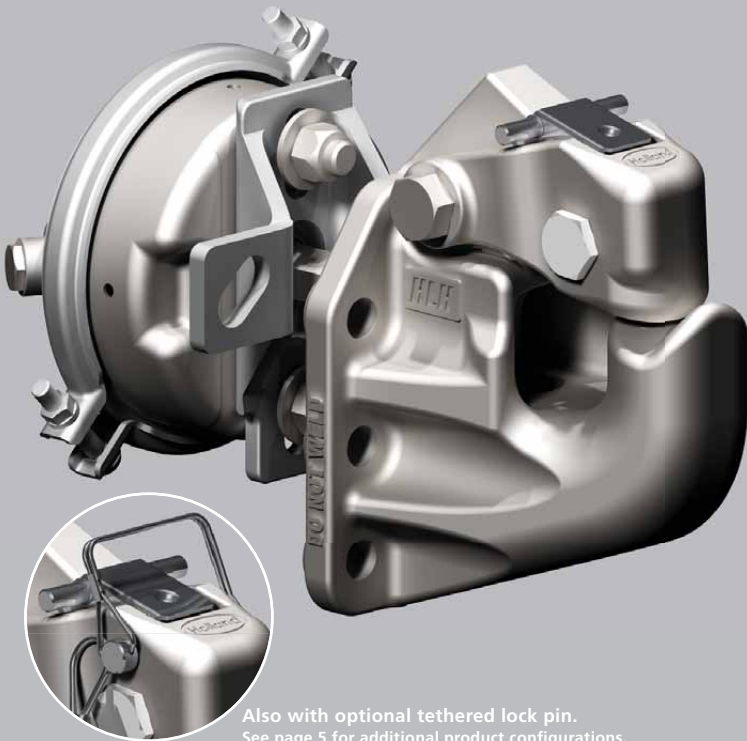


## Owner's Manual

### PH-419 Series Rigid Type Pintle Hook

Installation, Operation and Maintenance Procedures

- Can be used with or without an air chamber/plunger
- Maximum GTW: 100,000 lb. (45,359 kg)
- Maximum Vertical Load: 20,000 lb. (9,072 kg)
- Weight (Approx.): 40 lb. (18 kg) Pintle Hook only



Also with optional tethered lock pin.  
See page 5 for additional product configurations.

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## Introduction

This manual provides information necessary for the proper mounting, operation, maintenance, and inspection of the SAF HOLLAND pintle hook.

**NOTE:** For Holland replacement components contact SAF-HOLLAND Customer Service: 1-888-396-6501.

## Warranty

This product is covered by SAF-HOLLAND’s Coupling Products Commercial Warranty. Refer to the complete warranty for the country in which the product will be used. A copy of the written warranty can be downloaded from our SAF-HOLLAND website ([www.safholland.us](http://www.safholland.us)).

## Notes, Cautions, and Warnings

You must read and understand all of the procedures presented in this manual before starting any work on the pintle hook.

**NOTE:** In the United States, work shop safety requirements are defined by federal and/or state Occupational Safety and Health Act. Equivalent laws may exist in other countries. This manual is written based on the assumption that OSHA or other applicable employee safety regulations are followed by the location where work is performed.

Proper tools must be used to perform the mounting and maintenance procedures described in this manual.

Throughout this manual, you will notice the terms “NOTE”, “IMPORTANT”, “CAUTION”, and “WARNING” followed by important product information. So that you may better understand the manual, those terms are as follows:

- NOTE:** Includes additional information to enable accurate and easy performance of procedures.
- IMPORTANT:** Includes additional information that if not followed could lead to hindered product performance.
- CAUTION** Used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, may result in property damage.
- ▲CAUTION** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
- ▲WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

## Important Safety Instructions

**IMPORTANT:** Read this manual before using this product. Keep this manual in a safe location for future reference.

**WARNING** Failure to follow the instructions and safety precautions in this manual can result in equipment failure which, if not avoided, could result in death or serious injury.

