

INSTALLATION INSTRUCTIONS

PT322 Backhoe Three-Point Hitch Adaptor Kit

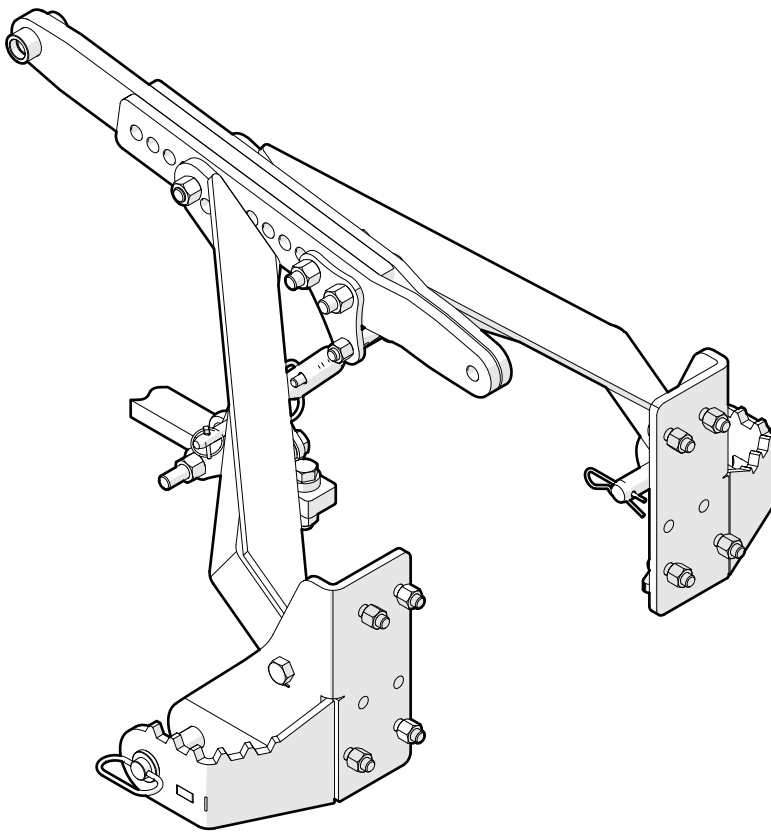


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1. Introduction



WARNING!

Read the machine operator's manual before you install or use this accessory. Carefully read all the safety information and understand all the safety signs that are on the machine. Failure to read and understand the machine information can result in serious personal injury or machine damage.

The PT322 three-point hitch adaptor kit provides the hardware that is necessary to attach a Wallenstein GX720, GX920, or GX920XT backhoe to a tractor with a CAT II three-point hitch system. If you want to connect a backhoe to a current production tractor that is rated below 70 hp, contact Wallenstein Equipment to purchase a four-point subframe.

Illustrations are provided for reference only. Some details may not be shown.

For support or service, contact your local Wallenstein Equipment dealer or distributor.

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1.1 Operator Orientation

When describing controls throughout this manual, the directions for left side, right side, front, and rear are determined when sitting in the tractor driver's seat, facing the direction of forward travel.

2. Safety

WARNING!

Read the machine operator's manual before you install or use this equipment. Carefully read all the safety information and understand all the safety labels that are on the machine. Failure to read and understand the machine information can result in serious personal injury or machine damage.

2.1 Safety Alert Symbol

This Safety Alert Symbol means:

ATTENTION! BE ALERT!
YOUR SAFETY IS INVOLVED!

The safety alert symbol identifies important safety messages on the machine and in the manual.

When you see this symbol, be aware of the possibility of personal injury or death. Follow the instructions in the safety message.



2.2 Signal Words

The signal words **DANGER**, **WARNING** and **CAUTION** identify the severity of a hazard to anyone who uses the machine. The applicable signal word for each message was selected using the following guidelines:

DANGER

Identifies a hazardous situation that, if not avoided, **will** result in serious injury or death. This signal word is used to tell anyone who uses the machine about the most hazardous situations and machine components that cannot be guarded against.

WARNING

Identifies a hazardous situation that, if not avoided, **could** result in serious injury or death. This signal word includes hazards that occur when guards are removed and can be used to tell anyone who uses the machine about unsafe practices.

