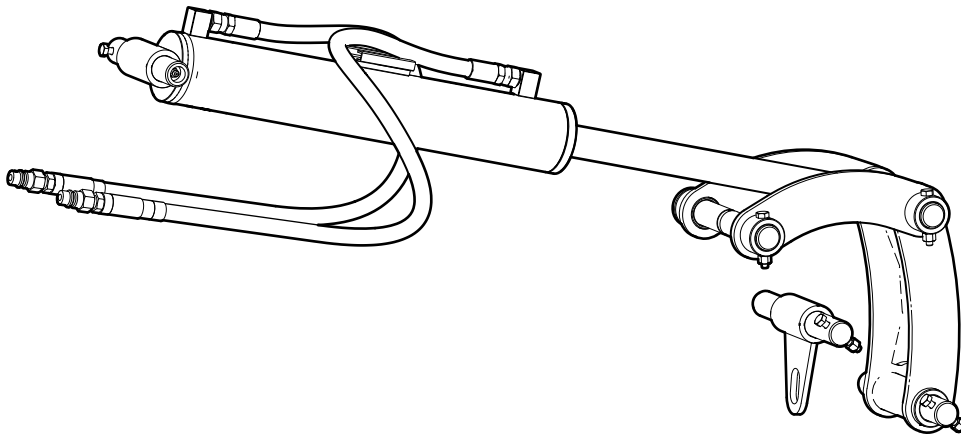


INSTALLATION INSTRUCTIONS

BA201 **Backhoe Kit for LXT95 & LXT115** **Log Grapple Booms**



Z97831_En

Safety

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 this instruction. This symbol means be alert to the possibility of personal injury or death. Follow instructions provided.



Signal Words

The signal words **DANGER**, **WARNING** and **CAUTION** determine the seriousness level of the warning messages in this manual. The appropriate signal word for each message in this manual has been selected using the following guidelines:

DANGER –

Indicates an imminently hazardous situation that, if not avoided, **will** result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING –

Indicates a potentially hazardous situation that, if not avoided, **could** result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION –

Indicates a potentially hazardous situation that, if not avoided, **may** result in minor or moderate injury. It may also be used to alert against unsafe practices.

IMPORTANT – To avoid confusing equipment protection with personal safety messages, a signal word **IMPORTANT** indicates a situation that if not avoided, could result in damage to the machine.

