

# TECHTIPS



[www.hendrickson-intl.com](http://www.hendrickson-intl.com)

## Don't Get Bent Out of Shape – Inspect Those Bushings!

For detailed information on Hendrickson bushings, refer to the applicable Technical Procedures available at [www.hendrickson-intl.com](http://www.hendrickson-intl.com)

### Front Steer Axle Suspensions – Front and Rear Leaf Spring Eye Bushings



**\*AIRTEK® NXT** Reference Literature Number 17730-307



**SOFTEK® NXT** Reference Literature Number 17730-289



**STEERTEK™ NXT** Reference Literature Number 17730-297, 17730-311, 17730-348



**AIRTEK®** Reference Literature Numbers 17730-243, 17730-247, 17730-250, 17730-252

\* Front leaf spring eye bushing is not serviceable

**Bushing Inspection Checklist:**

- ✓ Bushing Types
- ✓ Visual Inspection
- ✓ Signs of Damage or Excess Wear
- ✓ Lubrication (if applicable)
- ✓ Preventative Maintenance

### VISUAL INSPECTION

Bushing replacement **IS REQUIRED** if these conditions occur



◀ AIRTEK NXT Bushing Walk-out



AIRTEK NXT Inner Metal Movement ▶

### RECOMMENDED LUBRICATION

#### SOFTEK NXT • STEERTEK NXT High-capacity Threaded Bushings

Application	*Greasing Intervals	**Grease
<b>GENERAL</b> Does not include line-haul or medium-duty applications	Maximum of 30,000 miles (48,000 km) or 30 days, whichever comes first	EP Chassis Grease NLGI Grade 2 rated GCLB or equivalent
<b>ON-HIGHWAY</b> • Line-haul only, High mileage accumulation • 95% Highway surface • No off-roadway operation • Greater than 50,000 miles (80,500 km) per year		

**NOTE:** \* Leaf springs equipped with rubber bushings require no grease interval

\*\* Refer to the lubricant manufacturer's specifications for the temperature service limits applicable in your area





## Rear Air Suspensions – QUIK-ALIGN® and D-pin Bushings



**PRIMAAX® EX** – Reference Literature Numbers 17730-238, 17730-254, 17730-263, 17730-266, 17730-279, 17730-283



**FIREMAAX® EX** – Reference Literature Number 17730-337



**COMFORT AIR®** – Reference Literature Numbers 17730-245, 17730-246, 17730-295, 17730-351. \*Does not require D-pin Bushings

### VISUAL INSPECTION

**QUIK-ALIGN® Pivot Bushings** – The pivot bushing does not need to be disassembled for a visual inspection. If the rubber flanges are intact and there’s no metal-to-metal contact, replacement isn’t required. If the bushing is not centered in the support beam end hub, it may be worn and should undergo a physical inspection.

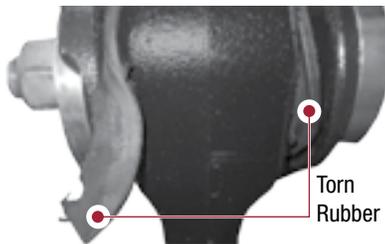
#### ■ Signs of missing rubber flange



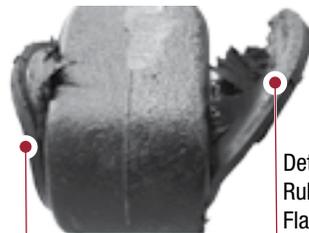
Missing Rubber Flange

Condition may indicate axle misalignment. Pivot bushing replacement **IS REQUIRED**.

#### ■ Signs of torn, separated, or detached rubber



Torn Rubber



Detached Rubber Flange

Condition may indicate axle misalignment or loose fasteners. Conduct a **physical inspection** of the pivot bushing. Replacement **IS REQUIRED** if physical inspection reveals any signs of rust, distorted, separated or torn rubber, elongated or damaged bore.

**D-pin Bushings** – It is not necessary to disassemble the D-pin connection to perform a D-pin visual inspection. (PRIMAAX EX • PRIMAAX • FIREMAAX EX • FIREMAAX only)

#### ■ A bead of rubber protruding from the bushing

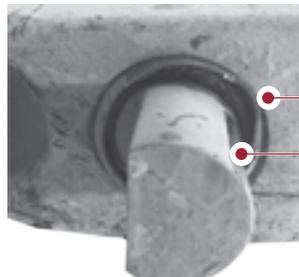


Bead of Rubber

The D-pin bushing is designed with a layer of rubber in the bushing, D-pin bushing is **acceptable**.

#### ■ Metal-to-metal contact wear marks on the D-pin outer metal are evident

#### ■ D-pin outer metal is distorted



Distorted Outer Metal

Evidence of Metal-to-metal Contact

D-pin bushing replacement **IS REQUIRED**

## Rear Walking Beam Suspensions – Bar Pin End Bushings



**HAULMAAX® EX** – Reference Literature Numbers 17730-328 HAULMAAX EX, 17730-244 HAULMAAX



**HN®** – Reference Literature Numbers 17730-227, 17730-285



**RT™ • R™ • RS™** – Reference Literature Numbers 17730-070, 17730-064, 17730-190



**ULTIMAAX®** – Reference Literature Numbers 17730-298, 17730-299, 17730-301, 17730-317

### VISUAL INSPECTION – Equalizing Beam Bar Pin End Bushings

An equalizing beam end connection, which is visibly cleaner than the other connections, may indicate a loose connection.