CAUTION

Identifies a hazardous situation that, if not avoided, **could** result in minor or moderate injury. It can also be used to tell anyone who uses the machine about unsafe practices.

IMPORTANT – Identifies a situation that could result in damage to the machine or property, but is not a personal injury hazard.



Provides additional information that is helpful.

3. Accessory Components

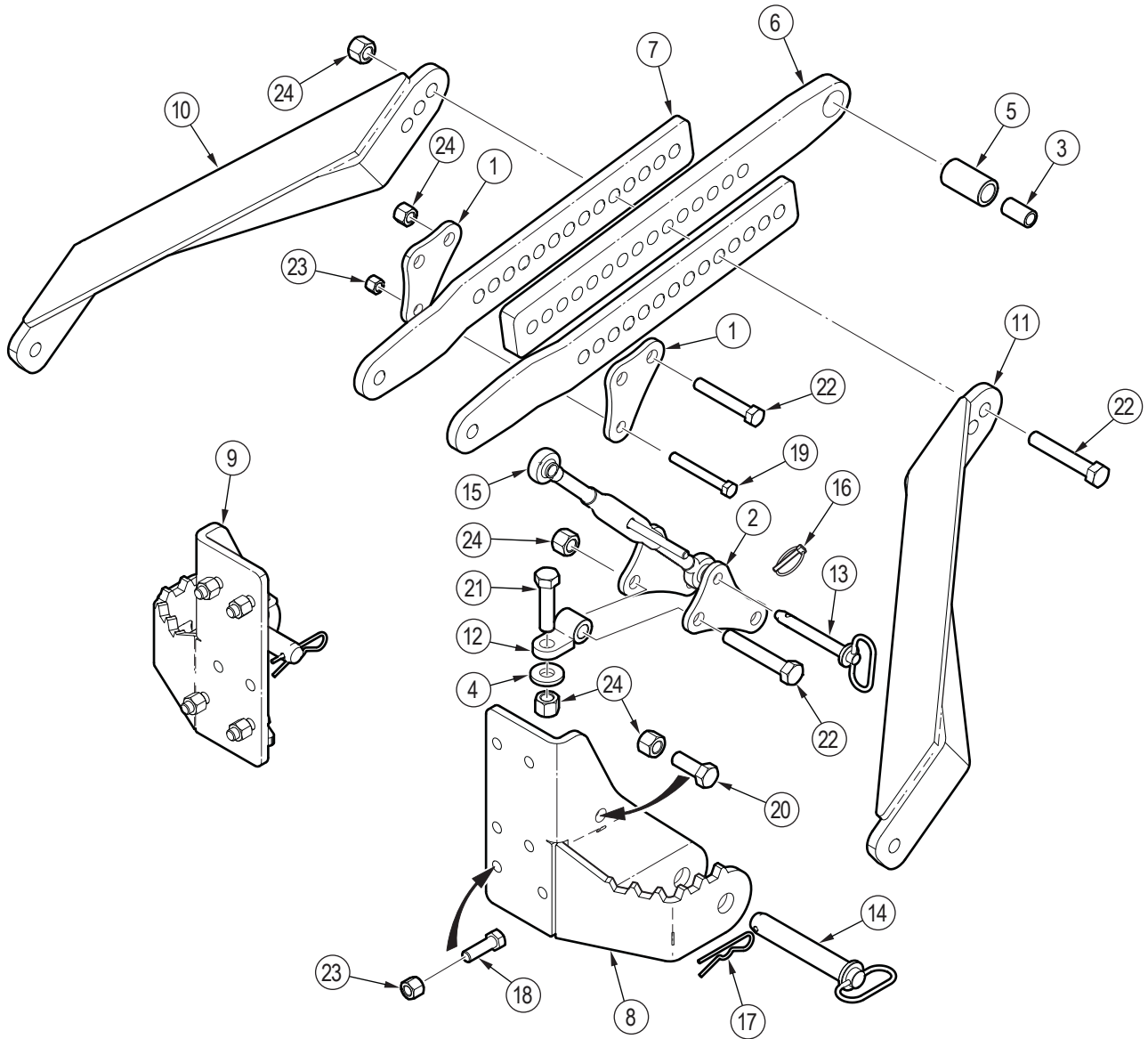


Figure 1 – Accessory components

Item	Part Number	Description	Quantity	Item	Part Number	Description	Quantity
1	3041L213	Upper linkage plate	1	13	Z11232	Hitch pin, 5/8" x 4-1/4"	1
2	3041L214	Lower linkage plate	1	14	Z11271	Hitch pin, 1-1/8" x 6-1/4"	2
3	3041M201	Bushing, 3/4"	1	15	Z11501	Toplink, Cat 0 x 10-1/2" x 16"	1
4	3042L108	Drawbar washer	1	16	Z12110	Linchpin, 3/16"	1
5	3042M102	Toplink bushing	1	17	Z12250	Hitch-pin clip, 3/16" x 4"	2
6	3042S101	Centre tieback	1	18	Z71620	Hex bolt, 5/8" NC x 2"	8
7	3042S102	Side tieback	2	19	Z71640	Hex bolt, 5/8" NC x 4"	1
8	3042W101	LH backhoe bracket	1	20	Z71720	Hex bolt, 3/4" NC x 2"	2
9	3042W102	RH backhoe bracket	1	21	Z71730	Hex bolt, 3/4" NC x 3"	1
10	3042W103	RH backhoe strut	1	22	Z71745	Hex bolt, 3/4" NC x 4-1/2"	5
