



FIFTH WHEELS

INSTALLATION & MAINTENANCE 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 insure that the tractor electrical system is not damaged by the welding.



WARNING

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

GENERAL INFORMATION:

1. Verify that you have sufficient cab-to-axle (C.A.) clearance on the tractor for the elevating fifth wheel (see Figure 1). A minimum of 60" is required. The 60" C.A. dimension is the recommended minimum and is based on a 96" wide square-nosed trailer with a 36" kingpin setting. More or less C.A. may be required for other nose configurations, kingpin settings, refrigeration units, etc.

Note that the pivot centerline of the fifth wheel top plate should be located as near as possible to the OEM's recommended location and a minimum of 1" ahead of the suspension centerline, when in the down position. (see Figure 1.)

2. The FW67 and FW69 Series lift wheels require certain air components for operation. If these air components are not obtained from Holland Hitch Company, they **should** have the following characteristics:
 - A. **Air Tank** – 9 cu. ft. capacity (150 p.s.i. minimum working pressure).
 - B. **Air Compressor** – Minimum 14 cu. ft., 24 cu. ft. recommended (150 p.s.i. minimum working pressure).
 - C. **Hose and fittings** – Multipurpose hose – medium and low pressure (see Figure 4 on page 3, and **parts list** on page 5 for sizes).



FW67 & FW69 Series Air Lift Fifth wheels

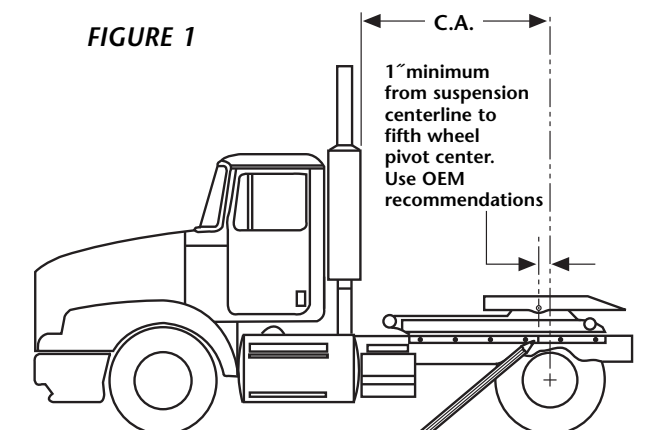
3. Check to see that all components and parts are on hand.

INSTALLATION:

1. Installation of the Fifth Wheel:

- A. Position the "T" style mounting angles along the mounting base of the elevating fifth wheel unit. Make sure the mounting angle is flush with each end of the fifth wheel base, then mark the fifth wheel top plate pivot location on the mounting angle.
- B. Position the mounting angles on the tractor frame with the fifth wheel pivot location ahead of the suspension pivot centerline as noted above in *General Information*.

