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# **BRAKE SYSTEM**

## **PRECAUTION**

1. Necessary care must be taken to replace each part properly as it could affect the brake system performance. This could cause driving hazards. Replace each part with an identical part with the same number.
2. It is very important to keep parts and the area clean when repairing the brake system.
3. If the vehicle is equipped with a mobile communication system, refer to the precautions in the INTRODUCTION section.

## PROBLEM SYMPTOMS TABLE

### HINT:

Use the table below to help you find the cause of the problem. The numbers indicate the ranked order of probability of each of the possible causes. Check each part in the order suggested. If necessary, replace these applicable parts.

| Symptom                   | Suspected area                                            | See page              |
|---------------------------|-----------------------------------------------------------|-----------------------|
| Low pedal or spongy pedal | 1. Fluid leakage in brake system                          | -                     |
|                           | 2. Air in brake system (w/ VSC)                           | <a href="#">BR-4</a>  |
|                           | 3. Air in brake system (w/o VSC)                          | <a href="#">BR-7</a>  |
|                           | 4. Piston seal (Worn or damaged) (2WD)                    | <a href="#">BR-57</a> |
|                           | 5. Piston seal (Worn or damaged) (4WD and Pre-Runner)     | <a href="#">BR-63</a> |
|                           | 6. Cylinder cup                                           | <a href="#">BR-69</a> |
|                           | 7. Rear brake (Shoe clearance out of adjustment)          | <a href="#">BR-74</a> |
|                           | 8. Brake master cylinder (Faulty) (w/o VSC)               | <a href="#">BR-21</a> |
|                           | 9. Hydraulic brake booster (Faulty) (w/ VSC)              | <a href="#">BR-44</a> |
|                           | 10. Booster push rod (Out of adjustment)                  | <a href="#">BR-21</a> |
| Brake drag                | 1. Brake pedal free play (Minimum)                        | <a href="#">BR-14</a> |
|                           | 2. Parking brake pedal travel (Out of adjustment)         | <a href="#">PB-1</a>  |
|                           | 3. Parking brake lever travel (Out of adjustment)         | <a href="#">PB-1</a>  |
|                           | 4. Parking brake wire (Sticking)                          | <a href="#">PB-18</a> |
|                           | 5. Rear brake (Shoe clearance out of adjustment)          | <a href="#">BR-74</a> |
|                           | 6. Pad (Cracked or distorted) (2WD)                       | <a href="#">BR-57</a> |
|                           | 7. Pad (Cracked or distorted) (4WD and Pre-Runner)        | <a href="#">BR-64</a> |
|                           | 8. Brake shoe (Cracked or distorted)                      | <a href="#">BR-70</a> |
|                           | 9. Front disc brake piston (Stuck) (2WD)                  | <a href="#">BR-57</a> |
|                           | 10. Front Disc brake piston (Stuck) (4WD and Pre-Runner)  | <a href="#">BR-63</a> |
|                           | 11. Piston (Stuck)                                        | <a href="#">BR-69</a> |
|                           | 12. Front disc brake piston (Frozen) (2WD)                | <a href="#">BR-57</a> |
|                           | 13. Front Disc brake piston (Frozen) (4WD and Pre-Runner) | <a href="#">BR-63</a> |
|                           | 14. Piston (Frozen)                                       | <a href="#">BR-69</a> |
|                           | 15. Tension or return spring (Faulty)                     | <a href="#">BR-68</a> |
|                           | 16. Booster push rod (Out of adjustment)                  | <a href="#">BR-21</a> |
|                           | 17. Booster system (Vacuum leakage)                       | <a href="#">BR-26</a> |
|                           | 18. Brake master cylinder (Faulty) (w/o VSC)              | <a href="#">BR-21</a> |
|                           | 19. Hydraulic brake booster (Faulty) (w/ VSC)             | <a href="#">BR-44</a> |

| Symptom                            | Suspected area                                           | See page              |
|------------------------------------|----------------------------------------------------------|-----------------------|
| Brake pull                         | 1. Front disc brake piston (Stuck) (2WD)                 | <a href="#">BR-57</a> |
|                                    | 2. Front Disc brake piston (Stuck) (4WD and Pre-Runner)  | <a href="#">BR-63</a> |
|                                    | 3. Piston (Stuck)                                        | <a href="#">BR-69</a> |
|                                    | 4. Pad (Oily) (2WD)                                      | <a href="#">BR-57</a> |
|                                    | 5. Pad (Oily) (4WD and Pre-Runner)                       | <a href="#">BR-64</a> |
|                                    | 6. Brake shoe (Oily)                                     | <a href="#">BR-70</a> |
|                                    | 7. Front disc brake piston (Frozen) (2WD)                | <a href="#">BR-57</a> |
|                                    | 8. Front Disc brake piston (Frozen) (4WD and Pre-Runner) | <a href="#">BR-63</a> |
|                                    | 9. Piston (Frozen)                                       | <a href="#">BR-69</a> |
|                                    | 10. Front disc (Scored) (2WD)                            | <a href="#">BR-58</a> |
|                                    | 11. Front disc (Scored) (4WD and Pre-Runner)             | <a href="#">BR-65</a> |
|                                    | 12. Pad (Cracked or distorted) (2WD)                     | <a href="#">BR-57</a> |
|                                    | 13. Pad (Cracked or distorted) (4WD and Pre-Runner)      | <a href="#">BR-64</a> |
|                                    | 14. Brake shoe (Cracked or distorted)                    | <a href="#">BR-70</a> |
| Firm pedal but braking inefficient | 1. Fluid leakage in brake system                         | -                     |
|                                    | 2. Air in brake system (w/ VSC)                          | <a href="#">BR-4</a>  |
|                                    | 3. Air in brake system (w/o VSC)                         | <a href="#">BR-7</a>  |
|                                    | 4. Pad (Worn) (2WD)                                      | <a href="#">BR-57</a> |
|                                    | 5. Pad (Worn) (4WD and Pre-Runner)                       | <a href="#">BR-64</a> |
|                                    | 6. Brake shoe (Worn)                                     | <a href="#">BR-70</a> |
|                                    | 7. Pad (Cracked or distorted) (2WD)                      | <a href="#">BR-57</a> |
|                                    | 8. Pad (Cracked or distorted) (4WD and Pre-Runner)       | <a href="#">BR-64</a> |
|                                    | 9. Brake shoe (Cracked or distorted)                     | <a href="#">BR-70</a> |
|                                    | 10. Rear brake (Shoe clearance out of adjustment)        | <a href="#">BR-74</a> |
|                                    | 11. Pad (Oily) (2WD)                                     | <a href="#">BR-57</a> |
|                                    | 12. Pad (Oily) (4WD and Pre-Runner)                      | <a href="#">BR-64</a> |
|                                    | 13. Brake shoe (Oily)                                    | <a href="#">BR-70</a> |
|                                    | 14. Pad (Glazed) (2WD)                                   | <a href="#">BR-57</a> |
|                                    | 15. Pad (Glazed) (4WD and Pre-Runner)                    | <a href="#">BR-64</a> |
|                                    | 16. Brake shoe (Glazed)                                  | <a href="#">BR-70</a> |
|                                    | 17. Front disc (Scored) (2WD)                            | <a href="#">BR-58</a> |
|                                    | 18. Front disc (Scored) (4WD and Pre-Runner)             | <a href="#">BR-65</a> |
|                                    | 19. Booster push rod (Out of adjustment)                 | <a href="#">BR-21</a> |
|                                    | 20. Booster system (Vacuum leakage)                      | <a href="#">BR-26</a> |

| Symptom                                                                  | Suspected area                                        | See page              |
|--------------------------------------------------------------------------|-------------------------------------------------------|-----------------------|
| Noise from brakes                                                        | 1. Pad (Cracked or distorted) (2WD)                   | <a href="#">BR-57</a> |
|                                                                          | 2. Pad (Cracked or distorted) (4WD and Pre-Runner)    | <a href="#">BR-64</a> |
|                                                                          | 3. Brake shoe (Cracked or distorted)                  | <a href="#">BR-70</a> |
|                                                                          | 4. Installation bolt (Loose) (2WD)                    | <a href="#">BR-58</a> |
|                                                                          | 5. Installation bolt (Loose) (4WD and Pre-Runner)     | <a href="#">BR-64</a> |
|                                                                          | 6. Front disc (Scored) (2WD)                          | <a href="#">BR-58</a> |
|                                                                          | 7. Front disc (Scored) (4WD and Pre-Runner)           | <a href="#">BR-65</a> |
|                                                                          | 8. Pad support plate (Loose)                          | <a href="#">BR-55</a> |
|                                                                          | 9. Sliding pin (Worn)                                 | <a href="#">BR-55</a> |
|                                                                          | 10. Pad (Dirty) (2WD)                                 | <a href="#">BR-57</a> |
|                                                                          | 11. Pad (Dirty) (4WD and Pre-Runner)                  | <a href="#">BR-64</a> |
|                                                                          | 12. Brake shoe (Dirty)                                | <a href="#">BR-70</a> |
|                                                                          | 13. Pad (Glazed) (2WD)                                | <a href="#">BR-57</a> |
|                                                                          | 14. Pad (Glazed) (4WD and Pre-Runner)                 | <a href="#">BR-64</a> |
|                                                                          | 15. Brake shoe (Glazed)                               | <a href="#">BR-70</a> |
|                                                                          | 16. Tension or return spring (Faulty)                 | <a href="#">BR-68</a> |
|                                                                          | 17. Anti-squeal shim (Damaged) (2WD)                  | <a href="#">BR-55</a> |
|                                                                          | 18. Anti-squeal shim (Damaged) (4WD and Pre-Runner)   | <a href="#">BR-62</a> |
|                                                                          | 19. Shoe hold-down spring (Damaged)                   | <a href="#">BR-68</a> |
| Noise from hydraulic brake booster (Abnormal pump motor operation noise) | 1. Accumulator bracket clearance (Out of adjustment)  | <a href="#">BR-44</a> |
| Brake warning light illuminates (Parking brake pedal (lever) released)   | 1. Brake fluid level                                  | -                     |
|                                                                          | 2. Brake master cylinder power supply system (Faulty) | <a href="#">BR-33</a> |
| Brake warning light illuminates and skid control buzzer sounds           | 1. Brake master cylinder power supply system (Faulty) | <a href="#">BR-33</a> |
| ABS warning light illuminates                                            | 1. Anti-lock brake system (Faulty)                    | -                     |
|                                                                          | 2. Brake master cylinder power supply system (Faulty) | <a href="#">BR-33</a> |

## BRAKE FLUID (w/ VSC)

### BLEEDING

#### NOTICE:

- Immediately wash off any brake fluid that comes into contact with any painted surfaces.
- Depressing the brake pedal with the reservoir cap removed will cause the fluid to spray.

#### 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.
- When bleeding, maintain the amount of fluid in the reservoir between the Min. and Max. lines.

#### 1. FILL RESERVOIR WITH BRAKE FLUID

##### Fluid:

SAE J1703 or FMVSS NO. 116 DOT3

#### 2. BLEED BRAKE BOOSTER WITH ACCUMULATOR PUMP ASSEMBLY

##### HINT:

If the brake master cylinder is disassembled, the brake line is disconnected from the brake master cylinder or if the reservoir becomes empty, bleed the brake master cylinder.

- (a) Turn the ignition switch to ON, and wait until the pump motor has stopped (step A).

##### HINT:

Pump operating sound can be heard.

- (b) Turn the ignition switch to OFF, and depress the brake pedal more than 20 times (step B).

##### HINT:

When pressure in the accumulator is released, the reaction force becomes lighter and the stroke becomes longer.

- (c) Repeat step A and B 5 times (step C).  
(d) Turn the ignition switch to ON, and check that the pump stops after approximately 8 to 14 seconds.

##### NOTICE:

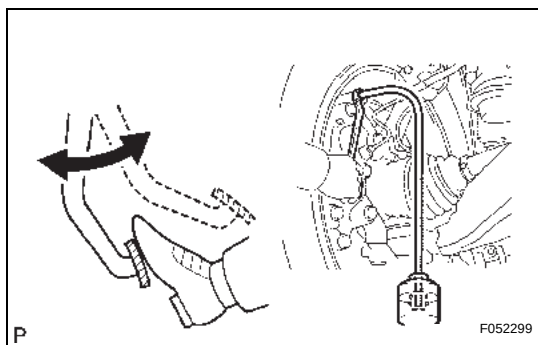
If the pump does not stop, repeat step C again.

#### 3. BLEED BRAKE LINE

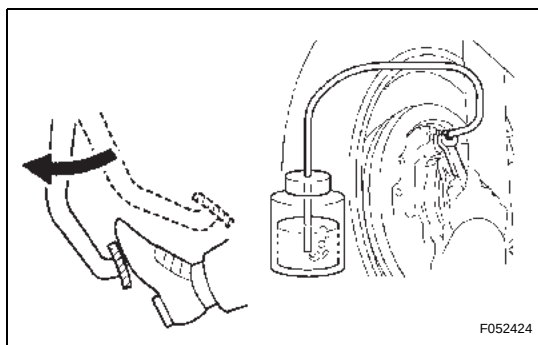
- (a) Turn the ignition switch to ON, and wait until the pump motor has stopped.

##### HINT:

Pump operating sound can be heard.



- (b) Front brake line.
- (1) Connect the vinyl tube to the brake caliper.
  - (2) Depress the brake pedal several times, then loosen the bleeder plug with the pedal held down (step D).
  - (3) At the point when the fluid stops coming out, tighten the bleeder plug, then release the brake pedal (step E).
  - (4) Repeat step D and E until all the air in the fluid has been bled out.
- Torque: 11 N\*m (112 kgf\*cm, 8 ft.\*lbf)**
- (5) Repeat the above procedures to bleed the other brake line.



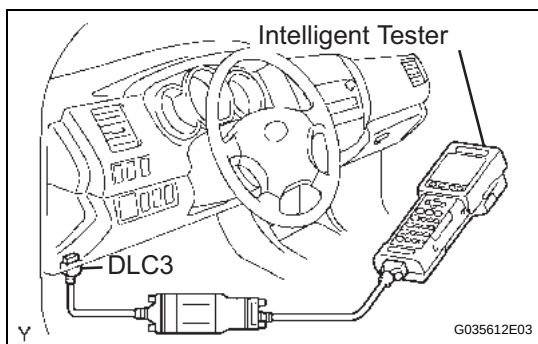
- (c) Rear brake line.
- (1) Connect the vinyl tube to the wheel cylinder.
  - (2) Depress the brake pedal, hold it, and then loosen the bleeder plug.
- HINT:**  
Brake fluid is pumped out automatically.
- (3) Loosen the bleeder plug and release air.
- NOTICE:**  
**Keep brake fluid in the reservoir tank above the MIN line during the above procedures.**
- (4) When the air is completely bled out of the brake fluid through the bleeder plug, tighten the bleeder plug.
- Torque: 11 N\*m (112 kgf\*cm, 8 ft.\*lbf)**
- (5) Repeat the above procedures to bleed the other brake line.

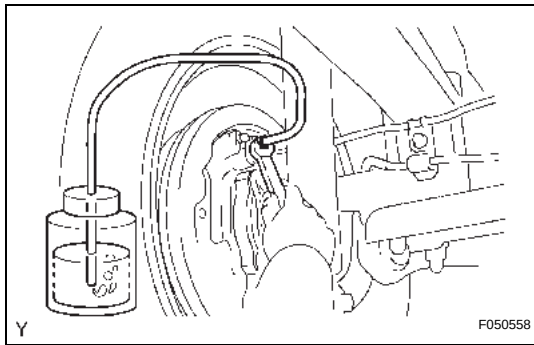
#### 4. BLEED MASTER CYLINDER SOLENOID

**HINT:**

If the brake master cylinder is disassembled, the brake line is disconnected from the brake master cylinder or if the reservoir become empty, bleed the brake master cylinder.

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch to ON.
- (c) Select "ACTIVE TEST" mode on the intelligent tester.





- (d) Connect the vinyl tube to the rear wheel cylinder.
- (e) Loosen the bleeder plug.
- (f) Select "SRMF & SRMR" to drive the solenoids and bleed air from the rear wheel cylinder (step F).

**NOTICE:**

- **Do not depress the brake pedal.**
- **Keep brake fluid in the reservoir tank above the MIN line during the above procedures.**

**HINT:**

- Brake fluid is sent through the pump.
  - To protect the solenoids, the intelligent tester turns OFF automatically 2 seconds after every solenoid has been turned ON.
- (g) Repeat step F until all the air in the brake fluid is bled out.
  - (h) When the air is completely bled out of the brake fluid through the bleeder plug, tighten the bleeder plug.  
**Torque: 11 N\*m (112 kgf\*cm, 8 ft.\*lbf)**
  - (i) Repeat the above procedures to bleed the other brake line.
  - (j) Turn the ignition switch to OFF.
  - (k) Turn the ignition switch to ON.
  - (l) Clear DTC (see page [BC-118](#)).

**5. CHECK FLUID LEVEL IN RESERVOIR**

- (a) Turn the ignition switch to OFF, and depress the brake pedal more than 20 times (until the pedal reaction feels light and pedal stroke becomes longer), and adjust the fluid level to the MAX level.
- (b) When the ignition switch is turned to the ON, brake fluid is sent to the accumulator and the fluid level decreases by approximately 5 mm from the level when the ignition switch is off (normal).

## BRAKE FLUID (w/o VSC)

### BLEEDING

#### 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.

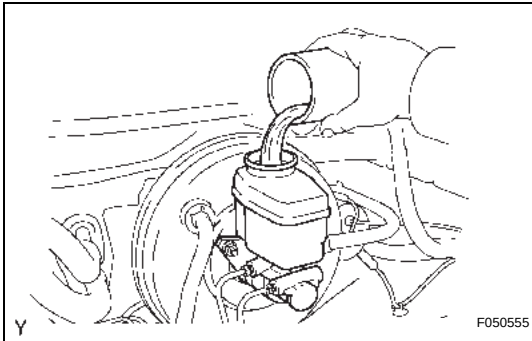
#### NOTICE:

Immediately wash off any brake fluid that comes into contact with any painted surfaces.

#### 1. FILL 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.

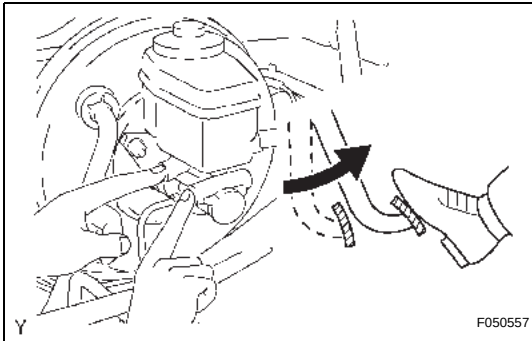
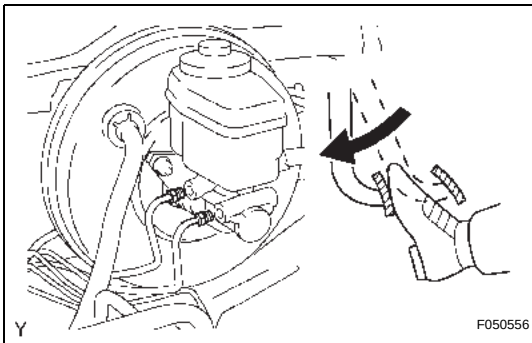
- (a) Using SST, disconnect the brake lines from the master cylinder.

**SST 09023-00101**

- (b) Slowly depress the brake pedal and hold it there (step A).

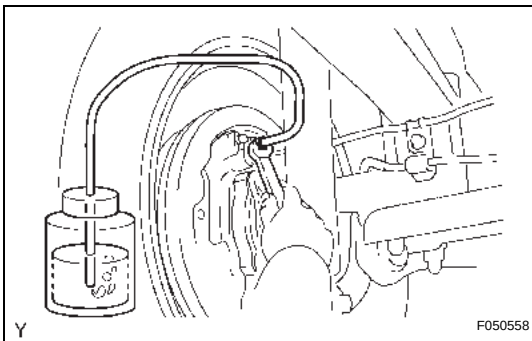
- (c) Block the outer holes with your fingers, and release the brake pedal (step B).

- (d) Repeat step A and B 3 or 4 times.



#### 3. BLEED BRAKE LINE

- (a) Connect the vinyl tube to the bleeder plug.
- (b) Depress the brake pedal several times, then loosen the bleeder plug with the pedal held down (step C).
- (c) At the point where the fluid stops coming out, tighten the bleeder plug, then release the brake pedal (step D).
- (d) Repeat step C and D 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.

**Torque: 11 N\*m (112 kgf\*cm, 8 ft.\*lbf)**

**4. CHECK FLUID LEVEL IN RESERVOIR**

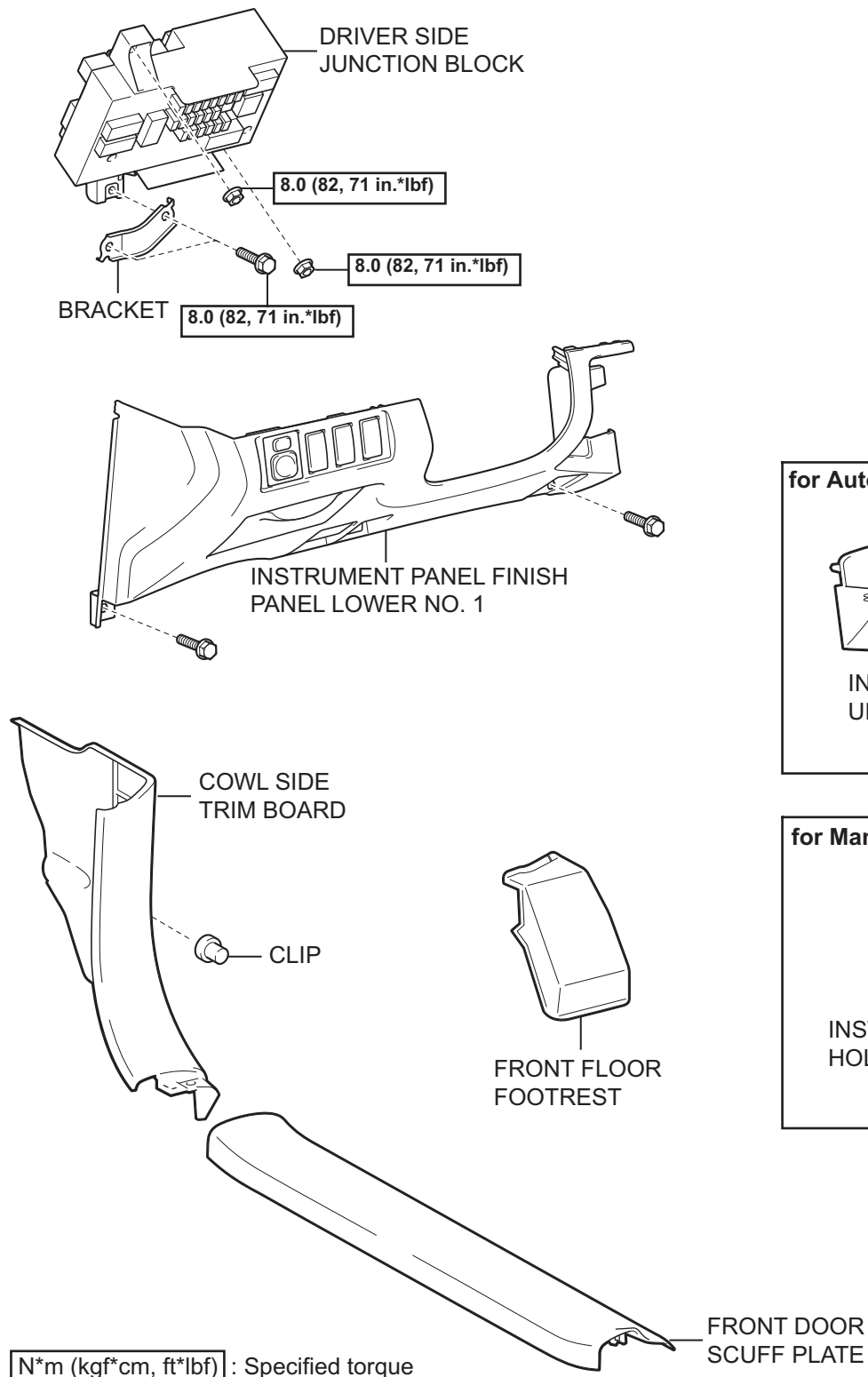
- (a) Check the fluid level and add fluid if necessary.

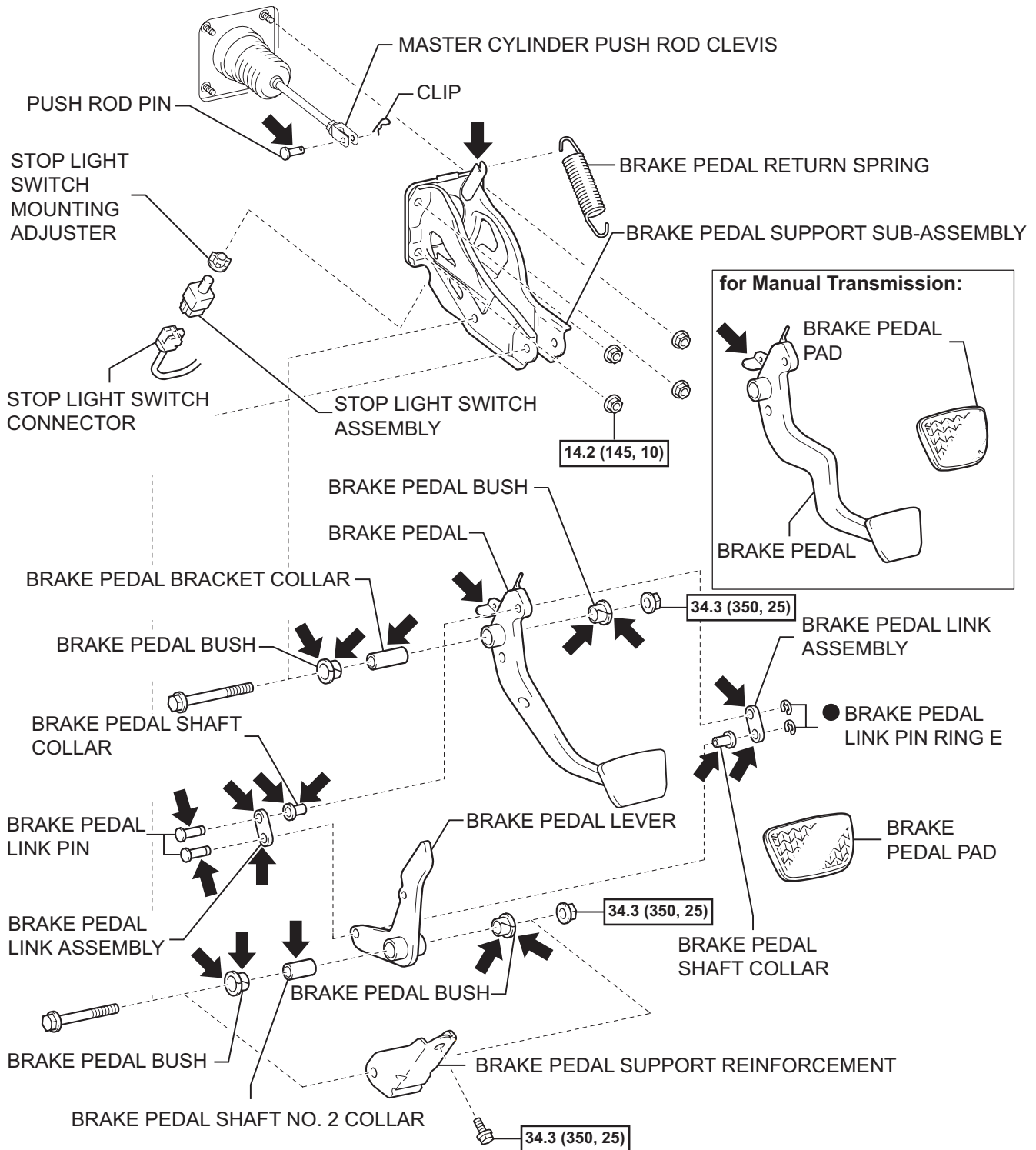
**Fluid:**

**SAE J1703 or FMVSS NO. 116 DOT3**

# BRAKE PEDAL

## COMPONENTS





N\*m (kgf\*cm, ft\*lb) : Specified torque

● Non-reusable part

← Lithium soap base glycol grease

## ON-VEHICLE INSPECTION

### 1. INSPECT BRAKE PEDAL HEIGHT

- (a) Check the brake pedal height.

