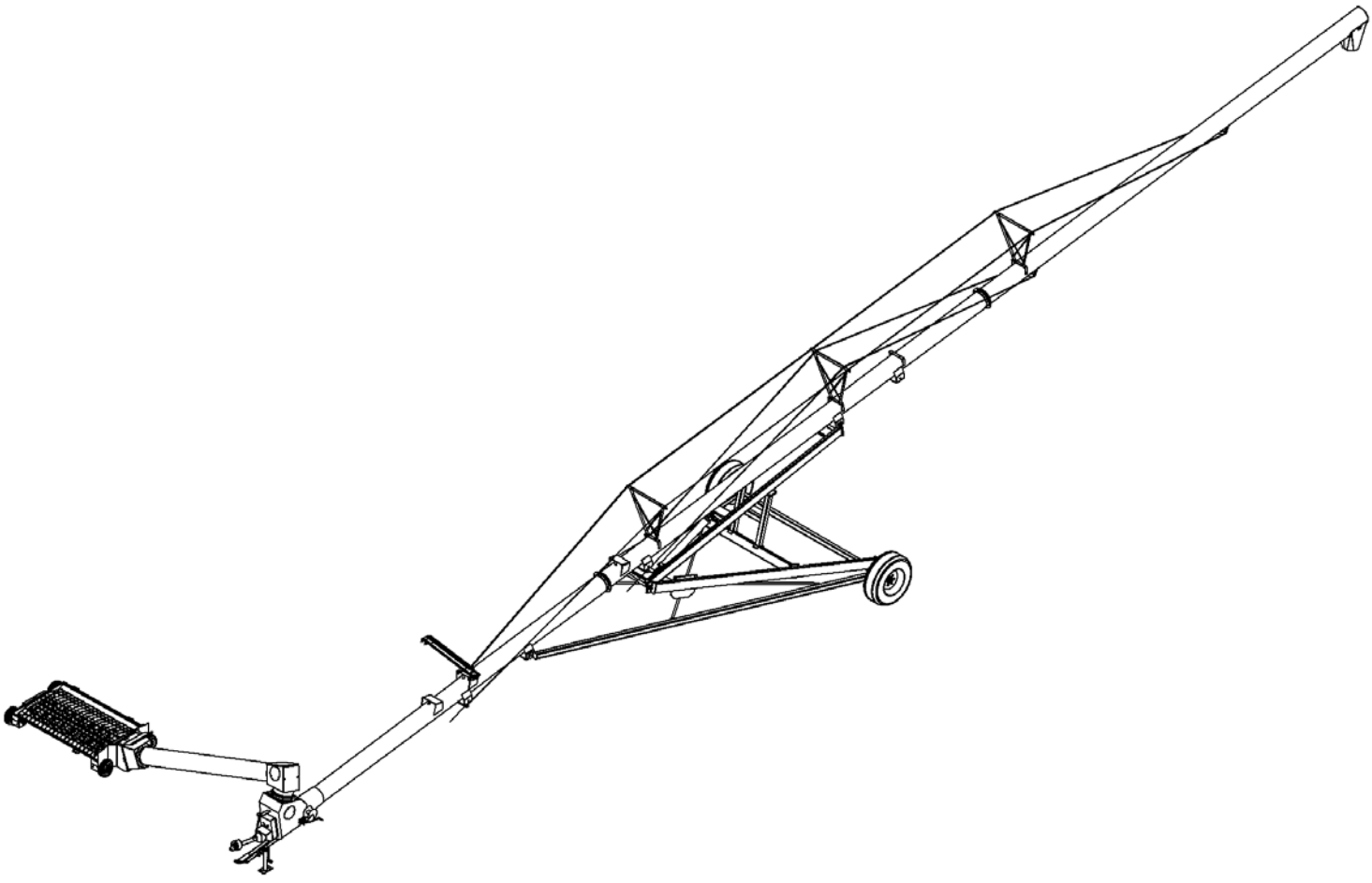
Wheatheart

SA AUGERS

SA 1061, 1071, 1081, 1091, 1371, 1381, 1391
OPERATION AND PARTS MANUAL



Read this manual before using product. Failure to follow instructions and safety precautions can result in serious injury, death, or property damage. Keep manual for future reference.

Part Number: 4504156 R6

Revised: Mar/10

This product has been designed and constructed according to general engineering standards[a]. Other local regulations may apply and must be followed by the operator. We strongly recommend that all personnel associated with this equipment be trained in the correct operational and safety procedures required for this product. Periodic reviews of this manual with all employees should be standard practice. For your convenience, we include this sign-off sheet so you can record your periodic reviews.

Date	Employee Signature	Employer Signature

a. Standards include organizations such as the American Society of Agricultural and Biological Engineers, American National Standards Institute, Canadian Standards Association, International Organization for Standardization, and/or others.

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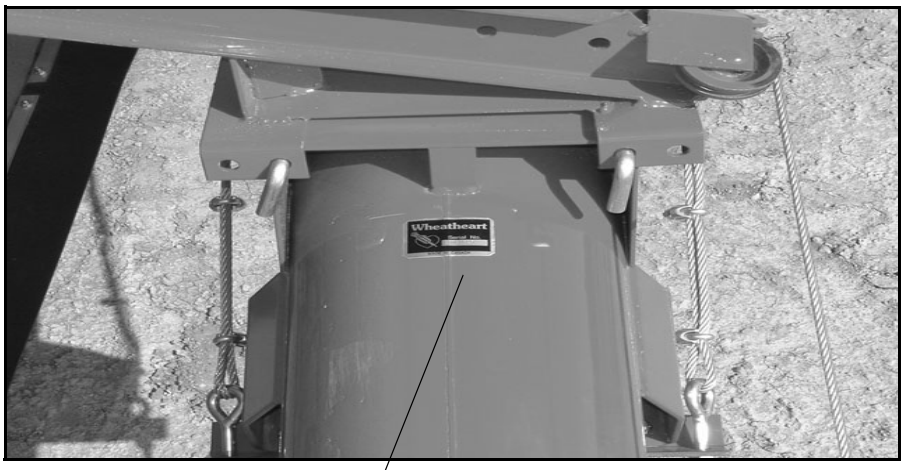
1. Introduction

Congratulations on the purchase of your new Wheatheart SA Auger. This equipment will complement your agricultural operation by safely and efficiently moving grain, pulse crops, fertilizer, and any other granular materials.

Many of the features incorporated into this machine are the result of suggestions made by customers like like. Your new Wheatheart auger will serve you well if you understand how it operates, and if you use it and care for it properly. This manual is intended to help you learn how to operate and maintain your equipment in a safe, efficient, and trouble-free manner. Please read this manual before you use your new grain auger.

This manual covers all SA augers built by Wheatheart Manufacturing. Use the table of contents as a guide when searching for specific information. Keep this manual in a safe place for future reference and for ordering replacement parts.

Should any information remain unclear after thoroughly reviewing this manual, contact your Wheatheart Dealer for clarification before operating your auger. Knowing the serial number and date of purchase will save time in getting your questions answered. Please write down this information in the space provided below.



2. Safety First

The Safety Alert symbol to the left identifies important safety messages on the product and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety messages. Why is SAFETY important to you?

Three big reasons:

- Accidents disable and kill.
- Accidents cost.
- Accidents can be avoided.

SIGNAL WORDS

Note the use of the signal words **DANGER, WARNING, CAUTION,** and **NOTICE** with the safety messages. The appropriate signal word for each message has been selected using the definitions below as a guideline.

The Safety Alert symbol means ATTENTION, BE ALERT!, YOUR SAFETY IS INVOLVED.

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.

2.1. GENERAL SAFETY

Important: *The general safety section includes instructions that apply to all safety practices. Any instructions specific to a certain safety practice (e.g., assembly safety), can be found in the appropriate section. Always read the complete instructional sections and not just these safety summaries before doing anything with the equipment.*

YOU are responsible for the **SAFE** use and maintenance of your equipment. **YOU** must ensure that you and anyone else who is going to work around the equipment understands all procedures and related **SAFETY** information contained in this manual.

Remember, **YOU** are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program.

- It is the equipment owner and the operator's responsibility to read and understand **ALL** safety instructions, safety decals, and manuals and follow them before assembling, operating, or maintaining the equipment. All accidents can be avoided.

- Equipment owners must give instructions and review the information initially and anually with all personnel before allowing them to operate this product. Untrained users/operators expose themselves and bystanders to possible serious injury or death.
- Use this equipment for its intended purposes only.

- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety, and could affect the life of the equipment. Any modification to the equipment voids the warranty.
- Do not allow children, spectators, or bystanders within the work area.
- Have a first-aid kit available for use should the need arise, and know how to use it.

- Provide a fire extinguisher for use in case of an accident. Store in a highly visible place.
- Wear appropriate protective gear. This list includes, but is not limited to:
  - a hard hat
  - gloves
  - protective shoes with slip-resistant soles
  - protective goggles
  - hearing protection

- For Powered Equipment: before servicing, adjusting, or repairing powered equipment, unplug, place all controls in neutral or off position, stop the engine or motor, remove ignition key or lock out power source, and wait for all moving parts to stop.

- Follow good shop practices:
  - keep service area clean and dry
  - be sure electrical outlets and tools are properly grounded
  - use adequate light for the job at hand
  - Think SAFETY! Work SAFELY!

2.2. OPERATING SAFETY

- Ensure guards are installed and secure.
- Clear the work area of untrained people.
- Clean the work area to prevent slipping or tripping.
- Have a fully equipped first aid kit and fire extinguisher on hand and know how to use them.
- Be certain the PTO driveline is securely attached to the auger and to the tractor.
- Before starting the tractor, be certain that the PTO is in the off position.
- Keep hands, feet, hair, and clothing away from all moving or rotating parts.

