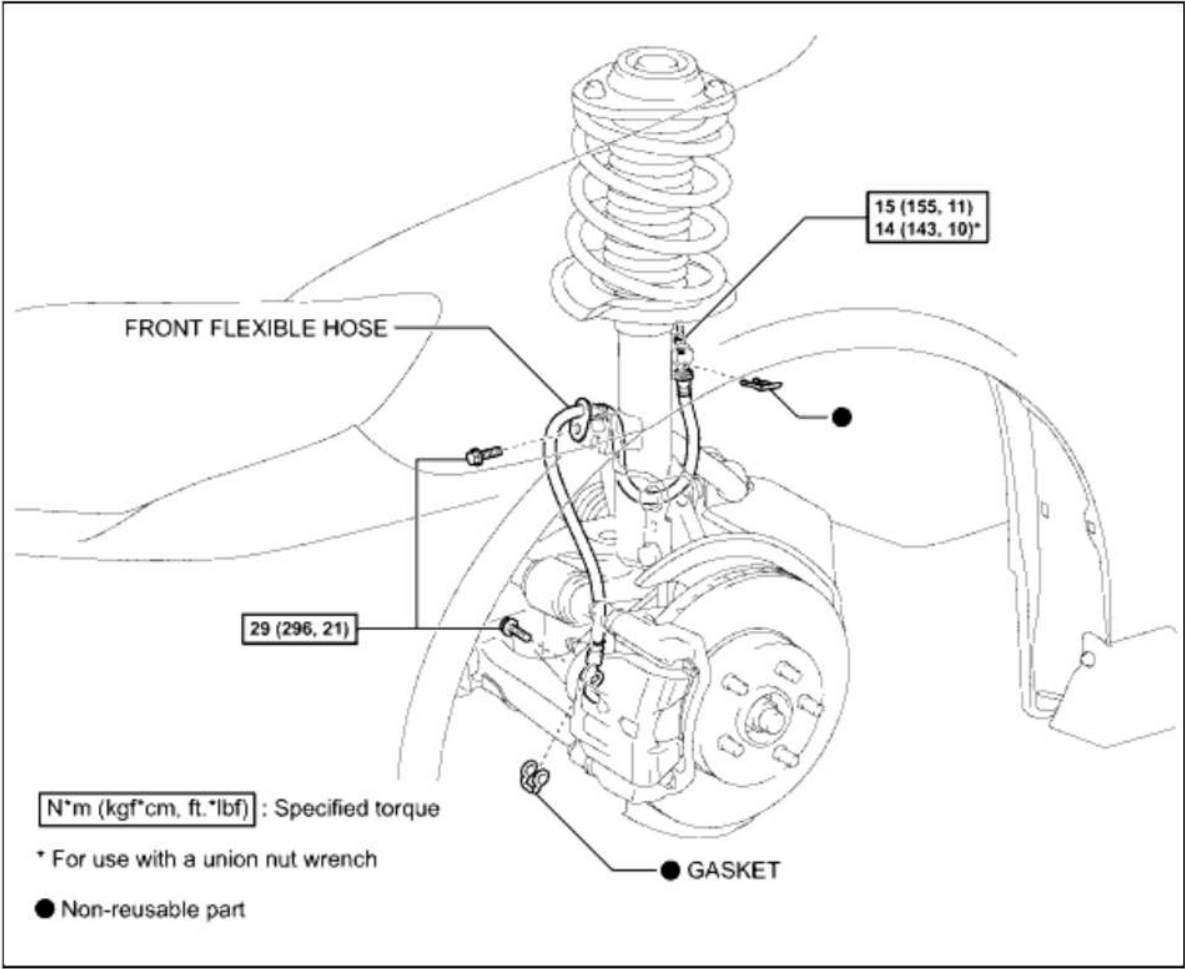


Last Modified: 3-10-2010	6.4 K	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002W1400NX
Title: BRAKE (FRONT): FRONT BRAKE FLEXIBLE HOSE: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION



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Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002W15015X
Title: BRAKE (FRONT): FRONT BRAKE FLEXIBLE HOSE: REMOVAL (2010 Corolla)		

REMOVAL

NOTICE:

If both RH side hose and LH side hose are disconnected at the same time, be sure to place identification marks indicating the position on each side.

HINT:

- Use the same procedure for the LH side and RH side.
- The following procedure listed is for the LH side.

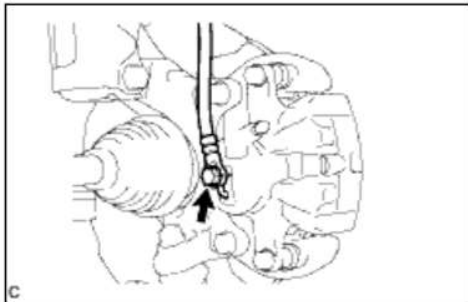
1. DRAIN BRAKE FLUID

NOTICE:

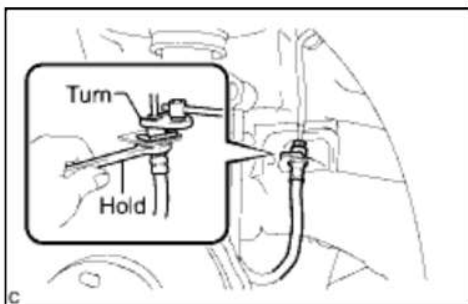
Immediately wash off any brake fluid that comes into contact with any painted surfaces.

