
BRAKE SYSTEM

PRECAUTION

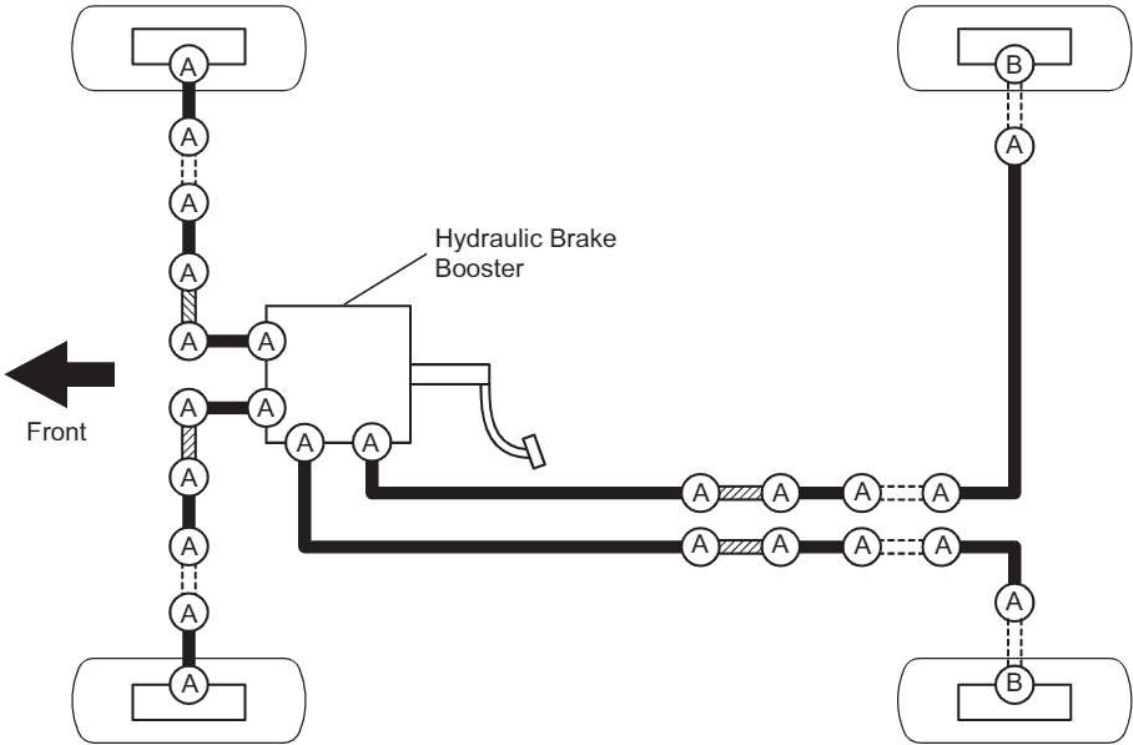
1. Necessary care must be taken to replace each part properly as it could affect the brake system performance. This could cause driving hazards. Replace each part with an identical part with the same number.
2. It is very important to keep parts and the area clean when repairing the brake system.
3.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

BR

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BRAKE – BRAKE SYSTEM

SYSTEM DIAGRAM



— : Brake Tube

- - - - : Flexible Hose

/// : Brake Tube Way

Ⓐ : for use without SST:

Union Nut Torque: 15 N*m (155 kgf*cm, 11 ft*lbf)

for use with SST:

Union Nut Torque: 14 N*m (143 kgf*cm, 10 ft*lbf)

Ⓑ : Torque: 31 N*m (316 kgf*cm, 23 ft*lbf)

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BRAKE – BRAKE SYSTEM**BR-3****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	BR-5
	3. Piston seal (Worn or damaged) (Front brake)	BR-43
	4. Piston seal (Worn or damaged) (Rear brake)	BR-43
	5. Hydraulic brake booster (Faulty)	BR-30
Brake drag	1. Brake pedal free play (Minimum)	BR-10
	2. Parking brake lever travel (Out of adjustment)	PB-4
	3. Parking brake wire (Sticking)	PB-11
	4. Parking brake (Shoe clearance out of adjustment)	PB-20
	5. Pad (Cracked or distorted) (Front brake)	BR-43
	6. Pad (Cracked or distorted) (Rear brake)	BR-51
	7. Piston (Stuck) (Front brake)	BR-43
	8. Piston (Stuck) (Rear brake)	BR-51
	9. Piston (Frozen) (Front brake)	BR-43
	10. Piston (Frozen) (Rear brake)	BR-51
	11. Tension or return spring (Faulty)	PB-17
	12. Hydraulic brake booster (Faulty)	BR-30
Brake pull	1. Piston (Stuck) (Front brake)	BR-43
	2. Piston (Stuck) (Rear brake)	BR-51
	3. Pad (Oily) (Front brake)	BR-43
	4. Pad (Oily) (Rear brake)	BR-51
	5. Piston (Frozen) (Front brake)	BR-43
	6. Piston (Frozen) (Rear brake)	BR-51
	7. Front disc (Scored)	BR-44
	8. Rear disc (Scored)	BR-52
	9. Pad (Cracked or distorted) (Front brake)	BR-43
	10. Pad (Cracked or distorted) (Rear brake)	BR-51
	11. Hydraulic brake booster (Faulty)	BR-30
Firm pedal but braking inefficient	1. Fluid leakage in brake system	-
	2. Air in brake system	BR-5
	3. Pad (Worn) (Front brake)	BR-43
	4. Pad (Worn) (Rear brake)	BR-51
	5. Pad (Cracked or distorted) (Front brake)	BR-43
	6. Pad (Cracked or distorted) (Rear brake)	BR-51
	7. Pad (Oily) (Front brake)	BR-43
	8. Pad (Oily) (Rear brake)	BR-51
	9. Pad (Glazed) (Front brake)	BR-43
	10. Pad (Glazed) (Rear brake)	BR-51
	11. Front disc (Scored)	BR-44
	12. Rear disc (Scored)	BR-52
	13. Hydraulic brake booster (Faulty)	BR-30

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BR-4**BRAKE – BRAKE SYSTEM**

Symptom	Suspected area	See page
Noise from brakes	1. Pad (Cracked or distorted) (Front brake)	BR-43
	2. Pad (Cracked or distorted) (Rear brake)	BR-51
	3. Installation bolt (Loose)	BR-50
	4. Front disc (Scored)	BR-44
	5. Rear disc (Scored)	BR-52
	6. Pad support plate (Loose)	BR-50
	7. Sliding pin (Worn)	BR-50
	8. Pad (Dirty) (Front brake)	BR-43
	9. Pad (Dirty) (Rear brake)	BR-51
	10. Pad (Glazed) (Front brake)	BR-43
	11. Pad (Glazed) (Rear brake)	BR-51
	12. Tension or return spring (Faulty)	PB-17
	13. Anti-squeal shim (Damaged) (Front brake)	BR-42
	14. Anti-squeal shim (Damaged) (Rear brake)	BR-50
	15. Shoe hold-down spring (Damaged)	PB-17
Noise from hydraulic brake booster (Abnormal pump motor operation noise)	1. Accumulator bracket clearance (Out of adjustment)	BR-30
Brake warning light illuminates (Parking brake lever released)	1. Brake fluid level	BR-19
	2. Brake master cylinder power supply system (Faulty)	BR-30
Brake warning light illuminates and skid control buzzer sounds	1. Brake master cylinder power supply system (Faulty)	BR-30
ABS warning light illuminates	1. Anti-lock brake system (Faulty)	-
	2. Brake master cylinder power supply system (Faulty)	BR-30

BR

BRAKE FLUID

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 steps 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.

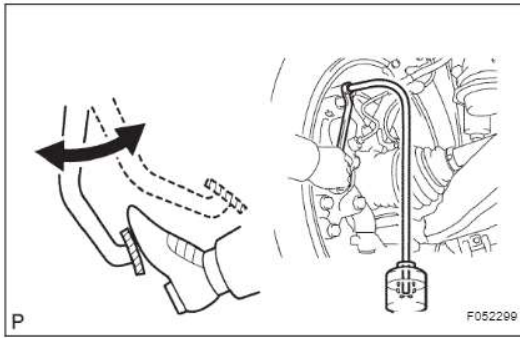
HINT:

Pump operating sound can be heard.

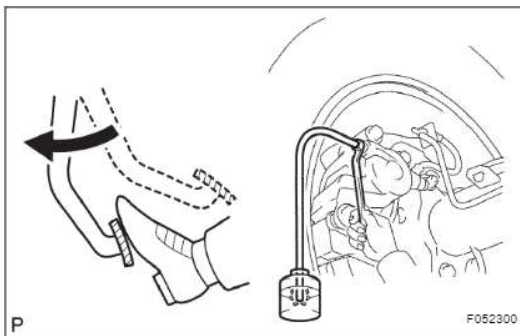
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BRAKE – BRAKE FLUID



- (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 steps D and E until all the air in the fluid has been bled out.
- Torque: 11 N*m (110 kgf*cm, 8 ft.*lbf)**
- (5) Repeat the above procedures to bleed the other brake line.

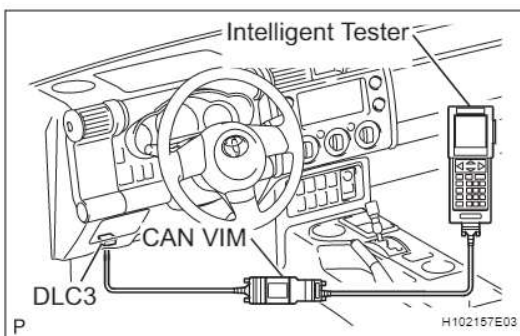


- (c) Rear brake line.
- (1) Connect the vinyl tube to the brake caliper.
 - (2) Depress the brake pedal, hold it, and then loosen the bleeder plug.
- HINT:**
Brake fluid is pumped out automatically.
- (3) Loosen the bleeder plug and release the air.
- NOTICE:**
Keep the brake fluid in the reservoir 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 (110 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 becomes 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 brake caliper.
- (e) Loosen the bleeder plug.
- (f) Select "SRMF" to drive the solenoids and bleed air from the rear brake caliper (step F).

NOTICE:

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

HINT:

- Brake fluid is sent through the pump.

BRAKE – BRAKE FLUID**BR-7**

- 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 (110 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-45](#)).

BR**5. CHECK FLUID LEVEL IN RESERVOIR**

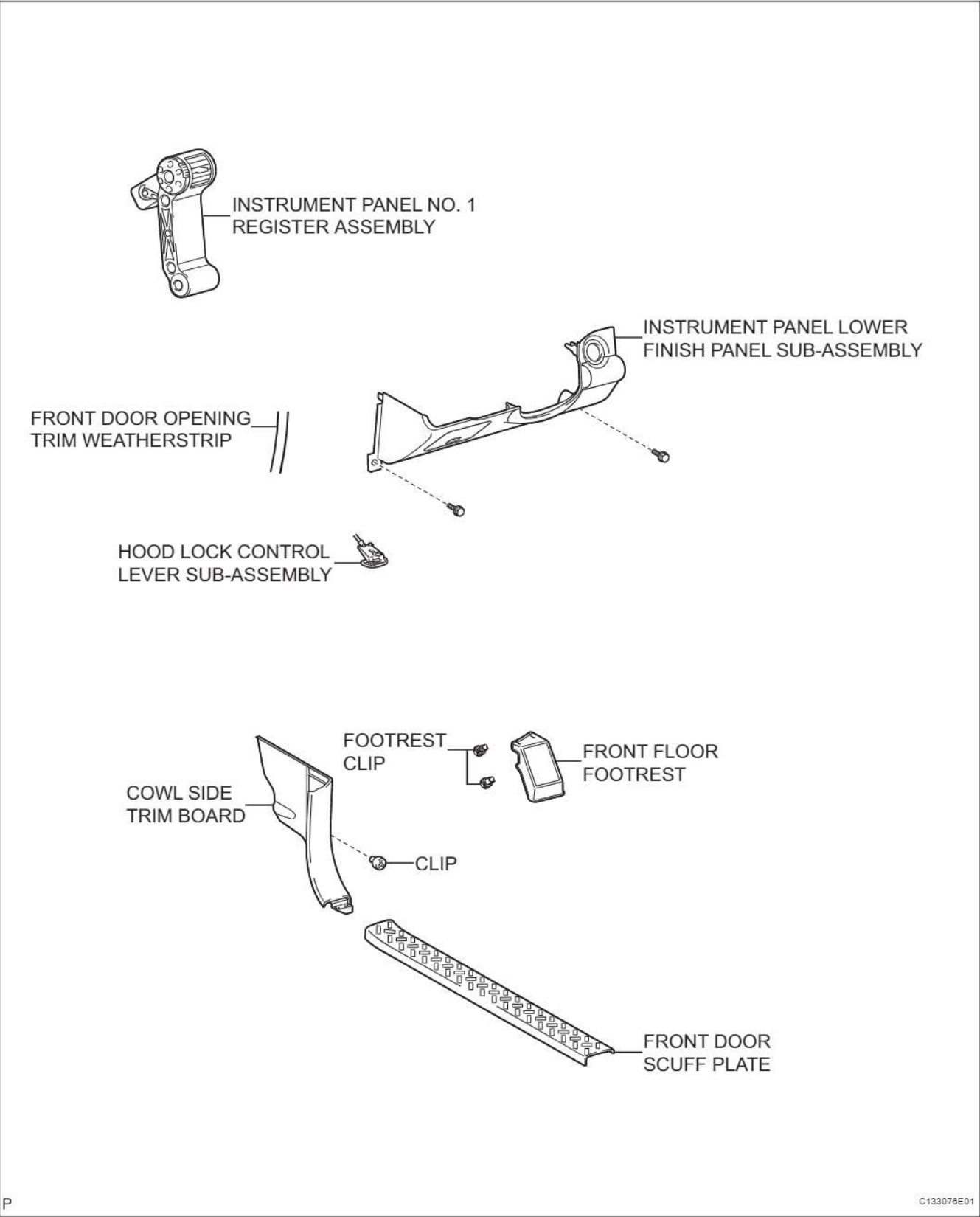
- (a) Turn the ignition switch to OFF, and depress the brake pedal more than 20 times (until the pedal reaction feels light and pedal stroke becomes longer), and adjust the fluid level to the MAX level.
- (b) When the ignition switch is turned to ON, brake fluid is sent to the accumulator and the fluid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

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BRAKE – BRAKE PEDAL

BRAKE PEDAL
COMPONENTS

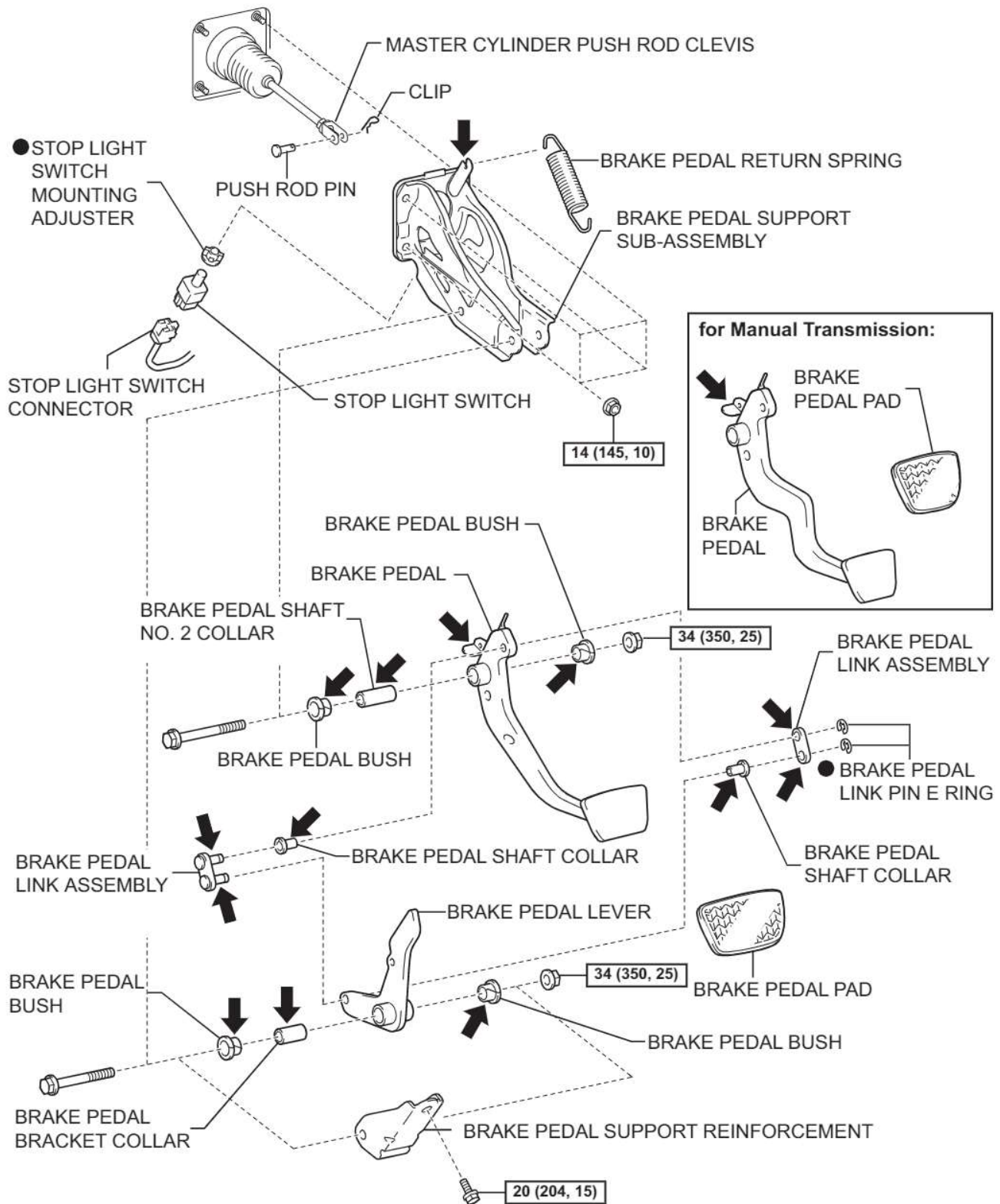
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BRAKE – BRAKE PEDAL

BR-9

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N*m (kgf*cm, ft*lb) : Specified torque ● Non-reusable part ← Lithium soap base glycol grease

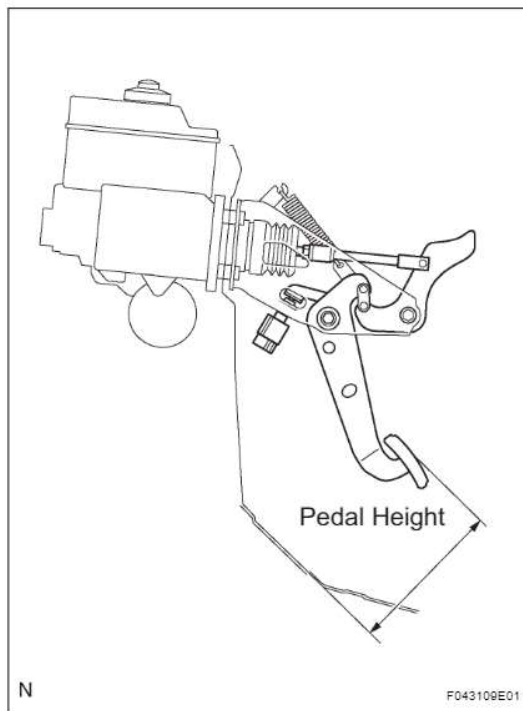
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BR-10

BRAKE – BRAKE PEDAL

BR



ON-VEHICLE INSPECTION

1. INSPECT AND ADJUST BRAKE PEDAL

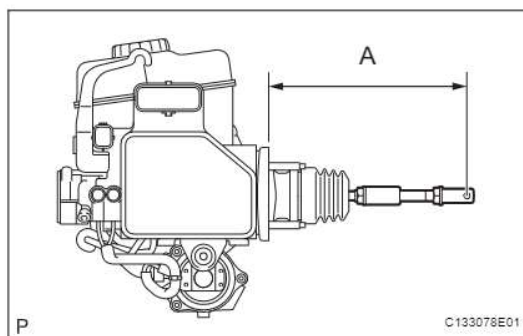
- (a) Inspect the brake pedal height.

