

HARVEST

SAFETY AND OPERATIONS MANUAL



H-XT SERIES AUGERS H10XT • H13XT

www.harvestauger.com

HARVEST

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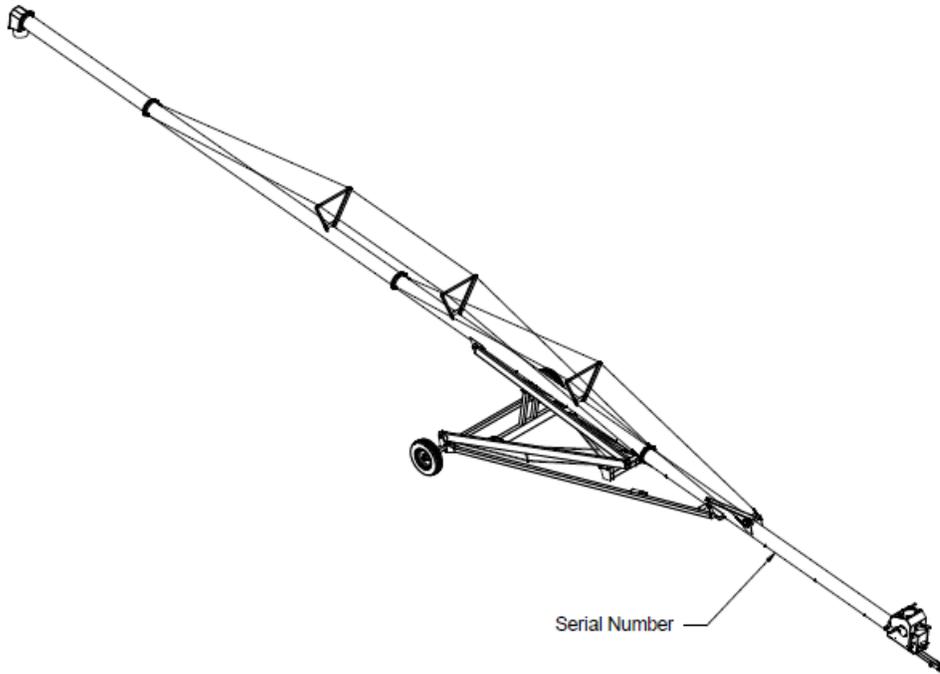
HARVEST

1. Introduction

Congratulations on your choice of a Harvest auger! This equipment has been designed and manufactured to meet the needs of the discerning buyer.

Safe and efficient operation of your auger requires that you, and anyone else who will be operating or maintaining the auger, read and understand the safety, operation, maintenance, and troubleshooting information in this manual.

Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Harvest distributor or dealer if you need assistance, information, or additional copies of the manual.



Always give your dealer the serial number of your Harvest Grain Auger when ordering parts or requesting service or information.

The serial number on your auger is located where indicated by the arrow in the picture above. Please mark the number in the space provided below for easy reference.

Model Number: _____

Serial Number: _____

Production Year: _____

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2. Safety First

Safety is a priority in your everyday work habit, especially if you work with machinery. Whether you are an owner, an operator, or an employee, it is your responsibility to know the operational requirements and safety precautions of the machinery.

Why is safety important to you?

1. Accidents disable and kill.
2. Accidents cost.
3. Accidents can be avoided.

SIGNAL WORDS:

Note the use of the signal words **DANGER**, **WARNING**, **CAUTION**, and **NOTICE** with the safety messages. The safety alert symbol identifies imminent and potential hazards to personal health and safety. The appropriate signal word for each message has been selected using the definitions below as a guideline:



DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in serious injury or death.



WARNING: Indicates a hazardous situation that, if not avoided, could result in serious injury or death.



CAUTION: Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.



NOTICE: Indicates a potentially hazardous situation that, if not avoided, may result in property damage.

3. Transportation and Placement

3.1 Before Transporting your Auger

Remove wheel chocks, so wheels are free to move.



DANGER:

If auger wheels are stuck in grain, mud, dirt, or snow. remove the restraining substance from around the wheels before transport. Failure to do this could cause damage to the auger, and serious injury or death.

All Harvest augers have minimum clearance positions when in transport mode. Place auger in full down position.



DANGER:

Electrocution Hazard! Make sure that all unauthorized personnel are clear from the transport zone. This auger is not insulated. Be alert to overhead obstructions and electrical wires. Electrocution can occur without direct contact. Do not raise or lower auger until hazardous area is cleared. Failure to maintain proper clearance can result in serious injury or death.

