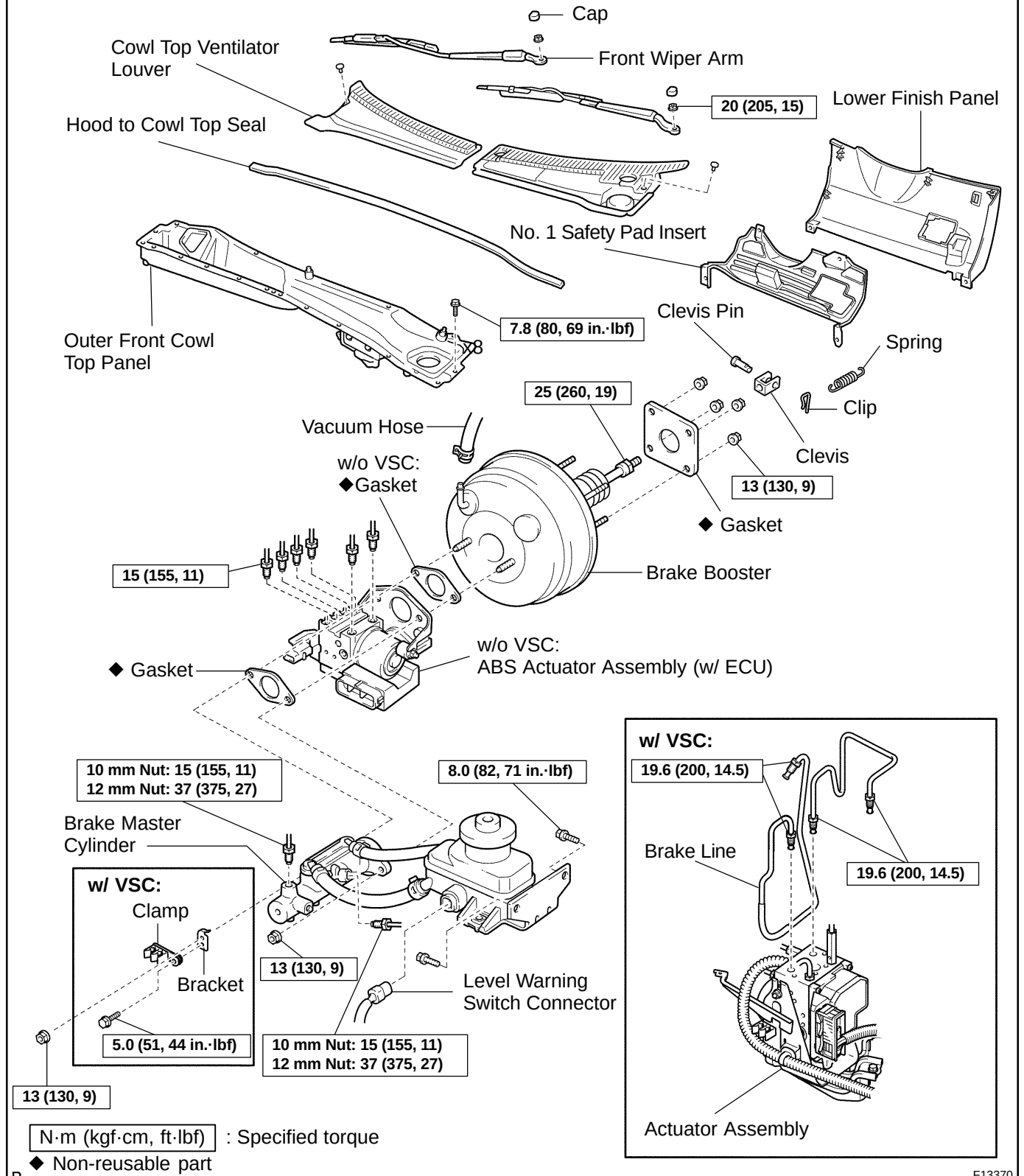
FRONT BRAKE PAD COMPONENTS

BR01M-05



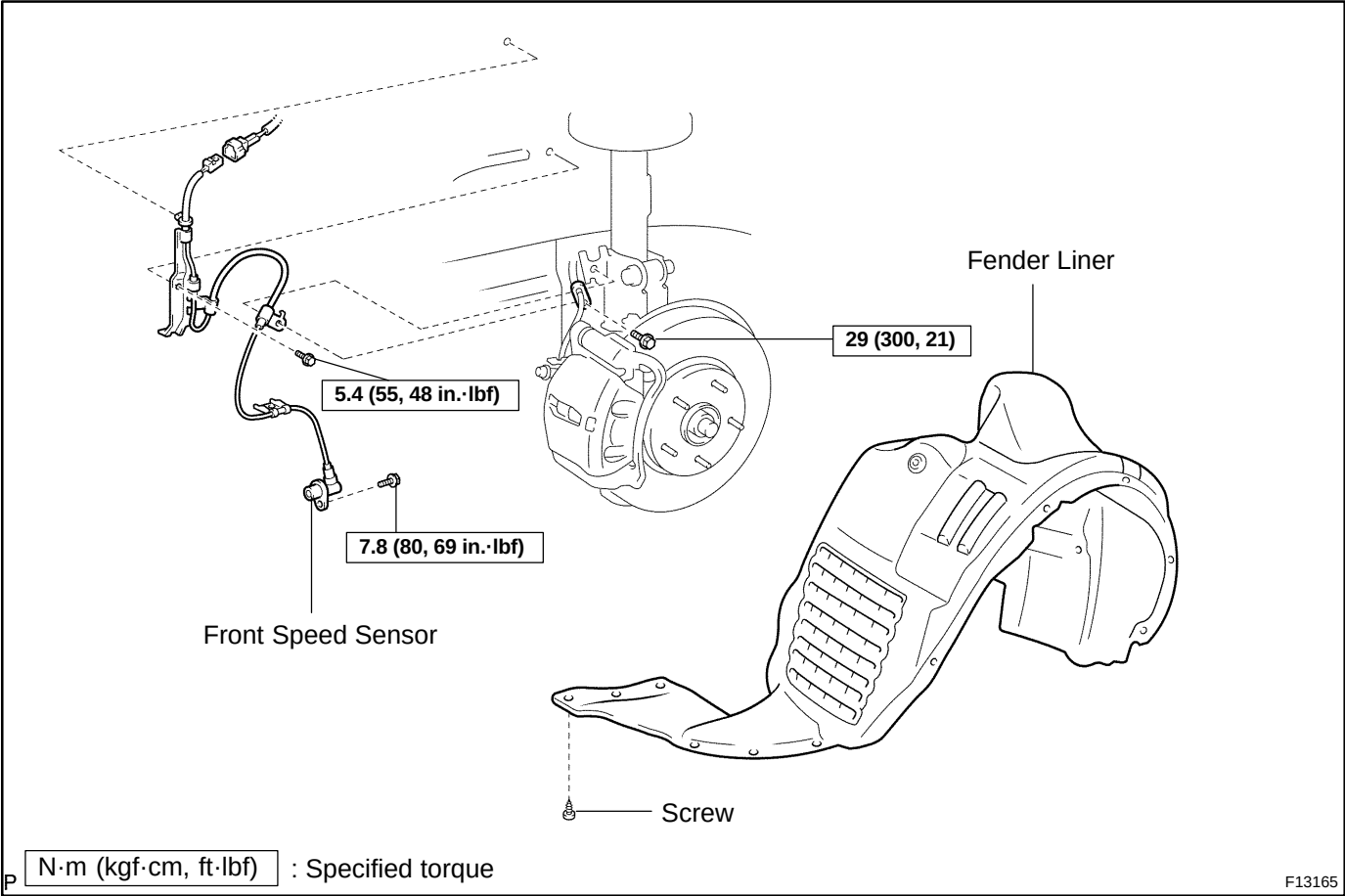
COMPONENTS

w/o VSC:



