

PROBLEM SYMPTOMS TABLE

(2005/11-2006/01)

HINT:

Use the table below to help determine the cause of the problem symptom. The potential causes of the symptoms are listed in order of probability in the "Suspected area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

Brake system

Symptom	Suspected area	See page
Low pedal or spongy pedal	1. Fluid leaks in brake system	-
	2. Air in brake system	BR-6
	3. Front brake piston seals (worn or damaged)	BR-40
	4. Rear brake piston seals (worn or damaged)	BR-55
	5. Brake master cylinder (faulty)	BR-21
	6. Booster push rod (adjustment necessary)	BR-24
Brake drag	1. Brake pedal free play (minimum)	BR-14
	2. Parking brake lever travel (adjustment necessary)	PB-1
	3. Parking brake cable (sticking)	PB-8
	4. Parking brake shoe clearance (adjustment necessary)	PB-17
	5. Front brake pad (cracked or distorted)	BR-40
	6. Rear brake pad (cracked or distorted)	BR-55
	7. Parking brake lining (cracked or distorted)	PB-13
	8. Front brake piston (stuck or frozen)	BR-40
	9. Rear brake piston (stuck or frozen)	BR-55
	10. Parking brake shoe return tension spring	PB-13
	11. Booster push rod (adjustment necessary)	BR-24
	12. Vacuum leaks in booster system	BR-29
	13. Brake master cylinder (faulty)	BR-21
Brake pull	1. Front brake piston (stuck or frozen)	BR-40
	2. Rear brake piston (stuck or frozen)	BR-55
	3. Front brake pad (oily, cracked or distorted)	BR-40
	4. Rear brake pad (oily, cracked or distorted)	BR-55
	5. Parking brake lining (oily, cracked or distorted)	PB-13
	6. Front brake disc (uneven wear)	BR-40
	7. Rear brake disc (uneven wear)	BR-55
Hard pedal but braking inefficient	1. Front brake pad (worn, cracked, distorted, oily or glazed)	BR-40
	2. Rear brake pad (worn, cracked, distorted, oily or glazed)	BR-55
	3. Parking brake lining (worn, cracked, distorted, oily or glazed)	PB-13
	4. Front brake disc (uneven wear)	BR-40
	5. Rear brake disc (uneven wear)	BR-55
	6. Booster push rod (adjustment necessary)	BR-24
	7. Vacuum leaks in booster system	BR-29

Symptom	Suspected area	See page
Noise from brakes	1. Front brake pad (cracked, distorted, dirty or glazed)	BR-40
	2. Rear brake pad (cracked, distorted, dirty or glazed)	BR-55
	3. Front disc brake pad support plate (loose)	BR-40
	4. Rear disc brake pad support plate (loose)	BR-55
	5. Front disc brake cylinder slide pin (worn)	BR-40
	6. Rear disc brake cylinder slide pin (worn)	BR-55
	7. Front brake installation bolt (loose)	BR-45
	8. Rear brake installation bolt (loose)	BR-60
	9. Front brake disc (scored)	BR-40
	10. Rear brake disc (scored)	BR-55
	11. Parking brake shoe return tension spring (faulty)	PB-13
	12. Front brake anti-squeal shim (damaged)	BR-40
	13. Rear brake anti-squeal shim (damaged)	BR-55
	14. Parking brake shoe hold-down spring (damaged)	PB-13

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(2006/01-)

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	2. Air in brake system	BR-6
	3. Front brake piston seals (worn or damaged)	BR-40
	4. Rear brake piston seals (worn or damaged)	BR-55
	5. Brake master cylinder (faulty)	BR-22
	6. Booster push rod (adjustment necessary)	BR-24
Brake drag	1. Brake pedal free play (minimum)	BR-15
	2. Parking brake lever travel (adjustment necessary)	PB-1
	3. Parking brake cable (sticking)	PB-8
	4. Parking brake shoe clearance (adjustment necessary)	PB-17
	5. Front brake pad (cracked or distorted)	BR-40
	6. Rear brake pad (cracked or distorted)	BR-55
	7. Parking brake lining (cracked or distorted)	PB-13
	8. Front brake piston (stuck or frozen)	BR-40
	9. Rear brake piston (stuck or frozen)	BR-55
	10. Parking brake shoe return tension spring	PB-13
	11. Booster push rod (adjustment necessary)	BR-24
	12. Vacuum leaks in booster system	BR-29
	13. Brake master cylinder (faulty)	BR-22
Brake pull	1. Front brake piston (stuck or frozen)	BR-40
	2. Rear brake piston (stuck or frozen)	BR-55
	3. Front brake pad (oily, cracked or distorted)	BR-40
	4. Rear brake pad (oily, cracked or distorted)	BR-55
	5. Parking brake lining (oily, cracked or distorted)	PB-13
	6. Front brake disc (uneven wear)	BR-40
	7. Rear brake disc (uneven wear)	BR-55
Hard pedal but braking inefficient	1. Front brake pad (worn, cracked, distorted, oily or glazed)	BR-40
	2. Rear brake pad (worn, cracked, distorted, oily or glazed)	BR-55
	3. Parking brake lining (worn, cracked, distorted, oily or glazed)	PB-13
	4. Front brake disc (uneven wear)	BR-40
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BR

Symptom	Suspected Area	See page
Noise from brakes	1. Front brake pad (cracked, distorted, dirty or glazed)	BR-40
	2. Rear brake pad (cracked, distorted, dirty or glazed)	BR-55
	3. Front disc brake pad support plate (loose)	BR-40
	4. Rear disc brake pad support plate (loose)	BR-55
	5. Front disc brake cylinder slide pin (worn)	BR-40
	6. Rear disc brake cylinder slide pin (worn)	BR-55
	7. Front brake installation bolt (loose)	BR-45
	8. Rear brake installation bolt (loose)	BR-60
	9. Front brake disc (scored)	BR-40
	10. Rear brake disc (scored)	BR-55
	11. Parking brake shoe return tension spring (faulty)	PB-13
	12. Front brake anti-squeal shim (damaged)	BR-40
	13. Rear brake anti-squeal shim (damaged)	BR-55
	14. Parking brake shoe hold-down spring (damaged)	PB-13

REMOVAL

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

CAUTION:

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.

2. **REMOVE INSTRUMENT PANEL SUB-ASSEMBLY**

(a) Remove the instrument panel (see page [IP-4](#)).

3. **DISCONNECT CONNECTORS**

(a) Disconnect the stop light switch connector.

(b) w/ $\phi 296$ disc brake:

Disconnect the brake pedal load sensing switch connector.

4. **REMOVE STOP LIGHT SWITCH ASSEMBLY**

(a) Turn the switch counterclockwise and remove it.

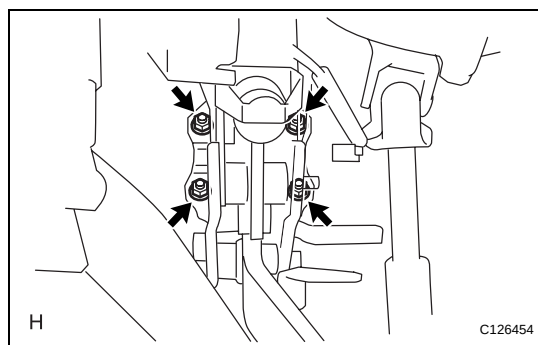
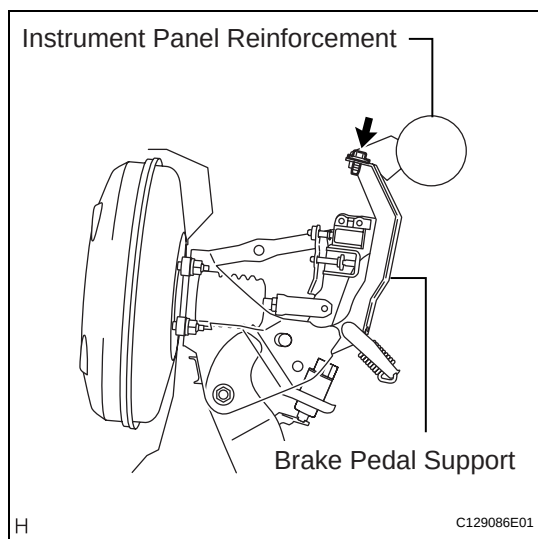
5. **REMOVE PUSH ROD PIN**

(a) Remove the clip from the push rod pin.

(b) Remove the push rod pin from the push rod clevis.

6. **REMOVE BRAKE PEDAL SUPPORT ASSEMBLY**

(a) Remove the bolt from the support.

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(b) Remove the 4 nuts and support.

DISASSEMBLY

1. REMOVE STOP LIGHT SWITCH MOUNTING ADJUSTER

- (a) Remove the adjuster from the support.

2. REMOVE BRAKE PEDAL PAD

- (a) Remove the pad from the pedal.

INSPECTION

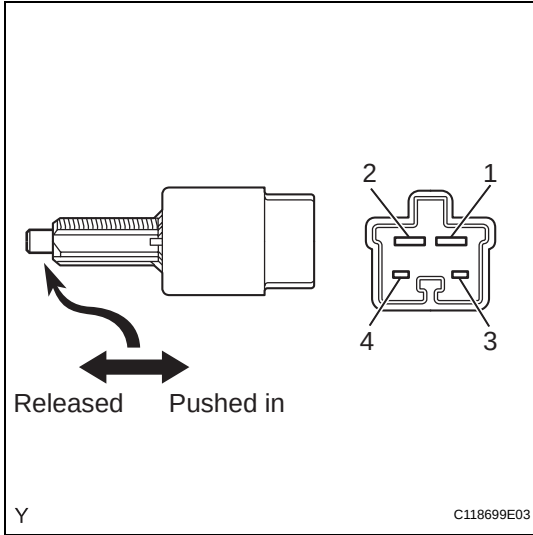
1. INSPECT STOP LIGHT SWITCH ASSEMBLY

- (a) Measure the resistance of the switch.

Standard resistance

Tester Connection	Switch Condition	Specified Condition
1 - 2	Switch pin released	Below 1 Ω
1 - 2	Switch pin pushed in	10 k Ω or higher

If the result is not as specified, replace the stop light switch assembly.



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ADJUSTMENT

(2005/11-2006/01)

1. CHECK AND ADJUST BRAKE PEDAL HEIGHT

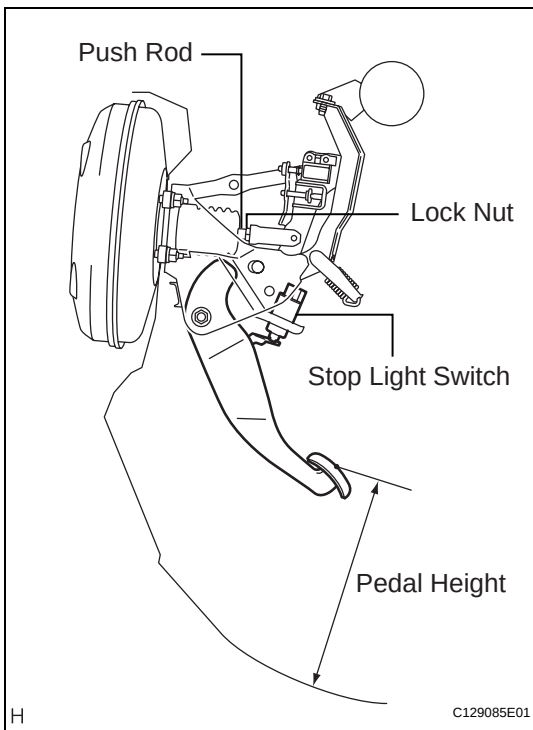
- (a) Check the pedal height.

Standard pedal height from dash panel:
184.2 to 194.2 mm (7.252 to 7.646 in.)

- (b) Adjust the pedal height.

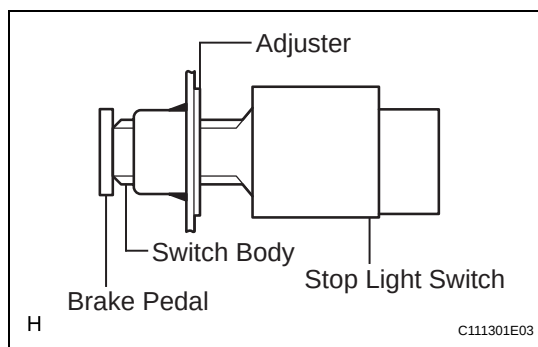
- (1) Disconnect the connector from the stop light switch.
- (2) Remove the switch.
- (3) Loosen the push rod clevis lock nut.
- (4) Adjust the pedal height by turning the push rod.
- (5) Tighten the lock nut.

Torque: 26 N*m (265 kgf*cm, 19 ft.*lbf)



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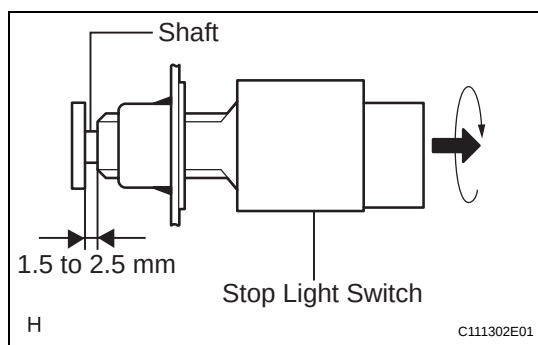
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- (6) Insert the switch into the adjuster until the switch body touches the pedal.

NOTICE:

Do not depress the pedal.



- (7) Turn the switch a quarter turn clockwise.

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

NOTICE:

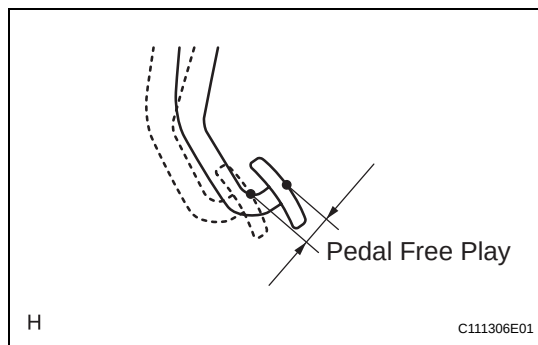
Do not depress the pedal.

- (8) Connect the connector to the switch.

- (9) Check the switch clearance.

**Standard stop light switch clearance:
1.5 to 2.5 mm (0.059 to 0.098 in.)**

BR

**2. CHECK BRAKE PEDAL FREE PLAY**

- (a) Stop the engine. Depress the pedal several times until there is no vacuum in the booster. Then release the pedal.
- (b) Depress the pedal until resistance is felt.
- (c) Check the pedal's free play by measuring the distance between the position in the previous step and the pedal's released position.

Standard pedal free play:

1.0 to 6.0 mm (0.039 to 0.236 in.)

If the free play is not as specified, check the switch clearance in the next step.

If the free play is as specified, proceed to the "CHECK BRAKE PEDAL RESERVE DISTANCE" procedure.

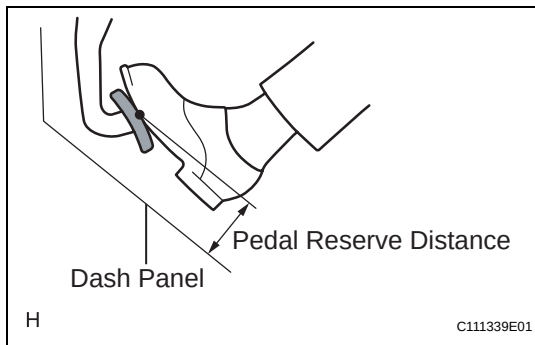
- (d) Check the switch clearance.

Standard stop light switch clearance:

1.5 to 2.5 mm (0.059 to 0.098 in.)

If the clearance is not as specified, reinstall the switch and recheck the pedal's free play.

If the clearance is as specified, troubleshoot the brake system and proceed to the "CHECK BRAKE PEDAL RESERVE DISTANCE" procedure.



3. CHECK BRAKE PEDAL RESERVE DISTANCE

- Release the parking brake lever. Start the engine.
- Depress the pedal and check the pedal reserve distance.
 - Depress the pedal with a force of 490 N (50 kgf, 110 lbf).
 - Measure the distance between the pedal and dash panel shown in the illustration.

Standard pedal reserve distance

Engine	Seat Type	Specified Condition
2AZ-FE	w/o 3rd seat	More than 95 mm (3.74 in.)
	w/ 3rd seat	More than 120 mm (4.72 in.)

If the distance is not as specified, troubleshoot the brake system.

ADJUSTMENT

(2006/01-)

1. CHECK AND ADJUST BRAKE PEDAL HEIGHT

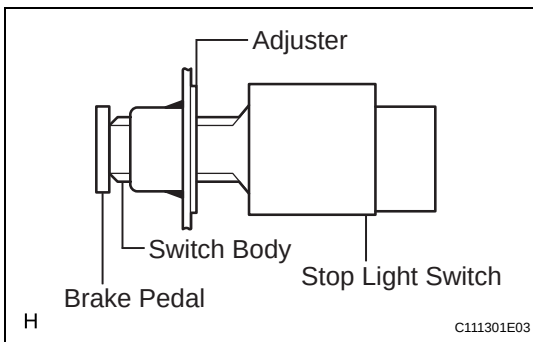
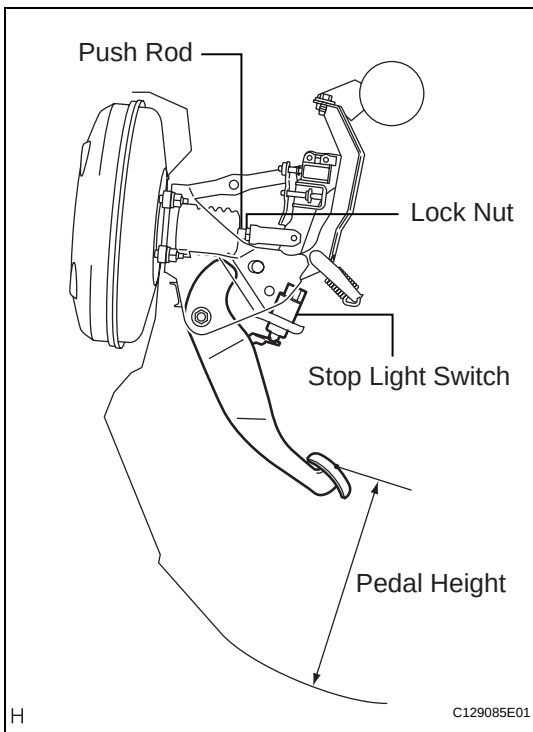
- Check the pedal height.

Standard pedal height from dash panel:
184.2 to 194.2 mm (7.252 to 7.646 in.)

- Adjust the pedal height.

- Disconnect the connector from the stop light switch.
- Remove the switch.
- Loosen the push rod clevis lock nut.
- Adjust the pedal height by turning the push rod.
- Tighten the lock nut.

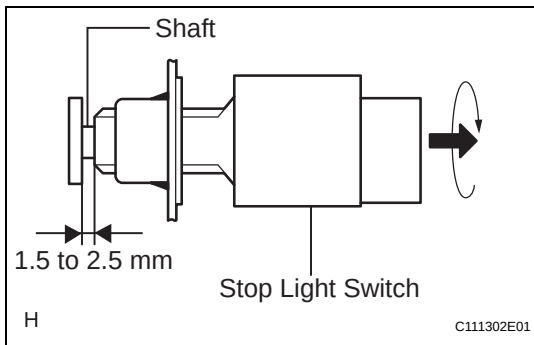
Torque: 26 N*m (265 kgf*cm, 19 ft.*lbf)



- Insert the switch into the adjuster until the switch body touches the pedal.

NOTICE:

Do not depress the pedal.



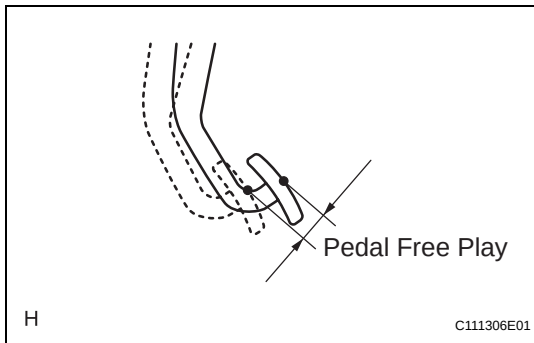
- (7) Turn the switch a quarter turn clockwise.
Torque: 1.5 N*m (15 kgf*cm, 13 in.*lbf) or less

NOTICE:

Do not depress the pedal.

- (8) Connect the connector to the switch.
 (9) Check the switch clearance.

Standard stop light switch clearance:
1.5 to 2.5 mm (0.059 to 0.098 in.)



2. CHECK BRAKE PEDAL FREE PLAY

- (a) Stop the engine. Depress the pedal several times until there is no vacuum in the booster. Then release the pedal.
 (b) Depress the pedal until resistance is felt.
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Standard pedal free play:

1.0 to 6.0 mm (0.039 to 0.236 in.)

If the free play is not as specified, check the switch clearance in the next step.

If the free play is as specified, proceed to the "CHECK BRAKE PEDAL RESERVE DISTANCE" procedure.

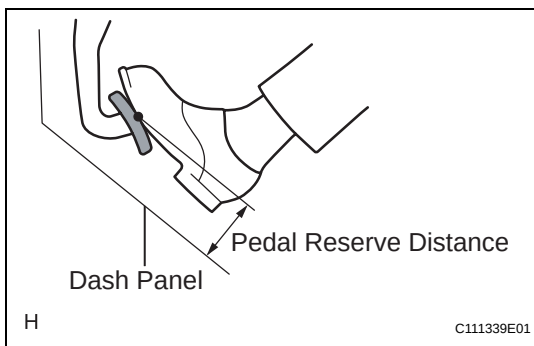
- (d) Check the switch clearance.

Standard stop light switch clearance:

1.5 to 2.5 mm (0.059 to 0.098 in.)

If the clearance is not as specified, reinstall the switch and recheck the pedal's free play.

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3. CHECK BRAKE PEDAL RESERVE DISTANCE

- (a) Release the parking brake lever. Start the engine.
 (b) Depress the pedal and check the pedal reserve distance.
 (1) Depress the pedal with a force of 490 N (50 kgf, 110 lbf).
 (2) Measure the distance between the pedal and dash panel shown in the illustration.

Standard pedal reserve distance

Engine	Specified Condition
2AZ-FE (w/o 3rd seat)	More than 95 mm (3.74 in.)
2AZ-FE (w/ 3rd seat)	More than 120 mm (4.72 in.)
2GR-FE	More than 120 mm (4.72 in.)

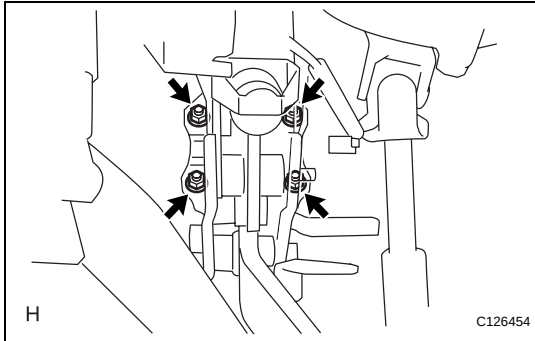
If the distance is not as specified, troubleshoot the brake system.

REASSEMBLY

1. **INSTALL BRAKE PEDAL PAD**
 - (a) Install the pad to the pedal.
2. **INSTALL STOP LIGHT SWITCH MOUNTING ADJUSTER**
 - (a) Install a new adjuster to the support.

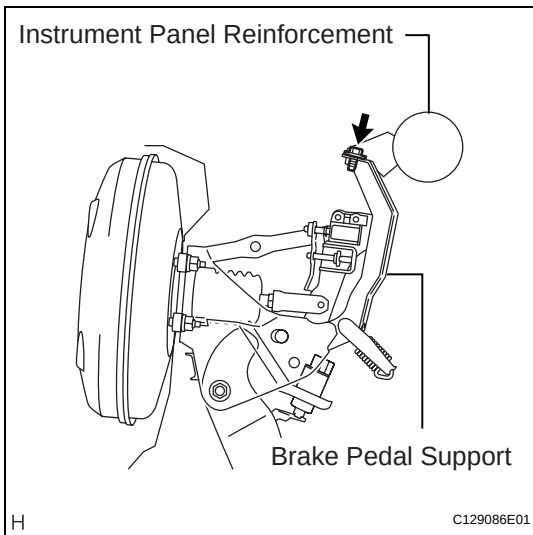
INSTALLATION

1. **INSTALL BRAKE PEDAL SUPPORT ASSEMBLY**
 - (a) Install the support with the 4 nuts.
Torque: 12.7 N*m (130 kgf*cm, 9 ft.*lbf)

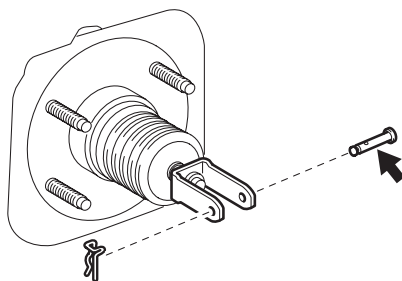


- (b) Install the bolt to the support.
Torque: 25 N*m (255 kgf*cm, 18 ft.*lbf)

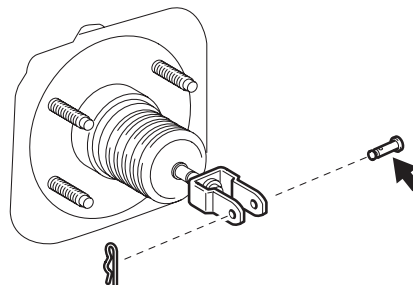
2. **INSTALL PUSH ROD PIN**



BR

w/ ϕ 296 Disc Brake

← Lithium Soap Base Glycol Grease

w/ ϕ 275 Disc Brake

C130666E04

- (a) Apply lithium soap base glycol grease to the push rod pin.

- (b) Install the push rod pin to the push rod clevis.

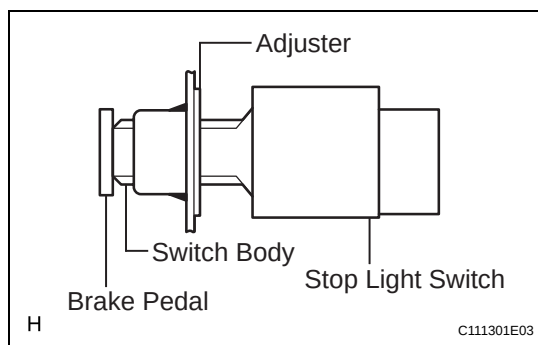
NOTICE:

The push rod pin must be installed as shown in the illustration.

- (c) Install the clip to the push rod pin.

NOTICE:

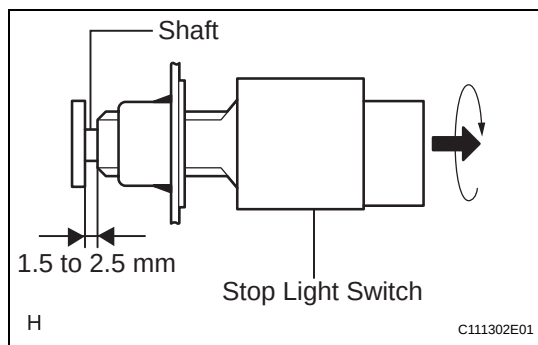
The clip must be installed as shown in the illustration.

**3. INSTALL STOP LIGHT SWITCH ASSEMBLY**

- (a) Insert the switch into the adjuster until the switch body touches the pedal.

NOTICE:

Do not depress the pedal.



- (b) Turn the switch a quarter turn clockwise.

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

NOTICE:

Do not depress the pedal.

- (c) Check the switch clearance.

**Standard stop light switch clearance:
1.5 to 2.5 mm (0.059 to 0.098 in.)**

4. CONNECT CONNECTORS

- (a) w/ $\phi 296$ disc brake:

Connect the brake pedal load sensing switch connector.

- (b) Connect the stop light switch connector.