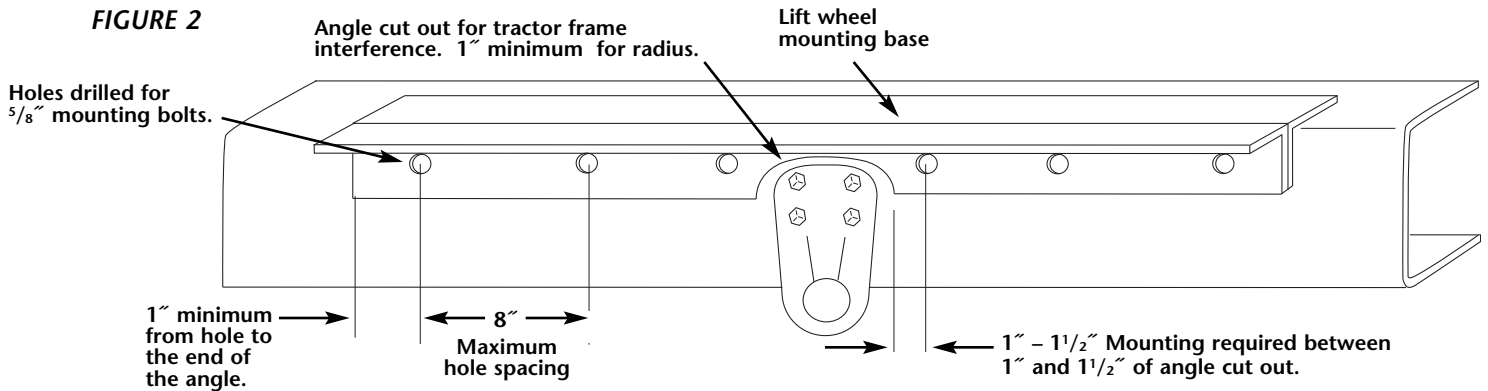
FIGURE 1



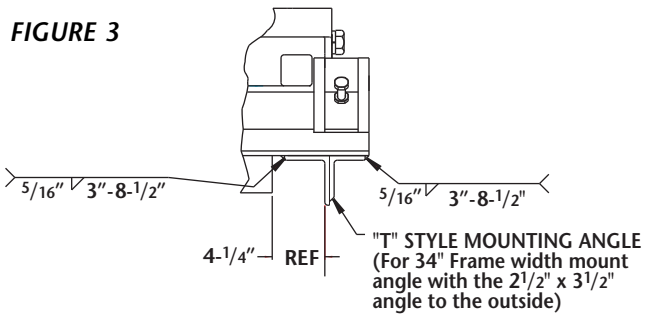
Mark the fifth wheel pivot on the mounting angle.

- C. Mark the "T" style mounting angles for required clearances. The mounting angles may require cut outs to clear the bolts, rivets, spring hangers, etc. on the frame. A riser to elevate the fifth wheel assembly and mounting angles may be required to obtain clearance for the transmission or crossmembers.

continued



- D. Remove and cut the mounting angles as required. Use a 1" minimum radius for all cut outs and then grind smooth.
- E. Clamp the mounting angles tightly to the tractor frame. Check clearances and cut outs. Locate and drill for $\frac{5}{8}$ " mounting bolts with a maximum spacing of 8". The bolts should be located between 1" to $1\frac{1}{2}$ " of each cut out. (See Figure 2.)
- F. Position the elevating fifth wheel on the "T" style mounting angles with the top plate pivot on the marked location. Verify that there are no interferences. Tack weld the mounting angle to the elevating fifth wheel.
- G. Remove the fifth wheel from the tractor and complete the welding of the mounting angles to the fifth wheel frame as shown in Figure 3. Make $\frac{5}{16}$ " fillet welds inside and outside with skip welds 3" long on approximately $8\frac{1}{2}$ " centers (weld 3", skip $5\frac{1}{2}$ "). Weld inside opposite welds on the



outside (see Figure 3). Also weld the frame to the top of the angle at the ends of the frame.

- H. Reposition the fifth wheel assembly on the tractor and install using Grade 8, $\frac{5}{8}$ " diameter bolts, hardened steel washers and lock nuts in all holes that were drilled. Torque the bolts to the bolt manufacturer's specifications.

2. Air Component Installation:

- A. Install the air tank.
- B. Install the three-way fifth wheel lift control valve in a location in the cab where it will not be accidentally activated.

- C. Install all air hoses and fittings as shown on the piping diagram (see Figure 4) for model (FW67 or FW69 series) selected. Use care to assure that all hoses and fittings are clean and free from foreign material and that all joints are properly sealed.

3. Fifth Wheel Lock Control Valve Installation:

- A. Install fifth wheel lock control valve in a location in the cab where it will not be accidentally activated.
- B. Connect the air supply for the lock control where the chassis manufacturer recommends. Hose and fittings for these connections are to be supplied by the customer/installer. See Figure 4 for plumbing diagram.