**Pedal height from dash panel:**

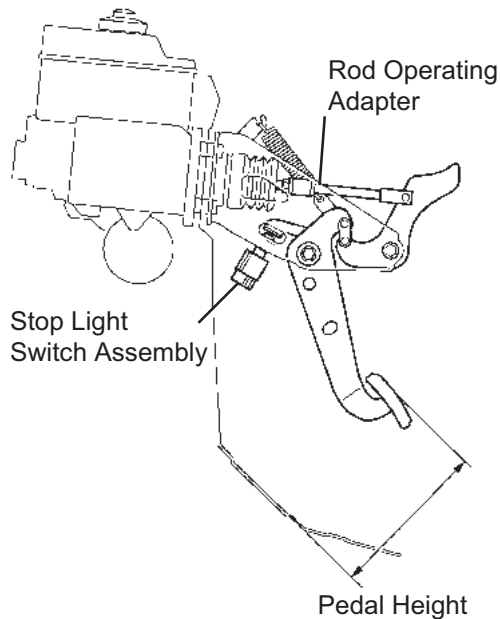
**158.1 to 168.1 mm (6.224 to 6.618 in.)**

**NOTICE:**

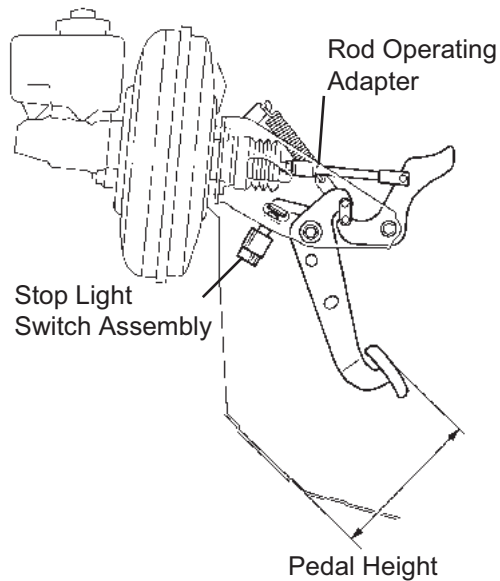
**Do not adjust the pedal height. Doing so by changing the push rod length will structurally change the pedal ratio.**

If the pedal height is incorrect, adjust the rod operating adapter length.

**w/ VSC:**



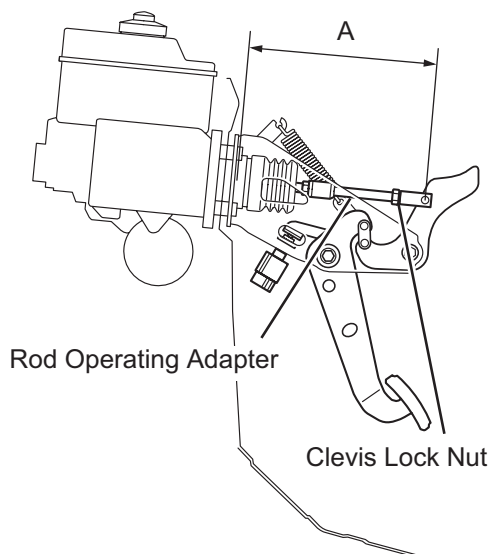
**w/o VSC:**



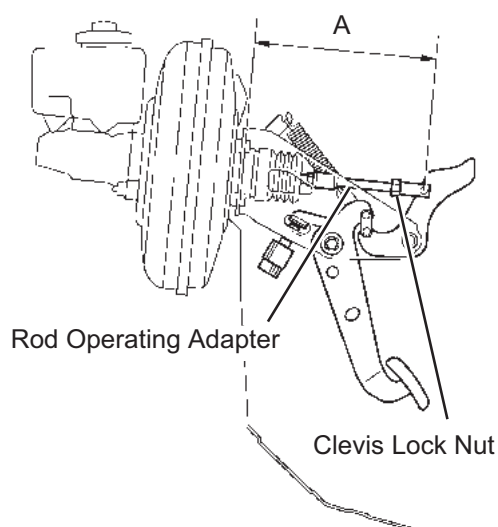
N

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w/ VSC:



w/o VSC:



N

C114969E01

(b) Adjust the rod operating adapter length.

- (1) Remove the clip and clevis pin.
- (2) Loosen the clevis lock nut.
- (3) Adjust the rod operating adapter length by turning the pedal push rod clevis.

**Rod operating adapter length A:****w/ VSC:****214 to 224 mm (8.425 to 8.818 in.)****w/o VSC:****212 to 222 mm (8.346 to 8.740 in.)**

- (4) Tighten the clevis lock nut.

**Torque: 25.5 N\*m (260 kgf\*cm, 19 ft.\*lbf)**

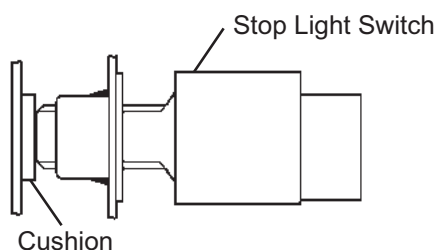
- (5) Install the clip and clevis pin.

- If the pedal height is incorrect even when the rod operating adapter is adjusted, check that there is no damage in the brake pedal, brake pedal lever, brake pedal bracket or dash panel.
- Even if there is damage, there is no problem if the reserve distance is within the standard value.
- If necessary, replace the parts.

**2. INSPECT AND ADJUST STOP LIGHT SWITCH****HINT:**

If the pedal height is incorrect, check and adjust the stop light switch.

- (a) Disconnect the stop light switch connector from the stop light switch.
- (b) Turn the stop light switch counterclockwise, and remove the stop light switch.

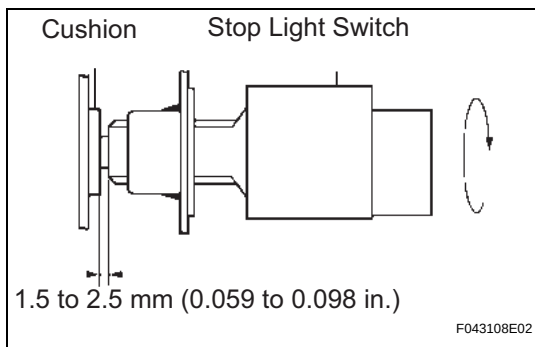


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- (c) Insert the stop light switch until the body comes into contact with the cushion.

**NOTICE:**

- When inserting the stop light switch, support the pedal from behind so that the pedal is not pushed in.
- Take care not to depress the pedal during the operation.



- (d) Make a quarter turn clockwise to install the stop light switch.

**NOTICE:**

**The turning torque for installing the stop light switch:**

**Torque: 1.5 N\*m (15 kgf\*cm, 13 in.\*lbf) or less**

**HINT:**

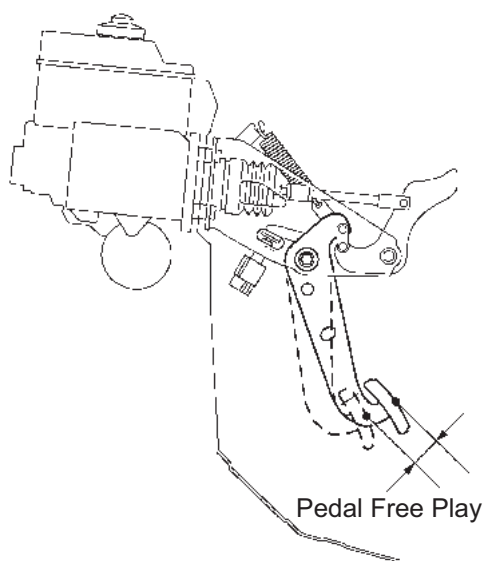
Due to the inverse screw structure, turning the stop light switch clockwise will cause it to become loose and eventually detach from the adjuster.

- (e) Connect the stop light switch connector to the stop light switch.
- (f) Check the protrusion of the rod.

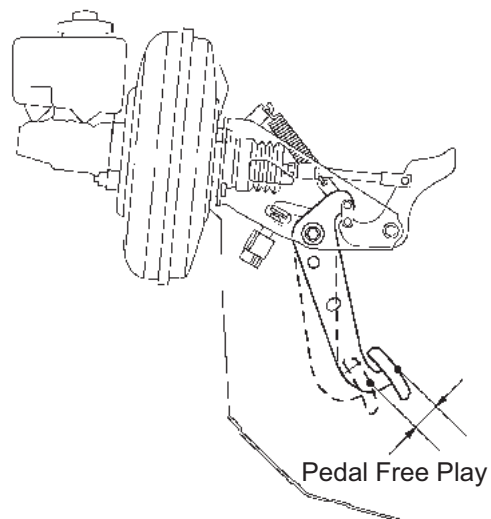
**Protrusion of the rod:**

**1.5 to 2.5 mm (0.059 to 0.098 in.)**

w/ VSC:



w/o VSC:



N

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**3. INSPECT PEDAL FREE PLAY**

- (a) Stop the engine and depress the brake pedal several times until there is no more vacuum left in the booster.
- (b) Push in the pedal until the beginning of the resistance is felt. Measure the distance as shown.

**Pedal free play:****1 to 6 mm (0.04 to 0.24 in.)**

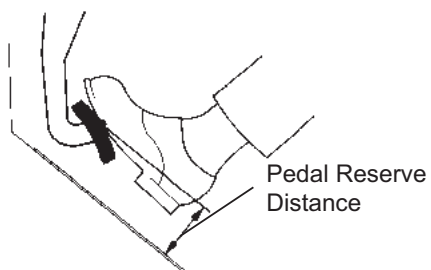
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**4. INSPECT PEDAL RESERVE DISTANCE**

- (a) Release the parking brake pedal. 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 55 mm (2.17 in.)**

If incorrect, troubleshoot the brake system.

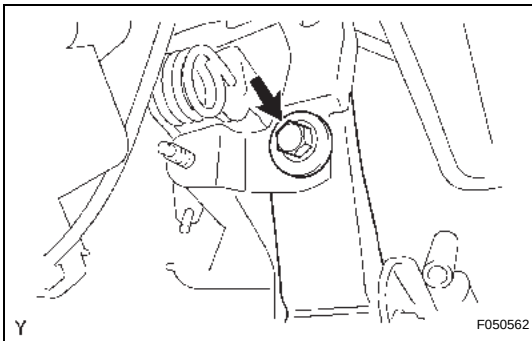
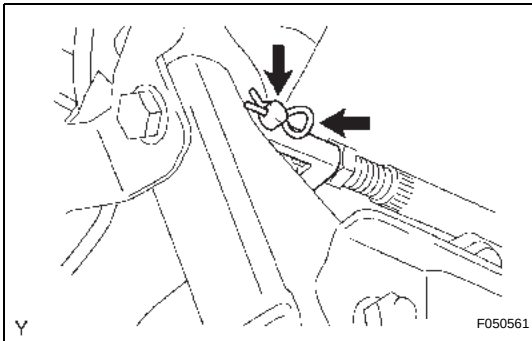


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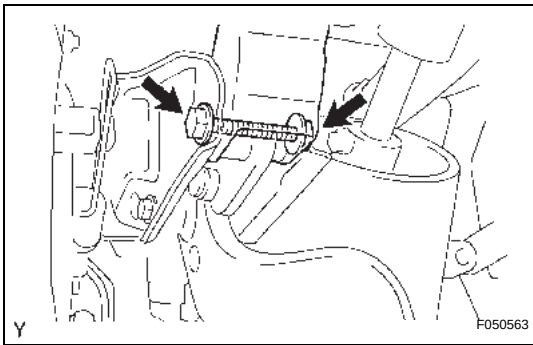
## REMOVAL

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
2. REMOVE FRONT FLOOR FOOTREST (See page [IR-1](#))
3. REMOVE FRONT DOOR SCUFF PLATE (for Regular Cab) (See page [IR-40](#))
4. REMOVE FRONT DOOR SCUFF PLATE (for Access Cab) (See page [IR-61](#))
5. REMOVE FRONT DOOR SCUFF PLATE (for Double Cab) (See page [IR-12](#))
6. REMOVE COWL SIDE TRIM BOARD (for Regular Cab) (See page [IR-40](#))
7. REMOVE COWL SIDE TRIM BOARD (for Access Cab) (See page [IR-61](#))
8. REMOVE COWL SIDE TRIM BOARD (for Double Cab) (See page [IR-12](#))
9. REMOVE INSTRUMENT PANEL UNDER TRAY (for Automatic Transmission) (See page [IP-9](#))
10. REMOVE INSTRUMENT PANEL HOLE COVER (for Manual Transmission) (See page [IP-9](#))
11. REMOVE INSTRUMENT PANEL FINISH PANEL LOWER NO. 1 (See page [IP-12](#))
12. SEPARATE DRIVER SIDE JUNCTION BLOCK
13. SEPARATE MASTER CYLINDER PUSH ROD CLEVIS
  - (a) Remove the clip and push rod pin, then separate the push rod clevis.

BR



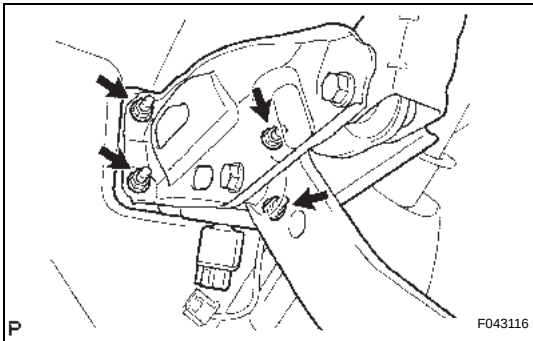
14. REMOVE BRAKE PEDAL SUPPORT REINFORCEMENT
  - (a) Remove the bolt from the reinforcement.



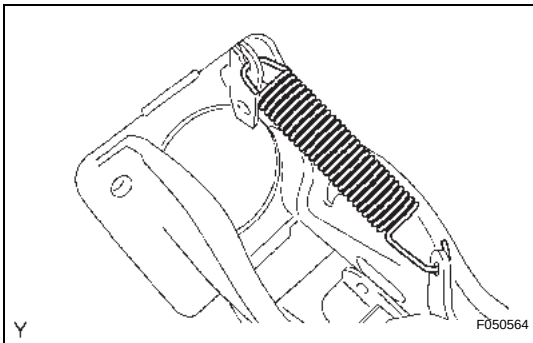
- (b) Remove the bolt and nut, then remove the reinforcement from the brake pedal support.

#### 15. REMOVE BRAKE PEDAL SUPPORT SUB-ASSEMBLY

- (a) Disconnect the stop light switch connector from the stop lamp switch.



- (b) Remove the 4 nuts and brake pedal support.



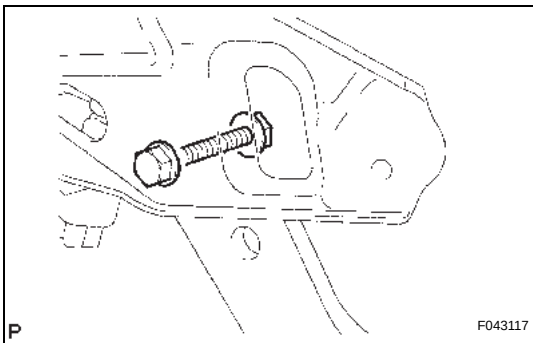
#### 16. REMOVE BRAKE PEDAL RETURN SPRING

- (a) Remove the return spring from the brake pedal support and brake pedal.

#### 17. REMOVE STOP LIGHT SWITCH ASSEMBLY

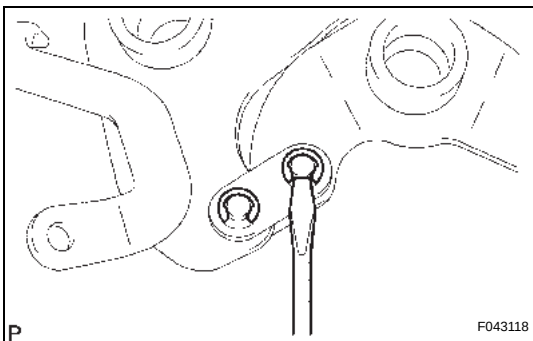
- (a) Turn the stop light switch counterclockwise, and remove the stop light switch.
- (b) Remove the stop light switch mounting adjuster from the brake pedal support.

BR



#### 18. REMOVE BRAKE PEDAL

- (a) Remove the bolt and nut, then remove the brake pedal from the brake pedal support.
- (b) Remove the 4 brake pedal bushes from the brake pedal and brake pedal lever.
- (c) Remove the 2 collars from the brake pedal and brake pedal lever.



#### 19. REMOVE BRAKE PEDAL LEVER

- (a) Using a screwdriver, remove the 2 E-rings from the brake pedal link pin.
- (b) Remove the 2 brake pedal link pins, 2 brake pedal shaft collars and 2 brake pedal links.
- (c) Remove the brake pedal lever from the brake pedal.

#### 20. REMOVE BRAKE PEDAL PAD

- (a) Remove the brake pedal pad from the brake pedal.

## INSTALLATION

### 1. INSTALL BRAKE PEDAL PAD

- (a) Install the brake pedal pad onto the brake pedal.

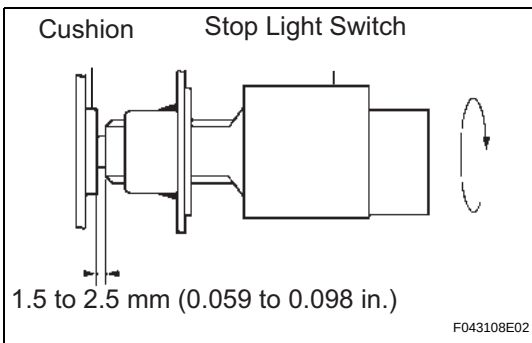
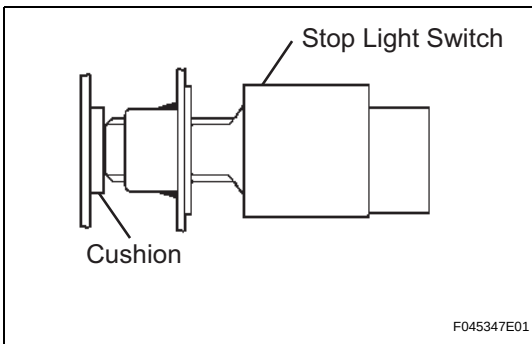
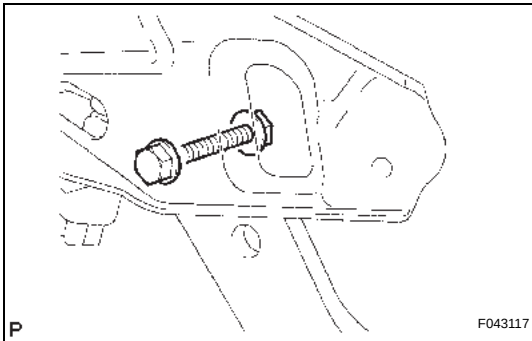
### 2. INSTALL BRAKE PEDAL LEVER

- (a) Apply lithium soap base glycol grease to the 2 brake pedal link pins, 2 pedal shaft collars and 2 brake pedal links.
- (b) Install the brake pedal lever with the 2 brake pedal link pins, 2 brake pedal shaft collars and 2 brake pedal links onto the brake pedal.
- (c) Install 2 new E-rings onto each brake pedal link pin.

### 3. INSTALL BRAKE PEDAL

- (a) Apply lithium soap base glycol grease to the 2 collars and 4 brake pedal bushes.
- (b) Install the 2 collars and 4 brake pedal bushes onto the brake pedal and brake pedal lever.
- (c) Install the brake pedal with the bolt and nut onto the brake pedal support.

**Torque: 34.3 N\*m (350 kgf\*cm, 25 ft.\*lbf)**



### 4. INSTALL STOP LIGHT SWITCH ASSEMBLY

- (a) Insert the stop light switch until the body comes into contact with the cushion.

**NOTICE:**

**When inserting the stop light switch, support the pedal from behind so that the pedal is not pushed in.**

- (b) Make a quarter turn clockwise to install the stop light switch.

**NOTICE:**

**The turning torque for installing the stop light switch:**

**Torque: 1.5 N\*m (15 kgf\*cm, 13 in.\*lbf) or less**

**HINT:**

Due to the inverse screw structure, turning the stop light switch clockwise will cause it to become loose and eventually detach from the adjuster.

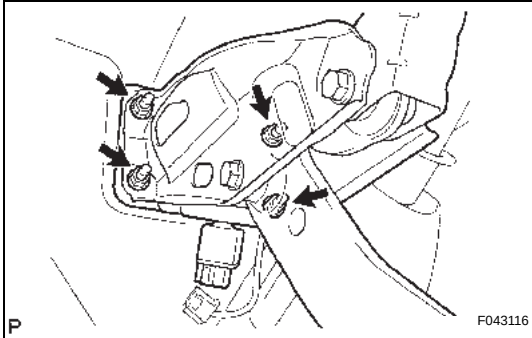
- (c) Check the protrusion of the rod.

**Protrusion of the rod:**

**1.5 to 2.5 mm (0.059 to 0.098 in.)**

**5. INSTALL BRAKE PEDAL RETURN SPRING**

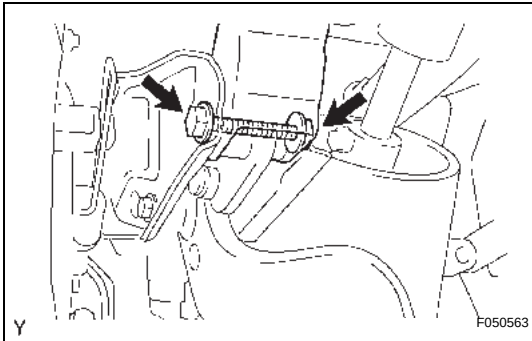
- (a) Apply lithium soap base glycol grease to the inner surface of the hole on the brake pedal support and brake pedal.
- (b) Install the return spring onto the brake pedal support and brake pedal.

**6. INSTALL BRAKE PEDAL SUPPORT SUB-ASSEMBLY**

- (a) Install the 4 nuts and brake pedal support.  
**Torque: 14.2 N\*m (145 kgf\*cm, 10 ft.\*lbf)**
- (b) Connect the stop light switch connector to the stop lamp switch.

**7. INSTALL BRAKE PEDAL SUPPORT REINFORCEMENT**

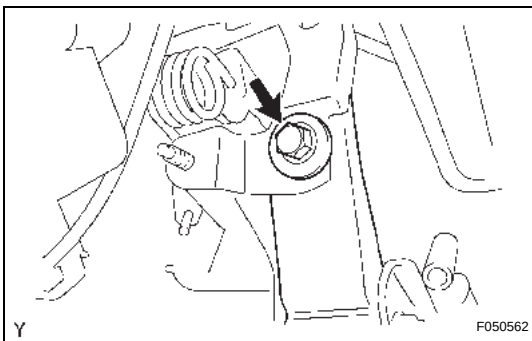
- (a) Install the reinforcement onto the brake pedal support.
- (b) Provisionally tighten the bolt and nut to the brake pedal support, reinforcement and brake pedal lever.



- (c) Install the bolt onto the reinforcement.  
**Torque: 34.3 N\*m (350 kgf\*cm, 25 ft.\*lbf)**
- (d) Tighten the bolt and nut.  
**Torque: 34.3 N\*m (350 kgf\*cm, 25 ft.\*lbf)**

**8. INSTALL MASTER CYLINDER PUSH ROD CLEVIS**

- (a) Apply lithium soap base glycol grease to the inner surface of the hole on the brake pedal lever.
- (b) Install the push rod clevis onto the brake pedal lever with the push rod pin and clip.

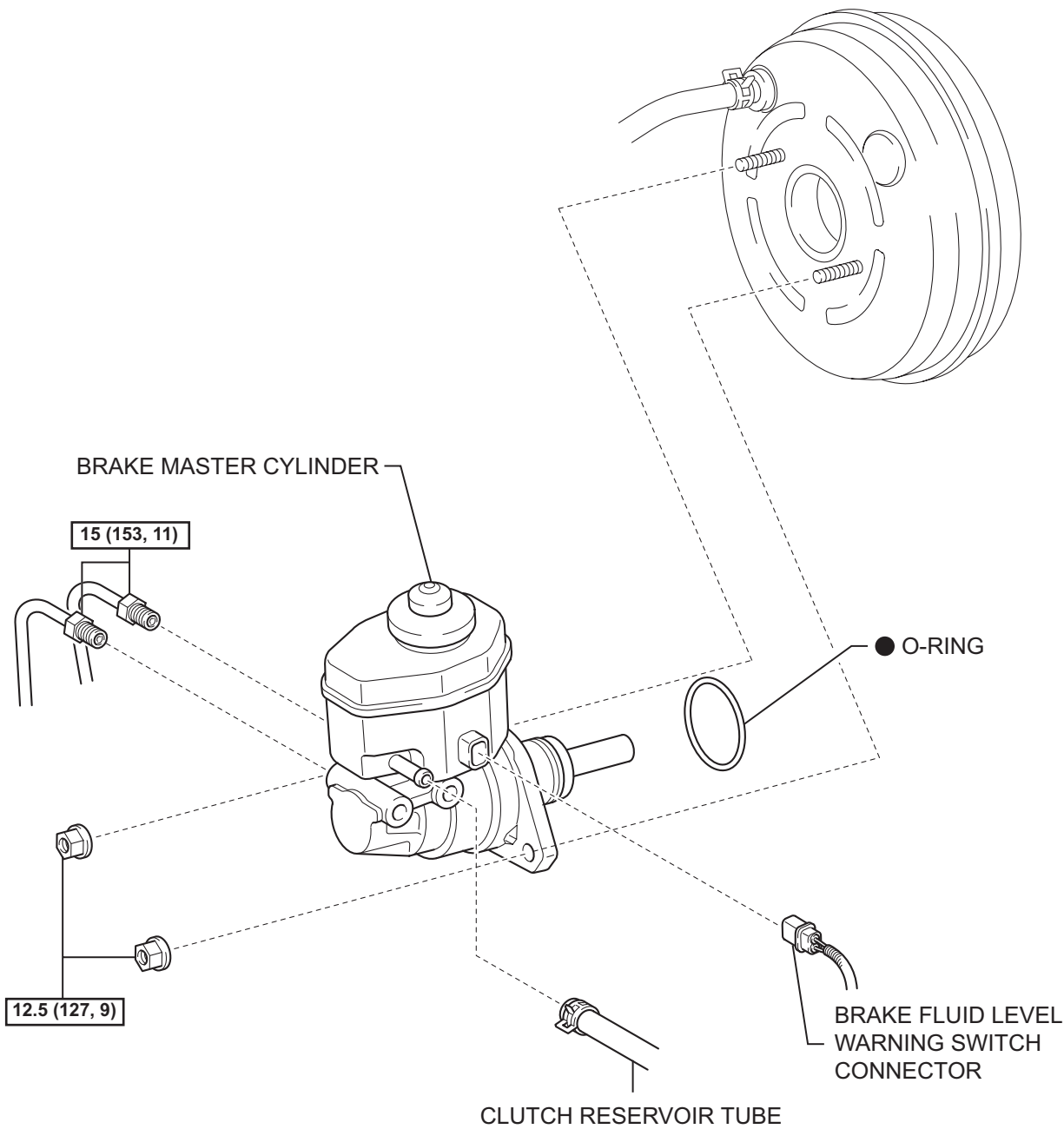
**9. INSPECT BRAKE PEDAL HEIGHT (See page [BR-11](#))****10. INSPECT PEDAL FREE PLAY (See page [BR-14](#))****11. INSPECT PEDAL RESERVE DISTANCE (See page [BR-14](#))****12. INSTALL DRIVER SIDE JUNCTION BLOCK**  
**Torque: 8.0 N\*m (82 kgf\*cm, 71 in.\*lbf)****13. INSTALL INSTRUMENT PANEL FINISH PANEL LOWER NO. 1 (See page [IP-22](#))****14. INSTALL INSTRUMENT PANEL UNDER TRAY (for Automatic Transmission) (See page [IP-25](#))****15. INSTALL INSTRUMENT PANEL HOLE COVER (for Manual Transmission) (See page [IP-25](#))**

16. INSTALL COWL SIDE TRIM BOARD (for Regular Cab)  
(See page [IR-52](#))
17. INSTALL COWL SIDE TRIM BOARD (for Access Cab)  
(See page [IR-75](#))
18. INSTALL COWL SIDE TRIM BOARD (for Double Cab)  
(See page [IR-29](#))
19. INSTALL FRONT DOOR SCUFF PLATE (for Regular Cab) (See page [IR-52](#))
20. INSTALL FRONT DOOR SCUFF PLATE (for Access Cab) (See page [IR-75](#))
21. INSTALL FRONT DOOR SCUFF PLATE (for Double Cab) (See page [IR-29](#))
22. INSTALL FRONT FLOOR FOOTREST (See page [IR-1](#))
23. CONNECT CABLE TO NEGATIVE BATTERY  
TERMINAL  
Torque: 3.9 N\*m (40 kgf\*cm, 35 in.\*lbf)  
(See page [IN-5](#))

# BRAKE MASTER CYLINDER (w/o VSC)

## COMPONENTS

BR



**N\*m (kgf\*cm, ft\*lb)** : Specified torque

● Non-reusable part

## REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**

2. **DRAIN BRAKE FLUID**

**NOTICE:**

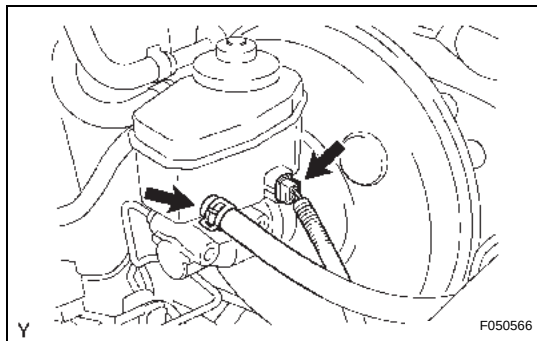
Immediately wash off any brake fluid that comes into contact with any painted surfaces.