#### Bar Pin Position

**Acceptable:** Bar pin centered in end hub with equal rubber exposure on both sides.

**Unacceptable:** Bar pin shifted to one side, indicating bushing wear or internal failure (replace).

Equal amount of rubber exposed outside of End Hub



Bar Pin shifted in the End Hub

#### Bushing Condition Check

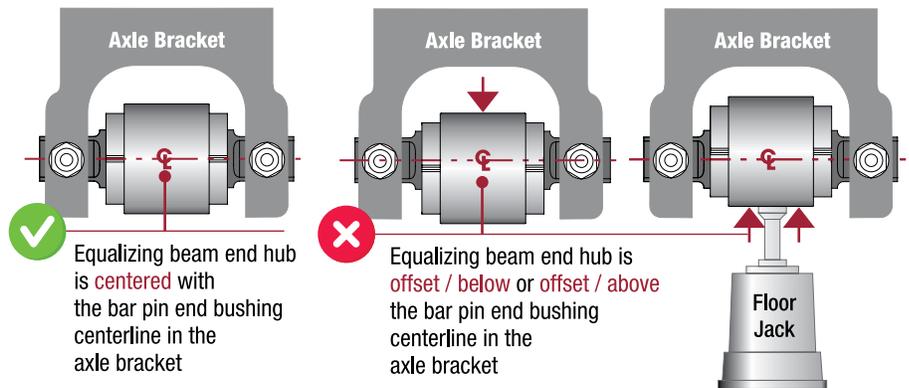
**Good:** End hub centered with axle bracket; equalizing beam aligned to bracket centerline.

**Worn:** End hub offset  $\frac{5}{8}$ " (15 mm) from centerline, indicating internal deterioration (replacement required).

**Jack Test:** Place a floor jack under the equalizing beam and apply upward load.

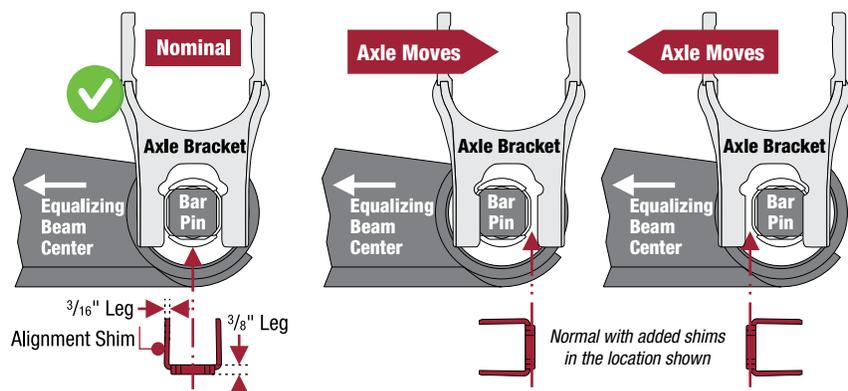
**Good Bushing:** Minimal or no movement

**Worn Bushing:** Noticeable movement—replace bushing.

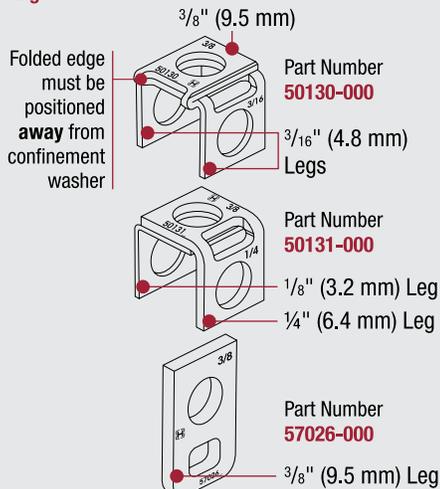


#### Alignment & Axle Movement

- Nominal clearance:  $\frac{3}{16}$ " (4.8 mm).
- Excess axle movement may indicate worn bushings or incorrect installation.
- Inspect for damaged or missing alignment shims.



#### Alignment Shims



RT/RTE with Bronze Center Bushing and Spring Eye Pin/Bushing

Lubrication Interval: Application dependent not to exceed 3 months.  
For severe service increase frequency.



There is only one way to ensure the system's original performance ... ask for Hendrickson genuine parts by name.

## VISUAL INSPECTION – Torque Rod Bushings

### ▼ ULTRA ROD® Torque Rod Bushing (One/Two-piece) – Replacement Conditions

Torn, shredded rubber, elongated shapes, metal-to-metal contact, bent, cracked or broken components



Torque Rod Bushing replacement **IS REQUIRED** if any of the following conditions occur

- torque rod bushings have torn or shredded rubber material interfaces or elongated oval shapes
- torque rods show any metal to metal contact, bent, cracked or broken components
- bushing bar pin walk-out
- any rubber delamination

### ▼ TRAAX ROD® Torque Rod Bushing (One-piece) – Replacement Conditions

Bar pin rubber delamination or walk-out



**ORIGINAL PARTS / ORIGINAL FIT / ORIGINAL PERFORMANCE**

Call Hendrickson at 630.910.2800 or 855.RIDERED (855.743.3733) for additional information.



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