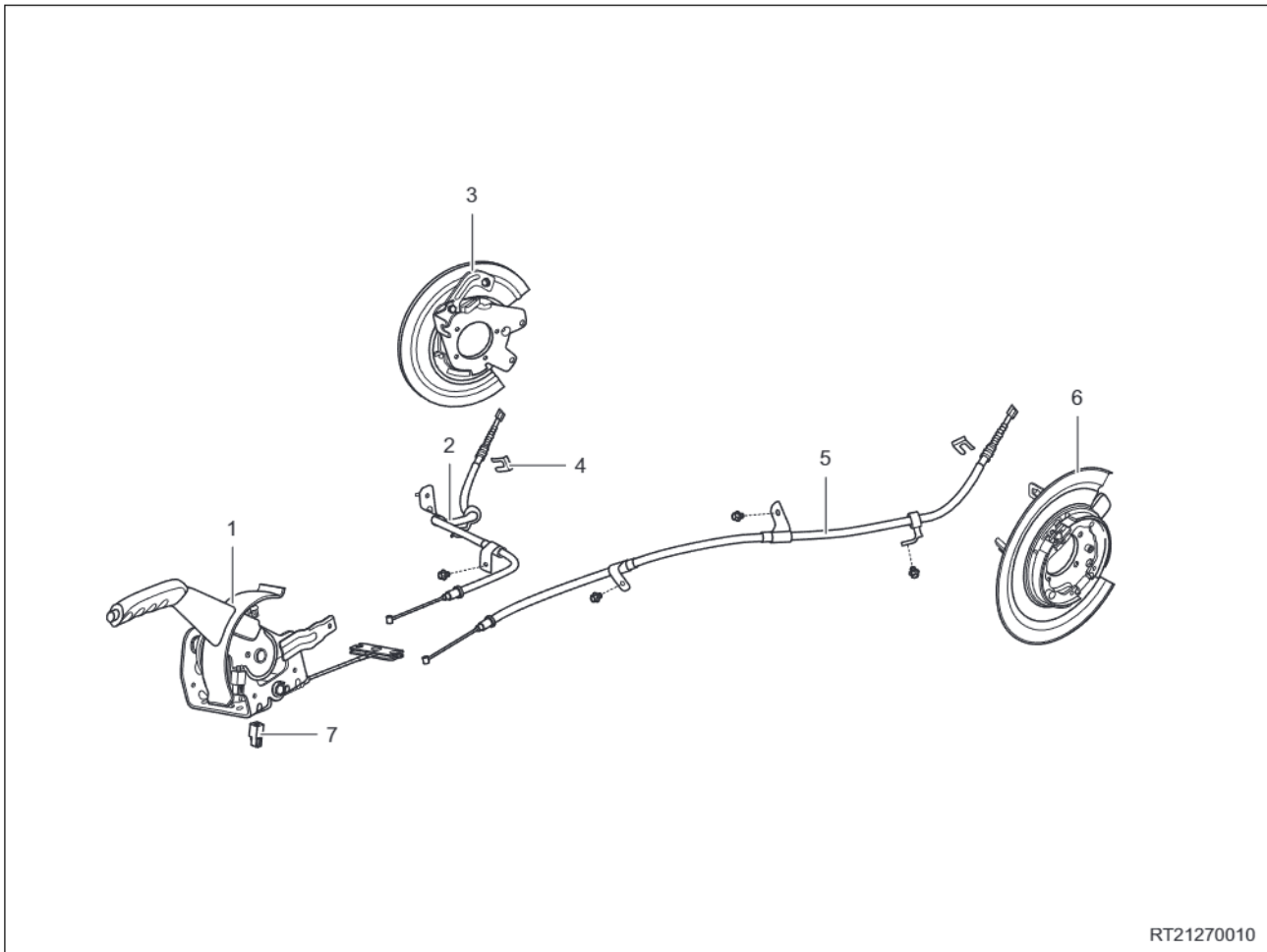

PARKING BRAKE

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GENERAL INFORMATION

Parking Brake Assembly



RT21270010

1 - Parking Brake Control Mechanism Assembly	2 - Rear Right Parking Brake Cable Assembly
3 - Rear Right Brake Assembly	4 - Parking Brake Cable Fixing Clamp
5 - Rear Left Parking Brake Cable Assembly	6 - Rear Left Brake Assembly
7 - Parking Brake Switch Assembly	

Description

All vehicles are equipped with a manual-operated parking brake control mechanism assembly, which is mounted on the center position of front seats. The tension balance block is built into parking brake control mechanism assembly. Each rear wheel has an individual parking brake rear cable assembly, which is respectively connected with the parking brake control mechanism assembly and rear brake shoe assembly. The parking brake cable is made of flexible wire.

Specifications

Torque Specifications

Description	Tightening Torque (N·m)
Wheel Mounting Bolt	110 ± 10
Coupling Bolt Between Parking Brake Control Mechanism Assembly and Body	23 ± 2
Coupling Bolt Between Parking Brake Rear Cable Assembly Fixing Bracket and Body	23 ± 2
Coupling Bolt Between Parking Brake Rear Cable Assembly Fixing Bracket and Rear Trailing Arm Assembly	23 ± 2
Coupling Bolt Between Parking Brake Rear Cable Assembly Fixing Bracket and Rear Brake Bottom Board Assembly	23 ± 2
Coupling Bolt Between Rear Brake Line Fixing Bracket and Rear Brake Bottom Board Assembly	23 ± 2

Rear DIH (Drum-in-hat)

