



SAF-HOLLAND Group

## Owner's Manual

# Yard Spotter Series Fifth Wheels XA-351-TT and XA-351-UBT

Operation, Maintenance and  
Troubleshooting Procedures



XL-FW20135UM-en-US



Contents	Page
Introduction .....	2
Notes, Cautions, and Warnings .....	2
Section 1 – Model Identification.....	3
Section 2 – General Safety Instructions .....	4
Section 3 – Fifth Wheel Intended Use .....	5
Section 4 – Fifth Wheel Non-Intended Use...	5
Section 5 – Coupling Preparation .....	5
Section 6 – Coupling Procedures .....	6
Section 7 – Uncoupling Procedures .....	8

Contents	Page
Section 8 – Fifth Wheel Maintenance .....	9
Section 9 – Top Plate Removal.....	9
Section 10 – Fifth Wheel Lubrication .....	10
Section 11 – Pocket Insert Inspection .....	13
Section 12 – Top Plate Installation.....	13
Section 13 – Lock Down Mode Setup .....	14
Section 14 – Troubleshooting .....	16
Section 15 – Rebuild and Replacement Kits..	17

## Introduction

This manual provides the information necessary for the proper operation and maintenance of HOLLAND® FW35TT series fifth wheels.

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

## Notes, Cautions, and Warnings

You must read and understand all of the procedures presented in this manual before operating or starting work on any Holland FW35TT Series fifth wheel.

**IMPORTANT:** Keep this manual in a safe location for future reference.

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

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

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

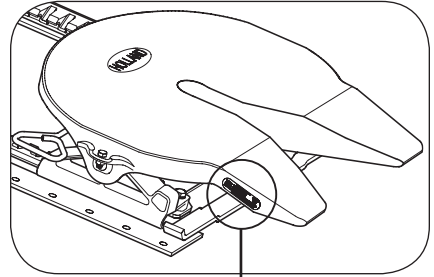
**WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

## 1. Model Identification

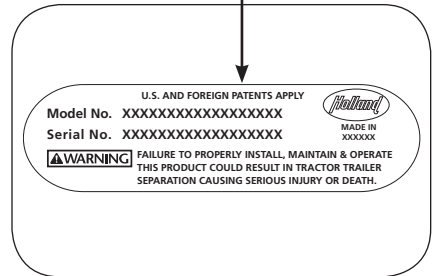
Fifth wheel serial tags are located on the left side of the fifth wheel top plate above the fifth wheel bracket pin, or on the pickup ramps (**Figure 1**).

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

**Figure 1**



**Figure 2**



## 2. General Safety Instructions

Read and observe all Warning and Caution hazard alert messages in this manual. They provide information that can help prevent serious personal injury, damage to components, or both.

All fifth wheel installation and maintenance must be performed by a properly trained technician using proper tools and safe procedures.

**IMPORTANT:** Prior to operation of the fifth wheel, you must be thoroughly satisfied that the fifth wheel has been appropriately 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.

**⚠ 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.

These instructions apply to the proper operation of your fifth wheel only. There are other important checks, inspections, and procedures listed in the Owner's Manuals for your tractor and trailer that are necessary, prudent, and/or required by law.

Only SAF-HOLLAND Original Parts should be used.

A list of SAF-HOLLAND technical support locations that supply SAF-HOLLAND Original Parts can be found on the Internet at [www.safholland.us](http://www.safholland.us) or contact our Customer Service at 888-396-6501.

Updates to this manual will be published as necessary on the Internet at [www.safholland.us](http://www.safholland.us).

### 3. Fifth Wheel Intended Use

1. Pulling trailers with standard SAE kingpins which are in good condition and securely mounted or locked in position in the trailer.
2. Transporting loads that are within the maximum fifth wheel rated capacities: 80,000 lbs. Maximum Vertical Load
3. In both in-yard and on-road applications.
4. As recommended in SAF-HOLLAND literature available on the Internet at [www.safholland.us](http://www.safholland.us).

### 4. Fifth Wheel Non-Intended Use

1. Operating with a non-SAE compliant kingpin, such as kingpins which are bent, improper size or dimensions, not secured to maintain SAE configuration, or which are installed in warped trailer bolster plates, or upper coupler and fifth wheel lube plates that do not maintain the SAE kingpin dimensions. Refer to SAF-HOLLAND Service Bulletin XL-SB004-01 (available on the Internet at [www.safholland.us](http://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. Applications other than those recommended in SAF-HOLLAND literature available on the Internet at [www.safholland.us](http://www.safholland.us).

