

## Rebuild/Repair Manual

# AL Aluminum NoLube™ Series Fifth Wheels

RK-AL-A-L, RK-AL-A-L-MET and RK-AL-A-80-L  
Rebuild Kits

- FWAL Assembly Series
- XA-AL Top Plate Series



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## Introduction

This manual provides the information necessary to properly rebuild the HOLLAND® FWAL/XA-AL Series Fifth Wheels.

Read this manual before using or servicing this product and keep it in a safe location for future reference. Updates to this manual, which are published as necessary, are available on the internet at [www.safholland.us](http://www.safholland.us).

When replacement parts are required, SAF-HOLLAND® highly recommends the use of only SAF-HOLLAND® Original Parts. A list of technical support locations that supply SAF-HOLLAND® Original Parts and an Aftermarket Parts Catalog are available on the internet at [www.safholland.us](http://www.safholland.us) or contact Customer Service at 888-396-6501.

## Notes, Cautions, and Warnings

Before starting any work on the unit, read and understand all the safety procedures presented in this manual. This manual contains the terms “NOTE”, “IMPORTANT”, “CAUTION”, and “WARNING” followed by important product information. These terms are defined 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, could result in property damage.

**CAUTION** Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

**WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

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## 1. General Safety Instructions

- Read and observe all Warning and Caution hazard alert messages. The alerts provide information that can help prevent serious personal injury, damage to components, or both.

**WARNING** Failure to follow the instructions and safety precautions in this manual could result in improper servicing or operation leading to component failure which, if not avoided, could result in death or serious injury.

- All repair and maintenance should be performed by a properly trained technician using proper/special tools, and safe procedures.

**NOTE:** In the United States, workshop safety requirements are defined by federal and/or state Occupational Safety and Health Act (OSHA). Equivalent laws could 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.

**NOTE:** Before rebuilding the HOLLAND® Fifth Wheel review the model number on the identification tag. This rebuild procedure applies only to model FWAL/XA-AL fifth wheel top plates.

**IMPORTANT:** All maintenance must be performed while the tractor is uncoupled from the trailer.

**IMPORTANT:** These instructions apply to the proper rebuild of FWAL/XA-AL Series fifth wheel top plates only. There are other important checks, inspections, and procedures not listed here that are necessary, prudent, and/or required by law.

- For proper installation procedures, refer to Installation Manual XL-FW10008BM-en-US available on the internet at [www.safholland.us](http://www.safholland.us).

**IMPORTANT:** Prior to operation of the fifth wheel, verify that the fifth wheel has been properly installed on the vehicle.

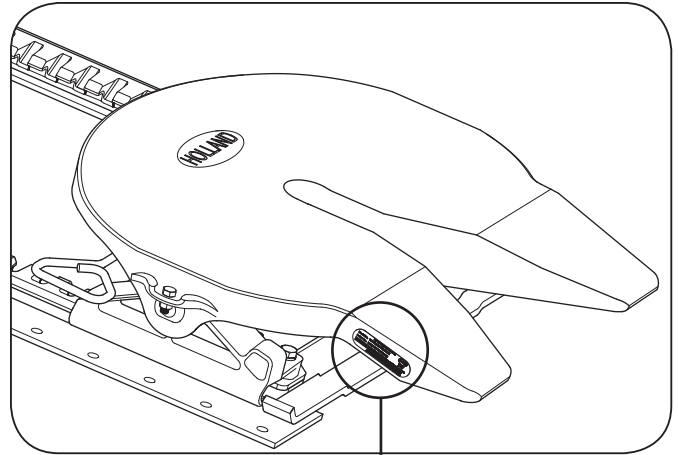
**WARNING** Failure to properly repair and install the fifth wheel could adversely affect performance resulting in tractor trailer separation which, if not avoided, could result in death or serious injury.

## 2. Model Identification

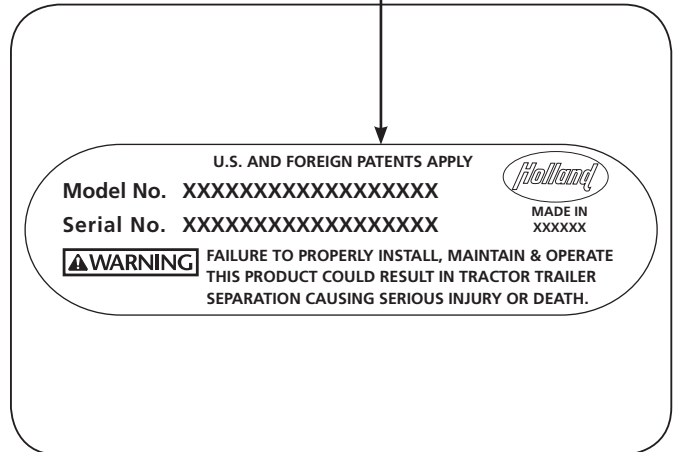
Fifth wheel serial tags are located on the left side of the fifth wheel top plate above the fifth wheel bracket pin, or on the pickup ramps (**Figure 1**).

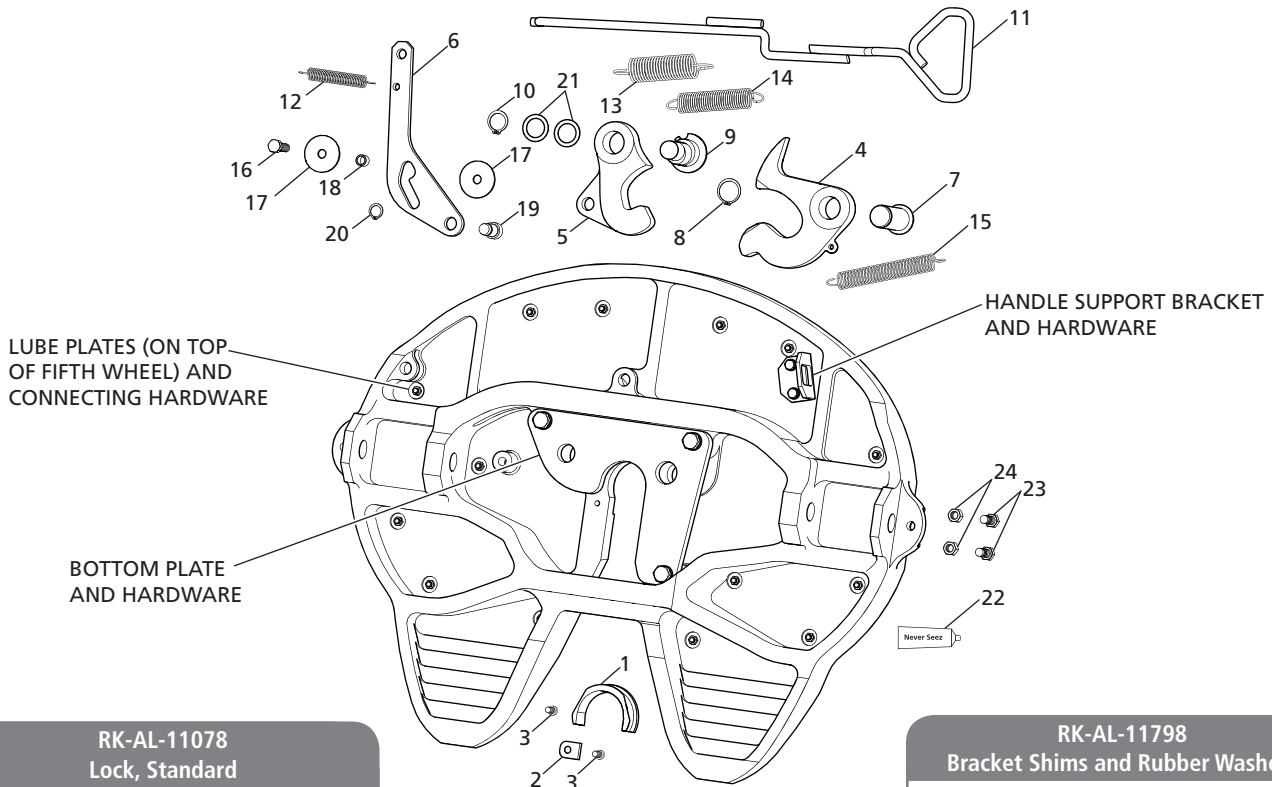
The part number and serial number are listed on the tag (**Figure 2**).

**Figure 1**



**Figure 2**





**RK-AL-11078**  
Lock, Standard

**RK-AL-11798**  
Bracket Shims and Rubber Washers

**RK-10495-AL-P**  
Release Handle, Left-Hand

**RK-PKT-3**  
Pocket Inserts

**RK-AL-1**  
Lube Plate and Pocket Inserts

**RK-331-1**  
Lube Plate

**RK-06973-1**  
Bracket Pins and Cushions

**RK-10605**  
Bracket Pins and Bushings, ILS



FWAL RK-AL-A-L KIT PARTS LIST (PRIOR TO MAY 2013)			
ITEM	DESCRIPTION	PART NUMBER	QTY.
1*	Front Lock Insert	XD-10680-P	1
2	Insert Keeper	XA-10706-P	1
3	Low Head Socket Cap Screw, 3/8" -16 x 3/4" Long	XB-02724-1	2
4*	Lock	XA-11693-P	1
5*	Hook	XA-10487-P	1
6	Release Cam, Left-Hand Release	XA-10483-AL	1
7	Lock Pin	XA-06344-AL	1
8	Retaining Ring, 1-3/8" Dia.	XB-08905	1
9	Adjusting Pin	XA-10364-3-AL-P	1
10	Retaining Ring, 1-1/8" Dia.	XB-05855	1
11*	Release Handle, Left-Hand	XA-10495-AL-P	1
12	Extension Spring, Release Cam	XB-10563-1-P	1
13	Extension Spring, Outer Handle	XB-10490-P	1
14	Extension Spring, Inner Handle	XB-10489-P	1
15	Extension Spring, Lock	XB-05843-1-P	1
16	Hex Head Cap Screw, 1/2" -20 x 1-3/4"	XB-2083	1
17	Washer, 1/2" I.D. x 2-1/4" O.D., Stainless Steel	XB-10294	2
18	Release Cam Bushing	XA-10810-1	1
19	Hook Pin	XA-10485-1	1
20	Retaining Ring, 3/4" Dia.	XB-05855-1	1
21	Shim Ring	XB-05859-2	2
22	Never-Seez®, 7.5 g Tube	XB-02967	1
23	Hex Head Cap Screw, 1/2" -20 x 1-1/4"	XB-C-95	2
24	Lock Nut, 1/2" -20	XB-T-69-A	2

RK-AL-11078 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
4*	Lock	XA-11693-P	1
5*	Hook	XA-10487-P	1
7	Lock Pin	XA-06344-AL	1
8	Retaining Ring, 1-3/8" Dia.	XB-08905	1
9	Adjusting Pin	XA-10364-3-AL-P	1
10	Retaining Ring, 1 -1/8" Dia.	XB-05855	1
21	Shim Ring	XB-05859-2	2
22	Never-Seez®, 7.5 g Tube	XB-02967	1

