

## Rebuild/Repair Manual

### FW28 Series Fifth Wheels

- RK-280-A Rebuild Kit



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## Introduction

This manual provides the information necessary to properly rebuild the HOLLAND® FW28, XA-280-A 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.cn](http://www.safholland.cn).

**IMPORTANT:** Lock tester, part number TF-TLN-1500 available at SAF-HOLLAND® distributors, is required for proper rebuild of the FW28 fifth wheel.

When replacement parts are required, SAF-HOLLAND® highly recommends the use of ONLY SAF-HOLLAND® Original Parts. A list of SAF-HOLLAND® technical support locations that supply SAF-HOLLAND® Original Parts can be found on the internet at [www.safholland.cn](http://www.safholland.cn) or contact Customer Service at +86 592 6388891. Refer to this manual’s back cover for the nearest location for assistance.

## 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.

## 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:** Before rebuilding the HOLLAND® Fifth Wheel review the model number on the identification tag. This rebuild procedure applies only to models FW28, XA-280-A 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 FW28, XA-280-A series fifth wheel top plates ONLY. There are other important checks, inspections, and procedures not listed here that are necessary, prudent, and/or required.

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

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

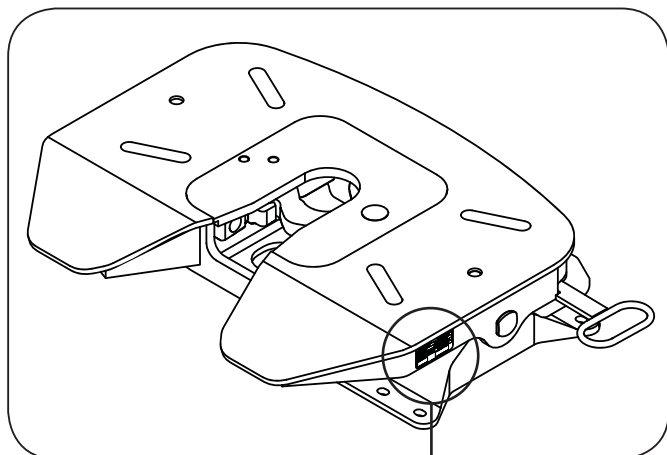
**⚠ WARNING** Failure to properly repair and install the fifth wheel could adversely affect performance resulting in tractor trailer separation which, if not avoided, could result in death or serious injury.

## 2. Model Identification

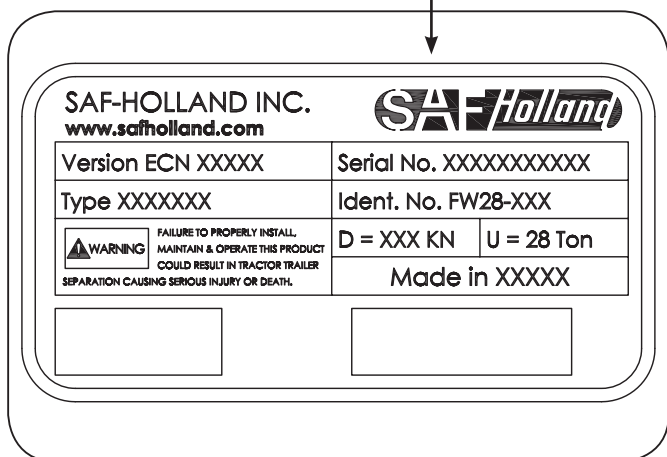
Fifth wheel serial tags are located on the right side of the fifth wheel top plate above the fifth wheel bracket pin, or on the pickup ramps (**Figure 1**).

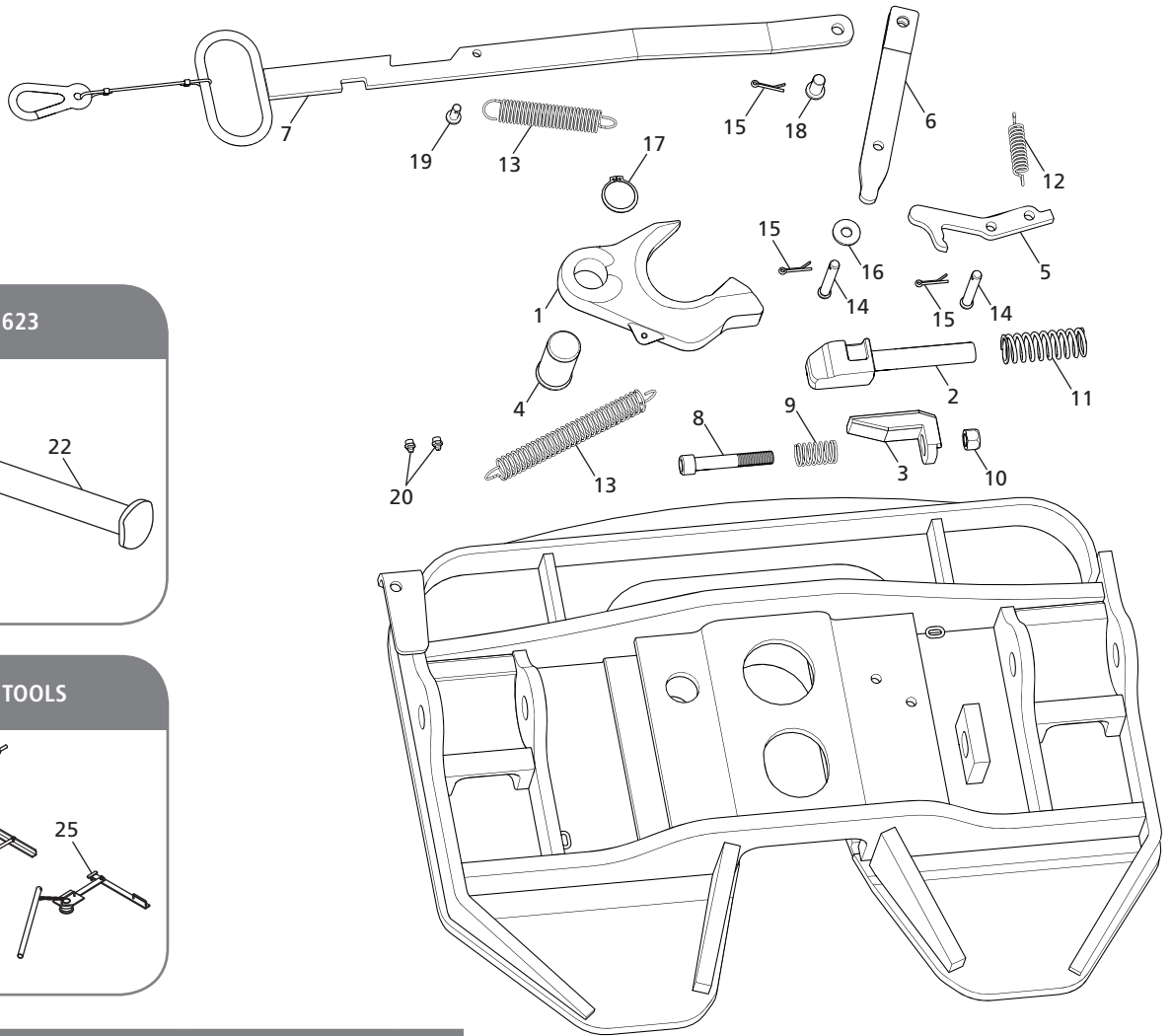
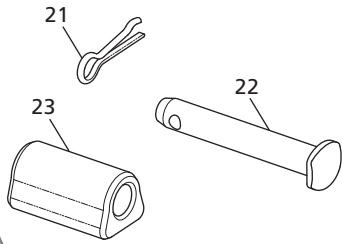
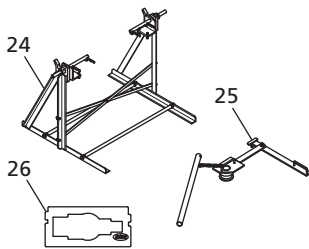
The identification number and serial number are listed on the tag (**Figure 2**).

