PREMIER MANUFACTURING CO.

THE FIRST NAME IN QUALITY COUPLINGS

Installation, Inspection, Operation & Maintenance Guide

Model 450 / 450A Hinge Assembly

IMPORTANT

Read these instructions completely before installing, using or attempting to repair this product. If you have any questions, call Premier at (800) 255-5387 or (503) 234-9202.

Selecting The Right Equipment

Whatever your application, selecting the proper equipment for the job is very important. Proper selection along with regular inspection and maintenance will help keep operating costs minimal while providing long life to each component. Below are general guidelines for selecting Premier Couplings and Drawbar Eyes. If you feel that your application is unique, please give Premier a call so that we may help you through the selection process.

Follow these four steps to ensure proper selection of Premier Couplings and Drawbar Eyes.

Step 1:
Determine "Gross Trailer(s) Weight"
(GVWR(s) of towed trailers)

→

Step 2:
Determine "Tongue Weight Capacity"
(Maximum occurring tongue weight)

→

Step 3:
Add Margin of Safety
(Dependent upon your equipment and operating environment)

→

Step 4:
Browse Premier Product Catalog
(Based on Steps 1 - 3)

Step 1: Determine "Gross Trailer(s) Weight"

"Gross Trailer(s) Weight" is usually determined by the Gross Vehicle Weight Rating (GVWR). This information is attached to the trailer by the trailer manufacturer.

Double Trailer Configuration

Example only, each application may vary and should be considered unique.

For "Double Trailer" configurations, only the rear trailer is considered when selecting your Premier Coupling or Drawbar Eye. In this example, a Coupling and Drawbar Eye with a "Gross Trailer Weight" rating of 40,000 lbs. (18,143 kg) would be the minimum rating acceptable for normal, over-the-road applications (see Tongue Weight section below).

Triple Trailer Configuration

Example only, each application may vary and should be considered unique.

For "Triple Trailers", only the two most rearward trailers are considered in selecting your Premier Coupling or Drawbar Eye. In this example, a Coupling and Drawbar Eye with a "Gross Trailer Weight" rating of 80,000 lbs. (36,287 kg) would be the minimum acceptable for normal, over-the-road applications (see Tongue Weight section below).

Step 2: Determine "Tongue Weight Capacity"

"Tongue Weight Capacity" is the maximum expected weight at the drawbar eye. If a hinged drawbar is used, the maximum weight will be approximately 1/2 the overall drawbar weight. If a non-hinged drawbar is used and the actual tongue weight is not known, you can approximate the weight by multiplying the GVWR of the towed trailer by 15%. However, each application is unique and the best practice is to weigh the tongue when the trailer is loaded to its GVWR.

Step 3: Considering Operating Conditions and Environments

Environments such as rough uneven roads or off-road use can dramatically increase shock loads to both drawbar eyes and couplings. In general, increasing the "Gross Trailer Weight" (Step 1:) and "Tongue Weight Capacity" (Step 2:) by a minimum of 25% will be sufficient for many applications. Even if an application is used off-road occasionally, the minimum increase necessary for Gross Trailer and Tongue Weight is 25%. Certain types of equipment and/or operating practices can also dramatically increase loads through equipment binding and/or improper loading practices. Of special concern is high tongue weight. However, each application is unique and every environment different, therefore your application may require more than 25%.

Once both "Gross Trailers(s) Weight" (Step 1:) and "Tongue Weight Capacity" (Step 2:) have been determined, evaluate your operating conditions and apply an appropriate margin of safety.

Step 4: Browse Premier Product Catalog

Browse the Premier Product Catalog and refer to the "Specifications" section of each product. Be sure to review the "Understanding Premier Load Specifications" section and "Coupling to Drawbar Eye Cross-Reference" sheet on the next couple pages.

Selecting The Right Equipment

Understanding Premier Load Specifications

Each Premier product undergoes extensive design and testing prior to being introduced. We use the latest in Computer Aided Design and Analysis Software as well as physical destructive tests. Premier's published load specifications are the maximum load a given product or part will withstand without failure. Premier's testing procedures closely follow the Society of Automotive Engineers (SAE) guidelines of Recommended Practice for testing Couplings and Drawbar Eyes (SAE J847 & J849).

Weight of Trailer(s) being towed (see "Selecting Premier Couplings & Drawbar Eyes").

Maximum occurring tongue weight. Static as well as dynamic loads.

Maximum load on latch or upper coupling surface containing drawbar eye. Latches and upper coupling surfaces are not designed for sustained load at this stated capacity.

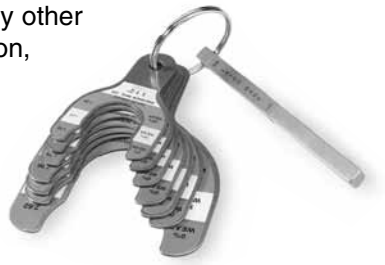
The largest x-section in eyelet portion of eye. Used to determine compatibility with coupling.

Minimum inside diameter of eyelet portion of eye. Used to determine compatibility with coupling.

Weight of unit or pair of units without accessories.

Maximum Gross Trailer Weight:	30,000 lbs.	(13,607 kg)
Maximum Tongue Weight:	4,500 lbs.	(2,041 kg)
Ultimate Latch/Upward Vertical Capacity:	5,000 lbs.	(2,267 kg)
Maximum Eye X-Section:	1 13/16 in.	(46 mm)
Minimum Eye Opening:	2 in.	(51 mm)
Unit Weight:	12.6 lbs.	(5.7 kg)

Importance of Inspection and Maintenance



Whether you use Premier Jacks, Couplings, Drawbar Eyes, Hinge Assemblies or any other Premier product, regular inspection and maintenance are essential for proper function, keeping repair costs to a minimum and above all, safe and efficient operation.