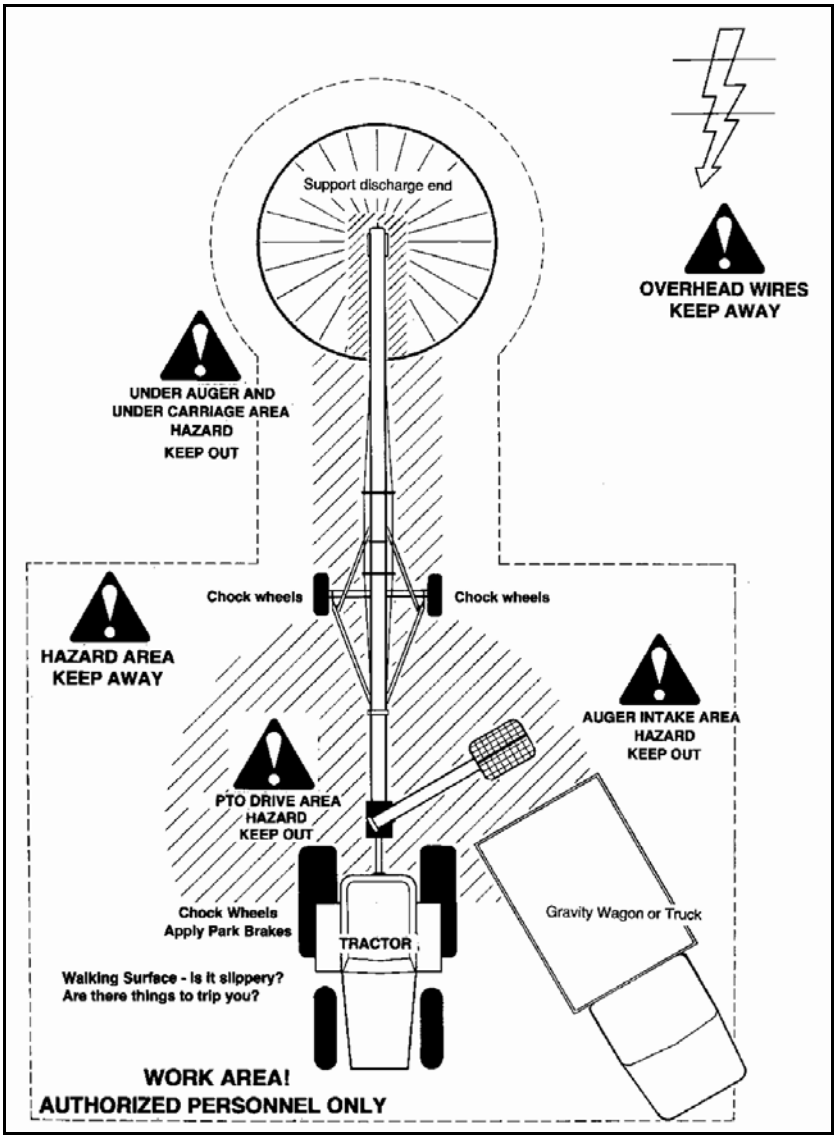


Figure 2.1

2.3. TRANSPORT SAFETY

- Ensure tires are inflated to the tire manufacturer's recommended pressure.
- Make sure that all lights and reflectors required by the local highway and transport authorities are in place, are functioning, and can be seen clearly by all overtaking and oncoming traffic.Check with local authorities regarding transportation of agricultural equipment on public roads. Obey all applicable laws and regulations.
- Be sure the unit is hitched securely to the towing vehicle.
- Do not allow riders while transporting.
- Display a Slow Moving Vehicle (SMV) emblem when transporting below 15 mph (24 km/h).
- Use hazard-warning flashers when transporting with a tractor unless prohibited.
- Keep to the right and yield the right-of-way to allow faster traffic to pass.
- Never transport faster than the road terrain or conditions will safely allow.
- Use caution when turning corners or meeting traffic.
- Use caution when approaching height-limiting objects.
- Be especially careful when transporting during times of limited visibility (rain, snow, fog, dusk, or at night). If you can, wait for a more appropriate time to move the equipment.
- Do not transport auger on a slope greater than 20°—the auger may overturn.
- The winch must be in the locked position. To lock, turn handle clockwise until you hear two clicks.

2.4. STORAGE SAFETY

- Store in an area away from human activity.
- Do not permit children to play on or around the stored machine.

2.5. MAINTENANCE SAFETY

- Shut off and disable the power source before working on the machine.
- Ensure service area is clean and dry.
- Ensure electrical outlets and tools are properly grounded.
- Use proper tools for the job and wear appropriate safety gear..
- Ensure there is adequate lighting to perform the job safely.
- Place chocks in front and behind the wheels to prevent the machine from rolling.
- Use extra caution when cleaning and servicing augers because flighting edges can be sharp.
- Follow proper procedures when mounting a tire on a rim. If in doubt, have a qualified tire repair service perform the required maintenance.
- Install and secure all guards after maintenance work is completed.

2.6. SAFETY DECAL LOCATIONS

- Keep safety decals clean and legible at all times.
- Replace safety decals that are missing or have become illegible. See decal location figures below.
- Replaced parts must display the same decal(s) as the original part.
- Safety decals are available from your distributor, dealer, or factory.

2.6.1. DECAL INSTALLATION

1. Decal area must be clean and dry, with a temperature above 10°C (50°F).
2. Decide on the exact position before you remove the backing paper.
3. Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
4. Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
5. Small air pockets can be pierced with a pin and smoothed out using the sign backing paper.

2.6.2. DECAL LOCATIONS

Replicas of the safety decals that are attached to the equipment are shown below. Good safety requires that you familiarize yourself with the various safety decals and the areas or particular functions that the decals apply to as well as the safety precautions that must be taken to avoid serious, injury, death, or damage.