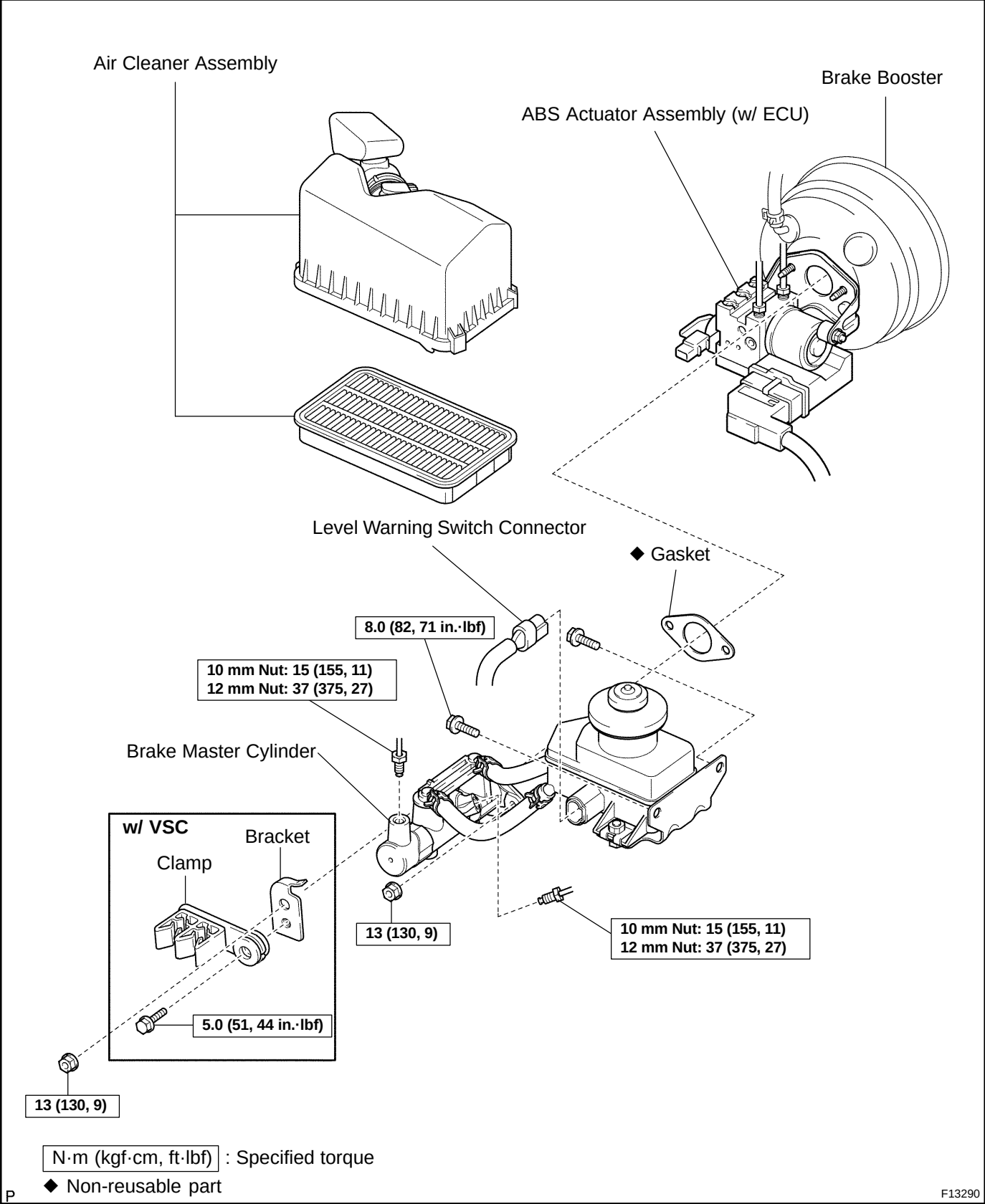
FRONT SPEED SENSOR COMPONENTS

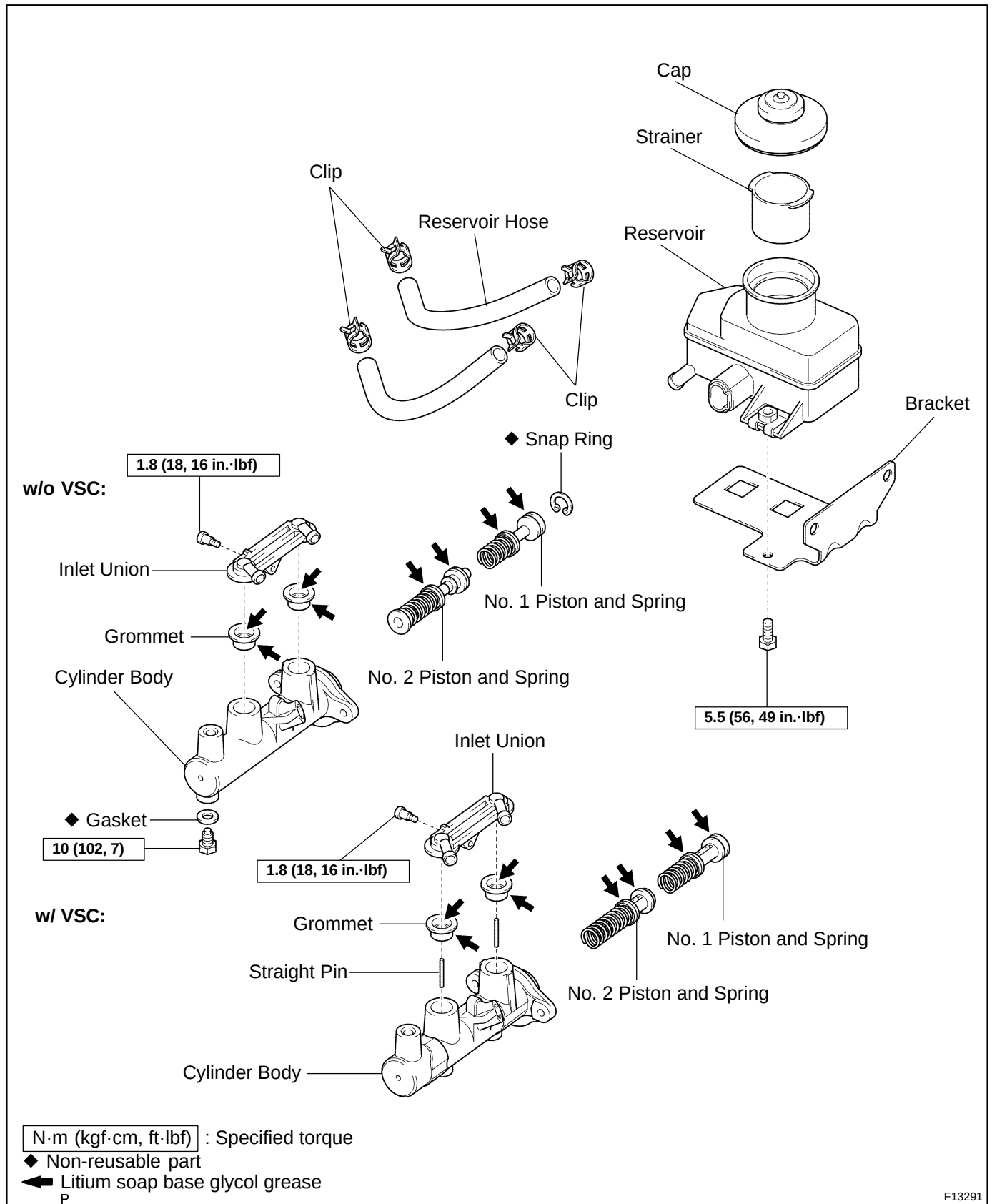
BR032-03



BRAKE MASTER CYLINDER COMPONENTS

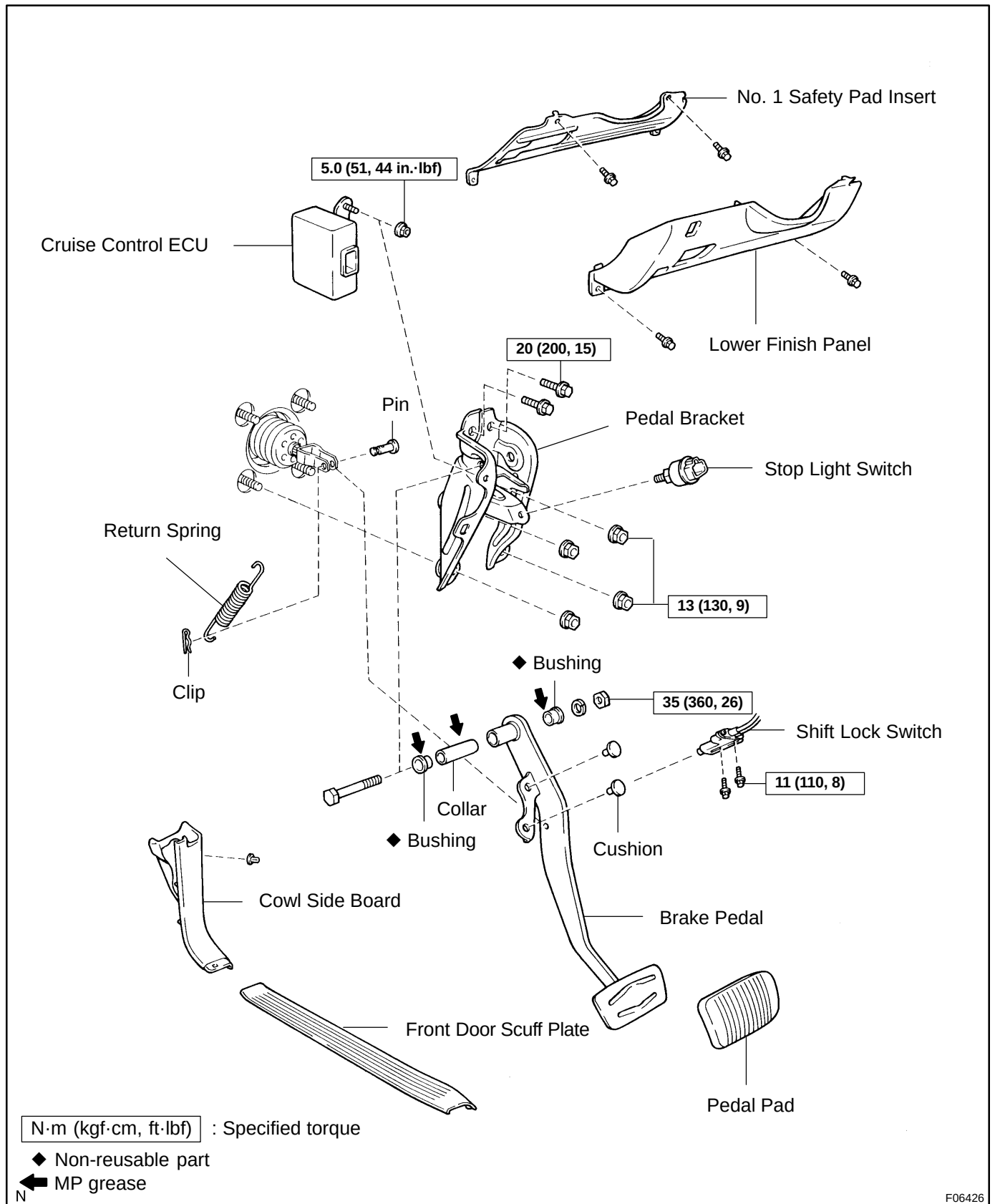
BR1KU-01





F13291

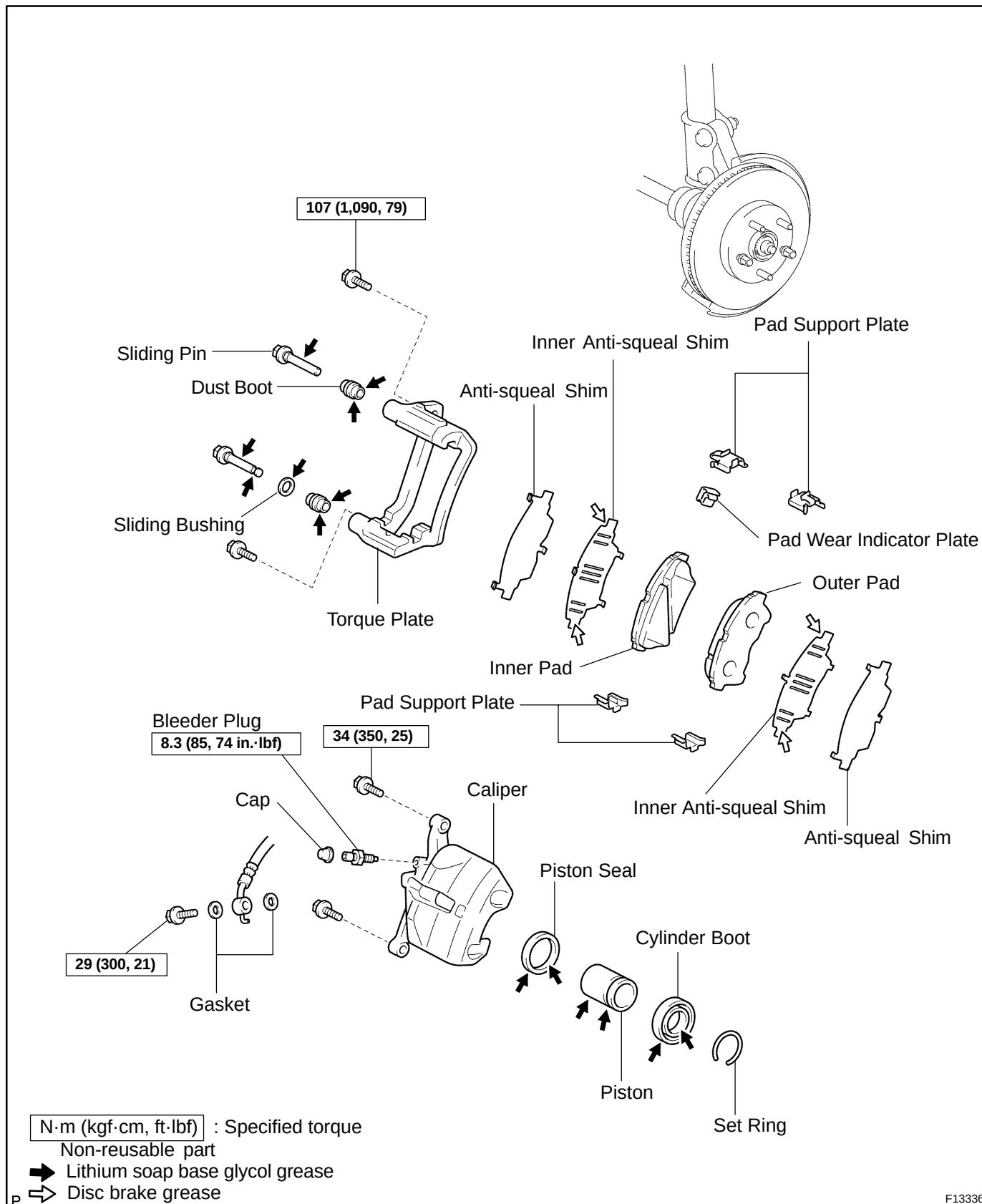
COMPONENTS



F06426

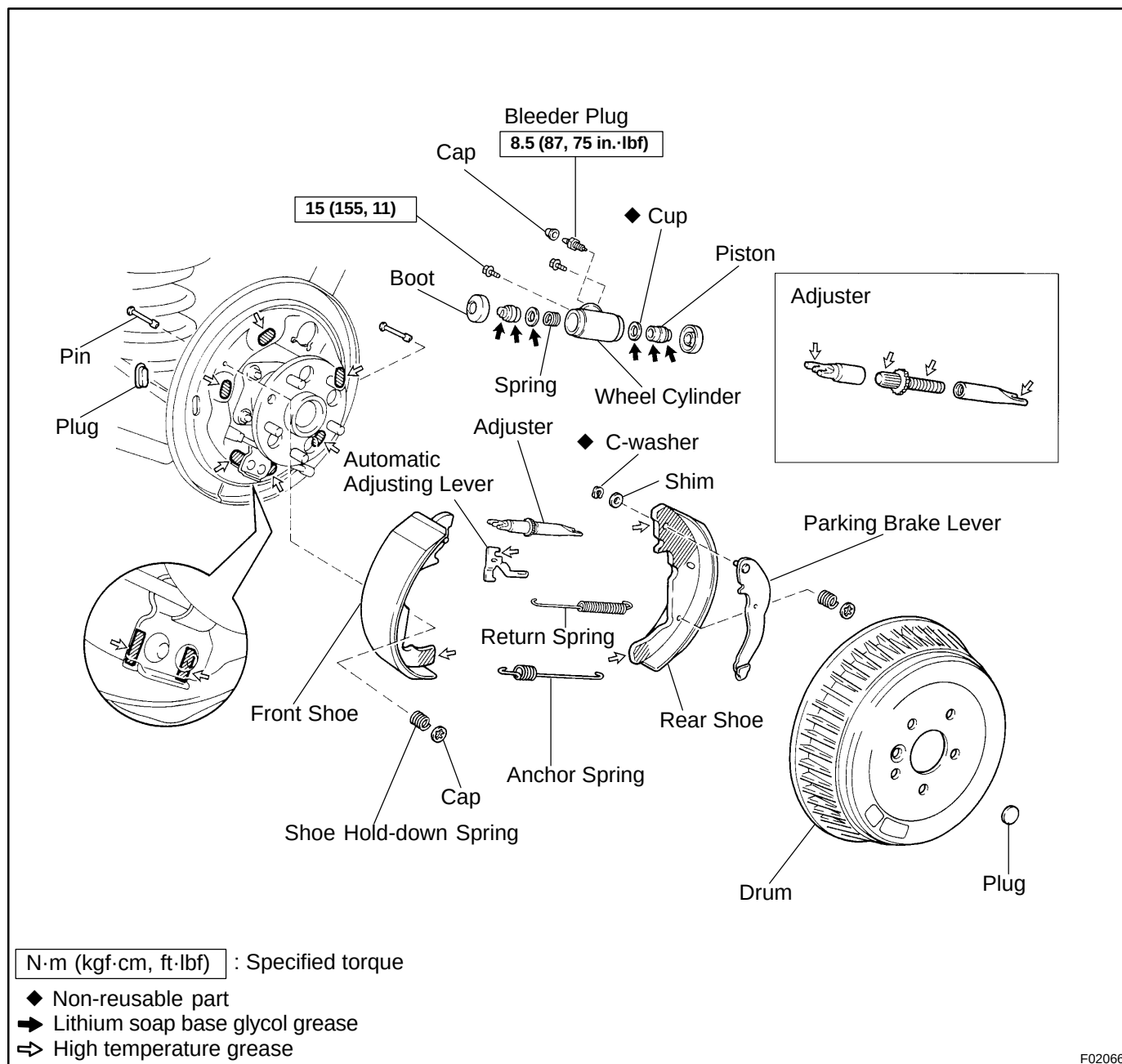
FRONT BRAKE CALIPER COMPONENTS

BR010-04



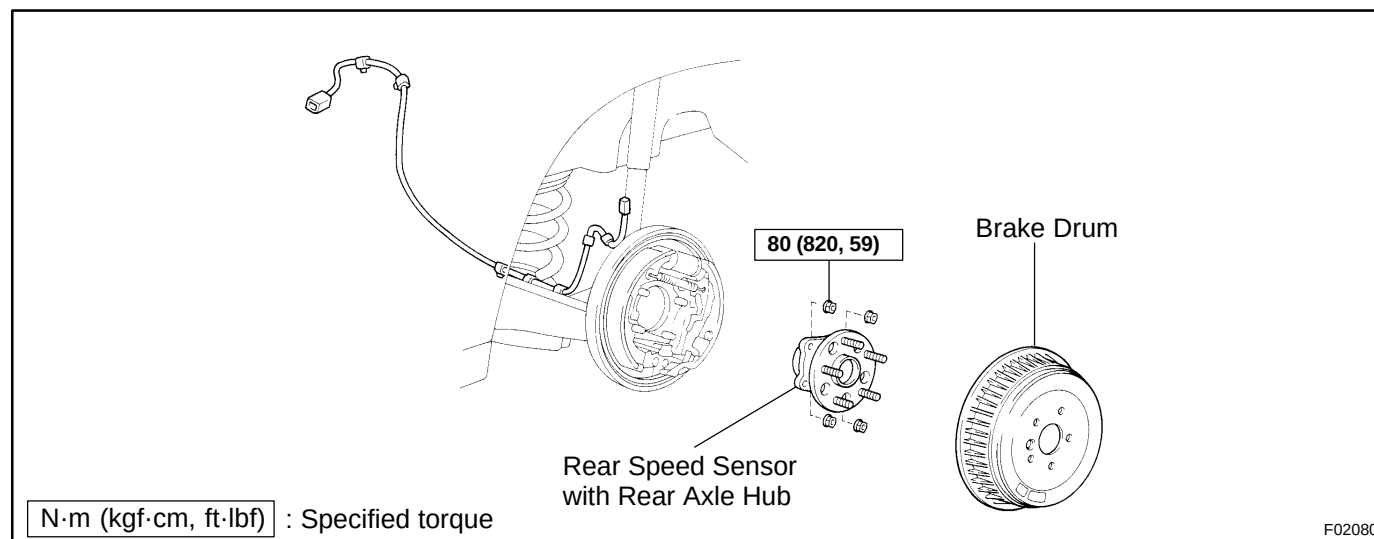
F13336

REAR DRUM BRAKE COMPONENTS



REAR SPEED SENSOR COMPONENTS

BR035-03



DISASSEMBLY

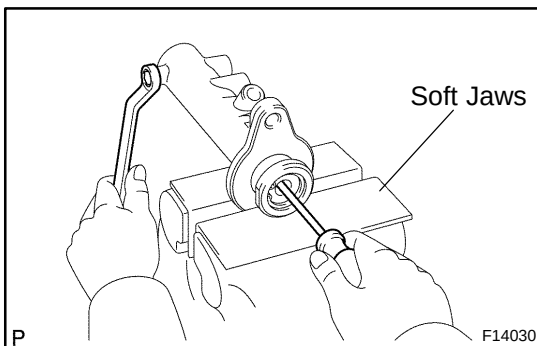
1. REMOVE RESERVOIR

- (a) Remove the bolt and reservoir from the bracket.
Torque: 5.5 N·m (56 kgf·cm, 49 in·lbf)
- (b) Disconnect the 2 reservoir hoses from the reservoir.
- (c) Remove the cap and strainer.

2. REMOVE INLET UNION

- (a) Disconnect the 2 reservoir hoses from the master cylinder.
- (b) Remove the screw and pull out the inlet union.
Torque: 1.8 N·m (18 kgf·cm, 16 in·lbf)

3. REMOVE 2 GROMMETS



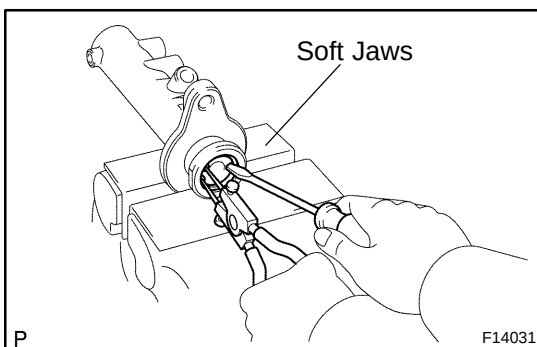
4. w/o VSC:

REMOVE PISTON STOPPER BOLT

- (a) Place the master cylinder in vise.
- (b) Using a screwdriver, push the pistons in all the way and remove the piston stopper bolt and gasket.
Torque: 10 N·m (102 kgf·cm, 7 ft·lbf)

HINT:

Tape the screwdriver tip before use.

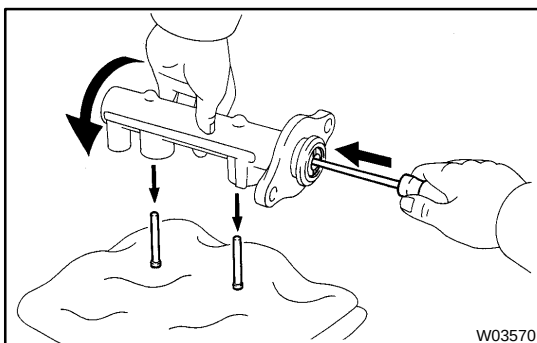


5. REMOVE PISTONS

- (a) w/o VSC:
Push in the piston with a screwdriver and remove the snap ring with snap ring pliers.

HINT:

Tape the screwdriver tip before use.

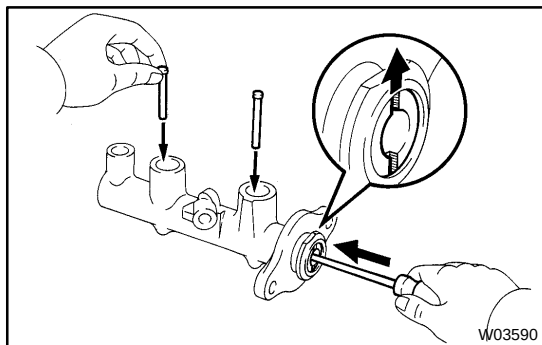


(b) w/ VSC:

Push in the piston with a screwdriver and remove the 2 straight pins by turning over the cylinder body.

HINT:

- Tape the screwdriver tip before use.



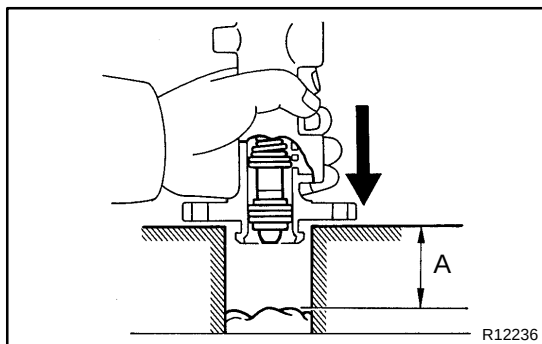