11	3042W104	LH backhoe strut	1	23	Z72261	Hex lock nut, 5/8" NC	9
12	3042W105	Drawbar tab	1	24	Z72271	Hex lock nut, 3/4" NC	8

4. Install a PT322 Adaptor Kit

WARNING!

Read the installation instructions fully before you start. Make sure that the accessory is installed correctly. Do not change any components. Incorrect installation or changes to the equipment can cause serious injury or damage the machine.

The method you use to install the PT322 kit depends on the tractor's three-point hitch (3PH) configuration. Illustrations in this document show the typical installation method. This procedure is one-time only; it is not necessary to do it again. Only start this procedure after your 3PH is set up correctly.

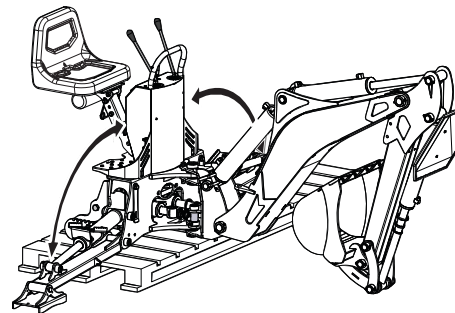
4.3 Procedure

Do the following steps to install the PT322 kit on your tractor:

Step 1

Move the backhoe stabilizer arms:

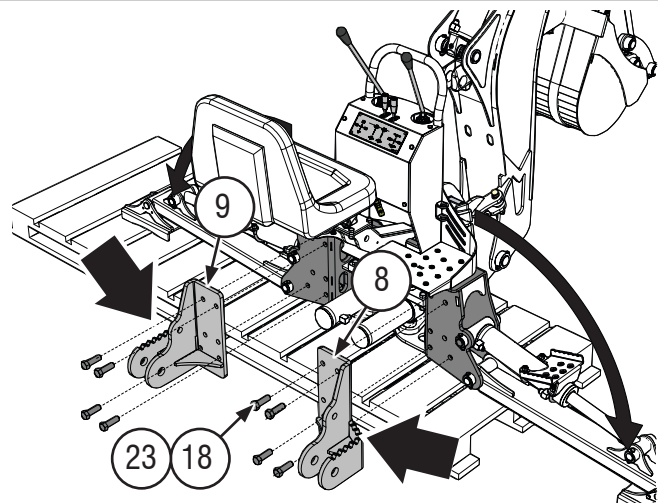
- On the backhoe skid, remove each of the safety catches from the backhoe stabilizer arms.
- On the backhoe control valve, push the stabilizer control levers forward (to move the hydraulic fluid through the control valve) while you manually push each stabilizer arm down.