5. CHECK AND ADJUST BRAKE PEDAL HEIGHT (See page BR-13)**6. CHECK BRAKE PEDAL FREE PLAY (See page BR-14)****7. CHECK BRAKE PEDAL RESERVE DISTANCE (See page BR-14)****8. INSTALL INSTRUMENT PANEL SUB-ASSEMBLY**

- (a) Install the instrument panel (see page IP-9).

9. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

ON-VEHICLE INSPECTION

1. CHECK BRAKE FLUID LEVEL WARNING SWITCH

- Remove the reservoir filler cap and strainer.
- Disconnect the brake fluid level warning switch connector.

- Measure the resistance of the switch.

HINT:

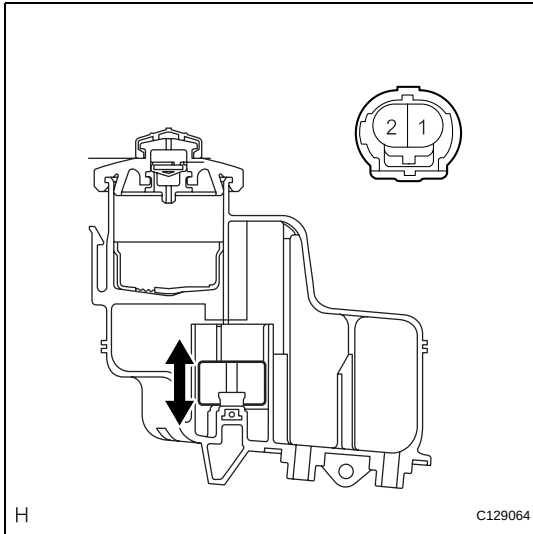
There is a float inside the reservoir. Its position can be changed by increasing or decreasing the brake fluid level.

Standard resistance

Tester Connection	Condition	Specified Condition
1 - 2	Float up (Switch OFF)	10 k Ω or higher
1 - 2	Float down (Switch ON)	Below 1 Ω

If the value is not as specified, replace the brake master cylinder reservoir sub-assembly.

- Add brake fluid to the MAX level.



REMOVAL

(2005/11-2006/01)

NOTICE:

- The master cylinder and piston are designed so that the piston can easily fall out. Prevent this by making sure that the tip of the master cylinder points downward when handling the master cylinder.
- Make sure foreign matter does not attach to the master cylinder's piston. If foreign matter attaches, clean it off with a cloth. Then apply lithium soap base glycol grease to the entire outer circumference contact surface area of the piston.

1. REMOVE AIR CLEANER CASE SUB-ASSEMBLY

- (a) Remove the air cleaner case (see page [EM-98](#)).

HINT:

Refer to the procedures from the removal of the purge VSV up until the removal of the air cleaner case.

2. DRAIN BRAKE FLUID

NOTICE:

Wash off brake fluid immediately if it comes in contact with any painted surface.

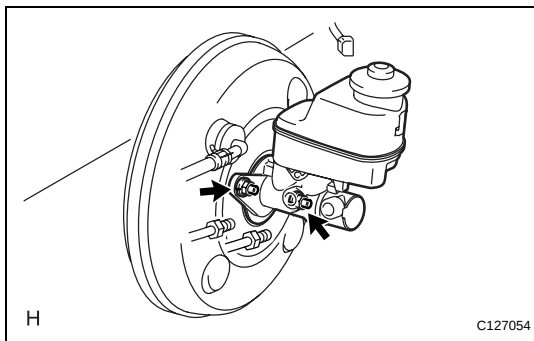
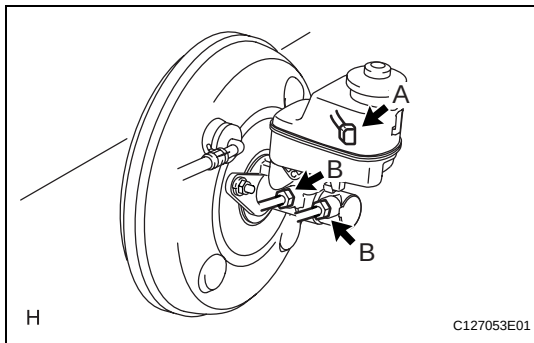
3. REMOVE BRAKE MASTER CYLINDER SUB-ASSEMBLY

- (a) Release the vacuum pressure in the brake booster as follows.
- (1) Stop the engine.
 - (2) Depress the brake pedal several times.

- (b) Disconnect the brake fluid level warning switch connector labeled A.

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

SST 09023-00101



- (d) Remove the 2 nuts.

- (e) Pull out the master cylinder from the brake booster.

NOTICE:

- The master cylinder and piston are designed so that the piston can easily fall out. Prevent this by making sure that the tip of the master cylinder points downward when handling the master cylinder.

- **Make sure foreign matter does not attach to the master cylinder's piston. If foreign matter attaches, clean it off with a cloth. Then apply lithium soap base glycol grease to the entire outer circumference contact surface area of the piston.**
- (f) Remove the O-ring from the master cylinder.

REMOVAL

(2006/01-)

NOTICE:

- The master cylinder and piston are designed so that the piston can easily fall out. Prevent this by making sure that the tip of the master cylinder points downward when handling the master cylinder.
- Make sure foreign matter does not attach to the master cylinder's piston. If foreign matter attaches, clean it off with a cloth. Then apply lithium soap base glycol grease to the entire outer circumference contact surface area of the piston.

1. REMOVE AIR CLEANER CASE SUB-ASSEMBLY (for 2AZ-FE)

- (a) Remove the air cleaner case (see page [EM-98](#)).

HINT:

Refer to the procedures from the removal of the purge VSV up until the removal of the air cleaner case.

2. REMOVE AIR CLEANER CASE (for 2GR-FE)

- (a) Remove the air cleaner case (see page [EM-21](#)).

HINT:

Refer to the procedures from the removal of the air cleaner cap sub-assembly up until the removal of the air cleaner case.

3. DRAIN BRAKE FLUID

NOTICE:

Wash off brake fluid immediately if it comes in contact with any painted surface.

4. REMOVE BRAKE MASTER CYLINDER SUB-ASSEMBLY

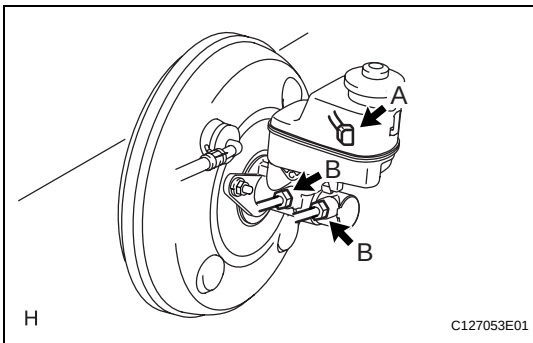
- (a) Release the vacuum pressure in the brake booster as follows.

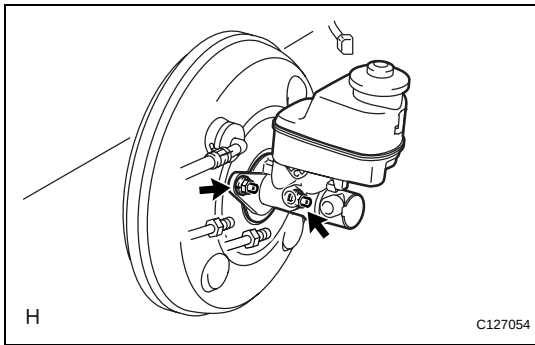
- (1) Stop the engine.
- (2) Depress the brake pedal several times.

- (b) Disconnect the brake fluid level warning switch connector labeled A.

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

SST 09023-00101





- (d) Remove the 2 nuts.
- (e) Pull out the master cylinder from the brake booster.

NOTICE:

- The master cylinder and piston are designed so that the piston can easily fall out. Prevent this by making sure that the tip of the master cylinder points downward when handling the master cylinder.
 - Make sure foreign matter does not attach to the master cylinder's piston. If foreign matter attaches, clean it off with a cloth. Then apply lithium soap base glycol grease to the entire outer circumference contact surface area of the piston.
- (f) Remove the O-ring from the master cylinder.

DISASSEMBLY

NOTICE:

- The master cylinder and piston are designed so that the piston can easily fall out. Prevent this by making sure to tip of the master cylinder points downward when handling the master cylinder.
- Make sure foreign matter does not attach to the master cylinder's piston. If foreign matter attaches, clean it off with a cloth. Then apply lithium soap base glycol grease to the entire outer circumference contact surface area of the piston.

1. REMOVE BRAKE MASTER CYLINDER RING PIN
2. REMOVE BRAKE MASTER CYLINDER RESERVOIR SUB-ASSEMBLY
3. REMOVE MASTER CYLINDER RESERVOIR GROMMET
4. REMOVE BRAKE MASTER CYLINDER RESERVOIR FILLER CAP ASSEMBLY
5. REMOVE BRAKE MASTER CYLINDER RESERVOIR STRAINER

INSPECTION

NOTICE:

- The master cylinder and piston are designed so that the piston can easily fall out. Prevent this by making sure that the tip of the master cylinder points downward when handling the master cylinder.
- Make sure foreign matter does not attach to the master cylinder's piston. If foreign matter attaches, clean it off with a cloth. Then apply lithium soap base glycol grease to the entire outer circumference contact surface area of the piston.

1. INSPECT AND ADJUST BRAKE BOOSTER PUSH ROD

HINT:

Adjust the booster push rod when the master cylinder is replaced with a new one. Adjustment is not necessary when the master cylinder is reinstalled and the booster is replaced with a new one.

- (a) Set SST on the master cylinder and lower the rod of SST until it just touches the piston.

SST 09737-00013

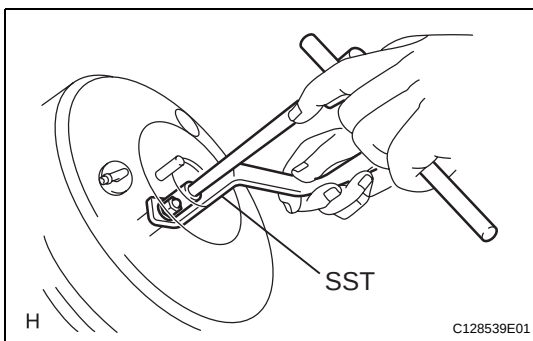
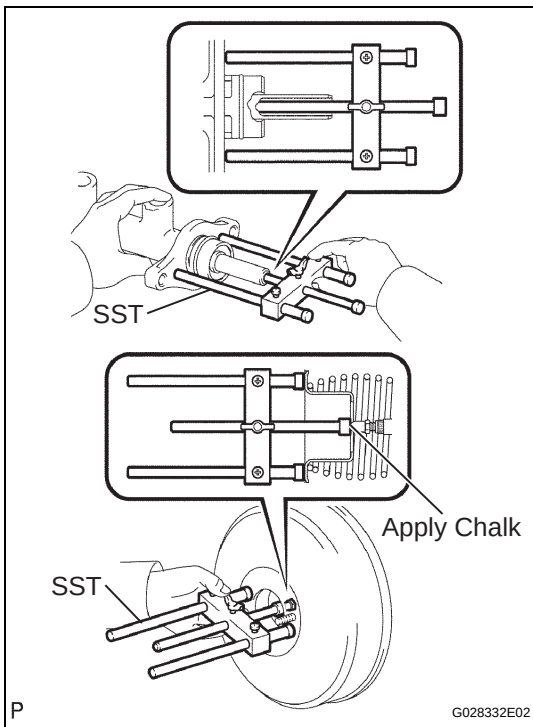
- (b) Apply chalk to the flat tip of the SST rod. Turn SST upside down and measure the clearance between the brake booster push rod and SST.

Standard clearance:

-0.21 to 0 mm (-0.0083 to 0 in.)

If there is clearance between the SST main body and the shell of the brake booster, the push rod is protruding too far. If the chalk does not stick to the tip of the brake booster push rod, the push rod protrusion is insufficient.

BR



- (c) If the clearance is not within the standard, adjust the length by holding the rod using SST and turning the tip of the rod using a 7 mm socket driver.

SST 09737-00020

NOTICE:

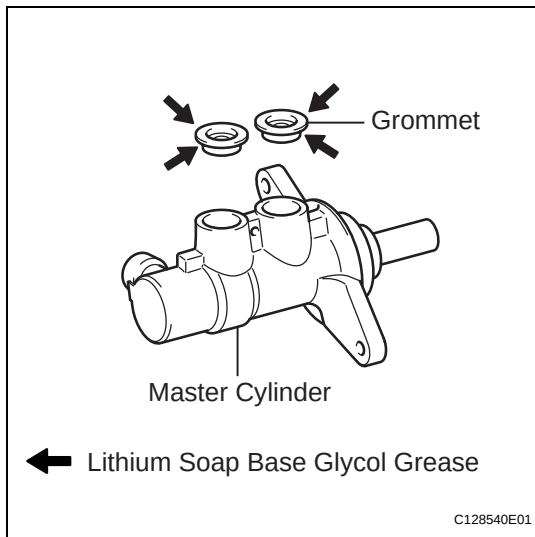
Check the push rod clearance again after adjusting.

REASSEMBLY

NOTICE:

- The master cylinder and piston are designed so that the piston can easily fall out. Prevent this by making sure to tip of the master cylinder points downward when handling the master cylinder.
- Make sure foreign matter does not attach to the master cylinder's piston. If foreign matter attaches, clean it off with a cloth. Then apply lithium soap base glycol grease to the entire outer circumference contact surface area of the piston.

1. **INSTALL BRAKE MASTER CYLINDER RESERVOIR STRAINER**
2. **INSTALL BRAKE MASTER CYLINDER RESERVOIR FILLER CAP ASSEMBLY**
3. **INSTALL MASTER CYLINDER RESERVOIR GROMMET**
 - (a) Apply lithium soap base glycol grease to 2 new grommets, and then install them to the master cylinder.
4. **INSTALL BRAKE MASTER CYLINDER RESERVOIR SUB-ASSEMBLY**
5. **INSTALL BRAKE MASTER CYLINDER RING PIN**



INSTALLATION

(2005/11-2006/01)

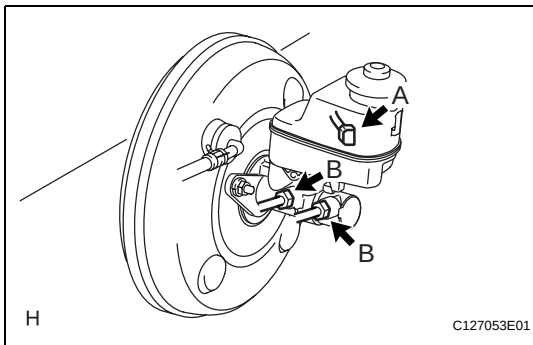
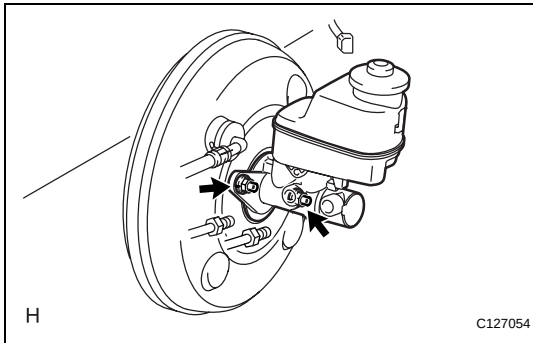
1. INSTALL BRAKE MASTER CYLINDER SUB-ASSEMBLY

NOTICE:

- The master cylinder and piston are designed so that the piston can easily fall out. Prevent this by making sure that the tip of the master cylinder points downward when handling the master cylinder.
- Make sure foreign matter does not attach to the master cylinder's piston. If foreign matter attaches, clean it off with a cloth. Then apply lithium soap base glycol grease to the entire outer circumference contact surface area of the piston.

- Install a new O-ring to the master cylinder.
- Install the master cylinder to the booster with the 2 nuts.

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



- Using SST, connect the 2 brake lines labeled B to the master cylinder.

SST 09023-00101

Torque: 15.2 N*m (155 kgf*cm, 11 ft.*lbf) without SST
14 N*m (144 kgf*cm, 10 ft.*lbf) with SST

HINT:

Use a torque wrench with a fulcrum length of 30 cm (11.81 in.).

- Connect the brake fluid level warning switch connector labeled A to the master cylinder.

- FILL RESERVOIR WITH BRAKE FLUID** (See page [BR-6](#))
- BLEED AIR FROM BRAKE MASTER CYLINDER** (See page [BR-7](#))
- BLEED AIR FROM BRAKE LINE** (See page [BR-7](#))
- BLEED AIR FROM ABS AND TRACTION ACTUATOR ASSEMBLY** (See page [BR-8](#))
- CHECK BRAKE FLUID LEVEL IN RESERVOIR** (See page [BR-6](#))
- CHECK FOR BRAKE FLUID LEAKAGE**

8. INSTALL AIR CLEANER CASE SUB-ASSEMBLY

- (a) Install the air cleaner case (see page [EM-105](#)).

HINT:

Refer to the procedures from the installation of the air cleaner case up until the installation of the purge VSV.

INSTALLATION

(2006/01-)

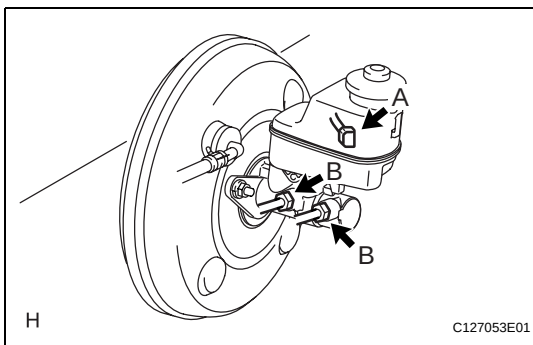
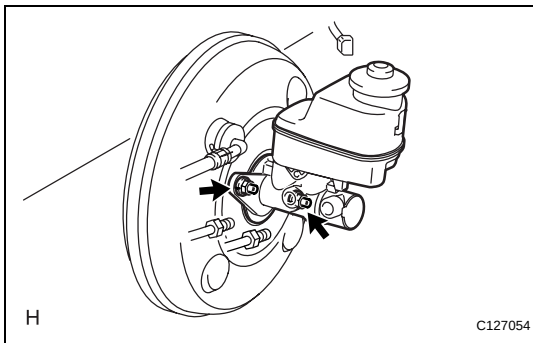
1. INSTALL BRAKE MASTER CYLINDER SUB-ASSEMBLY

NOTICE:

- The master cylinder and piston are designed so that the piston can easily fall out. Prevent this by making sure that the tip of the master cylinder points downward when handling the master cylinder.
- Make sure foreign matter does not attach to the master cylinder's piston. If foreign matter attaches, clean it off with a cloth. Then apply lithium soap base glycol grease to the entire outer circumference contact surface area of the piston.

- (a) Install a new O-ring to the master cylinder.
- (b) Install the master cylinder to the booster with the 2 nuts.

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



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

SST 09023-00101

Torque: 15.2 N*m (155 kgf*cm, 11 ft.*lbf) without SST

14 N*m (144 kgf*cm, 10 ft.*lbf) with SST

HINT:

Use a torque wrench with a fulcrum length of 30 cm (11.81 in.).

- (d) Connect the brake fluid level warning switch connector labeled A to the master cylinder.

2. FILL RESERVOIR WITH BRAKE FLUID (See page [BR-6](#))

3. BLEED AIR FROM BRAKE MASTER CYLINDER (See page [BR-7](#))

4. BLEED AIR FROM BRAKE LINE (See page [BR-7](#))

5. BLEED AIR FROM ABS AND TRACTION ACTUATOR ASSEMBLY (See page [BR-8](#))

6. CHECK BRAKE FLUID LEVEL IN RESERVOIR (See page [BR-6](#))

7. CHECK FOR BRAKE FLUID LEAKAGE

8. INSTALL AIR CLEANER CASE SUB-ASSEMBLY (for 2AZ-FE)

- (a) Install the air cleaner case (see page [EM-105](#)).

HINT:

Refer to the procedures from the installation of the air cleaner case up until the installation of the purge VSV.

9. INSTALL AIR CLEANER CASE (for 2GR-FE)

- (a) Install the air cleaner case (see page [EM-31](#)).

HINT:

Refer to the procedures from the installation of the air cleaner case up until the installation of the air cleaner cap sub-assembly.

REMOVAL

(2005/11-2006/01)

1. REMOVE AIR CLEANER CASE SUB-ASSEMBLY

- (a) Remove the air cleaner case (see page [EM-98](#)).

HINT:

Refer to the procedures from the removal of the purge VSV up until the removal of the air cleaner case.

2. DRAIN BRAKE FLUID

NOTICE:

Wash off brake fluid immediately if it comes in contact with any painted surface.

3. DISCONNECT BRAKE LINES (See page [BC-181](#))

4. REMOVE ABS AND TRACTION ACTUATOR ASSEMBLY WITH BRACKET (See page [BC-182](#))

5. REMOVE BRAKE MASTER CYLINDER SUB-ASSEMBLY (See page [BR-21](#))

6. DISCONNECT VACUUM HOSE

7. REMOVE PUSH ROD PIN

- (a) Remove the clip from the push rod pin.
(b) Remove the push rod pin from the push rod clevis.

8. REMOVE BRAKE MASTER CYLINDER PUSH ROD CLEVIS

- (a) Loosen the push rod clevis lock nut.
(b) Remove the push rod clevis.

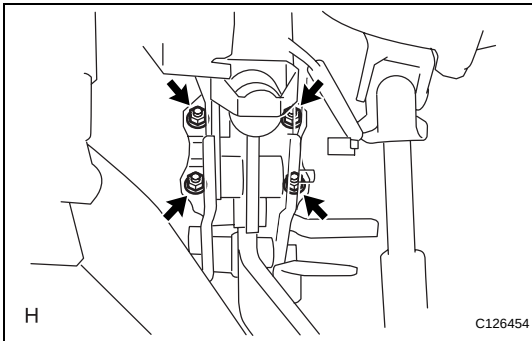
9. REMOVE BRAKE BOOSTER ASSEMBLY

- (a) Remove the 4 nuts.
(b) Pull out the booster with gasket.

10. REMOVE BRAKE BOOSTER GASKET

11. REMOVE BRAKE VACUUM CHECK VALVE ASSEMBLY

12. REMOVE CHECK VALVE GROMMET



REMOVAL

(2006/01-)

1. REMOVE AIR CLEANER CASE SUB-ASSEMBLY (for 2AZ-FE)

- (a) Remove the air cleaner case (see page [EM-98](#)).

HINT:

Refer to the procedures from the removal of the purge VSV up until the removal of the air cleaner case.

2. REMOVE AIR CLEANER CASE (for 2GR-FE)

- (a) Remove the air cleaner case (see page [EM-21](#)).

HINT:

Refer to the procedures from the removal of the air cleaner cap sub-assembly up until the removal of the air cleaner case.

3. DRAIN BRAKE FLUID

NOTICE:

Wash off brake fluid immediately if it comes in contact with any painted surface.

4. DISCONNECT BRAKE LINES (See page [BC-183](#))

5. REMOVE ABS AND TRACTION ACTUATOR ASSEMBLY WITH BRACKET (See page [BC-184](#))

6. REMOVE BRAKE MASTER CYLINDER SUB-ASSEMBLY (See page [BR-22](#))

7. DISCONNECT VACUUM HOSE

8. REMOVE PUSH ROD PIN

- (a) Remove the clip from the push rod pin.
(b) Remove the push rod pin from the push rod clevis.

9. REMOVE BRAKE MASTER CYLINDER PUSH ROD CLEVIS

- (a) Loosen the push rod clevis lock nut.
(b) Remove the push rod clevis.

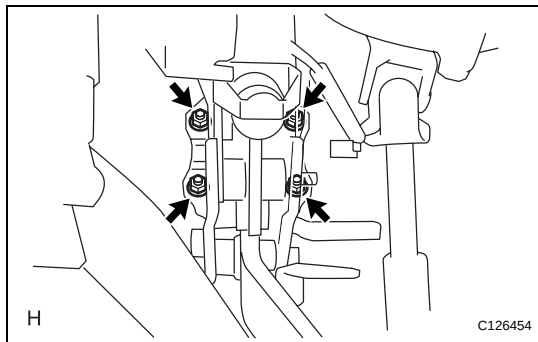
10. REMOVE BRAKE BOOSTER ASSEMBLY

- (a) Remove the 4 nuts.
(b) Pull out the booster with gasket.

11. REMOVE BRAKE BOOSTER GASKET

12. REMOVE BRAKE VACUUM CHECK VALVE ASSEMBLY

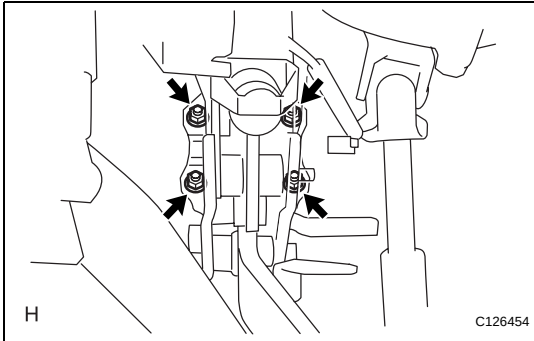
13. REMOVE CHECK VALVE GROMMET



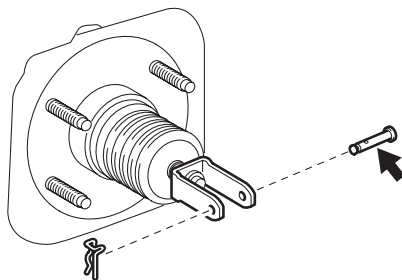
INSTALLATION

(2005/11-2006/01)

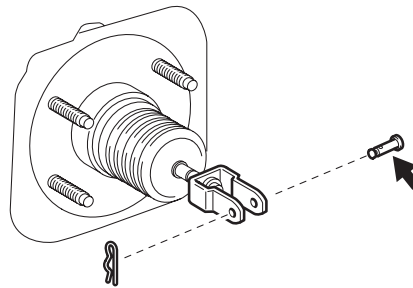
1. **INSTALL CHECK VALVE GROMMET**
(a) Install the grommet to the booster.
2. **INSTALL BRAKE VACUUM CHECK VALVE ASSEMBLY**
(a) Install the check valve to the grommet.
3. **INSTALL BRAKE BOOSTER GASKET**
(a) Install a new gasket to the booster.
4. **INSTALL BRAKE MASTER CYLINDER PUSH ROD CLEVIS**
(a) Install the push rod clevis to the booster.
(b) Temporarily tighten the push rod clevis lock nut.
HINT:
The push rod clevis lock nut will be tightened to a torque specification in the "CHECK AND ADJUST BRAKE PEDAL HEIGHT" procedures.
5. **INSTALL BRAKE BOOSTER ASSEMBLY**
(a) Install the booster with the 4 nuts.
Torque: 12.7 N*m (130 kgf*cm, 9 ft.*lbf)
6. **INSTALL PUSH ROD PIN**

**BR**

w/ ϕ 296 Disc Brake



w/ ϕ 275 Disc Brake



← Lithium Soap Base Glycol Grease

C130666E04

- (a) Apply lithium soap base glycol grease to the push rod pin.
 - (b) Install the push rod pin to the push rod clevis.
- NOTICE:**
The push rod pin must be installed as shown in the illustration.

- (c) Install the clip to the push rod pin.

NOTICE:

The clip must be installed as shown in the illustration.