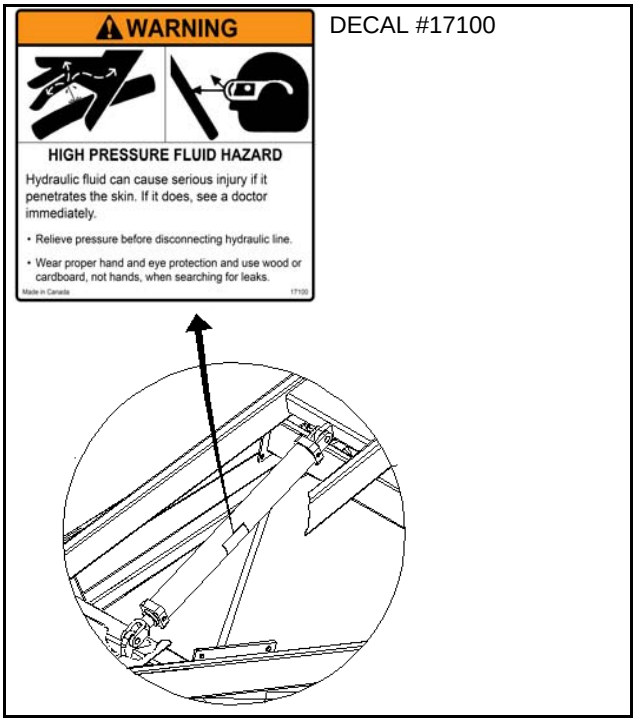


Figure 2.2

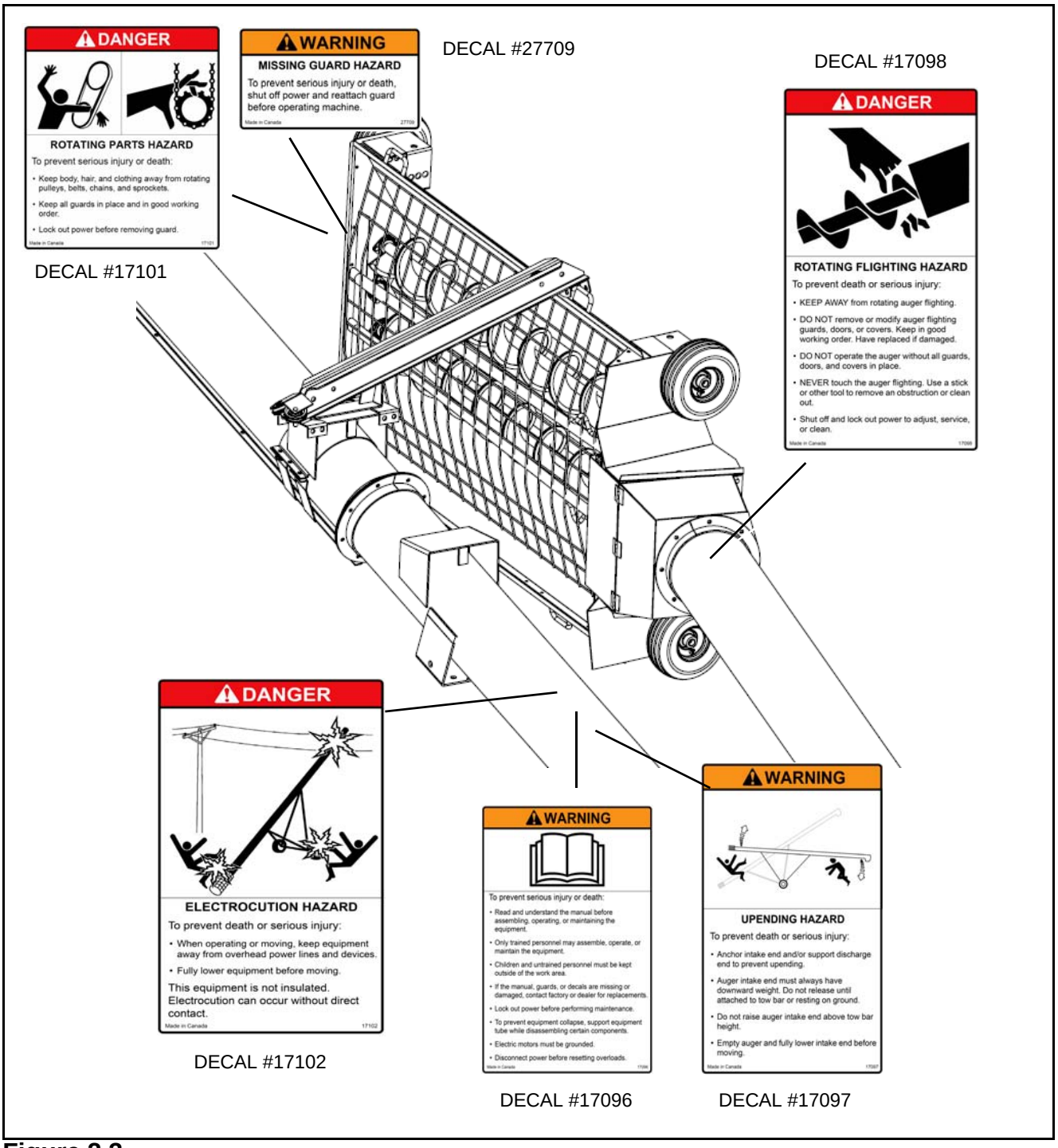

DANGER
ROTATING PARTS HAZARD
To prevent serious injury or death:
• Keep body, hair, and clothing away from rotating pulleys, belts, chains, and sprockets.
• Keep all guards in place and in good working order.
• Lock out power before removing guard.
DECAL #17101
WARNING
MISSING GUARD HAZARD
To prevent serious injury or death, shut off power and reattach guard before operating machine.
DECAL #27709
DECAL #17098
DANGER
ROTATING FLIGHTING HAZARD
To prevent death or serious injury:
• KEEP AWAY from rotating auger flighting.
• DO NOT remove or modify auger flighting guards, doors, or covers. Keep in good working order. Have replaced if damaged.
• DO NOT operate the auger without all guards, doors, and covers in place.
• NEVER touch the auger flighting. Use a stick or other tool to remove an obstruction or clean out.
• Shut off and lock out power to adjust, service, or clean.
DANGER
ELECTROCUTION HAZARD
To prevent death or serious injury:
• When operating or moving, keep equipment away from overhead power lines and devices.
• Fully lower equipment before moving.
This equipment is not insulated. Electrocution can occur without direct contact.
DECAL #17102
WARNING
To prevent serious injury or death:
• Read and understand the manual before assembling, operating, or maintaining the equipment.
• Only trained personnel may assemble, operate, or maintain the equipment.
• Children and untrained personnel must be kept outside of the work area.
• If the manual, guards, or decals are missing or damaged, contact factory or dealer for replacements.
• Lock out power before performing maintenance.
• To prevent equipment collapse, support equipment tube while disassembling certain components.
• Electric motors must be grounded.
• Disconnect power before resetting overloads.
DECAL #17096
WARNING
UPENDING HAZARD
To prevent death or serious injury:
• Anchor intake end and/or support discharge end to prevent upending.
• Auger intake end must always have downward weight. Do not release until attached to tow bar or resting on ground.
• Do not raise auger intake end above tow bar height.
• Empty auger and fully lower intake end before moving.
DECAL #17097

Figure 2.3

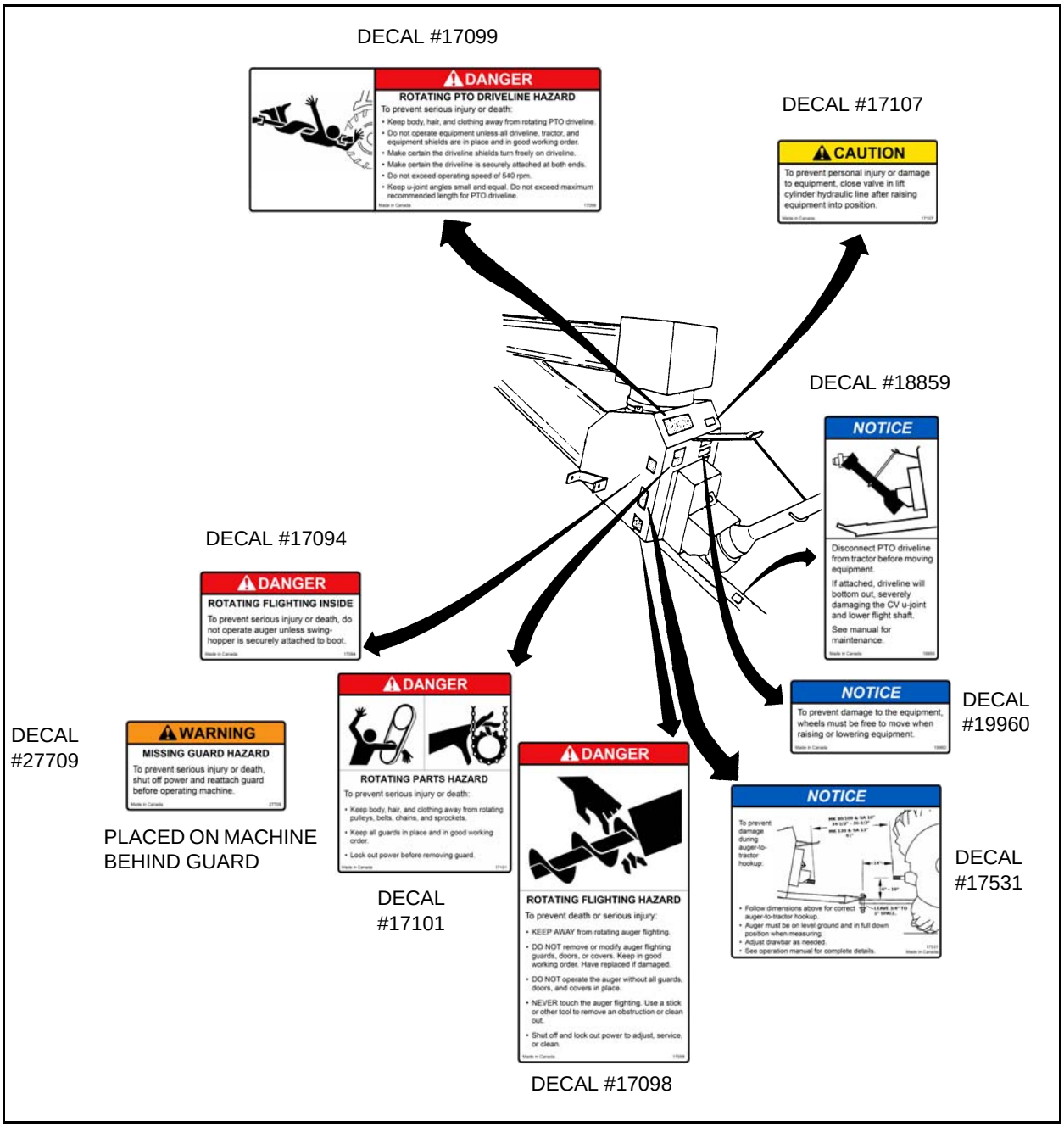

DECAL #17099
DANGER
ROTATING PTO DRIVELINE HAZARD
To prevent serious injury or death:
• Keep body, hair, and clothing away from rotating PTO driveline.
• Do not operate equipment unless all driveline, tractor, and equipment shields are in place and in good working order.
• Make certain the driveline shields turn freely on driveline.
• Make certain the driveline is securely attached at both ends.
• Do not exceed operating speed of 540 rpm.
• Keep u-joint angles small and equal. Do not exceed maximum recommended length for PTO driveline.
DECAL #17107
CAUTION
To prevent personal injury or damage to equipment, close valve in lift cylinder hydraulic line after raising equipment into position.
DECAL #18859
NOTICE
Disconnect PTO driveline from tractor before moving equipment.
If attached, driveline will bottom out, severely damaging the CV u-joint and lower flight shaft.
See manual for maintenance.
DECAL #17094
DANGER
ROTATING FLIGHTING INSIDE
To prevent serious injury or death, do not operate auger unless swing-hopper is securely attached to boot.
DECAL #27709
WARNING
MISSING GUARD HAZARD
To prevent serious injury or death, shut off power and reattach guard before operating machine.
PLACED ON MACHINE BEHIND GUARD
DANGER
ROTATING PARTS HAZARD
To prevent serious injury or death:
• Keep body, hair, and clothing away from rotating pulleys, belts, chains, and sprockets.
• Keep all guards in place and in good working order.
• Lock out power before removing guard.
DECAL #17101
DANGER
ROTATING FLIGHTING HAZARD
To prevent death or serious injury:
• KEEP AWAY from rotating auger flighting.
• DO NOT remove or modify auger flighting guards, doors, or covers. Keep in good working order. Have replaced if damaged.
• DO NOT operate the auger without all guards, doors, and covers in place.
• NEVER touch the auger flighting. Use a stick or other tool to remove an obstruction or clean out.
• Shut off and lock out power to adjust, service, or clean.
DECAL #17098
NOTICE
To prevent damage to the equipment, wheels must be free to move when raising or lowering equipment.
DECAL #19960
NOTICE
To prevent damage during auger-to-tractor hookup:
• Follow dimensions above for correct auger-to-tractor hookup.
• Auger must be on level ground and in full down position when measuring.
• Adjust drawbar as needed.
• See operation manual for complete details.
DECAL #17531

Figure 2.4

3. Transport & Placement

Warning: Before continuing, please reread the safety information relevant to this section at the beginning of this manual. Failure to follow the safety instructions can result in serious injury, death, or property damage.

DANGER	
	Electrocution hazard: • This auger is not insulated. • Keep auger away from overhead power lines and devices. • Electrocution can occur without direct contact. • Fully lower auger before moving. Electrocution will result in serious injury or death.

3.1. TRANSPORT PROCEDURE

The Wheatheart auger is designed to be easily and conveniently readied for transport. Follow this procedure when converting the machine from operating to transport configuration.

NOTICE
Empty the auger before transporting. Transporting a full auger will place excessive loads on the tube assembly, frame, axle assembly, hitch, and towing unit. If auger wheels are partially or fully buried in snow or grain, do not attempt to move auger until snow or grain has been cleared away from auger wheels.

CAUTION	
	Failure to secure the unit prior to transporting could cause a serious hazard to the occupants of the towing vehicle or other vehicles.

1. Reconnect the hydraulic hose couplers to the tractor if disconnected.
2. Place PTO driveline in the transport saddle and secure.
3. Remove all wheel chocks.
4. Raise the intake hopper off the ground.
5. Ensure the auger is clear of any obstructions before lowering.

6. Open the hose valve and then use the tractor valve to lower the auger. Feather the lever to prevent too rapid a descent. Lower the auger until the transport brace is fully seated (Figure 3.1).
7. Raise intake feed hopper into transport position and secure with saddle pin and hairpin (Figure 3.2).
   a. Lock in transport position with the handle on the side of the hopper.
   b. Attach cable hook to the loops inside the hopper.
   c. Fully raise hopper with intake side facing away from the main auger as shown.
   d. Secure hopper to lift arm with the hopper lock, saddle pins, and hairpins provided.Retract the wheels prior to transporting (1081, 1091, and 13" models only).

