

# INFORMATION BULLETIN



January 9, 2003

## INSPECTION PROCEDURES FOR KNORR-BREMSE AIR-DISC BRAKES

Commercial Vehicle Section (CVS) has received information from Knorr-Bremse (Bendix) regarding inspection procedures for brake adjustment and pad thickness specific to their air-disc brake. Many commercial motor vehicles are now being equipped with air disc brakes and therefore, cannot be inspected using the procedures for chamber stroke or visible lining clearance or lining thickness as specified for S-cam and wedge type drum brakes. Therefore, inspection personnel should use the following procedures to determine when vehicles equipped with the Bendix air-disc brakes are within proper adjustment limits and have sufficient disc pad thickness.

The Bendix air-disc brake caliper is designed to move freely, with minimal force, in the axial direction on the floating and fixed pins identified in Figure 1. The movement in the axial direction should not exceed 2 mm (.080"). Axial movement of the disc brake caliper assembly in excess of 2 mm is considered excessive brake adjustment and would meet the Commercial Vehicle Safety Alliance (CVSA) North American Uniform Out-of-Service (OOS) criteria relating to "Defective Brakes (absence of effective braking action)."

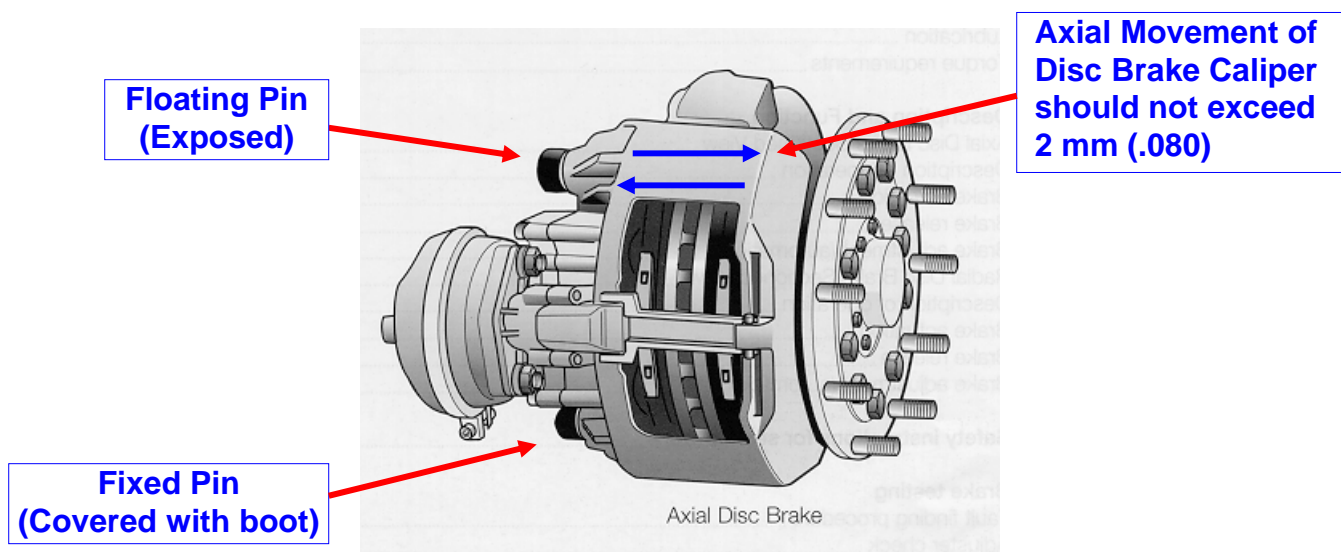


Figure 1. Axial Movement of Air Disc Brake

**Disc Brake Pad Lining Thickness Inspection:** The disc pad lining thickness can be seen, but requires removal of the tire and rim. However, an indicator of the pad lining wear condition is available by inspecting the floating pin location (see figure 1) in relationship to the rubber bushing as shown in Figures 2 and 3. When pads are in new thickness condition, the pin will be exposed 19 mm (.75"). When the pads are worn to replacement conditions, the pin will be nearly flush with or within 1 mm (.04") of the edge of the rubber bushing, and is considered to meet the CVSA OOS criteria relating to "Defective Brakes (lining thickness worn to wear indicator)."