To determine wear limits, Premier created Wear Gages that help judge the useful life of couplings and drawbar eyes (details in catalog). In accordance with Premier and the Federal Motor Carrier Safety Regulations, these were designed to identify wear at the critical percentages of 18% and 20%, by measuring the cross-section of coupling hooks (horn) and drawbar eye loops. 18% wear indicates that the product should be replaced as soon as possible. At 20% wear, the product is no longer in usable condition and must be taken out of service immediately and replaced. The latch gage bar measures the gap space between the top of the coupling hook and the closed latch. If the 3/8" latch gage bar can pass between this region, then the latch components should be considered worn past safe limits and replaced. Please note that these wear gage specifications are in accordance with Premier Mfg. Co. and the Federal Motor Carrier Safety Regulations (refer to other manufacturer's specifications for wear limits on their products).

Premier also provides Installation Guides for each of our major products. These help guide you through installation, inspection, routine maintenance and part replacement. Another resource is our website at **www.premier-mfg.com**. Here you will find Installation Guides, Service Guides, distributor locations, online catalogs, product information, trade show schedules and links to trucking resources.

"Premalloy" - Premier's Exclusive Alloy

PREMALLOY®
"The Harder You Work It, The Harder It Gets"

"The harder you work it, the harder it gets" best describes how Premalloy performs. Premalloy actually work hardens at the contact surfaces during normal use, which results in longer service life. Premalloy is highly recommended for off-road and aggregate type applications due to its wear resistant characteristics. Many of Premier's couplings are made from this exclusive material. As you are browsing the catalog, look for the Premalloy icon next to the product photos to determine which models are made of this material.

Coupling to Drawbar Eye Cross Reference Chart

Couplings	Drawbar Eyes																																								
	2*	3	4	5	6/6A	8	11	20	21	22	23	107	108	110	123	125	126	127	200	200L	203	205	207	238DB†	245DB†	245DB-3†	300	304	305	306	307	309	405	407SE	410
16	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
24	●																																								
40	●																																								
100†			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
100-4†			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
130	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				●	●	●	●						
135NT		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●			●									
140	●	●					●																																		
150			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
160	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
235NT			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●									
240		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●
240K			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
270			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
290			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
360			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
370			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
370B			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
470			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
470H			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
480			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
570			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
580	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
580J			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
590	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
690/690T			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
770			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
780			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
790																								●		●	●	●	●	●	●	●											
880																								●		●	●	●	●	●	●	●											
890/890C			●	●	●	●	●	●	●	●	●			●	●	●	●		●	●	●	●		●	●	●	●	●				●										
2200			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2300			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2300B			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2400			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2400H			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

† Saf-Tite Product

*** Industrial Application**

CAUTION: Verify that both the coupling's and drawbar eye's rated capacities meet your application(s) requirements.