2. REMOVE FRONT WHEEL

3. REMOVE FRONT FLEXIBLE HOSE



(a) Remove the union bolt and gasket, and separate the front flexible hose.



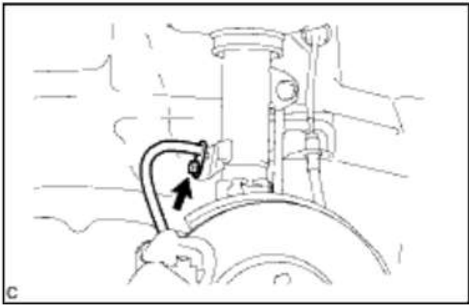
(b) Using a union nut wrench (10 mm), disconnect the brake line while holding the front flexible hose with a wrench.

NOTICE:

- Do not kink or damage the brake line.
- Do not allow any foreign matter such as dirt or dust to enter the brake line from the clip or bracket.

(c) Remove the clip.

(d) Remove the bolt and the front flexible hose from the absorber bracket.



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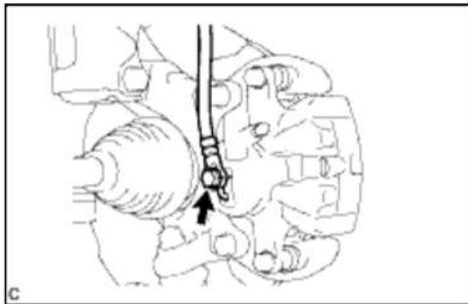
Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002W13011X
Title: BRAKE (FRONT): FRONT BRAKE FLEXIBLE HOSE: INSTALLATION (2010 Corolla)		

INSTALLATION

NOTICE:

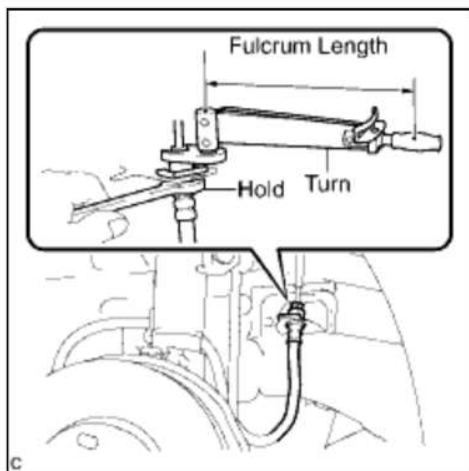
- Because the left and right hoses are not interchangeable, verify the part number when installing the flexible hoses.
- If the hoses are to be reused, connect them after checking the identification marks placed when each hose was disconnected.

1. INSTALL FRONT FLEXIBLE HOSE



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

Torque: 29 N·m (296 kgf·cm, 21ft·lbf)



- (b) Install a new clip to the front flexible hose.

NOTICE:

Install the clip as far as it will go.

- (c) Using a union nut wrench (10 mm), connect the brake line to the front flexible hose while holding the flexible hose with a wrench.

without a union nut wrench - Torque: 15 N·m (155 kgf·cm, 11ft·lbf)

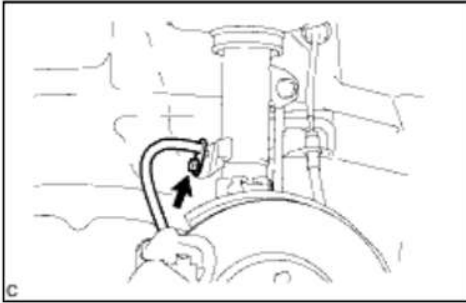
with a union nut wrench - Torque: 14 N·m (143 kgf·cm, 10ft·lbf)

NOTICE:

- Do not kink or damage the brake line.
- Do not allow any foreign matter such as dirt or dust to enter the brake line from the clip or

bracket.

- Use a torque wrench with a fulcrum length of 250 mm (9.84 in.).
- This torque value is effective when the union nut wrench is parallel to the torque wrench.



(d) Install the front flexible hose to the absorber bracket with the bolt.

Torque: 29 N·m (296 kgf·cm, 21ft·lbf)

HINT:

Install the speed sensor harness bracket first and then the front flexible hose.

2. FILL RESERVOIR WITH BRAKE FLUID

INFO

3. BLEED BRAKE LINE

INFO

4. INSPECT FOR BRAKE FLUID LEAK

5. INSPECT FLUID LEVEL

INFO

6. INSTALL FRONT WHEEL

Torque: 103 N·m (1050 kgf·cm, 76ft·lbf)