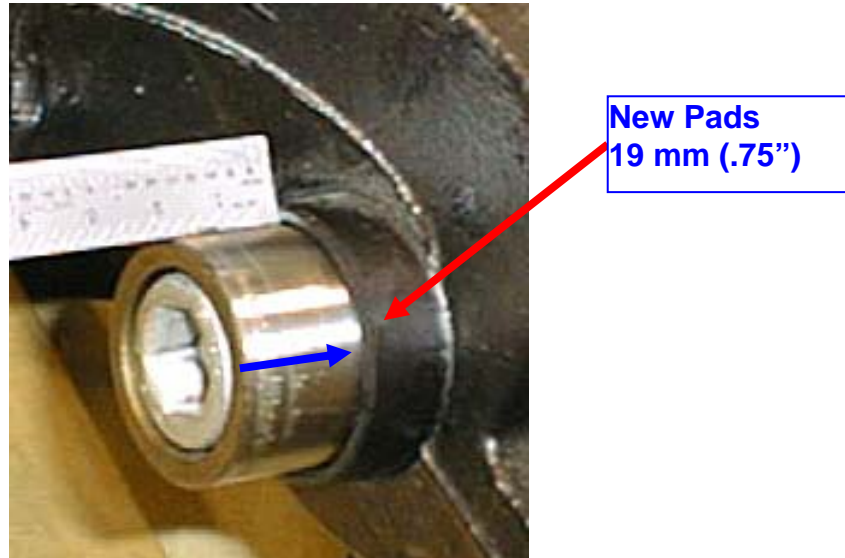


Figure 2. Pad Lining Indicator - New Lining Thickness

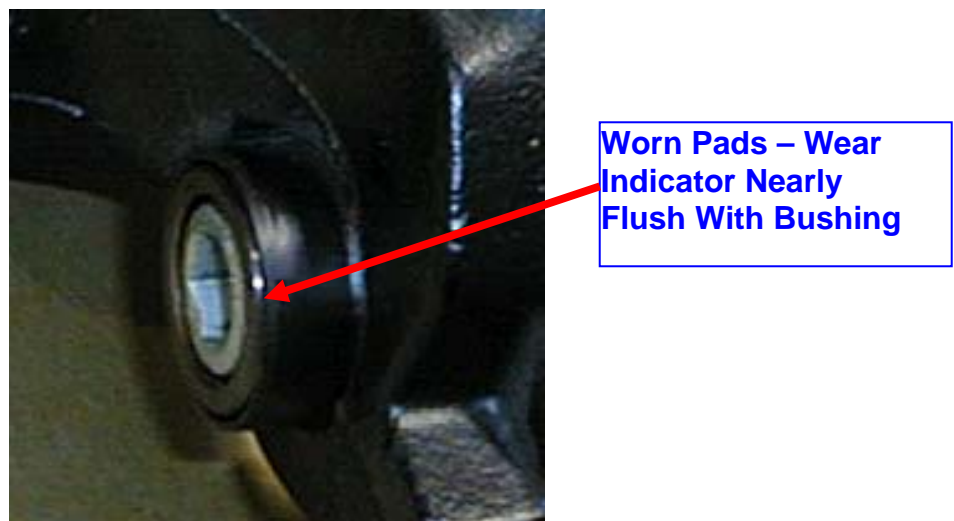


Figure 3. Pad Lining Wear Indicator - Worn to Lining Indicator

Any questions regarding this information should be directed to Mr. Mike Ellis, CVS, at (916) 445-1865.

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OPI: 062

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