Model 450 / 450A Hinge Assembly

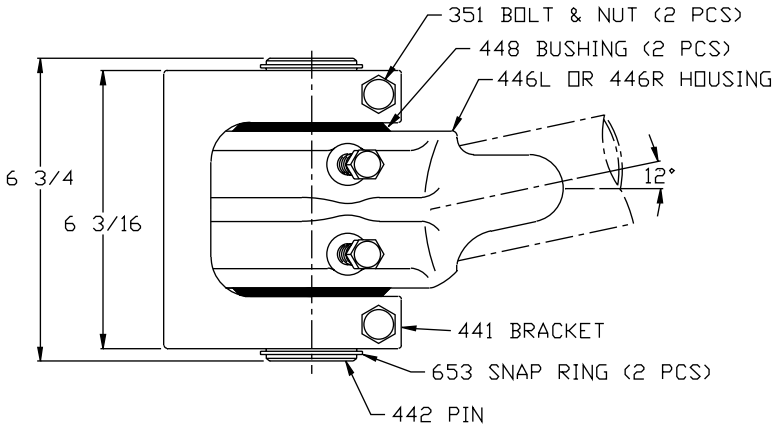
SPECIFICATIONS

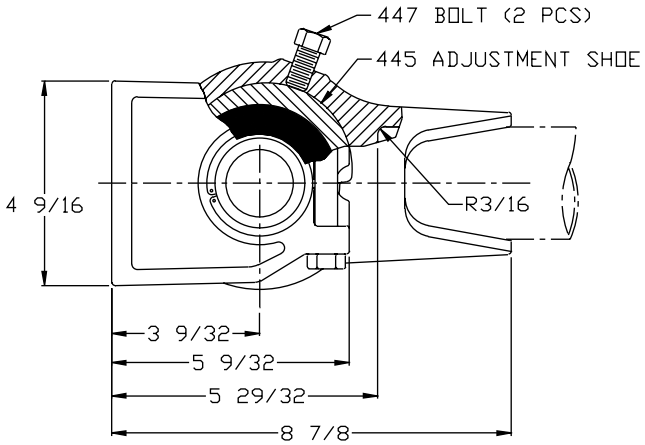
SAFETY WARNING

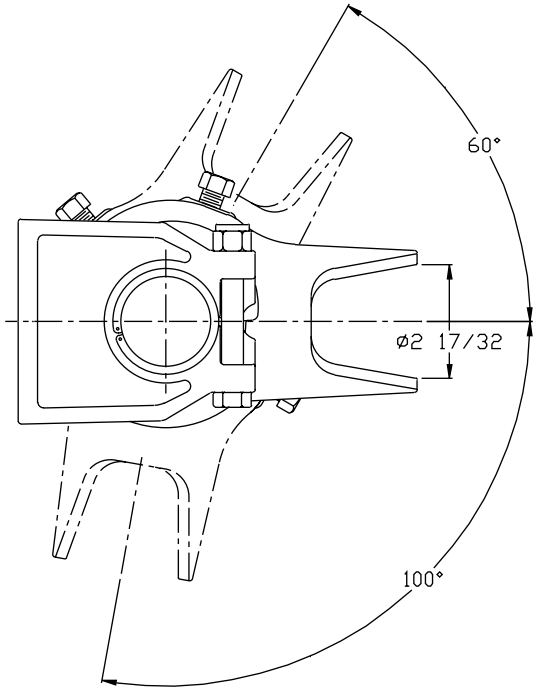
This product is designed for towing under normal conditions within the stated gross trailer weight capacity of the hinge assembly being used. Do not overload or abuse this product. Overloading or abuse may lead to property damage, severe injury, or death.

Max. Gross Trailer Weight (pair):	100,000 lbs.	(45,359 kg)
Bushing I.D.:	2 in.	(51 mm)
Bushing O.D.:	3 1/2 in.	(89 mm)
Bushing Length:	1 3/4 in.	(44 mm)
Unit Weight (pair):	45 lbs.	(20.4 kg)

STANDARD INSTALLATION DRAWING







Accepts 2 1/2 in. (64 mm) round tubing.

PARTS & ACCESSORIES

Parts included

- 351 Bolt & Nut (2)
- 441 Bracket
- 442 Pin
- 445 Adjustable Shoe
- 446L/446R Housing
- 447 Bolt (2)
- 448/448A Bushing (2)
- 653 Snap Ring (2)

Bushing Replacements

(Use ONLY Premier's Bushings):

- 448 (Rubber) or 448A (Poly)

Model 450 / 450A Hinge Assembly

INSTALLATION

The 450 and 450A Hinge Assemblies are ONLY to be used and maintained with Premier parts. Any substitution or use of non-Premier parts in a 450/450A Hinge Assembly will VOID ALL PRODUCT WARRANTY.

Installation Procedure:

1. 450 and 450A Hinge Assemblies must be installed to comply with the Federal Motor Carrier Safety Regulations. Specifically, Section 393.70, Paragraph C: "Towing of Full Trailers." Prior to install or operation, consult with local, State and Federal agencies, as there may be additional applicable laws governing the installation and use of this product.
2. Prior to welding, Premier strongly suggests building a jig to properly locate the 446L and 446R Housings and 441 Brackets. The jig should ensure the two Hinge Assemblies, shown in Figure 1, are of equal height above the ground, parallel and equidistant from the trailer centerline.
3. All welds used to install the 450 and 450A Hinge Assemblies must follow one of the three attached Welding Procedure Specifications; GMAW, SMAW or FCAW. Welding should only be performed by a certified welder skilled in structural welding practices.
4. All weld locations must be clean, paint free and void of any moisture, oil, grease, oxides or loose or thick scale.

Because 450/450A Hinge Assemblies operate in pairs, the installation instructions below are to be simultaneously followed for each hinge assembly.

446L & 446R Housing Installation:

5. The 446 Housings accommodate a front end structure consisting of 2 ½" round tubing. The converging angle of each tube into each housing is 12° (see Figure 2). Note that when the install is complete, the two housings are to be equidistant from the trailer centerline and their bores aligned.
6. Fit-up, between the 2 ½" tube and the mounting surface of the 446 Housing, must be flush, as shown in Figure 2. Failure to have a flush fit prior to welding will cause the capacities to be negatively affected. Figure 2A shows one possible example of an improper fit-up that must be avoided.
7. Attach the 446 Housing to the front end tube with a minimum 3/8" fillet weld that encompasses the entire interface between the housing and tube as shown in Figure 2.

441 Bracket Installation:

8. The two 441 Brackets must be equal in height above the ground, parallel, equidistant from the trailer centerline and their bases must be flush with the mounting structure surface. Misaligned brackets or a failure to have a flush fit with the mounting surface prior to welding will cause poor hinge operation as well as negatively affect their capacities.
9. Tack weld the 441 Brackets in place and test fit the 446 Housings. Before proceeding, make sure the centerlines and bores of the housings align with the centerlines and bores of the brackets.
10. Attach the 441 Bracket to the mounting surface with a minimum 3/8" fillet weld around the outer and inner surfaces of the bracket as shown in Figure 3.