- At the time of reassembly, please refer to the following item.
Insert the pistons with elliptic hole facing vertically.
- (c) Remove the No. 1 piston and spring by hand, pulling straight out, not at an angle.

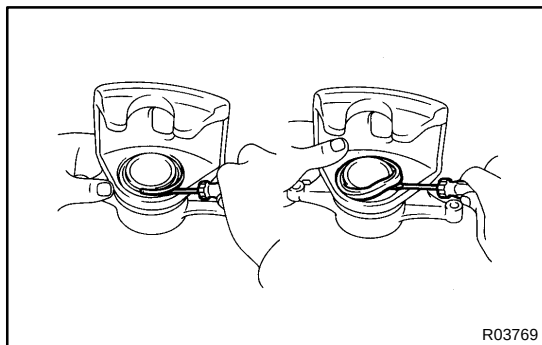
NOTICE:

- **If pulled out and installed at an angle, there is a possibility that the cylinder bore could be damaged.**
 - **At the time of reassembly, be careful not to damage the rubber lips on the pistons.**
- (d) Place a rag and 2 wooden blocks on the work table and lightly tap the cylinder flange against the block edges until the piston drops out of the cylinder.

HINT:

Make sure the distance (A) from the rag to the top of the blocks is at least 100 mm (3.94 in.).

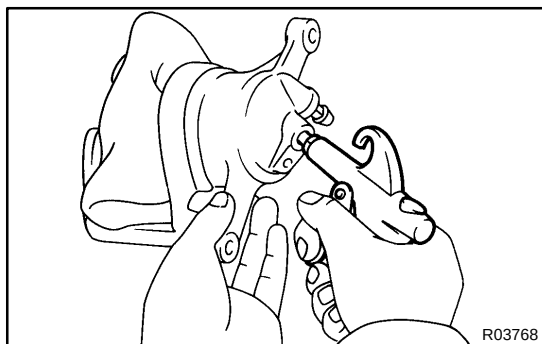




DISASSEMBLY

1. REMOVE CYLINDER BOOT SET RING AND CYLINDER BOOT

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

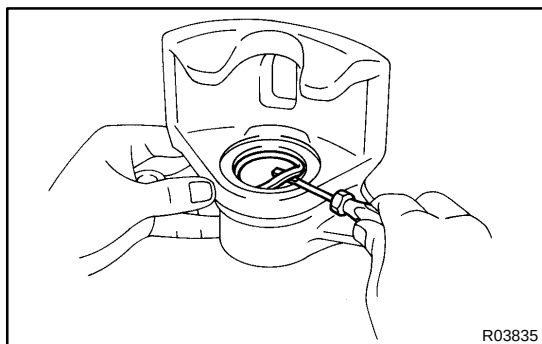


2. REMOVE PISTON FROM CYLINDER

- Put a piece of cloth or equivalent between the piston and the caliper.
- 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.



3. REMOVE PISTON SEAL FROM CYLINDER

Using a screwdriver, remove the piston seal.

4. REMOVE SLIDING PINS AND DUST BOOTS

- Remove the 2 sliding pins from the torque plate.

NOTICE:

At the time of reassembly, please refer to the following item.

Insert the sliding pin with sliding bushing into the lower part, and insert the sliding pin without sliding bushing into the upper part.

- Using a screwdriver and hammer, tap out the 2 dust boots.

HINT:

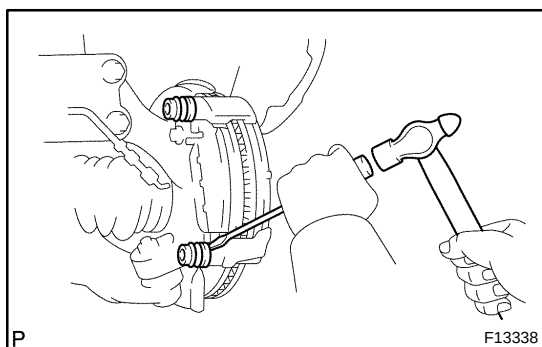
At the time of reassembly, please refer to the following item.

Using a 24 mm socket and hammer, tap in the 2 new dust boots.

