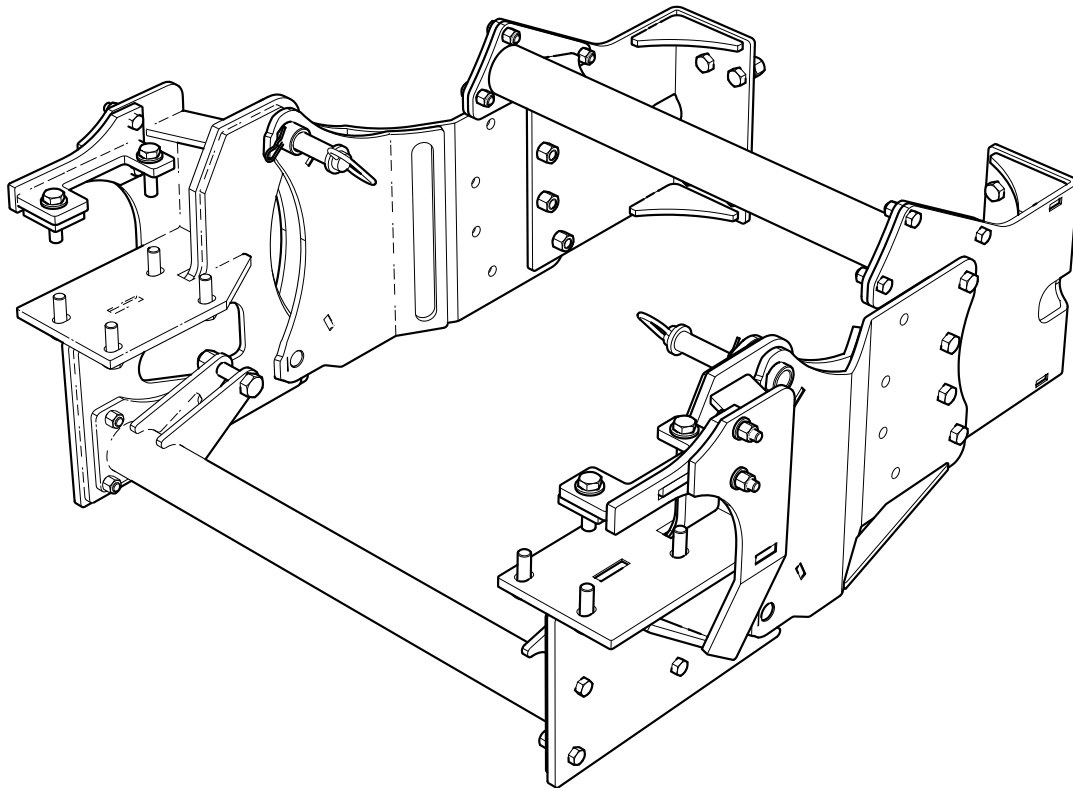


INSTALLATION INSTRUCTIONS

3632A100 Backhoe Subframe Kit



Introduction

This sub-frame is designed to work with Wallenstein backhoes.

The Wallenstein backhoe is designed to work with a wide variety of tractors. With the Wallenstein Sub-frame Kit you can easily and quickly attach and detach your Wallenstein backhoe to your particular 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 operators 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, Maintenance and Trouble Shooting information contained within the Operator's Manual.



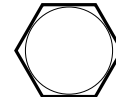
NOTE: All parts and hardware shown in the Sub-frame Kit Parts illustration are included in the kit. Make sure the parts are not damaged from shipping.

IMPORTANT! This installation kit includes both metric and Imperial fasteners. Bolt type is identified by looking at the bolt head markings. Bolt torque tables are included at the end of this instruction.

Metric



Imperial



SAE Gr. 2

SAE Gr. 5

SAE Gr. 8

Operator Orientation

The directions left, right, front and rear as mentioned throughout this instruction, are determined when sitting in the tractor driver's seat, facing the direction of forward travel.

Safety Rules

- 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.

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 sub-frame, 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.