Step 2

Attach the LH (8) and RH (9) backhoe brackets to the two backhoe main-base brackets. Install the eight bolts (18) and eight nuts (23).

Use a calibrated torque wrench to torque the bolts to **160 lbf•ft (215 N•m)**.



4.1 Preparation

- Assemble the backhoe and leave it on the shipping skid.
- Make sure that the tractor has a front bucket loader installed.
The front bucket loader is necessary to offset the weight of the backhoe and provides the stability that is necessary to operate the backhoe safely.
- Lower the front bucket loader until it rests on the ground.
- Stop the tractor engine and remove the key.

4.2 Tools

15/16" and 1-1/8" wrenches and sockets.

Step 3

WARNING!

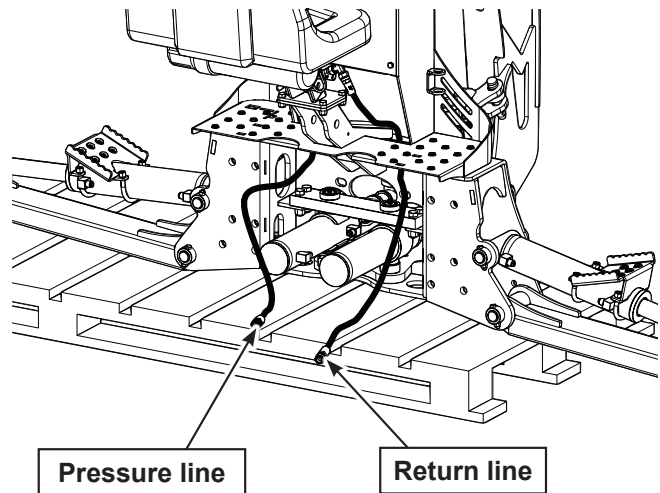
Do not let anyone to stand between the tractor and the backhoe. There is a crushing hazard when the tractor is in reverse. If the driver moves too quickly or does not see a person in the work area, a person can be crushed, or a limb could be cut or severed.

Align the rear of the tractor with the backhoe, and then reverse the tractor toward the backhoe.

Step 4

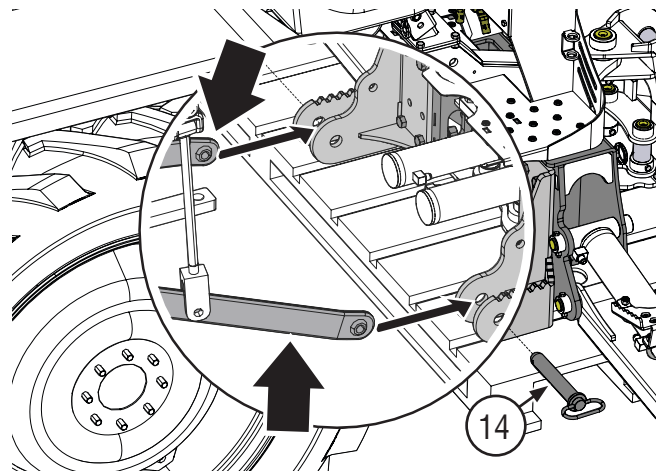
Attach the hydraulic hoses from the backhoe to the tractor (see the image).

Use a calibrated torque wrench to torque the hydraulic fittings to the correct specifications. For hydraulic fitting torque specifications, see *Hydraulic Fitting Torque* on page 12.



Step 5

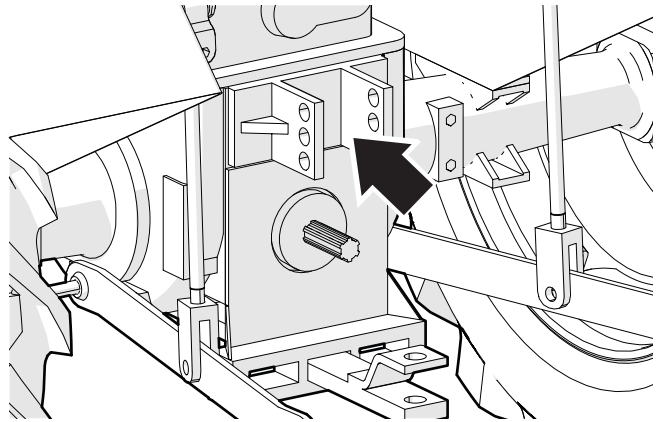
Align the tractor lift arms with the LH (8) and RH (9) backhoe brackets. On each side of the tractor, install the hitch pin (14) through the backhoe brackets and the lift arms. Install a hitch-pin clip (17) through each hitch pin.