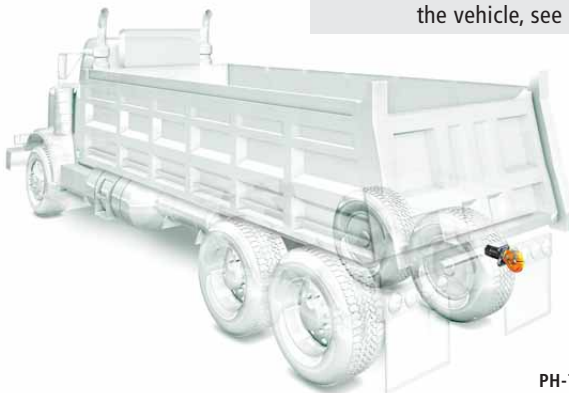
Maintain adequate vertical (tongue) load to adequately control the trailer (generally 10% of the gross vehicle weight) but do not exceed the capacity ratings listed in Section 2, page 6.

The equipment listed in this manual must not be used or maintained in a careless manner.

### During Operation:

1. Be sure that the drawbar sizes are compatible with the coupling device on the tow vehicle.
2. Do not damage the latch. Be particularly careful during coupling and uncoupling. Make sure that the pintle hook latch closes and locks properly.
3. Inspect the coupling device on the tow vehicle for proper operation. Do not use any coupling device that does not operate properly.

Front



Rear

4. Other steps and inspections are also required. Consult OSHA and D.O.T. regulations and the American Trucking Association for complete coupling and uncoupling procedures. These cover items such as cargo securement, brakes, lights, safety chains, and other important requirements.

### General Information:

1. Do not modify or add to these products.

**CAUTION** Do not hit steel parts with a steel hammer as parts could break, sending flying steel fragments in any direction creating a hazard which, if not avoided, may result in minor to moderate injury.

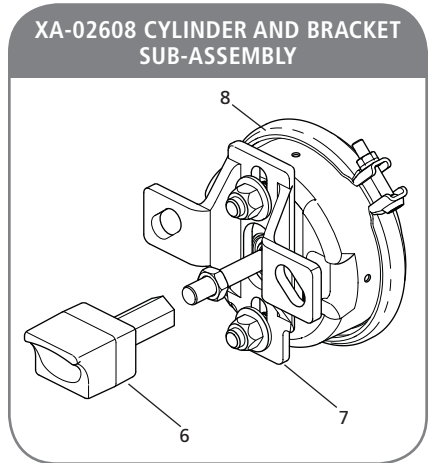
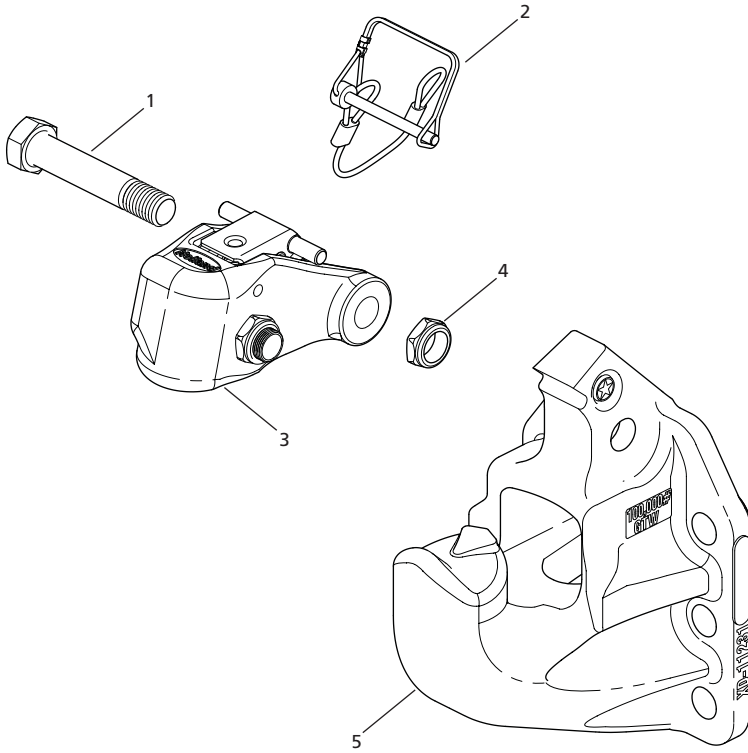
2. Do not weld on these products.