**Figure 1**



**Figure 2**




**RK-11623**

**SERVICE TOOLS**

**FW28 RK-280-A KIT PARTS LIST**

ITEM	DESCRIPTION	PART NUMBER	QTY
1	Lock	XA-11598	1
2	Lock Retainer	XA-11597	1
3	Adjustment Wedge	XD-11593	1
4	Lock Pin	XA-11594	1
5	Latch	XA-11577	1
6	Lever	XA-11596	1
7	Release Handle	XA-11600	1
8	Socket Head Cap Screw, M16 x 2 x 100 mm	XB-11591	1
9	Small Compression Spring	XB-11592	1
10	Lock Nut, M16 x 2	XB-11590	1
11	Large Compression Spring	XB-11586	1
12	Small Extension Spring	XA-11576	1
13	Large Extension Spring	XB-10489-C	2
14	Lever Pin	XA-11583	2
15	Cotter Pin, M4 x 32 mm	XA-11612	3
16	Washer, M12	XB-11588	1
17	Retaining Ring	XB-11849	1
18	Clevis Pin, Ø15 x 28.5 mm	XB-11845	1
19	Clevis Pin, Ø10 x 25 mm	XB-11790	1
20	Lube Fitting	XB-11579	2

**RK-11623 PARTS LIST**

ITEM	DESCRIPTION	PART NUMBER	QTY
21*	Clinch Pin	9900169	2
22*	Bracket Pin	XA-11533	2
23*	Rubber Bushing	XB-0011-3-C	2

**SERVICE TOOLS**

ITEM	DESCRIPTION	PART NUMBER	QTY
24*	Fifth Wheel Rebuild Stand	TF-04229-1	1
25*	Kingpin Lock Tester	TF-TLN-1500	1
26*	Kingpin Gauge	TF-0110	1

\* Not included in RK-280-A Rebuilt Kit.

**NOTE:** All contents of RK-280-A MUST be ordered as a full kit. Parts CANNOT be ordered separately.

## 3. Top Plate Removal

**CAUTION** Fifth wheel components are under high spring tension which could release unexpectedly which, if not avoided, could result in death or serious injury.

1. Remove clinch pins from the bracket pins on both sides of fifth wheel top plate (**Figure 3**).
2. Using a pry bar, pull fifth wheel bracket pins out of fifth wheel top plate (**Figure 3**).
3. Using a lifting device capable of lifting 230 kg (507 lbs.), 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.

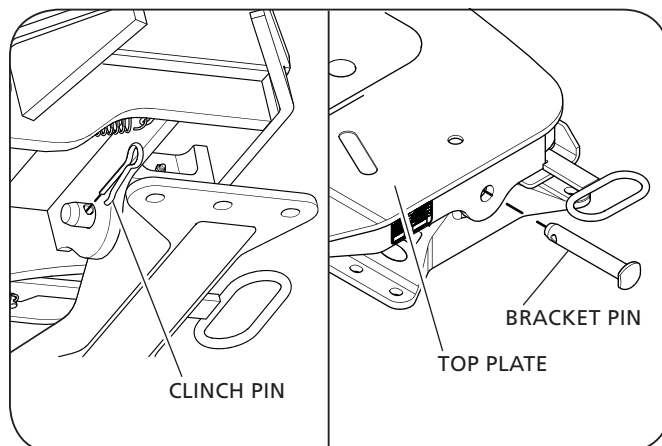
4. Completely remove all components from the fifth wheel and discard.

**IMPORTANT:** This rebuild kit contains all the components necessary to completely rebuild the fifth wheel top plate. DO NOT reuse old parts.

**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.

5. Thoroughly steam clean the top plate and front lock region to remove all grease and debris.

**Figure 3**



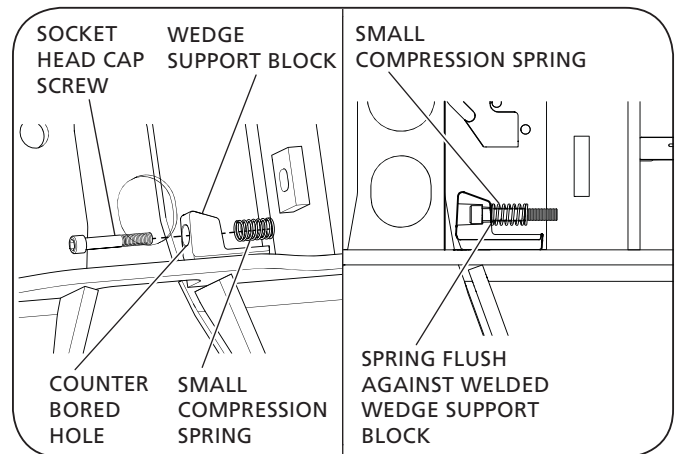
6. Inspect the top plate for cracks, elongated lock pin and adjusting pin holes, and flatness. If the top plate is damaged, it MUST be discarded.

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

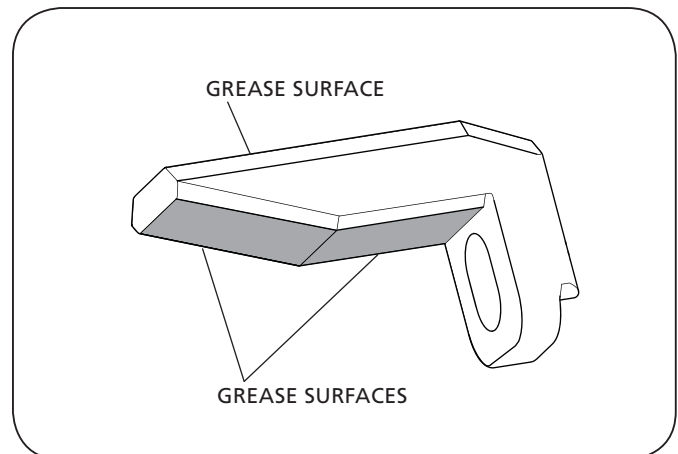
#### 4. Adjustment Wedge Installation

1. Install the M16 x 2 x 100 socket head cap screw through the counter bored hole located in the top plate's wedge support block (**Figure 4**).
2. Slide the small compression spring over the threaded end of the socket head cap screw until it is seated flush against the top plate's wedge support block (**Figure 4**).
3. Lubricate the adjustment wedge (**Figure 5**).
4. Slide the hole in the adjustment wedge over the socket head cap screw. Position the wedge into the top plate so that the angled surfaces on the wedge and support block are flush and the wedge is seated against the small compression spring (**Figure 6**).

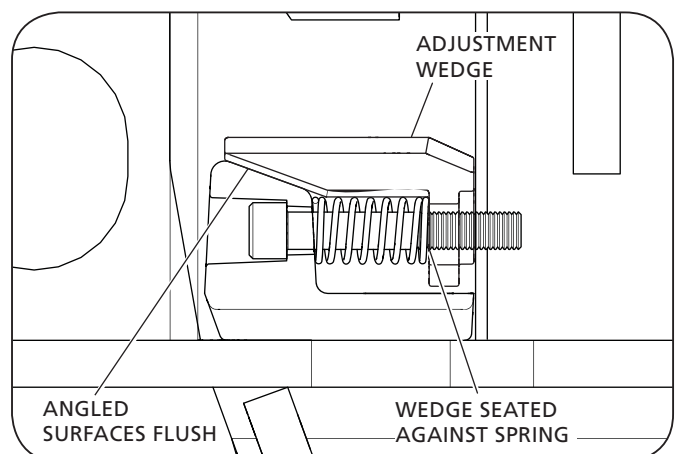
**Figure 4**



**Figure 5**



**Figure 6**



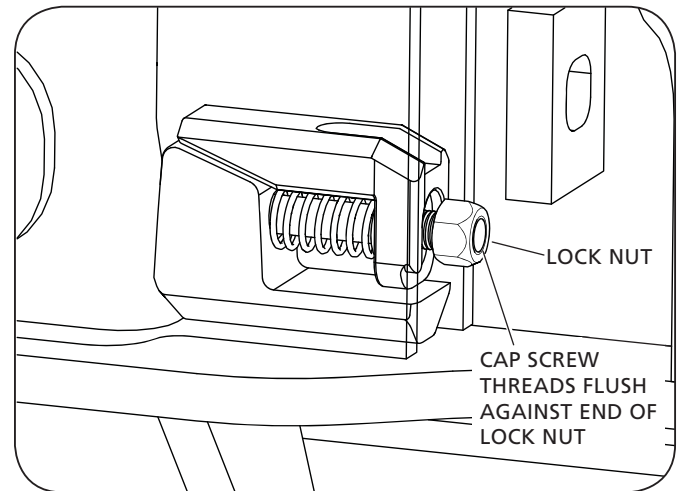
5. Install the M16 x 2 lock nut onto the socket head cap screw and partially tighten until the threads of the socket head cap screw are flush with the end of the lock nut. This will secure the adjustment wedge and small compression spring to the top plate (**Figure 7**).