3. **REMOVE BRAKE MASTER CYLINDER**

- (a) Disconnect the brake fluid level warning switch connector.

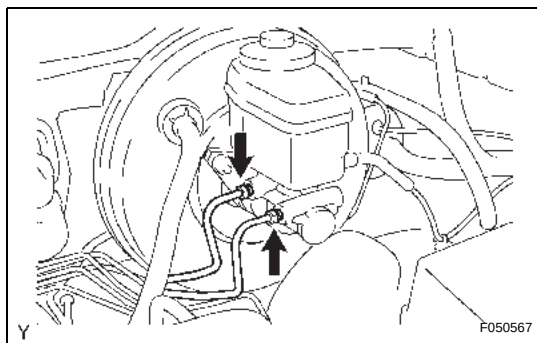
- (b) for Manual Transmission:

- (1) Disconnect the clutch reservoir tube from the reservoir.



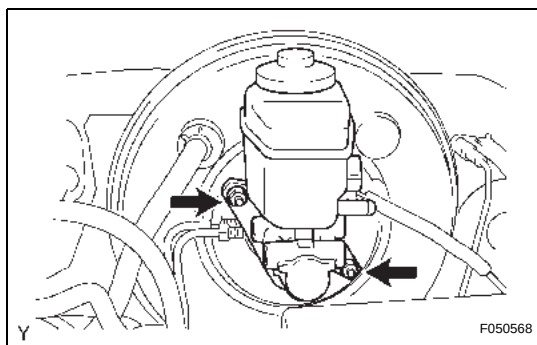
- (c) Using SST, disconnect the 2 brake lines from the brake master cylinder.

**SST 09023-00101**



- (d) Remove the 2 nuts, then pull the brake master cylinder out of the brake booster.

- (e) Remove the O-ring from the brake master cylinder.



## INSTALLATION

### 1. INSPECT AND ADJUST BRAKE BOOSTER PUSH ROD

#### NOTICE:

Make adjustments while the brake booster has no vacuum in it. (Depress the brake pedal several times with the engine stopped.)

#### HINT:

The brake booster push rod should be adjusted when the brake master cylinder is replaced with a new one. The adjustment is not necessary when the brake master cylinder is reinstalled and the brake booster is replaced with a new one.

- (a) Apply chalk to the tip of an accessory tool.

#### HINT:

An accessory tool is enclosed with a new brake master cylinder sub-assembly.

- (b) Place the accessory tool on the brake booster assembly.

- (c) Measure the clearance between the brake booster push rod and accessory tool.

#### Clearance:

**0 mm (0 in.)**

#### HINT:

Adjust the clearance in following cases:

- If there is any clearance between the accessory tool and the shell of the brake booster (floating accessory tool), the clearance is too small.
- If the chalk does not stick on the tip of the brake booster push rod, the clearance is too big.

- (d) If the clearance is out of the specified range, fix the push rod using SST and adjust the adjusting bolt protruding length.

#### SST 09737-00020

#### HINT:

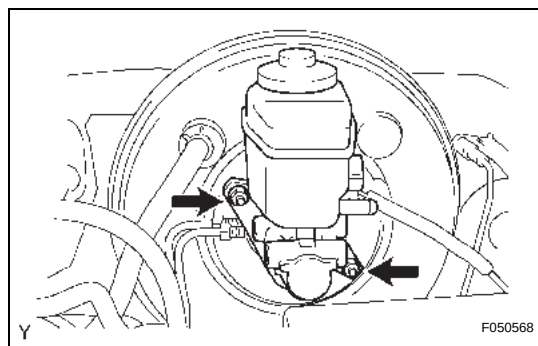
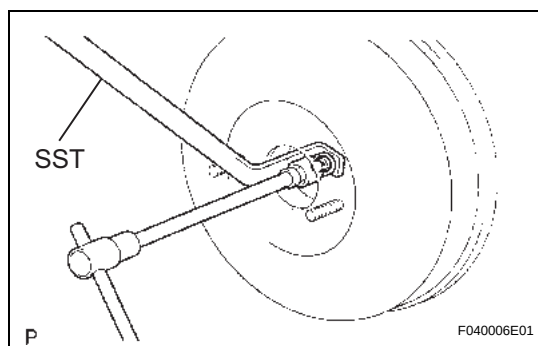
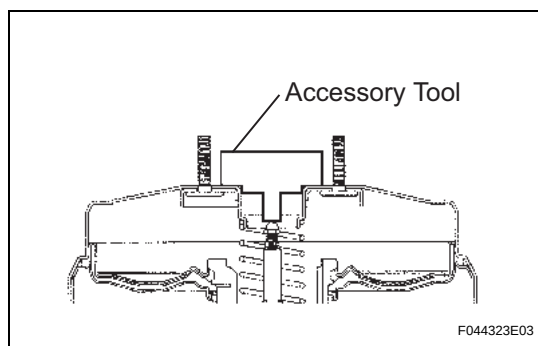
When adjusting the push rod, depress the brake pedal sufficiently so that the push rod sticks out.

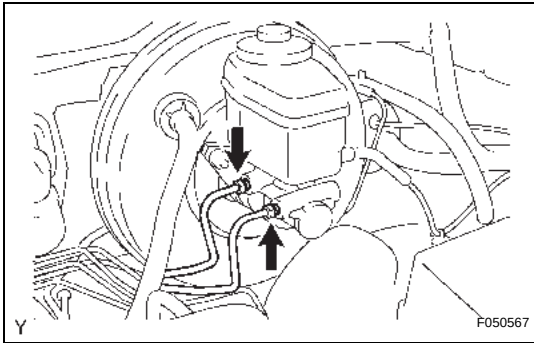
### 2. INSTALL BRAKE MASTER CYLINDER

- (a) Install a new O-ring onto the brake master cylinder.

- (b) Install the brake master cylinder with the 2 nuts onto the brake booster.

**Torque: 12.5 N\*m (127 kgf\*cm, 9 ft.\*lbf)**

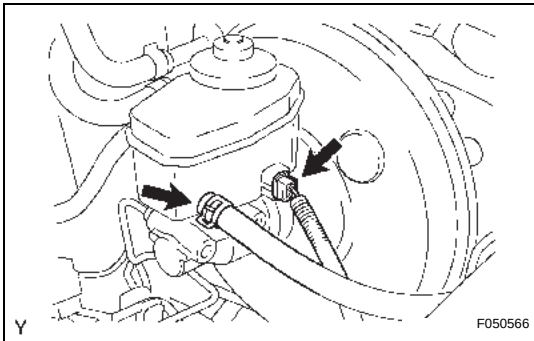




- (c) Using SST, connect the 2 brake lines to the brake master cylinder.

**SST 09023-00101**

**Torque: 15 N\*m (153 kgf\*cm, 11 ft.\*lbf)**



- (d) for Manual Transmission:

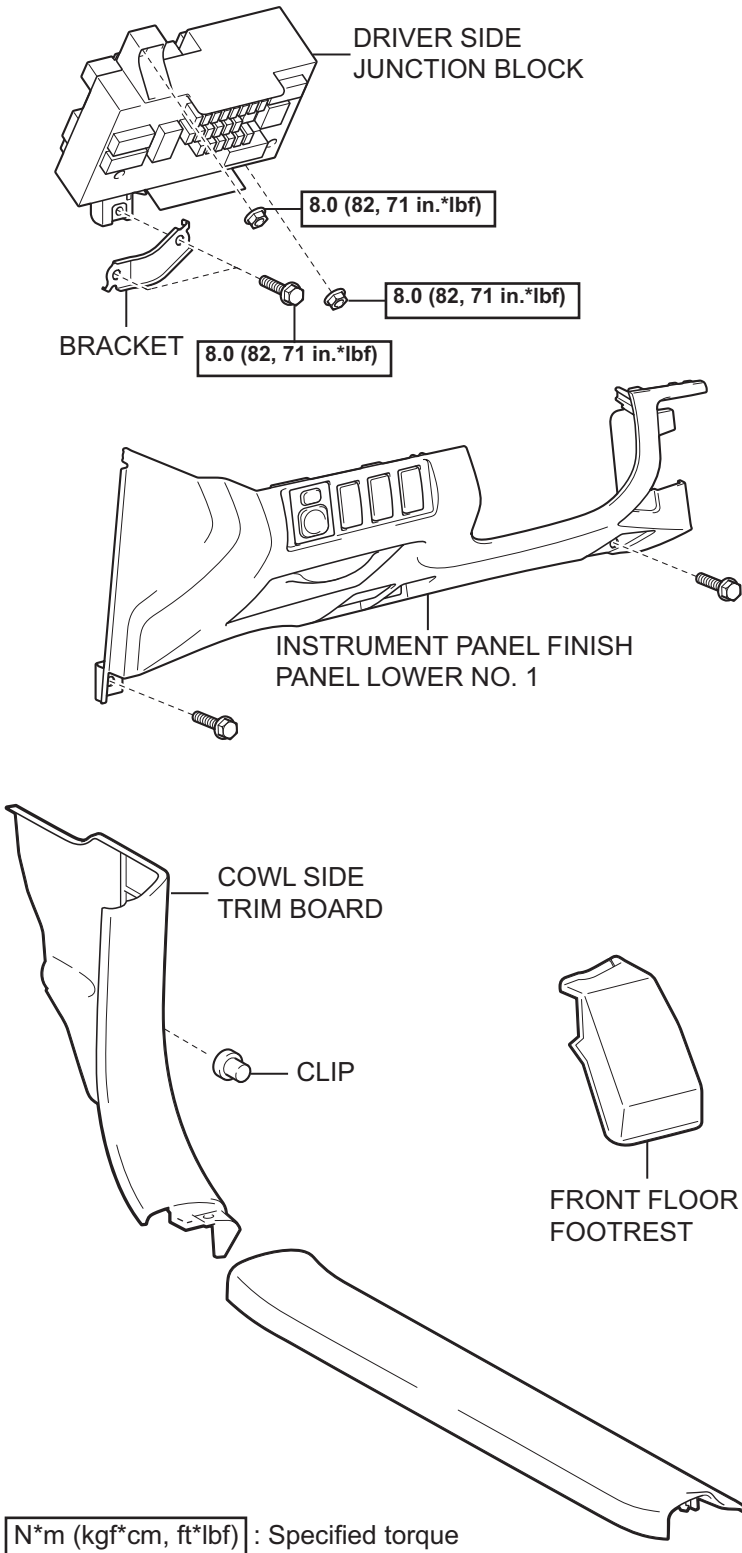
- (1) Connect the clutch reservoir tube to the reservoir.

- (e) Connect the brake fluid level warning switch connector to the brake master cylinder.

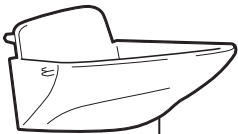
3. **FILL RESERVOIR WITH BRAKE FLUID** (See page [BR-7](#))
4. **BLEED MASTER CYLINDER** (See page [BR-7](#))
5. **BLEED BRAKE LINE** (See page [BR-7](#))
6. **CHECK FLUID LEVEL IN RESERVOIR** (See page [BR-8](#))
7. **CHECK FOR BRAKE FLUID LEAKAGE**
8. **INSPECT BRAKE PEDAL HEIGHT** (See page [BR-11](#))
9. **INSPECT PEDAL FREE PLAY** (See page [BR-14](#))
10. **INSPECT PEDAL RESERVE DISTANCE** (See page [BR-14](#))
11. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**  
**Torque: 3.9 N\*m (40 kgf\*cm, 35 in.\*lbf)**  
(See page [IN-5](#))

# BRAKE BOOSTER (w/o VSC)

## COMPONENTS



for Automatic Transmission:



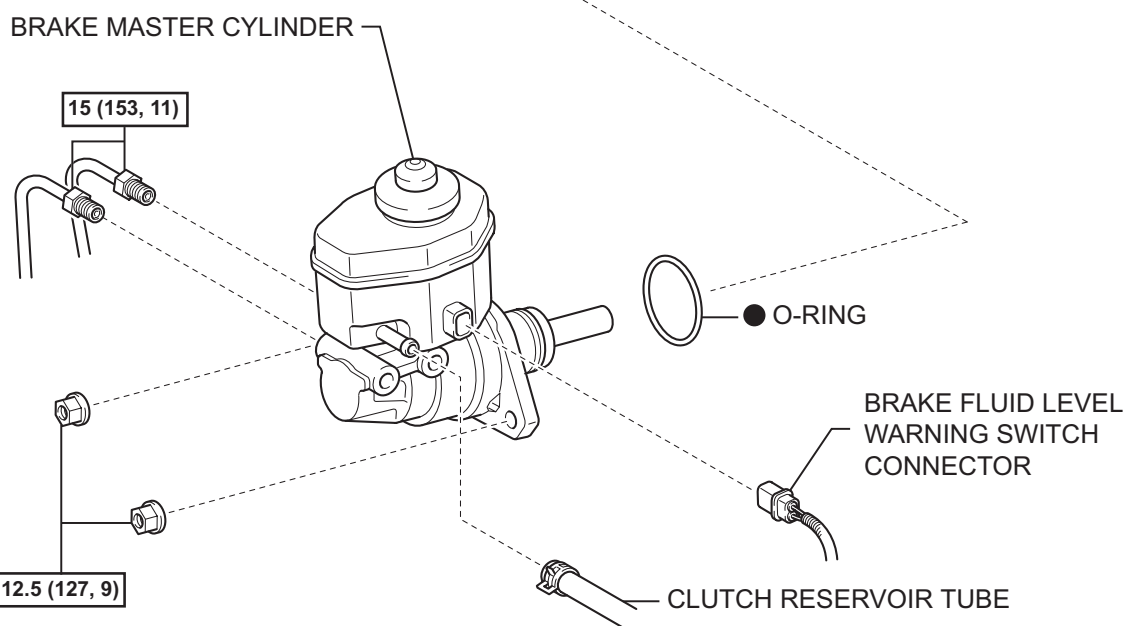
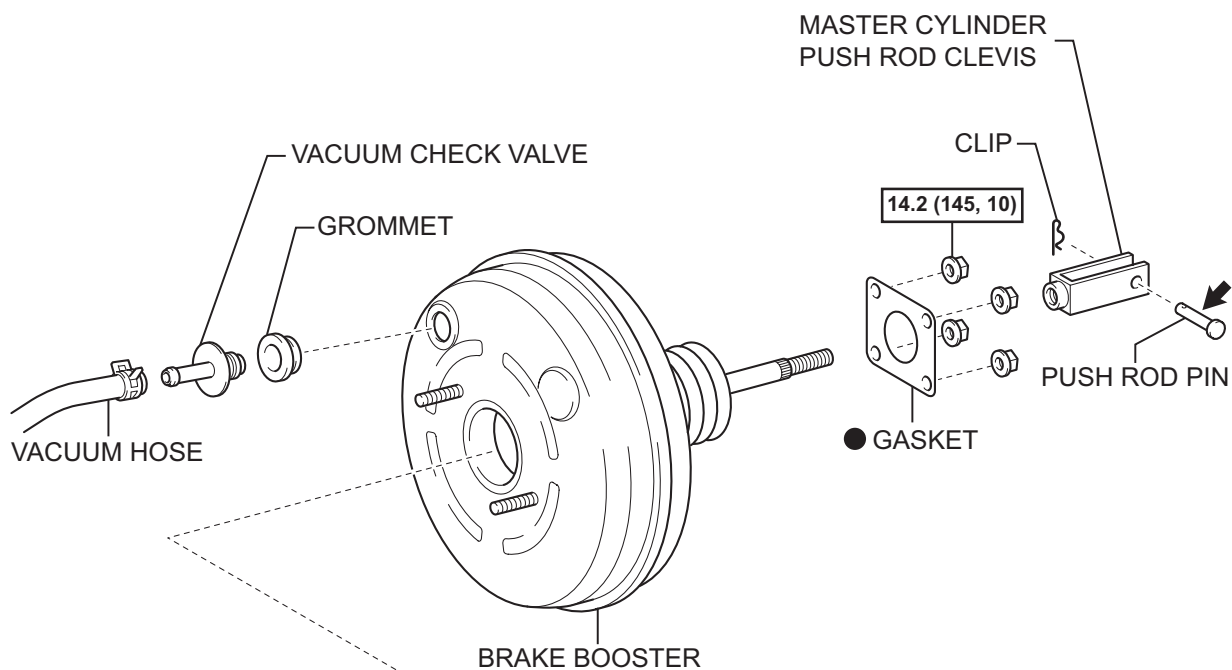
INSTRUMENT PANEL UNDER TRAY

for Manual Transmission:



INSTRUMENT PANEL HOLE COVER

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

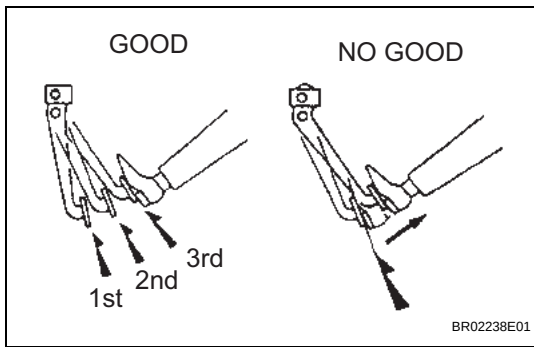


[N\*m (kgf\*cm, ft\*lb)] : Specified torque

● Non-reusable part

← Lithium soap base glycol grease

BR



## ON-VEHICLE INSPECTION

### 1. INSPECT BRAKE BOOSTER

#### (a) Check the air tightness.

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

HINT:

If the pedal can be depressed to the floor the 1st time, but cannot be depressed as far on the 2nd or 3rd time, the booster is airtight.

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

HINT:

If there is no change in the pedal reserve distance after holding the pedal for 30 seconds, the booster is airtight.

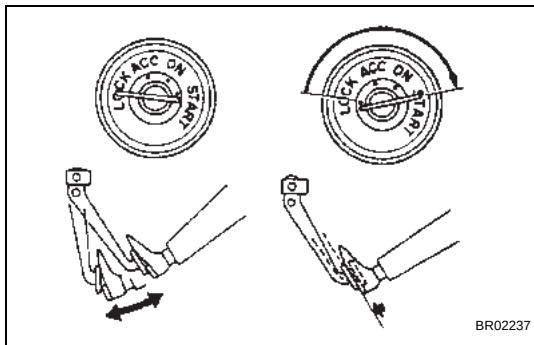
#### (b) Check the operation.

- (1) Depress the brake pedal several times with the ignition switch at OFF and check that there is no change in the pedal reserve distance.

- (2) Depress the brake pedal and start the engine.

HINT:

If the pedal goes down slightly, the operation is normal.



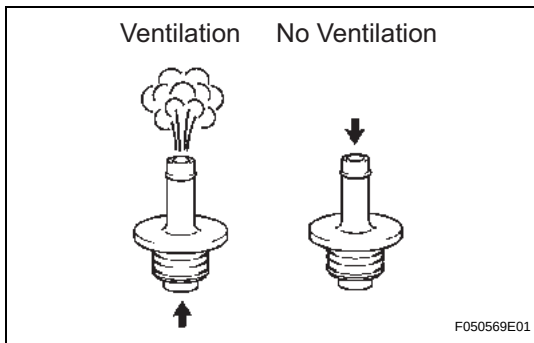
### 2. INSPECT VACUUM CHECK VALVE

#### (a) Check the vacuum check valve.

- (1) Slide the clip and disconnect the vacuum hose.
- (2) Remove the vacuum check valve.

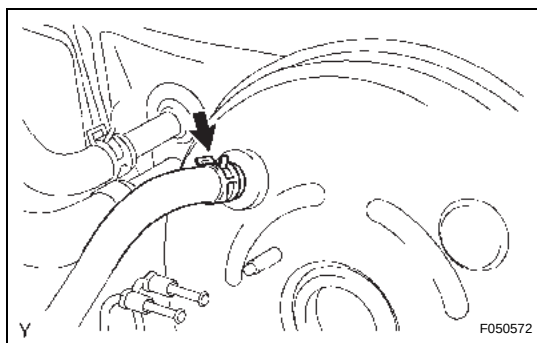
- (3) Check that there is ventilation from the booster to the engine, and no ventilation from the engine to the booster.

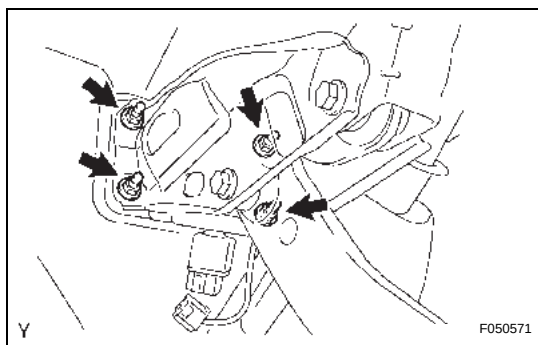
If any fault is found, replace the vacuum check valve.



## REMOVAL

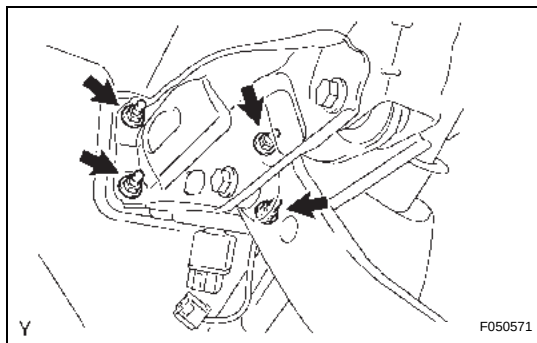
1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
2. DRAIN BRAKE FLUID  
NOTICE:  
Immediately wash off any brake fluid that comes into contact with any painted surfaces.
3. REMOVE FRONT FLOOR FOOTREST (See page [IR-1](#))
4. REMOVE FRONT DOOR SCUFF PLATE (for Regular Cab) (See page [IR-40](#))
5. REMOVE FRONT DOOR SCUFF PLATE (for Access Cab) (See page [IR-61](#))
6. REMOVE FRONT DOOR SCUFF PLATE (for Double Cab) (See page [IR-12](#))
7. REMOVE COWL SIDE TRIM BOARD (for Regular Cab) (See page [IR-40](#))
8. REMOVE COWL SIDE TRIM BOARD (for Access Cab) (See page [IR-61](#))
9. REMOVE COWL SIDE TRIM BOARD (for Double Cab) (See page [IR-12](#))
10. REMOVE INSTRUMENT PANEL UNDER TRAY (for Automatic Transmission) (See page [IP-9](#))
11. REMOVE INSTRUMENT PANEL HOLE COVER (for Manual Transmission) (See page [IP-9](#))
12. REMOVE INSTRUMENT PANEL FINISH PANEL LOWER NO. 1 (See page [IP-12](#))
13. SEPARATE DRIVER SIDE JUNCTION BLOCK
14. REMOVE BRAKE MASTER CYLINDER (See page [BR-21](#))
15. SEPARATE MASTER CYLINDER PUSH ROD CLEVIS (See page [BR-15](#))
16. REMOVE BRAKE BOOSTER
  - (a) Disconnect the vacuum hose from the brake booster.





- (b) Remove the 4 nuts, and pull out the brake booster.
- (c) Remove the gasket from the brake booster.

## INSTALLATION

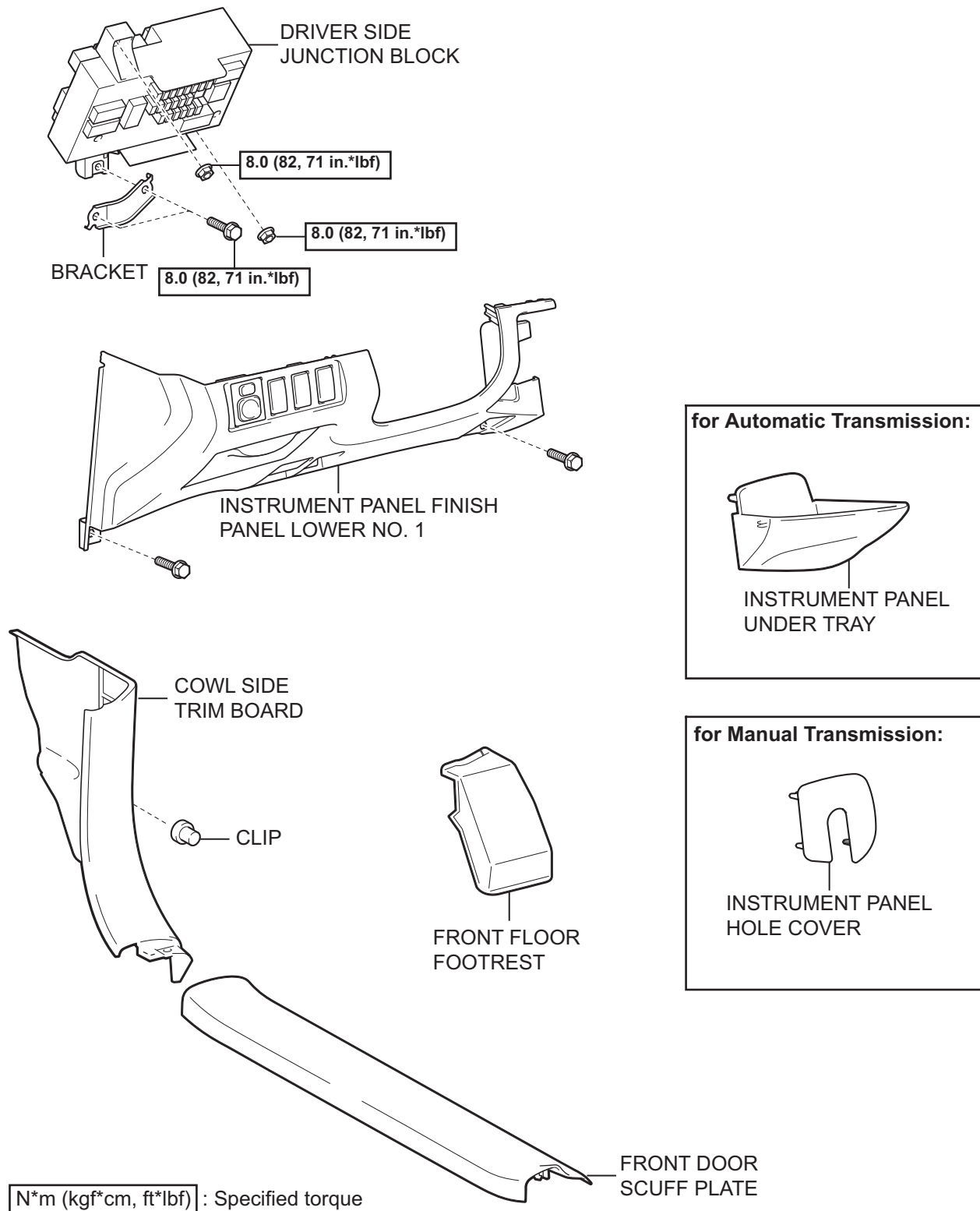


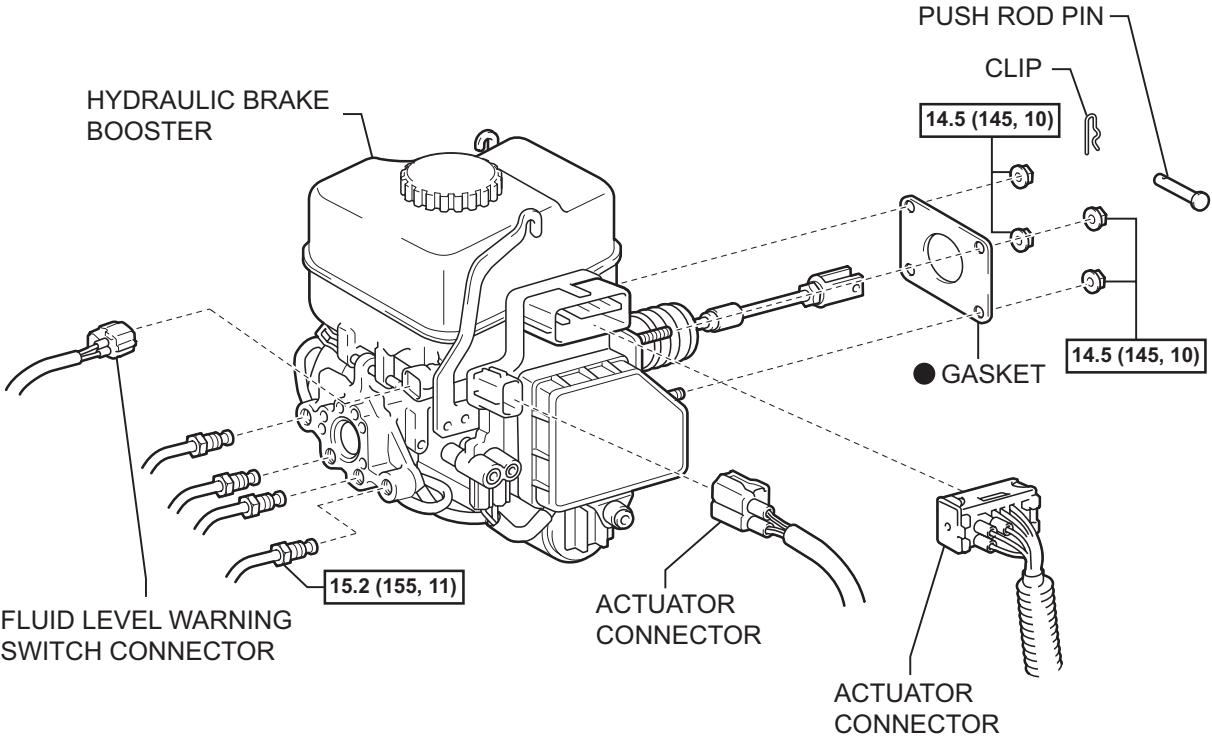
1. **INSTALL BRAKE BOOSTER**
  - (a) Install a new gasket onto the brake booster.
  - (b) Install the brake booster assembly with the 4 nuts.  
**Torque: 14.2 N\*m (145 kgf\*cm, 10 ft.\*lbf)**
  - (c) Connect the vacuum hose to the brake booster.
2. **INSTALL MASTER CYLINDER PUSH ROD CLEVIS** (See page [BR-18](#))
3. **INSTALL BRAKE MASTER CYLINDER** (See page [BR-22](#))
4. **FILL RESERVOIR WITH BRAKE FLUID** (See page [BR-7](#))
5. **BLEED MASTER CYLINDER** (See page [BR-7](#))
6. **BLEED BRAKE LINE** (See page [BR-7](#))
7. **CHECK FLUID LEVEL IN RESERVOIR** (See page [BR-8](#))
8. **CHECK FOR BRAKE FLUID LEAKAGE**
9. **INSPECT BRAKE PEDAL HEIGHT** (See page [BR-11](#))
10. **INSPECT PEDAL FREE PLAY** (See page [BR-14](#))
11. **INSPECT PEDAL RESERVE DISTANCE** (See page [BR-14](#))
12. **INSTALL DRIVER SIDE JUNCTION BLOCK**  
Torque: 8.0 N\*m (82 kgf\*cm, 71 in.\*lbf)
13. **INSTALL INSTRUMENT PANEL FINISH PANEL LOWER NO. 1** (See page [IP-22](#))
14. **INSTALL INSTRUMENT PANEL UNDER TRAY** (for Automatic Transmission) (See page [IP-25](#))
15. **INSTALL INSTRUMENT PANEL HOLE COVER** (for Manual Transmission) (See page [IP-25](#))
16. **INSTALL COWL SIDE TRIM BOARD** (for Regular Cab) (See page [IR-52](#))
17. **INSTALL COWL SIDE TRIM BOARD** (for Access Cab) (See page [IR-75](#))
18. **INSTALL COWL SIDE TRIM BOARD** (for Double Cab) (See page [IR-29](#))
19. **INSTALL FRONT DOOR SCUFF PLATE** (for Regular Cab) (See page [IR-52](#))
20. **INSTALL FRONT DOOR SCUFF PLATE** (for Access Cab) (See page [IR-75](#))
21. **INSTALL FRONT DOOR SCUFF PLATE** (for Double Cab) (See page [IR-29](#))
22. **INSTALL FRONT FLOOR FOOTREST** (See page [IR-1](#))