**IMPORTANT:** Bolts must be long enough to provide a minimum of two (2) full thread lengths beyond the end of the nut.

**WARNING** Failure to use a long enough bolt for mounting pintle hook, could result in vehicle and trailer separation which, if not avoided, could result in death or serious injury.

**NOTE:** In this manual, all descriptions of orientation are relative to the vehicle, see image below.

PH-775LII Shown

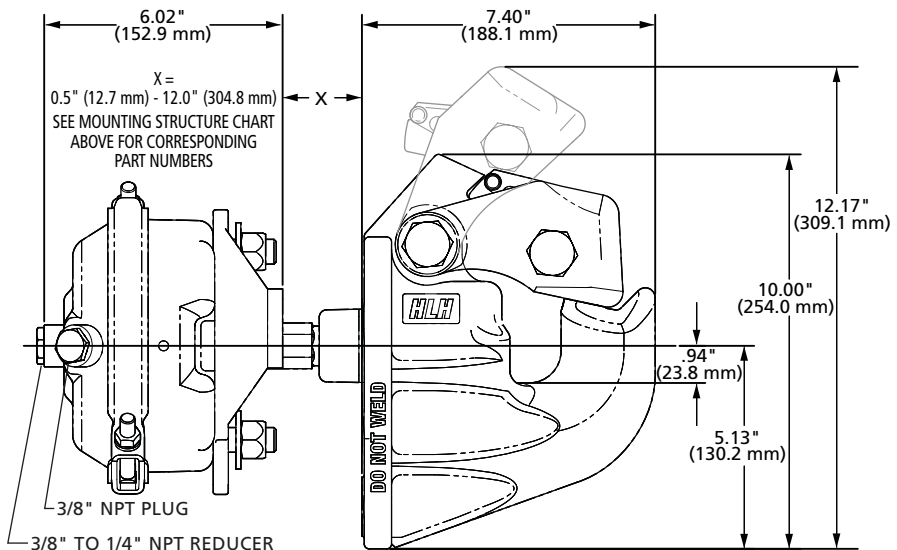


ITEM	PART NUMBER	QTY.	DESCRIPTION
1	XB-10537	1	HHCS 3/4"-16 X 4" LG. (Latch Bolt)
2	XB-S10647	1	Pin & Lanyard S/A (Tethered Lock Pin)
3	XA-10545 or XA-10545-2	1	Assembly Latch Heavy Duty Tethered
4	XB-03104	1	Nut, Lock 3/4"-16 (Latch Nut)

ITEM	PART NUMBER	QTY.	DESCRIPTION
5	XA-11231	1	Frame, Pintle Hook
6	XA-04156	1	Plunger S/A
7	XE-01544-1	1	Bracket, Air Chamber
8	See Chart Below	N/A	Air Chamber

**Note:** Individual component parts not for sale.

MOUNTING STRUCTURE CHART					
ASSEMBLY CONFIGURATION	PINTLE ASSEMBLY NUMBER	MOUNTING STRUCTURE WIDTHS "X" (SEE DIMENSIONS BELOW)	AIR CHAMBER ROD LENGTH	AIR CHAMBER AND PLUNGER KIT NUMBER	AIR CHAMBER PART NUMBER
Pintle Hook with Air Chamber	PH-419RA11	0.5" (12.7 mm) - 2.0" (50.8 mm)	1.8" (45.7 mm)	XA-02608	XB-165945
Pintle Hook with Air Chamber	PH-419RA21	0.5" (12.7 mm) - 2.0" (50.8 mm)	1.8" (45.7 mm)	XA-02608	XB-165945
Pintle Hook with Air Chamber	PH-419RF11	12.0" (304.8 mm)	12.0" (304.8 mm)	XA-10198	XB-166321
Pintle Hook with Air Chamber	PH-419RF21	12.0" (304.8 mm)	12.0" (304.8 mm)	XA-10198	XB-166321
Pintle Hook with Plunger Only	PH-419RM11	Refer to Section 6 & 7	N/A	N/A	N/A
Pintle Hook with Plunger Only	PH-419RM21	Refer to Section 6 & 7	N/A	N/A	N/A
Pintle Hook Only	PH-419RN11	Refer to Section 5	N/A	N/A	N/A
Pintle Hook Only	PH-419RN21	Refer to Section 5	N/A	N/A	N/A



**Note:** Dimensions are for reference only.

### 1. Drawbar Eye Dimensions

3" (76.2 mm) I.D with a 1.63" (41.3 mm) diameter cross section.

