

INSTALLATION INSTRUCTIONS

⚠WARNING When welding, use a procedure which assures a sound, good quality weld and which protects the operator and others. Overwelding may cause distortion and damage, and underwelding may not develop sufficient strength. A low hydrogen process and AWS E70XX filler metal are recommended. Take precautions to ensure that the tractor electrical system is not damaged by the welding.

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. Within the capacities stated in Holland literature.
3. As recommended in Holland literature (available from Holland or Holland distributors).

Holland Fifth Wheels are NOT Designed or Intended For:

1. Use with non-SAE kingpins, such as kingpins which are bent, improper size or dimension, 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 transport of loads in excess of rated capacity.
4. Applications other than recommended.

Installation

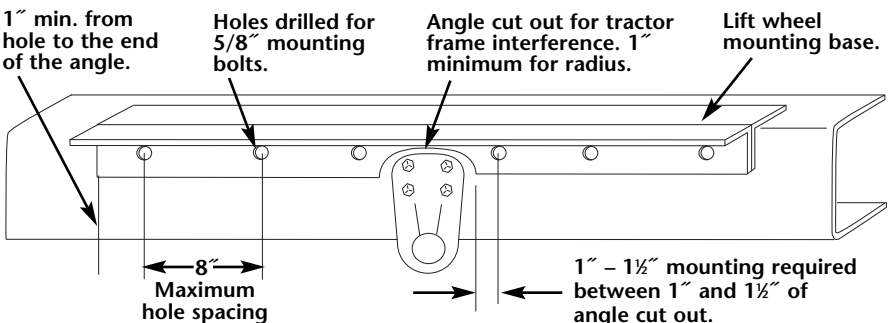
General Recommendations

1. Every user and installer using Holland products either recommended or not recommended by Holland, must ensure that the installation procedure used is appropriate for the vehicle, product and application.
2. Consult the Holland literature for fifth wheel capacities and applications.
3. Determine the range of proper fifth wheel positions. Proper positioning of the fifth wheel is important for weight distribution, swing clearance and handling characteristics.

⚠WARNING The center of the kingpin locks must always be positioned on or ahead of the tractor rear axle or bogie centerline. Failure to do so can result in loss of vehicle control.

4. Use Grade 8, 5/8" minimum diameter bolts and Grade "C" locknuts for mounting.
5. Bolt holes can be 1/32" larger in diameter than the bolt fastener. Bolts must be adequately tightened using charted torque ranges in foot-pounds for the recommended Grade 8, 5/8" diameter bolts. Larger diameter Grade 8 bolts and coated fasteners may be used.

Figure 1



INSTALLATION INSTRUCTIONS *continued*

6. The bolts attaching the fifth wheel mounting angles to the truck frame require hardened steel washers under both the bolt and under the locknut, unless flanged head bolts or flanged head locknuts are employed.
7. A minimum of 5 bolts should be applied to attach each mounting angle to the tractor frame rail, and the distance between bolts should not exceed 8", except when cutouts are required in the mounting angles (see **Figure 1**).
8. Whenever a cutout is made on the mounting angle, such as required to bypass spring hangers, a 1" minimum radius should be used and bolts should be placed within 1-1/2", but not closer than 1" of the cut, fore and aft (see **Figure 1**).
9. When initially positioning the fifth wheel for frame holes, the full length of the fifth wheel mounting angles should seat flush on the top and side surfaces of the truck-tractor frame rails where channel-type rails are employed. There should not be a gap over the top of the truck frame rails. The base of the fifth wheel assembly and of the mounting angle members should seat flush on the top of the frame rail to prevent flexing and to give uniform weight distribution. It is also recommended to chamfer or smooth any sharp edges and corners of mounting materials wherever contact is made with the tractor frame.
10. Review "System Check" found on page 8.

Detailed Information

1. Remove the shipping lugs from the bottom of the unit.
2. Determine the proper fifth wheel position on the tractor:
 - A. Verify that the tractor has sufficient "Cab to Axle" (C.A.) clearance for the elevating fifth wheel model selected, as listed in **Chart 1** and **Figure 2**.
 - B. Locate the pivot point of the fifth wheel (when it's in the down position) on the given mounting angles by positioning the angles approximately 1" beyond each end of the fifth wheel assembly frame. Once this has been completed, mark the pivot point of the fifth wheel on both angles (see **Figure 3**).

Chart 1

Cab to Axle Requirements and Mounting Location

MODEL	MINIMUM CAB TO AXLE*	MOUNTING LOCATION (A)
FW2800-X	72"	10"
FW2800-5X	77"	10"
FW2900-X	60"	6"
FW2900-5X	65"	7"

* Based on a 102" wide, square corner trailer, with a 36" kingpin setting. More or less cab to axle clearance may be required for other nose configurations, kingpin settings, refrigeration units, etc.

Figure 2

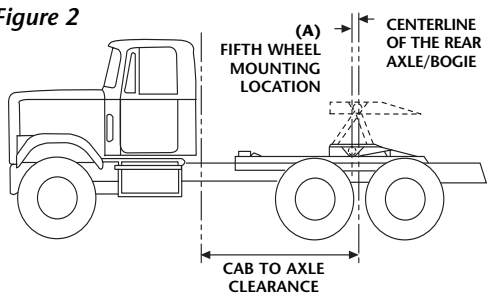
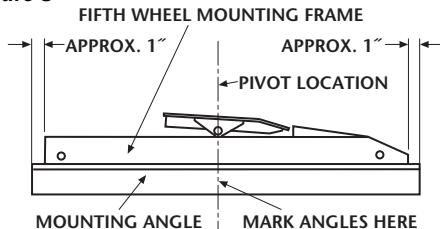


Figure 3



INSTALLATION INSTRUCTIONS *continued*

C. Take the marked angles and position them on the tractor frame.

NOTE: The marked angles will no longer be symmetrical. It is critical to make certain that the angles are not accidentally reversed.

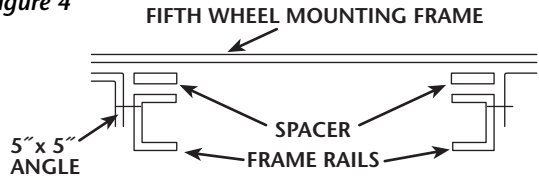
D. Line up the marks of both angles with the imaginary centerline of the rear axle/bogie. Use the dimension listed under "Mounting Location (A)" in **Chart 1** for the elevating fifth wheel model selected, and offset the angle forward (toward the cab) by that distance.

