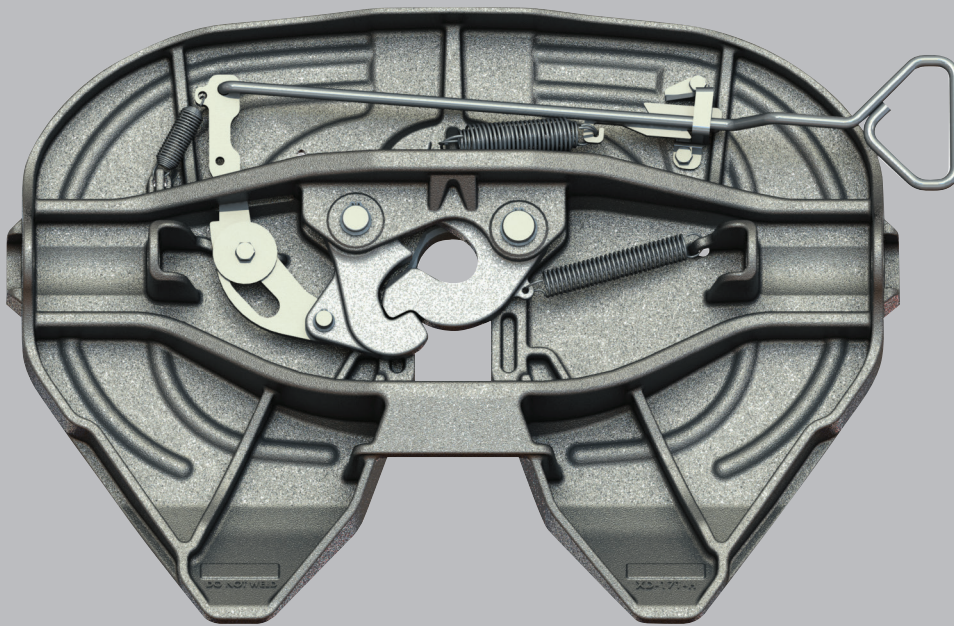


Rebuild/Repair Manual

17 Series Fifth Wheel

- FW17/XA-171 Series
- FW17/XA-171 Air Release Series - 80 option



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Introduction

This manual provides the information necessary to properly rebuild the HOLLAND® FW17/XA-171 Series, FW17/XA-171-A-80 Air Release Series and FW17/XA-171-A-80-L Air Release Series Fifth Wheels.

Read this manual before using or servicing this product. Updates to this manual, which are published as necessary, are available on the internet at www.safholland.us.

When replacement parts are necessary, SAF-HOLLAND® requires 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 or contact Customer Service at 888-396-6501.

Notes, Cautions, and Warnings

Before starting work on any SAF-HOLLAND fifth wheel assembly, 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 safety procedures.

NOTE: In the United States, workshop safety requirements are defined by the 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 numbers starting with FW17/XA-171.

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

IMPORTANT: These instructions apply to the proper rebuild of FW17/XA-171 Series, FW17/XA-171-A-80 Air Release Series and FW17/XA-171-A-80-L Air Release 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.

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

The fifth wheel serial tag is located on the left side of the fifth wheel top plate near the pickup ramps (**Figure 1**).

The fifth wheel model number and serial number are listed on the tag as illustrated (**Figure 2**).

3. Generation Identification

Determining the generation model of the fifth wheel is necessary for certain maintenance procedures and selecting the appropriate rebuild and replacement kits.

NOTE: Separate sets of hardware will be included within the rebuild kits for both generations of fifth wheels. Identify which generation your fifth wheel is and select the correct hardware set for rebuild. The other hardware set may be discarded.

Use the criteria below to identify the generation of your fifth wheel:

1. Generation 2 fifth wheels are equipped with a front lock insert and have narrow, flat ears (**Figure 3**).
2. Generation 1 fifth wheels are not equipped with a front lock insert and have rounded ears (**Figure 4**).

Figure 1

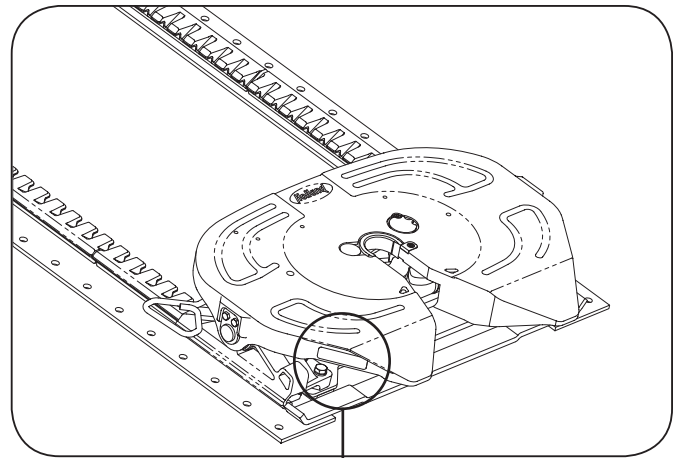


Figure 2

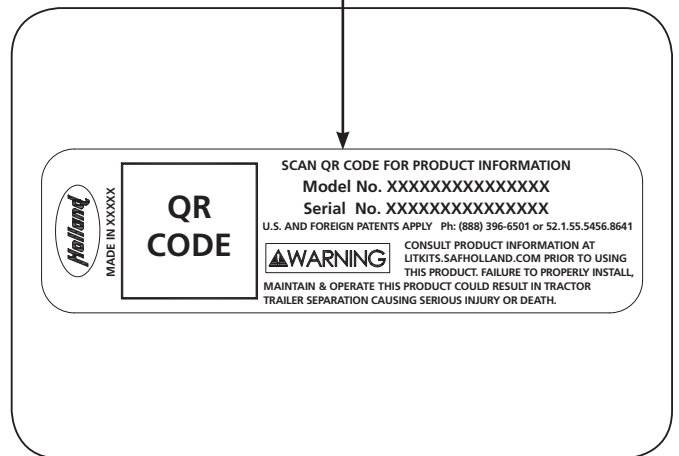


Figure 3

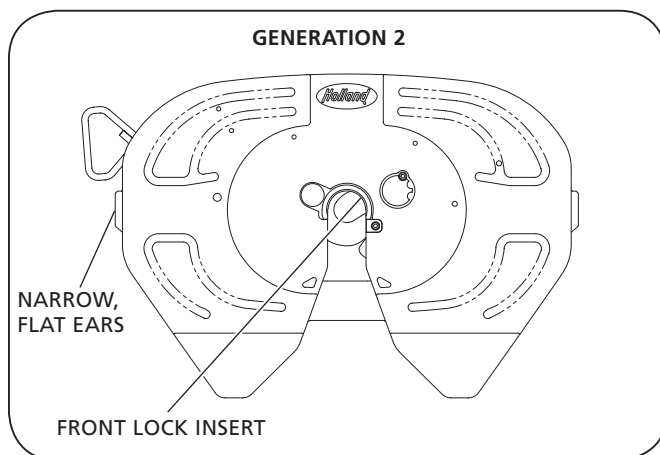
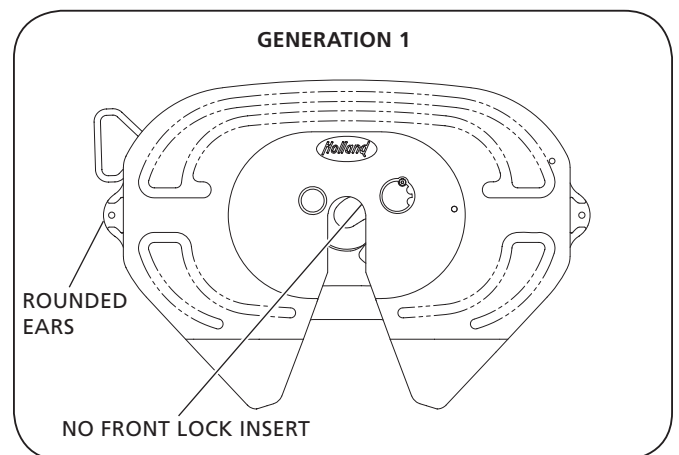
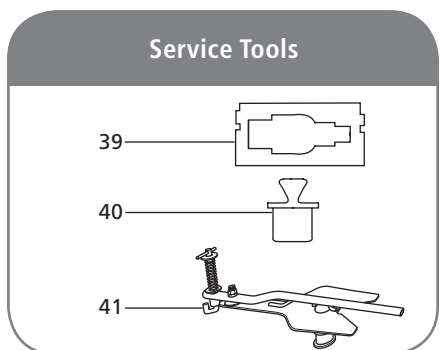
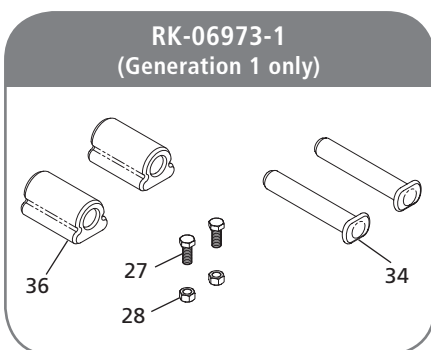
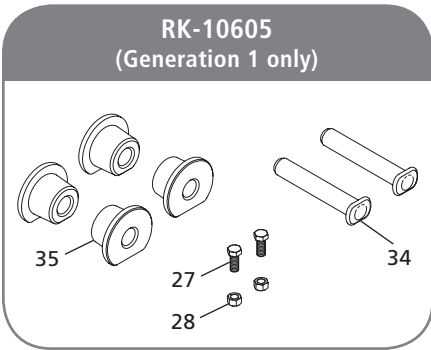
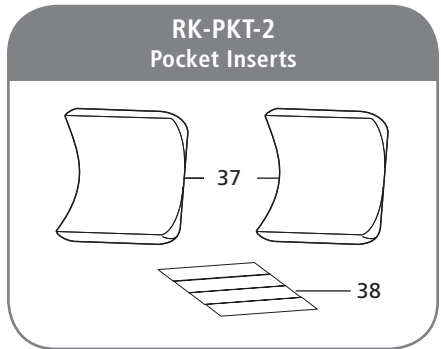
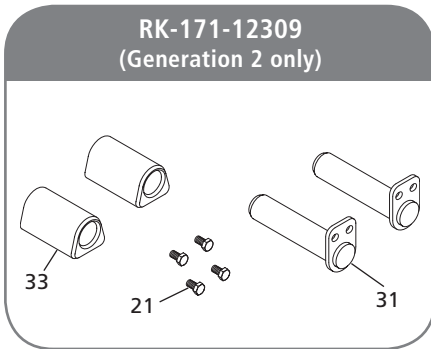
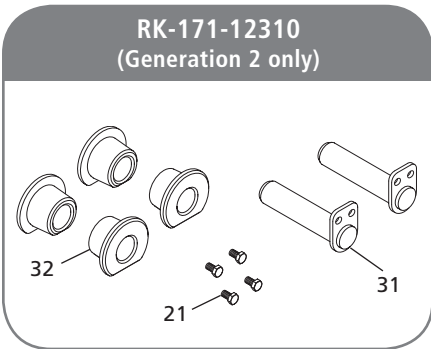
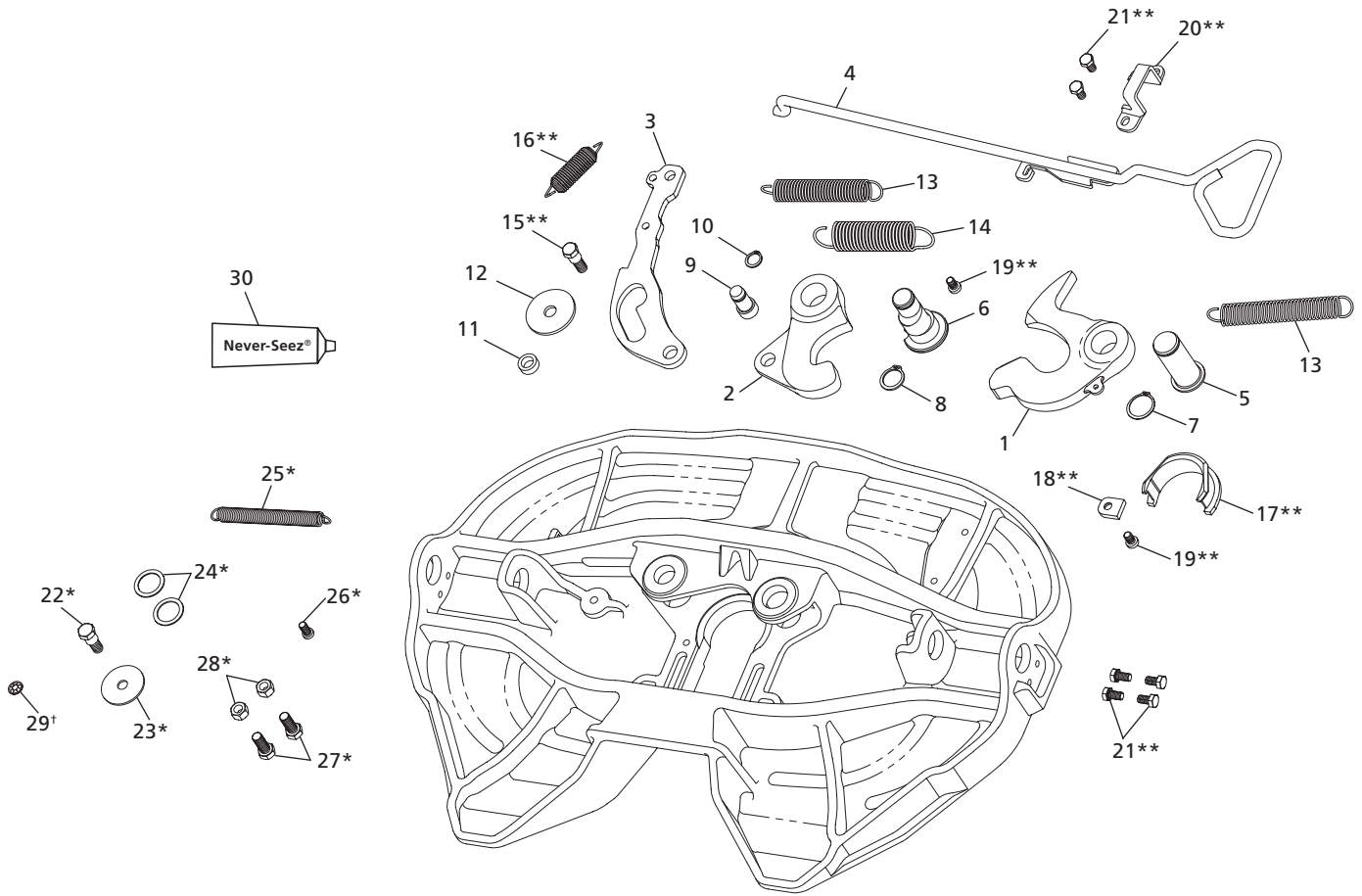