### 2. Load Ratings Per SAE J847

This product meets or exceeds the testing requirements for SAE J847 Type II Loads.

Maximum GTW: 100,000 lb. (45,359 kg)

Maximum Vert. Load: 20,000 lb. (9,072 kg)

Also meets Proj-Nom-035-SCT-2-2008 Trailers and Semi-trailers – Specifications of Safety and Test Methods (Proy-Nom-035-SCT-2-2008 Remolques y Semirremolques – Especificaciones de seguridad y metodos de prueba.)

### 3. Towing Applications

Truck/trailer operations within the stated capacities. For off-road applications, reduce the above capacities by 25% and use in conjunction with a swivel type drawbar.

**IMPORTANT:** Off-road refers to terrain on which a tractor-trailer operates which is unpaved and rough, or ungraded. Any terrain not considered part of the system of public roads falls under this heading.

## 4. Installation Options

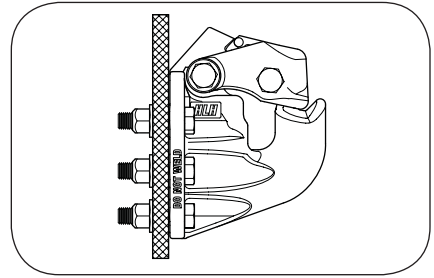
The PH-419 rigid mount pintle hook is available in three (3) configurations: pintle hook only, page 7; pintle hook, plunger and air chamber with bracket, page 8 and pintle hook with plunger and air chamber without bracket, page 10. Each configuration requires a different installation which is described in the following sections. Be sure to verify your configuration before beginning installation.

## 5. Pintle Hook Only Installation

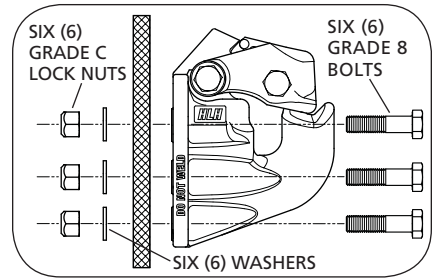
Before installing the pintle hook only (**Figure 1**), make sure that the mounting structure is of sufficient strength to support the rated capacity of the pintle hook. Refer to SAE J847 for structural performance requirements.

1. Install the pintle hook to the mounting structure using the bolt hole pattern as specified (**Figure 3**).
2. Verify mounting structure hole pattern matches the dimensions listed (**Figure 3**).
3. Insert and tighten all six (6) new 3/4" diameter Grade 8 bolts, ASTM Grade C lock nuts and hardened 3/4" washers (**Figure 2**). Torque to 200 ft.-lbs. (271 N•m) per SAE J429.

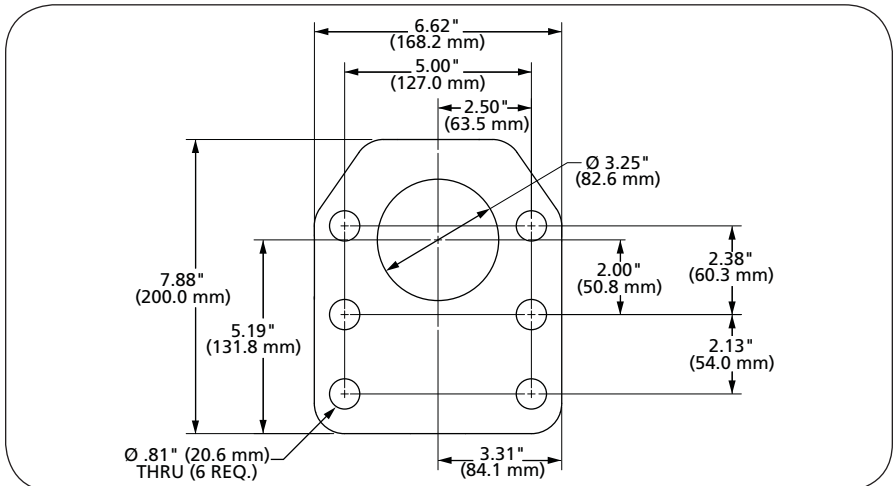
**Figure 1**



**Figure 2**



**Figure 3**



## 6. Pintle Hook, Plunger, and Air Chamber with Bracket Installation

**NOTE:** Holland recommends a Type 24 air chamber.

Before installing the pintle hook, plunger and air chamber with bracket (**Figure 4**), make sure that the mounting structure is of sufficient strength to support the rated capacity of the pintle hook. Refer to SAE J847 for structural performance requirements.

