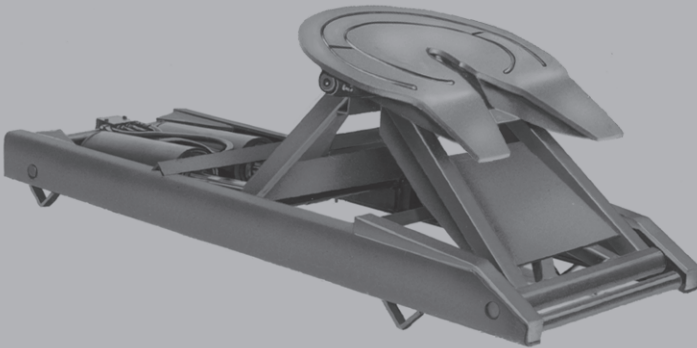


## Owners Manual

### FW2800 and FW2900 Series Hydraulic Elevating Fifth Wheels

- Operation
- Maintenance Procedures
- Troubleshooting



# OPERATING INSTRUCTIONS

---

## Notes, Cautions, and Warnings

You must read and understand all of the safety procedures presented in this manual before starting any work on the SAF-HOLLAND product.

**NOTE:** Work shop safety requirements are defined by federal and/or state Occupational Safety and Health Act in the United States, or equivalent laws 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.

Proper tools must be used to perform the maintenance and repair procedures described in this manual. Many of these procedures require special tools.

Throughout this manual, you will notice the terms “**NOTE**”, “**IMPORTANT**”, “**CAUTION**”, and “**WARNING**” followed by important product information. So that you may better understand the manual, those terms are as follows:

**NOTE:** Includes additional information to enable accurate and easy performance of procedure.

**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, may result in property damage.

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

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

## Fifth Wheel Design and Intended Use

1. For pulling trailers with standard SAE kingpins which are in good condition and securely mounted or locked in position in the trailer.
2. For on-highway hauling applications.
3. Within the capacities stated in SAF-HOLLAND literature.
4. As recommended in SAF-HOLLAND literature (available from [www.safholland.us](http://www.safholland.us)).

## Holland Fifth Wheels are NOT Designed or Intended For

1. Use with non-SAE kingpins, 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.
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. Off-highway applications and use.
6. Applications other than recommended.

# OPERATING INSTRUCTIONS

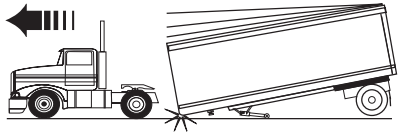
## Before You Begin

**IMPORTANT:** This unit is not intended for operation on public streets and highways with the fifth wheel in the up position. Do not operate this unit on public highways unless the fifth wheel manual secondary lock is engaged. The fifth wheel must be in the full down position and the lockdown pins (option -87) fully engaged.

**IMPORTANT:** Towing a trailer in the elevated position raises the center of gravity and increases the risk of vehicle rollover. To avoid rollover, do not travel at excessive speeds and do not make sudden turns or maneuvers.

### **⚠️ WARNING**

Failure to lower fifth wheel to full down position and engage lockdown pins prior to moving a coupled tractor will increase vehicle instability which, if not avoided, could result in serious injury or death.

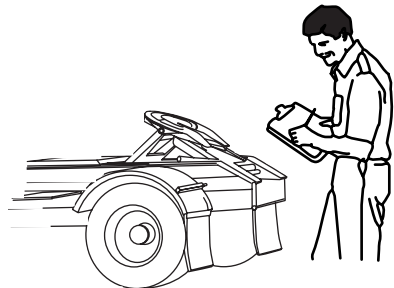


### **⚠️ WARNING**

Failure to properly couple the fifth wheel according to these instructions could result in tractor and trailer separation, causing death or serious injury to others.

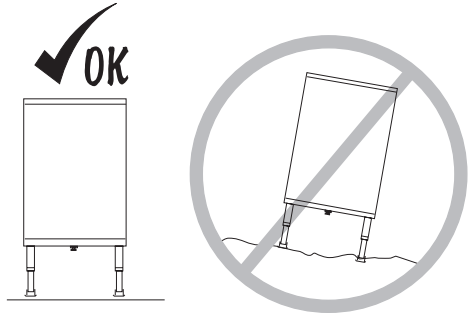
## Fifth Wheel Inspections

1. Inspect the fifth wheel and mounting.
  - ✓ Tighten loose fasteners.
  - ✓ Replace missing fasteners.
  - ✓ Repair/replace missing, cracked or otherwise damaged components.
2. Inspect the lock jaws. If they appear dry, apply grease to the lock jaws and the front of the throat.
3. Tilt the ramps down.