RK-AL-11798 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
25*	Bracket Shim	XA-11798	4
26*	Rubber Washer	XB-60144	2

RK-10495-AL-P PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
11*	Release Handle, Left-Hand	XA-10495-AL-P	1
13	Extension Spring, Outer Handle	XB-10490-P	1
14	Extension Spring, Inner Handle	XB-10489-P	1

RK-PKT-3 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
27*	Pocket Insert	XD-10923	2
28*	Double Face Tape	XB-09422	4

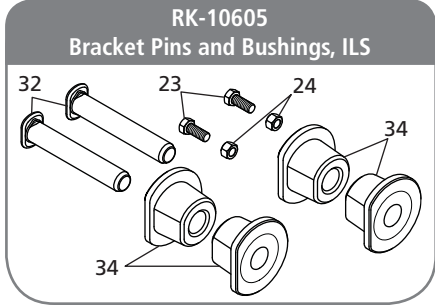
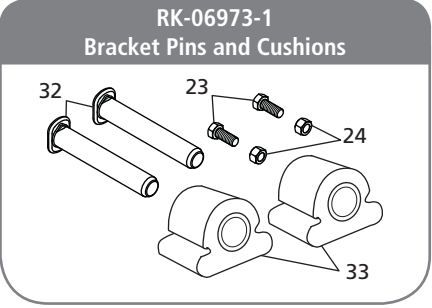
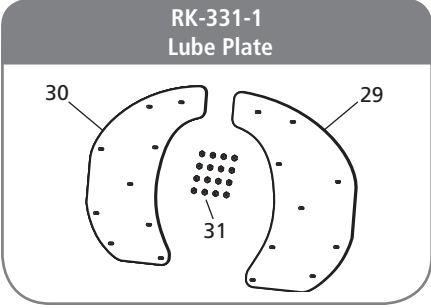
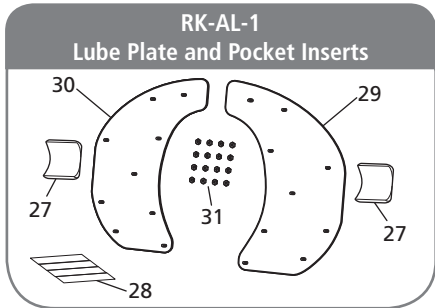
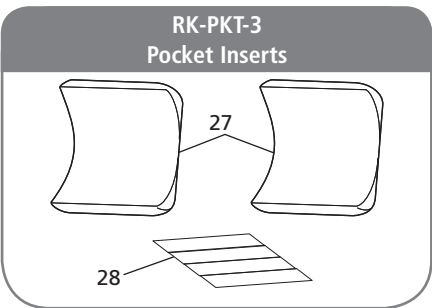
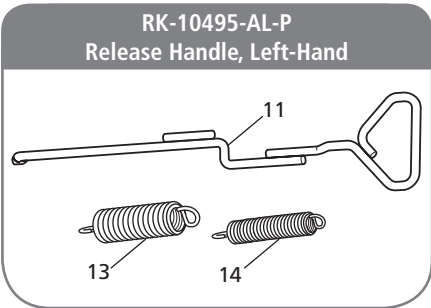
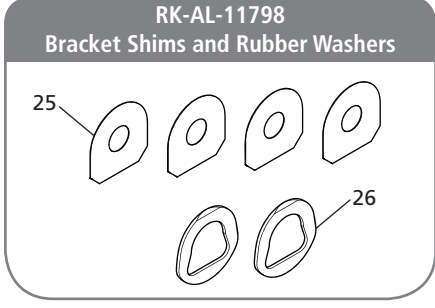
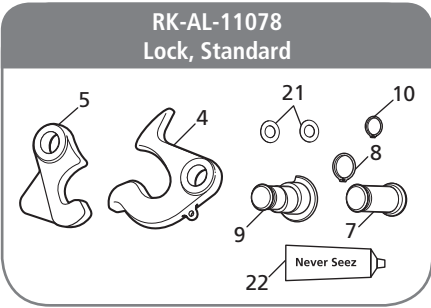
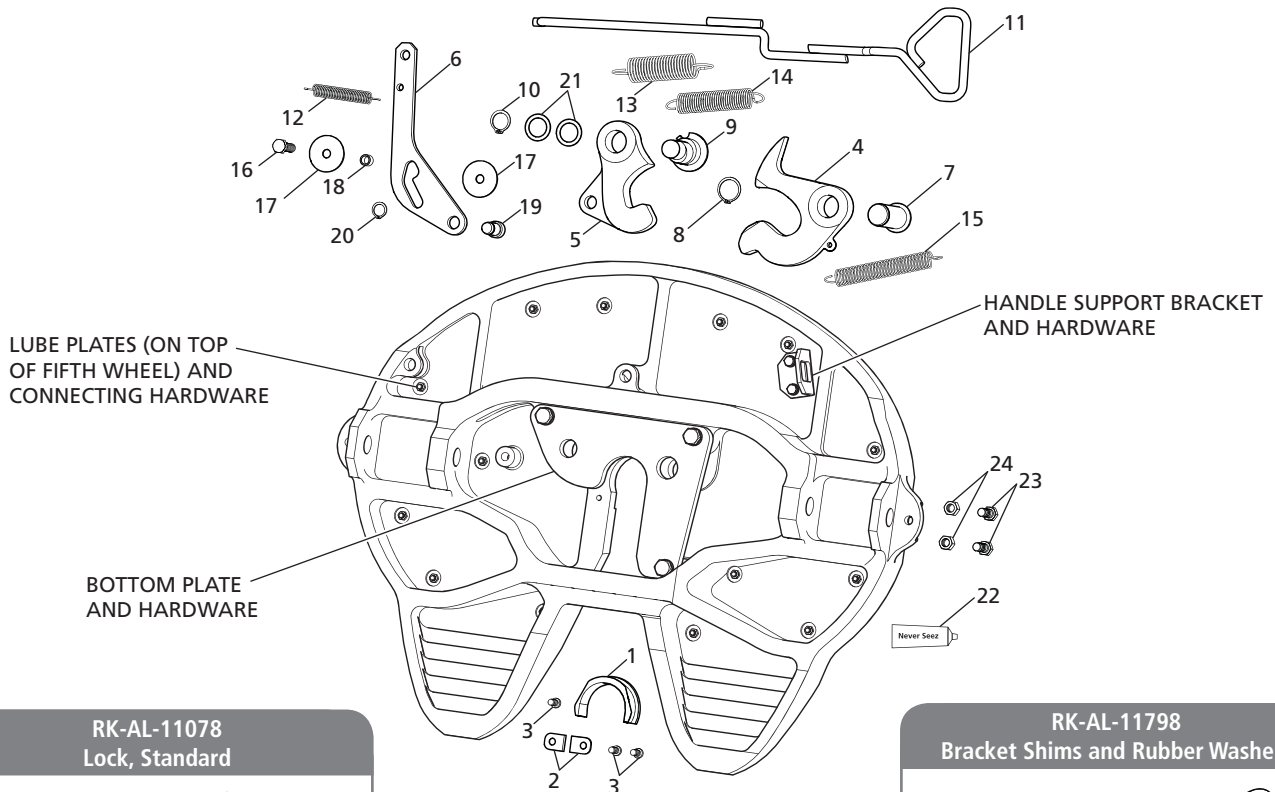
RK-AL-1 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
29*	Lube Plate, Left-Hand	XA-08125-L	1
30*	Lube Plate, Right-Hand	XA-08125-R	1
31	Lock Nut, 5/16" -18	XB-08931	16
27*	Pocket Insert	XD-10923	2
28*	Double Face Tape	XB-09422	4

RK-331-1 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
29*	Lube Plate, Left-Hand	XA-08125-L	1
30*	Lube Plate, Right-Hand	XA-08125-R	1
31	Lock Nut, 5/16" -18	XB-08931	16

RK-06973-1 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
23	Hex Head Cap Screw, 1/2" -20 x 1-1/4"	XB-C-95	2
24	Lock Nut, 1/2" -20	XB-T-69-A	2
32	Bracket Pin	XE-06356-P	2
33	Rubber Cushion (for fabricated brackets)	XB-0011-2	2

RK-10605 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
23	Hex Head Cap Screw, 1/2" -20 x 1-1/4"	XB-C-95	2
24	Lock Nut, 1/2" -20	XB-T-69-A	2
32	Bracket Pin	XE-06356-P	2
34	Rubber Cushion (for cast brackets)	XB-10605	4

\* Not sold individually – must be purchased in a kit.







FWAL RK-AL-A-L MET KIT PARTS LIST (AFTER MAY 2013)			
ITEM	DESCRIPTION	PART NUMBER	QTY.
1*	Front Lock Insert	XD-10680-P	1
2	Insert Keeper	XA-10706-P	2
3	Low Head Socket Cap Screw, M10 x 1.5 x 16 mm Long	XB-02724-M	3
4*	Lock	XA-11693-P	1
5*	Hook	XA-10487-P	1
6	Release Cam, Left-Hand Release	XA-10483-AL	1
7	Lock Pin	XA-06344-AL	1
8	Retaining Ring, 1-3/8" Dia.	XB-08905	1
9	Adjusting Pin	XA-10364-3-AL-P	1
10	Retaining Ring, 1-1/8" Dia.	XB-05855	1
11*	Release Handle, Left-Hand	XA-10495-AL-P	1
12	Extension Spring, Release Cam	XB-10563-1-P	1
13	Extension Spring, Outer Handle	XB-10490-P	1
14	Extension Spring, Inner Handle	XB-10489-P	1
15	Extension Spring, Lock	XB-05843-1-P	1
16	Hex Head Cap Screw M12 x 1.75 x 40 mm Long	XB-HCS-M12-40-Z	1
17	Washer, 1/2" I.D. x 2-1/4" O.D., Stainless Steel	XB-10294	2
18	Release Cam Bushing	XA-10810	1
19	Hook Pin	XA-10485-1	1
20	Retaining Ring, 3/4" Dia.	XB-05855-1	1
21	Shim Ring	XB-05859-2	2
22	Never-Seez®, 7.5 g Tube	XB-02967	1
23	Hex Head Cap Screw, 1/2"-20 x 1-1/4"	XB-C-95	2
24	Lock Nut, 1/2"-20	XB-T-69-A	2

RK-AL-11078 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
4*	Lock	XA-11693-P	1
5*	Hook	XA-10487-P	1
7	Lock Pin	XA-06344-AL	1
8	Retaining Ring, 1-3/8" Dia.	XB-08905	1
9	Adjusting Pin	XA-10364-3-AL-P	1
10	Retaining Ring, 1-1/8" Dia.	XB-05855	1
21	Shim Ring	XB-05859-2	2
22	Never-Seez®, 7.5 g Tube	XB-02967	1

