Wheatheart

BH AUGERS

36’, 41’, 46’, & 51’
OPERATION 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: 30617 R0

Revised: 4/2/10

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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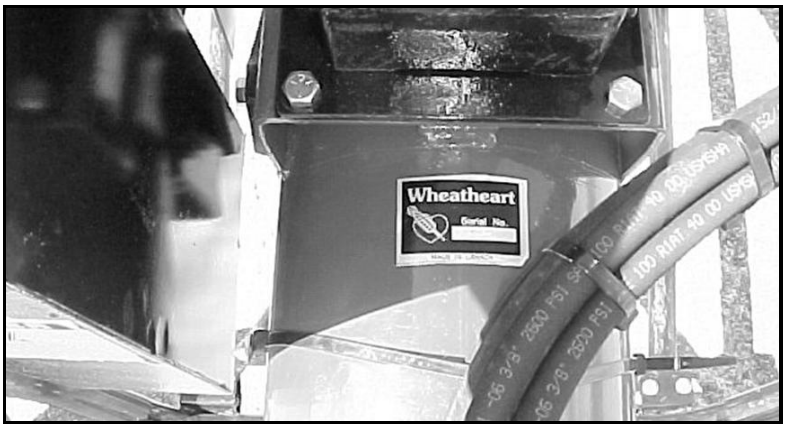
1. Introduction

Congratulations on the purchase of your new Wheatheart BH Auger. This piece of equipment will complement your agricultural operation by aiding in the safe and efficient movement of grain, pulse crops, fertilizer, or any other granular materials.

Your new Wheatheart auger will serve you well if you understand how it operates, if you use it properly, and if you care for it properly. This manual is intended to help you operate your equipment in a safe, efficient, and trouble-free manner. Please read this manual completely before operating your new grain auger.

This operator's manual covers all BH augers built by Wheatheart Manufacturing, so please use the Table of Contents as a guide when searching for specific information. Keep this manual in a safe place for future reference.

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.



1.1. PRE-DELIVERY CHECKLIST

1.1.1. MECHANICAL

- All fasteners tightened.
- Belts present and adjusted to proper tension.
- Upper chain drive adjusted and lubricated.
- Auger rotates freely.
- Tire pressure within manufacturer's specification.
- Wheel bolt torque within specification.
- Winch brake and locking mechanism tested, lock engages properly, and brake prevents freewheeling. There should be at least 3 wraps of cable around winch drum in the fully down position.
- Winch cable checked for damage such as fraying, kinks, or unraveling. Cable anchor on winch drum must be tight.
- Gearbox oil level checked.
- Engine oil level checked.
- Machine greased.
- Machine cleaned.

1.1.2. SAFETY

- All guards and shields installed, secured, and functional.
- All safety signs installed and legible.
- Reflectors installed and clean.
- Operating and safety instructions reviewed with owner.
- Operator's Manual supplied to owner.

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 present and secure.
- Clear the work area of unauthorized persons, particularly small children and pets.
- Clean the work area to prevent slipping or tripping.
- Ensure a fully equipped first aid kit is on hand and that you know how to use it.
- Ensure a working fire extinguisher is on hand and that you know how to use it.
- Be certain the PTO driveline is securely attached to the jackshaft and to the tractor.
- Before starting tractor, be certain that power to PTO is in the off position
- Keep hands, feet, hair, and clothing away from all moving or rotating parts.

2.3. TRANSPORT SAFETY

- Ensure tires are inflated to the tire manufacturer's recommended pressure.
- Check with local authorities regarding transportation of agricultural equipment on public roads. Obey all applicable laws and regulations.
- 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.
- Be sure the unit is hitched securely to the towing vehicle.
- Do not allow riders while transporting.
- Display a Slow Moving Vehicle emblem when transporting below 25 mph (40 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 allow you to do safely.
- Use caution when making corners or meeting traffic.
- Use caution when approaching height-limiting objects.
- Take special care and precautions when transporting during times of limited visibility such as rain, snow, fog, dusk, or at night. It is recommended that you wait for a more appropriate time to move.
- Use caution when turning or cornering.

- Do not transport auger on a slope greater than 20°. The auger may overturn.

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.
- Ensure there is adequate lighting to perform the job safely.
- Wear safety gear that is appropriate for the job being performed.
- Use extra caution when cleaning and servicing augers because flighting edges can become 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.