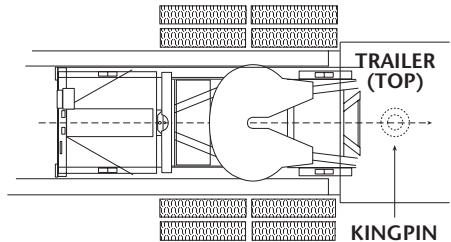


**General Coupling Procedures**

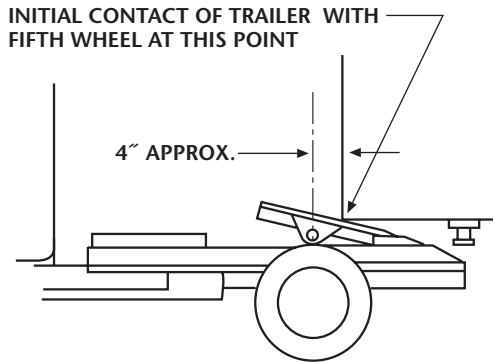
- 1. Make sure coupling area is flat, level and clear of persons and obstacles.



- 2. Center fifth wheel with kingpin and back up straight.



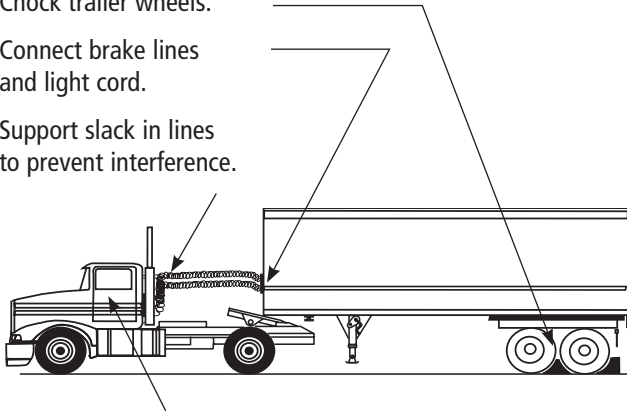
- 3. Back tractor close to trailer and **STOP**.



# OPERATING INSTRUCTIONS *continued*

## General Coupling Procedures *continued*

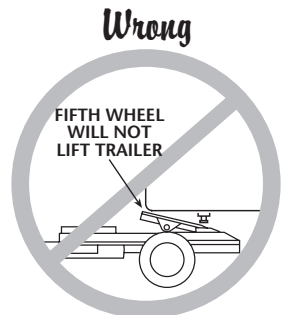
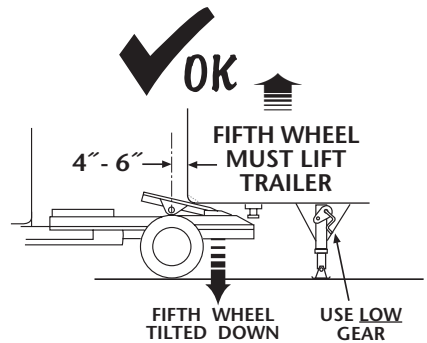
4. Chock trailer wheels.
5. Connect brake lines and light cord.
6. Support slack in lines to prevent interference.



7. Set trailer brakes.

**NOTE:** Follow operating instructions for the landing gear that is installed on your trailer to raise or lower landing gear and trailer.

8. Adjust the trailer height so the fifth wheel will lift the trailer. The trailer should contact the fifth wheel 4" – 6" behind the fifth wheel bracket pin. If the trailer landing gear needs to be raised or lowered for proper coupling height, use low gear.



