

Owner's Manual

Stationary Fifth Wheels:

FW0070, FW0100, FW0165, FW1226,
FW1560, FW1900, FW2000, FW2870

Sliding Fifth Wheels:

FW70 Series, FW2555, FW2570, FW2500

- Operation and Maintenance Procedures



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Introduction

This manual provides the information necessary for the proper operation and maintenance of HOLLAND® 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.

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 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.

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 fifth wheel installation and maintenance MUST 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 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.

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

⚠ WARNING Failure to properly install the fifth wheel could result in tractor-trailer separation which, if not avoided, could result in death or serious injury.

IMPORTANT: 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.

⚠ WARNING Failure to follow all the operating procedures contained in these instructions could result in a hazardous condition or cause a hazardous condition to develop which, if not avoided, could result in death or serious injury.

2. Model Identification

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

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

Figure 1

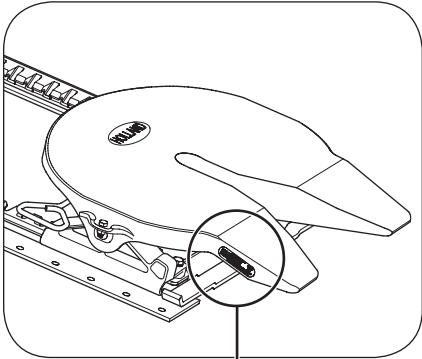
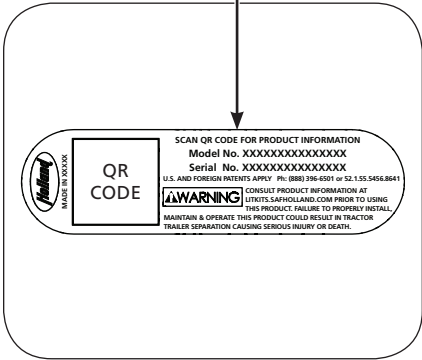


Figure 2



3. Fifth Wheel Intended Use

1. Pulling trailers with standard SAE kingpins which are in good condition and securely mounted or locked in position on the trailer.
2. Transporting loads that are within the maximum fifth wheel rated capacities:

STATIONARY FIFTH WHEELS		
FIFTH WHEEL	MAX VERTICAL LOAD (LBS.)	MAX DRAWBAR PULL (LBS.)
FW0070	70,000	200,000
FW0100	100,000	200,000
FW0165	165,000	200,000
FW1226	40,000	150,000
FW1560	50,000	N/A
FW1900	20,000	40,000
FW2000	40,000	150,000
FW2870	100,000	N/A

SLIDING FIFTH WHEELS		
FIFTH WHEEL	MAX VERTICAL LOAD (LBS.)	MAX DRAWBAR PULL (LBS.)
FW70 Series	80,000	200,000
FW2555	70,000	150,000
FW2570	70,000	150,000
FW2500	70,000	150,000

IMPORTANT: SAF-HOLLAND definition of off-road refers to terrain on which a tractor-trailer operates which is unpaved and rough, or ungraded. Any terrain NOT considered part of the public highway system falls under this heading.

3. In on-road applications. (This does not include the FW1560 and FW2870, which are for terminal use only.) FW0070, FW0100, FW0165 and FW2570 are intended for both on-road and off-road applications.
4. As recommended in SAF-HOLLAND literature available on the internet at www.safholland.us.

4. Fifth Wheel Non-Intended Use

1. Operating with a non-SAE compliant kingpin, such as kingpins which are bent, have improper size or dimensions, not secured to maintain SAE configuration, or are installed on warped trailer bolster plates or upper coupler and fifth wheel lube plates that do not maintain the SAE kingpin dimensions. Refer to the SAF-HOLLAND Service Bulletin XL-SB004-01 (available on the internet at www.safholland.us) for more information on fifth wheel lube plates.



WARNING Failure to couple with a SAE compliant kingpin could result in improper coupling, allowing tractor-trailer separation, which, if not avoided, could result in death or serious injury.

2. Tow-away operations which damage or interfere with the proper operation of the fifth wheel.
3. The attachment of lifting devices.
4. The transport of loads in excess of rated capacity.
5. In off-road applications, except for FW0070, FW0100, FW0165 and FW2570.
6. Applications other than those recommended in SAF-HOLLAND literature available on the internet at www.safholland.us.

5. Coupling Preparation

1. Prior to coupling, an inspection **MUST** be performed on the fifth wheel and mounting to verify the following:
 - Tighten loose fasteners.
 - Replace missing fasteners.
 - Repair/replace missing, cracked or otherwise damaged components.
 - Clean grease grooves if a large amount of debris is present.
 - Lubricate fifth wheel-to-trailer contact surfaces, if needed.
 - Inspect fifth wheel mechanism. Lubricate dry or rusty components.
 - For a sliding fifth wheel, ensure that both plungers are fully engaged.
 - Inspect any air line connections.
 - Ensure that the fifth wheel is in the appropriate position for weight distribution on the tractor. For proper positioning of the fifth wheel, refer to SAF-HOLLAND publication XL-FW10008BM-en-US available on the internet at www.safholland.us.
2. Ensure that the coupling area is flat, level, and clear of persons and obstacles.
3. Tilt the ramps of the fifth wheel downward (**Figure 3**). (Not applicable to FW1226.)
4. Ensure that the lock mechanism is open. If the lock mechanism is closed:

Manual Release:

- If equipped with a manual secondary lock, first pull the secondary release handle and hook on the top plate (**Figures 4 and 5**).
- For FW2870 only, the secondary release handle **MUST** be re-engaged after coupling by unhooking the handle and allowing it to retract into place (reverse of **Figure 5**).
- Pull the release handle completely out. (For FW70 Series, FW0070, FW2555, FW2570, FW0100 and FW0165, pull the release handle out and hook on the top plate casting (**Figure 6**).)

Figure 3

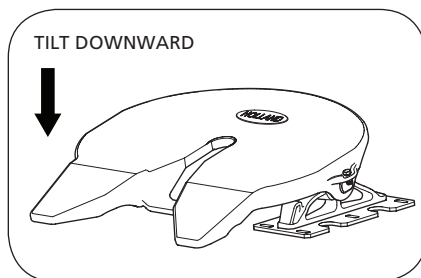


Figure 4

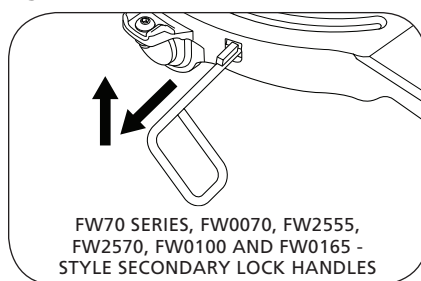


Figure 5

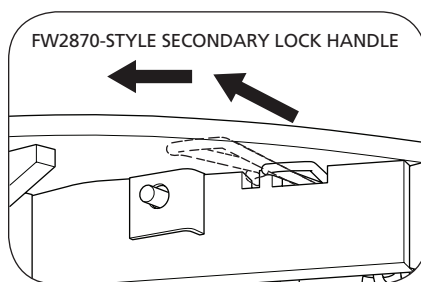


Figure 6



Air Release:

- Set the tractor brakes and actuate the fifth wheel control valve to open the lock mechanism.

6. Coupling Procedures

1. Chock the trailer wheels.
2. Position the tractor so the center of the fifth wheel is aligned with the kingpin.
3. Traveling in a straight line, slowly back the tractor to the trailer. STOP the tractor before making contact with the trailer (**Figure 7**).
4. Place the tractor into neutral and set the parking brake.
5. Completely exhaust the air from the tractor suspension, ensuring that the fifth wheel is below the contact surface of the trailer (**Figure 8**).
6. Exit the cab and ensure that the fifth wheel is below the upper coupler plate. Verify proper fifth wheel height. If the trailer is too low, use the landing gear to raise the trailer height.

NOTE: For proper operation of landing gear, follow the instructions published by the landing gear manufacturer.

