



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

MAR 16 2004

400 Seventh Street, S.W.
Washington, D.C. 20590

From: Office of Defects Investigations (ODI),
National Highway Traffic Safety Administration (NHTSA)

Subject: Owner Awareness Bulletin: Coated vs. Uncoated Replacement
Hydraulic Disc Brake Rotors for Trucks and Busses

The purpose of this notice is to alert purchasers of replacement hydraulic disc brake rotors intended for trucks and busses equipped with an Anti-Lock Brake System (ABS) of the importance of evaluating the severity of corrosive agents (e.g., road salts) encountered in their vehicles' operating environments when determining whether "coated" (protected) disc brake rotors or "uncoated" (unprotected) rotors are more suitable for use as replacement parts.

During 2002 and 2003, ODI investigated several incidents in which uncoated hydraulic disc brake rotors had corroded prematurely due to exposure to road salt and other corrosive elements. ODI's investigation found the corrosive effect of certain vehicle operating environments had degraded the tooth profile of the ABS tone ring and compromised the quality of the ABS wheel speed signal. Vehicle stopping distances increased when this condition had not been corrected in a timely manner.

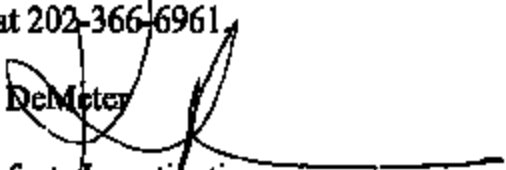
ODI is concerned that vehicle owners purchasing replacement hydraulic brake rotors for truck and bus vehicles equipped with ABS may inadvertently purchase uncoated rotors where coated rotors are more appropriate for the vehicle's operating environment. In applications involving minor to moderate exposure to corrosion, the uncoated rotor may provide acceptable service life before replacement is required. However, if an uncoated rotor is purchased for a vehicle that is subjected to high exposure levels of corrosion, the tone ring teeth may corrode prematurely and shorten the useful life of the rotor.

The enclosed Bulletin is intended to enhance owner awareness of this issue.



DOT AUTO SAFETY HOTLINE
888-DASH-2-DOT
888-327-4236

If there are any questions regarding this notice, please contact Mr. Thomas Bowman
of my staff at 202-366-6961.


Kathleen C. DeMeter
Director
Office of Defects Investigation
National Highway Traffic Safety Administration
United States Department of Transportation

**Notice to Purchasers of Replacement Hydraulic Disc Brake Rotors
for truck and bus applications about the importance of evaluating the
corrosion protection needed for replacement (service) rotors**

Purpose -

The purpose of this notice is to alert purchasers of replacement disc brake rotors for trucks and busses equipped with hydraulically-actuated brakes and Antilock Braking Systems (ABS)* of the importance of considering the severity of the vehicle's exposure to corrosive materials (such as road salts) when determining whether disc brake rotors that are "coated" (for protection against corrosion) or disc brake rotors that are uncoated (not protected against corrosion) are more suitable for use as replacement parts.

Background -

During 2002 and 2003, the Office of Defect Investigations (ODI), within the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA), investigated several incidents in which trucks and busses equipped with uncoated hydraulic disc brake rotors had corroded prematurely due to exposure to salt and other corrosive elements. ODI's investigation found that corrosion had degraded the tooth profile of the ABS tone ring and compromised the quality of the ABS wheel speed signal. Vehicle stopping distances increased in certain cases when this condition had not been corrected in a timely manner.