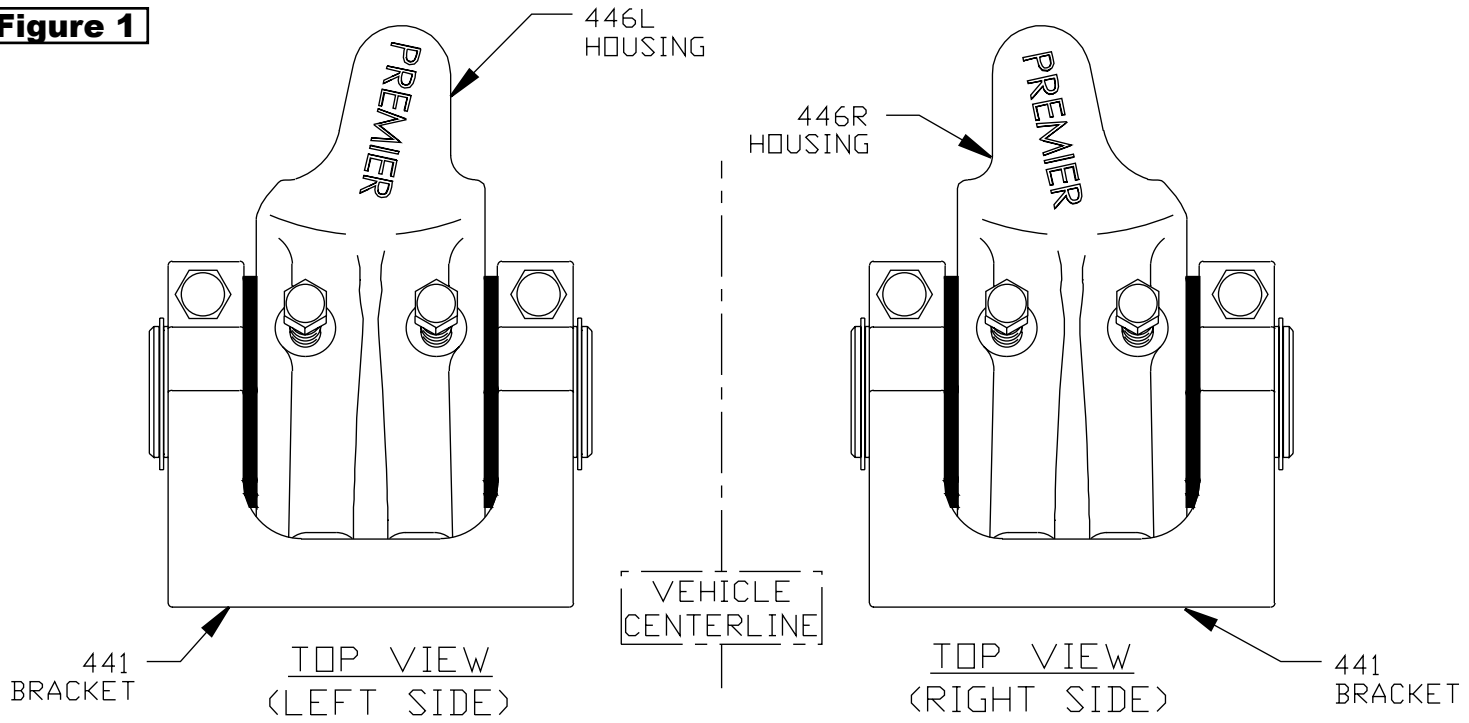
450 / 450A Hinge Assembly after Welding
(450: Premier 448 Rubber Bushings only)
(450A: Premier 448A Poly Bushings only)

11. Allow the finished structures to cool.
12. Loosen the two 447 Bolts in the 446 Housing far enough so they do not protrude into the housing bore.
13. Slide one of the two 448/448A Bushings, chamfered end first (see Figure 4), into one side of the 446 Housing. Roughly 3/16" of the bushing will stick out of the housing.
14. From the other side of the 446 Housing that the 448/448A Bushing was placed, slide the 445 Shoe into the housing's bore with the shoe's outside curved surface adjacent to the two 447 Bolts. The shoe needs to slide in far enough for its internal rib to be in alignment with the housing's internal rib.
15. Place the other 448/448A Bushing, chamfered end first, into the 446 Housing.

INSTALLATION

16. Place the 446L and 446R Housings into each 441 Bracket aligning the bores as much as possible.
17. Slide the 442 Pin through the aligned bores of the 441 Bracket and 424 Housing far enough so both snap ring grooves at the end of the pin are visible.
18. Attach the 653 Snap Rings into the grooves at each end of the 442 Pin and ensure the snap rings are fully seated in the grooves. Use caution when installing the snap rings and make certain not to over expand them as this will cause permanent damage to the snap rings.
19. Tighten the 351 Bolts to 80 ft-lbs of torque. These bolts compress the 441 Bracket, clamping the 442 Pin.
20. Torque the 447 bolts equally and test the hinge assemblies for desired rotational stiffness. If a stiffer hinge is desired, tighten both 447 Bolts until the desired stiffness is reached.
21. An “IMPORTANT WARNINGS!” sticker was enclosed. This must be attached to the front end, adjacent to the drawbar eye, visible for the end user to read.

