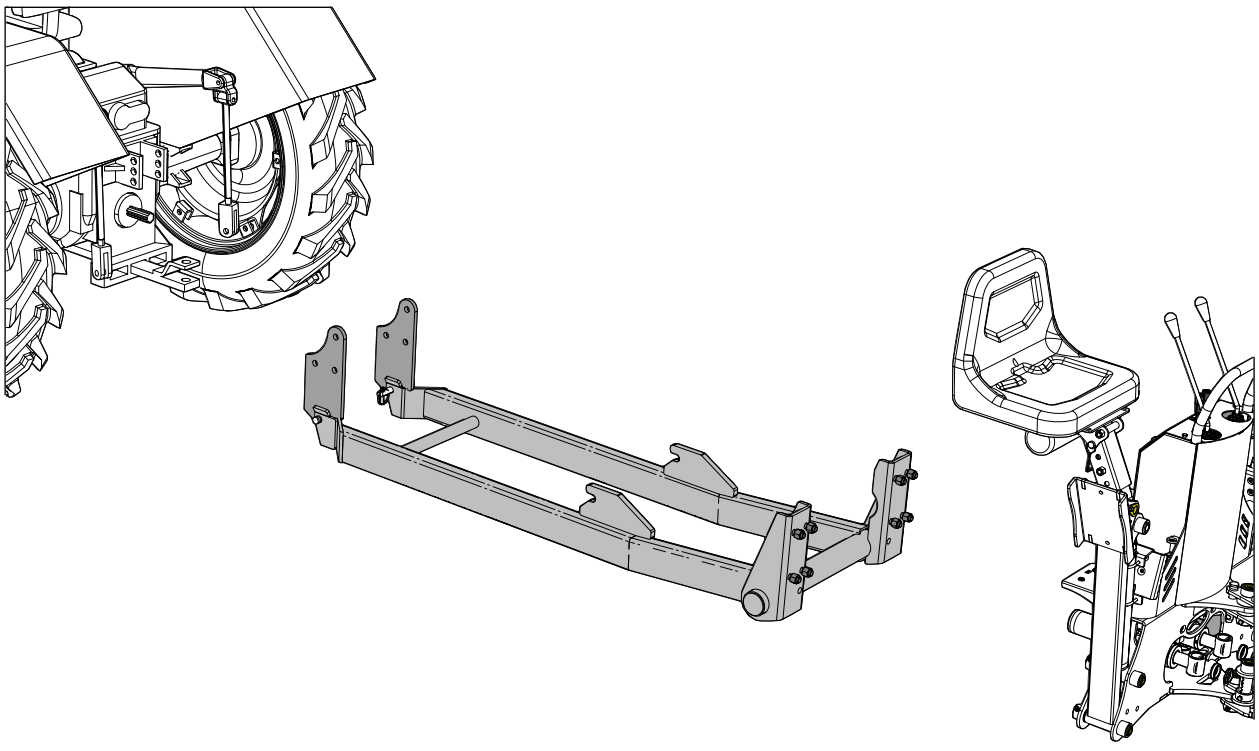
INSTALLATION INSTRUCTIONS

Belly Mount
Backhoe Subframe Kit



Rev Sep-2021

WALLENSTEIN

Introduction

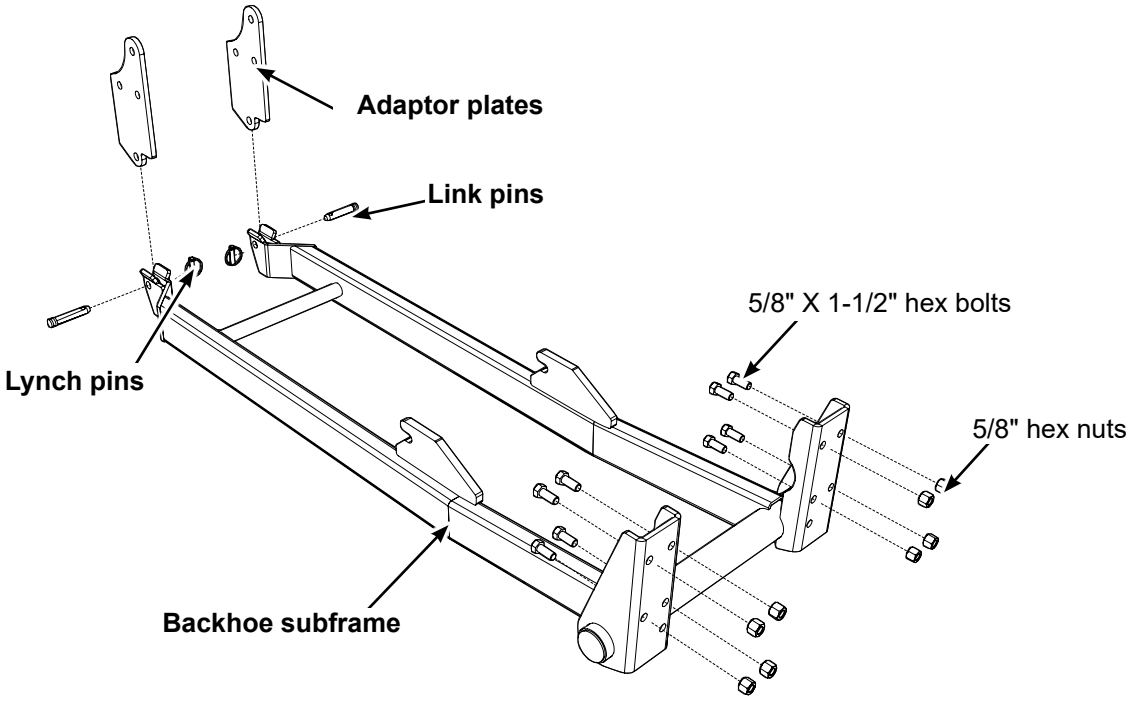
This subframe is designed to work with Wallenstein Backhoes.

The Wallenstein backhoe is designed to work with a wide variety of tractors. With the Wallenstein Subframe Kit, you can easily and quickly attach and detach your Wallenstein backhoe to the tractor.

Some of the illustrations shown in this manual are general, but important features are detailed in order to install your kit successfully.

Please review the backhoe operator's manual. Safe, efficient and trouble-free operation of your Wallenstein Backhoe requires that you and anyone else who will be operating or maintaining the machine, read and understand the Safety, Operation, and Maintenance information contained within the Operator's Manual.

NOTE: All parts and hardware shown are included in the kit. Make sure there is no damage from shipping.



Safety Rules

⚠ WARNING!

ATTENTION! BE ALERT! YOUR SAFETY IS INVOLVED!

Working around equipment can be dangerous. Always be aware of bystanders, the area around the machine, and what to do in case of emergency.

Learn how to install and operate the new equipment safely. Read and understand these instructions before attempting installation.

W007

⚠ WARNING!

Before operating the backhoe:

- **Check that all pins and adapter plates are secure and correctly attached to the sub-frame.**
- **Ensure that all fasteners are correctly torqued according to the bolt torque table.**
- **Inspect and test all hydraulic connections.**
- **Thoroughly read the backhoe operator's manual for safe operation.**

W008

⚠ WARNING!

Make sure the subframe, backhoe and tractor are positioned on dry, level ground. The area around them should be clear and free of debris. Make sure the tractor is shut off, the brake is applied, and key is removed.

⚠ WARNING!

Follow the operating and safety instructions in the backhoe operator's manual. Part of the installation process includes operating the hydraulics to position the attachment points on the tractor.

⚠ WARNING!

Risk of crushing injury! Do not operate the backhoe without toplink installed.

W059

- **Do not install backhoe and required counterweights on tractor if the total tractor and equipment weight exceeds the tractor ROPS weight certification.**
- **Make sure equipment is properly mounted, adjusted and in good operating condition.**
- **Make sure that all safety shielding and safety signs are properly installed and in good condition.**

Preparation:

Removing the rear tractor wheels can make the installation easier.

Position the tractor with the backhoe lined up behind it.