7. Slowly back up, using the lowest gear possible. Stop when the fifth wheel is under the leading edge of the trailer (**Figure 9**).
8. Place the tractor into neutral and set the parking brake. Exit the cab and verify proper fifth wheel-to-kingpin alignment.
9. Adjust the tractor suspension to ride height. The fifth wheel top plate face **MUST** make contact with the upper coupler plate (**Figure 10**). If the fifth wheel **DOES NOT** make contact with the upper coupler plate, use the landing gear to lower the trailer until the fifth wheel makes contact.

Figure 7

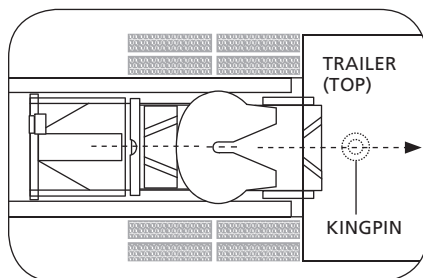


Figure 8

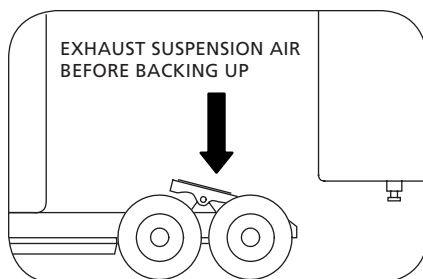


Figure 9

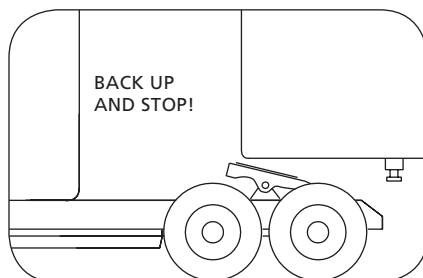
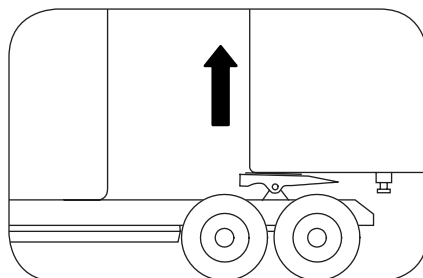


Figure 10



IMPORTANT: If the trailer is too high, the kingpin will NOT properly connect with the lock mechanism.

⚠ WARNING Failure to couple with the trailer at the proper height could result in improper coupling, allowing tractor-trailer separation which, if not avoided, could result in death or serious injury.

IMPORTANT: NEVER inflate the tractor suspension when the kingpin is above the throat of the fifth wheel.

CAUTION Failure to avoid inflating the tractor suspension with the fifth wheel is NOT forward of the kingpin, could result in damage to the kingpin and fifth wheel.

10. Slowly back into the trailer, engaging the kingpin into the fifth wheel.
11. Connect any air and electrical lines.
12. Raise the landing gear legs until the pads are just above the ground.
13. Perform a pull test as an INITIAL CHECK by locking the trailer brakes and pulling forward with the tractor to ensure that tractor-trailer separation DOES NOT occur (**Figure 11**).
14. Place the tractor into neutral and set the parking brake.
15. Exit the cab and visually inspect to be sure the kingpin is firmly seated in the fifth wheel locking mechanism; NOT overhanging the fifth wheel or caught in a grease groove. There should be NO GAP between the trailer bolster plate and the fifth wheel (**Figures 12 and 13**). Check the locking mechanism as illustrated in **Figure 12** for type "A" locks and **Figures 13 and 14** for type "B" locks.

Figure 11

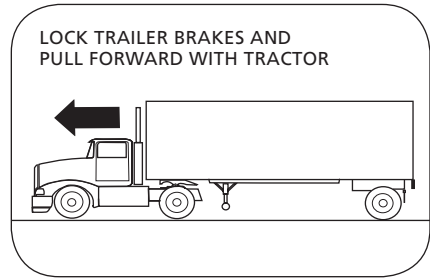


Figure 12

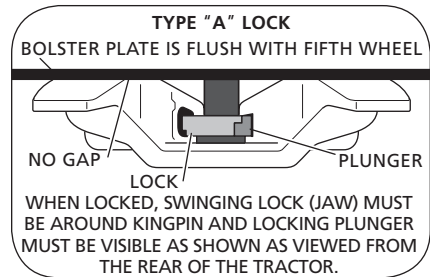


Figure 13

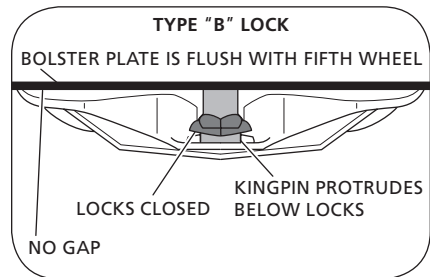
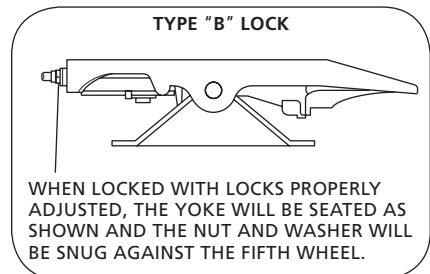


Figure 14



16. If proper coupling has NOT been achieved, repeat the coupling procedure.

⚠ WARNING

Failure to properly couple the tractor and trailer could result in tractor-trailer separation while in use which, if not avoided, could result in death or serious injury.

IMPORTANT: DO NOT use any fifth wheel that fails to operate properly.

⚠ WARNING

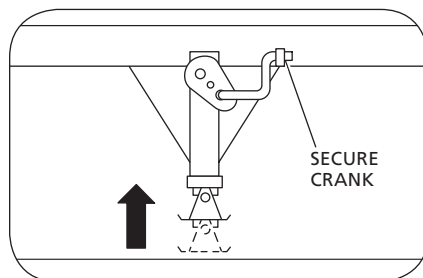
Failure to repair a malfunctioning fifth wheel before use could result in tractor-trailer separation which, if not avoided, could result in death or serious injury.

17. Fully retract the landing gear legs off the ground and secure the crank handle (**Figure 15**).

NOTE: For proper operation of landing gear, follow the instructions published by the landing gear manufacturer.

18. Remove the wheel chocks and continue with the pre-trip inspection.

NOTE: For no-tilt fifth wheels used with rigid upper couplers, always remove the no-tilt shaft assembly for on-road use.

Figure 15


7. Uncoupling Procedures

1. Position the tractor and trailer, in straight alignment, on firm, level ground clear of obstacles and persons.
2. Set the trailer brakes.
3. Slowly back the tractor tightly against the trailer to relieve pressure on the fifth wheel locks.

4. Place the tractor into neutral and set the parking brake.

IMPORTANT: DO NOT exhaust air from the tractor suspension before uncoupling.

CAUTION Failure to avoid exhausting air from the tractor suspension before uncoupling could result in difficulty uncoupling the tractor from the trailer which, if not avoided, could result in damage to the fifth wheel and kingpin.

5. Chock the trailer wheels.
6. Lower the landing gear until the pads just touch the ground (**Figure 16**).

NOTE: For proper operation and ability to transfer the trailer weight from the fifth wheel, follow the instructions published by the landing gear manufacturer. DO NOT raise the trailer off of the fifth wheel.

7. Disconnect the air and electrical lines from the trailer and secure to the tractor.
8. If equipped, pull the secondary lock release handle and hook on the top plate (**Figures 17 and 18**).
9. Pull the release handle completely out. (For FW70 Series, FW0070, FW2555, FW2570, FW0100 and FW0165, pull the release handle out and hook on the top plate casting (**Figure 19**).) If air release is equipped, pull and hold the fifth wheel release valve until the locking mechanism opens and locks into place.