NOTE: The offsetting of the angles is necessary to allow for the horizontal (forward) movement of the wheel when elevating. When the wheel is in its maximum vertical condition, the pivot point of the wheel will be in line with the imaginary centerline of the rear axle/bogie and the centerline markings made on the angles in Step 2B, above (see **Figure 2**).

3. Once the proper position of the angles is known, mark the angles in all areas of interference between the angles and the tractor frame. For example, mark the areas of the angle needed to be cut out to clear bolts, rivets, spring hangers, etc.

NOTE: A spacer may be required to obtain clearance between the hydraulic cylinder (and hoses) and the transmission or cross members. If a riser is needed, it may be necessary to use 5" x 5" angles.

Figure 4



4. Remove the angles from the tractor frame and machine any interference areas in accordance with the "Installation: General Recommendations" found on the page 2.

5. Clamp the mounting angles tightly to the tractor frame. Be certain to check clearances of cutouts. Drill holes in accordance with the "Installation: General Recommendations" found on the page 2.

6. Remove the clamps and fasten the angles, in accordance with the "General Information". In addition, see **Figure 5**.

7. Position the fifth wheel on the mounting angles with the top plate pivot on the marked location. Verify that there are no interferences and that the fifth wheel frame seats flush on the mounting angles. Tack weld the fifth wheel to the mounting angles.

8. Weld the ends of the fifth wheel assembly frame to the top of the mounting angles with two 3/8" groove welds, as shown in **Figure 6**.

Figure 5

The full length of the fifth wheel mounting angle should seat flush on the truck frame to prevent flexing of mounting angle and to give uniform weight distribution along truck frame rail.

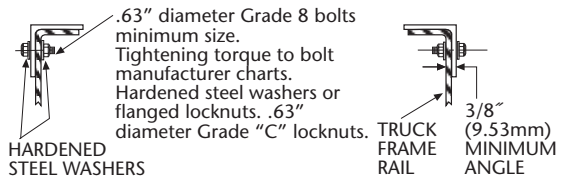
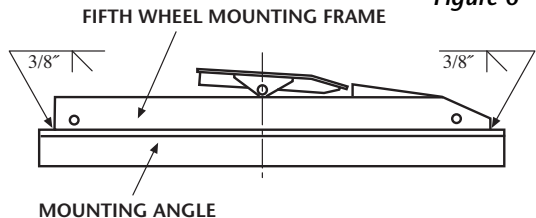


Figure 6



INSTALLATION INSTRUCTIONS *continued*

9. Remove the rear pivot shaft (see corresponding fifth wheel's parts list — pages 11 through 12 — in combination with **Chart 2** — to find the rear pivot shaft):

Chart 2

Rear Pivot Shaft Identification

FIFTH WHEEL PART NUMBER	REAR PIVOT SHAFT PART NUMBER	REAR PIVOT SHAFT DETAIL NUMBER
FW2800-X	XA-2895	Detail #7
FW2900-X	XA-2895	Detail #7
FW2800-5X	XA-2895	Detail #37
FW2900-5X	XA-2895	Detail #37

10. Using a lifting device, pick up the rear support assembly (see corresponding fifth wheel parts list in combination with **Chart 3** to find the rear support assembly). For safety, block out the assembly after it is lifted.

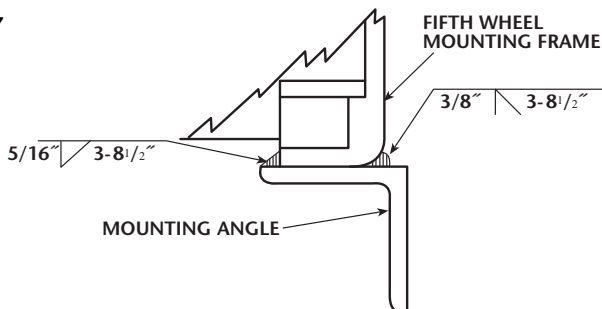
Chart 3

Rear Support Assembly Identification

FIFTH WHEEL PART NUMBER	REAR SUPPORT ASSEMBLY PART NUMBER	REAR SUPPORT ASSEMBLY DETAIL NUMBER
FW2800-X	XA-2808-B	Detail #2
FW2900-X	XA-2908-B	Detail #2
FW2800-5X	XA-2808-B	Detail #32
FW2900-5X	XA-2908-B	Detail #32

11. Use air pressure to extend the cylinder rod(s) approximately 12". Be sure to cover the cylinder rod(s) to protect from weld splatter.
12. Weld the fifth wheel frame to the mounting angles per **Figure 7**. Make 5/16" fillet skip welds inside the frame, and 3/8" groove skip welds on the outside. Make the skip welds 3" long on approximately 8-1/2" centers (i.e. weld 3" bead, skip 5-1/2"). Make inside skip welds opposite to the outside welds.

Figure 7



13. Reassemble the rear pivot shaft removed in Step 9.

POWER TAKE OFF (PTO) AND HYDRAULIC PUMP INSTALLATION

General Information

1. Hydraulic fifth wheels require certain hydraulic components for operation. These components should have the following characteristics:
 - A. **Pump** – Single cylinder, 17 gallon/minute @ 1300 r.p.m.
 - B. **Power Take Off** – Compatible with transmission and pump, and with an output as close as possible to engine speed (i.e. 1-to-1 ratio).
 - C. **Hose and Fittings** – Should be of good quality and selected to handle the maximum pump output at 2,000 p.s.i.
 - D. **Hydraulic Oil** – Selection of the proper oil is a prime requirement for satisfactory system performance and life.