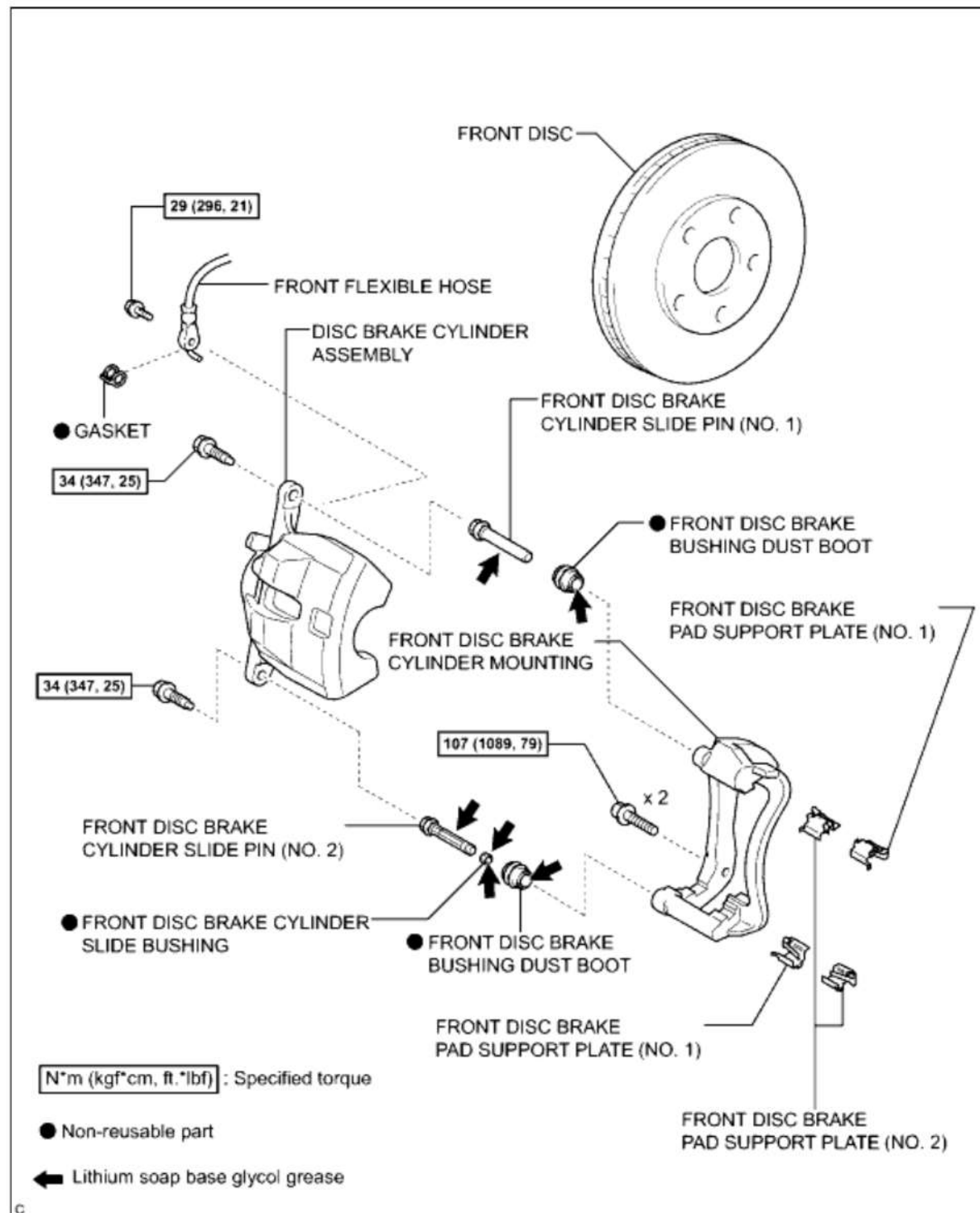


TOYOTA

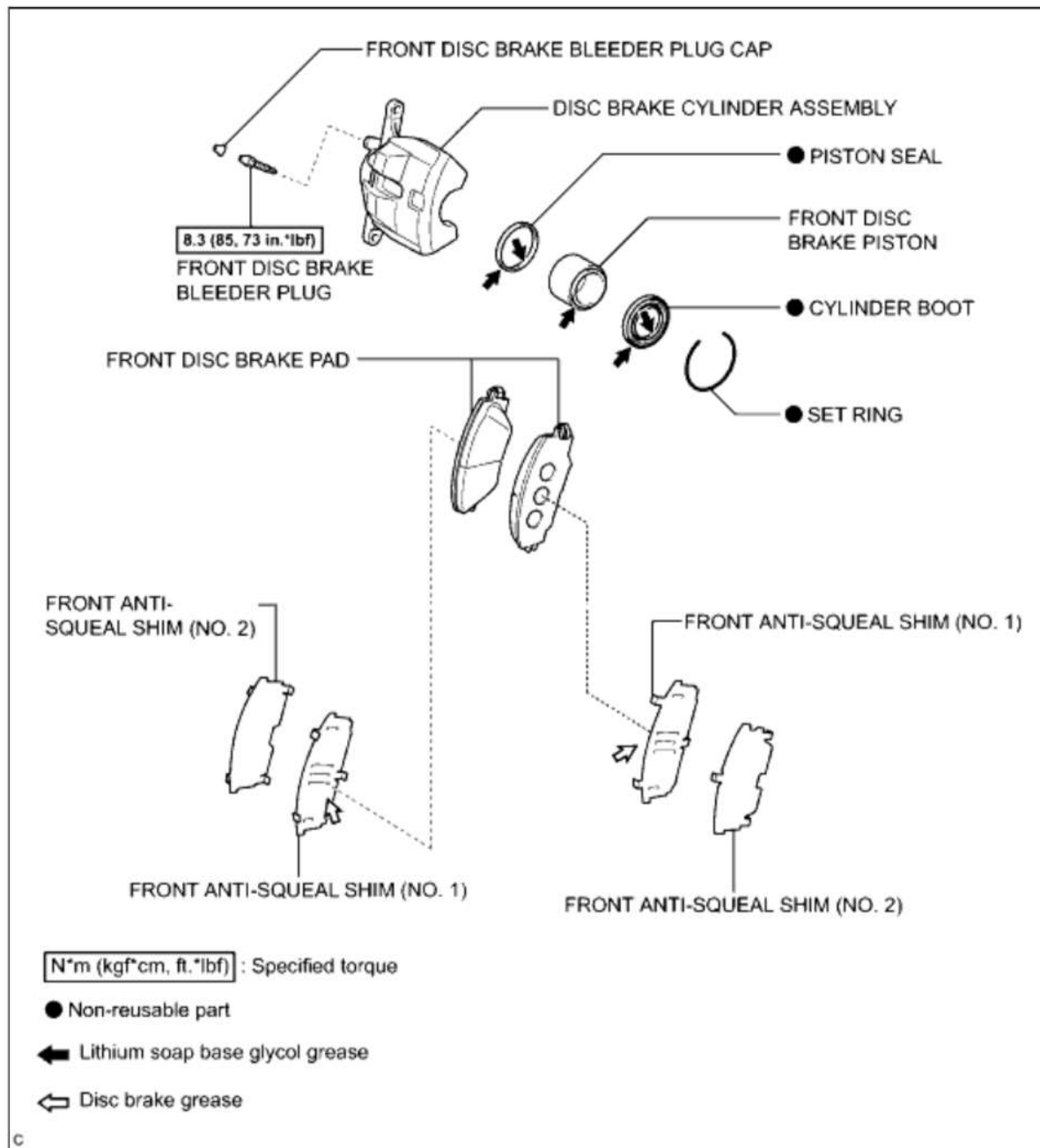
Last Modified: 3-10-2010	6.4 K	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002VIY000X
Title: BRAKE (FRONT): FRONT BRAKE: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION



ILLUSTRATION



Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000000P9Q021X
Title: BRAKE (FRONT): FRONT BRAKE: REMOVAL (2010 Corolla)		

REMOVAL

HINT:

- Use the same procedure for the LH side and RH side.
- The following procedure listed is for the LH side.

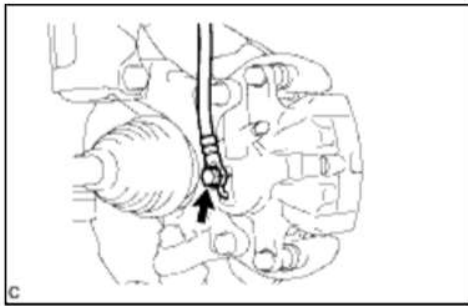
1. REMOVE FRONT WHEEL

2. DRAIN BRAKE FLUID

NOTICE:

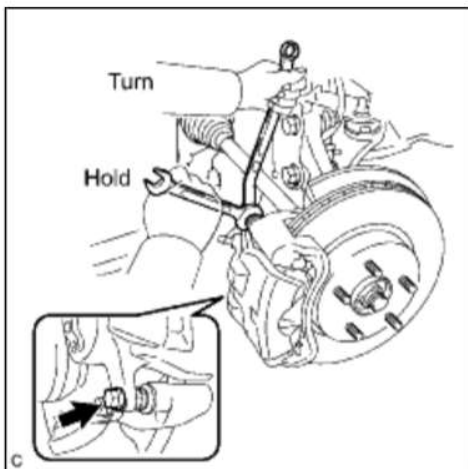
Immediately wash off any brake fluid that comes into contact with any painted surfaces.

3. DISCONNECT FRONT FLEXIBLE HOSE



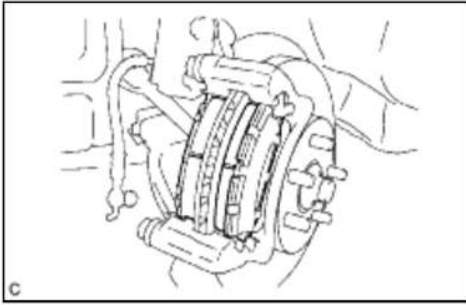
- (a) Remove the union bolt and gasket, and separate the front flexible hose from the disc brake cylinder assembly.

4. REMOVE DISC BRAKE CYLINDER ASSEMBLY



- (a) Hold the front disc brake cylinder slide pin and remove the 2 bolts and disc brake cylinder assembly.

5. REMOVE FRONT DISC BRAKE PAD

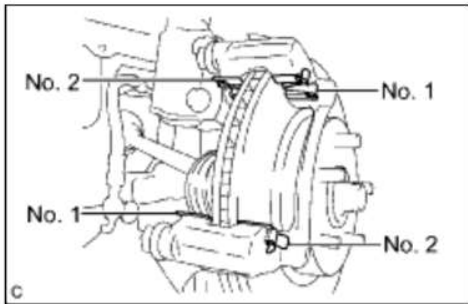


- (a) Remove the 2 disc brake pads from the disc brake cylinder mounting.

6. REMOVE FRONT ANTI-SQUEAL SHIM

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

7. REMOVE FRONT DISC BRAKE PAD SUPPORT PLATE

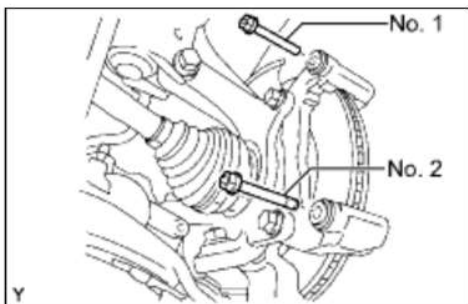


- (a) Remove the 2 No. 1 disc brake pad support plates and 2 No. 2 disc brake pad support plates from the front disc brake cylinder mounting.