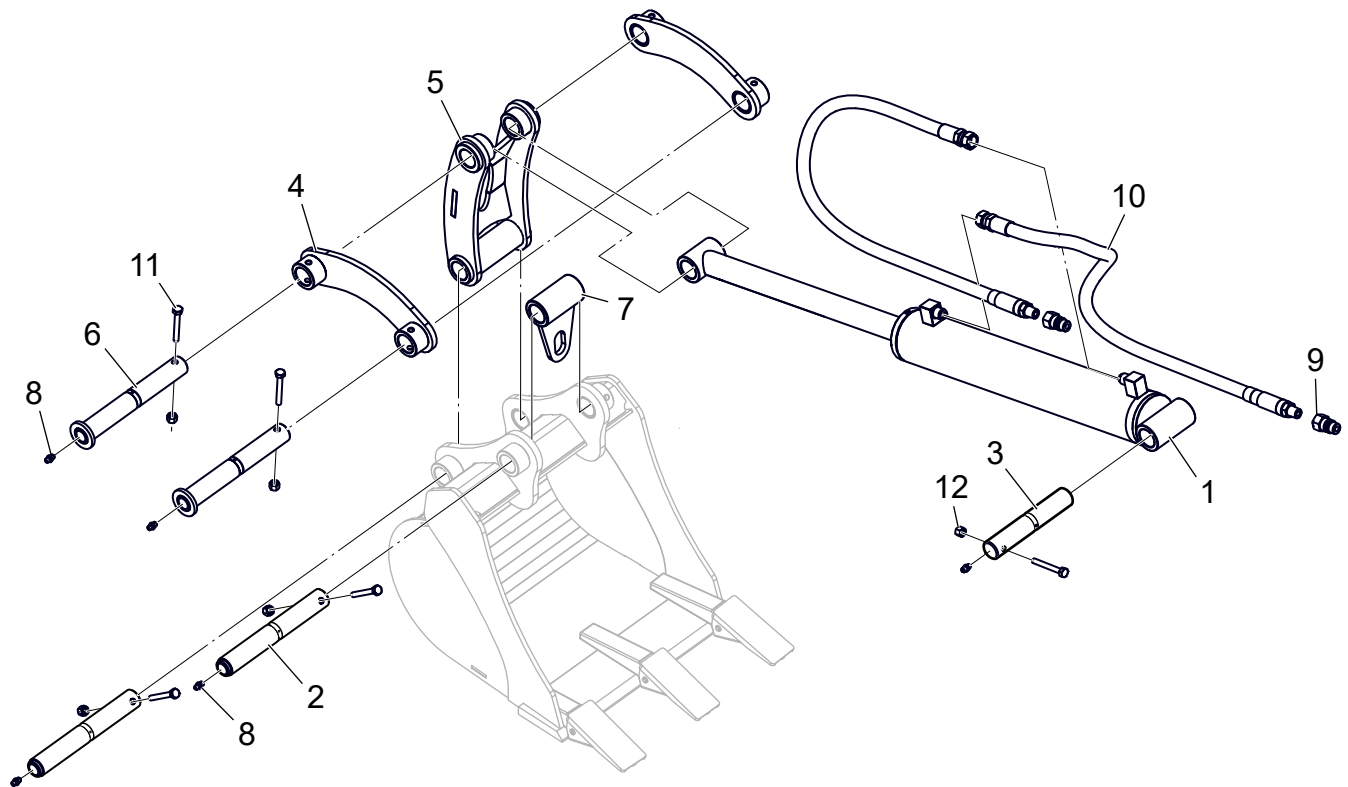
Equipment Operation



WARNING!

Avoid the risk of personal injury or machine damage! Read the operator's manual before using this equipment. Carefully read all safety messages in the manual and follow all safety signs on the machine.

Parts Breakdown



Item	Part Number	Description	Qty
1	3011C107	Cylinder, 2-1/4 x 12-7/8" Stroke	1
	SLK-2212	Seal Kit for 3011C107	1
2	3011M109	Pin, 1 x 7.45 Greasable	2
3	3011M110	Pin, 1" x 5.66 Greasable	1
4	3011W102	RH Bucket Linkage	2
5	3011W103	Middle Bucket Linkage	1
6	3011W117	Bucket Pin w/ Washer	2
7	6089W250	Chain Hook	1
8	Z29202	Grease Fitting, 1/4NF	5
9	Z51917	Quick Coupler, FP04 x M ISO 5675	2
10	Z52261	3/8" Hose, FJIC06 x MP04 x 30"	2
11	Z71120	Hex Bolt, 1/4NC x 2"	5
12	Z72211	Hex Lock Nut, 1/4NC	5

BA201 Backhoe Kit does not include a bucket. Bucket must be purchased separately. See table below for bucket size options.

Model	Size
BK2690	9" (23 cm) 3-tooth Bucket
BK2612	12" (30 cm) 3-tooth bucket
BK2615	15" (38 cm) 4-tooth bucket
BK2618	18" (46 cm) 4-tooth bucket

Installation Instructions

CAUTION!

Risk of a hazardous situation if kit is installed improperly or modified in any way. Damage to the machine could result. Read and follow all installation and setup instructions.

W091

To install the BA201 Backhoe Kit and BK bucket on the LXT boom, the grapple/rotor assembly must be removed.



Installation and operation of BA201 Kit is the same for both the LXT95 and LXT115 booms. All bucket sizes mount the same way.

The BA201 Backhoe Kit comes partially assembled. Illustrations in this instruction show a typical installation with the BK2612 bucket option. Once assembled, only regular maintenance and minor adjustments are required.

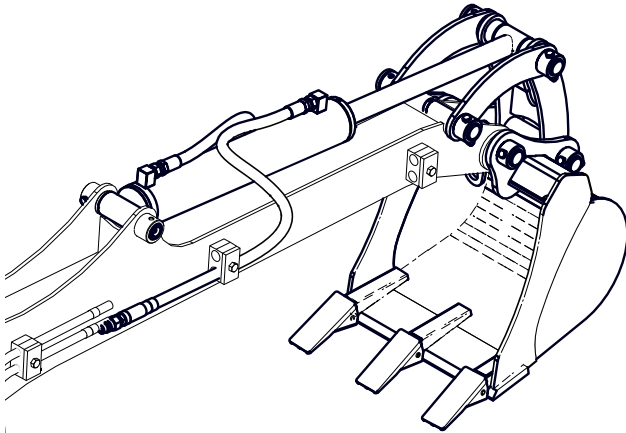


Fig. 1—BA201 Backhoe Kit installed with BK2612 Bucket Option

Preparation

- Basic shop tools are required, including 3/8" wrenches and sockets. An overhead lifting device is required to lift and move the grapple and bucket.
- Hydraulic lines are disconnected in this procedure. Prepare to catch fluid drips and have a container handy to store parts that have been removed.
- Park the trailer on dry level ground, with the wheels chocked. Make sure the log grapple trailer and the area around it is clear and free of debris.
- Fully close the grapple. Move the boom off to the side of the trailer and set the grapple on the ground. Shut the engine off.

WARNING!

Risk of serious injury from escaping high-pressure oil. Actuate controls after engine shut down to relieve trapped pressure before loosening hydraulic connections.