4. System Check:

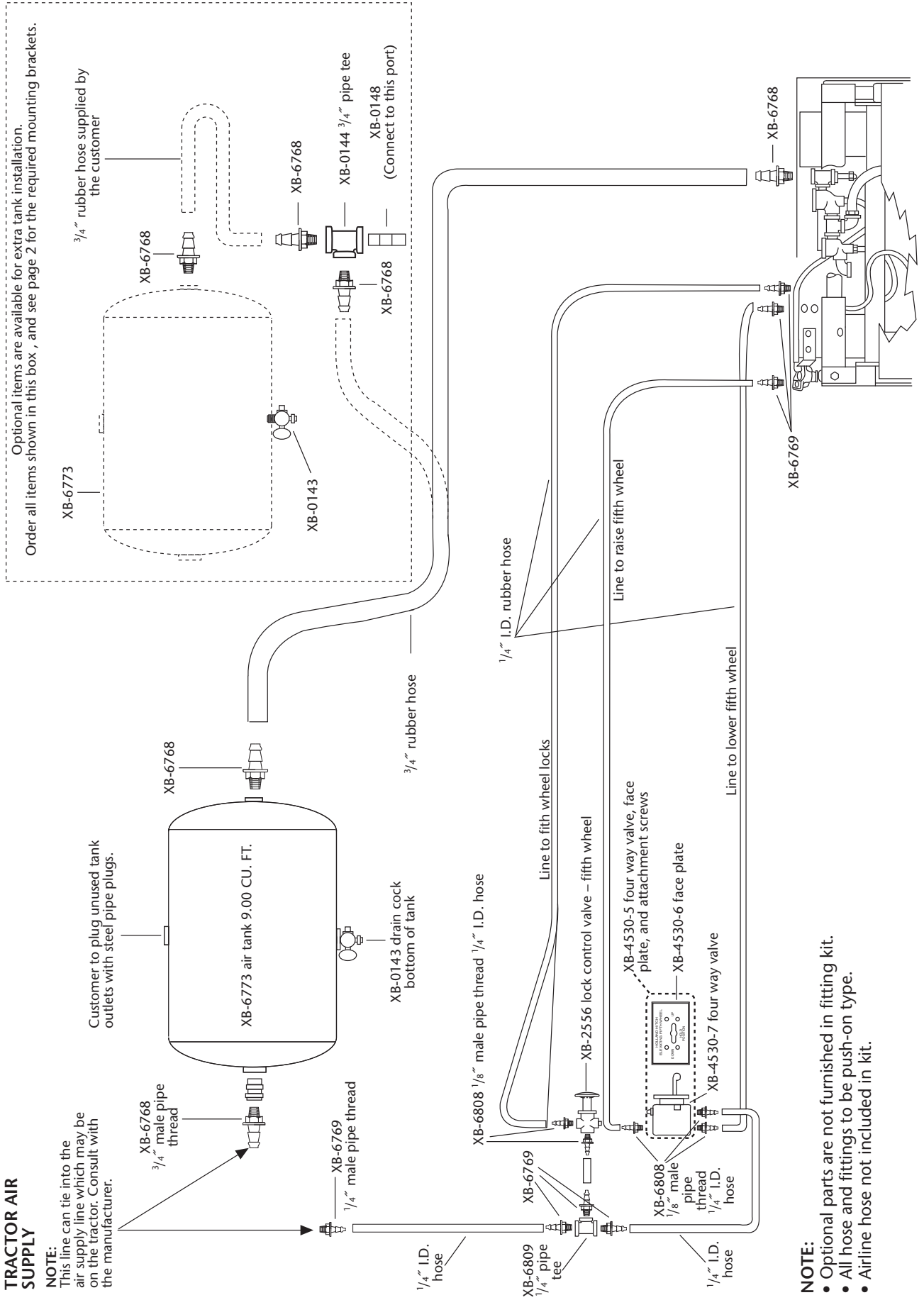
- A. Double check the fifth wheel installation:
 - 1. Are the fittings tight?
 - 2. Are all mounting bolts properly tightened?
 - 3. Is the fifth wheel frame properly welded to the mounting angles?
- B. Lubricate the unit. Apply grease to the top bearing surface of the fifth wheel and grease all grease zerks at pivot points in the elevating fifth wheel mechanism.
- C. Review the operating instructions (Holland publication XL-FW344-XX) and place them 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 greasing the top plate.)
- E. Check the operation of the lifting system — in accordance with the operating instructions — by lifting, moving, and spotting a trailer.
- F. Shut the system down and check the air system for leaks. Also, examine the mechanical components to assure that there are no interferences with any components of the tractor frame.