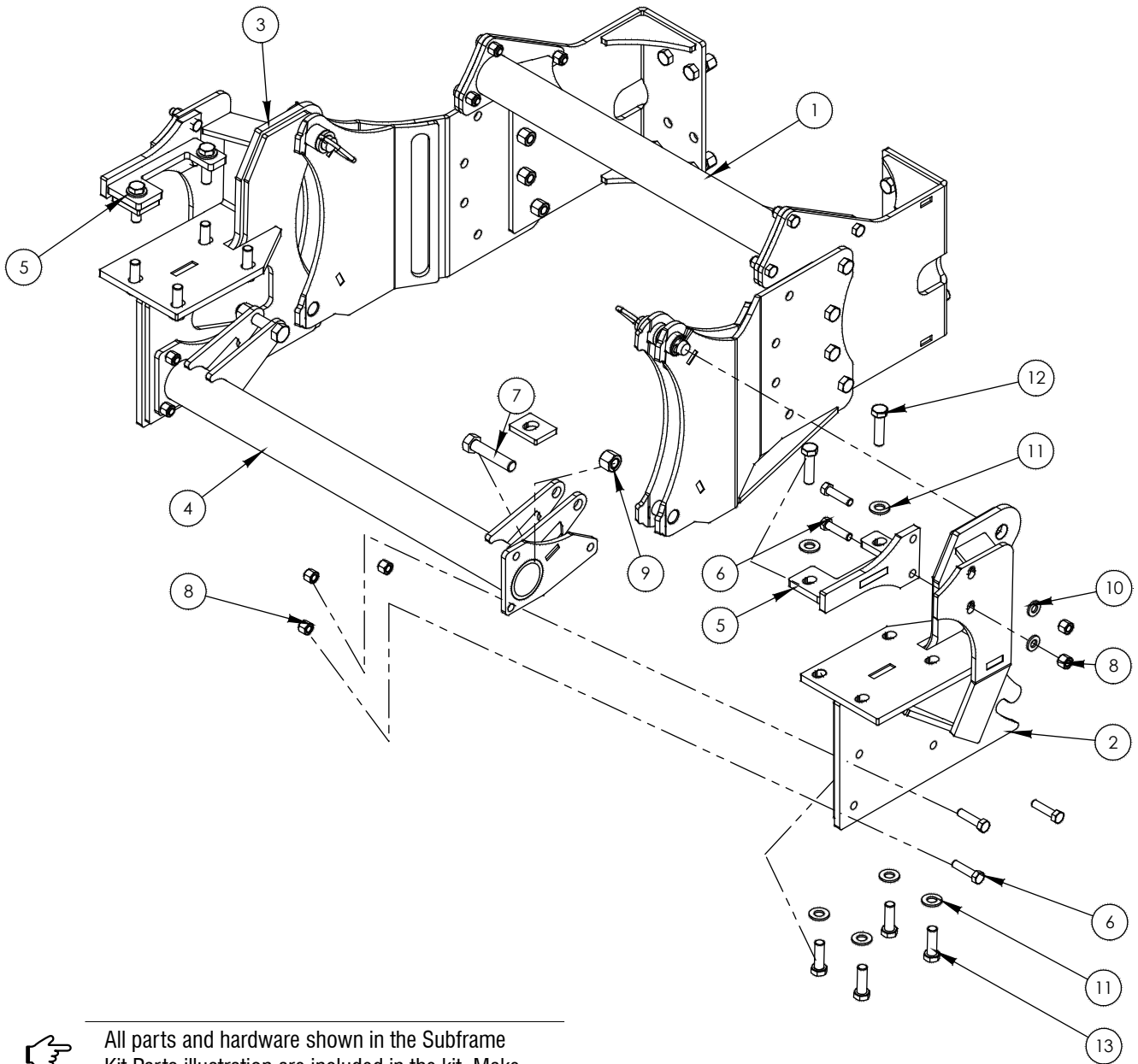
WARNING!

Review and understand the operating instructions for the backhoe. Part of the installation process includes operating the hydraulics to position the attachment points on the tractor.

WARNING!

Proceed with caution. During the course of assembly, the ROPS / cab support bolts are removed. Support for the cab may be required when removing cab mounting bolts. Remove and replace bolts one side at a time.

Subframe Kit Parts



All parts and hardware shown in the Subframe Kit Parts illustration are included in the kit. Make sure the parts are not damaged from shipping.