NOTICE:

Each front disc brake pad support plate has a different shape. Be sure to put an identification mark on each front disc brake pad support plate so that it can be reinstalled to its original position.

8. REMOVE FRONT DISC BRAKE CYLINDER SLIDE PIN

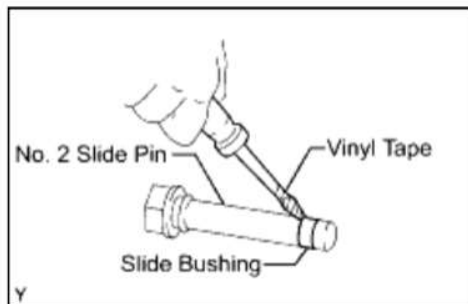


- (a) Remove the No. 1 front disc brake cylinder slide pin and No. 2 front disc brake cylinder slide pin from the disc brake cylinder mounting.

9. REMOVE FRONT DISC BRAKE CYLINDER SLIDE BUSHING

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

NOTICE:

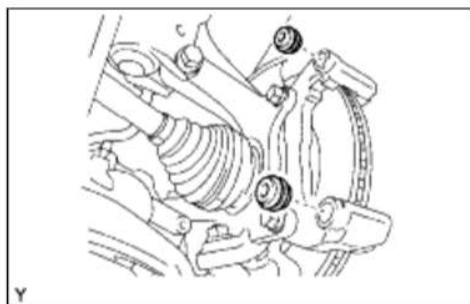


Do not damage the No. 2 front disc brake cylinder slide pin.

HINT:

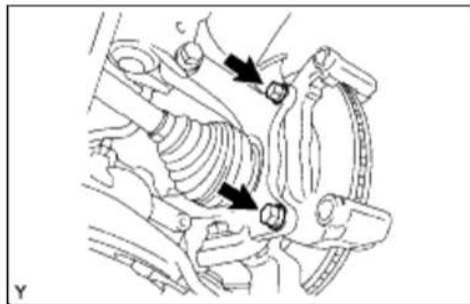
Tape the screwdriver tip before use.

10. REMOVE FRONT DISC BRAKE BUSHING DUST BOOT



- (a) Remove the 2 front disc brake bushing dust boots from the disc brake cylinder mounting.

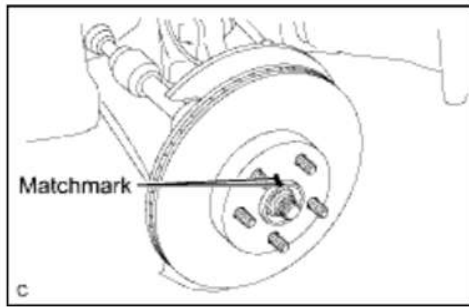
11. REMOVE FRONT DISC BRAKE CYLINDER MOUNTING



- (a) Remove the 2 bolts and front disc brake cylinder mounting from the steering knuckle.

12. REMOVE FRONT DISC

- (a) Put matchmarks on the disc and the axle hub, and remove the front disc.

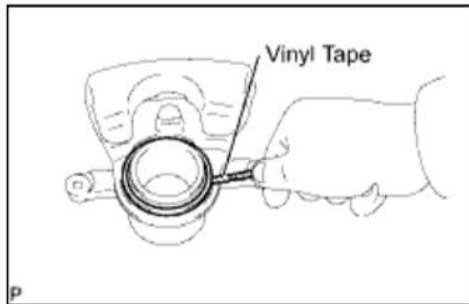


TOYOTA

Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000000ORP021X
Title: BRAKE (FRONT): FRONT BRAKE: DISASSEMBLY (2010 Corolla)		

DISASSEMBLY

1. REMOVE CYLINDER BOOT



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

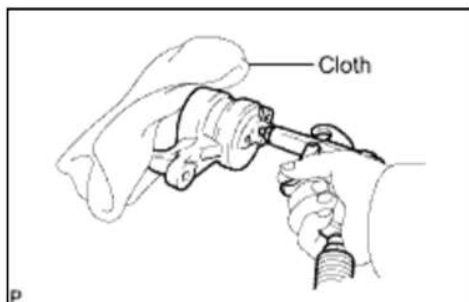
NOTICE:

Be careful not to damage the brake piston or cylinder.

HINT:

Tape the screwdriver tip before use.

2. REMOVE FRONT DISC BRAKE PISTON



- (a) Place a 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 using compressed air.

NOTICE:

Do not allow any brake fluid to spatter.

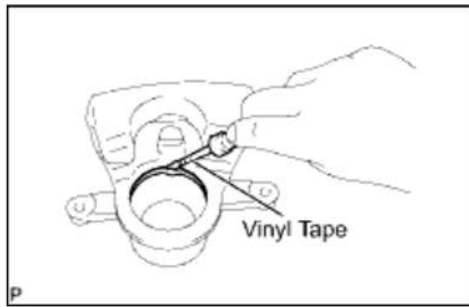
3. REMOVE PISTON SEAL

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

NOTICE:

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

HINT:



Tape the screwdriver tip before use.