NOTICE:

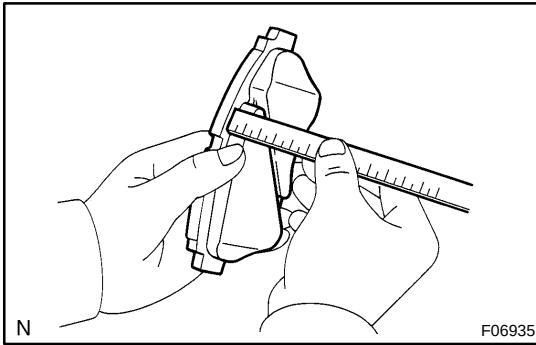
At the time of reassembly, please refer to the following item.

Confirm that the metal plate portion of the dust boot fits snugly in the torque plate.



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F13338



INSPECTION

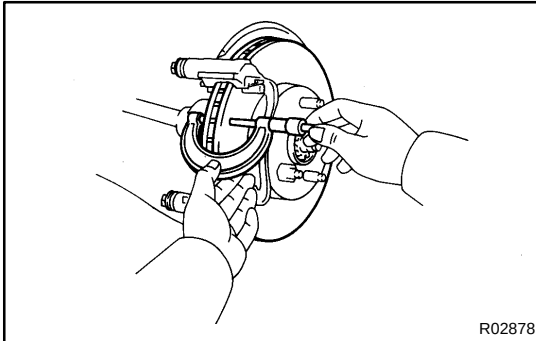
1. MEASURE PAD LINING THICKNESS

Using a ruler, measure the pad lining thickness.

Standard thickness: 11.0 mm (0.433 in.)

Minimum thickness: 1.0 mm (0.039 in.)

Replace the pad if the pad's thickness is at the minimum thickness or less, or if the pad has severe, uneven wear.



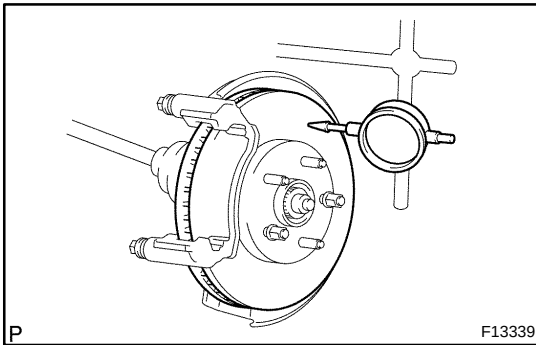
2. MEASURE DISC THICKNESS

Using a micrometer, measure the disc thickness.

Standard thickness: 28.0 mm (1.102 in.)

Minimum thickness: 26.0 mm (1.024 in.)

Replace the disc if the thickness of the disc is at the minimum thickness or less. Replace the disc or grind it on a lathe if it is scored or is worn unevenly.

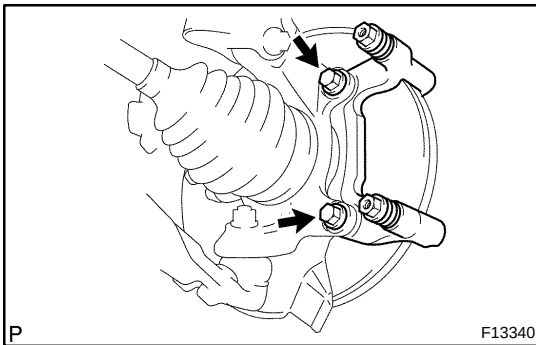


3. MEASURE DISC RUNOUT

Using a dial indicator, measure the disc runout at a position 10 mm (0.39 in.) from the outside edge.

Maximum disc runout: 0.05 mm (0.0020 in.)

If the disc's runout is at the maximum value or greater, check the bearing play in the axial direction and check the axle hub runout (See page [SA-9](#)). If the bearing play and axle hub runout are not abnormal, adjust the disc runout or grind it on a "On-Car" brake lathe.



4. IF NECESSARY, ADJUST DISC RUNOUT

- Remove the 2 bolts and torque plate from the knuckle.
- Remove the hub nuts and the disc. Reinstall the disc 1/5 of a turn round from its original position on the hub. Install and torque the hub nuts.

Torque: 104 N·m (1,050 kgf·cm, 77 ft·lbf)

- Remeasure the disc runout. Make a note of the runout and the disc's position on the hub.
- Repeat (b) and (c) until the disc has been installed on the 3 remaining hub positions.

- If the minimum runout recorded in (b) to (d) is less than 0.05 mm (0.0020 in.), install the disc in that position.
- If the minimum runout recorded in (b) to (d) is greater than 0.05 mm (0.0020 in.), replace the disc and repeat step 3.

- Install the torque plate and torque the mounting bolts.

Torque: 107 N·m (1,090 kgf·cm, 79 ft·lbf)

INSPECTION

HINT:

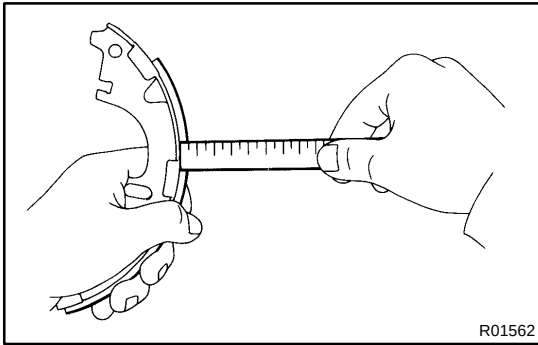
Clean the disassembled parts with compressed air.

1. INSPECT CYLINDER BORE FOR RUST OR SCORING

If necessary, clean or replace the cylinder.

2. INSPECT CYLINDER FOR WEAR OR DAMAGE

If necessary, clean or replace the cylinder.



INSPECTION

1. INSPECT DISASSEMBLED PARTS

Inspect the disassembled parts for wear, rust or damage.

2. MEASURE BRAKE SHOE LINING THICKNESS

Using a ruler, measure the shoe lining thickness.

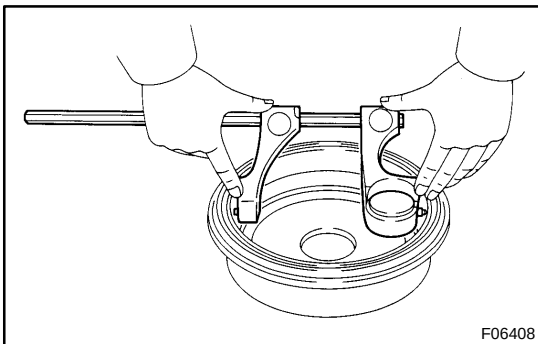
Standard thickness: 6.0 mm (0.236 in.)

Minimum thickness: 1.0 mm (0.039 in.)

If the shoe lining is less than the minimum or shows signs of uneven wear, replace the brake shoes.

HINT:

If a brake shoe needs replacing, the brake shoes must be replaced as a set.



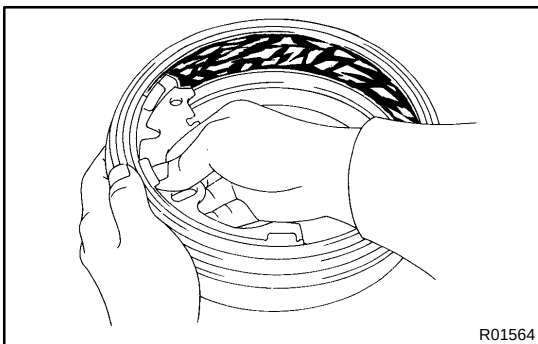
3. MEASURE BRAKE DRUM INSIDE DIAMETER

Using a brake drum gauge or equivalent, measure the inside diameter of the drum.

Standard inside diameter: 250.0 mm (9.843 in.)

Maximum inside diameter: 252.0mm (9.921 in.)

If the drum is scored or worn, the brake drum may be lathed to the maximum inside diameter.



4. INSPECT REAR BRAKE LINING AND DRUM FOR PROPER CONTACT

If the contact between the brake lining and drum is improper, repair the lining with a brake shoe grinder, or replace the brake shoe assembly.

INSTALLATION

Installation is in the reverse order of removal (See page [BR-41](#)).

HINT:

- After installation, fill the brake reservoir with brake fluid, bleed brake system (See page [BR-4](#)).
- Check for leaks.

INSTALLATION

Installation is in the reverse order of removal (See page [BR-46](#)).

HINT:

- After installation, fill the brake reservoir with brake fluid, bleed brake system (See page [BR-4](#)).
- Check for leaks.

INSTALLATION

Installation is in the reverse order of removal (See page [BR-49](#)).

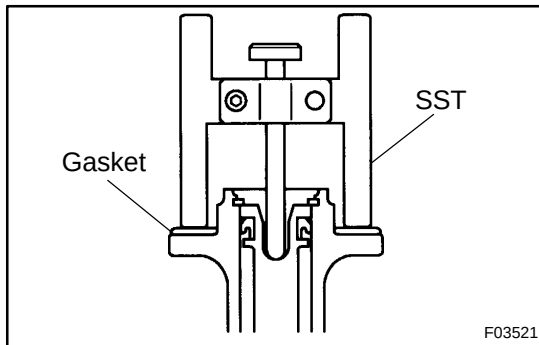
HINT:

After installation, check speed sensor signal (See page [DI-220](#)).

INSTALLATION

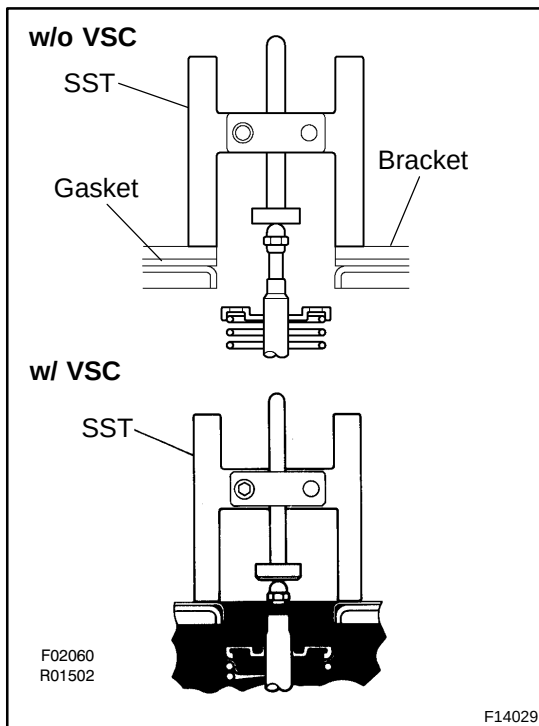
1. INSTALL BRAKE BOOSTER

- Install booster and a new gasket.
- Install the clevis to the operating rod.
- Install and torque the booster installation nuts.
Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)
- Insert the clevis pin into the clevis and brake pedal, and install the clip to the clevis pin.
- Install the pedal return spring.

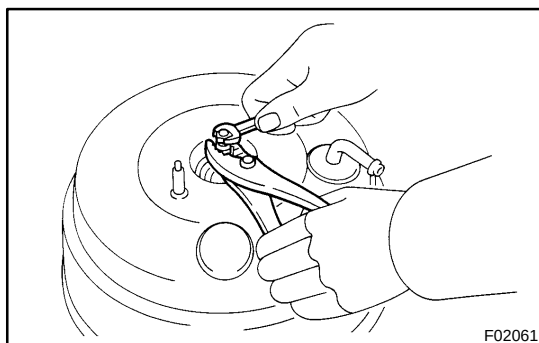


2. ADJUST LENGTH OF BOOSTER PUSH ROD

- Install the gasket on the master cylinder.
- Set the SST on the gasket, and lower the pin until its tip slightly touches the piston.
SST 09737-00010



- w/o VSC
Set the gasket and ABS actuator bracket on the booster. And tighten the 2 nuts slightly to fix the bracket.
- Turn the SST upside down, and set it on the booster.
SST 09737-00010
- Measure the clearance between the booster push rod and pin head (SST).
w/o VSC Clearance: 0.35 mm (0.014 in.)
w/ VSC Clearance: 0 mm (0 in.)



- Adjust the booster push rod length until the push rod slightly touches the pin head.

HINT:

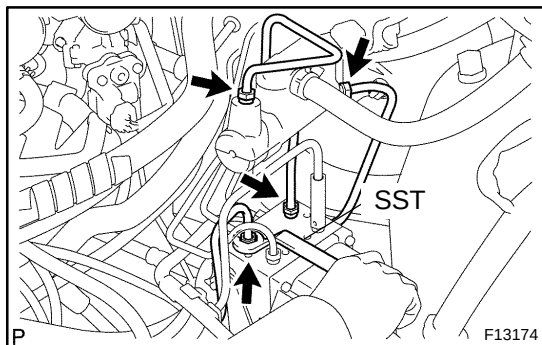
When adjusting the push rod, depress the brake pedal enough so that the push rod sticks out.

3. w/o VSC:

INSTALL ABS ACTUATOR ASSEMBLY

(See page [BR-42](#))

4. INSTALL MASTER CYLINDER (See page [BR-19](#))

**5. w/ VSC:****CONNECT BRAKE LINES**

Using SST, connect the 2 brake lines.