Figure 1



INSTALLATION

Figure 2

FIG. 2A

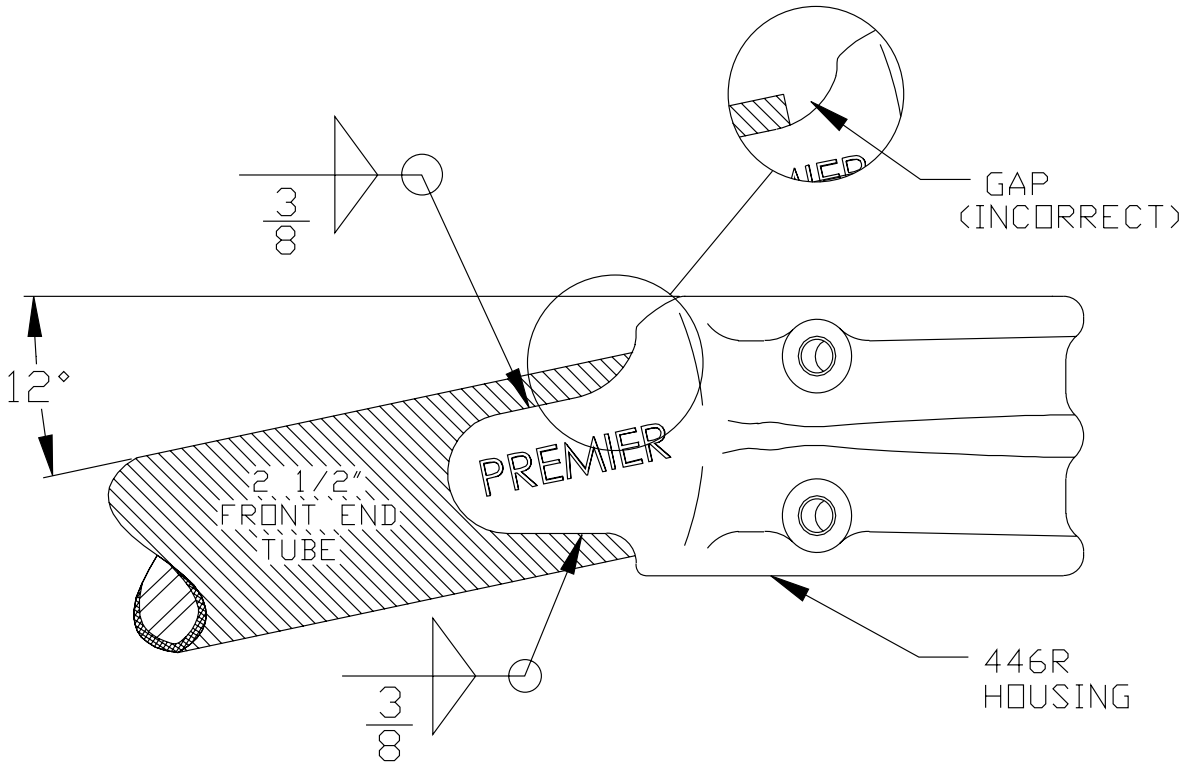
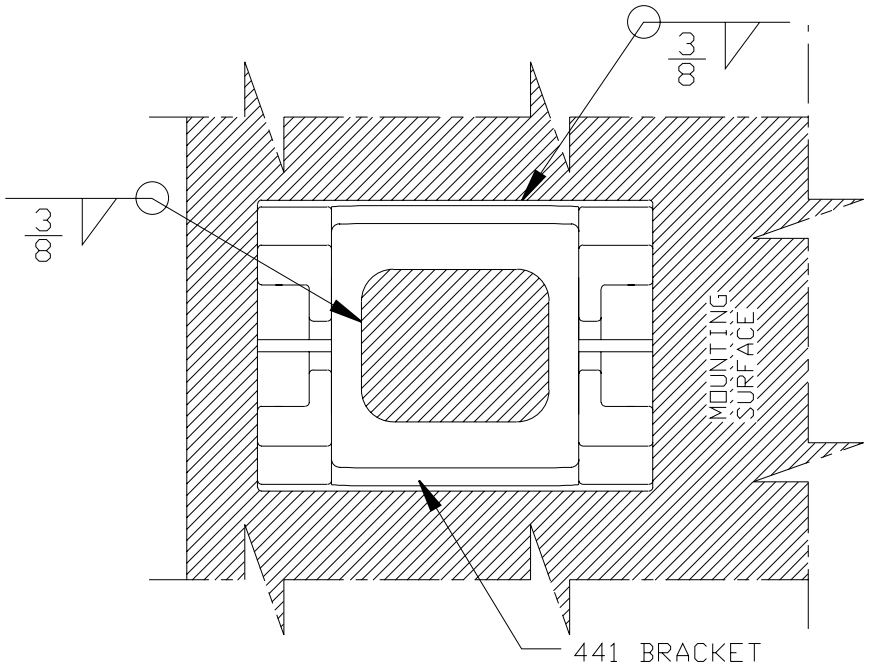