FW67 and FW69 Piping Diagram

FIGURE 4

TRACTOR AIR SUPPLY

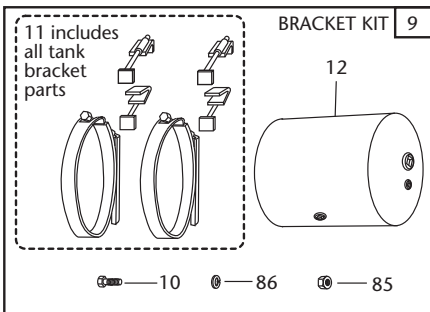
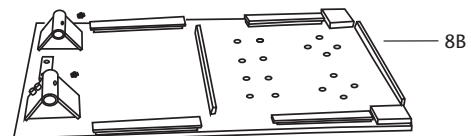
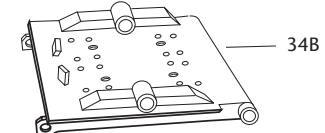
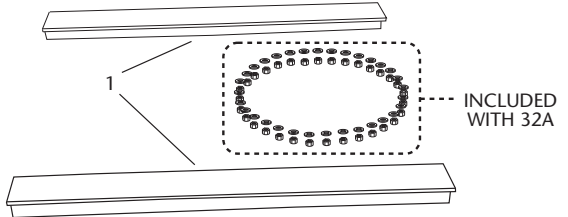
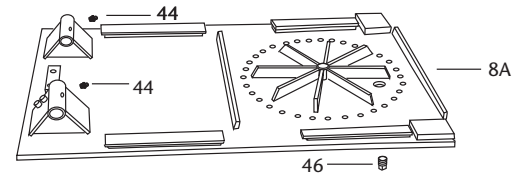
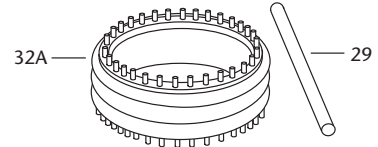
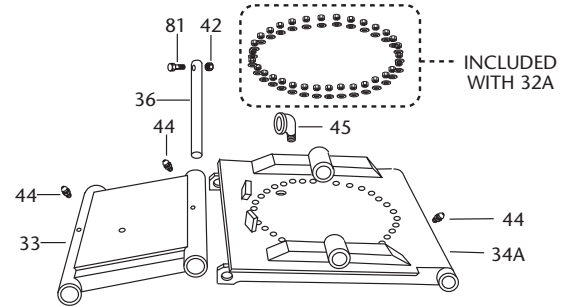
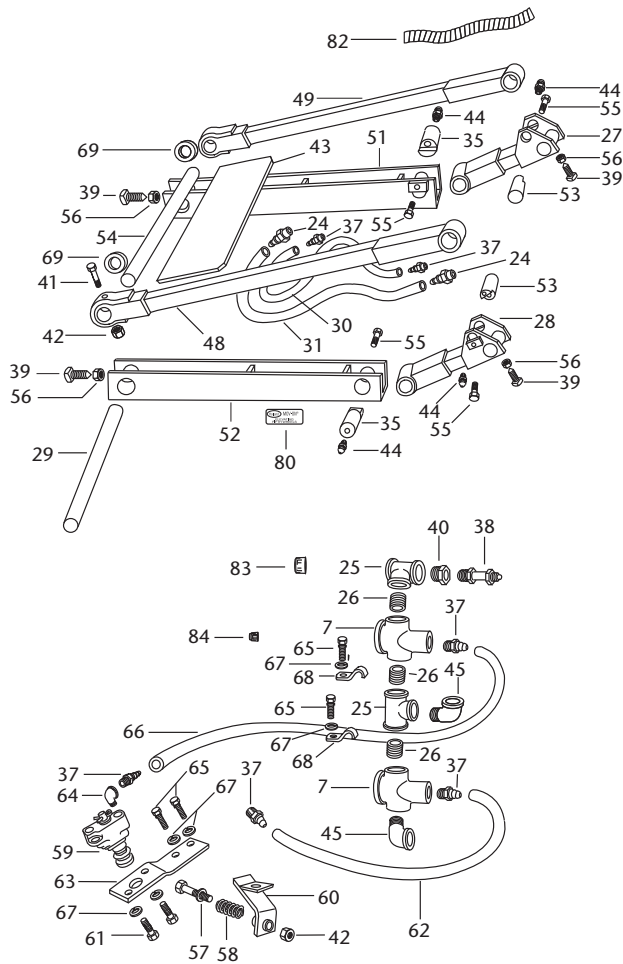
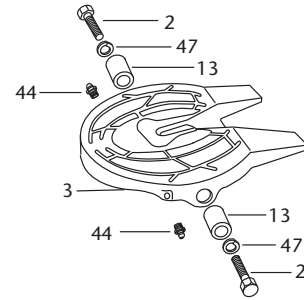
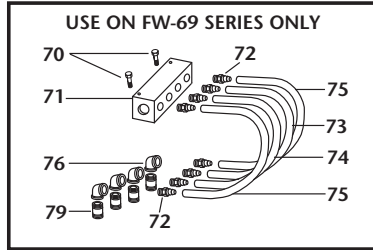
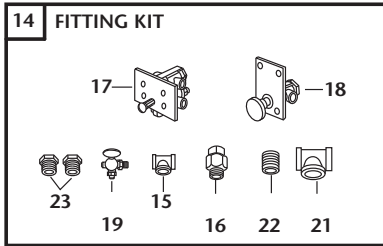
NOTE:
This line can tie into the air supply line which may be on the tractor. Consult with the manufacturer.



