

059310-058



H ASSEMBLY INSTRUCTIONS

Transverse Torque Rods for Mexico, Central and South America

SUBJECT: Requirements and Guidelines

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INTRODUCTION

This publication is intended to assist maintenance personnel with the installation, as-needed for aftermarket service replacement purposes, of transverse torque rods for applicable Hendrickson truck suspensions operating in Mexico, Central America, and South America. Transverse torque rods provide lateral support for Hendrickson suspensions. They also provide greater stability and roll stiffness as well as keep the axle centered laterally and help control axle walk-out on rear suspensions.

Refer to Hendrickson Selection Guide 45745-148 and 45745-475 for additional information available on-line at www.hendrickson-intl.com

SAFETY PRECAUTIONS

WARNING

TRANSVERSE TORQUE RODS ARE INCORPORATED FOR VEHICLE STABILITY. IF THESE COMPONENTS ARE DISCONNECTED OR ARE NONFUNCTIONAL THE VEHICLE SHOULD NOT BE OPERATED. FAILURE TO DO SO CAN RESULT IN ADVERSE VEHICLE HANDLING AND POSSIBLE TIRE CONTACT WITH THE FRAME, SEVERE PERSONAL INJURY, AND PREMATURE COMPONENT DAMAGE.

WARNING

DO NOT MODIFY OR REWORK PARTS WITHOUT AUTHORIZATION FROM HENDRICKSON OR THE ORIGINAL EQUIPMENT MANUFACTURER. DO NOT SUBSTITUTE OR USE REPLACEMENT COMPONENTS NOT AUTHORIZED BY HENDRICKSON OR THE ORIGINAL EQUIPMENT MANUFACTURER. USE OF MODIFIED, REWORKED, SUBSTITUTE OR REPLACEMENT PARTS NOT AUTHORIZED BY HENDRICKSON MAY NOT MEET HENDRICKSON'S OR THE ORIGINAL VEHICLE MANUFACTURER'S SPECIFICATIONS, AND CAN RESULT IN FAILURE OF THE PART, ADVERSE VEHICLE HANDLING, POSSIBLE PERSONAL INJURY OR PROPERTY DAMAGE AND WILL VOID ANY APPLICABLE WARRANTIES. USE ONLY HENDRICKSON AUTHORIZED REPLACEMENT PARTS.

TRANSVERSE TORQUE RODS

Transverse torque rods **are required** for vehicles equipped with the following Hendrickson rear suspensions:

Air Suspensions

- AR2™
- COMFORT AIR®
- HAS™ • HAS 40LH

- PRIMAAX® EX • PRIMAAX
- FIREMAAX® EX • FIREMAAX
- ROADMAAX®

Equalizing (Walking) Beam Suspensions

- HAULMAAX® EX
- HAULMAAX
- HN®
- HN FR

NOTE

Transverse torque rods **ARE NOT** allowed to be used in conjunction with Hendrickson walking beam suspensions with bronze center bushings.



CAUTION

WHEN TRANSVERSE TORQUE RODS ARE USED ON THOSE HENDRICKSON WALKING BEAM SUSPENSIONS, EQUIPPED WITH CENTER BUSHINGS, EACH EQUALIZING BEAM MUST USE A RUBBER CENTER BUSHING. EQUALIZING BEAMS THAT CONTAIN A BRONZE CENTER BUSHING MUST BE CONVERTED TO A RUBBER CENTER BUSHING PRIOR TO INSTALLING TRANSVERSE TORQUE RODS. FAILURE TO DO SO CAN CAUSE PREMATURE COMPONENT WEAR AND/OR ADVERSE VEHICLE HANDLING.

Transverse Torque Rods are recommended where it is necessary to restrict the lateral movement of the axles to prevent interference of the tires, brakes, axle housings, etc. with the frame, body, or suspension components. The proper clearance is determined by the vehicle manufacturer prior to vehicle assembly.