Detailed Information

1. Install the PTO in accordance with the PTO manufacturer's instructions. In the absence of instructions, proceed as follows:
 - A. Start the tractor and listen to the transmission. After installation, the transmission should sound similar.
 - B. Shut off the tractor and drain the transmission fluid.
 - C. Remove the transmission cover plate from the PTO installation point.
 - D. Check the PTO and transmission gears for proper width, diameter, and location.
 - E. Install studs in the transmission.
 - F. Install gaskets and sufficient shims on the transmission.
 - G. Install the PTO. Draw the nuts evenly while checking the gear backlash. When fully tightened, the backlash should be .008"– .012". If the backlash is incorrect, remove the PTO and add or remove the required shims.
 - H. Check for free shifting. If free, refill the transmission to the proper level.
 - I. Install the PTO shift controls.
 - J. Start the tractor. Engage the PTO and listen to the transmission. If any unusual noises occur, inspect and correct using the shimming procedure outlined above in Step F.
2. Install the hydraulic pump per the manufacturer's recommendations.

Hydraulic Component Installation

1. Install the oil tank and brackets. The tank should be located as close to the pump as possible, with the bottom of the tank higher than the inlet port on the pump.
2. Install the hydraulic control valve.
 - A. **Manual** – Locate the valve in the cab at a convenient operation location. Then, route the hydraulic hoses through the cab to the pump, tank, and manifold.
 - B. **Air Operated** – If your unit was purchased with the optional air operated control valve kit (RK-2800-50), install as follows (refer to **FIGURE 8** for the following steps):
 1. Mount the control valve/air cylinder assembly in a convenient location, between the manifold and air valve.
 2. Mount the lift control valve in the cab in a location where it will not be accidentally activated.
 3. With hoses, connect the air supply from a location recommended by the chassis manufacturer.

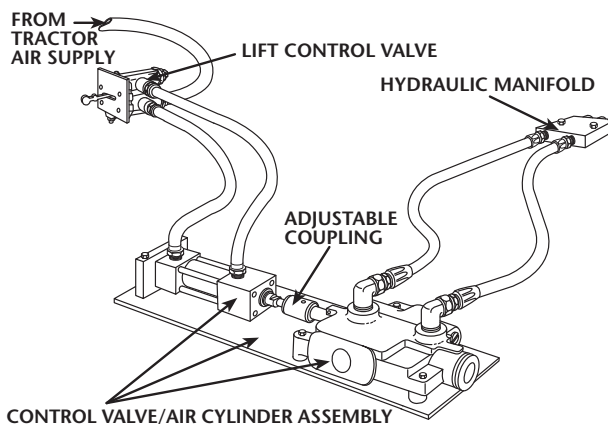
POWER TAKE OFF (PTO) AND HYDRAULIC PUMP INSTALLATION *continued*

Hydraulic Component Installation *continued*

NOTE: Hose and fittings for these connections are to be supplied by the customer/installer.

4. Connect the air lines from the lift control valve to the control valve/air cylinder.
5. Connect the hydraulic hoses from the hydraulic valve to the hydraulic manifold.
6. Operate the air lift control valve in both the up and down position, and inspect the hydraulic control valve. In either position, the hydraulic control valve must be fully actuated. If not, adjust the coupling until full stroke is achieved (see *Figure 8*.)

Figure 8



3. Install all hydraulic hoses and fittings (as shown in the piping diagrams on pages 9 and 10) for the model selected. Use care to assure that all hoses and fittings are clear and free from foreign material and that all joints are properly sealed.
4. Fill and bleed the hydraulic system.
 - A. Have, on hand, sufficient hydraulic oil for the model selected. The approximate system volumes are given below:

MODEL:	SYSTEM VOLUME
FW2800-X	7 ¹ / ₂ gallons
FW2800-5X	12 gallons
FW2900-X	6 gallons
FW2900-5X	9 ¹ / ₂ gallons

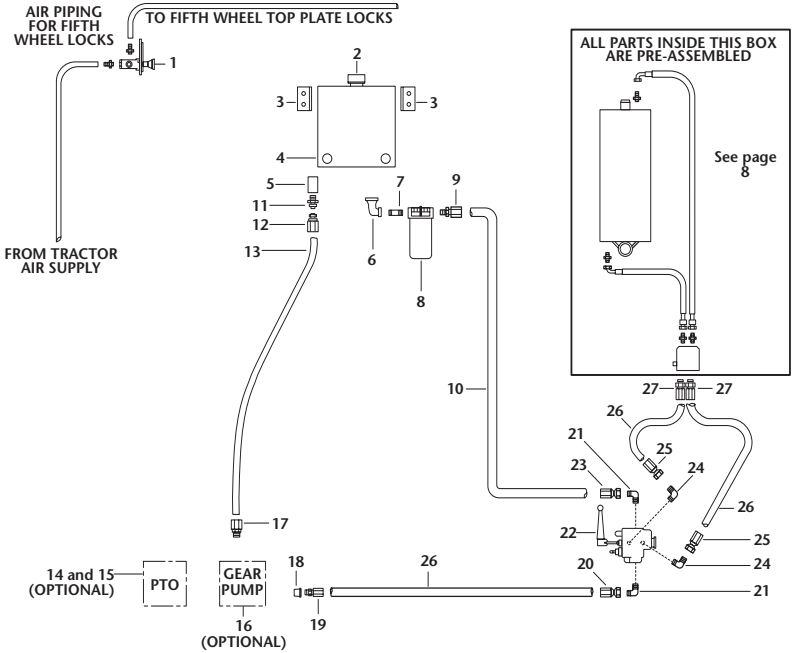
NOTE: These volumes are approximate and will vary somewhat from installation to installation. They are designed to provide approximately 2-1/2 gallons reserve in the oil tank when the system is filled and bled.