- Backhoe should be assembled but left on the shipping skid.
- The tractor must have a front bucket loader installed. The front loader is required to offset the weight of the backhoe, as well as provide the stability required to operate the backhoe safely.
- The loader should be in the lowered position, resting on the ground.

WARNING!

Make sure the tractor is parked on a level surface with the front wheels chocked to prevent movement. Use properly rated jack stands to support the tractor.

W009

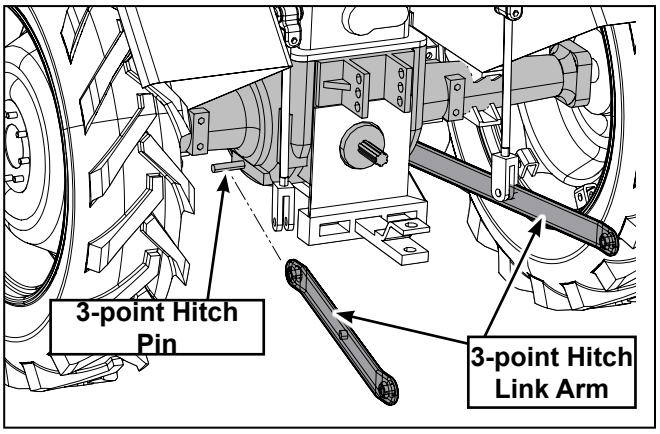
Tools required:

– Basic shop tools
– Overhead lifting device
– Jack stands
– Calibrated torque wrench
– 15/16" Spanner and socket wrenches

Procedure

Step 1

Remove the lower link arms of the 3-point hitch and set aside.

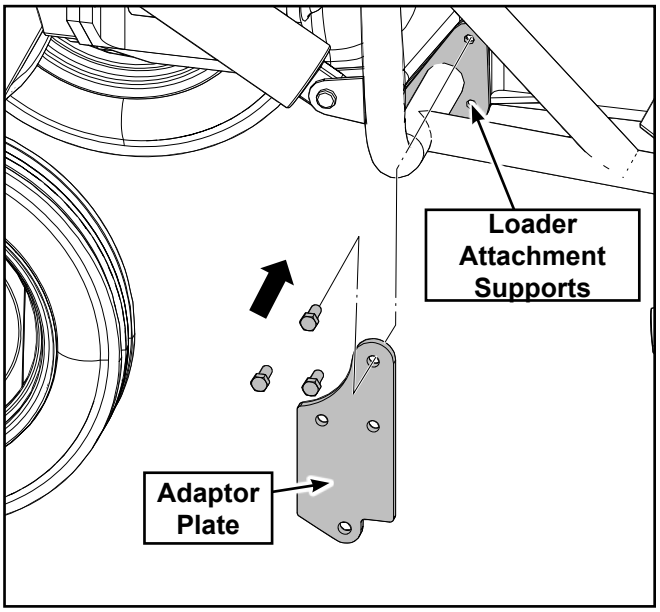


Step 2

Install the subframe adaptor plates by removing the bolts holding the loader attachment supports.

The adaptor plates fit between the loader attachment supports and the tractor gear case.

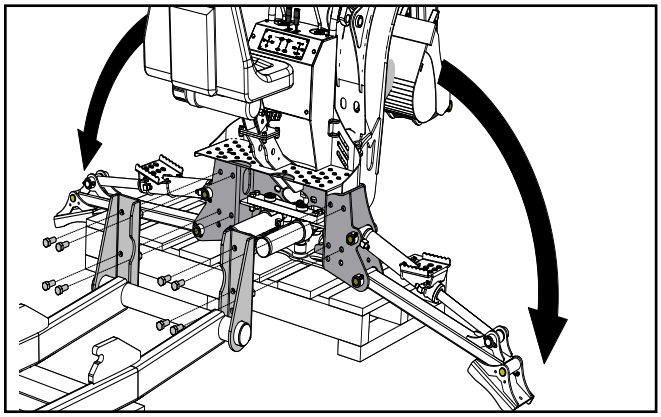
Hand-tighten only.



Step 3

Install the subframe on the tractor.

