



GO THE DISTANCE.

# FIETH GENERAL INSPECTION and MAINTENANCE WHEELS



Fifth Wheel General Inspection  
and Maintenance for

Simplex II  
Simplex



## HOLLAND SIMPLEX II

Also available as a right-hand  
release Holland Simplex II RH

## HOLLAND SIMPLEX



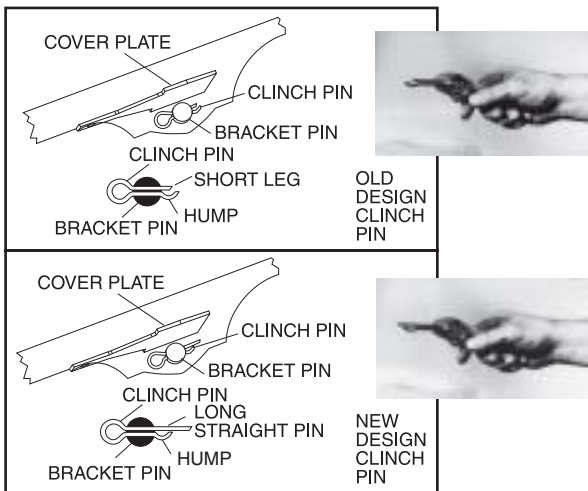
# GENERAL MAINTENANCE INSTRUCTIONS

*Fifth wheels must be regularly inspected and properly serviced. A three month or 30,000 mile service interval is recommended.*

**For safe and efficient operation, the following guidelines should be followed:**

Replace any cracked, broken, bent or missing parts. For components, refer to the parts listing at the end of this document.

Inspect the bracket pin clinch pins. The hump should be fully exposed on both clinch pins (*Figure 1*).



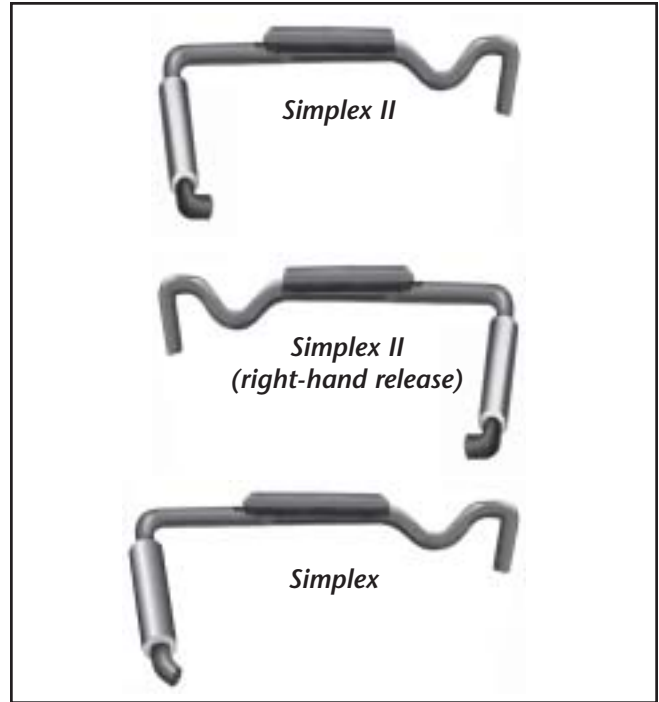
*Figure 1*

Cotter or clinch pins located in the jaw pin, bracket pins, lever bar pin and safety indicator pin must be in place. Both legs of cotter pins should be adequately spread to insure retention. Clinch pins should not be modified.

All mounting bolts are to be torqued to the bolt manufacturer's recommended level.

Inspect for sharp edges on the casting top plate and chamfer 1/8" to 1/4" as required.

Inspect the operating rod. Compare it to *Figure 2* or to a new operating rod and replace it if there is any distortion. Ensure that the safety indicator swings freely over the operating rod when the operating rod is fully retracted. (*Figure 3*)



