



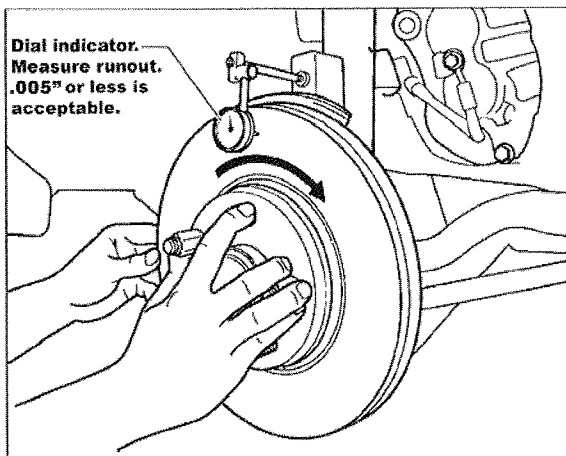
NOTE: BRAKES ARE A CRITICAL SAFETY PART OF A MOTOR VEHICLE.

Brake components should be installed by a competent mechanic in a professional manner. Any incorrect installation of brake components can cause a major safety problem or an accident. If you are not a competent qualified mechanic and/or do not have the factory service manual for your vehicle you should not attempt to install these products, but should take the vehicle to a vehicle dealer or competent ASE certified automotive technician for their installation.

Brake Pedal Pulsation Conditions

Improper bedding of a vehicle brake system and/or improper pad selection for specific driving conditions is the most common cause of brake pedal vibrations and/or steering wheel judder. If the brake system is not properly bedded-in, or non recommended brake pads are used, uneven pad deposits could occur causing an ever-worsening vibration. Permanent damage to the rotors may occur if uneven pad deposit issues are not immediately addressed.

Vibration may also be caused by rotor runout issues. Power Slot's precision manufacturing and inspection processes typically means that this will not be an issue UNLESS the brake rotor is mounted to a contaminated or out-of-specification wheel hub. All Power Slot Rotor assemblies are inspected for runout prior to shipment to ensure quality.

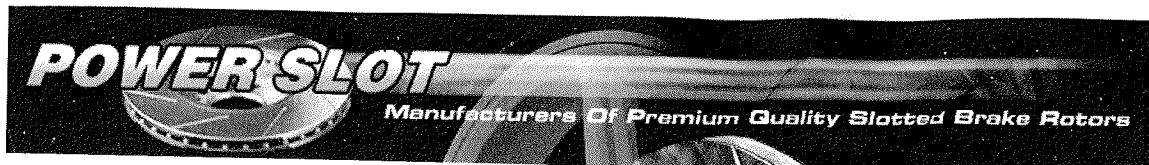


To ensure proper brake rotor to wheel hub mounting tolerances and to eliminate future brake pulsation issues caused by out-of-round and contaminated wheel hubs we highly recommend performing a Brake Rotor Assembled Lateral Runout (LRO) Measurement during the installation of this product. The runout specifications must be within the tolerances provided in your vehicle's service manual before the vehicle is driven

PLEASE REMEMBER: If a brake rotor assembled lateral runout (LRO) exceeds the vehicle manufacture's maximum allowable specification it will cause a brake rotor thickness variation to develop in the brake rotor over time, usually between **3,000 - 7,000 miles**. This thickness variation issue can cause brake judder and should not be confused with thermal heat brake rotor distortion.

Note: BEFORE starting the break in procedure Cadmium plated rotors must be driven with light braking action until plating is worn off. Do not brake aggressively for the first 10 to 20 miles

If you have any questions about rotor and pad installation, break in procedures or general brake questions please contact our technical department @ 818-709-4800 x24 or email us at tech@powerslot.com



Q: What causes brakes to squeal?

A: Brake squeal is caused by the pads vibrating against the caliper/piston (vibration=noise=squeal). There are a number of reasons why a vehicle can experience brake squeal after a fresh installation. Maintenance will be required if you experience brake squeal for any of the following reasons:

- Loose fitting brake in the caliper
- Loose fitting or missing brake hardware (i.e. shims, anti-rattle clips)
- Loose lug nuts or caliper hardware
- Debris caught between the rotor and the surface of the brake pad

Q: During installation what can I do to ensure my brakes won't squeal?

A: First, choose a high quality Ferro Carbon/Carbon Metallic disc brake pad that is rated for your vehicle's weight and your most frequent driving conditions as your upgrade. The next best steps you can take to avoid having noisy brakes are:

- Wash and dry the rotor with a mild soap solution to rid of any debris
- Install the pads with new brake caliper hardware according to the service manual
- Properly bed-in the pads according to instruction
- Apply a very thin layer of high temperature caliper grease on the back of the brake pads and all brake pad and brake caliper metal to metal contact areas. **Do not get any grease on the pad surface that contacts the brake rotor!**

Q: What causes a rotor to distort from excessive thermal heat (warp)?

A: Distortion may result from excessive heat generated during braking, overtightened attachment bolts, overtightened lug nuts, brake calipers that fail to release, or anything else that overheats or stresses the rotors. New rotors are more susceptible to thermal heat distortion from the following conditions.

- Over and under tightening of lug nuts. As little of 5 lbs of difference between lug nut torque can cause rotor hub distortion under extreme high heat conditions
- Dragging brake calipers. Brake drag usually results from a piston or pistons not fully retracting or from lack of lubrication on caliper guide pins or slides. During the brake rotor break in procedure brake pads that fail to release from the newly installed brake rotor will normally cause the new rotor to severely overheat and possibly distort

Q: During installation what can I do to protect my rotors from thermal heat distortion (warpage)?

A: Use the installation technique and torque specifications that are listed in your service manual. The next best steps you can take to prevent brake thermal heat distortion is:

- Use a torque wrench. It does not have an attachment for an air hose. Snug the lug nuts down, then torque to half the manufacture's specs, the torque to the final specs.
- Replace high mileage brake calipers when replacing the brake rotors and brake pads.
- In low mileage brake calipers lightly wire brush all brake pad contact areas in order to remove any corrosion and lubricate the caliper pins and or slides with high temperature silicone lubricant.
- Break in your new brake rotors and pads by using the break in procedure. Do not come to a complete stop between cycles and/or leave your foot on the brake pedal when hot because you will leave a pad imprint on the rotor, causing a vibration. Nearly every occurrence of "warped" rotors is attributed from this type of uneven brake pad material release.