Figure 4







RK-17-A-L-H PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
1	Lock	XA-10486-LL-P	1
2	Hook	XA-10487-P	1
3	Release Cam	XA-12284-P	1
4	Release Handle - Standard	XA-12286-P	1
5	Lock Pin	XA-06344-AL	1
6	Adjusting Pin	XA-10364-3-AL-P	1
7	Retaining Ring, 1-3/8" I.D.	XB-08905	1
8	Retaining Ring, 1-1/8" I.D.	XB-05855	1
9	Hook Pin	XA-10485-1	1
10	Retaining Ring, 3/4" I.D.	XB-05855-1	1
11	Cam Roller	XA-1507-1-P	1
12	Washer, 5/8" I.D. x 2-5/8" O.D.	XB-07431	1
13	Extension Spring, 1-1/8" O.D.	XB-10489	2
14	Extension Spring, 1-1/2" O.D.	XB-10490	1
15**	Hex Head Shoulder Bolt, M12 x 1.75 (Cam Pivot Bolt)	XB-12288	1
16**	Extension Spring, 1" O.D.	XB-12289	1
17**	Front Lock Insert	XD-12335-P	1
18**	Insert Keeper	XG-10706-P	1
19**	Low Head Socket Cap Screw, M10 x 1.5 x 16 mm	XB-02724-M	2
20**	Handle Window Bracket	XA-12313-P	1
21**	Hex Head Cap Screw, M10 x 1.5 x 18 mm	XB-HCS-M10-18-Z	6
22*	Hex Head Shoulder Bolt, 1/2"-20 (Cam Pivot Bolt)	XB-11873	1
23*	Washer, 1/2" I.D. x 2-1/4" O.D., Stainless Steel	XB-10294	1
24*	Shim Ring	XB-05859-1	2
25*	Extension Spring, 3/4" O.D.	XB-10563	1
26*	Low Head Socket Cap Screw, 3/8"-16 x 3/4"	XB-02724-1	1
27*	Hex Head Cap Screw, 1/2"-20 x 1-1/4"	XB-C-95	2
28*	Lock Nut, 1/2"-20	XB-T-69-A	2
29 [†]	Push Retainer, 3/8" I.D.	XB-10614	1
30	Never-Seez [®] , 7.5 gram Tube	XB-02967	1

Note: Kits available from a local SAF-HOLLAND Distributor.

** Contents of "Generation 2 Hardware" bag - For use in FW17/XA-171-A models only.

* Contents of "Generation 1 Hardware" bag - For use in FW17/XA-171-A-L models only.

[†] Included in "Generation 1 Hardware" bag - For use in anchoring Release Cam Extension Spring on older FW17/XA-171-A-L Series and XA-171-A-80-L models only (prior to 2008).

RK-171-12310 PARTS LIST (GENERATION 2 ONLY)			
ITEM	DESCRIPTION	PART NUMBER	QTY.
21	Hex Head Cap Screw, M10 x 1.5 x 18 mm	XB-HCS-M10-18-Z	4
31	Bracket Pin	XA-12293-P	2
32	Rubber Cushion (for cast brackets)	XB-12311	4

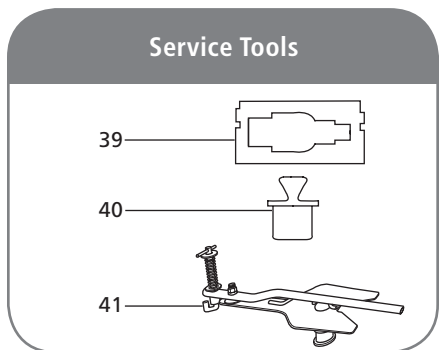
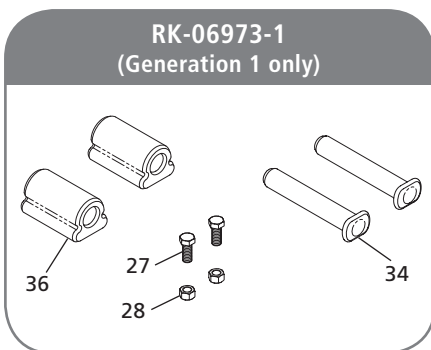
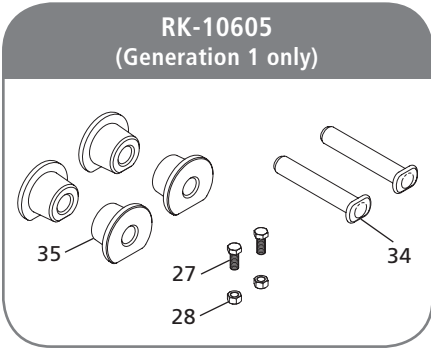
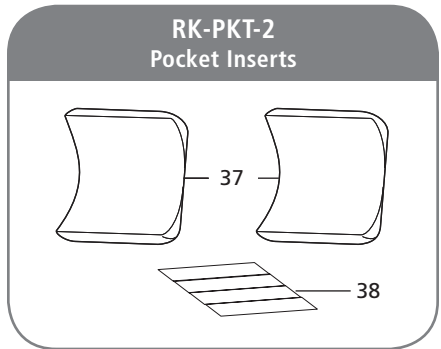
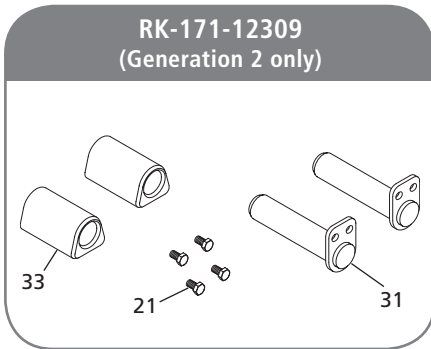
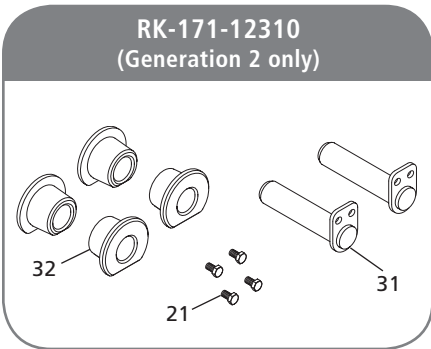
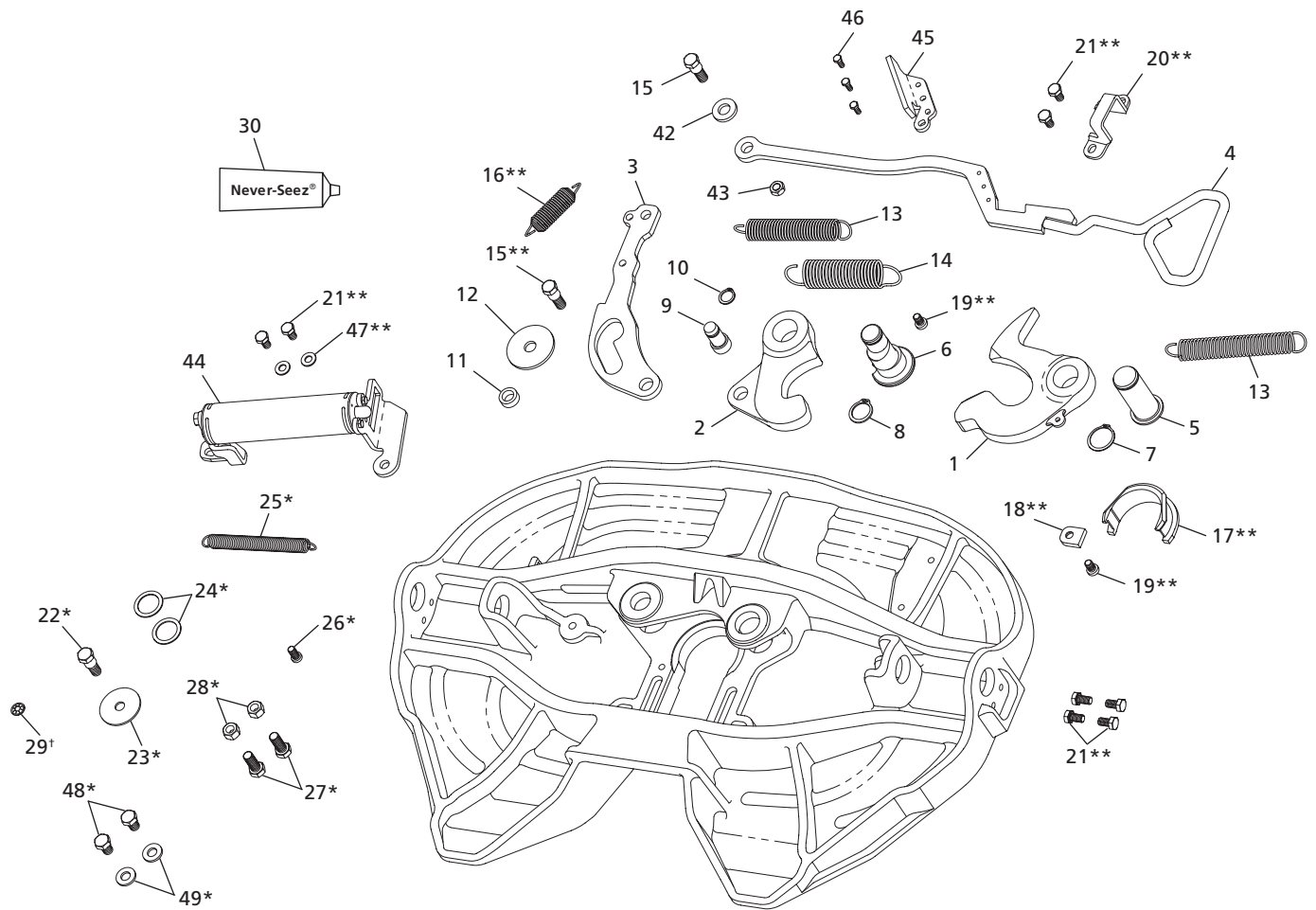
RK-171-12309 PARTS LIST (GENERATION 2 ONLY)			
ITEM	DESCRIPTION	PART NUMBER	QTY.
21	Hex Head Cap Screw, M10 x 1.5 x 18 mm	XB-HCS-M10-18-Z	4
31	Bracket Pin	XA-12293-P	2
33	Rubber Cushion (for fabricated brackets)	XB-0012-3	2