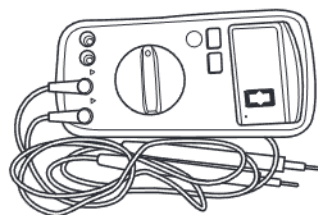
Description	Standard Thickness (mm)	Minimum Thickness (mm)
Rear Brake Shoe Lining	3	1

Description	Standard Inner Diameter (mm)	Maximum Inner Diameter (mm)
Rear Brake Disc	186	188

Tools

General Tools

Digital Multimeter



RCH0000002

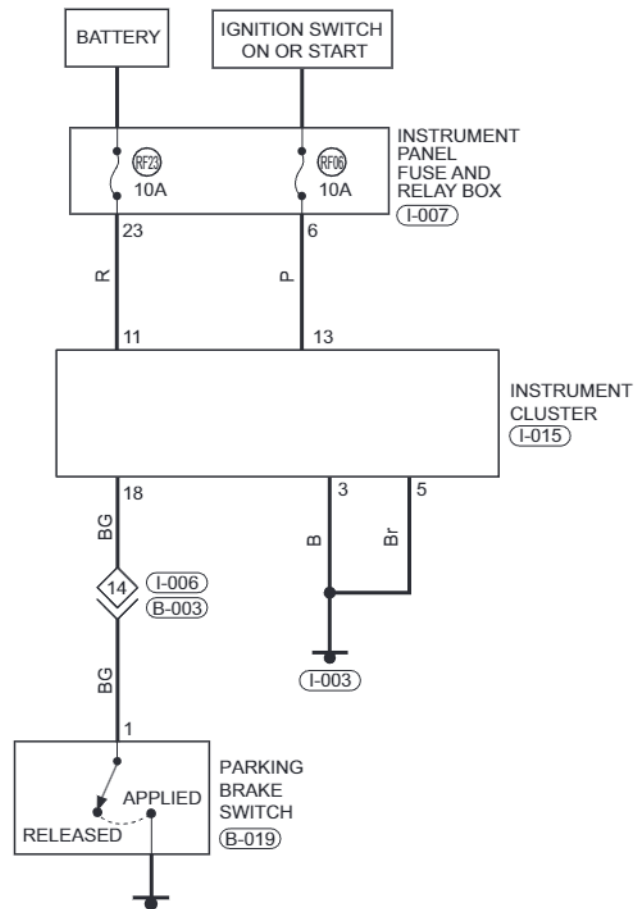
Vernier Caliper



RCH0000019

Circuit Diagram

Parking Brake System



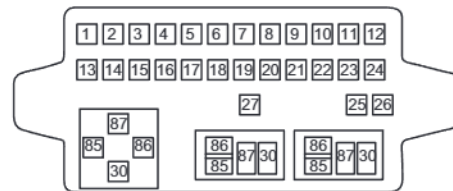
I-015
L



I-006
W



B-019
B



I-007
B

DIAGNOSIS & TESTING

Problem Symptoms Table

HINT:

Use the table below to help determine the cause of the problem symptoms. Check each suspected area in sequence. Repair or replace the faulty components, or adjust as necessary.

Symptom	Suspected Area	See page
Parking brake stuck	Parking brake control mechanism stroke (incorrect)	27-8
	Parking brake shoe clearance (incorrect)	27-8
	Parking brake shoe return tension spring (damaged)	27-15
Abnormal parking brake operation	Parking brake shoe (worn)	27-15
	Rear brake disc (excessively worn)	26-40
	Parking brake rear cable assembly (improperly fixed)	27-13
	Parking brake control mechanism assembly (improperly fixed)	27-11
	Parking brake control mechanism assembly (stuck)	27-11
Brake warning light does not come on when parking brake is applied	Warning light circuit (faulty)	27-9

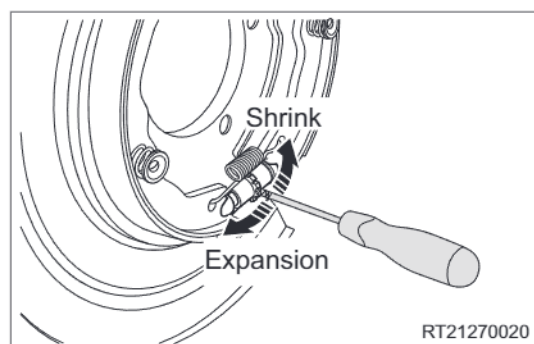
ON-VEHICLE SERVICE

Adjustment

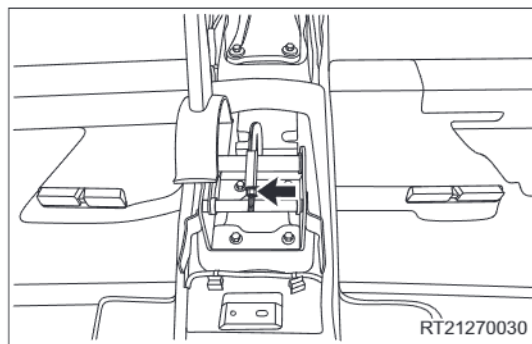
Abnormal parking brake operation may be caused by the worn brake shoe lining, incorrect brake shoe clearance adjustment, incorrect parking brake control mechanism stroke or incorrect parking brake component installation. Perform the following procedures to adjust the parking brake control mechanism stroke:

1. Support and raise the vehicle to a proper height.
2. Remove the rear wheel (See page 24-9).
3. Remove the rear brake disc (See page 26-41).
4. Remove the auxiliary fascia console assembly (See page 45-9).
5. Adjust the parking brake shoe clearance:

- a. Fully release the parking brake control mechanism.
- b. Using a flat tip screwdriver, pry off the brake shoe adjusting hole plug, rotate the brake shoe clearance adjustment mechanism assembly to adjust parking brake shoe clearance, and attempt to rotate the rear brake disc by hand to confirm that brake disc rotates freely.
- c. Check that there is no brake stuck for the brake shoe.