1. Install the pintle hook with air chamber and bracket to the mounting structure using the bolt hole pattern as specified (**Figure 6**).
2. Verify mounting structure hole pattern matches the dimensions listed (**Figure 6**).
3. Insert the bottom four (4) bolts of the pintle hook using four (4) new 3/4" diameter Grade 8 bolts, ASTM Grade C lock nuts, and hardened 3/4" washers (**Figure 5**).

Figure 4

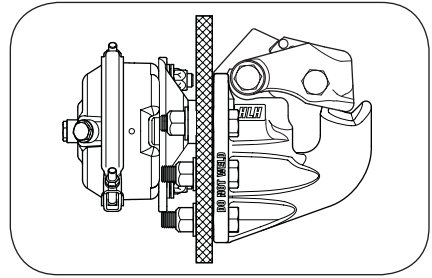


Figure 5

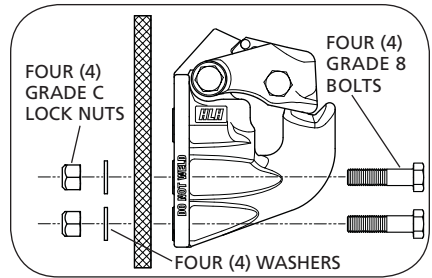
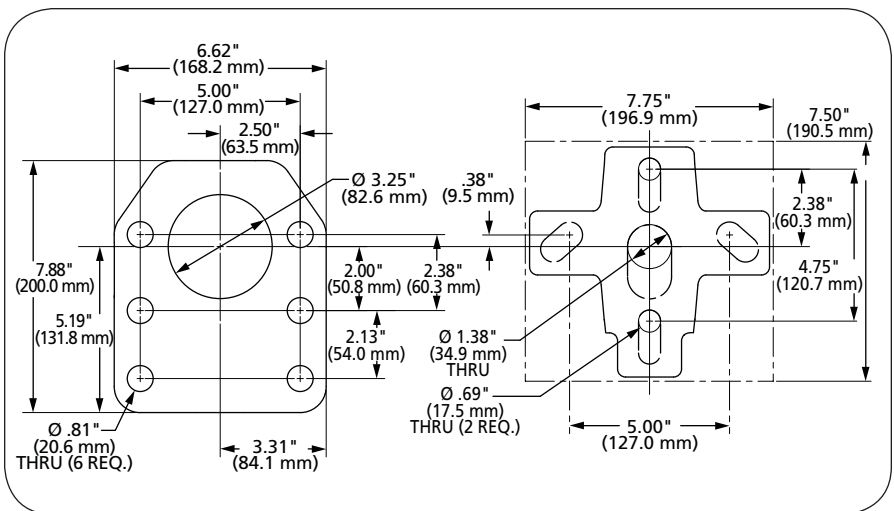


Figure 6

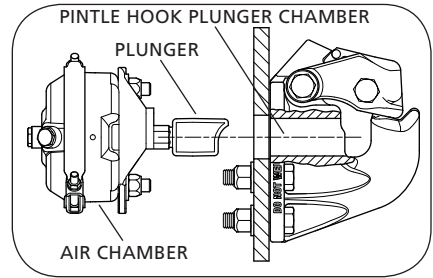
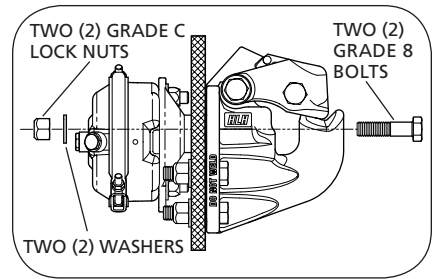




4. Install the air chamber by aligning the air chamber assembly and plunger with the pintle hook. Make sure the plunger moves freely within the pintle hook plunger chamber (**Figure 7**). Attach the air chamber to the assembly (**Figure 12**). Bolt together the air chamber assembly and pintle hook using two (2) new 3/4" diameter Grade 8 bolts, ASTM Grade C lock nuts, and hardened 3/4" washers (**Figure 8**).
5. Torque all six (6) new 3/4" diameter Grade 8 bolts and ASTM Grade C lock nuts to 200 ft.-lbs. (271 N•m) per SAE J429.
6. Connect the air supply to the air chamber and check for proper operation.