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

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

RK-PKT-2 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
37	Pocket Insert	XD-08908-P0	2
38	Double Face Tape	XB-09422	4

SERVICE TOOLS			
ITEM	DESCRIPTION	PART NUMBER	QTY.
39	Kingpin Gage	TF-0110	1
40	Lock Gage, 2" (Plug)	TF-0237	1
41	Kingpin Lock Tester	TF-TLN-5001	1





RK-17-A-80-L-H PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
1	Lock	XA-10486-LL-P	1
2	Hook	XA-10487-P	1
3	Release Cam	XA-12284-P	1
4	Release Handle - Air Release	XA-12303-P	1
5	Lock Pin	XA-06344-AL	1
6	Adjusting Pin	XA-10364-3-AL-P	1
7	Retaining Ring, 1-3/8" I.D.	XB-08905	1
8	Retaining Ring, 1-1/8" I.D.	XB-05855	1
9	Hook Pin	XA-10485-1	1
10	Retaining Ring, 3/4" I.D.	XB-05855-1	1
11	Cam Roller	XA-1507-1-P	1
12	Washer, 5/8" I.D. x 2-5/8" O.D.	XB-07431	1
13	Extension Spring, 1-1/8" O.D.	XB-10489	2
14	Extension Spring, 1-1/2" O.D.	XB-10490	1
15	Hex Head Shoulder Bolt, M12 x 1.75 (Handle/Cam Connection)	XB-12288	1
42	Washer, 17 mm I.D. x 33.6 mm O.D., Heavy Thick	XB-12363	1
43	Lock Nut, M12 x 1.75	XB-HLN-M12-Z	1
44	Air Cylinder	XA-12314-A	1
45	Air Cylinder Pickup	XA-12304-P	1
46	Hex Head Cap Screw, M6 x 1.0 x 16 mm	XB-76049	3
15**	Hex Head Shoulder Bolt, M12 x 1.75 (Cam Pivot Bolt)	XB-12288	1
16**	Extension Spring, 1" O.D.	XB-12289	1
17**	Front Lock Insert	XD-12335-P	1
18**	Insert Keeper	XG-10706-P	1
19**	Low Head Socket Cap Screw, M10 x 1.5 x 16 mm	XB-02724-M	2
20**	Handle Window Bracket	XA-12313-P	1
21**	Hex Head Cap Screw, M10 x 1.5 x 18 mm	XB-HCS-M10-18-Z	8
47**	Washer, 10.5 mm I.D. x 21 mm O.D.	XB-PWM-38-78	2
22*	Hex Head Shoulder Bolt, 1/2"-20 (Cam Pivot Bolt)	XB-11873	1
23*	Washer, 1/2" I.D. x 2-1/4" O.D., Stainless Steel	XB-10294	1
24*	Shim Ring	XB-05859-1	2
25*	Extension Spring, 3/4" O.D.	XB-10563	1
26*	Low Head Socket Cap Screw, 3/8"-16 x 3/4"	XB-02724-1	1
27*	Hex Head Cap Screw, 1/2"-20 x 1-1/4"	XB-C-95	2
28*	Lock Nut, 1/2"-20	XB-T-69-A	2
48*	Hex Head Cap Screw, 1/2"-20 x 3/4"	XB-6834	2
49*	Washer, 1/2" I.D. x 1" O.D.	XB-06378	2
29†	Push Retainer, 3/8" I.D.	XB-10614	1
30	Never-Seez, 7.5 gram Tube	XB-02967	1

Note: Kits available from a local SAF-HOLLAND Distributor.

** Contents of "Generation 2 Hardware" bag - For use in FW17/XA-171-A-80 models only.

* Contents of "Generation 1 Hardware" bag - For use in FW17/XA-171-A-80-L models only.

† Included in "Generation 1 Hardware" bag - For use in anchoring Release Cam Extension Spring on older FW17/XA-171-A-L Series and XA-171-A-80-L models only (prior to 2008).

RK-171-12310 PARTS LIST (GENERATION 2 ONLY)			
ITEM	DESCRIPTION	PART NUMBER	QTY.
21	Hex Head Cap Screw, M10 x 1.5 x 18 mm	XB-HCS-M10-18-Z	4
31	Bracket Pin	XA-12293-P	2
32	Rubber Cushion (for cast brackets)	XA-12311	4

RK-PKT-2 PARTS LIST			
ITEM	DESCRIPTION	PART NUMBER	QTY.
37	Pocket Insert	XD-08908-P0	2
38	Double Face Tape	XB-09422	4

RK-171-12309 PARTS LIST (GENERATION 2 ONLY)			
ITEM	DESCRIPTION	PART NUMBER	QTY.
21	Hex Head Cap Screw, M10 x 1.5 x 18 mm	XB-HCS-M10-18-Z	4
31	Bracket Pin	XA-12293-P	2
33	Rubber Cushion (for fabricated brackets)	XB-0012-3	2

SERVICE TOOLS			
ITEM	DESCRIPTION	PART NUMBER	QTY.
39	Kingpin Gage	TF-0110	1
40	Lock Gage, 2" (Plug)	TF-0237	1
41	Kingpin Lock Tester	TF-TLN-5001	1

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

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

Note: Kits available from a local SAF-HOLLAND Distributor.

4. Top Plate Removal

NOTE: FW17 fifth wheel assemblies have 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.

For Generation 2 Fifth Wheels:

1. Remove the bracket pin retention bolts from both sides of the fifth wheel top plate and discard (**Figure 5**).
2. Using a pry bar, pull the bracket pins out of the fifth wheel top plate and set aside (**Figure 5**).
3. Using a lifting device capable of lifting 500 lbs. (227 kg), remove the top plate from the mounting base. Mount the top plate on a HOLLAND Rebuild Stand, Part No. TF-04229-1, or place the top plate on a flat, clean working area.

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

For Generation 1 Fifth Wheels:

1. Remove the bracket pin retention bolts and nuts from both sides of the fifth wheel top plate and discard (**Figure 6**).
2. Using a pry bar, pull the bracket pins out of the fifth wheel top plate and set aside (**Figure 6**).
3. Using a lifting device capable of lifting 500 lbs. (227 kg), remove the top plate from the mounting base. Mount the top plate on a HOLLAND Rebuild Stand, Part No. TF-04229-1, or place the top plate on a flat, clean working area.

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

Figure 5

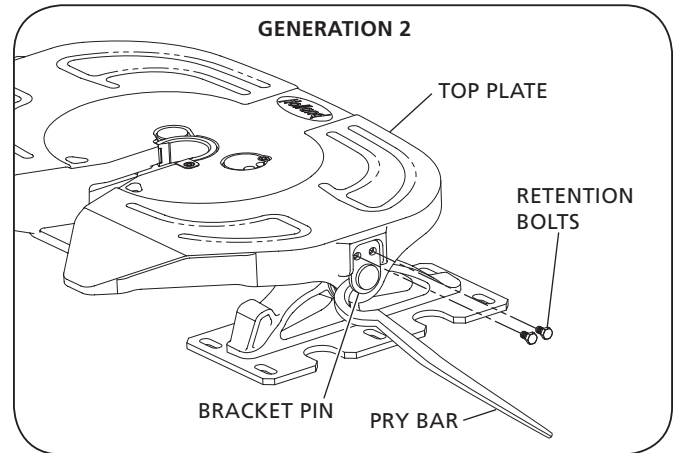
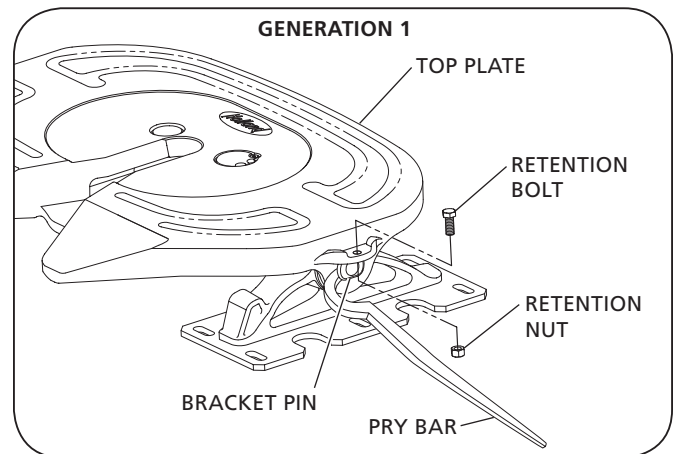


Figure 6



5. Disassembly and Inspection

1. Completely remove and discard all components.

IMPORTANT: DO NOT remove the pocket inserts unless they are cracked or worn. Refer to Section 11 for inspection information.

IMPORTANT: Rebuild kits contain all components necessary to completely rebuild the fifth wheel top plate. DO NOT reuse old parts.

NOTE: Lock pin and adjustment pin 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.

2. Thoroughly steam clean the top plate.
3. Inspect the fifth wheel top plate for cracks and flatness. Fifth wheels with cracks **MUST** be replaced. If the lock pin hole, adjusting pin hole, or bracket pin holes are elongated, the top plate **MUST** be replaced.

NOTE: The maximum allowable lock pin hole diameter is 1.429" (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 holes or elongated adjusting pin holes could result in tractor-trailer separation which, if not avoided, could result in death or serious injury.

6. Front Lock Insert Installation

1. If the top plate is not right-side up, use a lifting device capable of lifting 500 lbs. (227 kg) to place the top plate right-side up on a flat, clean working area.

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

2. Install the low head socket cap screw later used to secure the position of the adjusting pin (**Figure 7**). Torque to 11-13 ft.-lb. (15-18 N•m).

Figure 7

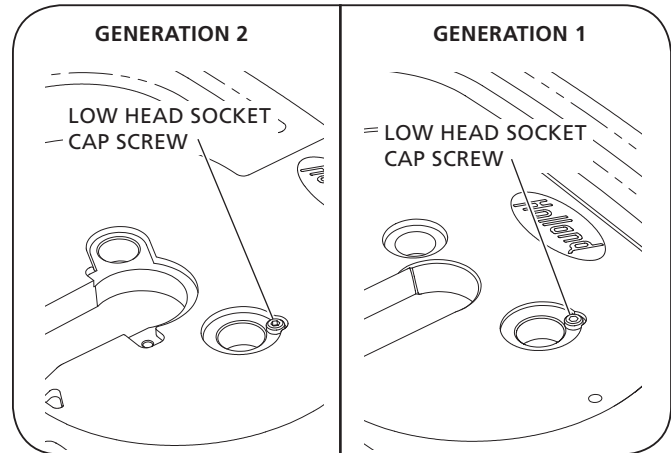
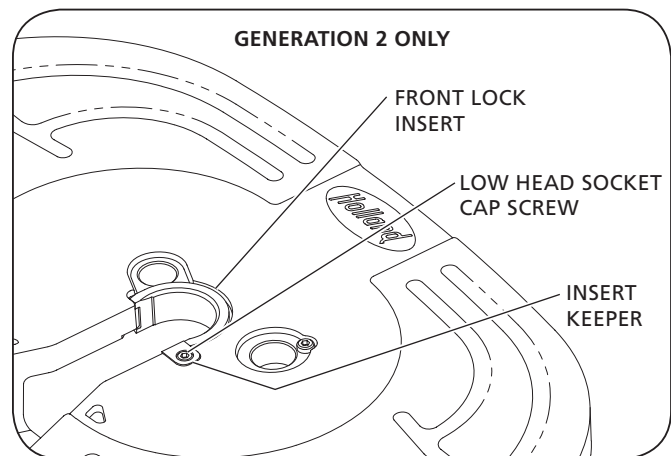


Figure 8



3. **For Generation 2 Fifth Wheels Only:** Rotate the front lock insert into the detent in the top plate. Secure with the insert keeper and one (1) of the two (2) low head socket cap screws (**Figure 8**). Torque to 11-13 ft.-lbs. (15-18 N•m). (Skip this step for Generation 1 Fifth Wheels and proceed with Step 4.)
4. Using a lifting device capable of lifting 500 lbs. (227 kg), place the top plate upside down on a flat, clean working area.