**23. CONNECT CABLE TO NEGATIVE BATTERY  
TERMINAL****Torque: 3.9 N\*m (40 kgf\*cm, 35 in.\*lbf)**(See page [IN-5](#))

# HYDRAULIC BRAKE BOOSTER (w/ VSC)

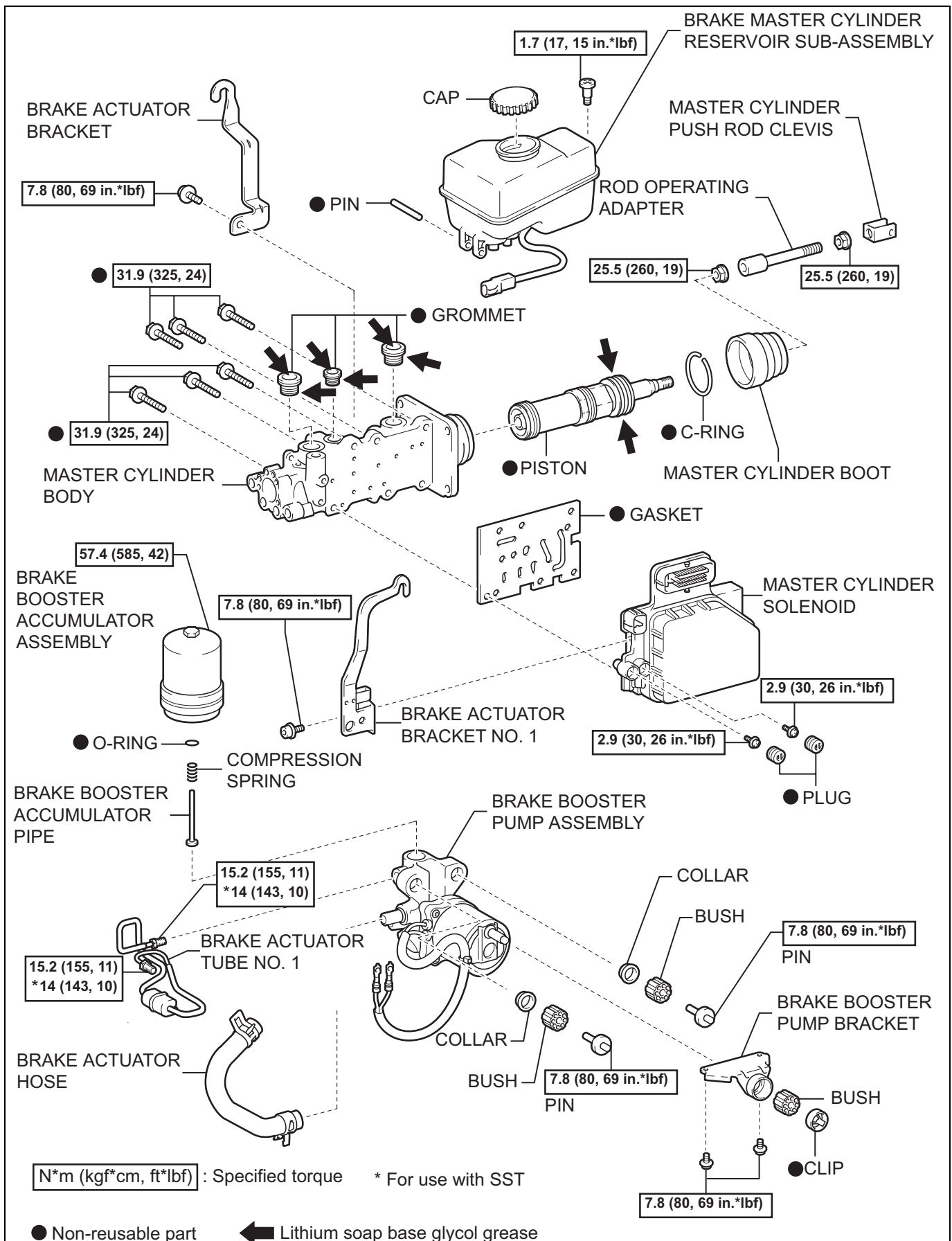
## COMPONENTS





$\boxed{\text{N*m (kgf*cm, ft*lb)}} : \text{Specified torque}$

● Non-reusable part



BR

## ON-VEHICLE INSPECTION

### 1. INSPECT BRAKE MASTER CYLINDER FLUID PRESSURE CHANGE

- (a) Inspect the battery positive voltage.

**Battery positive voltage:**

**10 to 14 V**

- (b) Turn the ignition switch to OFF, and depress the brake pedal more than 20 times.

**HINT:**

When pressure in the accumulator is released, the reaction force becomes lighter and the stroke becomes longer.

- (c) Install a LSPV gauge (SST) and brake pedal effort gauge, and bleed the air.

**SST 09709-29018**

- (d) When the booster does not operate:

- (1) Depress the brake pedal and check the fluid pressure.

**At 245 N (25 kgf, 55 lbf)**

| Front brake pressure                                   | Rear brake pressure                   |
|--------------------------------------------------------|---------------------------------------|
| 1,840 kPa (18.8 kgf/cm <sup>2</sup> , 267 psi) or more | 0 kPa (0 kgf/cm <sup>2</sup> , 0 psi) |

**At 343 N (35 kgf, 77 lbf)**

| Front brake pressure                                   | Rear brake pressure                   |
|--------------------------------------------------------|---------------------------------------|
| 2,710 kPa (27.6 kgf/cm <sup>2</sup> , 393 psi) or more | 0 kPa (0 kgf/cm <sup>2</sup> , 0 psi) |

- (e) When the booster operates:

- (1) Turn the ignition switch to ON, and wait until the pump motor has stopped (step A).

**HINT:**

Pump operating sound can be heard.

- (2) Turn the ignition switch to OFF, and depress the brake pedal more than 20 times (step B).

**HINT:**

When pressure in the accumulator is released, the reaction force becomes lighter and the stroke becomes longer.

- (3) Repeat step A and B 5 times (step C).

- (4) Turn the ignition switch to ON, and check that the pump stops after approximately 8 to 14 seconds.

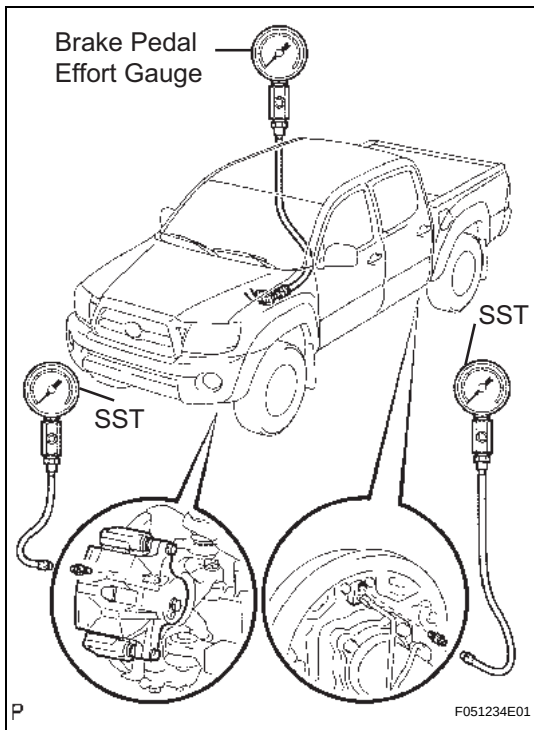
**NOTICE:**

**If the pump does not stop, repeat step C again.**

- (5) Depress the brake pedal and check the fluid pressure.

**At 49 N (5 kgf, 11 lbf)**

| Front brake pressure                                                   | Rear brake pressure                                                    |
|------------------------------------------------------------------------|------------------------------------------------------------------------|
| 770 to 1,280 kPa<br>(7.9 to 13.1 kgf/cm <sup>2</sup> , 112 to 186 psi) | 800 to 1,330 kPa<br>(8.2 to 13.6 kgf/cm <sup>2</sup> , 116 to 193 psi) |



**At 98 N (10 kgf, 22 lbf)**

| Front brake pressure                                                      | Rear brake pressure                                                       |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 2,650 to 3,590 kPa<br>(27.0 to 36.6 kgf/cm <sup>2</sup> , 384 to 521 psi) | 2,680 to 3,630 kPa<br>(27.3 to 37.0 kgf/cm <sup>2</sup> , 389 to 526 psi) |

**At 147 N (15 kgf, 33 lbf)**

| Front brake pressure                                                      | Rear brake pressure                                                       |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 4,680 to 5,720 kPa<br>(47.7 to 58.3 kgf/cm <sup>2</sup> , 679 to 830 psi) | 4,710 to 5,760 kPa<br>(48.0 to 58.7 kgf/cm <sup>2</sup> , 683 to 835 psi) |

**At 196 N (20 kgf, 44 lbf)**

| Front brake pressure                                                        | Rear brake pressure                                                         |
|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 6,610 to 7,680 kPa<br>(67.4 to 78.3 kgf/cm <sup>2</sup> , 959 to 1,114 psi) | 6,640 to 7,720 kPa<br>(67.7 to 78.7 kgf/cm <sup>2</sup> , 963 to 1,120 psi) |

**2. INSPECT BRAKE MASTER CYLINDER OPERATION**

- (a) Inspect the battery positive voltage.

**Battery positive voltage:****10 to 14 V**

- (b) Turn the ignition switch to OFF, and depress the brake pedal more than 20 times.

HINT:

When pressure in the accumulator is released, the reaction force becomes lighter and the stroke becomes longer.

- (c) Check that the brake pedal becomes easy to depress.

If the pedal does not become easy to depress, check and replace the brake line and hydraulic brake booster.

- (d) Turn the ignition switch to ON and check the pump motor operation noise.

If the pump motor does not operate, check and replace the wire harness and pump motor (see page [BR-48](#)).

- (e) Connect the intelligent tester.

(1) Connect the intelligent tester to the DLC3.

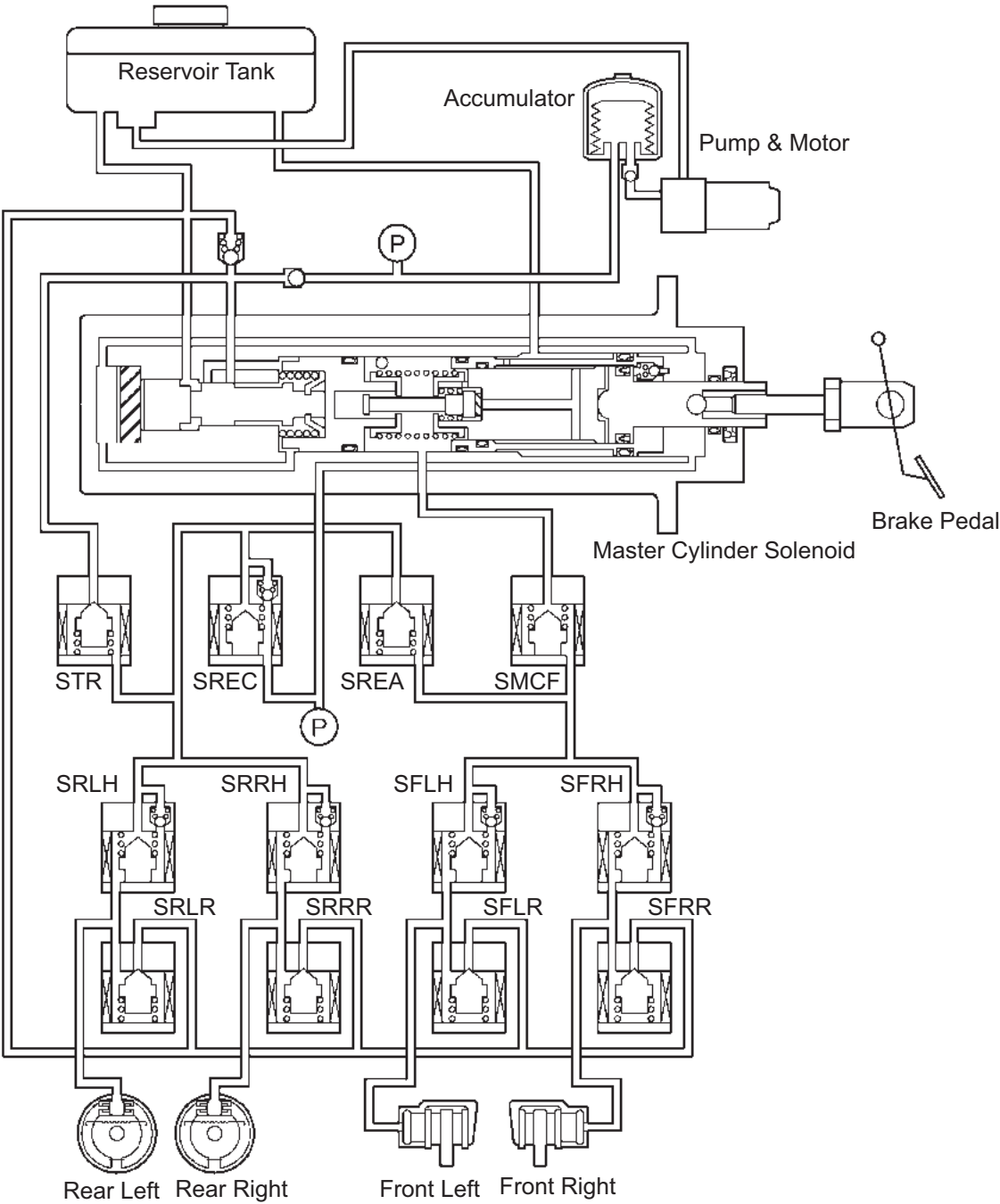
(2) Turn the ignition switch to ON.

(3) Select "ACTIVE TEST" mode on the intelligent tester.

HINT:

- Refer to the intelligent tester operator manual for further details.
- To protect the solenoids, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.

(f) Check the master cylinder solenoid operation.



BR

| Inspection Order (Step) | SOL Selected By Active Test | SOL To Be Activated |
|-------------------------|-----------------------------|---------------------|
| D                       | SRCF (SA1)                  | SMCF                |
| E                       | SRCF (SA1) and SRCR (SA2)   | SREA and SMCF       |

| Inspection Order (Step) | SOL Selected By Active Test           | SOL To Be Activated |
|-------------------------|---------------------------------------|---------------------|
| F                       | SFRH                                  | SFRH                |
| G                       | SFLH                                  | SFLH                |
| H                       | SFRR & SFRH                           | SFRR and SFRH       |
| I                       | SFLR & SFLH                           | SFLR and SFLH       |
| J                       | SRMF (SMCF, SA3)                      | SREC                |
| K                       | SRMF (SMCF, SA3) and SRMR (SMCR, STR) | STR and SREC        |
| L                       | SRRH                                  | SRRH                |
| M                       | SRLH                                  | SRLH                |
| N                       | SRH & SRR                             | SRRR and SRRH       |
| O                       | SRLR & SRLH                           | SRLR and SRLH       |

- (g) Inspect front VSC solenoid (SMCF) operation (step D).

HINT:

- ON: Activate SMCF and check that the brake pedal cannot be depressed (the pedal feels tight).
- OFF: Deactivate SMCF and check that the brake pedal can be depressed.

- (1) Select "SRCF (SA1)" on the intelligent tester.
- (2) Turn the "SRCF (SA1)" on by the intelligent tester, then depress the brake pedal with stable force and check that the pedal cannot be depressed.

If the pedal can be depressed, replace the hydraulic brake booster.

HINT:

To protect the solenoid, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.

**NOTICE:**

**When operating it continuously, set the interval of more than 20 seconds.**

- (3) Release the brake pedal.
  - (4) When the solenoid is off, depress the brake pedal again and check that the brake pedal can be depressed.
- If the pedal can be depressed, replace the hydraulic brake booster.

- (h) Prepare the vehicle.

- (1) Jack up and support the vehicle.
- (2) Release the parking brake pedal (lever).
- (3) Shift the shift lever to the "N" position and check the rear wheels by rotating them by hand.

- (i) Inspect front VSC solenoid (SREA) operation (step E).

HINT:

- ON: Activate SREA and SMCF, depress the brake pedal, and then check that the front wheels do not rotate.

- OFF: Deactivate SREA and SMCF. Reactivate SMCF, depress the brake pedal, and then check that the front wheels rotate.
- (1) Select "SRCR (SA2)" and "SRCF (SMCF)" on the intelligent tester.
- (2) Turn the "SRCR (SA2)" and "SRCF (SMCF)" on simultaneously by the intelligent tester, then depress the brake pedal with stable force.
- (3) When the solenoids are on, check that the front wheels do not rotate by hand.  
If the front wheels rotate, replace the brake master cylinder.

**HINT:**

- To protect the solenoids, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.
- When rotating the wheels fast, the fail-safe function is activated and judgement cannot be made properly. So rotate the wheels as slowly as possible.

**NOTICE:**

**When operating it continuously, set the interval of more than 20 seconds.**

- (4) When the solenoids are off, turn the "SRCF (SMCF)" on again, then depress the brake pedal and check the front wheels by rotating them by hand.  
If front wheels stop, replace the hydraulic brake booster.
- (5) When the "SRCF (SMCF)" is off, depress the brake pedal again and check that the brake pedal can be depressed.  
If the pedal can be depressed, replace the hydraulic brake booster.
- (j) Inspect front ABS solenoid (SFRH) operation (step F).  
**HINT:**
  - ON: Activate SFRH, depress the brake pedal, and then check that the right front wheel rotates.
  - OFF: Deactivate SFRH, depress the brake pedal, and then check that the front right wheel does not rotate.
- (1) Select "SFRH" on the intelligent tester.
- (2) Turn the "SFRH" on by the intelligent tester, then depress the brake pedal with stable force.
- (3) When the solenoid is on, check the right front wheel by rotating it by hand.  
If the right front wheel stops, replace the hydraulic brake booster.
- HINT:**
  - To protect the solenoid, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.

- When rotating the wheel fast, the fail-safe function is activated and judgement cannot be made properly. So rotate the wheel as slowly as possible.

**NOTICE:**

**When operating it continuously, set the interval of more than 20 seconds.**

- (4) When the solenoid is off, depress the brake pedal again and check that the right front wheel does not rotate by hand.  
If the right front wheel rotates, replace the hydraulic brake booster.

- (k) Inspect front ABS solenoid (SFLH) operation (step G).

**HINT:**

- ON: Activate SFLH, depress the brake pedal, and then check that the left front wheel rotates.
- OFF: Deactivate SFLH, depress the brake pedal, and then check that the front left wheel does not rotate.

- (1) Select "SFLH" on the intelligent tester.
- (2) Turn the "SFLH" on by the intelligent tester, then depress the brake pedal with stable force.
- (3) When the solenoid is on, check the left front wheel by rotating it by hand.

If the left front wheel stops, replace the hydraulic brake booster.

**HINT:**

- To protect the solenoid, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.
- When rotating the wheel fast, the fail-safe function is activated and judgement cannot be made properly. So rotate the wheel as slowly as possible.

**NOTICE:**

**When operating it continuously, set the interval of more than 20 seconds.**

- (4) When the solenoid is off, depress the brake pedal again and check that the left front wheel does not rotate by hand.  
If the left front wheel rotates, replace the hydraulic brake booster.

- (l) Inspect front ABS solenoid (SFRR) operation (step H).

**HINT:**

- ON: Depress the brake pedal, activate SFRR and SFRH, and then check that the right front wheel rotates.
- OFF: Deactivate SFRR and SFRH, depress the brake pedal, and then check that the right front wheel does not rotate.

- (1) Select "SFRR & SFRH" on the intelligent tester.

- (2) Depress the brake pedal with stable force, then turn the "SFRR & SFRH" on simultaneously by the intelligent tester.
- (3) When the solenoids are on, check the right front wheel by rotating it by hand.  
If the right front wheel stops, replace the hydraulic brake booster.

**HINT:**

- To protect the solenoids, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.
- When rotating the wheel fast, the fail-safe function is activated and judgement cannot be made properly. So rotate the wheel as slowly as possible.

**NOTICE:**

**When operating it continuously, set the interval of more than 20 seconds.**

- (4) When the solenoids are off, depress the brake pedal again and check that the right front wheel does not rotate by hand.  
If the right front wheel rotates, replace the hydraulic brake booster.
- (m) Inspect front ABS solenoid (SFLR) operation (step I).

**HINT:**

- ON: Depress the brake pedal, activate SFLR and SFLH, and then check that the left front wheel rotates.
- OFF: Deactivate SFLR and SFLH, depress the brake pedal, and then check that the left front wheel does not rotate.

- (1) Select "SFLR & SFLH" on the intelligent tester.
- (2) Depress the brake pedal with stable force, then turn the "SFLR & SFLH" on simultaneously by the intelligent tester.
- (3) When the solenoids are on, check the left front wheel by rotating it by hand.  
If the left front wheel stops, replace the hydraulic brake booster.

**HINT:**

- To protect the solenoids, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.
- When rotating the wheel fast, the fail-safe function is activated and judgement cannot be made properly. So rotate the wheel as slowly as possible.

**NOTICE:**

**When operating it continuously, set the interval of more than 20 seconds.**

- (4) When the solenoids are off, depress the brake pedal again and check that the left front wheel does not rotate by hand.  
If the left front wheel rotates, replace the hydraulic brake booster.
- (n) Inspect rear VSC solenoid (SREC) operation (step J).  
HINT:
- ON: Depress the brake pedal, activate SREC. Release the brake pedal and check that the rear wheels do not rotate.
  - OFF: Deactivate SREC and check that the rear wheels rotate.
- (1) Select "SRMF (SMCF, SA3)" on the intelligent tester.
- (2) Depress the brake pedal with stable force, then turn the "SRMF (SMCF, SA3)" on by the intelligent tester.
- (3) Release the brake pedal when the solenoid is on, and check that the rear wheels do not rotate by hand.  
If the rear wheels rotate, replace the hydraulic brake booster.
- HINT:
- To protect the solenoids, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.
  - When rotating the wheels fast, the fail-safe function is activated and judgement cannot be made properly. So rotate the wheels as slowly as possible.
- NOTICE:**  
**When operating it continuously, set the interval of more than 20 seconds.**
- (4) When the solenoid is off, check the rear wheels by rotating them by hand.  
If the rear wheels stop, replace the hydraulic brake booster.
- (o) Inspect rear VSC solenoid (STR) operation (step K).  
HINT:
- ON: Activate STR and SREC, then check that the rear wheels do not rotate.
  - OFF: Deactivate STR and SREC. Reactivate SREC and check that the rear wheels rotate.
- (1) Select "SRMR (SMCR, STR)" on the intelligent tester.
- (2) Turn the "SRMR (SMCR, STR)" on simultaneously by the intelligent tester.
- (3) When the solenoids are on, check that the rear wheels do not rotate by hand.  
If the rear wheels rotate, replace the hydraulic brake booster.

## HINT:

- To protect the solenoids, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.
- When rotating the wheels fast, the fail-safe function is activated and judgement cannot be made properly. So rotate the wheels as slowly as possible.

**NOTICE:**

**When operating it continuously, set the interval of more than 20 seconds.**

- (4) When the solenoids are off, check the rear wheels by rotating them by hand.  
If the rear wheels stop, replace the hydraulic brake booster.
- (5) When the "SRMF (SREC)" is off, depress the brake pedal again and check that the rear wheels do not rotate by hand.  
If the rear wheels rotate, replace the hydraulic brake booster.
- (p) Inspect rear ABS solenoid (SRRH) operation (step L).

## HINT:

- ON: Activate SRRH, depress the brake pedal, and then check that the right rear wheel rotates.
- OFF: Deactivate SRRH, depress the brake pedal, and then check that the right rear wheel does not rotate.

- (1) Select "SRRH" on the intelligent tester.
- (2) Turn the "SRRH" on by the intelligent tester, then depress the brake pedal with stable force.
- (3) When the solenoid is on, check the right rear wheel by rotating it by hand.  
If the right rear wheel stops, replace the hydraulic brake booster.

## HINT:

- To protect the solenoids, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.
- When rotating the wheel fast, the fail-safe function is activated and judgement cannot be made properly. So rotate the wheel as slowly as possible.

**NOTICE:**

**When operating it continuously, set the interval of more than 20 seconds.**

- (4) When the solenoid is off, depress the brake pedal again and check that the right rear wheel does not rotate by hand.  
If the right rear wheel rotates, replace the hydraulic brake booster.

- (q) Inspect front ABS solenoid (SRLH) operation (step M).
- HINT:
- ON: Activate SRLH, depress the brake pedal, and then check that the left rear wheel rotates.
  - OFF: Deactivate SRLH, depress the brake pedal, and then check that the left rear wheel does not rotate.
- (1) Select "SRLH" on the intelligent tester.
  - (2) Turn the "SRLH" on by the intelligent tester, then depress the brake pedal with stable force.
  - (3) When the solenoid is on, check the left rear wheel by rotating it by hand.  
If the left rear wheel stops, replace the hydraulic brake booster.
- HINT:
- To protect the solenoid, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.
  - When rotating the wheel fast, the fail-safe function is activated and judgement cannot be made properly. So rotate the wheel as slowly as possible.
- NOTICE:**  
**When operating it continuously, set the interval of more than 20 seconds.**
- (4) When the solenoid is off, depress the brake pedal again and check that the left rear wheel does not rotate by hand.  
If the left rear wheel rotates, replace the hydraulic brake booster.
- (r) Inspect rear ABS solenoid (SRRR) operation (step N).
- HINT:
- ON: Depress the brake pedal, activate SRRR and SRRH, and then check that the right rear wheel rotates.
  - OFF: Deactivate SRRR and SRRH, depress the brake pedal, and then check that the right rear wheel does not rotate.
- (1) Select "SRH & SRR" on the intelligent tester.
  - (2) Depress the brake pedal with stable force, then turn the "SRH & SRR" on simultaneously by the intelligent tester.
  - (3) When the solenoids are on, check the right rear wheel by rotating it by hand.  
If the right rear wheel stops, replace the hydraulic brake booster.
- HINT:
- To protect the solenoids, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.