6. Adjust the parking brake control mechanism stroke:
 - a. Fully release the parking brake control mechanism.
 - b. Rotate the parking brake control mechanism adjustment nut, until the parking brake control mechanism stroke is correct.



- c. Correct judging method: after adjustment, fully release parking brake control mechanism and rotate rear wheel by hand.

OK: Rear wheel can be rotated freely without dragging.

Pull up parking brake control mechanism until 1 clicking sound is heard. There is resistance when rotating rear wheel by hand. Pull up parking brake control mechanism until 5 to 6 clicking sounds are heard and the rear wheel cannot rotate.

- d. When operating the parking brake control mechanism, check that brake warning light illuminates at the first click.

OK: Parking brake warning light always illuminates at the first click.

- e. If result is not as specified, repeat above procedures until the parking brake control mechanism stroke is proper.

7. Install the auxiliary fascia console assembly (See page 45-9).

8. Install the rear brake disc (See page 26-41).

9. Install the rear wheel (See page 24-9).

(Tightening torque: 110 ± 10 N·m)

Parking Brake Switch Assembly

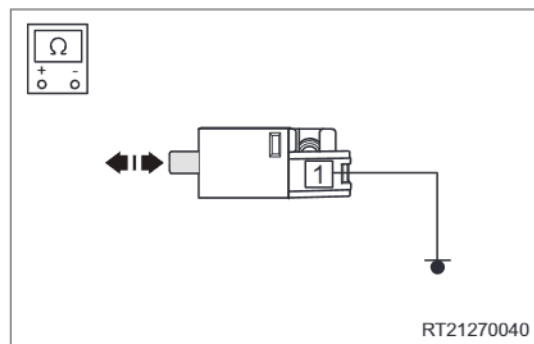
On-vehicle Inspection

1. Disconnect parking brake switch assembly connector, and check the continuity of parking brake switch assembly with ohm band of digital multimeter as shown in the table below.

Standard Condition

Multimeter Connection	Condition	Specified Condition
Terminal 1 - Body ground	Parking brake applied (switch pin released)	Continuity
	Parking brake released (switch pin pushed)	No continuity

If result is not as specified, replace parking brake switch assembly.

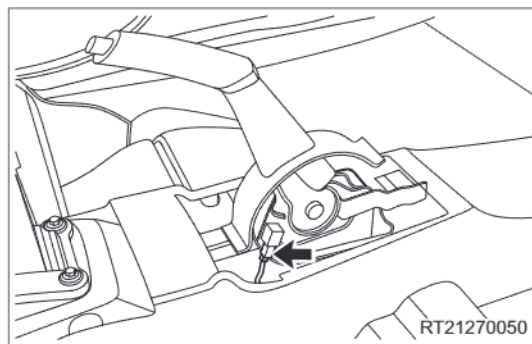


Removal

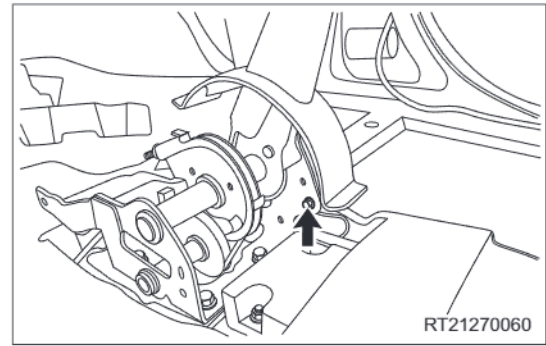
CAUTION

- Be sure to wear necessary safety equipment to prevent accidents when repairing.
- Try to prevent body paint surface from being scratched during removal and installation.

1. Fix the tire and wheel assembly.
2. Remove the auxiliary fascia console assembly ([See page 45-9](#)).
3. Remove the parking brake switch assembly.
 - a. Disconnect the parking brake switch assembly wire harness connector (arrow) as shown in the illustration.



- b. Using a cross screwdriver, loosen the fixing screw (arrow) of parking brake switch assembly.



- c. Remove the parking brake switch assembly.

Inspection

1. Check parking brake switch assembly.
 - a. Check parking brake switch assembly for wear or break. Replace parking brake switch assembly as necessary.
 - b. Check if parking brake switch assembly compressed spring is damaged or weak elasticity. Replace parking brake switch assembly as necessary.

Installation

Installation is in the reverse order of removal.

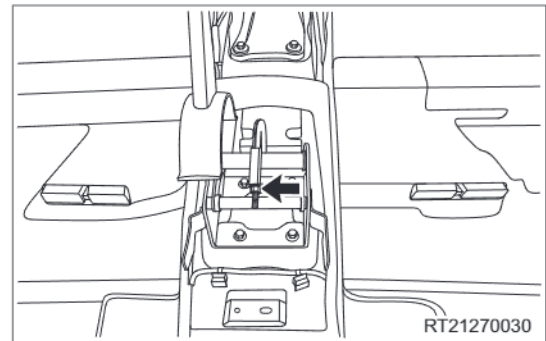
Parking Brake Control Mechanism Assembly

Removal

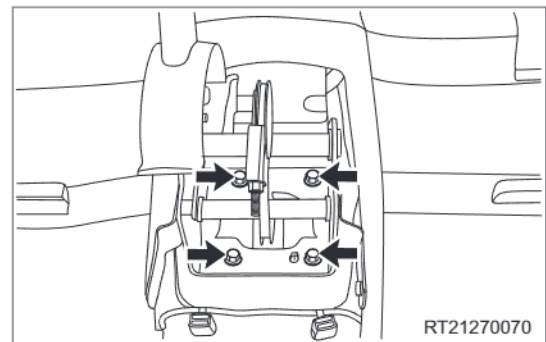
CAUTION

- Be sure to wear necessary safety equipment to prevent accidents when repairing.
- Try to prevent body paint surface from being scratched during removal and installation.