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

7. Release Handle Installation

7.1 Standard (Non-Air Release)

1. **For Generation 2 Fifth Wheels Only:** Secure the handle window bracket to the top plate using two (2) M10 x 1.5 x 18 mm hex head cap screws (**Figure 9**). Torque to 20-25 ft.-lbs. (27-34 N•m). (Skip this step for Generation 1 Fifth Wheels and begin with Step 2.)
2. Feed the handle through the handle window bracket (or the rib window of a Generation 1 fifth wheel top plate) as illustrated (**Figure 10**).
3. Lubricate both large holes of the cam with Never-Seez®, and lubricate the cam track slot perimeter with grease (**Figure 11**).
4. Install the handle "S" bend through the end of the cam, with the "S" bend facing toward the top plate as illustrated (**Figure 12**).
5. Maneuver the handle and cam so that the cam can be fed through the slot in the main rib (**Figure 13**).

Figure 9

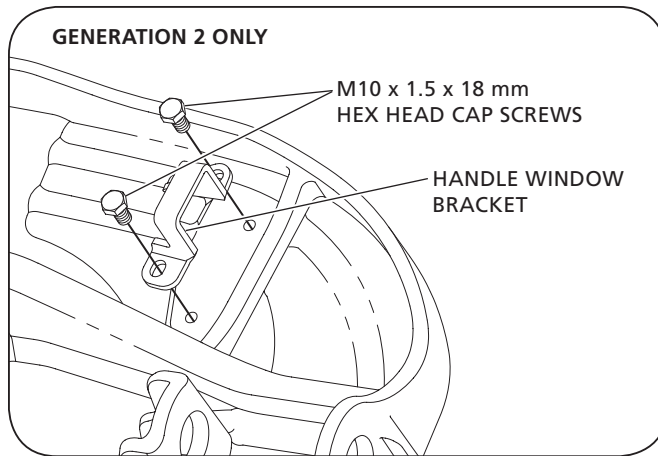


Figure 10

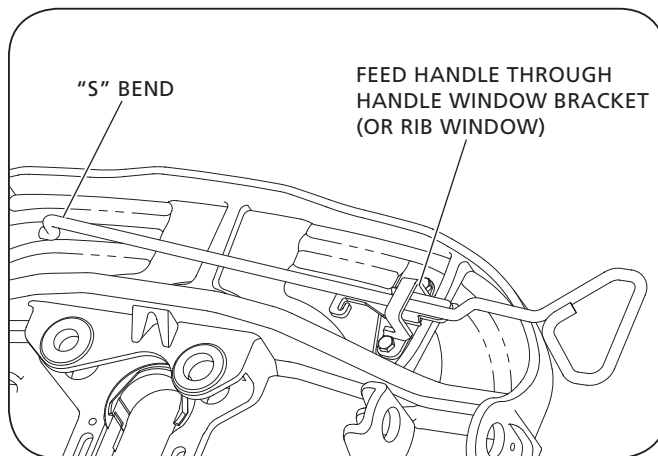


Figure 11

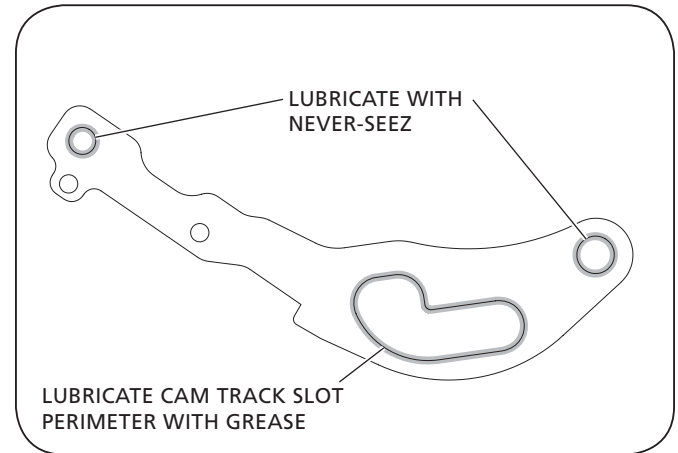


Figure 12

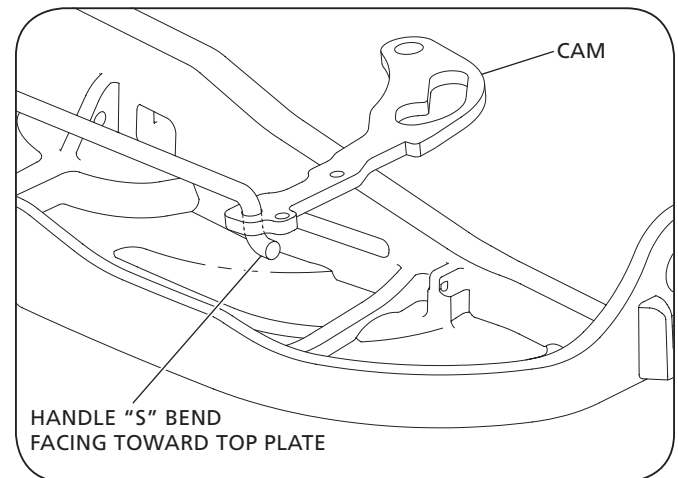
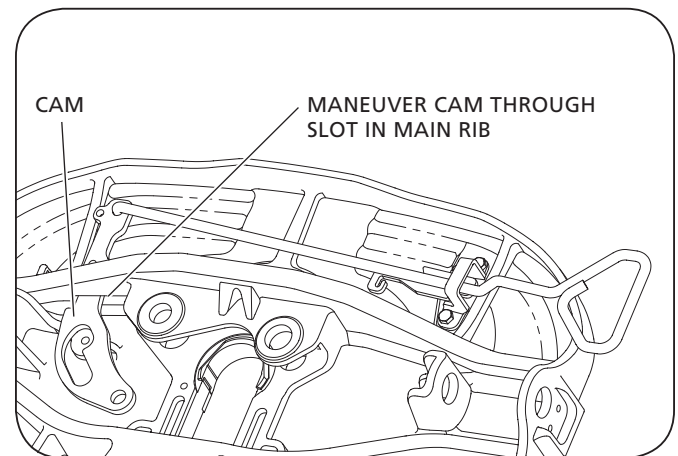


Figure 13



7.2 Air Release (Including Air Cylinder Installation)

1. **For Generation 2 Fifth Wheels Only:** Secure the handle window bracket to the top plate using two (2) M10 x 1.5 x 18 mm hex head cap screws (**Figure 9**). Torque to 20-25 ft.-lbs. (27-34 N•m). (Skip this step for Generation 1 Fifth Wheels and begin with Step 2.)
2. **For Generation 2 Fifth Wheels:** Begin installation of the air cylinder to the top plate by installing and hand-tightening the two (2) M10 x 1.5 x 18 mm hex head cap screws and two (2) 10.5 mm I.D. x 21 mm O.D. hardened steel washers as illustrated in **Figure 14**.

For Generation 1 Fifth Wheels: Begin installation of the air cylinder to the top plate by installing and hand-tightening the two (2) 1/2"-20 x 3/4" hex head cap screws and two (2) 1/2" I.D. x 1-1/16" O.D. hardened steel washers as illustrated in **Figure 14**.

IMPORTANT: The air cylinder **MUST** be installed using the holes and orientation illustrated in **Figure 14**.

3. Lubricate both large holes of the cam with Never-Seez, and lubricate the cam track perimeter with grease (**Figure 11**).
4. Feed the cam through the slot in the main rib (**Figure 15**).
5. Insert the handle through the handle window bracket (or the rib window of a Generation 1 fifth wheel top plate), with the bend of the handle facing away from the top plate (**Figure 16**).
6. Feed the handle through the slot in the air cylinder bracket and place the end of the handle on top of the end of the cam, aligning the holes (**Figure 16**).
7. **For Generation 2 Fifth Wheels:** Secure the air cylinder mounting fasteners by torquing them to 20-25 ft.-lbs. (27-34 N•m) (**Figure 14**).

For Generation 1 Fifth Wheels: Secure the air cylinder mounting fasteners by torquing them to 40-50 ft.-lbs. (54-68 N•m) (**Figure 14**).

Figure 14

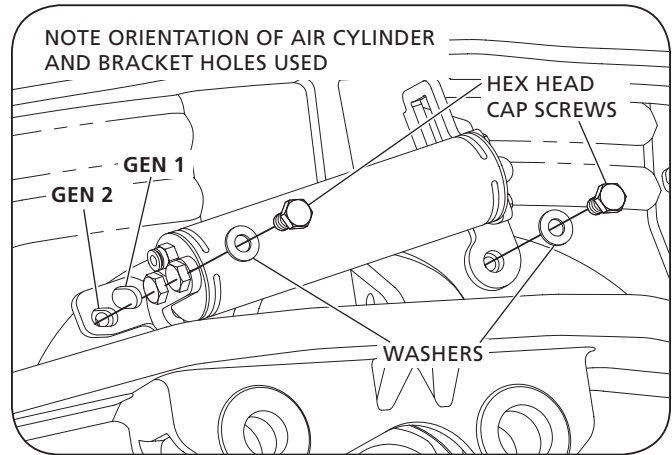


Figure 15

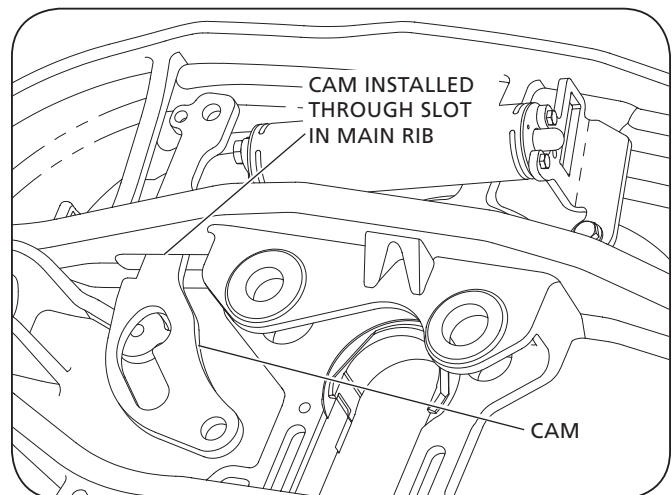
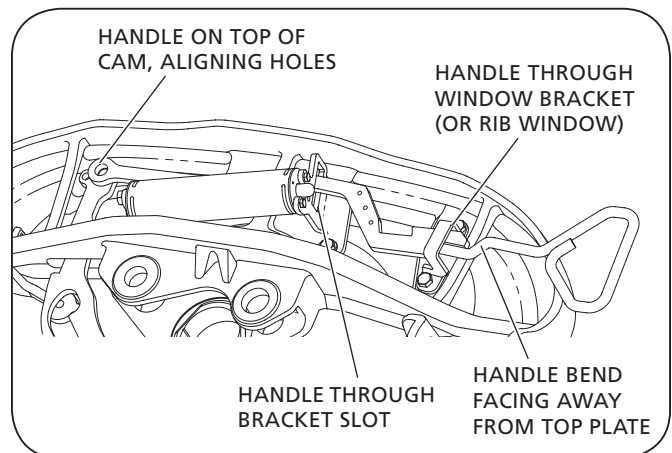


Figure 16



8. Refer to **Figure 17** for the following three (3) steps:
 - a. Place the 17 mm I.D. x 33.6 mm O.D. washer over the aligned holes of the handle and cam.
 - b. Lubricate the SHOULDER ONLY of the M12 x 1.75 mm shoulder bolt with Never-Seez. Insert the lubricated shoulder bolt through the aligned holes of the washer, handle and cam, as illustrated, with the bolt head facing away from the top plate.
 - c. Secure the assembly with the M12 x 1.75 mm lock nut and tighten to 40-50 ft-lbs (54-68 N•m).
9. Begin installation of the air cylinder pickup by loosely securing the first M6 x 1.0 x 16 mm hex head cap screw as illustrated in **Figure 18**.
10. Hook one end of the handle extension springs (smaller diameter spring inside the larger diameter spring) onto the fifth wheel top plate attachment point (**Figure 19**). Ensure the spring hook ends face away from the fifth wheel top plate.
11. Hook the opposite end of the handle extension springs to the air cylinder pickup (**Figure 19**). Ensure the spring hook ends face away from the fifth wheel top plate.