Figure 16

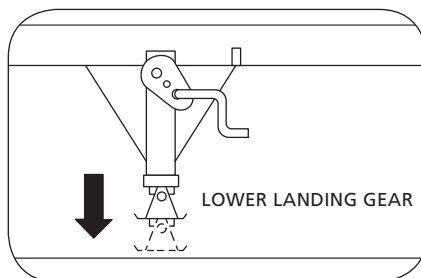


Figure 17

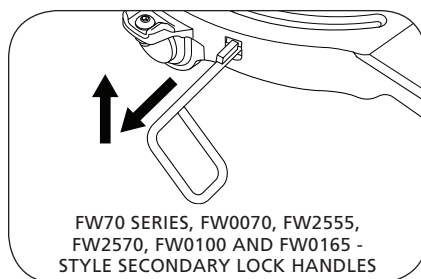


Figure 18

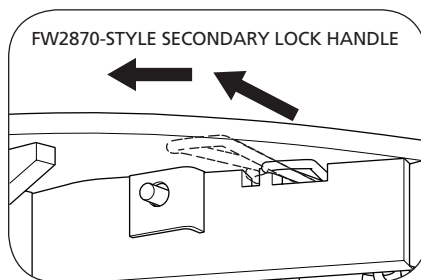


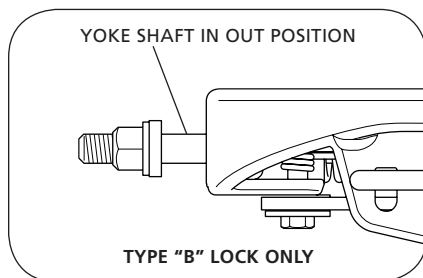
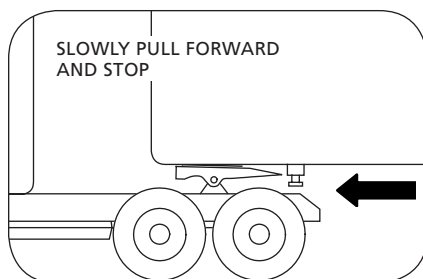
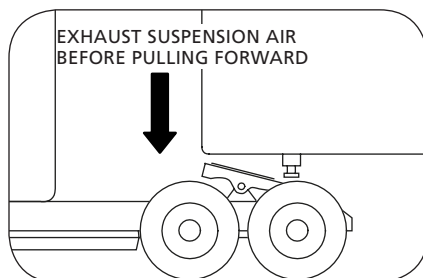
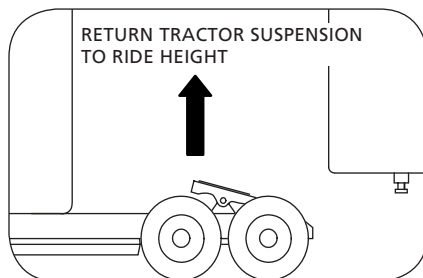
Figure 19



10. Ensure that the locking mechanism is open. For Type "B" locks, also ensure that the yoke shaft is in the out position (**Figure 20**).
11. Release the tractor parking brake and slowly pull forward 21 "-18" (306-457 mm) to disengage the kingpin from the fifth wheel. The fifth wheel should be between the front edge of the trailer and the kingpin (**Figure 21**).

IMPORTANT: DO NOT drive the tractor free of the trailer.

12. Place the tractor into neutral and set the parking brake. Completely exhaust the air from the tractor suspension, ensuring that the fifth wheel is below the contact surface of the trailer (**Figure 22**).
13. Visually inspect uncoupling. Ensure that the trailer is completely supported by the landing gear.
14. Release the tractor parking brake and slowly pull away from the trailer.
15. Apply air to the tractor air suspension to return to ride height (**Figure 23**).

Figure 20

Figure 21

Figure 22

Figure 23


8. Positioning Sliding Fifth Wheels

⚠ WARNING NEVER reposition a sliding fifth wheel while the tractor-trailer is in motion or on public roads. Failure to avoid could cause loss of vehicle control or tractor-trailer separation which, if not avoided, could result in death or serious injury.

1. Position the tractor and trailer, in straight alignment, on firm, level ground clear of obstacles and persons.
2. Place the tractor into neutral and set the tractor and trailer parking brakes.

CAUTION Failure to stop and properly lock the tractor and trailer brakes could cause uncontrolled sliding of the fifth wheel which, if not avoided, could result in component damage to the tractor or trailer.

3. Release the slide locking plungers by moving the cab switch to the unlock position (**Figure 24**). If equipped with manual slide release, pull the release lever. If the plungers DO NOT come out, lower the landing gear to relieve pressure on the fifth wheel. This will allow the fifth wheel to slide easier.

NOTE: Cab switch style may differ by OEM.

4. Visually inspect and verify that the plungers are disengaged.
 - **Figure 25 - Severe-Duty Sliders**
 - **Figure 26 - Traditional Sliders**
5. Release the tractor parking brake while keeping the trailer brakes engaged.
6. Slowly drive the tractor forward or backward to position the fifth wheel. Stop the tractor at the desired position.

Figure 24

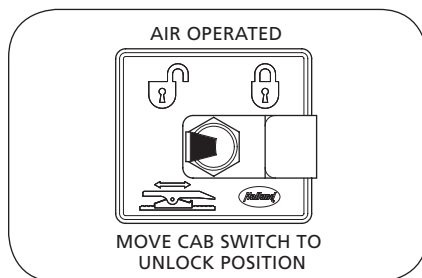


Figure 25

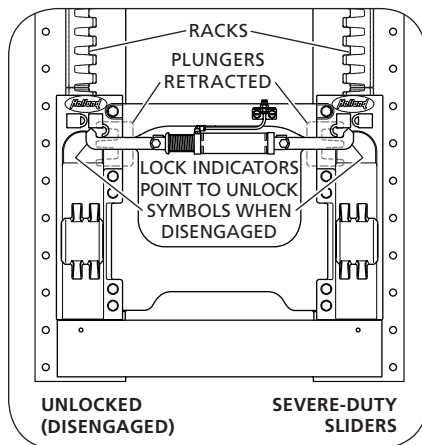
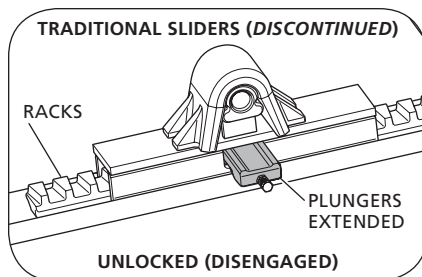


Figure 26

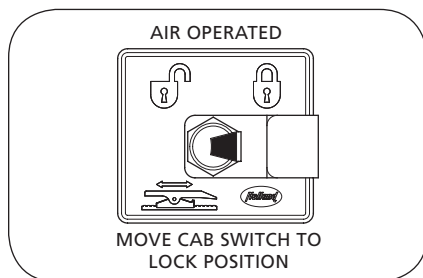
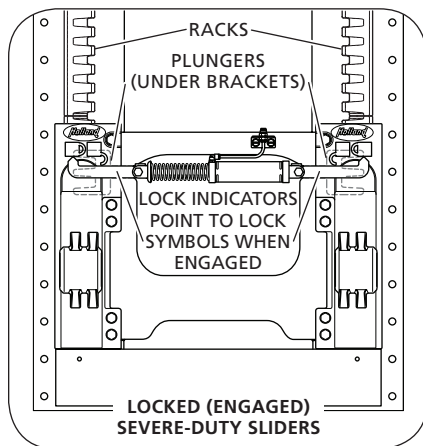
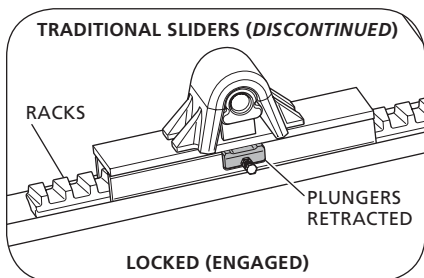
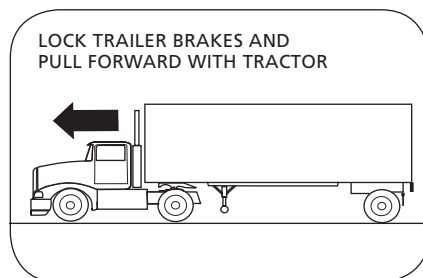


7. Re-engage the slide locking plungers by moving the cab switch to the lock position (**Figure 27**). If equipped with manual slide release, pull the release arm to allow the plungers to retract.
8. Place the tractor into neutral and set the parking brake.
9. Visually inspect the plungers to ensure proper engagement.
 - **Figure 28 - Severe-Duty Sliders**
 - **Figure 29 - Traditional Sliders**
10. Retract the landing gear legs, if lowered.
11. Verify that the slide locking plungers have been re-engaged by performing a pull test (**Figure 30**).