Step 6

Set up the tractor topline mount:

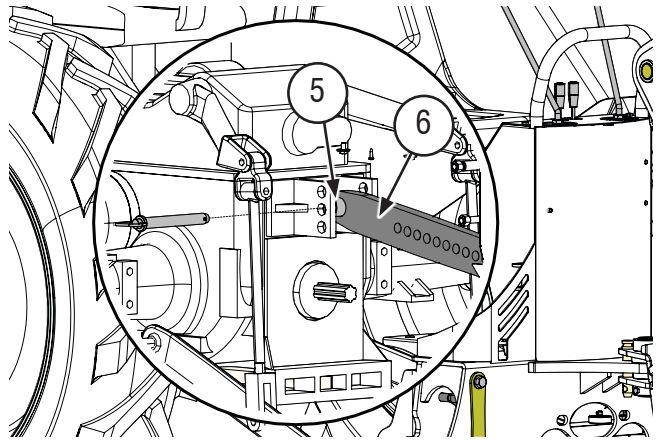
- Remove the tractor topline, hitch pin (the location is shown in the illustration). Set aside the topline, hitch pin, and linchpin. The hitch pin and linchpin are necessary for installation.
- Check to see if the topline bushing (5) will fit between the sides of tractor topline mount.
- Do one of the following:
 - If the topline bushing fits, go to step 7.
 - If the topline bushing is too wide for the mount, cut the topline bushing to the correct size, and then go to step 7.



Step 7

Attach the centre tieback (6) to the tractor:

- Put the topline bushing (5) into the hole at the end of the centre tieback.
- Align the centre tieback with the tractor topline mount.
- Install the tractor hitch pin (removed in step 6) through the topline mount, centre tieback, and topline bushing. If necessary, install the tractor hitch pin with the 3/4" bushing (3).
- Install the linchpin through the hitch pin

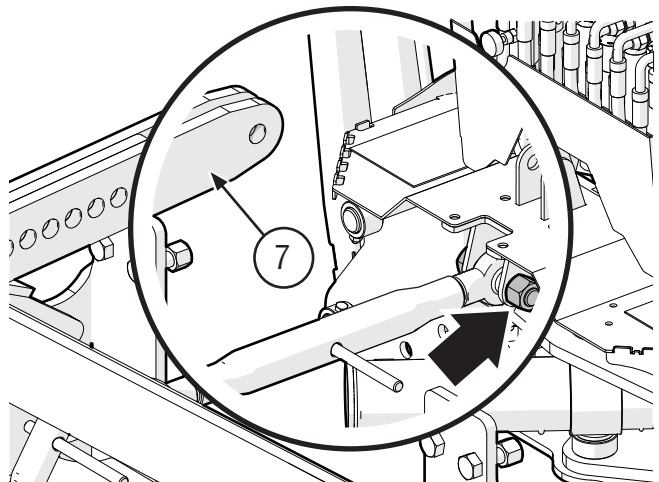


Make sure that the centre tieback is attached safely to the tractor topline mount.

Step 8

Attach the two side tiebacks (7) to the backhoe:

- Remove the topline, bolt, and nut from the backhoe topline mount. Set aside the fasteners. They are necessary for installation.
- Put one side tieback on each side of the center tieback (6).
- Align the outside of each side tieback with the inside of the backhoe topline mount.
- Install the fasteners that were removed in step 8a through the two side tiebacks and the backhoe topline mount.



Make sure that the side tiebacks are attached safely to the backhoe topline mount.

Only hand tighten the fasteners.