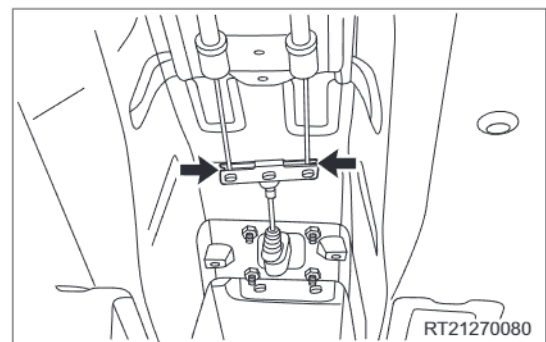
1. Fix the tire and wheel assembly.
2. Remove the auxiliary fascia console assembly ([See page 45-9](#)).
3. Remove the parking brake switch assembly ([See page 27-9](#)).
4. Remove the parking brake control mechanism assembly.
 - a. Fully release the parking brake control mechanism.
 - b. Loosen the locking nut (arrow) of parking brake control mechanism assembly to release the tension of parking brake cable assembly as shown in the illustration.



- c. Remove 4 coupling bolts (arrow) between parking brake control mechanism assembly and body. (Tightening torque: 23 ± 2 N·m)



- d. Disengage the parking brake rear cable assembly from two grooves (arrow) on the rear of parking brake control mechanism assembly.



- e. Remove the parking brake control mechanism assembly.

Installation

Installation is in the reverse order of removal.

CAUTION

- Always tighten coupling bolts and nuts to the specified torque.

HINT:

Be sure to check parking brake control mechanism stroke after installing parking brake control mechanism assembly. Adjust parking brake control mechanism stroke to the proper position by adjusting parking brake control mechanism locking nut if necessary.

Parking Brake Rear Cable Assembly

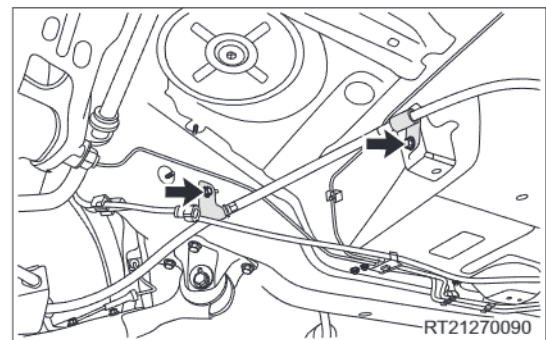
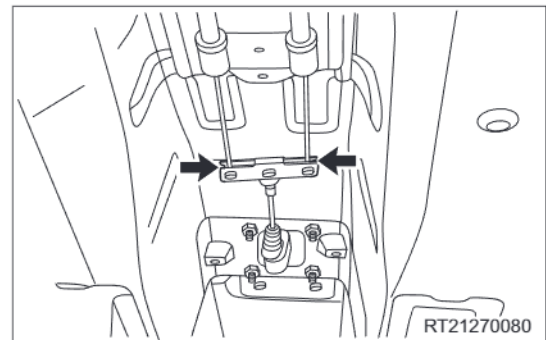
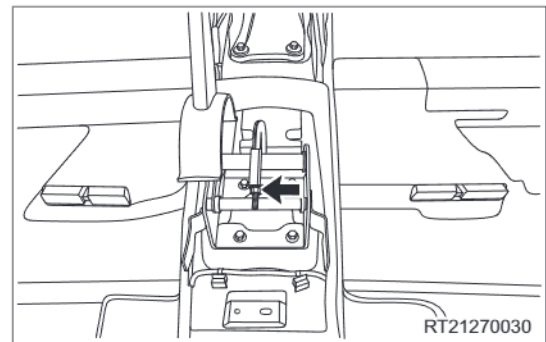
Removal

CAUTION

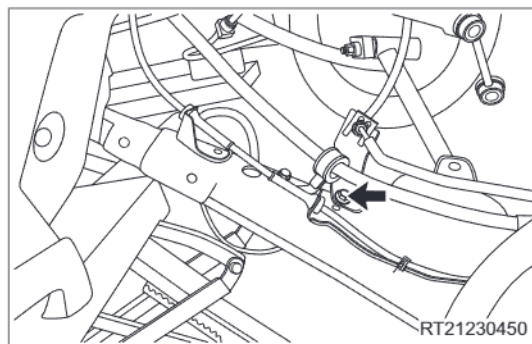
- Be sure to wear necessary safety equipment to prevent accidents when repairing.
- Try to prevent body paint surface from being scratched during removal and installation.

