



**Date:** January 16, 2012

**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 are 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**