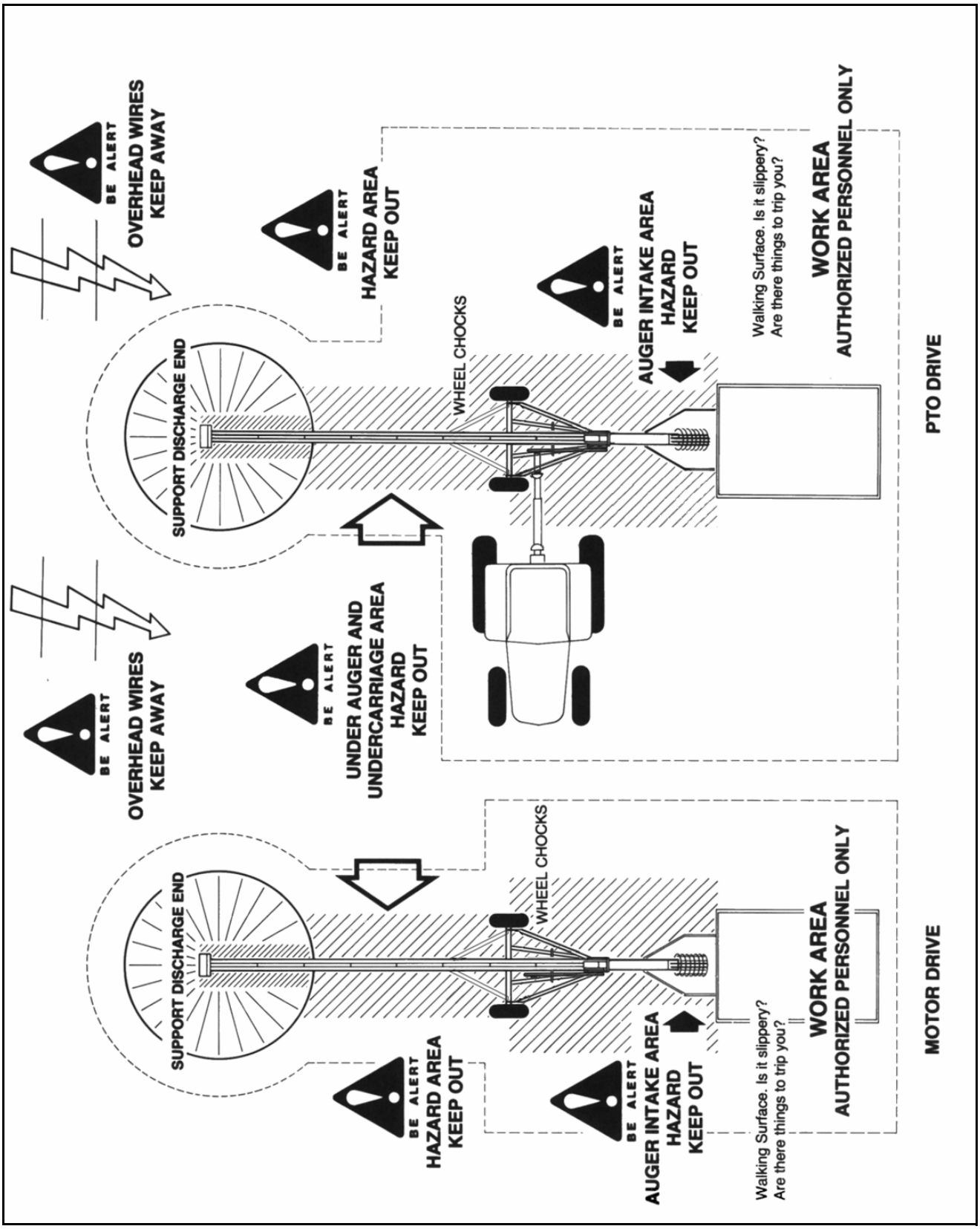


Figure 2.1 Safety Work Area

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.