4. REMOVE FRONT DISC BRAKE BLEEDER PLUG CAP

5. REMOVE FRONT DISC BRAKE BLEEDER PLUG



Last Modified: 3-10-2010	6.4 G	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000000ORN021X
Title: BRAKE (FRONT): FRONT BRAKE: INSPECTION (2010 Corolla)		

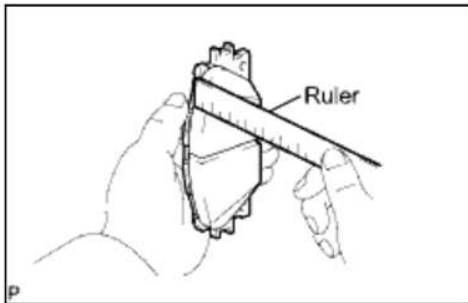
INSPECTION

1. INSPECT BRAKE CYLINDER AND PISTON

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

2. INSPECT PAD LINING THICKNESS

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



Standard thickness:

12.0 mm (0.472 in.)

Minimum thickness:

1.0 mm (0.0394 in.)

If the pad lining thickness is less than the minimum, replace the disc brake pads.

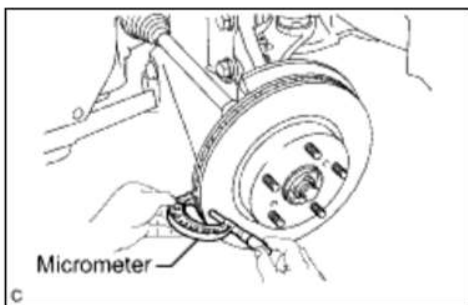
HINT:

Be sure to check the wear of the front disc after replacing the brake pads with new ones.

3. INSPECT FRONT DISC BRAKE PAD SUPPORT PLATE

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

4. INSPECT DISC THICKNESS



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

Standard thickness:

22.0 mm (0.866 in.)

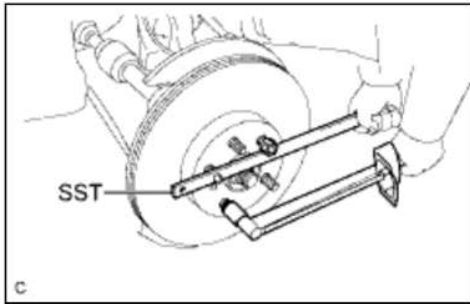
Minimum thickness:

19.0 mm (0.748 in.)

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

5. INSPECT DISC RUNOUT

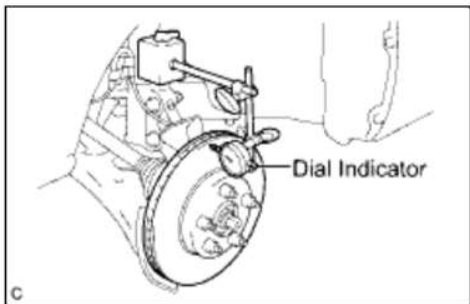
- (a) Inspect the front axle hub bearing looseness and front axle hub runout .



(b) Using SST to hold the disc, tighten the disc with the 5 nuts.

SST: 09330-00021

Torque: 103 N·m (1050 kgf·cm, 76ft·lbf)



(c) Using a dial indicator, measure the disc runout 10 mm (0.394 in.) away from the outer edge of the front disc.

Maximum disc runout:

0.05 mm (0.00197 in.)

If the runout exceeds the maximum value, change the installation position of the disc to minimize the runout. If the runout exceeds the maximum even when the installation position is changed, grind the disc. If the disc thickness is less than the minimum, replace the front disc.

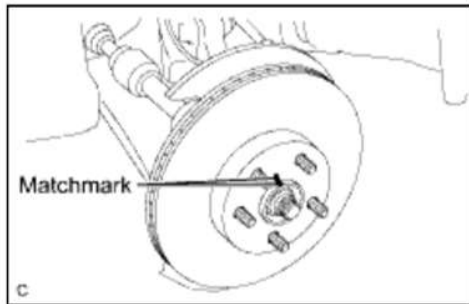
(d) Remove the 5 nuts and front disc.



Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000000P9P021X
Title: BRAKE (FRONT): FRONT BRAKE: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL FRONT DISC

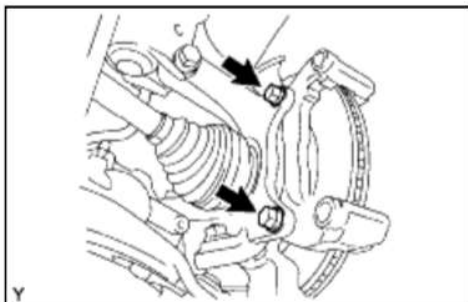


- (a) Align the matchmarks of the disc and axle hub, and install the disc.

NOTICE:

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

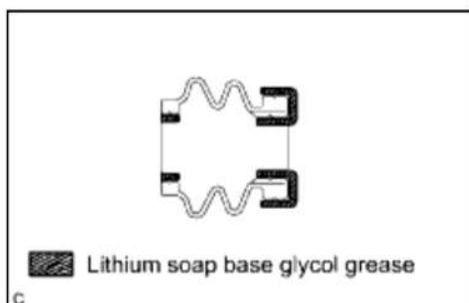
2. INSTALL FRONT DISC BRAKE CYLINDER MOUNTING



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

Torque: 107 N·m (1089 kgf·cm, 79ft·lbf)

3. INSTALL FRONT DISC BRAKE BUSHING DUST BOOT

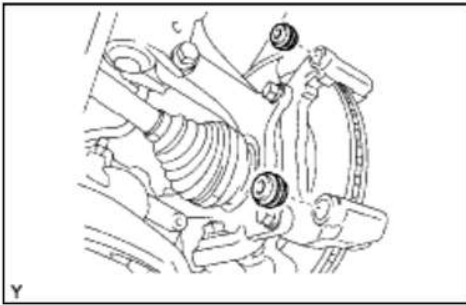


- (a) Apply a light layer of lithium soap base glycol grease to the entire circumference of 2 new front disc brake bushing dust boots.