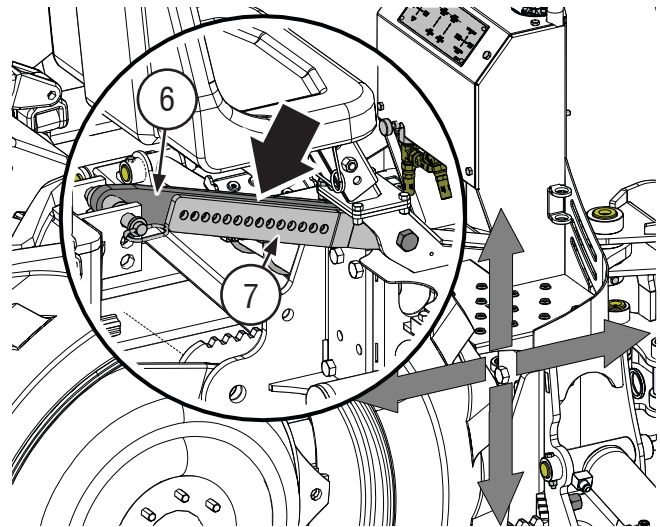
Step 9**! WARNING!**

Always apply the tractor parking brake before you start or stop the tractor. Stay in the tractor driver's seat when you operate the tractor. Do not let people into the work area. The tractor can move unexpectedly and cause serious injury or death.

IMPORTANT! Make sure that the backhoe is aligned with the tractor and level with the ground.

Align the centre (6) and side (7) tiebacks:

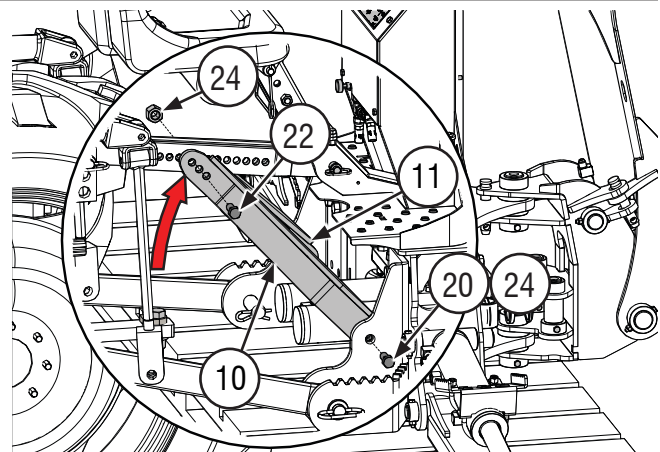
- a. Start the tractor. Make sure that the parking brake is on. For instructions, see the tractor Operator's Manual.
- b. Lift the tractor lift arms until the bottom of the backhoe is approximately 13" (33 cm) above the ground.
- c. Operate the backhoe boom and stabilizers to move the side tiebacks until they align with the centre tieback.
- d. Stop the tractor. Make sure that the parking brake is on. For instructions, see the tractor Operator's Manual.
- e. Do one of the following:
 - If the side tiebacks are aligned with the centre tieback, go to step 10.
 - If the centre tieback is too long and you cannot align the side tiebacks correctly, cut the centre tieback to the correct length, and then do steps 7 to 9 again.

**Step 10**

Install the LH (11) and RH (10) backhoe struts:

- a. Align the LH and RH backhoe struts with the tiebacks and the LH (8) and RH (9) backhoe brackets.
- b. Install the bolt (22) and nut (24) through the two backhoe struts and three tiebacks.
- c. On each side of the tractor, install the bolt (20) and nut (24) through the backhoe strut and the backhoe bracket.

Only hand tighten the fasteners.