**NOTE:** Further adjustment will be performed in Section 11.

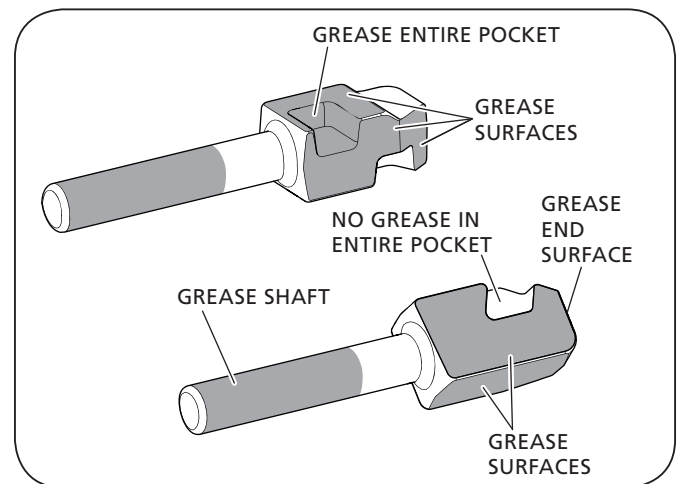
## 5. Lock Retainer Installation

1. Lubricate the lock retainer (**Figure 8**).
2. Place the large compression spring onto the shaft of the lock retainer (**Figure 9**).

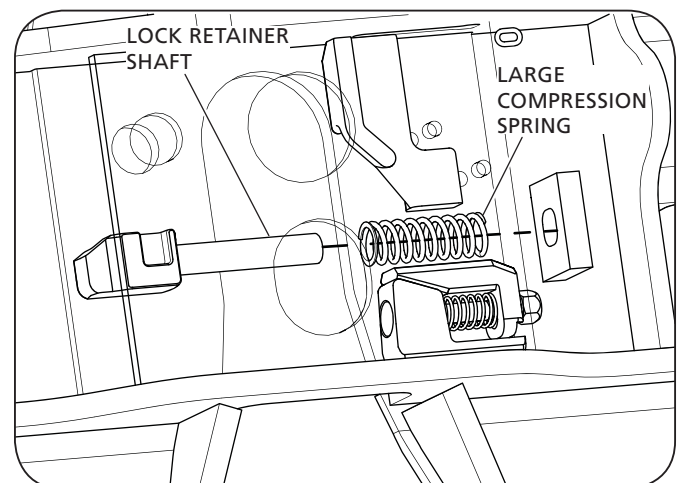
**Figure 7**



**Figure 8**



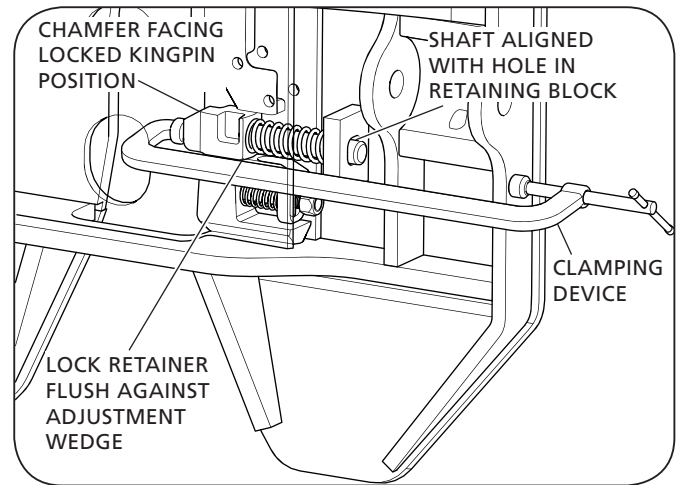
**Figure 9**





3. Install the lock retainer and large compression spring into the central lock area of the top plate and conform to the following (**Figure 10**):
  - The side of the lock retainer equipped with a large chamfer at the end is facing the center of the fifth wheel where the kingpin will be locked.
  - The lock retainer is seated against the adjustment wedge.
  - The compression spring is flush with the top plate retaining block.
  - The lock retainer shaft is aligned with the hole in the top plate retaining block.
4. Use a device, such as a large clamp, to apply force to the end of the lock retainer so that the spring compresses and the shaft of the lock retainer passes through the retaining block hole (**Figure 10**).

**Figure 10**

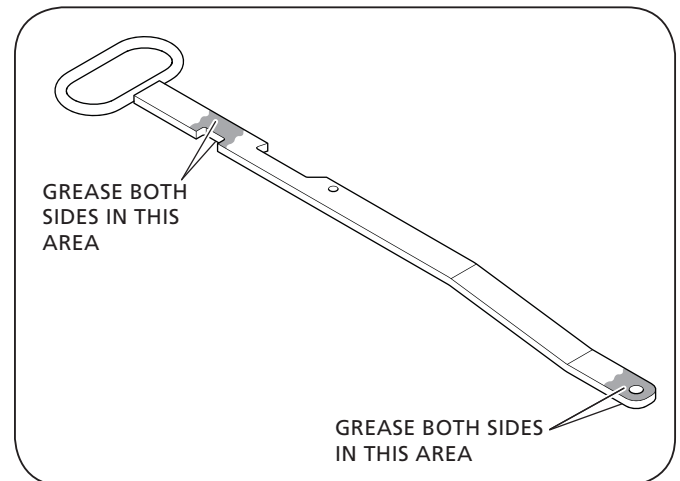


**NOTE:** The device MUST be capable of compressing the lock retainer spring and securing the lock retainer into the fifth wheel top plate.

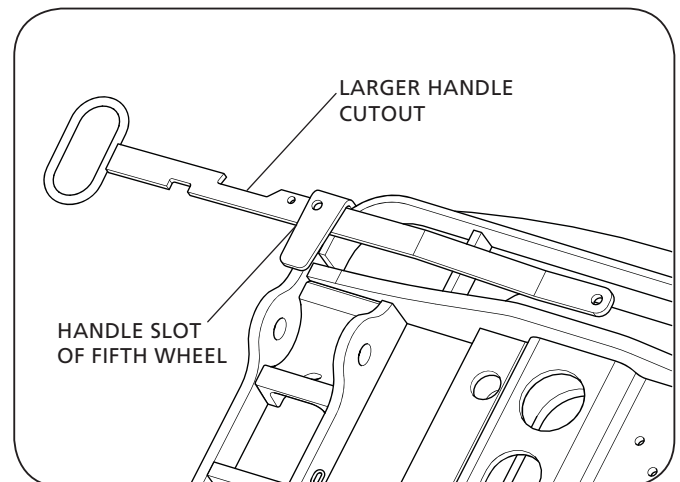
## 6. Handle and Lever Installation

1. Lubricate the handle (**Figure 11**).
2. Orient the handle so the larger cutout is facing away from the center of the fifth wheel (**Figure 12**).
3. Install the handle through the handle slot of the fifth wheel (**Figure 12**).

**Figure 11**



**Figure 12**



4. Lubricate the following components (**Figure 13**):

- Lever
- One (1) lever pin
- M12 washer
- Ø15 x 28.5 mm clevis pin
- Main rib slot opening of fifth wheel

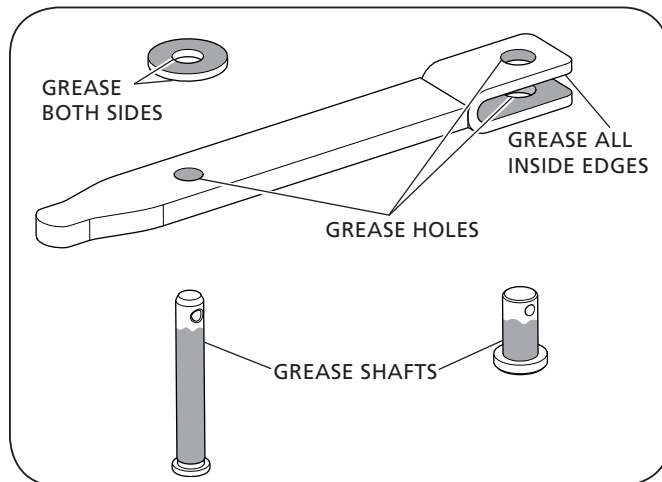
5. Install the end of the handle into the clevis end of the lever, aligning the holes (**Figure 14**).