*continued*

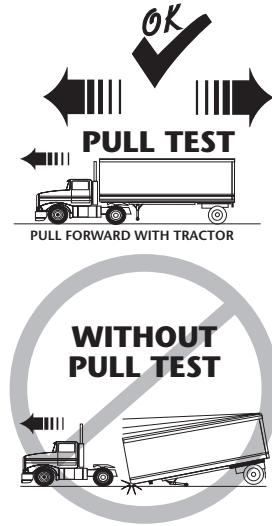
# OPERATING INSTRUCTIONS *continued*

## General Coupling Procedures *continued*

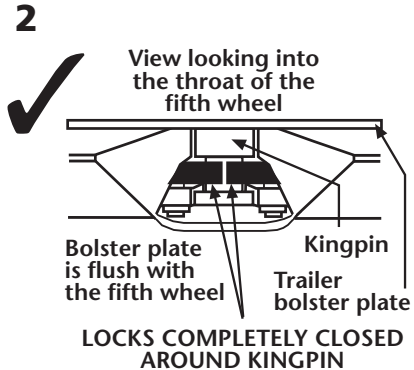
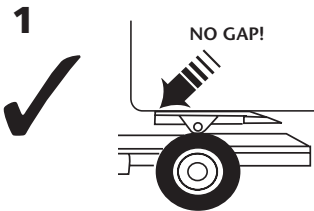
9. Slowly back into the trailer.



10. Do a pull test as an INITIAL CHECK.



11. Visual Inspection. **GET OUT OF THE TRACTOR!**  
**VISUALLY** check that the lock is **CLOSED!**  
**DO NOT RELY ON SOUND.**



**NOTE:** If you do not obtain a proper couple, repeat the coupling sequence.  
DO NOT use any fifth wheel that fails to operate properly.

**⚠ WARNING** Failure to properly couple the fifth wheel according to these instructions could result in tractor trailer separation, if not avoided, could result in serious injury or death.

*continued*

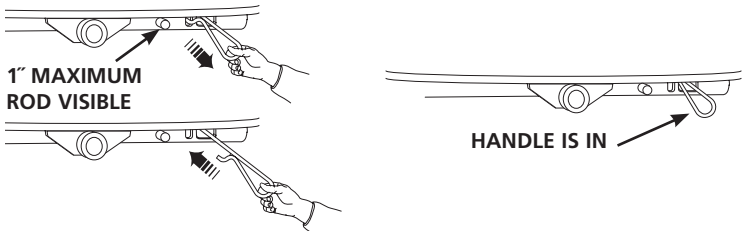
## Coupling Procedures for Over-The Road Use

For private yard operation (yard-spotter) coupling instructions, proceed to page 9. The two steps below are required for operation of this fifth wheel on public streets.

**IMPORTANT:** This unit is not intended for operation on public streets and highways with the fifth wheel in the up position. Do not operate this unit on public highways unless the fifth wheel manual secondary lock is engaged. The fifth wheel must be in the full down position and the lockdown pins (option -87) fully engaged.

**WARNING** Failure to lower fifth wheel to full down position and engage lockdown pins prior to moving a coupled tractor will increase vehicle instability which, if not avoided, could result in serious injury or death.

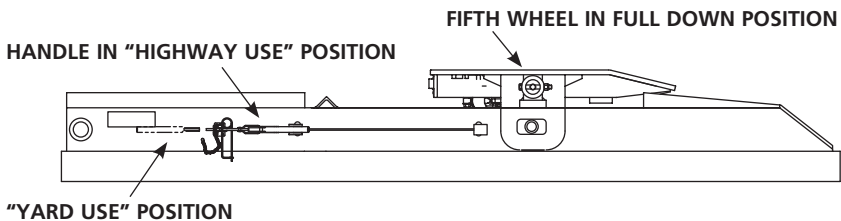
1. Unhook and engage the secondary lock for operation on public streets.



2. Place the fifth wheel in the full down position and engage the top plate lockdown pins.

**NOTE:** The fifth wheel must be fully lowered to allow the lockdown pins to engage. If the wheel is up too high, put the transmission in neutral and engage the power take off (PTO). Set the engine speed to 1,000 to 1,200 r.p.m. and operate the control valve to lower the trailer and fifth wheel until they are all the way down.

To engage the pins, move the handle from the "Yard Use" position (handle pointing toward the front of the tractor), to the "Highway Use" position (handle pointing toward the rear of the tractor) as shown below. This operation is also illustrated on the instruction label located directly above the handle on the left front side of the fifth wheel frame assembly.