HINT:

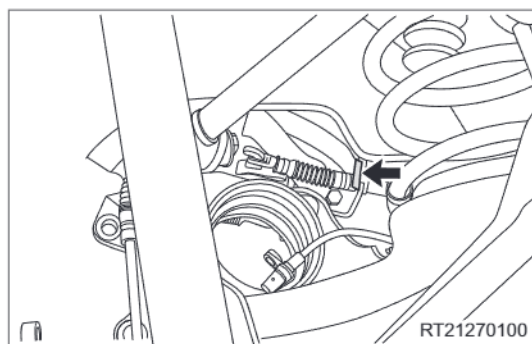
- Use the same procedures for the right side and left side.
 - Procedures listed below are for the left side.
1. Remove the rear wheel ([See page 24-9](#)).
 2. Remove the auxiliary fascia console assembly ([See page 45-9](#)).
 3. Remove the parking brake rear cable assembly.
 - a. Fully release the parking brake control mechanism.
 - b. Loosen the locking nut (arrow) of parking brake control mechanism assembly to release the tension of parking brake cable assembly as shown in the illustration.
 - c. Disengage the parking brake rear cable assembly from two grooves (arrow) on the rear of parking brake front cable assembly.
 - d. Loosen the coupling bolts (arrow) between parking brake rear cable assembly fixing bracket and body, and disengage the cable fixing bracket. (Tightening torque: 23 ± 2 N·m)



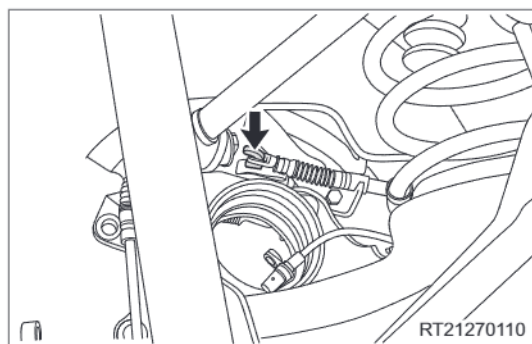
- e. Loosen the coupling bolt (arrow) between parking brake rear cable assembly fixing bracket and rear trailing arm assembly, and disengage the cable fixing bracket.
(Tightening torque: 23 ± 2 N·m)



- f. Remove the fixing clamp (arrow) and disengage the parking brake rear cable assembly from the fixing bracket.



- g. Disengage the parking brake rear cable assembly end (arrow) from the parking brake pulling arm.



- h. Remove the parking brake rear cable assembly.

Installation

Installation is in the reverse order of removal.

CAUTION

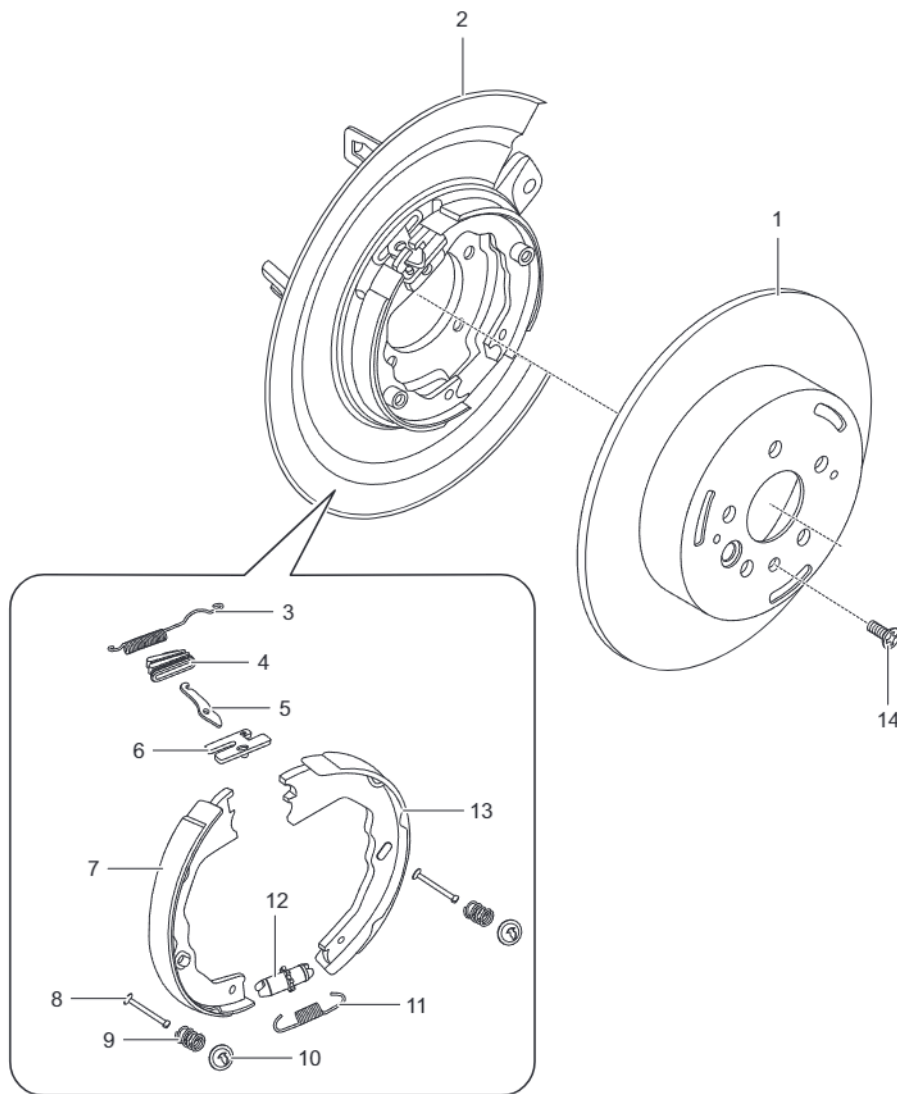
- Always tighten coupling bolts and nuts to the specified torque.
- During installation, make sure to align the positioning part of parking brake rear cable assembly fixing bracket and the positioning hole on body.