NOTE:

- Optional parts are not furnished in fitting kit.
- All hose and fittings to be push-on type.
- Airline hose not included in kit.

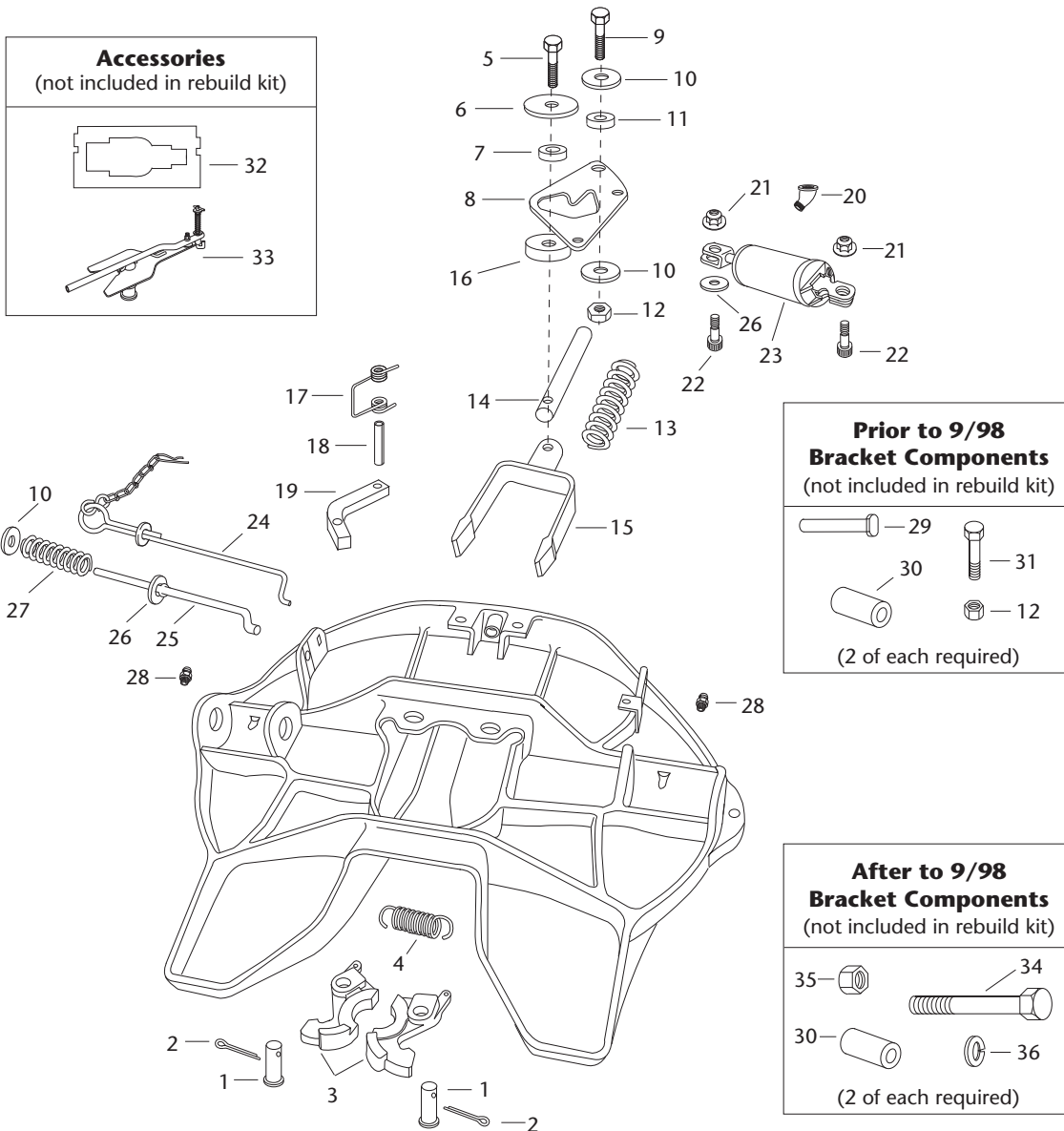
FW67 and FW69 Parts Explosion



FW67 and FW69 Parts List

ITEM	PART NO.	NO.	PART NAME	ITEM	PART NO.	NO.	PART NAME
1	XA-6755	2	Mtg. Angle Sub-Assy.	40	XB-0111	1	1/4" Female to 3/4" Male Red. Bush.
2	XB-BR-118-C-7	2	Bolts	41	XB-BR-12-C-4	1	Hex Hd. Bolts 1/2"-13 x 4"
3	XA-351-UB	1	Comp. Top Plate Sub-Assy. (see pg 6)	42	XB-0103	3	Lock Nuts 1/2"-13
7	XB-4574	2	Starter Valves	43	XA-6757	1	Cross Plate
8A	XA-6730-1	1	Base Sub-Assy. (FW67)	44	XB-H-38	9	Zerk Fittings
8B	XA-6930-1	1	Base Sub-Assy. (FW69)	45	XB-2779-1	3	3/4" Street Elbow
9	RK-6813	1	Tank and Bracket Kit	46	XB-6771	1	1/2" Pipe Plug (FW67 ONLY)
RK-6813 Bracket Kit Includes the Following Items				47	XB-E-536	2	1 1/8" Lock Washer
85	XB-HNH-58-C	4	Locknut 5/8"-11	48	XA-6704-1-B	1	Upper Pivot Arm
86	XB-T-199	8	Washer 5/8"	49	XA-6704-B	1	Upper Pivot Arm
10	XB-03553	4	Hex Hd Cap Screws 5/8"-11 x 2"	51	XA-6714-1-R	1	Rail Sub-Assy. (Right)
11	XA-03504	2	Tank Brackets	52	XA-6714-1-L	1	Rail Sub-Assy. (Left)
12	XB-6773	1	Air Tank	53	XA-6798-B-1	2	Shaft
13	XB-1604-5	2	Rubber Bushings (included with items 34A and 34B)	54	XA-6705-4	1	Shaft
14	RK-6811	1	Fitting Kit	55	XB-6834	4	HHCS 1/2"-20 x 3/4" (Nylock)
RK-6811 Fitting Kit Includes the Following Items				56	XB-04067	4	Hex Nut 5/8"-11
15	XB-6809	1	Pipe Tee 1/4" x 1/4" x 1/4"	57	XA-05172	1	Bolt Sub-Assy., Adjusting
16	XB-4579	1	Check Valve	58	XB-403	1	Compression Spring
17	XB-4530-5	1	4 Way Valve	59	XB-4575-2	1	Stop Valve