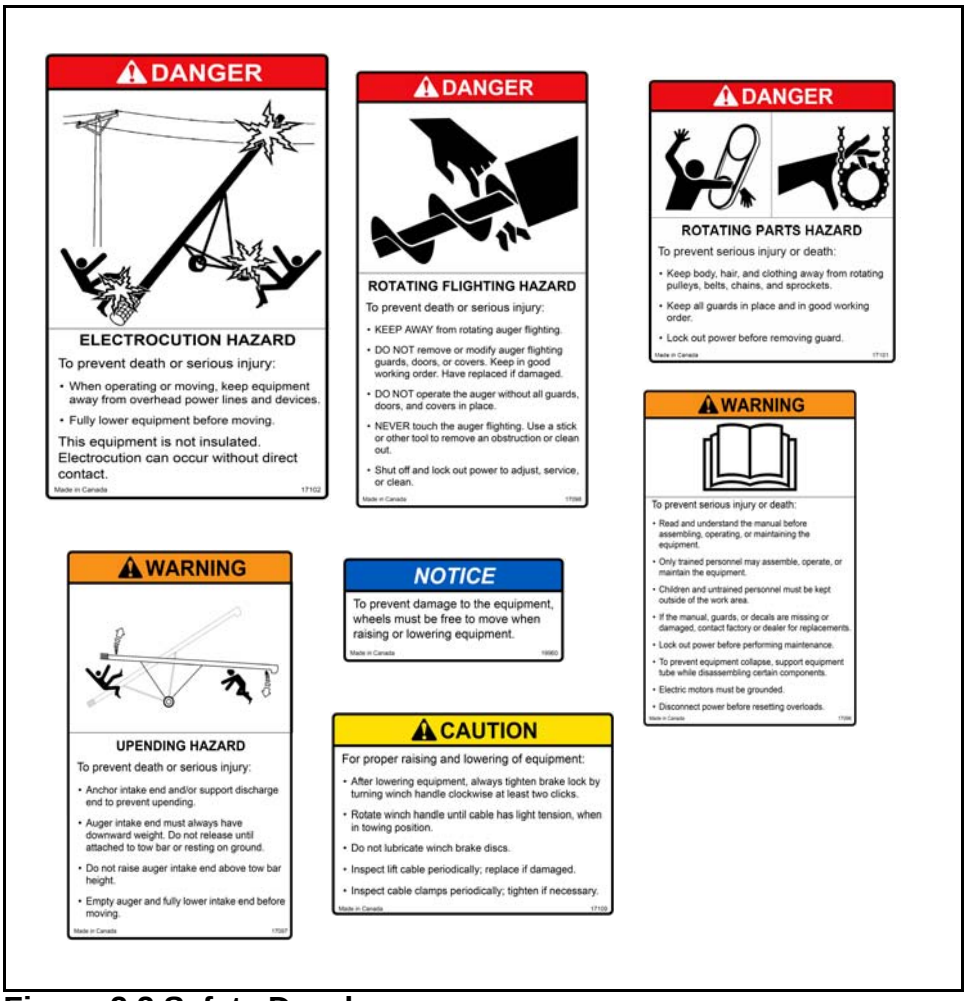


Figure 2.2 Safety Decals

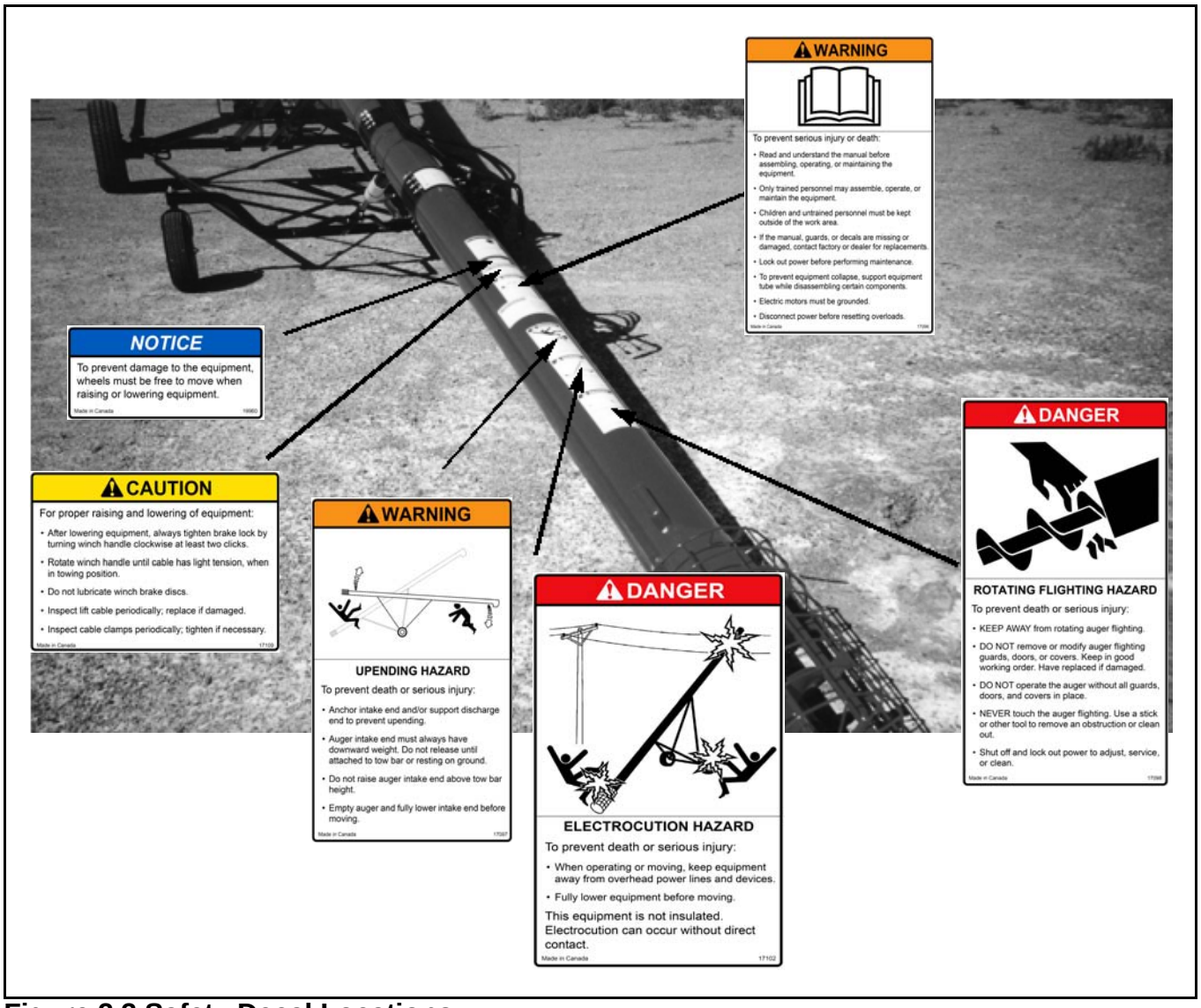


Figure 2.3 Safety Decal Locations

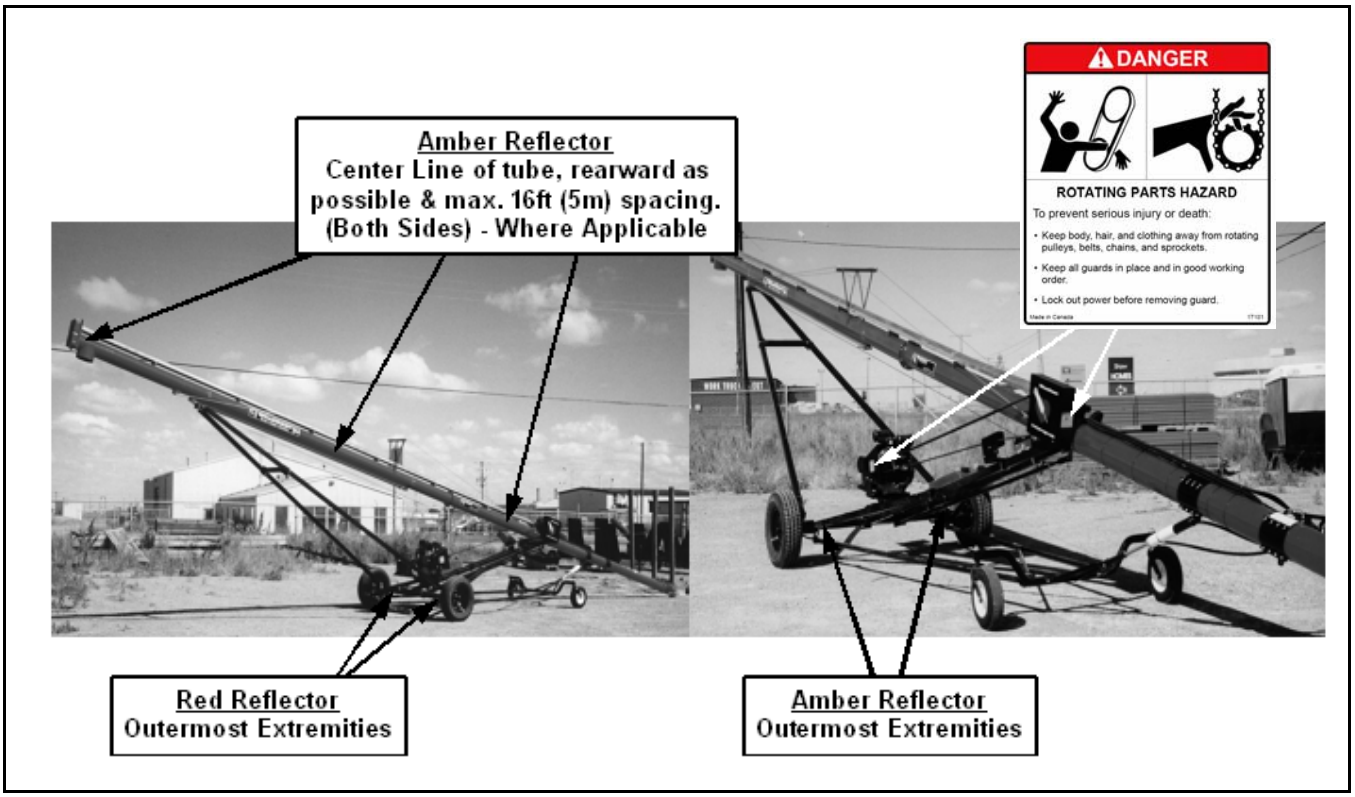


Figure 2.4 Safety Decal Locations

Important: *If Safety Signs have been damaged, removed, or become illegible, or if parts are replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.*

3. Transport

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. Failure to keep away will result in serious injury or death.

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.

WHEN TRANSPORTING:

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

To reduce the risk of injury or death to people using this equipment, follow basic safety precautions:

- Ensure tires are inflated to the tire manufacturers' recommended pressure.
- Check with local authorities regarding transportation of agricultural equipment on public roadways. Obey all applicable laws and regulations.
- Make sure that all lights and reflectors required by law are in place, functioning, and can be seen by all overtaking and oncoming traffic.
- Ensure the unit is hitched securely to the towing vehicle.

- Display a SMV (slow moving vehicle) emblem when transporting slower than 25 mph (40 km/hr). Never transport faster than road, terrain, or conditions will allow you to safely.