HINT:

Parking brake should be adjusted after replacing brake shoe or parking brake cable assembly. Check if parking brake functions properly after adjustment is completed.

- Fully pull up parking brake control mechanism.
- Release parking brake control mechanism and check if rear wheels rotate freely.
- If wheels are difficult to rotate freely, repeat adjustment procedures.
- After driving for a period of time, parking brake control mechanism stroke should be readjusted because of wear of rear brake shoe linings.

Rear Brake Assembly



RT21270111

1 - Rear Brake Disc	2 - Rear Brake Assembly
3 - Brake Shoe Return Tension Spring (Upper)	4 - Parking Pulling Arm Dust Boot
5 - Parking Pulling Arm	6 - Parking Push Rod
7 - Left Parking Brake Shoe Lining	8 - Compressed Spring Tie Rod
9 - Brake Shoe Compressed Spring	10 - Compressed Spring Seat
11 - Brake Shoe Return Tension Spring (Lower)	12 - Brake Shoe Clearance Adjustment Mechanism Assembly
13 - Right Parking Brake Shoe Lining	14 - Rear Brake Disc Positioning Screw

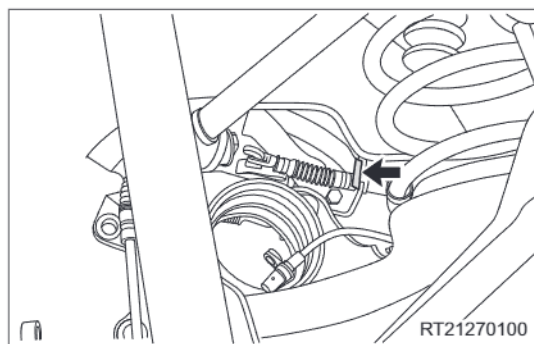
Removal

CAUTION

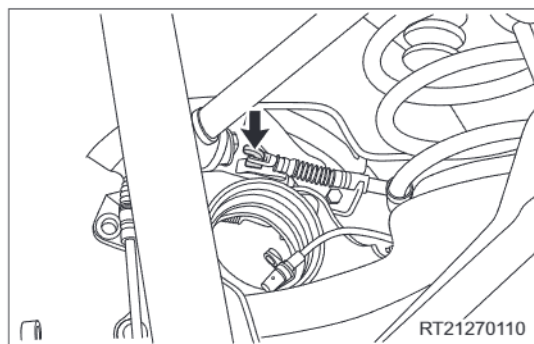
- Be sure to wear necessary safety equipment to prevent accidents when repairing.
- Try to prevent body paint surface from being scratched during removal and installation.

HINT:

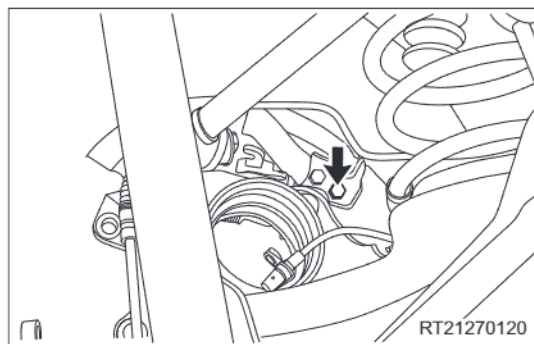
- Use the same procedures for the right side and left side.
 - Procedures listed below are for the left side.
1. Remove the rear left wheel (See page 24-9).
 2. Remove the rear left brake caliper assembly (See page 26-41).
 3. Remove the rear left brake disc (See page 26-41).
 4. Remove the rear left hub bearing unit (See page 22-19).
 5. Remove the rear left brake assembly.
 - a. Fully release the parking brake control mechanism.
 - b. Remove the fixing clamp (arrow) and disengage the parking brake rear cable assembly from the fixing bracket.



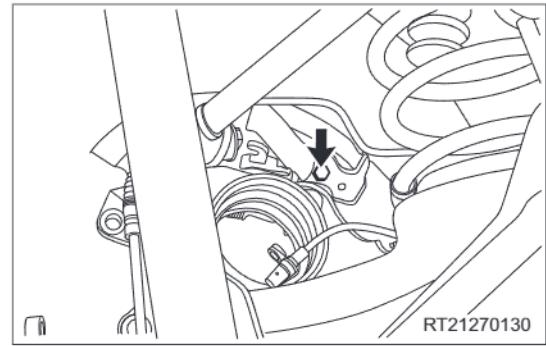
- c. Disengage the parking brake rear cable assembly end (arrow) from the parking brake pulling arm.



- d. Remove the coupling bolt (arrow) between parking brake rear cable assembly fixing bracket and rear brake bottom board assembly. (Tightening torque: 23 ± 2 N·m)



- e. Remove the coupling bolt (arrow) between rear brake line fixing bracket and rear brake bottom board assembly.
(Tightening torque: 23 ± 2 N·m)