Pedal height from dash panel:**168.7 to 178.7 mm (6.642 to 7.035 in.)**

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

- (b) Adjust the brake pedal height.

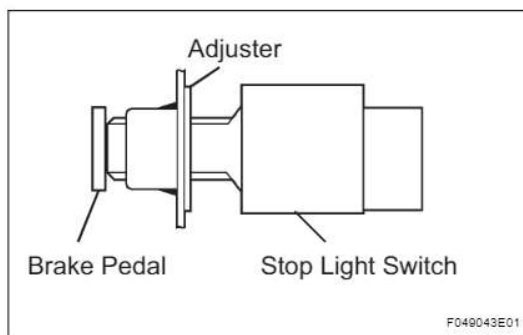
- (1) Disconnect the connector from the stop light switch.
- (2) Turn the stop light switch counterclockwise, and remove the stop light switch.
- (3) Remove the hydraulic brake booster (See page [BR-28](#)).



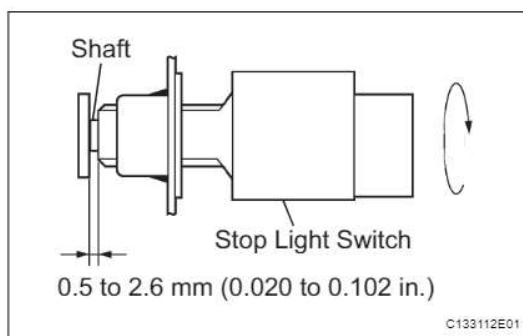
- (4) Loosen the clevis lock nut.
- (5) Adjust the rod operating adapter length by turning the pedal push rod clevis.

Rod operating adapter length A:**201.7 to 202.7 mm (7.941 to 7.980 in.)**

- (6) Tighten the clevis lock nut.
- (7) Install the hydraulic brake booster (See page [BR-38](#)).



- (8) Insert the stop light switch into the adjuster until it just touches the brake pedal.

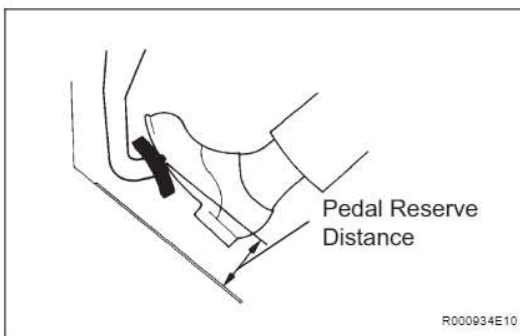
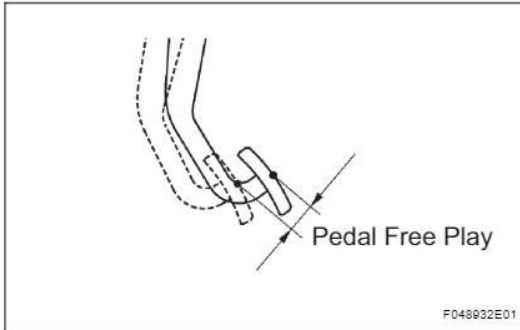
NOTICE:**Do not depress the brake pedal.**

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

NOTICE:**Do not depress the brake pedal.****HINT:**

The turning torque for installing the stop light switch:

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

BRAKE – BRAKE PEDAL**BR-11**

(10) Check the stop light switch clearance.

Stop light switch clearance:

0.5 to 2.6 mm (0.020 to 0.102 in.)

(11) Connect the connector to the stop light switch.

(c) Inspect the brake pedal free play.

(1) Stop the engine and depress the brake pedal several times until there is no vacuum left in the booster.

(2) Push in the pedal until the beginning of the resistance is felt. Measure the distance as shown.

Pedal free play:

1.0 to 6.0 mm (0.039 to 0.236 in.)

If incorrect, troubleshoot the brake system.

(d) Inspect the brake pedal reserve distance.

(1) 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 56 mm (2.20 in.)

If incorrect, troubleshoot the brake system.

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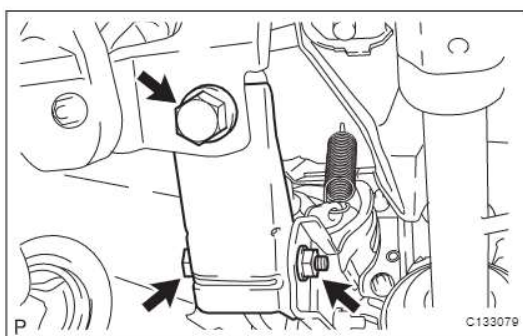
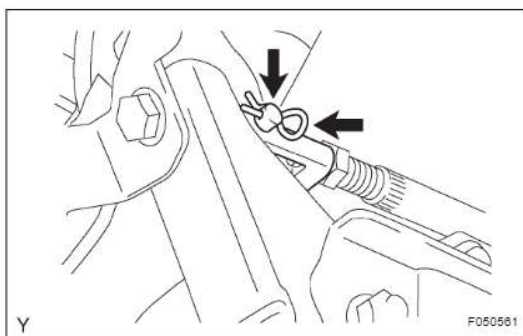
BR-12

BRAKE – BRAKE PEDAL

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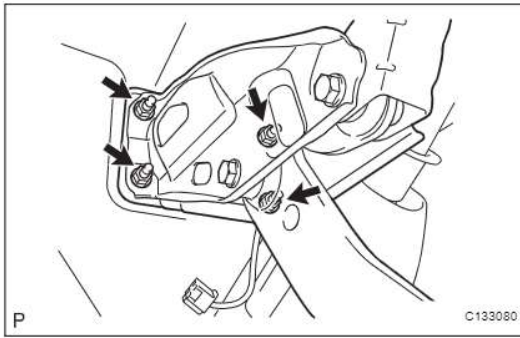
REMOVAL

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
2. REMOVE FRONT DOOR SCUFF PLATE (See page [IR-15](#))
3. REMOVE FRONT FLOOR FOOTREST (See page [IR-2](#))
4. REMOVE FOOTREST CLIP (See page [IR-2](#))
5. REMOVE COWL SIDE TRIM BOARD (See page [IR-15](#))
6. SEPARATE FRONT DOOR OPENING TRIM WEATHERSTRIP (See page [IP-10](#))
7. REMOVE INSTRUMENT PANEL NO. 1 REGISTER ASSEMBLY (See page [IP-13](#))
8. SEPARATE HOOD LOCK CONTROL LEVER SUB-ASSEMBLY (See page [IP-13](#))
9. REMOVE INSTRUMENT PANEL LOWER FINISH PANEL SUB-ASSEMBLY (See page [IP-14](#))
10. REMOVE 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.
11. SEPARATE MASTER CYLINDER PUSH ROD CLEVIS
 - (a) Remove the clip and push rod pin and separate the push rod clevis.

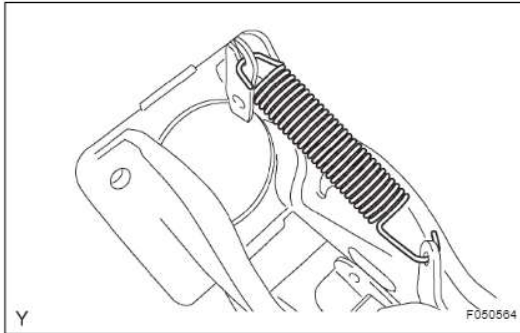


12. REMOVE BRAKE PEDAL SUPPORT REINFORCEMENT

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

BRAKE – BRAKE PEDAL**BR-13****BR****13. REMOVE BRAKE PEDAL SUPPORT SUB-ASSEMBLY**

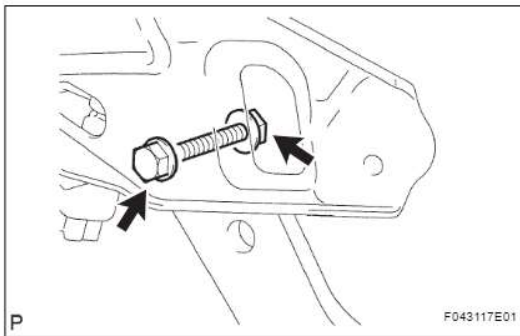
- (a) Remove the 4 nuts and the brake pedal support.

**14. REMOVE BRAKE PEDAL RETURN SPRING**

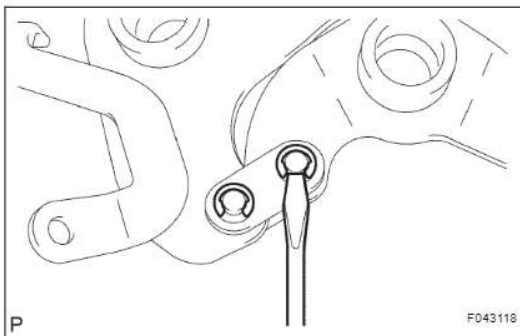
- (a) Remove the return spring from the brake pedal support and brake pedal.

15. REMOVE STOP LIGHT SWITCH MOUNTING ADJUSTER

- (a) Remove the stop light switch mounting adjuster from the brake pedal support.

**16. REMOVE BRAKE PEDAL**

- (a) Remove the bolt and nut and remove the brake pedal and brake pedal lever 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.

**17. REMOVE BRAKE PEDAL LEVER**

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

18. REMOVE BRAKE PEDAL PAD

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

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BRAKE – 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 links and 2 brake pedal shaft collars.
- (b) Install the 2 brake pedal shaft collars into the brake pedal and brake pedal lever.
- (c) Install the brake pedal lever with the 2 brake pedal links onto the brake pedal.
- (d) Install 2 new E-rings onto the brake pedal link.

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 onto the brake pedal support with the bolt and nut.

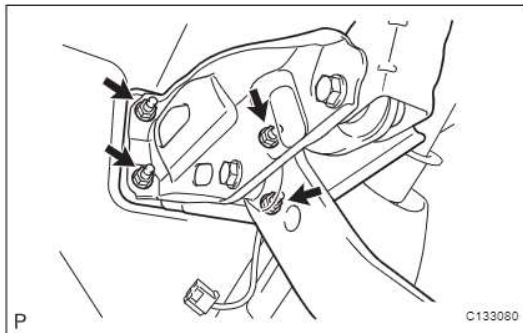
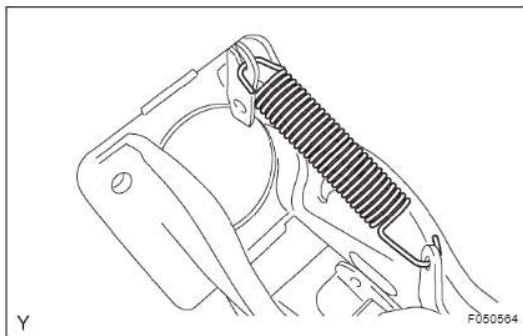
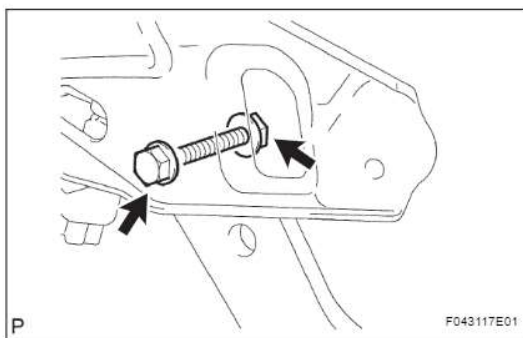
Torque: 34 N*m (350 kgf*cm, 25 ft.*lbf)

4. INSTALL STOP LIGHT SWITCH MOUNTING ADJUSTER

- (a) Install a new stop light switch mounting adjuster onto the pedal support.

5. INSTALL BRAKE PEDAL RETURN SPRING

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



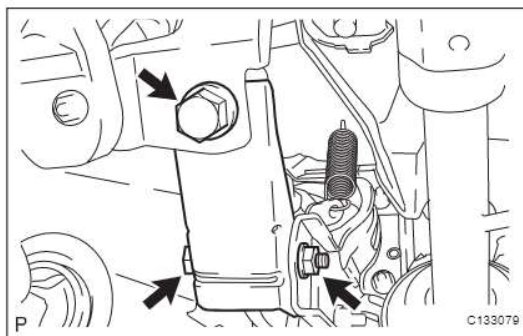
6. INSTALL BRAKE PEDAL SUPPORT SUB-ASSEMBLY

- (a) Install the 4 nuts and the brake pedal support.

Torque: 14 N*m (145 kgf*cm, 10 ft.*lbf)

BRAKE – BRAKE PEDAL

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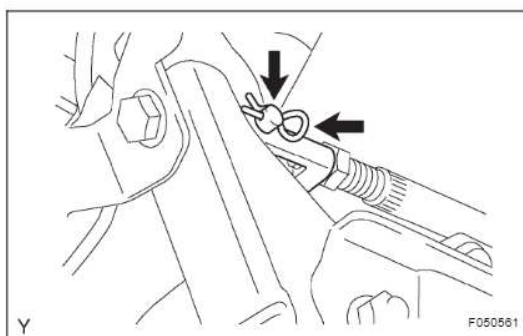


7. INSTALL BRAKE PEDAL SUPPORT REINFORCEMENT

- Provisionally install the reinforcement onto the brake pedal support with the bolt and nut.
- Install the reinforcement with the bolt.
Torque: 20 N*m (204 kgf*cm, 15 ft.*lbf)
- Fully tighten the bolt and nut.
Torque: 34 N*m (350 kgf*cm, 25 ft.*lbf)

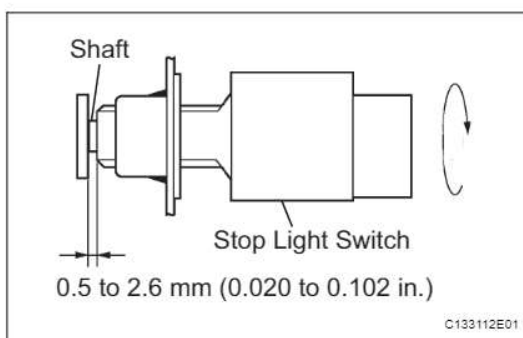
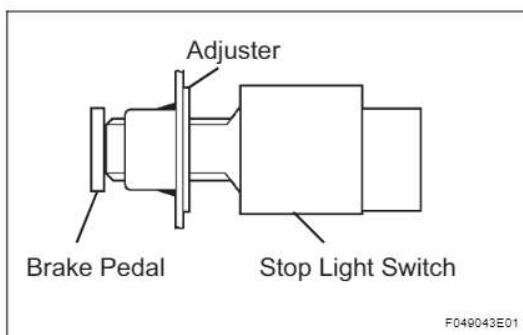
8. INSTALL MASTER CYLINDER PUSH ROD CLEVIS

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



9. INSTALL STOP LIGHT SWITCH

- Insert the stop light switch into the adjuster until it just touches the brake pedal.

NOTICE:**Do not depress the brake pedal.**

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

NOTICE:**Do not depress the brake pedal.****HINT:**

The turning torque for installing the stop light switch:

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

- Check the stop light switch clearance.

Stop light switch clearance:**0.5 to 2.6 mm (0.020 to 0.102 in.)**

- Connect the connector to the stop light switch.