Put hitch pin in place, and ensure that the safety chain is properly attached. Use a type of hitch pin that will not allow the auger to detach itself from the tractor. If you have questions about appropriate hitch pins, contact your tractor manufacturer.

Put PTO driveline and swing hopper into transport position and lock into place. If swing hopper is not in transport position, the hopper will be damaged during transport.

Put jack in raised position and lock into place. Use caution when working with hitch jack.

If you have a light package for your auger, make sure the connections are fastened securely and not dragging on the ground.

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3.2 Transportation Procedure

Move auger with a tractor only. Never attempt to move by hand.

Under no condition should you allow riders on the auger or tractor.

Transport the auger no faster than 15 mph. When roads are rough or surfaces are uneven, slow down to ensure safe travel.



DANGER:

Do not transport the auger on slopes greater than 20 degrees. This could cause the auger to tip, resulting in damage to the auger, and personal injury or death.

When visibility is reduced, please use caution and add extra lights to the auger. Consider using a pilot vehicle for safer travel.

Use extreme caution when turning or cornering with the auger in tow.

Check regulations with local authorities regarding auger transportation. Follow all over-width regulations. Equip auger with all necessary lighting, and use hazard warning flashers on your tractor, when required by law.

3.3 Placement of Auger

Before raising or lowering your auger, check that the area is clear of obstructions, children and unauthorized personnel.



DANGER:

Electrocution Hazard! Make sure that all unauthorized personnel are clear from the transport zone. This auger is not insulated. Be alert to overhead obstructions and electrical wires. Electrocution can occur without direct contact. Do not raise or lower auger until hazardous area is cleared. Failure to maintain proper clearance can result in serious injury or death.

Ensure that your auger is on level ground that is free of debris.

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DANGER:

If ground is very uneven, auger can tip and cause damage to the equipment and personal injury or death.



WARNING:

Never position raisers of any kind under the wheels of the auger to increase height. This includes pieces of wood, cement blocks, bricks, etc. Attempting this could result in damage to the equipment and personal injury or death.

Make sure that the hitch is secured to the tractor, and that all hydraulic connections are tight and in good working condition. If there are any leaks or damaged hoses, you must replace these before using your auger. Replacement hoses and hose ends must have a minimum strength of 1900psi working pressure.

Make sure that the wheels of your auger are free to move before you raise or lower your auger.



CAUTION:

If the auger wheels are buried in any type of material, do not attempt to raise or lower the auger. Remove dirt, snow, grain, or whatever other material is obstructing the auger before use.

Check that the valve on the hose to the lift cylinder is open. Double check that the area above and around the auger is clear of obstructions. Raise auger to desired height, and close hose valve after auger is positioned.



WARNING:

If hose valve remains open, a loss of hydraulic pressure within the tractor system will allow the auger to lower by itself; this could cause damage to the auger and personal injury or death.



NOTICE:

Do not use the auger as a hoist or crane, no matter the size or weight of the object being lifted. This will create an unsafe condition and void your warranty.

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3.4 Final Placement of Auger

When you are ready to use your auger, place the auger in its lowered position, and slowly back it up to your bin or storage facility, keeping an eye out for any people or obstructions in the hazard zone.



DANGER:

Avoid any electrical wires and overhead obstructions. Electrocutation can occur without direct contact. Failure to listen to this warning can result in personal injury or death

Use tractor hydraulics to raise the auger into position. Slowly back the auger into position until the spout is over the opening of the bin or storage facility and use tractor hydraulics to slowly lower the spout into the opening.

As soon as the auger is in position, the wheels of the auger must be chocked on both sides. To prevent tipping, anchor or support the auger during operation.

3.5 Lowering the Auger

Attach auger to tractor, making sure that your hydraulics are also attached to the tractor. Raise the auger, to ensure that the outlet end is above the bin or storage facility. Remove wheel chocks and ensure area is clear of personnel and obstructions.

Drive forward, pulling auger slowly away from the bin or storage facility. Be sure that the wheels are free to move, and lower the auger. Make sure auger is in full down position before proceeding.

When lowering the auger, never turn the winch handle counterclockwise to attempt to correct a stuck cable. This will disengage the brake mechanism and create an unsafe condition.

If the cable stops moving, check to see where the binding is happening and fix before proceeding. The track guide could be stuck. If there is too much slack in the cable, the auger could drop suddenly. Winch in the slack cable and correct before proceeding.