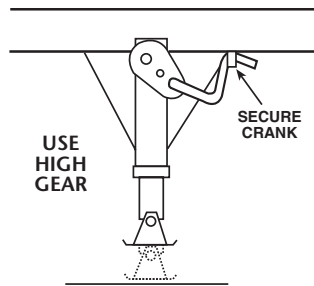
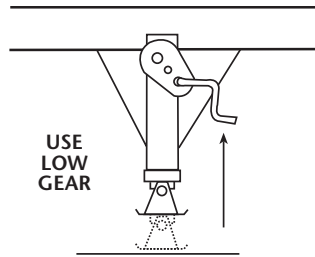
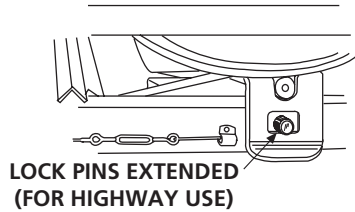
*continued*

**Coupling Procedures for Over-The Road Use** *continued*

3. **Confirm that the lockdown pins are in the extended position.** Both pins should be fully extended through the fifth wheel assembly frame rails and through the lockdown plates.

**NOTE:** Follow operating instructions for the landing gear that is installed on your trailer to raise or lower landing gear and trailer.

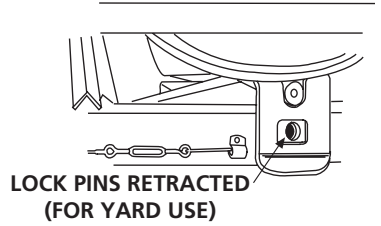
4. Retract landing gear in accordance with manufacturer's instructions.
5. Check the brake lines and light cord. Remove the wheel chocks and continue with a pre-trip inspection.





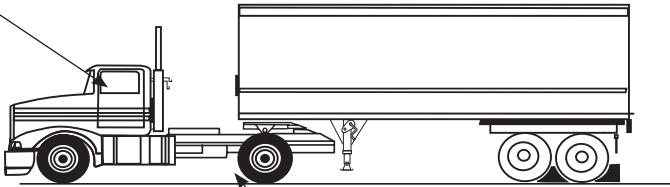
## **Coupling Procedures for Private Yard (Yard-Spotter) Operation**

1. **Before raising the fifth wheel, confirm that the lockdown pins are in the retracted position.** Both pins should be fully retracted.
2. Put the transmission in neutral and engage the power take-off (PTO).
3. Set the engine speed to 1,000 to 1,200 r.p.m. and operate the control valve to raise the trailer to the full height of the fifth wheel.
4. Disengage the PTO, remove the blocks, and release the the trailer brakes.



## **General Uncoupling Procedures**

1. Position the tractor and trailer on firm, level ground – clear of obstacles and people.
2. Set the trailer brakes.
3. Slowly back the tractor tightly against the trailer.



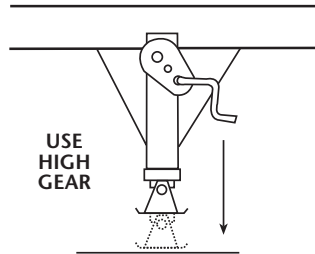
4. Set the tractor brakes.
5. Chock the trailer wheels.
6. Disconnect the brake lines and light cord. Attach the brake line to a dummy coupling to keep the line clean.

## Uncoupling Procedures for Over-The Road Use

For uncoupling procedures for Yard-Spotter operations, proceed to Step 1, Page 11.

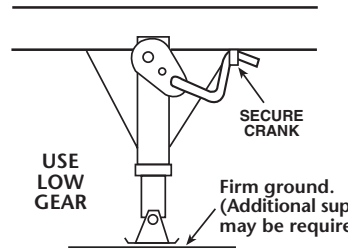
**NOTE:** Follow operating instructions for the landing gear that is installed on your trailer to raise or lower landing gear and trailer.

1. Extend landing gear in accordance with manufacturer's instructions.

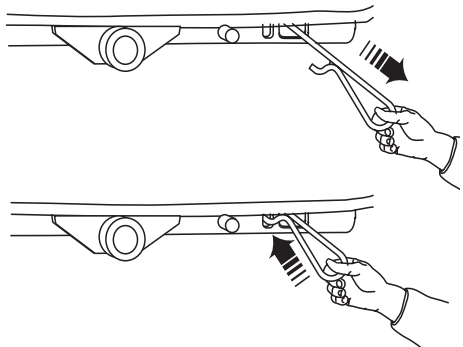


2. Switch to **low gear** and crank an additional 4-8 turns.

Do not raise the trailer off the fifth wheel.



3. Pull the secondary lock handle and hook it on the rib (located on the right side of the fifth wheel).



Proceed to step 4 on page 11.