Figure 17

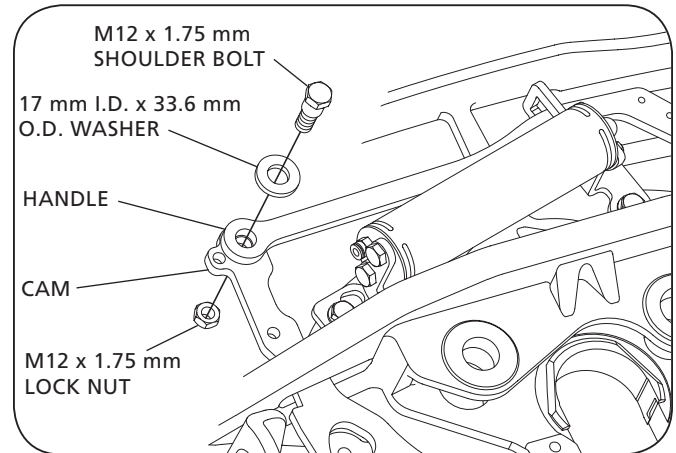


Figure 18

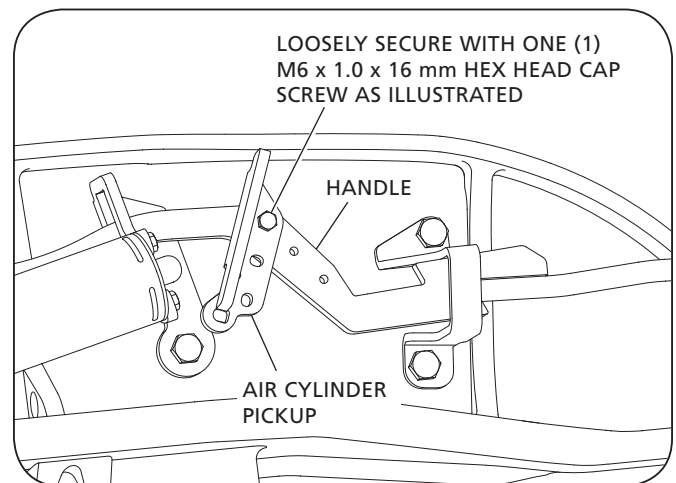
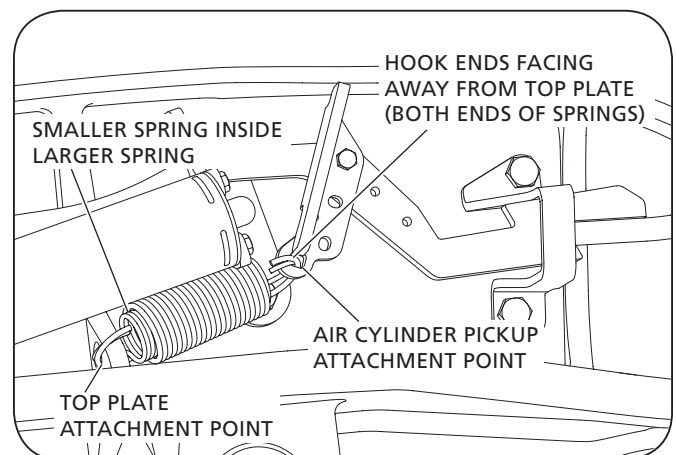


Figure 19



12. Rotate the air cylinder pickup to align the holes with the holes in the handle. Loosely install the remaining two (2) M6 x 1.0 x 16 mm hex head cap screws in the order illustrated (**Figure 20**) and then tighten all three (3) to 7-9 ft-lbs (9-12 N•m).
13. Lubricate the handle and air cylinder pickup in the areas illustrated (**Figure 21**).

Figure 20

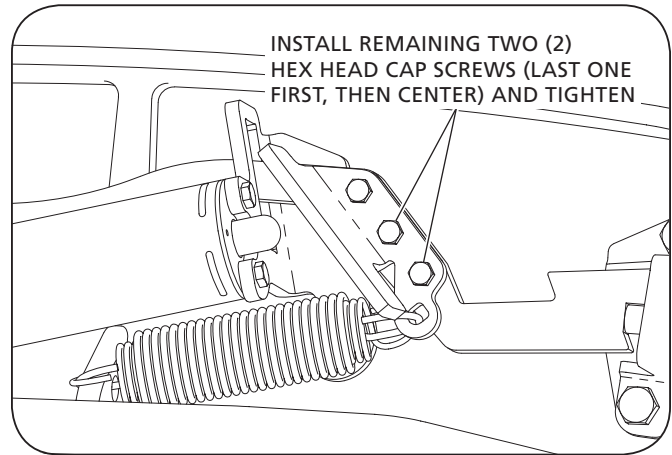
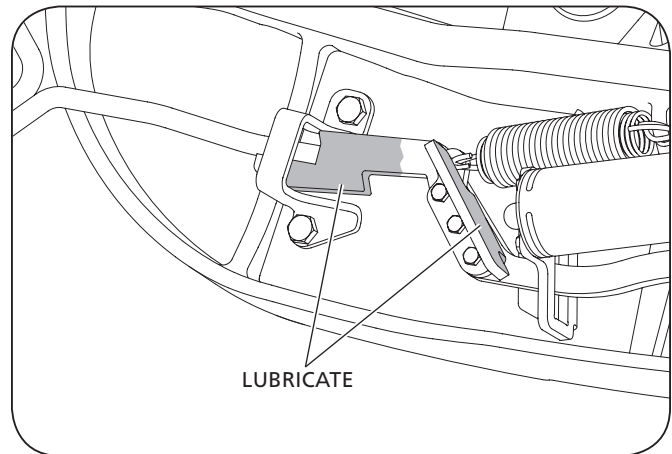


Figure 21



8. Hook and Lock Installation

1. Feed the hook pin into the pivot hole in the cam. Be sure to orient the head of the hook pin toward the casting (**Figure 22**).
2. Lubricate the hook (**Figure 23**).
3. Mount the hook onto the hook pin (as illustrated in **Figure 24**) and secure with the 3/4" (17.5 mm) diameter retaining ring.
4. Maneuver the hook into position under the shelf of the casting and align the large hole in the hook with the hole in the casting (**Figure 25**).

Figure 23

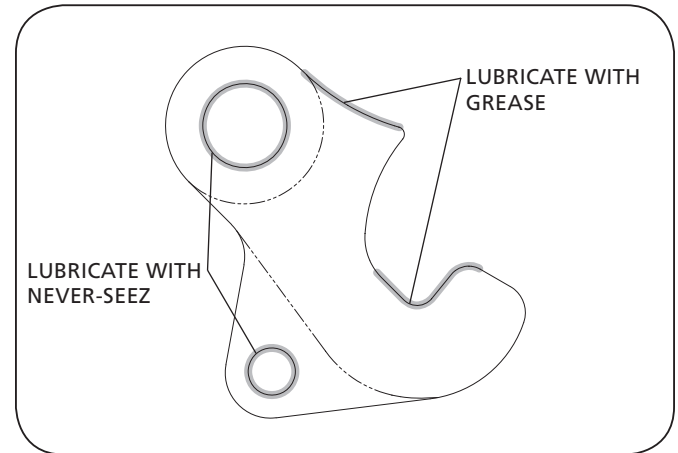


Figure 24

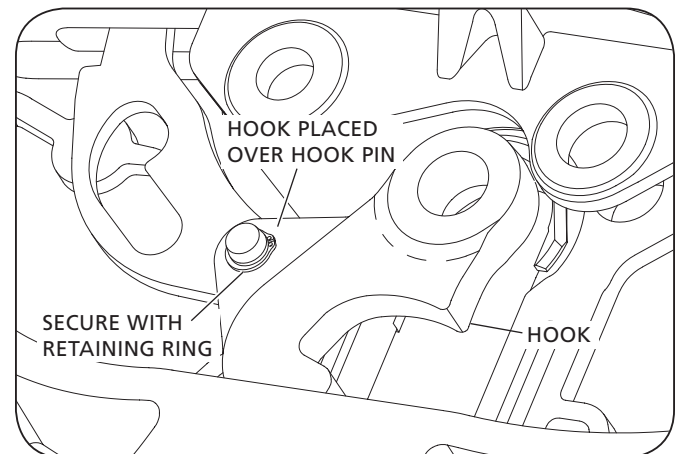


Figure 22

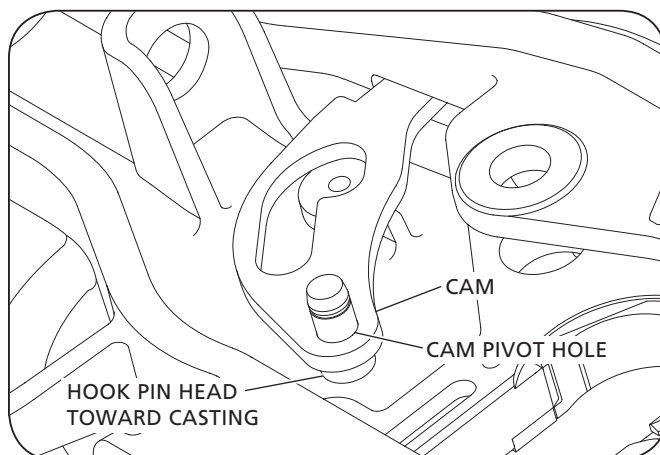
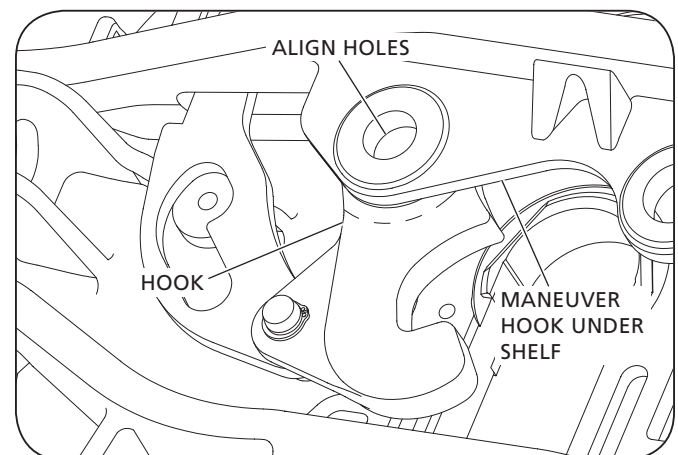


Figure 25



5. Lubricate the adjusting pin, the lock pin, and the lock (**Figure 26**).
6. Insert the adjusting pin from the top face of the fifth wheel so that it lines up with the first adjustment notch (**Figure 27**).
7. Install the 1-1/8" (28.6 mm) diameter retaining ring to secure the adjusting pin (**Figure 28**).

For a **Generation 1** fifth wheel top plate, first install a shim ring before installing the retaining ring (**Figure 29**).

8. Position the lock so the hole lines up with the hole in the casting and insert the lock pin from the top face of the fifth wheel (**Figure 30**).
9. Secure the lock pin with the 1-3/8" (34.9 mm) diameter retaining ring (**Figure 30**).