**IMPORTANT:** Consult the vehicle manufacturer for information regarding proper plumbing, air source, and overpressure protection.

7. Adjust the plunger as needed per detailed instructions in Section 8, page 12.

**Figure 7**

**Figure 8**


## 7. Pintle Hook, Plunger and Air Chamber without Bracket Installation

**IMPORTANT:** Holland recommends a Type 24 air chamber.

Before installing the pintle hook, plunger and air chamber without bracket (**Figure 9**), make sure that the mounting structure is of sufficient strength to support the rated capacity of the pintle hook. Refer to SAE J847 for structural performance requirements.

1. Install the pintle hook without an air chamber bracket to the mounting structure, using the mounting bolt hole pattern specified (**Figure 11**).
2. Verify mounting structure hole pattern matches the dimensions listed (**Figure 11**).
3. Insert and tighten all six (6) new 3/4" diameter Grade 8 bolts, ASTM Grade C lock nuts and hardened 3/4" washers (**Figure 10**). Torque to 200 ft.-lbs. (271 N•m) per SAE J429.

Figure 9

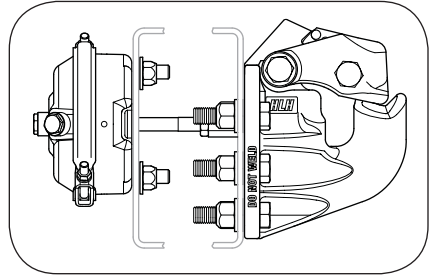


Figure 10

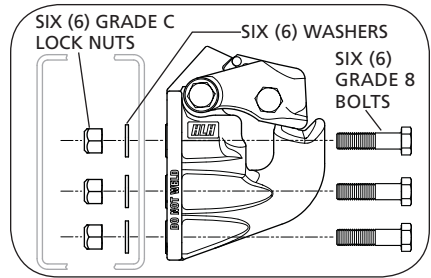
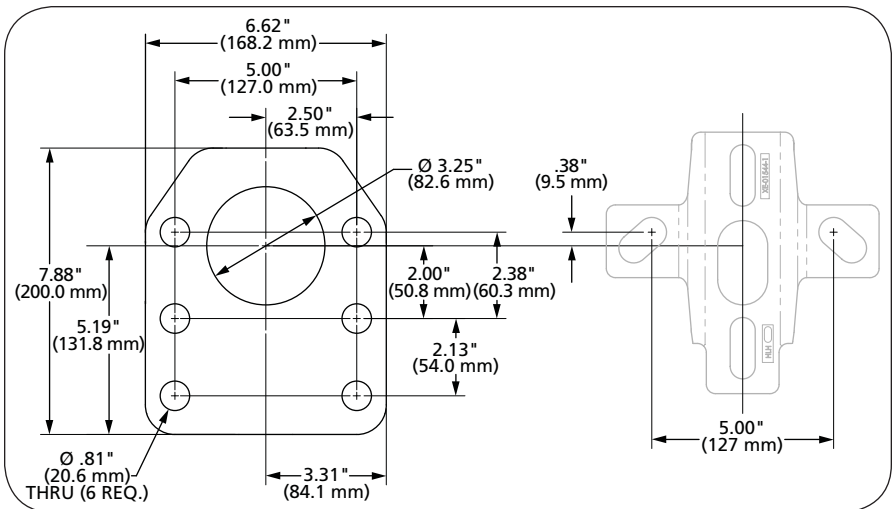


Figure 11

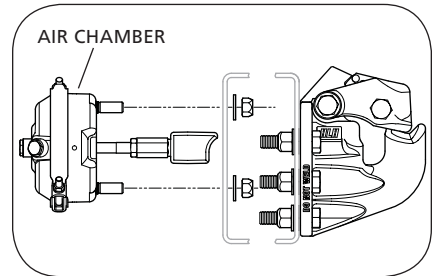


4. Install the air chamber by aligning the air chamber assembly and plunger with the pintle hook. Make sure the plunger moves freely within the pintle hook plunger chamber (**Figure 7**). Attach the air chamber to the assembly using the air chamber hardware (**Figure 12**).
5. Connect the air supply to the air chamber and check for proper operation.