10. INSPECT AND ADJUST BRAKE PEDAL (See page BR-10)

11. INSTALL INSTRUMENT PANEL LOWER FINISH PANEL SUB-ASSEMBLY (See page IP-29)

12. CONNECT HOOD LOCK CONTROL LEVER SUB-ASSEMBLY (See page IP-30)

13. INSTALL INSTRUMENT PANEL NO. 1 REGISTER ASSEMBLY (See page IP-30)

BR-16**BRAKE – BRAKE PEDAL**

14. INSTALL FRONT DOOR OPENING TRIM WEATHERSTRIP (See page [IP-33](#))
15. INSTALL COWL SIDE TRIM BOARD (See page [IR-45](#))
16. INSTALL FOOTREST CLIP (See page [IR-2](#))
17. INSTALL FRONT FLOOR FOOTREST (See page [IR-2](#))
18. INSTALL FRONT DOOR SCUFF PLATE (See page [IR-45](#))
19. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL
Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)

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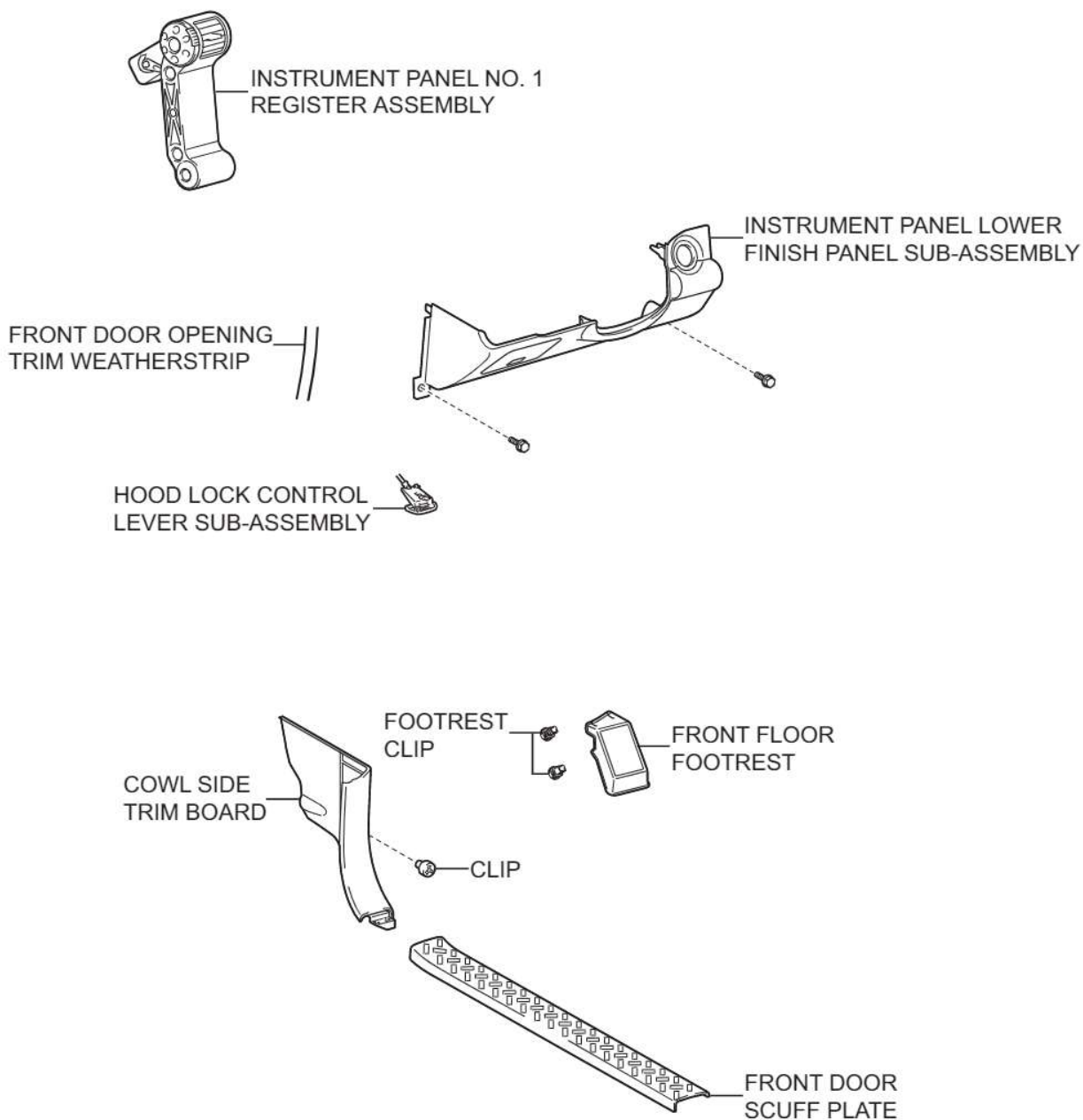
BR-16

BRAKE – HYDRAULIC BRAKE BOOSTER

HYDRAULIC BRAKE BOOSTER

COMPONENTS

BR



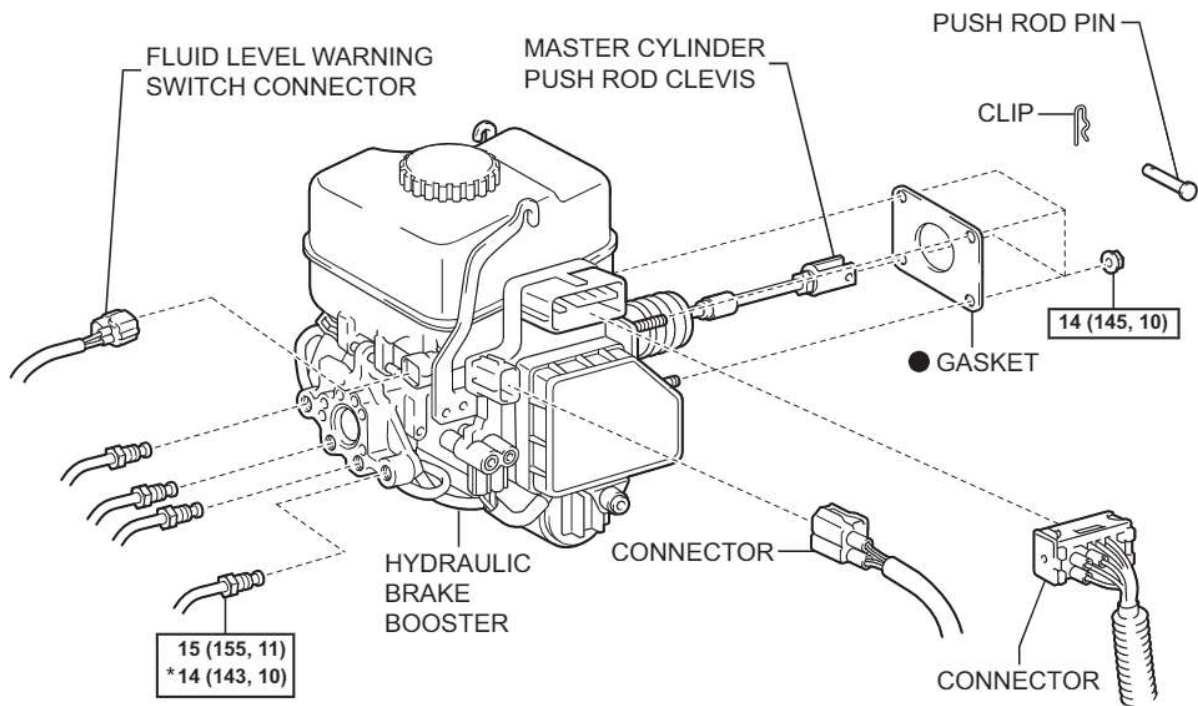
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BRAKE – HYDRAULIC BRAKE BOOSTER

BR-17

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

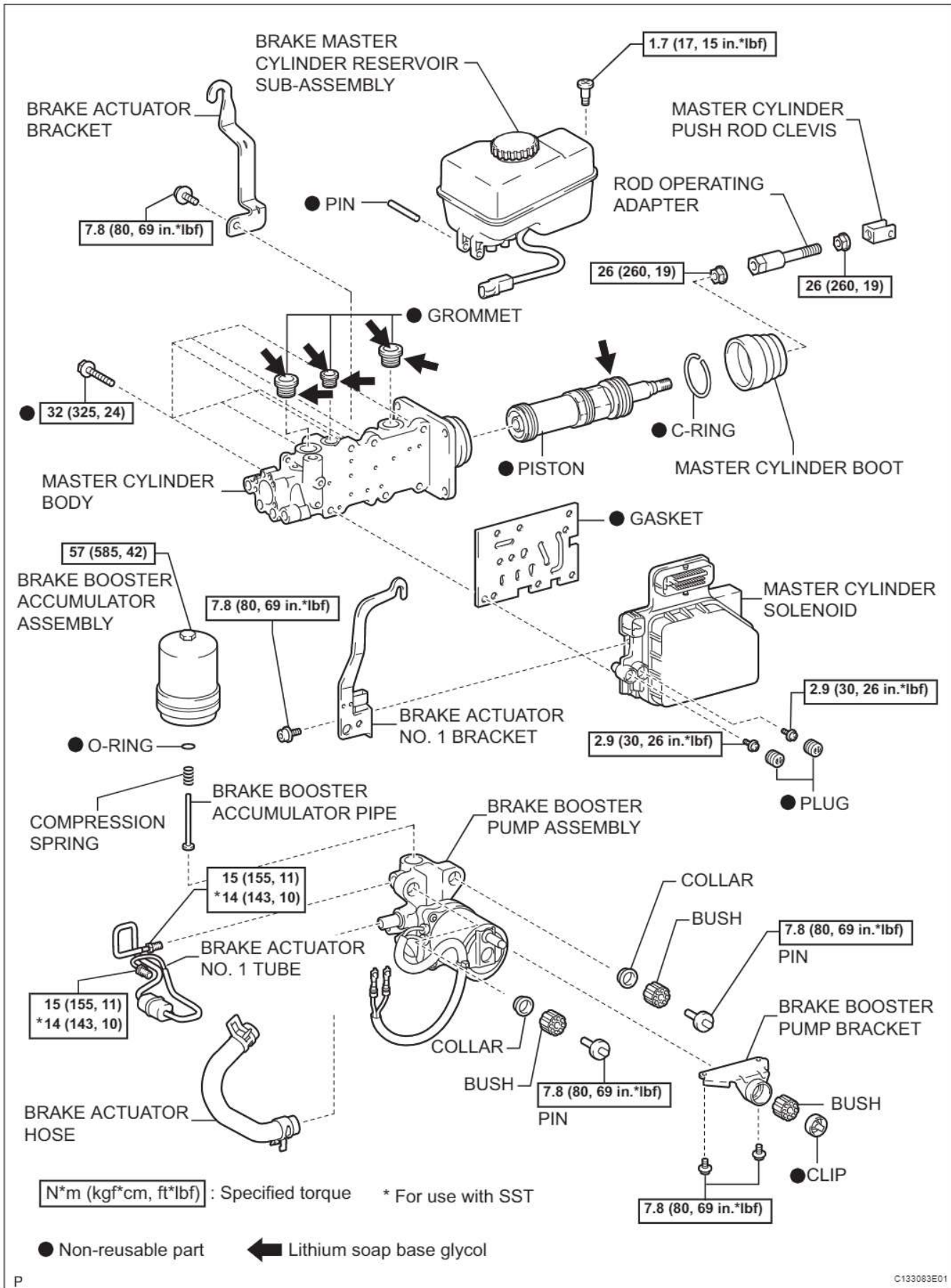
● Non-reusable part

* For use with SST

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BRAKE – HYDRAULIC BRAKE BOOSTER

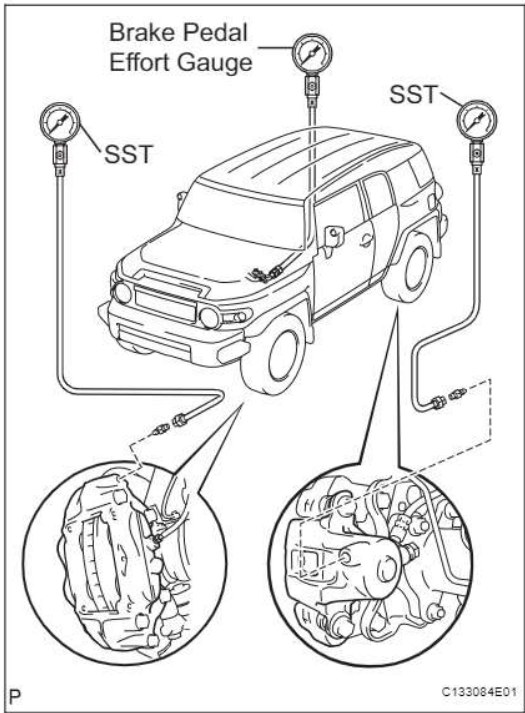
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ON-VEHICLE INSPECTION

1. INSPECT BRAKE MASTER CYLINDER FLUID PRESSURE CHANGE

- (a) Inspect the positive battery voltage.
Standard voltage:
11 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
3,150kPa (32.1 kgf/cm ² , 457 psi) or more	0 kPa (0 kgf/cm ² , 0 psi)

At 343 N (35 kgf, 77 lbf)

Front brake pressure	Rear brake pressure
4,540 kPa (46.3 kgf/cm ² , 659 psi) or more	0 kPa (0 kgf/cm ² , 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 the pressure in the accumulator is released, the reaction force becomes lighter and the stroke becomes longer.
- (3) Repeat steps 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
1,120 to 2,320 kPa (11.4 to 23.7 kgf/cm ² , 162 to 337 psi)	1,220 to 2,420 kPa (12.4 to 24.7kgf/cm ² , 177 to 351 psi)

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BRAKE – HYDRAULIC BRAKE BOOSTER

At 98 N (10 kgf, 22 lbf)

Front brake pressure	Rear brake pressure
3,840 to 5,040 kPa (39.2 to 51.4 kgf/cm ² , 557 to 731 psi)	3,990 to 5,190 kPa (40.7 to 52.9 kgf/cm ² , 579 to 753 psi)

At 147 N (15 kgf, 33 lbf)

Front brake pressure	Rear brake pressure
6,460 to 7,660 kPa (65.9 to 78.1 kgf/cm ² , 937 to 1,111 psi)	6,660 to 7,860 kPa (67.9 to 80.1 kgf/cm ² , 966 to 1,140 psi)

At 196 N (20 kgf, 44 lbf)

Front brake pressure	Rear brake pressure
8,720 to 9,920 kPa (88.9 to 101.2 kgf/cm ² , 1,265 to 1,439 psi)	11,330 to 12,530 kPa (115.5 to 127.8 kgf/cm ² , 1,644 to 1,818 psi)

2. INSPECT BRAKE MASTER CYLINDER OPERATION

- (a) Inspect the positive battery voltage.

Standard voltage:**11 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-34](#)).

- (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.

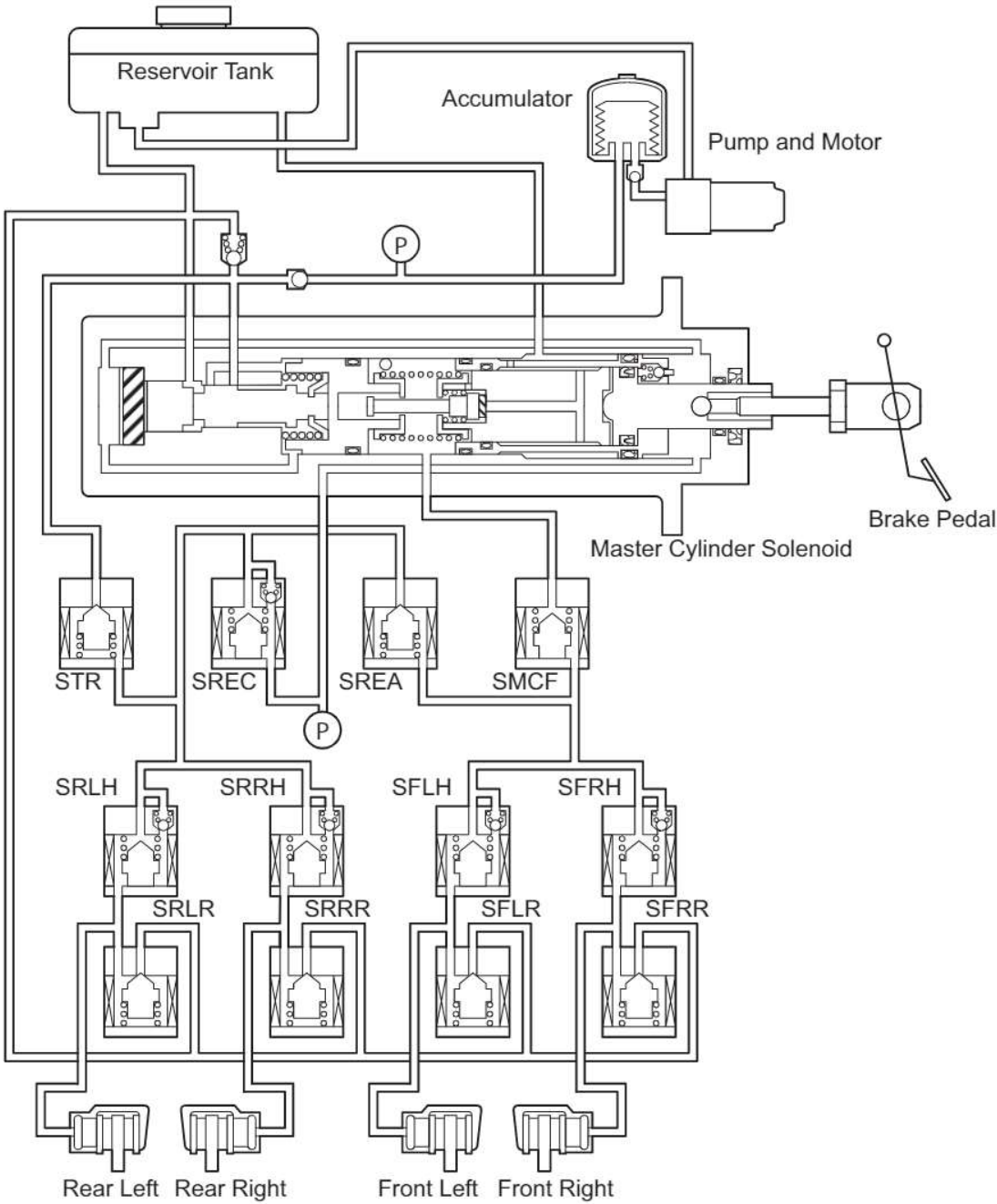
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BRAKE – HYDRAULIC BRAKE BOOSTER

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(f) Check the master cylinder solenoid operation.

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C133110E01

Inspection Order (Step)	SOL Selected By Active Test	SOL To Be Activated
D	SRCF (SA1)	SMCF
E	SFRH	SFRH

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BRAKE – HYDRAULIC BRAKE BOOSTER

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

BR

- (g) Prepare the vehicle.
- (1) Jack up and support the vehicle.
 - (2) Release the parking brake lever.
 - (3) Shift the shift lever to the "N" position and check the rear wheels by rotating them by hand.
- (h) 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 solenoids, 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 cannot be depressed, replace the hydraulic brake booster.
- (i) Inspect front ABS solenoid (SFRH) operation (step E).
- 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 right front wheel does not rotate.

BRAKE – HYDRAULIC BRAKE BOOSTER**BR-23**

- (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.

- (j) Inspect front ABS solenoid (SFLH) operation (step F).

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.

