



PREMIER
MANUFACTURING CO.

THE FIRST NAME IN QUALITY COUPLINGS

Installation, Inspection, Operation & Maintenance Guide



MODEL 990L/990R COUPLING

990L/990R PAIR - PART #10005631

990L ONLY - PART #10005632

990R ONLY - PART #10005633

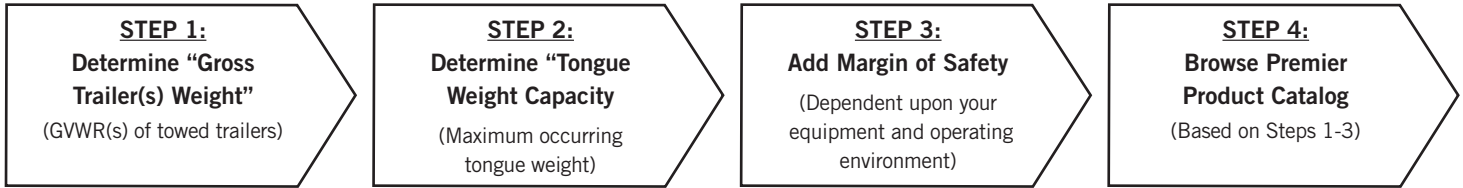
IMPORTANT

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 Coupling 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"

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

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).

Double 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).

Triple Trailer Configuration



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

STEP 2: Determine "Tongue Weight Capacity"

"Tongue Weight Capacity" is the maximum expected weight at the drawbar eye. Of 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 weight the tongue when the trailer is loaded to GVWR.



STEP 3: Consider 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 Trailer(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

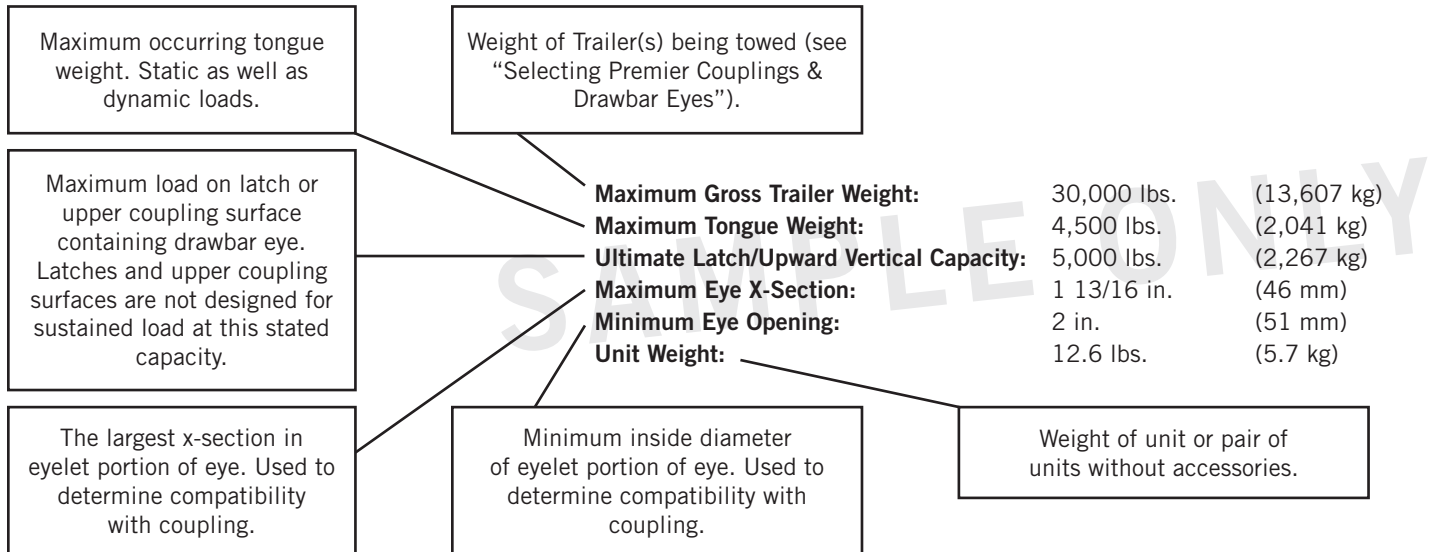
Browse the Premier Product Catalog and refer to the "Specifications" section of each product. Be sure to review the "Understanding Premier Load Specifications" sections and "Coupling to Drawbar Eye Cross-Reference" sheet on the next couple of pages.



