

General Service Bulletin (GSB):	Brake Disc Servicing Tips
GSB Overview:	This bulletin is a supplement to Workshop Manual (WSM) procedures. The purpose is to assist the dealership technician with determining the correct procedure for warranty repairs.
NOTE: This information is not intended to replace or supersede any warranty, parts and service policy, Work Shop Manual (WSM) procedures or technical training or wiring diagram information.	

CONTENTS

- Requirements for Warranty..... page 1-3
- Improper Machining page 4
- Rusted/Pitted page 5
- Cracks..... page 6
- Grooving/Scoring..... page 7-8

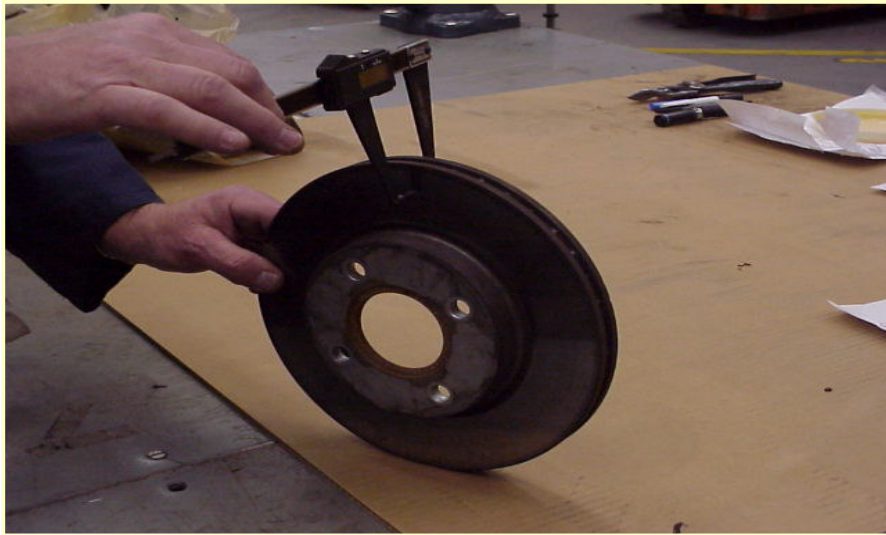
REQUIREMENTS FOR WARRANTY

- 1) Follow the Workshop Manual for proper diagnosis and repair.
 - If the disc can not be machined / resurfaced - replace the disc and determine warranty eligibility per the Warranty & Policy Manual.
 - If the disc is to be replaced – you **MUST** also record thickness measurements on the brake disc surface in paint pen or permanent marker (see attached example).

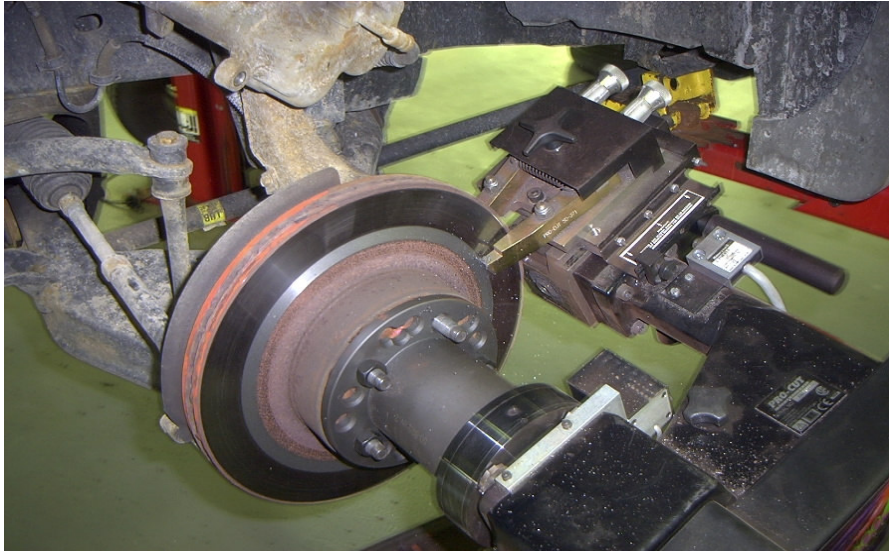


NOTE: Do not use a regular micrometer as you may get incorrect readings. You must also zero the brake micrometer before taking measurements to prevent errors.

- 2) Using a brake micrometer, measure the brake disc in at least 4 places to determine thickness. Take the measurements 2/3 of the way towards the outer edge of the disc.



- 3) Check brake disc minimum thickness specification. Refer to Specifications in WSM Section 206-00.
- 4) If the brake disc thickness is greater than the minimum thickness specification and the machining (turning) process will not reduce the thickness below the minimum specification, perform on-vehicle brake disc machining. Refer to General Procedures in WSM Section 206-00.



EXAMPLE – The minimum thickness specification of the vehicle you are working on is 1.122 inches (28.5 mm). You measure the disc to be 1.200 inches (30.5 mm). Based on the smallest of the 4 measurements recorded, machining will require 0.024 inch (.61 mm) of thickness be removed.

The thickness after machining would be 1.176 (29.9 mm). This is greater than the minimum specification. The brake disc should be machined.