Figure 28

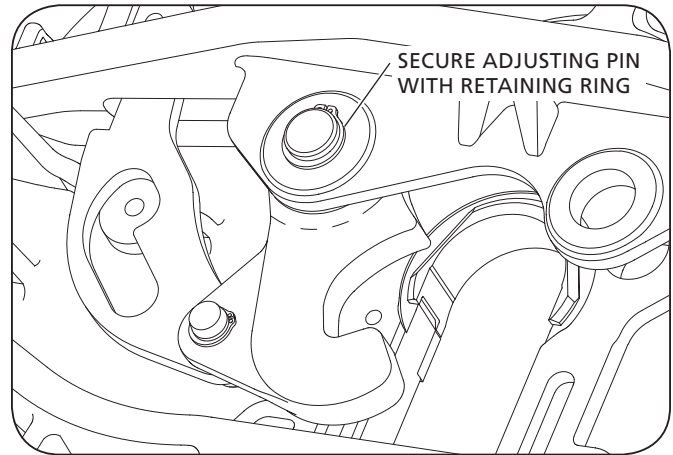


Figure 26

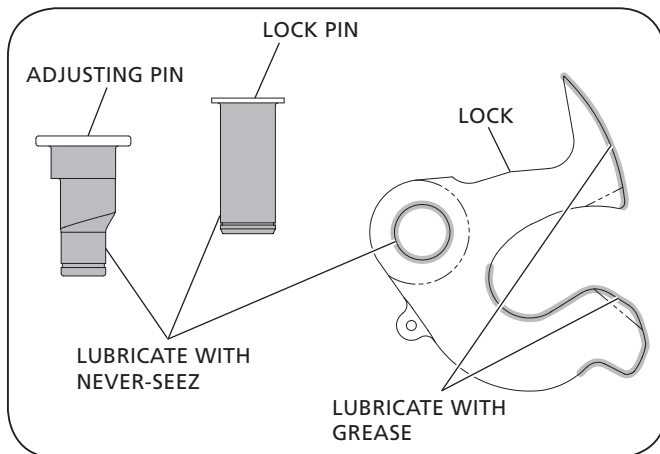


Figure 29

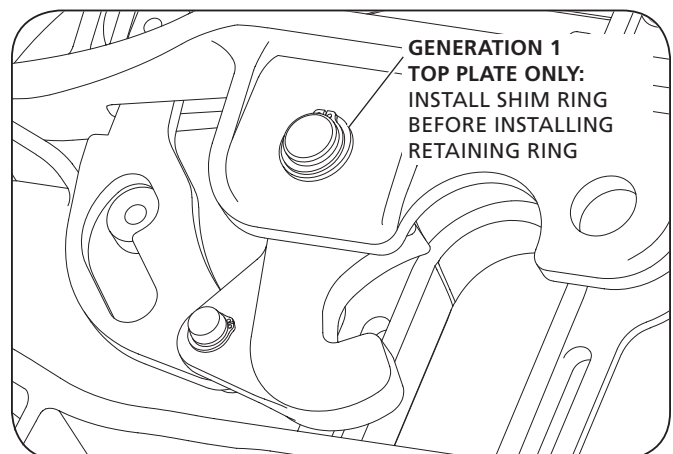


Figure 27

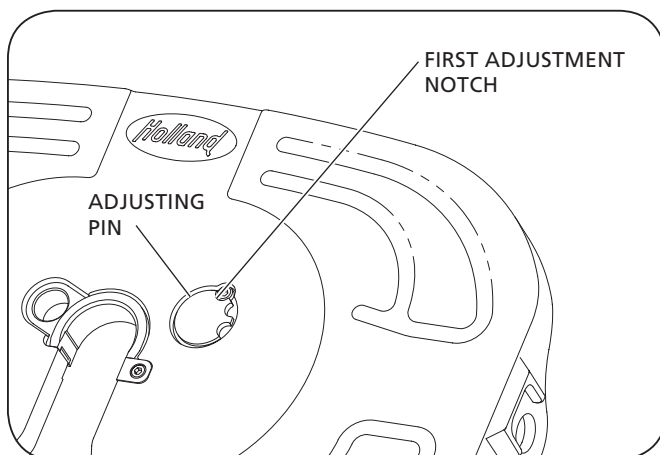
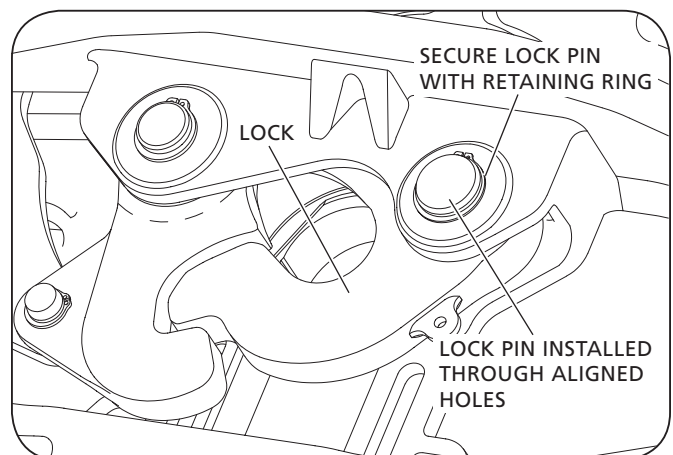


Figure 30



9. Cam Track Roller Installation

Refer to **Figures 31 and 32** for the following steps for the cam track roller installation:

For Generation 2 Fifth Wheels:

1. Maneuver the cam so the cam track slot is over the tapped boss of the casting.
2. Lubricate the SHOULDER ONLY of the M12 x 1.75 mm shoulder bolt with Never-Seez.
3. Place a 5/8" I.D. x 2-5/8" O.D. washer (rounded edges toward the cam) and the cam roller onto the lubricated shoulder bolt.
4. Secure the assembly by installing the shoulder bolt through the cam track slot and into the tapped boss of the casting. Tighten to 40-50 ft.-lbs (54-68 N•m).

For Generation 1 Fifth Wheels:

1. Maneuver the cam so the cam track slot is over the tapped boss of the casting.
2. Place a 1/2" I.D. x 2-1/4" O.D. washer (rounded edges toward the cam) between the cam and the boss of the casting.
3. Lubricate the SHOULDER ONLY of the 1/2"-20 shoulder bolt with Never-Seez.
4. Place a 5/8" I.D. x 2-5/8" O.D. washer (rounded edges toward the cam) and the cam roller onto the lubricated shoulder bolt.
5. Secure the assembly by installing the shoulder bolt through the cam track slot and 1/2" I.D. x 2-1/4" O.D. washer and into the tapped boss of the casting. Tighten to 40-50 ft.-lbs (54-68 N•m).

Figure 31

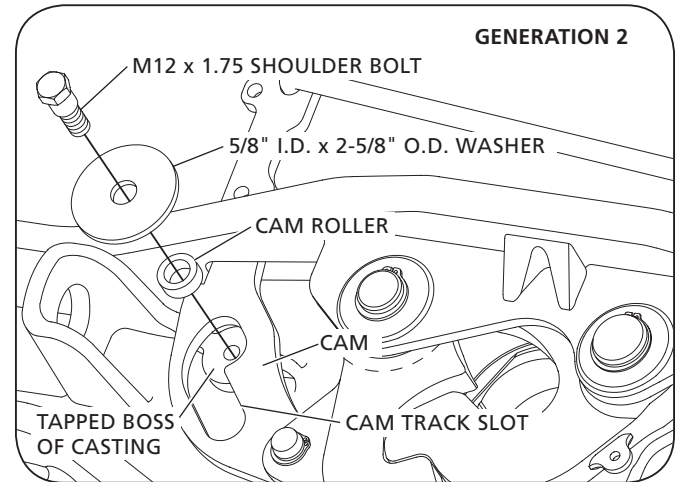
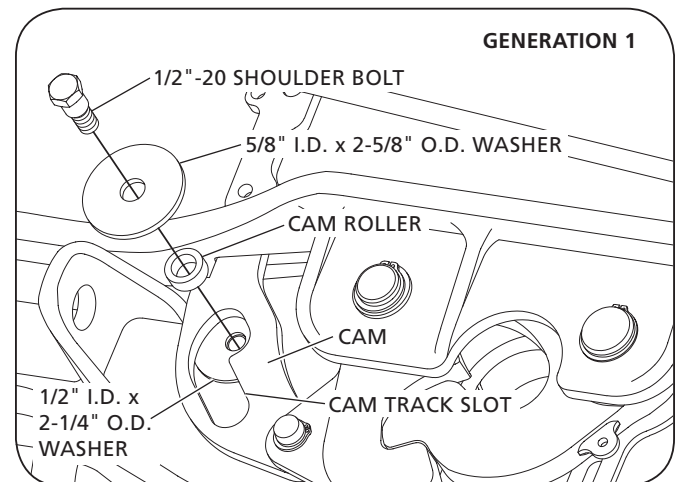


Figure 32



10. Springs Installation

1. Standard (Non-Air Release): Hook one end of the handle extension springs (smaller diameter spring inside the larger diameter spring) onto the handle and the other end to the fifth wheel top plate (**Figure 33**). Ensure the spring hook ends face away from the fifth wheel top plate.

Air Release: Installation of air release handle extension springs already completed per steps outlined in Section 7.

2. **For Generation 2 Fifth Wheels:** Connect one end of the cam extension spring into the last hole of the cam and the other end to the fifth wheel top plate (**Figure 34**). Ensure the spring hook end attached to the cam faces away from the fifth wheel top plate.

For Generation 1 Fifth Wheels: Feed the cam extension spring through the slot in the top plate rib (**Figure 35**). Connect one end of the cam extension spring into the second hole of the cam and the other end to the fifth wheel top plate (**Figure 35**). Ensure the spring hook end attached to the cam faces away from the fifth wheel top plate.

3. 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 (**Figure 36**). Ensure the spring hook end attached to the lock faces away from the fifth wheel top plate.

Figure 34

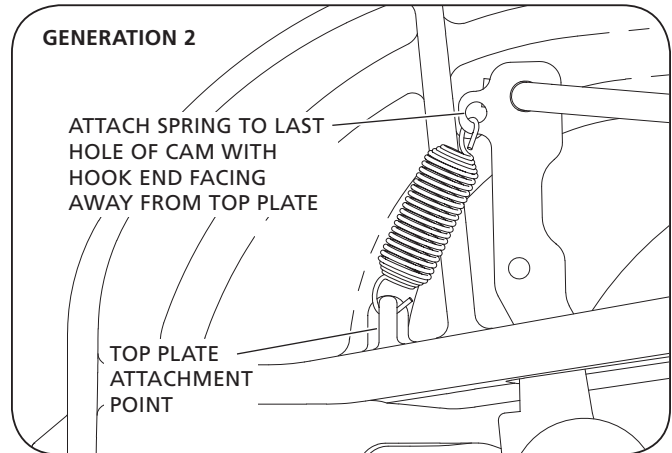


Figure 35

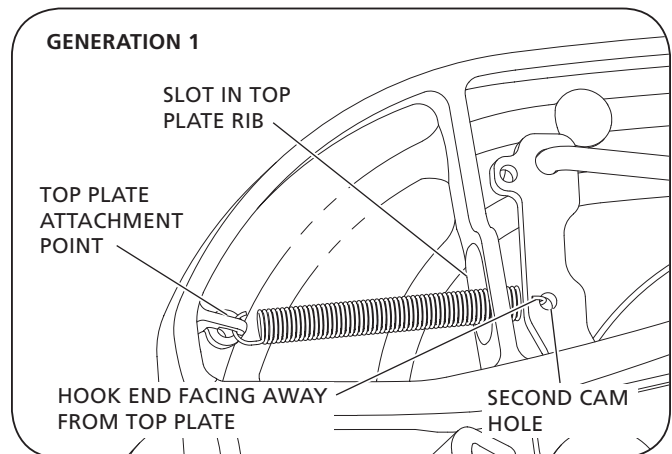


Figure 33

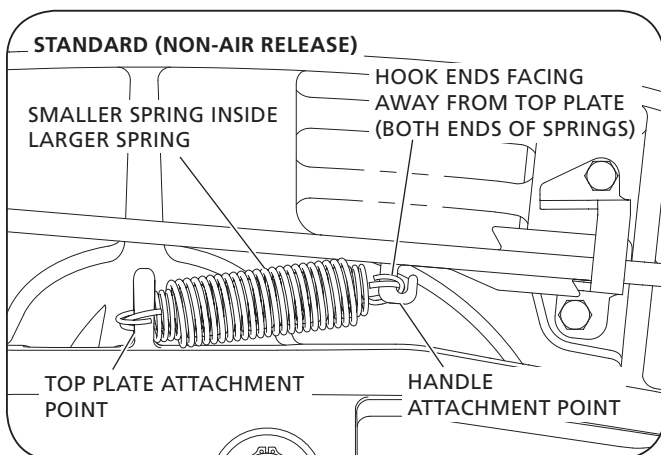
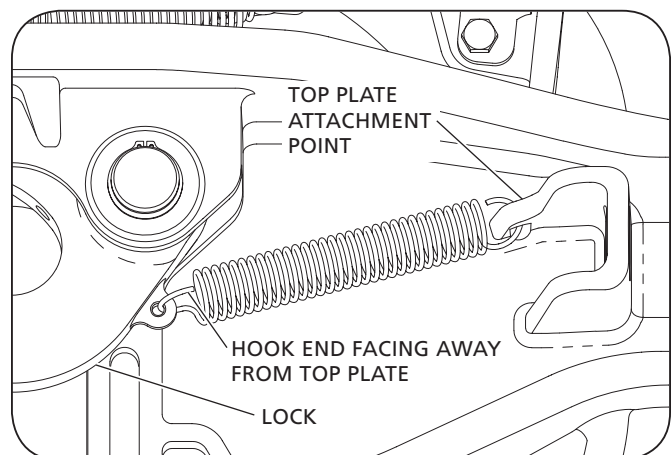


Figure 36



11. Upshock Cushions, Pocket Inserts and Brackets Inspection

To determine if upshock cushions, pocket inserts and/or brackets require replacement, pry up on the fifth wheel top plate pivot ear using a small bar (**Figure 37**). If there is more than 1/4" (6.4 mm) free vertical movement, the top plate should be removed for further inspection. (Refer to Section 4 for top plate removal instructions.)