SST 09751-3601 1

Torque: 19.6 N·m (200 kgf·cm, 14.5 ft·lbf)

6. CONNECT VACUUM HOSE TO BRAKE BOOSTER**7. INSTALL OUTER FRONT COWL TOP PANEL AND 2 COWL TOP VENTILATOR LOUVERS**

(See page [BO-35](#))

8. FILL BRAKE RESERVOIR WITH BRAKE FLUID AND BLEED BRAKE SYSTEM (See page [BR-4](#))**9. CHECK FOR LEAKS****10. CHECK AND ADJUST BRAKE PEDAL**

(See page [BR-6](#))

Check and adjust the brake pedal, then tighten the clevis lock nut.

Torque: 25 N·m (260 kgf·cm, 19 ft·lbf)

11. DO OPERATIONAL CHECK (See page [BR-20](#))

INSTALLATION

Installation is in the reverse order of removal (See page [BR-14](#)).

HINT:

- Before installation, adjust length of brake booster push rod (See page [BR-23](#)).
- After installation, fill the brake reservoir with brake fluid, bleed the brake system (See page [BR-4](#)).
- Check for leaks, check and adjust brake pedal (See page [BR-6](#)).

INSTALLATION

Installation is in the reverse order of removal (See page [BR-29](#)).

HINT:

- After installation, fill the brake reservoir with brake fluid, bleed the brake system (See page [BR-4](#)).
- Check for leaks.

INSTALLATION

Installation is in the reverse order of removal (See page [BR-10](#)).

HINT:

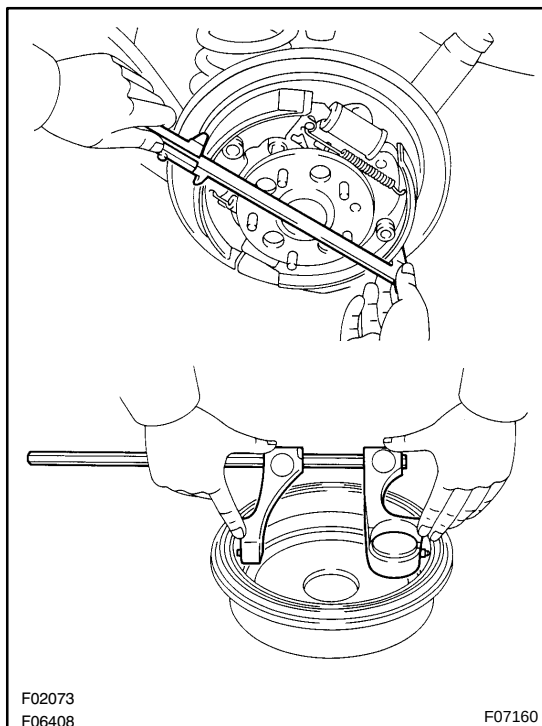
After installation, adjust parking brake pedal travel (See page [BR-8](#)).

INSTALLATION

Installation is in the reverse order of removal (See page [BR-35](#)).

NOTICE:

Apply lithium soap base glycol grease and high temperature grease to the parts indicated by the arrows (See page [BR-34](#)).



1. CHECK CLEARANCE BETWEEN BRAKE SHOES AND DRUM

- (a) Remove the brake drum.
- (b) Measure the brake drum inside diameter and diameter of the brake shoes. Check that the difference between the diameters is the correct shoe clearance.

Shoe clearance: 0.5 mm (0.020 in.)

If incorrect, check the parking brake system.

2. FILL BRAKE RESERVOIR WITH BRAKE FLUID

3. BLEED BRAKE SYSTEM (See page [BR-4](#))

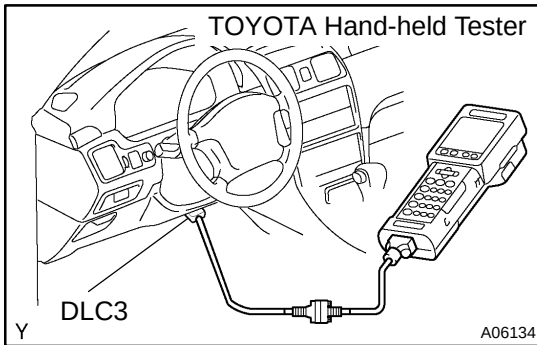
4. CHECK FOR LEAKS

INSTALLATION

Installation is in the reverse order of removal (See page [BR-52](#)).

HINT:

After installation, check speed sensor signal (See page [DI-220](#)).



ABS & VSC ACTUATOR ON-VEHICLE INSPECTION

BR1KY-01

1. CONNECT TOYOTA HAND-HELD TESTER

- Connect the TOYOTA hand-held tester to the DLC3.
- Start the engine and run it at idle.
- Select the ACTIVE TEST mode on the TOYOTA hand-held tester.

HINT:

Please refer to the TOYOTA hand-held tester operator's manual for further details.

2. INSPECT ACTUATOR MOTOR OPERATION

- With the motor relay ON, check the actuator motor operation noise.
- Turn the motor relay OFF.
- Depress the brake pedal and hold it for about 15 seconds. Check that the brake pedal cannot be depressed.
- With the motor relay ON, check that the pedal does not pulsate.

NOTICE:

Do not keep motor relay ON for more than 5 seconds continuously. When operating it continuously, set the interval of more than 20 seconds.

- Turn the motor relay OFF and release the brake pedal.

3. INSPECT RIGHT FRONT WHEEL OPERATION

NOTICE:

Never turn ON the solenoid which is not described below.

- With the brake pedal depressed, perform the following operations.
- Turn the SFRH and SFRR solenoid ON simultaneously, and check that the pedal cannot be depressed.

NOTICE:

Do not keep solenoid ON for more than 10 seconds continuously. When operating it continuously, set the interval of more than 20 seconds.

- Turn the SFRH and SFRR solenoid OFF simultaneously, and check that the pedal can be depressed.
- Turn the motor relay ON and check that the pedal returns.

NOTICE:

Do not keep motor relay ON for more than 5 seconds continuously. When operating it continuously, set the interval of more than 20 seconds.

- Turn the motor relay OFF and release the brake pedal.

4. INSPECT OTHER WHEELS OPERATION

As in the same procedure, check the solenoids of other wheels.

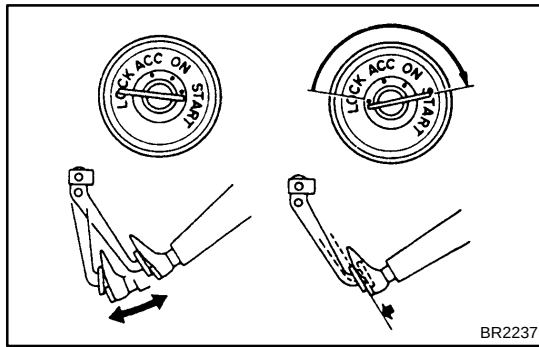
HINT:

Left front wheel: SFLH, SFLR

Right rear wheel: SRRH, SRRR

Left rear wheel: SRLH, SRLR

5. CLEAR DTC (See page [DI-259](#))

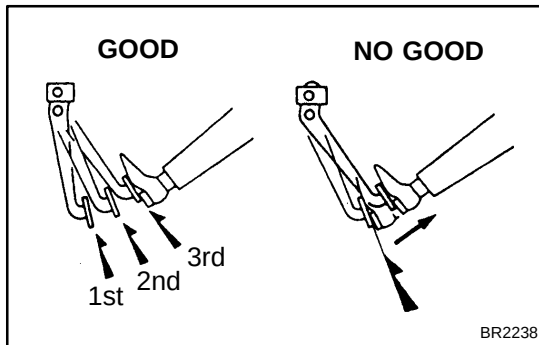


BRAKE BOOSTER ASSEMBLY ON-VEHICLE INSPECTION

BR011-03

1. OPERATING CHECK

- (a) Depress the brake pedal several times with the engine off and check that there is no change in the pedal reserve distance.
- (b) Depress the brake pedal and start the engine. If the pedal goes down slightly, operation is normal.



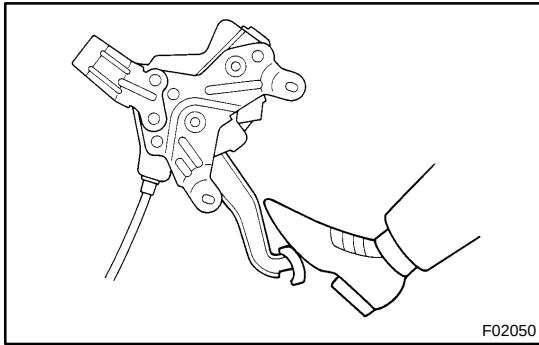
2. AIR TIGHTNESS CHECK

- (a) Start the engine and stop it after 1 or 2 minutes. Depress the brake pedal several times slowly.

If the pedal goes down farthest the 1st time, but gradually rises after the 2nd or 3rd time, the booster is air tight.

- (b) Depress the brake pedal while the engine is running, and stop the engine with the pedal depressed.

If there is no change in the pedal reserve travel after holding the pedal for 30 seconds, the booster is air tight.



PARKING BRAKE PEDAL ON-VEHICLE INSPECTION

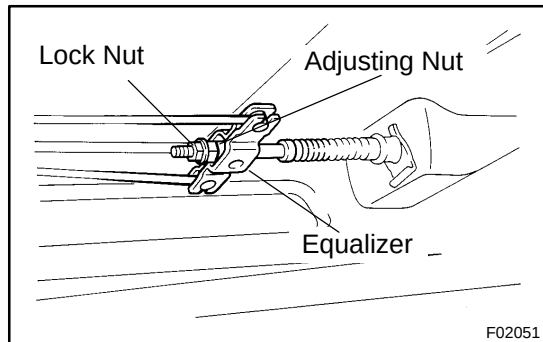
BR018-03

1. CHECK PARKING BRAKE PEDAL TRAVEL

Slowly depress the parking brake pedal all the way, and count the number of clicks.

**Parking brake pedal travel at 294 N (30 kgf, 66 lbf):
3 - 5 clicks**

If incorrect, adjust the parking brake.

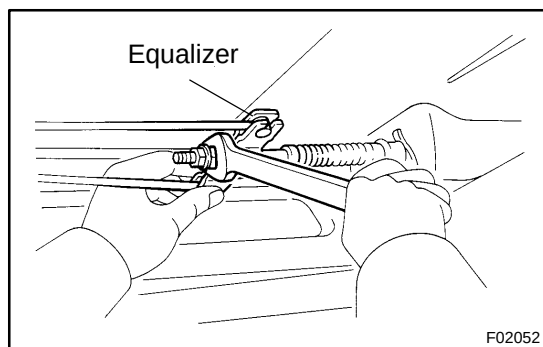


2. IF NECESSARY, ADJUST PARKING BRAKE PEDAL TRAVEL

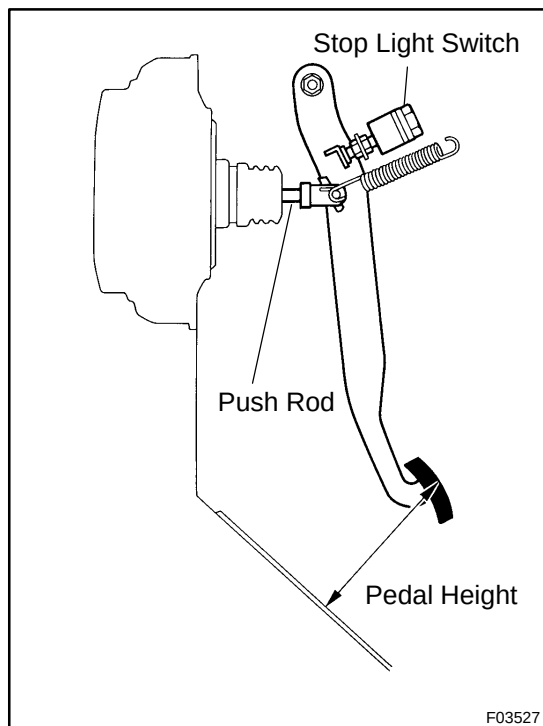
HINT:

- Before adjusting the parking brake, make sure that the rear brake shoe clearance has been adjusted.
- For shoe clearance adjustment, see step 1 on page [BR-38](#).
- There is the parking brake adjuster under the floor on the left side of the vehicle.

- (a) Confirm that the parking brake pedal is released.
- (b) Loosen the lock nut.