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).



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.

Silver Series

The Silver Series line of couplings and pintle hitches boast beefed-up latch capacities that increased wear-resistance while eliminating weight. Topology optimization, finite element analysis, casting flow simulations, and solidification studies were used by Premier engineers to design these couplings. Thanks to the work of Premier's engineering team, the Silver Series couplings and pintle hitches are harder than their predecessors, correlating to a significant reduction in wear.



SELECTING THE RIGHT EQUIPMENT

Coupling - to - Drawbar Eye, Cross Reference Chart



		DRAWBAR EYES																															
		2*	3	4	5	6/6A	8	11	20	21	22	23	107	108	110	123	127	200	200L	205	207	238DB	245DB	245DB-3	300/300HD	304	305	307	309	405	407SE		
COUPLINGS	16	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
	24	•																															
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	100-3†			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
	100-4†			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
	100-4H†			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
	130	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
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	160	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
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	240		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	240K			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	270			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	335NTEL																						•		•	•	•	•	•	•	•	•	
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	370			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	370B			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	470			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	470H			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	480			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	570			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	580	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	580J			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	690L			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	780			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	790																						•		•	•	•	•	•	•	•	•	
	820ELA			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	880																						•		•	•	•	•	•	•	•	•	
	890/890C			•	•	•	•	•	•	•	•	•	•		•	•	•		•	•	•		•	•	•	•	•		•				
	990L/990R			•	•	•	•	•	•	•	•	•	•			•	•		•	•	•		•	•	•	•	•		•				
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2800																						•		•	•	•	•	•	•	•	•		

† Saf-Tite Product

* Industrial Application

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



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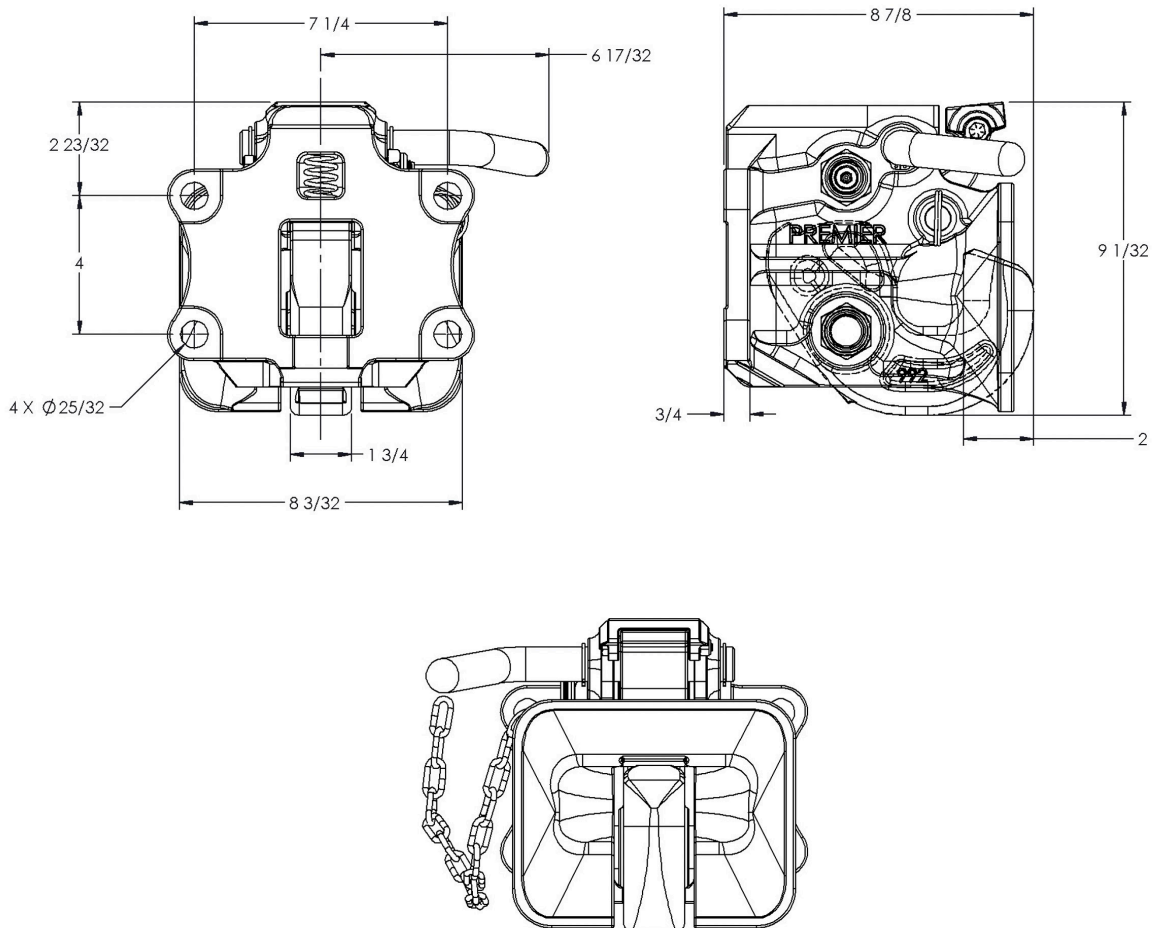
Specifications and Load Capacities