Item	Part Number	Description	Quantity
1	3600A500	Universal Backhoe Mount	1
2	3632W101	Tractor Weldment, LH	1
3	3632W101H	Tractor Weldment, RH	1
4	3632W102	Lower Cross Tube	1
5	3632W103	Upper Axle Welded Assembly	2
6	Z71520	Hex Bolt 1/2"NC x 2"	10
7	Z71535	Hex Bolt 3/4"NC x 3-1/2"	2

Item	Part Number	Description	Quantity
8	Z72170	Hex Locknut 3/4"NC	2
9	Z72251	Hex Locknut 1/2"NC	10
10	Z73151	1/2" Flatwasher	4
11	Z73160	5/8" Flatwasher	12
12	Z77691	Hex Bolt M16 x 1.5 x 60 mm	4
13	Z77695	Hex Bolt M16 x 1.5 x 50 mm	8

Preparation:

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.
- Removing the tractor rear wheels can make the installation easier.

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.

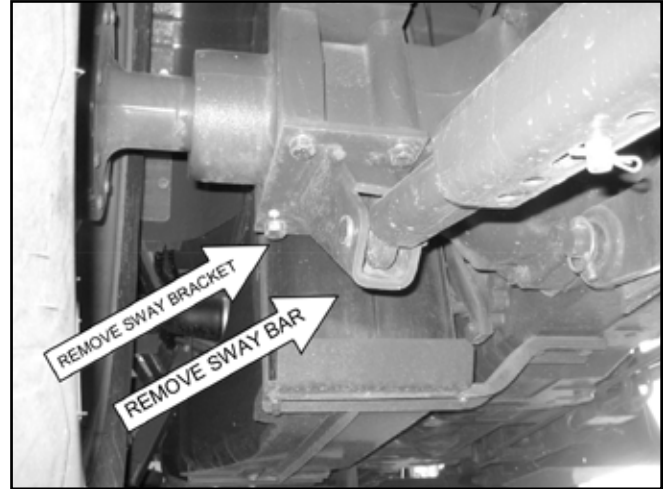
W009

Tools required:

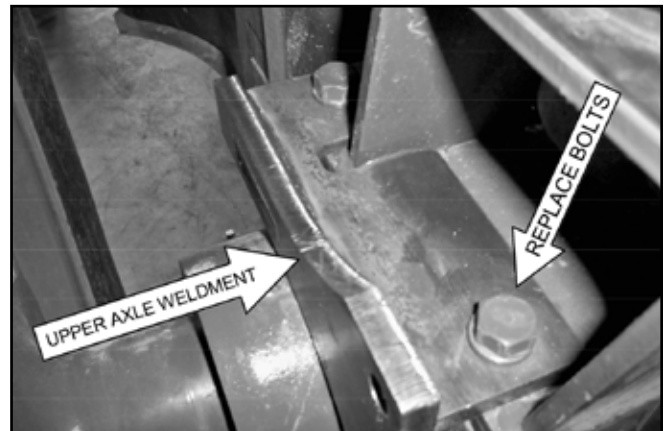
- Basic shop tools
- 3/4", 1-1/8" sockets and wrenches
- M24 sockets and wrenches
- Overhead lifting device
- Jack stands
- Torque wrench

Procedure

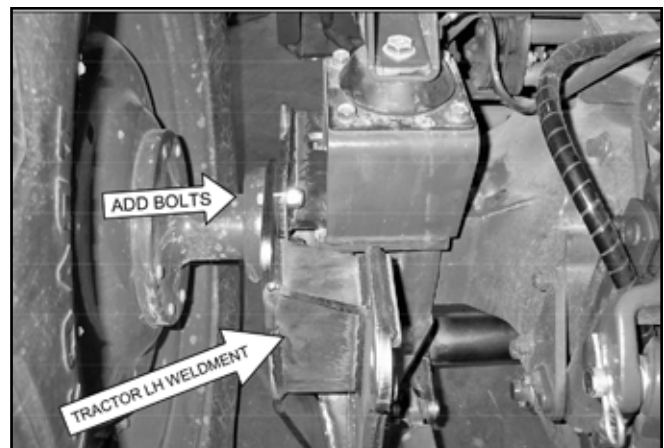
1. Remove sway bar and sway bracket by removing four bolts under axle casting.