Figure 3.1 Transport Brace

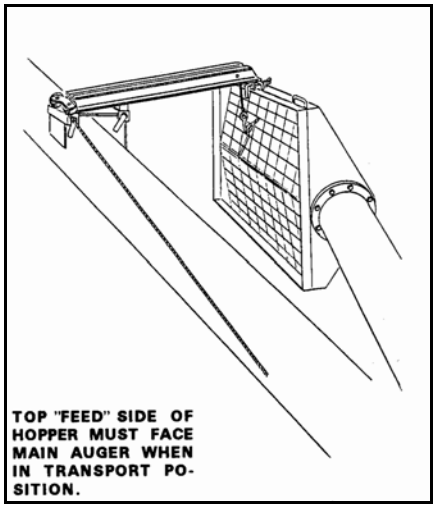


Figure 3.2 Intake Hopper in Transport

NOTICE

Transporting with axles extended may cause equipment damage and may be in violation of local transport regulations.

8. Install the safety chain between the auger and the frame of the towing unit.

Note: *The chain must have a load rating at least as high as the auger weight.*

   a. Thread safety chain through the auger hitch and bolt together before attaching to the towing vehicle. The loop should form a cradle that will prevent the auger from digging into the road surface and upsetting it, should a breakaway occur.

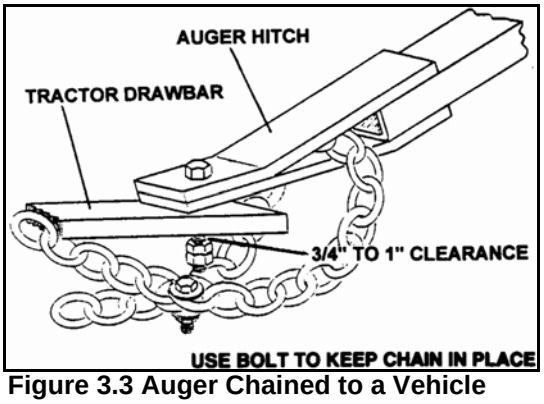


Figure 3.3 Auger Chained to a Vehicle

b. Ensure there is no more slack in the chain than required for turning.

c. When not in use, store the safety chain in a clean, dry place. Replace the safety chain if one or more links or end fittings are broken, stretched, or otherwise damaged or deformed (Figure 3.3).

WARNING	
	Maximum transport speed: **Do not** transport faster than 15 mph (24 km/h), or faster than road conditions allow. A weight imbalance between the towing vehicle and the machine could reduce your vehicle's stability, handling, and braking ability, and lead to an upset or collision.

3.2. PLACEMENT PROCEDURE

Important: *Wheels must be free to move when raising or lowering the auger.*

1. Disconnect PTO driveline from tractor.
2. Position towing hitch and secure (Figure 3.5).

Important: *Always use a safety chain when transporting the auger.*

3. Extend wheels (1081, 1091, and 13" models only) as shown in Figure 3.4
4. Check that hydraulic hoses and connections are undamaged and free from leaks.

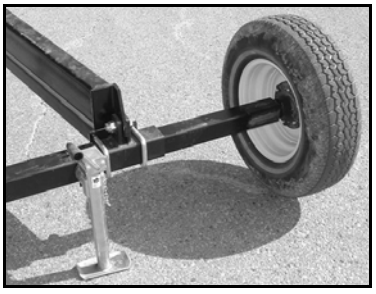


Figure 3.4 Wheel Extended

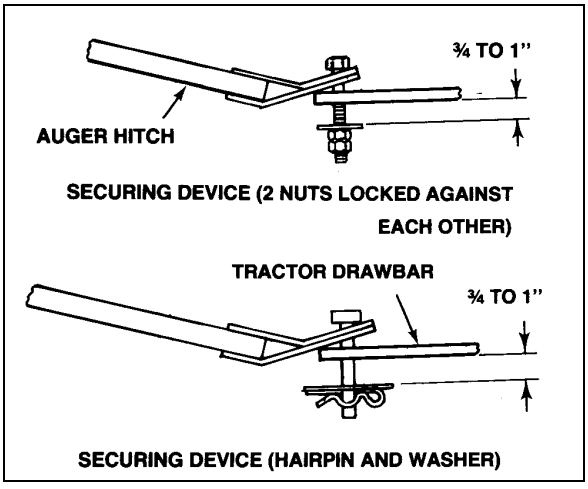


Figure 3.5

Note: *Replacement hose and hose ends must have a minimum strength of 2500 psi (17200 kPa) working pressure.*

5. Place the auger on a firm, level surface.

Note: *Do not place anything under the wheels of the auger for added height.*

6. Check that the valve on the cylinder hose is open to raise the auger and closed once the auger is in position.

CAUTION	
	If hose valve remains open, a loss of hydraulic pressure within the tractor system will allow the auger to lower inadvertently, damaging equipment and/or causing personal injury.

7. Chock auger wheels on both sides and apply the tractor's parking brake before using the auger to move product (Figure 3.6).
8. When operating the auger in the raised position, rest the discharge end on the bin roof or tie it down to the bin to prevent upending or the wind fromup-setting the auger. When operating the auger in a free-standing position, anchor the intake end.
9. Fully lower the hopper to the ground and remove the lift cable from the hopper.

Note: *When raising or lowering the auger, the intake hopper must be lifted off the ground.*

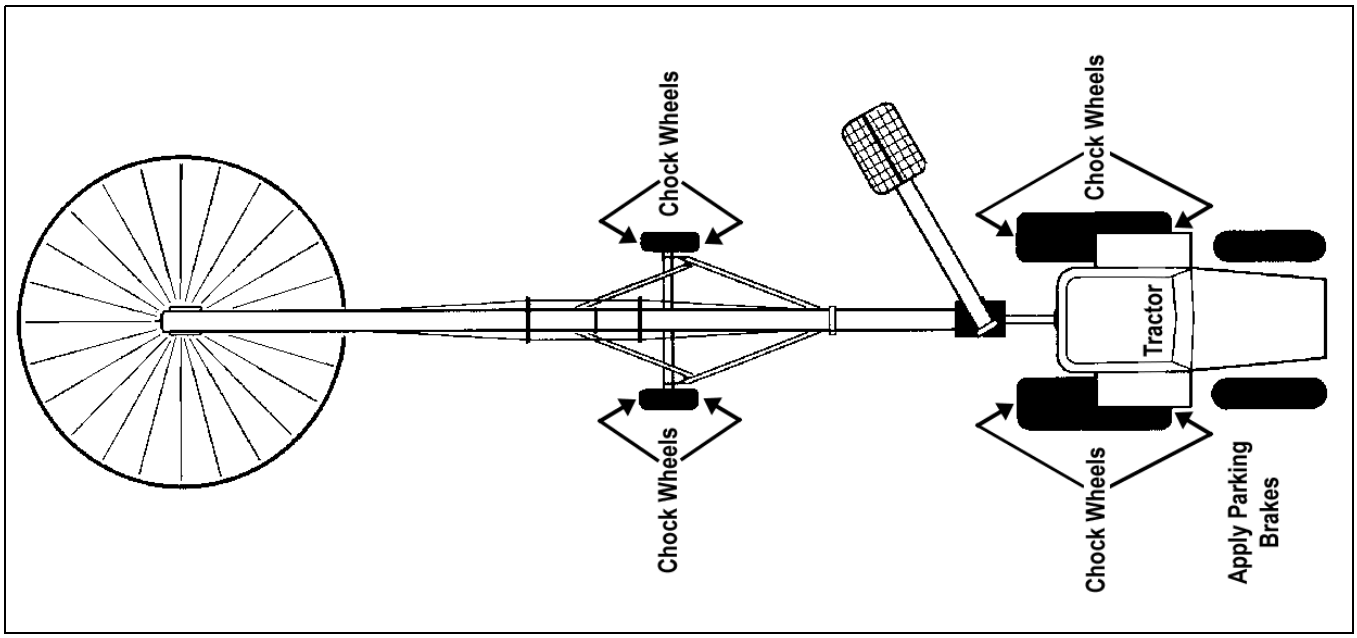


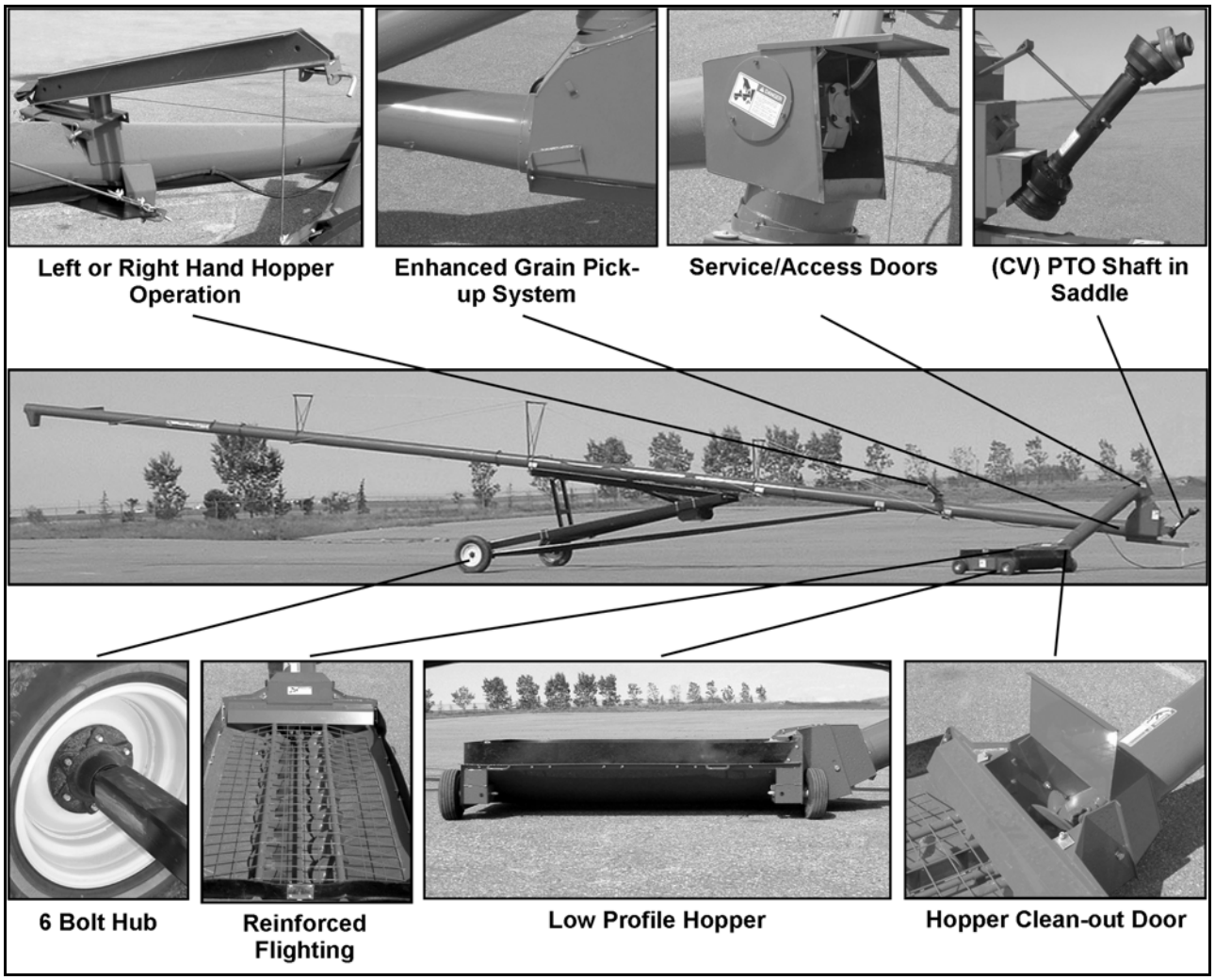
Figure 3.6 Auger Placement

4. Operation

Warning: Before continuing, please reread the safety information relevant to this section at the beginning of this manual. Failure to follow the safety instructions can result in serious injury, death, or property damage.

