WINHERE Technical Service Bulletin

Subject: Brake Rotor Plate Thickness Variation

Vehicles: All Passenger Cars and Light Trucks

Concern: The image below is of an OEM rotor that is designed intentionally with different inboard and outboard braking plate thicknesses. This rotor fits 2006 and newer Chevrolet and Buick midsize sedans. There are several other OEM rotors that are intentionally designed this way. In addition, every rotor will have some thickness variation between the inboard and the outboard braking plates, but most of the time it is not visible with the eye. However, the machining tolerances are such, that there may be a visual difference between plates, but the plate thickness and the air gap are still within tolerances.

WINHERE **Technical Service Bulletin**

Subject: Brake Pad/Rotor Burnishing And Bedding In

Vehicles: Procedure All Vehicles

Condition: All new brake pads need to be properly "bedded-in" with the rotor braking surface, to maximize brake performance and minimize noise or vibration. The bed-in process involves a gradual buildup of heat in the rotors and the brake pad compound. Essentially it is the process of depositing an even layer of brake pad material, on the braking surface of the rotor. If the bed-in process is not performed correctly, uneven pad deposits will occur on the rotor surface and cause thickness variation. Thickness variation, in turn will lead to brake vibration (Judder or Pulsation). It only takes a small amount of thickness variation (.0051mm/ .0002") to start a brake vibration. The vibration will not be immediately felt, but as the pad starts wearing on the high spots, more and more thickness variation will occur, until it is felt as a vibration. ***This is often misdiagnosed as a warped rotor***.

There is much debate among OE manufacturers and aftermarket manufacturers as to a correct procedure for properly bedding in new brake pads. We have taken our years of experience, combined with industry best practices and developed a simple, yet effective 3 step procedure.

1. **30 moderate to firm (not locking wheels or causing ABS to engage) stops from 60 km/h (30 mph) down to 8 km/h (5 mph), not coming to a complete stop during entire process**
2. **Allow 30 seconds of cooling between stops**
3. **Avoid panic stops or severe braking situations for 300 kilometers (200 miles)**

WINHERE Technical Service Bulletin

Subject: **Drum and Rotor Handling**

Products: All Drums and Rotors

Concern: Excessive run out or an out of round condition due to improper drum and rotor handling. All drums and rotors are manufactured to very specific tolerances prior to being shipped from our factory. Excessive run out or an out of round condition usually occurs as a result of mishandling, improper storage or improper shipping techniques. The most common occurrences are double stacking of drum pallets; dropping a drum/rotor or storing drums on edge. We have added to every drum box “Stock flat, not on edge”. Also please take note that all drum pallets contain a label warning against double stacking of pallets.

Always handle drums and rotors with care, as they are precision manufactured and machined components

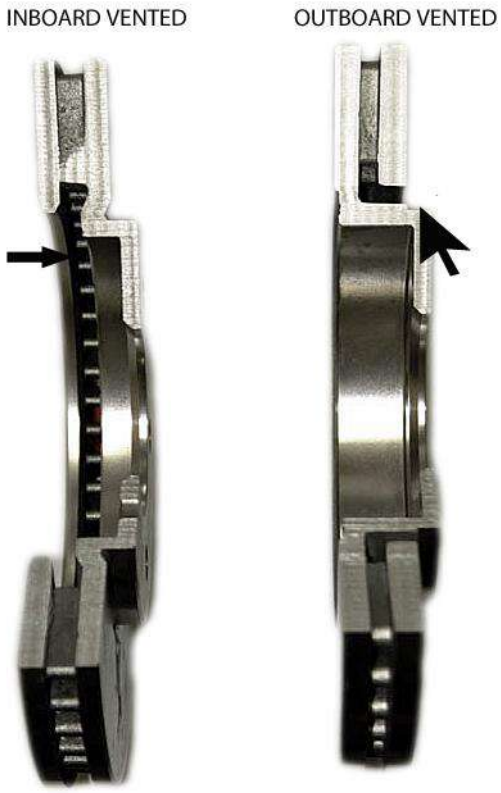
NEVER drop a drum or rotor
NEVER double stack drum pallets
NEVER store drums on edge

WINHERE Technical Service Bulletin

Subject: Inboard or Outboard Vented Rotors

Vehicles: 1993-2004 Sedans and Minivans

Concern: Certain cars and or minivan applications may have two different rotor choices. It may be described as ***Inboard Vented*** or ***Outboard Vented***. An ***Inboard Vented*** rotor draws air in from the inside of the rotor, around the hub. An ***Outboard Vented*** rotor draws air from the outside of the rotor, near the wheel. All of the rotor dimensions are identical. However, you **CANNOT** substitute the rotors. Please use the image below as a guide.



WINHERE **Technical Service Bulletin**

Subject: **Lightweight**

Vehicles: **Rotors** All

Concern: There are increasing numbers of lightweight/thin plate (bottom rotor) rotors showing up in the market lately. A rotor is considered "lightweight" when it contains 7-25% ***less*** mass than the Original Equipment rotor. One of the primary functions of the brake rotor is to dissipate heat away from the brake pads and calipers. Extensive testing has shown that a rotor with reduced mass will not absorb or dissipate as much heat. In addition, lightweight rotors cannot be machined, have fewer and thinner cooling vanes, an increased air gap, will crack prematurely, will develop premature excessive lateral run out, may cause overheating of brake fluid leading to brake pedal fade and may cause more brake noise.

LIGHTWEIGHT/THIN PLATE ROTOR

Winhere Rotor

Winhere Brake Rotor Matches OE Specifications

Competitor Rotor*

***Plate Thickness DOES NOT Meet OE Manufacturer Specification**
***25% Fewer Cooling Vanes**

WINHERE Technical Service Bulletin

Subject: **Rusting of Braking Surface**

Vehicles: All Vehicles with Disc Brakes

Concern: Rust on the braking surface of a rotor can be classified into 2 different categories: Rust Flaking (Left Image) and Rust Pitting (Right Image). It is important to understand the causes of the 2 different varieties of rust. Rust flaking is caused by a problem in the base brake system, not allowing the brake pads to fully contact the braking surface. Frozen or locked up caliper slides, a rusted caliper bracket or rusted anti-rattle clips will not allow the brake pads to slide freely. When the brake pads are not sliding freely, as much as 80% of the brake pad material may not make contact with the rotor. Rust then naturally appears in the metal, but is never cleared away by the brake pads.
Rust pitting is caused by moisture in the brake pad material. The base brakes are working correctly, but due to moisture being held in contact with the rotor surface, small rust pits have formed. Under normal driving conditions the moisture and rust is cleared away. However, when a vehicle sits for extended periods or short trips are the norm, the moisture is never completely dissipated. The natural rusting process continues at an accelerated rate.

Rust Flaking

Rust Pitting