

# TECHNICAL BULLETIN

PRIMAAX® EX • PRIMAAX®  
FIREMAAX® EX • FIREMAAX®

**SUBJECT:** Pivot Bushing and D-Pin Bushing  
Inspection

**LIT NO:** SEU-0235

**DATE:** May 2012

**REVISION:** A

## IMPORTANT NOTICE

### NEW INSPECTION PROCEDURE

Hendrickson announces new inspection procedures developed for vehicles equipped with PRIMAAX® EX • PRIMAAX® • FIREMAAX® EX • FIREMAAX® suspension system. This publication is designed to assist maintenance personnel in the inspection of the Pivot and D-Pin Bushing to help determine if component replacement is required and to help maintain optimum system performance.

### WARNING

THE PIVOT BUSHING AND D-PIN BUSHING ARE CRITICAL COMPONENTS OF THE PRIMAAX EX • FIREMAAX EX / PRIMAAX • FIREMAAX SUSPENSION. IF ANY SUCH COMPONENTS APPEAR DAMAGED OR WORN THE COMPONENT MUST BE REPLACED. FAILURE TO REPLACE SUCH WORN OR DAMAGED COMPONENTS CAN RESULT IN THE DEFORMATION OF PARTS, LOSS OF CLAMP FORCE, BOLT FAILURE, LOSS OF THE AXLE'S ALIGNMENT, LOSS OF VEHICLE CONTROL, PROPERTY DAMAGE, OR PERSONAL INJURY.

Refer to the appropriate Hendrickson PRIMAAX EX • PRIMAAX • FIREMAAX EX • FIREMAAX suspension Technical Procedure for complete safety and service instructions available online at [www.hendrickson-intl.com](http://www.hendrickson-intl.com).

### PIVOT BUSHING INSPECTION

There are two types of pivot bushing inspections for the PRIMAAX EX • PRIMAAX • FIREMAAX EX • FIREMAAX suspension. The pivot bushing can be visually inspected by looking at the outer rubber flange(s) of the bushing. If the visual inspection warrants, a physical inspection can be conducted in which disassembly is required.

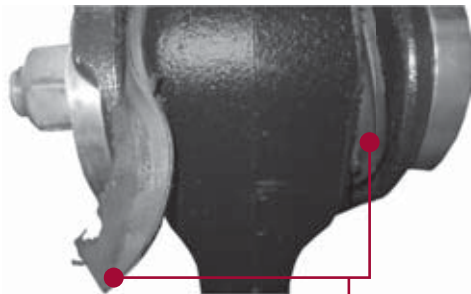
#### PIVOT BUSHING VISUAL INSPECTION

To perform pivot bushing visual inspection, it is not necessary to disassemble the pivot bushing connection. If the pivot bushing rubber flange(s) are intact and there are no signs of **metal to metal** contact the bushing does not require replacement.

- The support beam is designed with the pivot bushing centered in the support beam end hub. If the pivot bushing is not centered in the end hub, it is an indication that the pivot bushing could be worn and a pivot bushing physical inspection is required.
- If the pivot bushing shows signs of torn, separated or disconnected rubber, see Figures 1 and 2, this could be a result of axle misalignment. If this condition is evident, a pivot bushing physical inspection is required.
- If the outer rubber flange(s) is missing, or there are shards of rubber visible, see Figure 3, this could be a result of axle misalignment. If this condition is evident, pivot bushing replacement is required.

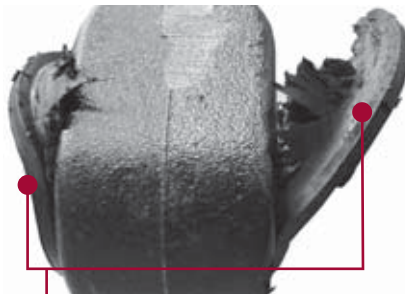
## INSPECT FOR TORN, DISCONNECTED OR MISSING RUBBER FLANGE