6. Insert the Ø15 x 28.5 mm clevis pin through the aligned holes of the handle and lever, with the head of the pin closest to the fifth wheel (**Figure 15**).

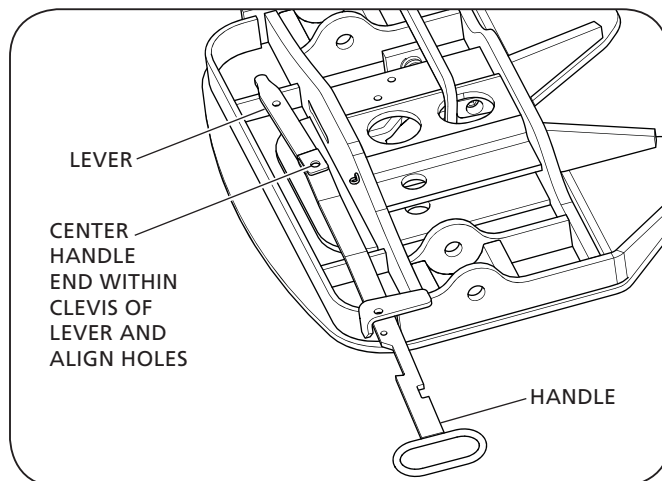
7. Secure the clevis pin to the lever by inserting a M4 x 32 cotter pin through the hole at the end of the clevis pin (**Figure 15**).

8. Spread both legs of the cotter pin at a 20° angle minimum (**Figure 15**).

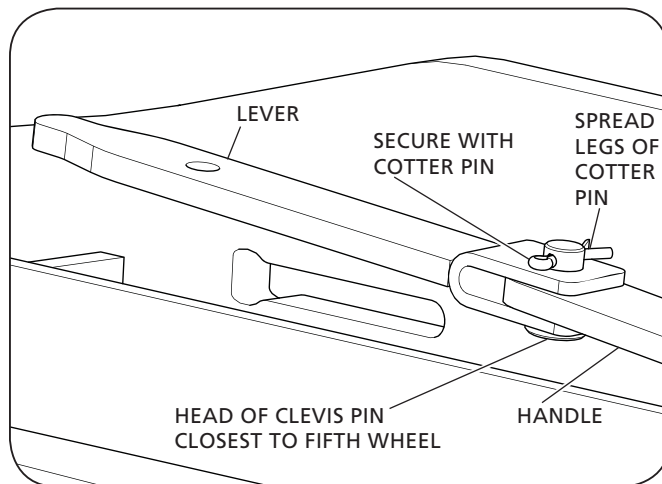
**Figure 13**



**Figure 14**



**Figure 15**



9. Install the lever through the slot in the main rib (**Figure 16**).
10. Place the M12 washer on top of the lever bar so that the washer hole is aligned with the pivot hole located near the end of the lever bar (**Figure 16**).

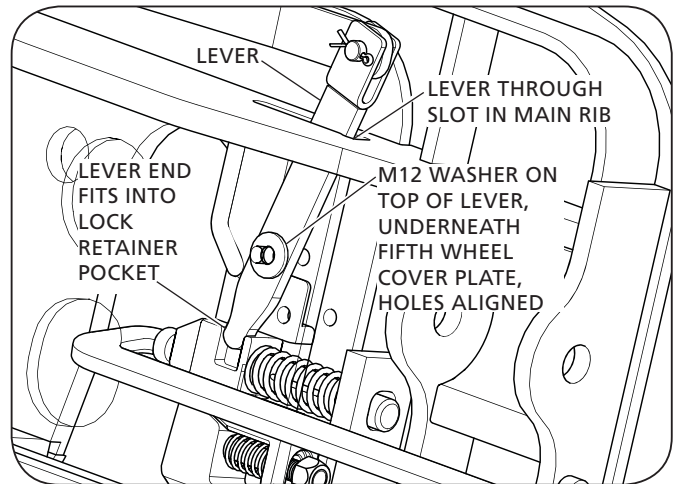
**NOTE:** Lubrication should help these components stick together.

11. Position the lever so that the profiled end fits securely into the recessed pocket in the lock retainer (**Figure 16**).
12. Secure the lever and washer by inserting the lever pin through the fifth wheel face, lever, and washer until it protrudes out of the fifth wheel cover plate (**Figure 17**).
13. Secure the lever pin in the fifth wheel by inserting a M4 x 32 cotter pin through the hole at the end of the lever pin (**Figure 18**).
14. Spread both legs of the cotter pin at a 20° angle minimum (**Figure 18**).

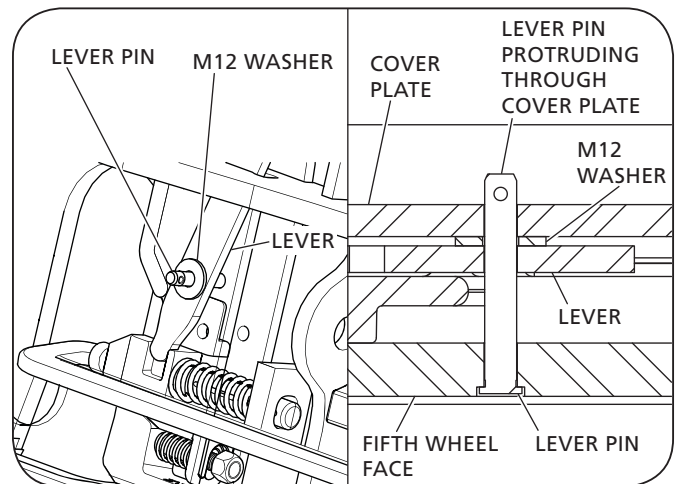
**WARNING** Failure to properly install the cotter pin in the lever pin, could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

15. Disengage the clamp or mechanical device used to compress/secure the lock retainer in the top plate.

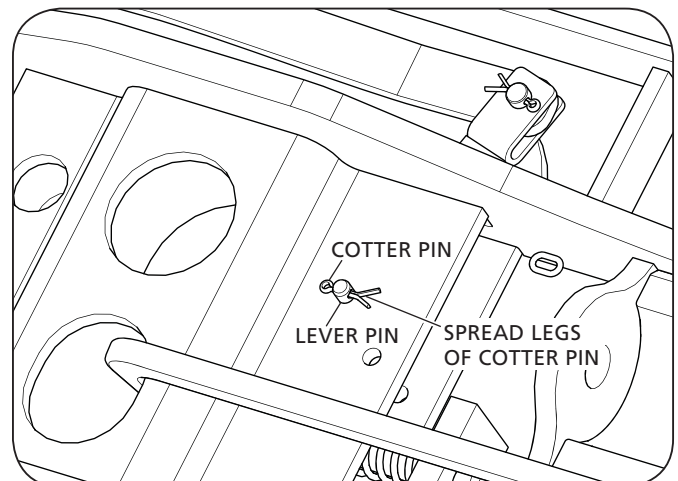
**Figure 16**



**Figure 17**



**Figure 18**



## 7. Latch Installation

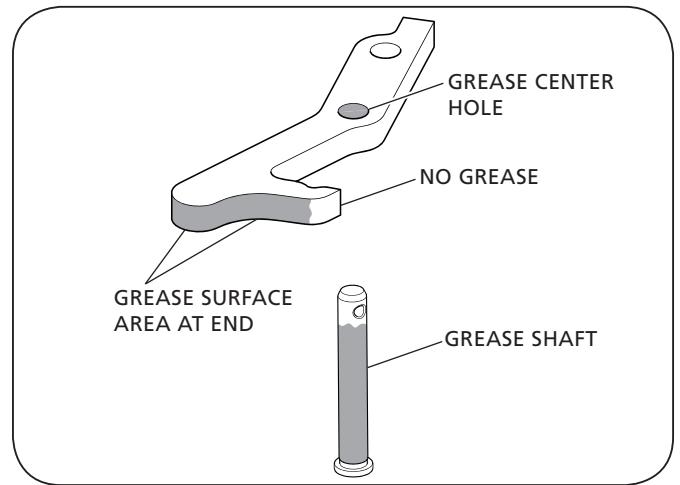
1. Lubricate the following components (**Figure 19**):
  - Latch
  - Remaining lever pin
2. Pull the fifth wheel release handle and hook the handle on the fifth wheel handle tab (**Figure 20**).