RK-AL-11798 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
25*	Bracket Shim	XA-11798	4
26*	Rubber Washer	XB-60144	2

RK-10495-AL-P PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
11*	Release Handle, Left-Hand	XA-10495-AL-P	1
13	Extension Spring, Outer Handle	XB-10490-P	1
14	Extension Spring, Inner Handle	XB-10489-P	1

RK-PKT-3 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
27*	Pocket Insert	XD-10923	2
28*	Double Face Tape	XB-09422	4

RK-AL-1 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
29*	Lube Plate, Left-Hand	XA-08125-L	1
30*	Lube Plate, Right-Hand	XA-08125-R	1
31	Lock Nut, 5/16"-18	XB-08931	16
27*	Pocket Insert	XD-10923	2
28*	Double Face Tape	XB-09422	4

RK-331-1 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
29*	Lube Plate, Left-Hand	XA-08125-L	1
30*	Lube Plate, Right-Hand	XA-08125-R	1
31	Lock Nut, 5/16"-18	XB-08931	16

RK-06973-1 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
23	Hex Head Cap Screw, 1/2"-20 x 1-1/4"	XB-C-95	2
24	Lock Nut, 1/2"-20	XB-T-69-A	2
32	Bracket Pin	XE-06356-P	2
33	Rubber Cushion (for fabricated brackets)	XB-0011-2	2

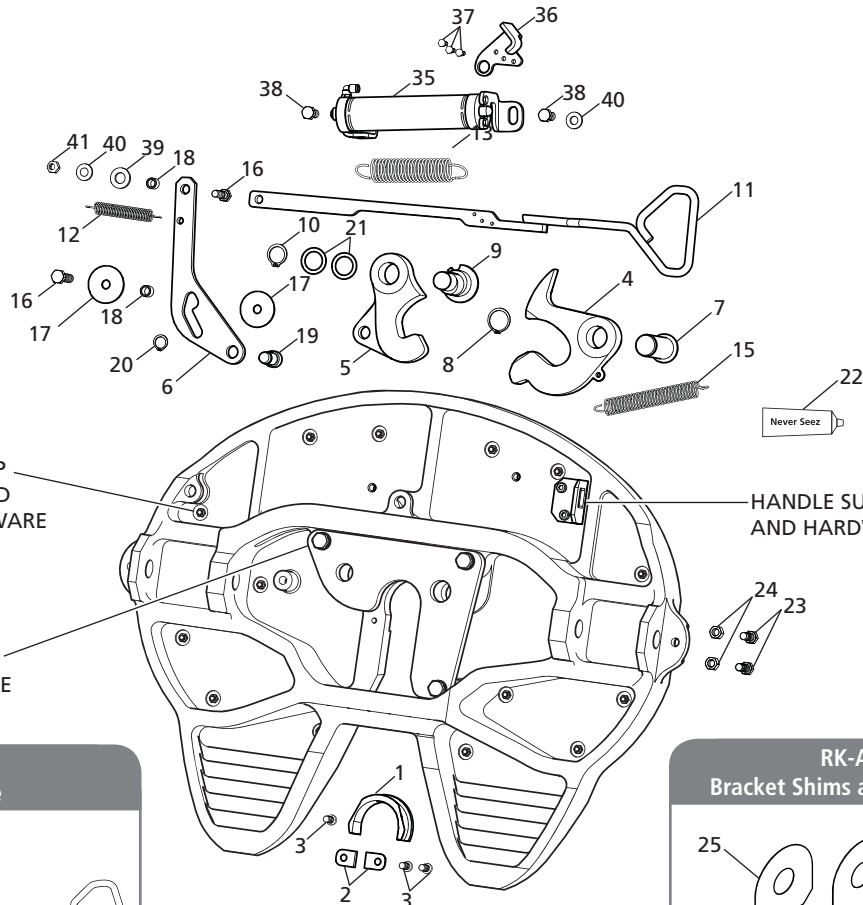
RK-10605 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
23	Hex Head Cap Screw, 1/2"-20 x 1-1/4"	XB-C-95	2
24	Lock Nut, 1/2"-20	XB-T-69-A	2
32	Bracket Pin	XE-06356-P	2
34	Rubber Cushion (for cast brackets)	XB-10605	4

\* Not sold individually – must be purchased in a kit.

# XA-AL-A-80-L (Air Release) Exploded View



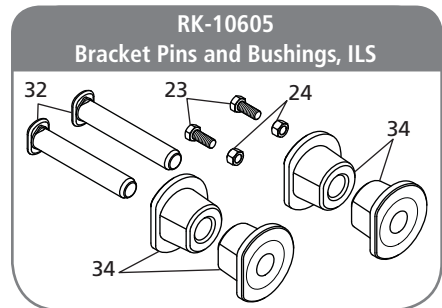
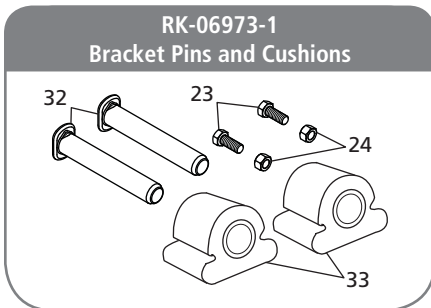
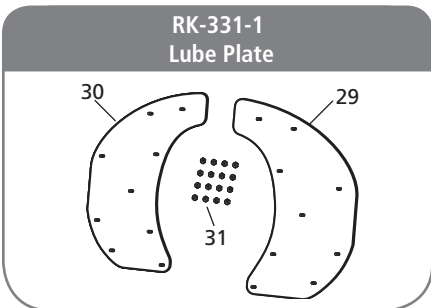
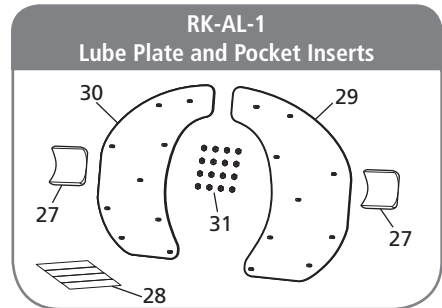
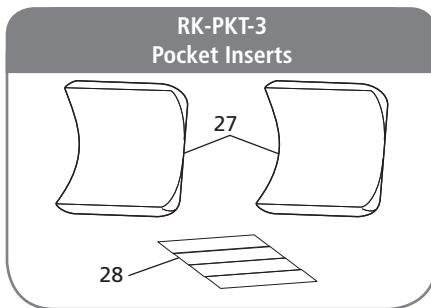
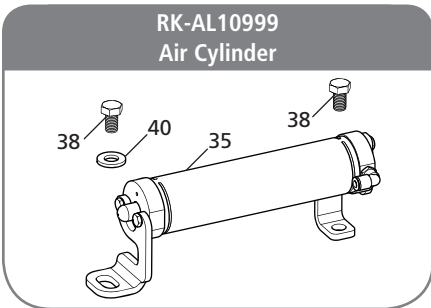
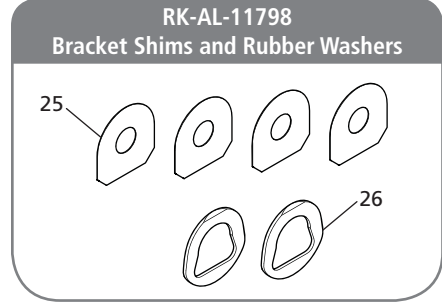
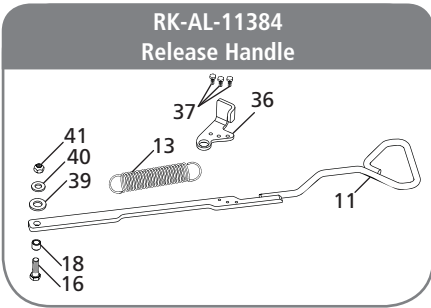
SAF-HOLLAND Group



LUBE PLATES (ON TOP OF FIFTH WHEEL) AND CONNECTING HARDWARE

HANDLE SUPPORT BRACKET AND HARDWARE

BOTTOM PLATE AND HARDWARE







FWAL RK-AL-A-80-L KIT PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
1*	Front Lock Insert	XD-10680-P	1
2	Insert Keeper	XA-10706-P	2
3	Low Head Socket Cap Screw, M10 x 1.5 x 16 mm Long	XB-02724-M	5
4*	Lock	XA-11693-P	1
5*	Hook	XA-10487-AR-P	1
6	Release Cam, Left-Hand Release	XA-10483-ALA	1
7	Lock Pin	XA-06344-AL	1
8	Retaining Ring, 1-3/8" Dia.	XB-08905	1
9	Adjusting Pin	XA-10364-3-AL-P	1
10	Retaining Ring, 1-1/8" Dia.	XB-05855	1
11*	Release Handle	XA-AL-11384-P	1
12	Extension Spring, Release Cam	XB-10563-1-P	1
13	Extension Spring, Handle	XB-10490-P	1
15	Extension Spring, Lock	XB-05843-1-P	1
16	Hex Head Cap Screw, M12 x 1.75 x 40 mm Long	XB-HCS-M12-40-Z	2
17	Washer, 1/2" I.D. x 2 1/4" O.D., Stainless Steel	XB-10294	2
18	Release Cam Bushing	XA-10810	2
19	Hook Pin	XA-10485-1	1
20	Retaining Ring, 3/4" Dia.	XB-05855-1	1
21	Shim Ring	XB-05859-2	2
22	Never-Seez®, 7.5 g Tube	XB-02967	1
23	Hex Head Cap Screw, 1/2"-20 x 1-1/4"	XB-C-95	2
24	Lock Nut, 1/2"-20	XB-T-69-A	2
35	Air Cylinder Assembly	XA-10999-AL	1
36	Air Cylinder Pickup	XA-11384-ALA	1
37	Hex Head Cap Screw, 1/4"-20 x 5/8"	XB-10775	3
38	Hex Head Cap Screw, M12 x 1.75 x 20 mm, Class 10.9	XB-HCS-M12-20-Z	2
39	Hardened Steel Washer, 5/8" I.D. x 1-1/4" O.D.	XB-06180	1
40	Hardened Steel Washer, 1/2" I.D. x 1" O.D.	XB-06378	2
41	Lock Nut, M12 x 1.75	XB-HLN-M12-Z	1

RK-AL-11384 PARTS LIST RELEASE HANDLE			
ITEM	DESCRIPTION	PART NUMBER	QTY.
11*	Release Handle	XA-AL-11384-P	1
13	Extension Spring, Handle	XB-10490-P	1
16	Hex Head Cap Screw, M12 x 1.75 x 40 mm Long	XB-HCS-M12-40-Z	1
18	Release Cam Bushing	XA-10810	1
36	Air Cylinder Pickup	XA-11384-ALA	1
37	Hex Head Cap Screw, 1/4"-20 x 5/8"	XB-10775	3
39	Hardened Steel Washer, 5/8" I.D. x 1-1/4" O.D.	XB-06180	1
40	Hardened Steel Washer, 1/2" I.D. x 1" O.D.	XB-06378	1
41	Lock Nut, M12 x 1.75	XB-HLN-M12-Z	1