After lowering the auger, turn the handle clockwise two clicks to lock the winch brake. Always keep a minimum amount of 3 wraps of cable around is winch is for manual operation only.

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4. Operation

Wear protective gear at all times when operating auger, such as hard hats, protective shoes, eye protection, and gloves. Do not wear loose clothing, and be sure that hair is tied back.

4.1 Pre-Operation Checklist

Before operating the auger, the operator must follow this checklist:

All safety shields are in place, secure, and in good working order.	
Lift cable is properly aligned in pulley. Clamps are secure.	
Fasteners are secure.	
PTO driveline is securely attached to driveshaft and tractor.	
PTO driveline rotates freely.	
PTO driveline telescopes easily.	
Tube alignment is reasonably straight.	
Auger wheels and tractor wheels are chocked.	
Intake hopper and discharge spout are free of any obstructions.	
A second qualified person is present during operation.	
All operators have read manual and are aware of safety precautions.	
Maintenance has been performed properly.	
Power to PTO and hydraulic system is in off position before starting tractor.	
Hydraulic system has been thoroughly checked for leaks. (see Section 5 “Hydraulics” for details).	

4.2 Auger Drive & Lockout

The proper operation of this auger requires that the operator pre-inspect the drive system, know how to shut down the system in an emergency, and generally monitor the system during operation.

Drive System and PTO Driveline: Ensure that the PTO drive on the tractor is in the off position before starting the tractor. Stay clear of PTO hazard area. Do not exceed the maximum operation length of 80 inches of PTO driveline, or the maximum angularity of 30 degrees.

Lockout/Shutdown of PTO Driveline: Turn off engine. Remove ignition key from tractor. If for some reason, you cannot remove the key, remove the PTO driveline from the tractor.

4.3 Start Up & Break In



DANGER:

Electrocution Hazard! Make sure that all unauthorized personnel are clear from the operation zone. This auger is not insulated. Be alert to overhead obstructions and electrical wires. Electrocution can occur without direct contact. Do not raise or lower auger until hazardous area is cleared. Failure to maintain proper clearance can result in serious injury or death.

Have you completed the pre-operational checklist? If everything is satisfactory, prepare for a 30 minute operation at half speed to break in your auger. Double check that the intake hopper is properly positioned, and the PTO drive on the tractor is in the off position.



NOTICE:

When starting the auger for the first time, be prepared for an emergency shutdown in case of excessive vibration or noise. The auger may run roughly until the tube is polished.

Start the tractor and idle at low RPM. Slowly engage the PTO driveline. Gradually begin to feed grain into the intake hopper, bringing the speed of the PTO to 200 RPM. Do not over-feed the hopper on initial loads; keep the feed of the grain at half capacity. After the auger tube is polished and runs smoothly, proceed to unload at full speed (at but not to exceed 540 RPM for maximum efficiency).

Upon completion of initial run, slow down until the auger is empty of grain, and stop auger. Lock out the power source and conduct a complete inspection of the auger, following the pre-operation checklist. After the initial start up and inspection, the auger should be shut down and inspected at least three times during the first hours of operation.

Once your auger is broken in, the pre-operation checklist should be part of the daily routine before you operate the auger.

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4.4 Everyday Operation



WARNING:

When auger is in operation, keep your hands, clothing, and other objects away from intake hopper, drive chains, and all other parts of auger to avoid personal injury.

For normal auger operations, the following procedure and safety precautions are strongly recommended:

Complete the pre-operation checklist before using your auger.

Remember to ground motor before using auger if an electric motor is being used.

When using the auger, work with another trained operator present to monitor the operation and help with a shutdown in case of an emergency. Monitor the auger during operation for vibration and abnormal noises. If anything out of the ordinary is noted, shut down and lock out the auger, determine the source, and correct before continuing operation.

Keep the hopper full and running at 540 RPM for maximum capacity. Pour grain in the middle of hopper, closest to the tube for best results.

Run the auger only when moving material. Running the auger without grain moving through causes unnecessary wear.

4.5 Shutting Down the Auger

Empty the auger of all grain. Disengage the PTO drive. Shut down and lock out power.



WARNING:

Never use your hands to clean out debris from auger. Rather, use a small shovel or other tool.

In the case where there has been an interruption or emergency shutdown, restart the auger as follows:

If auger is full of grain, do not restart at full speed. Engage PTO at low RPM and gradually increase power until normal operating speed is achieved.