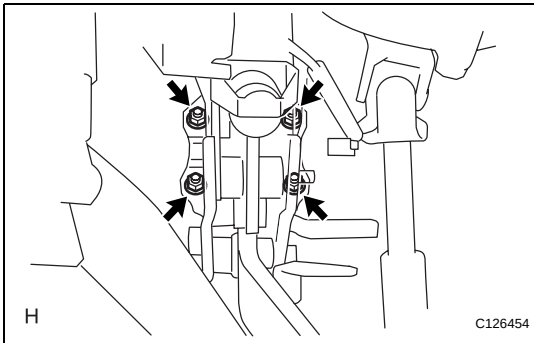
7. **CHECK AND ADJUST BRAKE BOOSTER PUSH ROD**
(See page [BR-24](#))
8. **CONNECT VACUUM HOSE**
 - (a) Connect the vacuum hose to the check valve.
9. **INSTALL BRAKE MASTER CYLINDER SUB-ASSEMBLY** (See page [BR-25](#))
10. **INSTALL ABS AND TRACTION ACTUATOR ASSEMBLY WITH BRACKET** (See page [BC-186](#))
11. **CONNECT BRAKE LINES** (See page [BC-187](#))
12. **FILL RESERVOIR WITH BRAKE FLUID** (See page [BR-6](#))
13. **BLEED AIR FROM BRAKE MASTER CYLINDER** (See page [BR-7](#))
14. **BLEED AIR FROM BRAKE LINE** (See page [BR-7](#))
15. **BLEED AIR FROM ABS AND TRACTION ACTUATOR ASSEMBLY** (See page [BR-8](#))
16. **CHECK AND ADJUST BRAKE PEDAL HEIGHT** (See page [BR-13](#))
17. **CHECK BRAKE PEDAL FREE PLAY** (See page [BR-14](#))
18. **CHECK BRAKE PEDAL RESERVE DISTANCE** (See page [BR-14](#))
19. **CHECK BRAKE FLUID LEVEL IN RESERVOIR** (See page [BR-6](#))
20. **CHECK FOR BRAKE FLUID LEAKAGE**
21. **INSTALL AIR CLEANER CASE SUB-ASSEMBLY**
 - (a) Install the air cleaner case (see page [EM-105](#)).
HINT:
Refer to the procedures from the installation of the air cleaner case up until the installation of the purge VSV.

INSTALLATION

(2006/01-)

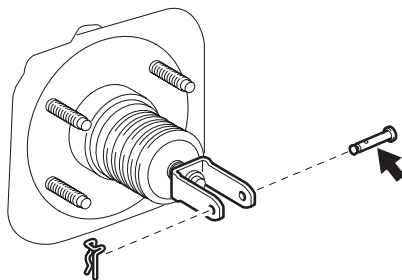
1. **INSTALL CHECK VALVE GROMMET**
 - (a) Install the grommet to the booster.
2. **INSTALL BRAKE VACUUM CHECK VALVE ASSEMBLY**
 - (a) Install the check valve to the grommet.
3. **INSTALL BRAKE BOOSTER GASKET**
 - (a) Install a new gasket to the booster.
4. **INSTALL BRAKE MASTER CYLINDER PUSH ROD CLEVIS**
 - (a) Install the push rod clevis to the booster.
 - (b) Temporarily tighten the push rod clevis lock nut.

HINT:
The push rod clevis lock nut will be tightened to a torque specification in the "CHECK AND ADJUST BRAKE PEDAL HEIGHT" procedures.
5. **INSTALL BRAKE BOOSTER ASSEMBLY**
 - (a) Install the booster with the 4 nuts.
Torque: 12.7 N*m (130 kgf*cm, 9 ft.*lbf)
6. **INSTALL PUSH ROD PIN**



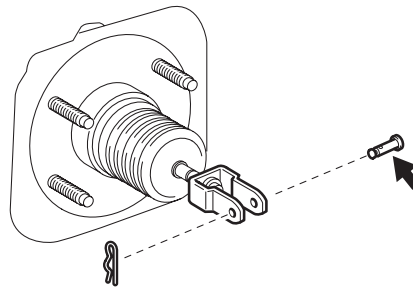
BR

w/ ϕ 296 Disc Brake



← Lithium Soap Base Glycol Grease

w/ ϕ 275 Disc Brake



C130666E04

- (a) Apply lithium soap base glycol grease to the push rod pin.
 - (b) Install the push rod pin to the push rod clevis.
- NOTICE:**
The push rod pin must be installed as shown in the illustration.

- (c) Install the clip to the push rod pin.

NOTICE:

The clip must be installed as shown in the illustration.

7. **CHECK AND ADJUST BRAKE BOOSTER PUSH ROD**
(See page [BR-24](#))
8. **CONNECT VACUUM HOSE**
 - (a) Connect the vacuum hose to the check valve.
9. **INSTALL BRAKE MASTER CYLINDER SUB-ASSEMBLY** (See page [BR-26](#))
10. **INSTALL ABS AND TRACTION ACTUATOR ASSEMBLY WITH BRACKET** (See page [BC-187](#))
11. **CONNECT BRAKE LINES** (See page [BC-188](#))
12. **FILL RESERVOIR WITH BRAKE FLUID** (See page [BR-6](#))
13. **BLEED AIR FROM BRAKE MASTER CYLINDER** (See page [BR-7](#))
14. **BLEED AIR FROM BRAKE LINE** (See page [BR-7](#))
15. **BLEED AIR FROM ABS AND TRACTION ACTUATOR ASSEMBLY** (See page [BR-8](#))
16. **CHECK AND ADJUST BRAKE PEDAL HEIGHT** (See page [BR-15](#))
17. **CHECK BRAKE PEDAL FREE PLAY** (See page [BR-15](#))
18. **CHECK BRAKE PEDAL RESERVE DISTANCE** (See page [BR-16](#))
19. **CHECK BRAKE FLUID LEVEL IN RESERVOIR** (See page [BR-6](#))
20. **CHECK FOR BRAKE FLUID LEAKAGE**
21. **INSTALL AIR CLEANER CASE SUB-ASSEMBLY (for 2AZ-FE)**
 - (a) Install the air cleaner case (see page [EM-105](#)).
HINT:
Refer to the procedures from the installation of the air cleaner case up until the installation of the purge VSV.
22. **INSTALL AIR CLEANER CASE (for 2GR-FE)**
 - (a) Install the air cleaner case (see page [EM-31](#)).
HINT:
Refer to the procedures from the installation of the air cleaner case up until the installation of the air cleaner cap sub-assembly.

REMOVAL

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. REMOVE FRONT WHEEL

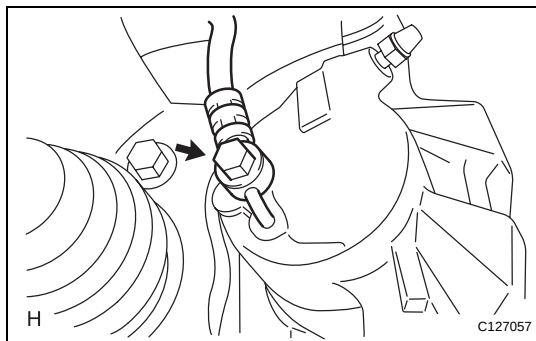
2. DRAIN BRAKE FLUID

NOTICE:

Wash off brake fluid immediately if it comes in contact with any painted surface.

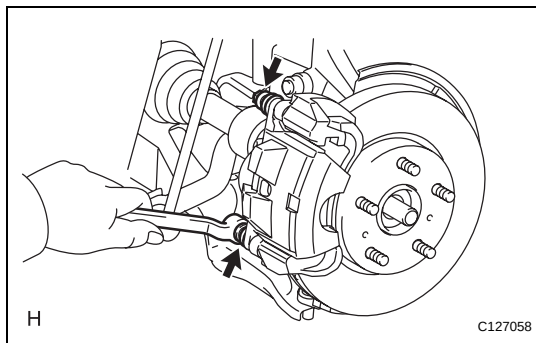
3. DISCONNECT FRONT FLEXIBLE HOSE

- (a) Remove the union bolt and gasket(s).
- (b) Disconnect the flexible hose from the brake cylinder.



4. REMOVE DISC BRAKE CYLINDER ASSEMBLY LH

- (a) Remove the 2 bolts and cylinder.



DISASSEMBLY

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. REMOVE FRONT DISC BRAKE PAD

- (a) Remove the 2 disc brake pads.

2. REMOVE ANTI-SQUEAL SHIM KIT FRONT

- (a) Remove the shims from each pad.

3. REMOVE NO. 1 PAD WEAR INDICATOR PLATE

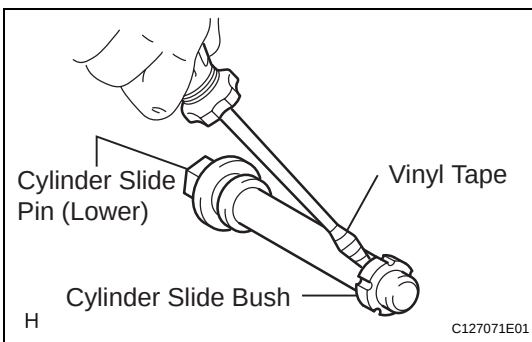
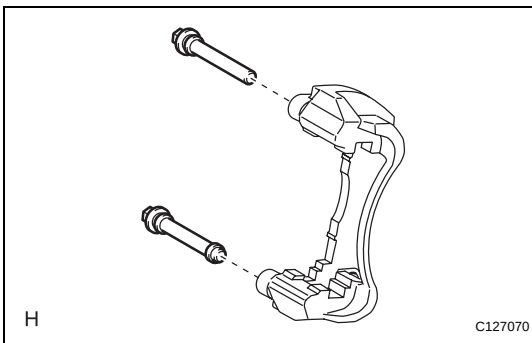
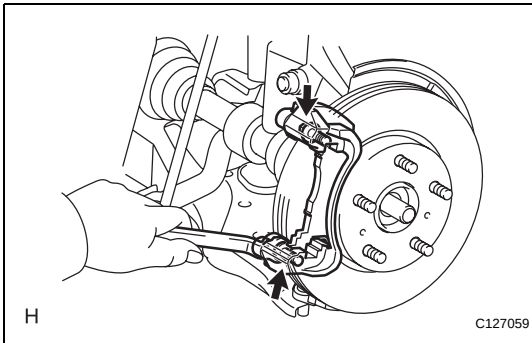
- (a) Remove the indicator plates from each pad.

4. REMOVE FRONT DISC BRAKE PAD SUPPORT PLATE

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

5. REMOVE FRONT DISC BRAKE CYLINDER MOUNTING LH

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



6. REMOVE FRONT DISC BRAKE CYLINDER SLIDE PIN

- (a) Remove the 2 pins (upper and lower) from the mounting.

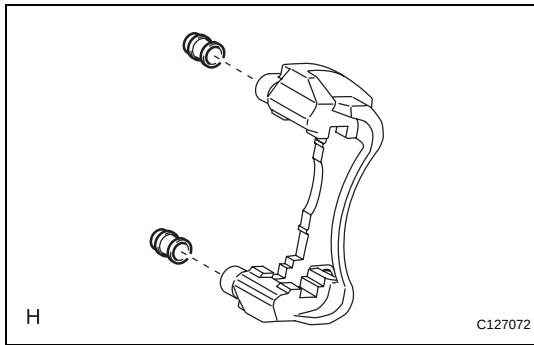
- (b) Using a screwdriver, remove the slide bush from the pin (lower).

NOTICE:

Be careful not to damage the pin.

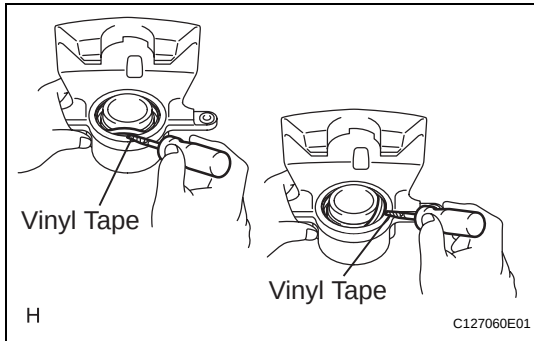
HINT:

Tape the screwdriver tip before use.



7. REMOVE FRONT DISC BRAKE BUSH DUST BOOT

- (a) Remove the 2 boots from the mounting.



8. REMOVE CYLINDER BOOT

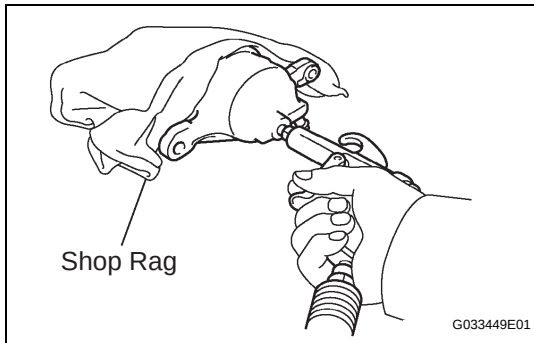
- (a) Using a screwdriver, pry out the set ring and boot.

NOTICE:

Be careful not to damage the brake piston and cylinder.

HINT:

Tape the screwdriver tip before use.



9. REMOVE FRONT DISC BRAKE PISTON

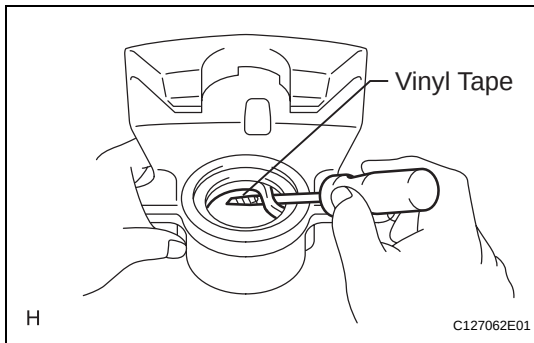
- (a) Place a shop rag or piece of cloth between the piston and disc brake cylinder.
- (b) Apply compressed air to remove the piston from the disc brake cylinder.

CAUTION:

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

NOTICE:

Be careful not to spatter the brake fluid.



10. REMOVE PISTON SEAL

- (a) Using a screwdriver, pry out the seal from the cylinder.

NOTICE:

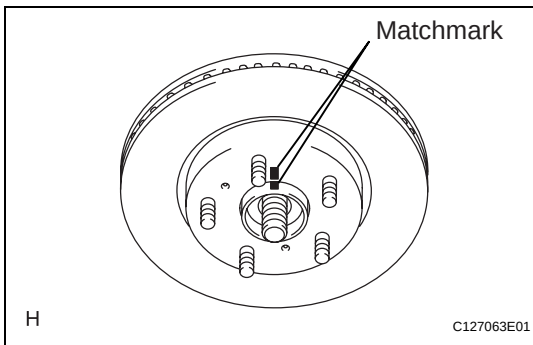
Be careful not to damage the inner cylinder and piston seal groove.

HINT:

Tape the screwdriver tip before use.

11. REMOVE FRONT DISC BRAKE BLEEDER PLUG

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

**12. REMOVE FRONT DISC**

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

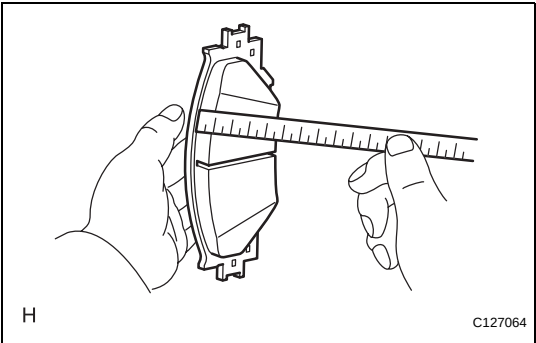
INSPECTION

1. CHECK BRAKE CYLINDER AND PISTON

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

2. CHECK 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 equal to or less than the minimum, replace the pad.



3. CHECK FRONT DISC BRAKE PAD SUPPORT PLATE

- (a) Check the 4 plates as follows. If necessary, replace the plates.
 - (1) Use brake cleaner to clean the pad support plate's pad and cylinder mounting contact surface. Inspect for deformation, cracks, rust and foreign matter that is difficult to remove.
 - (2) Use brake cleaner to clean the cylinder mounting's pad support plate contact surface. After installing the pad support plate to the cylinder mounting, inspect for looseness and deformation.
 - (3) After installing the pad, inspect if the pad falls off easily (due to the spring force of the pad support plate).

4. CHECK DISC THICKNESS

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

Model	Specified Condition
With ϕ 275 disc	25.0 mm (0.984 in.)
With ϕ 296 disc	28.0 mm (1.102 in.)

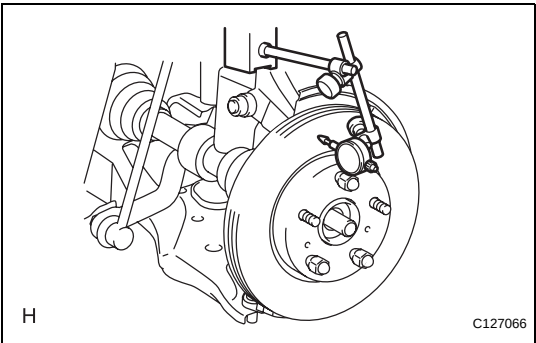
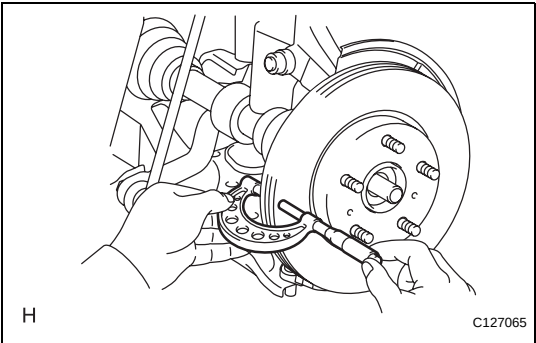
Minimum thickness

Model	Specified Condition
With ϕ 275 disc	22.0 mm (0.866 in.)
With ϕ 296 disc	25.0 mm (0.984 in.)

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

5. CHECK DISC RUNOUT

- (a) Check the axle hub bearing (see page AH-6).
- (b) Tighten the disc with the 3 hub nuts.
- (c) Using a dial indicator, measure the disc runout 10.0 mm (0.39 in.) from the outer edge of the disc.
Maximum disc runout:
0.05 mm (0.0020 in.)



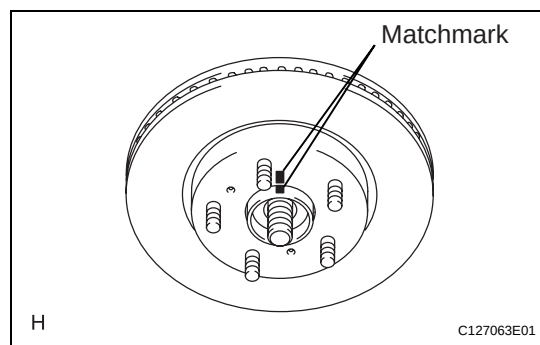
If the runout is greater than the maximum, change the installation positions of the disc and axle so that the runout will become minimal. If the runout is greater than the maximum even when the installation positions are changed, grind the disc. If the disc thickness is less than the minimum, replace the disc.

- (d) Remove the 3 hub nuts.

REASSEMBLY

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.



1. INSTALL FRONT DISC

- (a) Align the matchmarks and install the disc.

HINT:

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

2. CHECK DISC RUNOUT (See page [BR-43](#))

3. TEMPORARILY TIGHTEN FRONT DISC BRAKE BLEEDER PLUG

- (a) Install the bleeder plug to the cylinder.

HINT:

The bleeder plug will be tightened to a torque specification in the "BLEED AIR FROM BRAKE LINE" procedures.

- (b) Install the bleeder plug cap.

4. INSTALL PISTON SEAL

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

NOTICE:

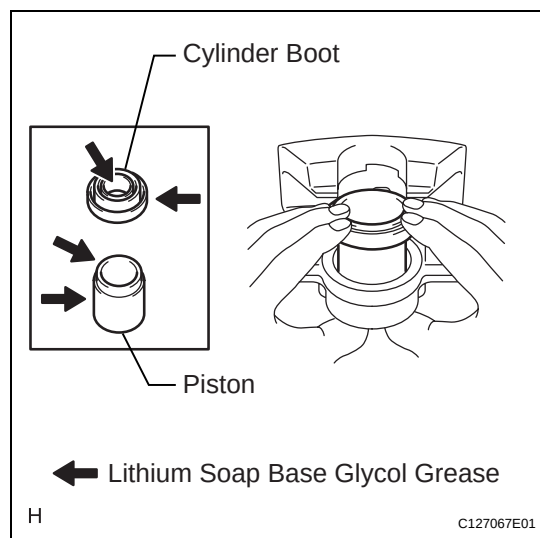
Securely install the piston seal into the groove of the disc brake cylinder.

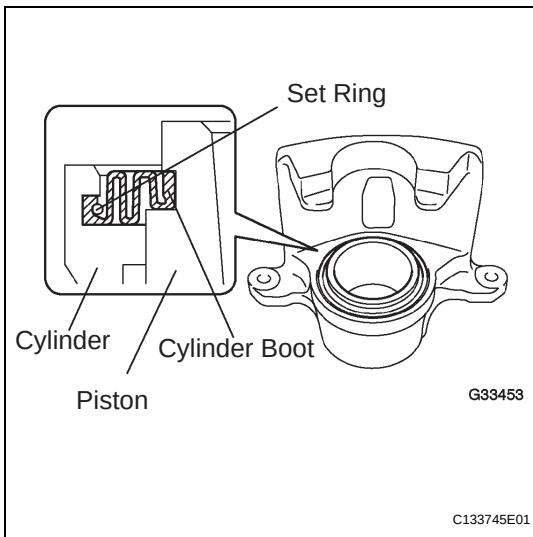
5. INSTALL FRONT DISC BRAKE PISTON

- (a) Apply lithium soap base glycol grease to the piston and a new cylinder boot.
- (b) Install the boot to the piston.
- (c) Install the piston (with boot) to the cylinder.

NOTICE:

Do not forcibly install the piston to the cylinder.





6. INSTALL CYLINDER BOOT

- (a) Install the cylinder boot to the cylinder.

NOTICE:

Securely install the cylinder boot into the groove of the disc brake cylinder.

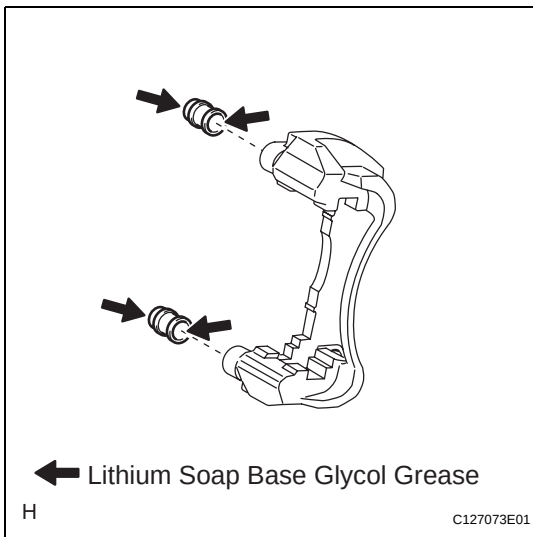
- (b) Using a screwdriver, install a new set ring.

NOTICE:

Do not damage the cylinder boot.

HINT:

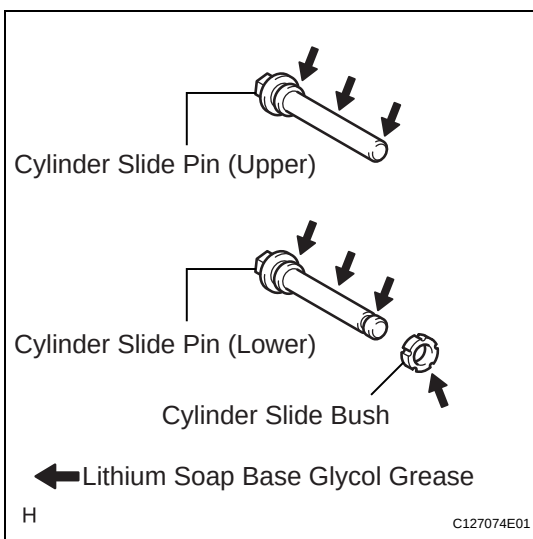
Tape the screwdriver tip before use.



7. INSTALL FRONT DISC BRAKE BUSH DUST BOOT

- (a) Apply lithium soap base glycol grease to 2 new boots.

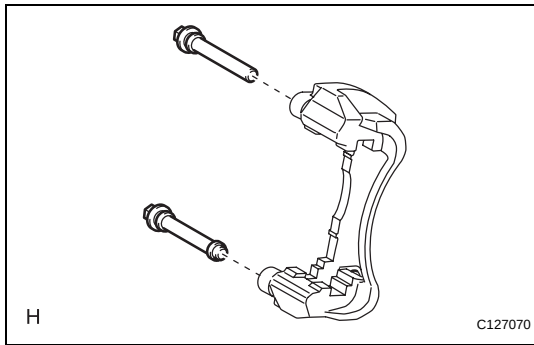
- (b) Install the 2 boots to the mounting.



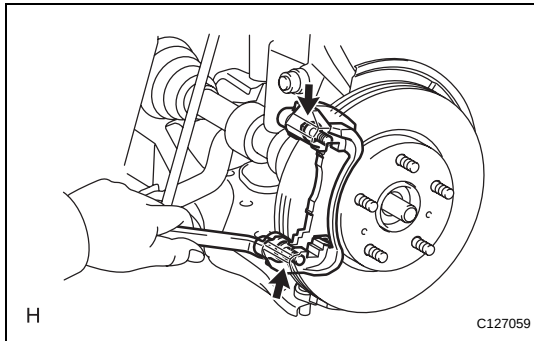
8. INSTALL FRONT DISC BRAKE CYLINDER SLIDE PIN

- (a) Apply lithium soap base glycol grease to the pins and a new bush as shown in the illustration.

- (b) Install the bush to the pin (lower).



(c) Install the 2 pins (upper and lower) to the mounting.



9. INSTALL FRONT DISC BRAKE CYLINDER MOUNTING LH

- (a) Install the cylinder mounting with the 2 bolts.
Torque: 98 N*m (999 kgf*cm, 72 ft.*lbf)

10. INSTALL FRONT DISC BRAKE PAD SUPPORT PLATE

- (a) Install the 4 plates to the mounting.

11. INSTALL NO. 1 PAD WEAR INDICATOR PLATE

- (a) Install the 2 indicator plates to the upper side of each pad.

12. INSTALL ANTI-SQUEAL SHIM KIT FRONT

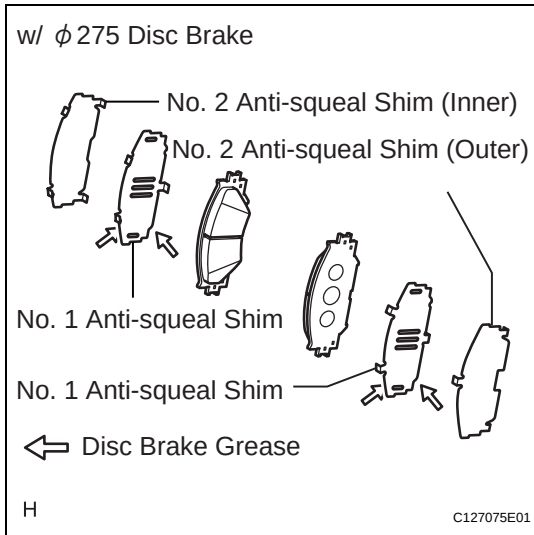
- (a) w/ $\phi 275$ disc brake:

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

NOTICE:

- When replacing a worn pad, the shims must be replaced together with the pads.
- Install the shims in the correct positions and direction as shown in the illustration.

BR



- (b) w/ $\phi 296$ disc brake:

- (1) Install the No. 1 and No. 2 shims to each pad.

NOTICE:

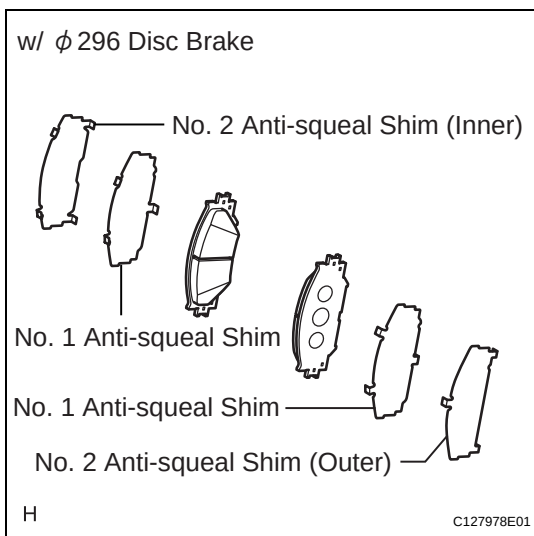
- When replacing a worn pad, the shims must be replaced together with the pads.
- Install the shims in the correct positions and direction as shown in the illustration.