W080

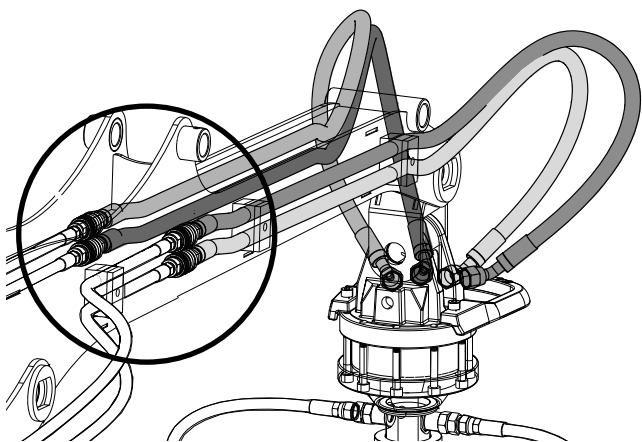
- Actuate the boom and grapple controls after shutdown to relieve trapped pressure before loosening hydraulic connections.
- Unpack the backhoe kit and compare it to the hardware and parts list on page 3. Make sure parts are not damaged from shipping.

Step 1**CAUTION!**

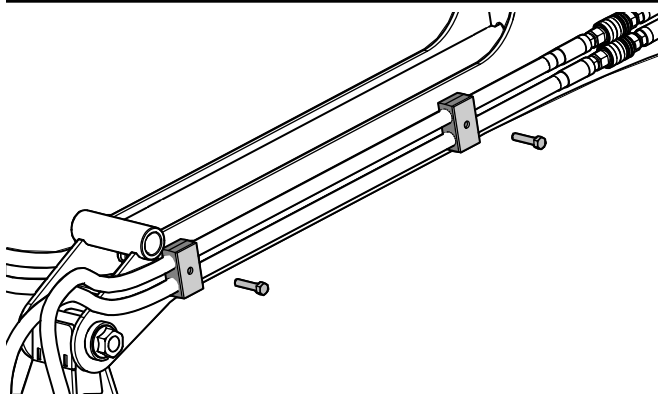
Risk of burns to exposed skin. Hydraulic oil becomes hot during operation. Hoses, lines, and other parts become hot as well. Wait for the oil and components to cool before starting any maintenance or inspection work.

W028

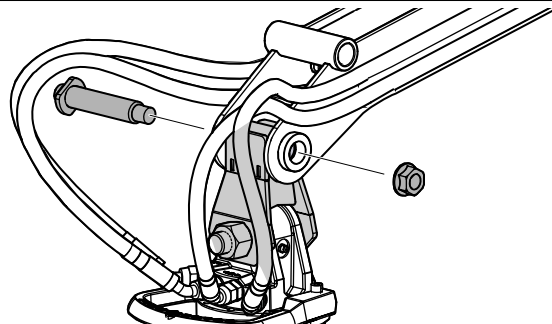
- Disconnect the four hydraulic lines from the quick disconnects on the dipper boom. To prevent fluid contamination, wrap the ends with a clean cloth or install connector covers.

**Fig. 2**—Quick Disconnects on Dipper Boom**Step 2**

- Remove the four hose clamps (two per side) to free up the grapple hydraulic lines.

**Fig. 3**—Hose Clamps**Step 3**

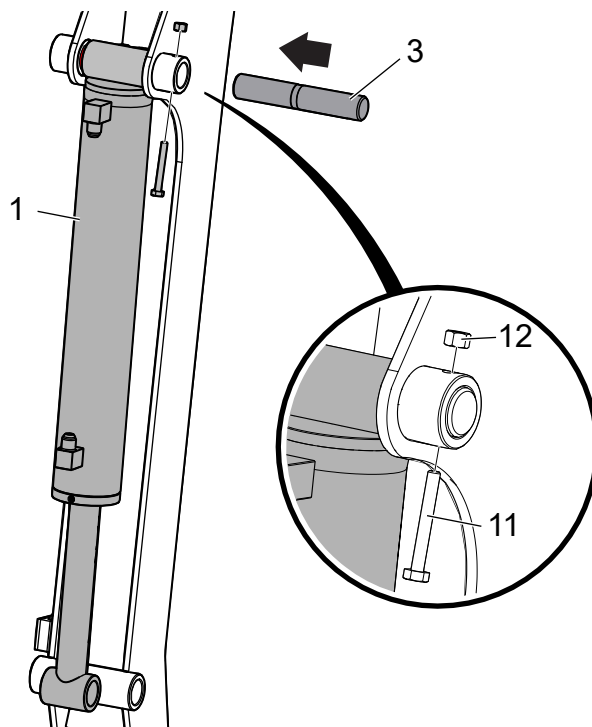
- On the grapple pivot, remove the nut from the pivot pin. Gently drive the pin out of the pivot. Move the grapple pivot out of the boom nose.
- Reassemble the pin and nut to the grapple pivot. (Make sure the two bushings remain inside.)