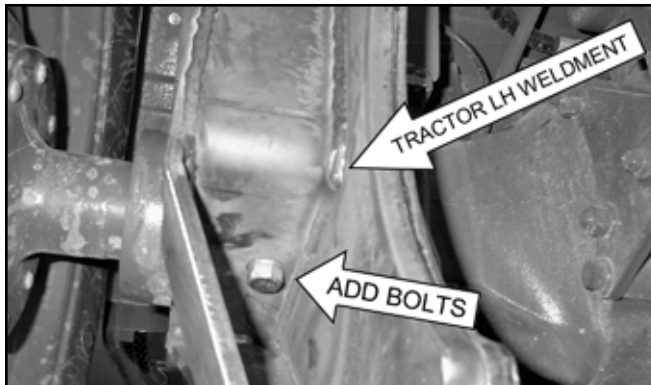
2. Remove and replace two bolts on top of axle with supplied M16 x 60 mm through Upper Axle Weldment.



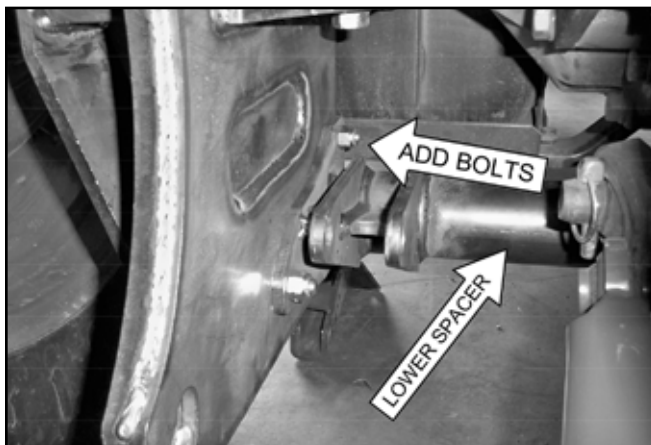
3. Add two supplied 1/2" x 2" bolts through Tractor LH Weldment.



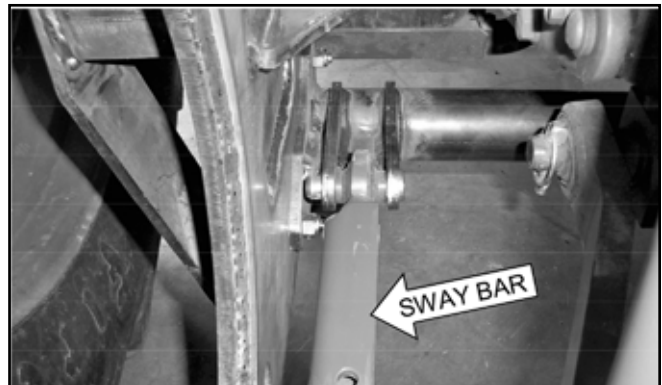
4. Add four supplied M16 x 50 mm bolts through Tractor LH Weldment. Repeat steps 1–4 on opposite side of tractor.



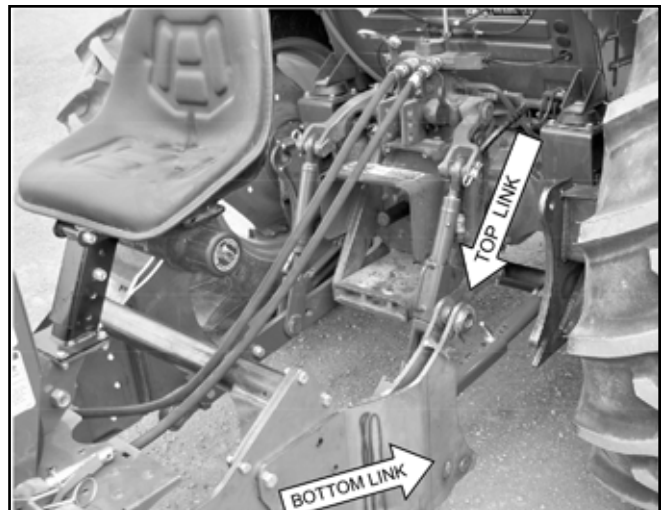
5. Add lower spacer weldment with six supplied 1/2 x 2 bolts.