WARNING	
	A vehicle imbalance between the towing vehicle and the machine could reduce your vehicle's stability, handling, and braking ability, and could lead to an upset or collision. Transport at a speed that road conditions allow, to a maximum speed of 20 mph (32 km/h)

- Take special care and precautions when transporting during times of limited visibility such as rain, snow, fog, dusk, or at night. It is recommend that you wait for a more appropriate time to move.
- Use hazard-warning lights when transporting with a tractor, unless prohibited.
- Keep to the right and yield the right-of-way to allow faster traffic to pass.
- Use caution when turning corners or meeting traffic.
- Be aware of height limiting objects.
- Do not transport the auger on a slope greater than 20°. The auger may over-turn.

DANGER	
	Upending Hazard: Do not raise auger intake above tow bar height. Empty auger and lower fully before moving. Failure to do so will result in serious injury or death.

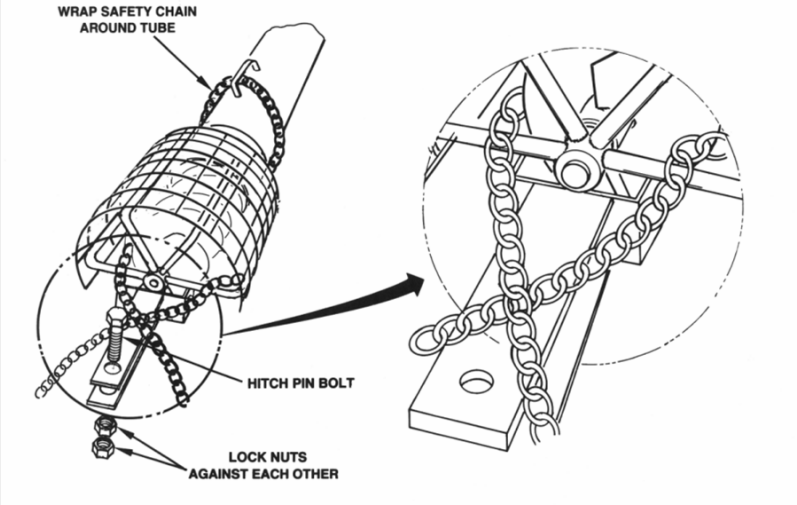
The Wheatheart auger is designed to be easily and conveniently readied for transport. Follow this procedure when converting the machine from operating to transport configuration.

1. Make sure work area is clear of any obstructions before lowering.
2. Connect the auger to the towing vehicle and use a retainer to lock the hitch draw pin in place.
3. Place the belts under tension.
4. Remove all wheel chocks.
5. Lower the auger until the roller track shoe is resting on the down position stop, and there is slight tension on the lift cable.
6. Lock the winch into place by turning the handle clockwise until 2 clicks are heard.
7. Place the PTO driveline in the transport saddle and secure (PTO drive only).

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

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

SAFETY CHAIN

- The safety chain should be threaded through the handle on the lower tube, and wrapped around the auger tube before attaching to the towing vehicle.
- The loop should form a cradle that will prevent the auger from digging into the road surface or upsetting, should a breakaway occur.
- Ensure there is no more slack in the chain than required for turning.
- 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.
- 

CAUTION	
	After lowering auger, always turn winch handle clockwise at least 2 clicks to tighten brake lock. Maintain control of winch handle at all times. Maintain light cable tension when in towing position. Do not put lubrication on brake disc. Check cable before each use and replace if frayed or damaged. Make certain that cable clamps are securely tightened.

4. 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. Failure to keep away will result in serious injury or death.

When placing the auger, follow these instructions and see Figure 4.1.

1. Check for power lines or any obstructions that may damage the auger.
2. Move the machine under the truck or storage facility.
3. Place the auger on a firm, level surface.
4. Chock the wheels before augering any products.
5. Always use a vehicle or mover to move the auger. Never move it by hand.
6. Do not place anything under the wheels to add height to the auger.
7. To prevent upending or the wind upsetting the auger: when operating the auger in raised position, rest the discharge end on the bin roof or tie it down to the bin. When operating the auger in a free-standing position, anchor the intake end.

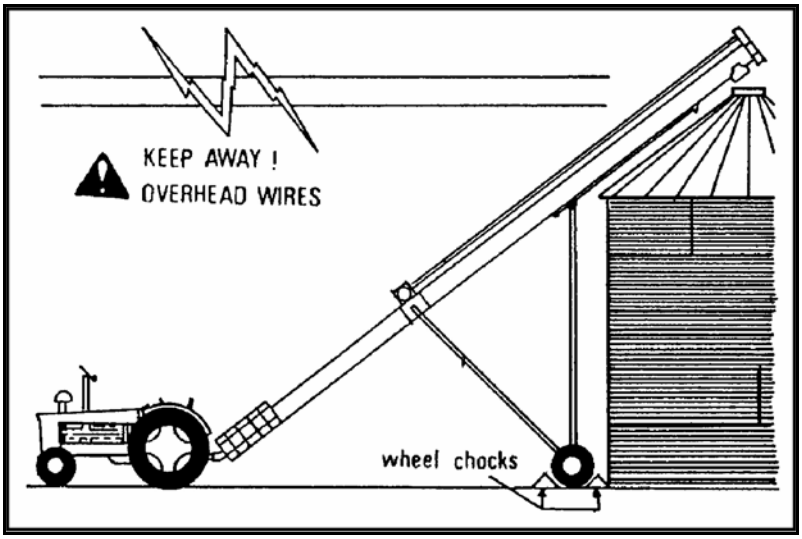


Figure 4.1

5. 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.