RK-AL-11798 PARTS LIST BRACKET SHIMS AND RUBBER WASHERS			
ITEM	DESCRIPTION	PART NUMBER	QTY.
25*	Bracket Shim	XA-11798	4
26*	Rubber Washer	XB-60144	2

RK-AL-10999 PARTS LIST AIR CYLINDER			
ITEM	DESCRIPTION	PART NUMBER	QTY.
35	Air Cylinder Assembly	XA-10999-AL	1
38	Hex Head Cap Screw, M12 x 1.75 x 20 mm, Class 10.9	XB-HCS-M12-20-Z	2
40	Hardened Steel Washer, 1/2" I.D. x 1" O.D.	XB-06378	1

RK-PKT-3 PARTS LIST POCKET INSERTS			
ITEM	DESCRIPTION	PART NUMBER	QTY.
27*	Pocket Insert	XD-10923	2
28*	Double Face Tape	XB-09422	4

RK-AL-1 PARTS LIST LIBE PLATES AND POCKET INSERTS			
ITEM	DESCRIPTION	PART NUMBER	QTY.
29*	Lube Plate, Left-Hand	XA-08125-L	1
30*	Lube Plate, Right-Hand	XA-08125-R	1
31	Lock Nut, 5/16"-18	XB-08931	16
27*	Pocket Insert	XD-10923	2
28*	Double Face Tape	XB-09422	4

RK-331-1 PARTS LIST LUBE PLATES			
ITEM	DESCRIPTION	PART NUMBER	QTY.
29*	Lube Plate, Left-Hand	XA-08125-L	1
30*	Lube Plate, Right-Hand	XA-08125-R	1
31	Lock Nut, 5/16"-18	XB-08931	16

RK-06973-1 PARTS LIST BRACKET PINS AND CUSHIONS			
ITEM	DESCRIPTION	PART NUMBER	QTY.
23	Hex Head Cap Screw, 1/2"-20 x 1-1/4"	XB-C-95	2
24	Lock Nut, 1/2"-20	XB-T-69-A	2
32	Bracket Pin	XE-06356-P	2
33	Rubber Cushion (for fabricated brackets)	XB-0011-2	2

RK-10605 PARTS LIST BRACKET PINS AND ILS CUSHIONS			
ITEM	DESCRIPTION	PART NUMBER	QTY.
23	Hex Head Cap Screw, 1/2"-20 x 1-1/4"	XB-C-95	2
24	Lock Nut, 1/2"-20	XB-T-69-A	2
32	Bracket Pin	XE-06356-P	2
34	Rubber Cushion (for cast brackets)	XB-10605	2

\* Not sold individually – must be purchased in a kit.

## 3. Top Plate Removal

**NOTE:** Fifth wheel assembly has replaceable pocket inserts installed between the fifth wheel top plate and the mounting base. Take care when removing the fifth wheel top plate NOT to lose pocket inserts.

**CAUTION** Failure to prevent pocket inserts from falling out of the top plate could cause a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

1. Remove bracket pin retention bolts and nuts from both sides of fifth wheel top plate and discard (**Figure 3**).

**IMPORTANT:** Some fifth wheel assemblies contain bracket shims between the top plate and the mounting base. Take care when removing bracket pins as the bracket shims could fall out.

2. Using a pry bar, pull bracket pins out of fifth wheel top plate (**Figure 3**).
3. Remove and discard the low head socket cap screw(s), insert keeper(s), and front lock insert (**Figure 4**).
4. Using a lifting device capable of lifting 500 lbs. (227 kg), remove top plate from mounting base. Place fifth wheel right-side up on a flat, clean working area.

**NOTE:** Follow instructions published by lifting device manufacturer for proper operation of lifting device.

5. Thoroughly steam clean the top plate surface and front lock region.

## 4. Front Lock Insert Installation

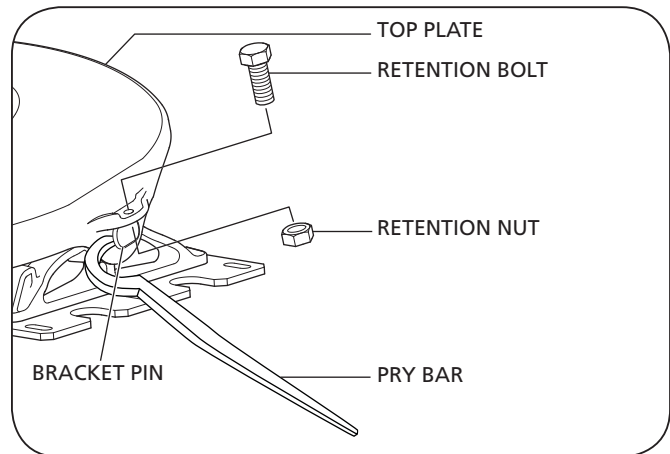
1. Push front lock insert and insert keepers into the detent in the top plate. Secure the insert keeper(s) with the low head socket cap screw(s) (**Figure 5**).
2. Install the adjusting pin low head socket cap screw. Torque to 11-13 ft.-lb. (14-18 N•m).

## 5. Disassembly and Inspection

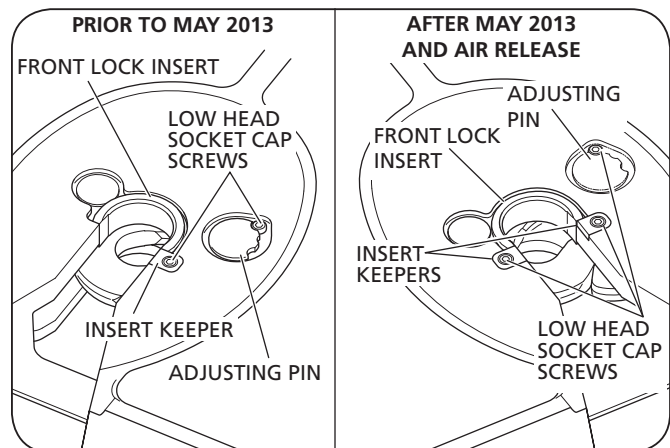
1. Using a lifting device capable of lifting 500 lbs. (227 kg), remove top plate from mounting base. Place fifth wheel upside down on a flat, clean working area.

**NOTE:** Follow instructions published by lifting device manufacturer for proper operation of lifting device.

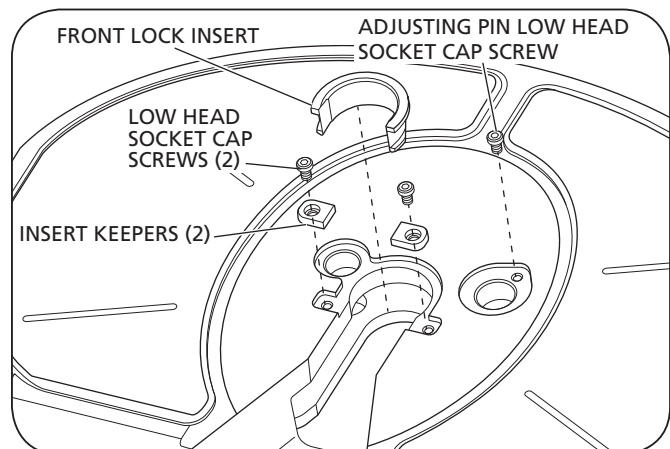
**Figure 3**



**Figure 4**



**Figure 5**



2. Completely remove and discard all components for both top plate versions EXCEPT the lube plates, bottom plate, and handle support bracket along with their connecting hardware. Refer to the exploded view illustrations and parts lists for component identification.

**IMPORTANT:** DO NOT remove the pocket inserts unless they are cracked or worn. Refer to Section 9 for inspection information.

**NOTE:** Lock pin and adjustment pins could be difficult to dislodge and could require force to remove.

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

3. Thoroughly steam clean remainder of top plate.
4. Inspect fifth wheel top plate for cracks and flatness. Fifth wheels with cracks MUST be replaced. The lock pin and adjusting pin on FWAL Series are slip fit. They are not designed to be press fit like other HOLLAND® fifth wheels. However, if either hole is elongated, the top plate must be replaced.

**NOTE:** The maximum allowable lock pin hole diameter is 1.426" (36.30 mm). The maximum allowable adjusting pin hole diameters are 1.672" (42.47 mm) (top) and 1.172" (29.77 mm) (bottom).

**WARNING** Failure to replace fifth wheels with cracks, elongated lock pin or adjusting pin holes could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

## 6 Hook and Lock Installation

1. Lubricate both holes of the hook with Never-Seez®. Also lubricate the areas that make contact with the lock with grease (**Figure 6**).
2. Lubricate both holes of the release cam with Never-Seez® and coat the cam slot with grease (**Figure 7**).
3. Maneuver the hook into place and the release cam so that it is fed through the slot in the main rib of the top plate. Place the release cam over the hook and align the holes as illustrated (**Figure 8**).