**IMPORTANT:** Secure the handle with vise-grips so that the handle cannot be accidentally bumped off the handle tab (**Figure 20**).

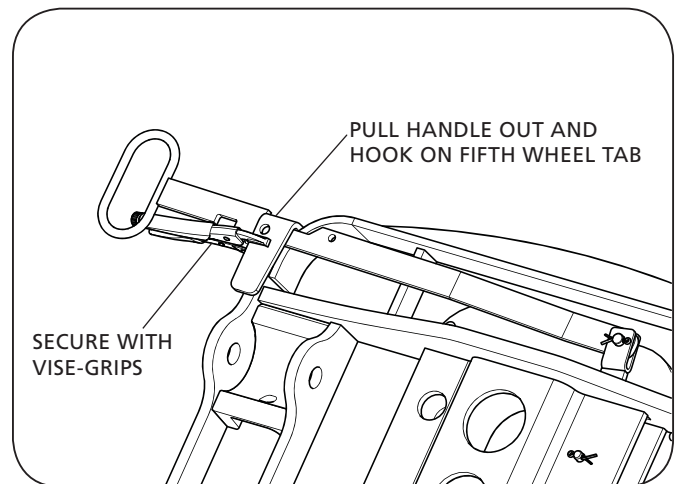
**CAUTION** Failure to secure handle could allow the handle to re-enter the fifth wheel and cycle during assembly, which if not avoided, could result in significant injury.

3. With the catch portion of the latch positioned toward the lock retainer, feed the latch, hole end first, under the fifth wheel cover plate and slide it into place through the gap of the fifth wheel lock stop (**Figure 21**).

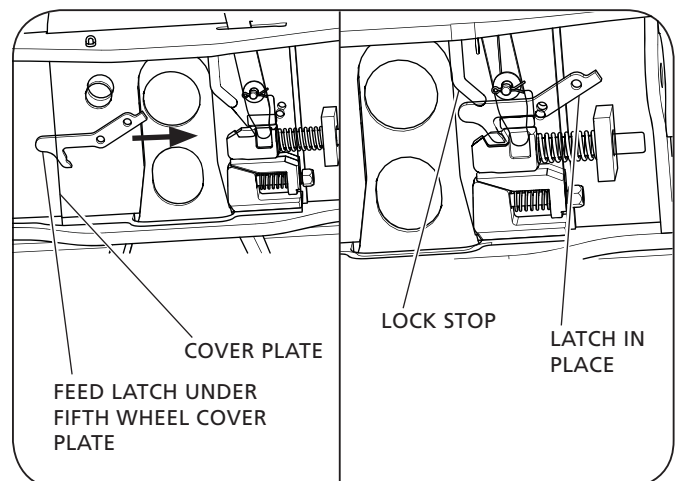
**Figure 19**



**Figure 20**



**Figure 21**



4. Hook one end of the small extension spring through the hole in the latch.
5. Hook the other end of the small extension spring through the chain loop located near the slot in the main rib.

**IMPORTANT:** Position the spring openings upward, away from the face of the fifth wheel, so that it will resist the effect of gravity during product use (**Figure 22**).

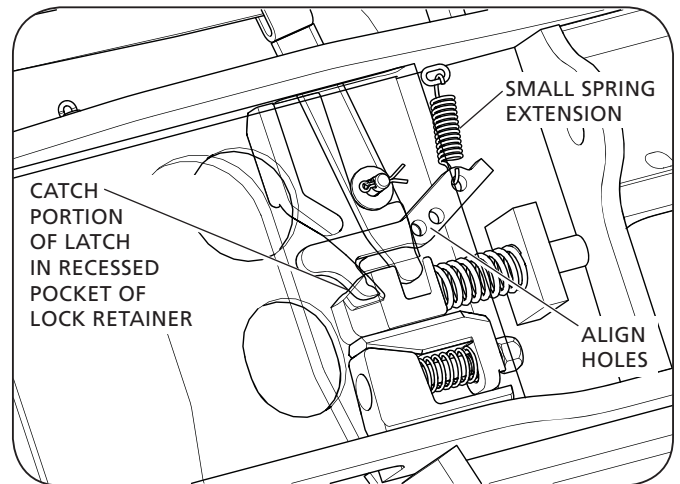
6. Place the catch portion of the latch into the recessed pocket on the bottom side of the lock retainer (**Figure 22**).
7. Apply pressure to position the latch so the center hole is aligned with the hole in the fifth wheel top plate (**Figure 22**).
8. Attach the latch by inserting the lever pin through the fifth wheel face and latch until it protrudes out of the fifth wheel cover plate (**Figure 23**).
9. Secure the lever pin to the fifth wheel by inserting a cotter pin through the hole at the end of the lever pin.
11. Spread both legs of the cotter pin at a 20° angle minimum (**Figure 23**).

**WARNING** Failure to properly install the cotter pin in the lever pin, could result in tractor trailer separation which, if not avoided, could result in death or serious injury.

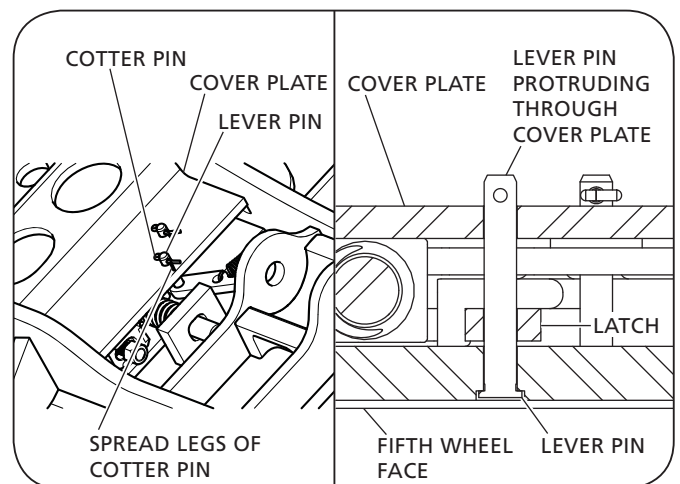
## 8. Lock Installation

1. Lubricate the following components (**Figure 24**):
  - Lock
  - Lock pin

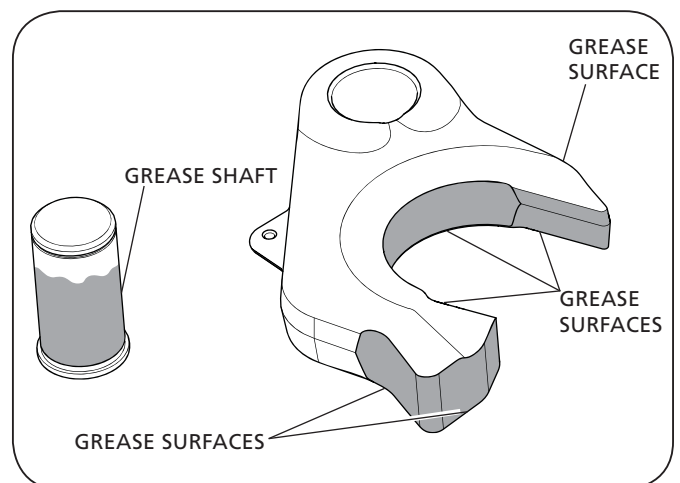
**Figure 22**



**Figure 23**



**Figure 24**

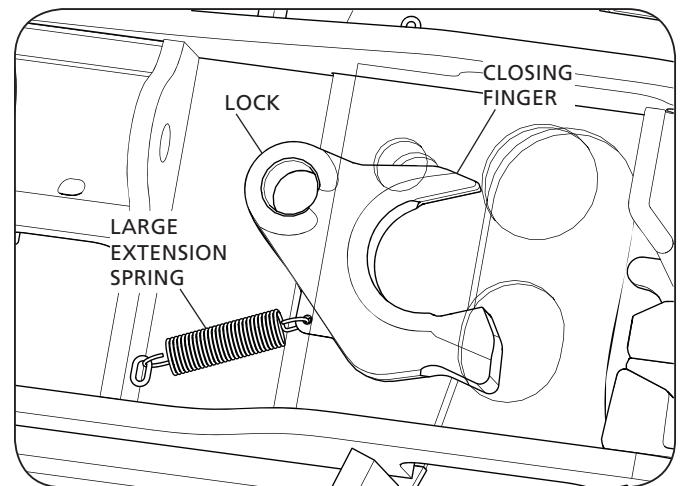


2. Install the lock into the fifth wheel. Position the lock with the closing finger portion of the lock located closest to the center of the fifth wheel (**Figure 25**).
3. Connect one of the large extension springs to the lock and chain loop located on the inner ear.