IMPORTANT: DO NOT operate the vehicle if the plungers are NOT fully engaged (locked).



Failure to properly engage the plungers and slide base could cause loss of vehicle control which, if not avoided, could result in death or serious injury.

Figure 27

Figure 28

Figure 29

Figure 30


9. Fifth Wheel Maintenance

IMPORTANT: All maintenance **MUST** be performed by a properly trained technician using proper tools and safety procedures.

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

⚠ WARNING Failure to properly maintain the fifth wheel could result in tractor-trailer separation which, if not avoided, could result in death or serious injury.

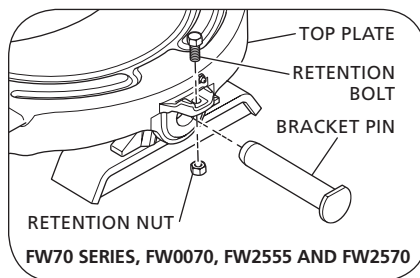
1. For steps required for fifth wheel maintenance, refer to Step 1 of Section 5 and all steps in Sections 10 through 15.

NOTE: Removal of the fifth wheel top plate is **NOT** required for maintenance but may be required when performing repairs.

10. Top Plate Removal

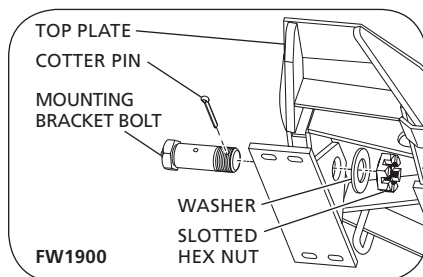
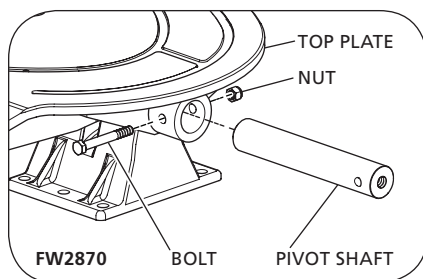
1. Remove fifth wheel top plates to perform maintenance procedures on internal components by following the steps below:
 - **FW70 Series, FW0070, FW2555 and FW2570:** Remove the bracket pin retention bolts and nuts from each side of the fifth wheel top plate and then, using a pry bar, remove both bracket pins (**Figure 31**).
 - **FW0100 and FW0165:** (Does not come apart due to components welded in place at installation. Must reach underneath to lubricate moving parts.)

Figure 31



- **FW1226:** Remove all mounting hardware anchoring the fifth wheel to the tractor.
 - **FW1560:** Remove the collars, bolts, and nuts on each side of the fifth wheel top plate and then remove the pivot shaft.
 - **FW1900:** Remove the mounting bracket bolts, washers, slotted hex nuts, and cotter pins from each side of the fifth wheel top plate (**Figure 32**).
 - **FW2000 and FW2500:** Remove the coiled spring pins and bracket pins from each side of the fifth wheel top plate.
 - **FW2870:** Remove the bolts, nuts, and pivot shafts from each side of the fifth wheel top plate (**Figure 33**).
2. Using a lifting device capable of lifting 500 lbs. (227 kg), remove the fifth wheel top plate from the mounting base. Place the fifth wheel on a flat, clean working area.

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

Figure 32

Figure 33


11. Fifth Wheel Lubrication

IMPORTANT: Fifth wheel lubrication is necessary to get the maximum service life from a HOLLAND fifth wheel. Perform the following procedures at the intervals listed.

- Lubricate the locking mechanism every three (3) months or 30,000 miles.
- Thoroughly clean the locking mechanism every six (6) months or 60,000 miles.

IMPORTANT: For fifth wheels that operate in snowy or icy winter conditions, lubrication should be performed every spring in addition to routine lubrication (as noted above) to ensure optimum operation.

11.A Proper Lubrication

FW70 Series, FW0070, FW2555, FW2570, FW0100 and FW0165:

1. Remove old grease and debris from all fifth wheel-to-trailer contact surfaces. Apply new water-resistant lithium-based grease to all fifth wheel-to-trailer contact surfaces (**Figure 34**).
2. Using water-resistant lithium-based grease, lubricate (A) the lock halves where contact is made with the kingpin, (B) the grease fitting of the lock pin, (C) the grease fitting of the secondary lock pin, and (D) the exposed surface of the plunger and the pocket area of the plunger where contact is made with the lever (**Figure 35**).
3. Using a light oil, lubricate (E) the release handle, (F) the release handle pivot point, (G) the secondary lock release handle, and (H) the secondary lock release handle pivot point (**Figure 35**).

Figure 34

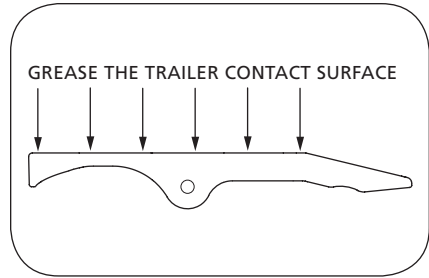
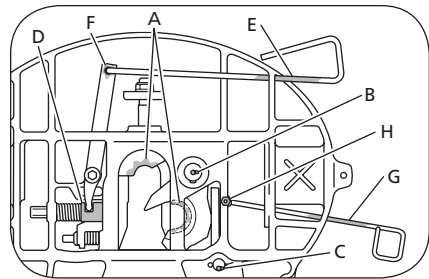


Figure 35



FW1560, FW1900 and FW2870:

1. Remove old grease and debris from all fifth wheel-to-trailer contact surfaces. Apply new water-resistant lithium-based grease to all fifth wheel-to-trailer contact surfaces (**Figure 36**).
2. Using water-resistant lithium-based grease, lubricate (A) the yoke tips where contact is made with the locks and top plate, (B) the cam profile, (C) the secondary lock where contact is made with the cam plate (only if an automatic secondary lock), and (D) the lock jaws where contact is made with the kingpin (**Figures 37 and 38**).
3. Using a light oil, lubricate (E) the yoke shaft in area that slides in and out of the top plate, (F) the cam pivot point, (G) the release handle, and (H) release handle pivot point (**Figures 37 and 38**).

FW2870 is equipped with air release. Follow Steps 4 through 9 below for lubrication of the air cylinder.

4. Inspect the air cylinder tube and shaft for dents, bending, or other damage and replace as necessary.
5. Activate the air cylinder control to extend the piston and shaft to its full travel length (**Figure 38**).
6. Clean the exposed piston shaft with penetrating oil and a clean shop towel. DO NOT use any abrasives on the exposed shaft as they could damage the piston shaft.
7. De-activate the air cylinder.
8. Remove the supply air line and add two to four (2-4) drops of air tool oil to the cylinder through the supply fitting. Reinstall the supply air line (**Figure 38**).
9. Activate and de-activate the air cylinder two to three (2-3) times to work the air tool oil into the cylinder and onto the piston and verify proper operation.