Step 11

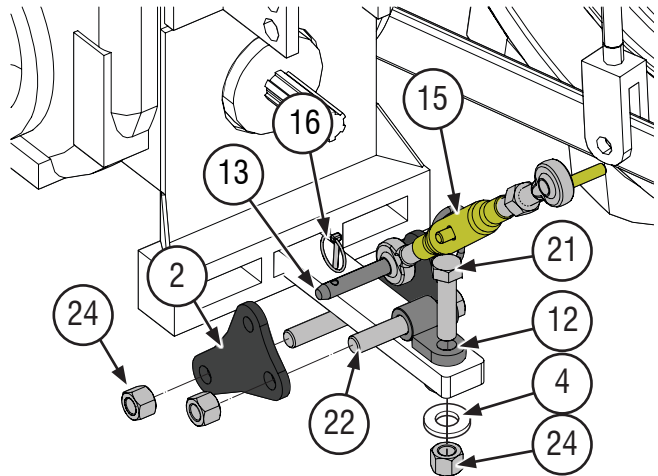
Do one of the following:

- If you have a PTO hydraulic power pack installed on your backhoe, go to step 15. Steps 12 to 14 are not necessary.
- If you do not have a PTO hydraulic power pack installed on your backhoe, go to step 12.

Step 12

Attach the toplinek (15), lower linkage plates (2), and drawbar tab (12) to the tractor drawbar:

- Align the toplinek, and two lower linkage plates with the tractor drawbar.
- Install the hitch pin (13) through the toplinek and linkage plates. Install the linchpin (16) through the hitch pin.
- Align the drawbar tab with the lower linkage plates and the bolt hole in the drawbar.
- Install the two bolts (22) and two nuts (24) through the two lower linkage plates and the drawbar tab.
- Install the bolt (21), nut (24), and washer (4) through the drawbar tab and the drawbar.

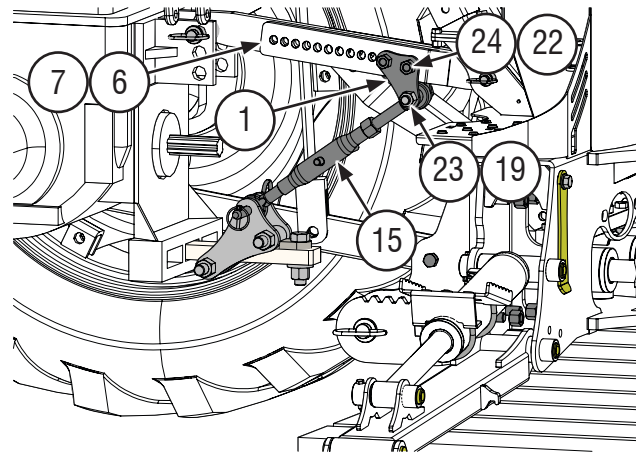


Only hand tighten the fasteners.

Step 13

Align the two upper linkage plates (1) with the tieback assembly (6)(7). Install the two bolts (22) and two nuts (24) through the two upper linkage plates and the tieback assembly.

Only hand tighten the fasteners.



Step 14

Align the toplinek (15) with the bolt holes in the upper linkage plates (1). Install the bolt (19) and nut (23) through the toplinek and upper linkage plates (see the illustration for step 13).

Only hand tighten the fasteners.

Step 15

Check the adaptor kit and the backhoe. Make sure that the backhoe is level and correctly attached to the tractor. If necessary, turn the topline (15) to adjust it. Make sure that the adaptor kit is a tight fit to the tractor and the backhoe.

Step 16

Use a calibrated torque wrench to torque all of the fasteners to the correct specifications.

For the adaptor kit bolt torque specifications, see *Bolt Torque on page 11*. For tractor bolt torque specifications, see the tractor Operator's Manual.

Step 17

Check that the backhoe is attached correctly and works with the adaptor kit installed:

- a. Start the tractor. Make sure that the parking brake is on. For instructions, see the tractor Operator's Manual.
- b. Test the backhoe hydraulics. Do the following:
 - Lift the stabilizer legs, and then remove the skid from under the backhoe.
 - Lower the stabilizer legs.
 - Test all of the boom functions. Make sure that the backhoe has enough space to move and there is no interference with the adaptor kit.
- c. Stop the tractor. Make sure that the parking brake is on. For instructions, see the tractor Operator's Manual.

5. Torque Specifications

5.1 Bolt Torque

IMPORTANT! If you replace hardware, use fasteners of the same grade.

IMPORTANT! The torque specifications in these tables are for non-greased or non-oiled threads. Do not grease or oil fastener threads unless otherwise indicated. When using a thread lock, increase the specified torque 5%.