POWER TAKE OFF (PTO) AND HYDRAULIC PUMP INSTALLATION *continued*

- B. Fill the oil tank (approximately 5 gallons), taking precautions not to let foreign material into the tank. After the tank is filled, loosen the inlet fitting on the pump until the oil drips out. Retighten the fitting. Start the engine and shift the PTO into gear. Operate the engine at 1000 to 1200 r.p.m.
 - 1. **Single Cylinder Models** – Operate the hydraulic control valve to completely raise the fifth wheel.
 - 2. **Twin Cylinder Models** – Operate the hydraulic control valve to raise the fifth wheel approximately one-third of its total height. Stop and refill the oil tank. Raise the fifth wheel to two-thirds total height, and again fill the oil tank. Raise to full height.
 - C. Check the fluid level in the oil tank. Be sure that it contains four inches of oil (approximately half full) and add or remove oil if necessary.
 - D. Take the PTO out of gear and loosen the pipe plug on the front end of the cylinder enough to let air bleed out. When oil starts to drip, retighten the plug. Engage the PTO and lower the fifth wheel.
 - E. Completely raise and lower the fifth wheel. Disengage the PTO and check the oil level in the tank.
5. System Check
- A. Double check the fifth wheel installation
 - 1. Are all fittings tight?
 - 2. Are all mounting bolts properly tightened?
 - 3. Is the fifth wheel frame properly welded to the mounting angle?
 - 4. Is the oil tank approximately half full with oil?
 - 5. Has the transmission been refilled with transmission fluid?
 - B. Lubricate the unit. Apply Dura Slide™ or grease to the top bearing surface of the fifth wheel, and grease all of the grease fittings at pivot points in the elevating fifth wheel mechanism.
 - C. Install the operating instructions in the tractor cab.
 - D. Check the proper operation of the fifth wheel locking mechanism by coupling several times to a trailer or with a Holland TF-TLN-5001 lock tester. (The lock tester may be used prior to lubricating the top plate.) Also test the operation of the manual secondary lock.
 - E. Check the operation of the system in accordance with the operating instructions by lifting, moving, and spotting a loaded trailer.
 - F. Shut the system down and check the hydraulic system for leaks. Also, examine the mechanical components to assure that there are no interferences with any components of the tractor frame.

FW2800-X and FW2900-X SINGLE CYLINDER ELEVATING FIFTH WHEEL

Piping Diagram Parts List

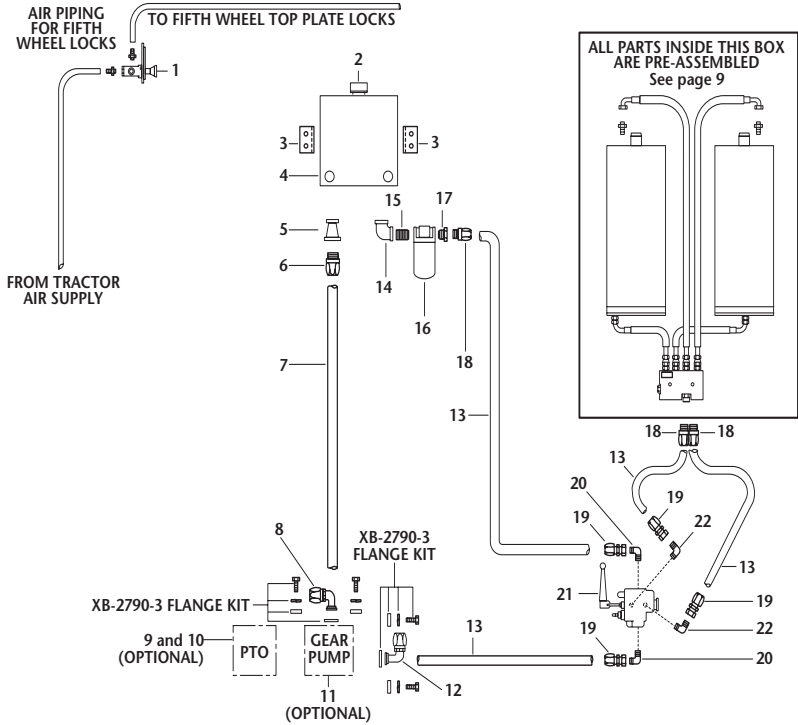


ITEM	PART NO.	QTY	DESCRIPTION
1	XB-2556	1	Fifth wheel lock control valve
2*	XB-01786	1	Filler cap and breather
3*	XA-01909	2	Mounting brackets
4*	XB-01730	1	Oil tank
5	XB-02208	1	Pipe coupler – 1 1/4" NPT
6	XB-02209	1	90° reducing elbow
7	XB-2798-1	1	3/4" pipe nipple
8	XB-2783	1	Hydraulic oil filter
9	XB-2793	1	Straight male hose fitting 3/4"-14 NPT, 5/8" I.D. hose
10	XB-2785	1	5/8" I.D. medium pressure oil hose, 51/2 ft. long
11	XB-2790	1	Male adapter – 1 5/8"-12 JIC, 1 1/4"-11 1/2" NPTF
12	XB-2795	1	Straight swivel fitting 1 5/8"-12 JIC x 1 1/8" I.D. hose
13	XB-2786-1	1	1 1/8" I.D. medium pressure oil hose, 51/2" long
14	XB-2781-1	1	(Optional) power take-off
15	XB-2781-1-A	1	(Optional) power take-off with air operated shifter
16	XB-04476	1	(Optional) hydraulic gear pump
17	XB-2794-1	1	Straight male hose fitting 1"-11-1/2" NPT x 1 1/8" I.D. hose
18	XB-04478	1	Reducer bushing 1"-11-1/2" / 1 1/2"-14 NPT
19	XB-2791	1	Straight male hose fitting 1/2"-14 NPT x 1/2" I.D. hose
20	XB-2937	1	1 1/8"-12 JIC, 1/2" I.D. hose, SAE 37° flare
21	XB-2934	2	90° elbow 1 1/8"-12 JIC, 3/4"-14 NPT
22	XB-2782-1	1	Control valve
23	XB-2932	1	1 1/8"-12 JIC, 5/8" I.D. hose, 37° flare (JIC) swivel
24	XB-2939	2	90° elbow 7/8"-14 JIC, 1/2"-14 NPT
25	XB-2938	2	SAE 37° flare (JIC) swivel, 7/8"-14 JIC, 1/2" I.D. hose
26	XB-2784	3	1/2" I.D. medium pressure oil hose
27	XB-2792	2	Straight male hose fitting, 3/4"-14 NPT, 1/2" I.D. hose

*Items 2, 3, and 4 are available individually or as XA-01911 tank assembly.