**Fig. 4**—Grapple Pivot Pin

- Set the complete grapple assembly aside. Coil up the hydraulic hoses.

Step 4

1. Install **3011C107** Bucket Hydraulic Cylinder (1). Line up the cylinder end bushing to the cylinder attach point on the dipper arm.
- Insert **3011M110** pin (3). Secure with **Z71120** 1/4"NC x 2" Hex bolt (11) and **Z72211** Hex Locknut (12).

**Fig. 5**—Install Bucket Cylinder

Step 5

- Install the bucket (purchased separately). Align the bucket main pivot to the dipper main pivot.
- Position the **6089W250** chain hook (7) with the dipper main pivot.
- Insert **3011W1170** flanged pin (6) through dipper, chain hook, and pivot.
- Secure with **Z71120** 1/4"NC x 2" Hex bolt (11) and **Z72211** Hex Locknut (12).

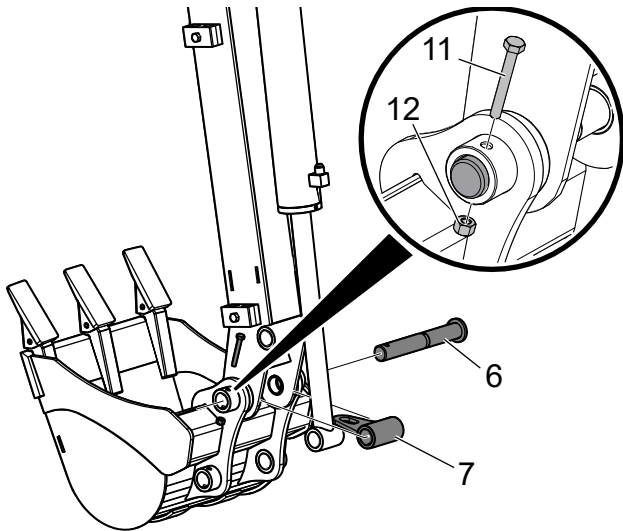


Fig. 6 – Install Bucket

Step 6

- Install bucket tilt linkage. Fit the bucket link into the secondary bucket pivot.
- Insert a **3011W109** 1.0" x 7.45" Flanged Pin (2) through secondary pivot and **3011W103** Middle Linkage (5). Secure with **Z71120** 1/4"NC x 2" Hex bolt (11) and **Z72211** Hex Locknut (12).
- Fit the **3011W102** Linkage Arms (4) to the secondary dipper pivot, then insert **3011W170** 1.0" x 7.45" Flanged Pin (6) through secondary dipper pivot and link arms. Secure with **Z71120** 1/4"NC x 2" Hex bolt (11) and **Z72211** Hex Locknut (12).
- Align the cylinder rod end bushing, the two linkage arms, and the bucket linkage. Insert a **3011W170** 1.0" x 7.45" Flanged Pin (6), and secure with **Z71120** 1/4"NC x 2" Hex bolt (11) and **Z72211** Hex Locknut (12).

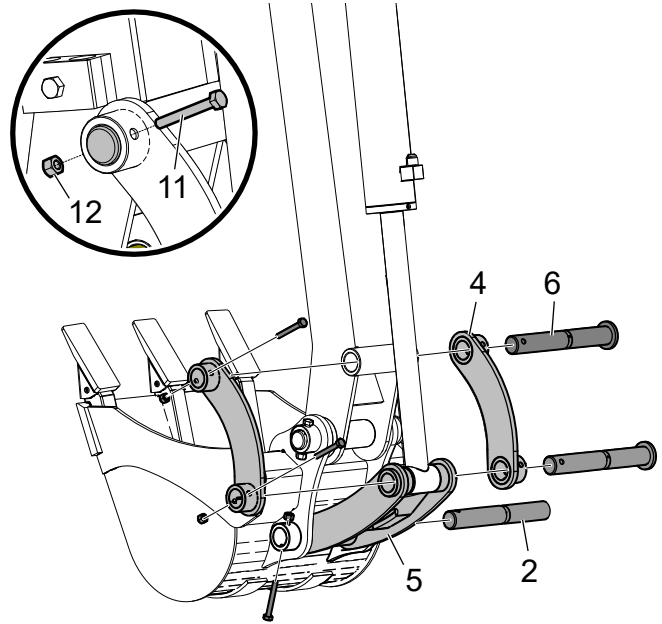


Fig. 7 – Installing Tilt Linkage

Step 7

- Connect the hydraulic hoses. Each hose is color-coded to match the quick disconnects on the dipper boom, e.g., red to red, white/red to white/red. Connect each hose to its appropriate color tag.



Hoses with blue tags are not used on the backhoe installation.

