

# TECHNICAL BULLETIN

## TRI-FUNCTIONAL® BUSHINGS

**SUBJECT:** Pivot Bushing Inspection Procedure

**LIT NO:** B106  
**DATE:** April 2018

**REVISION:** D

Periodic inspections are an important part of the air suspension maintenance routine, L578 *Preventive Maintenance Guide*. Pivot bushings housed within the beam assembly bushing tube (Figure 1) are especially important. This publication is a useful guide to help determine the current functional condition of the pivot bushing. Depending on the age of the suspension, the used bushing may experience various states of fatigue that could include surface cracks or cracks forming between voids. However, the pivot bushing may still have many years of service life remaining. As a guide, this simple check can determine a bushing's current status.

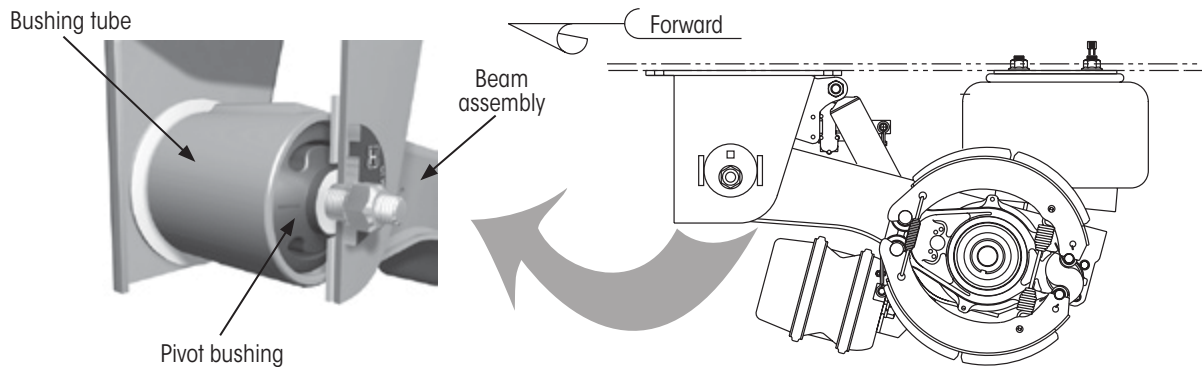


Figure 1: Pivot bushing components

**IMPORTANT:** Hendrickson does not recommend disassembling the pivot connection to inspect the pivot bushing.

1. With the suspension at ride height, **measure** from the bottom of the beam assembly to the bottom of the frame bracket (Figure 2).

Table 1: Measurement A

SUSPENSION TYPE	A	
	Inch	mm
HT, INTRAAX® & VANTRAAX®	3/4	19
ULTRA-A-K®	1 1/8	28.5

2. If measurement **A** is less than or equal to the specified value in Table 1, the bushing is performing as expected.

If measurement **A** is greater than the specified value in Table 1, the pivot connection must be disassembled and the beam assembly lowered to more closely inspect the bushing. Reference Figure 3 on next page.

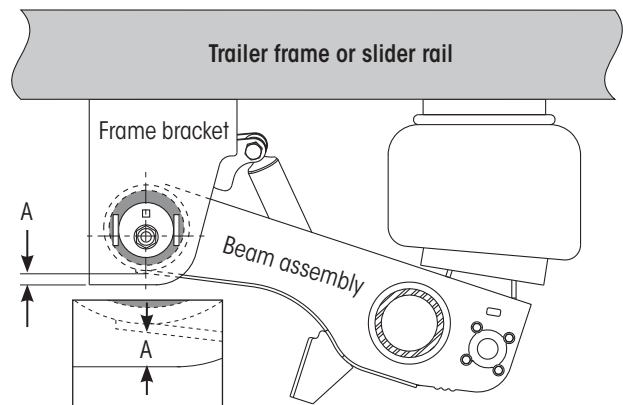


Figure 2: Pivot bushing measurement A (unloaded trailer recommended)

**NOTICE: IF THE PIVOT BOLT IS REMOVED, IT MUST NOT BE REUSED.**

**NOTE:** The use of a long pry bar to determine if the bushing is defective is not recommended. The beam will move even for a normal (non-defective) rubber bushing. This will provide a false indication of bushing condition when force is exerted with the pry bar.