Upshock Cushions:

1. Standard Cushion (**Figure 38**):

Replace if:

- The hole is elongated to more than 1-3/8" (34.9 mm).
- The upshock cushions are cracked, cut or otherwise severely damaged.

2. ILS-Style Cushion (**Figure 39**):

Replace if:

- The hole is elongated to more than 1-1/2" (38.1 mm).
- The upshock cushions are cracked, cut or otherwise severely damaged.

Figure 37

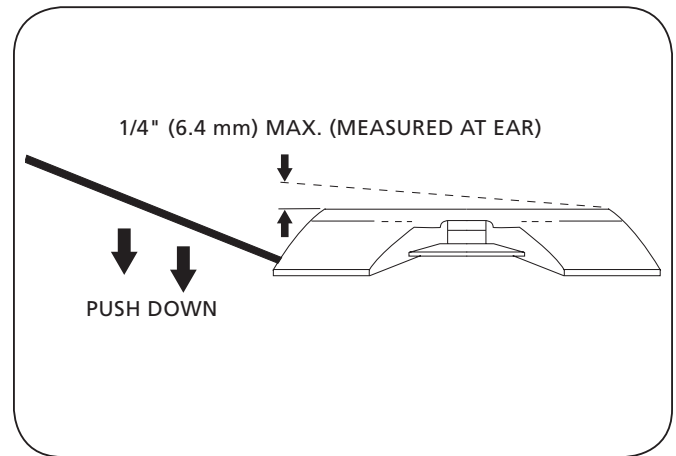


Figure 38

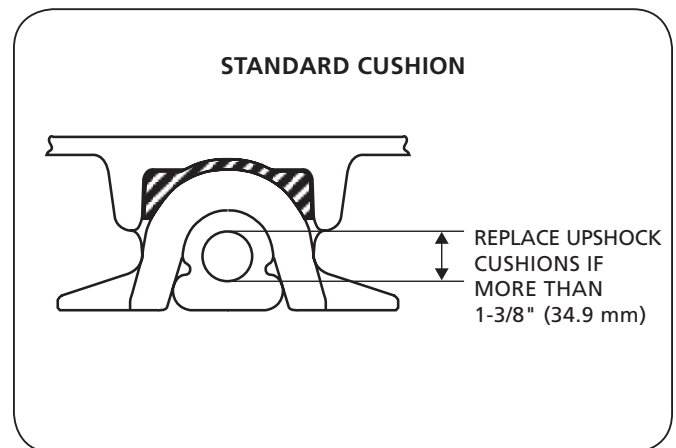
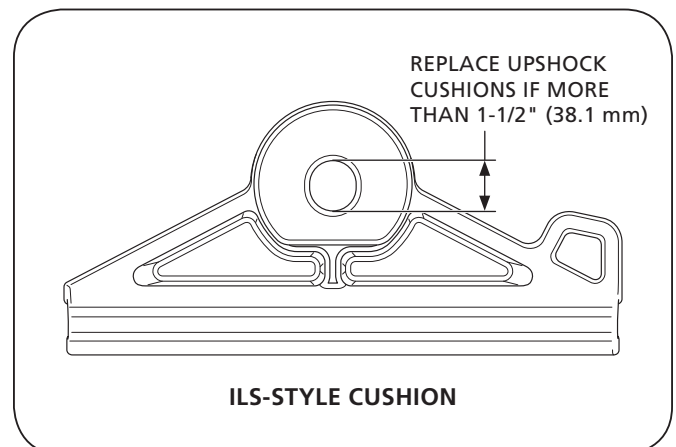


Figure 39



Pocket Inserts (Figure 40) :

Replace if:

- The thickness of the pocket insert is 1/16" (1.6 mm) or less.
- The pocket inserts are severely chipped, cracked or gouged.

Brackets:

1. Standard Bracket (Figure 41) and ILS-Style Bracket (Figure 42):

Replace if:

- The thickness of the bracket cap at the top is less than 3/8" (9.5 mm) when measured approximately 1/4" (6.4 mm) in from the edge.
- The brackets are gouged, cracked or otherwise severely damaged.

Figure 40

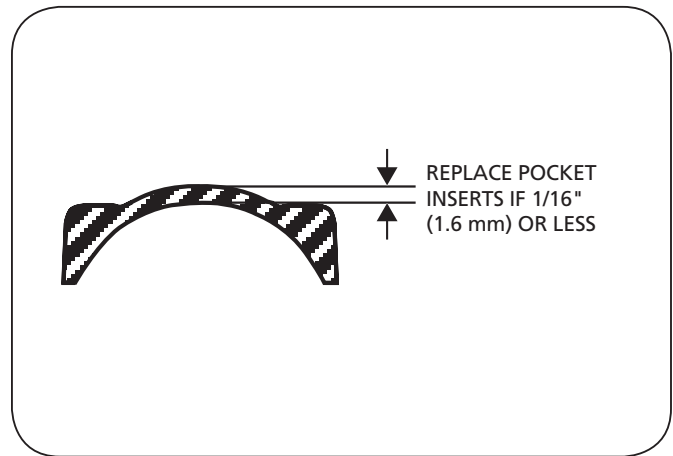


Figure 41

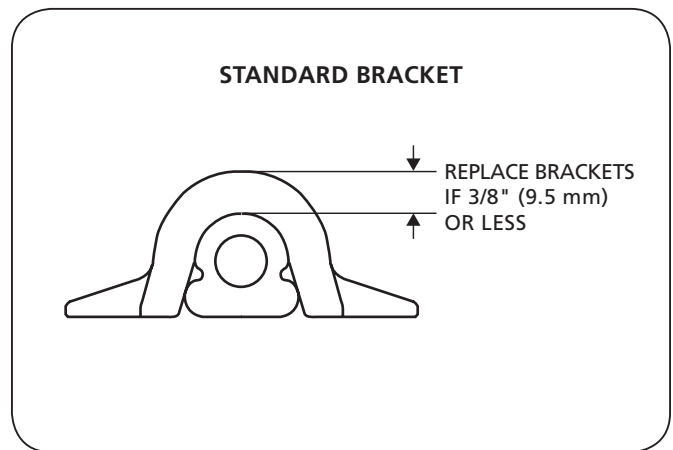
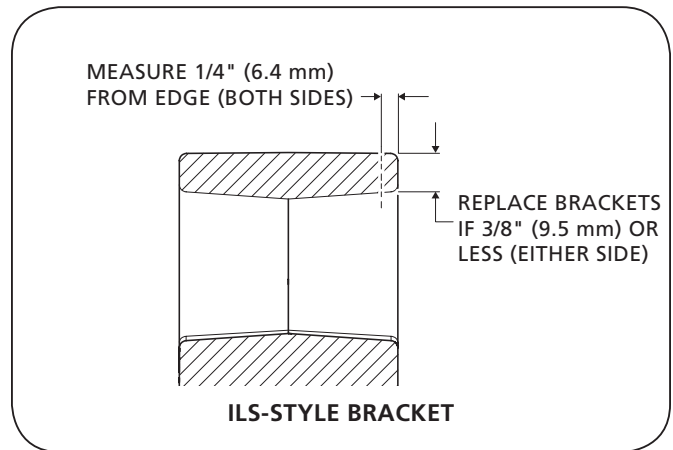


Figure 42



12. Top Plate Installation

1. If the pocket inserts are dislodged from the fifth wheel casting, clean the pocket areas of the casting and apply a strip of double-face tape into the bottom of each pocket. Install the pocket inserts by pressing them down firmly into the pocket areas (**Figure 43**).
2. Using a lifting device capable of lifting 500 lbs. (227 kg), install the fifth wheel top plate onto its mounting base.

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

3. For Generation 2 Fifth Wheels:

Install the bracket pins through the fifth wheel top plate casting and mounting base and secure by installing the two (2) M10 x 1.5 x 18 mm hex head cap screws through each bracket pin plate (**Figure 44**). Torque the hex head cap screws to 20-25 ft.-lbs. (27-34 N•m).

For Generation 1 Fifth Wheels:

Install the bracket pins through the fifth wheel top plate casting and mounting base and secure by installing the bracket pin retention hardware (1/2"-20 x 1-1/4" hex head cap screws and 1/2"-20 lock nuts) through each ear of the top plate (**Figure 45**). Torque the hex head cap screws to 50-60 ft.-lbs. (68-81 N•m).

Figure 43

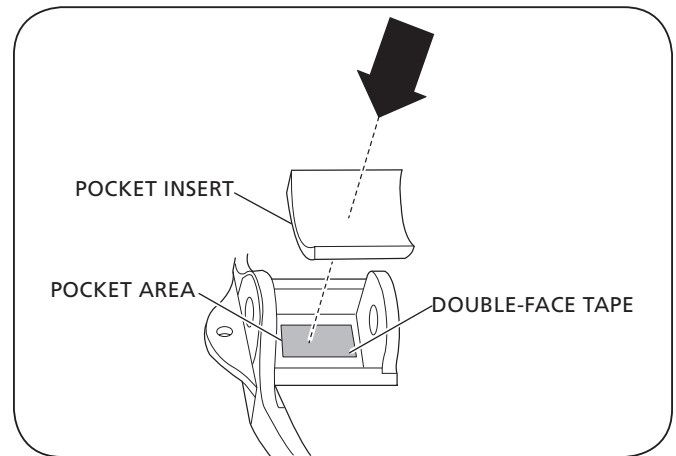


Figure 44

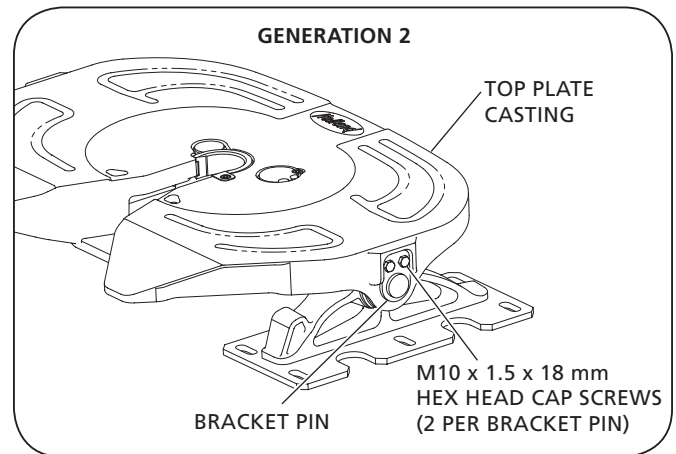
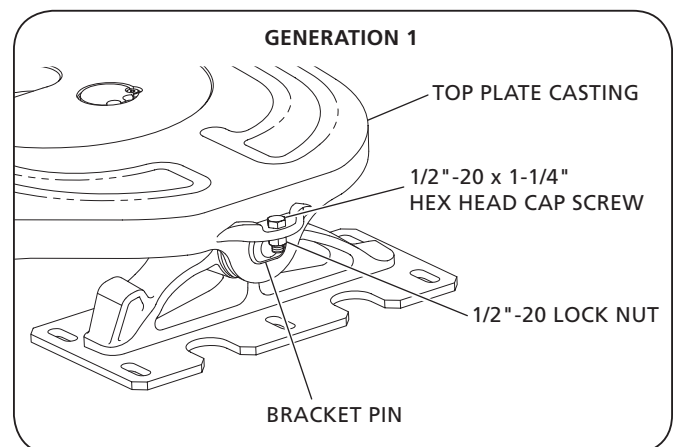


Figure 45



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 local HOLLAND distributor.