Transverse torque rods are also required for vehicles equipped with the following Hendrickson equalizing (walking) beam suspensions equipped with rubber center bushings:

| | | EQUALIZING BEAM LENGTH | | | | | | |
|---|-----------|--|----------|----------|----------|----------|-----|-------|
| Suspension | Capacity | Application | 52" | 54" | 56" | 60" | 64" | 72.5" |
| R • RS • RT • RTE | 34K-52K | • All applications (except applications shown below) | Required | | | | | |
| R • RS • RT | 65K | | | | | | | |
| RT | 70K | | | | | | | |
| R • RS • RT • RTE | 34K-52K | • Tractor (heavy or line haul and vocational) | ★ ◆ | Required | | Required | | |
| R • RS • RT | 65K | • Beverage | | ★ ◆ | | Required | | |
| RT | 70K | • Crane • Freight and Flatbed (drywall/block truck, general delivery and light recycling) | | Required | | | | |
| RT • RTE | 34K-52K | • On-highway Tractors | ▲ ◆ | | Required | | | |
| RT | 65K • 70K | | ▲ ◆ | | Required | | | |
| ULTIMAAX | 46K-63K | • All applications | Required | | | | | |
| R, RS | 85K-120K | • All applications | | | ★ | Required | | |
| ★ Transverse torque rods are recommended if walking beams are equipped with rubber center bushings. ◆ Although walking beams equipped with rubber center bushings are recommended , bronze center bushings can be used in this applications if the suspension is not equipped with transverse torque rods . ▲ Transverse torque rods are available although not required if the walking beams are equipped with rubber center bushings. | | | | | | | | |

Transverse Torque Rods are recommended where it is necessary to restrict the lateral movement of the axles to prevent interference of the tires, brakes, axle housings, etc. with the frame, body, or suspension components. The proper clearance is determined by the vehicle manufacturer prior to vehicle assembly.

Installation | Recommended Guidelines

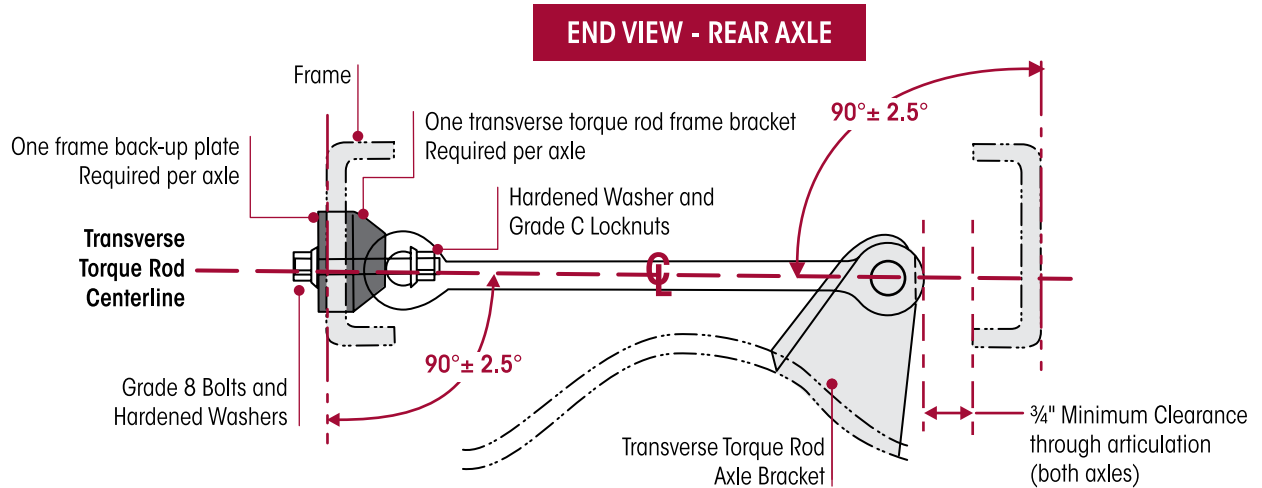
NOTE

Hendrickson recommends the use of Grade 8 bolts, Grade C locknuts and hardened washers for all transverse torque rod attachments.

- With the vehicle at loaded ride height, the transverse torque rod horizontal centerline has an angle of $90^\circ \pm 2.5^\circ$ to the frame, see Figure 1.
- The transverse torque rod frame brackets are mounted to the frame and located as close as possible to either the bottom frame flange (preferably) or top frame flange, see Figure 1.
- Frame backup plates are required with transverse torque rod frame brackets, see Figure 1.
- Transverse torque rods should be positioned as low as possible to the horizontal centerline of the axle, but high enough as not to interfere with axle components during articulation.