- 5) Determine warranty eligibility using the Warranty & Policy Manual and this bulletin as reference.

IMPROPER MACHINING

Description: The brake disc has machining marks or a chattering appearance across the surface.

Cause: This is the result of incorrect machining. Potential root causes could be depth of cut was too great, speed of the cutter was too fast or too slow, the angle of the cutting bit was incorrect, worn cutting bits, or vibration/silencer not installed.

Repair: The brake disc can be re-machined if there is enough remaining thickness. If the disc cannot be machined the brake disc must be replaced.

Warranty Status: Not warrantable – technician error.



In this example – it appears the brake disc may have been in contact with a surface sander or grinding wheel of some sort. This would not be warrantable.

RUSTED OR PITTED SURFACE

Description: The brake disc has the rust or pitting across the surface.

Cause: Exposure to the elements.

Repair: The brake disc can be re-machined if there is enough remaining thickness. If the disc cannot be machined the brake disc must be replaced.

Warranty Status:

- Rust or pitting on the pad contact surface area which results in a brake noise or vibration is warrantable during the coverage period. Refer to Warranty and Policy Manual.
- Surface rust that does not cause a vibration concern and does not affect the braking performance is not warrantable.



In this example – the customer returned the vehicle for a brake vibration during the coverage period. The surface is heavily rusted causing the concern. This repair would be warrantable.

CRACKED BRAKE DISC

Description: The brake disc has a crack.

Cause: Possible impact damage, material defect or excessive heat.

Repair: Replace the brake disc. Do not attempt to machine / resurface a part which is cracked.

Warranty Status:

- Warrantable within coverage period unless cracking is the result of accident or impact damage.
- Non-Warrantable – Impact or accident damage caused the crack. Witness marks on the car and/or brake disc.



In this example, there was no evidence of impact damage or collision so the repair would be warrantable if within warranty coverage period. Refer to Warranty and Policy Manual.

GROOVED OR SCORED SURFACE

Description: The brake disc has grooves or scoring marks in the surface

Cause: Grooving or scoring can be caused by a faulty component, trapped foreign object or failure to replace the brake pads when required. However some amount of grooving/scoring is a result of normal wear.

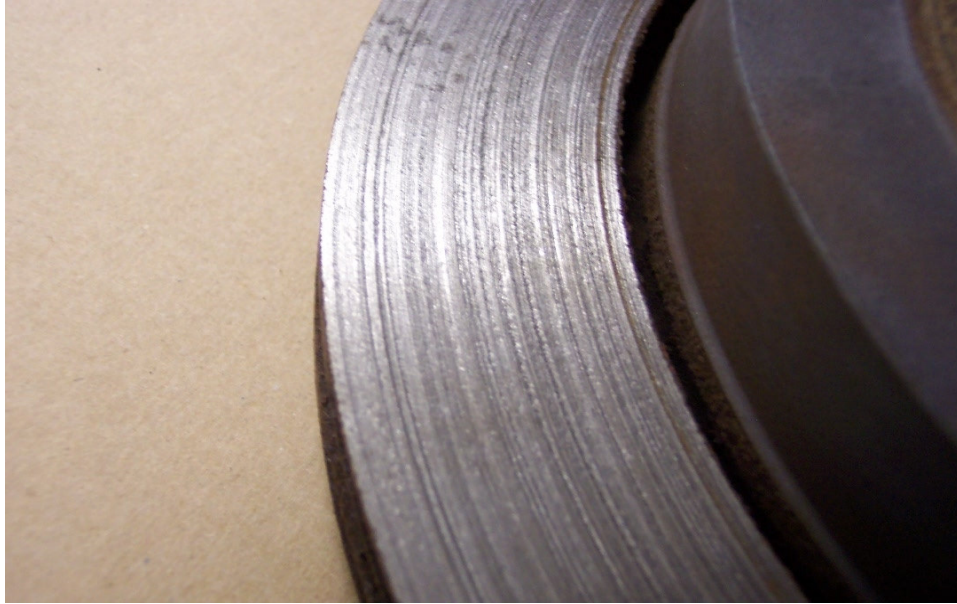
Repair: Generally, minor grooving less than 0.078 in (2 mm) is not an issue and should not be addressed. In cases where severe grooving or scoring of 0.078 in (2 mm) or more exists, or if the the customer expresses concern of brake roughness, brake disc can be re-machined if there is enough remaining thickness. If the brake disc cannot be machined it must be replaced. In cases of severe grooving, inspect the brake pad to determine if there is an object caught up in the pad causing the grooving.

Warranty Status:

- Warrantable - If the grooving results from wear during coverage period and causes a customer concern or if another covered component failed. For example: Retainer lodged between the pad and brake disc.
- Non – Warrantable – Normal wear or foreign object damage.



In this example, deep grooves exist and measuring determined that machining / resurfacing would take the material below the minimum thickness specification. The brake pads had worn down to the backing plate through normal use and this brake disc was not eligible for warranty.



In this example, the scoring was able to be machined without reducing thickness below the minimum specification in the WSM. This disc was machined but it was determined the normal warranty coverage for wear was exceeded and the repair was customer responsibility.