18	XB-2556	1	Lock Control Valve	60	XA-0195	1	Bracket Sub-Assy.
19	XB-0143	1	Drain Cock	61	XB-C-516-C-112	2	HHCS 5/16"-18 x 1 1/2"
21	XB-0144	1	3/4" Pipe Tee	62	XA-6766-13	1	1/4" Rubber Hose 13" Long
22	XB-0148	1	3/4" Close Nipple	63	XA-0194	1	Bracket
23	XB-0111	2	1/4" Female to 3/4" Male Red. Bush.	64	XB-697	1	90° St. Elbow 1/4" Pipe Thread
24	XB-6768	2	3/4" Male Pipe Fitting	65	XB-C-516-F-34	4	HHCS 5/16"-24 x 3/4"
25	XB-0144	2	3/4" Pipe Tee	66	XA-6766-2	1	1/4" Rubber Hose 28" Long
26	XB-0148	3	3/4" Close Nipple	67	XB-116	6	5/16" Lock Washer
27	XA-6715-1-B	1	Lower Pivot Arm Sub-Assy.	68	XB-01331	2	Conduit Clamps
28	XA-6715-2-B	1	Lower Pivot Arm Sub-Assy.	69	XA-01601	2	Spacer
29	XA-1311-3	2	Shaft	70	XB-0140	2	HHCS 1/4"-28 x 2 1/2"
30	XA-6766-1	1	1/4" Rubber Hose 44" Long	71	XA-08968	1	Air Manifold
31	XA-6765-1	1	3/4" Rubber Hose 46" Long	72	XB-6848	8	Push Lox Ftg. 1/4" Pipe to 3/8" Hose
32A	XB-6764	1	Air Bellows, Includes Bolts, Nuts and Washers (FW67)	73	XA-6847-3	1	3/8" Hose 10" Long
32B	XB-4514	4	Air Bellows (FW69) (requires nuts and washers)	74	XA-6847-5	1	3/8" Hose 25" Long
33	XA-6718-1	1	Torque Frame	75	XA-6847-4	2	3/8" Hose 19" Long
34A	XA-6742-1	1	Lift Sub-Assy. (FW67)	76	XB-6752	4	90° Elbow, 1/4" Thread
34B	XA-6942-1	1	Lift Sub-Assy. (FW69)	77	XB-T-45-1	32	1/2" Lock Washer
35	XA-6798-B-3	2	Shaft	78	XB-C-59	32	1/2"-13 Jam Nut
36	XA-6705-12	1	Shaft	79	XB-6854	4	1/4" Pipe Nipple 1 1/2" Long
37	XB-6769	6	1/4" male Pipe Fitting	80	XB-06300	1	Tag, Mov-On
38	XB-4606	1	Safety Valve	81	XB-BHRO-12-C-434	1	Hex Hd. Cap Screw 1/2"-13 x 4 3/4"
39	XB-03553	4	HHCS 5/8"-11 x 2"	82	XB-05169	2	Hose Guard
				83	XB-03942	2	Plug
				84	XB-06074	2	Plug