FW2800-SX and FW2900-5X TWIN CYLINDER ELEVATING FIFTH WHEEL

Piping Diagram Parts List

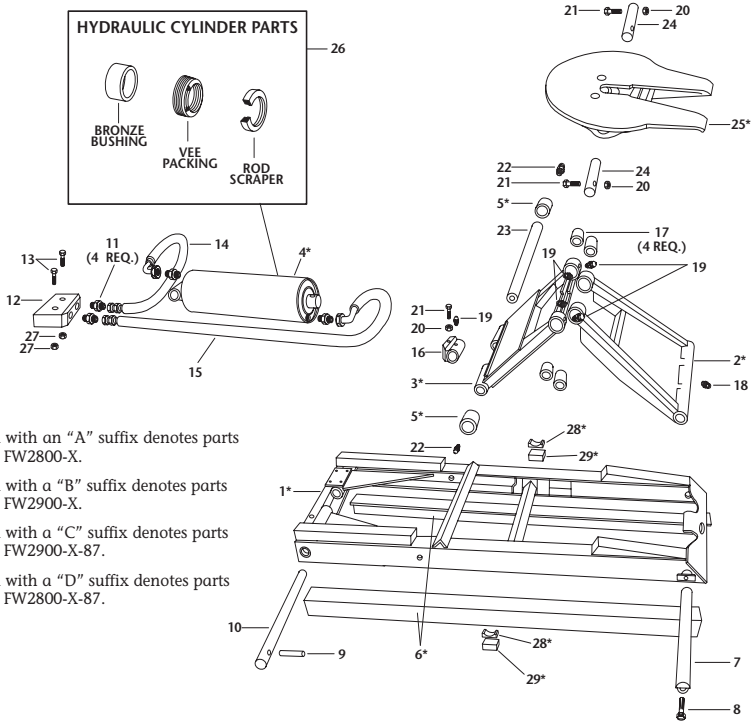


ITEM	PART NO.	QTY	DESCRIPTION
1	XB-2556	1	Fifth wheel lock control valve
2*	XB-01786	1	Filler cap and breather
3*	XA-01909	2	Mounting brackets
4*	XB-01730	1	Oil tank
5	XB-01924	1	Pipe reducer, 1 1/2" NPT to 1 1/4" NPT
6	XB-0257	1	Straight male hose fitting, 1 1/2" NPT, 1 3/8" I.D. hose
7	XB-2786	1	1 3/8" I.D. medium pressure oil hose, 5 1/2" ft.
8	XB-04479	1	90° split flange fitting, 1 1/4" flange, 1 3/8" I.D. hose
9	XB-2781-1	1	(Optional) power take-off
10	XB-2781-1-A	1	(Optional) power take-off with air operated shifter
11	XB-04477	1	(Optional) hydraulic gear pump
12	XB-04480-1	1	90° split flange fitting, 1 1/4" flange, 3/4" I.D. hose
13	XB-2785-2	4	3/4" I.D. high pressure oil hose
14	XB-01788	1	90° elbow, 1 1/4" NPT
15	XB-0255	1	Pipe nipple, 1 1/4" NPT x 2" long
16	XB-2783-A	1	Oil filter
17	XB-0181	1	Reducing bushing, 1 1/4" x 3/4" NPT
18	XB-2794-2	3	Straight male hose fitting, 3/4" NPT, 3/4" I.D. hose
19	XB-0258-1	4	37° flare fitting, 1 1/16"-12 JIC, 3/4" I.D. hose
20	XB-2934	2	90° elbow, 3/4"-14 NPT, 1 1/16"-12 JIC
21	XB-2782-1	1	Control valve
22	XB-2933	2	90° male elbow, 1/2"-14 NPT, 1 1/16"-12 JIC

*Items 2, 3, and 4 are available individually or as XA-01911 tank assembly.

FW2800-X, FW2900-X, FW2800-X-87 and FW2900-X-87 SINGLE CYLINDER ELEVATING FIFTH WHEEL

Parts Explosion



* An item with an "A" suffix denotes parts used on FW2800-X.

An item with a "B" suffix denotes parts used on FW2900-X.

An item with a "C" suffix denotes parts used on FW2900-X-87.

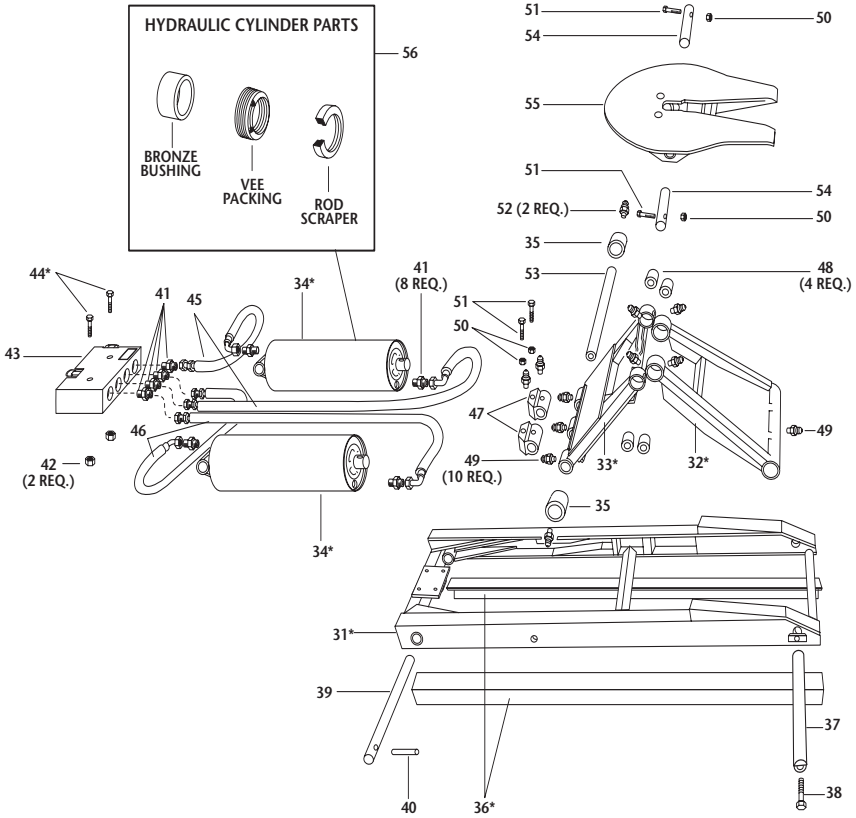
An item with a "D" suffix denotes parts used on FW2800-X-87.