CAUTION:

Starting the auger under load may result in damage to the auger. Make sure there is no blockage.

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4.6 Completion and Cleanup

At completion of operation, the auger needs to be moved into storage position. Make sure that the entire work area is clean, remove all supports and wheel chocks, move auger out of working position, and fully lower the auger (see lowering procedure below).

The proper steps for clean out of the auger are as follows:

1. Disengage power source; lower the auger into transport position. There will be no clicking sound.
2. Turn handle clockwise until you hear two clicks. This locks the brake.
3. Shut off tractor and lock out power.
4. Move intake hopper into transport position and latch with safety chain.
5. If necessary, clean out grain using small shovel or other tool.



WARNING:

Do not leave auger in raised position when not in use. Auger could drop rapidly in case of hydraulic failure. High winds may also upset the auger. Because the hydraulic scissor lift is faster than a hand crank system, use extra caution and clear area of personnel before raising or lowering auger.

4.7 Lowering the Auger

Check that auger and hose couplers are securely attached to your tractor.

You may need to raise the auger discharge end up and out of bin or storage facility before proceeding.

Remove wheel chocks, and check that the area around and under the auger is clear of debris and unauthorized personnel. Wheels must be free to move when raising or lowering the auger.

Slowly pull away from bin or storage facility. As soon as you are clear, engage the hydraulics and lower the auger. Once valves are open, the auger lowers by gravity. Rate of descent increases the closer the auger gets to the down position. Be cautious.

Transport auger only in fully lowered position.

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5. Hydraulics

5.1 General Information

Be sure that all safety precautions and proper operation procedures are fully understood before connecting the auger hydraulic hoses. Harvest strongly recommends doing a daily visual check for damage to the hoses and connectors. Replace any damaged parts before operation.



WARNING:

Wear proper face and hand protection when searching for hydraulic leaks. Fluid can escape under pressure, causing infection or toxic reaction on skin. See a doctor immediately if injured.

Escaping hydraulic fluid can be nearly invisible under high pressure. Use some type of backdrop when searching for leaks.

Harvest augers have a velocity fuse for hydraulic safety. If the hydraulic line breaks, it locks the system. Our shut off valve is equipped with a flow restrictive orifice. After you have repaired the hydraulic hose, the system resets itself and is ready for operation.

There are various types of tractor hydraulic systems; the quick connect couplers are supplied by the owners. Please consult your tractor manual for the proper couplers.

Before you connect your hydraulic hoses, check that the quick connect couplers on the auger and tractor are clean and free of any dirt or debris; wiping them down with a cloth.



CAUTION:

Dirt in the hydraulic system can damage the cylinder o-rings. This may cause leakage and possible system failure.

Do not disconnect the hydraulic coupler when the system is under pressure. Relieve all pressure and then disconnect.

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5.2 Cylinder Hydraulics

The testing done on Harvest auger hydraulics was done using a pressure gauge with 3000psi maximum rating. This was used simply as a guide. The psi requirements for an individual auger may vary slightly.

Auger	Size	PSI
H1064XT	10" x 64'	1300
H1074XT	10" x 74'	1400
H1084XT	10" x 84'	1600
H1364XT	13" x 64'	1600
H1374XT	13" x 74'	1800
H1384XT	13" x 84'	1900

Have approximately four liters of hydraulic fluid in your system. Check that the valve on the hose to lift the cylinder is open. Start tractor and engage hydraulics. Raise the auger to desired height, and close hose valve. You must turn valve while the hydraulic system is pressurized; do not disconnect hydraulic couplers.



WARNING:

If valve hose remains open, a loss of hydraulic pressure within the tractor system could allow the auger to lower unexpectedly, causing damage to the auger and personal injury.

To lower the auger, reconnect hose couplers to the tractor. Ensure that area is clear and wheels are free to move. Open the hose valve, start your tractor, and engage hydraulics. The auger is fully lowered when the tube is resting on the tube saddle.



NOTICE:

After valves are opened, the auger lowers by gravity. As the auger nears the full down position, the rate of descent will increase.

6. Maintenance & Storage

Proper maintenance of auger will result in both a longer life of the auger and a safe and efficient operation.

6.1 General Maintenance

Always replace damaged or worn parts before using the auger. Use only replacement parts manufactured by Harvest. Use of unauthorized parts will void the warranty of your auger. Contact your Harvest dealer to order parts.