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BRAKE – HYDRAULIC BRAKE BOOSTER

BR

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

HINT:

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

- (1) Select "SFRR" on the intelligent tester.
- (2) Depress the brake pedal with stable force, then turn the "SFRR" on by the intelligent tester.
- (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 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 front wheel does not rotate by hand.
If the right front wheel rotates, replace the hydraulic brake booster.

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

HINT:

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

- (1) Select "SFLR" on the intelligent tester.
- (2) Depress the brake pedal with stable force, then turn the "SFLR" on by the intelligent tester.
- (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 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.

BRAKE – HYDRAULIC BRAKE BOOSTER**BR-25****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.

- (m) Inspect rear VSC solenoid (SREC) operation (step I).

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.

- (n) Inspect rear VSC solenoid (STR) operation (step J).
HINT:

- ON: Activate STR, depress the brake pedal, and then check that the rear wheels rotate.
 - OFF: Deactivate STR, depress the brake pedal, and then check that the rear wheels do not rotate.
- (1) Select "SRMR (SMCR, STR)" on the intelligent tester.
 - (2) Turn the "SRMR (SMCR, STR)" on by the intelligent tester.

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BRAKE – HYDRAULIC BRAKE BOOSTER

BR

- (3) When the solenoid is on, check that the rear wheels rotate by hand.

If the rear wheels do not 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 "SRMR (SMCR, STR)" 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.

- (o) Inspect rear ABS solenoid (SRRH) operation (step K).

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.

BRAKE – HYDRAULIC BRAKE BOOSTER**BR-27**

- (p) Inspect rear ABS solenoid (SRLH) operation (step L).

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.

- (q) Inspect rear ABS solenoid (SRRR) operation (step M).

HINT:

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

- (1) Select "SRRR" on the intelligent tester.
- (2) Depress the brake pedal with stable force, then turn the "SRRR" on by the intelligent tester.
- (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.

BR

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BRAKE – HYDRAULIC BRAKE BOOSTER

BR

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.
 - (r) Inspect rear ABS solenoid (SRLR) operation (step N).
HINT:
 - ON: Depress the brake pedal, activate SRLR, and then check that the left rear wheel rotates.
 - OFF: Deactivate SRLR, depress the brake pedal, and then check that the left rear wheel does not rotate.
 - (1) Select "SRLR" on the intelligent tester.
 - (2) Depress the brake pedal with stable force, then turn the "SRLR" on by the intelligent tester.
 - (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 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 left rear wheel does not rotate by hand.
If the left rear wheel rotates, replace the hydraulic brake booster.
 - (s) Lower the vehicle.
 - (t) 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 No. 1 tube, never deform it.
- Do not turn the ignition switch to ON until the work is completed.

HINT:

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

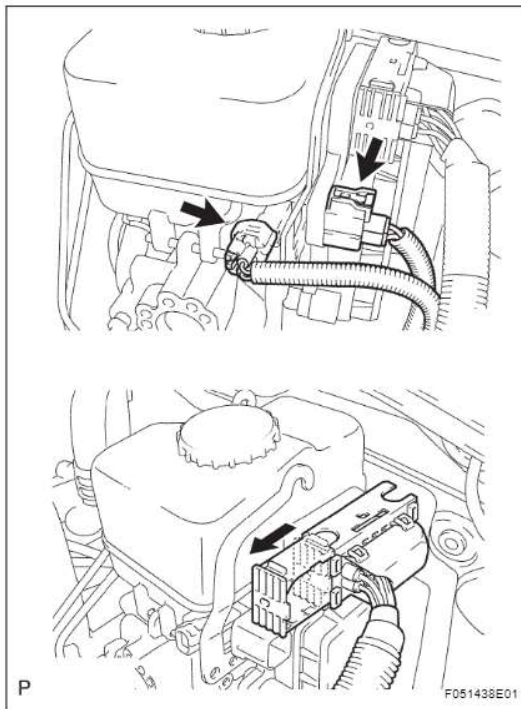
1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
2. DRAIN BRAKE FLUID
NOTICE:
Immediately wash off any brake fluid that comes into contact with a painted surface.
3. REMOVE FRONT DOOR SCUFF PLATE (See page [IR-15](#))
4. REMOVE FRONT FLOOR FOOTREST (See page [IR-2](#))
5. REMOVE FOOTREST CLIP (See page [IR-2](#))
6. REMOVE COWL SIDE TRIM BOARD (See page [IR-15](#))
7. SEPARATE FRONT DOOR OPENING TRIM WEATHERSTRIP (See page [IP-10](#))
8. REMOVE INSTRUMENT PANEL NO. 1 REGISTER ASSEMBLY (See page [IP-13](#))
9. SEPARATE HOOD LOCK CONTROL LEVER SUB-ASSEMBLY (See page [IP-13](#))
10. REMOVE INSTRUMENT PANEL LOWER FINISH PANEL SUB-ASSEMBLY (See page [IP-14](#))
11. SEPARATE MASTER CYLINDER PUSH ROD CLEVIS (See page [BR-12](#))

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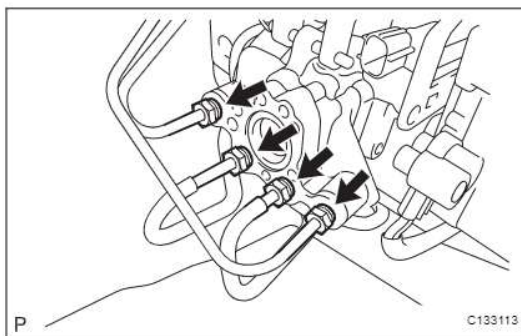
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BRAKE – HYDRAULIC BRAKE BOOSTER

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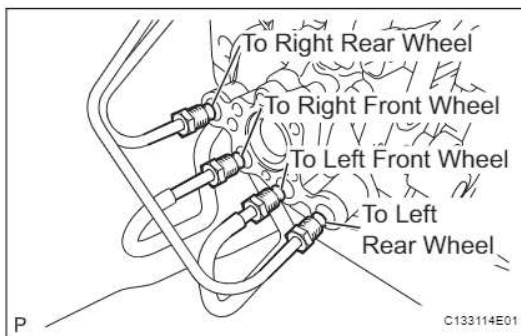
**12. REMOVE HYDRAULIC BRAKE BOOSTER**

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

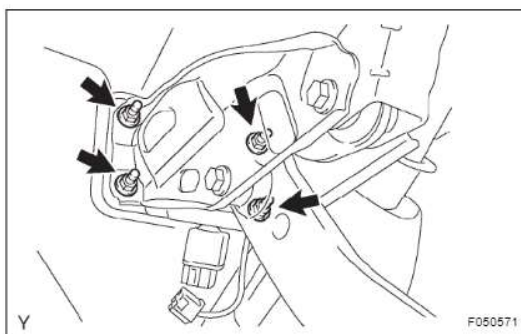


- (b) Using SST, disconnect the 4 brake tubes from the hydraulic brake booster.

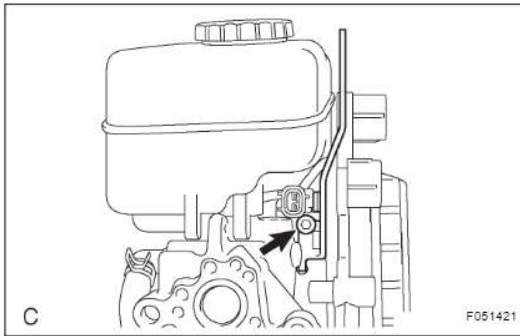
SST 09023-00101



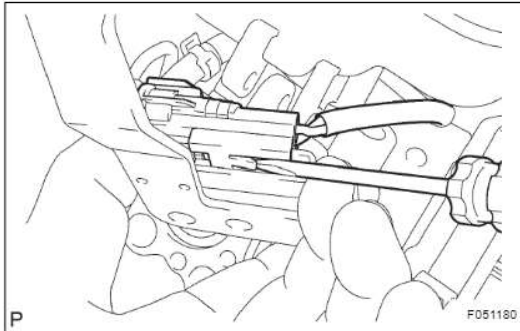
- (c) Use tags or labels to identify the place to reconnect each line.



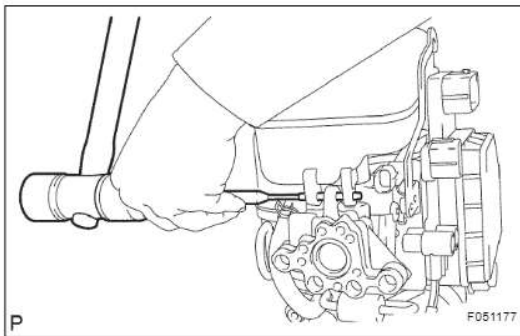
- (d) Remove the 4 nuts and pull out the hydraulic brake booster.
- (e) Remove the gasket from the hydraulic brake booster.

BRAKE – HYDRAULIC BRAKE BOOSTER**BR-31****DISASSEMBLY****1. REMOVE BRAKE ACTUATOR NO. 1 BRACKET**

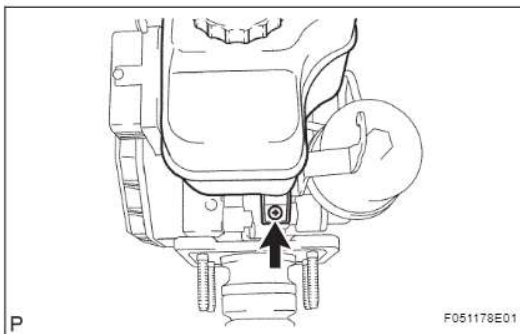
- (a) Using a 5 mm hexagon wrench, remove the bolt and brake actuator bracket.



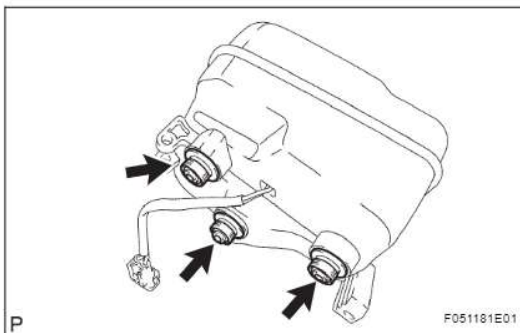
- (b) Using a screwdriver, remove the fluid level warning switch connector.

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

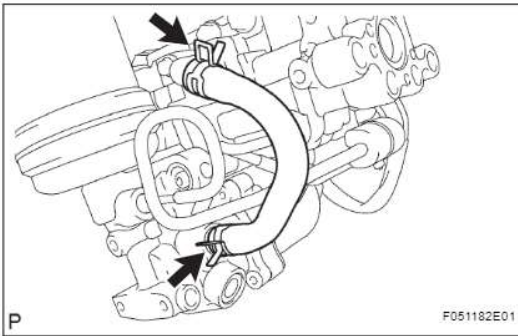
- (a) Using a pin punch and hammer, remove the pin from the master cylinder reservoir.



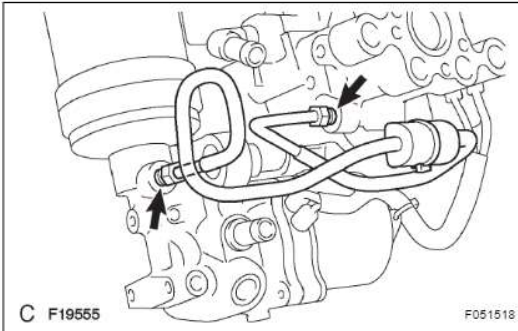
- (b) Remove the screw and pull out the master cylinder reservoir.



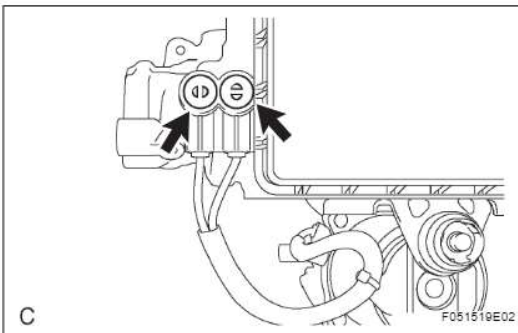
- (c) Remove the 3 grommets from the master cylinder reservoir.

BR-32**BRAKE – HYDRAULIC BRAKE BOOSTER****BR****3. REMOVE BRAKE ACTUATOR HOSE**

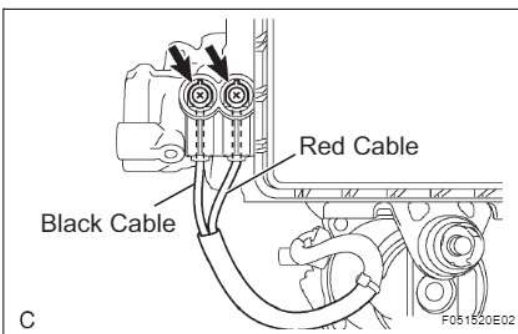
- (a) Using needle-nose pliers, slide the 2 clips and remove the brake actuator hose.

**4. REMOVE BRAKE ACTUATOR NO. 1 TUBE**

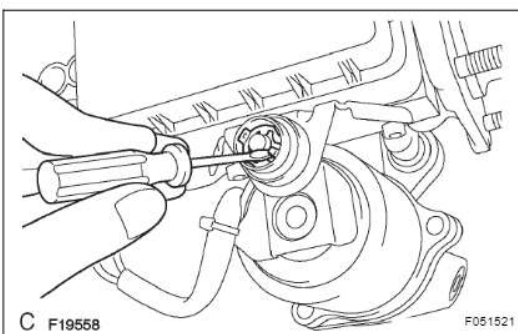
- (a) Using SST, remove the brake actuator tube.
SST 09023-00101

**5. REMOVE BRAKE BOOSTER WITH ACCUMULATOR PUMP ASSEMBLY**

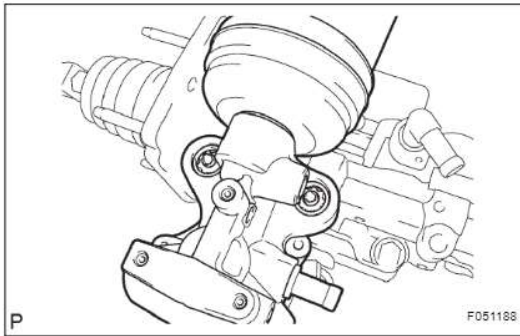
- (a) Using a screwdriver, remove the 2 plugs.



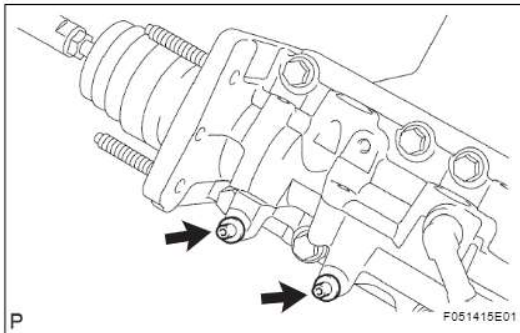
- (b) Remove the 2 screws and pull the wire harness.



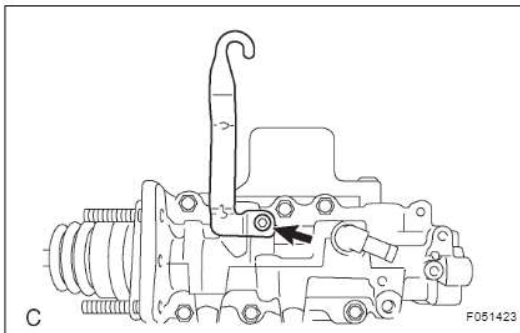
- (c) Using a screwdriver, remove the clip.

BRAKE – HYDRAULIC BRAKE BOOSTER**BR-33**

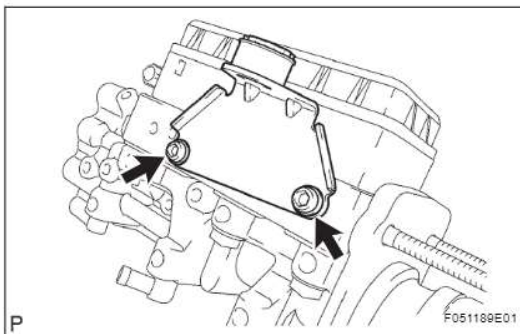
- (d) Remove the brake booster with accumulator pump assembly.
- (e) Remove the 2 bushes and 2 collars from the brake booster with accumulator pump assembly.



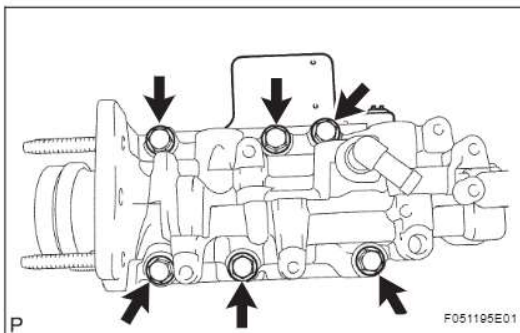
- (f) Using a 4 mm hexagon wrench, remove the 2 pins.

**6. REMOVE BRAKE ACTUATOR BRACKET**

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

**7. REMOVE BRAKE BOOSTER PUMP BRACKET**

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

**8. REMOVE MASTER CYLINDER SOLENOID**

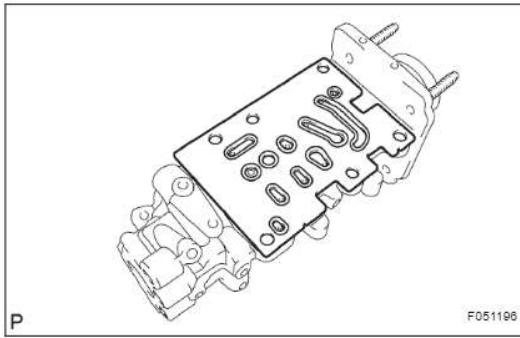
- (a) Remove the 6 bolts and the master cylinder solenoid.