13. INSTALL FRONT DISC BRAKE PAD

- (a) Install the 2 disc brake pads to the mounting.

NOTICE:

There should be no oil or grease on the friction surface of the pads and disc.



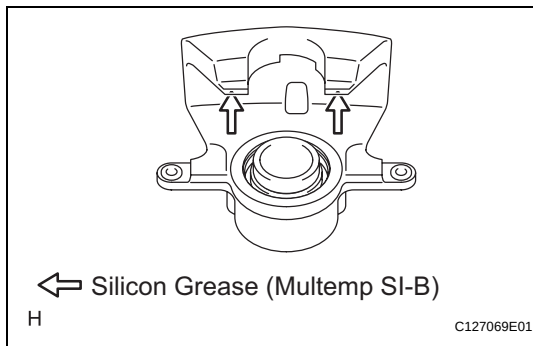
INSTALLATION

HINT:

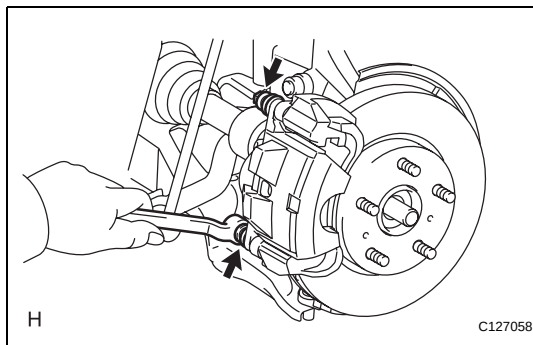
- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. INSTALL DISC BRAKE CYLINDER ASSEMBLY LH

- (a) Apply silicon grease (Multemp SI-B) on the contact surfaces of the cylinder parts indicated by the arrows.



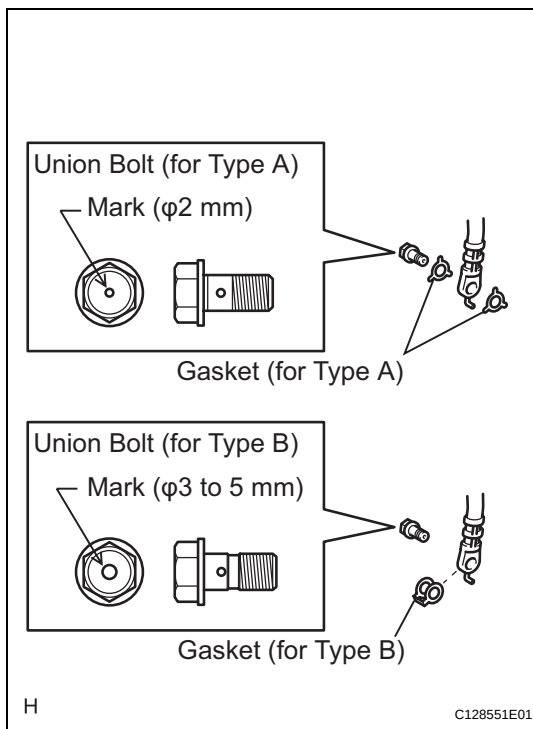
- (b) Install the cylinder with the 2 bolts.
Torque: 34.3 N*m (350 kgf*cm, 25 ft.*lbf)

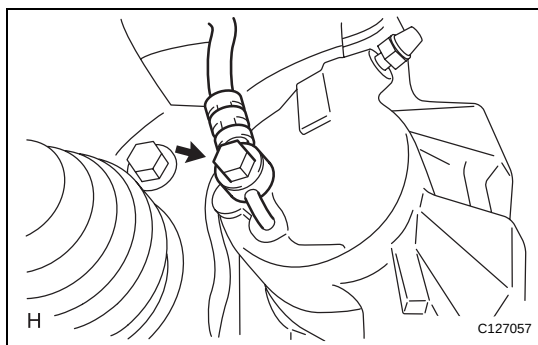


2. CONNECT FRONT FLEXIBLE HOSE

NOTICE:

The gasket and union bolt must be used as a set, as shown in the illustration.





- (a) Connect the flexible hose with new gasket(s) and the union bolt.

Torque: 29.4 N*m (300 kgf*cm, 22 ft.*lbf)

HINT:

Install the flexible hose lock securely in the lock hole in the cylinder.

3. **FILL RESERVOIR WITH BRAKE FLUID (See page [BR-6](#))**
4. **BLEED AIR FROM BRAKE MASTER CYLINDER (See page [BR-7](#))**
5. **BLEED AIR FROM BRAKE LINE (See page [BR-7](#))**
6. **BLEED AIR FROM ABS AND TRACTION ACTUATOR ASSEMBLY (See page [BR-8](#))**
7. **CHECK BRAKE FLUID LEVEL IN RESERVOIR (See page [BR-6](#))**
8. **CHECK FOR BRAKE FLUID LEAKAGE**
9. **INSTALL FRONT WHEEL**
Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)

INSTALLATION

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. INSTALL FRONT FLEXIBLE HOSE

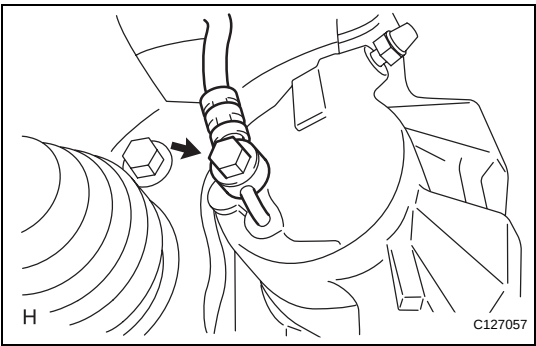
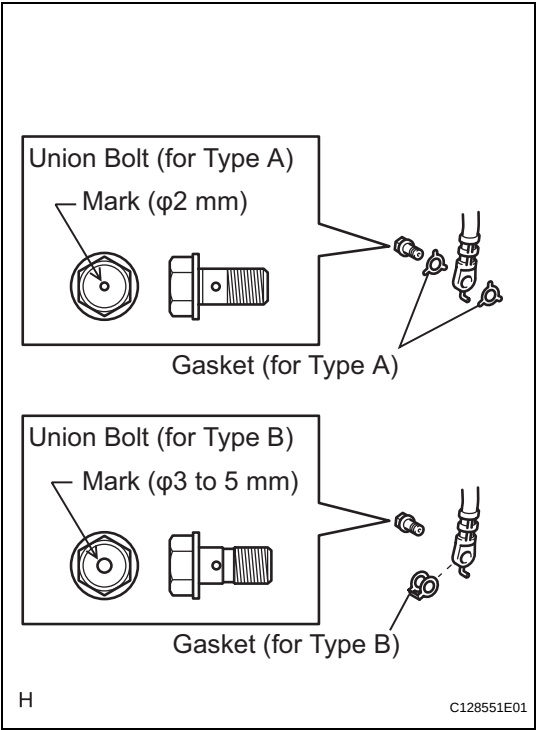
NOTICE:

- The flexible hose has an identification color. Make sure of the identification color when installing the flexible hose.

Item	Identification color
Flexible hose LH	Green
Flexible hose RH	Orange

- The gasket and union bolt must be used as a set, as shown in the illustration.

BR

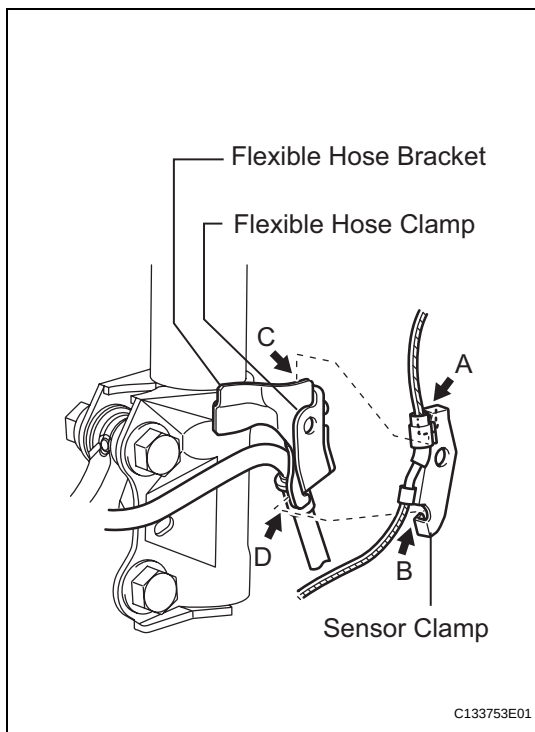


- (a) Connect the flexible hose with new gasket(s) and the union bolt to the disc brake cylinder.

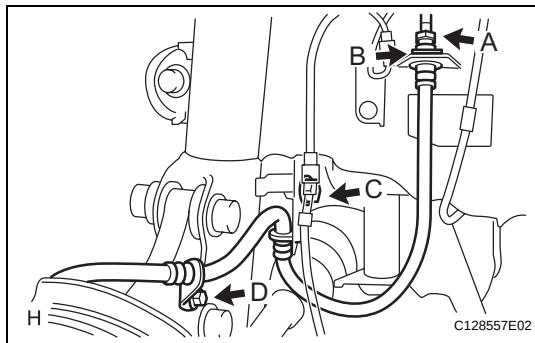
Torque: 29.4 N*m (300 kgf*cm, 22 ft.*lbf)

HINT:

Install the flexible hose lock securely in the lock hole in the cylinder.



- (b) Set the flexible hose clamp on the flexible hose bracket.
- (c) Simultaneously perform the following: 1) hang the hook part of the sensor clamp (labeled A) on the flexible hose bracket (labeled C); and 2) insert the hook part of the sensor clamp (labeled B) into the flexible hose bracket (labeled D).



- (d) Tighten the bolt (labeled C) to fix the flexible hose clamp and sensor clamp.
- (e) Install the flexible hose with the bolt (labeled D).
- (f) Set the flexible hose to the connecting point with the brake tube (labeled A), and then attach a new clip (labeled B).
- (g) Using SST, connect the flexible hose to the brake tube (labeled A) while holding the flexible hose with a wrench.

SST 09023-00101

Torque: 15.2 N*m (155 kgf*cm, 11 ft.*lbf) without SST

14 N*m (144 kgf*cm, 10 ft.*lbf) with SST

HINT:

Use a torque wrench with a fulcrum length of 30 cm (11.81 in.).

NOTICE:

- Do not bend or damage the brake tube.
- Do not allow any foreign matter such as dirt and dust to enter the brake tube from the connecting point.

2. **FILL RESERVOIR WITH BRAKE FLUID** (See page [BR-6](#))
3. **BLEED AIR FROM BRAKE MASTER CYLINDER** (See page [BR-7](#))
4. **BLEED AIR FROM BRAKE LINE** (See page [BR-7](#))
5. **BLEED AIR FROM ABS AND TRACTION ACTUATOR ASSEMBLY** (See page [BR-8](#))

6. CHECK BRAKE FLUID LEVEL IN RESERVOIR (See page [BR-6](#))
7. CHECK FOR BRAKE FLUID LEAKAGE
8. INSTALL FRONT WHEEL
Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)

INSTALLATION

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. INSTALL FRONT FLEXIBLE HOSE

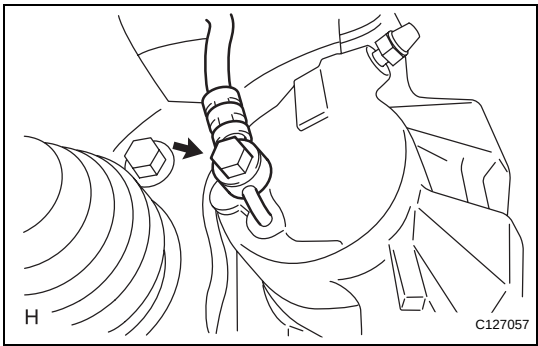
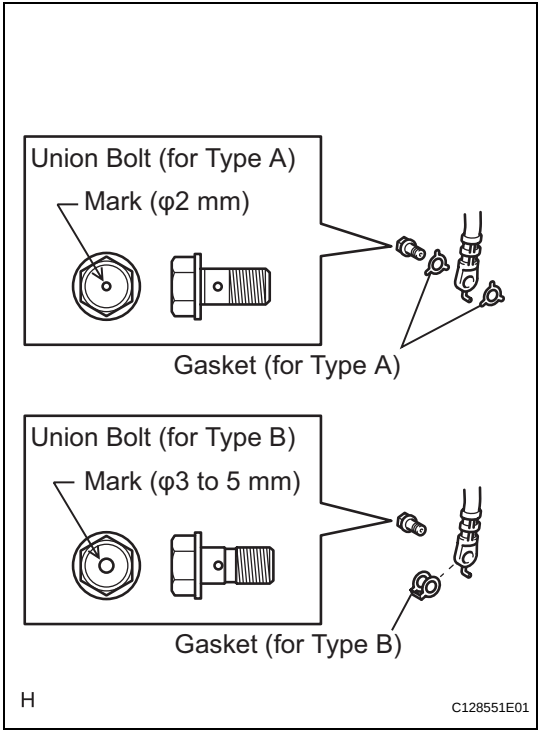
NOTICE:

- The flexible hose has an identification color. Make sure of the identification color when installing the flexible hose.

Item	Identification color
Flexible hose LH	Green
Flexible hose RH	Orange

- The gasket and union bolt must be used as a set, as shown in the illustration.

BR

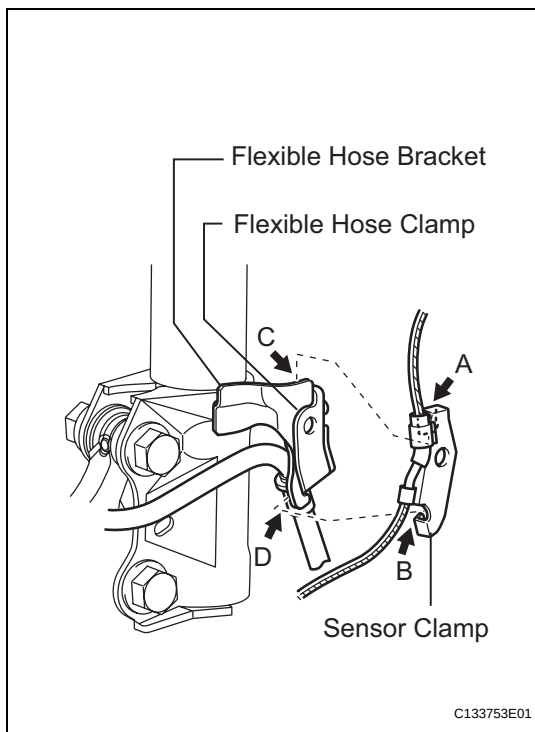


- (a) Connect the flexible hose with new gasket(s) and the union bolt to the disc brake cylinder.

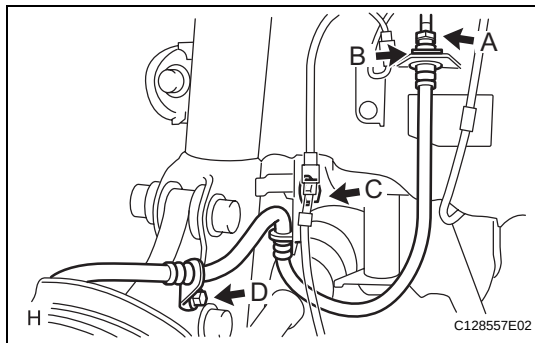
Torque: 29.4 N*m (300 kgf*cm, 22 ft.*lbf)

HINT:

Install the flexible hose lock securely in the lock hole in the cylinder.



- (b) Set the flexible hose clamp on the flexible hose bracket.
- (c) Simultaneously perform the following: 1) hang the hook part of the sensor clamp (labeled A) on the flexible hose bracket (labeled C); and 2) insert the hook part of the sensor clamp (labeled B) into the flexible hose bracket (labeled D).



- (d) Tighten the bolt (labeled C) to fix the flexible hose clamp and sensor clamp.
- (e) Install the flexible hose with the bolt (labeled D).
- (f) Set the flexible hose to the connecting point with the brake tube (labeled A), and then attach a new clip (labeled B).
- (g) Using SST, connect the flexible hose to the brake tube (labeled A) while holding the flexible hose with a wrench.

SST 09023-00101

Torque: 15.2 N*m (155 kgf*cm, 11 ft.*lbf) without SST

14 N*m (144 kgf*cm, 10 ft.*lbf) with SST

HINT:

Use a torque wrench with a fulcrum length of 30 cm (11.81 in.).

NOTICE:

- Do not bend or damage the brake tube.
- Do not allow any foreign matter such as dirt and dust to enter the brake tube from the connecting point.

2. **FILL RESERVOIR WITH BRAKE FLUID** (See page [BR-6](#))
3. **BLEED AIR FROM BRAKE MASTER CYLINDER** (See page [BR-7](#))
4. **BLEED AIR FROM BRAKE LINE** (See page [BR-7](#))
5. **BLEED AIR FROM ABS AND TRACTION ACTUATOR ASSEMBLY** (See page [BR-8](#))

6. CHECK BRAKE FLUID LEVEL IN RESERVOIR (See page [BR-6](#))
7. CHECK FOR BRAKE FLUID LEAKAGE
8. INSTALL FRONT WHEEL
Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)

REMOVAL

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. REMOVE REAR WHEEL

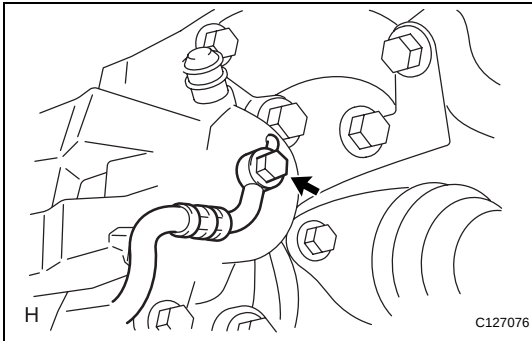
2. DRAIN BRAKE FLUID

NOTICE:

Wash off brake fluid immediately if it comes in contact with any painted surface.

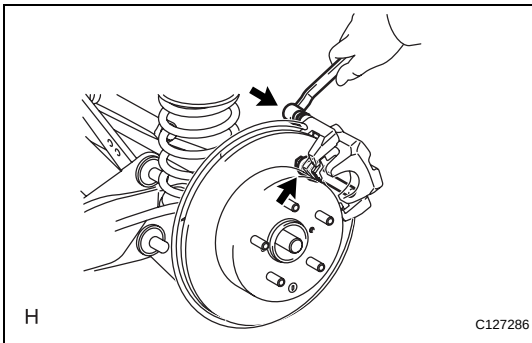
3. DISCONNECT REAR FLEXIBLE HOSE LH

- (a) Remove the union bolt and gasket(s).
- (b) Disconnect the flexible hose from the brake cylinder.



4. REMOVE REAR DISC BRAKE CYLINDER ASSEMBLY LH

- (a) Remove the 2 bolts and cylinder.



DISASSEMBLY

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. REMOVE REAR DISC BRAKE PAD

- (a) Remove the 2 disc brake pads.

2. REMOVE ANTI-SQUEAL SHIM

- (a) Remove the shims from each pad.

3. REMOVE PAD WEAR INDICATOR PLATE

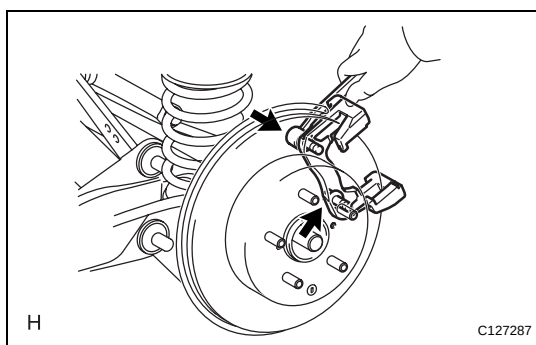
- (a) Remove the indicator plates from each pad.

4. REMOVE REAR DISC BRAKE PAD SUPPORT PLATE

- (a) Remove the 2 plates from the brake cylinder mounting.

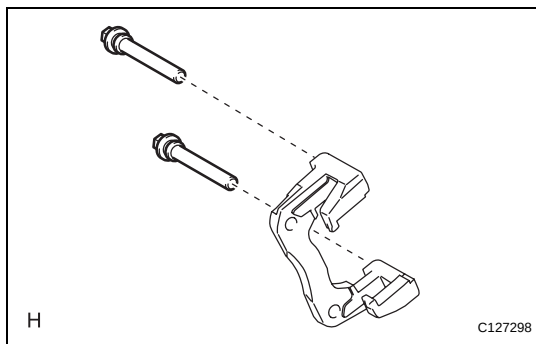
5. REMOVE REAR DISC BRAKE CYLINDER MOUNTING LH

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



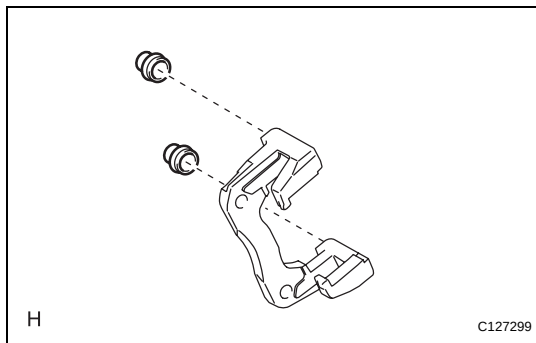
6. REMOVE REAR DISC BRAKE CYLINDER SLIDE PIN

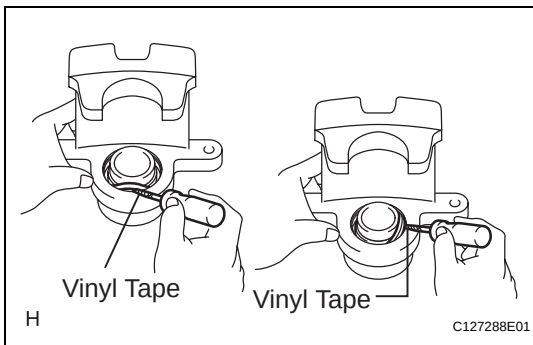
- (a) Remove the 2 pins (upper and lower) from the mounting.



7. REMOVE REAR DISC BRAKE BUSH DUST BOOT

- (a) Remove the 2 boots from the mounting.



**8. REMOVE CYLINDER BOOT**

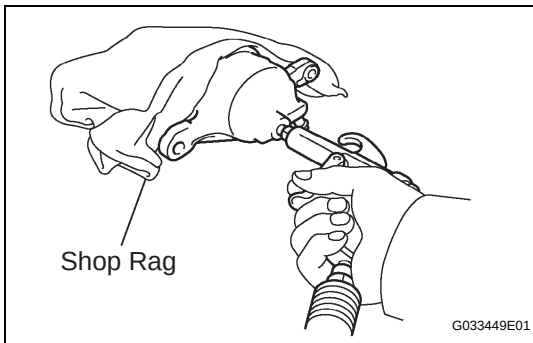
- (a) Using a screwdriver, pry out the set ring and boot.

NOTICE:

Be careful not to damage the brake piston and cylinder.

HINT:

Tape the screwdriver tip before use.

**9. REMOVE REAR DISC BRAKE PISTON**

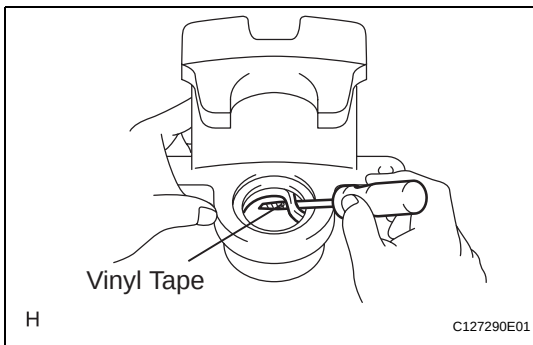
- (a) Place a shop rag or piece of cloth between the piston and disc brake cylinder.
 (b) Apply compressed air to remove the piston from the disc brake cylinder.

CAUTION:

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

NOTICE:

Be careful not to spatter the brake fluid.

**10. REMOVE PISTON SEAL**

- (a) Using a screwdriver, pry out the seal from the cylinder.

NOTICE:

Be careful not to damage the inner cylinder and piston seal groove.

HINT:

Tape the screwdriver tip before use.

11. REMOVE REAR DISC BRAKE BLEEDER PLUG

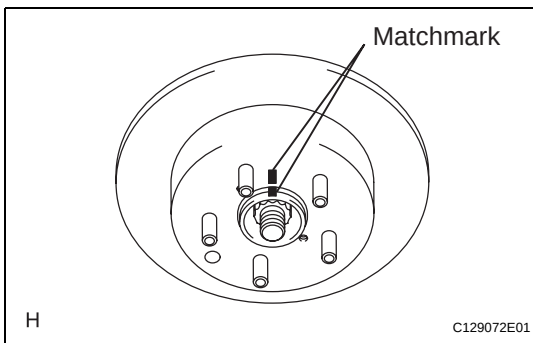
- (a) Remove the bleeder plug cap and bleeder plug from the cylinder.

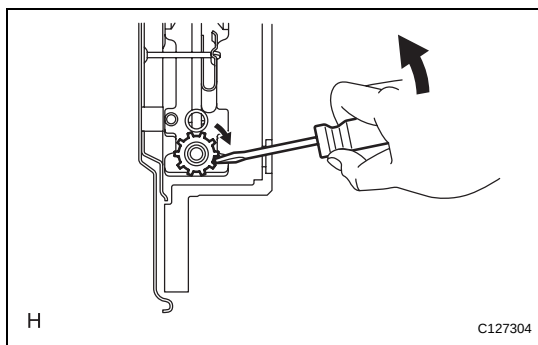
12. REMOVE PARKING BRAKE SHOE ADJUSTING HOLE PLUG

- (a) Remove the shoe adjusting hole plug from the rear disc.

13. REMOVE REAR DISC

- (a) Put matchmarks on the disc and axle hub.
 (b) Release the parking brake.



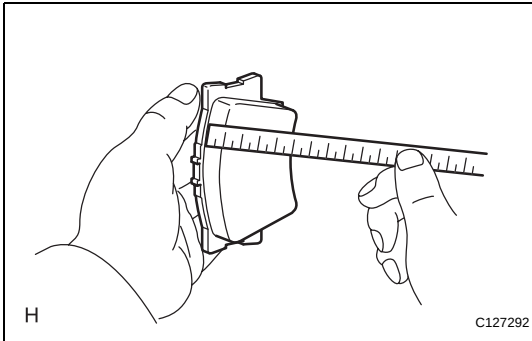


- (c) Turn the shoe adjuster until the disc turns freely, and then remove the disc.
- (d) Install the shoe adjusting hole plug from the rear disc.

INSPECTION

1. CHECK BRAKE CYLINDER AND PISTON

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

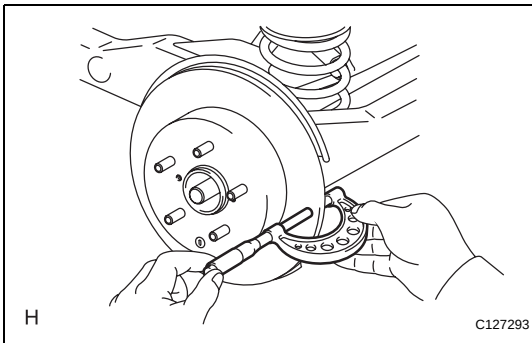


2. CHECK PAD LINING THICKNESS

- (a) Using a ruler, measure the pad lining thickness.
Standard thickness:
10.5 mm (0.413 in.)
Minimum thickness:
1.0 mm (0.039 in.)
 If the pad lining thickness is equal to or less than the minimum, replace the pad.

3. CHECK REAR DISC BRAKE PAD SUPPORT PLATE

- (a) Check the 2 plates as follows. If necessary, replace the plates.
 - (1) Use brake cleaner to clean the pad support plate's pad and cylinder mounting contact surface. Inspect for deformation, cracks, rust and foreign matter that is difficult to remove.
 - (2) Use brake cleaner to clean the cylinder mounting's pad support plate contact surface. After installing the pad support plate to the cylinder mounting, inspect for looseness and deformation.
 - (3) After installing the pad, inspect if the pad falls off easily (due to the spring force of the pad support plate).