SAFETY WARNING

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

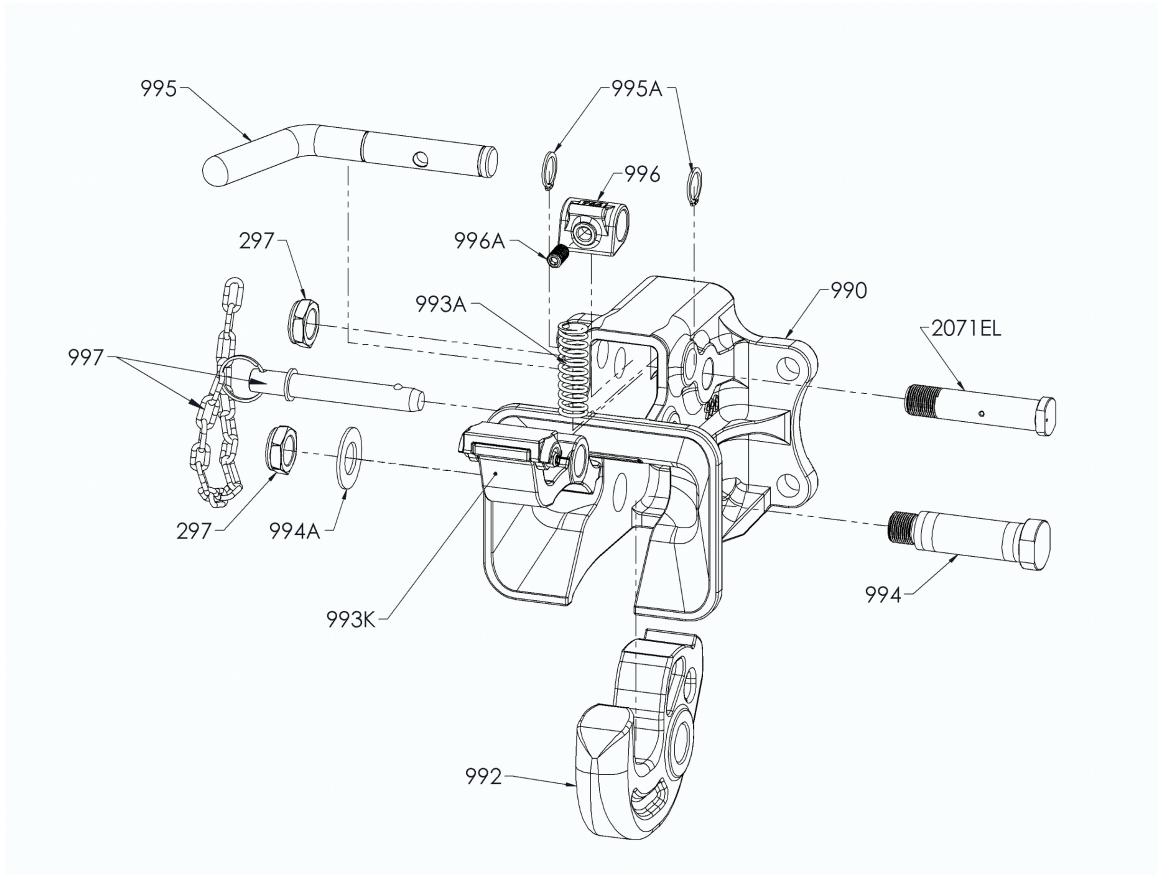
Gross Trailer Weight:	100,000 lbs.	(45,359 kg)
Maximum Tongue Weight:	18,000 lbs.	(8,165 kg)
Ultimate Latch Capacity:	18,000 lbs.	(8,165 kg)
Maximum Eye X-Section:	1 13/16 in.	(46 mm)
Minimum Eye Opening:	2 3/8 in.	(60 mm)
Unit Weight:	50.5 lbs	(22.9 kg)