4.1. DESCRIPTION OF THE EQUIPMENT

Your auger comes field ready and equipped with such features as single acting hydraulics, inward folding scissor lift for superior reach, a low profile hopper, reinforced flighting in the hopper and incline tube, an enhanced grain pickup system, left or right hand hopper operation, 6 bolt automotive hubs, handy service access doors, and a constant velocity (CV) PTO shaft.



4.2. OPERATOR CONTROLS

The hopper winch is located as shown in Figure 4.1. The hydraulic shut-off valve is located as shown in Figure 4.2. Please refer to the tractor manual for hydraulic and PTO controls.

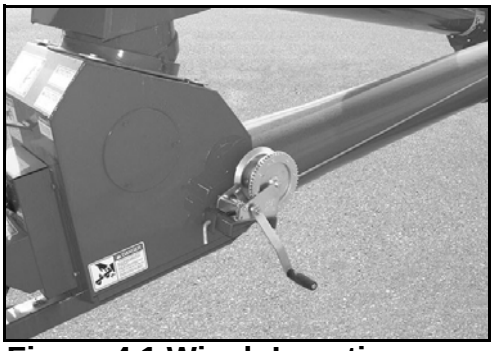


Figure 4.1 Winch Location

Figure 4.2 Shut-off Valve

4.3. PRE-OPERATION

4.3.1. CHECKLIST

- Tighten all fasteners.
- Adjust and/or lubricate boot chain and hopper chain.
- Ensure auger rotates freely.
- Check that tire pressure is within the manufacturer's specification.
- Ensure wheel bolt torque is within specification .
- Check hopper winch cable for damage (fraying, kinking, unraveling). Replace as required.
- Ensure cable anchor on the winch drum is tight.
- Check gearbox oil levels.
- Grease and clean machine if needed.
- Ensure hydraulic system is functioning, is free of leaks, and the hoses are not pinched or kinked.
- Check that truss cables are free from damage (fraying, kinking, unraveling). The cables must be tight and properly adjusted for proper auger tube alignment.
- Ensure PTO shaft is properly installed.

4.3.2. PTO DRIVE

Correct operation of the Wheatheart SA auger requires pre-inspection of the drive system, operator knowledge on how to shut down the system, and a general monitoring of the system during operation.

GENERAL INFORMATION

Before starting the auger, ensure that:

- The PTO driveline is securely attached to the auger shaft and to the tractor.
- The PTO driveline rotating shield is in place and in good working order.
- The PTO does not exceed the maximum operating angle of 15°.
- All safety shields are in place and secure on both the tractor and the auger.
- The PTO drive on the tractor is in the off position before starting the tractor.
- The auger-to-tractor PTO hookup distances are set as specified in the decal on the PTO shield of the auger.
- Everyone is clear of the PTO hazard area.

Note: *If shear bolt in the PTO driveline fails, shut down and lock out the tractor to replace the bolt. Use a 5/16" x 1" GR 8 bolt. Ensure the shear point is through the shank of the bolt, not the threads.*

LOCKOUT

1. Shut down the tractor and remove the ignition key or coil wire.
2. If step 1 is not possible, remove the PTO driveline from the tractor.

4.3.3. HYDRAULICS

Before using the hydraulics, ensure that:

- The quick connect couplers on both the auger and the tractor are clean and free of dirt. Wipe the couplers with a clean, dry cloth.
- The hydraulic hoses are properly connected and secured; are free of leaks, wear, and binding; and are routed away from moving parts.
- Hydraulic pressure has been relieved prior to disconnecting.

4.4. OPERATION PROCEDURE

DANGER	
	**Rotating Auger Hazard** Contact with rotating flighting will result in amputation or severe laceration. DO NOT operate with guards removed or modified. Keep hands and feet away from rotating auger. Tie up long hair and remove jewelry. DO NOT wear loose-fitting clothing or items that could become caught. Shut off and lock out the power source before unplugging or cleaning.

4.4.1. INITIAL START-UP

BREAK IN

Your auger does not require an elaborate break-in. However, following a few simple tips during the initial operation can add to the reliability and life of your machine.

If any unusual noises or vibrations are encountered, determine the source, shut the auger off, lock out the power source, and adjust. If unsure of the problem or procedure, contact your local Wheatheart dealer.

Important: *When starting the auger for the first time, be prepared for an emergency shutdown in case of excessive vibration or noise.*

1. Ensure that you have completed the checklist on page 20.
2. If everything is satisfactory, prepare for a 60 minute operation at half speed.
3. Ensure that the intake hopper is correctly positioned.
4. Ensure that the PTO drive on the tractor is in the OFF position.
5. Start the tractor and idle at low rpm. Slowly engage the PTO drive.

Note: *The auger may run rough until the tube is polished.*

6. Gradually begin feeding grain into the hopper, bringing the auger speed up to about 300 rpm. Do not overfeed the hopper on initial loads; keep the feed of grain at about half capacity.
7. After the auger tube is polished and runs fairly smoothly, proceed to unload at full speed of 540 rpm.
8. Upon completion of the initial run, slow the auger down. Stop the auger when it is empty of grain.

9. Lock out the tractor and conduct a complete inspection of the auger following the checklist on page 20.

Important: *After the initial start-up and inspection, the auger should be shut down and inspected at least 3 more times during the first 10 hours of operation.*

NOTICE

Do not run an empty auger at high speed; this results in excessive wear.

4.4.2. OPERATING WITH A FULL LOAD

NOTICE

Foreign objects can damage the auger. Remove any obstructions from the intake and discharge areas before operating the unit.

1. Complete the checklist on page 20.
2. Place the intake hopper in its working position.
3. Make sure the PTO drive is in the off position when starting the tractor.
4. Engage the PTO with the tractor idling to prevent unneeded stress on the drive components and shear bolts.
5. If everything is operating normally, start running grain through the auger and bring the auger up to speed. Maintain a speed of 300–540 rpm for maximum efficiency and to reduce the chance of plugging.

4.4.3. SHUTDOWN

NORMAL SHUTDOWN

NOTICE

Prolonged operation of an empty auger will cause unnecessary wear.

1. Near the end of the load, reduce the feed of grain and decrease the auger speed where possible.
2. Run the auger until the tube is empty.
3. When the auger is clear of grain, disengage the PTO.
4. Shut down and lock out the power source.

EMERGENCY STOP / FULL-TUBE RESTART

Although it is recommended that the machine be emptied before stopping, in an emergency situation:

5. Stop or shut down the power source immediately.

6. Stop the flow of material (if applicable).
7. Correct the emergency before resuming work.

The tube may be filled with material if the machine is shut down inadvertently or for an emergency. It is recommended that you restart with the following procedure:

8. With the power source locked out, remove as much of the grain as possible from the tube and intake using a piece of wood, vacuum cleaner, or other tool. **Do not** use your hands.
9. Start the tractor and engage the PTO with the tractor idling.

NOTICE

Always engage PTO with tractor engine idling. Engaging PTO at high engine speed will result in equipment damage.

10. Once the auger has been started, you may resume normal operation.

4.4.4. LOWERING & COMPLETION

1. Run the unit to clean out the majority of the grain.
2. Lock out the power source. Refer to page 21 for procedure.
3. Disconnect the PTO driveline and raise the hopper off the ground.
4. Remove all supports and chocks.
5. Move the auger out of working position and lower into transport position.
6. If necessary, open the cleanout door on the boot and manually clean out grain using a piece of wood, vacuum cleaner, or other tool. **Do not** use your hands. Replace the cleanout cover.
7. Lift the intake feed hopper into transport position and clean out the grain from the hopper using a piece of wood, vacuum cleaner or other tool. **Do not** use your hands.

4.4.5. POWER SWING / HYDRAULIC WINCH OPTION

The power swing/hydraulic winch option (Figure 4.3) uses a common control valve (Figure 4.3) mounted to the intake hopper tube. Once the auger is raised in the working position with the wheels chocked, remove the locking pin securing the intake hopper to the hopper lift arm.

Ensure the area in the path of the intake hopper is unobstructed. Use the winch control lever to lower the intake hopper to the ground. Unhook the winch cable from the hopper. The intake hopper can now be positioned using the power swing control lever. Traction can be controlled by adjusting the down pressure on the power swing wheels using the jack.

Figure 4.3 Power Swing/Hydraulic Winch Option

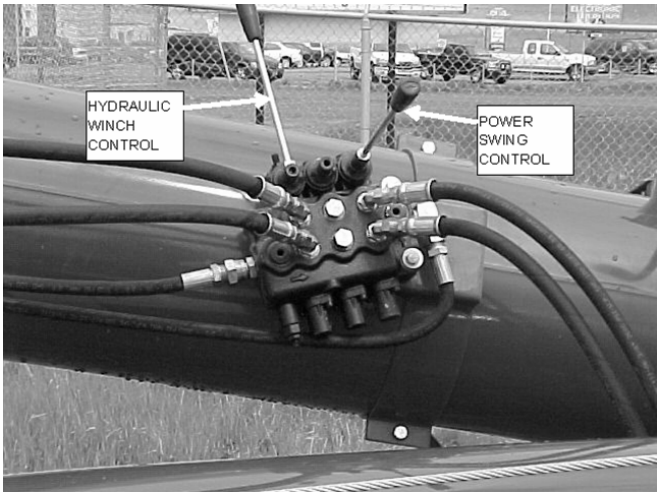


Figure 4.3 Control Valve

5. Maintenance

Warning: Before continuing, please reread the safety information relevant to this section at the beginning of this manual. Failure to follow the safety instructions can result in serious injury, death, or property damage.

