

# INSTALLATION INSTRUCTIONS

# BRAKE ALIGN™

LATERAL RUNOUT CORRECTION PLATES



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## WHERE TO START

- 1) Remove the wheel assembly from the vehicle.
- 2) Remove the caliper bracket from the spindle assembly and suspend out of the way.
- 3) Remove the rotor from the hub.
- 4) Thoroughly clean both the hub face and internal mating section of the rotor. Use hub cleaner as necessary.
- 5) Before resurfacing, measure the rotor for “minimum thickness” specification.

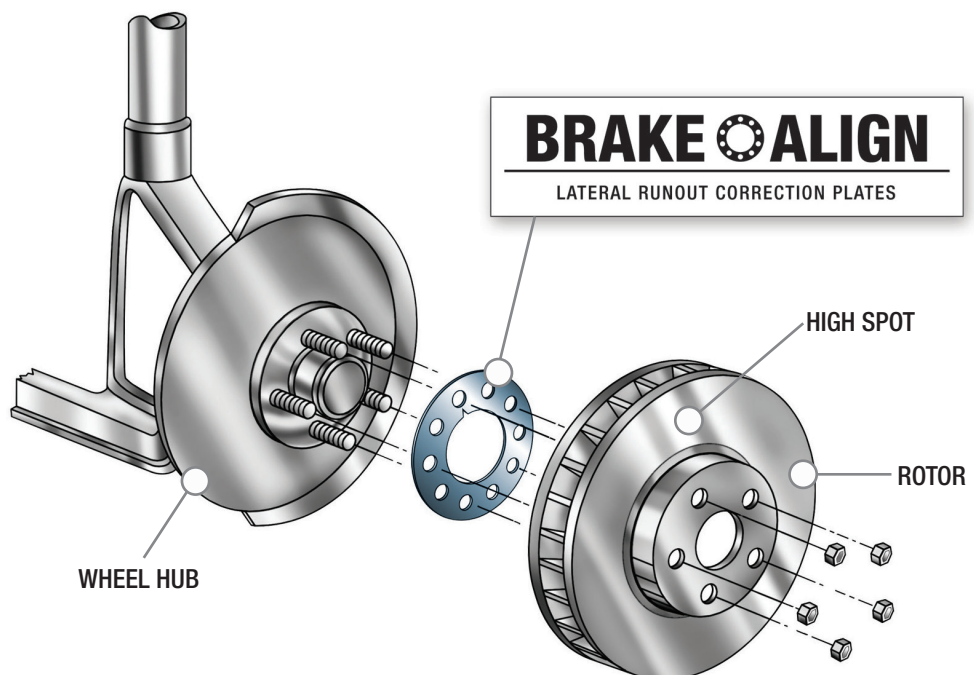
## ROTOR RESURFACING INSTRUCTIONS (IF APPLICABLE)

If machining equipment is not available, please see your local NAPA AUTO PARTS or RAYBESTOS dealer. Skip to the “How to Install Brake Align Correction Plates” section below.

- 6) Prior to machining on the bench lathe, check to see that the lathe is properly maintained and adjusted. Make sure all mounting surfaces are clean and free from debris. Re-true bell clamps as necessary.
- 7) Install rotor onto lathe arbor and resurface rotor as needed.
- 8) Re-install rotor onto vehicle hub with supplied conical washers and secure all lug nuts to proper torque.
- 9) Install dial indicator and measure rotor’s lateral run-out.
- 10) **If the run-out is less than 0.002”** (or manufacturer’s specification), the remaining brake service may now be completed. NOTE: Leave rotor torqued down until calipers have been installed and are up to full pressure.
- 11) **If the run-out is greater than 0.002”** (or manufacturer’s specification).  
PLEASE CONTINUE TO THE STEPS BELOW TO CORRECT FOR EXCESSIVE LATERAL RUN-OUT.

## HOW TO INSTALL BRAKE ALIGN CORRECTION PLATES

- A) With dial indicator still in position, find the exact AMOUNT and LOCATION of maximum run-out or HIGH SPOT.
- B) Use a marker to indicate the location of maximum run-out. **Mark both the rotor and the closest wheel stud at the location of maximum run-out.** When HIGH SPOT is exactly between studs, mark both studs.
- C) Remove rotor from the hub.
- D) Select the appropriate Brake Align™ Lateral Runout Correction Plate for the vehicle and select appropriate SIZE for the amount of run-out measured on the dial indicator.
- E) Carefully remove the hub correction plate from it’s package. **Take caution not to bend or damage this precisely machined plate.**
- F) Install the hub correction plate between the hub and the rotor as shown below.
- G) Note the “V notch” on the hub correction plate. When installing onto the vehicle hub, make sure to align this “V notch” with the wheel stud marked earlier for LOCATION of maximum run-out. If HIGH SPOT was between studs, align the “V notch” between both marked studs.
- H) Re-install rotor onto the vehicle hub with the hub correction plate in the proper position. Secure rotor using all lug nuts and conical washers then properly torque.
- I) Use the dial indicator to check that run-out is now less than 0.002” (or manufacturer’s specification).  
NOTE: Leave rotor torqued down until calipers have been installed and are up to full pressure.





## QUICK FACTS

# BRAKE ALIGN™

### LATERAL RUNOUT CORRECTION PLATES



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## ALWAYS MEASURE FOR LATERAL RUN-OUT

An important step in the perfect brake job is to measure for lateral run-out. Lateral run-out directly impacts pedal pulsation, brake noise, brake life and ultimately your customer's safety. It also has a lot to do with comebacks!

If a vehicle leaves your shop with lateral run-out greater than specified by the manufacturer, your customer won't feel any vibration or pedal pulsation. But the pad will contact the rotor every revolution, without the brake pedal being applied. Over time this will cause thickness variation. Most technicians attribute this to "warped rotors" and machine them. That may temporarily correct the thickness variation, but failed to address the real problem. That is why it is critical to clean the hub surface and check for lateral run-out every time you do brake service.

## WHEN TO USE BRAKE ALIGN CORRECTION PLATES

If you have checked the rotor for run-out with your dial indicator and can't correct it by indexing the rotor, you may need hub correction plates. Even a "Premium" rotor will have run-out if it is put on a hub with run-out or corrosion. By using hub correction plates you can easily address lateral run-out symptoms, eliminate comebacks and extend brake and rotor life.

Nucap®'s Brake Align™ Lateral Runout Correction Plates are designed to correct lateral run-out up to 0.009". If it is determined that lateral run-out is greater than 0.009", it must first be determined whether the hub or the rotor is the cause. If the hub has been cleaned and is within specs then the rotor will need to be machined or replaced.

## HOW TO INSTALL BRAKE ALIGN CORRECTION PLATES

DESCRIPTION	PART NUMBER
Conical Washers (10 pk.)	BA 950120
Car Hub/Wheel Stud Cleaning Tool w/Pads	BA 950300
Car Replacement Cleaning Tool Pads (10 pk.)	BA 950400
Marker	BA 950500
Vise Grip Dial Indicator & Gauge	BA 951020
Replacement Gauge	BA 951021
Truck Replacement Cleaning Tool Pads (10 pk.)	BA 951375
Truck Hub/Wheel Stud Cleaning Tool w/Pads	BA 951400
Application Chart - Form No. NBHCPA*	

\*Contact your Nucap Brakes DSM to order.

## OTHER ITEMS TO HAVE ON HAND

Wire brush

120- to 150-grit sandpaper with sanding block