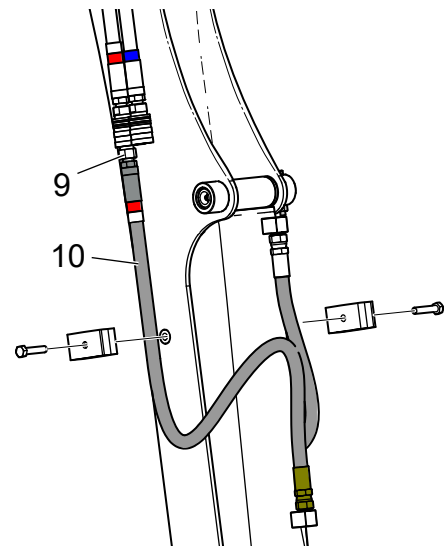


Fig. 8 – Quick-disconnect Hoses

- Reinstall the hose clamps on the side of the dipper boom.

Operating Safety

WARNING!

Do not operate the machine until you are thoroughly familiar with the position and function of the various controls. Read the operator's manual thoroughly. Your safety is involved!

W065

WARNING!

Do operate the machine when not attached to a tow vehicle. Machine could tip over causing serious injury or death. Keep tow vehicle attached and lower stabilizers firmly to the ground for stability.

W097

WARNING!

Electrocution Hazard. Be aware of overhead or underground power lines. Stay at least 20 ft (6 m) or more away. Serious injury or death could occur from electrocution. Electrocution is possible without direct contact (arcing).

W015

WARNING!

Underground utility hazard. Contact an underground utility locating and marking service before digging.

W017

- Please remember it is important that you read the operator's manual and heed the safety signs on the equipment. They are there for your safety, as well as the safety of others. The safe use of this machine is strictly up to you, the operator.
- Before moving, making, adjustments or servicing, put the machine in safe condition:
 - install boom pin lock
 - shut off the engine
 - turn fuel valve off
 - ensure boom is in safe position
 - secure the tow vehicle / trailer from movement
- Review Safety Section in the operator's manual to set up the operator Safe Zone and Work Zone.
- Position the trailer to provide a firm base for the stabilizer pads before beginning excavation.
- Extend stabilizers to support frame while excavating.
- Keep the unit attached to the tow vehicle for extra stability.
- Review the work site and plan the project before starting, clearly marking the area to be excavated.
- To avoid cave-in hazards, keep stabilizer and trailer tires at least 3 ft (1 m) away from the edge of the trench.
- Have the area surveyed for underground utilities before starting to dig.
- Stay at least 20 ft (6 m) away from power lines. Electrocution can occur without direct contact.
- Do not allow riders or move or carry people on this machine at any time.
- Be aware of your operator Safe Zone. Keep bucket, boom and material outside of it.
- Keep all bystanders out of the Work Zone, at least 20 feet (6 m) feet away from trailer and boom while excavating or when engine is operating.
- Position the controls and operate the machine opposite the Work Zone.
- Do not operate the engine inside a closed building. Asphyxiation can occur from engine exhaust.
- Do not walk or work under a raised machine or attachment. It is potentially hazardous to depend on the hydraulic system to hold the machine or attachment in place.
- Never consume alcoholic beverages or drugs which hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
- Stay away from overhead utilities and obstructions.
- Never allow children or unauthorized people to operate or be around this machine.
- Keep hydraulic lines and fittings tight, free of leaks, in good condition and clean.
- Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
- When operating this equipment, it is recommended to have at least two operators present and trained in safe operation of the machine. All operators must be completely familiar with all components of the machine and their function.
- Review safety instructions before each use or at least annually.

Controls

The main control valve has five control levers. The two outer levers control the position of the stabilizers, and the other three levers operate the main boom, dipper boom, and grapple.

With the **BA201 Backhoe Kit** installed, bucket curl-in and curl-out is performed with the left-to-right grapple rotate control lever (4). Grapple open/close lever (3) is not used.

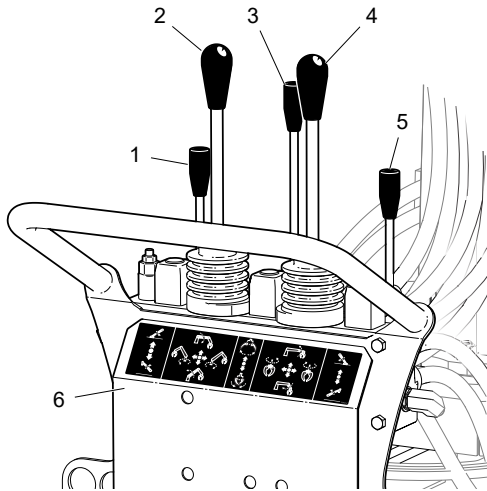


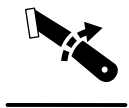
Fig. 9—Main Directional Control Valve

1. Left-hand Stabilizer Raise/Lower
2. Main Boom Raise/Lower, Rotate
3. (Not used with Backhoe Kit)
4. Dipper Boom Raise/Lower, Bucket Curl-in/Curl-out
5. Right-hand Stabilizer Raise/Lower
6. Control Valve Function Decal

1. Left-hand Stabilizer

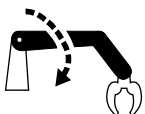


Stabilizer lower—push the lever forward to lower the stabilizer.