NOTICE

Do not modify equipment.

Unauthorized modification may impair the function or safety of the equipment, could affect the life of the equipment, and will void your warranty.

5.1. FLUIDS AND LUBRICANTS

GEAR OIL

Use SAE approved 90W or equivalent gear oil.

GREASE

Use SAE multi-purpose high-temperature grease with extreme pressure (EP) performance or SAE multi-purpose lithium-based grease.

5.2. MAINTENANCE INTERVALS

For details of service, refer to Section 5.3.

	SECTION	DAILY (8000 BU)	PERIODICALLY (40,000 BU)	BEFORE STORAGE	AFTER STORAGE	3-5 YEARS (DEPENDING ON USE)
VISUALLY INSPECT THE UNIT	5.3.1.	Y		Y		
INSPECT HYDRAULIC HOSE AND COUPLER	5.3.2.	Y				
GREASE MACHINE	5.3.3.	Y		Y		
INSPECT HOPPER LIFT CABLE	5.3.4.		Y			
SERVICE WINCH AND PULLEYS	5.3.5.		Y			
SERVICE BOOT AND HOPPER CHAIN DRIVE	•		Y			
CHECK GEARBOX OIL LEVEL	5.3.7.		Y			
CLEAN MACHINE	5.3.8.			Y		
CHECK TIRE PRESSURE	5.3.9.			Y	Y	
REPACK WHEEL BEARINGS	5.3.10.					Y
TIGHTEN WHEEL BOLTS	5.3.11.				Y	
SERVICE TRUSS CABLES	5.3.12.				Y	
CHANGE GEARBOX OIL	5.3.13.					Y

5.3. MAINTENANCE PROCEDURES

5.3.1. VISUAL INSPECTION

Before beginning visual inspection, check auger wheels and ensure that all operators are awayre of safety procedures.

When inspecting, look for possible defects and for the following:

- Be sure all guards are in place, functioning, and not damaged.
- Make sure access, service, and cleanout covers are in place and secure.
- Check that all hardware is in place and secure.
- Inspect hydraulic hoses and fittings for leaks and wear. Fix or replace where necessary.
- Inspect around the machine for evidence of hydraulic leaks.
- Examine flighting for damage or unusual wear.
- Inspect the truss cables for proper tension and possible damage such as fraying, kinking, or unwinding.
- Inspect hopper winch cable for fraying, kinking, unwinding, or other possible damage.
- Examine tires for gashes, uneven wear, or loss of air pressure.
- Be sure all safety decals are in place and legible.
- Check the PTO shield & replace if damaged.

5.3.2. HYDRAULIC HOSE AND COUPLER INSPECTION

Using a piece of cardboard or wood, run it along the length of the hose and around all fittings. Replace the hose or tighten/replace the fitting if a leak is found.

WARNING	
	High-pressure hydraulic fluid! Escaping oil under pressure can penetrate the skin and cause serious injury. • Relieve pressure on system before repairing, adjusting, or disconnecting. • Keep connections tight and components in good repair. • Use a piece of wood or cardboard when searching for leaks. DO NOT use your hand. • Seek medical attention immediately if ANY hydraulic fluid penetrates your skin.

5.3.3. MACHINE GREASING

Important: *Most original equipment bearings used by Wheatheart are sealed units and will not accept grease.*

There are 8 grease fittings on the machine (shown in Figure 5.1):

- 1 at the upper flighting bearing (A)
- 3 on the intake hopper—2 bushings (B) and 1 at the U-joint (C)
- 1 at the u-joint between gearboxes (D)
- 1 at the lower flighting bearing (E)
- 5 on the PTO (F)

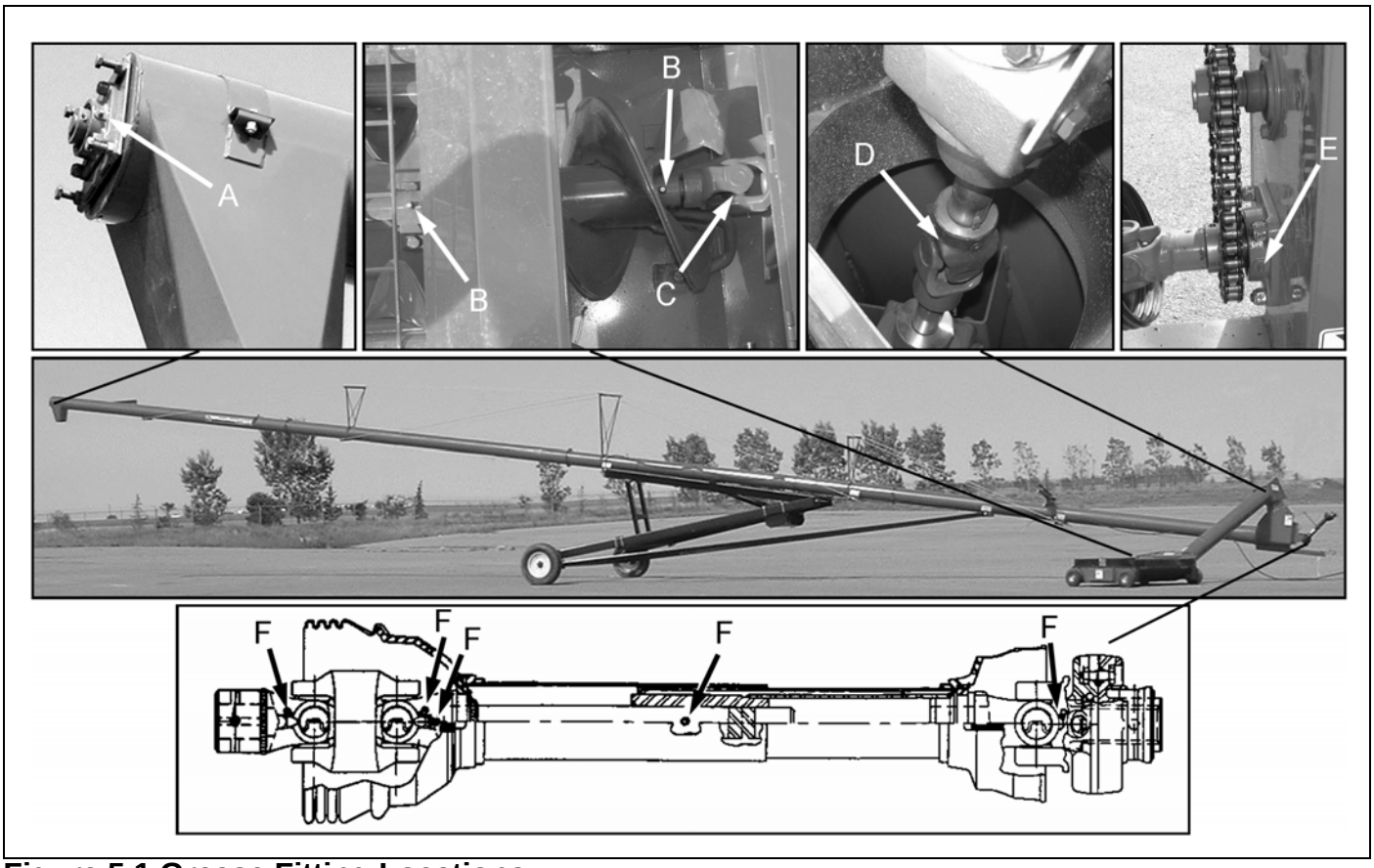


Figure 5.1 Grease Fitting Locations

To grease:

1. Use Use SAE multi-purpose high-temperature grease with extreme pressure (EP) performance or SAE multi-purpose lithium-based grease.
2. Use a hand-held grease gun only.
3. Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
4. If a fitting will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.
5. Replace and repair broken fittings immediately.

5.3.4. HOPPER LIFT CABLE INSPECTION

Check the cable for damage such as fraying, kinking, or unwinding. Replace if damaged.

To replace:

1. Unwind the winch drum and remove the cable clamps.
2. Free the cable from the winch and pulleys.
3. Remove the cable clamps that secure the hook in place.
4. Reverse the above steps to install the new cable.

5.3.5. WINCH AND PULLEY SERVICING

- Ensure the cable is slack before servicing the winch.
- Check to make sure cable clamps are secure.
- Keep a film of grease on the gears. Occasionally oil the bushings, drum shaft, and ratchet.
- Oil cable pulleys needed (Figure 5.2)

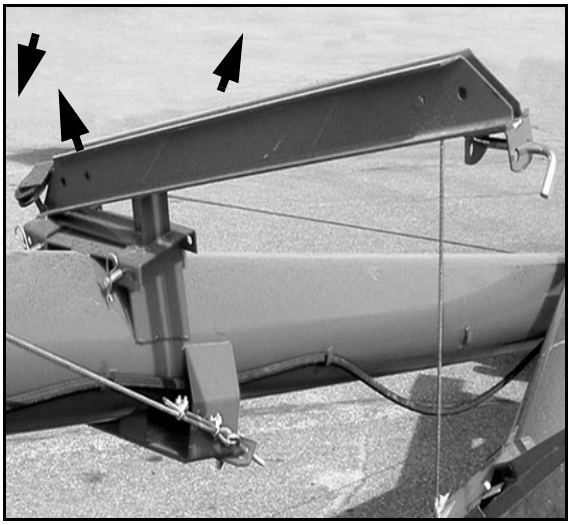


Figure 5.2 Cable Pulleys

5.3.6. BOOT AND HOPPER CHAIN DRIVE SERVICING

DANGER	
	Rotating parts hazard: • Fingers, hands, feet, hair, clothing, and accessories can become caught or drawn into the pinch point. • Shut off and disable power source before adjusting or servicing. • DO NOT operate with guards removed or modified. • Keep away from rotating parts. • Tie up long hair and remove jewelry. • DO NOT wear loose-fitting clothing or items that could become caught.