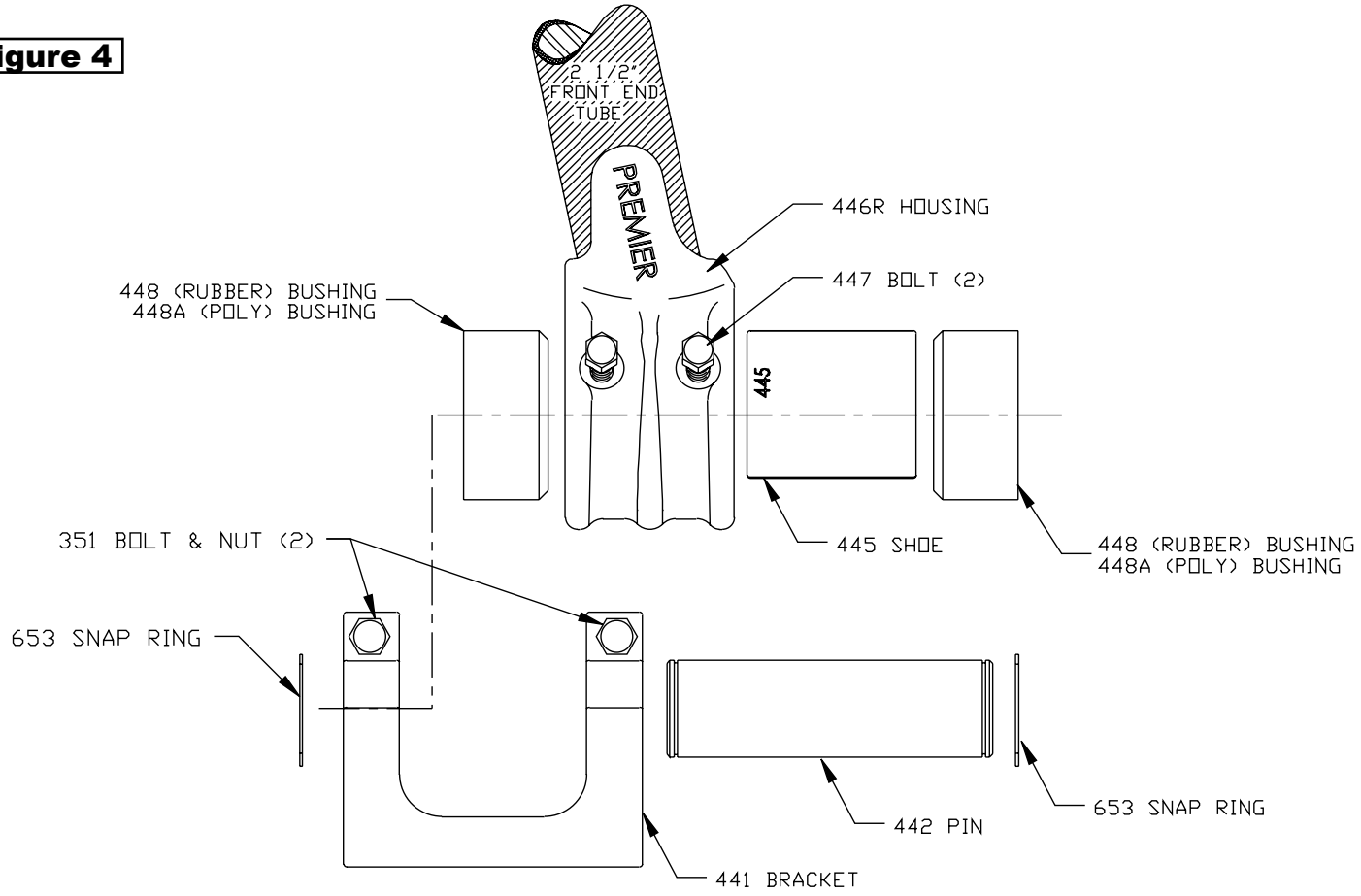
Figure 3



Model 450 / 450A Hinge Assembly

INSPECTION / OPERATION / MAINTENANCE

Figure 4



INSPECTION / OPERATION / MAINTENANCE

1. Visually inspect the hinge assembly for cracks, impact damage and/or deformation before each and every use. Do NOT use if any of these conditions exist.
2. Over time, slack may develop in the hinge assembly due to normal bushing wear. Therefore, clean and inspect every 90 days or sooner if your application dictates, and adjust or replace the bushings if slack is noted.
3. To check for bushing wear, place a crowbar near the center of the bracket adjacent to the housing. Apply pressure to the bar and visually test for free-play between either the bushing & the housing or the bushing & the pin. If free-play is noted tighten and/or replace bushing.

   NOTE: Pulling forward or backward while the trailer brakes are set is not an acceptable method to check for bushing wear.
4. This product is designed to be operated within the free rotation limits of the coupling to drawbar eye connection. It is the responsibility of the vehicle designer/end user to ensure that these limits are not exceeded (do not bind-up/ jackknife).
5. WARNING: Prior to towing, make certain that adequately rated safety chains have been properly connected.
6. Never weld on any Premier part in order to repair damaged or worn areas. Field and/or shop weld repairs are inadequate and may further weaken the hinge assembly.

IMPORTANT GUIDELINES that apply to all Premier Hinge Assemblies

- Never attempt weld repair of damaged or worn components
- Clean and inspect hinge assemblies for damage or excessive wear before each and every use
- All welds should be performed by a certified welder skilled in structural welding practices
- The mounting structure the hinges are welded to must be of sufficient strength to withstand load ratings of hinges
- Do not bind-up (Jackknife) any application as stresses can cause damage to products or components, resulting in failure and detachment of the trailer while in use

Model 450 / 450A Hinge Assembly

WELDING PROCEDURES

WELDING PROCEDURE SPECIFICATION (WPS) Yes (X)
PREQUALIFIED (X) QUALIFIED BY TESTING (X) or PROCEDURE
QUALIFICATION RECORD (PQR) Yes (X)

GMAW		Identification #: PMEM-1		
		Revision 0	Date: 2/1/00	By: PI
Company Name: Premier Manufacturing Co.		Authorized By:		Date:
Welding Process(es): GMAW		Type: Manual:		Semi-Automatic: (X)
Supporting PQR No.(s): N/A Prequalified		Machine:		Automatic:
JOINT DESIGN USED		**POSITION**		
Type: All Fillets, Butts (See Attached)		Position of Groove: 1G, 2G		Filet: 1F, 2F
Single (X)	Double Weld (X)	Vertical Progression: Up (X)		Down ( )
Backing: Yes (X)	No (X)	**LECTRICAL CHARACTERISTICS**		
Backing Material: M1-P1-S1 Group 1 &2		Transfer Mode (GMAW) short-circuiting ( )		
Root Opening: ---	Root Face Dimension: ---	Globular (X) Spray (X)		
Groove Angle: ---	Radius (J-U): ---	Current: AC ( ) DCEP(X) DCEN ( ) Pulsed ( )		
Back Gouging: Yes (X) No (X) Method: Mech/Thermal		Other:		
BASE METALS		**TECHNIQUE**		
Material Spec.: M1-P1-S1 1026 Carbon Steel		Stringer or Weave Bead: String or Weave		
Type or Grade: Group 1 & 2		Multi-Pass or Single Pass (per side): Single, Multiple		
Thickness: Groove: 1/8 - 1 1/8"	Fillet: Unlimited	Number of electrodes: Single		
Diameter (Pipe): 4" minimum		Electrode Spacing:	Longitudinal: ---	
FILLER METALS			Lateral: ---	
AWS Specification: A5.18			Angle: ---	
AWS Classification: E70S-1		Contact Tube to Work Distance: 3/4" ±1/8"		
SHIELDING		Peening: Recommended		
Flux:	Gas: CO^2	Interpass Cleaning: Mechanical		
	Composition: 100%	**POSTWELD HEAT TREATMENT**		
Electrode-Flux (Class)	Flow Rate: 30-50 cfh	Temp.:		
	Gas Cup Size: 1/2" Dia.	Time:		
PREHEAT				
Preheat Temp.: Min.: 100°F				
Interpass Temp.: Min. 100°F	Max.: 500°F			