HINT:

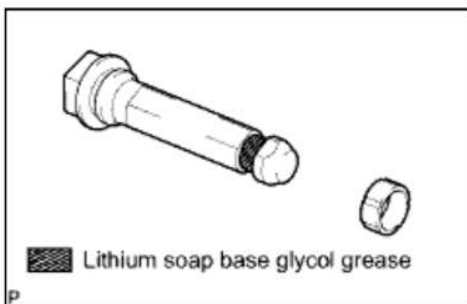
Apply at least 0.3 g (0.01 oz.) of lithium soap base glycol grease to each front disc brake bushing dust boot.

- (b) Install the 2 front disc brake bushing dust boots to the



disc brake cylinder mounting.

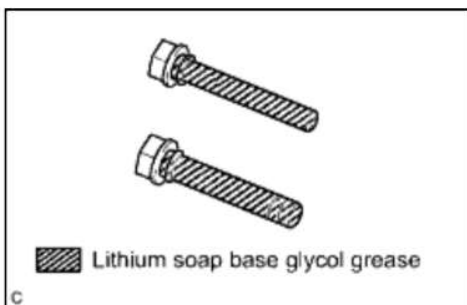
4. INSTALL FRONT DISC BRAKE CYLINDER SLIDE BUSHING



- (a) Apply a light layer of lithium soap base glycol grease to the contact surface of the No. 2 front disc brake cylinder slide pin.

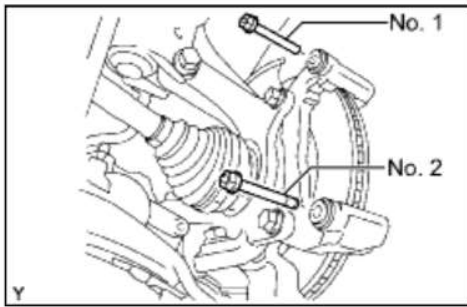
- (b) Install a new front disc brake cylinder slide bushing to the No. 2 front disc brake cylinder slide pin.

5. INSTALL FRONT DISC BRAKE CYLINDER SLIDE PIN

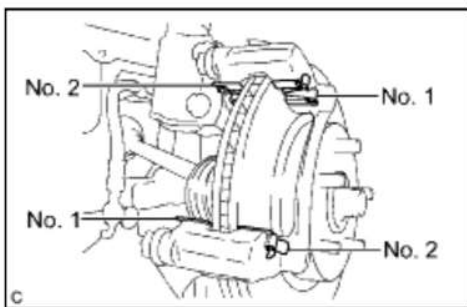


- (a) Apply a light layer of lithium soap base glycol grease to the sliding and sealing surfaces of the No. 1 front disc brake cylinder slide pin and No. 2 front disc brake cylinder slide pin.

- (b) Install the No. 1 front disc brake cylinder slide pin and No. 2 front disc brake cylinder slide pin to the cylinder mounting.



6. INSTALL FRONT DISC BRAKE PAD SUPPORT PLATE

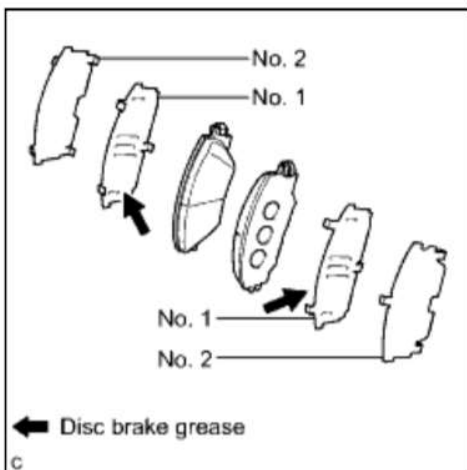


- (a) Install the 2 No. 1 front disc brake pad support plates and 2 No. 2 front disc brake pad support plates to the front disc brake cylinder mounting.

NOTICE:

Be sure to install each front disc brake pad support plate in the correct position and direction.

7. INSTALL FRONT ANTI-SQUEAL SHIM



- (a) Apply disc brake grease to both sides of each No. 1 anti-squeal shim.

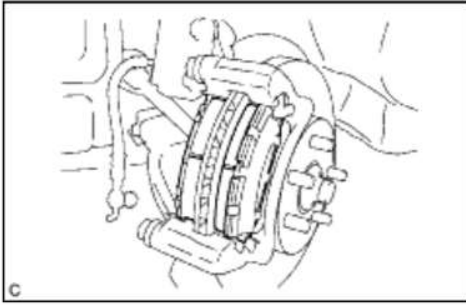
NOTICE:

- When replacing worn pads, the anti-squeal shims must be replaced together with the pads.
- Install the shims in the correct positions and directions.
- Apply disc brake grease to the area that contacts the anti-squeal shims.
- Disc brake grease can seep out slightly from the area where the anti-squeal shim is installed.
- Make sure that disc brake grease is not applied onto the lining surface.

