

H TECHNICAL BULLETIN

HTB® LT Rear Suspension

SUBJECT: Torque Box Inspection

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INTRODUCTION

NEW TORQUE BOX INSPECTION PROCEDURE

Hendrickson announces the following new inspection procedures for torque box assemblies on HTB® LT rear suspension systems equipped on International Truck vehicles. This publication is designed to assist maintenance personnel in the inspection of the torque box to help determine if component adjustment or replacement may be required for maintaining optimum system performance.

After the torque box inspection is completed and if torque box replacement is required, order Service Kit No. 60961-721 (shown in Table 1) plus the additional International Truck fasteners to complete the repair of a single torque box assembly. Two separate service kits will be needed if both torque box assemblies need to be replaced. Refer to Hendrickson Technical Procedure number 17730-251, Section 8 for torque box component replacement instructions.

Refer to the Hendrickson HTB LT suspension Technical Procedure number 17730-251 for complete safety and service instructions available online at www.hendrickson-intl.com.

TABLE 1

HTB LT Torque Box Single Axle Service Kit 60961-721	
CONTENTS	
Description	QTY
Torque Box Assembly	1
LH Axle Bracket Bar Pin Clamp	2
RH Axle Bracket Bar Pin Clamp	2
Axle Tower Shim	4
Bar Pin Clamp	4
5/8" 11 UNC Locknut	8
5/8" 11 UNC Bolt	8
5/8" Washer	16
Torque Rod Assembly	2

Also Order Separately from International Truck

40345RI 7/8" UNC 6" Flange Bolt	4
144425H 7/8" UNC Flange Locknut	4

WARNING

THE TORQUE BOX IS A CRITICAL COMPONENT OF THE HTB LT REAR 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.

TORQUE BOX INSPECTION

The HTB LT rear suspension can be visually inspected by checking for lateral offset, checking for component interference, looking at the air spring, and looking at the torque box and the torque box bushings.

VISUAL COMPONENT INSPECTION

1. Use a work bay with a level surface.
2. Relax the suspension by slowly moving the vehicle back and forth several times in a straight line. This will slacken or loosen the suspension as the vehicle is positioned. End with all wheels positioned straight ahead.
3. Chock the front wheels of the vehicle.

4. Visually inspect for signs of:
 - a. Any shift, angle, or tilt in the air springs away from vertical position, see Figure 1.

NOTE

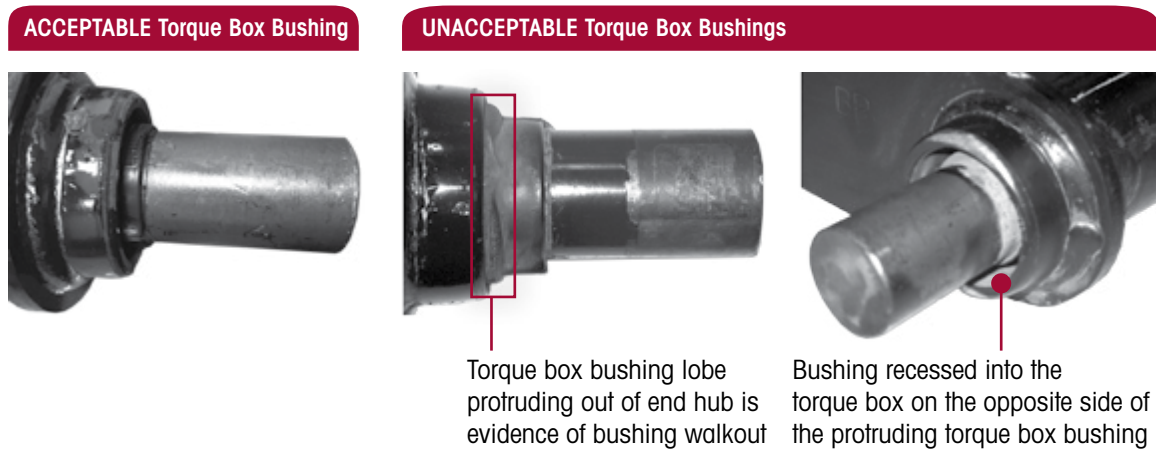
A protruding and recessed torque box bushing lobe(s) may be visible without removing the torque box.

- b. Any torque box bushing lobe(s) protruding out of a torque box end hub with the opposite side of the torque box bushing recessed into the torque box, see Figure 2. An acceptable torque box bushing is also shown in Figure 2.
- c. Any interference or contact between components, see Figure 3.