**IMPORTANT:** Consult the vehicle manufacturer for information regarding proper plumbing, air source, and overpressure protection.

6. Adjust the plunger as needed per detailed instructions in Section 12, page 12.

**Figure 12**



## 8. Plunger Adjustment

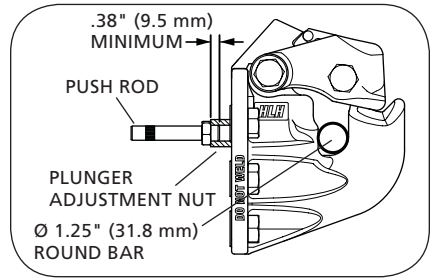
When properly adjusted, the plunger should tightly grip a 1.25" (31.8 mm) round bar (**Figure 14**) when activated and retract far enough when de-activated to allow easy removal of a 1.63" (41.4 mm) diameter drawbar.

1. To adjust plunger, loosen the jam nut from plunger adjustment nut and rotate adjustment nut to increase or decrease the plunger engagement (**Figure 15**).

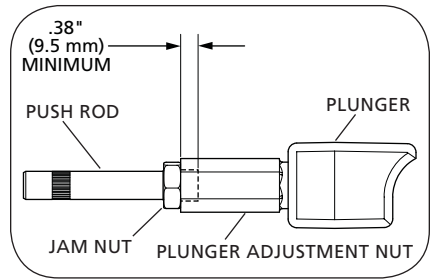
**IMPORTANT:** Holland plungers have an adjustment range of approximately 1.50" (38.1 mm). The plunger is pre-set at the factory to provide approximately 1.00" (25.4 mm) of adjustment out or 0.50" (12.7 mm) adjustment in. At no time should the push rod have less than 0.38" (9.5 mm) engagement with the plunger (**Figure 15**).

2. After adjusting the plunger, retighten the jam nut securely against plunger adjustment nut .

**Figure 14**



**Figure 15**



## 9. Operating Instructions

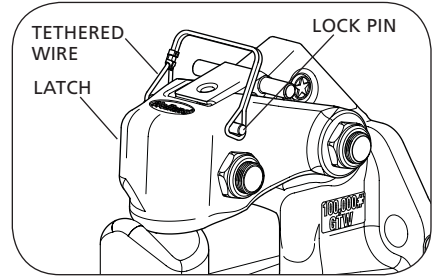
Before operating, check for worn, damaged, or missing parts, and make sure mount is secure.

**⚠ WARNING** If the pintle hook is not secured to the mounting surface, the pintle hook could separate from the vehicle which, if not avoided, could result in death or serious injury.

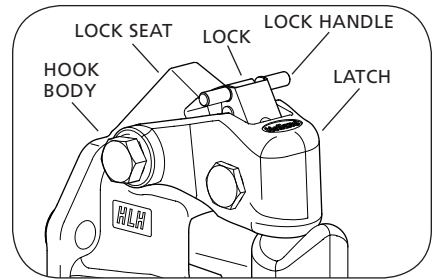
1. Unlock and remove the tethered lock pin, if applicable (**Figure 16**).
2. Lift the lock handle away from the vehicle until the lock clears the lock seat on the hook body. Open the latch by rotating the latch assembly up toward the vehicle until the latch is in its most upright position, then release the lock handle. (**Figure 17 and 18**).
3. Position the drawbar eye over the horn of the pintle hook and lower it into place.
4. Push the latch closed. When correctly locked, the lock handle will rotate and move up until it is flush with the top of the latch (**Figure 19**).
5. Insert the tethered lock pin through the latch and lock holes, and close the tethered wire lock pin, if applicable (**Figure 16**).

**⚠ WARNING** Failure to correctly lock the latch can result in separation of the trailer and vehicle which, if not avoided, could result in death or serious injury.