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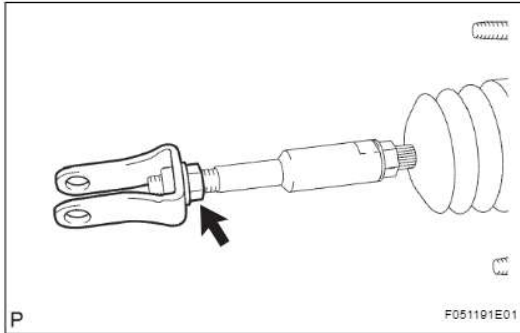
BR-34

BRAKE – HYDRAULIC BRAKE BOOSTER

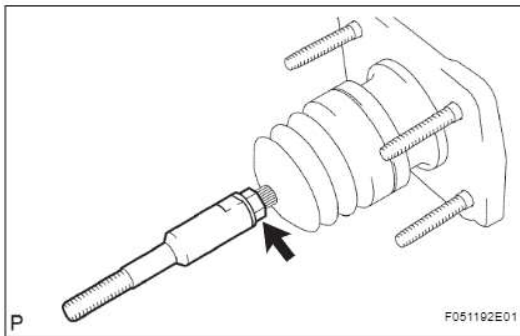
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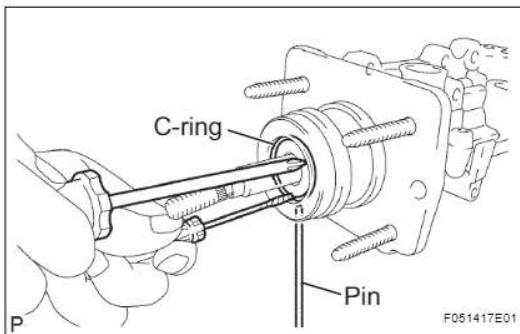
(b) Remove the gasket.

**9. REMOVE MASTER CYLINDER PUSH ROD CLEVIS**

(a) Loosen the lock nut on the rod operating adapter, and then remove the push rod clevis and lock nut.



(b) Loosen the lock nut on the brake master cylinder side, and then remove the rod operating adapter and lock nut.

10. REMOVE MASTER CYLINDER BOOT**11. REMOVE PISTON**

(a) When pressing in the piston with a screwdriver, use a pin or the equivalent to push the C-ring from the hole in the master cylinder body. Then remove the C-ring with another screwdriver.

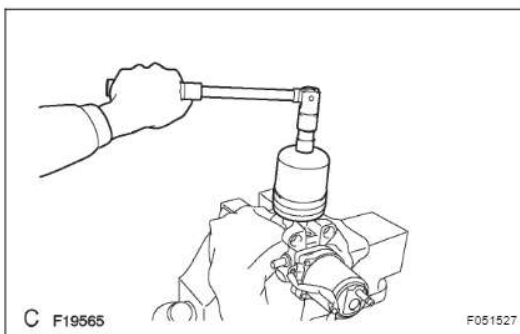
(b) Remove the piston by pulling it straight out, not at an angle.

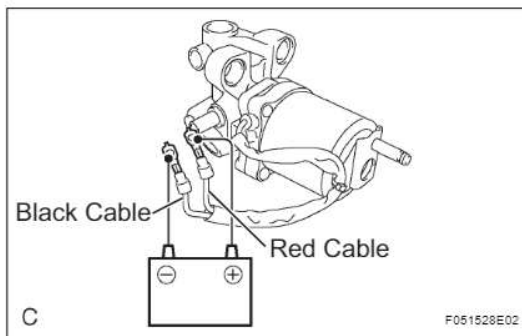
NOTICE:**If the piston is pulled out at an angle, there is a possibility that the cylinder bore could be damaged.****12. REMOVE BRAKE BOOSTER ACCUMULATOR ASSEMBLY**

(a) Place the brake booster with accumulator pump assembly in a vise lined with a cloth.

(b) Remove the brake booster accumulator.

(c) Remove the brake booster accumulator pipe, compression spring and O-ring.

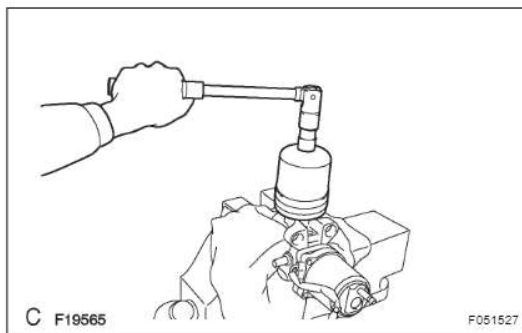


BRAKE – HYDRAULIC BRAKE BOOSTER**BR-35****INSPECTION****1. INSPECT BRAKE BOOSTER PUMP ASSEMBLY**

- 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.

BR**REASSEMBLY****1. INSTALL BRAKE BOOSTER ACCUMULATOR ASSEMBLY**

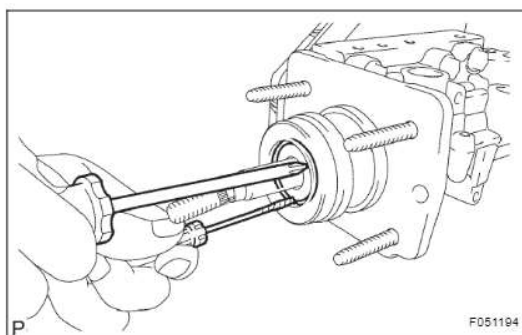
- Place the brake booster pump in a vise lined with a cloth.
- Install the brake booster accumulator pipe, compression spring and a new O-ring.

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

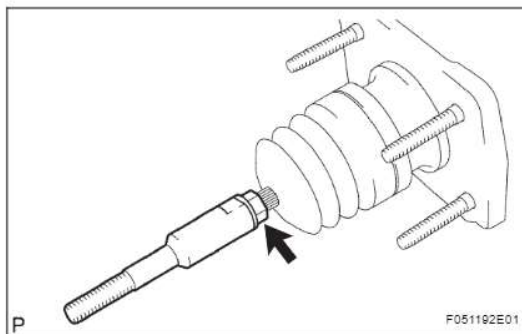
- Install the brake booster accumulator onto the brake booster pump.

Torque: 57 N*m (585 kgf*cm, 42 ft.*lbf)**2. INSTALL PISTON**

- Apply lithium soap base glycol grease to a new piston.
- Install the piston into the master cylinder body.
- Using 2 screwdrivers, install a new C-ring while pressing the piston.

NOTICE:**Do not damage the rubber lips on the piston when reassembling.****3. INSTALL MASTER CYLINDER BOOT****4. INSTALL MASTER CYLINDER PUSH ROD CLEVIS**

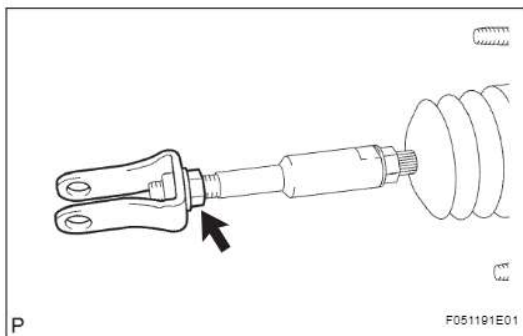
- Install the master cylinder side lock nut and rod operating adapter.

Torque: 26 N*m (260 kgf*cm, 19 ft.*lbf)

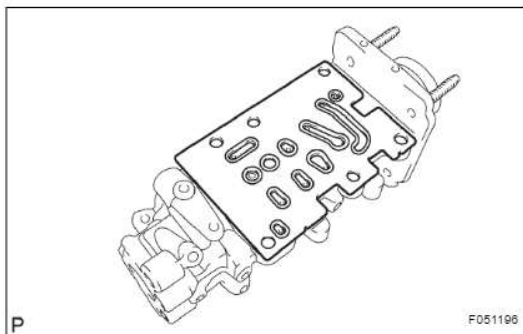
BR-36

BRAKE – HYDRAULIC BRAKE BOOSTER

BR

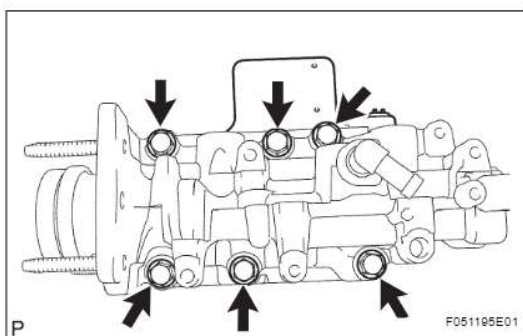


- (b) Install the lock nut and push rod clevis.
Torque: 26 N*m (260 kgf*cm, 19 ft.*lbf)



5. INSTALL MASTER CYLINDER SOLENOID

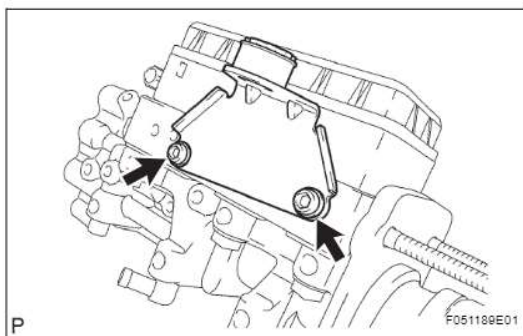
- (a) Place a new gasket onto the master cylinder solenoid.



- (b) Install the master cylinder solenoid with 6 new bolts.
Torque: 32 N*m (325 kgf*cm, 24 ft.*lbf)

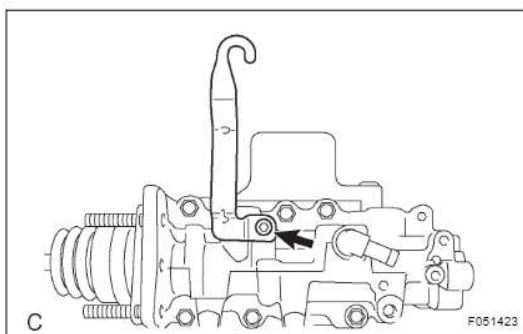
NOTICE:

Do not let water, dust, or other foreign matter adhere to the surface or fitting surfaces of the master cylinder solenoid, master cylinder body and gasket.



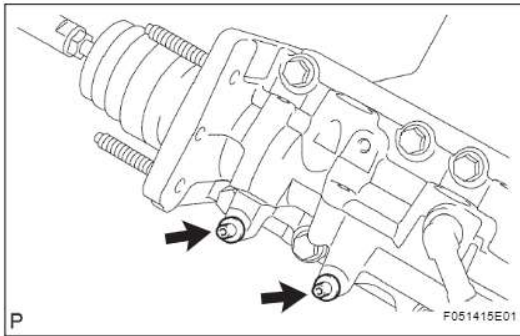
6. INSTALL BRAKE BOOSTER PUMP BRACKET

- (a) Using a 5 mm hexagon wrench, install the brake booster pump bracket with the 2 bolts.
Torque: 7.8 N*m (80 kgf*cm, 69 in.*lbf)
 (b) Install the bush onto the brake booster pump bracket.

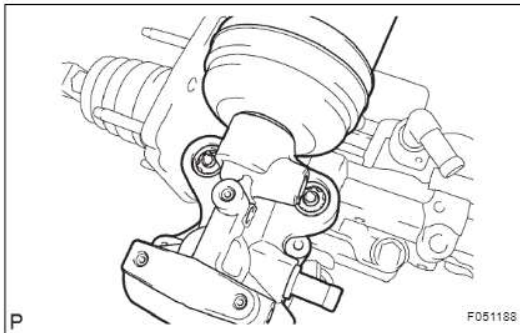


7. INSTALL BRAKE ACTUATOR BRACKET

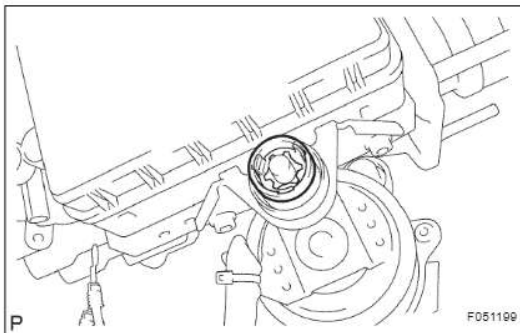
- (a) Using a 5 mm hexagon wrench, install the brake actuator bracket with the bolt.
Torque: 7.8 N*m (80 kgf*cm, 69 in.*lbf)

BRAKE – HYDRAULIC BRAKE BOOSTER**BR-37****8. INSTALL BRAKE BOOSTER WITH ACCUMULATOR PUMP ASSEMBLY**

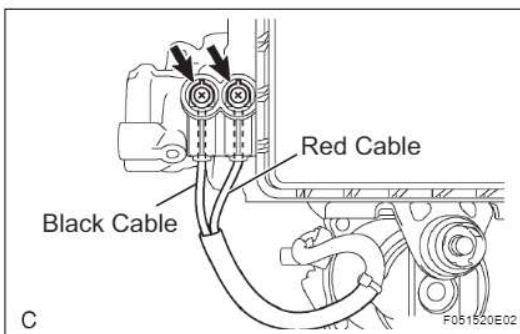
- (a) Using a 4 mm hexagon wrench, install the 2 pins.
Torque: 7.8 N*m (80 kgf*cm, 69 in.*lbf)
- (b) Install the 2 collars and 2 bushes onto the brake booster with accumulator pump assembly.



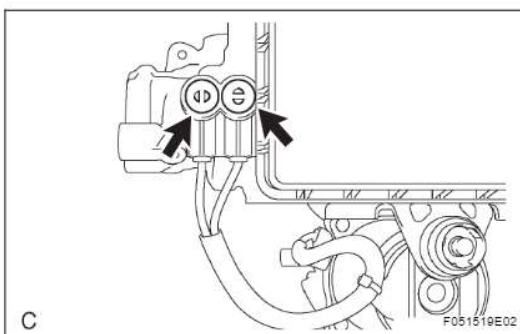
- (c) Install the brake booster with accumulator pump assembly.



- (d) Install a new clip.



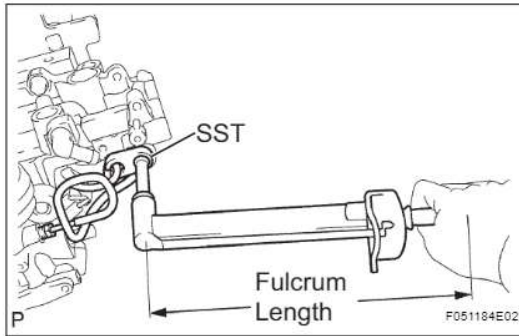
- (e) Install the wire harnesses with the 2 screws.
Torque: 2.9 N*m (30 kgf*cm, 26 in.*lbf)



- (f) Install 2 new plugs.

BR-38

BRAKE – HYDRAULIC BRAKE BOOSTER

**9. INSTALL BRAKE ACTUATOR NO. 1 TUBE**

- (a) Using SST, install the brake actuator tube.

SST 09023-00101

Torque: for use without SST

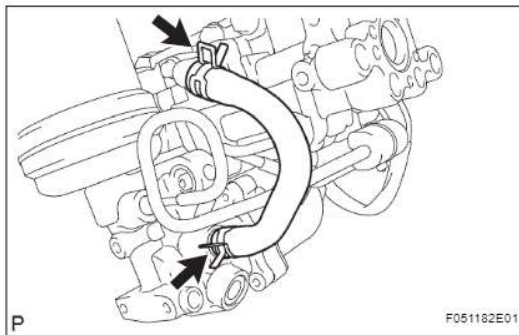
15 N*m (155 kgf*cm, 11 ft.*lbf)

for use with SST

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

HINT:

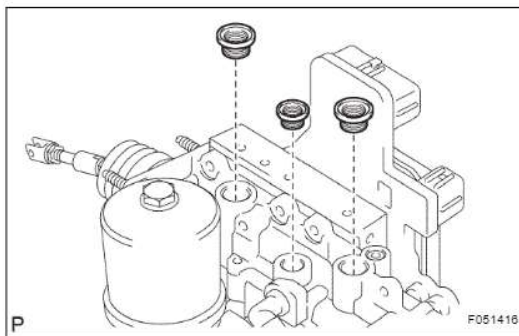
- Use a torque wrench with a fulcrum length of 300 mm (11.81 in.).
- This torque value is effective when SST is parallel to the torque wrench.

**10. INSTALL BRAKE ACTUATOR HOSE**

- (a) Using needle-nose pliers, install the brake actuator hose with the 2 clips.

11. INSTALL BRAKE MASTER CYLINDER RESERVOIR SUB-ASSEMBLY

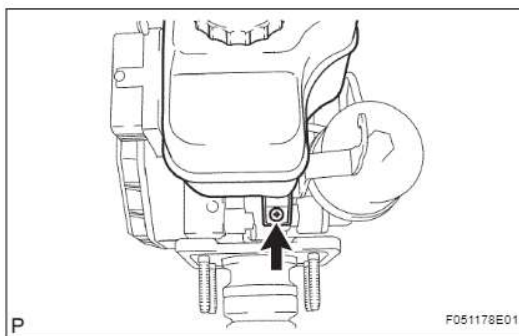
- (a) Apply lithium soap base glycol grease to 3 new grommets.



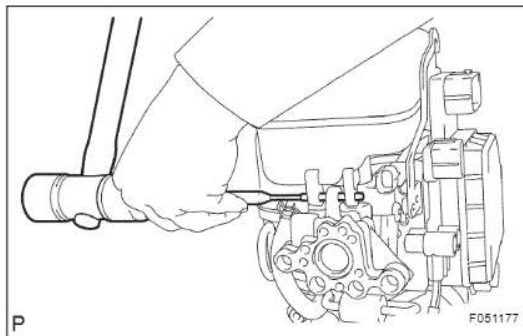
- (b) Install the 3 grommets onto the master cylinder body.

NOTICE:

The grommets are different sizes. Install the grommets in their correct positions.



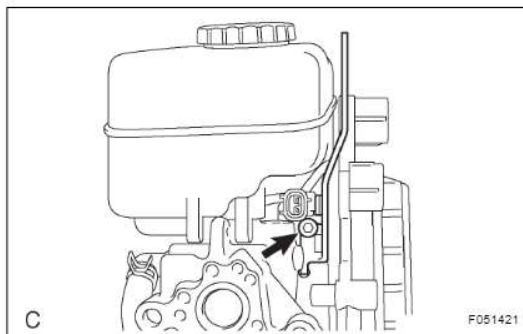
- (c) Install the master cylinder reservoir with the screw.
Torque: 1.7 N*m (17 kgf*cm, 15 in.*lbf)

BRAKE – HYDRAULIC BRAKE BOOSTER**BR-39**

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

12. INSTALL BRAKE ACTUATOR NO. 1 BRACKET

- (a) Install the fluid level warning switch connector.