6. Re-attach sway bar using supplied 3/4" x 3-1/2" bolt and nut. Repeat on opposite side of tractor.

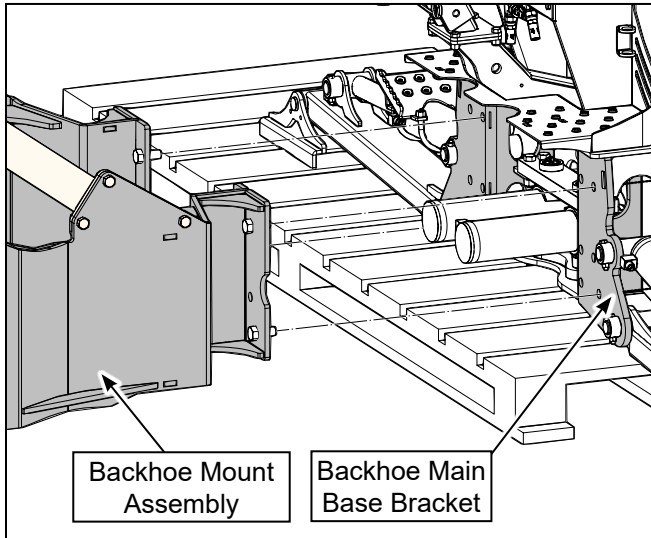


7. The tractor portion of the subframe should now be in place. This section of the subframe will remain on the tractor at all times. Check mounting to be sure that 3-point arms and anti-sway bars move freely without interfering with subframe.
8. Once subframe is joined at bottom linkage, use stabilizer and boom functions to rotate backhoe against top link stops. Insert link pins and snap-lock pins. Secure toplink turnbuckle under backhoe seat and tighten.



9. Confirm that backhoe stabilizer and swing functions do not interfere with any part of the subframe or tractor. Your backhoe is now ready for use.

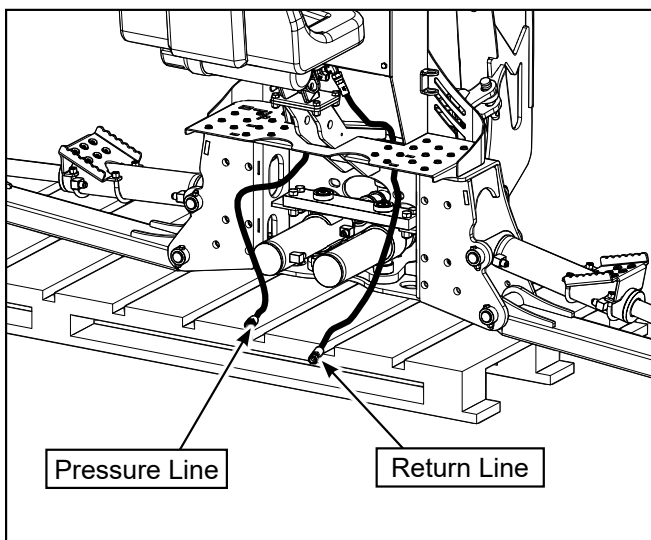
10. Take the backhoe sub-frame mount and attach it to the backhoe on main base bracket. Use the 5/8" NC bolts and nuts provided — 4 for each left- and right-hand side. Tighten down the bolts.



The sub-frame should remain on your backhoe and not be removed. Check that the lift arms move freely with the sub-frame installed.

11. Align and reverse the tractor up to the bracket. Get close enough to attach the hydraulic hoses to the backhoe.
 12. Attach the hydraulic lines from the backhoe to the tractor. See illustration.