*continued*

## Uncoupling Procedures for Private Yard (Yard-Spotter) Operation

1. Put the transmission in neutral and engage the PTO.

**NOTE:** The PTO must be engaged (pumped down) when lowering the fifth wheel.

2. Set the engine speed to 1,000 to 1,200 r.p.m. and operate the control valve to lower the trailer until it rests on the trailer supports (landing gear).
3. Disengage the PTO.
4. Return to the tractor cab and push the fifth wheel lock control valve and **hold it in** as you pull slowly out from the trailer.



Never push the fifth wheel lock control valve when the wheel is up or while traveling.



Failure to lower fifth wheel to full down position and engage lockdown pins prior to pushing the fifth wheel lock control valve could result in tractor trailer separation which, if not avoided, could result in serious injury or death.



FIFTH WHEEL LOCK CONTROL VALVE

# TROUBLESHOOTING

## ***PROBLEM: Will not lift.***

<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
Insufficient oil .....	Check oil level. The tank should contain 4" of oil in the down position. If low, add oil.
PTO not engaged .....	Engage the PTO. Check the shifter for proper operation.
Engine r.p.m. too low.....	Increase to 1,000 to 1,200 r.p.m.
Control valve .....	Check for full throw.
Load exceeds capacity.....	Reduce the weight of the trailer.
Flow restriction.....	Check for ruptured or collapsed hoses; check oil filter; clear the lines.
Pump is losing prime.....	Raise the oil tank and/or line above the pump inlet.
Pump is running hot.....	PTO left in gear; disengage when not in use.
Oil foaming (contains air) .....	Tighten all fittings and check for leaks.

## ***PROBLEM: Raises or lowers slowly.***

<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
PTO not engaged .....	Engage the PTO.
Engine r.p.m. too low.....	Increase to 1,000 to 1,200 r.p.m.
Control valve .....	Check for full throw.
Incorrect pressure.....	Raising pressure circuit should be 1,800 p.s.i.; lowering circuit pressure should be 150 p.s.i.
Flow restricted.....	Check for ruptured or collapsed hoses, check oil filter, clear lines.

## ***PROBLEM: Oil tank is overflowing.***

<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
Too much oil in the system.....	Check oil level. Tank should contain 4" of oil in the down position.
Oil foaming (contains air) .....	Tighten all fittings and check for leaks.

## TROUBLESHOOTING *continued*

---

### ***PROBLEM: Will not lower.***

#### **POSSIBLE CAUSE**

#### **SOLUTION**

PTO not engaged ..... PTO must be engaged when lowering unit.  
Engine r.p.m. too low..... Increase to 1,000 to 1,200 r.p.m.

### ***PROBLEM: Will not stay in raised position.***

#### **POSSIBLE CAUSE**

#### **SOLUTION**

Pressure loss ..... Air in hydraulic oil. Let stand until clear. Tighten fittings and check for leaks. Check oil level.  
Pressure loss ..... Leak in system. Tighten fittings and check for leaks.  
Pressure loss ..... Damaged hydraulic cylinder. Isolate and pressurize to check. Repair or replace.  
Pressure loss ..... Faulty valves. Clean and reassemble, or, replace control and release valves in manifold.

### ***PROBLEM: Cracking or breaking of lift arms.***

#### **POSSIBLE CAUSE**

#### **SOLUTION**

Rough terrain ..... Improve road surface.  
Overload ..... Reduce trailer weight.  
Lack of lubrication ..... Lubricate per maintenance instructions.  
Worn shafts, bushings,  
and housings ..... Replace  
Incorrect pressure ..... Lifting circuit pressure should be 1,800 p.s.i.

### ***PROBLEM: Fifth wheel will not unlock properly.***

#### **POSSIBLE CAUSE**

#### **SOLUTION**

Accumulated grease and  
dirt in mechanism ..... Steam clean thoroughly and lubricate with light,  
rust-resistant oil.  
Insufficient lubrication ..... Lubricate thoroughly with light, rust-resistant oil.  
Faulty release air cylinder ..... Replace air filter and/or cylinder.  
Worn or damaged parts ..... Rebuild or replace.

*continued*

# MAINTENANCE INSTRUCTIONS

---

## Weekly

1. Apply grease to all fittings.
2. Be sure the fifth wheel top plate is lubricated.
3. Check the hydraulic oil level.
4. Check the operation of the fifth wheel locking mechanism.