Figure 36

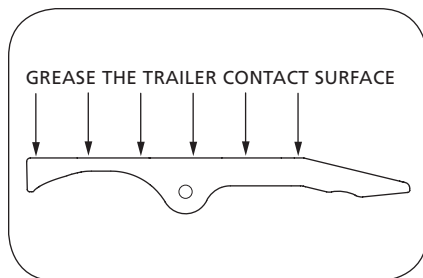


Figure 37

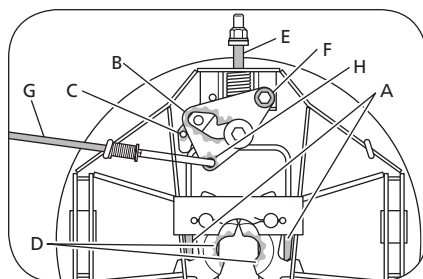
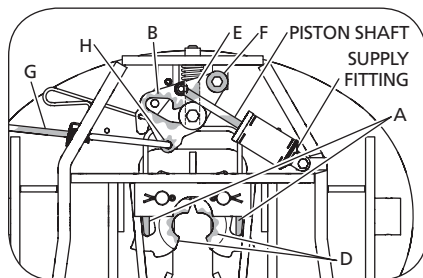


Figure 38



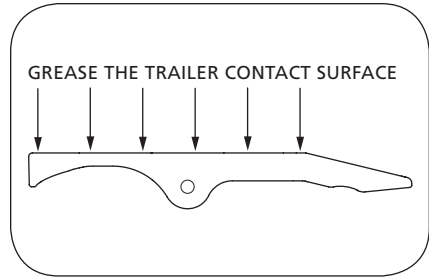
FW1226, FW2000 and FW2500:

1. Remove old grease and debris from all fifth wheel-to-trailer contact surfaces. Apply new water-resistant lithium-based grease to all fifth wheel-to-trailer contact surfaces (**Figure 39**).
2. Using water-resistant lithium-based grease, lubricate the grease fitting of the lock pin, the cam profile, and the lock halves where contact is made with the kingpin.
3. Using a light oil, lubricate the cam pivot point, the lock shaft in area that slides through the rib of the top plate casting, the release handle pivot point, and the length of the release handle that comes into contact with the top plate casting during coupling and uncoupling of the fifth wheel.

11.B As-Needed Lubrication

- Maintain lubrication on fifth wheel-to-trailer contact surfaces using a water-resistant lithium-based grease (**Figure 39**). Clean grease grooves if a large amount of debris is present.
- Clean and lubricate the locking mechanism if operational difficulties arise during the service life of the fifth wheel (i.e., problems with coupling, uncoupling, or pulling the release handle).

Figure 39



12. Slide Base Lubrication

NOTE: FW2555, FW2570 and FW2500 are sliding fifth wheels using the HOLLAND Traditional Slider base, which has been discontinued. Below are slide base lubrication instructions that include information about the Traditional Slider base for those already in use.

The FW70 Series sliding fifth wheels utilize the HOLLAND Severe-Duty Slider base, effectively replacing the FW2555 and FW2570 Series fifth wheels. (Both FW2555 and FW2570 use the same fifth wheel top plates as the FW70 Series.)

NOTE: Slide base should be moved fore and aft at least once a year to maintain optimum performance.

IMPORTANT: If equipped with air release, lubricate the air cylinder every three (3) months or 30,000 miles, whichever comes first.

Severe-Duty Sliders:

1. Spray the spring-covered piston shaft thoroughly with penetrating oil (**Figure 40**).

IMPORTANT: DO NOT use any abrasives on the exposed shaft as they could damage the piston shaft.

2. Remove the supply air line and add two to four (2-4) drops of air tool oil to the cylinder through the supply fitting. Re-install the supply air line (**Figure 41**).
3. Activate and de-activate the air cylinder two to three (2-3) times to work the air tool oil into the cylinder and onto the piston and verify proper operation.

Figure 40

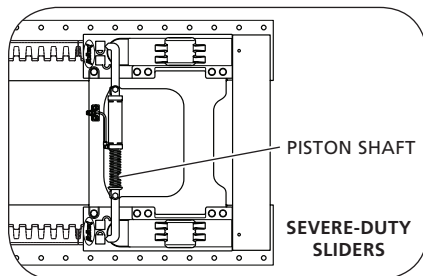
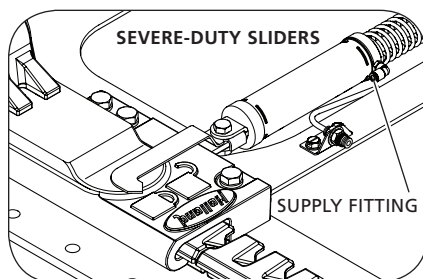


Figure 41



Traditional Sliders (*Discontinued*):

1. With the piston shaft in the exposed position, clean with penetrating oil and a clean shop towel (**Figure 42**).

IMPORTANT: DO NOT use any abrasives on the exposed shaft as they could damage the piston shaft.

2. Remove the supply air line and add two to four (2-4) drops of air tool oil to the cylinder through the supply fitting. Re-install the supply air line (**Figure 43**).
3. Activate and de-activate the air cylinder two to three (2-3) times to work the air tool oil into the cylinder and onto the piston and verify proper operation.

13. Fifth Wheel Adjustment

Fifth wheel adjustments should be performed at a minimum of every 60,000 miles or if excessive movement between the kingpin and fifth wheel is noticed while driving the vehicle.

IMPORTANT: Excessive movement between the tractor and trailer can affect vehicle handling.

⚠ WARNING DO NOT use any fifth wheel which DOES NOT operate properly. Failure to use a properly functioning fifth wheel could result in tractor-trailer separation which, if not avoided, could result in death or serious injury.

⚠ WARNING Improper adjustment can cause improper locking of the mechanism. 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.

Figure 42

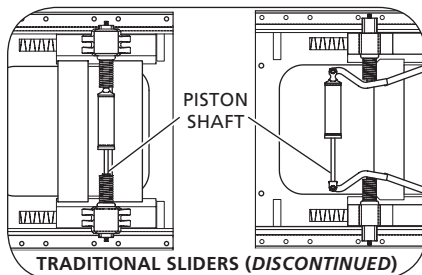
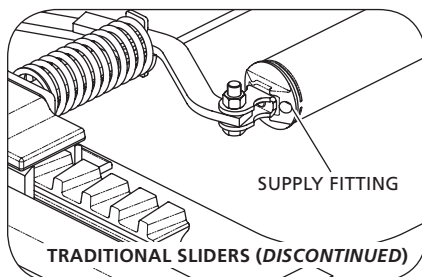


Figure 43



IMPORTANT: If the locks cannot be properly adjusted due to wear, the fifth wheel MUST be rebuilt or replaced. Contact a local HOLLAND distributor to order the appropriate rebuild kit for the fifth wheel.

FW70 Series, FW0070, FW2555, FW2570, FW0100 and FW0165:

1. Check the operation of the fifth wheel locking mechanism using a HOLLAND TF-TLN-5001 (2" kingpin) or TF-TLN-1500 (3-1/2" kingpin) Lock Tester. To operate a TF-TLN-5001 lock tester, refer to Document No. XL-FW10082ST-en-US, available on the internet at www.safholland.us, which contains specific lock tester instructions. To operate a TF-TLN-1500 lock tester, follow the steps below.

NOTE: HOLLAND lock testers are available from a local HOLLAND distributor.

2. Pull the secondary lock release handle out and hook the notch of the handle to the fifth wheel casting. Then pull the release handle out and hook the notch of the handle to the fifth wheel casting (**Figure 44**).
 - 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 45**).
 - 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 45**).

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 the secondary lock release handle out and hook the notch of the handle to the fifth wheel casting. Then pull the release handle out and hook the notch of the handle to the fifth wheel casting.
- d. Repeat Steps "b" and "c" two (2) additional times. This will ensure that components are properly seated into position.