- (c) Hold the equalizer and turn the adjusting nut until the pedal travel is correct.
 - (d) Holding the adjusting nut, tighten the lock nut.
- Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)**



BRAKE PEDAL ON-VEHICLE INSPECTION

BR017-05

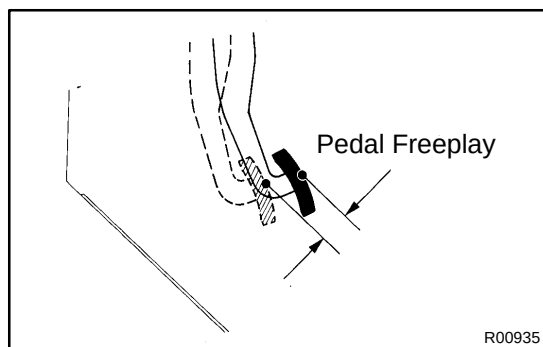
1. CHECK PEDAL HEIGHT

Pedal height from asphalt sheet:
159.5 - 169.5 mm (6.280 - 6.673 in.)

If the pedal height is incorrect, adjust it.

2. IF NECESSARY, ADJUST PEDAL HEIGHT

- Remove the lower finish panel and No. 1 safety pad insert (See page [BO-98](#)).
- Disconnect the connector from the stop light switch.
- Loosen the stop light switch lock nut and remove the stop light switch.
- Loosen the push rod lock nut.
- Adjust the pedal height by turning the pedal push rod.
- Tighten the push rod lock nut.
Torque: 25 N·m (260 kgf·cm, 19 ft·lbf)
- Install the stop light switch.
- Connect the connector to the stop light switch.
- Push in the brake pedal 5 - 15 mm (0.20 - 0.59 in.), turn the stop light switch to lock the nut in the position where the stop light goes off.
- Push in the brake pedal 5 - 15 mm (0.20 - 0.59 in.), check that stop light lights up.
- After adjusting the pedal height, check the pedal freeplay.
- Install the No. 1 safety pad insert and lower finish panel (See page [BO-98](#)).



3. CHECK PEDAL FREEPLAY

- Stop the engine and depress the brake pedal several times until there is no more vacuum left in the booster.
- Push in the pedal by hand until the beginning of the resistance is felt, then measure the distance, as shown.

Pedal freeplay: 1 - 6 mm (0.04 - 0.24 in.)

If incorrect, check the stop light switch clearance. If the clearance is OK, then troubleshoot the brake system.

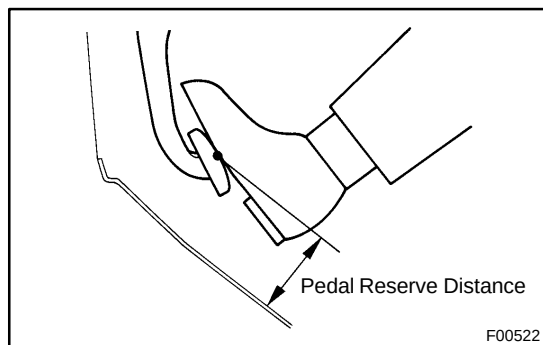
Stop light switch clearance:
0.5 - 2.4 (0.020 - 0.094 in.)

4. CHECK PEDAL RESERVE DISTANCE

- Release the parking brake.
- With the engine running, depress the pedal and measure the pedal reserve distance, as shown.

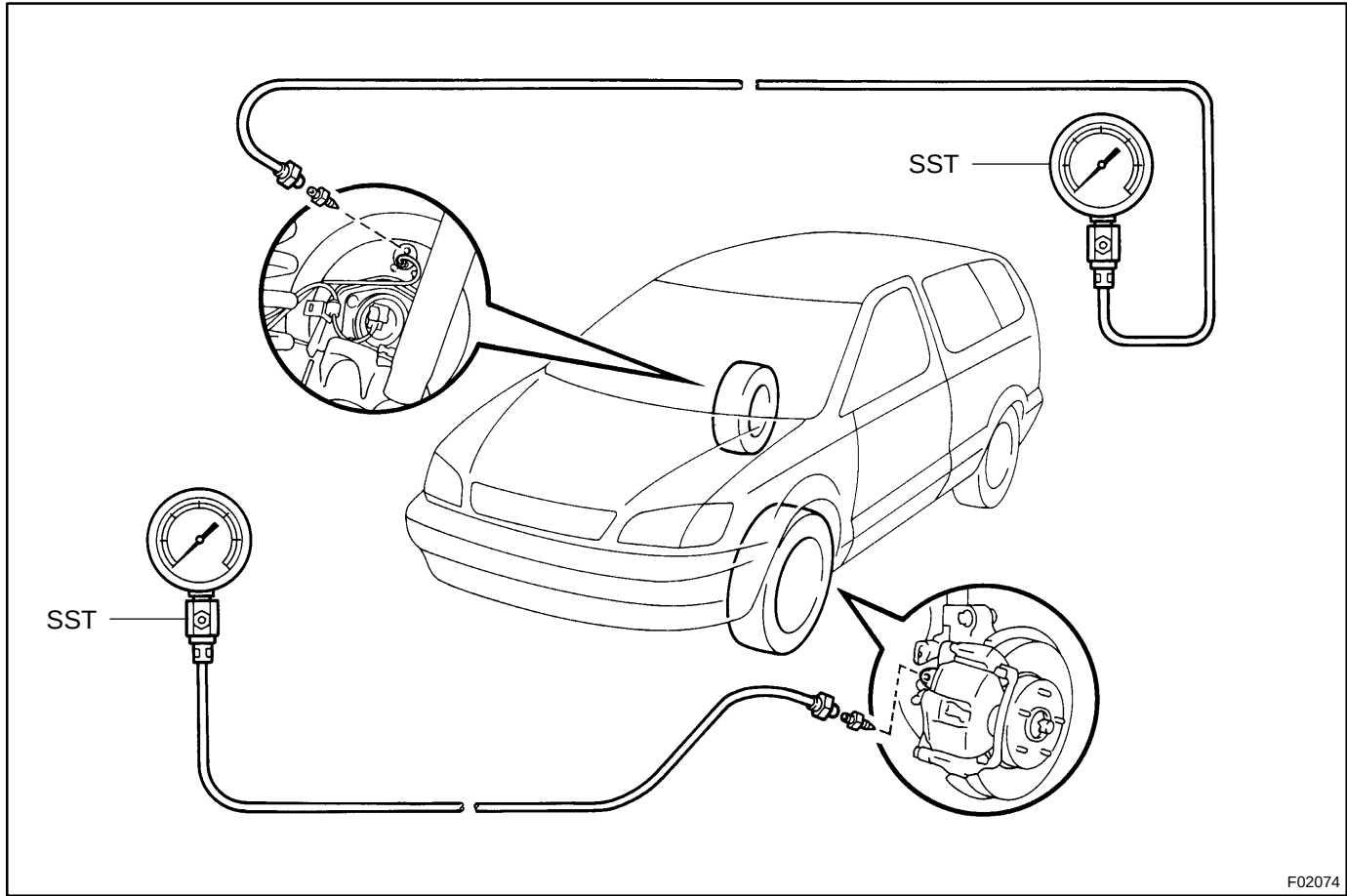
Pedal reserve distance from asphalt sheet at 490 N (50 kgf, 110.2 lbf):
More than 96 mm (3.78 in.)

If the reserve distance is incorrect, troubleshoot the brake system.



PROPORTIONING VALVE (P VALVE) ON-VEHICLE INSPECTION

BR01Y-03



F02074

- 1. INSTALL LSPV GAUGE (SST)**
SST 09709-29018
- 2. BLEED AIR FROM FLUID PRESSURE GAUGE**
- 3. RAISE MASTER CYLINDER PRESSURE AND CHECK REAR WHEEL CYLINDER PRESSURE**

Master cylinder pressure	Rear wheel cylinder pressure
2,942 kPa (30 kgf/cm ² , 427 psi)	2,942 kPa (30 kgf/cm ² , 427 psi)
7,845 kPa (80 kgf/cm ² , 1,138 psi)	4,903 kPa (50 kgf/cm ² , 711 psi)

When inspecting the fluid pressure, inspect the left front and right rear together, and the right front and left rear together.

If the rear wheel cylinder pressure is incorrect, replace the ABS actuator.

- 4. REMOVE LSPV GAUGE (SST) AND BLEED BRAKE SYSTEM (See page BR-4)**
SST 09709-29018
- 5. CHECK FOR LEAKS**

BRAKE SYSTEM

BR014-01

PRECAUTION

- Care must be taken to replace each part properly as it could affect the performance of the brake system and result in a driving hazard. Replace the parts with parts of the same part number or equivalent.
- It is very important to keep parts and the area clean when repairing the brake system.
- If the vehicle is equipped with a mobile communication system, refer to the precaution in the IN section.

TROUBLESHOOTING

PROBLEM SYMPTOMS TABLE

BR015-03

Use the table below to help you find the cause of the problem. The numbers indicate the priority of the likely cause of the problem. Check each part in order. If necessary, replace these parts.

Symptom	Suspect Area	See page
Lower pedal or spongy pedal	4. Fluid leaks for brake system 5. Air in brake system 6. Piston seal or cup (Worn or damaged) 7. Rear brake shoe clearance (Out of adjustment) 8. Master cylinder (Faulty) 9. Booster push rod (Out of adjustment)	DI-256 BR-4 BR-28 BR-34 BR-38 BR-12 BR-23
Brake drag	1. Brake pedal freeplay (Minimal) 2. Parking brake pedal travel (Out of adjustment) 3. Parking brake wire (Sticking) 4. Rear brake shoe clearance (Out of adjustment) 5. Pad or lining (Cracked or distorted) 6. Piston (Stuck) 7. Piston (Frozen) 8. Anchor or return spring (Faulty) 9. Booster push rod (Out of adjustment) 10. Vacuum leaks for booster system 11. Master cylinder (Faulty)	BR-6 BR-8 - BR-38 BR-25 BR-34 BR-28 BR-34 BR-28 BR-34 BR-34 BR-23 BR-21 BR-12
Brake pull	1. Piston (Stuck) 2. Pad or lining (Oily) 3. Piston (Frozen) 4. Disc or drum (Scored) 5. Pad or lining (Cracked or distorted)	BR-28 BR-34 BR-25 BR-34 BR-28 BR-34 BR-31 BR-37 BR-25 BR-34
Hard pedal but brake inefficient	1. Fluid leaks for brake system 2. Air in brake system 3. Pad or lining (Worn) 4. Pad or lining (Cracked or distorted) 5. Rear Brake shoe clearance (Out of adjustment) 6. Pad or lining (Oily) 7. Pad or lining (Glazed) 8. Disc or drum (Scored) 9. Booster push rod (Out of adjustment) 10. Vacuum leaks for booster system	DI-256 BR-4 BR-25 BR-34 BR-25 BR-34 BR-38 BR-25 BR-34 BR-25 BR-34 BR-31 BR-37 BR-23 BR-21

BRAKE - TROUBLESHOOTING

Symptom	Suspect Area	See page
Noise from brake	1. Pad or lining (Cracked or distorted)	BR-25
		BR-34
	2. Installation bolt (Loose)	BR-28
	3. Disc or drum (Scored)	BR-31
		BR-37
	4. Pad support plate (Loose)	BR-25
	5. Sliding pin (Worn)	BR-28
	6. Pad or lining (Dirty)	BR-25
		BR-34
	7. Pad or lining (Glazed)	BR-25
		BR-34
	8. Anchor or return spring (Faulty)	BR-34
	9. Anti-squeal shim (Damaged)	BR-25
	10. Shoe hold-down spring (Damaged)	BR-34

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page [BR-30](#)).

NOTICE:

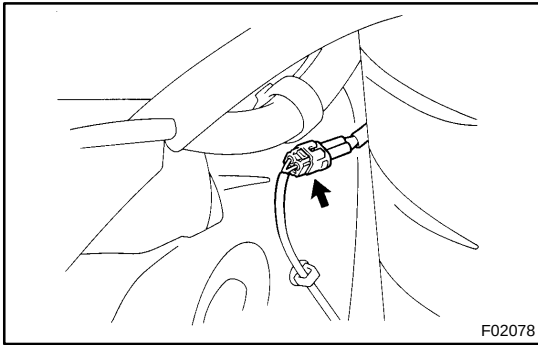
Apply lithium soap base glycol grease and disc brake grease to the parts indicated by the arrows (See page [BR-28](#)).

REASSEMBLY

Reassembly is in the reverse order of disassembly (See page [BR-15](#)).

NOTICE:

Apply lithium soap base glycol grease to the rubber parts indicated by the arrows (See page [BR-12](#)).



REMOVAL

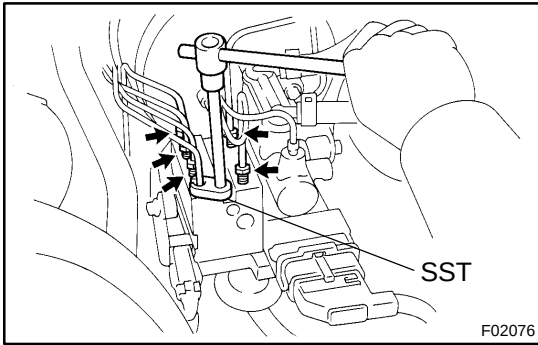
1. DISCONNECT SPEED SENSOR CONNECTOR

- (a) Remove the screws and fender liner.
- (b) Disconnect the speed sensor connector.