Figure 6

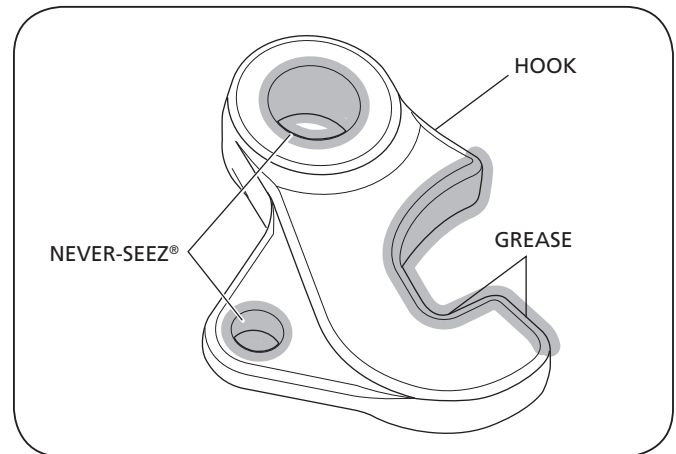


Figure 7

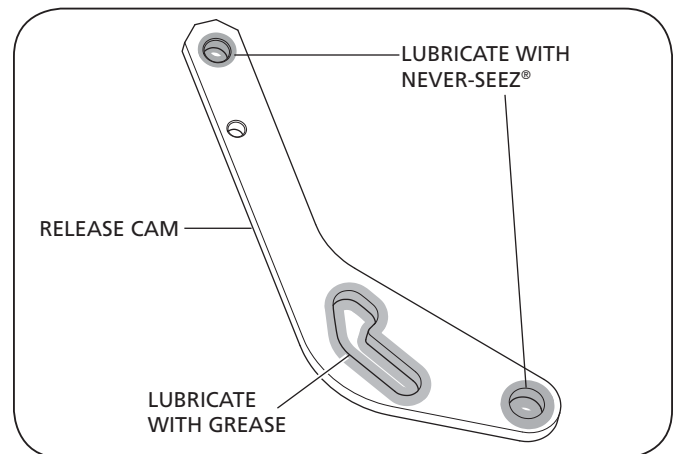
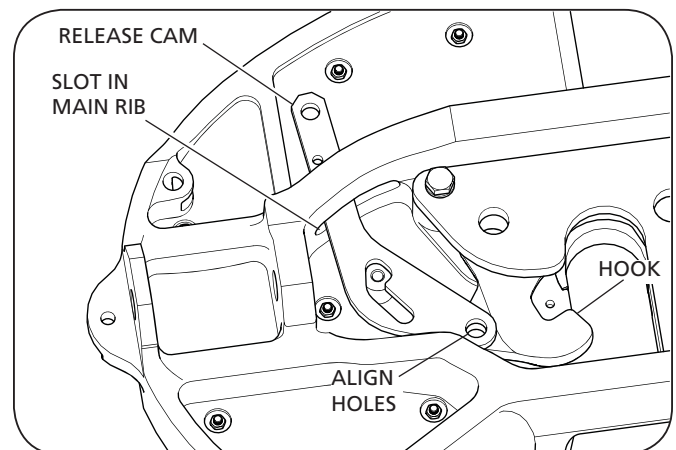
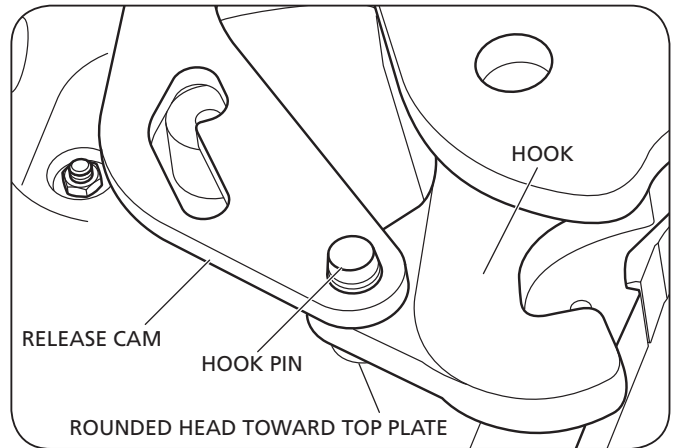


Figure 8

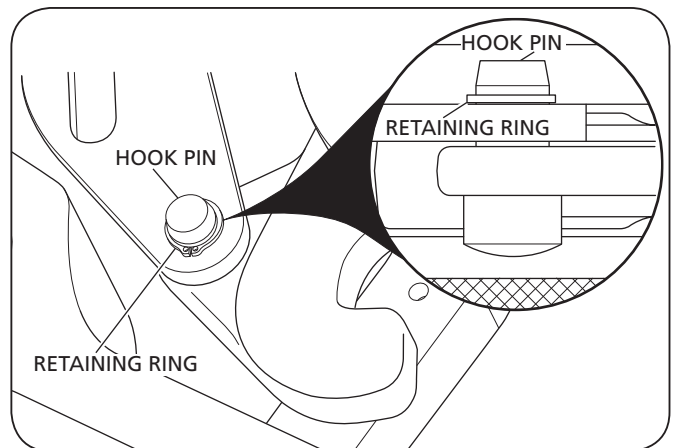


4. Install the hook pin into the hook's small hole with the rounded head toward the top plate.
5. Place the release cam over the hook pin (**Figure 9**).
6. Install the 3/4" diameter retaining ring. Ensure the retaining ring is fully seated in the hook pin groove (**Figure 10**).
7. Lubricate the adjusting pin, the lock pin, and the lock (**Figure 11**).

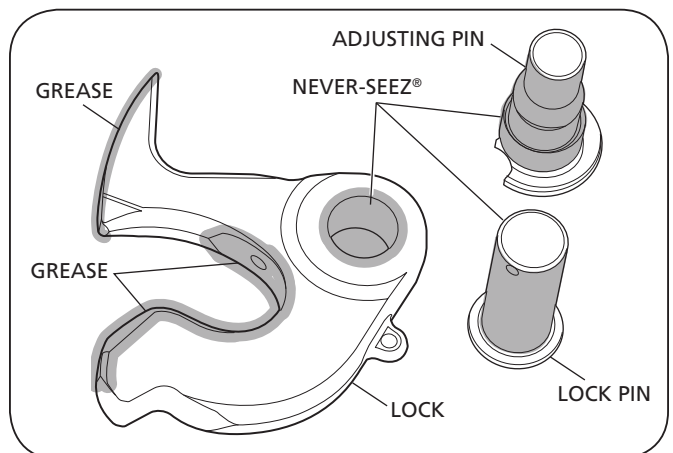
**Figure 9**



**Figure 10**

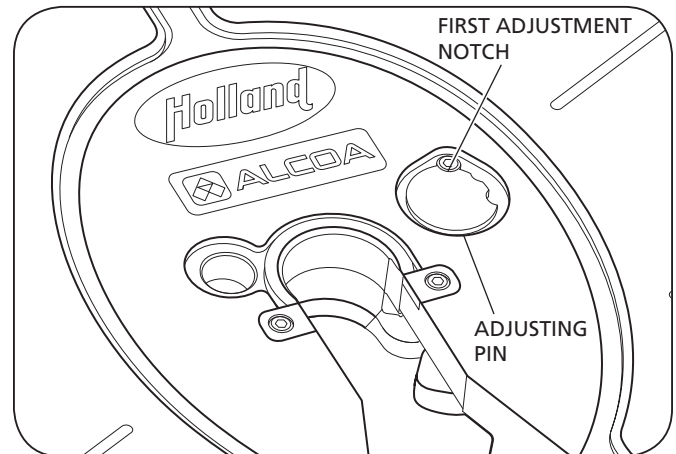


**Figure 11**

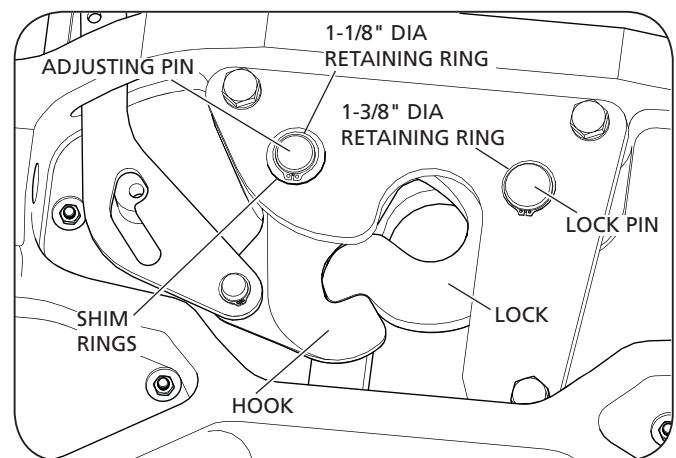


8. Align the hook and insert the adjusting pin so that it lines up with the first adjustment notch (**Figure 12**). The adjusting pin will turn counter-clockwise to adjust.
9. Place the 1-1/8" diameter retaining ring on the adjusting pin (**Figure 13**). Shim rings may be used to reduce the gap between the bottom plate and the adjusting pin retaining ring. Two (2) shim rings are included in rebuild kits RK-AL-A-L, RK-AL-A-L-MET, and RK-AL-A-80-L, if needed.
10. Align the lock, insert the lock pin and install the 1-3/8" diameter retaining ring to secure lock pin (**Figure 13**).

**Figure 12**



**Figure 13**

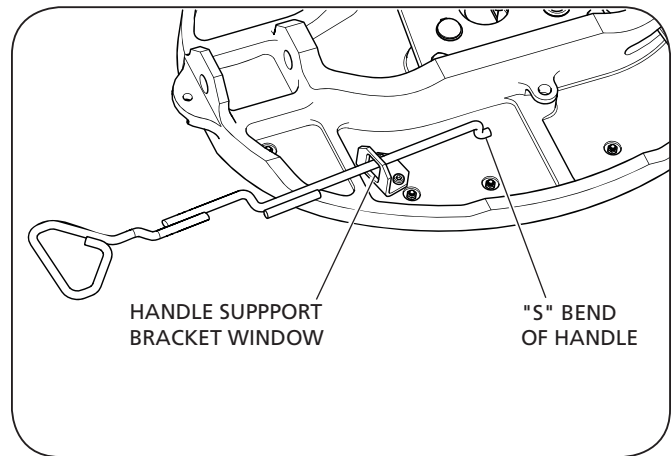


## 7. Release Handle Installation

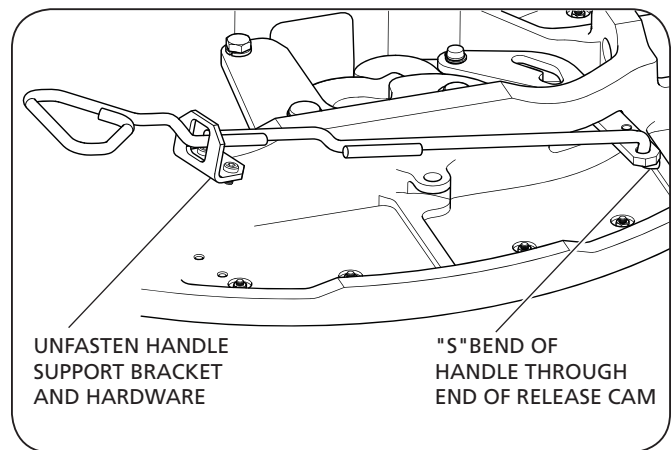
### 7.1 Standard (Non-Air Release)

1. Insert the release handle "S" bend through the handle support bracket window (**Figure 14**).
2. Unfasten the handle support bracket and hardware in order to install the release handle "S" bend through the end of the release cam, with the "S" bend facing down (**Figure 15**).
3. Refasten the handle support bracket and hardware (**Figure 16**). Tighten to 11-13 ft-lbs (15-88 N•m).