Figure 44

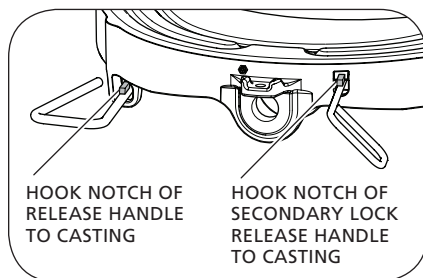
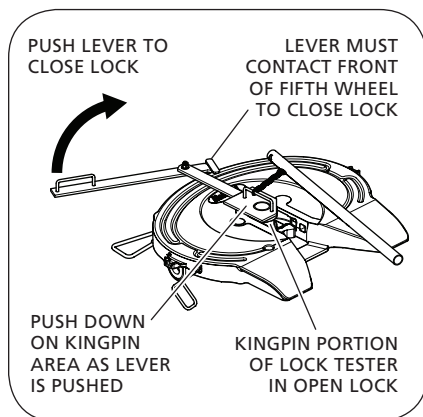


Figure 45



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 1/2" (13 mm) allen wrench or socket wrench with a 1/2" (13 mm) allen bit (**Figures 46 and 47**).
4. Loosen the adjustment screw 1-1/2 turns to remove residual tension. The locking mechanism is now properly adjusted.
5. Check the operation of the fifth wheel by locking and unlocking several times using the lock tester.

IMPORTANT: Before using the fifth wheel, visually inspect all components of the fifth wheel for proper operation while coupling and uncoupling the fifth wheel with the lock tester.

⚠ WARNING Failure to repair an improperly operating fifth wheel could result in tractor-trailer separation which, if not avoided, could result in death or serious injury.

FW1560 (Manual Release) and FW1900:

1. Back off the adjustment nut five to six (5-6) turns (**Figure 48**).
2. If the fifth wheel is locked, pull the release handle to unlock the fifth wheel.
3. Use a HOLLAND TF-TLN-5001 (2" kingpin) Lock Tester to couple and uncouple the fifth wheel two to three (2-3) times to help "seat" the yoke. (Refer to Document No. XL-FW10082ST-en-US, available on the internet at www.safholland.us, which contains specific lock tester instructions).
4. With the locks closed around the lock tester, position the adjustment nut on the yoke shaft so that it is slightly compressing the rubber washer, making it difficult to turn by hand (**Figure 49**).

Figure 46

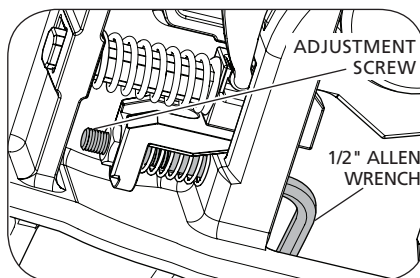


Figure 47

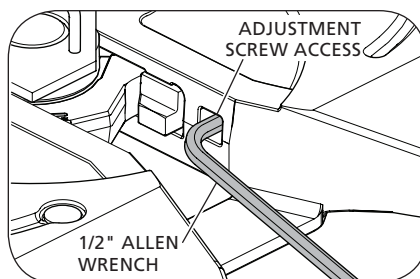


Figure 48

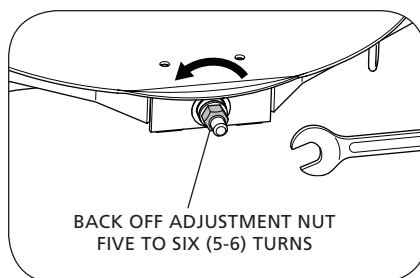
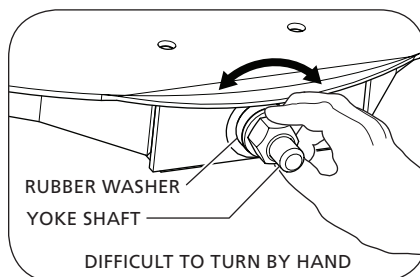


Figure 49



5. Turn the adjustment nut one (1) additional turn clockwise to further compress the rubber washer (**Figure 50**).

IMPORTANT: Over-compressing the rubber washer with additional turns will take the fifth wheel out of proper adjustment and degrade the performance of the fifth wheel.

6. Repeat the coupling and uncoupling process with the lock tester at least twice to help "seat" the yoke.
7. Confirm that the rubber washer cannot be turned by hand. If it can, repeat the adjustment procedures.
8. Remove the lock tester from the fifth wheel.

IMPORTANT: Before using the fifth wheel, visually inspect all components of the fifth wheel for proper operation while coupling and uncoupling the fifth wheel with the lock tester.

⚠ WARNING

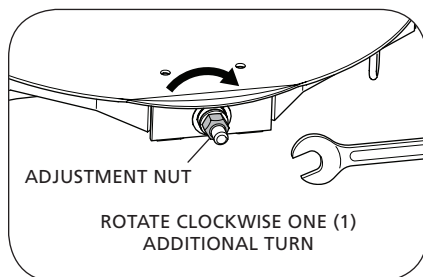
Failure to repair an improperly operating fifth wheel could result in tractor-trailer separation which, if not avoided, could result in death or serious injury.

FW1560 (Air Release) and FW2870:

These fifth wheels are not adjustable. However, perform the following steps to determine whether or not the fifth wheel needs to be rebuilt or replaced:

1. If the fifth wheel is locked, activate the air cylinder to unlock the fifth wheel.

Figure 50



2. Use a HOLLAND TF-TLN-5001 (2" kingpin) Lock Tester to couple and uncouple the fifth wheel two to three (2-3) times to help "seat" the yoke. (Refer to Document No. XL-FW10082ST-en-US, available on the internet at www.safholland.us, which contains specific lock tester instructions).
3. While the locks are closed, move the lock tester fore and aft. If play exceeds 3/8" (9.5 mm), rebuild or replace the top plate. Contact a local HOLLAND distributor to order the appropriate rebuild kit for the fifth wheel.

IMPORTANT: Before using the fifth wheel, visually inspect all components of the fifth wheel for proper operation while coupling and uncoupling the fifth wheel with the lock tester.

⚠ WARNING

Failure to repair an improperly operating fifth wheel could result in tractor-trailer separation which, if not avoided, could result in death or serious injury.

FW1226, FW2000 and FW2500:

1. To check the operation of the fifth wheel locking mechanism, use a HOLLAND TF-TLN-5001 (2" kingpin) Lock Tester. Refer to Document No. XL-FW10082ST-en-US, available on the internet at www.safholland.us, which contains specific lock tester instructions.
2. Close the locks using the lock tester. When operating properly, the plunger will slide freely behind the hinged lock.
3. With the fifth wheel locked around the kingpin, tighten the adjustment screw in the throat of the top plate until it is tight, with a 1/2" (13 mm) allen wrench or socket wrench with a 1/2" (13 mm) allen bit.
4. Loosen the adjustment screw 1-1/2 turns to remove residual tension. The locking mechanism is now properly adjusted.
5. Check the operation of the fifth wheel by locking and unlocking several times using the lock tester.

IMPORTANT: Before using the fifth wheel, visually inspect all components of the fifth wheel for proper operation while coupling and uncoupling the fifth wheel with the lock tester.

⚠ WARNING Failure to repair an improperly operating fifth wheel could result in tractor-trailer separation which, if not avoided, could result in death or serious injury.

14. Slide Base Adjustment (Traditional Sliders Only- Discontinued)

NOTE: Severe-Duty slider locking plungers DO NOT require adjustment.

Some HOLLAND slide bases are equipped with adjustable locking plungers. Adjustment should be performed at a minimum of every 60,000 miles or if excessive movement is noticed while driving the vehicle. To obtain proper adjustment, follow these procedures:

1. Loosen the lock nut and turn the adjustment bolt counterclockwise (**Figure 51**).
2. Disengage and engage the locking plungers. Verify that the locking plungers have engaged properly (**Figures 52 and 53**).
3. Tighten the adjustment bolt until it contacts the rack.
4. Turn the adjustment bolt clockwise an additional 1/2 turn, then tighten the lock nut securely.

If the locking plungers DO NOT release fully to allow the fifth wheel to slide:

- Check the air cylinder for proper operation. Replace if necessary.
- Check the locking plunger adjustment as explained above.
- If a locking plunger is binding in the plunger pocket, remove the locking plunger using a HOLLAND TF-TLN-2500 spring compressor. Grind the top edges of the locking plunger 1/16" (1.5 mm) (**Figure 54**). Re-install and adjust the locking plungers as explained above.