1. Remove chain cover plate from the boot or hopper.
2. Check chain slack.
   - Chain slack is checked at the midpoint of the longest span. It should be no more than 1/4” (6 mm).

Note: *The Hopper has 2 chains, 1 for each flighting.*

3. Adjust the chain slack.
   a. For the Boot: loosen the 4 bolts of the lower bearing and adjust the chain slack (Figure 5.3).

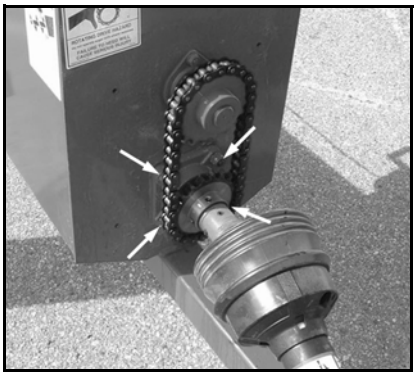


Figure 5.3 Boot Chain Drive

Note: *If the chain can’t be tightened enough, remove a link from the chain. If the chain will not fit with one link removed, add a half link to the chain and replace.*

   b. For the Hopper: loosen the 2 bolts of the flighting bearing on the side that needs adjustment and set the chain slack (Figure 5.4).

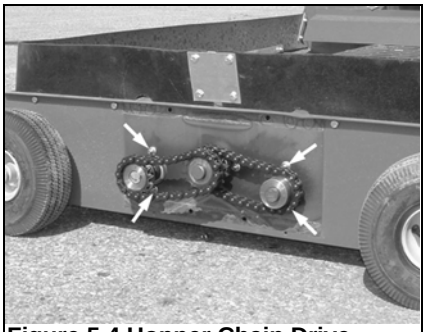


Figure 5.4 Hopper Chain Drive

Note: *If the chain can’t be tightened enough, remove a link from the chain. If the chain will not fit with one link removed, add a half link to the chain and replace.*

4. Lightly oil the chain.

NOTICE

Improper adjustment of chain will result in premature wear.

5.3.7. GEARBOX OIL LEVEL

ACCESSING GEARBOX

Upper Gearbox

- Flip up safety discharge door or open round service door and service gearbox as required.

Lower Gearbox

- Open round service door and service gearbox as required.

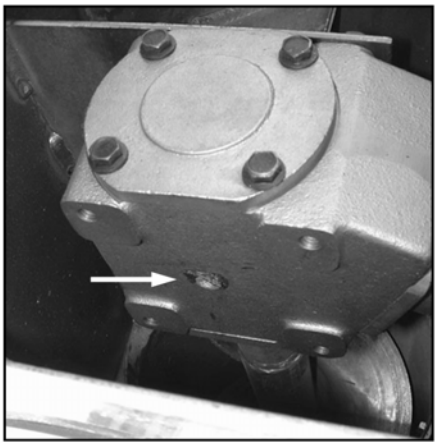


Figure 5.5 Oil Filler Location

CHECKING OIL LEVEL

1. Remove oil filler plug as shown in Figure 5.5.

2. Make sure the gearbox is half full (center of cross shaft) and free of foreign objects. Gearbox should be level when checking or refilling. **Do not overfill.**

5.3.8. MACHINE CLEANING

1. Clean out excess grain from auger tube, boot, and hopper.
2. Make sure water can drain from the auger tube and hopper and then wash the tube with a water hose or pressure washer until all dirt, mud, debris, or residue is gone.
3. Provide sufficient time for the water to drain from the auger.

5.3.9. TIRE PRESSURE CHECK

With a tire pressure gauge, check each tire to make sure it is between 18–24 psi (124 - 165 kPa).

- Ensure tires are cold prior to checking pressure.

5.3.10. WHEEL BEARINGS REPACK

1. Remove the wheel bolts and the wheels.
2. Remove the wheel bearing and pack with grease. Refer to page 27 for recommended grease.

5.3.11. WHEEL BOLT TIGHTENING

1. Clean wheel and hub mounting surfaces to ensure there is no rust or debris.
1. Install the wheel and finger-tighten the wheel bolts. Inspect to make sure the wheel is sitting flush with the hub.
2. Tighten the wheel bolts with a torque wrench to 80 ft-lb (±10 ft-lb) of torque.

Note: *Tighten the wheel bolts in a diagonal pattern as shown in Figure 5.6.*

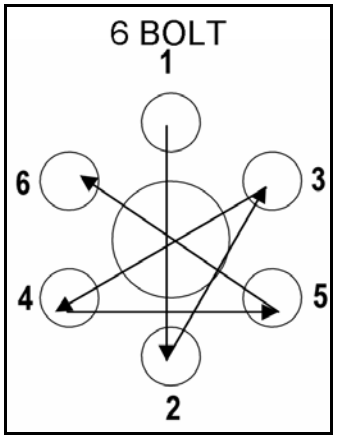


Figure 5.6 Crisscross Pattern

5.3.12. CABLE TIGHTENING

The cables are properly adjusted when:

- The tube is straight side-to-side.
- The discharge end is deflected sightly upwards.

- There is no slack in the cables.

TIGHTENING CABLES

The location of the cable adjustment eyebolts are shown in Figure 5.7.

Note: *The 1061 only has a long cable.*

1. Lift the discharge end of the auger with a front end loader or rest on a bin so that the tube has a slight upward deflection at the discharge to give the cable some slack.
2. Tighten the nut on the eyebolt to increase the tension in the cable.
3. If the proper cable tension can't be obtained before the eyebolt runs out of adjustment, then do the following:
   a. Loosen the eyebolts but do not remove the nut.
   b. Loosen the clamps on the cable on both sides.
   c. Shorten the cable until there is tension on the cable and tighten the clamps.
   d. Return to step 2.

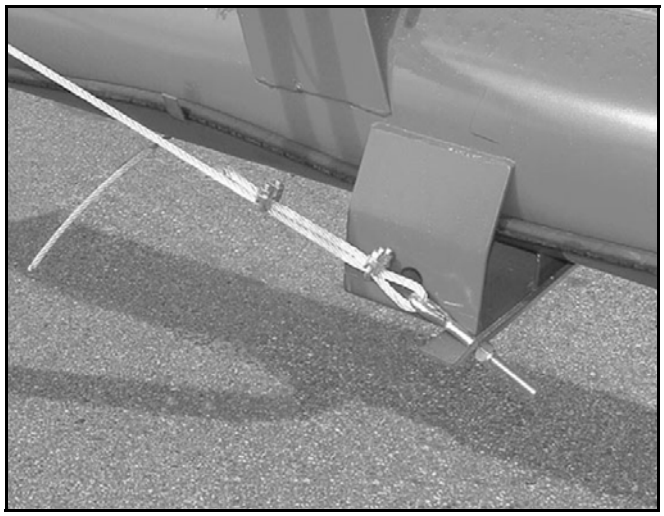


Figure 5.7 Cable Adjustment

STRAIGHTENING THE TUBE

1. If tube is not straight side-to-side:
   - If the tube is curved to the left, tighten the right-hand eyebolt and loosen the left-hand eyebolt on the long cable.
   - If the tube is curved to the right, tighten the left-hand eyebolt and loosen the right-hand eyebolt on the long cable.
   - Check the short cable for slack and tighten as necessary.
   - After adjusting the unit side-to-side, check that the tube still has a slight upward deflection at the discharge.
2. If the tube is sagging at the discharge:
   - Lift the discharge end of the auger with a front end loader or rest on a bin so that the tube has a slight upward deflection at the discharge to give the cable some slack.
   - Tighten the long cable's eyebolts evenly on both sides so the tube stays straight.
   - Tighten the cables so there is a slight upwards angle on the discharge end.
   - Check the short cable for slack and tighten as necessary.

5.3.13. GEARBOX OIL

1. Place a pan under the drain plug.
2. Use a wrench and remove the drain plug.
3. Loosen the filler plug so air can enter the gearbox and the oil will drain freely (see Figure 5.5).
4. Allow the oil to drain completely.
5. Replace the drain plug.
6. Add oil until the gearbox is half full (center of cross shaft) and replace filler plug. A flexible funnel may be required. Gearbox should be level when checking or refilling. **Do not overfill**.

For more extensive servicing or repairs, remove the hopper from the boot assembly by removing the 3/8” x 3/4” bolts and large washers. Lift the gearbox end with a front end loader or other secure method as shown in Figure 5.8. The hopper end should remain on the ground. When reassembling, lightly grease the splined shaft and check and retighten setscrews and connecting bolts.

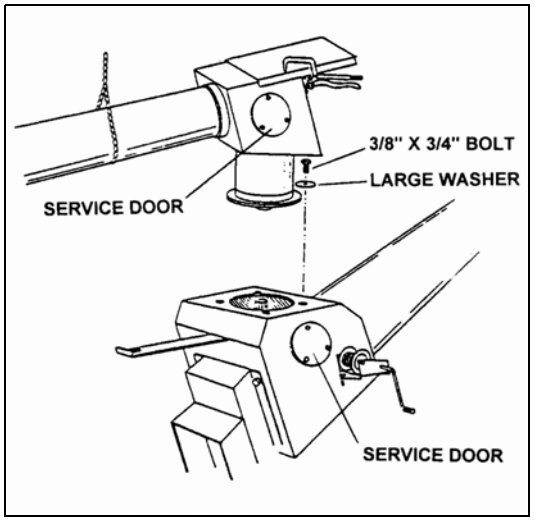


Figure 5.8 Hopper Tube Removal

6. Storage

Warning: Before continuing, please reread the safety information relevant to this section at the beginning of this manual. Failure to follow the safety instructions can result in serious injury, death, or property damage.

WARNING	
	To reduce the risk of injury or death, store in an area away from human activity and do not permit children to play on or around the stored machine.

To ensure a long, trouble-free life, the following procedure should be followed when preparing the unit for storage after the season's use:

1. Fully lower the auger.
2. Remove all residual material from the auger.
3. Remove entangled material from all moving or rotating parts.
4. Wash the entire machine thoroughly using a water hose or pressure washer to remove all dirt, mud, debris, and residue.
5. Repair or replace any worn or damaged components to prevent any unnecessary downtime at the start of the next season.
6. Touch up all paint nicks and scratches to prevent rusting.
7. Position the auger in an area that is dry, level, free of debris, and away from human activity.
8. Support the hitch on blocks to eliminate prolonged contact with the ground.
9. Lubricate all grease fittings (see page 29).
10. Clean and lightly lubricate the spline on the PTO driveline. Cover the PTO driveline with a plastic bag to protect it from the weather and place it in the transport saddle.
11. Check tire pressure and inflate to 24 psi (165 kPa).
12. Chock the wheels.
13. Place the hopper in transport position, ensuring there will be adequate drainage of any moisture.

