

2022 CHEVROLET CORVETTE SERVICE MANUAL

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Brake Rotor Refinishing

Note:

The rear brake J55 brake rotors should not be machined. This is due to the coating at the bottom edge of the rotor's braking surface will be removed during the machining procedure. This may lead to surface corrosion.

Special Tools

- CH-41013, Rotor Resurfacing Kit
- CH-42450-A, Wheel Hub Resurfacing Kit

Equivalent regional tools: Special Tools

The disc brake rotors do not require refinishing as part of routine brake system service. New disc brake rotors do not require refinishing.

Do not refinish disc brake rotors in an attempt to correct the following conditions:

- Brake system noise "squeal, growl, groan"
- Uneven and/or premature disc brake pad wear
- Superficial or cosmetic corrosion/rust of the disc brake rotor friction surface
- Scoring of the disc brake rotor friction surface less than the maximum allowable specification

Before refinishing a brake rotor, the rotor MUST first be checked for adequate thickness to allow the rotor to be refinished and remain above the minimum allowable thickness after refinish specification. Brake Rotor Thickness Measurement

Disc brake rotors should only be refinished if they have adequate thickness to be refinished. A rotor can be refinished if one or more of the following conditions exists (DO NOT refinish for cosmetic reasons):

- Thickness variation and/or lateral runout are in excess of the maximum allowable specification
- Excessive corrosion/rust and/or pitting on the braking surface
- Excessive blueing discoloration and/or heat spots on the braking surface
- Scoring of the disc brake rotor surface in excess of the maximum allowable specification

Disc brake rotors may need to be refinished as part of the process for correcting brake rotor assembled lateral runout (LRO) that exceeds the maximum allowable specification.

If the vehicle is equipped with cross-drilled rotors, use a lathe with positive rake tooling. This setup requires less cutting pressure, which will result in less vibration, and a better surface finish. Also, use a vibration dampener when cutting. Otherwise, refinish according to the following instructions.

1. Note:

Whenever the brake rotor has been separated from the hub/axle flange, clean any rust or contaminants from the hub/axle flange and the brake rotor mating surfaces. Failure to do this may result in increased assembled lateral runout (LRO) of the brake rotor, which could lead to brake pulsation.

2. Using the CH-42450-A, Wheel Hub Resurfacing Kit, thoroughly clean any rust or corrosion from the mating surface of the hub/axle flange.
3. Using the CH-41013, Rotor Resurfacing Kit, thoroughly clean any rust or corrosion from the mating surface and mounting surface of the brake rotor.

4. Inspect the mating surfaces of the hub/axle flange and the rotor to ensure that there are no foreign particles or debris remaining.
5. Mount the brake rotor to the brake lathe according to the lathe manufacturer's instructions, ensuring that all mounting attachments and adapters are clean and free of debris.
6. Ensure that any vibration dampening attachments are securely in place.
7. With the brake lathe running, slowly bring in the cutting tools until they just contact the brake rotor friction surfaces.
8. Observe the witness mark on the brake rotor. If the witness mark extends approximately three-quarters or more of the way around the brake rotor friction surface on each side, the brake rotor is properly mounted to the lathe.
9. If the witness mark does not extend three-quarters or more of the way around the brake rotor, re-mount the rotor to the lathe.
10. Following the brake lathe manufacturer's instructions, refinish the brake rotor.
11. After each successive cut, inspect the brake rotor thickness. Brake Rotor Thickness Measurement
12. If at any time the brake rotor exceeds the minimum allowable thickness after refinish specification, the brake rotor must be replaced.
13. After refinishing the brake rotor, use the following procedure in order to obtain the desired non-directional finish:
 14.
 1. Follow the brake lathe manufacturer's recommended speed setting for applying a non-directional finish.
 2. Using moderate pressure, apply the non-directional finish:
 3.
 - If the lathe is equipped with a non-directional finishing tool, apply the finish with 120-grit aluminum oxide sandpaper.
 - If the lathe is not equipped with a non-directional finishing tool, apply the finish with a sanding block and 150-grit aluminum oxide sandpaper.
 4. Note:

Thoroughly cleaning the brake rotor will prevent the possible transfer of fine metal dust left as a by-product of machining to the brake pad material during the burnishing process, thereby reducing the possibility for brake squeal or other brake noises to occur.
 5. After applying a non-directional finish, clean each friction surface of the brake rotor with a solution of mild dish washing detergent and water, or a GM approved brake cleaner and a clean shop towel to remove metal particles remaining from machining. Repeat the cleaning process if necessary to remove all metal particles.
15. Remove the brake rotor from the brake lathe.
16. Measure the assembled LRO of the brake rotor to ensure optimum performance of the disc brakes. Brake Rotor Assembled Lateral Runout Measurement
17. If the brake rotor assembled LRO measurement exceeds the specification, bring the LRO to within specifications. Brake Rotor Assembled Lateral Runout Correction