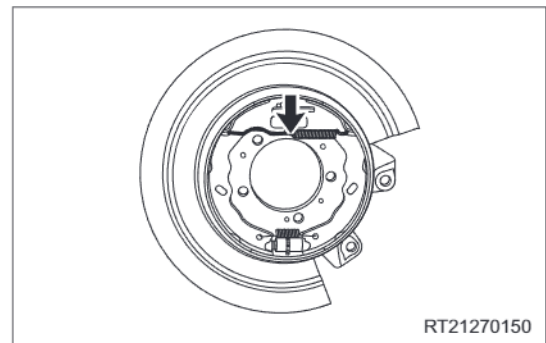
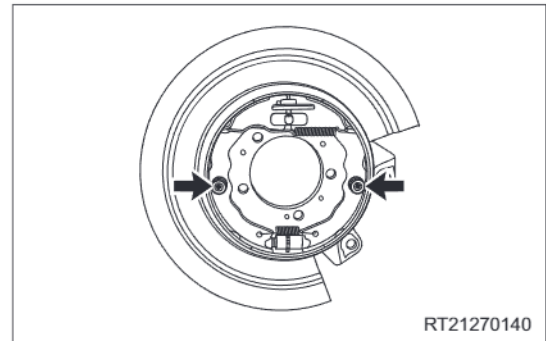
- f. Remove the rear left brake assembly.

CAUTION

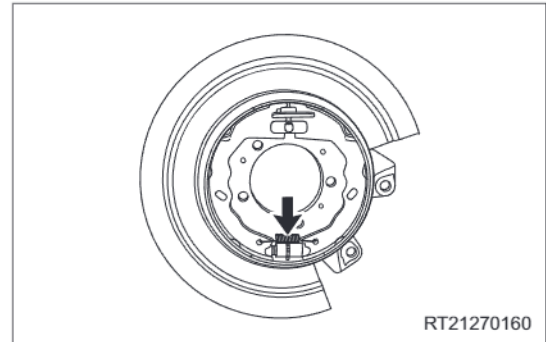
- DO NOT touch interior ornament when removing steering column with intermediate shaft assembly to avoid scratching the interior ornament.

Disassembly

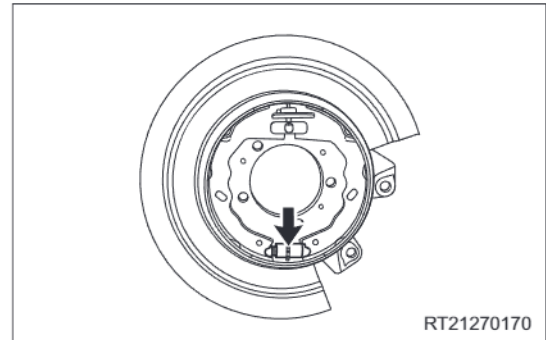
- Remove the brake shoe stopper spring set.
 - Using needle-nose pliers, press brake shoe compressed spring and rotate compressed spring tie rod to remove the stopper spring sets (arrow) on both sides as shown in the illustration.
- Remove the brake shoe return tension spring (upper).
 - Using needle-nose pliers, remove the brake shoe return tension spring (upper) carefully as shown in the illustration.



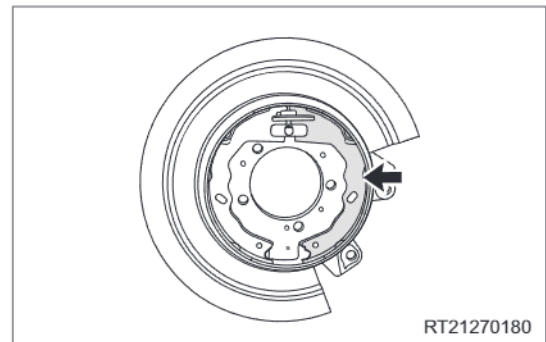
3. Remove the brake shoe return tension spring (lower).
 - a. Using needle-nose pliers, remove the brake shoe return tension spring (lower) carefully as shown in the illustration.



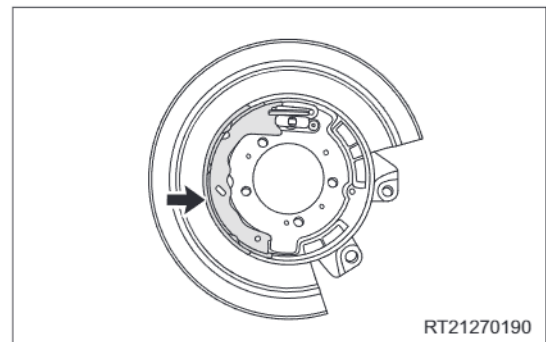
4. Remove the brake shoe clearance adjustment mechanism assembly.
 - a. Disengage the brake shoe linings on both sides and remove the clearance adjustment mechanism assembly as shown in the illustration.



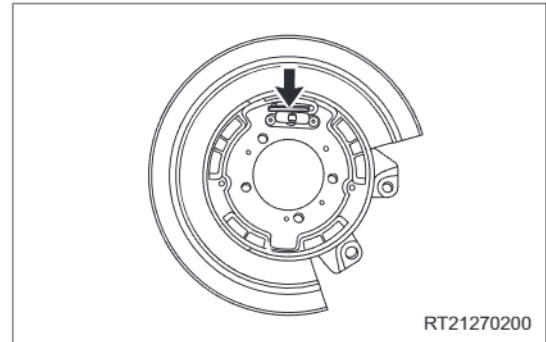
5. Remove the right brake shoe lining.
 - a. Disengage the right brake shoe lining from the parking push rod as shown in the illustration.



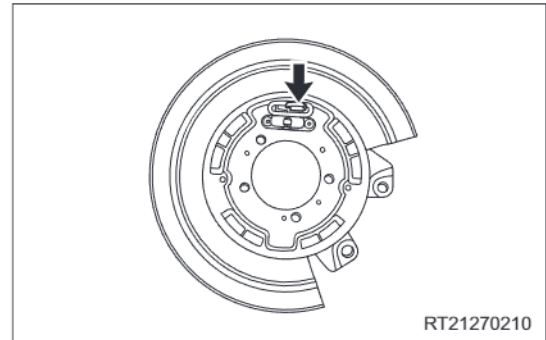
6. Remove the left brake shoe lining.
 - a. Disengage the left brake shoe lining from the parking push rod as shown in the illustration.