2. REMOVE SPEED SENSOR

- (a) Remove the speed sensor from the steering knuckle.
Torque: 7.8 N·m (80 kgf·cm, 69 in·lbf)
- (b) Remove the bolt, flexible hose and speed sensor harness clamp from the shock absorber.
Torque: 29 N·m (300 kgf·cm, 21 ft·lbf)
- (c) Remove the resin clip and clamp bolt holding the sensor harness to the body.
Torque: 5.4 N·m (55 kgf·cm, 48 in·lbf)



REMOVAL

1. REMOVE AIR CLEANER ASSEMBLY

2. DISCONNECT BRAKE LINES

Using SST, disconnect the 6 brake lines from the ABS actuator.

SST 09023-00100

Torque: 15 N·m (155 kgf·cm, 11 ft·lbf)

3. REMOVE ABS ACTUATOR

(a) Disconnect the connector.

(b) Remove the 3 nuts and ABS actuator assembly from the bracket.

Torque: 14 N·m (140 kgf·cm, 10 ft·lbf)

(c) Remove the 3 holders and 3 cushions.

NOTICE:

- Do not drop an actuator.
- If you drop an actuator, do not assemble it into a vehicle

REMOVAL

1. REMOVE AIR CLEANER ASSEMBLY
2. DISCONNECT LEVEL WARNING SWITCH CONNECTOR
3. DRAW OUT FLUID WITH SYRINGE

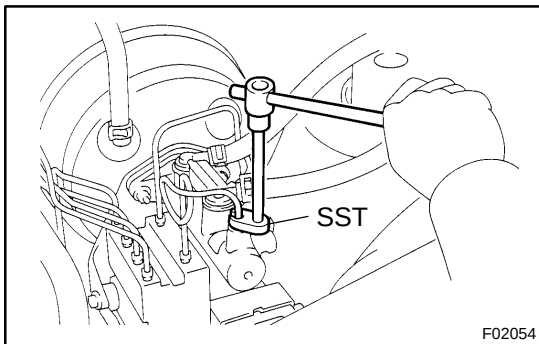
NOTICE:

Do not let brake fluid remain on a painted surface. Wash it off immediately.

4. REMOVE RESERVOIR WITH BRACKET

Remove the 2 bolts and reservoir with bracket .

Torque: 8.0 N·m (82 kgf·cm, 71 in·lbf)



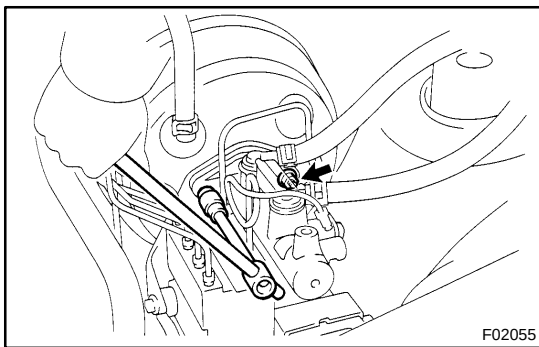
5. DISCONNECT BRAKE LINES

Using SST, disconnect the 2 brake lines from the master cylinder.

SST 09023-00100

Torque: 10 mm nut: 15 N·m (155 kgf·cm, 11 ft·lbf)

Torque: 12 mm nut: 19.6 N·m (200 kgf·cm, 14.5 ft·lbf)



6. REMOVE MASTER CYLINDER

(a) w/o VSC:

Remove the 2 mounting nuts.

Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)

(b) w/ VSC:

Disconnect the brake line from clamp and remove the bolt and clamp, then remove the 2 mounting nuts and bracket.

Torque:

Mounting nut: 13 N·m (130 kgf·cm, 9 ft·lbf)

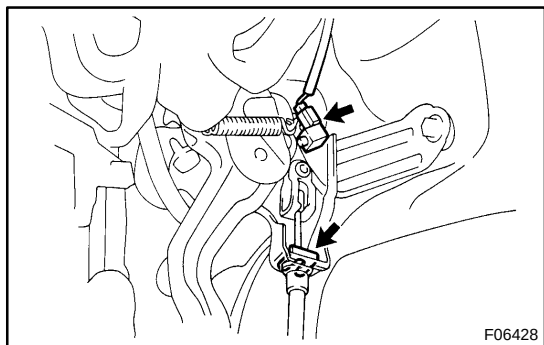
Clamp bolt: 5.0 N·m (51 kgf·cm, 44 in·lbf)

(c) Pull out the master cylinder with gasket.

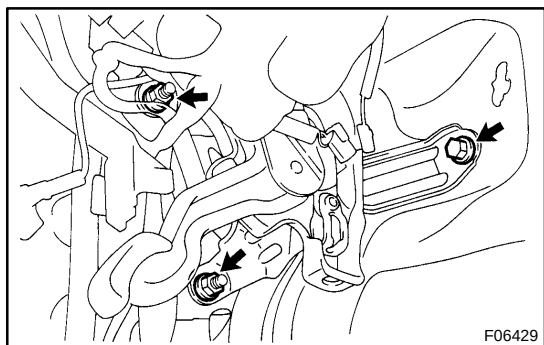
7. REMOVE GASKET FROM MASTER CYLINDER

REMOVAL

1. REMOVE LOWER FINISH PANEL AND NO. 1 SAFETY PAD INSERT (See page [BO-98](#))



2. DISCONNECT PARKING BRAKE SWITCH CONNECTOR
3. RELEASE PARKING BRAKE PEDAL
4. DISCONNECT PARKING BRAKE WIRE
Remove clip and disconnect the parking brake wire.



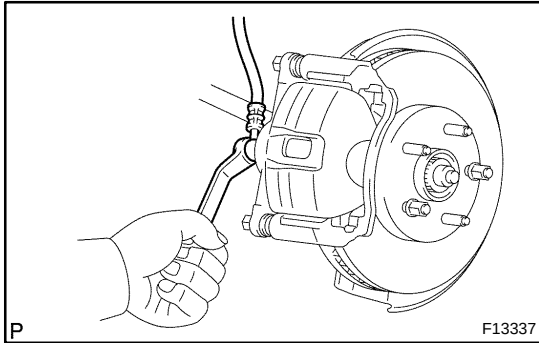
5. REMOVE PARKING BRAKE PEDAL ASSEMBLY
Remove the bolt, 2 nuts and parking brake pedal assembly.
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)
6. REMOVE PARKING BRAKE SWITCH
Remove the screw and parking brake switch.

REMOVAL

1. REMOVE FRONT WHEEL

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

Torque: 104 N·m (1,050 kgf·cm, 77 ft·lbf)



2. DISCONNECT FLEXIBLE HOSE

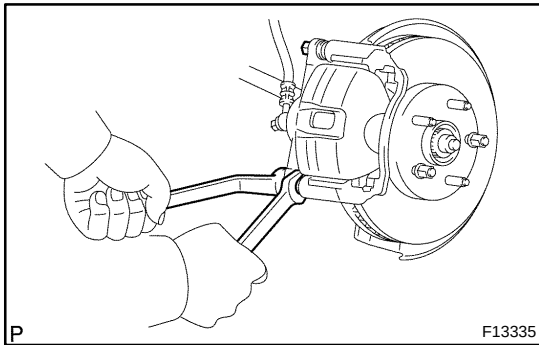
- (a) Remove the union bolt and 2 gaskets from the caliper, then disconnect the flexible hose from the caliper.

Torque: 29 N·m (300 kgf·cm, 21 ft·lbf)

HINT:

At the time of installation, install the flexible hose lock securely in the lock hole in the caliper.

- (b) Use a container to catch the brake fluid as it drains out.



3. REMOVE CALIPER

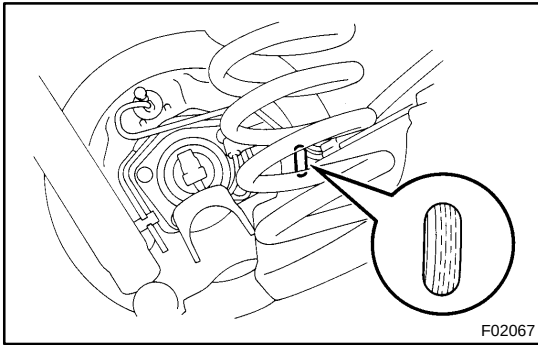
- (a) Hold the sliding pin and loosen the 2 installation bolts, and remove the installation bolts.

Torque: 34 N·m (350 kgf·cm, 25 ft·lbf)

- (b) Remove the caliper from the torque plate.

4. REMOVE 2 BRAKE PADS WITH 4 ANTI-SQUEAL SHIMS

5. REMOVE 4 PAD SUPPORT PLATES



REMOVAL

1. INSPECT SHOE LINING THICKNESS

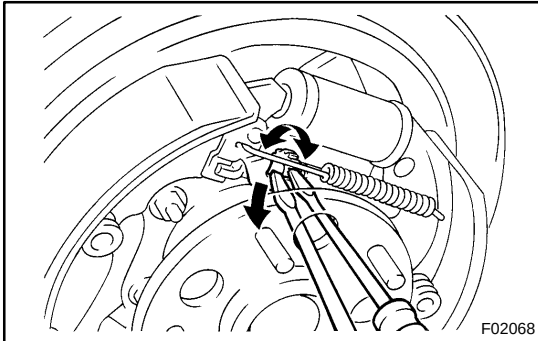
Remove the inspection hole plug, and check the shoe lining thickness through the hole.

If the thickness is less than minimum, replace the shoes.

Minimum thickness: 1.0 mm (0.039 in.)

2. REMOVE REAR WHEEL

Torque: 104 N·m (1,050 kgf·cm, 77 ft·lbf)

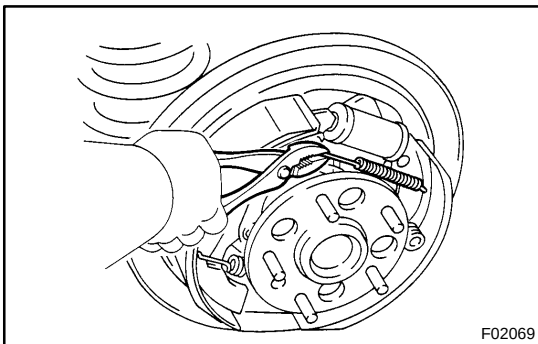


3. REMOVE BRAKE DRUM

HINT:

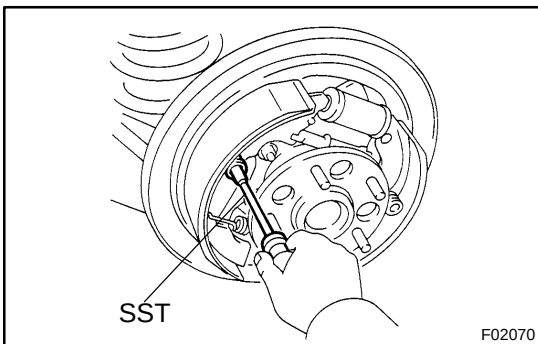
If the brake drum cannot be removed easily, do the following steps.

- Insert a screwdriver through the hole in the brake drum, and hold the automatic adjusting lever away from the adjuster.
- Using another screwdriver, reduce the brake shoe adjuster by turning the adjuster.

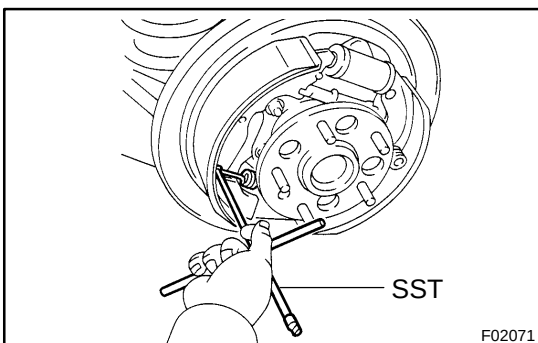


4. REMOVE FRONT SHOE

- Using pliers, disconnect the return spring from the automatic adjusting lever.
- Remove the return spring from the rear shoe.
- Remove the automatic adjusting lever.



- Using SST, remove the shoe hold-down spring, cap and pin from the front shoe.
SST 09718-00010



- Using SST, disconnect the anchor spring from the front shoe and remove the front shoe.
SST 09703-30010
- Remove the adjuster.
- Remove the anchor spring from the rear shoe.