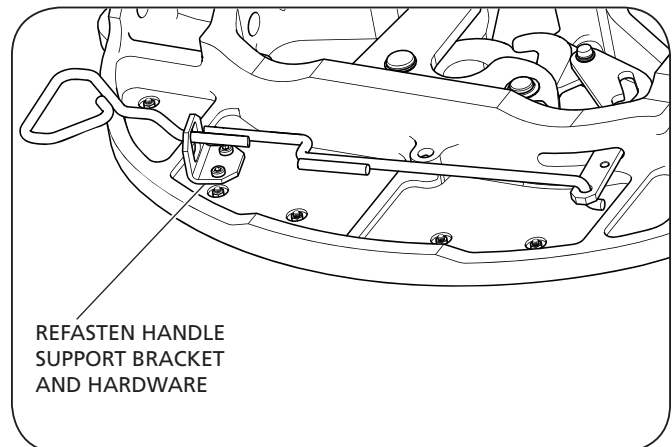
**Figure 14**



**Figure 15**



**Figure 16**

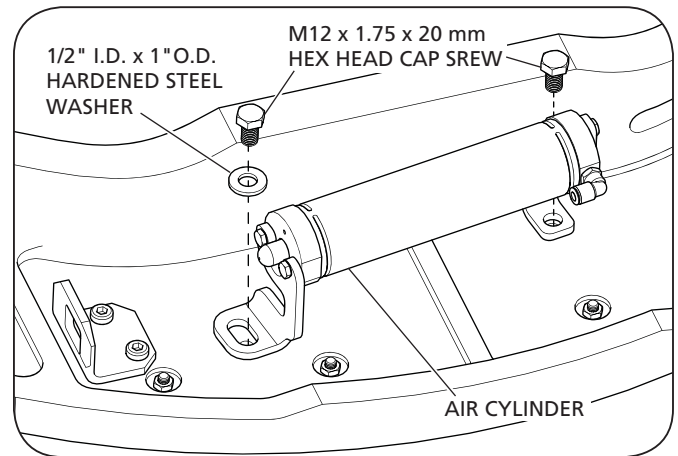




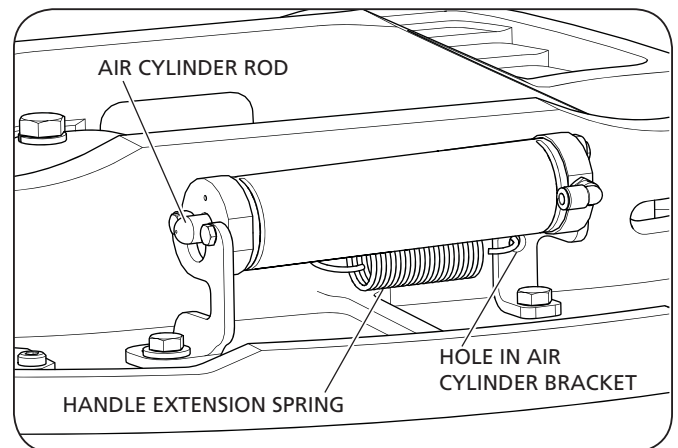
## 7.2 Air Release (Including Air Cylinder Installation)

1. Loosely secure the air cylinder to the top plate using the M12 x 1.75 x 20 mm hex head cap screws and a 1/2" I.D. x 1" O.D. hardened steel washer on the side nearest the air cylinder rod only (**Figure 17**).
2. Install one end of the handle extension spring to the hole in the air cylinder bracket on the side opposite the air cylinder rod (**Figure 18**).
3. Insert the release handle through the handle support bracket window with the bend of the handle facing up (**Figure 19**).
4. Maneuver the release handle through the notch in the air cylinder bracket and place the end of the release handle underneath the end of the release cam, aligning the holes (**Figure 19**).

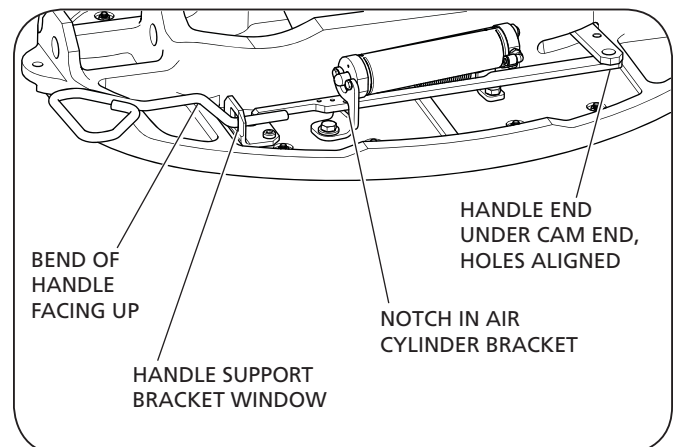
**Figure 17**



**Figure 18**

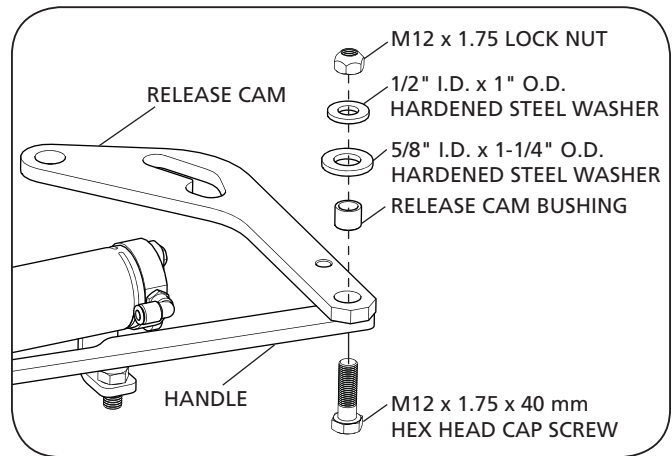


**Figure 19**

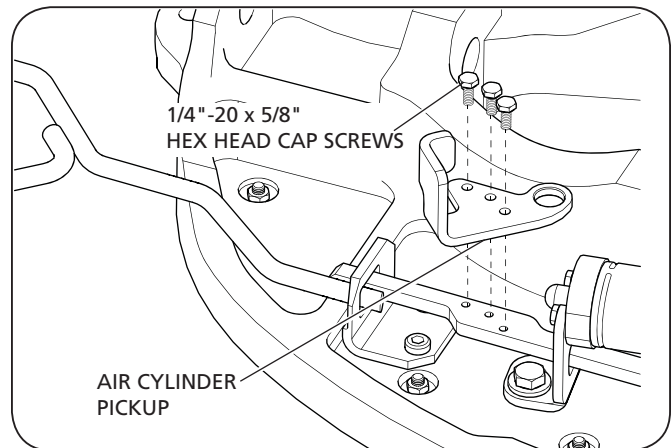


5. Refer to **Figure 20** for the following three (3) steps:
  - a. Insert the M12 x 1.75 x 40 mm hex head cap screw through the aligned holes of the release handle and release cam with the bolt head toward the top plate.
  - b. Place the release cam bushing and the hardened steel washers, in order as illustrated, over the hex head cap screw.
  - c. Secure the assembly with the M12 x 1.75 lock nut and tighten to 40-50 ft-lbs (54-68 N•m).
6. Position the release handle to allow room for securing the air cylinder pickup to the release handle using the 1/4"-20 x 5/8" hex head cap screws (**Figure 21**). Tighten to 7-9 ft-lbs (9.5-12 N•m).
7. Lubricate the release handle and air cylinder pickup in areas illustrated (**Figure 22**).

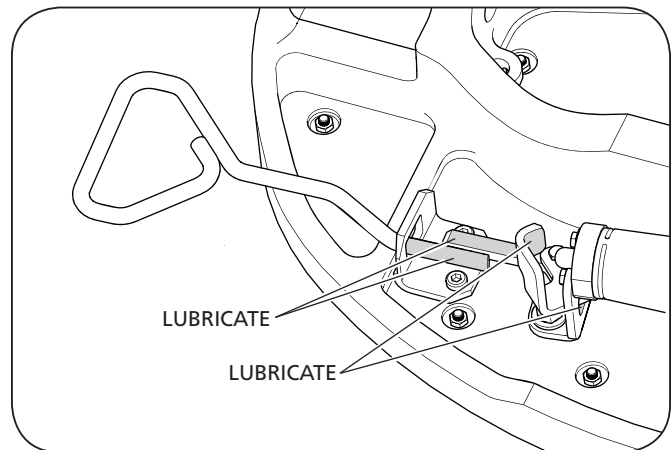
**Figure 20**



**Figure 21**



**Figure 22**

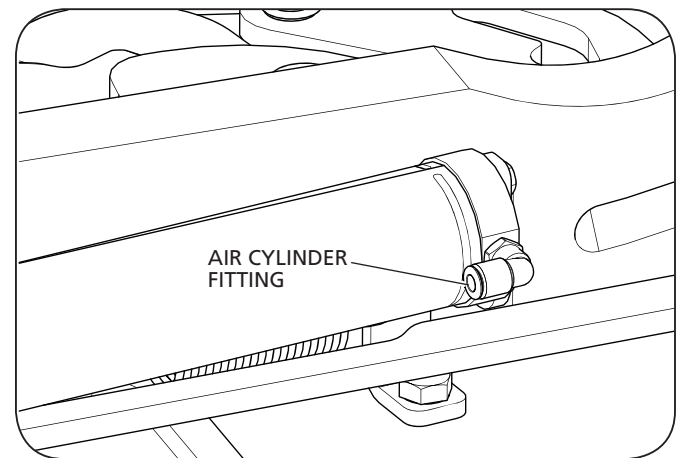


8. Connect a 1/4" air line by inserting it into the air cylinder fitting (**Figure 23**).
9. Refer to **Figure 24** for the following four (4) steps:
  - a. Turn on the air supply to pressurize the air cylinder such that the release handle is fully extended. Air pressure to be set at approximately 100 psi.
  - b. Position the loosely bolted air cylinder such that the release handle is against the window of the handle support bracket and the air cylinder rod is centered in the "V" of the air cylinder pickup.
  - c. Keeping the air cylinder in place, tighten the two M12 x 1.75 x 20 mm hex head cap screws to 40-50 ft.-lbs. (54-68 N•m).
  - d. Release the pressure from the air cylinder and verify that the cylinder rod retracts fully. Replace air cylinder if it is faulty.