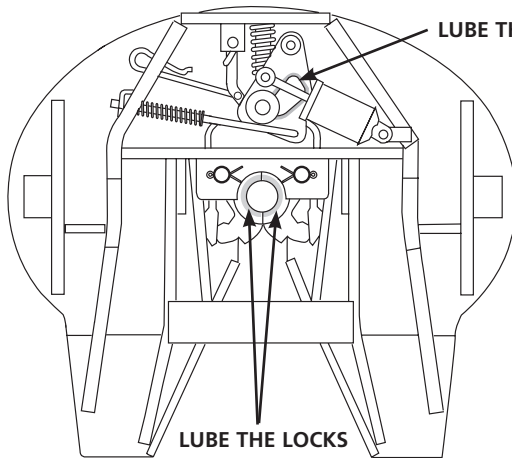
## Monthly

1. Steam clean the entire unit thoroughly.
2. Inspect the elevating fifth wheel assembly and its mounting. Check the truck frame for proper bolt torque; missing or damaged bolts; and broken, distorted, or missing parts.
3. Check the fifth wheel locking mechanism for proper operation using a Holland TF-TLN-1000 lock tester. Lubricate the locking mechanism with a light, rust-resistant oil. When checking, move the lock tester fore and aft when it's closed in the locks. If play exceeds 3/8", rebuild or replace the top plate. See your Holland distributor for top plates or rebuild kits.
4. Relubricate the assembly.
5. Inspect for leaks in the hydraulic system. Seal or replace any components, as required.
6. Check the oil filter. Replace if necessary.
7. Check free play and pivot points in the elevating fifth wheel assembly. If free play exceeds 1/8", replace the torque frame and/or shaft, as required.

*continued*

## As-Needed Lubrication

**IMPORTANT:** Always maintain adequate lubrication in fifth wheel locking mechanism, if it appears dry, apply grease to lock jaw and front of throat directly, or through the lube tube grease fitting located near the front left side of the fifth wheel.



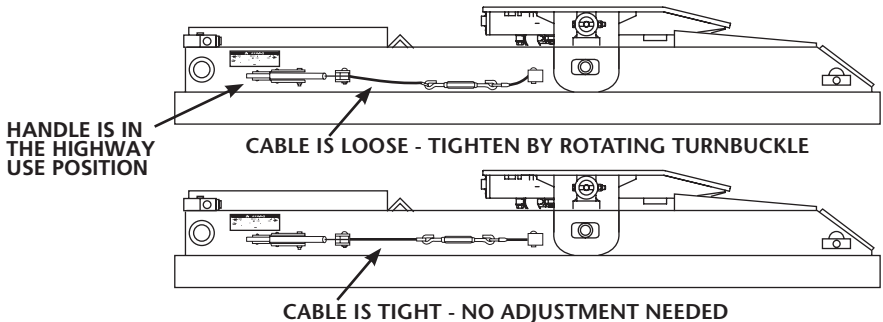
### Recommended Greases

A "low temp" grade recommended for -30°F or lower such as:

1. Cato Oil and Grease #5213
2. Craftsman Chemical Co. #LTF 2
3. Mystic LP-200 or equivalent

## Check Top Plate Lockdown Mechanism Cables

1. With the handle in the "Highway Use" position, the cable should be moderately tight and not sagging excessively. If the cable is loose, rotate the turnbuckle to tighten the cable.
2. After tightening, cycle the handle from the "Yard Use" position to the "Highway Use" position several times to confirm that the pins are extending and retracting, as described on page 8. Also confirm that the cables are not binding or being pinched.

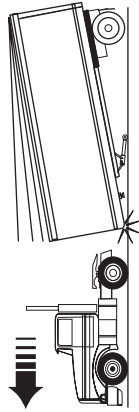


**NOTE:** Do not use any fifth wheel that does not operate properly. If your fifth wheel does not operate properly, contact your nearest Holland Representative for assistance.

*continued*

**IMPORTANT:** Enclosed is important information for the operation and maintenance of this product. Read and understand this information.

# ! WARNING



Failure to properly install, operate, or maintain this fifth wheel could result in tractor and trailer separation which, if not avoided, could result in serious injury or death.



SAF-HOLLAND USA, Inc.  
888.396.6501 Fax 800.356.3929

SAF-HOLLAND Canada Limited  
519.537.3494 Fax 800.565.7753  
Western Canada  
604.574.7491 Fax 604.574.0244