1. If the fifth wheel is locked, slide the release handle to the left, pull it all the way out, and hook the handle catch on the handle window bracket or the rib window of the top plate casting so that the handle is retained in the open position (**Figure 46**). If equipped with air release, activate the fifth wheel air release valve until the locking mechanism opens and locks into place.
2. Set the lock tester on the fifth wheel top plate (**Figure 47**).
3. Push down and rotate the "J" hook on the lock tester to secure it under the front skirt of the fifth wheel top plate (**Figure 47**).
4. To lock the fifth wheel, rotate the handle on the lock tester clockwise until the lock closes around the kingpin (**Figure 48**).
5. Slide the lock tester forward and backward in the closed lock to check for free play between the lock and the kingpin. Ensure that the tool remains flat with full contact on the fifth wheel top plate. Use a pin gage to measure free play between the fifth wheel front lock and the kingpin. If free play exceeds 0.080" (2.03 mm), adjust the lock mechanism (**Figure 48**).

Figure 46

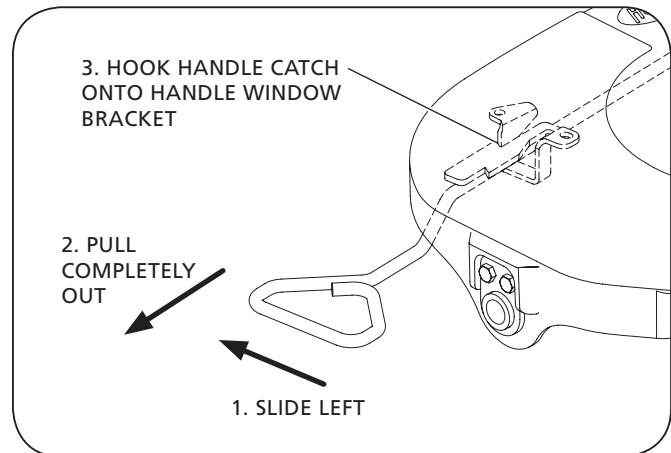


Figure 47

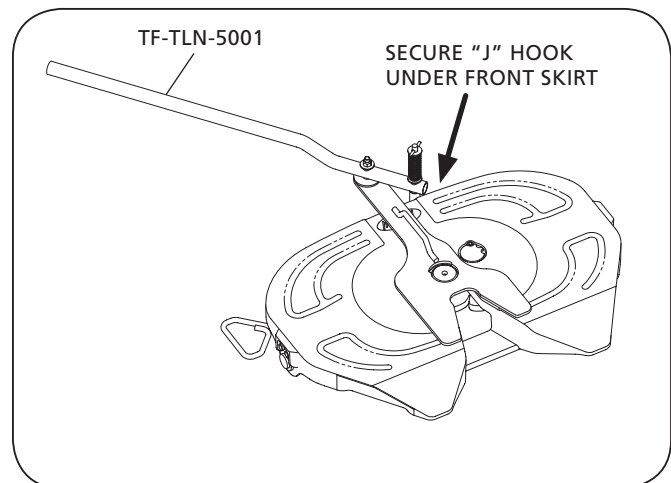
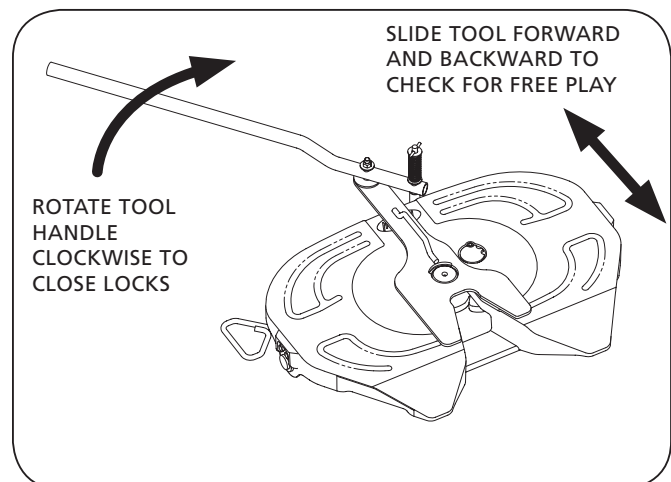


Figure 48



6. To adjust the lock, remove the low head socket cap screw and rotate the adjusting pin counter-clockwise until the next notch lines up with the tapped hole. Reinstall the low head socket cap screw. Adjust only one notch at a time (**Figure 49**).
7. Verify proper adjustment by locking and unlocking the fifth wheel a minimum of two (2) times with the lock tester. Check that the fifth wheel is properly locked (**Figure 50**).

NOTE: To unlock the fifth wheel, slide the release handle to the left, pull it all the way out, and hook the handle catch on the handle window bracket or the rib window of the top plate casting so that the handle is retained in the open position (**Figure 46**).

8. Disengage the "J" hook from under the front skirt of the fifth wheel top plate (**Figure 51**).
9. Rotate the lock tester from side to side to ensure that the lock is not overtightened. The lock should not grip the kingpin and the tool should rotate freely (**Figure 51**).
10. Re-check for free play in the lock by sliding the lock tester forward and backward using a pin gage to measure free play between the fifth wheel front lock and the kingpin (**Figure 48**). Free play should be 0.040" (1.02 mm) minimum. If free play still exceeds 0.080" (2.03 mm) in the lock, repeat the procedure and adjust one more notch.
11. Slide the release handle to the left, pull it all the way out, and hook the handle catch on the handle window bracket or the rib window of the top plate casting so that the handle is retained in the open position (**Figure 46**).

Figure 49

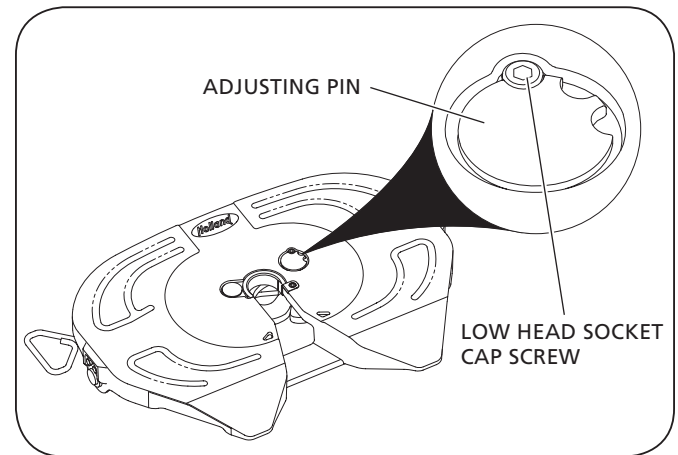


Figure 50

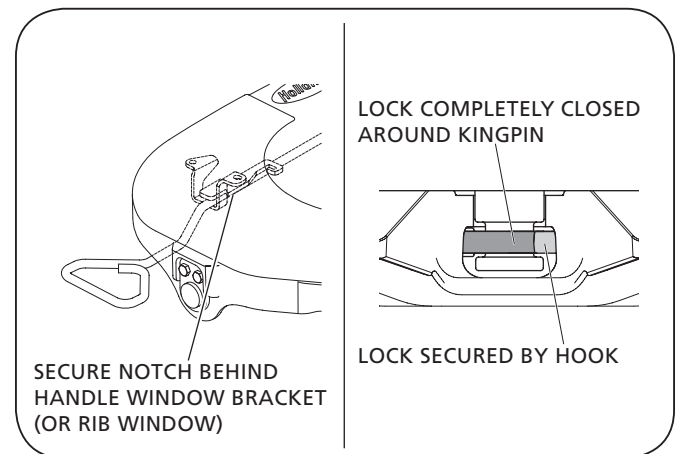
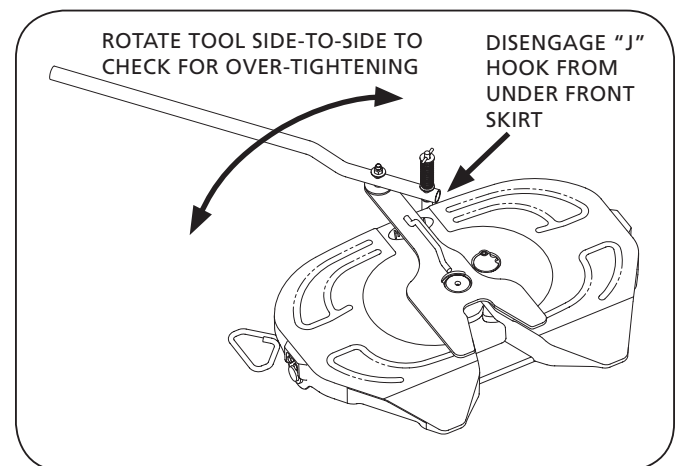


Figure 51



12. Push down and rotate the "J" hook on the lock tester to secure it under the front skirt of the fifth wheel top plate (**Figure 52**).
13. Pull the lock tester handle counter-clockwise to release the kingpin (**Figure 53**).
14. Disengage the "J" hook from under the front skirt of the fifth wheel top plate and remove the lock tester (**Figure 53**).

NOTE: If there is still excessive free play in the lock with the adjustment pin on the last (third) notch, the fifth wheel **MUST** be rebuilt using the appropriate SAF-HOLLAND service kit.

IMPORTANT: Before using your fifth wheel, you **MUST** verify that it is operating properly.

⚠ WARNING Failure to verify that the fifth wheel is operating properly could result in loss of vehicle control which, if not avoided, could result in death or serious injury.

Figure 52

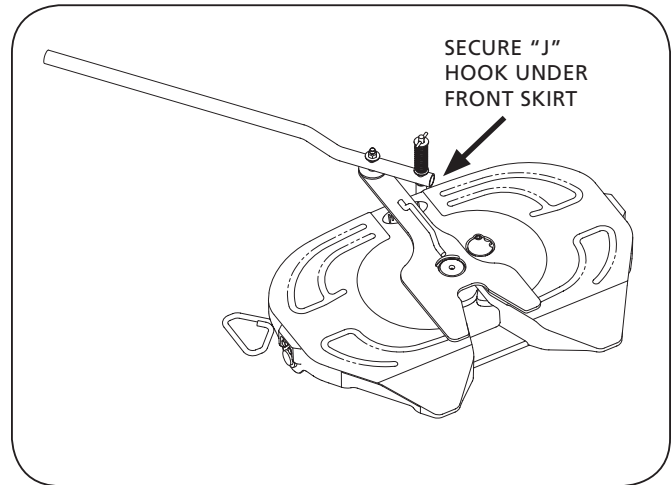
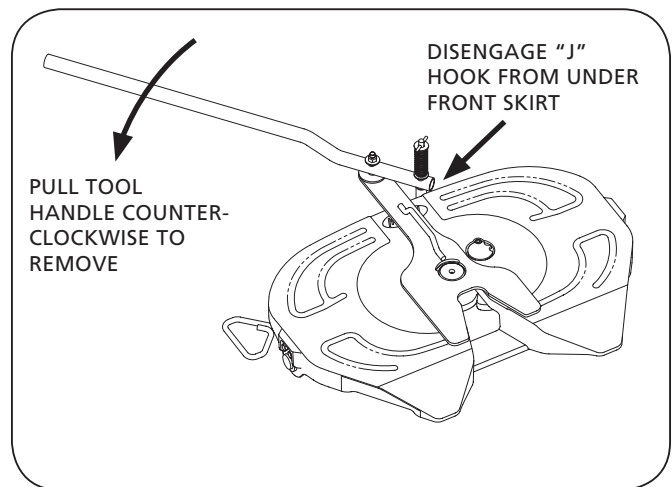


Figure 53







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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