5.1. DESCRIPTION OF THE EQUIPMENT

The Wheatheart Auger is designed to efficiently handle grain, pulse crops, or other granular materials. The auger comes field-ready and equipped with such features as reinforced, low-pitch flighting at the intake for high capacity and longer wear, a belt engaging lever that can be operated from either side, and a frame design that allows for extra bottom reach for bin load-out applications.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to operate the machine safely and how to adjust it to provide maximum efficiency. By following the operating instructions in conjunction with a good maintenance program, your auger will provide many years of trouble-free service.

5.2. OPERATOR CONTROLS

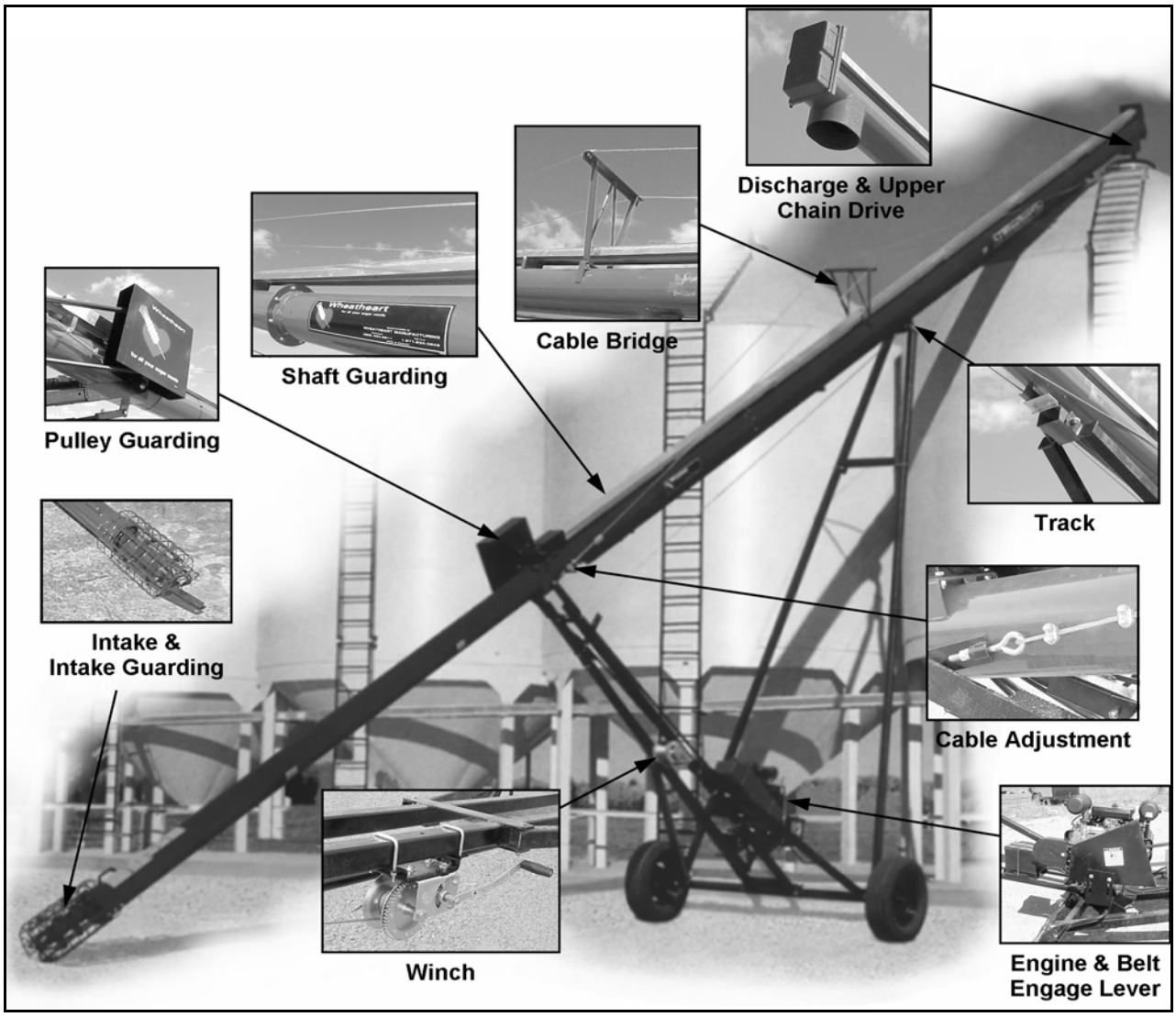


Figure 5.1

The belt engaging lever, winch, and engine are located as shown in Figure 5.2. Please refer to engine manual for engine controls.