NOTE: If problems persists, contact SAF-HOLLAND Customer Service: 888-396-6501.

Figure 51

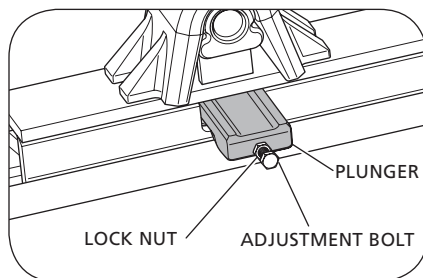


Figure 52

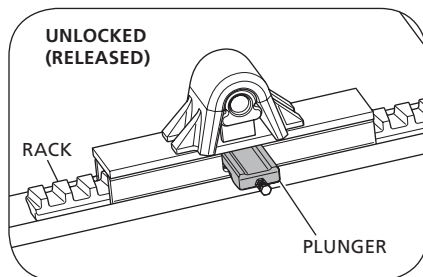


Figure 53

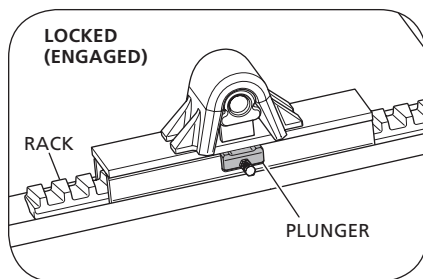
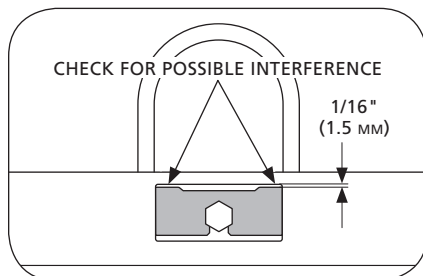


Figure 54



15. Top Plate Installation

1. 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.

- **FW70 Series, FW0070, FW2555 and FW2570:** Install the bracket pins through the fifth wheel casting and mounting base and secure by installing the bracket pin retention bolts and nuts (**Figure 55**). Torque the retention fasteners to 50-60 ft.-lbs. (68-81 N•m).
- **FW1226:** Install all mounting hardware to anchor the fifth wheel to the tractor.
- **FW1560:** Install the pivot shaft. Then install the collars, bolts, and nuts on each end of the pivot shaft to reattach the fifth wheel to the mounting base.
- **FW1900:** Install the mounting bracket bolts, washers, slotted hex nuts, and cotter pins to each side of the top plate to reattach the fifth wheel to the mounting base (**Figure 56**). Ensure that the cotter pin legs are bent around the edges of the slotted hex nuts for a secure hold.
- **FW2000 and FW2500:** Install the bracket pins through the fifth wheel top plate and mounting base and secure with the coiled spring pins.
- **FW2870:** Install the pivot shafts on each side to anchor the fifth wheel to the mounting base. Secure with the bolts and nuts (**Figure 57**).

Figure 55

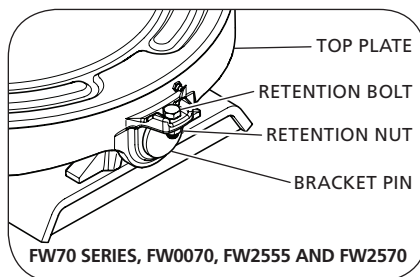


Figure 56

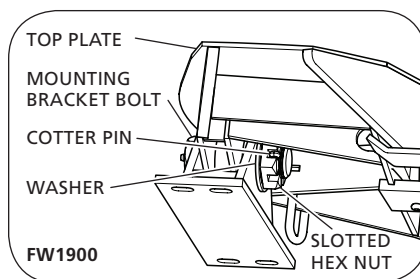
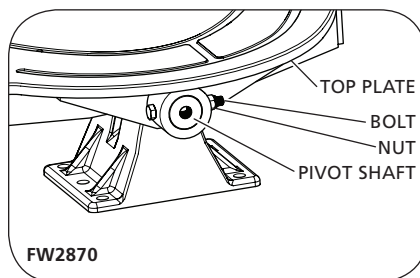


Figure 57



16. Troubleshooting

Difficult to Couple to Trailer:

✓	Possible Cause	Solution
	Attempting to couple too fast.	Couple in accordance with the procedures in Section 6.
	The trailer may be too high; the kingpin is not entering the locks properly.	Lower the trailer in accordance with the manufacturer's instructions.
	The locks are closed.	FW1560, FW1900 and FW2870: If equipped with a manual secondary lock, pull the secondary release handle and hook on the top plate. Pull the release handle all the way out. If equipped with air release, set the tractor brakes and actuate the fifth wheel control valve/switch to open the locks. The locks may be open even if they still appear closed. Check to make sure the nut and washer at the front of the fifth wheel are not snug against the fifth wheel and that the release handle is in the extended "OPEN" position. If both of these conditions exist, you will still be able to couple the fifth wheel. Movement of the kingpin into the fifth wheel lock jaws will allow them to open and successfully couple. FW70 Series, FW0070, FW2555, FW2570, FW0100, FW0165, FW1226, FW2000 and FW2500: Unlock the fifth wheel using the procedures in Section 5.
	Accumulated rust or grime are interfering with the lock operation.	Thoroughly clean the fifth wheel and re-lubricate in accordance with the procedures in Section 11.
	The locks are adjusted too tightly.	Check lock adjustments in accordance with the procedures in Section 13.
	The locks may be damaged.	The fifth wheel MUST be rebuilt using the appropriate service kit.
	The release handle may be damaged or bent.	Replace the release handle using the appropriate service kit.
	The air cylinder tube and/or shaft (on air release-equipped fifth wheels) may be dented, bent, or otherwise damaged.	Replace the air cylinder using the appropriate service kit.
	The air release system on the tractor is not functioning properly.	Disconnect the air line at the air cylinder and operate the fifth wheel manually. If the fifth wheel functions properly, contact the truck dealer/ service for instructions on troubleshooting the air release control system.
	FW1560, FW1900 and FW2870: The yoke shaft may be damaged or bent from improper coupling.	The fifth wheel MUST be rebuilt using the appropriate service kit.
	Bent kingpin, damaged upper coupler, or improper use of lube plates may be interfering with lock movement.	Check the kingpin and upper coupler plate as detailed in HOLLAND Service Bulletin XL-SB020. Repair/replace as required. Remove any improperly installed or improperly specified lube plates. Refer to HOLLAND Service Bulletin XL-SB004-01 for lube plate warnings.

Hard Steering or Binding:

✓	Possible Cause	Solution
	Lack of lubrication on the fifth wheel top surface.	Lubricate the top of the fifth wheel plate using a high pressure, lithium-based grease. Follow the recommended lubrication schedule as described in Section 11.
	Warped trailer upper coupler plate.	Check the upper coupler plate for flatness and replace, if necessary. Refer to HOLLAND Service Bulletin XL-SB020.

Difficult to Uncouple from Trailer:

✓	Possible Cause	Solution
	The tractor may be putting pressure against the locks.	Lock the trailer brakes and back the tractor tightly against the kingpin to relieve pressure on the fifth wheel lock. Set the brakes, then pull the release handle or activate air release.
	The tractor is too low.	Raise the tractor suspension to the proper ride height.
	The secondary lock is not released.	If equipped with a manual secondary lock : pull the secondary release handle and hook on the top plate. If equipped with an automatic secondary lock : inspect for missing or broken parts and repair/replace as required using the appropriate service kit.
	Accumulated rust or grime are interfering with the lock operation.	Thoroughly clean the fifth wheel and re-lubricate in accordance with the procedures in Section 11.
	The locks are adjusted too tightly.	Check lock adjustments in accordance with the procedures in Section 13.
	FW1560, FW1900 and FW2870: The release handle will not stay out or must be held out when unlocking.	Replace the cam and release handle spring using the appropriate service kits.
	Missing or damaged release system parts.	The fifth wheel MUST be rebuilt using the appropriate service kit.
	The air cylinder tube and/or shaft (on air release-equipped fifth wheels) may be dented, bent, or otherwise damaged.	Replace the air cylinder using the appropriate service kit.
	The air release system on the tractor is not functioning properly.	Disconnect the air line at the air cylinder and operate the fifth wheel manually. If the fifth wheel functions properly, contact the truck dealer/service for instructions on troubleshooting the air release control system.
	The top plate casting is bent/damaged at the throat area, restricting movement.	The entire fifth wheel top plate MUST be replaced.
	Bent kingpin, damaged upper coupler, or improper use of lube plates may be interfering with lock movement.	Check the kingpin and upper coupler plate as detailed in HOLLAND Service Bulletin XL-SB020. Repair/replace as required. Remove any improperly installed or improperly specified lube plates. Refer to HOLLAND Service Bulletin XL-SB004-01 for lube plate warnings.