*Figure 2*



*Figure 3*

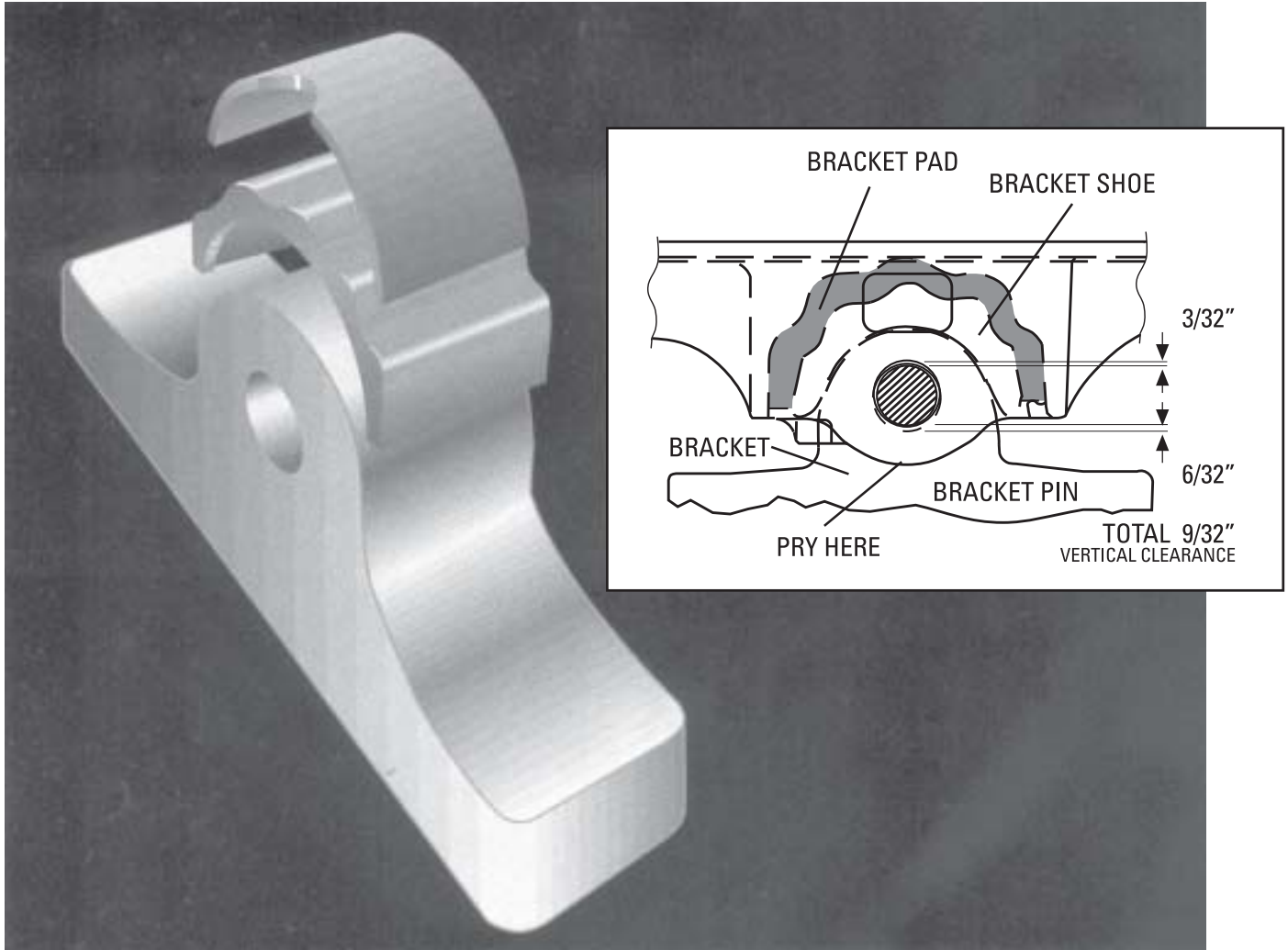
## Operating Rod Kits:

Simplex - 4000507

Simplex II - 4000509

Simplex II RH - 4000512

# BRACKET CONNECTION



The bracket connection contains pads for cushioning. To avoid downward pin loading, the assembly provides a total of  $9/32$ " vertical clearance.

To maintain adequate vertical cushioning, replace the polyurethane bracket pads if unloaded plate lift exceeds  $5/16$ ". To check the vertical lift, put the fifth wheel plate in a horizontal position (unloaded without trailer), and lift by prying up on the plate casting to the maximum raised position. Check both sides.

Replace the bracket pads if required.

**If replacement is required, both sides must be replaced, even if only one side is worn.**

Replace the bracket pins if their  $1-1/2$ " diameter is worn  $1/8$ ".

**DO NOT** measure plate lift immediately after a trailer has been coupled to the fifth wheel for an extended period of time. A temporary set of the bracket pads may have occurred. The bracket pads will recover after the fifth wheel has set without a trailer for a short period of time.