5. REMOVE REAR SHOE

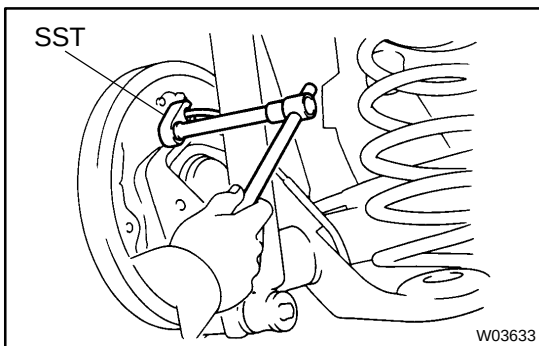
- (a) Using SST, remove the shoe hold-down spring, cap and pin.

SST 09718-00010

- (b) Using pliers, disconnect the parking brake cable from the parking brake lever and remove the rear shoe.
- (c) Using pliers, disconnect the parking brake cable from the parking brake lever and remove the rear shoe.

6. REMOVE PARKING BRAKE LEVER

- (a) Remove the C-washer and shim.
- (b) Remove the parking brake lever.

**7. REMOVE WHEEL CYLINDER**

- (a) Using SST, disconnect the brake line. Use a container to catch the brake fluid.

SST 09023-00100

Torque: 15 N·m (155 kgf·cm, 11 ft·lbf)

- (b) Remove the 2 bolts and the wheel cylinder.

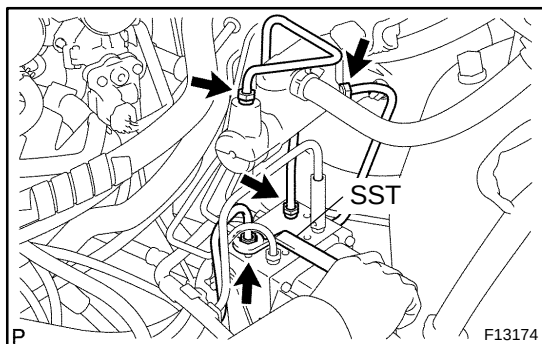
Torque: 15 N·m (155 kgf·cm, 11 ft·lbf)

8. DISASSEMBLE WHEEL CYLINDER

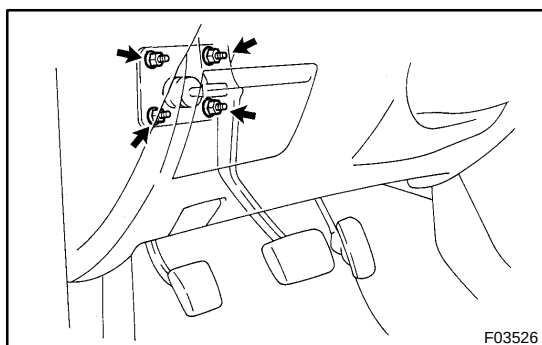
- (a) Remove the 2 boots.
- (b) Remove the 2 pistons and spring.
- (c) Remove the 2 piston cups from the pistons.

REMOVAL

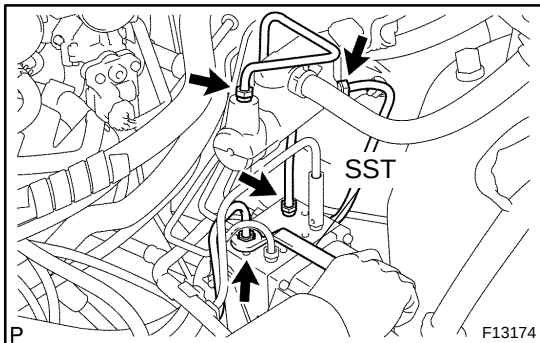
1. REMOVE 2 COWL TOP VENTILATOR LOUVERS AND OUTER FRONT COWL TOP PANEL (See page [BO-35](#))
2. REMOVE MASTER CYLINDER (See page [BR-14](#))
3. w/o VSC:
REMOVE ABS ACTUATOR ASSEMBLY (See page [BR-41](#))



4. w/ VSC:
REMOVE BRAKE LINES
Using SST, remove the 2 brake lines.
SST 09751-36011
5. **DISCONNECT VACUUM HOSE FROM BRAKE BOOSTER**
6. **REMOVE LOWER FINISH PANEL AND NO. 1 SAFETY PAD INSERT** (See page [BO-98](#))
7. **REMOVE PEDAL RETURN SPRING, CLIP AND CLEVIS PIN**
 - (a) Remove the pedal return spring.
 - (b) Remove the clip and clevis pin.



8. **REMOVE BRAKE BOOSTER**
 - (a) Remove the 4 nuts and clevis.
 - (b) Pull out the brake booster and gasket.



REMOVAL

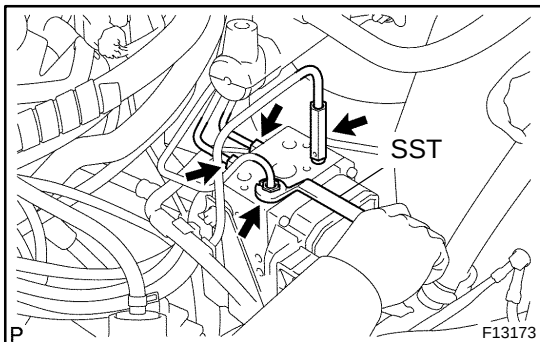
1. REMOVE AIR CLEANER ASSEMBLY

2. DISCONNECT BRAKE LINES

- (a) Using SST, remove the 2 brake lines from the ABS & VSC actuator master cylinder and clamp.

SST 09751-3601 1

Torque: 19.6 N·m (200 kgf·cm, 14.5 ft·lbf)



- (b) Using SST, disconnect the 4 brake lines from the ABS & VSC actuator.

SST 09751-3601 1

Torque: 15 N·m (155 kgf·cm, 11 ft·lbf)

3. REMOVE ABS & VSC ACTUATOR ASSEMBLY

- (a) Disconnect the 2 connectors.
 (b) Disconnect the wire harness clamp from the actuator bracket.
 (c) Remove the 3 nuts and ABS & VSC actuator assembly.

Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)

NOTICE:

- Do not drop an actuator.
- If you drop an actuator, do not assemble it into a vehicle

4. REMOVE ABS & VSC ACTUATOR

- (a) Remove the 2 nuts and ABS & VSC actuator from the actuator bracket.

Torque: 13 N·m (130 kgf·cm, 9 ft·lbf)

- (b) Remove the clamp from the actuator bracket.

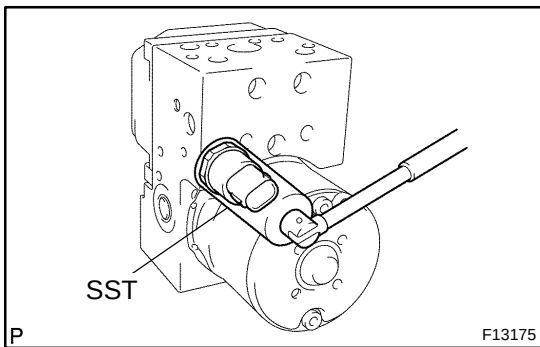
- (c) Remove the 2 holders and 3 cushions.

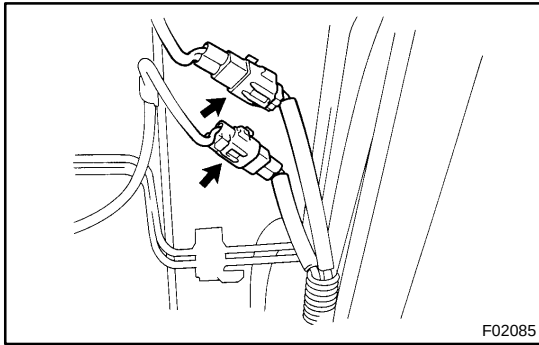
5. REMOVE OIL PRESSURE SENSOR

Using SST, remove the oil pressure sensor.

SST 09268-46021

Torque: 20 N·m (200 kgf·cm, 15 ft·lbf)





REMOVAL

1. DISCONNECT SPEED SENSOR HARNESS

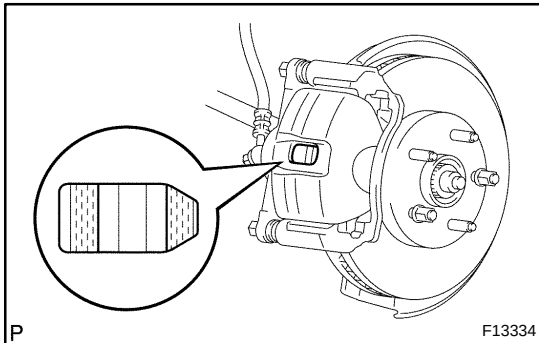
- (a) Disconnect the 2 speed sensor connectors.
- (b) Remove the resin clip holding the sensor harness to the body.

2. REMOVE SPEED SENSOR WITH REAR AXLE HUB (See page [SA-44](#))

REPLACEMENT

1. REMOVE FRONT WHEEL

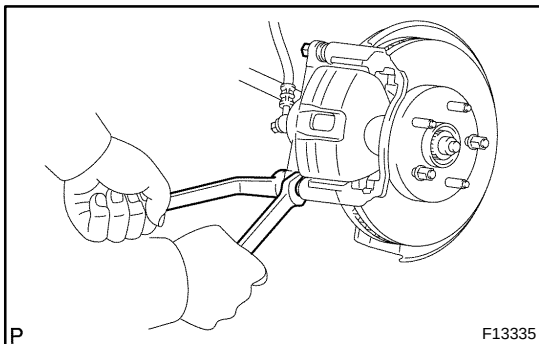
Remove the wheel and temporarily fasten the disc with the hub nuts.



2. INSPECT PAD LINING THICKNESS

Check the pad thickness through the caliper inspection hole and replace the pads if they are not within specification.

Minimum thickness: 1.0 mm (0.039 in.)



3. LIFT UP CALIPER

- Hold the sliding pin on the bottom and loosen the installation bolt, and remove the installation bolt.
- Lift up the caliper and suspend it securely.

HINT:

Do not disconnect the flexible hose from the caliper.

4. REMOVE 2 BRAKE PADS WITH 4 ANTI-SQUEAL SHIMS

5. REMOVE 4 PAD SUPPORT PLATES

NOTICE:

The support plates can be used again provided that they have sufficient rebound, no deformation, cracks or wear, and have had all rust, dirt and foreign particles cleaned off.

6. REMOVE PAD WEAR INDICATOR PLATE FROM INNER PAD

7. CHECK DISC THICKNESS AND RUNOUT

(See page [BR-31](#))

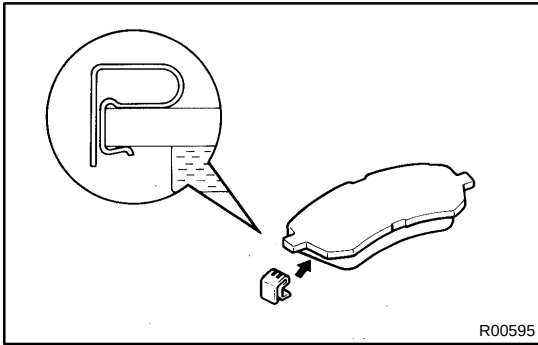
8. INSTALL PAD SUPPORT PLATES

Install the 4 pad support plates.

9. INSTALL NEW PADS

NOTICE:

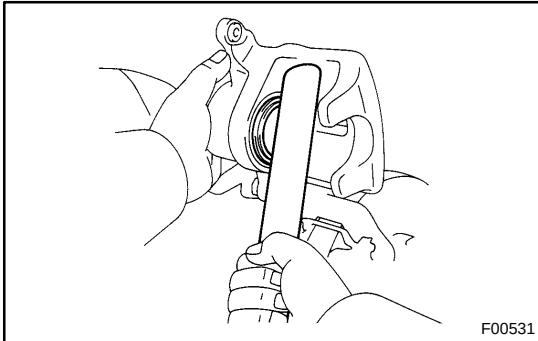
When replacing worn pads, the anti-squeal shims and pad wear indicator plates must be replaced together with the pads.



- (a) Install a pad wear indicator plate on the inner pad.
- (b) Apply disc brake grease to both sides of the inner anti-squeal shims (See page [BR-25](#)).
- (c) Install the anti-squeal shims to each pad.
- (d) Install inner pad with pad wear indicator plate facing upward.
- (e) Install outer pad.

NOTICE:

Do not allow oil or grease to get on the rubbing face.

**10. INSTALL CALIPER**

- (a) Draw out a small amount of brake fluid from the reservoir.
- (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 caliper.
- (d) Hold the sliding pin and torque the installation bolt.

Torque: 34 N·m (350 kgf·cm, 25 ft·lbf)

11. INSTALL FRONT WHEEL

Torque: 104 N·m (1,050 kgf·cm, 77 ft·lbf)

12. DEPRESS BRAKE PEDAL SEVERAL TIMES**13. CHECK THAT FLUID LEVEL IS AT MAX LINE**