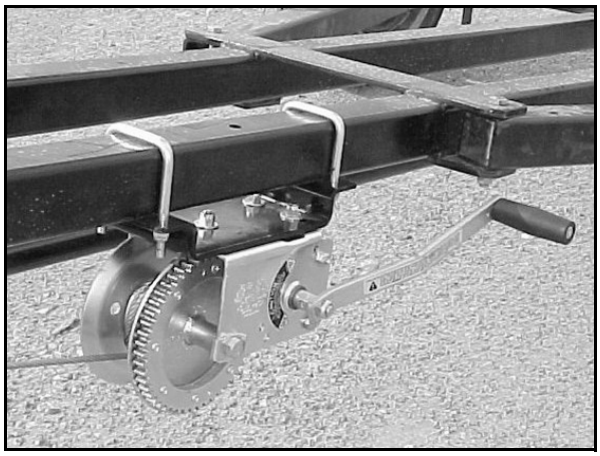


Figure 5.2 Winch

Figure 5.3 Belt Engaging Lever & Engine

5.3. AUGER DRIVE & LOCKOUT

Correct operation of the Wheatheart 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.

GAS ENGINE

DRIVE SYSTEM

Before starting the motor, ensure that:

1. The gas tank is properly closed.
2. The belt release is disengaged so that the belts are released from the motor pulley.
3. The area surrounding the auger is properly ventilated.
4. Pulley shields are in place and secure.

LOCKOUT

1. Shut down and lock out power source.
2. For engines with a rope or crank start, remove the spark plug wire or the spark plug. For engines with an electric start, remove the ignition key, the spark plug wire, or the spark plug.

ELECTRIC MOTOR

DRIVE SYSTEM

Before starting the motor, ensure that:

1. The motor is properly grounded.
2. The belt release is disengaged so that belts are released from motor pulley.
3. Pulley shields are in place and secure.

LOCKOUT

1. The electric motor should be equipped with a main power disconnect switch capable of being locked in the off position only. The switch should be in the

locked position during shutdown or whenever maintenance is performed on the auger.
2. If reset is required, disconnect all power before resetting motor.

PTO DRIVELINE

DRIVE SYSTEM

1. Ensure that the PTO driveline is securely attached to the tractor and jackshaft.
2. Do not use PTO driveline without a rotating shield in good working order.
3. Do not exceed the maximum operating angle of 15°
4. Be sure that the PTO-drive on the tractor is in the off position before starting tractor.
5. Stay clear of the PTO hazard area.

LOCKOUT

1. Shut off engine.
2. Remove ignition key from tractor.
3. If step 2 is impossible, remove the PTO driveline from tractor.

5.4. OPERATING PROCEDURES

5.4.1. BREAK-IN PERIOD

Your auger does not require an elaborate break-in. However, following a few simple tips during the first 1000 bu of 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 the procedure to fix it, contact your local Wheatheart dealer.

PRE OPERATION CHECKLIST:

- Read the power source operation manual.
- Inspect motor mounting bolts for tightness.
- Check oil level in the gear box by removing the filler plug. Make sure the gear box is half full (center cross shaft) and free of foreign objects.
- Inspect all belts for alignment, tightness, and abnormal wear. Adjust or replace as required.
- Inspect components for damage and abnormal wear. Replace as required.
- Check that safety decals are installed and legible. Apply new decals if required.
- Check the wheel bolt torque prior to transporting the unit. See Section 6.3.6. for recommended torque values.
- Check that tires are inflated to the manufacturer's recommended pressure prior to transporting the unit.

Please refer to the regular maintenance schedule given in Section 6.2. for recommended service intervals after the break-in period.

5.4.2. OPERATION

The following items should be checked before operating the machine **each time**:

- Visually inspect the machine, check engine oil, and service the PTO driveline (if applicable).
- Check that the gas cap is in place (gas drives only).
- Ensure that all guards are in place, and secure.
- Check that drive belts are not frayed or damaged, and that they are properly adjusted and aligned.
- Ensure auger wheels are chocked.
- See that the discharge spout and intake area are free of obstructions.
- Ensure that operators are aware of safety precautions.
- Check that the cable is not frayed or damaged.
- Check that cable clamp(s) are secured.

NORMAL START-UP

NOTICE

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

NOTICE

Engine must be idling before belts are engaged.

Engaging belts at high engine speed will result in premature belt wear.

1. Disengage the belt engaging lever so the motor pulley is not under load.
2. Start the engine and then engage the belt engaging lever with engine at idle.

Note: *The flighting rpm on auger equipped with electric motors is not adjustable.*

DANGER

Rotating Flight Hazard: Keep away from auger intake.

3. Increase the engine speed to achieve the desired augering speed.
4. If everything is operating normally, start running grain through the auger.

RESTARTING WITH A FULL TUBE

NOTICE

Always engage belts with engine idling. Engaging belts at high engine speed will result in premature belt wear

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:

1. With the power source locked out, remove as much of the grain as possible from the tube and intake.
2. Start the engine and run it at half speed. Slowly engage the belt until the auger is brought up to speed.
3. Once the auger has been started, increase the engine speed to achieve the desired augering speed.

