Brake Disc Machining

Base Part Number: 1102

Repair

NOTE: ***On-Vehicle Brake Lathe Training Videos***

1. Vehicle preparation.

Click here to view a video version of this procedure.

2. Mounting the machine.

Click here to view a video version of this procedure.

3. Lateral runout adjustment.

Click here to view a video version of this procedure.

4. Making the cut.

Click here to view a video version of this procedure.

5. Cutting the opposite side.

Click here to view a video version of this procedure.

6. Lathe maintenance.

Click here to view a video version of this procedure.

Repair

NOTE: ***On-Vehicle Brake Disc Machining***

NOTE: *Do not use a bench lathe to machine the brake discs. Use an on-vehicle brake lathe only. Read the*

entire operating manual and/or view the video shipped with the lathe before installing, operating or repairing the lathe.

NOTE: *Lateral runout and disc thickness variation measurements are not required because correct adjustment of the on-vehicle brake lathe will make sure that these dimensions are within specification.*

1. **WARNING: Service actions on vehicles equipped with electronic parking brakes may cause unexpected parking brake application, which could result in injury to hands or fingers. Deactivate the electronic parking brake system prior to servicing or removing rear brake components. Failure to follow this instruction may result in serious personal injury.**

   If a rear brake disc is being machined, activate the EPB service mode.
   Refer to: Electronic Parking Brake (EPB) Service Mode Activation and Deactivation (206-05 Parking Brake and Actuation) .

2. Remove the wheel and tire.
   Refer to: Wheel and Tire (204-04A Wheels and Tires, Removal and Installation).

3. **NOTICE: Do not allow the caliper to hang from the brake hose or damage to the hose may occur.**

   NOTE: *It is not necessary to disconnect the brake hose from the brake caliper.*

   Remove the bolts and position brake caliper and anchor plate assembly aside. Support the brake caliper and anchor plate using mechanic's wire.

4. **NOTICE: On some vehicle applications the axle on the opposing side may rotate during the machining process. On these applications the brake disc must be secured or damage may occur.**

   If necessary, secure the opposing brake disc by installing 2 wheel nuts finger tight.

5.
   - Install the hub adapter using four wheel nuts on a 4, 7 or 8-stud wheel hub.
   - Install the hub adapter using five wheel nuts on a 5 or 10-stud wheel hub.
   - Install the hub adapter using six wheel nuts on a 6-stud wheel hub.

6. Install the cutting lathe.

7. **NOTE:** *An on-vehicle brake lathe with an automatic runout adjustment feature is preferred. However, if the lathe is not self adjusting, the lathe oscillation must be adjusted using a dial indicator. The total indicated runout target is 0.000 mm (0.000 in). The maximum indicated runout should be no more than 0.050 mm (0.002 in). If the runout adjustment (automatic or manual) is carried out correctly prior to machining, then the final brake disc runout will be within specification and a runout measurement is not necessary after machining.*

   If the lathe is not self-adjusting, adjust the lathe oscillation using a dial indicator.

8. Center the cutting head, adjust the cutting bits and install the chip deflector/silencer.

9. **NOTE:** *The depth of the cut should be between 0.10 and 0.40 mm (0.004 and 0.015 in). Lighter cuts will cause the bit to heat up and wear faster. Heavier cuts will cause poor brake disc surface finish.*

   Machine the brake disc.

10. Remove the lathe and the silencer.

11. Remove the wheel nuts and hub adapter.

12. Remove the metal shavings.

13. Measure the brake disc thickness. If the measurement is below the minimum specification, install a new brake disc.
    Refer to: Brake Disc (206-03 Front Disc Brake, Removal and Installation).
    Refer to: Brake Disc (206-04 Rear Disc Brake, Removal and Installation).

14. If previously installed, remove the 2 wheel nuts securing the opposing brake disc.

15. **NOTE:** *It is not required to install new brake pads if friction material is within specifications.*

    Position the brake caliper or brake caliper and anchor plate assembly and install the bolts.
    Refer to: Brake Caliper Anchor Plate (206-03 Front Disc Brake, Removal and Installation).
    Refer to: Brake Caliper Anchor Plate (206-04 Rear Disc Brake, Removal and Installation).

16. Install the wheel and tire.
    Refer to: Wheel and Tire (204-04A Wheels and Tires, Removal and Installation).

17. If the EPB service mode was activated, deactivate the service mode.
    Refer to: Electronic Parking Brake (EPB) Service Mode Activation and Deactivation (206-05 Parking Brake and Actuation) .