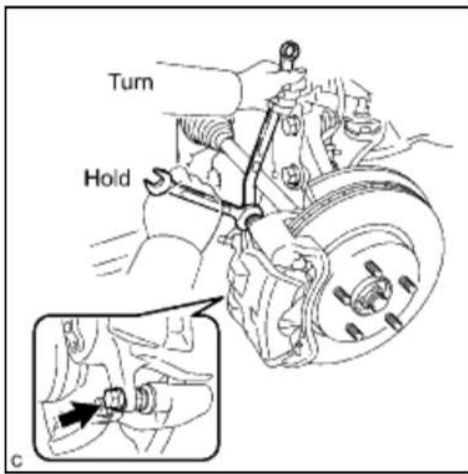
- (b) Install the No. 1 anti-squeal shim and No. 2 anti-squeal shim to each brake pad.

8. INSTALL FRONT DISC BRAKE PAD

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

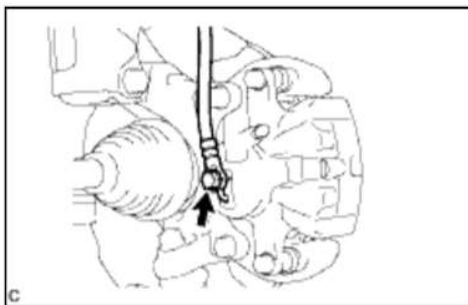
**NOTICE:**

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

9. INSTALL DISC BRAKE CYLINDER ASSEMBLY

- (a) Hold the front disc brake cylinder slide pin and install the disc brake cylinder assembly to the disc brake cylinder mounting with the 2 bolts.

Torque: 34 N·m (347 kgf·cm, 25ft·lbf)

10. CONNECT FRONT FLEXIBLE HOSE

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

Torque: 29 N·m (296 kgf·cm, 21ft·lbf)

HINT:

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

11. FILL RESERVOIR WITH BRAKE FLUID**12. BLEED BRAKE LINE****13. INSPECT FOR BRAKE FLUID LEAK****14. INSPECT FLUID LEVEL**

15. INSTALL FRONT WHEEL

Torque: 103 N·m (1050 kgf·cm, 76ft·lbf)



Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000000ORQ021X
Title: BRAKE (FRONT): FRONT BRAKE: REASSEMBLY (2010 Corolla)		

REASSEMBLY

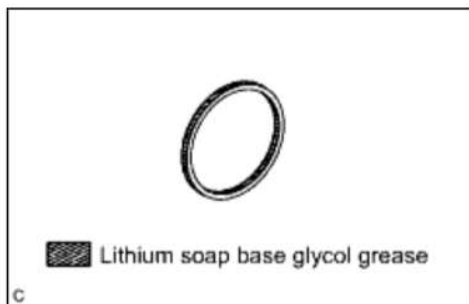
1. TEMPORARILY TIGHTEN FRONT DISC BRAKE BLEEDER PLUG

HINT:

Fully tighten the front disc brake bleeder plug after bleeding any air left in the system.

2. INSTALL FRONT DISC BRAKE BLEEDER PLUG CAP

3. INSTALL PISTON SEAL



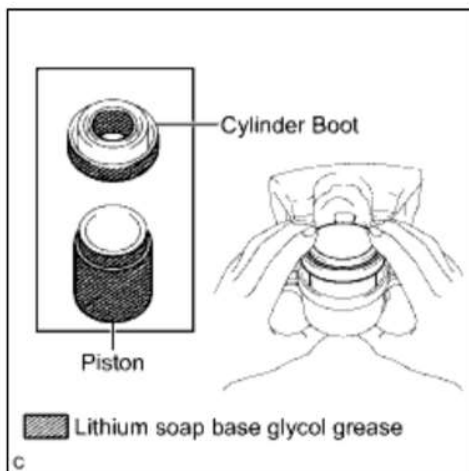
(a) Apply a light layer of lithium soap base glycol grease to the entire circumference of a new piston seal.

(b) Install the piston seal to the disc brake cylinder assembly.

NOTICE:

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

4. INSTALL FRONT DISC BRAKE PISTON



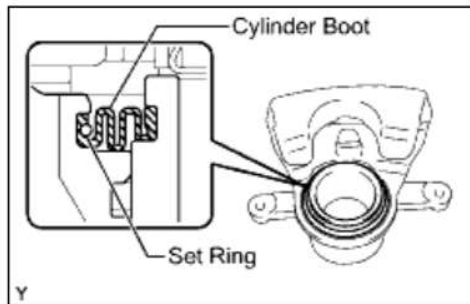
(a) Apply a light layer of lithium soap base glycol grease to the entire circumference of a new cylinder boot.

(b) Install the cylinder boot to the front disc brake piston.

- (c) Apply a light layer of lithium soap base glycol grease to the contact surfaces of the front disc brake piston, and install it to the disc brake cylinder assembly.

NOTICE:

Do not install the front disc brake piston forcibly in the disc brake cylinder assembly.

5. INSTALL CYLINDER BOOT

- (a) Install the cylinder boot to the disc brake cylinder assembly.

NOTICE:

Securely install the cylinder boot to the groove of the disc brake cylinder and piston.

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

NOTICE:

- Securely install the set ring to the outer groove of the cylinder boot.
- Do not damage the cylinder boot.

HINT:

Tape the screwdriver tip before use.