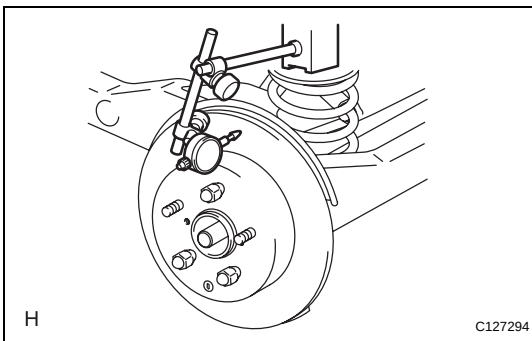


4. CHECK DISC THICKNESS

- (a) Using a micrometer, measure the disc thickness.
Standard thickness:
12.0 mm (0.472 in.)
Minimum thickness:
10.5 mm (0.413 in.)
 If the disc thickness is less than the minimum, replace the disc.

5. CHECK DISC RUNOUT

- (a) Check the bearing backlash and axle hub deviation (see page [AH-16](#)).
- (b) Tighten the disc with the 3 hub nuts.
Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)
- (c) Using a dial indicator, measure the disc runout 10 mm (0.39 in.) from the outer edge of the disc.
Maximum disc runout:
0.15 mm (0.0059 in.)
 If the runout is greater than the maximum, change the installation positions of the disc and axle so that the runout will become minimal.
 If the runout is greater than the maximum even when the installation positions are changed, grind the disc.



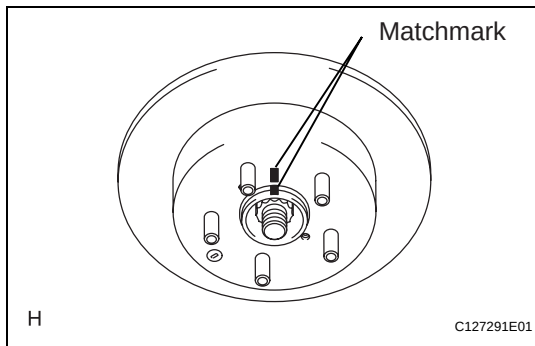
If the disc thickness is less than the minimum,
replace the disc.

- (d) Remove the 3 hub nuts.

REASSEMBLY

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.



1. INSTALL REAR DISC

- (a) Align the matchmarks and install the disc.

HINT:

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

2. INSTALL PARKING BRAKE SHOE ADJUSTING HOLE PLUG

- (a) Install the adjusting hole plug to the rear disc.

3. CHECK DISC RUNOUT (See page [BR-58](#))

4. ADJUST PARKING BRAKE SHOE CLEARANCE (See page [PB-17](#))

5. TEMPORARILY TIGHTEN REAR DISC BRAKE BLEEDER PLUG

- (a) Install the bleeder plug to the brake cylinder.

HINT:

The bleeder plug will be tightened to a torque specification in the "BLEED AIR FROM BRAKE LINE" procedures.

- (b) Install the bleeder plug cap to the bleeder plug.

6. INSTALL PISTON SEAL

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

NOTICE:

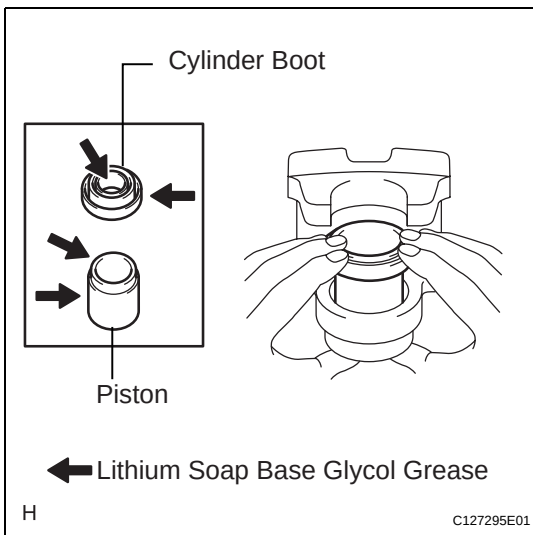
Securely install the piston seal into the groove of the disc brake cylinder.

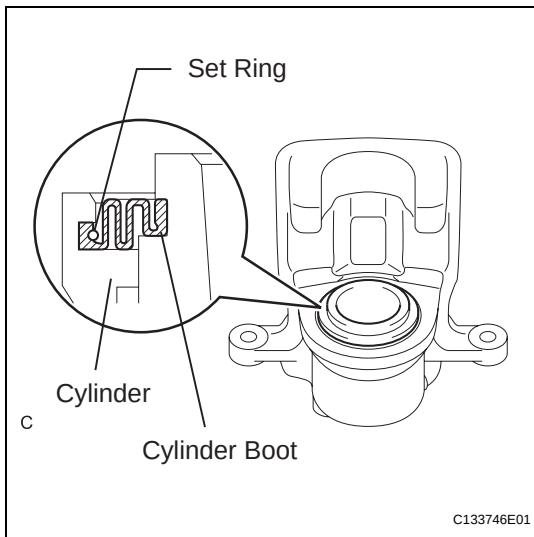
7. INSTALL REAR DISC BRAKE PISTON

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

NOTICE:

Do not forcibly install the brake piston to the brake cylinder.





8. INSTALL CYLINDER BOOT

- (a) Install the cylinder boot to the cylinder.

NOTICE:

- Install the boot securely into the grooves of the brake cylinder and brake piston.
- Be careful not to damage the boot.

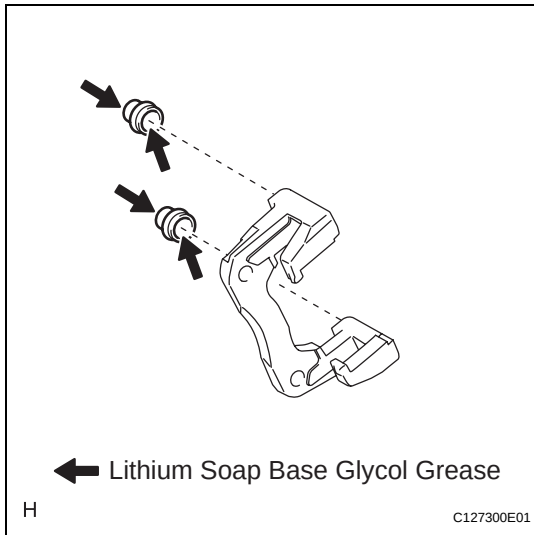
- (b) Using a screwdriver, install a new set ring.

NOTICE:

Be careful not to damage the boot.

HINT:

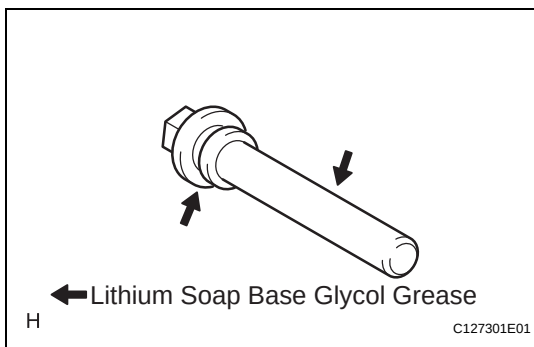
Tape the screwdriver tip before use.



9. INSTALL REAR DISC BRAKE BUSH DUST BOOT

- (a) Apply lithium soap base glycol grease to 2 new boots.

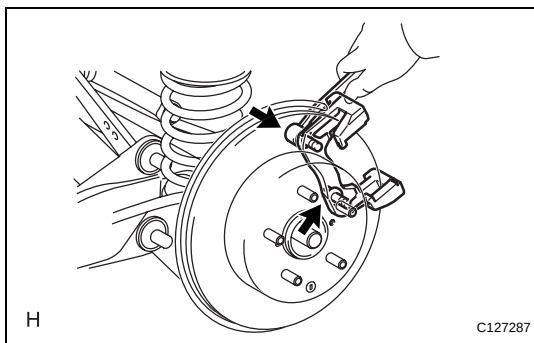
- (b) Install the 2 boots to the mounting.



10. INSTALL REAR DISC BRAKE CYLINDER SLIDE PIN

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

- (b) Install the 2 pins (upper and lower) to the mounting.



11. INSTALL REAR DISC BRAKE CYLINDER MOUNTING LH

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

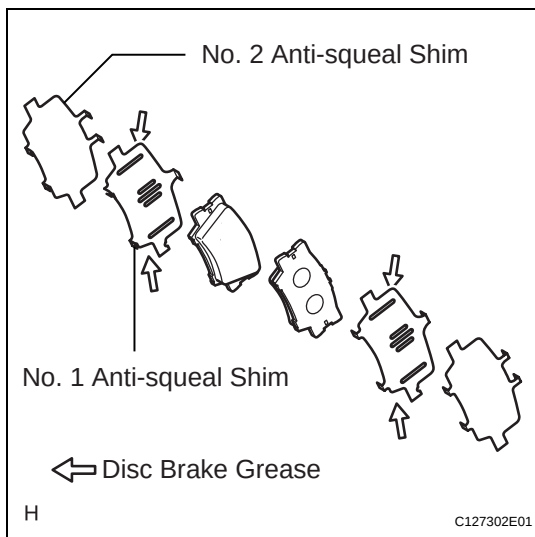
Torque: 88 N*m (897 kgf*cm, 65 ft.*lbf)

12. INSTALL REAR DISC BRAKE PAD SUPPORT PLATE

- (a) Install the 2 plates to the mounting.

13. INSTALL PAD WEAR INDICATOR PLATE

- (a) Install the 2 indicator plates to the lower side of each pad.

**14. INSTALL ANTI-SQUEAL SHIM**

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

NOTICE:

- When replacing a worn pad, the shims must be replaced together with the pads.
- Install the shims in the correct positions and direction.

15. INSTALL REAR DISC BRAKE PAD

- (a) Install the 2 disc brake pads to the mounting.

NOTICE:

There should be no oil or grease on the friction surface of the pads and disc.

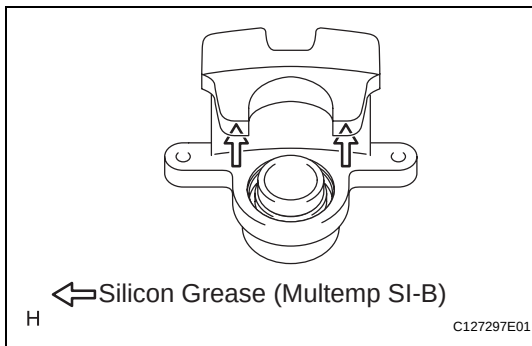
INSTALLATION

HINT:

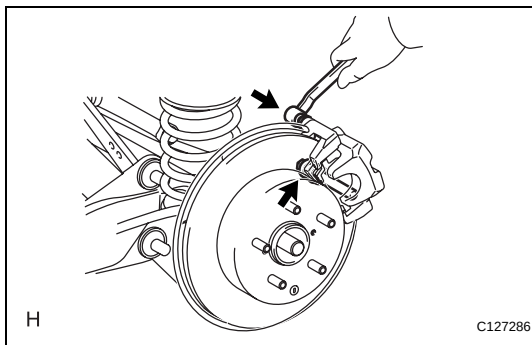
- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. INSTALL REAR DISC BRAKE CYLINDER ASSEMBLY LH

- (a) Apply silicon grease (Multemp SI-B) on the contact surfaces of the cylinder parts indicated by the arrows.



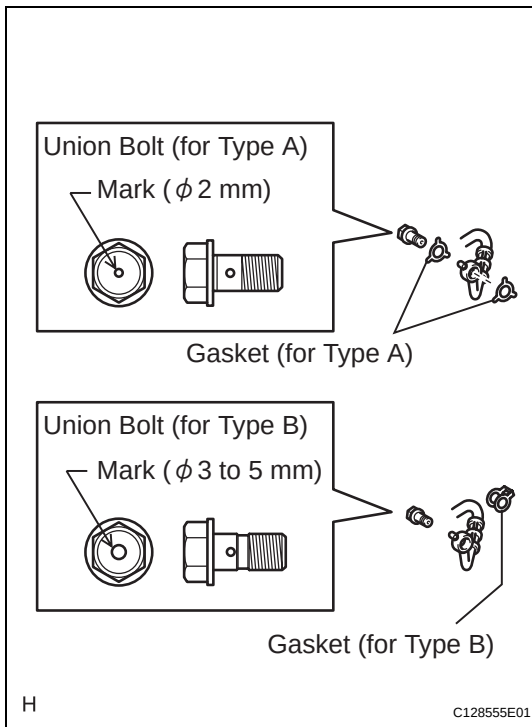
- (b) Install the cylinder with the 2 bolts.
Torque: 26.5 N*m (270 kgf*cm, 20 ft.*lbf)

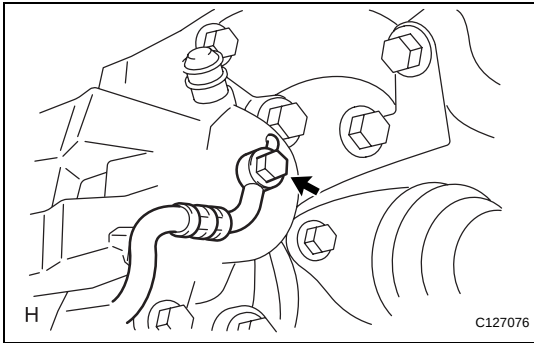


2. CONNECT REAR FLEXIBLE HOSE LH

NOTICE:

The gasket and union bolt must be used as a set, as shown in the illustration.





- (a) Connect the flexible hose with new gasket(s) and the union bolt.

Torque: 30.4 N*m (310 kgf*cm, 22 ft.*lbf)

HINT:

Install the flexible hose lock securely in the lock hole in the cylinder.

3. **FILL RESERVOIR WITH BRAKE FLUID (See page [BR-6](#))**
4. **BLEED AIR FROM BRAKE MASTER CYLINDER (See page [BR-7](#))**
5. **BLEED AIR FROM BRAKE LINE (See page [BR-7](#))**
6. **BLEED AIR FROM ABS AND TRACTION ACTUATOR ASSEMBLY (See page [BR-8](#))**
7. **CHECK BRAKE FLUID LEVEL IN RESERVOIR (See page [BR-6](#))**
8. **CHECK FOR BRAKE FLUID LEAKAGE**
9. **INSTALL REAR WHEEL**
Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)

INSTALLATION

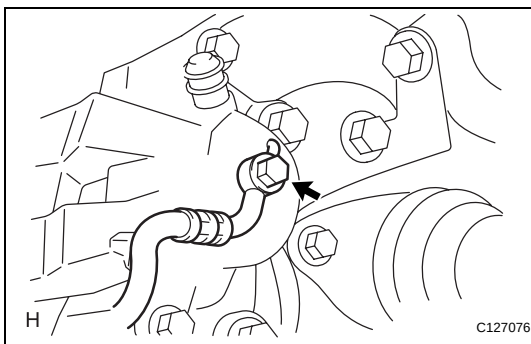
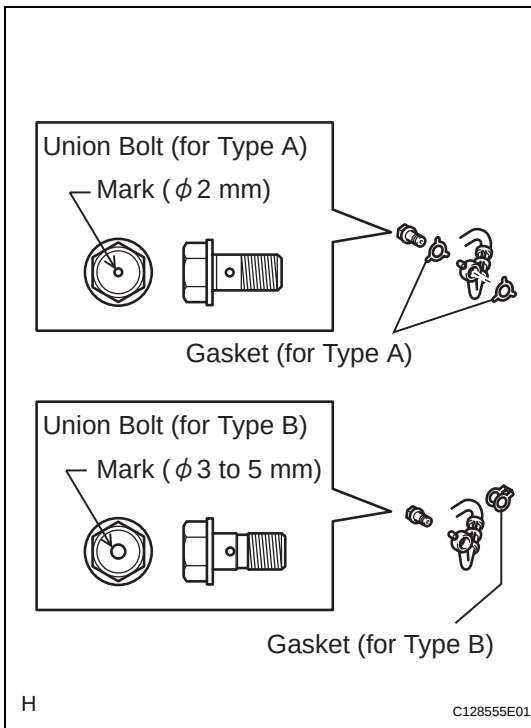
HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. INSTALL REAR BRAKE TUBE FLEXIBLE HOSE

NOTICE:

The gasket and union bolt must be used as a set, as shown in the illustration.

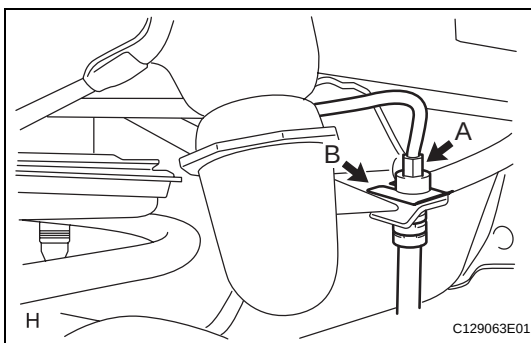


- (a) Connect the flexible hose with new gasket(s) and the union bolt to the disc brake cylinder.

Torque: 30.4 N*m (310 kgf*cm, 22 ft.*lbf)

HINT:

Install the flexible hose lock securely in the lock hole in the cylinder.



- (b) Set the flexible hose to the connecting point with the brake tube (labeled A), and then attach a new clip (labeled B).

- (c) Using SST, connect the flexible hose to the brake tube (labeled A) while holding the flexible hose with a wrench.

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Torque: 15.2 N*m (155 kgf*cm, 11 ft.*lbf) without SST

14 N*m (144 kgf*cm, 10 ft.*lbf) with SST

HINT:

Use a torque wrench with a fulcrum length of 30 cm (11.81 in.).

NOTICE:

- Do not bend or damage the brake tube.

- Do not allow any foreign matter such as dirt and dust to enter the brake tube from the connecting point.
2. FILL RESERVOIR WITH BRAKE FLUID (See page [BR-6](#))
 3. BLEED AIR FROM BRAKE MASTER CYLINDER (See page [BR-7](#))
 4. BLEED AIR FROM BRAKE LINE (See page [BR-7](#))
 5. BLEED AIR FROM ABS AND TRACTION ACTUATOR ASSEMBLY (See page [BR-8](#))
 6. CHECK BRAKE FLUID LEVEL IN RESERVOIR (See page [BR-6](#))
 7. CHECK FOR BRAKE FLUID LEAKAGE
 8. INSTALL REAR WHEEL
Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)

INSTALLATION

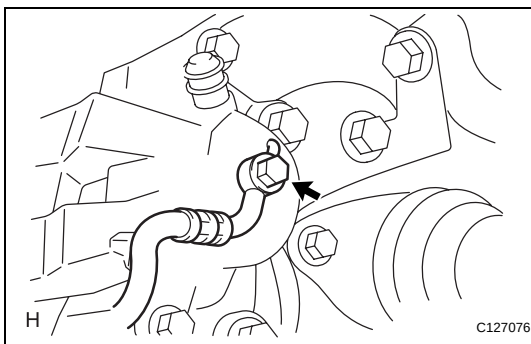
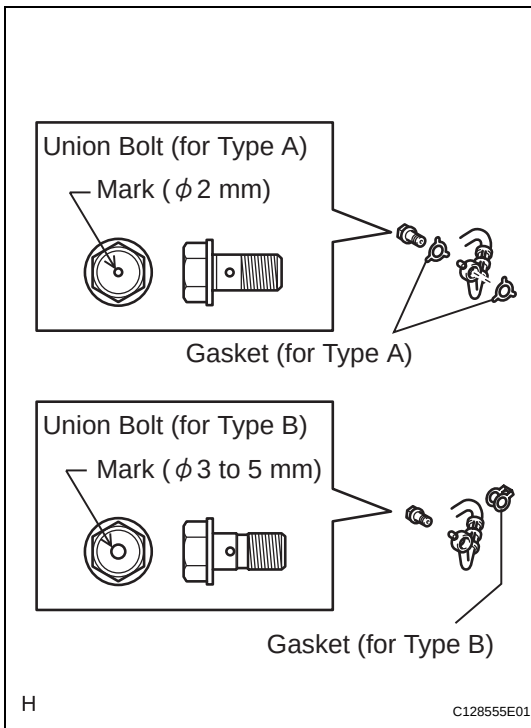
HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. INSTALL REAR BRAKE TUBE FLEXIBLE HOSE

NOTICE:

The gasket and union bolt must be used as a set, as shown in the illustration.

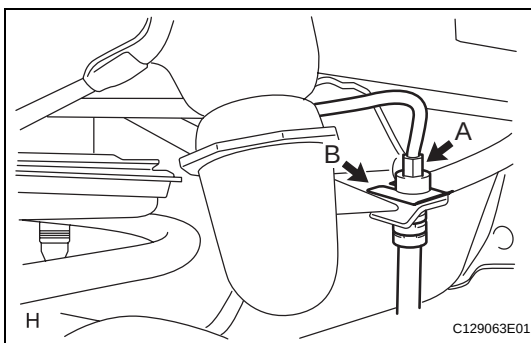


- (a) Connect the flexible hose with new gasket(s) and the union bolt to the disc brake cylinder.

Torque: 30.4 N*m (310 kgf*cm, 22 ft.*lbf)

HINT:

Install the flexible hose lock securely in the lock hole in the cylinder.



- (b) Set the flexible hose to the connecting point with the brake tube (labeled A), and then attach a new clip (labeled B).

- (c) Using SST, connect the flexible hose to the brake tube (labeled A) while holding the flexible hose with a wrench.

SST 09023-00101

Torque: 15.2 N*m (155 kgf*cm, 11 ft.*lbf) without SST

14 N*m (144 kgf*cm, 10 ft.*lbf) with SST

HINT:

Use a torque wrench with a fulcrum length of 30 cm (11.81 in.).

NOTICE:

- Do not bend or damage the brake tube.

- Do not allow any foreign matter such as dirt and dust to enter the brake tube from the connecting point.
2. FILL RESERVOIR WITH BRAKE FLUID (See page [BR-6](#))
 3. BLEED AIR FROM BRAKE MASTER CYLINDER (See page [BR-7](#))
 4. BLEED AIR FROM BRAKE LINE (See page [BR-7](#))
 5. BLEED AIR FROM ABS AND TRACTION ACTUATOR ASSEMBLY (See page [BR-8](#))
 6. CHECK BRAKE FLUID LEVEL IN RESERVOIR (See page [BR-6](#))
 7. CHECK FOR BRAKE FLUID LEAKAGE
 8. INSTALL REAR WHEEL
Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)

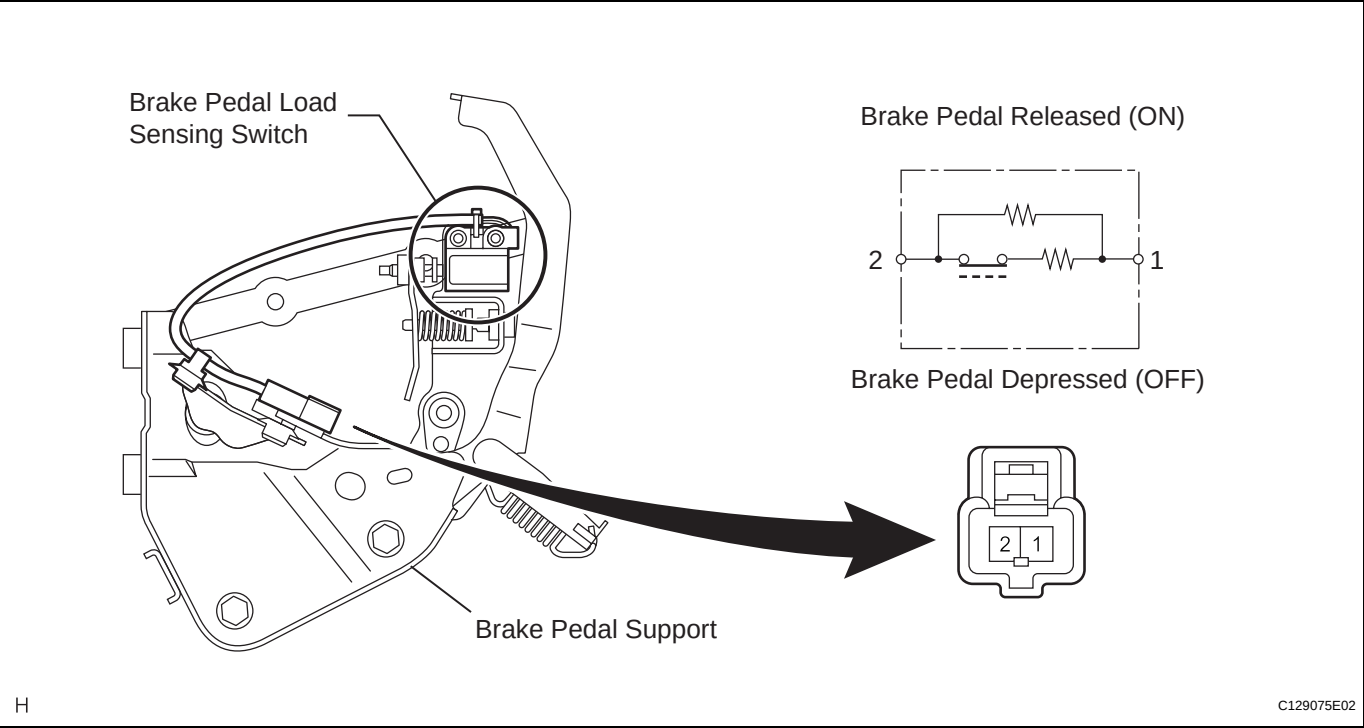
BRAKE PEDAL LOAD SENSING SWITCH

ON-VEHICLE INSPECTION

1. INSPECT BRAKE PEDAL LOAD SENSING SWITCH

HINT:

- Do not remove the brake pedal load sensing switch from the brake pedal support.
 - When there is a malfunction in the brake pedal load sensing switch, replace the brake pedal support.
- (a) Disconnect the brake pedal load sensing switch connector.



(b) Measure the resistance of the switch.

Standard resistance

Tester Connection	Condition	Specified Condition
1 - 2	Brake pedal depressed	Approx. 1 kΩ
1 - 2	Brake pedal released	Approx. 213 Ω

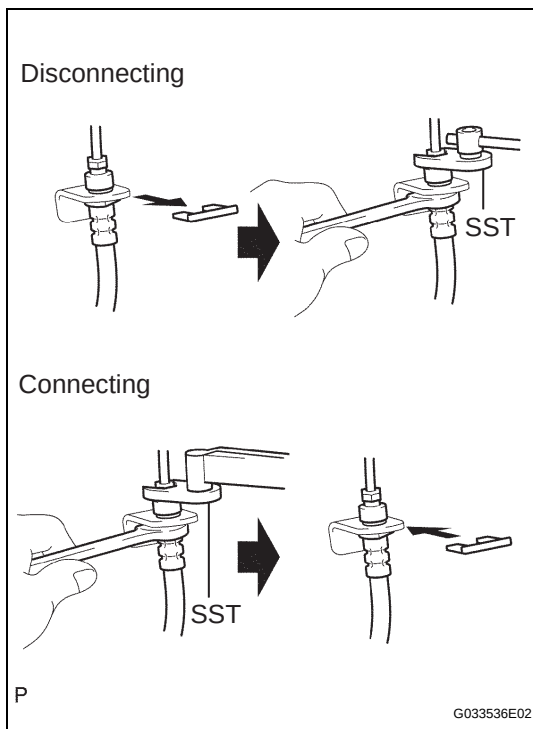
If the value is not as specified, replace the brake pedal support assembly (see page [BR-12](#)).