### 5. Coupling Preparation

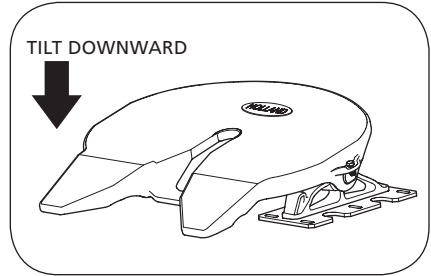
1. Prior to coupling, you MUST inspect the fifth wheel and mounting. Perform and verify the following:
  - Tighten loose fasteners.
  - Replace missing fasteners.
  - Repair/replace missing, cracked or otherwise damaged components.
  - Clean grease grooves if a large amount of debris is present.
  - Lubricate fifth wheel-to-trailer contact surfaces, if needed.
  - Inspect fifth wheel mechanism. Lubricate dry or rusty components.
  - Inspect air line connections.
2. Make sure coupling area is flat, level, and clear of persons and obstacles.

3. Tilt ramps of fifth wheel downward (**Figure 3**).
5. Visually inspect fifth wheel throat to ensure locks are completely open and ready to accept kingpin.

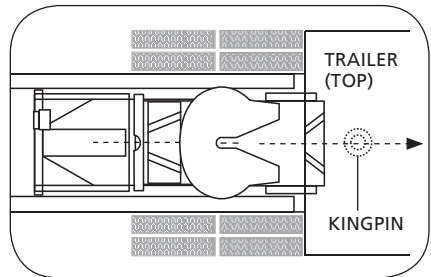
## 6. Coupling Procedures

1. Back up closer to the trailer, centering the kingpin on the throat of the fifth wheel. STOP. Set tractor brakes (**Figure 4**).
2. Block the trailer wheels, connect brake lines and set trailer brakes.
3. Check to see that the trailer is at the proper height for coupling. (The front of the bolster plate should contact the fifth wheel approximately 4" to 6" behind the fifth wheel's pivot point. If not, raise or lower the fifth wheel and, if necessary, the trailer landing gear, to obtain this position.)
4. Back under the trailer and engage the fifth wheel locks with the trailer kingpin.

**Figure 3**



**Figure 4**



5. Perform a pull test as an INITIAL CHECK by locking the trailer brakes and pulling forward with the tractor to make sure that tractor-trailer separation does not occur (**Figure 5**).
6. Set the tractor parking brake.
7. Exit the cab and visually inspect for the following to ensure that the lock is closed (**Figure 6**).
  - a. No gap is permissible between the trailer upper coupler plate and the fifth wheel.
  - b. Fifth wheel locks MUST be closed around the trailer kingpin with 1/4" (6.35 mm) or less gap visible between the lock jaws.
8. If you DO NOT achieve a proper couple, repeat the coupling procedure.

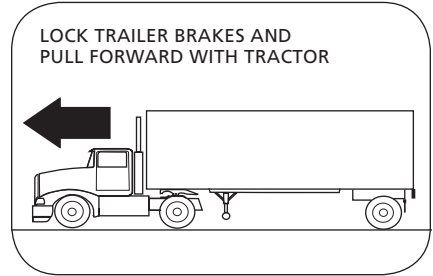
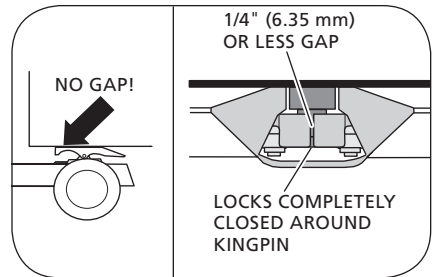
**⚠ WARNING**

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.

**Figure 5**

**Figure 6**


9. Remove blocks. Release trailer brakes. Raise trailer to desired height and move trailer.

**⚠WARNING** Elevating fifth wheels in the elevated position are less stable than standard fifth wheels. To avoid roll overs, do not travel at excessive speeds, and do not make sudden turns or maneuvers.

**⚠CAUTION** This unit is not recommended for operation on public streets and highways. When such trailer moves are necessary the fifth wheel must be in the down position. Limit speed to 45 mph maximum.