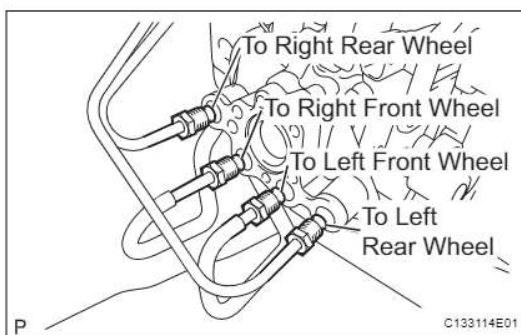
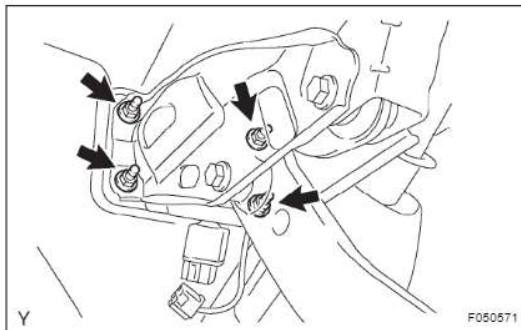
- (b) Using a 5 mm hexagon wrench, install the brake actuator bracket with the bolt.

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

BR

BR-40**BRAKE – HYDRAULIC BRAKE BOOSTER****INSTALLATION****1. INSTALL HYDRAULIC BRAKE BOOSTER**

- (a) Install a new gasket onto the hydraulic brake booster.
- (b) Install the hydraulic brake booster with the 4 nuts.
Torque: 14 N*m (145 kgf*cm, 10 ft.*lbf)

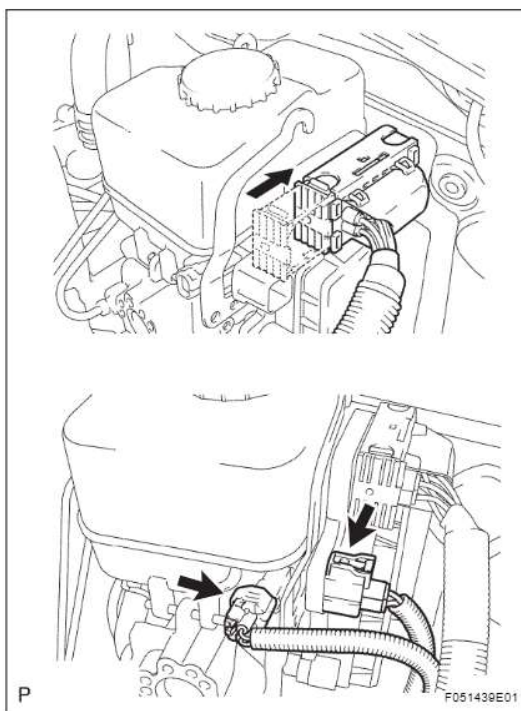


- (c) Using SST, connect the 4 brake tubes to the correct positions on the hydraulic brake booster, as shown in the illustration.

SST 09023-00101**Torque: for use without SST****15 N*m (155 kgf*cm, 11 ft.*lbf)****for use with SST****14 N*m (143 kgf*cm, 10 ft.*lbf)****HINT:**

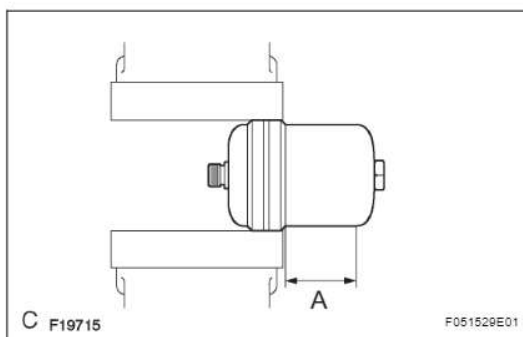
- Use a torque wrench with a fulcrum length of 300 mm (11.81 in.).
- This torque value is effective when SST is parallel to the torque wrench.

- (d) Connect the 3 connectors.

2. INSTALL MASTER CYLINDER PUSH ROD CLEVIS (See page [BR-14](#))**3. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL****Torque: 3.9 N*m (40 kgf*cm, 35 in.*lbf)****4. FILL RESERVOIR WITH BRAKE FLUID (See page [BR-5](#))****5. BLEED BRAKE BOOSTER WITH ACCUMULATOR PUMP ASSEMBLY (See page [BR-5](#))****6. BLEED BRAKE LINE (See page [BR-5](#))****7. BLEED MASTER CYLINDER SOLENOID (See page [BR-6](#))****8. CHECK FLUID LEVEL IN RESERVOIR (See page [BR-7](#))****9. CHECK FOR BRAKE FLUID LEAKAGE****10. INSPECT AND ADJUST BRAKE PEDAL (See page [BR-10](#))****11. INSTALL INSTRUMENT PANEL LOWER FINISH PANEL SUB-ASSEMBLY (See page [IP-29](#))**

12. CONNECT HOOD LOCK CONTROL LEVER SUB-ASSEMBLY (See page [IP-30](#))
13. INSTALL INSTRUMENT PANEL NO. 1 REGISTER ASSEMBLY (See page [IP-30](#))
14. INSTALL FRONT DOOR OPENING TRIM WEATHERSTRIP (See page [IP-33](#))
15. INSTALL COWL SIDE TRIM BOARD (See page [IR-45](#))
16. INSTALL FOOTREST CLIP (See page [IR-2](#))
17. INSTALL FRONT FLOOR FOOTREST (See page [IR-2](#))
18. INSTALL FRONT DOOR SCUFF PLATE (See page [IR-45](#))
19. INSPECT BRAKE MASTER CYLINDER OPERATION (See page [BR-20](#))

BR



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 in area A on the brake booster accumulator as shown in the illustration. And discharge the gas and liquid inside.

NOTICE:

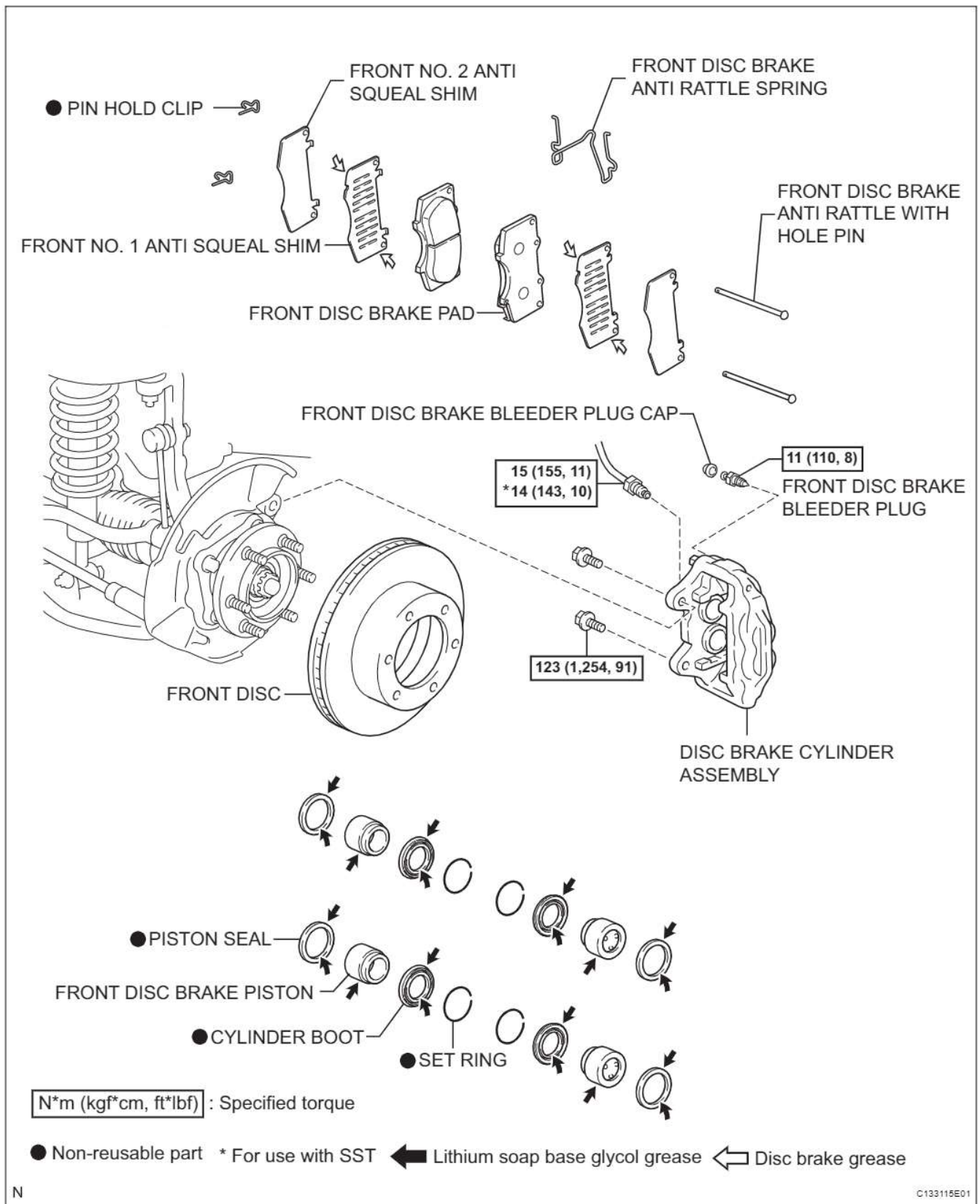
- As gas may spray out, cover the brake booster accumulator with a cloth when performing the operation.
 - Work slowly and do not cut the hole too quickly or suddenly.
 - Wear protective glasses during the operation.
- (c) When the outer body of the brake booster accumulator is cut, gas and liquid discharge.
- HINT:
- The gas is colorless, odorless and nonpoisonous nitrogen gas.
 - The liquid is brake fluid.

BRAKE – FRONT BRAKE

BR-41

FRONT BRAKE

COMPONENTS



BR

N

C133115E01

BR-42

BRAKE – FRONT BRAKE

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

- (a) Remove the 2 pin hold clips, then remove the 2 hole pins from the disc brake cylinder.
- (b) Remove the anti rattle spring from the disc brake pad.

4. REMOVE FRONT DISC BRAKE PAD

- (a) Remove the 2 disc brake pads with anti squeal shims from the disc brake cylinder.

5. REMOVE FRONT ANTI SQUEAL SHIM KIT

- (a) Remove the No. 1 and No. 2 anti squeal shims from each of the disc brake pads.

6. REMOVE DISC BRAKE CYLINDER ASSEMBLY

- (a) Using SST, separate the brake tube from the disc brake cylinder.

SST 09023-00101

HINT:

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

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

7. REMOVE FRONT DISC

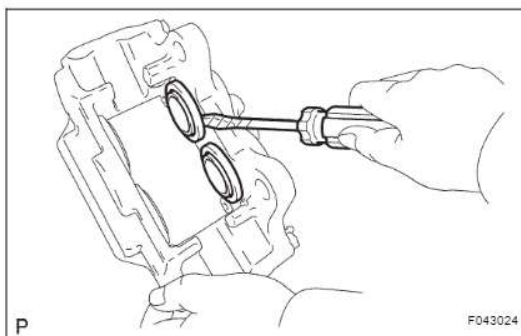
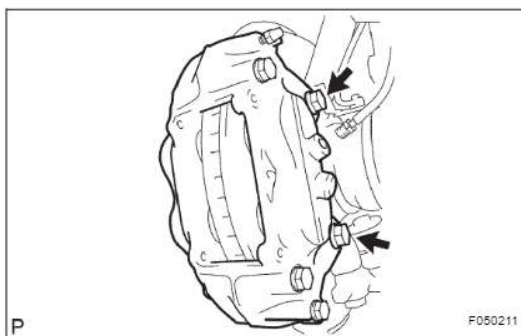
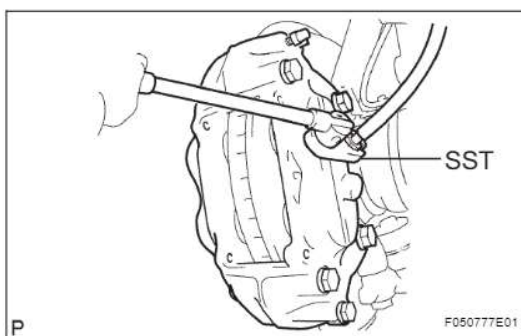
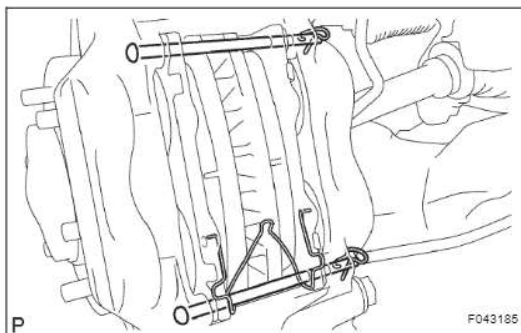
- (a) Place matchmarks on the disc and the axle hub and remove the disc.

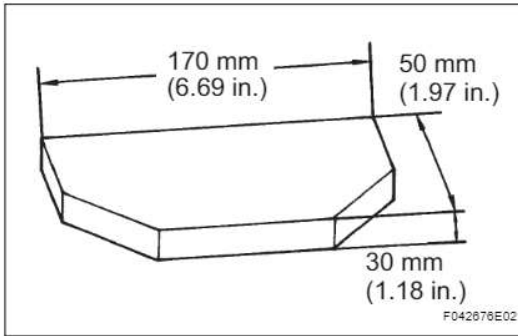
DISASSEMBLY

1. REMOVE CYLINDER BOOT

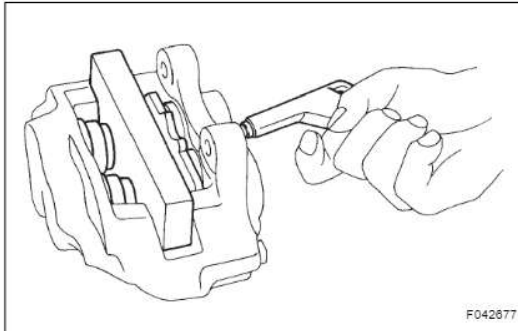
- (a) Using a screwdriver, remove the 4 set rings and 4 cylinder boots from the disc brake cylinder.

BR



BRAKE – FRONT BRAKE**BR-43****2. REMOVE FRONT DISC BRAKE PISTON**

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



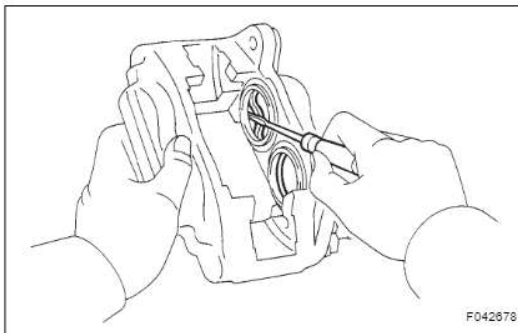
- (b) Place the plate between the pistons and insert a pad into one side.
- (c) Apply compressed air to remove the pistons one side at a time from the disc brake cylinder.

CAUTION:

Do not place your fingers in front of the piston when applying compressed air.

NOTICE:

Do not spatter the brake fluid.

**3. REMOVE PISTON SEAL**

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

NOTICE:

Do not damage the inner surface or piston seal groove of the cylinder.

4. REMOVE FRONT DISC BRAKE BLEEDER PLUG CAP**5. REMOVE FRONT DISC BRAKE BLEEDER PLUG**

BR-44

BRAKE – FRONT BRAKE

INSPECTION

1. INSPECT BRAKE CYLINDER AND PISTON

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

2. INSPECT PAD LINING THICKNESS

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

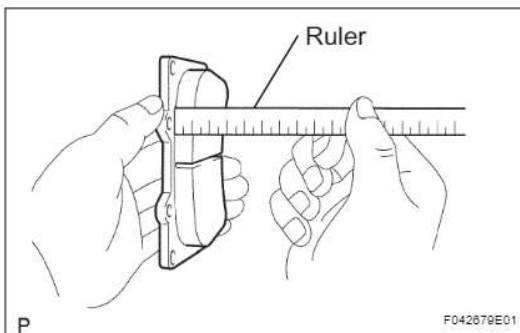
Standard thickness:

11.5 mm (0.453 in.)

Minimum thickness:

1.0 mm (0.039 in.)

If the pad lining thickness is equal to or less than the minimum thickness, replace the disc brake pad kit.



3. INSPECT DISC THICKNESS

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

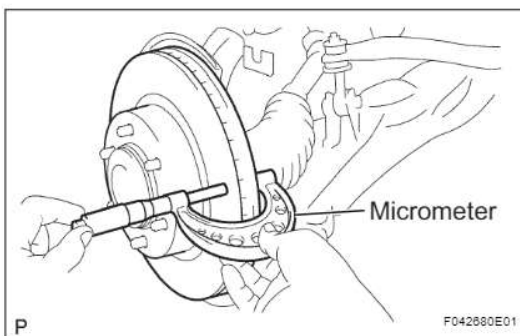
Standard thickness:

28.0 mm (1.102 in.)

Minimum thickness:

26.0 mm (1.024 in.)

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



4. INSPECT DISC RUNOUT

- (a) Check the bearing play in the axial direction and check for the axle hub runout (See page [AH-1](#)).

- (b) Provisionally fasten the front disc together with the hub nuts.

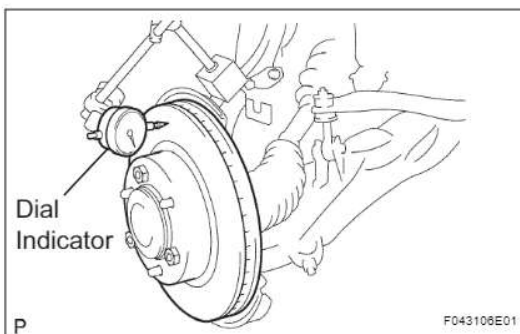
Torque: 112 N*m (1,137 kgf*cm, 82 ft.*lbf)

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

Maximum disc runout:

0.05 mm (0.0020 in.)

If the runout exceeds the maximum value, change the installation positions of the disc and axle to make the minimum runout. If the runout exceeds the maximum even when the installation positions are changed, grind the disc. If the disc thickness is less than the minimum, replace the front disc.