Harvest augers are designed and tested for a safe, efficient operation. Do not modify the equipment in any way. Modification to the auger can create an unsafe working condition, affect the life of the equipment, and will void your warranty.

Before performing maintenance on your auger, shut down and lock out all power. Disconnect the PTO driveline from the tractor. Support the auger tube before attempting maintenance on the undercarriage. The auger should be in full down position before attempting maintenance.

After Maintenance is completed, replace and secure all safety shields, safety devices, service doors and cleanout covers.

See section 5, "Hydraulics" for information on maintenance of hydraulic hoses.

See section 7, "Appendix & Forms" for expanded lube information.

Winch: Keep a film of grease on the gears. Occasionally oil the bushings, drum shaft, and ratchet. Do not get oil or grease on the brake discs. Replace the brake discs if they wear down to less than 1/16" thick.

Lift/Truss Cables: Replace cables if frayed or damaged. Be sure clamps are secure. Adjust cables as needed to keep the auger tube reasonably straight.

Wheel Hubs: Repack hubs every two to three years to lengthen the life of the hubs.

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Tire Pressure: Check tire pressure monthly. The recommended tire pressure should be maintained at 40 to 45 psi.

PTO Driveline: Lubricate both universal joints after every eight hours of operation. Lubricate the center portion of the driveline on a yearly basis. The first lube maintenance should be done in the first 16 to 24 hours of operation. Then follow a regular schedule of lubing.

Lube Recommendation: Lube cross and bearing every 8 hours of use. Lube telescoping members yearly.



NOTICE:

Replacement parts are not lubricated. When you receive these parts in, make sure to lubricate and tighten screws.

Mechanical Chain Drive: Keep drive chain tension adjusted to about ¼” deflection by loosening the four bolts on the lower bearing, then retightening. Oil the chain frequently enough to keep a film of oil on the chain. This must be done through the maintenance portal. Replace shield after maintenance.

Universal Joint: Remove PTO guard cover and lubricate grease fitting in the U-Joint every eight hours of use. Check PTO retain bolt and retighten if necessary.

6.2 Storage of Auger

Make sure that auger is in the full down position. Remove all residual material from the hopper and auger tubes. Touch up all scratches on the auger to prevent rusting.

Clean and re-lubricate spline on the PTO driveline. Cover with plastic bag to protect from weather, and place it in the transport latch.

Move auger to your storage area, park, and chock wheels.

Before using the auger after storage, replace any damaged parts or decals, remove plastic bag from PTO driveline and re-lubricate, and conduct general maintenance procedure.

7. Warranty

Warranty Policy

Harvest warrants its products for a period of one (1) year or 90 days for commercial applications from original date of purchase by the original purchaser to be free from defects in material and workmanship under correct, normal agricultural use and proper applications.

Harvest's obligation under this warranty is limited to the repair or exchange at Harvest's discretion, of any Harvest part or product which proves to be defective as provided. Harvest reserves the right to have the product returned to a dealer of Harvest or to our factory, with the transportation charges prepaid. This warranty does not obligate Harvest to bear the cost of labor in replacing defective parts. Any defects must be reported to the company before the end of the one (1) year period.

This warranty shall not apply to equipment which has been damaged or subject to accident, improperly assembled, or has been altered, improperly maintained or improperly repaired or repaired by anyone other than an authorized Harvest representative.

The purchaser is solely responsible for determining the suitability of the goods sold. The foregoing is in lieu of all other warranties, expressed or implied, including any warranties that extend beyond the description of the product, and the implied warranty of merchantability is expressly excluded. Harvest will, in no event, be liable for any incidental or consequential damages whatsoever. Not for any sum in excess of the price received for the goods for which liability is claimed.

Harvest makes no express warranties other than those which are specifically described. Any description of goods including any references and specifications in circulars, catalogues, and other written material published is for the sole purpose of identifying goods and shall conform to such descriptions. Any sample or modes if for illustrative purposes only and does not create an express warranty that the goods conform to sample or model shown.

Warranty Labor

The labor rate for replacing defective parts will be at 100% of the current posted show rates at the place of repair. Prior to any work done, you must contact Harvest for any labor subject to warranty; this must be authorized by Harvest.

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Harvest is committed to providing the best and most complete line of grain handling and storage products in the industry to you. We appreciate and thank you for your continued support and we look forward to being of continued service to you.

Please contact your Dealer for a Parts and Assembly Manual.

www.harvestauger.com

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