Standard Installation Drawing



MODEL 990L/990R COUPLING

Replacement Part Information



990-RK Parts Kit Includes: (Parts Listed Are Available Individually As Well):

2071EL: Bolt	994K: 994 Bolt and 297 Locknut
297: Locknut	995: 995 Handle and 995A Snap Ring (2)
992: Hook	996: Cam
993A: Spring	996A: Set Screw
993K: 993 Assembly	997: Safety Pin and Chain
994A: Washer	

Accessories

Optional Accessories:

- 14011 Wear Gage (2 in.): To determine hook wear limits.
- 14026 Latch Gage: To determine latch gap limit.
- 507 Bolt Kit: Four 3/4-10 x 2 3/4 in. grade-8 bolts and 3/4-10 grade-C locknuts.
- 200L Drawbar Eye: designed for use with C-Dollies



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Installation

The 990 Coupling is only to be used and maintained with Premier parts. Any substitution or use of non-Premier parts in a 990 Coupling will VOID ALL PRODUCT WARRANTY. This coupling is designed specifically for C-Dollies and is NOT to be used for A-Dolly applications.

Installation Procedure:

1. The 990 Coupling 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 installation and use of this product.
2. Make certain that the cross member the 990 Coupling is to be mounted on is of sufficient strength to withstand the load rating of the coupling.
3. Using the Standard Installation Drawing, measure and layout the cross member and then drill the holes for the mounting bolts.
4. Mount the 990 Coupling using either Premier's 507 Bolt Kit and provided torque value, or four other 3/4" grade-8 bolts and grade-C locknuts. Only use new fasteners when mounting couplings or drawbar eyes and torque to SAE specifications.
5. Once mounted, check the latch components for proper operation and clearances (see the Inspection/Operation/Maintenance section for opening and closing the latch). If the operation of the latch components is sticky, lubricate all rotation points with a light penetrating oil. Work the latch assembly several times to distribute the lubricant evenly and remove any excess with a rag. Do not apply lubricant to the pintle/hook or saddle area of the 990 Coupling.
6. Attach one end of the 997 chain near the coupling body. Check that the location allows the 997 pin to be freely removed and inserted into the 990 coupling body prior to attaching the chain.
7. "IMPORTANT WARNINGS!" sticker was enclosed. This must be attached to the coupling or cross member and be visible for the end user to read.

Inspection/Operation/Maintenance

Inspection and Maintenance:

1. Visually inspect the coupling body and latch components for cracks, impact damage and/or deformation before each and every use. Do NOT use if any of these conditions exist.
2. Check the gap between the top of the 992 Hook and the nearest adjacent surface of the coupling body before each and every use. Pull the hook out, away from the coupling, to remove any free play in the coupling and measure the gap. A gap of 3/8" or more means the coupling must be taken out of service and repaired or replaced.
3. If the wear area on the 992 Hook has worn 20% or more from its original cross-section, the coupling is considered out of service and must not be used.
4. It is recommended to replace the 994 Bolt and 297 Locknut when replacing the 992 Hook. Torque the 297 Locknut to 150 ft*lbs when replacing.
5. Lubrication of the latch components must be performed at 90-day intervals or sooner depending on the operating environment. Lubricate the latch components using the grease zerk or with a spray-type lubricant to evenly coat all rotation points. Rotate each latch component several times to evenly distribute the lubricant.
6. Do not apply lubricant anywhere on the 992 Hook except for in its bolt hole. Remove any excess lubricant with a rag.
7. Never weld on any Premier part in order to repair damaged or worn areas. Field and/or shop welds are inadequate and may further weaken the coupling.
8. WARNING: Other inspection and maintenance procedures are also required prior to the operation of combination vehicles. Consult and follow all Federal Motor Carrier Safety Regulations as well as local, state and federal guidelines.