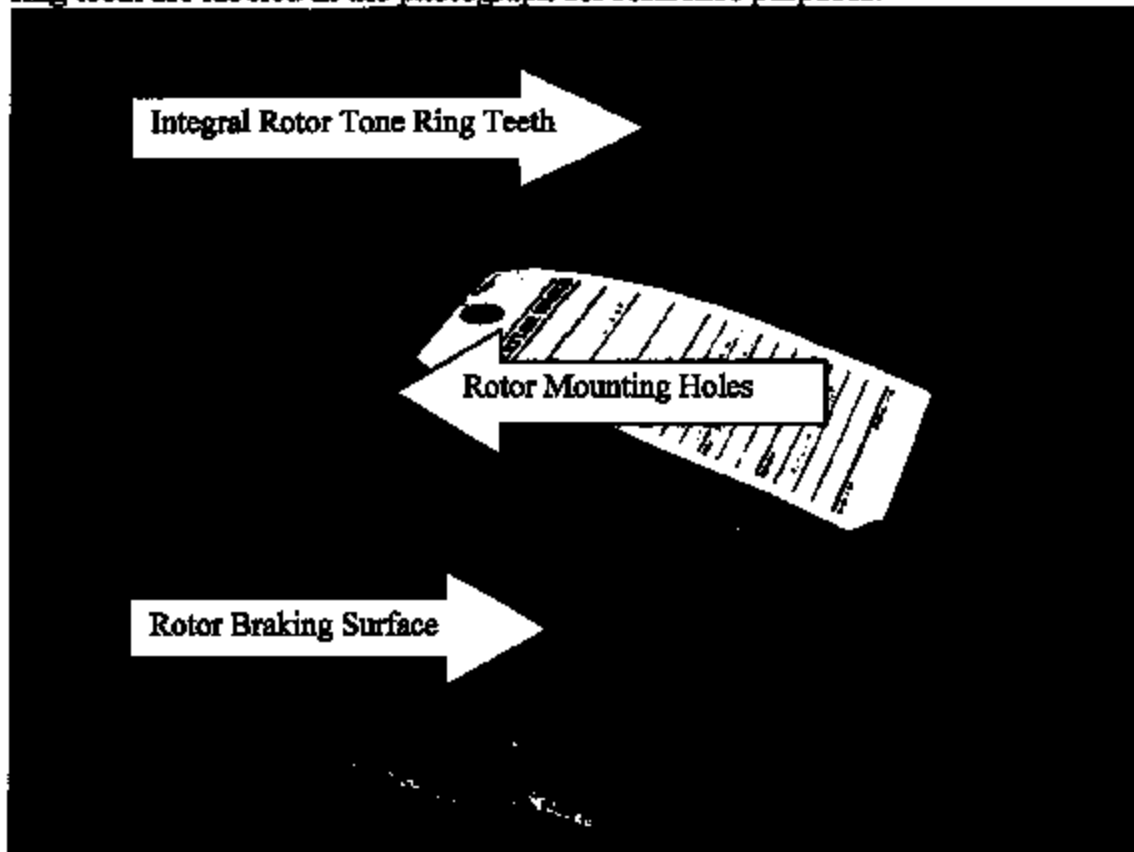
Details -

If corrosion deteriorates the tone ring tooth profile to the point where the quality of the wheel speed signal has been compromised, the ABS warning lamp should illuminate when the vehicle is operated over the threshold speed of 3-5 MPH. The illuminated warning lamp is intended to provide an obvious visual warning to the operator that the vehicle's ABS requires service. If the vehicle ABS is not serviced soon after the lamp illuminates, the vehicle stopping distance may be affected.

(*) 49CFR 393.55 requires that "each truck and bus manufactured on or after March 1, 1999 (except trucks and busses engaged in driveway-towaway operations), and equipped with a hydraulic brake system, shall be equipped with an antilock brake system that meets the requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 105 (49 CFR 571.105, S5.5)."

During the ODI investigations, ODI expressed concern that vehicle owners purchasing replacement hydraulic brake rotors for vehicles equipped with ABS may inadvertently purchase uncoated rotors where coated rotors are more appropriate for the vehicle's operating environment. In applications involving minor to moderate exposure to corrosive elements, the uncoated rotor may provide acceptable service life before replacement is required. However, if an uncoated rotor is purchased for a vehicle that is exposed to high levels of corrosive elements, the tone ring teeth may corrode prematurely and shorten the useful life of the rotor.

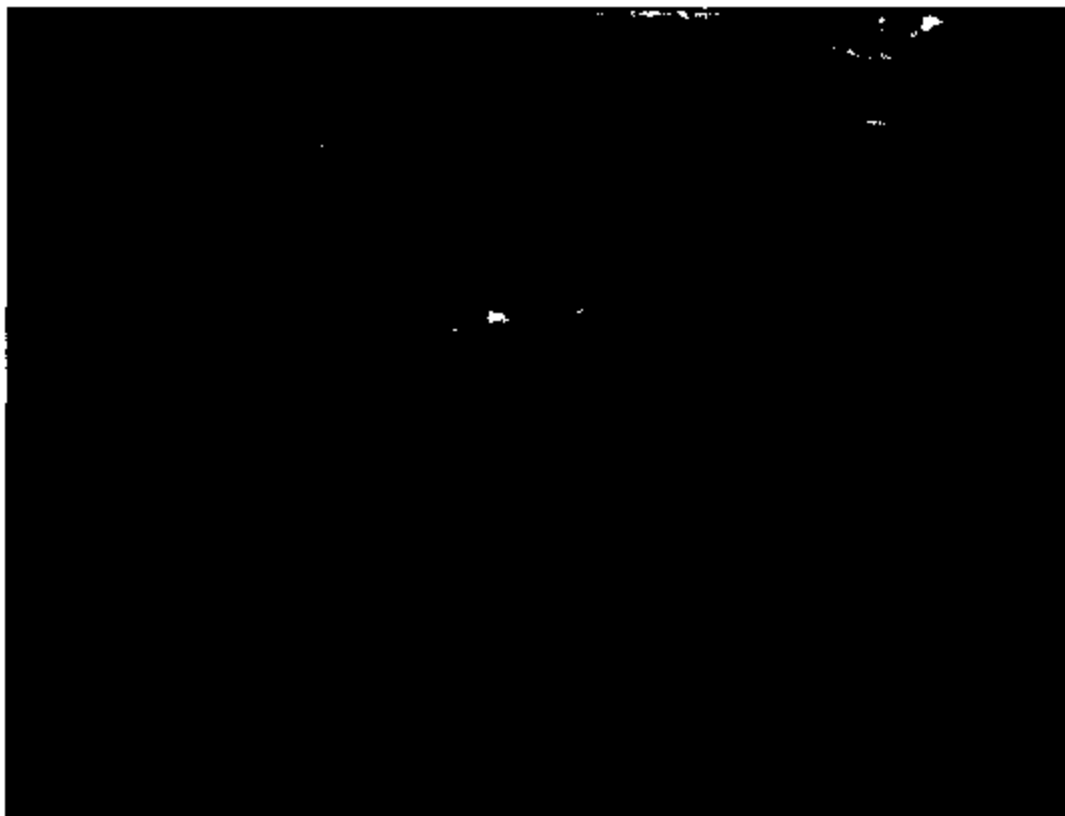
The following photograph depicts a representative uncoated disc brake rotor with the integral tone ring feature that has been removed from service. The ABS tone ring teeth are labeled in the photograph for reference purposes.



Source: Sample from rotors examined on March 11, 2003 at the National Highway Traffic Safety Administration (NHTSA) Vehicle Research Test Center (VRTC).

The following photograph depicts severe (progressed) stages of corrosion on the tone ring teeth of representative uncoated hydraulic disc brake rotors due to exposure to a corrosive operating environment.

Severe (progressed) Stage of Tone Ring Corrosion



Source: Sample from rotors displayed at March 11, 2003 Review at VRTC.

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