WELDING PROCEDURE

Pass or Weld Layer(s)	Process	Filler Metals		Current		Volts	Travel Speed	Joint Details
		Class	Diam.	Type & Polarity	Amps or Wire Feed Speed			See Attached
All	GMAW	E70S-X	0.035	DCEP	190-230	22-31	13 ±1 IPM	
All	GMAW	E70S-X	0.045	DCEP	260-290	27-31	13 ±1 IPM	

WELDING PROCEDURE SPECIFICATION (WPS) Yes (X)
PREQUALIFIED (X) QUALIFIED BY TESTING ( ) or PROCEDURE
QUALIFICATION RECORD (PQR) Yes ( )

SMAW		Identification #: PMSMA-1		
		Revision 0	Date: 2/1/00	By: PI
Company Name: Premier Manufacturing Co.		Authorized By:		Date:
Welding Process(es): SMAW		Type: Manual: (X)		Semi-Automatic:
Supporting PQR No.(s): N/A (Pre-Qualified)		Machine:		Automatic:
JOINT DESIGN USED		**POSITION**		
Type: All Fillets-Butts (See Attached)		Position of Groove: All		Fillet: All
Single (X)	Double Weld (X)	Vertical Progression: Up (X)		Down ( )
Backing: Yes (X)	No (X)	**ELECTRICAL CHARACTERISTICS**		
Backing Material: M1-P1-S1, Group 1 & 2		Transfer Mode (GMAW) short-circuiting ( )		
Root Opening: ---	Root Face Dimension: ---	Globular ( ) Spray ( )		
Groove Angle: ---	Radius (J-U): ---	Current: AC ( ) DCEP (X) DCEN ( ) Pulsed ( )		
Back Gouging: Yes (X) No (X) Method: Mech/Thermal		Other:		
BASE METALS		**TECHNIQUE**		
Material Spec.: M1-P1-S1 1026 Carbon Steel		Stringer or Weave Bead: String and Weave		
Type or Grade: Group 1 and 2		Multi-Pass or Single Pass (per side): Multiple/Single		
Thickness: Groove: 1/8"-1 1/2	Fillet: Unlimited	Number of electrodes: Single		
Diameter (Pipe): 4" Minimum		Electrode Spacing:	Longitudinal: N/A	
FILLER METALS			Lateral: N/A	
AWS Specification. A5.1 -A5.5			Angle: N/A	
AWS Classification: E7018		Contact Tube to Work Distance: N/A		
SHIELDING		Peening: Recommended		
Flux:	Gas: N/A	Interpass Cleaning: Mechanical Only		
	Composition: N/A	**POSTWELD HEAT TREATMENT**		
Electrode-Flux (Class)	Flow Rate: N/A	Temp.: N/A		
	Gas Cup Size: N/A	Time: N/A		
PREHEAT				
Preheat Temp. Min.: 100°F				
Interpass Temp., Min.: 100°F	Max.: 500°F			

WELDING PROCEDURE

Pass or Weld Layer(s)	Process	Filler Metals		Current		Volts	Travel Speed	Joint Details
		Class	Diam.	Type & Polarity	(Amps) or Wire Feed Speed			See Attached And AWS D1.1
All	SMAW	E7018	3/32"	DCEP	70-110	19-22	As Required	
All	SMAW	E7018	1/8"	DCEP	90-150	20-24		
All	SMAW	E7018	5/32"	DCEP	120-190	20-24		

WELDING PROCEDURE SPECIFICATION (WPS) Yes (X)
PREQUALIFIED (X) QUALIFIED BY TESTING ( ) or PROCEDURE
QUALIFICATION RECORD (PQR) Yes ( )

FCAW		Identification #: PMFC-1		
		Revision 0 Date: 2/1/00		By: PI
Company Name: Premier Manufacturing Co.		Authorized By:		Date:
Welding Process(es): FCAW		Type: Manual: (X)		Semi-Automatic:
Supporting PQR No.(s): N/A (Pre-Qualified)		Machine:		Automatic:
JOINT DESIGN USED		**POSITION**		
Type: All Fillets-Butts (See Attached)		Position of Groove: All		Fillet: All
Single (X)	Double Weld (X)	Vertical Progression: Up (X)		Down ( )
Backing: Yes (X)	No(X)	**ELECTRICAL CHARACTERISTICS**		
Backing Material: M1-P1-S1, Group 1 &2		Transfer Mode (GMAW) short-circuiting ( )		
Root Opening: ---	Root Face Dimension: ---	Globular (X) Spray (X)		
Groove Angle: ---	Radius (J-U): ---	Current: AC ( ) DCEP(X) DCEN ( ) Pulsed ( )		
Back Gouging: Yes (X) No (X) Method: Mech/Thermal		Other:		
BASE METALS		**TECHNIQUE**		
Material Spec.: M1-P1-S1 1026 Carbon Steel		Stringer or Weave Bead: String and Weave		
Type or Grade: Group 1 and 2		Multi-Pass or Single Pass (per side): Multiple/Single		
Thickness: Groove: 1/8"-1 1/2"	Fillet: Unlimited	Number of electrodes: Single		
Diameter (Pipe): 4" Minimum		Electrode Spacing:	Longitudinal: N/A	
FILLER METALS			Lateral: N/A	
AWS Specification: A5.20			Angle: N/A	
AWS Classification: E70T-1/E71T-1		Contact Tube to Work Distance: 3/4" ±1/4"		
SHIELDING		Peening: Recommended		
Flux:	Gas: CO^2	Interpass Cleaning: Mechanical Only		
	Composition: 100%	**POSTWELD HEAT TREATMENT**		
Electrode-Flux (Class)	Flow Rate: 30-50 cfh	Temp.: N/A		
	Gas Cup Size: 1/2" Dia. Min.	Time: N/A		
PREHEAT				
Preheat Temp.: Min.: 100°F				
InterpassTemp.: Min. 100°F	Max.: 500°F			