FIGURE 1



- Install transverse torque rods perpendicular to the frame rails ($90^\circ \pm 2.5^\circ$) as shown in Figure 2.

NOTE

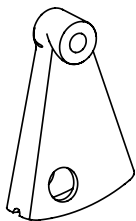
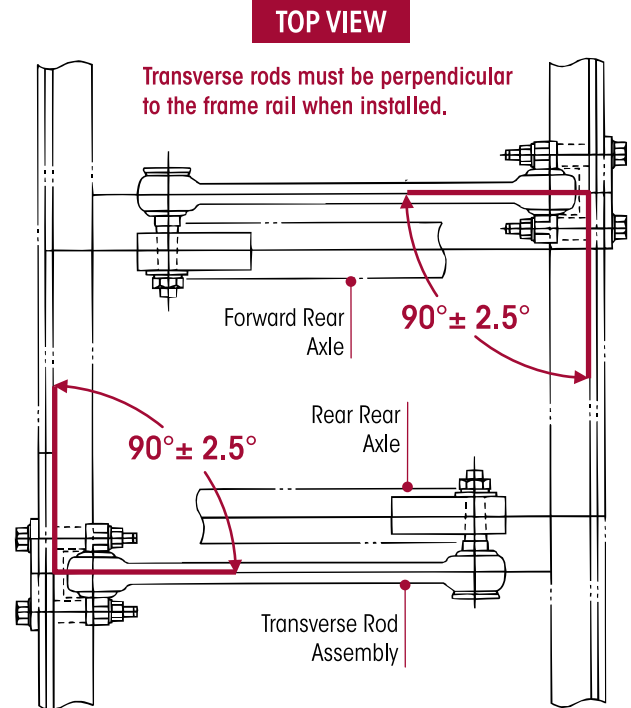
A vehicle equipped with transverse torque rods may experience some reduction in suspension articulation or increased lateral stiffness and resistance to turning, especially with radial ply tires.

TRANSVERSE TORQUE ROD AXLE BRACKETS

Hendrickson does not set the guidelines with regard to transverse torque rod axle bracket heights or footprints, due to the many variations of axle combinations, frame widths, and suspension ride heights. Refer to the vehicle manufacturer for component specifications.

Hendrickson supplies transverse torque rod axle brackets (that are not specific to any vehicle or application) as shown below.

FIGURE 2



| Axle Bracket Part Number | Axle Model Number | | * It may be necessary to cross-reference the provided axle model number to the current vehicle manufacturer's model number. |
|--------------------------|---------------------|----------------|---|
| 48042-000 | *Dana (Eaton) | Eaton D460 | |
| | | Eaton D480 | |
| 46868-000 | *Meritor (Rockwell) | Rockwell SL100 | |
| | | Rockwell SQ100 | |
| | | Rockwell SQHP | |



TRAAX ROD® Transverse Torque Rods

Hendrickson recommends heavy-duty and severe-duty TRAAX ROD components for demanding vocational applications.

TRAAX ROD performance — Up to *five times the performance life of conventional double shot bushings and similar performance of ball and socket torque rods, with better energy absorption, delivering superior bushing retention and longer component life for heavy- and severe-duty applications.

- **Heavy-duty** — Recommended for 40,000 lb. to 52,000 lb. capacity suspensions in most vocational applications.
- **Severe-duty** – Recommended for 60,000 lb. to 70,000 lb. capacity suspensions. Also available for 40,000 lb. to 52,000 lb. capacity suspensions for even longer service intervals.

FIGURE 3



5x Performance life*

* Based on internal testing of bushing walkout, retention and durability. Actual product performance may vary depending on component and vehicle configuration, operation, service and other factors.

Refer any questions on this publication to Hendrickson Tech Services:



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1.630.910.2899



Additional Hendrickson
Product Information
www.hendrickson-intl.com

Actual product performance may vary depending upon vehicle configuration, operation, service and other factors. All applications must comply with applicable Hendrickson specifications and must be approved by the respective vehicle manufacturer with the vehicle in its original, as-built configuration. Contact Hendrickson for additional details regarding specifications, applications, capacities, and operation, service and maintenance instructions.

Call Hendrickson at 1.866.755.5968 (toll-free) or 1.630.910.2800 for additional information.



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