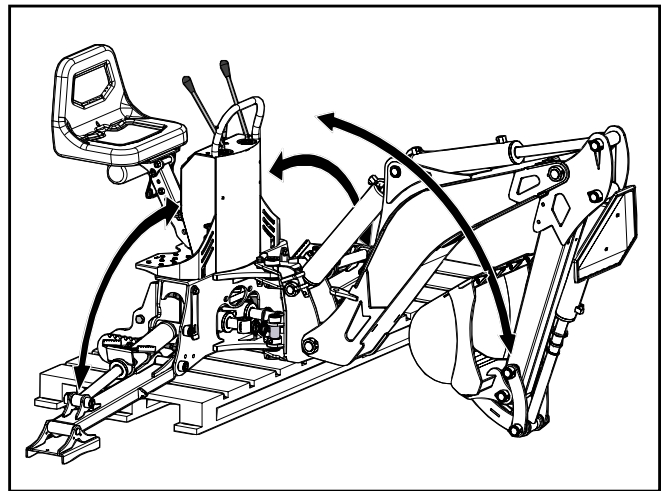
NOTE: *The backhoe is equipped with a directional control valve and does not allow reverse flow if pressure and return lines are connected incorrectly.*



! WARNING!

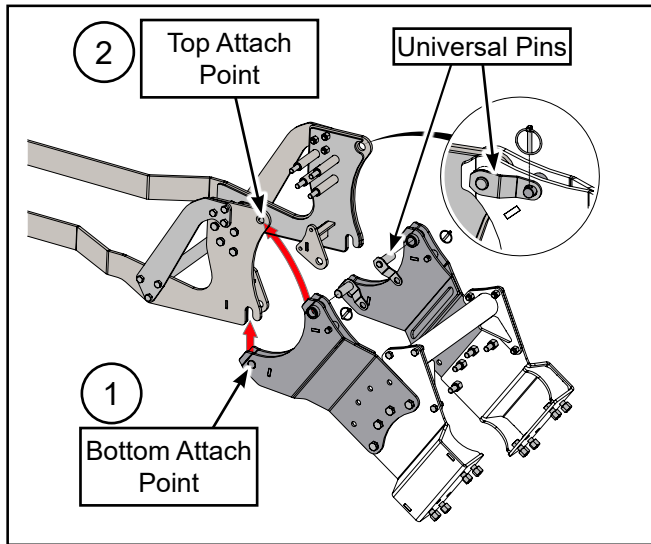
When operating the boom and stabilizers, ensure the area is clear of bystanders and operator is safely positioned.

13. Carefully use the dipper arm / stabilizer legs to tilt the bracket / backhoe on an angle, so that the bottom attach points line up with the hooks on the bottom of the sub-frame on the tractor.



14. Carefully use the backhoe hydraulics to raise the bracket assembly into the bottom of the hooks for positive attachment.

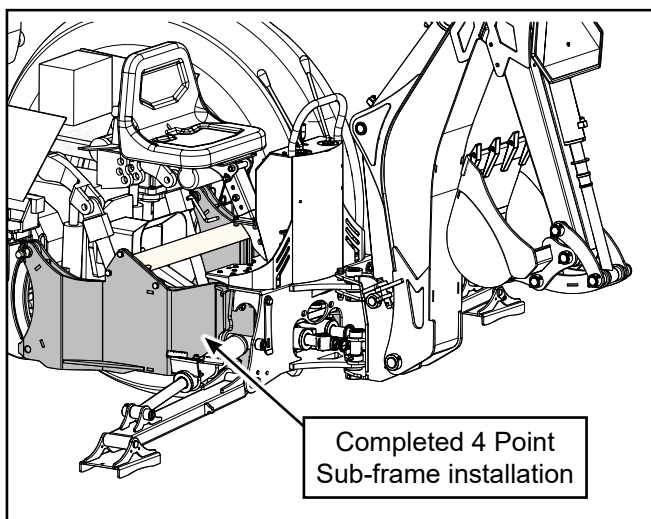
15. Carefully use the backhoe hydraulics to rotate the bracket assembly into the top attach points on the sub-frame. Rotate the bracket until it reaches the stop. The pin holes will then be aligned.



Generic illustration showing hitching principal.

16. Insert the two welded universal pins into the pin holes and secure with lynch pins.
17. Check that all attach points are secure, and make sure all bolts / nuts are tightened and torqued.
18. Test the hydraulics: lift the stabilizer legs and remove the skid. Lower the stabilizers and test all boom functions.
19. Check that all moving parts have clearance and do not interfere with the sub-frame.

The sub-frame installation is now complete.




Bolt Torque

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