## 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. Lower fifth wheel until the trailer landing gear touch the ground.
3. Slowly back the tractor tightly against the trailer to relieve pressure on the fifth wheel locks.
4. Set the tractor parking brake.
5. Chock the trailer wheels.
7. Disconnect the air and electrical lines from the trailer and secure to tractor.
8. Actuate the fifth wheel control valve and hold it in to open the locks.
9. While holding the lock control valve in, slowly pull out from the trailer.
10. After driving completely free of the kingpin, release the lock control valve.



## 8. Fifth Wheel Maintenance

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

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

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

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

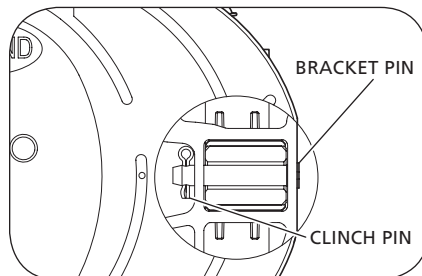
## 9. Top Plate Removal

**IMPORTANT:** Fifth wheel assembly has replaceable pocket inserts installed between the fifth wheel top plate and mounting base. When removing top plate, be careful not to lose pocket inserts.

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

1. Remove the clinch pin from the bracket pin on both sides of fifth wheel top plate (**Figure 7**).

**Figure 7**



2. Using a pry bar, pull bracket retention pins out of fifth wheel top plate (**Figure 7**).
3. Disconnect air lines from the air release cylinder. If fifth wheel is equipped with auto-lube, disconnect grease lines
4. Using a lifting device capable of lifting 500 lbs. (227 kg), remove the top plate from the mounting base. Place fifth wheel on a flat, clean working area.

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

## 10. Fifth Wheel Lubrication

**IMPORTANT:** Fifth wheel lubrication is necessary to get the maximum service life from your FW35TT series fifth wheel. Perform the following procedures at the intervals listed.

### Weekly:

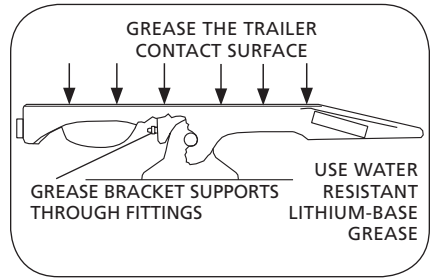
1. Make sure the fifth wheel top plate is lubricated (**Figure 8**).
2. Check operation of the fifth wheel locking mechanism.

### Monthly:

1. Thoroughly clean and lubricate the lock mechanism.
2. Inspect the fifth wheel top plate for bent, worn, broken or cracked components.

Replace as required using only genuine HOLLAND parts.

**Figure 8**

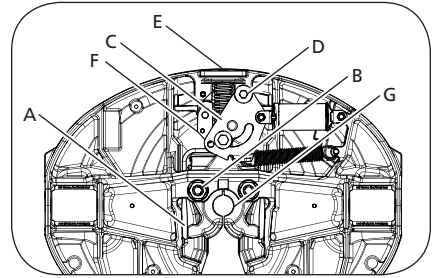


3. Check the fifth wheel locking mechanism for proper operation using a HOLLAND TF-TLN-5001 Lock Tester. When checking, move the lock tester fore and aft when closed in the locks. If play exceeds 3/8", rebuild or replace the top plate. See your HOLLAND Distributor for parts and ordering information.

**WARNING** Using a fifth wheel that does not lock properly can result in trailer separation, causing death or serious injury.

**IMPORTANT:** If your fifth wheel operates in snowy or icy winter conditions, lubrication should be performed every spring in addition to routine lubrication (as noted above) to ensure optimum operation.

**Figure 9**



### 10.A Proper Lubrication Method

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 8**).
2. Using water-resistant lithium-based grease, lubricate (A) yoke tips where contact is made with the locks and casting, (C) cam profile, (E) yoke shaft in area that slides in and out of the fifth wheel casting, (F) secondary lock where contact is made with the cam plate, and (G) where contact is made with the kingpin (**Figure 9**).
3. Using a light oil, lubricate (D) cam pivot point (**Figure 9**).
4. Only if necessary, lubricate (B) lock pin with Never-Seez® (**Figure 9**).

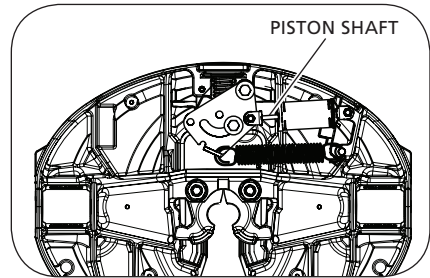
Follow Steps 5-9 for lubrication of the air cylinder.