- Locate the eight 5/8" nuts and bolts included with the subframe kit. Align the subframe with the mounting holes on the backhoe frame.
- Cut the tie wraps and un-clip the safety catches (some models) on the backhoe stabilizer arms.
- Push the stabilizer control forward to release the stabilizer arms and manually lower them.
- Install the bolts through the subframe into the backhoe. Reach inside main base frame to install them. **Torque-tighten to 180 lbf•ft (215 N•m)**.
- Remove the link pins from the subframe and set them beside the subframe hanger brackets.



Step 4

Start the tractor and carefully back it up over the subframe. Get close enough to the backhoe to hook up the hydraulic lines.

If possible, keep the 3-point hitch pins in front of the pin brackets on the subframe.

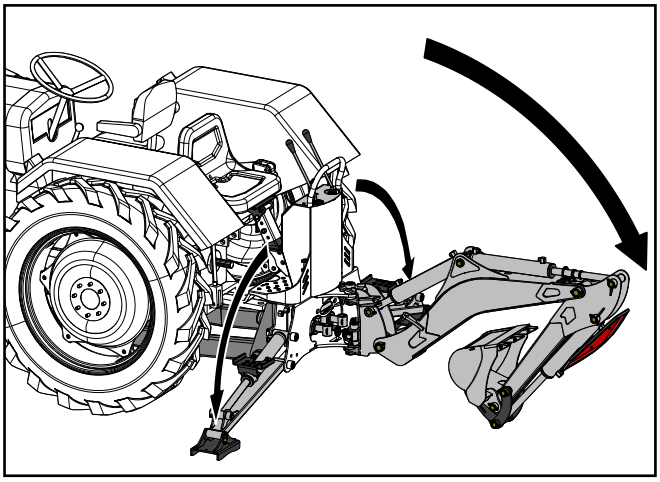
Step 5

⚠ WARNING!

Risk of crushing hazard. The operator must be safely positioned in the seat before operating the backhoe. Clear the area of bystanders.

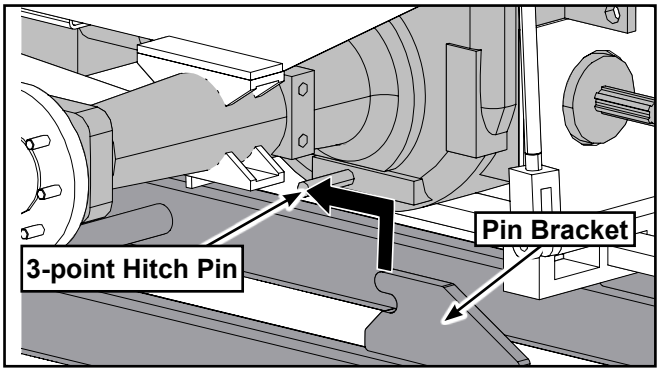
W058

Carefully, lower the boom until it contacts the ground. Then, lower the stabilizers enough to remove the blocking and skids.



Step 6

Manipulate the stabilizer arms (up or down) to line up the pin brackets with the 3-point hitch pins on the tractor.



Carefully back up the tractor until the pins engage the pin brackets.

Stop the tractor and apply the parking brake. Slowly lift the stabilizers then the boom.

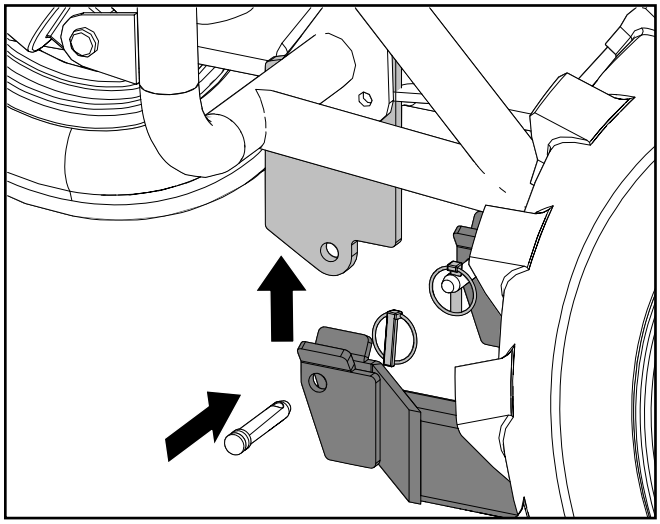
Step 7

The hanger brackets on the subframe should be aligned with the adaptor plates on the tractor. Adjust the subframe until the pin holes on the adaptors and brackets align.