ITEM	PART NO.	QTY	DESCRIPTION
* 1A	XA-2806-2	1	Frame sub-assembly
* 1B	XA-2906		
* 1C	XA-06288		
* 1D	XA-08172		
* 2A	XA-2808-B	1	Rear support assembly
* 2B	XA-2908-B		
* 2C	XA-2908-B		
* 2D	XA-2808-B		
* 3A	XA-2807-B	1	Front support assembly
* 3B	XA-2907-B		
* 3C	XA-2907-B		
* 3D	XA-2807-B		
* 4A	XA-2810-1	1	Cylinder sub-assembly
* 4B	XA-2710-1		
* 4C	XA-2710-87		
* 4D	XA-2810-87		
* 5A	XA-2756-2	2	Wheel
* 5B	XA-2756-3		
* 5C	XA-2756-3		
* 5D	XA-2756-2		
* 6A	XA-292-14	2	Mounting angle
* 6B	XA-292-12		
* 6C	XA-292-12		
* 6D	XA-292-14		
7	XA-2895	1	Rear pivot shaft
8	XB-6834	1	HHCS, 1/2-20 x 3/4"
9	XB-21-S-375-3000	1	Rollpin

ITEM	PART NO.	QTY	DESCRIPTION
10	XA-2894	1	Front pivot shaft
11	XA-2928	4	Male connector
12	XB-2930	1	Hydraulic pump piping manifold
13	XB-C-38-C-214	2	Hex head bolt, 3/8"-16 x 2 1/4"
14	XB-2936	1	Hose assembly
15	XB-2936-1	1	Hose assembly
16	XA-2811	1	Clevis sub-assembly
17	XA-0861	4	Bronze bearing
18	XB-H-38-C	1	45° grease fitting
19	XB-H-38	5	Grease fitting
20	XB-0103	3	Lock nut, 1/2"-13
21	XB-BR-12-C-4	3	Hex head bolt, 1/2"-13 x 4"
22	XB-767	2	Grease fitting
23	XA-2893	1	Axle shaft
24	XA-2809	2	Fifth wheel pivot shaft
* 25A	XA-2801-AX-1	1	Fifth wheel top plate sub-assembly
* 25B	XA-2801-AX-1		
* 25C	XA-2801-07486-1		
* 25D	XA-2801-07486-1		
26	RK-2774	N/A	Hydraulic cylinder rod bearing rebuild kit
27	XB-338	2	Lock nut, 3/8"-16
* 28C	XA-06245	2	Rest pad
* 28D	XA-06245		
* 29C	XA-09498	2	Riser block
* 29D	XA-09498		

FW2800-SX and FW2900-5X TWIN CYLINDER ELEVATING FIFTH WHEEL

Parts Explosion



* An item with an "A" suffix denotes parts used on FW2800-5X.

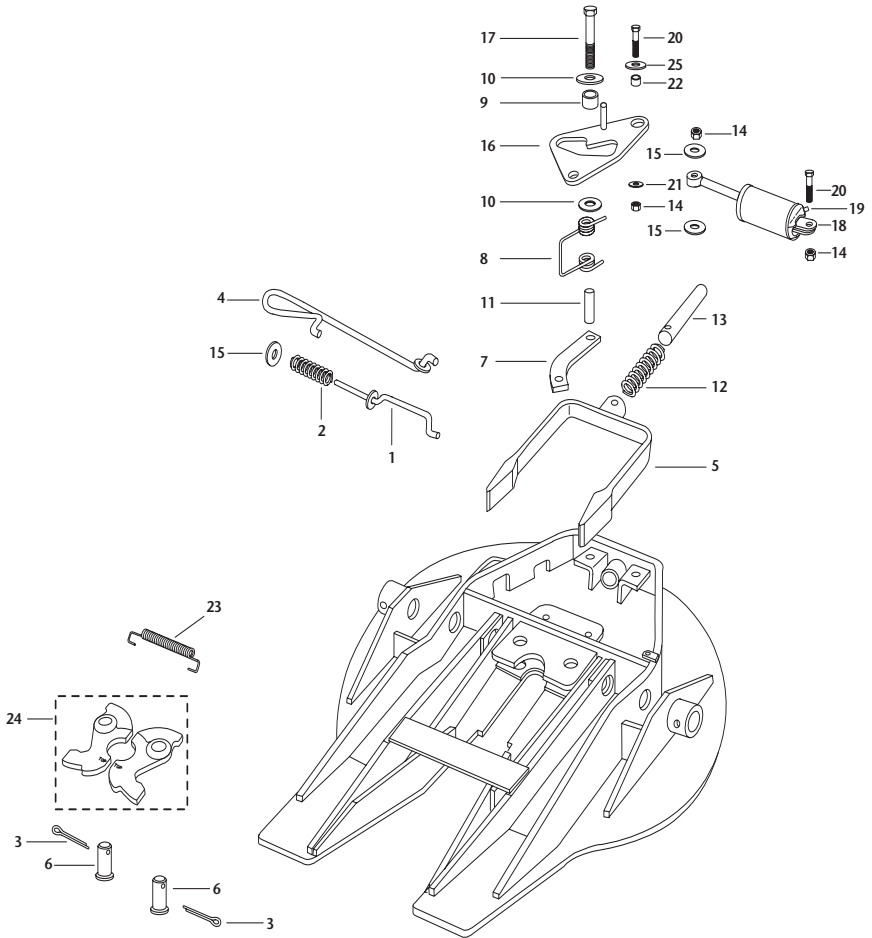
* An item with a "B" suffix denotes parts used on FW2900-5X.

ITEM	PART NO.	QTY	DESCRIPTION
*31A	XA-2806-2	1	Frame sub-assembly
*31B	XA-2906-1	1	Frame sub-assembly
*32A	XA-2808-B	1	Rear support assembly
*32B	XA-2908-B	1	Rear support assembly
*33A	XA-2807-2-B	1	Front support assembly
*33B	XA-2907-1-B	1	Front support assembly
*34A	XA-2810-1	2	Cylinder sub-assembly
*34B	XA-2710-1	2	Cylinder sub-assembly
35	XA-2756-2	2	Wheel
*36A	XA-292-10	2	Mounting angle
*36B	XA-292-15	2	Mounting angle
37	XA-2895	1	Rear pivot shaft
38	XB-6834	1	HHCS, 1/2-20 x 3/4"
39	XA-2894-2	1	Front pivot shaft
40	XB-21-S-375-3000	1	Rollpin
41	XB-2928	8	Male connector

