

H ASSEMBLY INSTRUCTIONS

ULTRA ROD® Two-Piece Torque Rods

SUBJECT: Selection Guide and Welding Instructions

LIT NO: 59310-002

DATE: February 2009

REVISION: D

SELECTION GUIDE

TUBE END

CURRENT END	OLD END	HOLE DIA.	MOUNTING CNTRS
66610-000H	46610-000	5/8"	4 3/8"
66766-000H	56766-000	7/8"	4 3/8"
66767-000H	56767-000	3/4"	4 3/8"

SPACER END

CURRENT END	OLD END	HOLE DIA.	LENGTH	MOUNTING CNTRS
66661-000H	46661-000	5/8"	27"	4 3/8"
66768-000H	56768-000	3/4"	27"	5 1/16"
67047-000H	57047-000	3/4"	27"	4 3/8"
67048-000H	57048-000	7/8"	27"	4 3/8"
66660-000H	46660-000	5/8"	35"	4 3/8"
67046-000H	57046-000	3/4"	35"	4 3/8"

CURRENT END	OLD END	TAPER	LENGTH
66691-000H	46691-000	1 7/8" X 1 1/4"	27"
66690-000H	46690-000	1 7/8" X 1 1/4"	35"

CURRENT END	OLD END	TAPER	LENGTH
66671-000H	46671-000	2" X 1 1/8"	27"
66670-000H	46670-000	2" X 1 1/8"	35"

CURRENT END	OLD END	TAPER	LENGTH
66681-000H	46681-000	3" X 1 1/4"	27"
66680-000H	46680-000	3" X 1 1/4"	35"

CURRENT END	OLD END	TAPER
66620-000H	46620-000	2" X 1 1/8"
66769-000H	56769-000	1 7/8" X 1 1/4"
66630-000H	46630-000	3" X 1 1/4"

CURRENT END	OLD END	TAPER	LENGTH
66671-000H	46671-000	2" X 1 1/8"	27"
66670-000H	46670-000	2" X 1 1/8"	35"
66681-000H	46681-000	3" X 1 1/4"	27"
66680-000H	46680-000	3" X 1 1/4"	35"

CURRENT END	OLD END	HOLE DIA.	LENGTH
66640-000H	46640-000	3/4"	5 1/16"

CURRENT END	OLD END	HOLE DIA.	LENGTH
66610-000H	46610-000	5/8"	4 3/8"

CURRENT END	OLD END	HOLE DIA.
66650-000H	46650-000	1 1/8"

CURRENT END	OLD END	HOLE DIA.	LENGTH
66701-000H	46701-000	1 1/8"	27"
66700-000H	46700-000	1 1/8"	35"

ULTRA ROD TWO-PIECE TORQUE RODS

The Hendrickson ULTRA ROD® can service most trucks up to 52,000 pound capacity. ULTRA RODs are designed for up to 27 inch centers for most applications and 35 inch for widespread tandems.

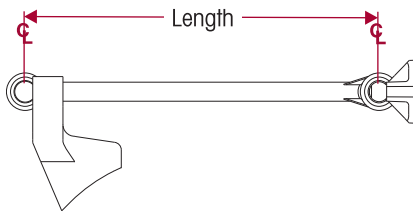
HOW TO MEASURE AND ASSEMBLE NEW TWO-PIECE ULTRA RODS

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

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

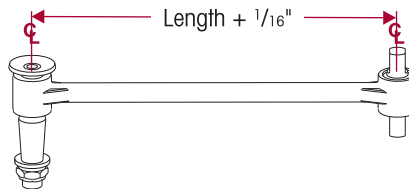


Outside Mount:

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

FIGURE 2

TAPER PIN TO STRADDLE PIN MOUNT

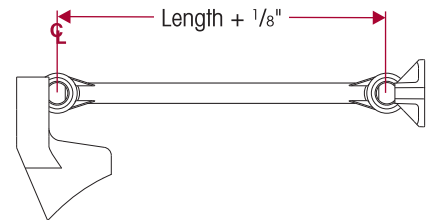


Taper Pin To Straddle Pin Mount:

Measure center to center of old torque rod and add $\frac{1}{16}$ " to make new torque rod.

FIGURE 3

INSIDE TO INSIDE MOUNT



Inside To Inside Mount:

Measure from the center of old torque rod and add $\frac{1}{8}$ " to make new torque rod.

PRE-ASSEMBLY METAL PREPARATION

1. Select the appropriate end type for the cross-member end, frame rail and axle end of the existing torque rod.
2. Assemble male spacer bar into the base of the female sleeve until it bottoms in the female sleeve. Measure for excess, see Figure 4.
3. Remove excess of male spacer bar using abrasive cutting, sawing, or machining methods. 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





WARNING

WELDING ASSEMBLY

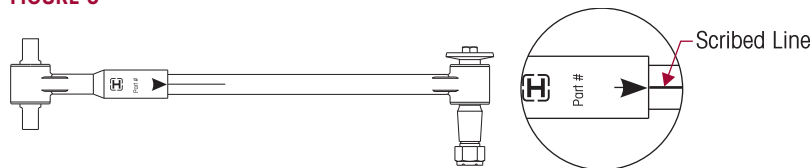
THE WELDING PROCEDURE DESCRIBED MUST BE PERFORMED BY AN ASME OR AWS QUALIFIED WELDING OPERATOR. AN EFFECTIVE WELD BETWEEN SPACER BAR AND TUBULAR END IS CRITICAL TO SAFE OPERATION OF THESE PARTS. HENDRICKSON TRUCK SUSPENSION SYSTEMS SHALL NOT BE RESPONSIBLE FOR WELDING AND FABRICATION PERFORMED BY THE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

NOTE

For correct and easy assembly, match scribed line on spacer with sleeve arrow and weld, as shown in Figure 5.

1. Assemble male spacer bar into the base of the female sleeve until it bottoms in the female sleeve. Check for correct length, see detail on front page of this publication.
2. Rotate male end until scribed line is positioned with arrow on sleeve end. Hold in position for fillet weld, see Figure 5.

FIGURE 5



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 must be repaired and reinspected.

WELDING PROCESS

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

No pre-heating or post-heating of metal is required. However, 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

See Hendrickson Selection Guide, Lit. No. 45745-148 for more information regarding one and two-piece torque rods and replacement bushings.

Refer any questions regarding this publication to Hendrickson Tech Services.

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