Step 8

Install the subframe link pins into the pin holes and secure with lynch pins.

Tighten the bolts at the loader attachment support points. Refer to the tractor manual for correct bolt torque value.



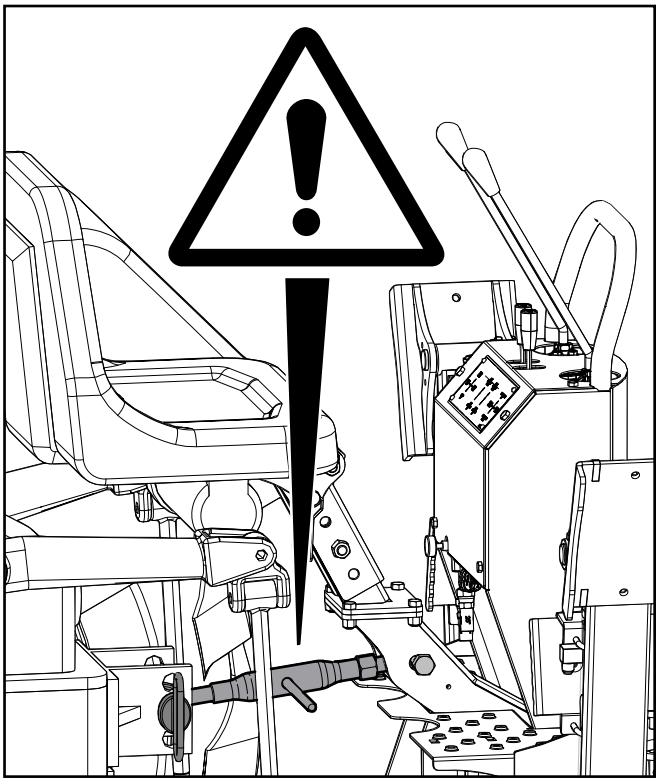
Step 9

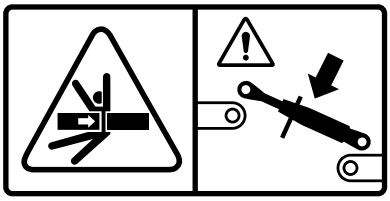
Install the toplink to the backhoe toplink attachment point.

⚠ WARNING!

Risk of crushing injury! Do not operate the backhoe without toplink installed.

W059





The subframe installation is now complete.

The subframe should remain bolted to the backhoe and not be removed.

IMPORTANT! Every 10 hours of operation, check the torque on the bolts that fasten the subframe to the backhoe. Torque-tighten to 180 lbf•ft (215 N•m).

Common Bolt Torque Values

Checking Bolt Torque

The tables shown give correct torque values for various bolts and capscrews. Tighten all bolts to the torque values specified in the table, unless indicated otherwise. Check tightness of bolts periodically.

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

IMPORTANT! Torque figures indicated in the table are for non-greased or non-oiled threads. Do not grease or oil threads unless indicated otherwise. When using a thread locker, increase torque values by 5%.

NOTE: Bolt grades are identified by their head markings.

Imperial Bolt Torque Specifications

Bolt Diameter	Torque Value					
	SAE Gr. 2		SAE Gr. 5		SAE Gr. 8	
	lbf•ft	N•m	lbf•ft	N•m	lbf•ft	N•m
1/4"	6	8	9	12	12	17
5/16"	10	13	19	25	27	36
3/8"	20	27	33	45	45	63
7/16"	30	41	53	72	75	100
1/2"	45	61	80	110	115	155
9/16"	60	95	115	155	165	220
5/8"	95	128	160	215	220	305
3/4"	165	225	290	390	400	540
7/8"	170	230	420	570	650	880
1"	225	345	630	850	970	1320

Metric Bolt Torque Specifications

Bolt Diameter	Torque Value			
	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