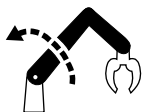


Stabilizer raise—pull the lever back to raise the stabilizer.

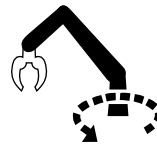
2. Main Boom Raise/Lower, Rotate



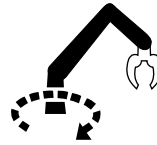
Main boom lower—push the lever forward to lower the main boom.



Main boom raise—pull the lever back to raise the main boom.



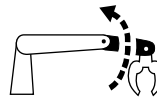
Main boom rotate left—push the lever to the left to rotate the main boom counterclockwise.



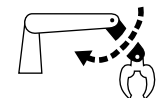
Main boom rotate right—push the lever to the right to rotate the main boom clockwise.

3. Not used with Backhoe Kit

4. Dipper Boom Raise/Lower, Bucket Curl-in, Curl-out



Dipper boom raise—push the lever forward to raise the dipper boom.



Dipper boom lower—pull the lever back to lower the dipper boom.



Bucket Curl-in—push the lever left to curl the bucket in.



Bucket Curl-out—push the lever to curl the bucket out.

5. Right-hand Stabilizer



Stabilizer lower—push the lever forward to lower the stabilizer.



Stabilizer raise—pull the lever back to raise the stabilizer.

Digging with the Backhoe

- Swing the dipper out and adjust bucket so the teeth can dig into the ground at a slight angle. Lower the boom down to set teeth into the ground. Keep the heel of the bucket up higher than the teeth.
- Retract the dipper to pull the bucket through the soil as it fills. Slowly close the bucket at the same time. If necessary, apply a downward pressure on the boom to increase digging force.

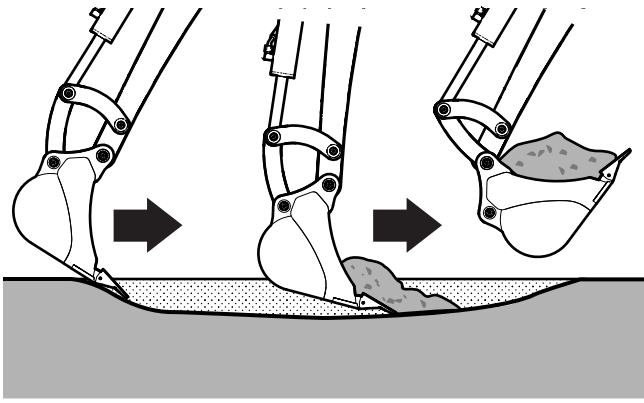


Fig. 10—Digging with the Dipper Boom

- Curl the bucket up when full. Raise the boom and at the same time, move the dipper out a little to keep soil from building up under the machine.

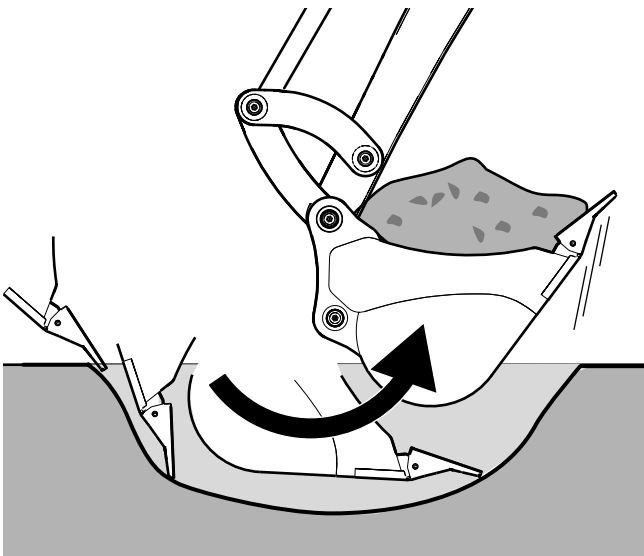


Fig. 11—Digging with Bucket

- Swing away from your excavation and dump the bucket. Start dumping as the bucket approaches the pile. Do not waste time by dumping too far from the excavation. Swing back to start the next dig.
- Deepen the dig with each pass.

IMPORTANT! Do not use the side of the excavation to stop the bucket. The backhoe could be damaged.



CAUTION!

Operation Hazard! Under certain conditions it is possible to contact the stabilizers with the bucket.

Always be aware of the location of the bucket. Maintain the 3 ft (1 m) safety zone around the stabilizers.

W069

Transporting

IMPORTANT! LXT95 Log Loader / Trailer is not intended for use or transport on public roadways. Therefore, it does not include the required lights, reflectors, and markings.