WELDING PROCEDURE

Pass or Weld Layer(s)	Process	Filler Metals		Current		Volts	Travel Speed	Joint Details
		Class	Diam.	Type& Polarity	(Amps) or Wire Feed Speed			See Attached And AWS D1.1
All	FCAW	E70T-1	0.045	DCEP	180-280	24-28	As Required	
All	FCAW	E71T-1	0.052	DCEP	190-300	24-29		
All	FCAW		0.068	DCEP	210-350	24-29		
All	FCAW		5/64"	DCEP	250-400	26-30		

ATTENTION !

End Users must read and follow this information.

DISTRIBUTORS & OEM'S: Please ensure that your customers are made aware of the following information on this page.

(1) VERIFY THAT BOTH COUPLING'S AND DRAWBAR EYE'S RATED CAPACITIES MEET YOUR APPLICATION(S) REQUIREMENTS.

(2) DO NOT OVERLOAD COUPLING OR DRAWBAR EYE.

(3) INSPECT COUPLING, LATCH AND DRAWBAR EYE FOR CRACKS, BENDING DAMAGE OR EXCESSIVE WEAR. **DO NOT USE IF ANY OF THESE CONDITIONS EXIST!**

(4) CHECK FOR GAP BETWEEN CLOSED LATCH AND TOP OF HORN OR COUPLING BALL. **DO NOT USE IF GAP IS 3/8 IN. OR MORE.**

(5) MAKE SURE COUPLING IS LATCHED AND THAT LATCH WILL NOT OPEN.

(6) PRIOR TO USE, ALWAYS CONNECT SAFETY CHAINS OF ADEQUATE STRENGTH FOR LOAD(S) BEING TOWED.

(7) DO NOT BIND-UP (JACKKNIFE) ANY APPLICATION AS STRESSES CAN CAUSE DAMAGE TO THE COUPLING, DRAWBAR EYE, OTHER COMPONENTS OR ANY COMBINATION OF THEM. JACKKNIFING MAY RESULT IN FAILURE OF PRODUCTS OR COMPONENTS, RESULTING IN DETACHMENT OF THE TRAILER WHILE IN USE.

(8) DO NOT APPLY LUBRICANTS TO THE COUPLING HOOK OR DRAWBAR EYE LOOP, AS THEY CAN COVER UP POSSIBLE DAMAGE AND ACCELERATE WEAR.

(9) ALWAYS ABIDE BY ALL APPLICABLE STATE AND FEDERAL REGULATIONS GOVERNING SAFE AND PROPER TRANSPORTATION.

(10) NEVER STRIKE ANY OF THESE COMPONENTS WITH A HAMMER OR ANY OTHER DEVICE.

(11) ALWAYS VERIFY PROPER OPERATION OF LATCHING SYSTEM AND COUPLING COMPONENTS PRIOR TO DRIVE OFF.

(12) NEVER USE A COUPLING THAT YOU DO NOT FULLY UNDERSTAND HOW TO PROPERLY OPERATE AND VERIFY SECURE LATCHING OF.

(13) NEVER REPLACE ANY PART IN ANY OF PREMIER'S ASSEMBLIES WITH NON-PREMIER COMPONENTS. DOING SO WILL VOID ALL WARRANTY AND POTENTIALLY COMPROMISE THE UNIT'S INTEGRITY, WHICH COULD RESULT IN PROPERTY DAMAGE, SERIOUS INJURY, OR DEATH.

WARNING!

This envelope contains important instructions AND MUST REMAIN ATTACHED TO THIS HINGE ASSEMBLY. It may be removed only by the End User or by an Original Equipment Manufacturer who preserves this envelope and instructions and provides it to the end user.

PREMIER MANUFACTURING COMPANY
THE FIRST NAME IN QUALITY COUPLINGS
800-255-5387 (503) 234-9202
www.premier-mfg.com

Model 450/450A Hinge Assembly
Installation, etc.
Revised: 09/11

WARRANTY: We warrant all Premier products to be free from defects in material or workmanship for one year. We will repair or replace, at our option, any Premier product which our examination reveals to be defective, provided that the product is returned to our factory, at Tualatin, Oregon transportation prepaid, within one year of purchase by the first retail purchaser. Our warranty does not extend to products which have been subject to misuse, neglect, improper installation, maintenance or application, nor does our warranty extend to products which have been repaired or altered outside of Premier's facility unless the repair or alteration has been expressly authorized in writing by Premier. ***This warranty is in lieu of all other warranties, express or implied, and excludes warranties of merchantability, fitness for a particular purpose and otherwise, and in no event will Premier be liable for incidental, special, contingent or consequential damages.***

DISCLAIMER: Although great care has been taken to ensure accurate information throughout this document, Premier Manufacturing Company must reserve the right to alter any information contained within. These changes include but are not limited to: Dimensional changes, load capacity and availability of any part or assembly.