



# Technical Service Bulletin

SUBJECT:		No: <b>TSB-24-35-001</b>	
<b>NOISE FROM BRAKE CALIPER WHEN BRAKING OR TURNING</b>		DATE: <b>April 2024</b>	
		MODEL: <b>See below</b>	
<b>CIRCULATE TO:</b>	<input type="checkbox"/> GENERAL MANAGER	<input checked="" type="checkbox"/> PARTS MANAGER	<input checked="" type="checkbox"/> TECHNICIAN
<input checked="" type="checkbox"/> SERVICE ADVISOR	<input checked="" type="checkbox"/> SERVICE MANAGER	<input checked="" type="checkbox"/> WARRANTY PROCESSOR	<input type="checkbox"/> SALES MANAGER

## PURPOSE

This TSB provides instructions on how to resolve a concern of noise heard from the brake caliper when braking or turning. Please replace the brake pad retainer with a new improved part, upon customer complaint basis.

## BACKGROUND

When braking or turning, noise may be heard from the front brake caliper. The front brake pad retainers have low rigidity and move with pad movement during braking conditions. This movement may cause the retainer to become deformed and cause brake disc interference resulting in the phenomenon.

Replacement with a new improved brake pad retainer and cleaning of the dust on the front brake caliper is necessary. If the front disc rotor is scratched, please conduct on-car lathe resurfacing according to rotor's usage limit parameters. If the rotor's wear limit is exceeded, replace the front disc rotor(s).

## AFFECTED VEHICLES

- 2022-2024 Outlander
- 2023-2024 Outlander Plug-in Hybrid

## REFERENCED SERVICE MANUAL

- 2024\* Outlander Service Manual, Volume 2, Brake System, Basic Inspection
- 2024\* Outlander Plug-in Hybrid Service Manual, Volume 2, Brake System, Basic Inspection

\*2024 Service Manual referenced for TSB purposes



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## PROCEDURE

Refer to the Service Manual as needed along with this bulletin to replace the CLIP SET, FRONT with a new KIT-PAD CLIP.

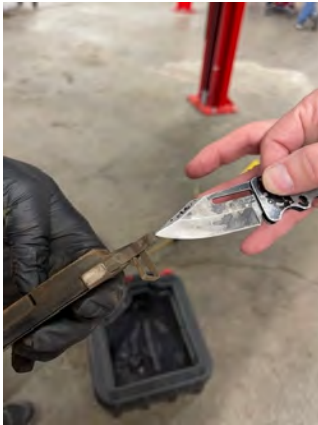
Model	Part Name		Part Number		Quantity	Remarks
	New	Old	New	Old		
Outlander/ Outlander Plug-in Hybrid	KIT-PAD CLIP	CLIP SET,FRONT	41097W020P	4605C332	1pcs/car	1Kit contains 4 pieces. 2 pieces are needed for each side.



Old Part

New Part

**NOTE:** Prior to replacing or reinstalling brake pads, apply anti-friction lubricant/paste to the contact areas shown in the image below.

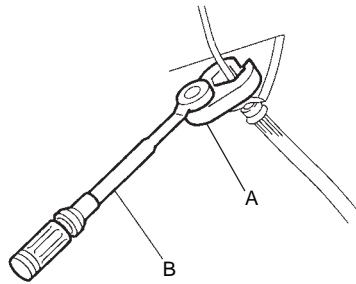


## Precaution for Brake System

### WARNING:

**Since dust covering the front and rear brakes has an affect on human body, the dust must be removed with a dust collector. Never splatter the dust with an air blow gun.**

- Brake fluid use refer to [General Maintenance](#).
- Never reuse drained brake fluid.
- Never spill or splash brake fluid on painted surfaces. Brake fluid may seriously damage paint. Wipe it off immediately and wash with water if it gets on a painted surface. For brake component parts, never wash them with water.
- Always confirm the specified tightening torque when installing the brake pipes.
- After pressing the brake pedal more deeply or harder than normal driving, such as air bleeding, check each item of brake pedal.
- Always clean with new brake fluid when cleaning the master cylinder, brake caliper and other components.
- Never use mineral oils such as gasoline or light oil to clean. They may damage rubber parts and cause improper operation.
- Always loosen the brake tube flare nut with a flare nut wrench.
- Tighten the brake tube flare nut to the specified torque with a crowfoot (A) and torque wrench (B).