- When rotating the wheel fast, the fail-safe function is activated and judgement cannot be made properly. So rotate the wheel as slowly as possible.

**NOTICE:**

**When operating it continuously, set the interval of more than 20 seconds.**

- (4) When the solenoids are off, depress the brake pedal again and check that the right rear wheel does not rotate by hand.  
If the right rear wheel rotates, replace the hydraulic brake booster.

- (s) Inspect rear ABS solenoid (SRLR) operation (step O).

**HINT:**

- ON: Depress the brake pedal, activate SRLR and SRLH, and then check that the left rear wheel rotates.
- OFF: Deactivate SRLR and SRLH, depress the brake pedal, and then check that the left rear wheel does not rotate.

- (1) Select "SRLR & SRLH" on the intelligent tester.

- (2) Depress the brake pedal with stable force, then turn the "SRLR & SRLH" on simultaneously by the intelligent tester.

- (3) When the solenoids are on, check the left rear wheel by rotating it by hand.

If the left rear wheel stops, replace the hydraulic brake booster.

**HINT:**

- To protect the solenoids, intelligent tester turns off automatically 2 seconds after every solenoid has been turned on.
- When rotating the wheel fast, the fail-safe function is activated and judgement cannot be made properly. So rotate the wheel as slowly as possible.

**NOTICE:**

**When operating it continuously, set the interval of more than 20 seconds.**

- (4) When the solenoids are off, depress the brake pedal again and check that the left rear wheel does not rotate by hand.

If the left rear wheel rotates, replace the hydraulic brake booster.

- (t) Lower the vehicle.

- (u) Disconnect the intelligent tester.

## REMOVAL

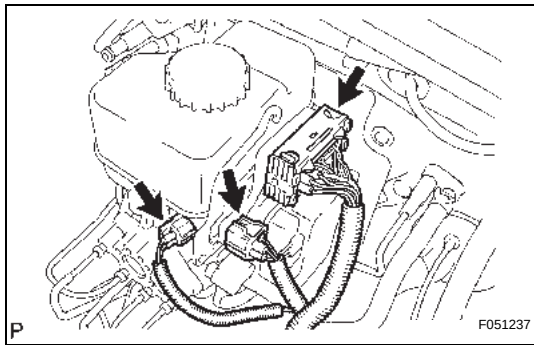
### NOTICE:

- Before starting the work, make sure that the ignition switch is OFF and depress the brake pedal more than 20 times.
- As high pressure is applied to the brake actuator tube No. 1, never deform it.
- Do not turn the ignition switch to ON until the work is completed.

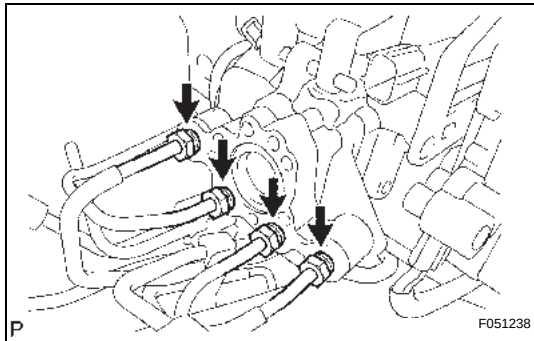
### HINT:

When pressure in the accumulator is released, reaction force becomes lighter and stroke becomes longer.

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
2. **DRAIN BRAKE FLUID**  
**NOTICE:**  
Immediately wash off any brake fluid off immediately that comes into contact with a painted surface.
3. **REMOVE FRONT FLOOR FOOTREST (See page [IR-1](#))**
4. **REMOVE FRONT DOOR SCUFF PLATE (for Regular Cab) (See page [IR-40](#))**
5. **REMOVE FRONT DOOR SCUFF PLATE (for Access Cab) (See page [IR-61](#))**
6. **REMOVE FRONT DOOR SCUFF PLATE (for Double Cab) (See page [IR-12](#))**
7. **REMOVE COWL SIDE TRIM BOARD (for Regular Cab) (See page [IR-40](#))**
8. **REMOVE COWL SIDE TRIM BOARD (for Access Cab) (See page [IR-61](#))**
9. **REMOVE COWL SIDE TRIM BOARD (for Double Cab) (See page [IR-12](#))**
10. **REMOVE INSTRUMENT PANEL UNDER TRAY (for Automatic Transmission) (See page [IP-9](#))**
11. **REMOVE INSTRUMENT PANEL HOLE COVER (for Manual Transmission) (See page [IP-9](#))**
12. **REMOVE INSTRUMENT PANEL FINISH PANEL LOWER NO. 1 (See page [IP-12](#))**
13. **SEPARATE DRIVER SIDE JUNCTION BLOCK**
14. **SEPARATE MASTER CYLINDER PUSH ROD CLEVIS (See page [BR-15](#))**

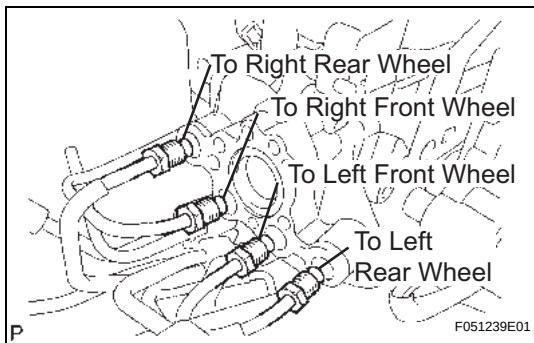
**15. REMOVE HYDRAULIC BRAKE BOOSTER**

- (a) Disconnect the 3 connectors from the hydraulic brake booster.

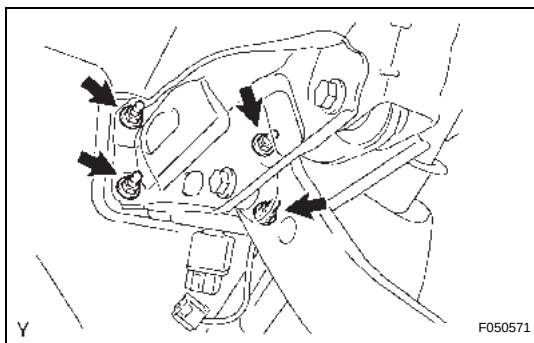


- (b) Using SST, disconnect the 4 brake lines from the hydraulic brake booster.

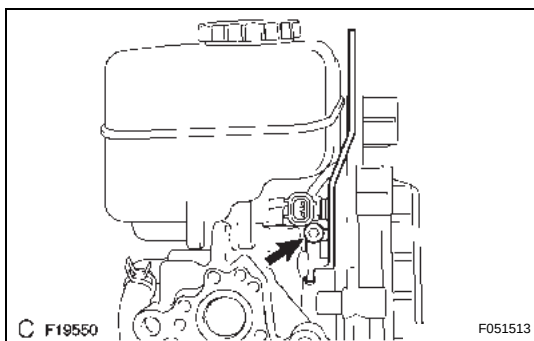
**SST 09023-00101**



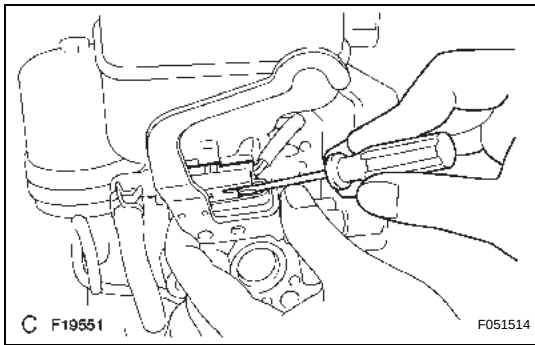
- (c) Use tags or labels to identify the place to reconnect each line.



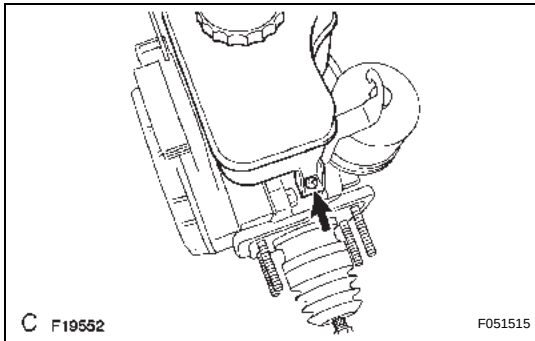
- (d) Remove the 4 nuts and pull out the hydraulic brake booster.  
(e) Remove the brake booster gasket.

**DISASSEMBLY****1. REMOVE BRAKE ACTUATOR BRACKET NO. 1**

- (a) Using a hexagon wrench (5 mm), remove the screw and brake actuator bracket No. 1.

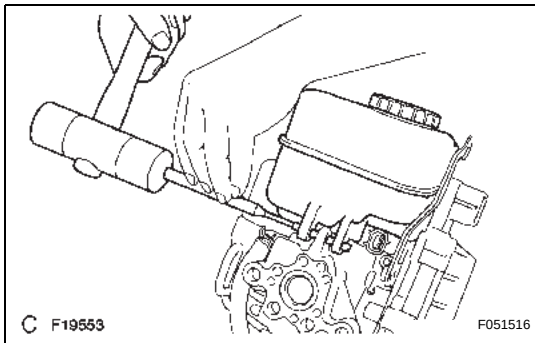


- (b) Using a screwdriver, remove the fluid level warning switch connector.

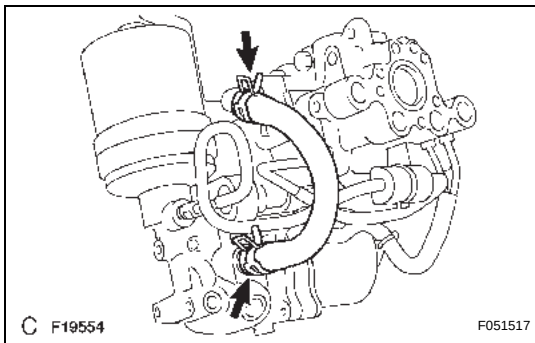


## 2. REMOVE BRAKE MASTER CYLINDER RESERVOIR SUB-ASSEMBLY

- (a) Remove the screw from the master cylinder reservoir.

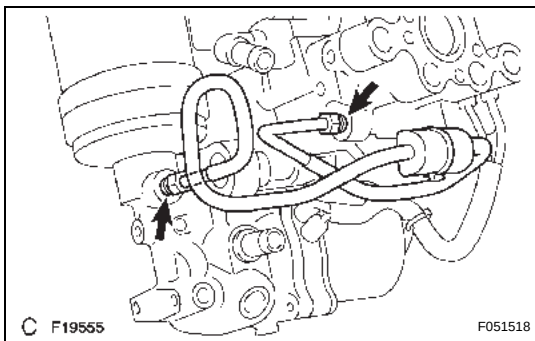


- (b) Using a pin punch and hammer, remove the pin from the master cylinder reservoir.  
(c) Pull out the master cylinder reservoir.  
(d) Remove the 3 grommets.  
(e) Remove the cap.



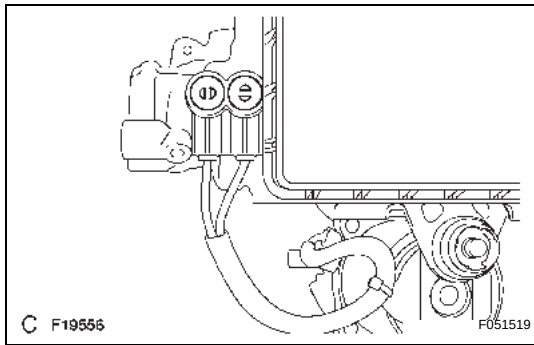
## 3. REMOVE BRAKE ACTUATOR HOSE

- (a) Using needle-nose pliers, slide the 2 clips.  
(b) Remove the brake actuator hose.



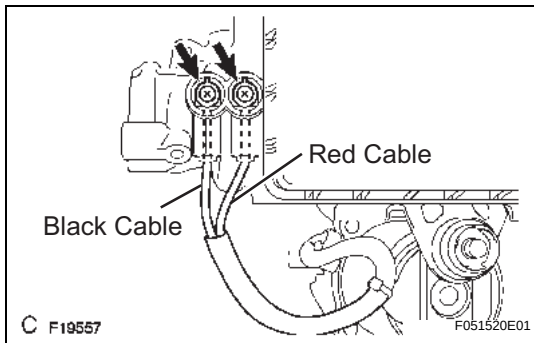
## 4. REMOVE BRAKE ACTUATOR TUBE NO. 1

- (a) Using SST, remove the brake actuator tube No. 1.  
**SST 09023-00101**

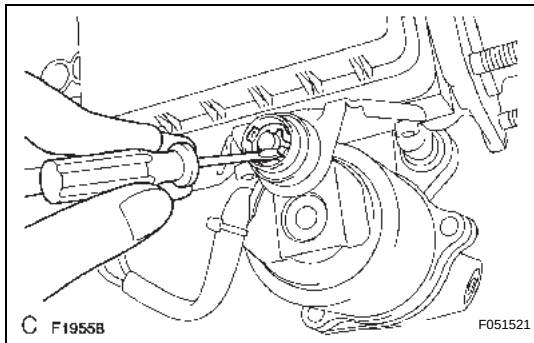


## 5. REMOVE BRAKE BOOSTER WITH ACCUMULATOR PUMP ASSEMBLY

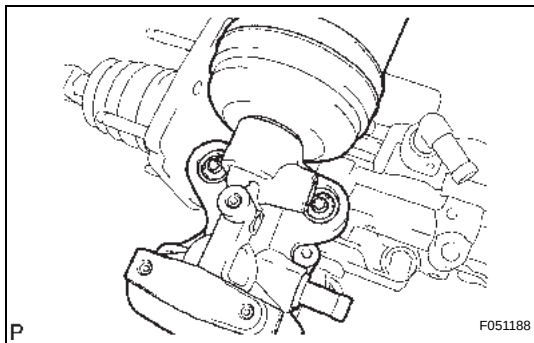
(a) Using a screwdriver, remove the 2 plugs.



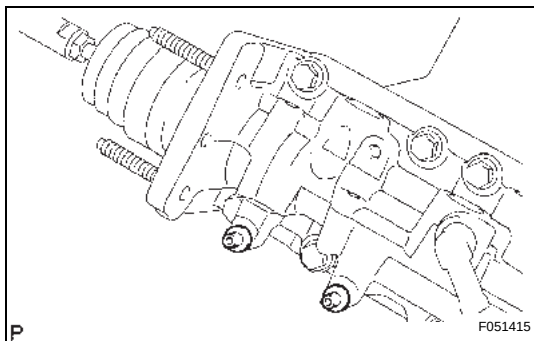
(b) Remove the 2 screws and pull the wire harness.



(c) Using a screwdriver, remove the clip.

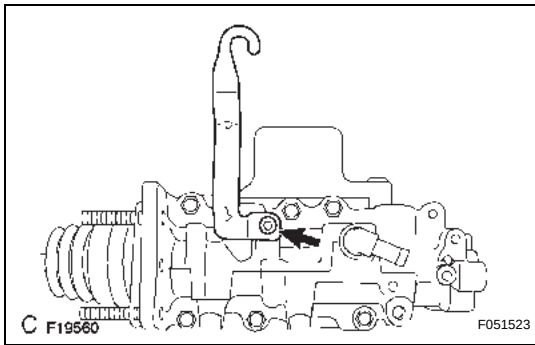


(d) Remove the brake booster w/ accumulator pump assembly.



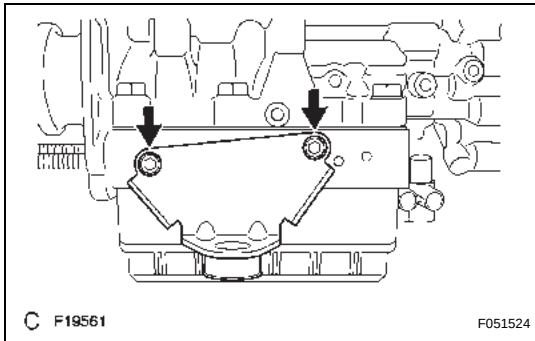
(e) Using a hexagon wrench (4 mm), remove the 2 pins.

(f) Remove the 2 bushes and 2 collars from the brake booster with accumulator pump assembly.



#### 6. REMOVE BRAKE ACTUATOR BRACKET

- Using a hexagon wrench (5 mm), remove the screw and brake actuator bracket.



#### 7. REMOVE BRAKE BOOSTER PUMP BRACKET

- Using a hexagon wrench (5 mm), remove the 2 screws and brake booster pump bracket.
- Remove the bush from the brake booster pump bracket.

#### 8. REMOVE MASTER CYLINDER PUSH ROD CLEVIS

- Loosen the lock nut on the brake master cylinder side, and then remove the rod operating adapter and lock nut.
- Loosen the lock nut on the rod operating adapter, and then remove the push rod clevis and lock nut.

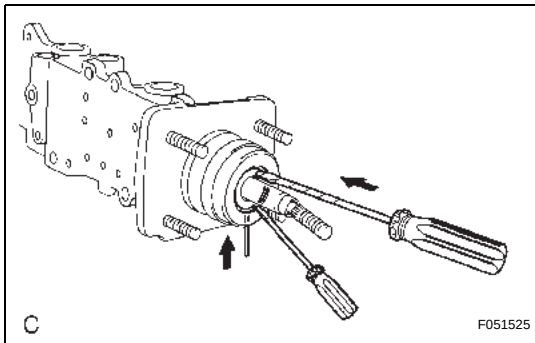
#### 9. REMOVE MASTER CYLINDER BOOT

#### 10. REMOVE PISTON

- Which pressing in the piston with a screwdriver, use a pin or equivalent to push the C-ring from the hole in the master cylinder body. Then remove the snap ring with another screwdriver.
- Remove the piston by pulling it straight out, not at an angle.

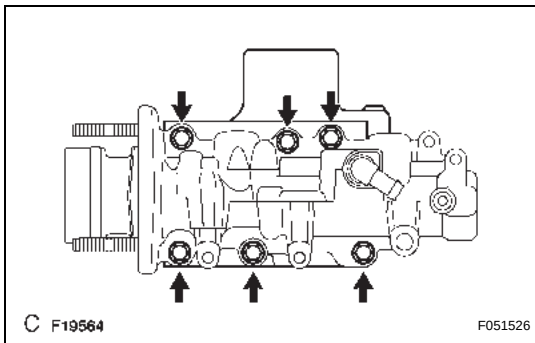
**NOTICE:**

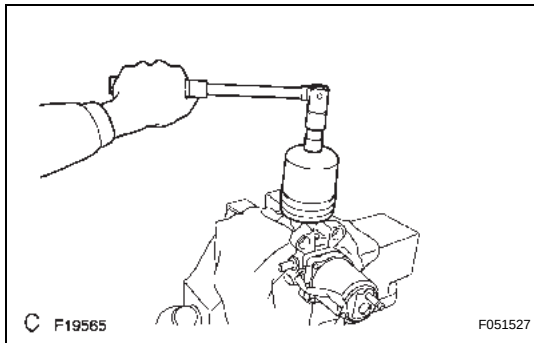
- If the piston is pulled out at an angle, there is a possibility that the cylinder bore could be damaged.
- Be careful not to damage the rubber lips on the piston when reassembling.



#### 11. REMOVE MASTER CYLINDER SOLENOID

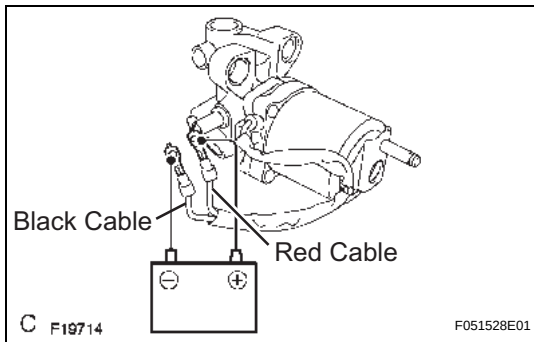
- Remove the 6 bolts.
- Remove the master cylinder solenoid and the gasket.





## 12. REMOVE BRAKE BOOSTER ACCUMULATOR ASSEMBLY

- Place the brake booster with accumulator pump assembly in a vise with a cloth.
- Using a socket wrench (17 mm), remove the brake booster accumulator.
- Remove the brake booster accumulator pipe, compression spring and O-ring.



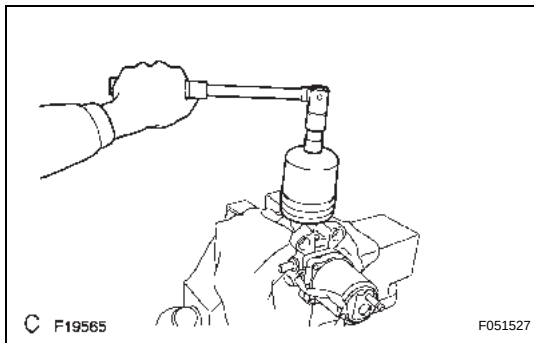
## INSPECTION

### 1. INSPECT BRAKE BOOSTER PUMP ASSEMBLY

- Connect the positive (+) lead from the battery to the red cable of the pump, and the negative (-) lead to the black cable.
- Check the brake booster pump operation.

**OK:**

Operation sound is heard.



## REASSEMBLY

### 1. INSTALL BRAKE BOOSTER ACCUMULATOR ASSEMBLY

- Place the brake booster pump in a vise with a cloth.
- Install the brake booster accumulator pipe, compression spring and a new O-ring.

**NOTICE:**

**Ensure that no foreign matter enters the pump.**

- Using a socket wrench (17 mm), install the brake booster accumulator onto the brake booster pump.  
**Torque: 57.4 N\*m (585 kgf\*cm, 42 ft.\*lbf)**

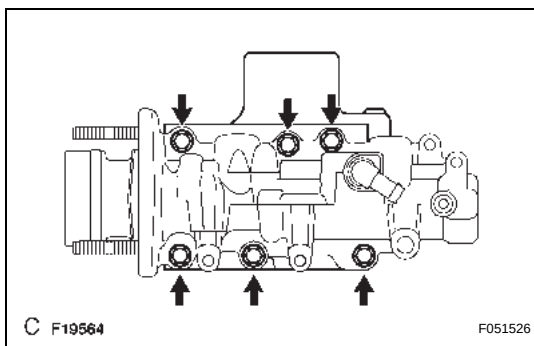
### 2. INSTALL MASTER CYLINDER SOLENOID

- Place a new gasket on the master cylinder solenoid and install them onto the master cylinder body with 6 new bolts.

**Torque: 31.9 N\*m (325 kgf\*cm, 24 ft.\*lbf)**

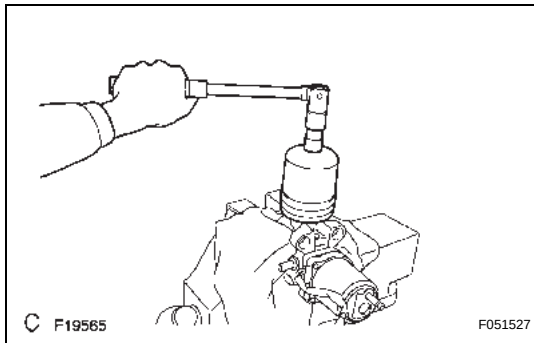
**NOTICE:**

**Do not let water, dust, and/or other objects attach to the surface and/or attaching surface of the master cylinder solenoid, master cylinder and body gasket.**



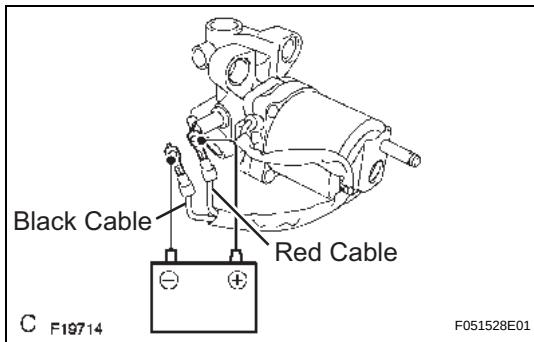
### 3. INSTALL PISTON

- Apply lithium soap base glycol grease to the new piston.
- Install the piston onto the master cylinder body.



## 12. REMOVE BRAKE BOOSTER ACCUMULATOR ASSEMBLY

- Place the brake booster with accumulator pump assembly in a vise with a cloth.
- Using a socket wrench (17 mm), remove the brake booster accumulator.
- Remove the brake booster accumulator pipe, compression spring and O-ring.



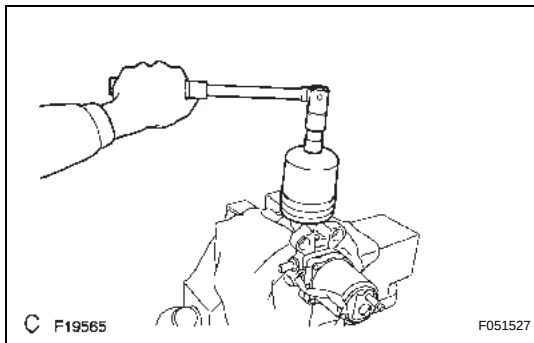
## INSPECTION

### 1. INSPECT BRAKE BOOSTER PUMP ASSEMBLY

- Connect the positive (+) lead from the battery to the red cable of the pump, and the negative (-) lead to the black cable.
- Check the brake booster pump operation.

**OK:**

Operation sound is heard.



## REASSEMBLY

### 1. INSTALL BRAKE BOOSTER ACCUMULATOR ASSEMBLY

- Place the brake booster pump in a vise with a cloth.
- Install the brake booster accumulator pipe, compression spring and a new O-ring.

**NOTICE:**

**Ensure that no foreign matter enters the pump.**

- Using a socket wrench (17 mm), install the brake booster accumulator onto the brake booster pump.  
**Torque: 57.4 N\*m (585 kgf\*cm, 42 ft.\*lbf)**

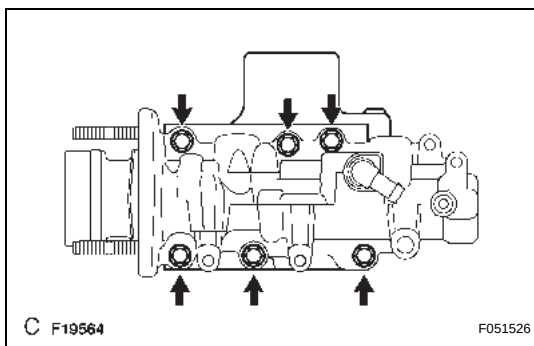
### 2. INSTALL MASTER CYLINDER SOLENOID

- Place a new gasket on the master cylinder solenoid and install them onto the master cylinder body with 6 new bolts.

**Torque: 31.9 N\*m (325 kgf\*cm, 24 ft.\*lbf)**

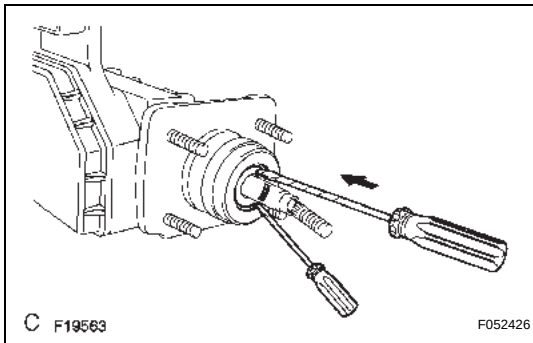
**NOTICE:**

**Do not let water, dust, and/or other objects attach to the surface and/or attaching surface of the master cylinder solenoid, master cylinder and body gasket.**



### 3. INSTALL PISTON

- Apply lithium soap base glycol grease to the new piston.
- Install the piston onto the master cylinder body.



- (c) Using 2 screwdrivers, install a new C-ring while pressing the piston.

**NOTICE:**

- If the piston is pulled out at an angle, there is a possibility that the cylinder bore could be damaged.
- Be careful not to damage the rubber lips on the piston when reassembling.

**4. INSTALL MASTER CYLINDER BOOT**

**5. INSTALL MASTER CYLINDER PUSH ROD CLEVIS**

- (a) Install the lock nut and master cylinder push rod clevis onto the rod operating adapter.
- (b) Install the hydraulic brake booster side lock nut and rod operating adapter onto the hydraulic brake booster.