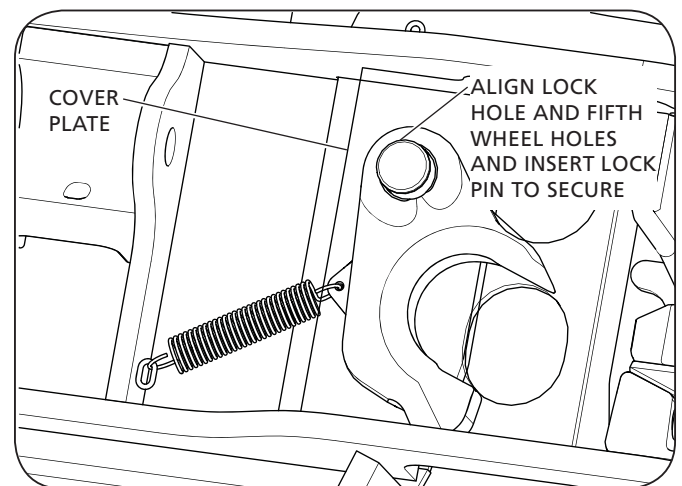
**IMPORTANT:** Position the spring opening upward, away from the face of the fifth wheel, so that it will resist the effect of gravity during product use (**Figure 25**).

4. Position the hole in the lock so that it is aligned with the hole in the fifth wheel top plate. Secure the lock by inserting the lock pin through the fifth wheel face and through the lock until it protrudes out of the fifth wheel cover plate (**Figure 26**).
5. Install the retaining ring into the groove at the end of the lock pin to secure the lock pin to the fifth wheel (**Figure 27**).

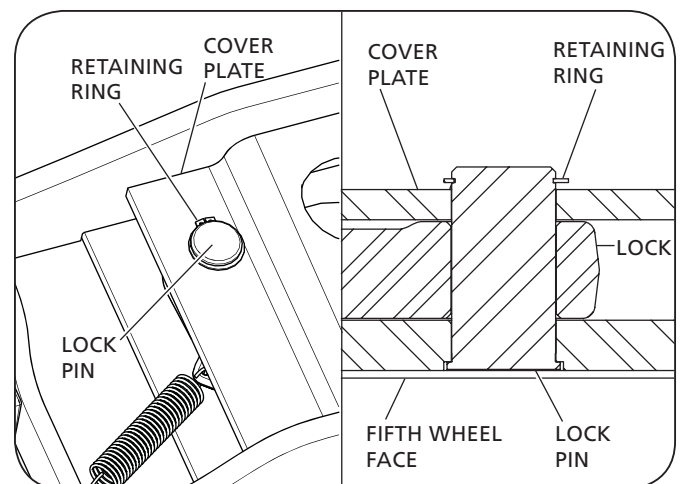
**Figure 25**



**Figure 26**



**Figure 27**



## 9. Handle Spring Installation

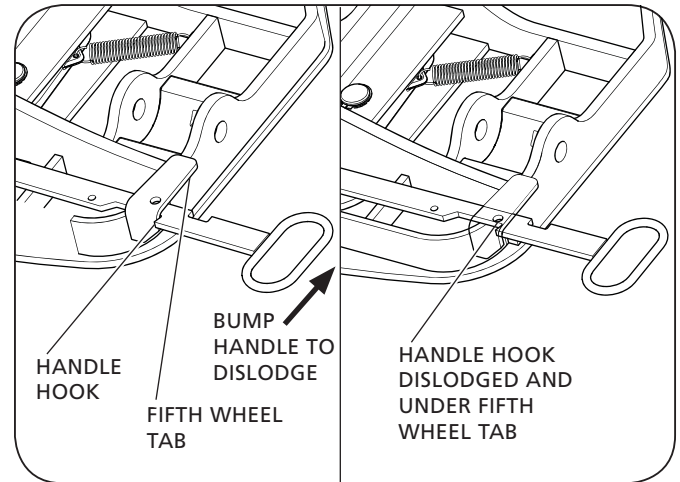
**IMPORTANT:** Lock tester, part number TF-TLN-1500 available at SAF-HOLLAND® distributors, is required for proper rebuild of the FW28 fifth wheel.

1. Remove the vise-grips used to secure the handle.
2. Bump handle with palm of hand to dislodge hook of handle from fifth wheel tab (**Figure 28**).
3. Using a pry bar or a similar tool, apply pressure to the exposed end of the latch to release the lock retainer (**Figure 29**). (This will allow the lock retainer and lever to move the handle to the closed position to allow for handle spring installation.)

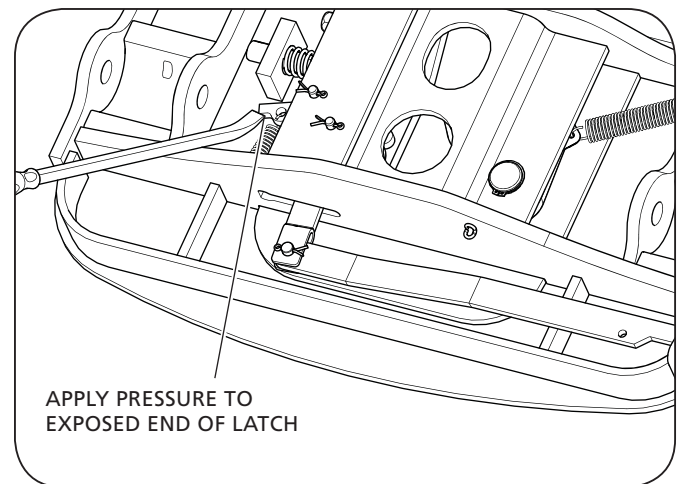
**CAUTION** DO NOT use hand to dislodge latch, as it could result in minor to moderate injury.

4. Lubricate the  $\varnothing 10 \times 25$  mm clevis pin (**Figure 30**).

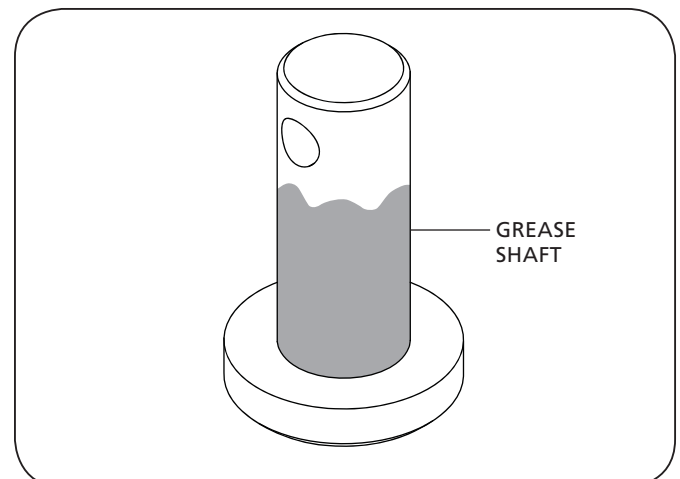
**Figure 28**



**Figure 29**



**Figure 30**



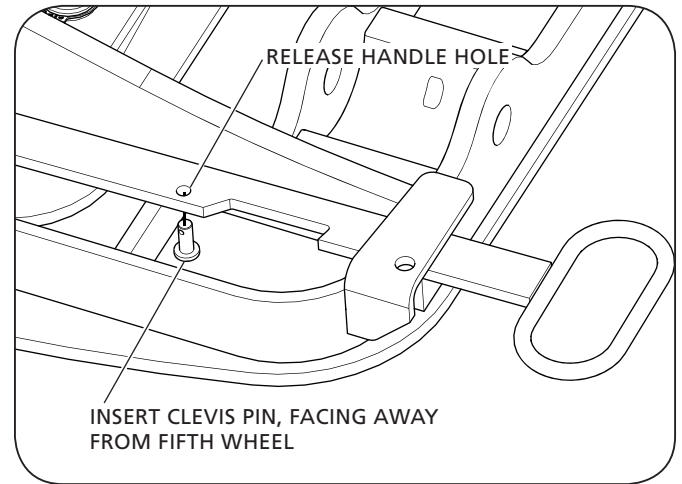
5. With the shaft of the  $\varnothing 10 \times 25$  mm clevis pin pointing away from the fifth wheel top plate, insert the clevis pin into the small hole of the release handle (**Figure 31**).
6. Connect the other large extension spring to the clevis pin and the chain loop located in the front of the main rib.