Equipment that is transported on a public roadway must comply with local laws that govern the safety and transport of machinery.

Before taking this machine on a public roadway, make sure it has the lighting, reflectors and markings required by your local transportation authority. Make sure they are in good working order.

Transporting Safety

- Comply with state and local laws governing safety and transporting of machinery on public roads.
- Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
- Do not exceed a safe travel speed. Slow down for rough terrain and cornering.
- Place the boom and bucket in safe position before moving or transporting.
- Do not drink and drive.
- Be sure the trailer is hitched positively to the tractor and a retainer is used through the drawbar. Always attach safety chains between the hitch and the tractor.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, and so on. Watch for traffic when operating near or crossing roadways.
- Never allow riders on the machine.
- Review the transport safety section of the LXT Log Loader operator's manual.

Trailer mount

1. Be sure the trailer is hitched positively to the vehicle and a retainer is used through the drawbar.
2. Maneuver the boom and rest the bucket in the dump box / trailer.
3. Install the boom swing pin and secure with its retainer.
4. Retract the drop leg jack.
5. Do not exceed maximum load capacity:
 - LT 30 – 5000 lb (2267 kg)
 - LT 60 – 10,000 lb (4536 kg)
6. When transporting by highway, make sure a SMV sign is attached, and reflectors are installed and in good working condition.
7. Check that trailer brakes (if equipped) are functioning properly.
8. Check your tow vehicle can accept ball hitch size (**LXT95** – 2", **LXT115** – 2-5/16"). Install retainer through the ball hitch latch.
9. **LXT115** articulating drawbar: make sure drawbar is straight and drawbar pin is installed.