Bracket Connection Rebuild Kit 4000504  
Bracket Pad Rebuild Kit 4000528

Refer to Simplex II, Simplex Repair and Rebuild Procedures (XL-FWXXX) for replacement instructions.

**NOTE:** *The Simplex II may be equipped with either steel or polyurethane (plastic) bracket shoes. The Simplex model is only equipped with polyurethane shoes. The steel shoe contains a hole near the top and grease fitting for lubrication. The polyurethane shoe does not have a similar hole or grease fitting as lubrication is not required.*

# JAW/KINGPIN CLEARANCE ADJUSTMENT

Check for excessive clearance at the kingpin at regular intervals. New fifth wheels provide approximately 1/16" clearance between the kingpin and jaw. This clearance is necessary to permit proper locking and to accommodate SAE kingpin tolerances.

**⚠️ WARNING** The lock is spring loaded. To avoid injury, keep hands away from lock and jaw. Use a bar or block to rotate jaw when opening or closing the locking mechanism. When locking the jaw, stand clear of the extended operating rod as it retracts rapidly during lockup.

1. Be sure that the fifth wheel jaw is in the unlocked or open position (*Figure 4a*). If not as illustrated, pull operating rod to extended position and use a bar or block to rotate jaw to the open position (*Figure 4b*).



*Figure 4a*



*Figure 4b*

2. Ram a kingpin gauge (Holland #TF-0237) into the open jaw to achieve a coupled and locked condition (*Figure 5*). The safety indicator must swing freely over the operating rod (*Figure 6*).



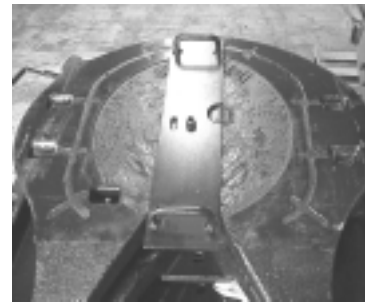
*Figure 5*

**NOTE:** For complete instructions on a properly coupled condition, see the tag affixed to the side of the fifth wheel near the operating handle and the driver's card that is furnished with each fifth wheel.



*Figure 6*

3. Measure the horizontal gauge movement. The gauge plate must be flat on the wheel.
4. If clearance exceeds 1/8", it should be DIALED OUT using the eccentric jaw pin on which the jaw pivots.
  - a. With the kingpin gauge still locked in the fifth wheel and the jaw in the locked position, rotate the kingpin gauge until the cutout in the gauge is in a position to allow access to the jaw pin (*Figure 7*).



*Figure 7*

- b. Remove the clinch pin from the jaw pin (*Figure 8*).



*Figure 8*

(wheel shown removed from brackets and upside down for purpose of illustration)

- c. Lift the jaw pin sufficiently to clear the indexing hexagon head (*Figure 9*), and rotate the pin to the next higher number position in a clockwise direction for Simplex II and Simplex, and counterclockwise for Simplex II RH.

## JAW/KINGPIN CLEARANCE ADJUSTMENT (con't.)



Figure 9

**CAUTION** DO NOT rotate the jaw beyond position 3. If more than 1/8" clearance remains at position 3, replace the jaw and jaw pin. ALWAYS recheck using a gauge to assure that a positive lock (safety indicator down) can be achieved. Remember to secure the jaw pin by installing a clinch pin. DO NOT overadjust, or the fifth wheel will not lock to a kingpin. The eccentric jaw pin can be reused. If excessive wear occurs in the plate casting jaw pin head cavity, an oversize eccentric jaw pin (left-hand kit 4000502, right-hand kit 4000523) can be used.

- d. Re-measure the clearance at the kingpin. If the clearance remains excessive, repeat steps 4a-4d until the clearance allows approximately 1/16" movement of the kingpin gauge.
- e. After the final adjustment, reinstall the clinch pin in the jaw pin.

- f. Remove the gauge\*. When removing the gauge two people are usually required. The operating rod must be fully extended and held out beyond lockset, while the gauge is pulled straight back out of the fifth wheel jaw opening towards the rear (Figure 10). Considerable force may be required for removal.



Figure 10

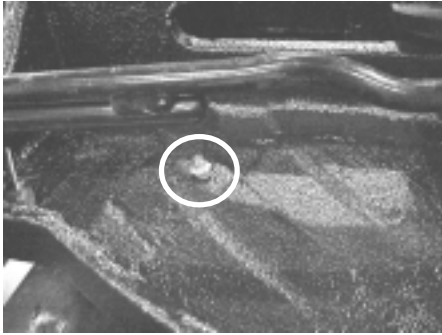
- g. Check for a positive locking condition by coupling to a trailer, equipped with a new kingpin, several times. For complete instructions see the operating instruction manual. Also see the tag affixed to the side of the fifth wheel near the operating handle and the driver's card that is furnished with each fifth wheel.