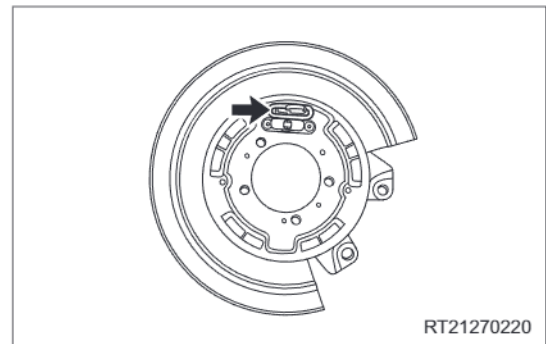
7. Remove the parking push rod.
 - a. Disengage the parking push rod from the parking pulling arm as shown in the illustration.



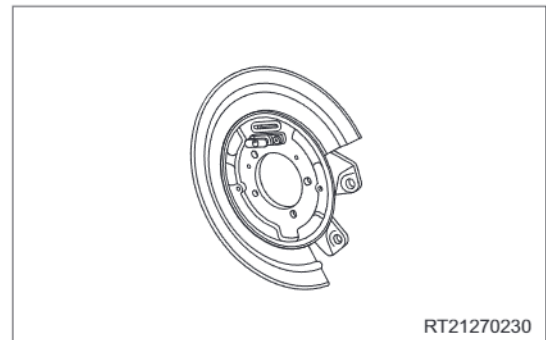
8. Remove the parking pulling arm.
 - a. Remove the parking pulling arm from the parking pulling arm dust boot as shown in the illustration.



9. Remove the parking pulling arm dust boot.
 - a. Disengage the parking pulling arm dust boot from the rear brake bottom board assembly as shown in the illustration.

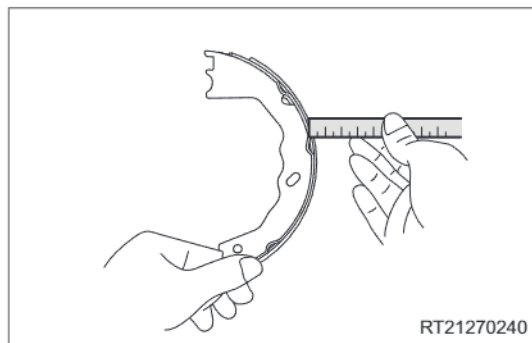


10. Remove the rear brake bottom board assembly.



Inspection

1. Check the thickness of brake shoe lining.
 - a. Using a ruler, measure the thickness of brake shoe lining as shown in the illustration.
Standard thickness: 3 mm
Minimum thickness: 1 mm

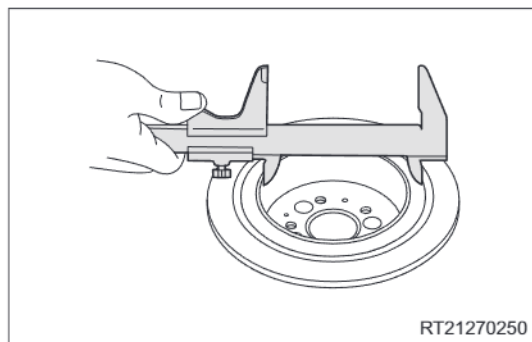


- b. If thickness of brake shoe lining is equal to or less than the minimum value, replace brake shoe lining.

CAUTION

- Replace brake shoe linings in pairs. DO NOT replace it alone.

2. Check the rear brake disc inner diameter.
 - a. Using a vernier caliper or equivalent, measure rear brake disc inner diameter.
Standard inner diameter: 186 mm
Maximum inner diameter: 188 mm



- b. If rear brake disc inner diameter is more than the maximum value, replace rear brake disc.

3. Check other components.
 - a. Check if brake shoe return tension spring (upper) is broken, bent, damaged or elasticity is weak. Replace as necessary.
 - b. Check if brake shoe return tension spring (lower) is broken, bent, damaged or elasticity is weak. Replace as necessary.
 - c. Check if parking push rod and pulling arm is broken, bent or damaged. Replace as necessary.
 - d. Check if parking pulling arm dust boot is worn, cracked or dirty. Replace as necessary.
 - e. Check if brake shoe stopper spring set is broken, bent, damaged or elasticity is weak. Replace as necessary.
 - f. Check if brake shoe clearance adjustment mechanism assembly is struck, damaged or slides off. Replace as necessary.

Assembly

Assembly is in the reverse order of disassembly.

CAUTION

- Adjust brake shoe clearance to the proper position by brake shoe clearance adjustment mechanism assembly after installation is completed.

Installation

Installation is in the reverse order of removal.

CAUTION

- Make sure to tighten fixing bolts and nuts to the specified torque during installation.
- Make sure to install fixing clamp in place.

HINT:

Parking brake should be adjusted after replacing parking brake shoe. Check if parking brake functions properly after adjustment is completed.

- Fully pull up parking brake control mechanism.
- Release parking brake control mechanism and check if rear wheels rotate freely.
- If wheels are difficult to rotate freely, repeat adjustment procedures.
- After driving for a period of time, parking brake control mechanism stroke should be readjusted because of wear of rear brake shoe linings.