BR

REASSEMBLY

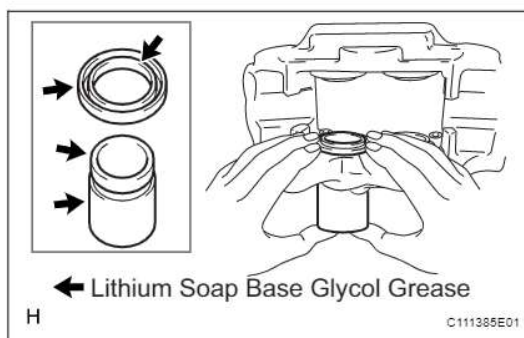
1. TEMPORARILY TIGHTEN FRONT DISC BRAKE BLEEDER PLUG
2. INSTALL FRONT DISC BRAKE BLEEDER PLUG CAP
3. INSTALL PISTON SEAL

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

NOTICE:

Securely install the piston seal into the groove of the disc brake cylinder.

BR

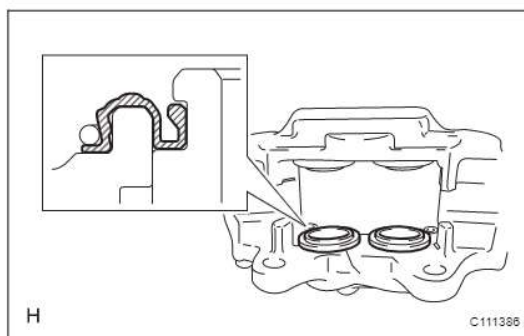


4. INSTALL FRONT DISC BRAKE PISTON

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

NOTICE:

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



5. INSTALL CYLINDER BOOT

- (a) Install the 4 cylinder boots onto the disc brake cylinder.

NOTICE:

Securely install the cylinder boot into the grooves of the disc brake cylinder and piston.

- (b) Using a screwdriver, install 4 new set rings.

NOTICE:

Do not damage the boot.

BR-46

BRAKE – FRONT BRAKE

INSTALLATION

1. INSTALL FRONT DISC

- (a) Align the matchmarks of the disc and axle hub and install the disc.

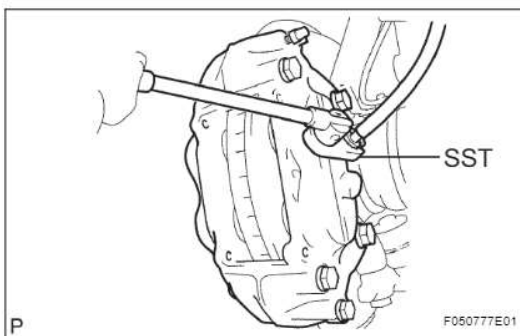
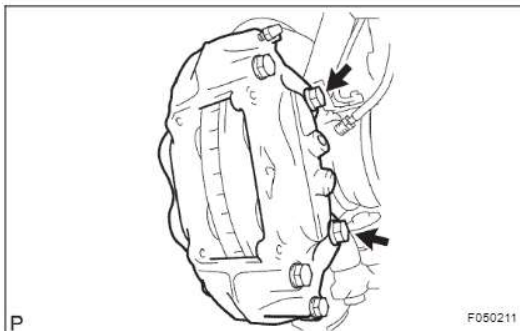
HINT:

When replacing the disc, select the position that gives the minimum disc runout.

2. INSTALL DISC BRAKE CYLINDER ASSEMBLY

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

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



- (b) Using SST, install the brake tube onto the disc brake cylinder.

SST 09023-00101

Torque: for use without SST

15 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 300 mm (11.81 in.).
- This torque value is effective when SST is parallel to the torque wrench.

3. INSTALL FRONT ANTI SQUEAL SHIM KIT

NOTICE:

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

- (a) Apply disc brake grease to both sides of each No. 1 shim.
- (b) Install the No. 1 and No. 2 anti squeal shims onto each brake pad.

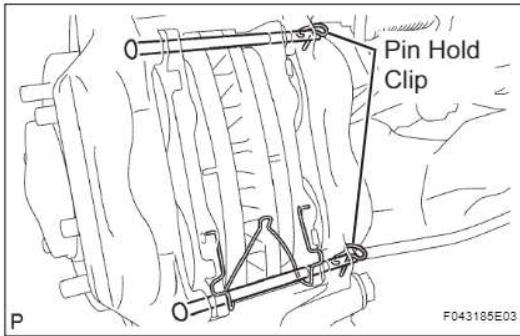


4. INSTALL FRONT DISC BRAKE PAD

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

NOTICE:

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

BRAKE – FRONT BRAKE**BR-47****5. INSTALL FRONT DISC BRAKE ANTI RATTLE WITH HOLE PIN**

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

HINT:

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

- (b) Install the 2 new pin hold clips onto the hole pin.

NOTICE:

Install the pin hold clip with its handle oriented in the center of the vehicle.

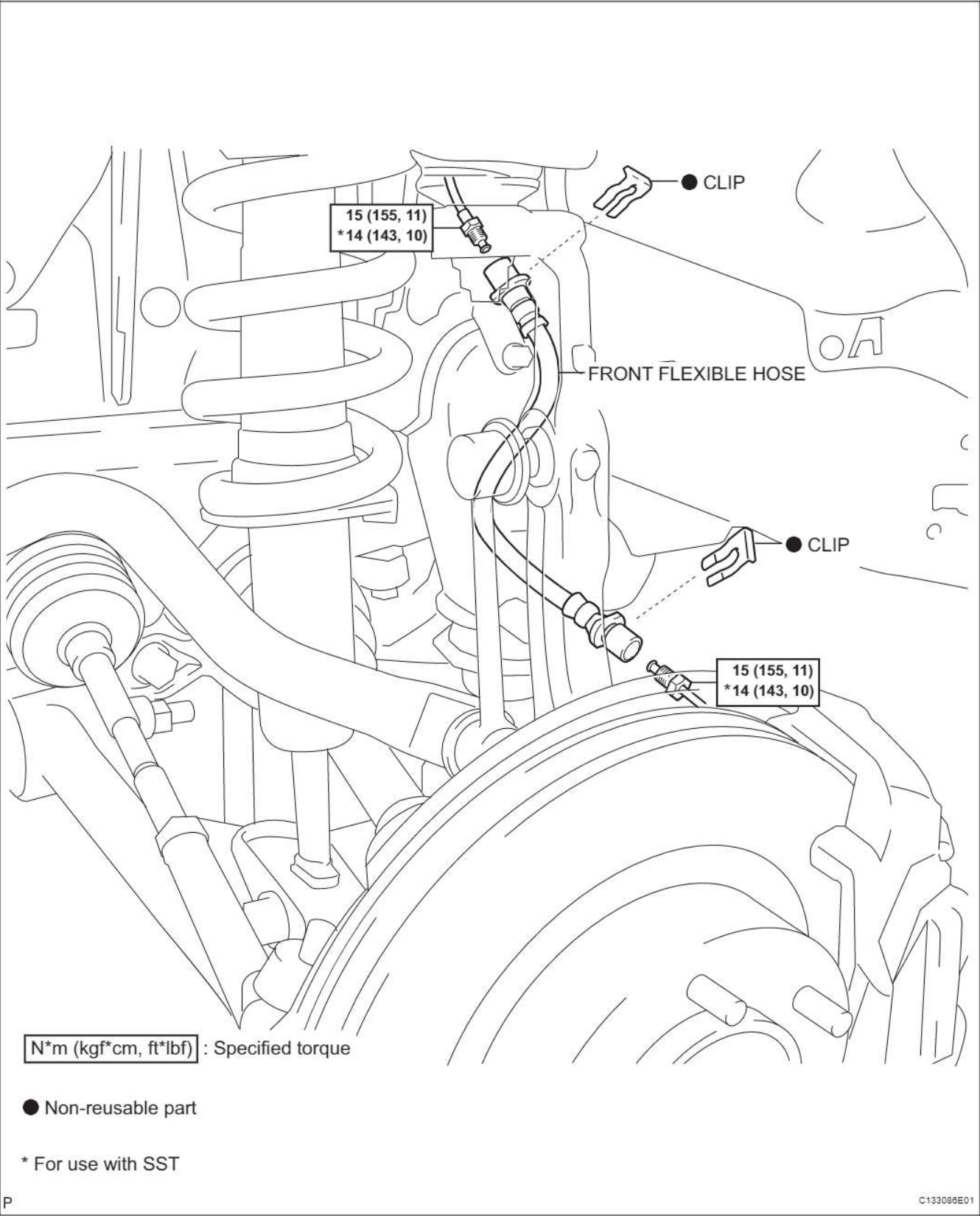
BR

6. **FILL RESERVOIR WITH BRAKE FLUID** (See page [BR-5](#))
7. **BLEED BRAKE LINE** (See page [BR-5](#))
8. **CHECK FLUID LEVEL IN RESERVOIR** (See page [BR-7](#))
9. **CHECK FOR BRAKE FLUID LEAKAGE**
10. **INSTALL FRONT WHEEL**
Torque: 112 N*m (1,137 kgf*cm, 82 ft.*lbf)

BR

FRONT BRAKE FLEXIBLE HOSE

COMPONENTS



BR-48**BRAKE – FRONT BRAKE FLEXIBLE HOSE****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 FLEXIBLE HOSE

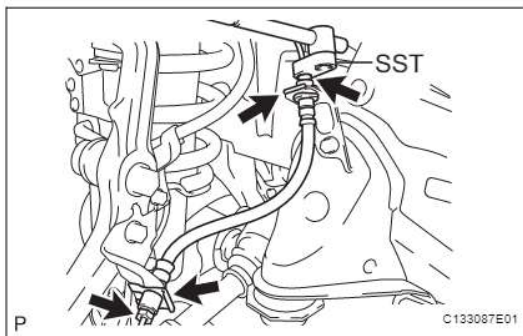
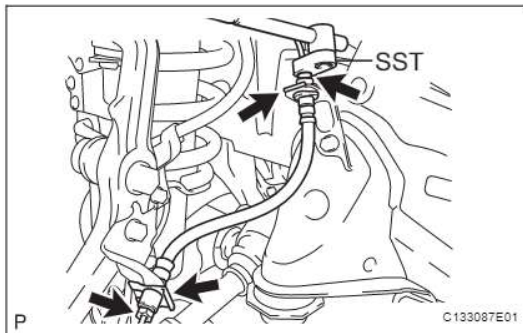
- (a) Using SST, separate the brake tubes.

SST 09023-00101

HINT:

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

- (b) Remove the 2 clips and flexible hose.

**INSTALLATION****1. INSTALL FRONT FLEXIBLE HOSE**

- (a) Install the flexible hose with 2 new clips.

- (b) Using SST, install the 2 brake tubes onto the flexible hose.

SST 09023-00101

Torque: for use without SST

15 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 300 mm (11.81 in.).
- This torque value is effective when SST is parallel to the torque wrench.

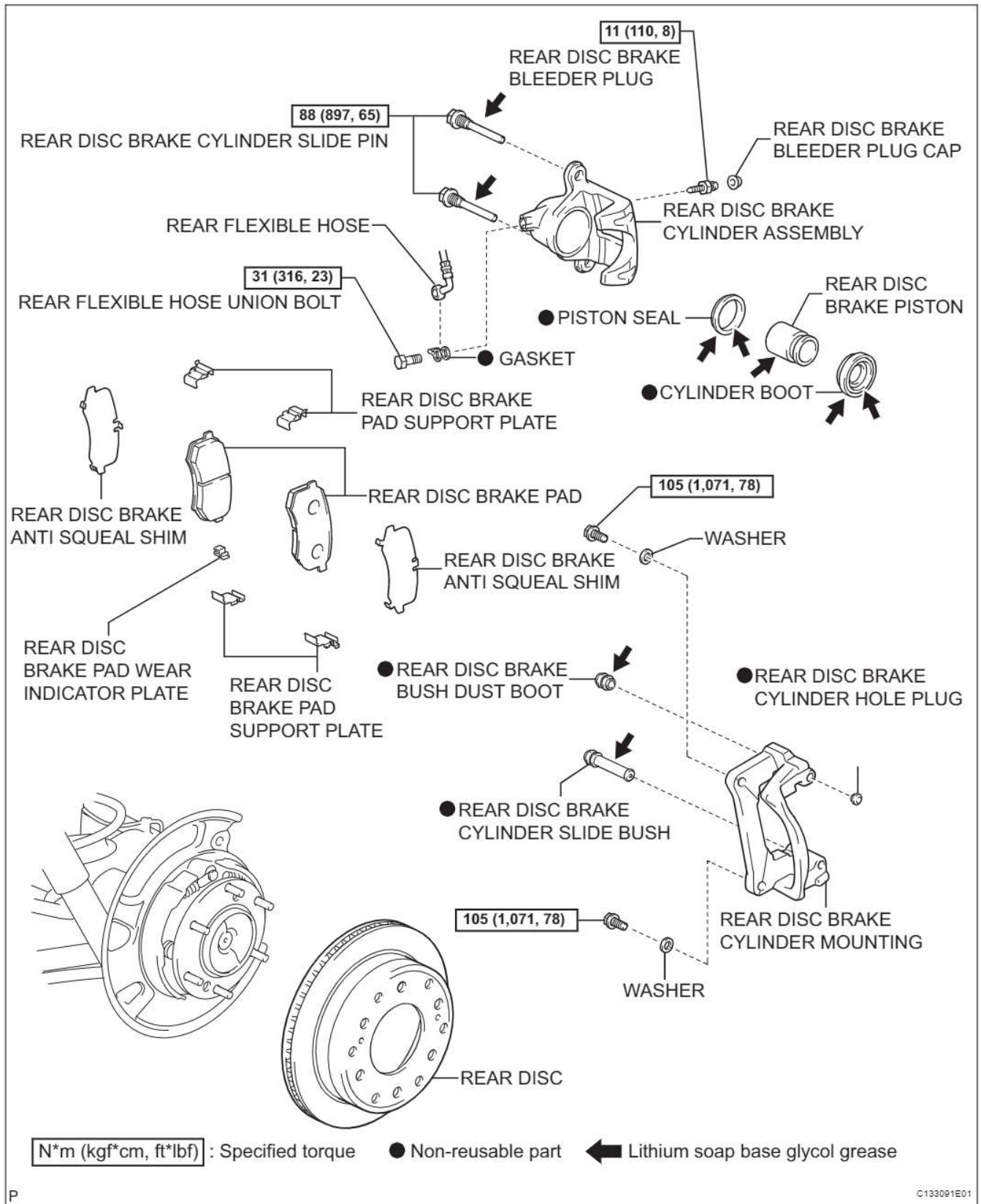
2. FILL RESERVOIR WITH BRAKE FLUID (See page [BR-5](#))**3. BLEED BRAKE LINE (See page [BR-5](#))****4. CHECK FLUID LEVEL IN RESERVOIR (See page [BR-7](#))****5. CHECK FOR BRAKE FLUID LEAKAGE****6. INSTALL FRONT WHEEL**

Torque: 112 N*m (1,137 kgf*cm, 82 ft.*lbf)

BRAKE – REAR BRAKE

BR-49

REAR BRAKE COMPONENTS



BR-50

BRAKE – REAR BRAKE

REMOVAL

1. REMOVE REAR WHEEL

2. DRAIN BRAKE FLUID

NOTICE:

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

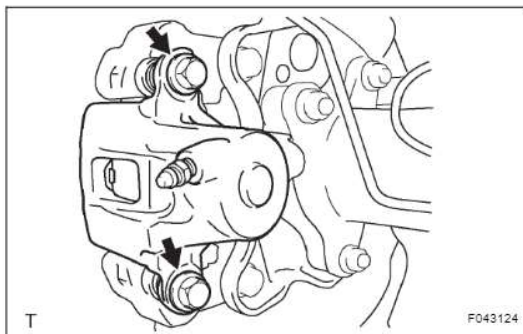
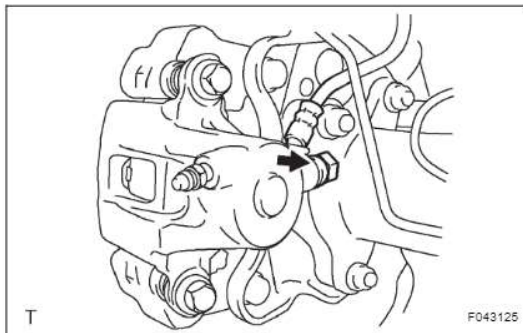
3. SEPARATE REAR FLEXIBLE HOSE

- (a) Remove the union bolt and gasket and separate the flexible hose from the disc brake cylinder.

HINT:

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

BR



4. REMOVE REAR DISC BRAKE CYLINDER ASSEMBLY

- (a) Remove the 2 slide pins and remove the disc brake cylinder from the disc brake cylinder mounting.

5. REMOVE REAR DISC BRAKE PAD

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

6. REMOVE REAR DISC BRAKE ANTI SQUEAL SHIM

- (a) Remove the 2 anti squeal shims from each brake pad.

7. REMOVE REAR DISC BRAKE PAD WEAR INDICATOR PLATE

- (a) Remove the indicator plate from the inner side of the brake pad.

8. REMOVE REAR DISC BRAKE PAD SUPPORT PLATE

- (a) Remove the 4 pad support plates from the disc brake cylinder mounting.

9. REMOVE REAR DISC BRAKE CYLINDER MOUNTING

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

10. REMOVE REAR DISC BRAKE CYLINDER SLIDE BUSH

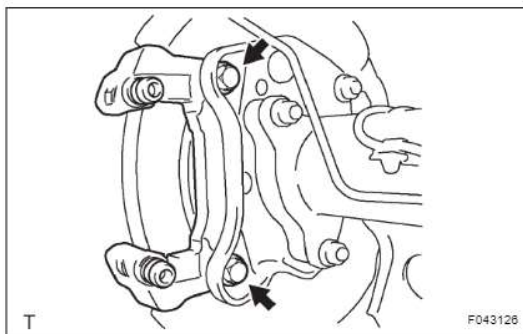
- (a) Remove the slide bush from the disc brake cylinder mounting.

11. REMOVE REAR DISC BRAKE BUSH DUST BOOT

- (a) Remove the dust boot from the disc brake cylinder mounting.

12. REMOVE REAR DISC BRAKE CYLINDER HOLE PLUG

- (a) Remove the hole plug from the disc brake cylinder mounting.