Operation:

OPENING Coupling Latch: (See specific model of coupling for proper opening instructions)

990L:

1. Remove the 997 Pin.
2. Grasp the 995 Handle and rotate it downward (clockwise) until it stops.
3. If opening the coupling with a drawbar eye attached, the coupling is now ready to uncouple and the drawbar eye should pull freely from the 992 Hook.



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4. If opening the coupling without a drawbar eye being coupled to it, the 992 Hook should freely rotate down. Once the 992 Hook has freely rotated down, rotate the 995 Handle upward (counterclockwise) to disengage the 993 and 996. Release the 995 Handle.
5. The 990L Coupling is now open and ready to be coupled.

990R:

1. Remove the 997 Pin.
2. Grasp the 995 Handle and rotate it downward (counterclockwise) until it stops.
3. If opening the coupling with a drawbar eye attached, the coupling is now ready to uncouple and the drawbar eye should pull freely from the 992 Hook.
4. If opening the coupling without a drawbar eye being coupled to it, the 992 Hook should freely rotate down. Once the 992 Hook has freely rotated down, rotate the 995 Handle upward (clockwise) to disengage the 993 and 996. Release the 995 Handle.
5. The 990R Coupling is now open and ready to be coupled.

CLOSING Coupling Latch:

1. Verify that the 990L/990R Coupling is open (992 Hook has rotated down) and the 996 is disengaged from the 993K (995 handle is in the upward position) prior to connecting a drawbar eye.
2. The 990L/990R Coupling is designed to close and latch automatically from contact with a drawbar eye. Carefully align the drawbar eyes with the coupling openings and slowly back the vehicle into the drawbar eyes. As the drawbar eye engages the 992 Hook, the hook will rotate upward and automatically latch closed. **AUTOMATIC LATCHING DOES NOT ALWAYS OCCUR. VERIFY THE 990 COUPLING HAS BEEN LATCHED PRIOR TO TOWING. WARNING: TAKE CARE WHEN CONNECTING THE DRAWBAR EYES TO THE 990 COUPLINGS, AS ABUSIVE VEHICLE COUPLING CAN CAUSE SEVERE DAMAGE TO THE 994 PIN.**
3. Visually verify that the 992 hook has properly engaged the 993. The 992 Hook and 993 Latch should both be in the upward position.
4. Verify that the 997 Pin can be inserted through the 990 Coupling body and the 993 is not partially blocking the hole. Insert the 997 Pin into the hole until it is completely through both holes in the 990 Coupling body and the ball detent is properly securing the pin. If the pin hole is not exposed enough for the pin to fit, the 990L/990R Coupling is not locked closed.
Do not operate the coupling without the pin securely inserted through both holes in the 990 Coupling Body.
5. Make certain both 990L and 990R couplings are properly closed and each has the 997 Pins properly secured through the coupling bodies prior to moving the vehicle. Attempting to drive away with only one coupling closed will cause a jackknife event and can significantly damage the coupling and the vehicle.
6. This product is designed to be operated within its free rotation limits. It is the responsibility of the vehicle designer/end user to assure that these limits are not exceeded (do not bind-up/jackknife).
7. **WARNING:** Prior to towing, make certain that adequately rated safety chains have been properly connected.

IMPORTANT GUIDELINES that apply to all Premier Air Adjusted Couplings

- Do not weld on any coupling assembly
- Always use Grade-8 fasteners properly torqued
- Do not apply lubricants to the coupling hook
- Air service chamber must be Type-24 or Type-30 with 90-120 PSI air supply
- Clean & inspect coupling for damage & excessive wear prior to each and every use
- Lubricate all coupling components at a minimum of 90 day intervals
- 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.



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

COUPLING. 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 990L/990R Coupling
Installation, etc.
Revised: 7/22

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 3UH-PLHU-V 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.

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