5. Activate air cylinder control to extend piston and shaft to its full travel (**Figure 10**).
6. Clean 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 both supply air lines and add 2 - 4 drops of air tool oil to cylinder through the supply fittings. Re-install supply air lines (**Figure 11**).
9. Activate and de-activate air cylinder 2 - 3 times to work air tool oil into cylinder and onto piston and verify proper operation.

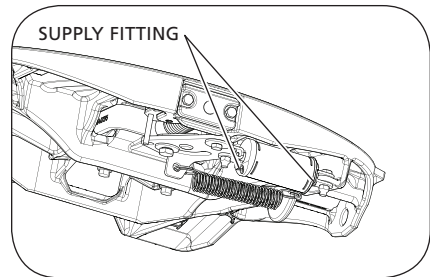
## 10.B As-Needed Lubrication

- Maintain lubrication on fifth wheel-to-trailer contact surfaces. Use a water-resistant lithium-based grease. Clean grease grooves if a large amount of debris is present (**Figure 8**).
- Clean and lubricate locking mechanism if operational difficulties arise during the service life of your fifth wheel (i.e. problems with coupling, or uncoupling (**Figure 9**)).

**Figure 10**



**Figure 11**

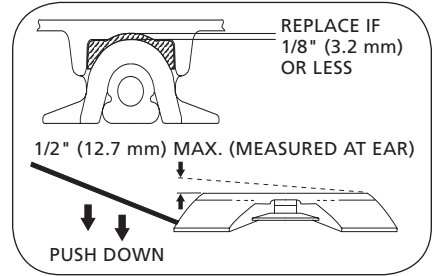


## 11. Pocket Insert Inspection

Replace pocket inserts if:

- The pocket insert thickness is 1/8" (3.2 mm) or less.
- The free vertical movement of top plate on the bracket is 1/2" (12.7 mm) or greater, without compressing rubber bushings (**Figure 12**).
- The pocket inserts are severely chipped, cracked or gouged.

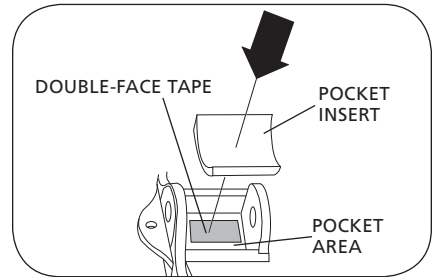
**Figure 12**



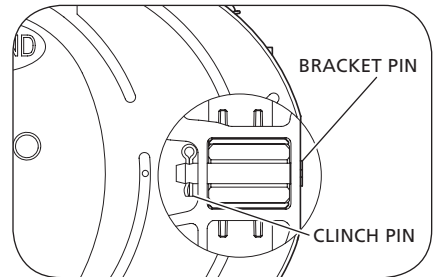
## 12. Top Plate Installation

1. If pocket inserts are dislodged from fifth wheel casting, clean pocket area of casting and apply a strip of double-face tape in bottom of pockets. Install pocket inserts by pressing down into pockets (**Figure 13**).
2. Using a lifting device capable of lifting 500 lbs. (227 kg), install the fifth wheel top plate onto its mounting base.
3. Install bracket pins through fifth wheel casting and mounting base and secure by installing the clinch pin into the bracket pins (**Figure 14**).
4. Re-connect the air lines to the air release cylinder and grease lines to the auto-lube connections.

**Figure 13**



**Figure 14**



**IMPORTANT:** The air cylinder on the XA-351-TT yard spotter fifth wheel is equipped with lock-down mode. The air line on the cam plate side of the cylinder must be connected to the trailer parking brake supply line for lock-down mode to function properly. If your tractor was not originally set up for this connection to the trailer parking brake supply line, Refer to Section 13 for proper setup instructions.

## 13. Lock-Down Mode Air Cylinder Setup

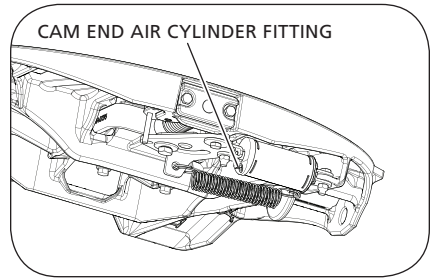
Lock-Down Mode on the FW35TT series yard spotter fifth wheels uses air supply from the trailer parking brake in combination with a specialized air cylinder to prevent the lock mechanism from opening when the trailer parking brakes are disengaged.