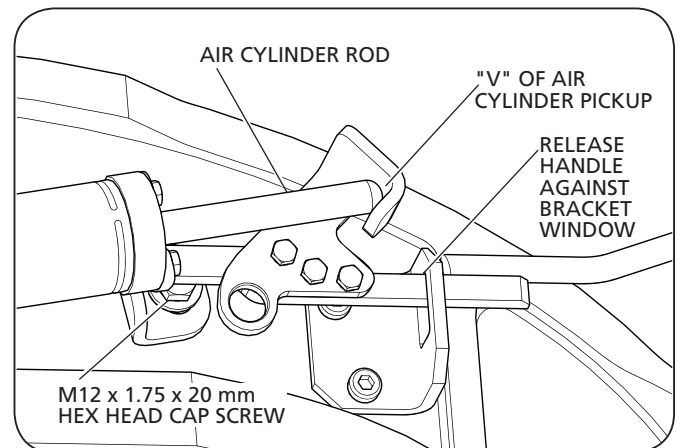
**⚠ WARNING**

Failure to replace a faulty air cylinder could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

**Figure 23**



**Figure 24**

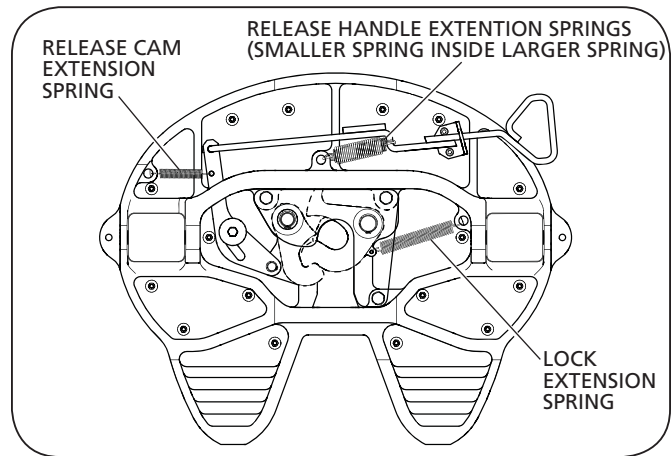


## 8. Springs Installation

### 8.1 Standard (Non-Air Release)

1. Refer to **Figure 25** for the following three (3) steps:
  - a. Hook one end of the release handle extension springs (smaller diameter spring inside the larger diameter spring) onto the release handle and the other end to the fifth wheel top plate. Make sure the spring hook ends face away from the fifth wheel top plate.
  - b. Connect one end of the release cam extension spring into the release cam and the other end to the fifth wheel top plate. Make sure both spring hook ends face away from the fifth wheel top plate.
  - c. Install the lock extension spring by hooking one end to the hole on the lock and the other end to the fifth wheel top plate. Make sure both spring hook ends face away from the fifth wheel top plate.

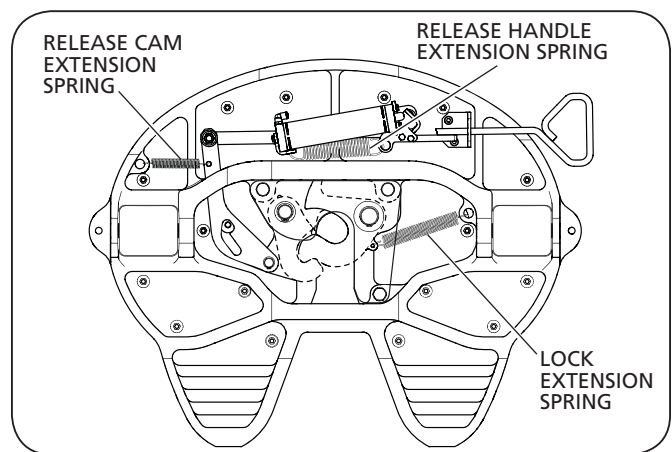
**Figure 25**



### 8.2 Air Release

1. Refer to **Figure 26** for the following three (3) steps:
  - a. Connect the loose end of the release handle extension spring to the air cylinder pickup. Make sure the spring hook end faces away from the fifth wheel top plate.
  - b. Install the release cam extension spring, connecting the release cam to the top plate. Make sure both spring hook ends face away from the fifth wheel top plate.
  - c. Install the lock extension spring, connecting the hole on the lock to the top plate. Make sure both spring hook ends face away from the fifth wheel top plate.

**Figure 26**

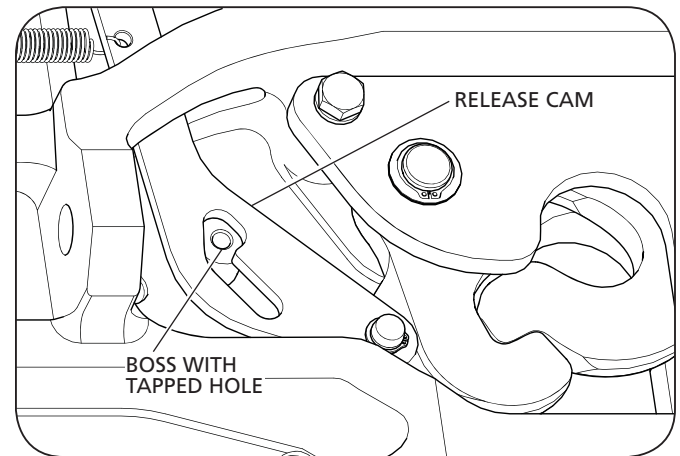


## 9. Release Cam Pivot Bolt Installation

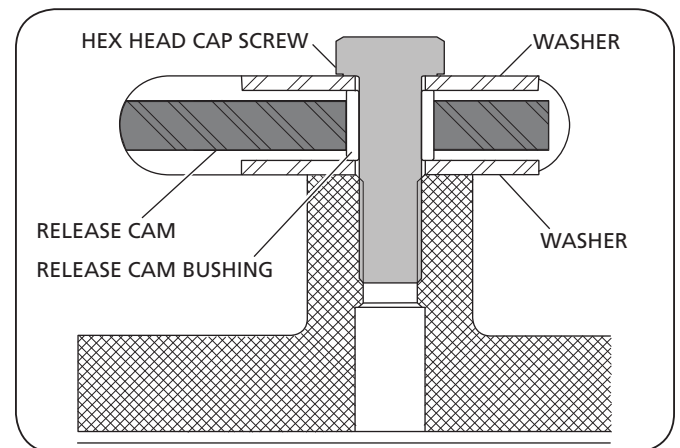
1. To complete installation of the release cam, refer to **Figures 27 and 28** for the following three (3) steps:
  - a. Place one 1/2" I.D. x 2-1/4" O.D. washer between the tapped boss of the top plate and the bottom of the release cam, with the rounded side of the washer toward the release cam, and align the hole with the tapped boss of the top plate.
  - b. Position the release cam bushing within the release cam slot and place the remaining 1/2" I.D. x 2-1/4" O.D. washer on top of the bushing and release cam, with the rounded side of the washer toward the release cam, and align the holes over the tapped boss of the top plate.
  - c. Secure the assembly by inserting the 1/2"-20 x 1-3/4" hex head cap screw through the washers and release cam bushing, into the tapped boss of the top plate and tighten to 40-50 ft.-lb. (54-68 N•m).

**NOTE:** Be sure the threads of the hex head cap screw have a thread-locking compound.

**Figure 27**



**Figure 28**



## 10. Pocket Insert Inspection

Replace pocket inserts (Pocket Inserts Kit, RK-PKT-2) if:

- The pocket insert thickness is 1/16" (1.59 mm) or less.
- The free vertical movement of top plate on the bracket is 1/2" (12.70 mm) or greater, without compressing rubber bushings (**Figure 29**).
- The pocket inserts are severely chipped, cracked or gouged.

## 11. Top Plate Installation (for fabricated mounting brackets)

For mounting brackets with a one piece rubber bushing, bracket shims are required for each pocket on both sides of the mounting bracket. Replace bracket shims with kit RK-AL-11798 if:

- Any of the bracket shims are missing.
- Bracket shims are cracked, severely bent or worn.

**NOTE:** For fifth wheels that DO NOT require bracket shims, refer to Section 12, Top Plate Installation.

1. If pocket inserts are dislodged from fifth wheel top plate, clean pocket area of forging and apply a strip of double face tape in the bottom of pockets. Install pocket inserts by pressing down into pockets (**Figure 30**).
2. Using a lifting device capable of lifting 500 lbs. (227 kg), install the fifth wheel top plate onto its mounting base.

**NOTE:** Follow instructions published by lifting device manufacturer for proper operation of lifting device.

Figure 29

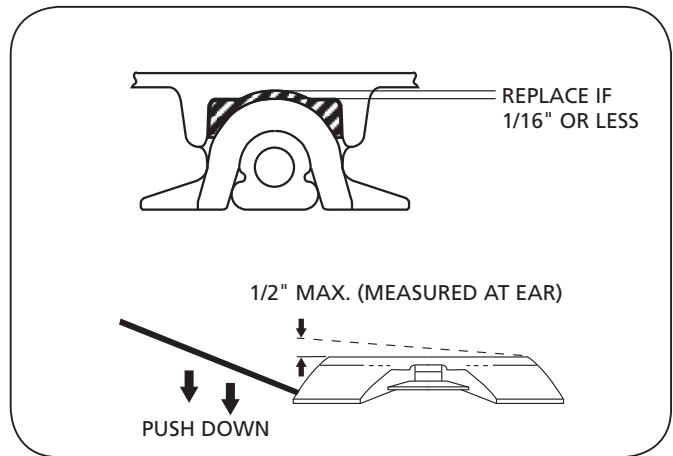
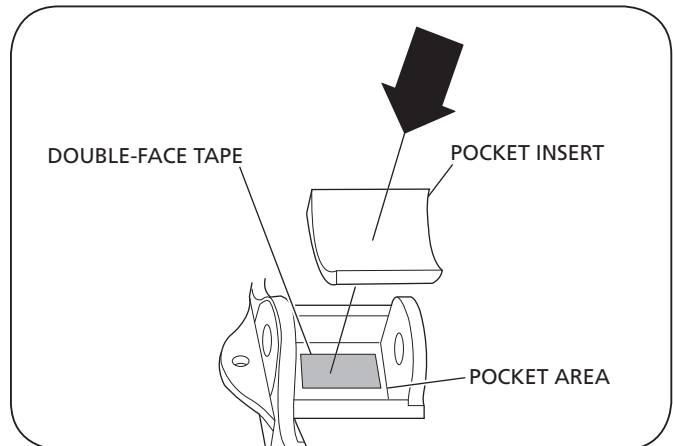


Figure 30





3. Line up the holes of a new metal bracket shim and rubber washer between the outside ear of the fifth wheel and the mounting bracket. Rubber washer must be placed between the outside ear and the metal bracket shim (**Figure 31**).
4. Insert the bracket pin through the outside ear of the fifth wheel, metal bracket shim, rubber washer, and halfway through the mounting bracket to hold the bracket shims in place (**Figure 31**).
5. Repeat Steps 3-4 for the opposite side of the fifth wheel. If needed, the fifth wheel could be pushed from side-to-side on the brackets to create space for the bracket shims.
6. Once the outside bracket shims are installed, line up the holes of a new metal bracket shim between the inside ear of the fifth wheel and the mounting bracket.
7. Complete insertion of the bracket pin through the bracket shim and into the inside of the fifth wheel.
8. Repeat Steps 6-7 for the last remaining metal bracket shim between the other inside ear and mounting bracket.

**IMPORTANT:** If there is NOT enough room for the rubber washers to be installed, or when installed the fifth wheel DOES NOT freely articulate, remove rubber washers and install metal bracket shims only.

9. Secure bracket pins by installing the 1/2"-20 x 1-1/4" hex head cap screws and 1/2"-20 lock nuts (**Figure 32**). Torque the hex head cap screws to 50-60 ft.-lbs. (68-81 N•m).