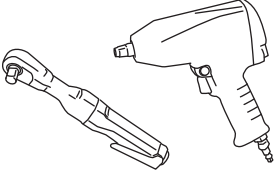

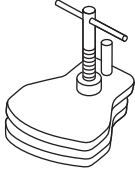
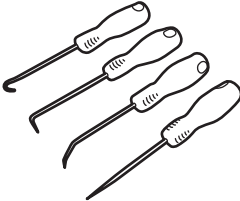
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- Turn the ignition switch OFF and disconnect the ABS actuator and electric unit (control unit) harness connector or the battery negative terminal before performing the work.
- Check that no brake fluid leakage is present after replacing the parts.
- Burnish the brake contact surfaces after refinishing or replacing rotors, after replacing pads, or if a soft pedal occurs at very low mileage.
  - Front brake pad: Refer to Inspection and Adjustment [Inspection and Adjustment](#).
  - Front disc rotor: Refer to [Inspection and Adjustment](#).
  - Rear brake pad: Refer to Inspection and Adjustment [Inspection and Adjustment](#).
  - Rear disc rotor: Refer to Inspection and Adjustment [Inspection and Adjustment](#).

PREPARATION

PREPARATION

Commercial Service Tool

Tool name		Description
Power tool	 <p>CF100A1DAA00USA</p>	Loosening bolts and nuts
Handy vacuum pump	 <p>CF100AJJAA00USA</p>	<ul style="list-style-type: none"> <li>• Air tight</li> <li>• Inspection of check valve</li> </ul>
Brake caliper wrench	 <p>CF100AJKAA00USA</p>	Return the piston
Pick tool	 <p>CF100AJLAA00USA</p>	Removing piston seal and piston boot

Lubricant or/and Sealant


Name	Description	Note
Multi-purpose grease	Clevis pin of brake pedal	—
Repair kit grease, silicone grease	<ul style="list-style-type: none"> <li>• Master cylinder assembly</li> <li>• Brake booster</li> </ul>	—
MOLYKOTE® AS-880N or equivalent	Front brake	Molykote is a registered of Dow Corning Corporation
Front: Repair kit grease, Niglube RX-2 or equivalent Rear: Repair kit grease, rubber grease or equivalent	<ul style="list-style-type: none"> <li>• Front brake</li> <li>• Rear brake</li> </ul>	—

SYSTEM DESCRIPTION

SYSTEM

WARNING/INDICATOR/CHIME LIST

Warning Light/Indicator Light

Name	Design	Layout/Function
Brake warning light		For layout: Refer to <a href="#">Design</a> . For function: <ul style="list-style-type: none"> <li>• For FULL TFT METER: Brake Warning Light <a href="#">Brake Warning Light</a></li> <li>• For 7 INCH INFORMATION DISPLAY: Brake Warning Light <a href="#">Brake Warning Light</a></li> </ul>

BASIC INSPECTION

FRONT DISC BRAKE

DISC ROTOR

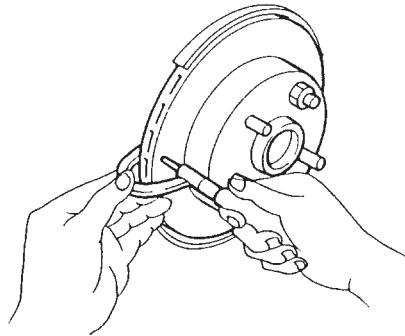
Inspection

INSPECTION

Uneven wear

Check the uneven wear of the disc rotor using a micrometer. Replace the disc rotor if the thickness is below the wear limit.

- For 2WD: Refer to [Removal and Installation](#).
- For AWD: Refer to [Removal and Installation](#).



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Thickness variation [measure the brake disc thickness at minimum eight points which are 10 mm (0.39 inch) inward from its circumference.] : Refer to [Front Disc Brake](#).

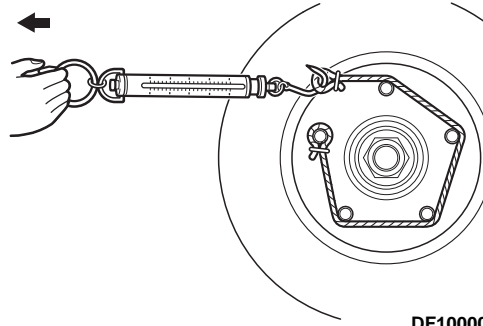
## BRAKE CALIPER ASSEMBLY

## Inspection

## INSPECTION

## BRAKE DRAG FORCE CHECK

1. Remove the brake pad, shim cover and pad retainer (Refer to [Removal and Installation](#)).
2. Using a spring scale, measure the hub sliding torque in the forward direction with the brake pad, shim cover and pad retainer removed.



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3. Install the brake pad, shim cover and pad retainer (Refer to [Removal and Installation](#)).
4. Start the engine, and depress the brake pedal lightly two or three times. Then stop the engine. [Depressing force: approximately 50 - 100 N (11.2 - 22.5 pound)]
5. Turn the brake disc 10 times in the forward direction.
6. Using a spring scale, measure the hub sliding torque in the forward direction with the brake pad, shim cover and pad retainer installed.
7. Obtain the disc brake drag force (difference between measured values of item 2 and item 6).