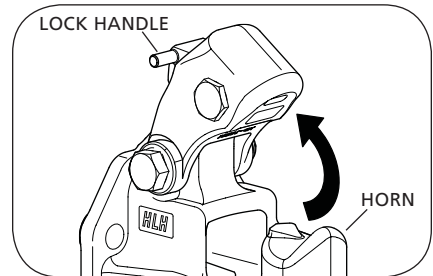
**Figure 16**



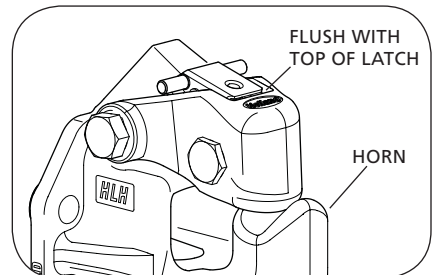
**Figure 17**



**Figure 18**



**Figure 19**



## 10. Maintenance

The following maintenance steps should be performed every 30,000 mi. (48,280 km) or three (3) months, whichever comes first.

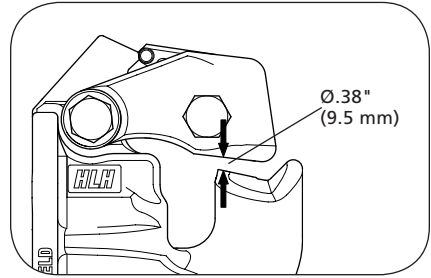
**⚠WARNING** Failure to inspect and maintain the pintle hook may result in separation of the trailer and vehicle which, if not avoided, could result in death or serious injury.

1. Clean and check for proper operation. Inspect for worn, damaged or missing parts. Replace as required using only Genuine SAF-HOLLAND parts.
2. Inspect the coupling contact area for wear. Replace the complete product when wear exceeds 0.188" (4.8 mm) from the original surface profile.
3. Additional inspections should be conducted immediately if there is:
  - overloading
  - binding of the drawbar upon backing
  - jackknifing
  - bottoming of articulation
  - an incident that exceeds the free range of motion of the coupling connection
3. Regularly lubricate latch pivots with a light oil lubricant.
4. With the latch closed, measure the gap between the hook and the latch while lifting up on the latch. Replace the latch when the gap exceeds 0.38" (9.5 mm) (**Figure 20**).

Failure to replace worn latch may result in

**⚠WARNING** separation of the trailer and vehicle which if not avoided, could result in death or serious injury.

**Figure 20**

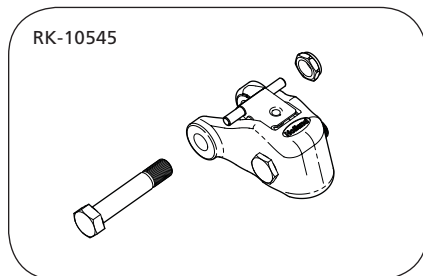


5. Check mounting fasteners for proper torque, see Section 5, page 7.
6. Check plunger adjustment. For adjustment procedures, see Section 8, page 12.

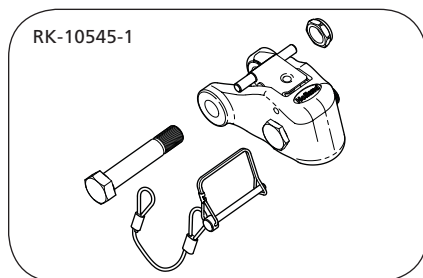
## 11. Replacement Latch Kit (RK-10545 & RK-10545-1)

Immediately replace the latch assembly using RK-10545 (Non Tethered) (**Figure 23**) or RK-10545-1 (Tethered) (**Figure 24**) if the latch gap exceeds .38" (9.5 mm). For measurement description, see Section 10, page 14.

**Figure 23**



**Figure 24**





From fifth wheel rebuild kits to suspension bushing repair kits, SAF-HOLLAND Original Parts are the same quality components used in the original component assembly.

SAF-HOLLAND Original Parts are tested and designed to provide maximum performance and durability. Will-fits, look-alikes or, worse yet, counterfeit parts will only limit the performance potential and could possibly void SAF-HOLLAND's warranty. Always be sure to spec SAF-HOLLAND Original Parts when servicing your SAF-HOLLAND product.

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