**IMPORTANT:** Position the spring opening upward, away from the face of the fifth wheel, so that it will resist the effect of gravity during product use (**Figure 32**).

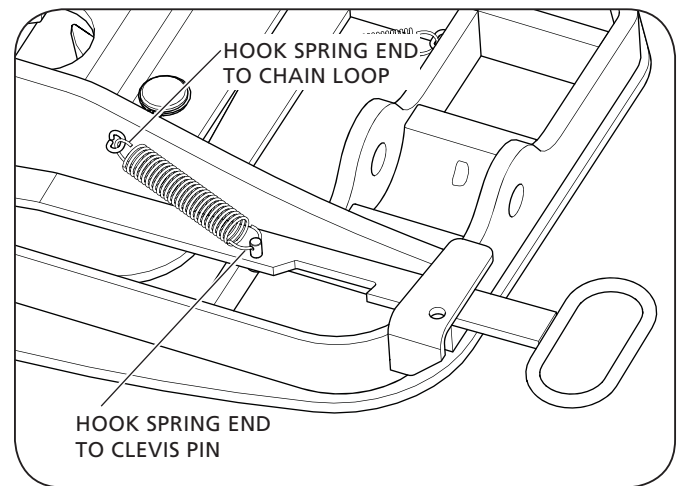
## 10. Lube Fitting Installation

1. Install a lube fitting into the tapped hole in each of the fifth wheel pockets (**Figure 33**).

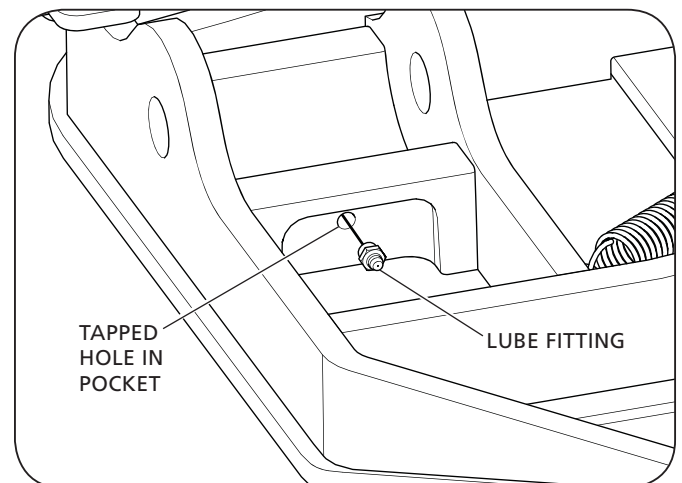
**Figure 31**



**Figure 32**



**Figure 33**





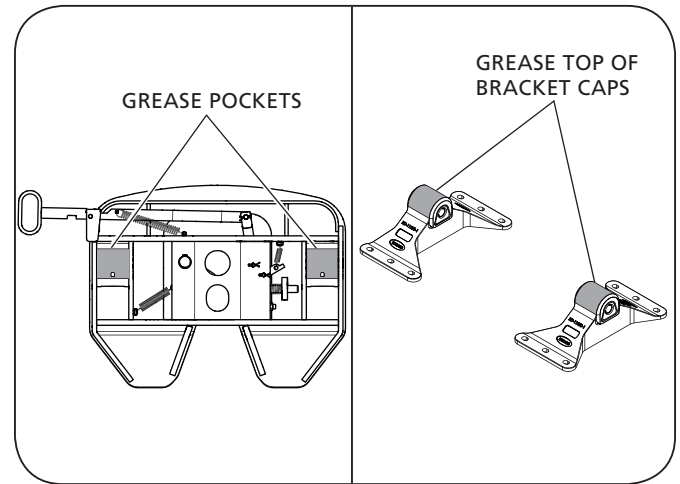
## 11. Top Plate Installation

1. Lubricate the following components (**Figure 34**).
  - Fifth wheel cast pockets
  - Top of bracket caps
2. Inspect the rubber bushings contained inside the brackets and replace if necessary. Bushing repair kit, RK-11623, is available at a SAF-HOLLAND® distributor.
3. Using a lifting device capable of lifting 230 kg. (507 lbs.), install the fifth wheel top plate onto the mounting brackets.

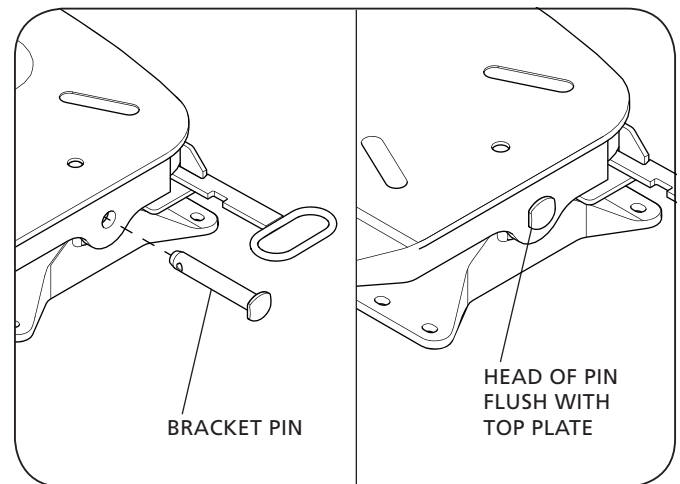
**NOTE:** Follow the instructions published by lifting device manufacturer for proper operation of lifting device.

4. Install the bracket pin through the top plate, bushing, and mounting bracket on each side of the fifth wheel. The head of each bracket pin should sit flush with the outside of the fifth wheel top plate (**Figure 35**).
5. Install a clinch pin through the hole at the end of each bracket pin to secure the bracket pins to the fifth wheel (**Figure 36**).

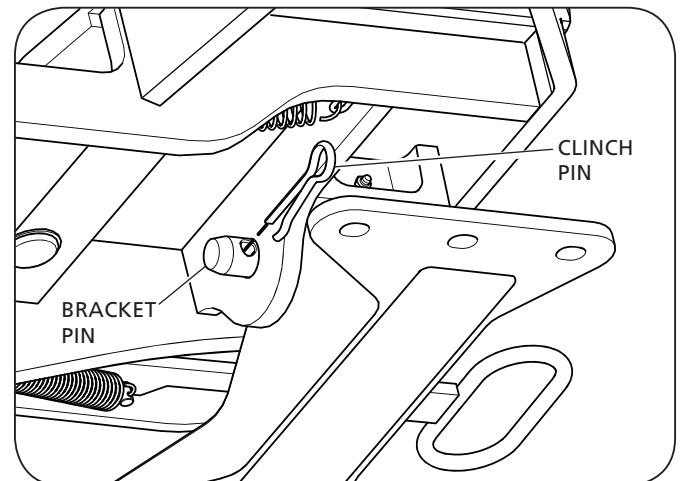
**Figure 34**



**Figure 35**



**Figure 36**



## 12. Fifth Wheel Adjustment

1. Pull fifth wheel release handle out and to the right, and hook notch of handle to the fifth wheel tab (**Figure 37**).
2. Use lock tester TF-TLN-1500 for the following four (4) steps:
  - a. With the lock still in the open position, grasp the handle of the kingpin portion of the lock tester and place it in the open lock (**Figure 38**).
  - b. Push down on the kingpin portion of the lock tester with one hand and push the lever with the other hand to lock the fifth wheel (**Figure 38**).