**Standard value:****68 N (15.3 pound) or less**

8. If the brake drag force exceeds the standard value, disassemble the brake caliper assembly to check for fouling/rust on the piston sliding section and piston seal deterioration, and confirm whether the sliding pins slide properly (Refer to [Disassembly and Assembly](#)).

## REAR DISC BRAKE

## DISC ROTOR

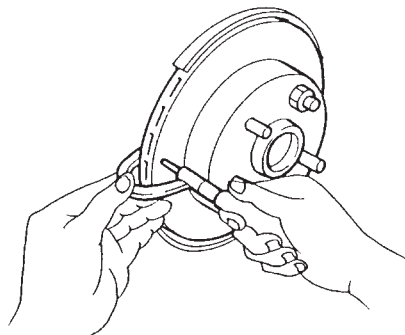
## Inspection

## INSPECTION

## Uneven wear

Check the uneven wear of the disc rotor using a micrometer. Replace the disc rotor if the thickness is below the wear limit.

- For 2WD: Refer to [Removal and Installation](#).
- For AWD: Refer to [Removal and Installation](#).



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Thickness variation [measure the brake disc thickness at minimum eight points which are 10 mm (0.39 inch) inward from its circumference.] : Refer to [Rear Disc Brake](#).

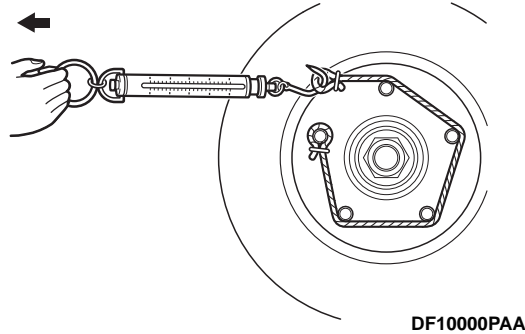
## BRAKE CALIPER ASSEMBLY

## Inspection

## INSPECTION

## BRAKE DRAG FORCE CHECK

1. Remove the brake pad, shim and pad retainer (Refer to [Removal and Installation](#)).
2. Using a spring scale, measure the hub sliding torque in the forward direction with the brake pad, shim and pad retainer removed.



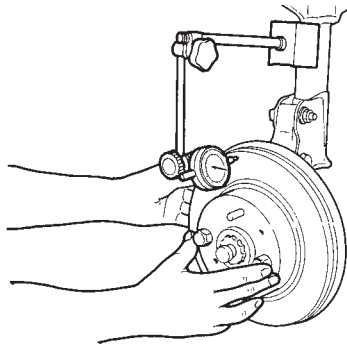
3. Install the brake pad, shim and pad retainer (Refer to [Removal and Installation](#)).
4. Start the engine, and depress the brake pedal lightly two or three times. Then stop the engine. [Depressing force: approximately 50 - 100 N (11.2 - 22.5 pound)]
5. Turn the brake disc 10 times in the forward direction.
6. Using a spring scale, measure the hub sliding torque in the forward direction with the brake pad, shim and pad retainer installed.
7. Obtain the disc brake drag force (difference between measured values of item 2 and item 6).

**Standard value:****68 N (15.3 pound) or less**

8. If the brake drag force exceeds the standard value, disassemble the brake caliper assembly to check for fouling/rust on the piston sliding section and piston seal deterioration, and confirm whether the sliding pins slide properly (Refer to [Disassembly and Assembly](#)).

## Runout

1. Fix the disc rotor to the wheel hub and bearing assembly with wheel nuts (2 points at least).
2. Check the wheel bearing axial end play.
  - For 2WD, refer to Inspection [Inspection](#).
  - For AWD, refer to Inspection [Inspection](#).
3. Inspect the runout with a dial indicator to measure at 10 mm (0.39 in) inside the disc edge.



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Runout (with it attached to the vehicle) : Refer to [Front Disc Brake](#).

4. Find the installation position that has a minimum runout by shifting the disc rotor-to-wheel hub and bearing assembly installation position by one hole at a time if the runout exceeds the limit value.
5. Refinish the disc rotor if the runout is outside the limit even after performing the above operation.

### CAUTION:

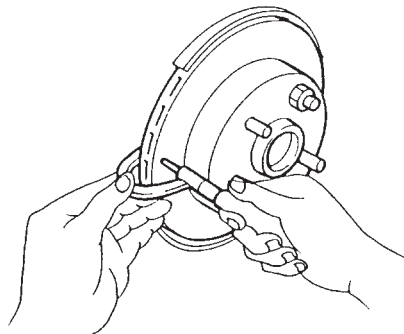
- Check in advance that the thickness of the disc rotor is wear thickness + 0.3 mm (0.012 in) or more.
- If the thickness is less than wear thickness + 0.3 mm (0.012 in), replace the disc rotor.
  - For 2WD, refer to [Removal and Installation](#).
  - For AWD, refer to [Removal and Installation](#).