ITEM	PART NO.	QTY	DESCRIPTION
*42	XB-338	2	Hex head lock nut, 3/8"-16
43	XB-2930-A	1	Hydraulic pump piping manifold
*44A	XA-08894	2	HHCS, 3/8"-16 x 2 3/4"
*44B	XB-C-38-C-214	2	Hex head bolt, 3/8"-16 x 2 1/4"
45	XB-2936	2	Hose assembly
46	XB-2936-1	2	Hose assembly
47	XA-2811	2	Clevis sub-assembly
48	XA-0861	4	Bronze bearing
49	XB-H-38	10	Grease fitting
50	XB-0103	4	Lock nut, 1/2"-13
51	XB-BR-12-C-4	4	Hex head bolt, 1/2"-13 x 4"
52	XB-767	2	Grease fitting
53	XA-2893	1	Axle shaft
54	XA-2809	2	Fifth wheel pivot shaft
55	XA-2801-AX-1	1	Fifth wheel top plate sub-assembly
56	RK-2774	N/A	Hydraulic cylinder rod bearing rebuild kit

XA-2801-AX-1 TOP PLATE

Parts Explosion



ITEM	PART NO.	QTY	DESCRIPTION
1	XA-1707-16	1	Handle S/A Release
2	XB-1028-1	1	Spring
3	XB-5	2	Cotter Pin, 1/4" x 2"
4	XA-3544-1-A	1	Handle S/A
5	XA-1703-F	1	Yoke
6	XA-1313	2	Lock Pin
7	XA-3528	1	Lock Bar
8	XB-2149	1	Torsion Spring
9	XA-1507-1	1	Cam Roller
10	XB-1030-1	2	Washer
11	XB-21-S-500-2750	1	Roll Pin
12	XB-1505	1	Spring
13	XA-1706-1	1	Yoke Shaft

ITEM	PART NO.	QTY	DESCRIPTION
14	XB-T-69-A	3	Lock Nut, 1/2" -20
15	XB-PW-1732-1-116	3	Washer, 1/2"
16	XA-1705-11	1	Cam Plate S/A
17	XB-CX-58-F-134	1	HHCS, 5/8" -18 x 1-3/4"
18	XA-2524-R-13-X	1	Air Cyl. S/A for XA-2801-AX-1
19	XB-01996	1	90° Street Elbow
20	XB-2083	2	HHCS, 1/2" -20 x 1-3/4"
21	XB-T-49	1	Washer, 1/2"
22	XA-1029	1	Roller
23	XB-GT-13-1	1	Extension Spring
24	XA-1704-X	1	Lock Set
25	XB-10267	1	Washer, 9/16"

OPERATING PROCEDURES

⚠️WARNING Failure to read, understand and follow the important information contained in these instructions may result in a hazardous condition or cause a hazardous condition to develop.

Relative to tractor-trailer operations, there are other checks, inspections and procedures not listed here, which are necessary, prudent and/or required by law. The following is in addition to these and pertains to the fifth wheel only.

Perform these procedures with the area clear of obstacles and other personnel.

Check Equipment Prior to Use

1. Make sure fifth wheel is properly lubricated.
2. Make sure secondary lock is disengaged (see *Figure 1*).
3. Make sure the fifth wheel locks are open.
4. Make sure the fifth wheel ramps are in the down position (see *Figure 2*).

FOR NORMAL YARD USAGE

⚠️WARNING All elevating fifth wheels when towing trailers in the elevated position are less stable than conventional tractor-trailers and are sensitive to speed and maneuvers.

Coupling Procedures

1. Place handle in “Yard Use” position to retract top plate lockdown pins. To retract pins, move handle from the “Highway Use” position (handle pointing toward rear of tractor), to the “Yard Use” position (handle pointing toward front of tractor) as shown on instruction label located above the handle on the left front side of the fifth wheel frame assembly.
2. Confirm lockdown pins are in the retracted position. Both pins should be fully retracted through the fifth wheel assembly frame rails and through lockdown plates (see *Figure 4*).
3. Back up close to the trailer, centering the kingpin on the throat of the fifth wheel.
STOP.
4. Block the trailer’s wheels. Connect air lines and set the trailer brakes.
5. 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 inches to the rear of the fifth wheel’s articulation point. If not, raise or lower the fifth wheel to obtain this position (see *Figure 2*).
6. Back under the trailer, engaging the fifth wheel locks with the trailer kingpin. Pull forward to test the completeness of the coupling as an INITIAL check. Set the tractor brakes.

⚠️WARNING A direct visual inspection assures proper coupling. The trailer plate must be on the top plate of the fifth wheel and the locks closed on the kingpin as shown in *Figure 3*.

7. Put transmission in neutral and engage power take-off (PTO).
8. Set engine speed to 1000 to 1200 r.p.m. and operate control valve to raise the trailer to full height of fifth wheel. Release the control lever to hold fifth wheel height.
9. Disengage PTO, remove blocks, release trailer brakes and “MOV-ON”.

Uncoupling Procedures

1. Position the trailer in the desired location, one that assures firm support for the landing gear.
2. Set the trailer brakes. Tractor brakes should be released.
3. Put transmission in neutral and engage PTO. NOTE: The PTO must be engaged (pumped down) when lowering the fifth wheel.

4. Set engine speed to 1000 to 1200 r.p.m. and operate control valve to lower the trailer until it rests on the landing gear.
5. Disengage the PTO, block the trailer wheels, disconnect and store the air lines and light cord.
6. Check to see if the secondary lock is engaged. If it is engaged, release it by pulling the secondary lock handle. To keep the lock open, place the handle loop end in the parking hole of the top plate. This holds the lock away from the yoke. (See figure 1)
7. Push the fifth wheel lock control valve and hold in as you pull slowly out from the trailer and "MOV-ON".