1. If your tractor is set up with a connection to the trailer parking brake air supply, connect the cam end of the air cylinder to this connection to set up your fifth wheel for lock-down mode (**Figure 15**). If your tractor is not set up with this connection, proceed to step 2.
2. Cut the trailer parking brake supply line near the cab and insert a DOT approved Tee union fitting (**Figure 16**).

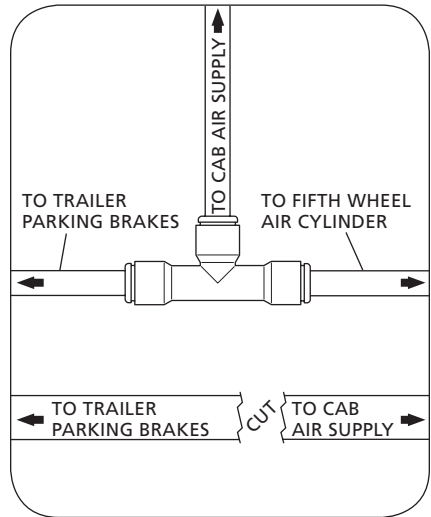
**NOTE:** A full air line routing diagram can be seen in **Figure 17** on the following page.

3. Run a 1/4" air line from the 3rd leg of the fitting to the air fitting on the cam end of the air cylinder (**Figure 16**). Make sure all lines are secure.
4. To check for proper function, close the fifth wheel locks with HOLLAND TF-TLN-5001 lock tester and release the trailer parking brakes. Activate the air cylinder control valve and the fifth wheel should remain closed. If the fifth wheel mechanism opens, repeat steps 2-4.
5. Set the trailer parking brakes and activate the air cylinder control valve. The fifth wheel should now open and is set up for lock-down mode.
6. If lock-down mode is not desired, run an air line from the cam end of the air cylinder and anchor it in a safe place on the tractor away from debris of the fifth wheel. This line will act as a breather port and the fifth wheel will not be equipped with lock down mode.