RK-351-UB Parts Breakdown



ITEM	PART NO.	NO.	PART NAME	ITEM	PART NO.	NO.	PART NAME
1	XA-07292-T	2	Lock Pin	18	XB-21-S-500-2750	1	Roll Pin 1/2" x 23/4"
2	XB-5	2	Cotter Pin (1/4" x 2")	19	XA-3528	1	Secondary Lock
3	XA-08332-1	1	Lock Jaw Set	20	XB-698	1	45° Street Elbow
4	XB-07628	1	Extension Spring	21	XB-08987	2	Flange Nut 3/8"-16
5	XB-0127	1	Hex Hd. Cap Screw 5/8"-18 x 2"	22	XB-08974	2	Sckt. Hd. Shldr. Bolt 3/8"-16 x 1 5/8"
6	XB-07431	1	Washer 2 1/4" x 5/8"	23	XA-2524-R-13-1	1	Air cylinder
7	XA-1507-1	1	Roller 5/8" ID	24	XA-3546	1	Secondary Lock Handle
8	XA-08988	1	Cam Plate	25	XA-09041	1	Release Handle
9	XB-2083	1	Hex Hd. Cap Screw 3/4"-20 x 1 3/4"	26	XB-PW-1732-1-116	2	Washer
10	XB-08559	3	Washer 1 3/4" x 5/8"	27	XB-07291	1	Compression Spring
11	XA-1029	1	Roller 1/2" ID	* 28	XB-H-38	2	Grease Fitting
12	XB-T-69-A	1	Locknut 1/2"-20 (2 add'l req. for brackets)	* 29	XE-06356	2	Bracket Pin
13	XB-1505	1	Yoke Spring	* 30	XB-1604-5	2	Rubber Bushing
14	XA-1706-1	1	Yoke Shaft	* 31	XB-C-95	2	Hex Hd. Cap Screw 1/2"-20 x 1 1/4"
15	XA-07295	1	Yoke	* 32	TF-0110	1	Kingpin Gage
16	XA-09040	1	Cam Spacer	* 33	TF-TLN-5001	1	Kingpin Lock Tester
17	XB-2149	1	Torsion Spring	* 34	XB-BR-118-C-7	2	HHCS 1 1/8"-7x7"
				* 35	XB-NR-118-C	2	Nut 1 1/8"-7