7. Troubleshooting

The following table lists the causes and solutions to some potential problems you may encounter in operating your swing-away auger.

Table 7.1

PROBLEM	CAUSED BY	SOLUTION
The auger does not turn.	Auger is plugged or obstructed.	Identify and remove obstruction.
	A bearing has seized.	Identify the bearing and replace.
	A chain is broken.	Identify the chain and repair or replace.
	The gearbox has seized.	Fix or replace the gearbox.
	Gearbox coupler bolt is broken or missing.	Replace the bolt.
	PTO shear bolt has failed.	Replace the bolt.
The upper auger sections will not turn.	The coupler bolt below the non-rotating section is broken or missing.	Replace the bolt.
Auger is noisy.	Obstruction in the auger.	Identify and remove obstruction.
	Flighting shaft bolts are loose or damaged.	Tighten or replace bolts.
	Auger shaft is bent.	Repair or replace shaft.
	Flighting is damaged.	Repair or replace flighting.
	Worn bearing.	Repair or replace bearing.
	Low gear oil level.	Inspect the gearbox and repair or replace if damaged. If no damage is found, add oil to gearbox.
	Tube is misaligned.	Adjust truss cables.
The auger will not raise or lower.	Closed hydraulic valve.	Open hydraulic valve.
	Inadequate hydraulic pressure.	Adjust the pressure if possible, or use an alternate hydraulic supply.
	Damaged cylinder.	Fix or replace the cylinder.
	Missing or broken cylinder pin.	Replace cylinder pin.
	Hydraulic system leak.	Identify and repair leak.
	Auger movement is obstructed.	Identify and clear the obstruction.
Low material augering rate.	Tractor PTO speed is too slow.	Increase engine rpm.
	Inadequate material flow from truck or hopper.	Increase flow of material.
	Flow into the auger hopper is restricted.	Clear grating of obstructions.
	Material is too wet or heavy.	Unloading rates are for dry grain.
	Flighting is worn.	Repair or replace as required.

Table 7.1

PROBLEM	CAUSED BY	SOLUTION
Auger will not stay in elevated position.	Leak in auger hydraulic cylinder or fittings.	Identify and repair leak.
	Leak in tractor hydraulics.	Close hydraulic valve to isolate cylinder from tractor hydraulics.
Tube is misaligned.	Loose truss cables.	Tighten cables as required.

8. Appendix

8.1. SPECIFICATIONS

Important: *Wheatheart Manufacturing reserves the right to change specifications without notice.*

Table 8.1

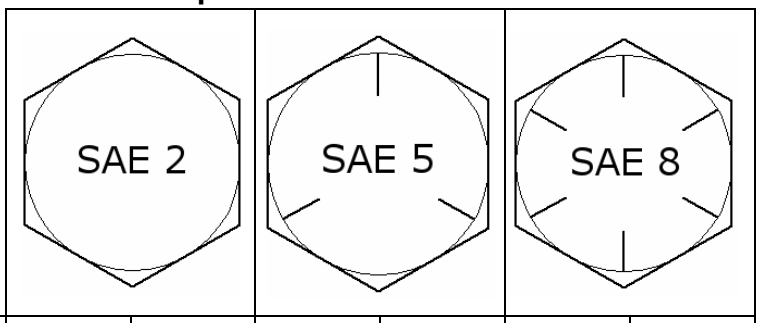
		1061	1071	1081	1091	1371	1381	1391
CAPACITy								
Unloading Rate		5400 - 6000 Bu/Hr				8700 - 9600 Bu/Hr		
DIMENSIONS								
Tube Size		10”	10”	10”	10”	13”	13”	13”
Transport	Length	63’5”	73’6”	-	-	-	-	-
	Width	11’	11’	11’8” / 15’	11’8” / 15’	11’8” / 15’	11’8” / 15’	11’8” / 15’
	Height	12’11”	12’11”	13’6”	13’6”	12’1”	11’8”	12’4”
Discharge Clearance	Min	11’	11’	11’6”	11’7”	9’9”	9’3”	9’11”
	Max	41’1”	47’	52’6”	58’6”	49’	53’9”	61’3”
Reach to Wheels	Min	23’5”	26’10”	29’2”	35’5”	26’9”	29’1”	30’1”
	Max	29’6”	34’2”	39’3”	45’	35’9”	42’	45’2”
TIRES								
Type	Type	15” Bias Ply				16” Bias Ply		
Inflation Pressure		18 – 24 psi						
Hubs		6 Bolt Automotive Type						
WEIGHT								
Total Weight		3100 lb	3410 lb	3980 lb	5010 lb	4915 lb	5550 lb	6745 lb est.
PTO DRIVE								
Power Requirements		60 HP	65 HP	80 HP	90 HP	100 HP	120 HP	140 HP
PTO Speed		540 rpm						
PTO Shaft		14R Constant Velocity w/ Shear				35R		
OTHER								
Hitch Jack		2000 lb Side Winder						

Bolt Torque Values

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torque specified in the chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as your guide. Replace hardware with the same strength bolt.

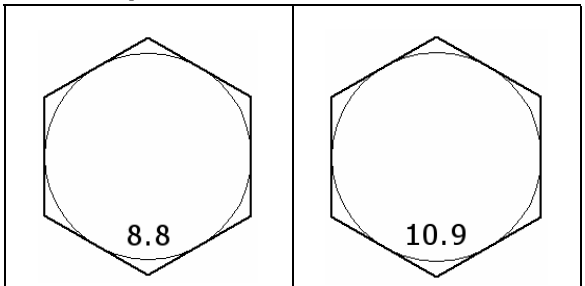
Torque figures indicated above are valid for non-greased or non-oiled threads and head unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

Table 8.2 Imperial Bolt Torque



BOLT DIAMETER	(Nm)	(Lb-ft)	(Nm)	(Lb-ft)	(Nm)	(Lb-ft)
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	+850	630	1320	970

Table 8.3 Metric Bolt Torque



BOLT DIAMETER	(Nm)	(Lb-ft)	(Nm)	(Lb-ft)
M3	0.5	0.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710

WARRANTY REGISTRATION

Wheatheart congratulates you on your new equipment purchase.
The warranty registration form must be filled out within thirty (30) days from delivery date and sent to:
Wheatheart Manufacturing
Box 39 Rosenort, Manitoba, Canada, R0G 1WO

CUSTOMER COPY (Retain this card for warranty and record purposes.)	
PRODUCT:	DEALER'S NAME:
SERIAL #:	ADDRESS:
DELIVERY DATE:	
OWNER'S NAME:	PHONE #:
ADDRESS:	SIGNATURE:
	INVOICE #:
PHONE #:	(Please refer to invoice # when filing claim)

DEALER COPY (Retain this card for warranty and record purposes.)	
PRODUCT:	DEALER'S NAME:
SERIAL #:	ADDRESS:
DELIVERY DATE:	
OWNER'S NAME:	PHONE #:
ADDRESS:	SIGNATURE:
	INVOICE #:
PHONE #:	(Please refer to invoice # when filing claim)

WARRANTY REGISTRATION (Must be filled out and returned to Wheatheart within 30 days of delivery.)	
OWNER'S NAME:	DEALER'S NAME:
ADDRESS:	ADDRESS:
PHONE #:	PHONE #:
SIGNATURE: (I acknowledge the product to be whole and in proper working order.)	SIGNATURE: (I acknowledge the product to be whole and in proper working order. The owner has been given an operation manual and has been informed on proper operation and maintenance.)
PRODUCT: SERIAL #: INVOICE #:	DELIVERY DATE: GAS MOTOR SERIAL #:

LIMITED WARRANTY

Wheatheart warrants to the buyer that the new machinery is free from defects in material and workmanship.

This warranty is only effective for any new machinery that has not been altered, changed, repaired, or treated since its delivery to the buyer, other than by Wheatheart or its authorized dealers or employees, and does not apply to accessories, attachments, tools, or parts sold or operated with the new machinery if they have not been manufactured by Wheatheart.

Wheatheart shall only be liable for defects in the material or workmanship attributed to faulty material or bad workmanship that can be proved by the buyer, and specifically excludes liability for repairs arising as a result of normal wear and tear of the new machinery or in any other manner whatsoever, and without limiting the generality of the foregoing, excludes application or installation of parts not completed in accordance with Wheatheart operation manual, specifications, or printed instructions.

A Warranty Registration Form and Inspection Report must be completed at the time of delivery and returned to Wheatheart Manufacturing within thirty (30) days.

Warranty Period

Private Farm Use	One (1) year from date of purchase.
Commercial, Custom, or Rental Use	Ninety (90) days from date of purchase.
Replacement Parts	Ninety (90) days from date of replacement

Defective parts are subject to inspection by a Wheatheart representative prior to approval of a warranty claim. All returned parts must be sent to the factory, freight pre-paid, in order to qualify for warranty replacement. Repaired or replaced parts will be returned freight collect.

If these conditions are fulfilled, Wheatheart shall at its own cost and its own option either repair or replace any defective parts provided that the buyer shall be responsible for all expenses incurred as a result of repairs, labor, parts, transportation, or any other work, unless Wheatheart has authorized such expenses in advance. Normal wear and service items such as belts, hoses, flashing, etc. are excluded from warranty.

The warranty shall not extend to any repairs, changes, alterations, or replacements made to the new equipment other than by Wheatheart or its authorized dealers or employees.

This warranty extends only to the original owner of the new equipment.

This warranty is limited to the terms stated herein and is in lieu of any other warranties whether expressed or implied, and without limiting the generality of the foregoing, excluded all warranties, expressed or implied, or conditions whether statutory or otherwise as to quality and fitness for any purpose of the new equipment, Wheatheart disclaims all liability for incidental or consequential damages.

This machine is subject to design changes and Wheatheart shall not be required to retro-fit or exchange items on previously sold units except at its own option.

WARRANTY VOID IF NOT REGISTERED

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Printed in Canada