FIGURE 1



Torn Rubber

FIGURE 2



Disconnected Rubber Flange

FIGURE 3



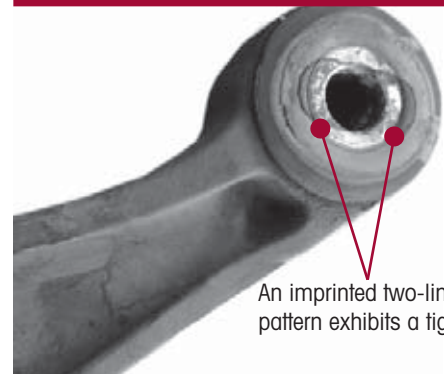
Missing Rubber Flange

## PIVOT BUSHING PHYSICAL INSPECTION

1. Remove the U-beam assembly. Refer to the appropriate PRIMAAX EX • FIREMAAX EX • PRIMAAX • FIREMAAX Technical Procedure for your vehicle.
2. After removal, inspect the pivot bushing connection, examine the pivot bushing inner metal area.
3. No replacement is needed if the bushing exhibits a tight joint, see Figure 4. An imprinted two-line wear pattern on the bushing inner metal indicates the pivot bushing is securely clamped in the hanger.
4. Inspect pivot bushing, replacement is necessary if any indications of the following are apparent, see Figure 5:
  - Signs of rust, distorted, separated or torn rubber, elongated or damaged bore. This could be a result of axle misalignment or loose fasteners.
5. Inspect the inside of the frame hanger legs and the QUIK-ALIGN® collars. If any of the following are present, the pivot bushing and one or more of the mating components may require replacement:
  - Evidence of wear marks on the inside of the hanger legs indicating metal to metal contact or movement.
  - The snout of the QUIK-ALIGN concentric or eccentric collar is elongated or damaged.

FIGURE 4

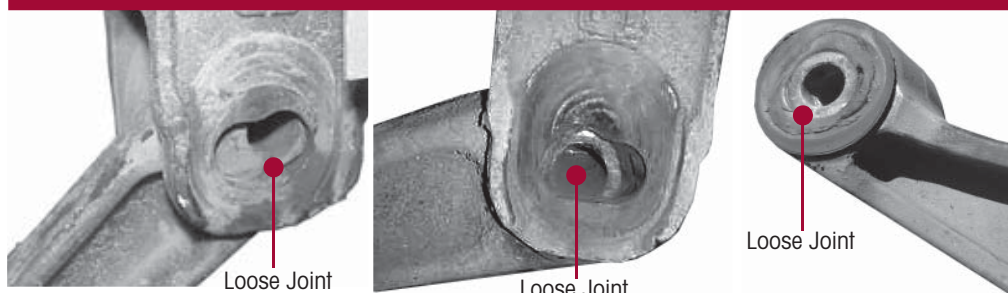
### GOOD JOINT - NO REPLACEMENT NEEDED



An imprinted two-line wear pattern exhibits a tight joint

FIGURE 5

### INSPECT FOR INDICATIONS OF A LOOSE JOINT



Loose Joint

Loose Joint

Loose Joint



6. Check the suspension alignment and adjust if necessary. Refer to Alignment and Adjustment Section of the appropriate Hendrickson PRIMAAX EX • PRIMAAX • FIREMAAX EX • FIREMAAX suspension Technical Procedure manual.

## D-PIN BUSHING VISUAL INSPECTION

It is not necessary to disassemble the D-Pin connection to perform a D-Pin visual inspection.

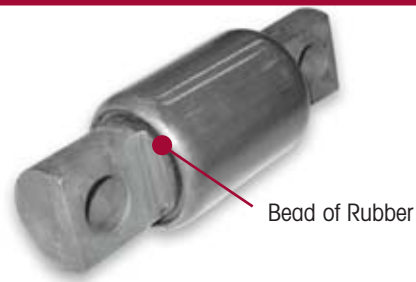
The D-Pin bushing is designed with a layer of rubber in the bushing, it is acceptable to see a bead of rubber protruding from the bushing, see Figure 6.

D-Pin bushing replacement **IS REQUIRED** only when:

- Metal to metal contact wear marks on the D-pin outer metal are evident, see Figure 7.
- D-pin outer metal is distorted, see Figure 7.

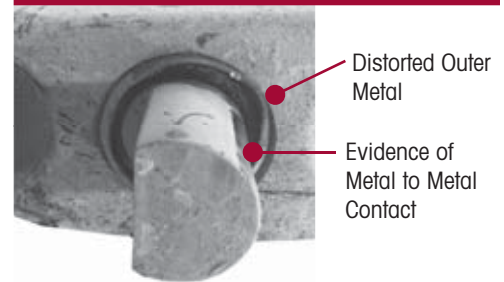
**FIGURE 6**

### ACCEPTABLE D-PIN



**FIGURE 7**

### UNACCEPTABLE D-PIN



Refer to the D-Pin Component Replacement Section in the appropriate Hendrickson PRIMAAX EX • PRIMAAX • FIREMAAX EX • FIREMAAX suspension Technical Procedure manual.



Toll-free U.S. and Canada  
1.866.755.5968  
Outside U.S. and Canada  
1.630.910.2800



Parts Identification  
[truckparts@hendrickson-intl.com](mailto:truckparts@hendrickson-intl.com)  
Technical Support  
[techservices@hendrickson-intl.com](mailto:techservices@hendrickson-intl.com)



1.630.910.2899



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Truck Commercial Vehicle Systems  
800 South Frontage Road  
Woodridge, IL 60517-4904 USA

1.866.755.5968 (Toll-free U.S. and Canada)  
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