**NOTE:** In this step, it may be necessary to pivot the lock tester at an angle that allows the lock tester lever to come in contact with the front of the fifth wheel.

- c. Pull fifth wheel release handle out and to the right, and hook notch of handle to the fifth wheel tab (**Figure 37**).
  - d. Repeat steps "b" and "c" two (2) additional times. This will ensure that components are properly seated into position.
3. With the fifth wheel locked around the kingpin, tighten the M16 x 2 x 100 mm adjustment screw until it is tight, with a 14 mm allen wrench or socket wrench with a 14 mm allen bit (**Figure 39**).
4. Loosen the adjustment screw 1-1/2 turns to remove residual tension.

Figure 37

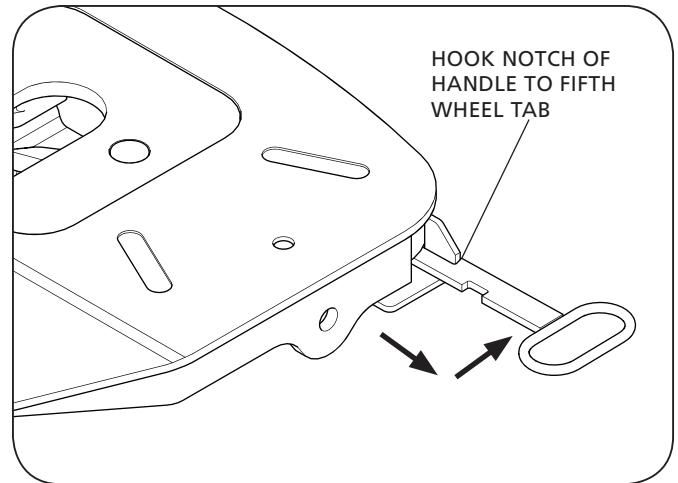


Figure 38

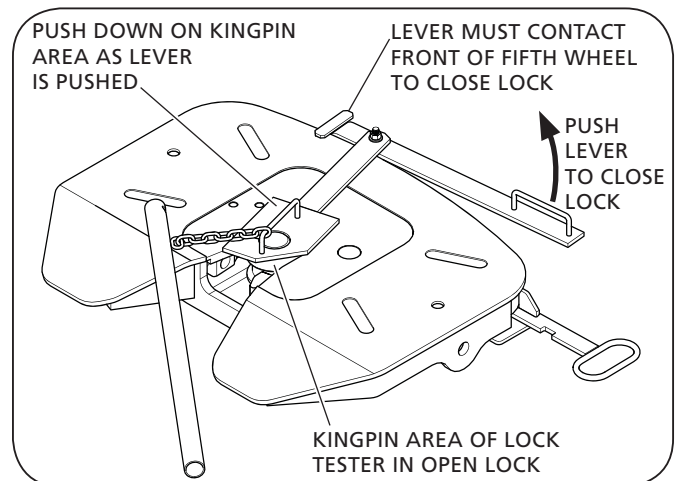
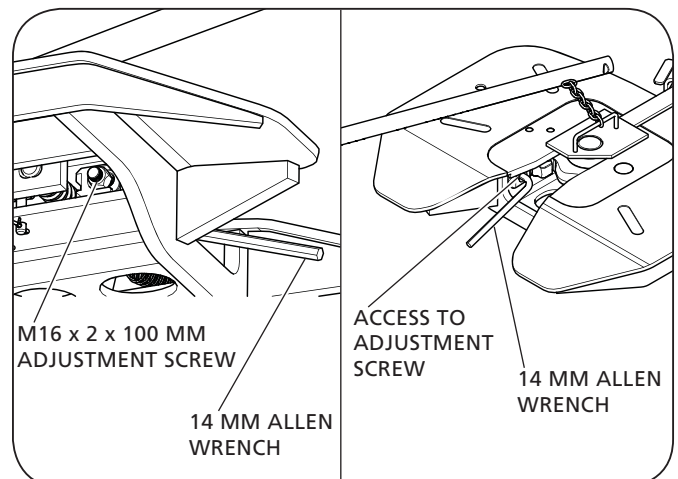
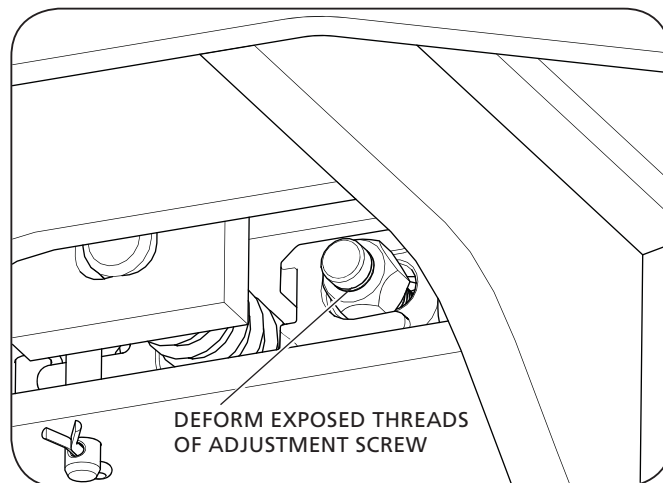


Figure 39

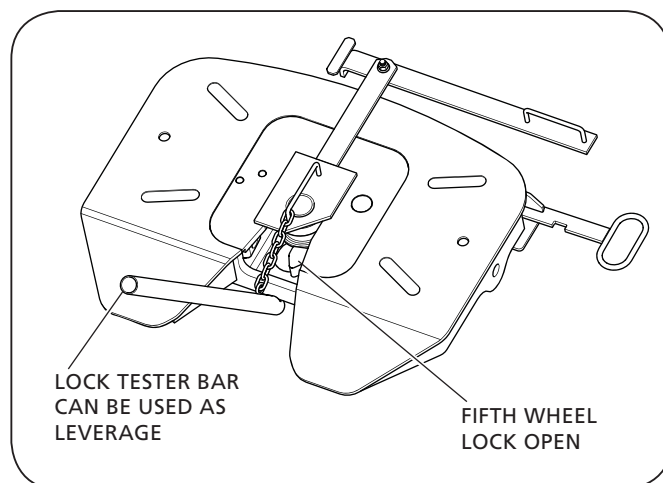


5. Deform the exposed threads of the adjustment screw. This will prevent the lock nut from coming off (**Figure 40**).
6. Unlock the fifth wheel by pulling the release handle to verify mechanical function.
7. Remove the lock tester. If it is not easily removed, use the bar of the lock tester as leverage to pull it out of the lock area (**Figure 41**).
8. Thoroughly lubricate the front lock area where the kingpin would make contact with the top plate. Inspect lock and reapply grease if any was removed during assembly process (**Figure 42**).

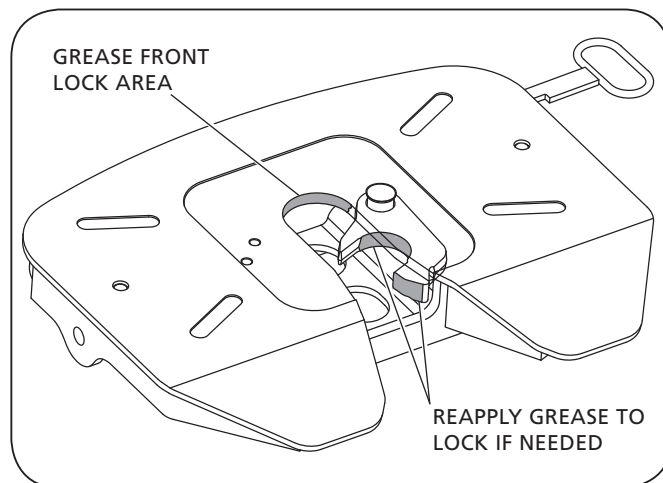
**Figure 40**



**Figure 41**



**Figure 42**





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. Non SAF-HOLLAND® parts will only limit the performance potential and could possibly void SAF-HOLLAND®'s warranty. Always be sure to specify SAF-HOLLAND® Original Parts when servicing SAF-HOLLAND® products.

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