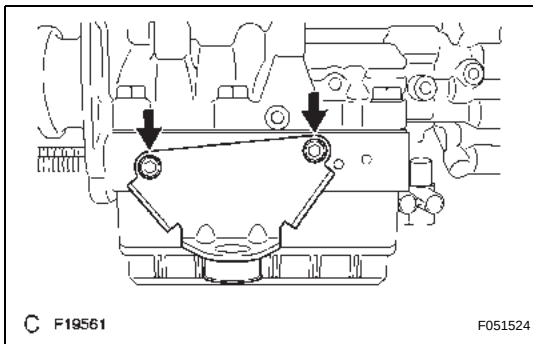
**Torque: 25.5 N\*m (260 kgf\*cm, 19 ft.\*lbf)**

**6. INSTALL BRAKE BOOSTER PUMP BRACKET**

- (a) Using a hexagon wrench (5 mm), install the brake booster pump bracket with the 2 screws.

**Torque: 7.8 N\*m (80 kgf\*cm, 69 in.\*lbf)**

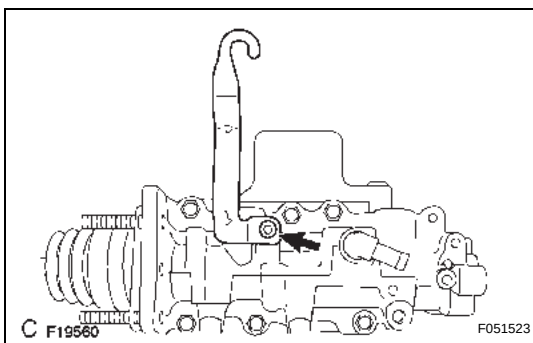
- (b) Install the bush onto the brake booster pump bracket.



**7. INSTALL BRAKE ACTUATOR BRACKET**

- (a) Using a hexagon wrench (5 mm), install the brake actuator bracket with the screw.

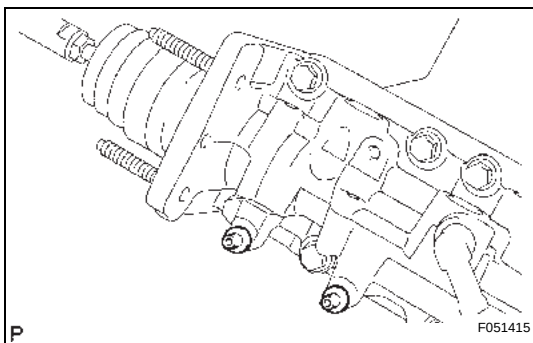
**Torque: 7.8 N\*m (80 kgf\*cm, 69 in.\*lbf)**

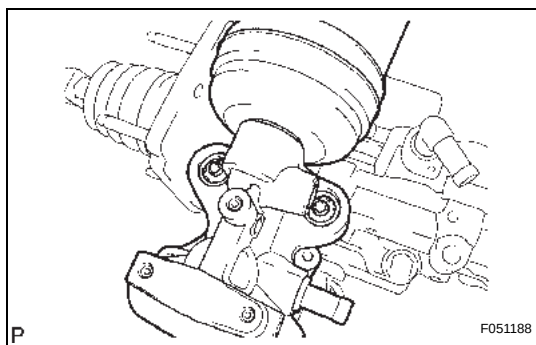


**8. INSTALL BRAKE BOOSTER WITH ACCUMULATOR PUMP ASSEMBLY**

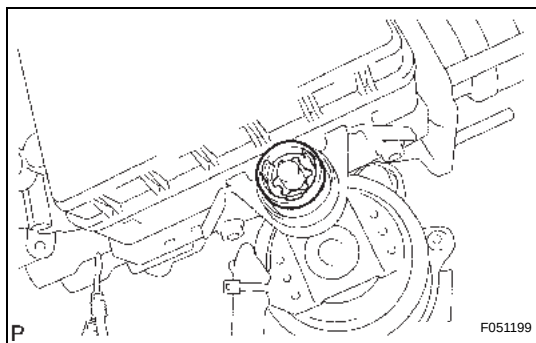
- (a) Install the 2 collars and 2 bushes onto the brake booster w/ accumulator pump assembly.
- (b) Using a hexagon wrench (4 mm), install the 2 pins.

**Torque: 7.8 N\*m (80 kgf\*cm, 69 in.\*lbf)**

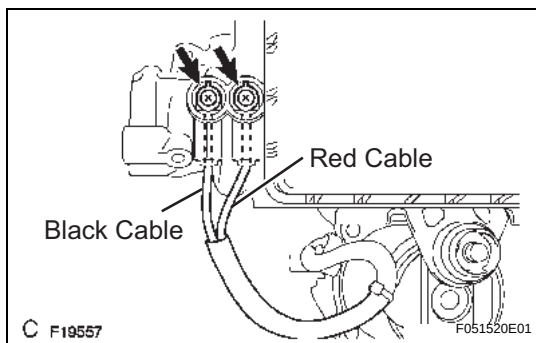




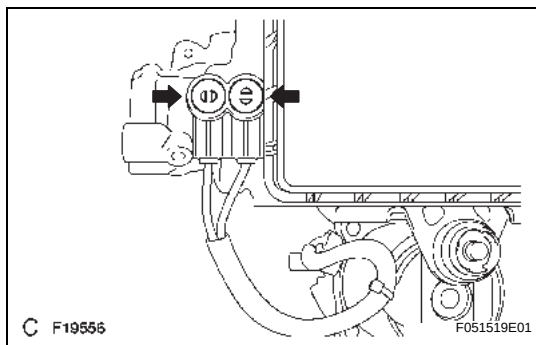
- (c) Install the brake booster w/ accumulator pump assembly.



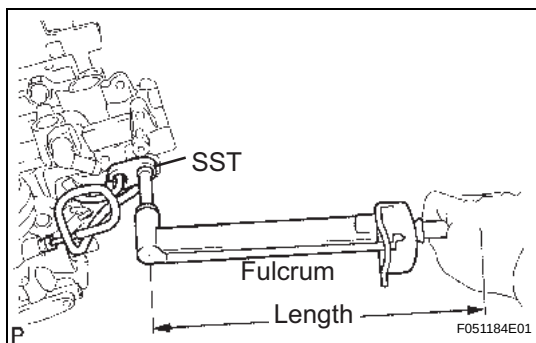
- (d) Install a new clip.



- (e) Install the wire harness with the 2 screws.  
**Torque: 2.9 N\*m (30 kgf\*cm, 26 in.\*lbf)**



- (f) Install the 2 new plugs.



## 9. INSTALL BRAKE ACTUATOR TUBE NO. 1

- (a) Using SST, install the brake actuator tube No. 1.  
**SST 09023-00101**

**Torque: for use without SST**

**15.2 N\*m (155 kgf\*cm, 11 ft.\*lbf)**

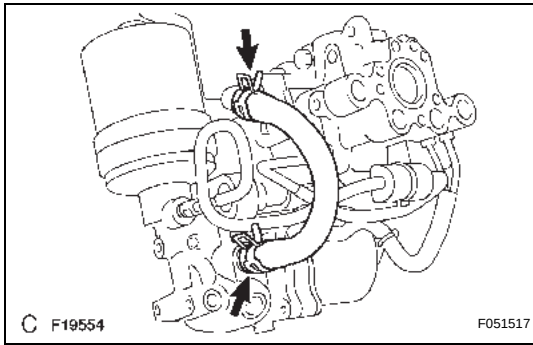
**for use with SST**

**14 N\*m (143 kgf\*cm, 10 ft.\*lbf)**

**HINT:**

- Use a torque wrench with a fulcrum length of 250 mm (9.84 in.).

- This torque value is effective when SST is parallel to a torque wrench.



#### 10. INSTALL BRAKE ACTUATOR HOSE

- Using needle-nose pliers, install the brake actuator hose and 2 clips.

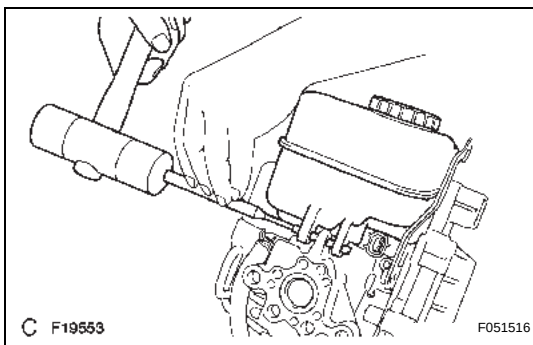
#### 11. INSTALL BRAKE MASTER CYLINDER RESERVOIR SUB-ASSEMBLY

- Install the cap.
- Apply lithium soap base glycol grease to the 3 new grommets.
- Install the 3 grommets to the master cylinder body.

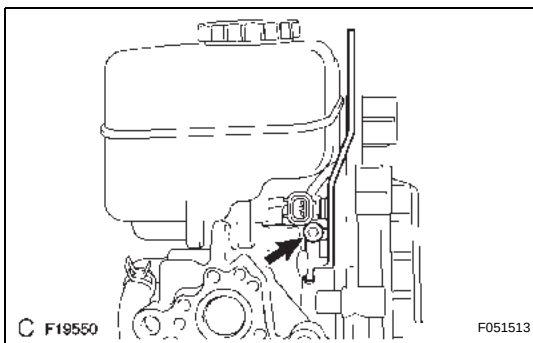
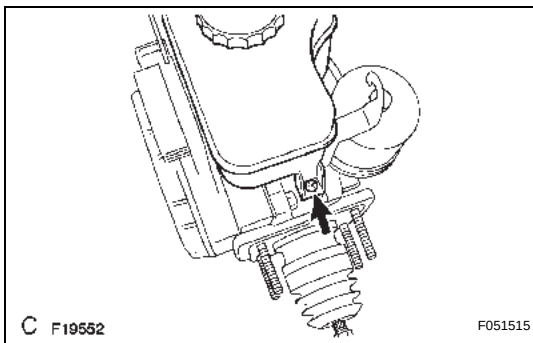
**NOTICE:**

**Be careful of the size of each grommets.**

- Install the master cylinder reservoir.
- Using a pin punch and hammer, install a new pin onto the master cylinder reservoir.



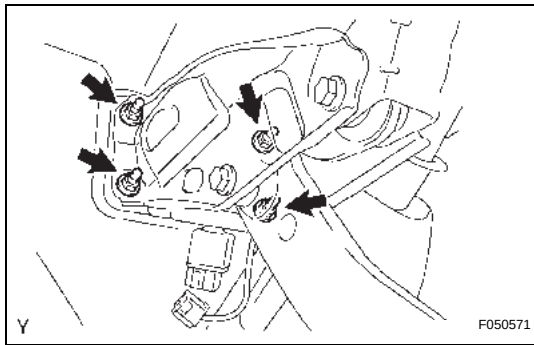
- Install the screw onto the master cylinder reservoir.  
**Torque: 1.7 N\*m (17 kgf\*cm, 15 in.\*lbf)**



#### 12. INSTALL BRAKE ACTUATOR BRACKET NO. 1

- Install the fluid level warning switch connector.
- Using a hexagon wrench (5 mm), install the brake actuator bracket No. 1 with the screw.

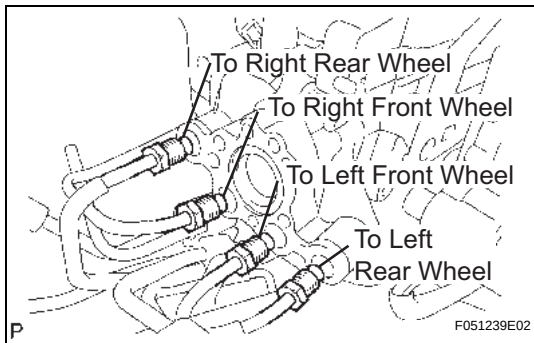
**Torque: 7.8 N\*m (80 kgf\*cm, 69 in.\*lbf)**



## INSTALLATION

### 1. INSTALL HYDRAULIC BRAKE BOOSTER

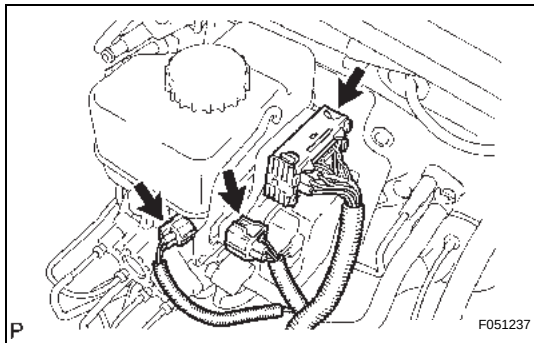
- Install a new brake booster gasket onto the hydraulic brake booster.
- Install the hydraulic brake booster with the 4 nuts.  
**Torque: 14.2 N\*m (145 kgf\*cm, 10 ft.\*lbf)**



- Using SST, connect the 4 brake lines to the correct positions of the hydraulic brake booster, as shown in the illustration.

**SST 09023-00101**

**Torque: 15.2 N\*m (155 kgf\*cm, 11 ft.\*lbf)**



- Connect the 3 connectors.

### 2. INSTALL MASTER CYLINDER PUSH ROD CLEVIS (See page [BR-18](#))

### 3. INSTALL DRIVER SIDE JUNCTION BLOCK Torque: 8.0 N\*m (82 kgf\*cm, 71 in.\*lbf)

### 4. INSTALL INSTRUMENT PANEL FINISH PANEL LOWER NO. 1 (See page [IP-22](#))

### 5. INSTALL INSTRUMENT PANEL UNDER TRAY (for Automatic Transmission) (See page [IP-25](#))

### 6. INSTALL INSTRUMENT PANEL HOLE COVER (for Manual Transmission) (See page [IP-25](#))

### 7. INSTALL COWL SIDE TRIM BOARD (for Regular Cab) (See page [IR-52](#))

### 8. INSTALL COWL SIDE TRIM BOARD (for Access Cab) (See page [IR-75](#))

### 9. INSTALL COWL SIDE TRIM BOARD (for Double Cab) (See page [IR-29](#))

### 10. INSTALL FRONT DOOR SCUFF PLATE (for Regular Cab) (See page [IR-52](#))

### 11. INSTALL FRONT DOOR SCUFF PLATE (for Access Cab) (See page [IR-75](#))

### 12. INSTALL FRONT DOOR SCUFF PLATE (for Double Cab) (See page [IR-29](#))

### 13. INSTALL FRONT FLOOR FOOTREST (See page [IR-1](#))

### 14. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

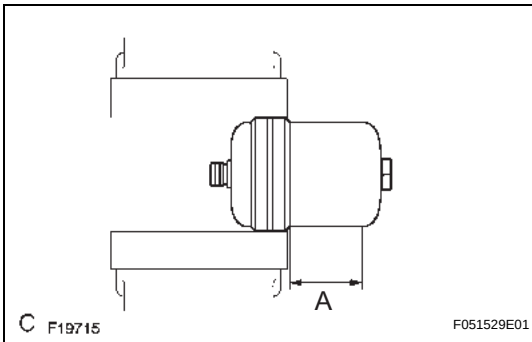
**Torque: 3.9 N\*m (40 kgf\*cm, 35 in.\*lbf)**

(See page [IN-5](#))

15. INSPECT BRAKE PEDAL HEIGHT (See page [BR-11](#))
16. INSPECT PEDAL FREE PLAY (See page [BR-14](#))
17. INSPECT PEDAL RESERVE DISTANCE (See page [BR-14](#))
18. FILL RESERVOIR WITH BRAKE FLUID (See page [BR-4](#))
19. BLEED BRAKE BOOSTER WITH ACCUMULATOR PUMP ASSEMBLY (See page [BR-4](#))
20. BLEED BRAKE LINE (See page [BR-4](#))
21. BLEED MASTER CYLINDER SOLENOID (See page [BR-5](#))
22. CHECK FLUID LEVEL IN RESERVOIR (See page [BR-6](#))
23. CHECK FOR BRAKE FLUID LEAKAGE
24. INSPECT BRAKE MASTER CYLINDER OPERATION (See page [BR-33](#))

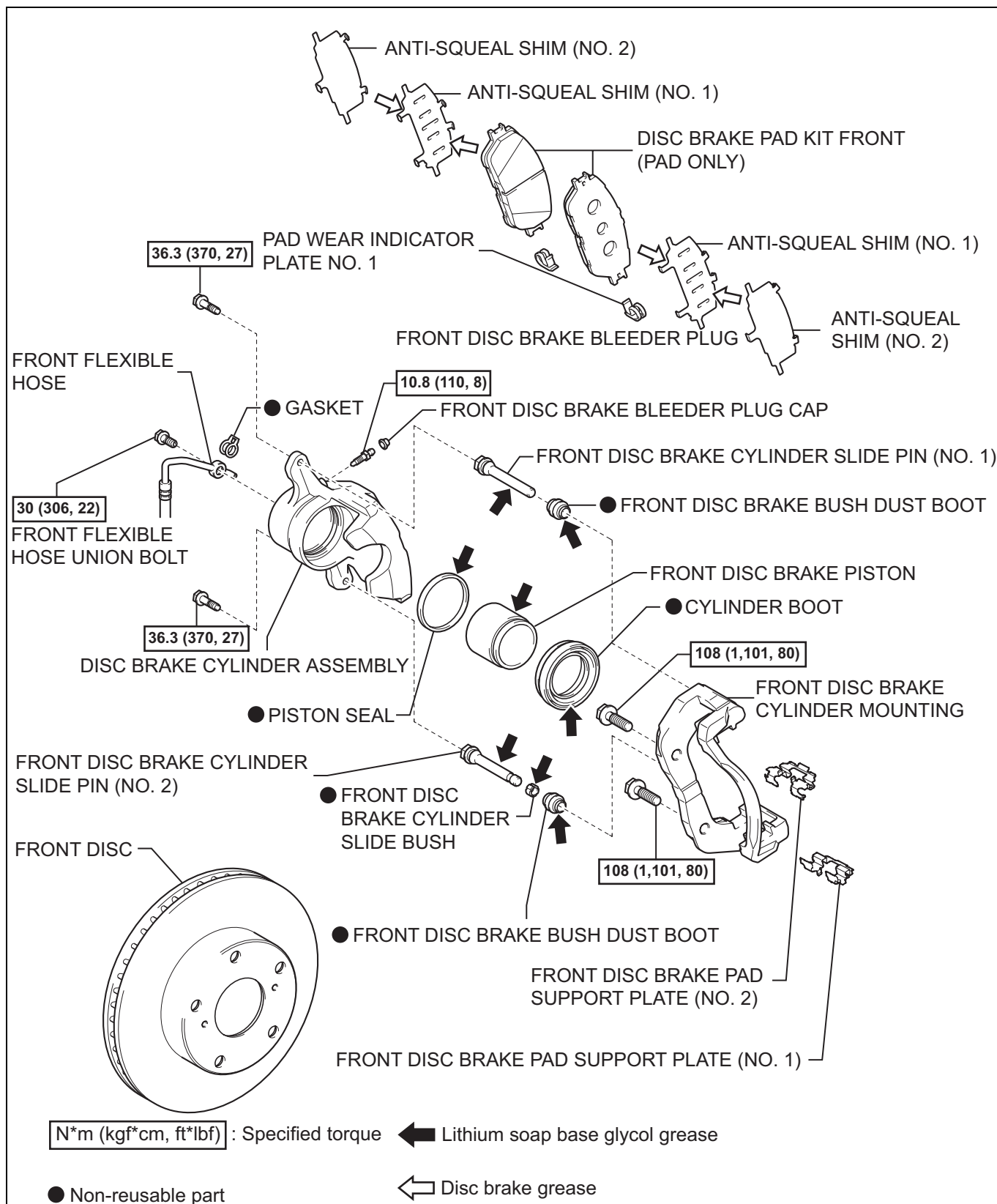
## DISPOSAL

1. DISPOSE OF BRAKE BOOSTER ACCUMULATOR ASSEMBLY
  - (a) Place the brake booster accumulator in a vise and cover it with a cloth.
  - (b) Slowly cut a hole on the brake booster accumulator side in the A portion shown in the illustration on the left. And discharge the gas and liquid inside.  
**NOTICE:**
    - As gas may spray out, cover the brake booster accumulator with a cloth when performing the operation.
    - Work slowly and do not cut the hole too quickly or suddenly.
    - Wear protective glasses during the operation.
  - (c) When the outer body of the brake booster accumulator is cut, gas and liquid discharge.  
**HINT:**
    - The gas is colorless, odorless and nonpoisonous nitrogen gas.
    - The liquid is brake fluid.



## FRONT BRAKE (for 2WD)

## COMPONENTS



## REMOVAL

### 1. REMOVE FRONT WHEEL

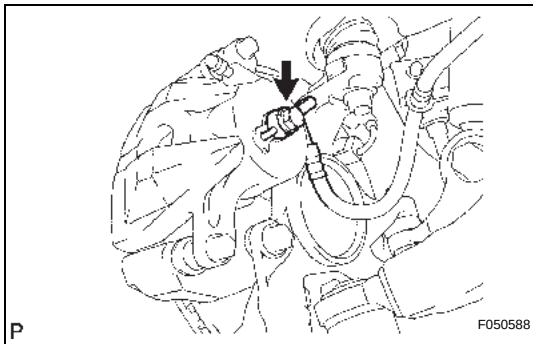
### 2. DRAIN BRAKE FLUID

#### NOTICE:

Immediately wash off any brake fluid that comes into contact with any painted surfaces.

### 3. REMOVE DISC BRAKE CYLINDER ASSEMBLY

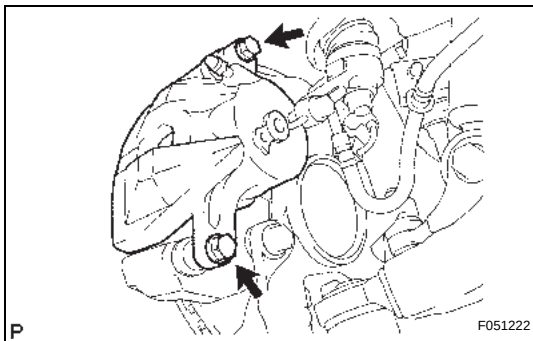
- Remove the union bolt and gasket from the disc brake cylinder, then disconnect the flexible hose.



- Hold the disc brake cylinder slide pin and remove the 2 bolts.

### 4. REMOVE DISC BRAKE PAD KIT FRONT (PAD ONLY)

- Remove the 2 disc brake pads with anti-squeal shim from the disc brake cylinder mounting.

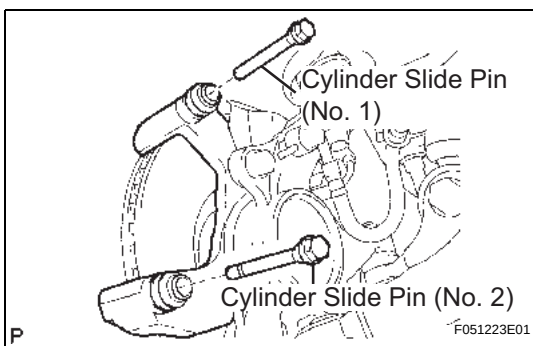


### 5. REMOVE ANTI SQUEAL SHIM KIT FRONT

- Remove the 4 anti-squeal shims from each pad.
- Remove the pad wear indicator plate from each pad.

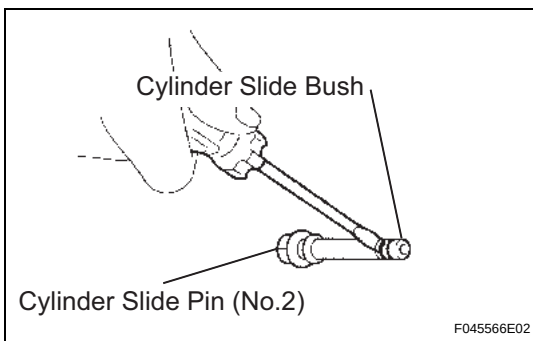
### 6. REMOVE FRONT DISC BRAKE PAD SUPPORT PLATE

- Remove the 2 disc brake pad support plates from the disc brake cylinder mounting.



### 7. REMOVE FRONT DISC BRAKE CYLINDER SLIDE PIN

- Remove the disc brake cylinder slide pin from the disc brake cylinder mounting.

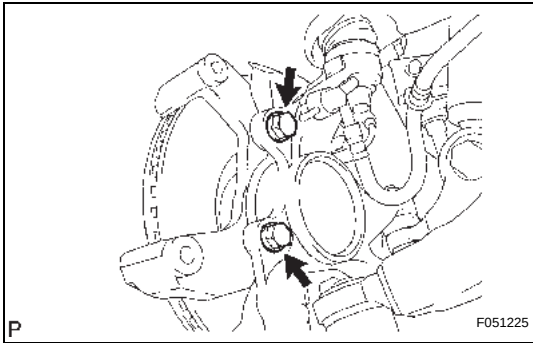


### 8. REMOVE FRONT DISC BRAKE CYLINDER SLIDE BUSH

- Using a screwdriver, remove the disc brake cylinder slide bush from the disc brake cylinder slide pin (No. 2).

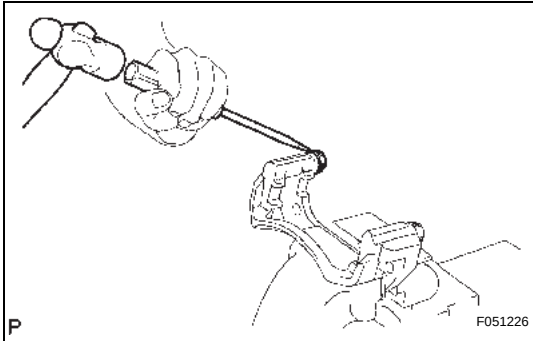
#### NOTICE:

Be careful not to damage the disc brake cylinder slide pin (No. 2).



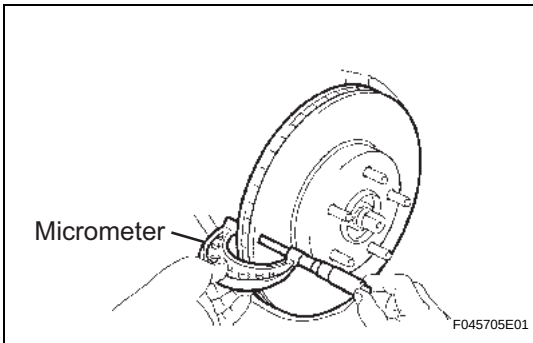
## 9. REMOVE FRONT DISC BRAKE CYLINDER MOUNTING

- (a) Remove the 2 bolts and disc brake cylinder mounting.



## 10. REMOVE FRONT DISC BRAKE BUSH DUST BOOT

- (a) Place soft jaws on a vise and hold the disc brake cylinder mounting in the vise through aluminum plates.
- (b) Using a screwdriver and hammer, remove the 2 disc brake bush dust boots from the disc brake cylinder mounting.



## 11. INSPECT DISC THICKNESS

- (a) Using a micrometer, measure the disc thickness.

**Standard thickness:**

**25.0 mm (0.984 in.)**

**Minimum thickness:**

**23.0 mm (0.906 in.)**

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

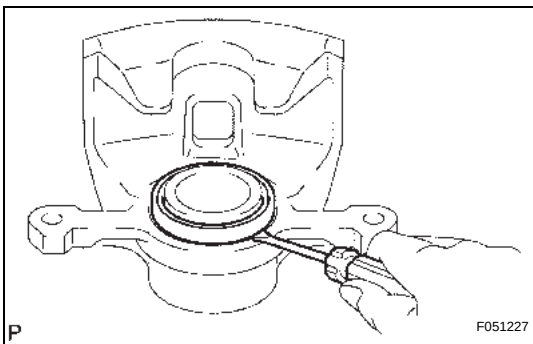
## 12. REMOVE FRONT DISC

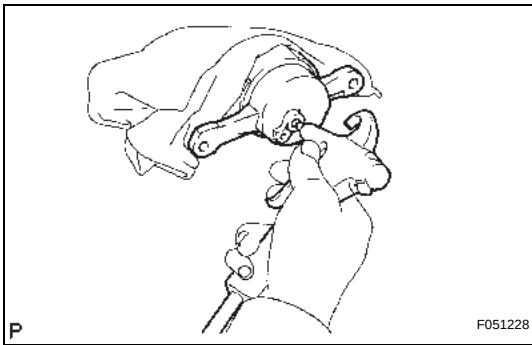
- (a) Make matchmarks on the front disc and the axle hub.
- (b) Remove the front disc.

## DISASSEMBLY

### 1. REMOVE CYLINDER BOOT

- (a) Using a screwdriver, remove the cylinder boot.



**2. REMOVE FRONT DISC BRAKE PISTON**

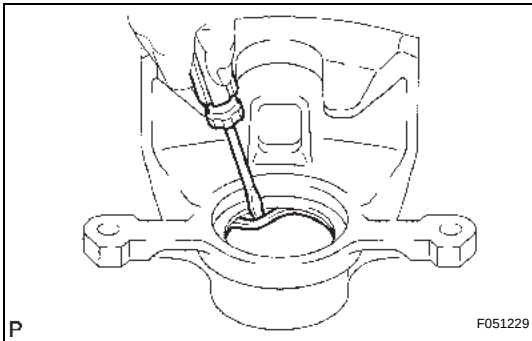
- (a) Place a shop rag or equivalent between the disc brake piston and disc brake cylinder.
- (b) Use compressed air to remove the disc brake piston from the disc brake cylinder.