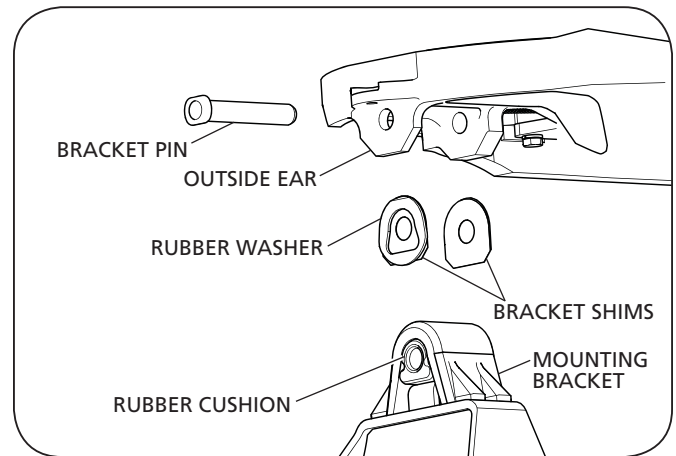
## 12. Top Plate Installation (for cast mounting brackets)

1. If pocket inserts are dislodged from fifth wheel top plate, clean pocket area of forging and apply a strip of double-face tape in the bottom of pockets. Install pocket inserts by pressing down into pockets (**Figure 30**).
2. Using a lifting device capable of lifting 500 lbs. (227 kg), install the fifth wheel top plate onto its mounting base.

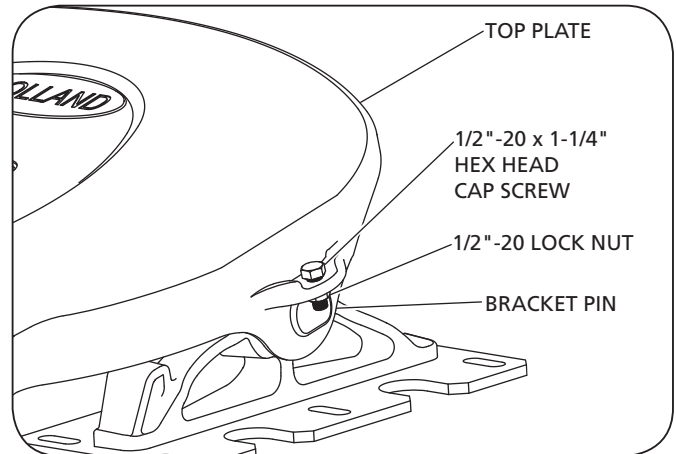
**NOTE:** Follow instructions published by lifting device manufacturer for proper operation of lifting device.

3. Install the bracket pins through fifth wheel top plate and mounting base and secure by installing the 1/2"-20 x 1-1/4" hex head cap screws and 1/2"-20 lock nuts (**Figure 32**). Torque the hex head cap screws to 50-60 ft.-lbs. (68-81 N•m).

**Figure 31**



**Figure 32**



### 13. Fifth Wheel Adjustment

**⚠ WARNING** Failure to maintain proper fifth wheel adjustment could result in loss of vehicle control which, if not avoided, could result in death or serious injury.

**NOTE:** To obtain proper fifth wheel adjustment, SAF-HOLLAND® recommends the use of HOLLAND® lock tester Part No. TF-TLN-5001, available from a HOLLAND® distributor.

1. If fifth wheel is locked, slide release handle forward and completely pull out (**Figure 33**).
2. Set lock tester on fifth wheel top plate.
3. To lock fifth wheel, rotate handle on lock tester clockwise until the locks close around the kingpin (**Figure 34**).
4. Slide the lock tester forward and backward while the lock is closed to check for play between lock and kingpin. Ensure that the tool remains flat with full contact on the fifth wheel top plate. Use a pin gage to measure for free play. If free play exceeds 0.080" (2.03 mm), adjust lock mechanism (**Figure 34**).
5. To adjust the lock, unscrew the low head socket cap screw and rotate the adjusting pin counter-clockwise until the next notch lines up with the cap screw. Re-tighten cap screw. Adjust only one notch at a time (**Figure 35**).

Figure 33

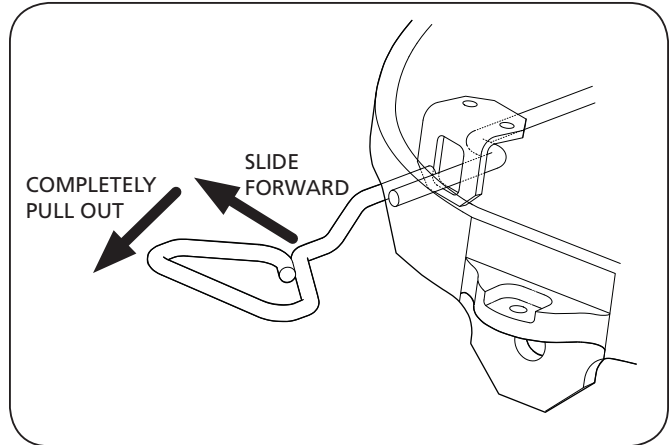


Figure 34

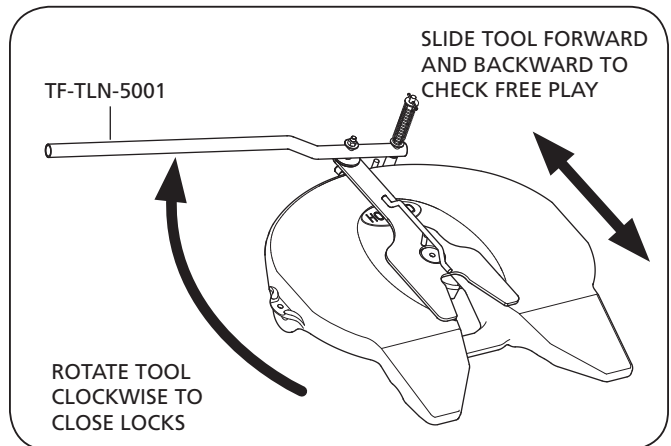
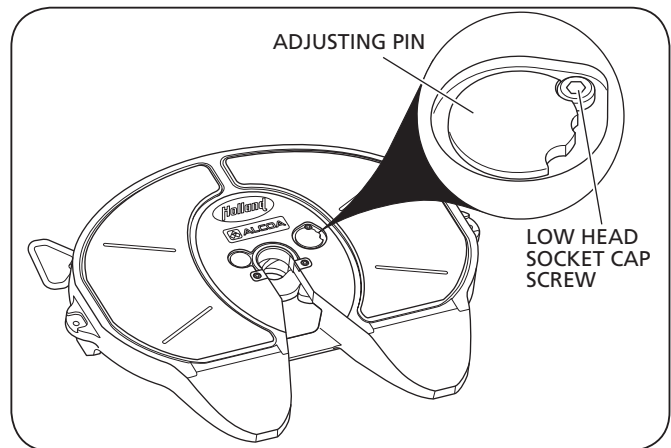
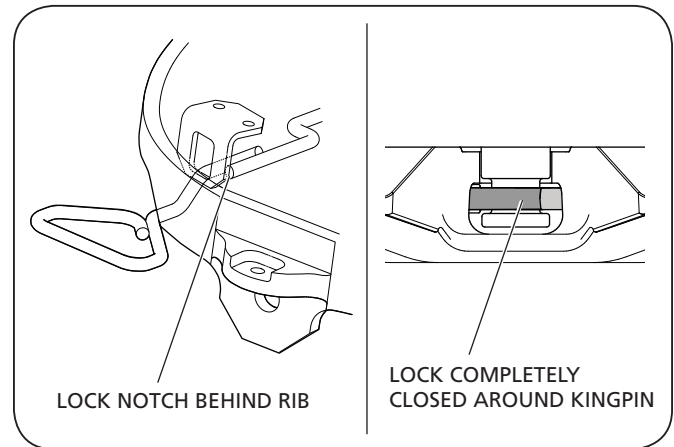


Figure 35

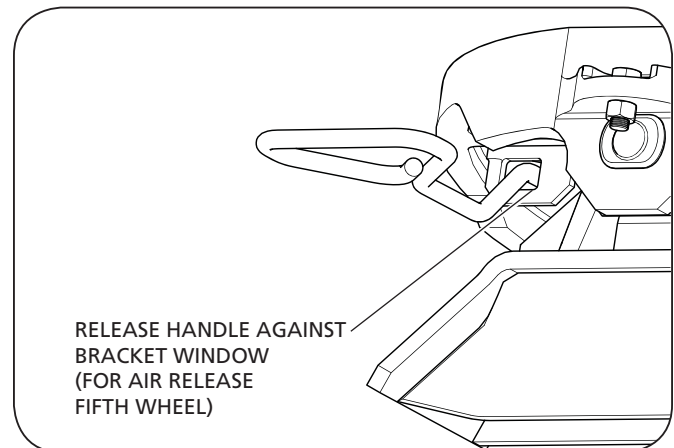


6. Verify the proper adjustment by locking and unlocking the fifth wheel several times with the lock tester. Check that fifth wheel is properly locked (**Figure 36**).
7. For a FWAL air release fifth wheel only: Verify that the release handle contacts the window of the handle support bracket when the handle is in the locked position (**Figure 37**).
8. Rotate the lock tester from side-to-side to ensure that the lock is NOT over-tightened. The lock should NOT grip the kingpin and the tool should rotate freely (**Figure 38**).
9. Re-check for free play in the lock by sliding the lock tester forward and backward while measuring free play with a pin gage (**Figure 38**). Free play should be 0.040" (1.02 mm) minimum. If free play still exceeds 0.080" (2.03 mm), repeat procedure and adjust one more notch.
10. Slide the fifth wheel release handle forward and pull completely out (**Figure 33**). Push down and rotate the "J" hook on the lock tester so that it hooks under the front skirt of the fifth wheel top plate (**Figure 38**). Pull the lock tester handle counter-clockwise to release the kingpin and remove the lock tester.

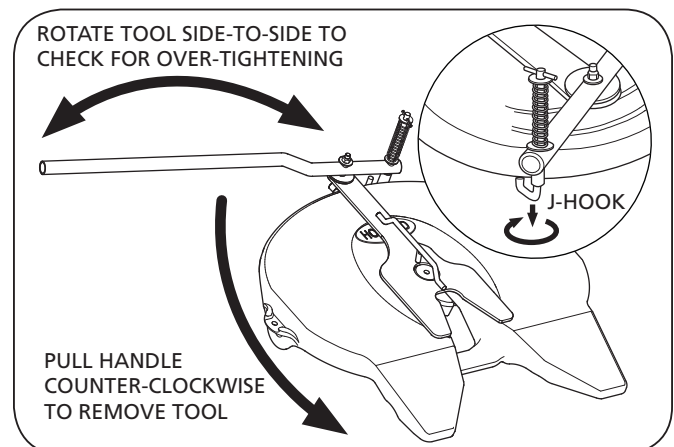
**Figure 36**



**Figure 37**



**Figure 38**





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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