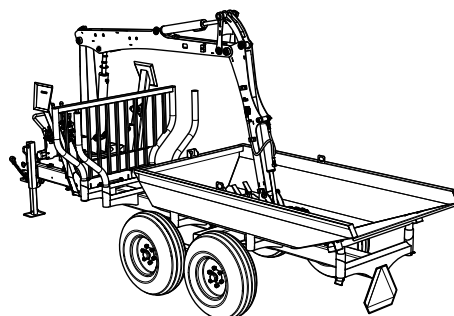


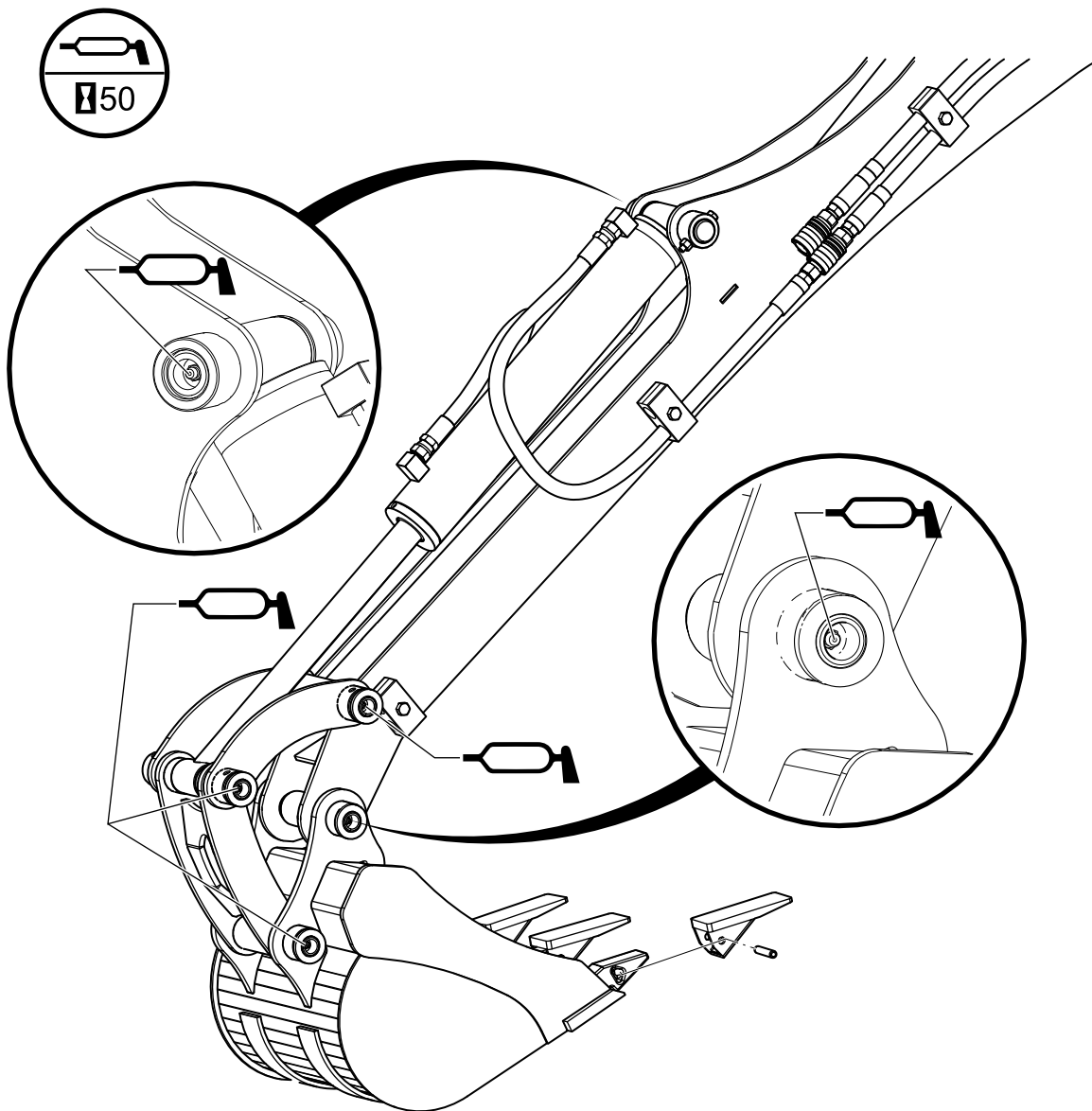
Fig. 12 – Trailer-mounted Boom

Service Illustration

This illustration shows the location of service grease points for BA-201 and BK series buckets. BK-2612 bucket is shown, but grease points are the same for all BK series buckets.

Grease pivot pins every 50 hours of operation.

Follow the maintenance schedule in the operator's manual.



Bucket Teeth

- The bucket teeth are replaceable. Check condition weekly. Replace if chipped, bent, or damaged.

Hydraulic Hoses

- Check the condition of all hydraulic lines, hoses, and fittings each use. Replace any that are damaged.
- Re-route hoses that are chafed, rubbing, pinched, or crimped. Tighten any fitting that is leaking.

Product Warranty



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

Bolt Torque Specifications

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



SAE Gr. 2



SAE Gr. 5



SAE Gr. 8

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



8.8



10.9

Hydraulic Fitting Torque

Tightening Flare Type Tube Fittings

1. Check flare and flare seat for defects that might cause leakage.
2. Align tube with fitting before tightening.
3. Hand-tighten swivel nut until snug.
4. To prevent twisting the tube, use two wrenches. Place one wrench on the connector body and tighten the swivel nut with the second. Torque to values shown.

If a torque wrench is not available, use the FFFT (Flats From Finger Tight) method.

Hydraulic Fitting Torque					
Tube Size OD	Hex Size Across Flats	Torque value		Flats From Finger Tight	
Inches	Inches	lbf•ft	N•m	Flats	Turns
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

Values shown are for non-lubricated connections.

Wheel Lug Torque

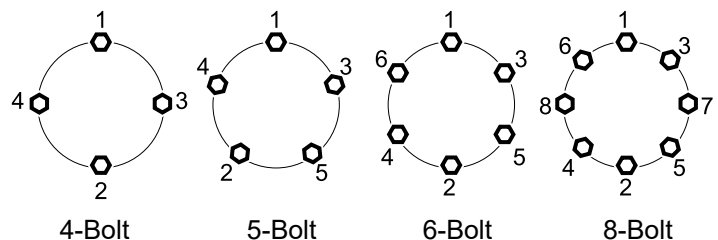
It is extremely important safety procedure to apply and maintain proper wheel mounting torque on your trailer axle. Torque wrenches are the best method to assure the proper amount of torque is being applied to a fastener.

Wheel lugs should be torqued before first road use and after each wheel removal. Check and re torque after the first 10 miles (16 km), 25 miles (40 km), and again at 50 miles (80 km). Check periodically thereafter.

NOTE: *Wheel lugs must be applied and maintained at the proper torque levels to prevent loose wheels, broken studs, and possible dangerous separation of wheels from your axle.*

Wheel Lug Nut Torque				
Wheel Size	Units	1st Stage	2nd Stage	3rd Stage
8"	lbf•ft N•m	12–20 16–26	30–35 39–45.5	45–55 58.5–71.5
12"	lbf•ft N•m	20–25 26–32.5	35–40 45.5–52	50–60 65–78
13"	lbf•ft N•m	20–25 26–32.5	35–40 45.5–52	50–60 65–78
14"	lbf•ft N•m	20–25 26–32.5	50–60 65–78	90–120 117–156
15"	lbf•ft N•m	20–25 26–32.5	50–60 65–78	90–120 117–156
16"	lbf•ft N•m	20–25 26–32.5	50–60 65–78	90–120 117–156

Wheel Lug Torque Pattern



- Start all lugs by hand to prevent cross threading.
- Tighten lugs in sequence, per wheel lug torque sequence chart.
- The tightening of the fasteners should be done in stages. Following the recommended sequence, tighten fasteners per wheel torque requirements chart.



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