**CAUTION:**

Be careful not to place your fingers in front of the piston when using compressed air.

**NOTICE:**

Be careful not to spatter the brake fluid.

**3. REMOVE PISTON SEAL**

- (a) Using a screwdriver, remove the piston seal from the front disc brake cylinder.

**NOTICE:**

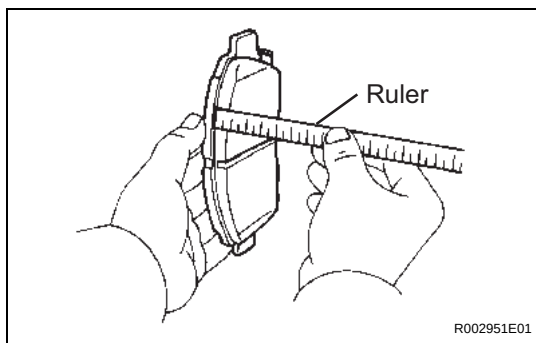
Be careful not to damage the inner cylinder or cylinder groove.

**4. REMOVE FRONT DISC BRAKE BLEEDER PLUG**

## INSPECTION

### 1. INSPECT BRAKE CYLINDER AND PISTON

- (a) Check the cylinder bore and disc brake piston for rust and scoring.  
If necessary, replace the disc brake cylinder.



### 2. INSPECT PAD LINING THICKNESS

- (a) Using a ruler, measure the pad lining thickness.  
**Standard thickness:**  
**12.0 mm (0.472 in.)**  
**Minimum thickness:**  
**1.0 mm (0.039 in.)**  
If the pad lining thickness is less than to the minimum thickness, replace the brake pad kit front.

### 3. INSPECT FRONT DISC BRAKE PAD SUPPORT PLATE

- (a) Make sure that both plates have sufficient rebound, have no deformation, cracks or wear, and that all rust and dirt are cleaned off.  
If necessary, replace the brake pad support plate.

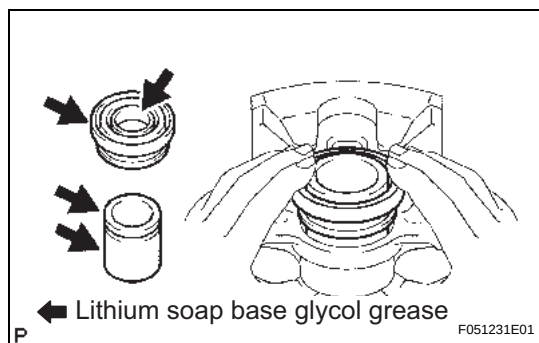
## REASSEMBLY

### 1. TEMPORARILY TIGHTEN FRONT DISC BRAKE BLEEDER PLUG

- (a) Provisionally tighten the bleeder plug to the disc brake cylinder.

### 2. INSTALL PISTON SEAL

- (a) Apply lithium soap base glycol grease to a new piston seal.
- (b) Install the piston seal onto the disc brake cylinder.



### 3. INSTALL FRONT DISC BRAKE PISTON

- (a) Apply lithium soap base glycol grease to the disc brake piston and a new cylinder boot.
- (b) Install the cylinder boot onto the front disc brake piston.
- (c) Install the disc brake piston into the disc brake cylinder.

HINT:

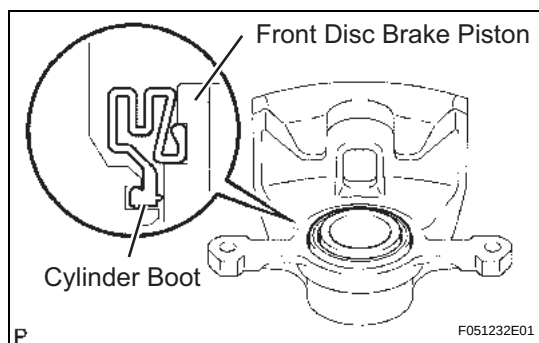
Do not install the disc brake piston into the disc brake cylinder forcibly.

### 4. INSTALL CYLINDER BOOT

- (a) Install the cylinder boot onto the disc brake cylinder.

HINT:

Install the cylinder boot securely into the grooves of the disc brake cylinder and piston.



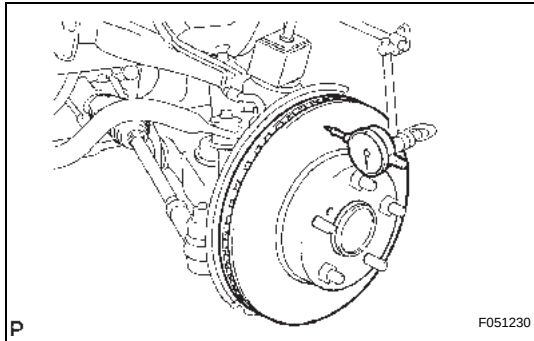
## INSTALLATION

### 1. INSTALL FRONT DISC

- (a) Aligning the matchmarks, install the front disc.

HINT:

When replacing the disc with a new one, select the installation position where the disc has the minimum runout.



### 2. INSPECT DISC RUNOUT

- (a) Provisionally fasten the disc with the hub nuts.

**Torque: 113 N\*m (1,152 kgf\*cm, 83 ft.\*lbf)**

- (b) Using a dial indicator, measure the disc runout 10 mm (0.39 in.) away from the outer edge of the disc.

**Maximum disc runout:**

**0.05 mm (0.0020 in.)**

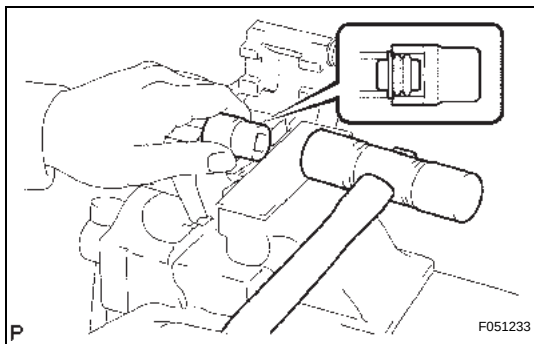
- (c) If the disc runout is the maximum value or greater, check the bearing play in the axial direction and check the axle hub runout (see page [AH-1](#)). If the bearing play and axle hub runout are normal, adjust the disc runout or grind it on an on-car brake lathe.

### 3. INSTALL FRONT DISC BRAKE BUSH DUST BOOT

- (a) Place soft jaws on a vise and hold the disc brake cylinder mounting in the vise through aluminum plates.

- (b) Apply lithium soap base glycol grease to the sealing surface of 2 new front disc brake bush dust boots.

- (c) Using a socket wrench (19 mm) and hammer, tap the 2 disc brake bush dust boots into the disc brake cylinder mounting.



### 4. INSTALL FRONT DISC BRAKE CYLINDER MOUNTING

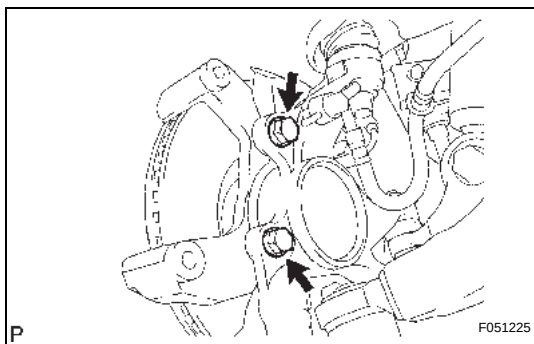
- (a) Install the disc brake cylinder mounting with the 2 bolts.

**Torque: 108 N\*m (1,101 kgf\*cm, 80 ft.\*lbf)**

### 5. INSTALL FRONT DISC BRAKE CYLINDER SLIDE BUSH

- (a) Apply lithium soap base glycol grease to a new disc brake cylinder slide bush.

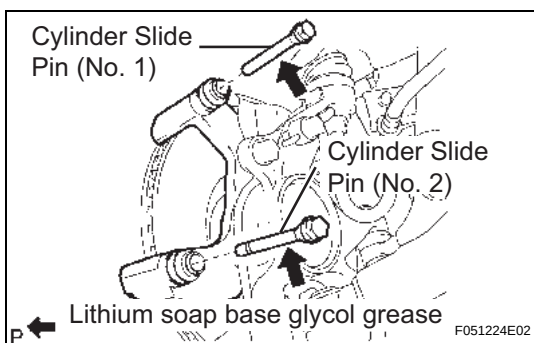
- (b) Install the disc brake cylinder slide bush to the bottom side of the disc brake cylinder slide pin (No. 2).



### 6. INSTALL FRONT DISC BRAKE CYLINDER SLIDE PIN

- (a) Apply lithium soap base glycol grease to the sliding part and the sealing surface of the disc brake cylinder slide pin.

- (b) Install the disc brake cylinder slide pin onto the disc brake cylinder mounting.



### 7. INSTALL FRONT DISC BRAKE PAD SUPPORT PLATE

- (a) Install the 2 disc brake pad support plates onto the disc brake cylinder mounting.

**8. INSTALL ANTI SQUEAL SHIM KIT FRONT****NOTICE:**

**If necessary, replace the anti-squeal shim kit when replacing the brake pad.**

- (a) Apply disc brake grease to the both surfaces of the 2 anti-squeal shims and install them.
- (b) Install the 2 outside anti-squeal shims onto the brake pads.
- (c) Install the pad wear indicator plate facing upward, and install each pad.

**9. INSTALL DISC BRAKE PAD KIT FRONT (PAD ONLY)**

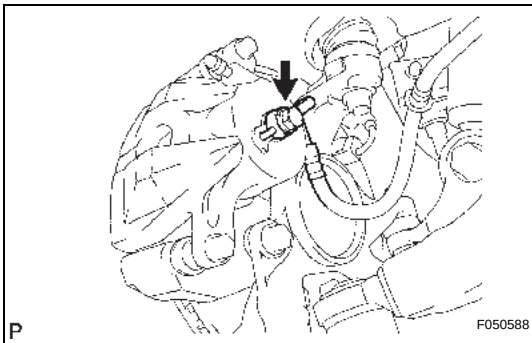
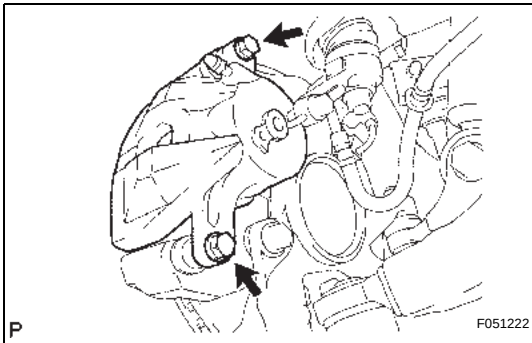
- (a) Install the 2 disc brake pads with anti-squeal shim onto the disc brake cylinder mounting.

**NOTICE:**

**There should be no oil or grease on the friction surfaces of the brake pads or the front disc.**

**10. INSTALL DISC BRAKE CYLINDER ASSEMBLY**

- (a) Install the disc brake cylinder with the 2 bolts.  
**Torque: 36.3 N\*m (370 kgf\*cm, 27 ft.\*lbf)**



- (b) Install a new gasket and flexible hose with the union bolt.

**Torque: 30 N\*m (306 kgf\*cm, 22 ft.\*lbf)**

**HINT:**

Install the flexible hose lock securely into the lock hole in the disc brake cylinder.

**11. FILL RESERVOIR WITH BRAKE FLUID (w/ VSC) (See page BR-4)****12. FILL RESERVOIR WITH BRAKE FLUID (w/o VSC) (See page BR-7)****13. BLEED MASTER CYLINDER (w/o VSC) (See page BR-7)****14. BLEED BRAKE LINE (w/ VSC) (See page BR-4)****15. BLEED BRAKE LINE (w/o VSC) (See page BR-7)****16. CHECK FLUID LEVEL IN RESERVOIR (w/ VSC) (See page BR-6)****17. CHECK FLUID LEVEL IN RESERVOIR (w/o VSC) (See page BR-8)****18. CHECK FOR BRAKE FLUID LEAKAGE****19. INSTALL FRONT WHEEL**

**Torque: 113 N\*m (1,152 kgf\*cm, 83 ft.\*lbf)**



## REMOVAL

### 1. REMOVE FRONT WHEEL

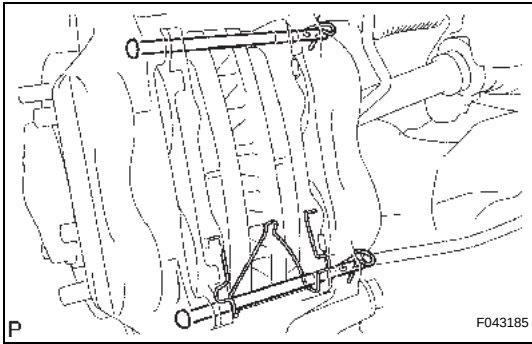
### 2. DRAIN BRAKE FLUID

#### NOTICE:

Immediately wash off any brake fluid that comes into contact with any painted surfaces.

### 3. REMOVE FRONT DISC BRAKE ANTI RATTLE WITH HOLE PIN

- Remove the 2 pin hold clips, then remove the 2 anti-rattle w/ hole pins from the disc brake cylinder.
- Remove the anti-rattle spring from the disc brake pad.



### 4. REMOVE DISC BRAKE PAD KIT FRONT (PAD ONLY)

- Remove the 2 disc brake pads with anti-squeal shim from the disc brake cylinder.

### 5. REMOVE ANTI SQUEAL SHIM KIT FRONT

- Remove the 2 anti-squeal shims from each of the disc brake pads.

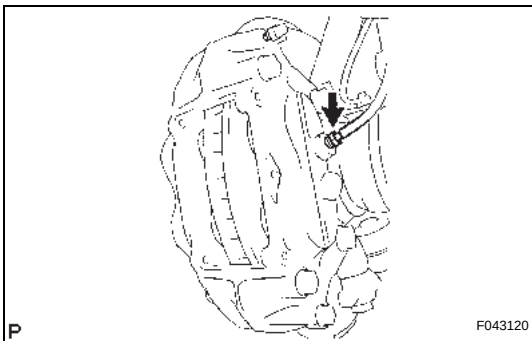
### 6. REMOVE DISC BRAKE CYLINDER ASSEMBLY

- Using SST, disconnect the brake tube from the disc brake cylinder.

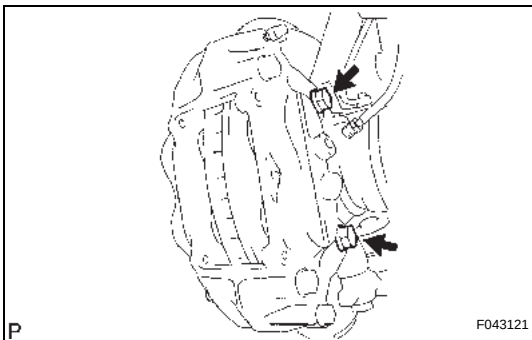
**SST 09023-00101**

#### HINT:

Use a container to collect the brake fluid as it drains out.



- Remove the 2 bolts and disc brake cylinder.



### 7. INSPECT DISC THICKNESS

- Using a micrometer, measure the disc thickness.

**Standard thickness:**

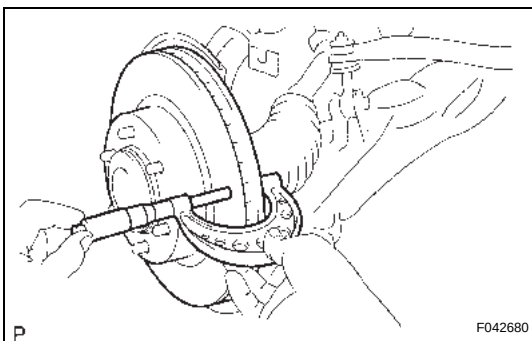
**28.0 mm (1.102 in.)**

**Minimum thickness:**

**26.0 mm (1.024 in.)**

### 8. REMOVE FRONT DISC

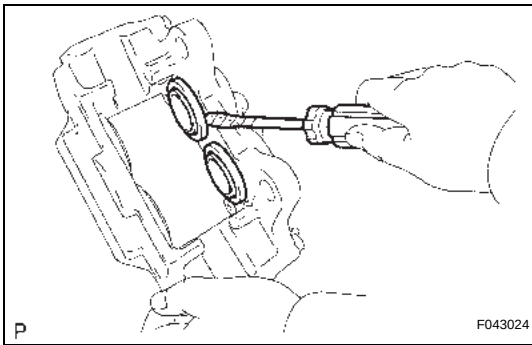
- Make matchmarks on the disc and the axle hub.
- Remove the front disc.



## DISASSEMBLY

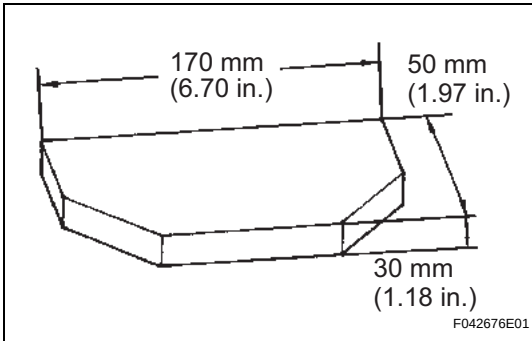
### 1. REMOVE CYLINDER BOOT

- (a) Using a screwdriver, remove the 4 cylinder boots from the caliper.



### 2. REMOVE FRONT DISC BRAKE PISTON

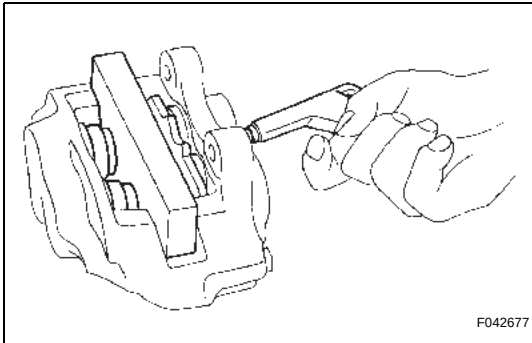
- (a) Prepare a wooden plate to hold the pistons.



- (b) Place the plate between the pistons and insert a pad into one side.
- (c) Use compressed air and remove the pistons one side at a time from the cylinder.

#### CAUTION:

**Do not place your fingers in front of the pistons when using compressed air.**

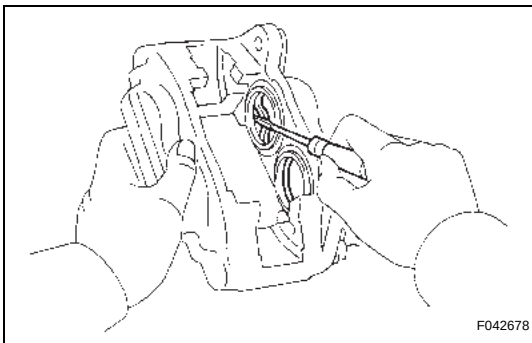


### 3. REMOVE PISTON SEAL

- (a) Using a screwdriver, remove the 4 piston seals from the cylinder.

### 4. REMOVE FRONT DISC BRAKE BLEEDER PLUG

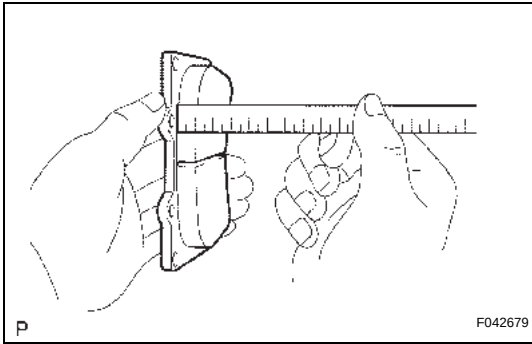
- (a) Remove the bleeder plug cap and bleeder plug from the disc brake cylinder.



## INSPECTION

### 1. INSPECT BRAKE CYLINDER AND PISTON

- (a) Check the cylinder bore and piston for rust and scoring.



### 2. INSPECT PAD LINING THICKNESS

- (a) Using a ruler, measure the pad lining thickness.

**Standard thickness:**

**11.5 mm (0.453 in.)**

**Minimum thickness:**

**1.0 mm (0.039 in.)**

## REASSEMBLY

### 1. TEMPORARILY TIGHTEN FRONT DISC BRAKE BLEEDER PLUG

- (a) Provisionally tighten the bleeder plug to the disc brake cylinder.
- (b) Install the bleeder plug cap onto the bleeder plug.

### 2. INSTALL PISTON SEAL

- (a) Apply lithium soap base glycol grease to 4 new piston seals.
- (b) Install the 4 piston seals onto the disc brake cylinder.

### 3. INSTALL FRONT DISC BRAKE PISTON

- (a) Apply lithium soap base glycol grease to the 4 disc brake pistons.
- (b) Install the 4 disc brake pistons onto the disc brake cylinder.

#### **NOTICE:**

**Do not install the disc brake piston into the disc brake cylinder forcibly.**

### 4. INSTALL CYLINDER BOOT

- (a) Apply lithium soap grease glycol grease to 4 new cylinder boots.
- (b) Install the 4 cylinder boots onto the disc brake cylinder.

#### **HINT:**

Install the cylinder boot securely onto the grooves of the disc brake cylinder and piston.

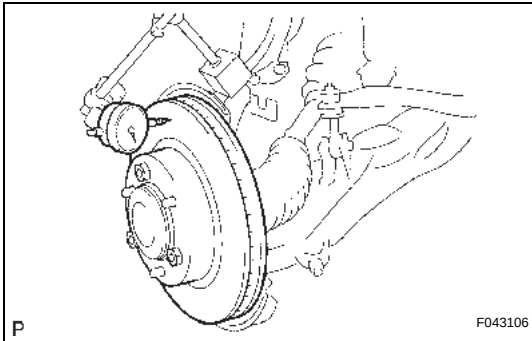
## INSTALLATION

### 1. INSTALL FRONT DISC

- (a) Aligning the matchmarks, install the front disc.

HINT:

When replacing the disc with a new one, select the installation position where the disc has the minimum runout.



### 2. INSPECT DISC RUNOUT

- (a) Provisionally fasten the disc with the hub nuts.

**Torque: 113 N\*m (1,152 kgf\*cm, 83 ft.\*lbf)**

- (b) Using a dial indicator, measure the disc runout 10 mm (0.39 in.) away from the outer edge of the disc.

**Maximum disc runout:**

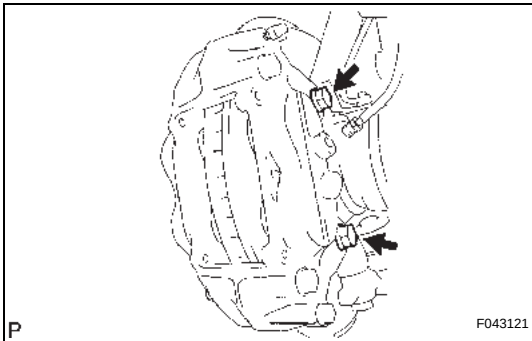
**0.05 mm (0.0020 in.)**

- (c) If the disc runout is the maximum value or greater, check the bearing play in the axial direction and check the axle hub runout (see page [AH-1](#)). If the bearing play and axle hub runout are normal, adjust the disc runout or grind it on an on-car brake lathe.

### 3. INSTALL DISC BRAKE CYLINDER ASSEMBLY

- (a) Install the disc brake cylinder assembly with the 2 bolts.

**Torque: 123 N\*m (1,254 kgf\*cm, 91 ft.\*lbf)**



- (b) Using SST, connect the brake tube to the disc brake cylinder.

**SST 09023-00101**

**Torque: 15.2 N\*m (155 kgf\*cm, 11 ft.\*lbf)**

### 4. INSTALL ANTI SQUEAL SHIM KIT FRONT

**NOTICE:**

**If necessary, replace the anti-squeal shim kit when replacing the brake pad.**

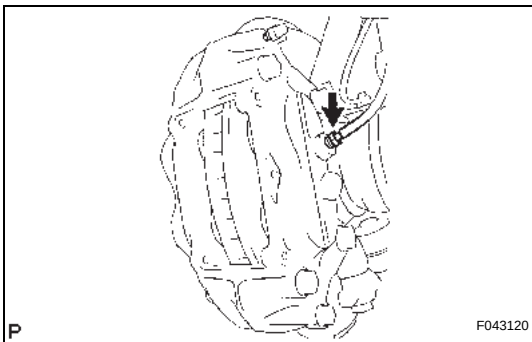
- (a) Install the anti-squeal shims on to each brake pad.

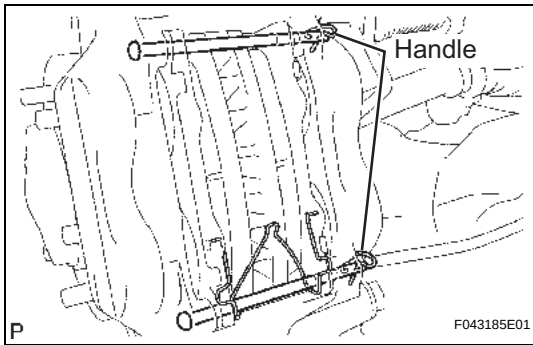
### 5. INSTALL DISC BRAKE PAD KIT FRONT (PAD ONLY)

- (a) Install the 2 disc brake pads with anti-squeal shim onto the disc brake cylinder.

**NOTICE:**

**There should be no oil or grease on the friction surfaces of the brake pads and the front disc.**



**6. INSTALL FRONT DISC BRAKE ANTI RATTLE WITH HOLE PIN**

- (a) Install the 2 anti rattle w/ hole pins and anti-rattle spring onto the disc brake cylinder.

**HINT:**

The anti-rattle spring is installed onto the lower anti-rattle w/ hole pin.

- (b) Install the 2 new pin hold clips with the anti-rattle w/ hole pin.

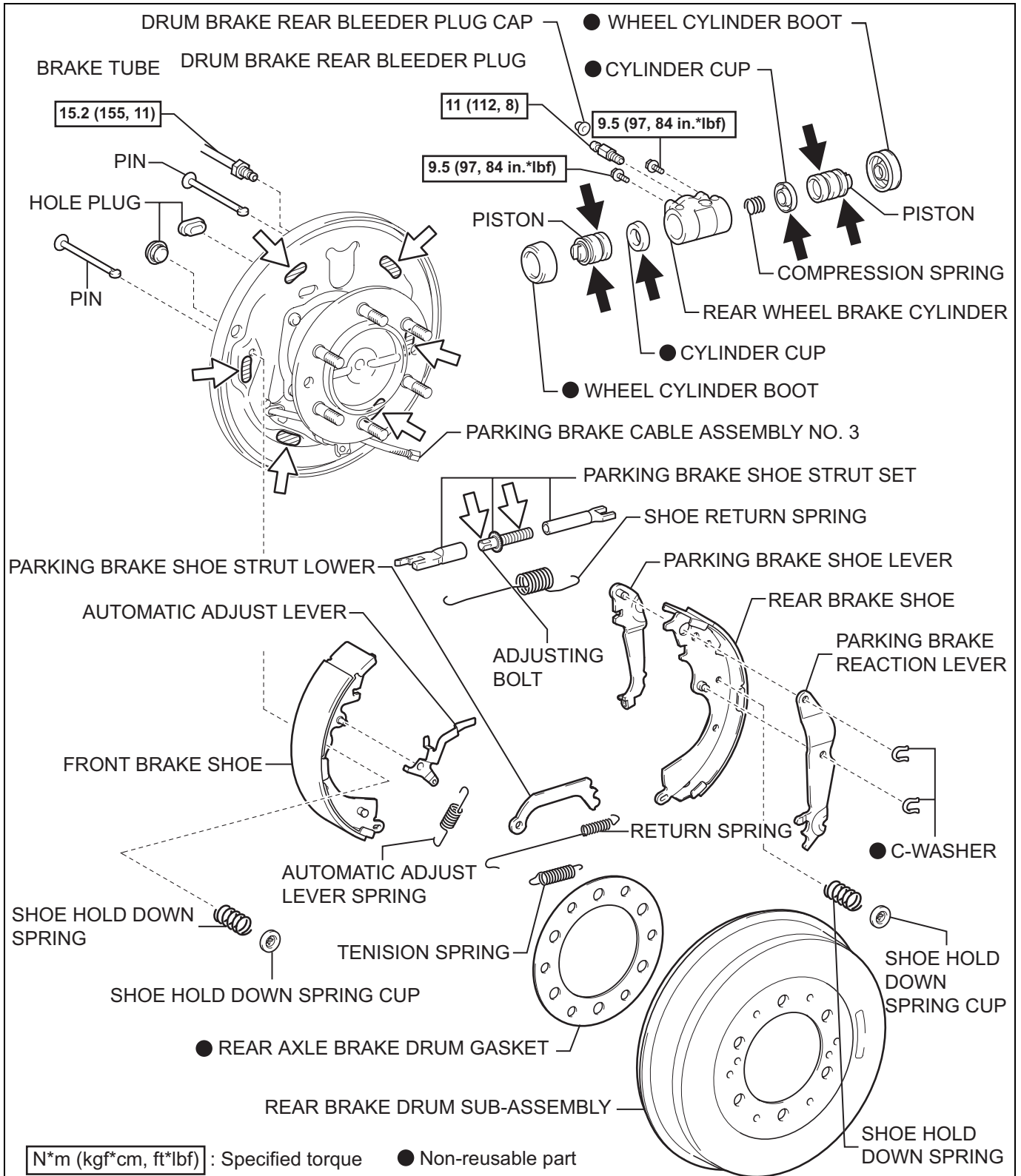
**NOTICE:**

Be sure to install the pin hold clip with the handle facing to the vehicle center.