**Figure 15**

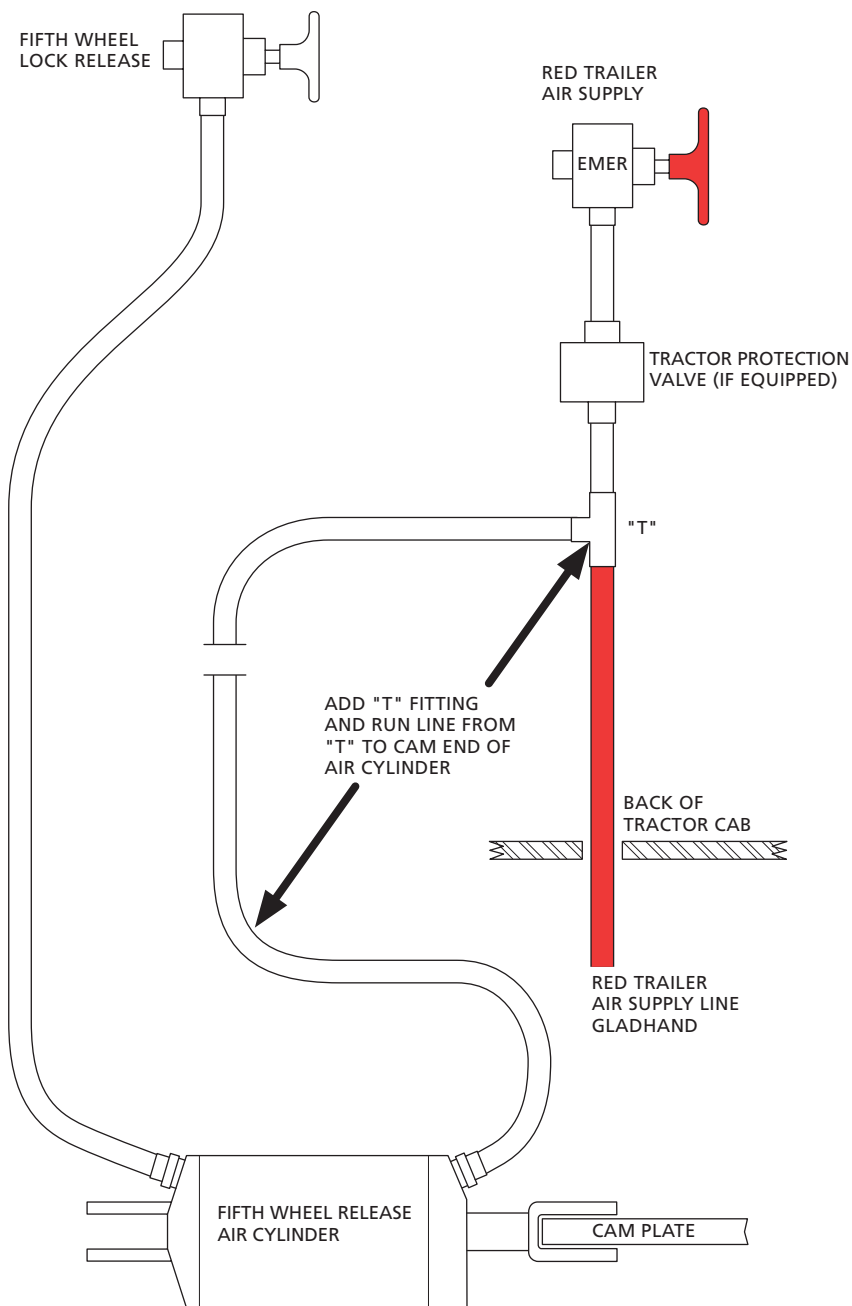


**Figure 16**



**⚠ WARNING**

Lock down mode must be activated for tractors that drive on public roads failure to do so could result in tractor trailer separation resulting in death or serious injury.



## 14. Troubleshooting

### Difficult to Couple to Trailer:

✓	POSSIBLE CAUSE	REMEDY
	Attempting to couple too fast.	Couple in accordance with the procedure in Section 6.
	The trailer may be too high; the kingpin is not entering the locks properly.	Adjust fifth wheel height to match the height of the trailer.
	Locks are closed.	Locks may be open even if they still appear closed. Check to make sure the air cylinder is extended and the yoke shaft is flush with the front of the fifth wheel casting. If both of these conditions exist, you will still be able to couple the fifth wheel. Movement of kingpin into fifth wheel jaws will allow them to open and successfully couple.
	Accumulated rust or grime interfering with the lock operation.	Thoroughly clean the fifth wheel and re-lubricate in accordance with the procedure in Section 10.
	The locks may be damaged.	The fifth wheel <b>MUST</b> be rebuilt using the appropriate service kit.
	Bent kingpin, damaged upper coupler, or improper use of "lube plate" 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.

### Difficult to Uncouple from Trailer:

✓	POSSIBLE CAUSE	REMEDY
	The tractor may be putting pressure against locks.	Lock the trailer brakes and back the tractor tightly against the kingpin to relieve the pressure on the fifth wheel lock, set the brakes, actuate the fifth wheel control valve.
	Fifth wheel too low.	Raise fifth wheel to proper height.
	Accumulated rust or grime interfering with the lock operation.	Thoroughly clean the fifth wheel and re-lubricate in accordance with the procedure in Section 10.



## Difficult to Uncouple from Trailer (continued):

✓	POSSIBLE CAUSE	REMEDY
	Missing or damaged release system parts.	The fifth wheel <b>MUST</b> be rebuilt using the appropriate service kit.
	Casting bent/damaged at throat area, restricting movement.	The entire fifth wheel top plate <b>MUST</b> be replaced.
	Bent kingpin, damaged upper coupler, or improper use of "lube plate" 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	REMEDY
	Kingpin is loose.	Repair trailer.
	Kingpin is worn.	Check kingpin for acceptable wear with Holland TF-0110. Replace kingpin, if necessary.

## Hard Steering or Binding:

✓	POSSIBLE CAUSE	REMEDY
	Lack of lubrication on fifth wheel top surface.	Lubricate top of fifth wheel plate using a high pressure, lithium-based grease. Follow recommended lubrication schedule as described in Section 10.
	Warped trailer upper coupler plate.	Check upper coupler plate for flatness and replace, if necessary. Refer to Holland Service Bulletin XL-SB020.

## 15. Rebuild and Replacement Kits

REBUILD AND REPLACEMENT KITS	PART NUMBER
Rebuild Kit-Standard	RK-351-TT
Rebuild Kit-Release Mechanism	RK-12196
Lock Replacement Kit	RK-12197
Air Cylinder Replacement Kit	PK-12057
Pocket Inserts-Pair	RK-PKT-5







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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