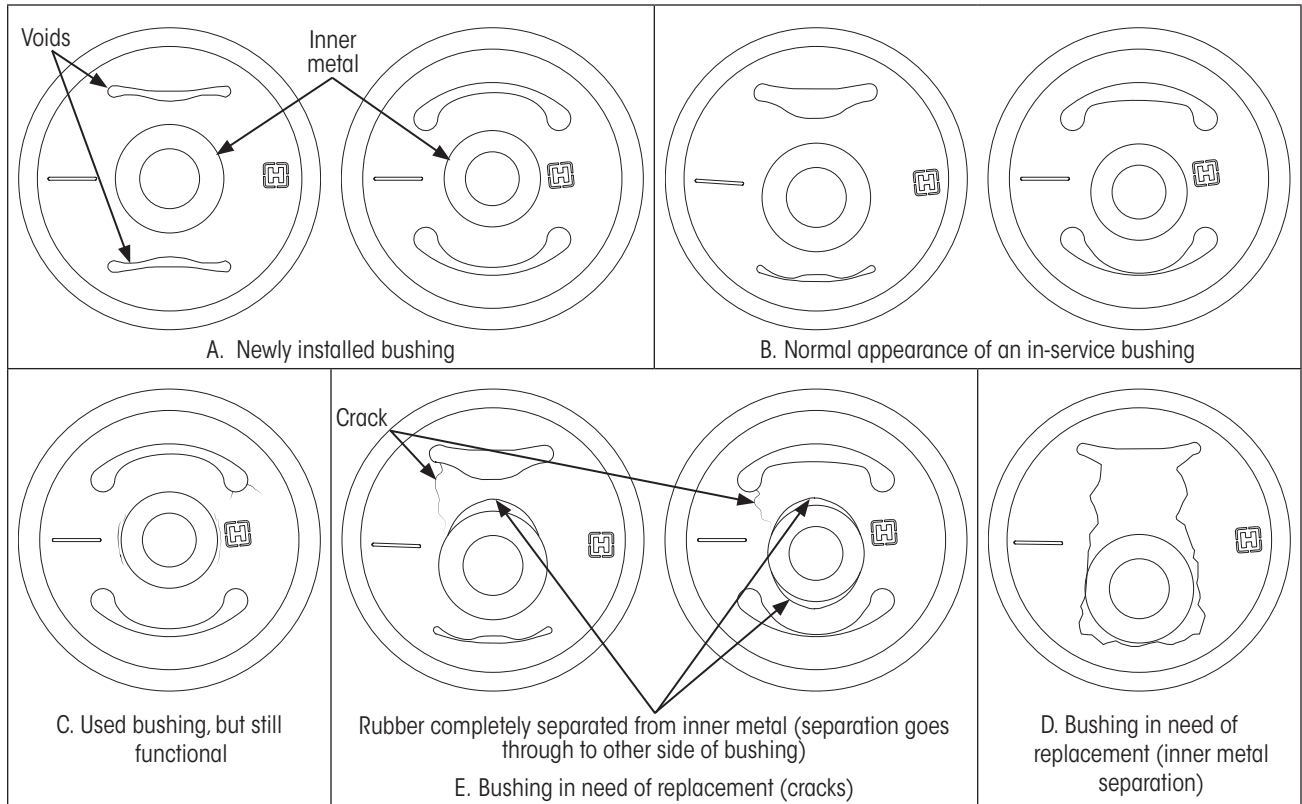


Figure 3: Bushing evaluation guide

Pivot bushings will typically “settle” in the vertical direction upon suspension installation (Figure 3, A). It is normal for the voids to have this “settled” appearance (Figure 3, B and C) due to cargo and the weight of the trailer loading the bushing. However, cracks in the rubber extending between the void and the bushing’s inner metal or an excessive amount of vertical movement (Figure 3, E and D) are indications the bushing needs to be replaced.

The appearance of smeared blackened rubber or hanging strands of rubber around the bushing tube edges, bushing tube spacer(s), etc. is an indication the bushing is heating up and melting. The cause is likely continuous rapid vibration induced into the bushing through the beam. It is usually caused by an imbalanced wheel-end on the same side as the affected bushing. A wheel-end can be out of balance due to one or more of the following: issues with the tire(s), improper assembly, dropped or out-of-round drum, mud or debris collected on the rim, water in the tire, non-functioning shock absorber and more.

*L583 Comprehensive Warranty Statement* lists information required by Hendrickson for filing a claim. This includes **digital photos of the axle’s bushings in the bushing tubes, prior to removal**, for evaluation by Hendrickson Trailer Technical Services. If replacement is necessary, the original bushings must be returned to Hendrickson for further review and consideration for labor reimbursement. Hendrickson will ship applicable replacement parts.

Refer to Hendrickson literature number *L427 Bushing Replacement Procedures* for bushing replacement instructions. Hendrickson literature number *L427* and *L750 Bushing Tube Spacer Inspection and Replacement Procedure* include procedures to inspect bushing tube and frame bracket for wear.

For any questions, contact Hendrickson Trailer Technical Services in the United States and Canada at 866-RIDEAIR (743-3247) or [HTTS@Hendrickson-intl.com](mailto:HTTS@Hendrickson-intl.com); in Mexico at +52 (442) 296-3600.

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