



H[®] ASSEMBLY INSTRUCTIONS

ULTRA ROD[®] PLUS[™] TWO PIECE

SUBJECT: Kit No. 46610-001, 46661-001 and 46681-001

LIT NO: 59310-024

DATE: November 2004

REVISION: A

INTRODUCTION

The Hendrickson ULTRA ROD[®] PLUS[™] is a heavy-duty two piece torque rod product. ULTRA ROD PLUS can service most trucks up to 52,000 pound capacity. ULTRA RODS are designed for up to 30 inch centers for most applications, see reverse side for welding instructions.

HOW TO MEASURE AND ASSEMBLE TWO PIECE ULTRA ROD PLUS

To ensure proper measurement for torque rod replacement, check for the following:

- If the torque rod being replaced is an ULTRA ROD, measure the center of end hub to center of end hub of the old torque rod. Make the new torque rod the same length.

IMPORTANT NOTE

If the old torque rod **IS NOT** an ULTRA ROD, it is important to verify how the torque rod is mounted and then measure as shown in Figures 1, 2, and 3.

FIGURE 1

OUTSIDE MOUNT

Measure center to center of old torque rod. Make the new torque rod the same length.

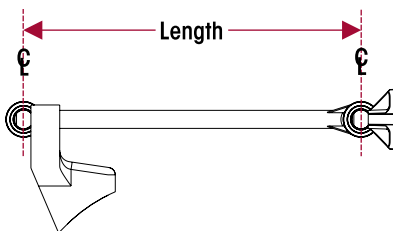


FIGURE 2

INSIDE TO INSIDE MOUNT

Measure from the center of old torque rod and add 1/8" to make new torque rod.

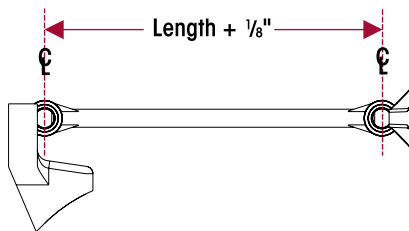
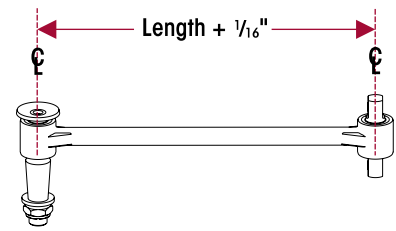


FIGURE 3

TAPER PIN TO STRADDLE PIN MOUNT

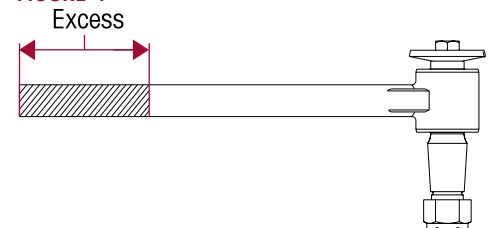
Measure center to center of old torque rod and add 1/16" to make new torque rod.



PRE-ASSEMBLY METAL PREPARATION

1. Select the appropriate end type for both the cross-member end and axle end of the existing torque rod.
2. Assemble male spacer bar into the base of the female sleeve. Measure for excess: (Excess equals (=) Male Spacer Bar plus (+) Female Sleeve minus (-) length of original).
3. Remove excess of male spacer bar using abrasive cutting, sawing, or machining methods, see Figure 4. End face of spacer bar should be square. **DO NOT flame or arc cut.**
4. Remove all grease, oil, rust or oxides from the metal surfaces to be welded by grinding, filing or power brushing.

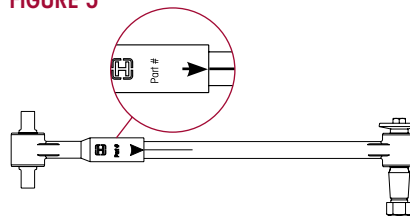
FIGURE 4



WELDING ASSEMBLY

1. Assemble male spacer bar into the base of the female sleeve. Check for correct length (detailed on front of this publication).
2. Rotate male end until scribed line is positioned with arrow on sleeve end, see Figure 5. Hold in position for fillet weld.
3. Complete assembly by welding a minimum ¼" convex fillet weld. This weld must obtain full root penetration with equal legs sufficient to provide metallurgical fusion between weld and base metal. **DO NOT** undercut or overlap.
 - For maximum security, welded assembly should be NDT inspected with dye penetrant, fluorescent penetrant or magnetic particle techniques. Any 1/16" or larger defect shall be repaired and reinspected.

FIGURE 5



WELDING PROCESS

⚠ WARNING

THE WELDING PROCEDURE DESCRIBED MUST BE PERFORMED BY AN ASME OR AWS QUALIFIED WELDING OPERATOR. AN EFFECTIVE WELD BETWEEN SPACER BAR AND TUBULAR END IS CRITICAL TO SAFE OPERATION OF THESE PARTS. HENDRICKSON TRUCK COMMERCIAL VEHICLE SYSTEMS SHALL NOT BE RESPONSIBLE FOR WELDING AND FABRICATION PERFORMED BY THE PURCHASER OR USER OF THIS PRODUCT.

TYPE: Preferred: GMAW (Gas Metal Arc Welding), commonly referred to as MIG welding.
 Alternate: SMAW (Shielded Metal Arc Welding), commonly referred to as stick, arc or coated electrode.

CURRENT: DC reverse polarity.

SHIELDING GAS: (GMAW process only) 100% CO₂ or 75% Argon - 25% CO₂ (C25) at 30 CFH flow.

FILLER METAL: GMAW - AWS #ER70S-6, SMAW - (Coated electrode), AWS #E6010 or E7018.

NOTE

Preheating and post-heating of metal is required. Prior to welding, spacer end toque rods should be preheated within the range of 200° – 400° Fahrenheit. Post heating should be within the range of 1100°–1200° Fahrenheit. Also, SMAW (coated electrodes) should be stored in a warming oven to minimize moisture absorption.

COMPONENT POSITION: All components are to be positioned so welding can be performed in the #1F (Flat Roller Fillet) position only.

BASE METAL: Male Spacer Bar and Female Sleeve: SAE 1030

Refer any questions on this publication to Hendrickson Technical Services (techservices@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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