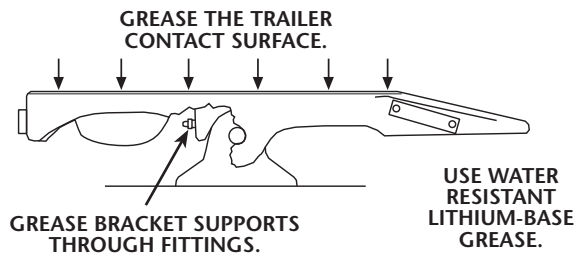
* Not included in rebuild kit

Periodic Maintenance

FW67 and FW69 Series Elevating Fifth Wheels and XA-351-UB Top Plates

WEEKLY

1. Apply grease to all grease fittings on the elevating assembly and fifth wheel top plate.
2. Be sure the fifth wheel top plate is lubricated.
3. Check operation of the fifth wheel locking mechanism.

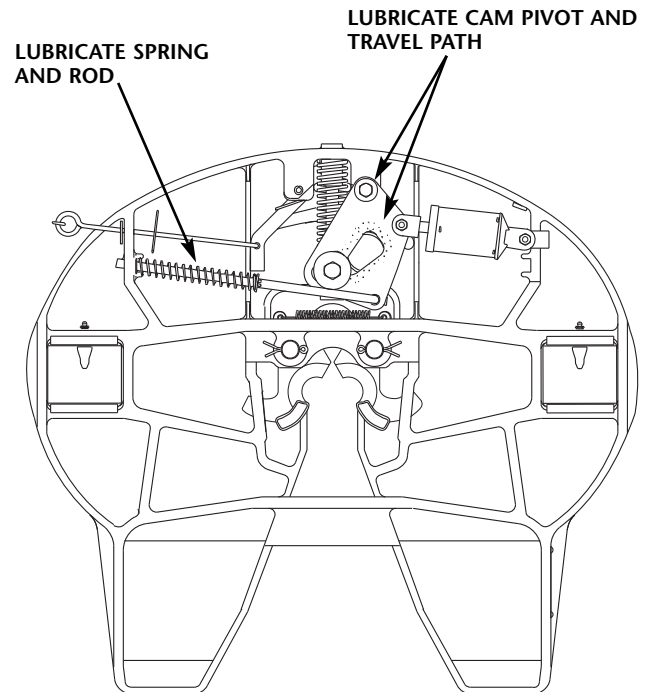


DO NOT use any fifth wheel which does not operate properly.

MONTHLY

1. Steam clean the entire unit thoroughly.
2. Inspect the elevating fifth wheel assembly, its mounting, and the truck frame for proper bolt torque, missing or damaged bolts; and broken, distorted, or missing parts. Repair or replace as required using only HOLLAND parts.
3. Check the fifth wheel locking mechanism for proper operation using a HOLLAND TF-TLN-1000 or TF-TLN-5001 Lock Tester. When checking, move the lock tester fore and aft when closed in the locks. If play exceeds $\frac{3}{8}$ " , rebuild or replace the top plate. See your HOLLAND Distributor for parts and ordering information.

4. Lubricate the top plate locking mechanism with a light, rust-resistant oil.



5. Relubricate the assembly, including applying grease to all grease fittings on the elevating assembly and top plate.
6. Inspect for leaks in the air system. Seal or replace any components required.
7. Check free play at pivot points in the elevating fifth wheel assembly. If free play exceeds $\frac{1}{8}$ " , replace the torque frame, bushing, and/or shaft as required.

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