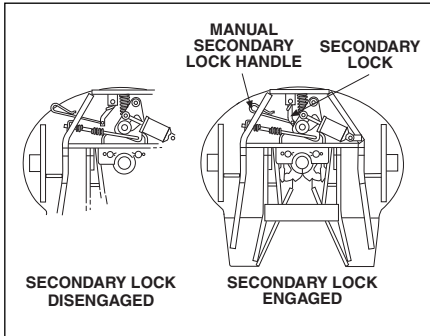


Figure 1

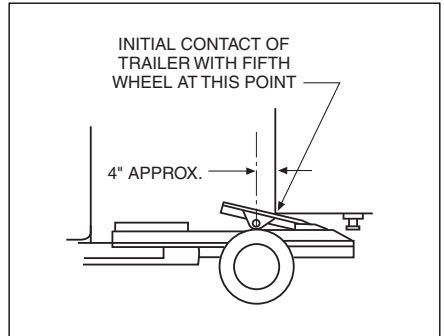


Figure 2

FOR OVER-THE-ROAD YARD USAGE ON PUBLIC STREETS AND HIGHWAYS

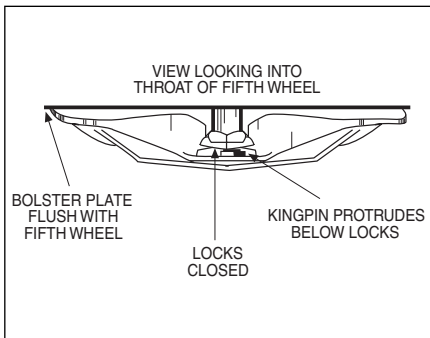


Figure 3

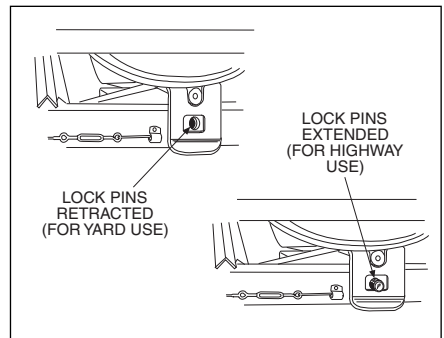


Figure 4



This unit is not recommended for operation on public streets and highways with the fifth wheel in the up position. Do not operate this unit on public streets and highways unless the fifth wheel is in the full down position and the lockdown pins are fully engaged.

Coupling Procedures

1. Place fifth wheel in the full down position and engage top plate lockdown pins. To engage pins, move handle from the "Yard Use" position (handle pointing toward front of tractor), to the "Highway Use" position (handle pointing toward rear of tractor) as shown on instruction label located directly above the handle on the left front side of the fifth wheel frame assembly.

OPERATING PROCEDURES *continued*

Coupling Procedures *continued*

2. Confirm lockdown pins are in the extended position. Both pins should be fully extended through fifth wheel assembly frame rails and through lockdown plates (see *Figure 4*).
3. Back up close to the trailer, centering the kingpin on the throat of the fifth wheel. **STOP.**
4. Block the trailer's wheels. Connect air lines and set the trailer brakes.
5. 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 inches to the rear of the fifth wheel's articulation point. If not, raise or lower the trailer landing gear to obtain this position (see *Figure 2*).
6. Back under the trailer, engaging the fifth wheel locks with the trailer kingpin. Pull forward to test the completeness of the coupling as an INITIAL check. Set the tractor brakes.



A direct visual inspection assures proper coupling. The trailer plate must be on the top plate of the fifth wheel and the locks closed on the kingpin as shown in Figure 3.

7. Engage manual secondary lock. To engage the secondary lock, remove the handle loop end from the parking hole in the top plate and allow the handle to move in which causes the secondary lock to pivot behind the locking yoke. (See figure 1).
8. Fully retract the trailer landing gear.
9. Remove blocks, release trailer brakes and "MOV-ON".

Uncoupling Procedures

1. Position the trailer in the desired location, one that assures firm support for the landing gear.
2. Set the trailer brakes. Tractor brakes should be released.
3. Extend trailer landing gear to ground to support trailer.
4. Block trailer wheels, disconnect and store air lines and light cord.
5. Check to see if the secondary lock is engaged. If it is engaged, release it by pulling the secondary lock handle. To keep the lock open, place the handle loop end in the parking hole of the top plate. This holds the lock away from the yoke (see *Figure 1*).
6. Push the fifth wheel lock control valve and hold in as you pull slowly out from the trailer and "MOV-ON".

Maintenance

1. Check top plate lockdown mechanism cables. With handle in "Highway Use" position cable should be moderately tight and not sagging excessively. If cable is loose, rotate turnbuckle to tighten cable (see *Figure 5*).
2. After tightening, cycle handle from "Yard Use" to "Highway Use" position several times to confirm pins are extending and retracting as described above and to confirm cables are not binding or being pinched.

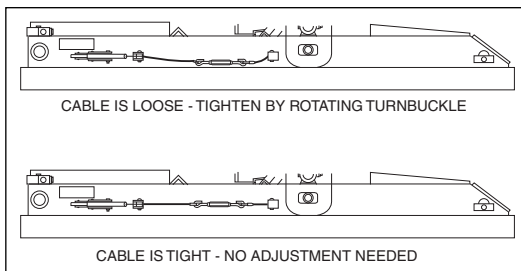


Figure 5



COMMERCIAL PRODUCTS WARRANTY

Holland warrants all Commercial Products (products other than those normally used for personal, family, or household purposes) manufactured by it, when properly installed, to be free from defects in material and workmanship under normal use and service for a period of two (2) years from the date of manufacture, with the exception of elevating fifth wheels for which the warranty period is 180 days.

This warranty is void with respect to any product which has been altered in any way from its manufactured condition, such as intentional modification, accident, corrosion, misuse, failure to provide necessary and reasonable maintenance and is exclusive of normal wear.

The sole responsibility of Holland under this warranty is limited to repairing or replacing at the factory any part or parts which are returned, with transportation charges prepaid, and are found to be defective to the satisfaction of Holland. Written authorization from Holland must be obtained prior to returning any part or parts. No charges for transportation or for labor performed on Holland products by unauthorized persons will be allowed under this warranty.

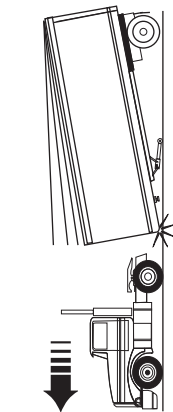
Holland shall not be liable, in any event, for proximate, incidental, consequential or other damages, including but not limited to damages for loss of production or injury to persons or property arising out of any breach of this warranty.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE EXTENDING BEYOND THAT SET FORTH ABOVE.

Warranty

IMPORTANT: Enclosed is important information for the installation, 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 causing death or serious injury to others.



GO THE DISTANCE.

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