FIGURE 1

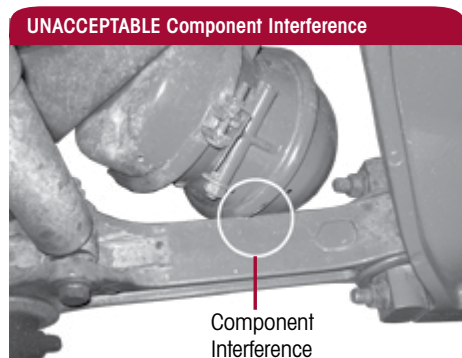


FIGURE 2



5. If any of the above-referenced conditions are present it is possible that one or both of the torque box bushings have shifted inside the respective torque box assembly. Under such conditions, it will be necessary to replace the torque box assembly and the torque rod assemblies through installation of Service Kit No. 60961-721. Refer to Hendrickson Technical Procedure number 17730-251, Section 8 for torque box component replacement instructions.

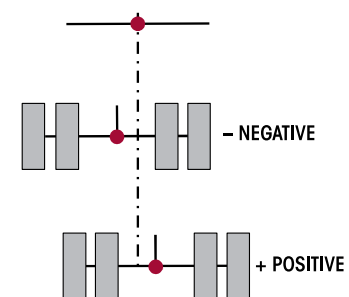
FIGURE 3



LATERAL ALIGNMENT INSPECTION

1. Inspect the drive axle tires for any lateral offset, see Figure 4. Drive axle lateral offset is defined as the shifting of one or both of the drive axle's centerline to the left or right from the vehicle centerline.
2. Measure the distance between the left front side of the torque box and the left inside frame rail (A). Record the measurement, see Figure 5.
3. Measure the distance between the right front side of the torque box and the right inside frame rail (B). Record the measurement.

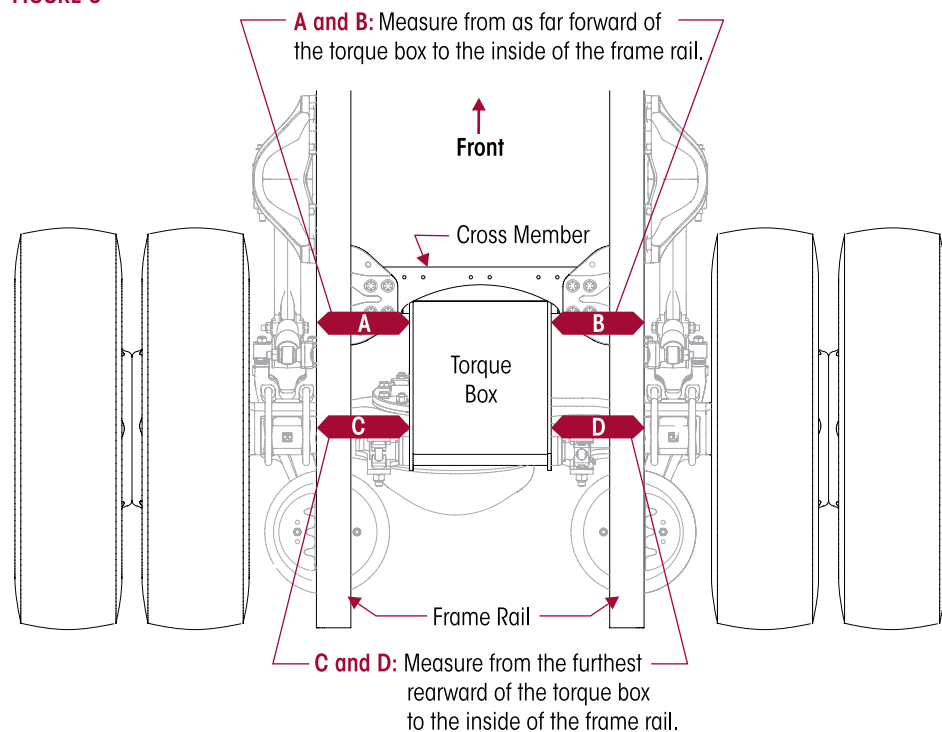
FIGURE 4





4. Measure the distance between the left rear side of the torque box and the left inside frame rail (**C**). Record the measurement.
5. Measure the distance between the right rear side of the torque box and the right inside frame rail (**D**). Record the measurement.
6. Calculate the difference between **A-B**.
7. Calculate the difference between **C-D**.
8. Calculate the difference between **A-C**.
 - a. If all the calculated differences in Steps 6-8 are **equal to or less than** $\frac{1}{4}$ ", then the torque box lateral alignment is acceptable.
 - b. If any of the calculated differences in Steps 6-8 are **greater than** $\frac{1}{4}$ ", this indicates the torque box is either offset or rotated. It will be necessary to correct the lateral alignment of the torque box. Refer to the Hendrickson Technical Procedure number 17730-251, Alignment & Adjustments Section 7, Step C (Correcting Torque Box Lateral Alignment).
9. On a vehicle equipped with tandem drive axles, repeat Steps 1 to 8 for the other torque box. If the lateral alignment of the other torque box is acceptable, no further action is necessary.

FIGURE 5



Refer any questions on this publication, contact Hendrickson Tech Services:



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