BRAKE SYSTEM

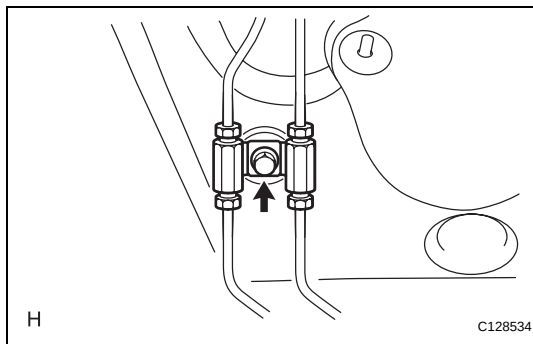
PRECAUTION

NOTICE:

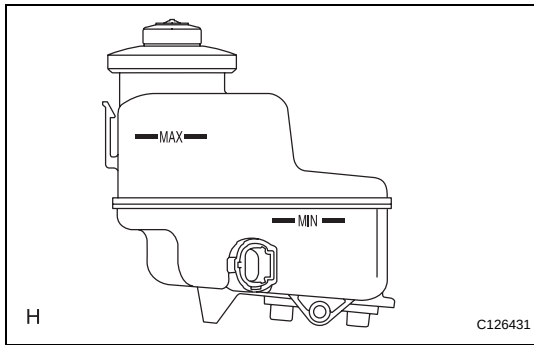
- Take extra care to replace each part properly. Improper installation or repair could affect the performance of the brake system and cause a driving hazard.
- It is very important to keep the brake system parts and the work area clean when repairing the brake system.
- If the vehicle is equipped with a mobile communication system, refer to the Precautions in the INTRODUCTION section (see page [IN-5](#)).
- Care must be taken when using magnets as they could affect the performance of the speed sensors.
- Since the brake line is one of the critical safety-related parts, be sure to disassemble the components if a brake fluid leak is found. If any abnormality is found, replace the component with a new one.
- When removing brake components, cover the brake tube connections to prevent foreign matter such as dust or dirt from entering the tubes.
- Do not damage or deform the brake tubes when removing or installing them.
- When installing a brake tube grommet to the body, ensure that the brake tube passes through the center of the grommet.
- When installing a brake tube or flexible hose, ensure that it is not twisted or bent.
- If the fitting of the flexible hose does not match the groove on the bracket, twist the hose slightly to insert it.
- Flexible hoses must be free from absorber oil, grease, etc.
- When installing a brake tube to a plastic clamp, ensure that the brake tube is not loose or being pinched.
- Do not reuse a clip or plastic clamp removed from a flexible hose.
- After installing a brake tube and flexible hose, ensure that they do not interfere with any other components.
- Do not allow brake fluid to adhere to any painted surface such as the vehicle body. If brake fluid leaks onto any painted surface, immediately wash it off.



- Follow these procedures when disconnecting the flexible hose and brake tube.
 - (a) Remove the clip.
 - (b) Hold the flexible hose with a wrench. Using SST, disconnect the brake tube without deforming the tube.
- Follow these procedures when connecting the flexible hose and brake tube.
 - (a) Hold the flexible hose with a wrench. Using a union nut wrench, connect the brake tube without deforming the tube.
 - (b) Install a new clip.



- Follow these procedures when connecting the brake tube and 2-way.
 - (a) Support the 2-way to prevent deformation to the brake tube and connect the brake tube to the 2-way with a union nut wrench.
 - (b) Support the 2-way to prevent deformation to the brake tube and install the bolt to fix the 2-way to the body.



BRAKE FLUID

ON-VEHICLE INSPECTION

1. **CHECK BRAKE FLUID LEVEL IN RESERVOIR**
 - (a) Check the fluid level and add fluid if necessary.

Fluid:

SAE J1703 or FMVSS No. 116 DOT3

HINT:

Add fluid to a level between the reservoir's MIN and MAX lines.

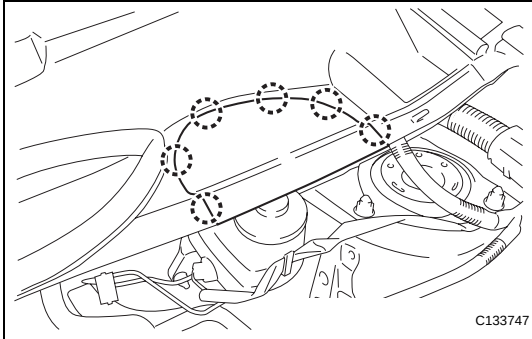
BLEEDING

HINT:

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

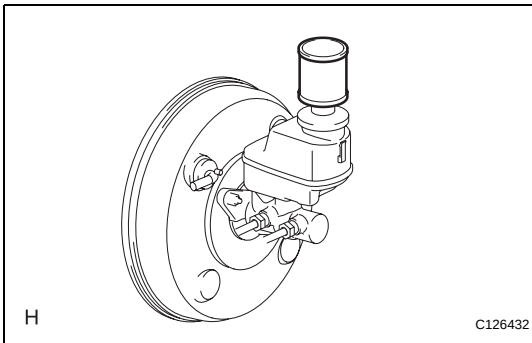
NOTICE:

Wash off brake fluid immediately if it comes in contact with any painted surface.



1. REMOVE COWL TOP VENTILATOR LOUVER BRACKET LH

- (a) Detach the 6 claws and remove the bracket.



2. FILL RESERVOIR WITH BRAKE FLUID

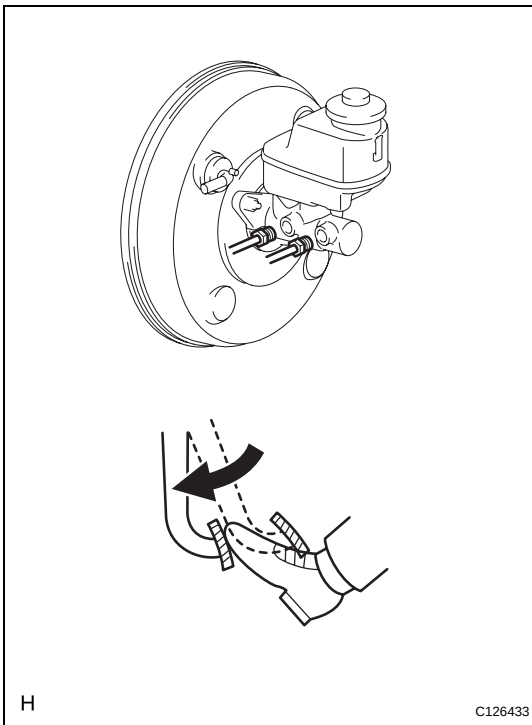
- (a) Set the brake fluid can upside down on the reservoir.

Fluid:

SAE J1703 or FMVSS No. 116 DOT3

NOTICE:

- Make sure there is sufficient brake fluid in the can.
- After adding brake fluid, make sure the reservoir is sufficiently full.



3. BLEED AIR FROM BRAKE MASTER CYLINDER

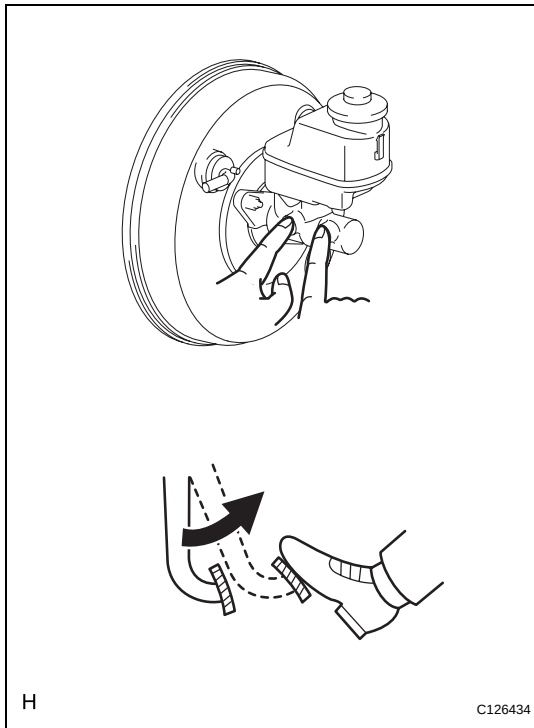
HINT:

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

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

SST 09023-00101

- (b) Slowly depress and hold the brake pedal.



- (c) Block the outer holes with your fingers, and release the pedal.
- (d) Repeat the 2 previous steps 3 or 4 times.
- (e) Using SST, connect the 2 brake lines to the master cylinder.

SST 09023-00101

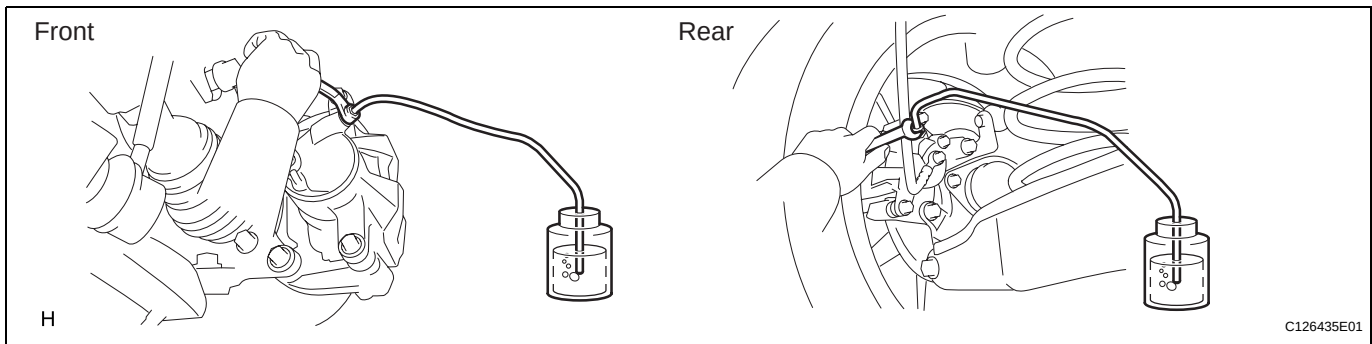
Torque: 15.2 N*m (155 kgf*cm, 11 ft.*lbf) without SST

14 N*m (144 kgf*cm, 10 ft.*lbf) with SST

HINT:

Use a torque wrench with a fulcrum length of 30 cm (11.81 in.).

4. BLEED AIR FROM BRAKE LINE



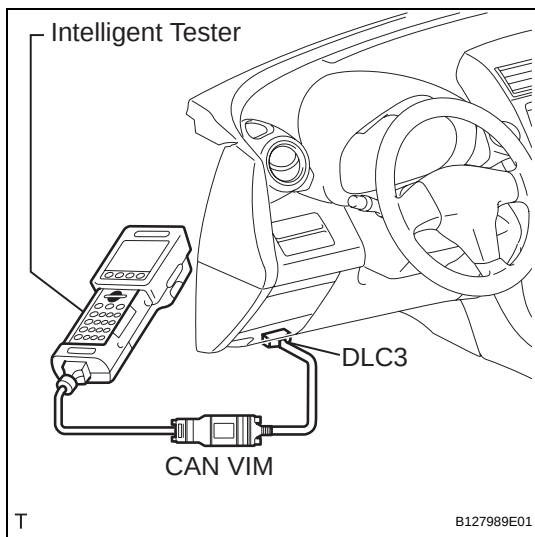
- (a) Remove the bleeder plug cap.
- (b) Connect the vinyl tube to the bleeder plugs.
- (c) Depress the brake pedal several times, and then loosen the bleeder plug with the pedal depressed.
- (d) When fluid stops coming out, immediately tighten the bleeder plug. Then release the pedal.
- (e) Repeat the 2 previous steps until all the air in the brake fluid is gone.
- (f) Tighten the bleeder plug.
- Torque: 8.3 N*m (85 kgf*cm, 73 in.*lbf)**
- (g) Install the cap.
- (h) Bleed air from the brake line for each wheel by repeating the above procedures.

5. BLEED AIR FROM ABS AND TRACTION ACTUATOR ASSEMBLY

NOTICE:

After bleeding the air from the brake system, if the height or feel of the brake pedal cannot be obtained, perform air bleeding of the brake actuator with the intelligent tester by following the procedure below.

- (a) Depress the brake pedal more than 20 times with the engine off.



- (b) Connect the intelligent tester to the DLC3, and turn the ignition switch ON.

NOTICE:

Do not start the engine.

- (c) Select AIR BLEEDING on the intelligent tester.

HINT:

Refer to the intelligent tester operator's manual for further details.

- (d) Bleed the air out of the suction line.

NOTICE:

- **Perform the bleeding at the right front wheel and right rear wheel.**
- **Bleed the air by following the steps displayed on the intelligent tester.**

- (1) Connect a vinyl tube to the bleeder plug at the right front wheel or the right rear wheel.

- (2) Loosen the bleeder plug.

- (3) Operate the brake actuator to bleed the air using the intelligent tester.

NOTICE:

Release the brake pedal at this time.

HINT:

This operation stops automatically after 4 seconds.

- (4) Check if the operation has stopped by referring to the intelligent tester display.

- (5) Temporarily tighten the bleeder plug.

- (6) Repeat the 4 previous steps until all air in the fluid is completely bled out.

- (7) Tighten the bleeder plug.

Torque: 8.3 N*m (85 kgf*cm, 73 in.*lbf)

- (8) Repeat all of the above procedures for the right rear wheel to bleed the air out of the suction line.

- (e) Bleed the air out of the pressure reduction line.

NOTICE:

- **Perform the bleeding at the 4 wheels.**
- **Bleed the air by following the steps displayed on the intelligent tester.**

- (1) Connect a vinyl tube to either one of the bleeder plugs.

- (2) Loosen the bleeder plug.

- (3) Using the intelligent tester, operate the brake actuator assembly, completely depress the brake pedal and hold it there.

NOTICE:

- **During this procedure, the pedal will feel heavy, but completely depress it so that the brake fluid comes out of the bleeder plug.**
- **Depress and hold the brake pedal. Do not depress and release the pedal repeatedly.**

HINT:

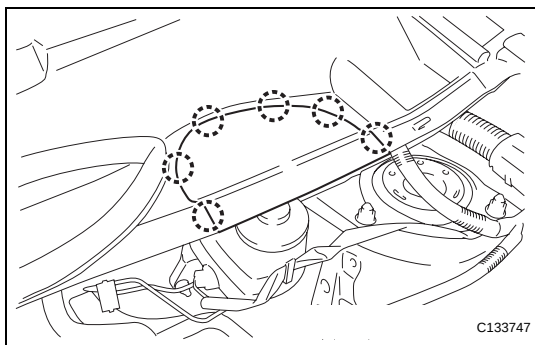
The operation stops automatically after 4 seconds. When performing this procedure continuously, set an interval of at least 20 seconds.

- (4) Tighten the bleeder plug, then release the brake pedal.
- (5) Repeat the 3 previous steps until all air in the fluid is completely bled out.
- (6) Tighten the bleeder plug.
Torque: 8.3 N*m (85 kgf*cm, 73 in.*lbf)
- (7) Repeat all of the above procedures for the other wheels to bleed the air out of the pressure reduction line.

6. **CHECK BRAKE FLUID LEVEL IN RESERVOIR** (See page [BR-6](#))

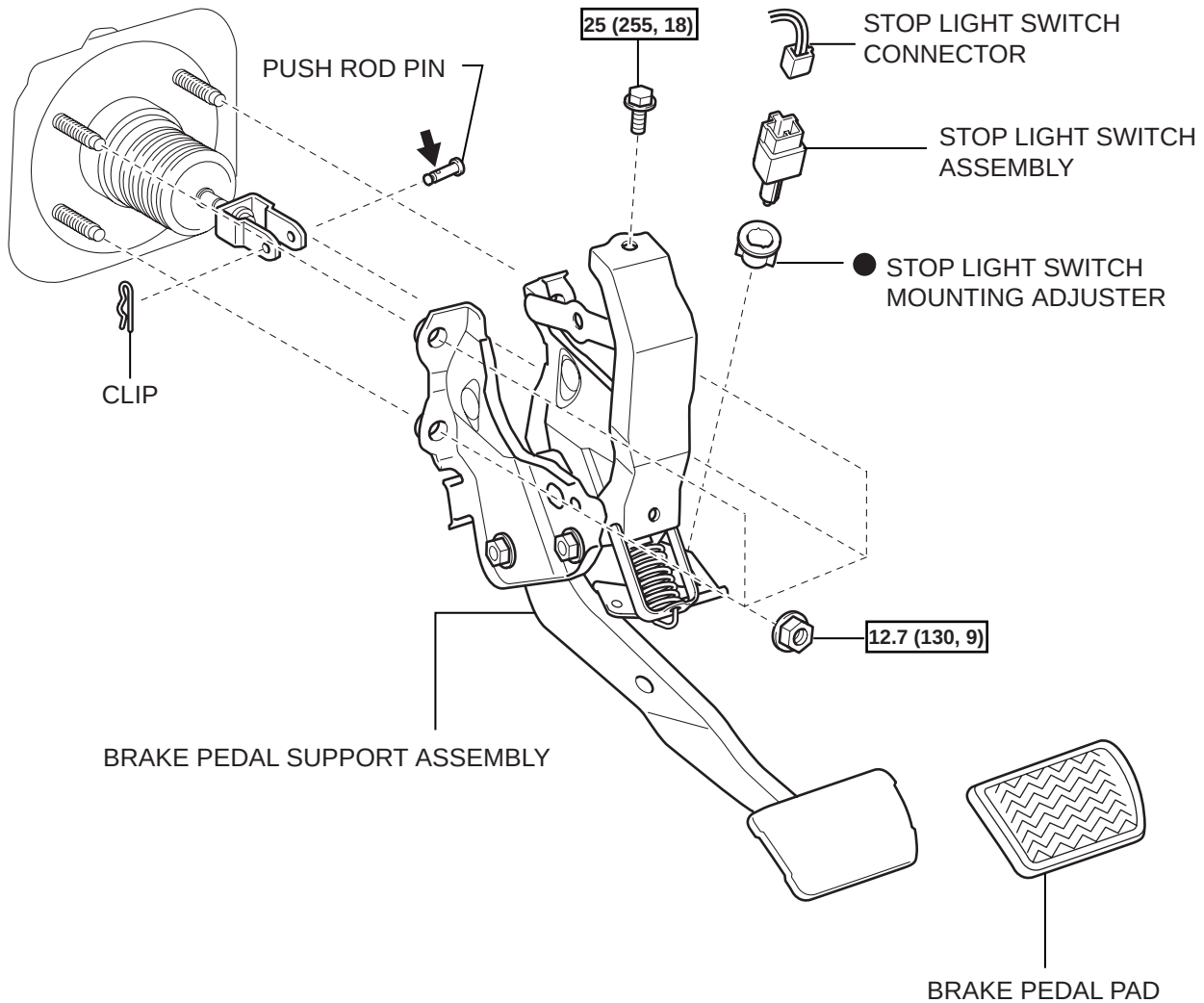
7. **INSTALL COWL TOP VENTILATOR LOUVER BRACKET LH**

- (a) Attach the 6 claws to install the bracket.



BRAKE PEDAL

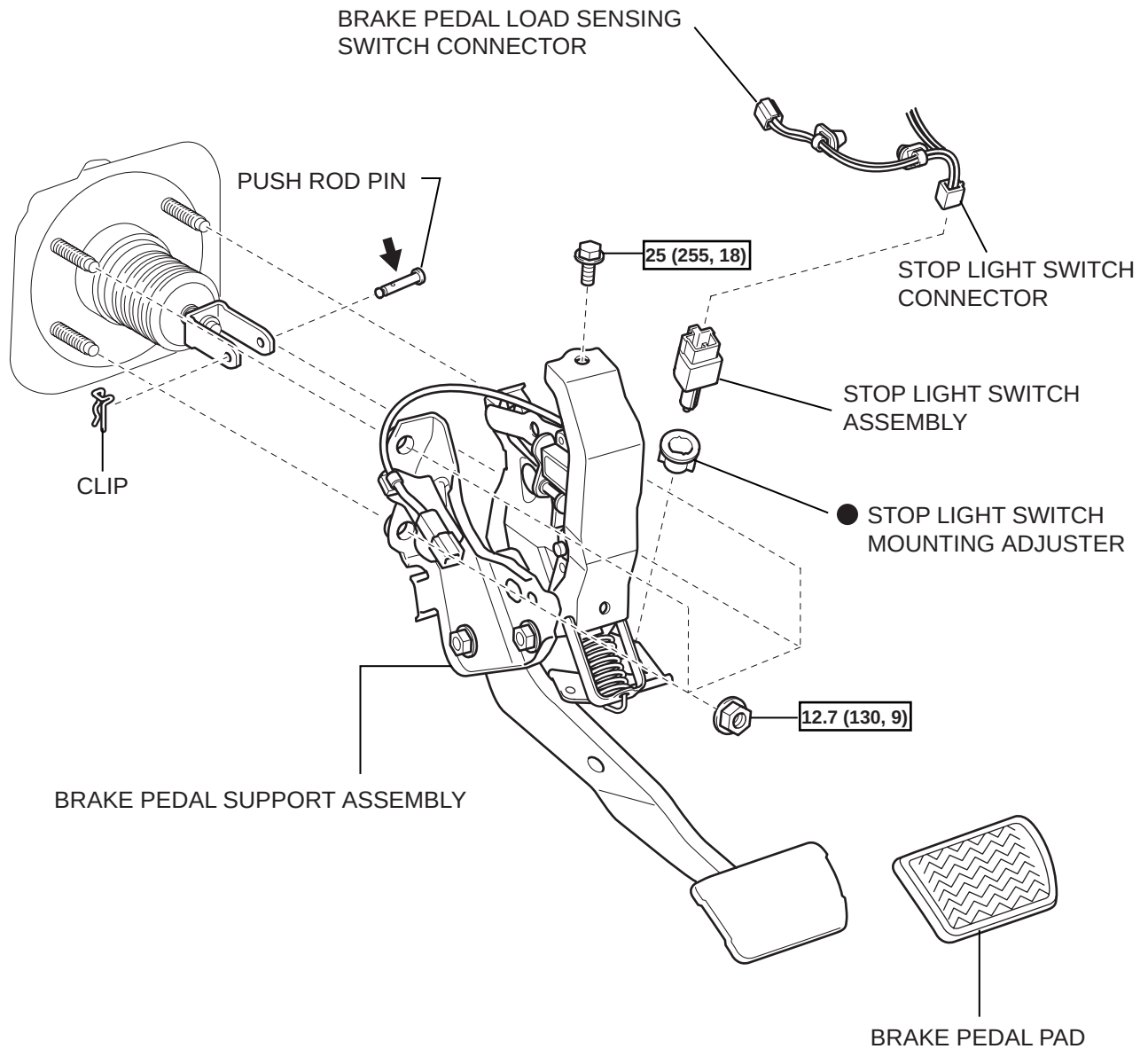
COMPONENTS

w/ $\phi 275$ Disc Brake

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

● Non-reusable part

← Lithium soap base glycol grease

w/ ϕ 296 Disc Brake

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

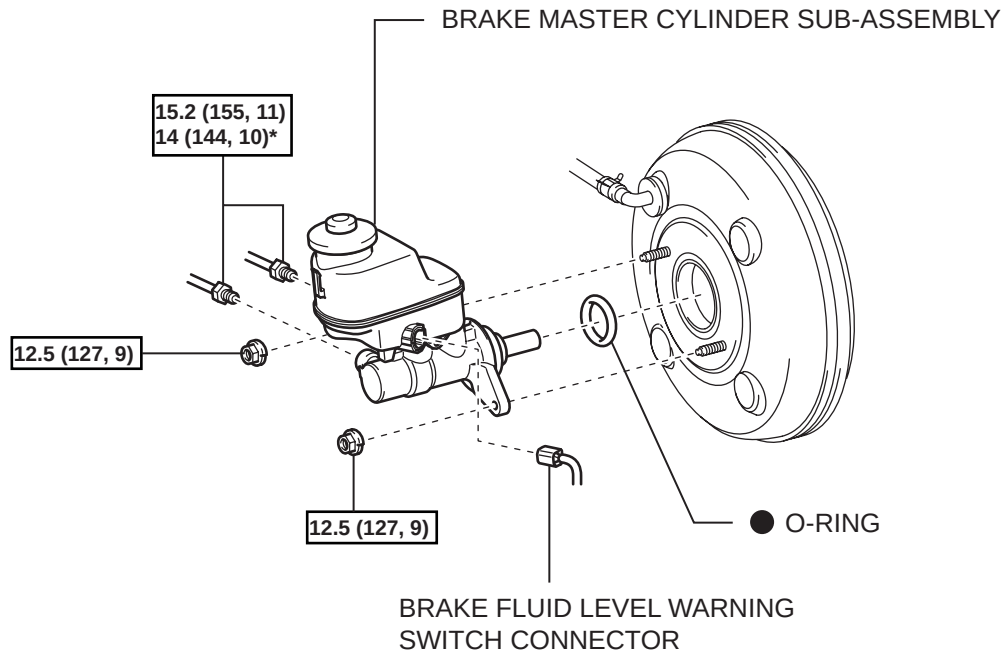
● Non-reusable part

← Lithium soap base glycol grease

BR

BRAKE MASTER CYLINDER

COMPONENTS



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

● Non-reusable part

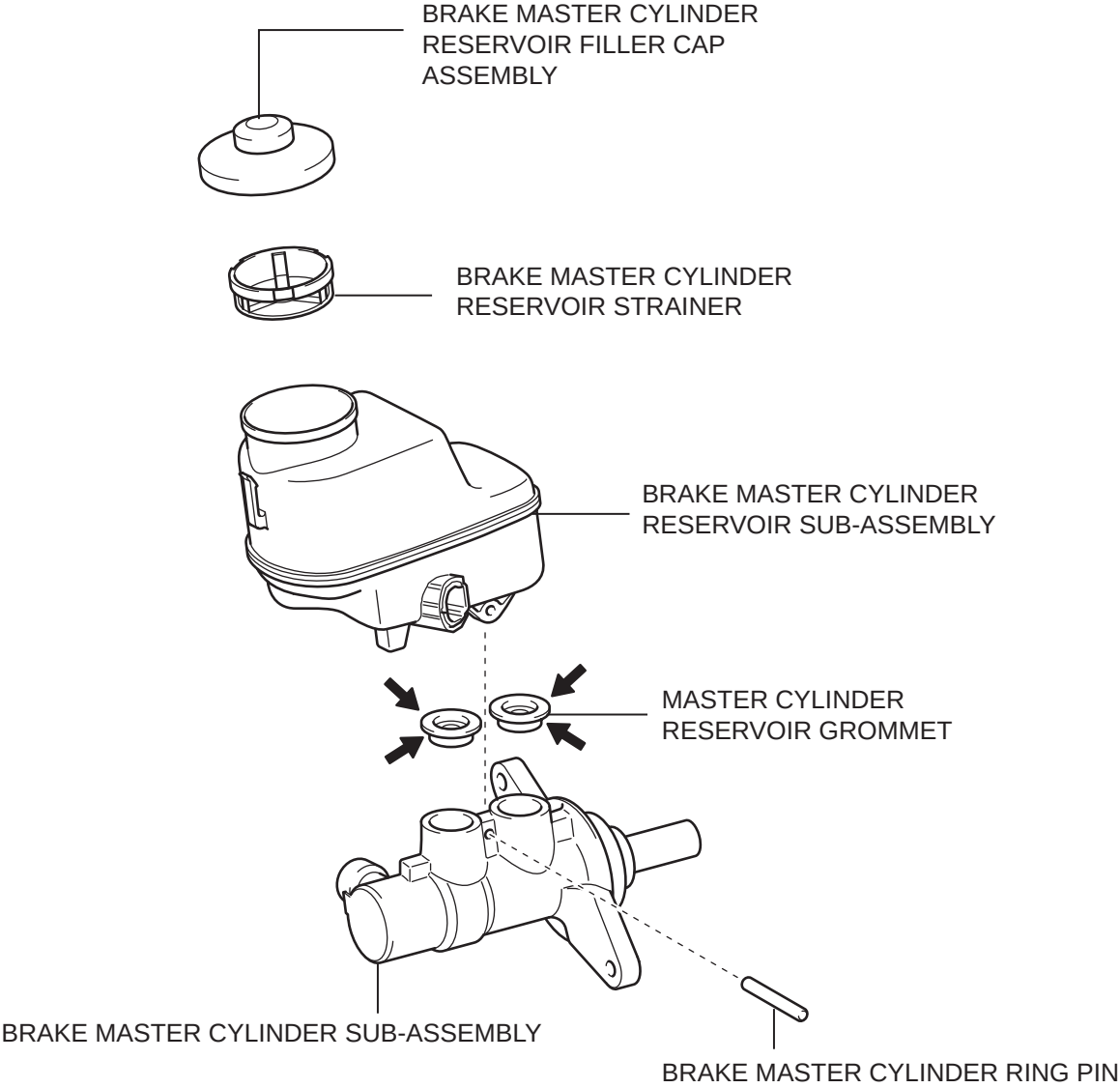
* For use with SST

H

C128553E03

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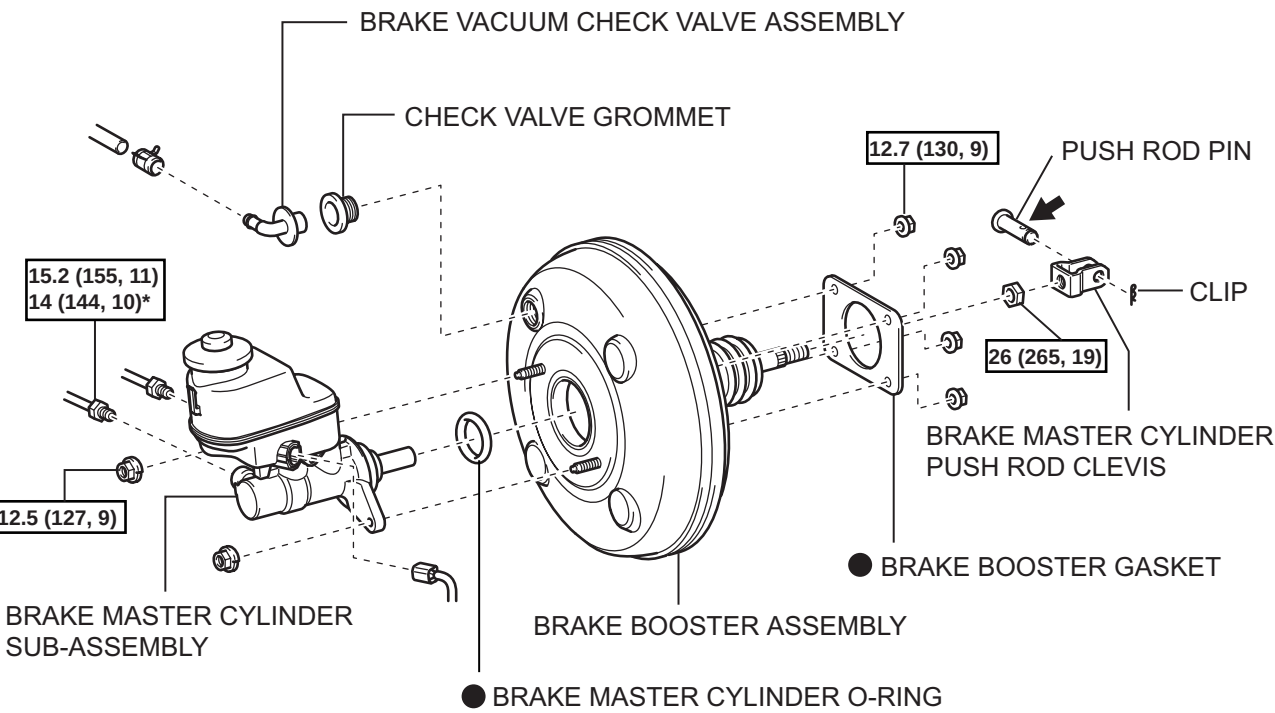