7. FILL RESERVOIR WITH BRAKE FLUID (w/ VSC) (See page [BR-4](#))
8. FILL RESERVOIR WITH BRAKE FLUID (w/o VSC) (See page [BR-7](#))
9. BLEED MASTER CYLINDER (w/o VSC) (See page [BR-7](#))
10. BLEED BRAKE LINE (w/ VSC) (See page [BR-4](#))
11. BLEED BRAKE LINE (w/o VSC) (See page [BR-7](#))
12. CHECK FLUID LEVEL IN RESERVOIR (w/ VSC) (See page [BR-6](#))
13. CHECK FLUID LEVEL IN RESERVOIR (w/o VSC) (See page [BR-8](#))
14. CHECK FOR BRAKE FLUID LEAKAGE
15. INSTALL FRONT WHEEL  
Torque: 113 N\*m (1,152 kgf\*cm, 83 ft.\*lbf)

# REAR BRAKE

## COMPONENTS



BR

## REMOVAL

### 1. REMOVE REAR WHEEL

### 2. DRAIN BRAKE FLUID

HINT:

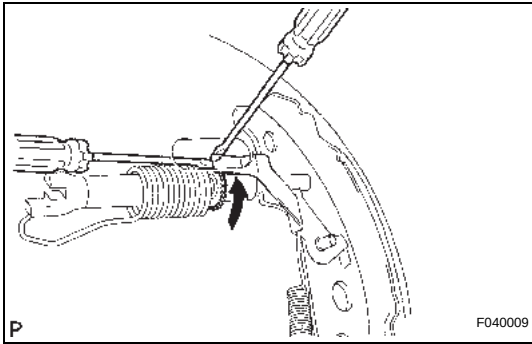
Immediately wash off any brake fluid that comes into contact with any painted surfaces.

### 3. REMOVE REAR BRAKE DRUM SUB-ASSEMBLY

- (a) Release the parking brake, and remove the rear brake drum.

If the rear brake drum cannot be removed easily, perform the following procedures.

- (b) Remove the hole plug and insert a screwdriver through the hole into the backing plate, and hold the automatic adjusting lever away from the adjuster.  
 (c) Using another screwdriver, contract the brake shoe by turning the adjusting bolt.  
 (d) Remove the drum gasket from the rear brake drum.

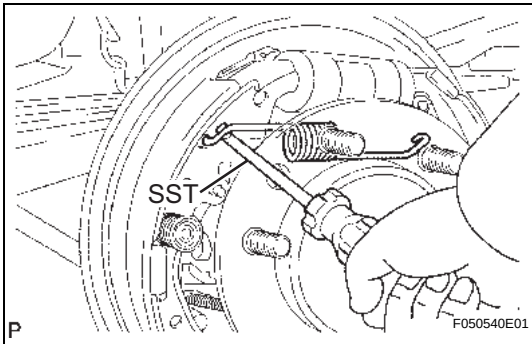


## DISASSEMBLY

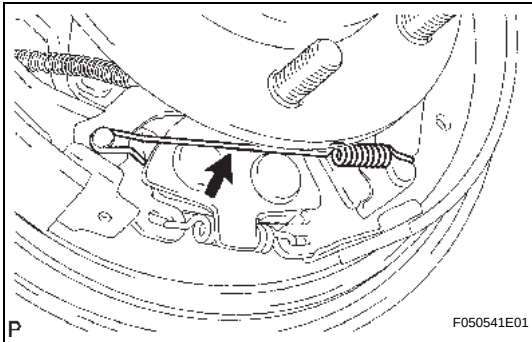
### 1. REMOVE FRONT BRAKE SHOE

- (a) Using SST, remove the shoe return spring from the front brake shoe.

**SST 09921-00010**



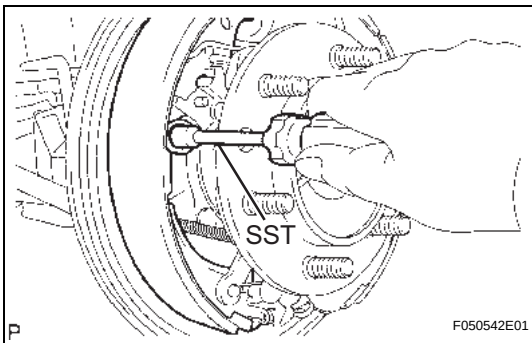
- (b) Using needle-nose pliers, remove the return spring.

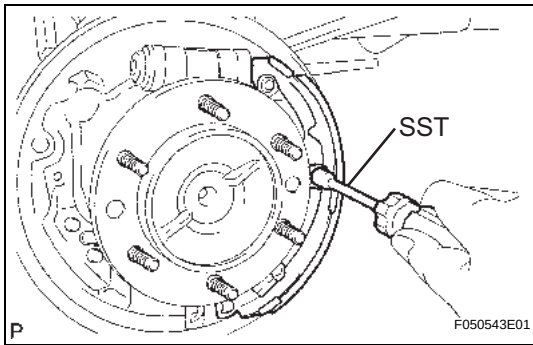


- (c) Using SST, remove the shoe hold down spring cup, shoe hold down spring and pin.

**SST 09718-00010**

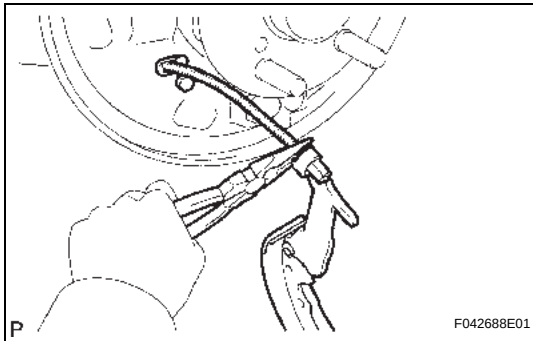
- (d) Remove the parking brake shoe strut lower.  
 (e) Remove the tension spring and front brake shoe.  
 (f) Remove the automatic adjust lever spring and automatic adjust lever LH from the front brake shoe.



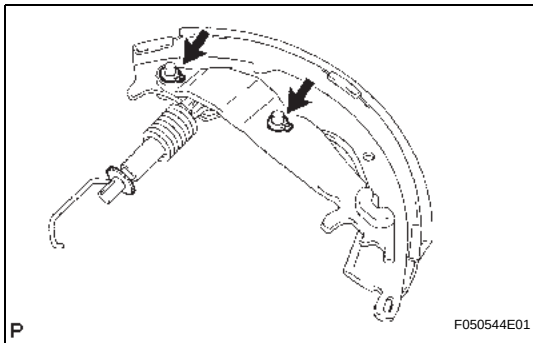


## 2. REMOVE REAR BRAKE SHOE

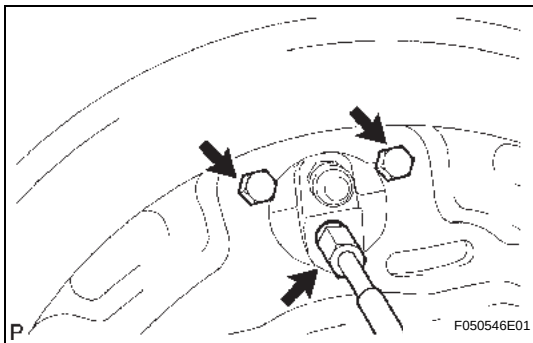
- (a) Using SST, remove the shoe hold down spring cup, shoe hold down spring and pin.  
**SST 09718-00010**



- (b) Using needle-nose pliers, disconnect the parking brake cable No. 3 and remove the rear brake shoe.



- (c) Using a screwdriver, remove the 2 C-washers, parking brake shoe lever, parking brake reaction lever and parking brake shoe strut set.

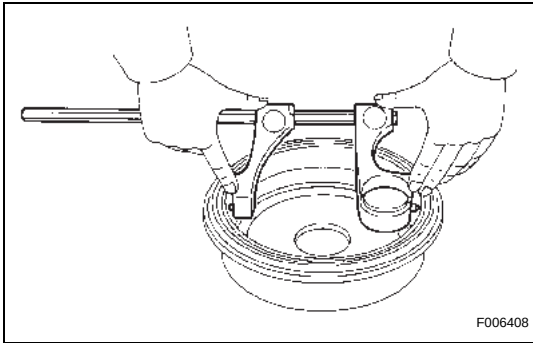


## 3. REMOVE FRONT OR UPPER REAR WHEEL BRAKE CYLINDER ASSEMBLY

- (a) Using SST, disconnect the brake tube, and use a container to collect the brake fluid as it flows out.  
**SST 09023-00101**
- (b) Remove the 2 bolts and rear wheel brake cylinder assembly.

## 4. REMOVE REAR WHEEL CYLINDER CUP KIT

- (a) Remove the 2 wheel cylinder boots from the rear wheel brake cylinder.
- (b) Remove the 2 pistons and compression spring.
- (c) Remove the 2 cylinder cups from each piston.
- (d) Remove the bleeder plug cap and bleeder plug from the rear wheel brake cylinder.



## INSPECTION

### 1. INSPECT BRAKE DRUM INSIDE DIAMETER

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

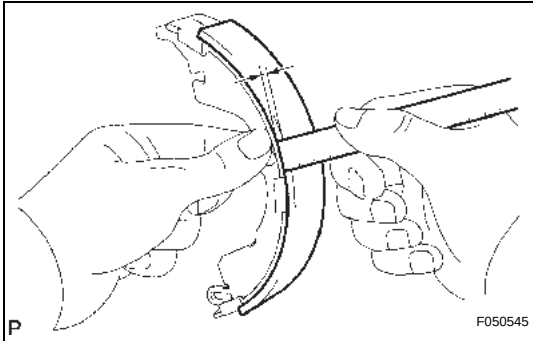
**Standard inside diameter:**

**254 mm (10.00 in.)**

**Maximum inside diameter:**

**256 mm (10.08 in.)**

If the inside diameter is greater than the maximum, replace the brake drum.



### 2. INSPECT REAR DRUM BRAKE SHOE LINING THICKNESS

- (a) Using a ruler, measure the thickness of the shoe lining.

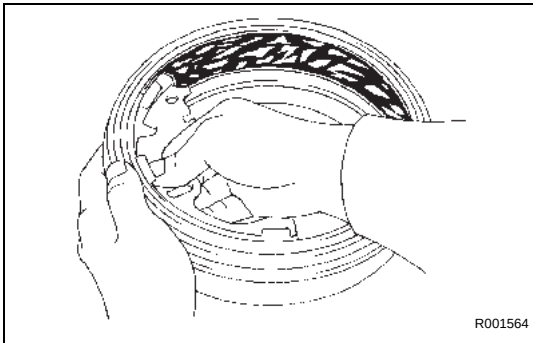
**Standard thickness:**

**5.0 mm (0.197 in.)**

**Minimum thickness:**

**1.0 mm (0.039 in.)**

If the lining thickness is the minimum value or less, or if there is any severe or uneven wear, replace the brake shoe.



### 3. INSPECT BRAKE DRUM AND REAR DRUM BRAKE SHOE LINING FOR PROPER CONTACT

- (a) Apply chalk to the inside surface of the drum, then grind the brake shoe lining for proper fitting. If the contact between the drum and the shoe lining is improper, repair it using a brake shoe grinder or replace the brake shoe assembly.

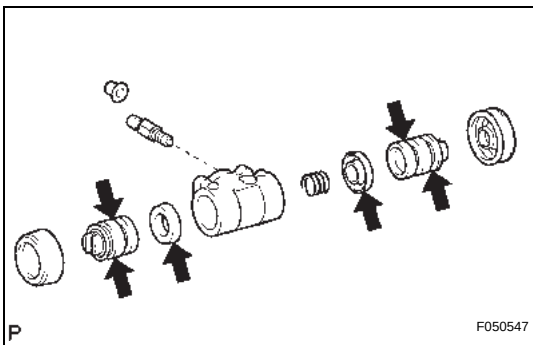
### 4. INSPECT REAR WHEEL BRAKE CYLINDER

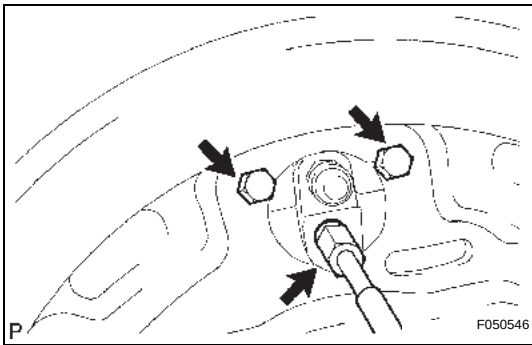
- (a) Check the cylinder bore and piston for rust and scoring.

## REASSEMBLY

### 1. INSTALL REAR WHEEL CYLINDER CUP KIT

- (a) Provisionally tighten the bleeder plug to the rear wheel brake cylinder, and install the bleeder plug cap.
- (b) Apply lithium soap base glycol grease to 2 new cylinder cups and the 2 pistons.
- (c) Install the cylinder cup onto each piston.
- (d) Install the compression spring and 2 pistons onto the rear wheel brake cylinder.
- (e) Install the 2 new wheel cylinder boots onto the rear wheel brake cylinder.





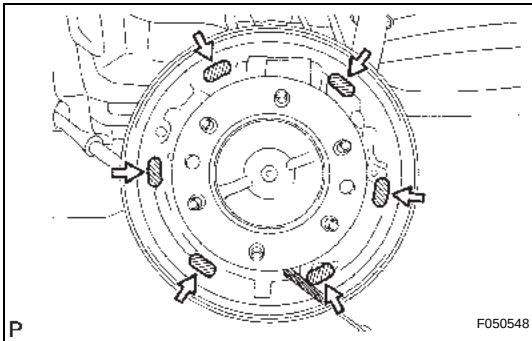
## 2. INSTALL FRONT OR UPPER REAR WHEEL BRAKE CYLINDER ASSEMBLY

- (a) Install the rear wheel brake cylinder assembly with the 2 bolts.

**Torque: 9.5 N\*m (97 kgf\*cm, 84 in.\*lbf)**

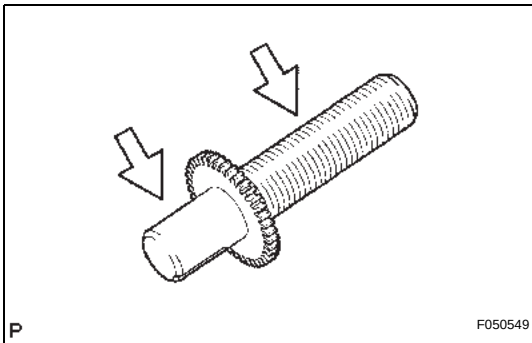
- (b) Using SST, connect the brake tube.

**Torque: 15.2 N\*m (155 kgf\*cm, 11 ft.\*lbf)**



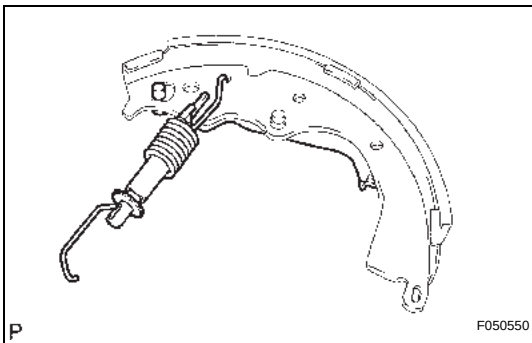
## 3. APPLY HIGH TEMPERATURE GREASE

- (a) Apply high temperature grease to the shoe attached surface of the backing plate.

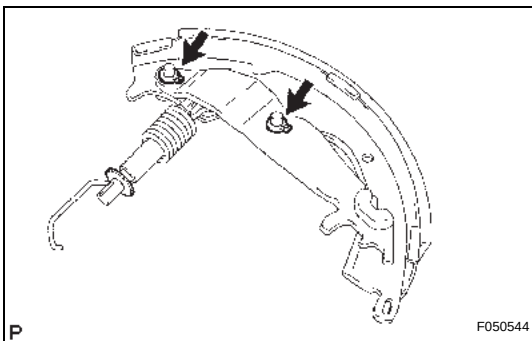


## 4. INSTALL REAR BRAKE SHOE

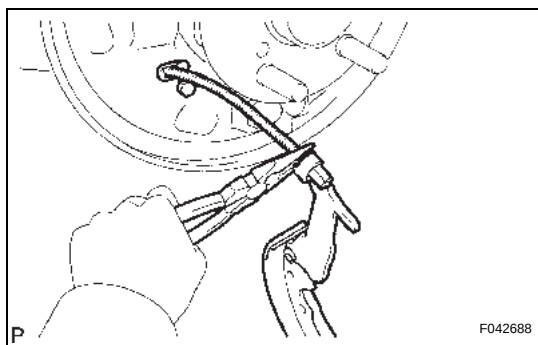
- (a) Apply high temperature grease to the adjusting bolt.



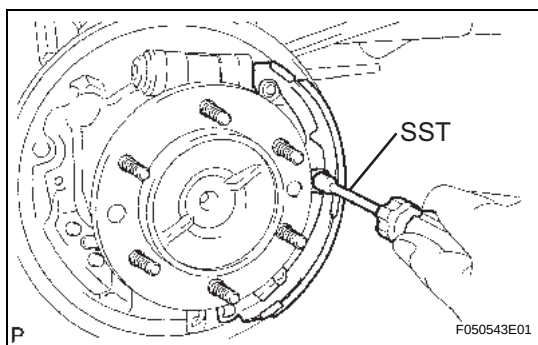
- (b) Install the parking brake shoe lever LH and parking brake shoe strut set with the shoe return spring onto the rear brake shoe.



- (c) Using pliers, install the parking brake shoe strut set, parking brake reaction lever and parking brake shoe lever LH with 2 new C-washers.



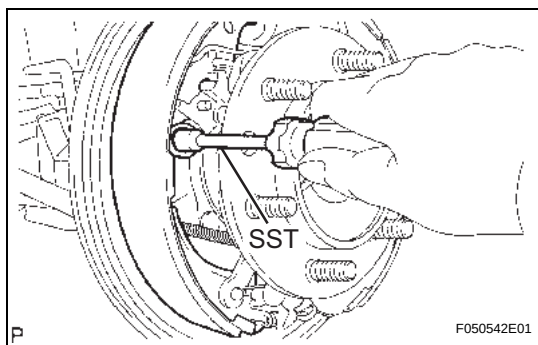
- (d) Using needle-nose pliers, connect the parking brake cable No. 3 to the parking brake shoe lever LH.



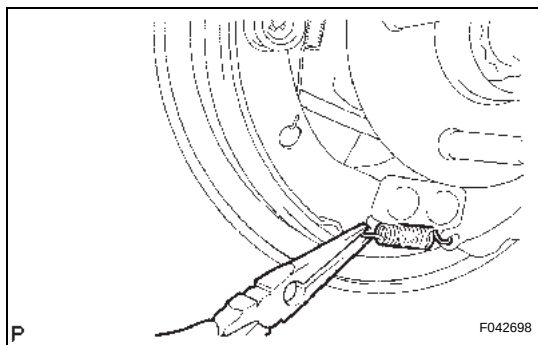
- (e) Using SST, install the rear brake shoe, pin, shoe hold down spring and shoe hold down spring cup.  
**SST 09718-00010**

## 5. INSTALL FRONT BRAKE SHOE

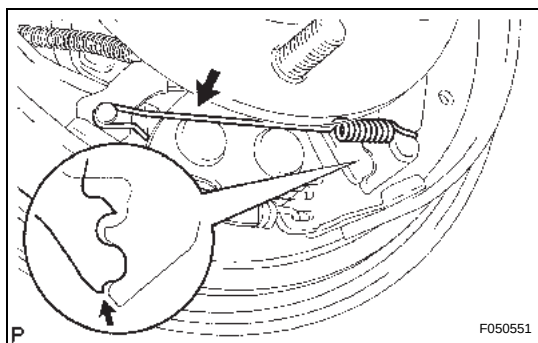
- (a) Install the automatic adjust lever LH, automatic adjust lever spring and parking brake shoe strut lower onto the front brake shoe.



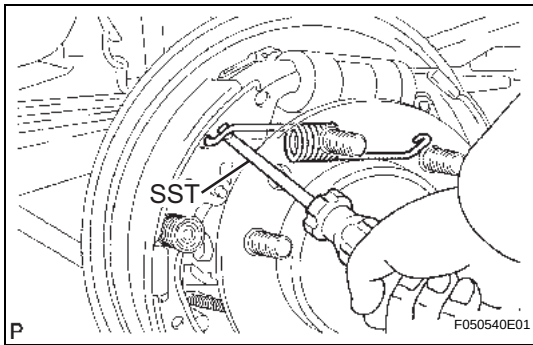
- (b) Using SST, install the front brake shoe, pin, shoe hold down spring and shoe hold down spring cup.  
**SST 09718-00010**



- (c) Install the tension spring onto the front brake shoe and rear brake shoe.



- (d) Using needle-nose pliers, install the return spring.

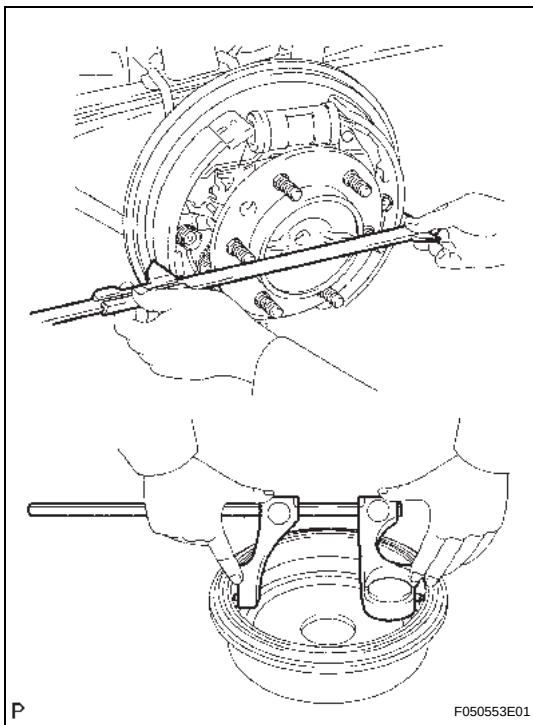
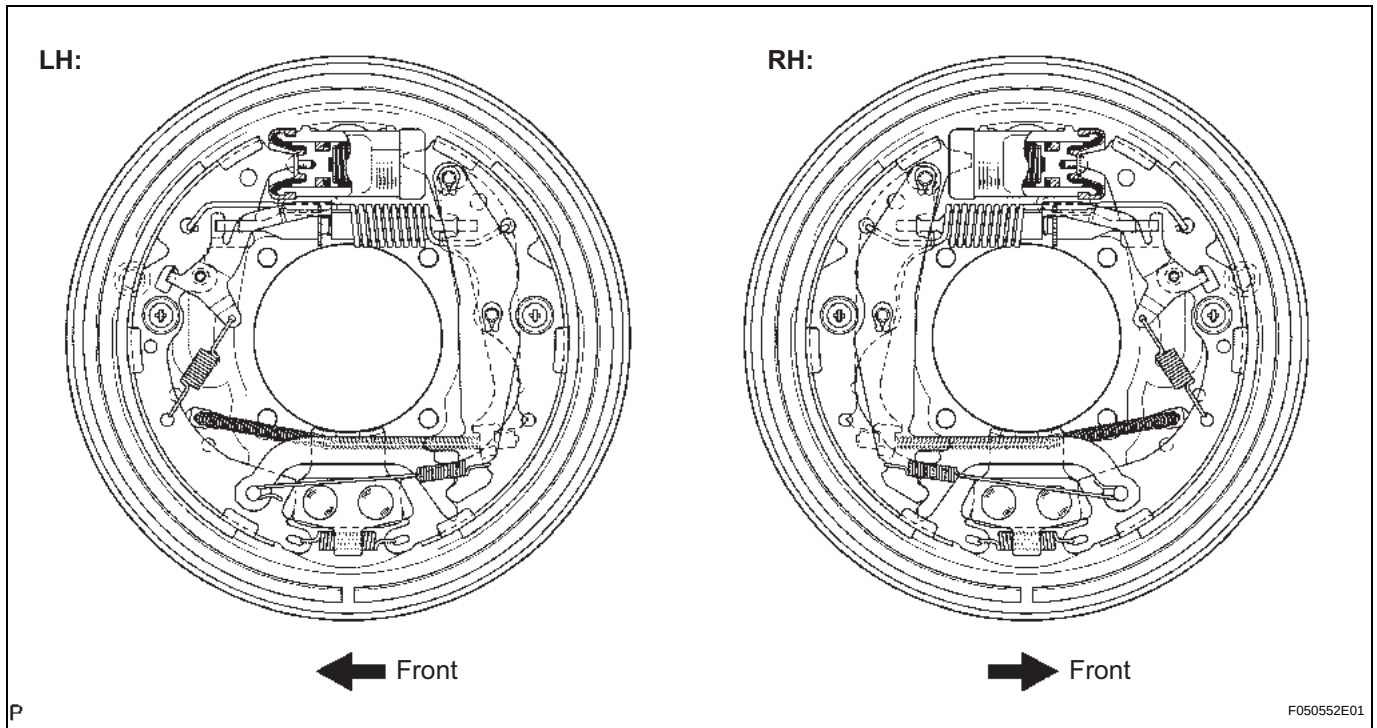


- (e) Using SST, install the shoe return spring onto the front brake shoe.

**SST 09921-00010**

## 6. INSPECT REAR DRUM BRAKE INSTALLATION

- (a) Check that each part is installed properly.



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

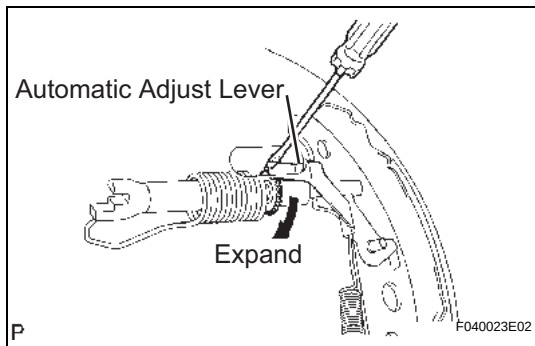
**Shoe clearance:**

**0.5 mm (0.020 in.)**

**NOTICE:**

**There should be no oil or grease adhering to the friction surfaces of the shoe lining and the drum.**

## INSTALLATION



1. **INSTALL REAR BRAKE DRUM SUB-ASSEMBLY**
  - (a) Install a new drum gasket onto the rear brake drum.
  - (b) Install the rear brake drum.
2. **ADJUST REAR DRUM BRAKE SHOE CLEARANCE**
  - (a) Provisionally install the hub nuts.
  - (b) Remove the hole plug, and turn the adjuster to expand the shoe until the drum locks.
  - (c) Using a screwdriver, release the adjuster 15 notches.
  - (d) Install the hole plug.
3. **FILL RESERVOIR WITH BRAKE FLUID (w/ VSC) (See page [BR-4](#))**
4. **FILL RESERVOIR WITH BRAKE FLUID (w/o VSC) (See page [BR-7](#))**
5. **BLEED MASTER CYLINDER (w/o VSC) (See page [BR-7](#))**
6. **BLEED BRAKE LINE (w/ VSC) (See page [BR-4](#))**
7. **BLEED BRAKE LINE (w/o VSC) (See page [BR-7](#))**
8. **CHECK FLUID LEVEL IN RESERVOIR (w/ VSC) (See page [BR-6](#))**
9. **CHECK FLUID LEVEL IN RESERVOIR (w/o VSC) (See page [BR-8](#))**
10. **CHECK FOR BRAKE FLUID LEAKAGE**
11. **INSTALL REAR WHEEL**  
Torque: 113 N\*m (1,152 kgf\*cm, 83 ft.\*lbf)
12. **INSPECT PARKING BRAKE PEDAL TRAVEL (for Automatic Transmission) (See page [PB-1](#))**
13. **INSPECT PARKING BRAKE LEVER TRAVEL (for Manual Transmission) (See page [PB-1](#))**
14. **ADJUST PARKING BRAKE PEDAL TRAVEL (for Automatic Transmission) (See page [PB-2](#))**
15. **ADJUST PARKING BRAKE LEVER TRAVEL (for Manual Transmission) (See page [PB-2](#))**