Wear thickness : Refer to [Front Disc Brake](#).

## Thickness

Check the thickness of the disc rotor using a micrometer. Replace the disc rotor if the thickness is below the wear limit.

- For 2WD, refer to [Removal and Installation](#).
- For AWD, refer to [Removal and Installation](#).



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Wear thickness [measure the brake disc thickness at minimum eight points which are 10 mm (0.39 inch) inward from its circumference.] : Refer to [Front Disc Brake](#).



## ADJUSTMENT

Burnish contact surfaces between disc rotors and brake pads according to the following procedure after refinishing or replacing disc rotor, or if a soft pedal occurs at very low mileage.

### CAUTION:

- Be careful of vehicle speed because the brake does not operate firmly/securely until pad and disc rotor are securely fitted.
- Only perform this procedure under safe road and traffic conditions. Use extreme caution.

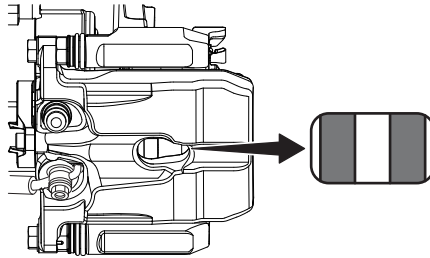
1. Drive vehicle on straight, flat road.
2. Depress brake pedal with the power to stop vehicle within 3 to 5 seconds until the vehicle stops.
3. Drive without depressing brake for a few minutes to cool the brake.
4. Repeat steps 1 to 3 until pad and disc rotor are securely fitted.

## REAR DISC BRAKE BRAKE PAD

### Inspection and Adjustment

## INSPECTION

Check brake pad wear thickness from an inspection hole on cylinder body. Check using a scale if necessary.



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Wear thickness : Refer to [Rear Disc Brake](#).

## ADJUSTMENT

Burnish contact surfaces between disc rotor and brake pads according to the following procedure after refinishing or replacing brake pads, or if a soft pedal occurs at very low mileage.

### CAUTION:

- Be careful of vehicle speed because the brake does not operate firmly/securely until pads and disc rotor are securely fitted.
- Only perform this procedure under safe road and traffic conditions. Use extreme caution.

1. Drive vehicle on straight, flat road.
2. Depress brake pedal with the power to stop vehicle within 3 to 5 seconds until the vehicle stops.
3. Drive without depressing brake for a few minutes to cool the brake.
4. Repeat steps 1 to 3 until pad and disc rotor are securely fitted.

## DISC ROTOR

### Inspection and Adjustment

## INSPECTION

### Appearance

Check surface of disc rotor for uneven wear, cracks, and serious damage. Replace it if necessary.

- For 2WD, refer to [Removal and Installation](#).
- For AWD, refer to [Removal and Installation](#).

## PARTS INFORMATION

Model	Part Name		Part Number		Quantity	Remarks
	New	Old	New	Old		
Outlander/ Outlander Plug-in Hybrid	KIT-PAD CLIP	CLIP SET,FRONT	41097W020P	4605C332	1pcs/car	1Kit contains 4 pieces. 2 pieces are needed for each side.

## WARRANTY

This bulletin is supplied as technical information only and is not an authorization to repair. If an affected vehicle is reported with the described condition, diagnose the condition, repair as described in this bulletin, and submit a normal warranty claim using the information below.

Operation Code	Front clip		Front disc						Work Time
	1 side	Both side	1 side			Both side			
			Replace	Grind	Remove Install	Replace	Grind	Remove Install	
352251NE	○								0.5
352251NF	○		○						0.9
352251NG	○			○					1.3
352251NH	○				○				1.0
352251MP		○							0.6
352251NJ		○	○						0.9
352251NA		○				○			1.1
352251NB		○					○		1.9
352251NK		○						○	1.1

- When replacing the Disc rotor (352251NF,352251NJ,352251NA) record the result to the Brake Disc Check Sheet (next page). Claims for rotors without the Check Sheet will not be accepted.
- When lathe resurfacing is outsourced, select 352251NH or 352251NK and use work code 99.

**BRAKE DISC CHECK SHEET**

MODEL:	
VIN:	
MILEAGE:	
LAPSED DATE (FROM SHIPPING TO SOLD DATE):	

Front Disc Brake	Item	Limit*1	Measurement Data
	Wear thickness	27.4 mm (1.079inch)	

\*1: Refer to BRAKES - BRAKES SYSTEM - PERIODIC MAINTENANCE - FRONT DISC BRAKE - DISC ROTOR for front Disc Brake Wear thickness measurement.