Bolt grades are identified by the marks on top of the bolt head.

These bolt torque specification tables give the correct torque settings for common bolts and capscrews. Tighten all bolts to the torque that is specified in the table, unless otherwise indicated. Check the bolt tightness periodically.

Imperial Bolt Torque Specifications						
Bolt Diameter	Torque					
	SAE Gr. 2		SAE Gr. 5		SAE Gr. 8	
	lbf•ft	N•m	lbf•ft	N•m	lbf•ft	N•m
1/4 inch	6	8	9	12	12	17
5/16 inch	10	13	19	25	27	36
3/8 inch	20	27	33	45	45	63
7/16 inch	30	41	53	72	75	100
1/2 inch	45	61	80	110	115	155
9/16 inch	60	95	115	155	165	220
5/8 inch	95	128	160	215	220	305
3/4 inch	165	225	290	390	400	540
7/8 inch	170	230	420	570	650	880



SAE Gr. 2



SAE Gr. 5



SAE Gr. 8

Metric Bolt Torque Specifications				
Bolt Diameter	Torque			
	Gr. 8.8		Gr. 10.9	
	lbf•ft	N•m	lbf•ft	N•m
M3	0.4	0.5	1.3	1.8
M4	2.2	3	3.3	4.5
M6	7	10	11	15
M8	18	25	26	35
M10	37	50	52	70
M12	66	90	92	125
M14	83	112	116	158
M16	166	225	229	310
M20	321	435	450	610
M30	1,103	1,495	1,550	2,100



8.8



10.9

5.2 Hydraulic Fitting Torque

Tighten flare-type tube fittings:

- a. Check the flare and flare seat for defects that might cause leaks.
- b. Align the tube with the fitting before tightening.
- c. Hand-tighten the swivel nut until it is snug.
- d. To prevent the tube from twisting, use two wrenches. Place one wrench on the connector body and tighten the swivel nut with the second wrench. Torque the fitting to the correct specification.

If a torque wrench is not available, use the flats from finger tight (FFFT) method.

Hydraulic Fitting Torque Specifications					
Tube size OD	Hex size across flats	Torque		Flats from finger tight	
		lbf•ft	N•m	Flats	Turns
Inches	Inches				
3/16	7/16	6	8	2	1/6
1/4	9/16	11–12	15–17	2	1/6
5/16	5/8	14–16	19–22	2	1/6
3/8	11/16	20–22	27–30	1-1/4	1/6
1/2	7/8	44–48	59–65	1	1/6
5/8	1	50–58	68–79	1	1/6
3/4	1-1/4	79–88	107–119	1	1/8
1	1-5/8	117–125	158–170	1	1/8

Specifications are for non-lubricated connections.

6. Warranty

The logo for Wallenstein, featuring the word "WALLENSTEIN" in white, bold, uppercase letters on a red and black background.

LIMITED WARRANTY

Wallenstein products are warranted to be free of defects in materials and workmanship under normal use and service, for a period of

Five Years for Consumer Use

Two Years for Commercial/Rental Use

from the date of purchase, when operated and maintained in accordance with the operating and maintenance instructions supplied with the unit. Warranty is limited to the repair of the product and/or replacement of parts.

This warranty is extended only to the original purchaser and is not transferable.

Repairs must be done by an authorized dealer. Products will be returned to the dealer at the customer's expense. Include the original purchase receipt with any claim.

This warranty does not cover the following:

- 1) Normal maintenance or adjustments
- 2) Normal replacement of wearable and service parts
- 3) Consequential damage, indirect damage, or loss of profits
- 4) Damages resulting from:
 - Misuse, negligence, accident, theft or fire
 - Use of improper or insufficient fuel, fluids or lubricants
 - Use of parts or aftermarket accessories other than genuine Wallenstein parts
 - Modifications, alteration, tampering or improper repair performed by parties other than an authorized dealer
 - Any device or accessories installed by parties other than an authorized dealer
- 5) Engines. Engines are covered by the manufacturer of the engine for the warranty period they specify. For the details of your engine warranty, see your engine owner's manual. Information about engine warranty and service is also available in the FAQ section at www.wallensteinequipment.com



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