\* The kingpin gauge tester (Holland #TG-0237) is used to test fifth wheel coupling. It is **NOT** used to test uncoupling.

# LUBRICATION

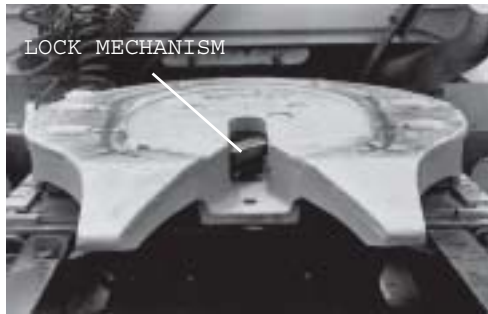
The Holland Simples and Holland Simplex II fifth wheels are equipped with polyurethane bracket shoes which **DO NOT** require lubrication at the bracket trunnion interface.

Maintain a heavy grease coating on the top surface of the wheel either through the grease fittings located on the underside of the plate casting (*Figure 11*), or by direct application.



*Figure 11*

Apply grease directly to the jaw and lock mechanism (*Figure 12*).



*Figure 12*

- a. Apply grease to the slider bracket fittings to lubricate the sliding surfaces between the saddle and base plates (*Figure 13*).



*Figure 13*

- b. Apply grease to the slider lock pin pocket fittings to lubricate the lock pins (*Figure 14*).



*Figure 14*

Always relubricate after steam cleaning.  
Recommended lubricant classification:

- Kendall L-427 Super-Blu
- Leahy-Wolf Cling Master W, L1, LC-EP-1

# SIMPLEX II & SIMPLEX TROUBLESHOOTING GUIDE

## FIFTH WHEEL IS DIFFICULT TO COUPLE TO TRAILER

POSSIBLE CAUSE	CORRECTIVE ACTION
1. Eccentric pin is overadjusted for kingpin slack.	Check the adjustment using a trailer with a new SAE kingpin or using a Holland kingpin gauge *(Holland #TF-0237). Re-adjust if necessary.
2. Jaw opening is spread due to high couple attempt.	Measure the jaw opening. If greater than 2.38", replace the jaw.
3. Bent lever bar.	Inspect and replace, if required.
4. Bent operating rod.	Inspect and replace, if required.
5. Jammed safety indicator.	Inspect the operating rod. If the rod is bent, replace it.
6. Bent cover plate is interfering with lock movement.	Inspect the cover plate for flatness. Replace if necessary.
7. Accumulated grime restricts lock operation.	Clean, add grease to the moving parts and check its operation.
8. Air bags are not fully inflated.	Inflate the air bags. If the tractor air bags are still not properly inflated, see the section "Coupling & Uncoupling Procedure (Air Ride Suspension)" in the "Simplex and Simplex II Operating Instructions" manual.
9. Top plate is damaged just below the eccentric pin.	Replace the top plate casting and the entire fifth wheel assembly.

\* The kingpin gauge tester (Holland #TF-0237) is used to test proper fifth wheel coupling. It is **NOT** used to test uncoupling.

## FIFTH WHEEL IS DIFFICULT TO UNCOUPLE FROM TRAILER

POSSIBLE CAUSE	CORRECTIVE ACTION
1. Kingpin is applying horizontal pressure to the jaw.	Back the tractor into the trailer to relieve pressure.
2. Jaw is adjusted too tight.	Back the tractor into the trailer to relieve pressure on the jaw and unlock the wheel. Re-adjust if necessary.
3. Bent lever bar and/or operating rod.	Inspect and replace if required.
4. Bent cover plate is interfering with lock movement.	Inspect the cover plate for flatness. Replace if necessary.
5. Kingpin is applying upward pressure to the jaw.	Tractor air bags are not properly inflated. See the section "Coupling & Uncoupling Procedure (Air Ride Suspension)" in the "Simplex and Simplex II Operating Instructions" manual.
6. Jaw is tight against the lock because the jaw opening was spread on a high couple, then forced to lock.	Back the tractor into the trailer to relieve pressure on the jaw. Fully extend the operating rod. Use a pry bar to disengage the lock from the jaw.

For questions, please contact our  
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