← Lithium soap base glycol grease

BRAKE BOOSTER

COMPONENTS

w/ $\phi 275$ Disc Brake



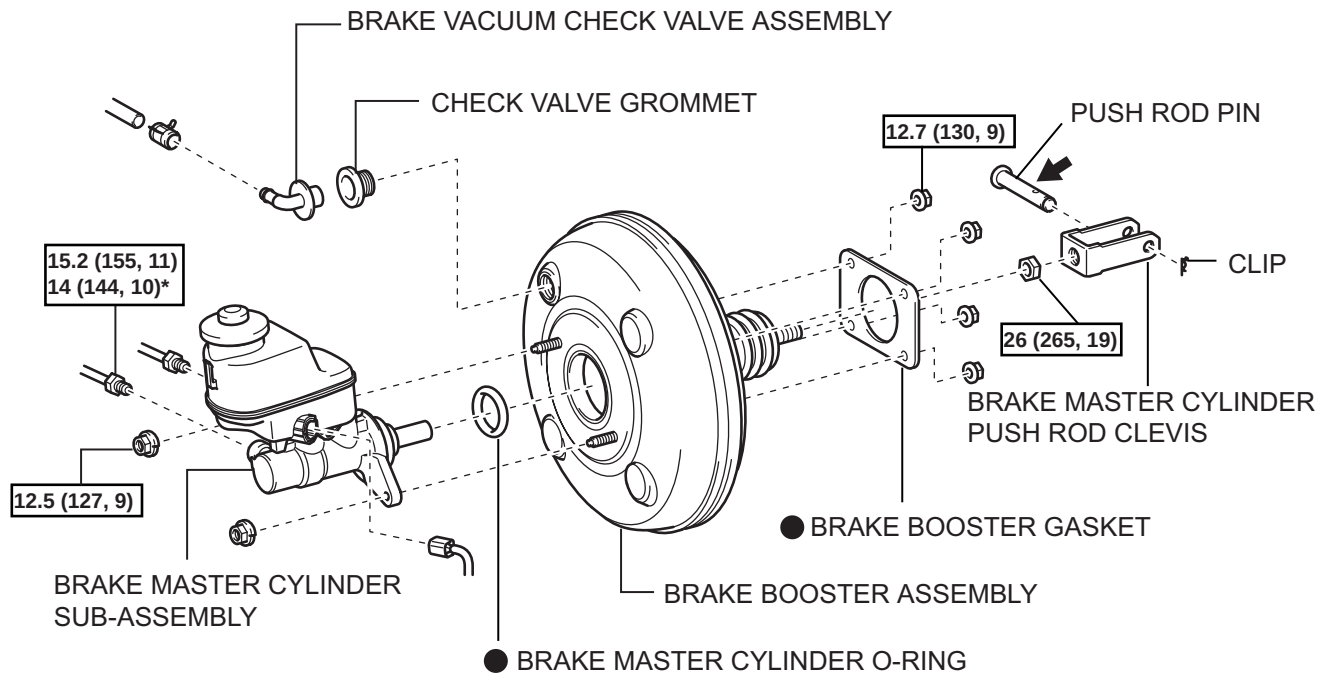
BR

$\text{N}\cdot\text{m}$ ($\text{kgf}\cdot\text{cm}$, $\text{ft}\cdot\text{lbf}$) : Specified torque

● Non-reusable part

* For use with SST

← Lithium soap base glycol grease

w/ $\phi 296$ Disc Brake

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

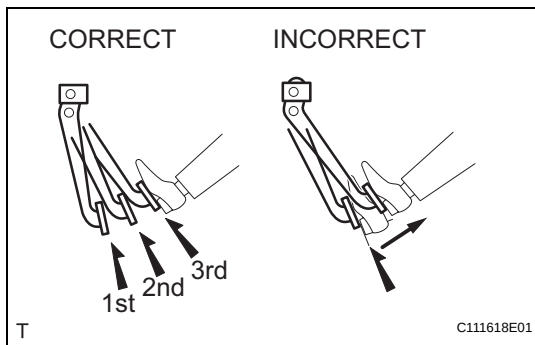
● Non-reusable part

* For use with SST

← Lithium soap base glycol grease

BR

C130673E02



ON-VEHICLE INSPECTION

1. CHECK BRAKE BOOSTER ASSEMBLY

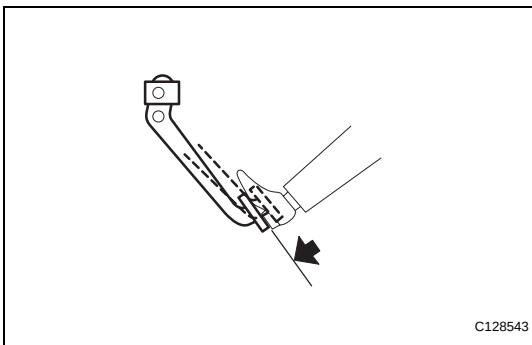
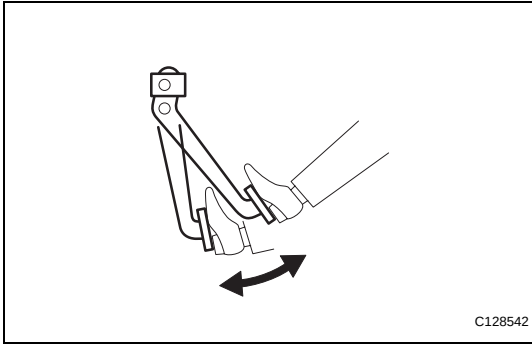
(a) Airtightness check.

- (1) Start the engine and stop it after 1 or 2 minutes. Slowly depress the brake pedal several times.
- (2) Make sure the booster is airtight. Check that the distance the pedal can be depressed decreases gradually in correlation with each subsequent press of the pedal.
If the pedal is not as specified, check the check valve.
If the check valve is normal, replace the booster.
- (3) Start the engine. Depress and hold down the pedal, and stop the engine.
- (4) Make sure the booster is airtight. Hold the pedal for 30 seconds and check that there is no change in the pedal reserve distance.
If the pedal is not as specified, check the check valve.

If the check valve is normal, replace the booster.

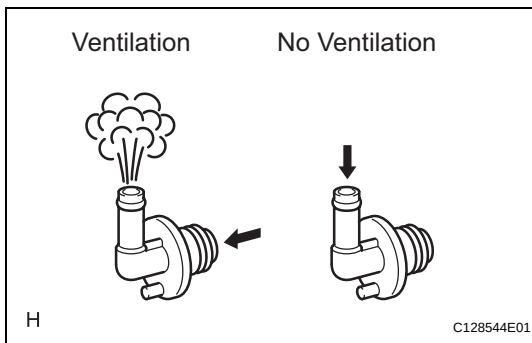
(b) Operation check.

- (1) Stop the engine.
- (2) Depress the pedal several times and check that there is no change in the pedal reserve distance.



- (3) Depress and hold down the pedal, and start the engine. Check that the pedal can only be depressed slightly.
If the pedal is not as specified, check the check valve.
If the check valve is normal, replace the booster.

BR



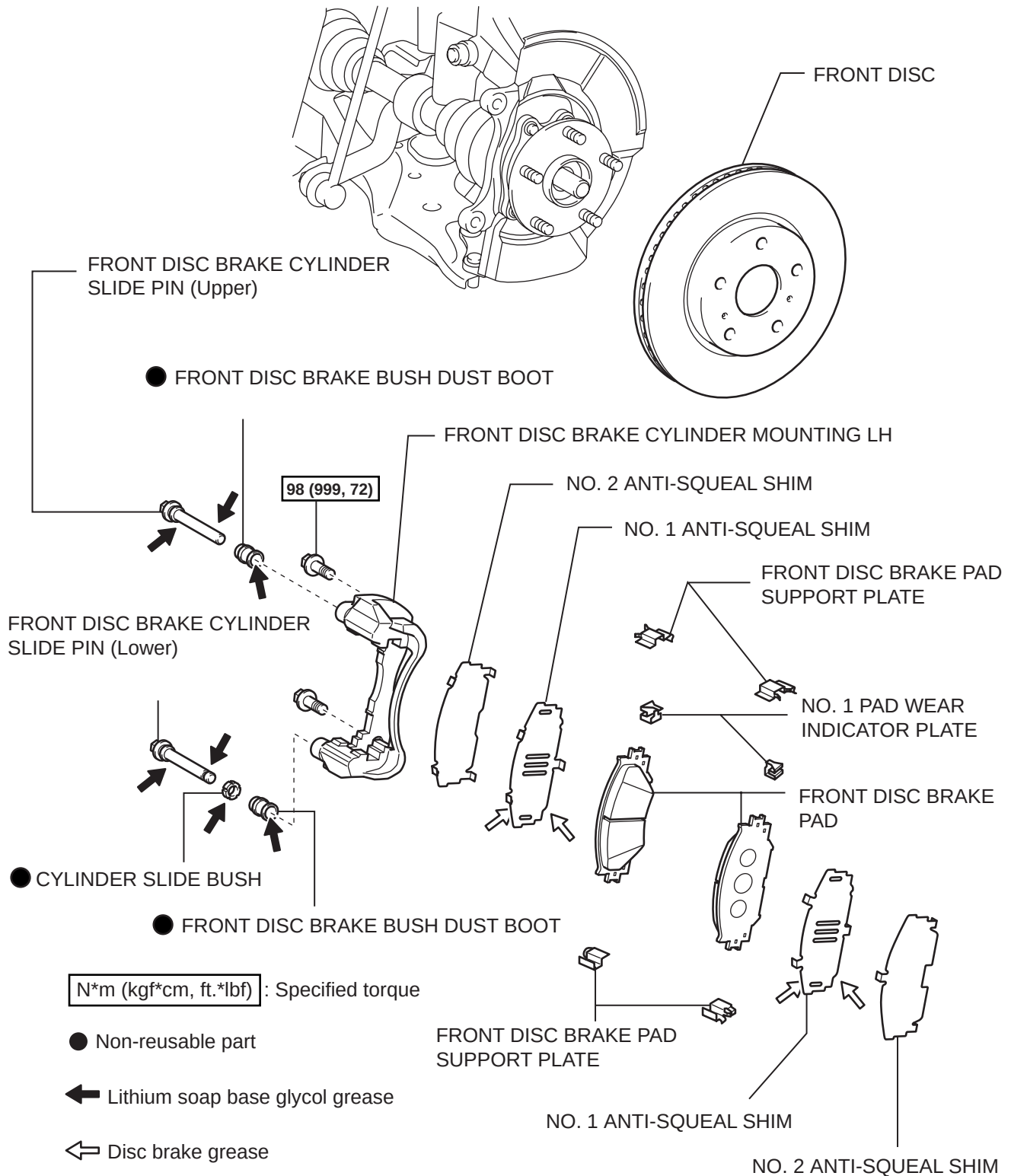
2. CHECK BRAKE VACUUM CHECK VALVE ASSEMBLY

(a) Check the check valve.

- (1) Slide the clip and disconnect the vacuum hose.
- (2) Remove the check valve from the booster.
- (3) Check that there is ventilation from the booster to the engine, and no ventilation from the engine to the booster.
If the results are not as specified, replace the check valve assembly.

FRONT BRAKE

COMPONENTS

w/ ϕ 275 Disc Brake

BR

w/ ϕ 296 Disc BrakeFRONT DISC BRAKE CYLINDER
SLIDE PIN (Upper)

FRONT DISC

● FRONT DISC BRAKE BUSH DUST BOOT

FRONT DISC BRAKE CYLINDER MOUNTING LH

98 (999, 72)

NO. 2 ANTI-SQUEAL SHIM

NO. 1 ANTI-SQUEAL SHIM

FRONT DISC BRAKE PAD
SUPPORT PLATEFRONT DISC BRAKE CYLINDER
SLIDE PIN (Lower)

BR

NO. 1 PAD WEAR
INDICATOR PLATE

FRONT DISC BRAKE PAD

● CYLINDER SLIDE BUSH

● FRONT DISC BRAKE BUSH DUST BOOT

FRONT DISC BRAKE PAD
SUPPORT PLATE

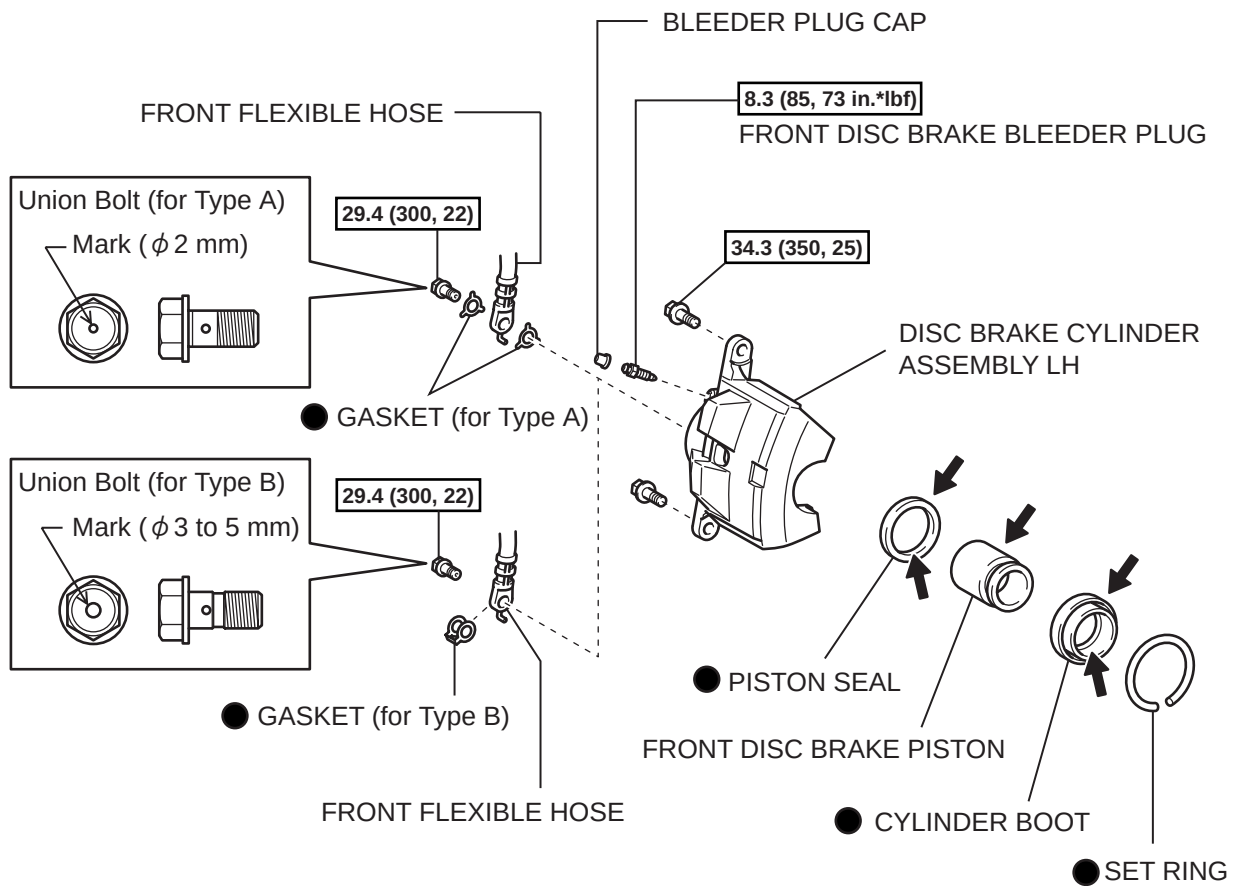
NO. 1 ANTI-SQUEAL SHIM

NO. 2 ANTI-SQUEAL SHIM

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

● Non-reusable part

← Lithium soap base glycol grease



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

● Non-reusable part

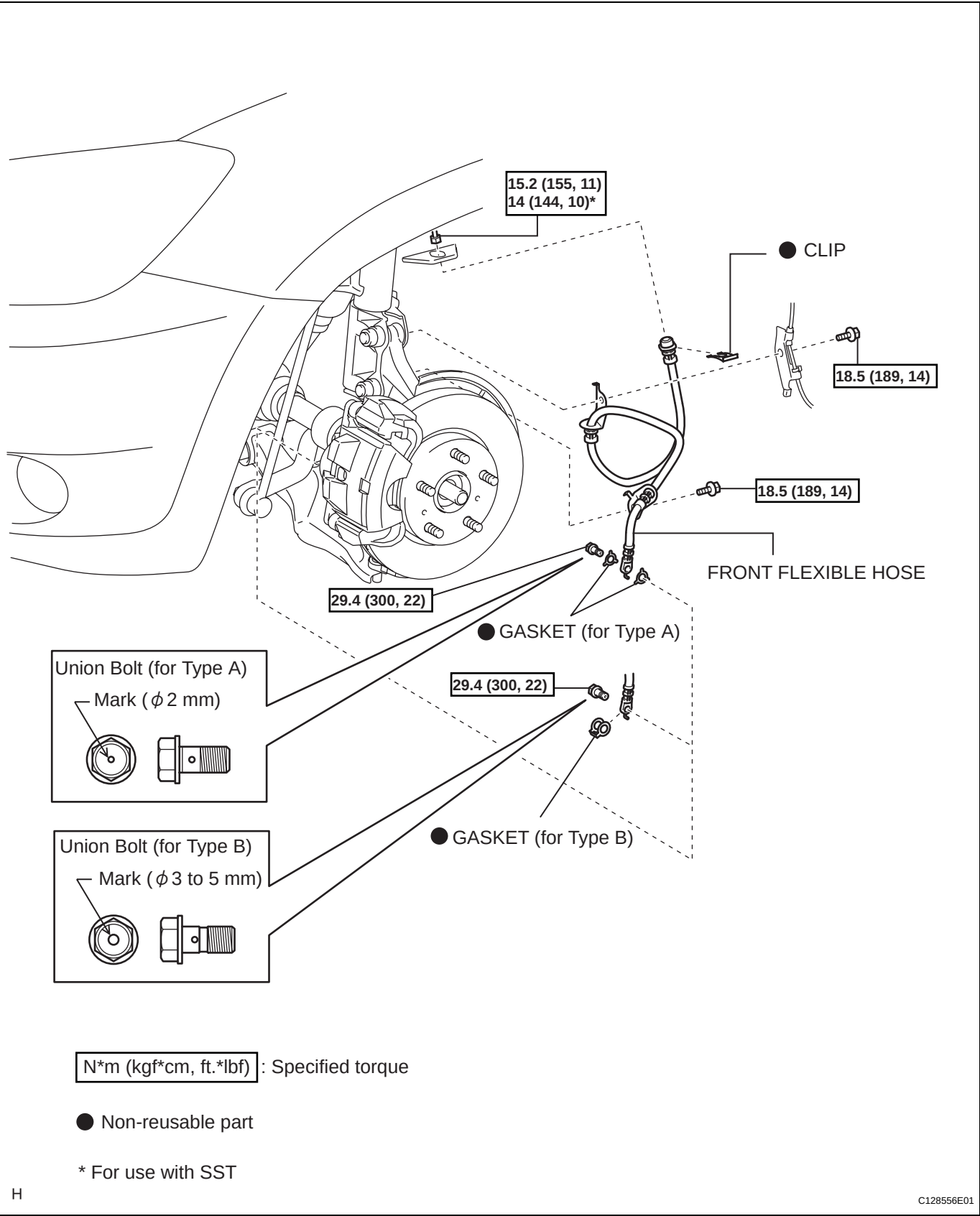
← Lithium soap base glycol grease

BR

FRONT BRAKE FLEXIBLE HOSE

COMPONENTS

BR



REMOVAL

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. REMOVE FRONT WHEEL

2. DRAIN BRAKE FLUID

NOTICE:

Wash off brake fluid immediately if it comes in contact with any painted surface.

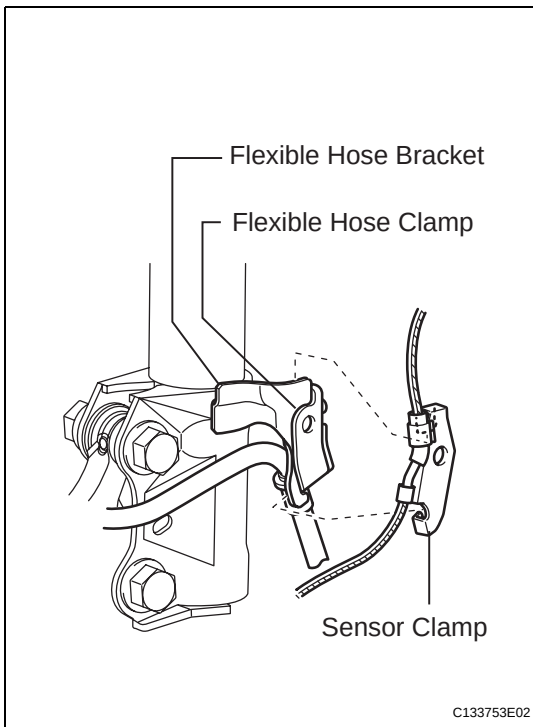
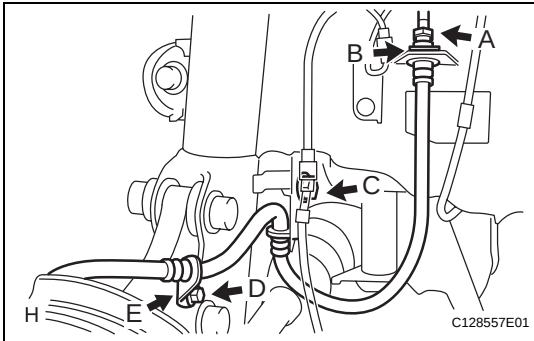
3. REMOVE FRONT FLEXIBLE HOSE

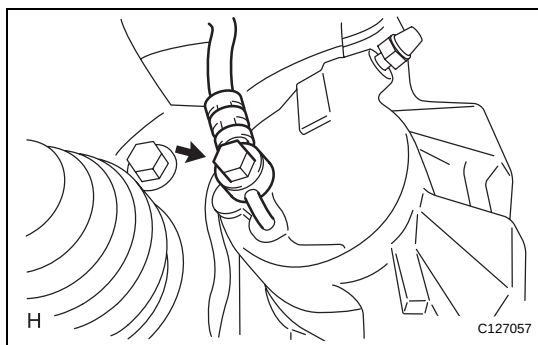
- (a) Disconnect the brake tube (labeled A) from the flexible hose with SST while holding the flexible hose with a wrench.

SST 09023-00101

NOTICE:

- Do not bend or damage the brake tube.
 - Do not allow any foreign matter such as dirt and dust to enter the brake tube from the connecting point.
- (b) Remove the clip (labeled B).
- (c) Remove the 2 bolts (labeled C, D) and then remove the flexible hose clamp (labeled E) from the knuckle.
- (d) Remove the sensor clamp and flexible hose clamp from the flexible hose bracket.



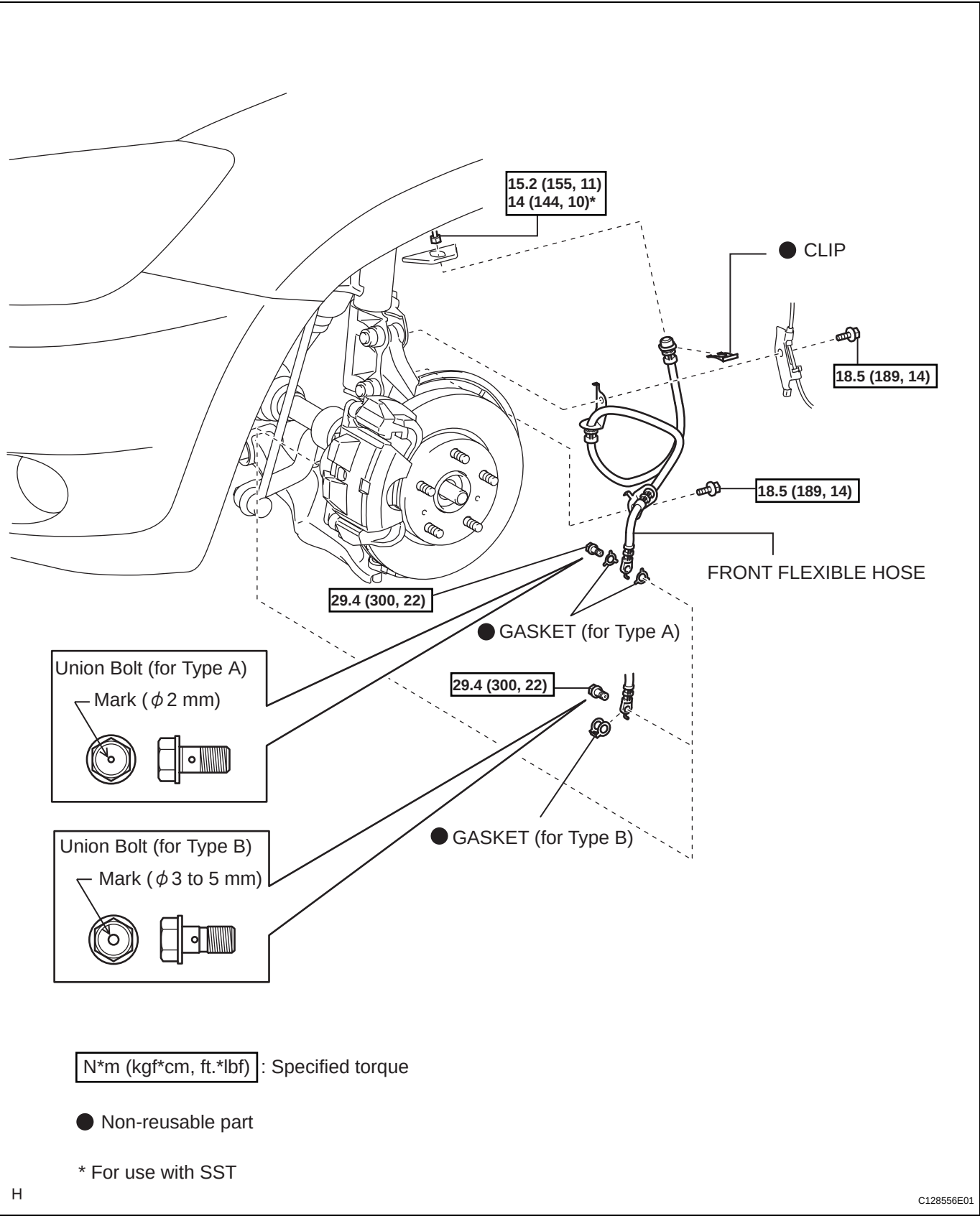


- (e) Remove the union bolt and gasket(s), and then remove the flexible hose from the disc brake cylinder.