Excessive Movement between Fifth Wheel and Kingpin:

✓	Possible Cause	Solution
	The fifth wheel lock requires adjustment	Follow the procedures contained in Section 13.
	The fifth wheel cannot be adjusted further.	The fifth wheel MUST be rebuilt using the appropriate service kit.
	The kingpin is loose	Repair the trailer.
	The kingpin is worn.	Check the kingpin for acceptable wear with HOLLAND Kingpin Gauge TF-0110. Replace the kingpin if necessary.

Lock Pins Raising:

✓	Possible Cause	Solution
	The kingpin is too short or the lube plates are improperly installed.	Check the kingpin and upper coupler plate as detailed in HOLLAND Service Bulletin XL-SB020. Repair/replace as required. Remove any improperly installed or improperly specified lube plates. Refer to HOLLAND Service Bulletin XL-SB004-01 for lube plate warnings. Check to see if there is evidence on the bottom of the locks, of the kingpin making contact and "lifting" the locks.
	The locks are too tight around the kingpin	Check lock adjustment in accordance with the procedures in Section 13.
	The kingpin is worn.	Check the kingpin for acceptable wear with HOLLAND Kingpin Gauge TF-0110. Replace the kingpin if necessary.
	The kingpin/locks are not lubricated enough.	Re-lubricate in accordance with the procedures in Section 11.
	The lock pins are not lubricated enough.	Lubricate the lock pins with Never-Seez®.
	If issues persist:	Order grease-able lock pin repair kit with retaining rings and shims, RK-07292-82.

17. Rebuild/Replacement Kits and Parts

FW70 SERIES, FW0070, FW2555 AND FW2570 TOP PLATES:	
REBUILD/REPLACEMENT KITS AND PARTS	PART NUMBER
Complete Rebuild Kit, XA-71-DA (2.0" Kingpin)	RK-65014
Complete Rebuild Kit, FW2570 (XA-71-DA-03705/-25000) - (2.0" Kingpin), longer closed-loop release handle	RK-65014-1
Complete Rebuild Kit, XA-71-OA (3.5" Kingpin)	RK-65015
Complete Rebuild Kit, FW2570 (XA-71-OA-03713/-35000) - (3.5" Kingpin), longer closed-loop release handle	RK-65015-1
Lock Kit, XA-71-DA and XA-71-DA-03705/-25000 (2.0" Kingpin)	RK-65024
Lock Kit, XA-71-OA and XA-71-OA-03713/-35000 (3.5" Kingpin)	RK-65024-1
Heavy-Duty Secondary Lock Kit	RK-65025
Release Handle Only (XA-71-DA and XA-71-OA)	XA-1117-H
Release Handle Only (XA-71-DA-03705/-25000 and XA-71-OA-03713/-35000)	XA-03715

FW0100 (XA-101-SERIES) AND FW0165 (XA-0116-SERIES) TOP PLATES:	
REBUILD/REPLACEMENT KITS AND PARTS	PART NUMBER
Complete Rebuild Kit, FW0100 (XA-101-DA) and FW0165 (XA-0116-1) - (2.0" Kingpin)	RK-65012-1
Complete Rebuild Kit, FW0100 (XA-101-OA) and FW0165 (XA-0116) - (3.5" Kingpin)	RK-65013-1
Lock Kit, XA-71-DA (2.0" Kingpin)	RK-65024
Lock Kit, XA-71-OA (3.5" Kingpin)	RK-65024-1
Heavy-Duty Secondary Lock Kit	RK-65025
Release Handle Only	XA-1117-13

FW1226 TOP PLATES:

REBUILD/REPLACEMENT KITS AND PARTS	PART NUMBER
Complete Rebuild Kit, FW1226-UP and FW1226-0086	RK-62005
Complete Rebuild Kit, FW1226-0087 and FW1226-0088	RK-62005-1
Complete Rebuild Kit, FW1226	RK-62008
Complete Rebuild Kit, FW1226-0087-LH	RK-1226-0087-LH
Lock Guard Kit (Includes Weld-On Bracket)	RK-05327
Lock Guard Kit	RK-05328
Lock Kit	RK-62004

FW1560 (XA-1501-SERIES) TOP PLATES:

REBUILD/REPLACEMENT KITS AND PARTS	PART NUMBER
Complete Rebuild Kit, XA-1501-BA1 (Manual Release)	RK-65000
Complete Rebuild Kit, XA-1501-CA1 (Air Release, Aluminum Air Cylinder)	RK-65005
Complete Rebuild Kit, XA-1501-CA1 (Air Release, Stainless Steel Air Cylinder)	RK-65005-2
Manual Secondary Lock Kit	RK-09615
Release Handle Kit (Manual Release), XA-1501-BA1	RK-1707-1
Release Handle Kit (Manual Release), XA-1501-CA1	RK-1707-5
Lock Kit	RK-63504

FW1900 (XA-1901-SERIES) TOP PLATES:

REBUILD/REPLACEMENT KITS AND PARTS	PART NUMBER
Complete Rebuild Kit, FW1900 and FW1900-20	RK-63507
Release Handle Kit	RK-1707-2
Brackets and Hardware Kit	RK-11922
Bracket Hardware Kit	RK-11923
Complete Top Plate Assembly, Right-Hand Release (FW1900 and FW1900-20)	XA-1901-A
Complete Top Plate Assembly, Left-Hand Release (FW1900-LH)	XL-1901-A-LH



SAF-HOLLAND Group

Rebuild/Replacement Kits

FW2000 and FW2500 (XA-2009-SERIES) TOP PLATES:

REBUILD/REPLACEMENT KITS AND PARTS	PART NUMBER
Complete Rebuild Kit, Left-Hand	RK-62001
Complete Rebuild Kit, Right-Hand	RK-62000
Complete Rebuild Kit, Left-Hand, Manual Secondary Lock	RK-62013
Lock Guard Kit	RK-05328
Lock Kit	RK-62004
Handle Kit, Left-Hand	RK-1117-1-L
Handle Kit, Right-Hand	RK-1117-1
Bushings and Pins Kit	RK-04413

FW2870 (XA-2801-SERIES) TOP PLATES:

REBUILD/REPLACEMENT KITS AND PARTS	PART NUMBER
Complete Rebuild Kit, FW2870-03184 (XA-2801-03185-1) and FW2870-03184-2 (XA-2801-03185-2)	RK-03185-1
Complete Rebuild Kit, FW2870-03184-3 (XA-2801-03185-3) and FW2870-03184-4 (XA-2801-03185-4), Stainless Steel Air Cylinder	RK-03185-4
Complete Rebuild Kit, FW2870-03184-3 (XA-2801-03185-3) and FW2870-03184-4 (XA-2801-03185-4), Aluminum Air Cylinder	RK-11697
Complete Rebuild Kit, FW2870-S11155 and FW2870-S11815 (XA-2801-03185-5)	RK-2801-03185-5
Complete Rebuild Kit, FW2870-S11156 (XA-2801-S11156), Stainless Steel Air Cylinder	RK-03185-S11399
Complete Rebuild Kit, FW2870-S11156 (XA-2801 S11156), Aluminum Air Cylinder	RK-S11399

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 or contact Customer Service at 888-396-6501.



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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