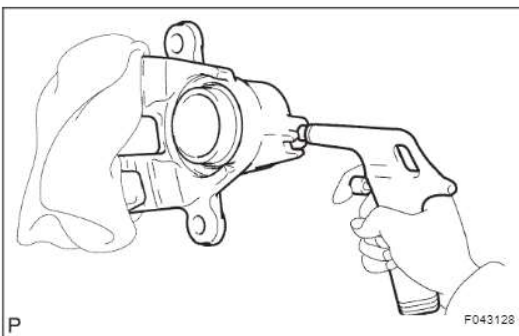
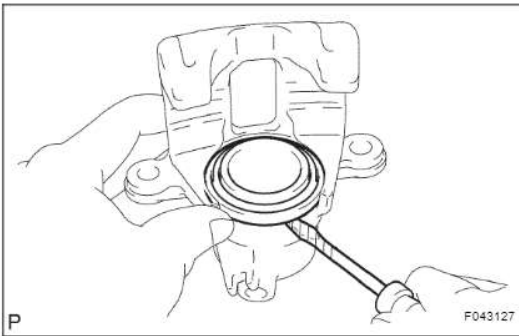


BRAKE – REAR BRAKE**BR-51****13. REMOVE REAR DISC**

- (a) Place matchmarks on the disc and axle hub and remove the disc.

DISASSEMBLY**1. REMOVE CYLINDER BOOT**

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

BR**2. REMOVE REAR DISC BRAKE PISTON**

- (a) Place a shop rag or piece of cloth between the piston and disc brake cylinder.
- (b) Apply compressed air to remove the piston from the disc brake cylinder.

CAUTION:

Do not place your fingers in front of the piston when applying compressed air.

NOTICE:

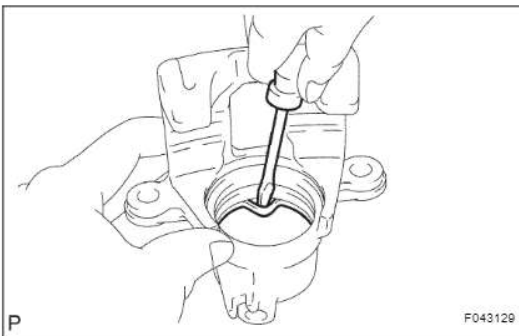
Do not spatter the brake fluid.

3. REMOVE PISTON SEAL

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

NOTICE:

Do not damage the inner surface or piston seal groove of the cylinder.

4. REMOVE REAR DISC BRAKE BLEEDER PLUG CAP**5. REMOVE REAR DISC BRAKE BLEEDER PLUG**

BR-52

BRAKE – REAR BRAKE

INSPECTION

1. INSPECT BRAKE CYLINDER AND PISTON

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

2. INSPECT PAD LINING THICKNESS

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

Standard thickness:

10.0 mm (0.394 in.)

Minimum thickness:

1.0 mm (0.039 in.)

If the pad lining thickness is equal to or less than the minimum thickness, replace the disc brake pad kit.

3. INSPECT REAR DISC BRAKE PAD SUPPORT PLATE

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

4. INSPECT DISC THICKNESS

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

Standard thickness:

18.0 mm (0.709 in.)

Minimum thickness:

16.0 mm (0.630 in.)

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

5. INSPECT DISC RUNOUT

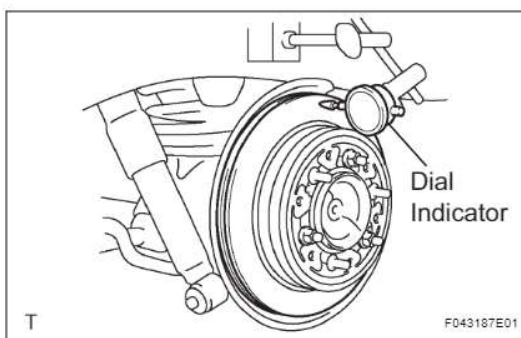
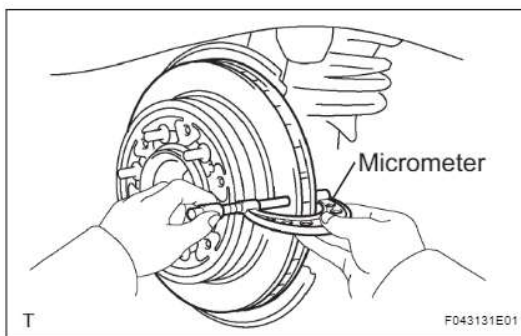
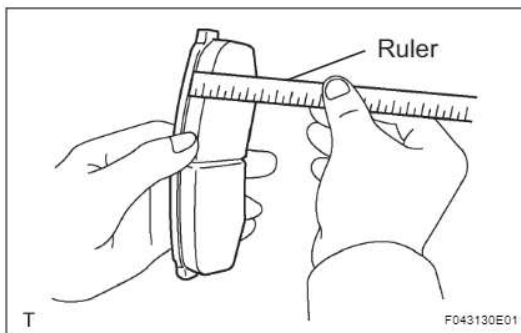
- (a) Check the bearing play in the axial direction and check for the axle hub runout (See page [AH-2](#)).
(b) Provisionally fasten the rear disc together with the hub nuts.
Torque: 112 N*m (1,137 kgf*cm, 82 ft.*lbf)
(c) Using a dial indicator, measure the disc runout 10 mm (0.39 in.) away from the outer edge of the rear disc.

Maximum disc runout:

0.20 mm (0.0079 in.)

If the runout exceeds the maximum value, change the installation positions of the disc and axle to make the minimum runout. If the runout exceeds the maximum even when the installation positions are changed, grind the disc. If the disc thickness is less than the minimum, replace the rear disc.

BR



REASSEMBLY

1. **TEMPORARILY TIGHTEN REAR DISC BRAKE BLEEDER PLUG**
2. **INSTALL REAR DISC BRAKE BLEEDER PLUG CAP**
3. **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.

NOTICE:
Securely install the piston seal into the groove of the disc brake cylinder.
4. **INSTALL REAR DISC BRAKE PISTON**
 - (a) Apply lithium soap base glycol grease to the piston.
 - (b) Install the piston into the disc brake cylinder.

NOTICE:
Do not forcibly install the piston into the disc brake cylinder.
5. **INSTALL CYLINDER BOOT**
 - (a) Apply lithium soap base glycol grease to a new cylinder boot.
 - (b) Install the cylinder boot onto the disc brake cylinder.

NOTICE:
Securely install the cylinder boot into the grooves of the disc brake cylinder and piston.

BR

INSTALLATION

1. INSTALL REAR DISC

- (a) Align the matchmarks of the disc and axle hub and install the disc.

NOTICE:

When replacing the disc, select the position that gives the minimum disc runout.

2. INSTALL REAR DISC BRAKE CYLINDER HOLE PLUG

- (a) Install a new hole plug onto the disc brake cylinder mounting.

3. INSTALL REAR DISC BRAKE BUSH DUST BOOT

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

4. INSTALL REAR DISC BRAKE CYLINDER SLIDE BUSH

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

5. INSTALL REAR DISC BRAKE CYLINDER MOUNTING

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

Torque: 105 N*m (1,071 kgf*cm, 78 ft.*lbf)

6. INSTALL REAR DISC BRAKE PAD SUPPORT PLATE

- (a) Install the 4 pad support plates onto the disc brake cylinder mounting.

7. INSTALL REAR DISC BRAKE PAD WEAR INDICATOR PLATE

- (a) Install the indicator plate onto the inner side brake pad.

HINT:

Install the indicator plate facing downward.

8. INSTALL REAR DISC BRAKE ANTI SQUEAL SHIM

NOTICE:

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

- (a) Install the 2 anti squeal shims onto the brake pads.

9. INSTALL REAR DISC BRAKE PAD

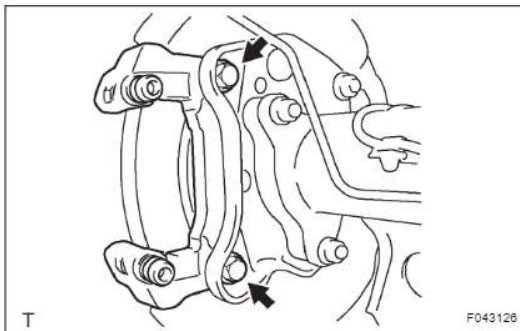
- (a) Install the 2 disc brake pads with anti squeal shims onto the disc brake cylinder mounting.

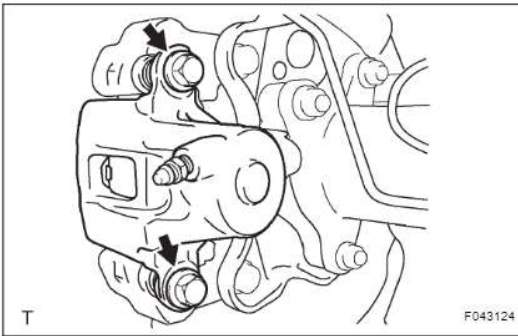
NOTICE:

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

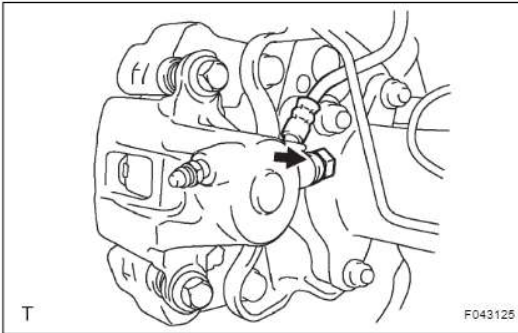
10. INSTALL REAR DISC BRAKE CYLINDER ASSEMBLY

- (a) Apply lithium soap base glycol grease to the 2 slide pins.



BRAKE – REAR BRAKE**BR-55**

- (b) Install the disc brake cylinder onto the disc brake cylinder mounting with the 2 slide pins.
Torque: 88 N*m (897 kgf*cm, 65 ft.*lbf)

**11. INSTALL REAR FLEXIBLE HOSE**

- (a) Install the flexible hose with the union bolt and a new gasket.
Torque: 31 N*m (316 kgf*cm, 23 ft.*lbf)

12. FILL RESERVOIR WITH BRAKE FLUID (See page [BR-5](#))**13. BLEED BRAKE LINE (See page [BR-5](#))****14. CHECK FLUID LEVEL IN RESERVOIR (See page [BR-7](#))****15. CHECK FOR BRAKE FLUID LEAKAGE****16. INSTALL REAR WHEEL**

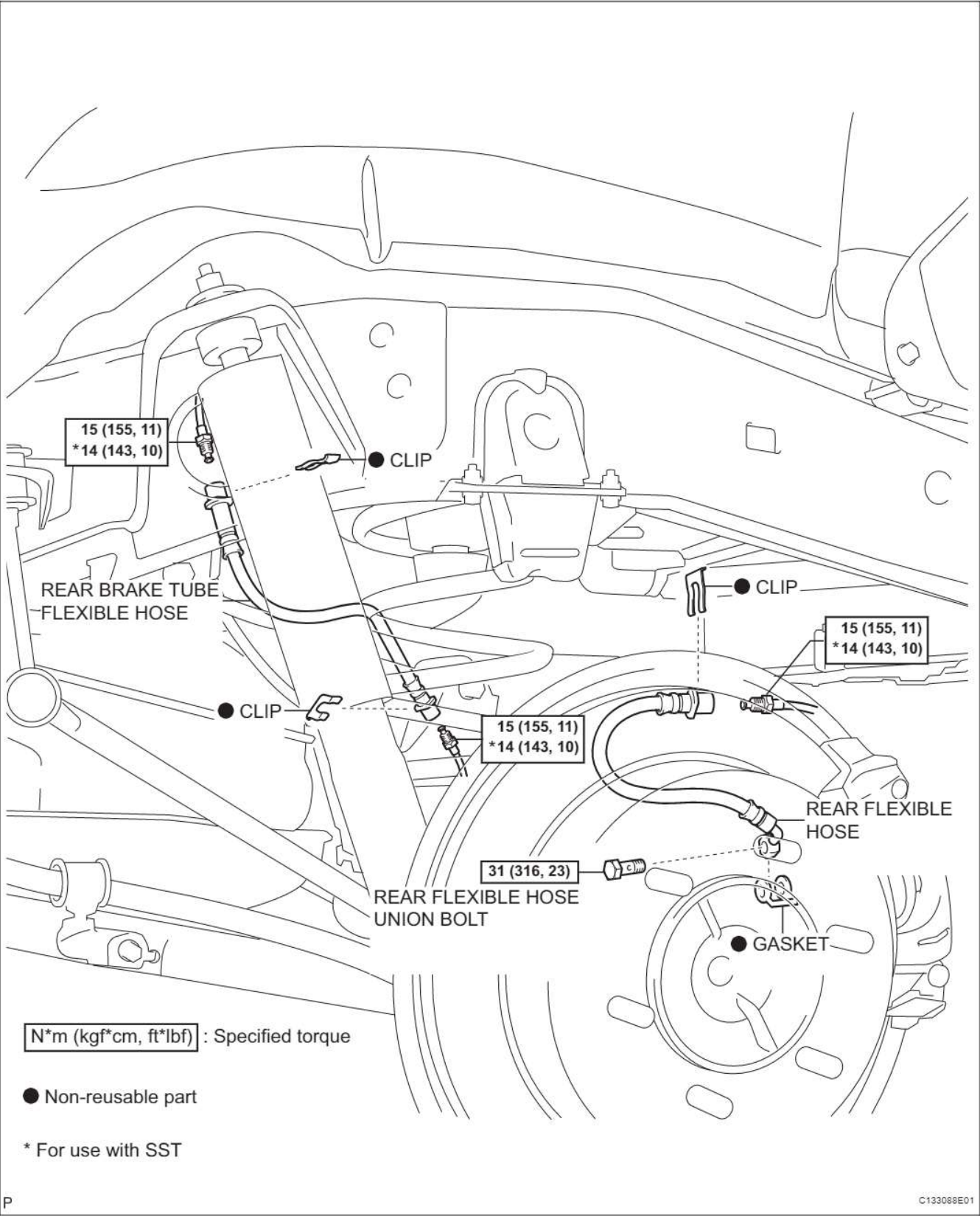
Torque: 112 N*m (1,137 kgf*cm, 82 ft.*lbf)

BR

BR

REAR BRAKE FLEXIBLE HOSE

COMPONENTS



BR-56

BRAKE – REAR BRAKE FLEXIBLE HOSE

REMOVAL

1. REMOVE REAR WHEEL

2. DRAIN BRAKE FLUID

NOTICE:

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

3. REMOVE REAR FLEXIBLE HOSE

- (a) Remove the union bolt and gasket and separate the flexible hose from the disc brake cylinder.

HINT:

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

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

SST 09023-00101

HINT:

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

- (c) Remove the clip and flexible hose.

4. REMOVE REAR BRAKE TUBE FLEXIBLE HOSE

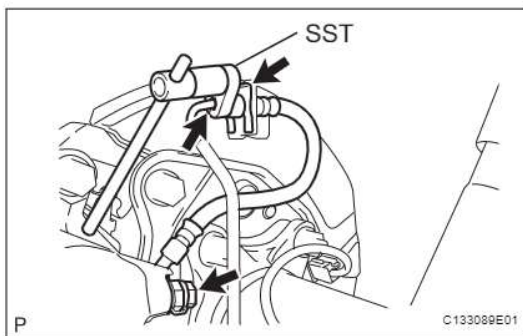
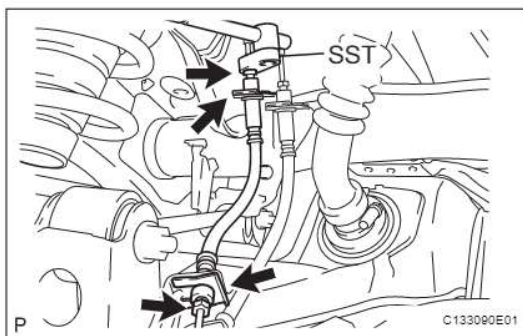
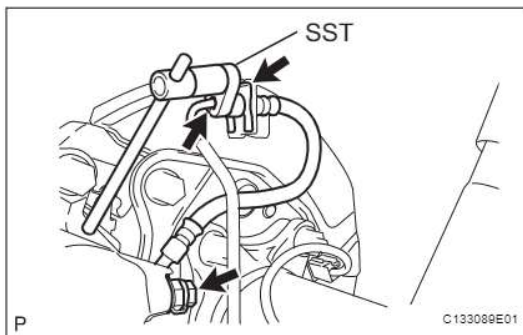
- (a) Using SST, separate the brake tubes.

SST 09023-00101

HINT:

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

- (b) Remove the 2 clips and flexible hose.



INSTALLATION

1. INSTALL REAR FLEXIBLE HOSE

- (a) Install the flexible hose with a new clip.

- (b) Using SST, install the brake tube onto the flexible hose.

SST 09023-00101

Torque: for use without SST

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

for use with SST

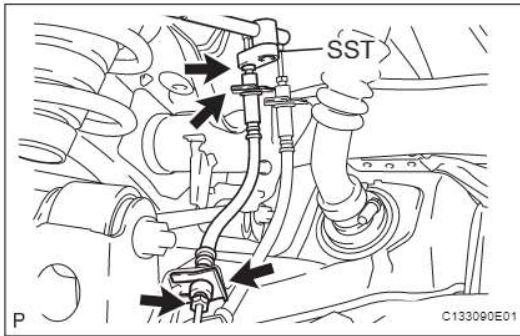
14 N*m (143 kgf*cm, 10 ft.*lbf)

HINT:

- Use a torque wrench with a fulcrum length of 300 mm (11.81 in.).
- This torque value is effective when SST is parallel to the torque wrench.

- (c) Install the flexible hose onto the disc brake cylinder with the union bolt and a new gasket.

Torque: 31 N*m (316 kgf*cm, 23 ft.*lbf)

BRAKE – REAR BRAKE FLEXIBLE HOSE**BR-57****2. INSTALL REAR BRAKE TUBE FLEXIBLE HOSE**

- (a) Install the flexible hose with 2 new clips.
- (b) Using SST, install the 2 brake tubes onto the flexible hose.

SST 09023-00101**Torque: for use without SST****15 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 300 mm (11.81 in.).
- This torque value is effective when SST is parallel to the torque wrench.

3. FILL RESERVOIR WITH BRAKE FLUID (See page [BR-5](#))**4. BLEED BRAKE LINE (See page [BR-5](#))****5. CHECK FLUID LEVEL IN RESERVOIR (See page [BR-7](#))****6. CHECK FOR BRAKE FLUID LEAKAGE****7. INSTALL REAR WHEEL****Torque: 112 N*m (1,137 kgf*cm, 82 ft.*lbf)****BR**