FRONT BRAKE FLEXIBLE HOSE

COMPONENTS

BR



REMOVAL

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. REMOVE FRONT WHEEL

2. DRAIN BRAKE FLUID

NOTICE:

Wash off brake fluid immediately if it comes in contact with any painted surface.

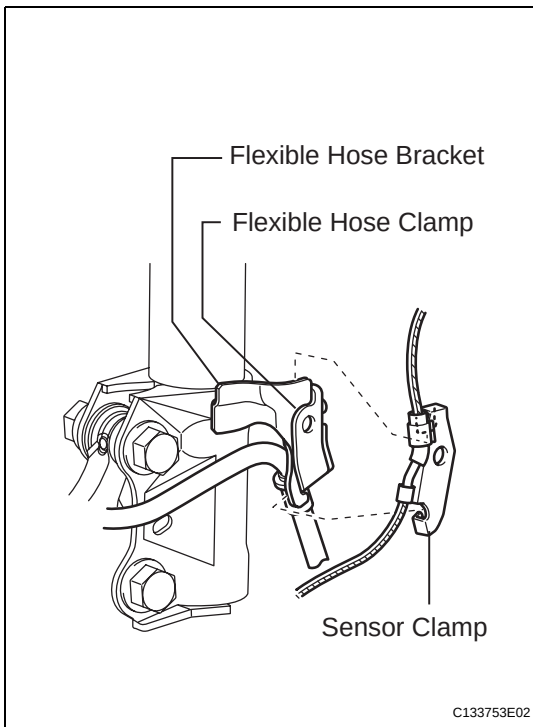
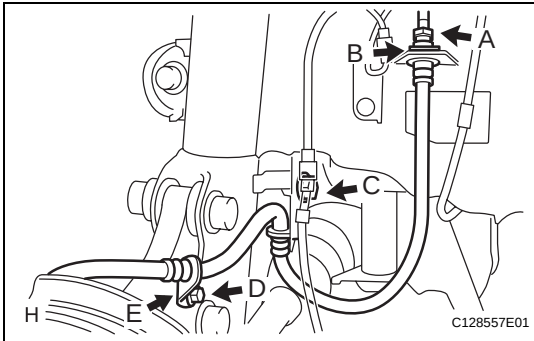
3. REMOVE FRONT FLEXIBLE HOSE

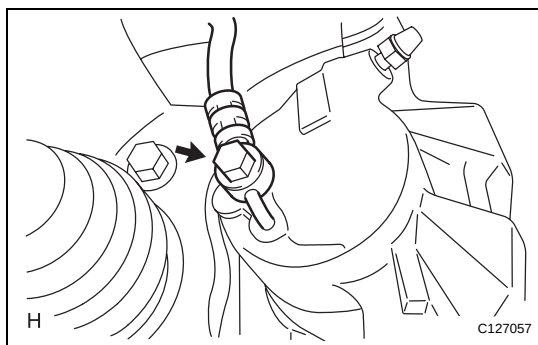
- (a) Disconnect the brake tube (labeled A) from the flexible hose with SST while holding the flexible hose with a wrench.

SST 09023-00101

NOTICE:

- Do not bend or damage the brake tube.
 - Do not allow any foreign matter such as dirt and dust to enter the brake tube from the connecting point.
- (b) Remove the clip (labeled B).
- (c) Remove the 2 bolts (labeled C, D) and then remove the flexible hose clamp (labeled E) from the knuckle.
- (d) Remove the sensor clamp and flexible hose clamp from the flexible hose bracket.

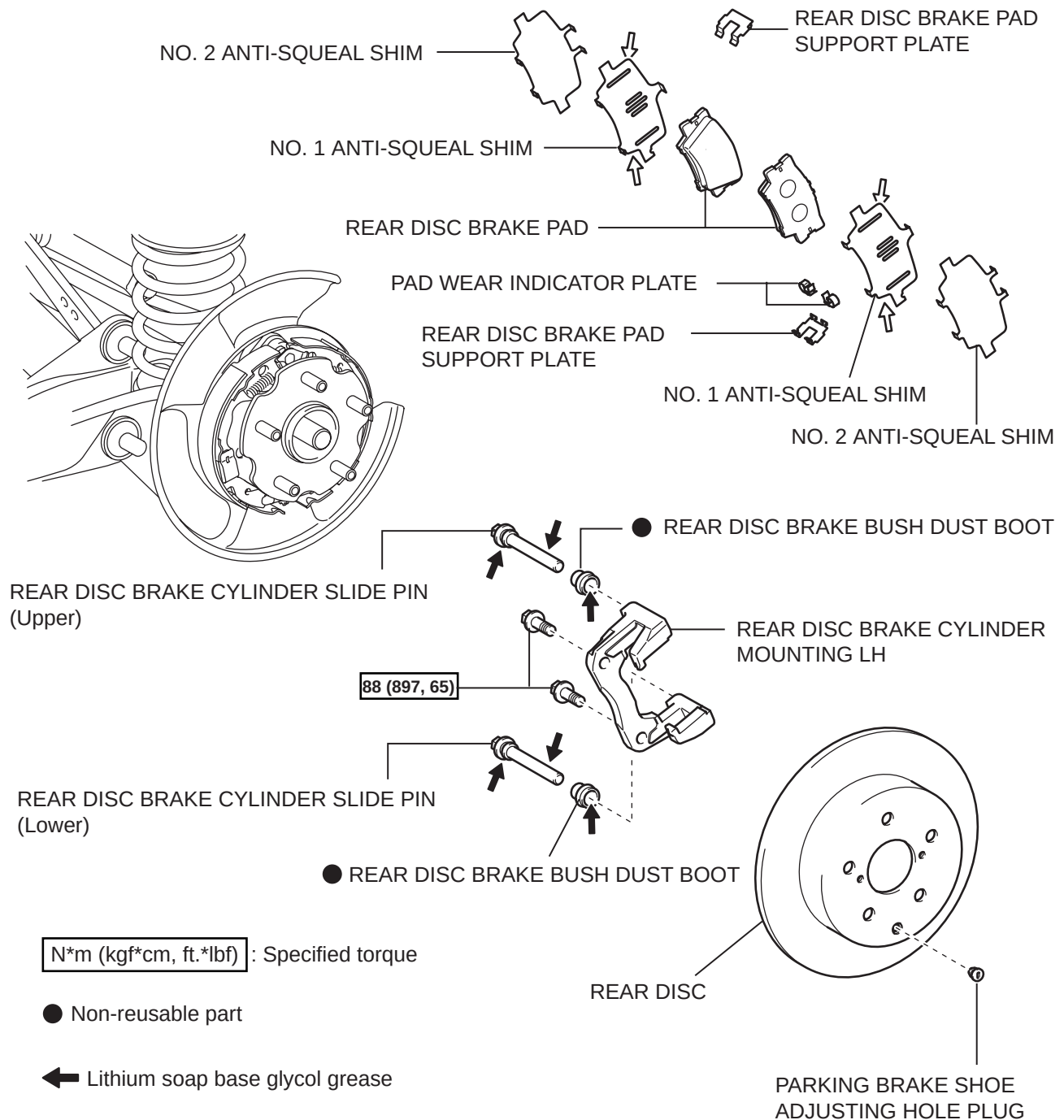




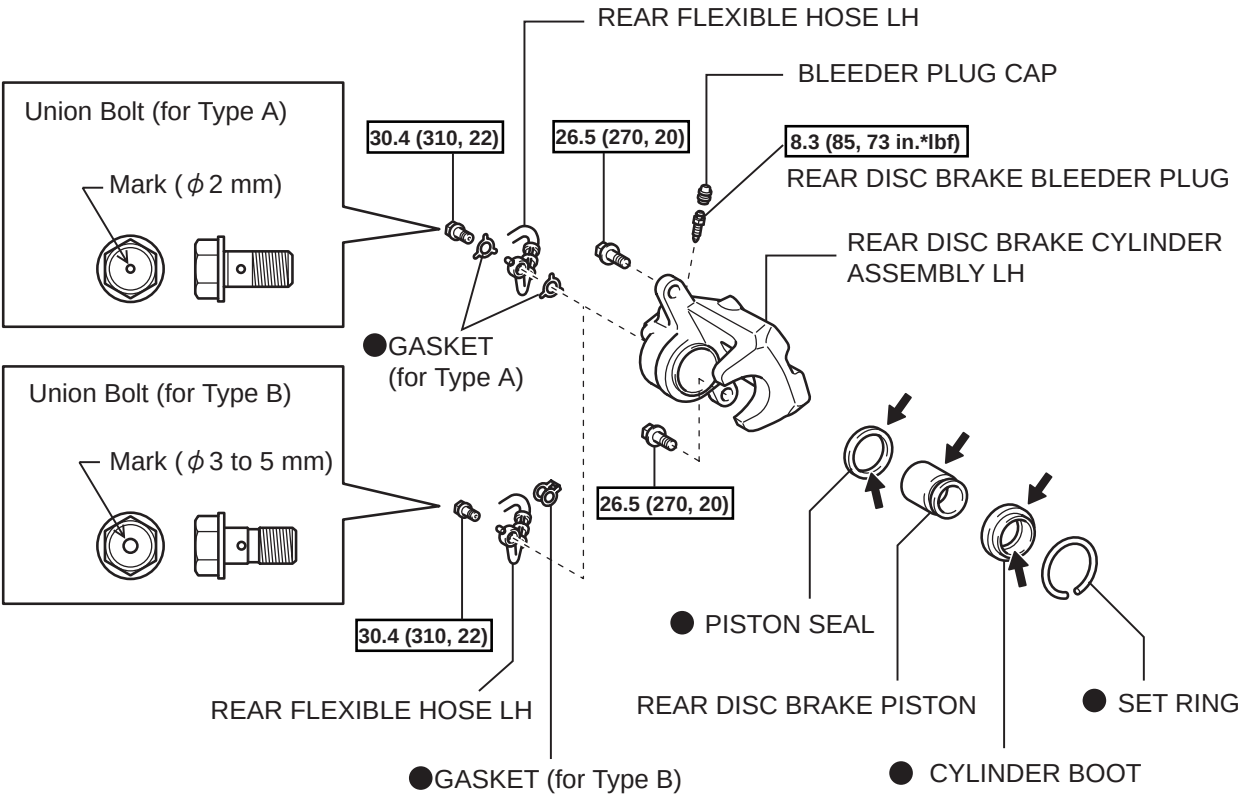
- (e) Remove the union bolt and gasket(s), and then remove the flexible hose from the disc brake cylinder.

REAR BRAKE

COMPONENTS



BR



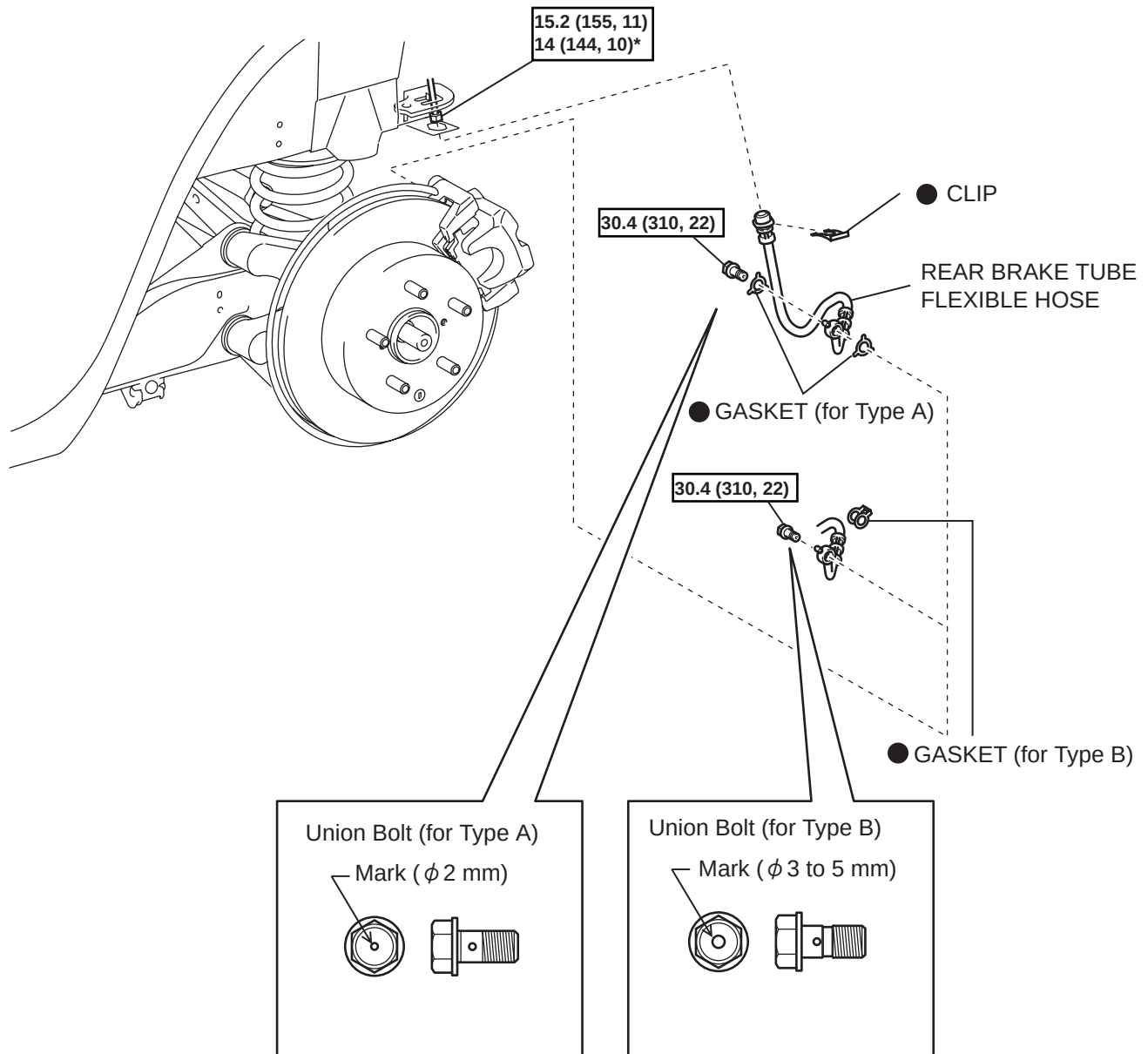
N*m (kgf*cm, ft.*lbf) : Specified torque

● Non-reusable part

← Lithium soap base glycol grease

REAR BRAKE FLEXIBLE HOSE

COMPONENTS



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

● Non-reusable part

* For use with SST

BR

REMOVAL

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. REMOVE REAR WHEEL

2. DRAIN BRAKE FLUID

NOTICE:

Wash off brake fluid immediately if it comes in contact with any painted surface.

3. REMOVE REAR BRAKE TUBE FLEXIBLE HOSE

- (a) Disconnect the brake tube (labeled A) from the flexible hose with SST while holding the flexible hose with a wrench.

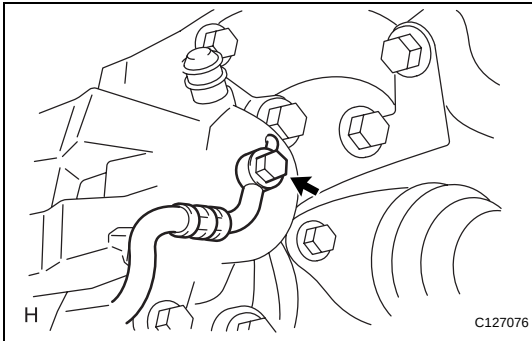
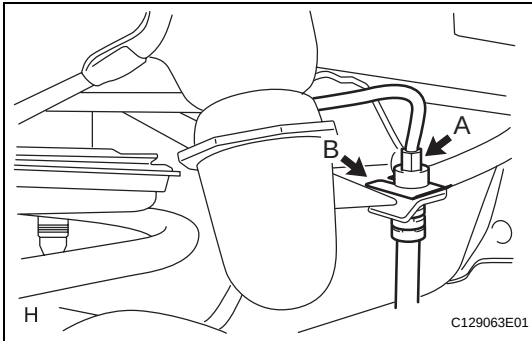
SST 09023-00101

NOTICE:

- Do not bend or damage the brake tube.
- Do not allow any foreign matter such as dirt and dust to enter the brake tube from the connecting point.

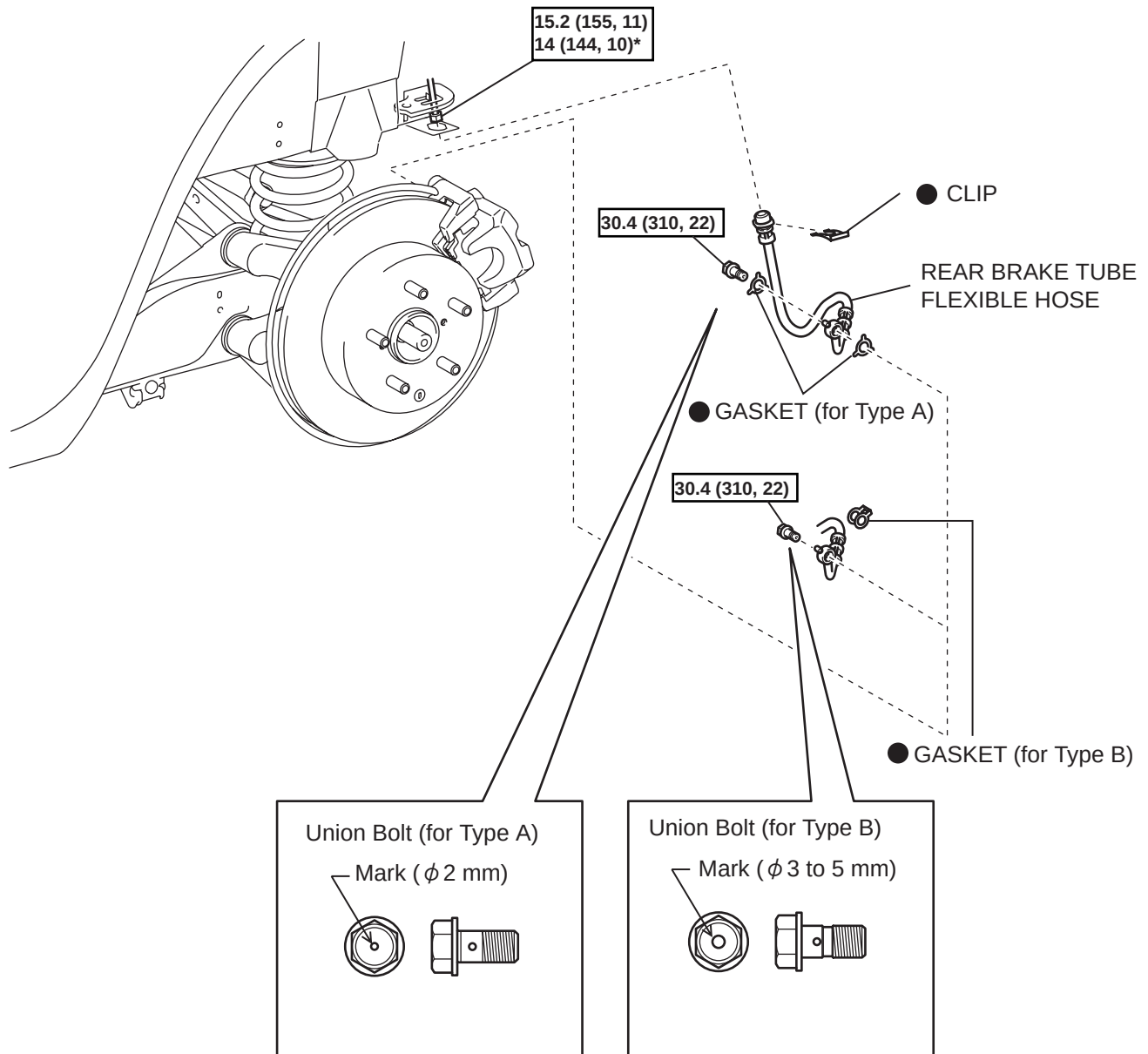
- (b) Remove the clip (labeled B).

- (c) Remove the union bolt and gasket(s), and then remove the flexible hose from the disc brake cylinder.



REAR BRAKE FLEXIBLE HOSE

COMPONENTS



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

● Non-reusable part

* For use with SST

BR

REMOVAL

HINT:

- Use the same procedures for the LH side and RH side.
- The procedures listed below are for the LH side.

1. REMOVE REAR WHEEL

2. DRAIN BRAKE FLUID

NOTICE:

Wash off brake fluid immediately if it comes in contact with any painted surface.

3. REMOVE REAR BRAKE TUBE FLEXIBLE HOSE

- (a) Disconnect the brake tube (labeled A) from the flexible hose with SST while holding the flexible hose with a wrench.

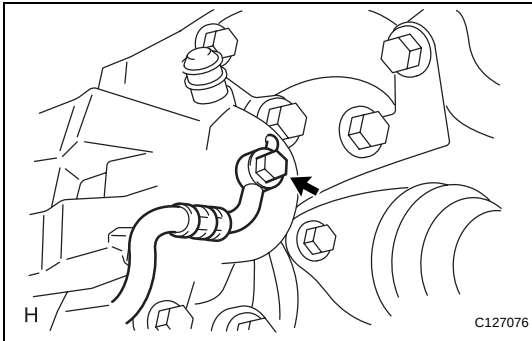
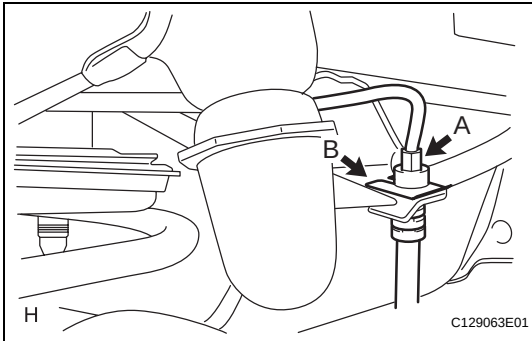
SST 09023-00101

NOTICE:

- Do not bend or damage the brake tube.
- Do not allow any foreign matter such as dirt and dust to enter the brake tube from the connecting point.

- (b) Remove the clip (labeled B).

- (c) Remove the union bolt and gasket(s), and then remove the flexible hose from the disc brake cylinder.



PARKING BRAKE SYSTEM

PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help determine the cause of the problem symptom. The potential causes of the symptoms are listed in order of probability in the "Suspected area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

Parking brake system

Symptom	Suspected area	See page
Parking brake drags	1. Parking brake lever travel (adjustment necessary)	PB-1
	2. No. 1 parking brake cable (sticking)	PB-4
	3. No. 2 parking brake cable (sticking)	PB-8
	4. No. 3 parking brake cable (sticking)	PB-8
	5. Parking brake shoe clearance (adjustment necessary)	PB-15
	6. Shoe return tension spring (damaged)	PB-13

ADJUSTMENT

1. CHECK PARKING BRAKE LEVER TRAVEL

- (a) Pull the lever upward with a force of approximately 200 N (20 kgf, 44 lbf) and count the number of clicks.

OK:

7 to 9 clicks (without rear brake dragging)

2. REMOVE UPPER REAR CONSOLE PANEL SUB-ASSEMBLY (See page [IP-19](#))

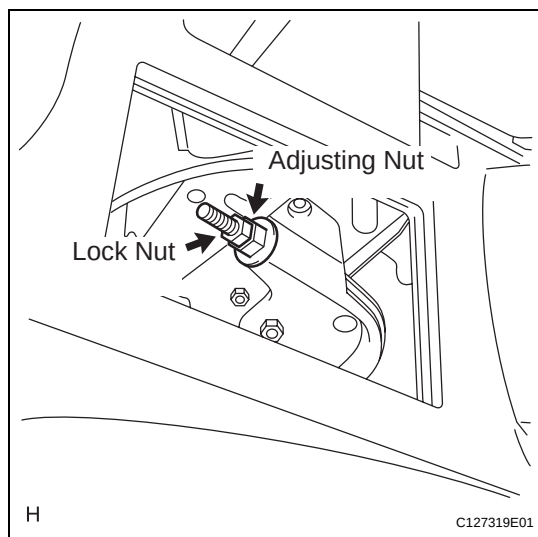
3. LOOSEN LOCK NUT AND NO. 1 WIRE ADJUSTING NUT

4. REMOVE REAR WHEEL

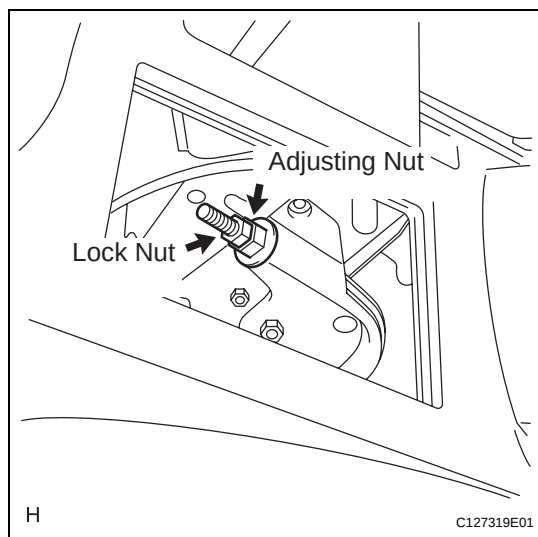
5. ADJUST PARKING BRAKE SHOE CLEARANCE (See page [PB-17](#))

6. INSTALL REAR WHEEL

Torque: 103 N*m (1,050 kgf*cm, 76 ft.*lbf)



PB



7. ADJUST PARKING BRAKE LEVER TRAVEL

- (a) Turn the No. 1 wire adjusting nut until the lever travel is correct.

OK:

7 to 9 clicks (without rear brake dragging)

<Lever pulling force: approximately 200 N (20 kgf, 44 lbf)>

- (b) Tighten the lock nut.

Torque: 6.0 N*m (61 kgf*cm, 53 in.*lbf)

- (c) Operate the parking brake lever 3 to 4 times, and check the parking brake lever travel.

OK:

7 to 9 clicks (without rear brake dragging)

<Lever pulling force: approximately 200 N (20 kgf, 44 lbf)>

- (d) When operating the parking brake lever, check that the brake warning light illuminates at the first click.

Standard condition:

Brake warning light always illuminates at the first click.