5.4.3. 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 (if possible).
2. Run the auger until the tube is empty.
3. When auger is clear of grain, disengage the belt, and stop engine/motor, or disengage the PTO.
4. Shut down, and lock out power source.

EMERGENCY STOP

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

1. Stop or shut down the power source immediately.
2. Stop the flow of material (if applicable).
3. Lock out power, and correct the emergency before resuming work.

WARNING	
	Lock out all power before attempting repairs / removing obstructions.

5.4.4. CLEANOUT

1. Run the unit to clean out the majority of the grain.
2. Shut down and lock out the power source.
3. Clean grain from the auger and hopper, and dump it into a container.

6. 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.

The Wheatheart Auger has been designed and manufactured to meet the highest standards, while requiring minimal maintenance. Following a careful service and maintenance program will provide many years of trouble-free service.

When performing adjustments, service, or repairs:

- Always take safety into consideation and note Section 2.5.
- Use extra caution when cleaning and servicing augers because flighting edges can become sharp.
- Follow proper procedures when mounting a tire on a rim. If in doubt, have a qualified tire repair service perform the required maintenance.

NOTICE

Do not modify the equipment.

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

6.1. FLUIDS & LUBRICANTS

ENGINE OIL

Refer to engine operation manual for recommended oil usage.

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.

6.1.1. STORAGE & HANDLING

Always follow manufacturer's guidelines for the safe and effective storage and handling of lubricants.

Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture, and other contaminants.

6.2. MAINTENANCE INTERVALS

Refer to Section 6.3. for details of service.

Table 6.1 Maintenance Intervals

	Maintenance Procedure	Time Period			
		Daily (8000)BU	Periodically (40,000)BU	Annually (Before Storage)	Annually (After Storage)
Visually Inspect the Unit	6.3.1.	X			
Check engine oil level	6.3.7.	X			
Service PTO Driveline	6.3.11.	X			
Check Air Filter	6.3.7.		X		
Service Upper Chain Drive	6.3.2.		X		
Service Belts	6.3.13.		X		
	6.3.14.				
Grease Machine	6.3.3.		X		
Check Gear Box Oil Level	6.3.8.		X		
Check Winch	6.3.12.		X		
Clean Machine	6.3.4.			X	
Service Engine	6.3.7.				X
Repack Wheel Bearings	6.3.5.				X
Tighten Wheel Bolts	6.3.6.				X
Change Gear Box Oil	6.3.9.				X
Service Truss Cables (51' only)	6.3.10.				X

6.3. MAINTENANCE PROCEDURES

6.3.1. VISUAL INSPECTION

Before beginning the visual inspection, chock auger wheels and ensure that all operators are aware of safety precautions.

When inspecting look for possible defects, and the following:

- Ensure all guards are in place, and in good working order.
- Examine the auger for damage or unusual wear.
- Inspect the machine for evidence of oil leaks.
- Examine hydraulic hoses and fittings for leaks and cracks.
- Be sure all safety decals are in place and are legible.
- Check that drive belts are not frayed or damaged. Ensure they are properly adjusted and aligned.

- Check that the discharge spout and intake area are free of obstructions.
- Ensure that intake housing fasteners are properly secured.
- Examine all flighting for damage or unusual wear.
- Examine tires for gashes, uneven wear, or loss of air pressure.
- Inspect auger shaft bushing for unusual wear or discoloration.
- Inspect all truss cables for tension, and possible failure points.
- Inspect winch cable for fraying, kinks, unwinding, or other possible damage.

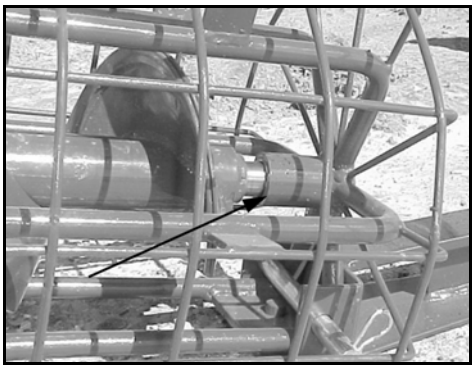


Figure 6.1 Auger Bushing

6.3.2. SERVICING UPPER CHAIN DRIVE

1. Lock out power.
2. Remove cover plate from discharge end of auger.
3. Check chain slack.
   - Chain slack is checked at the midpoint of the longest span. It should be no more than 5/16" (8 mm).

Figure 6.2 Upper Chain Driver

NOTICE

Improper adjustment of chain will result in premature wear.

4. Adjust the chain slack.
   - Remove the connecting link from the chain.
   - 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.
5. Grease the chain with appropriate lubricant (Section 6.1.)
6. Reattach cover plate.

6.3.3. GREASING MACHINE

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

1. Lockout all power.
2. Grease points on the machine are shown in Figure 6.3.

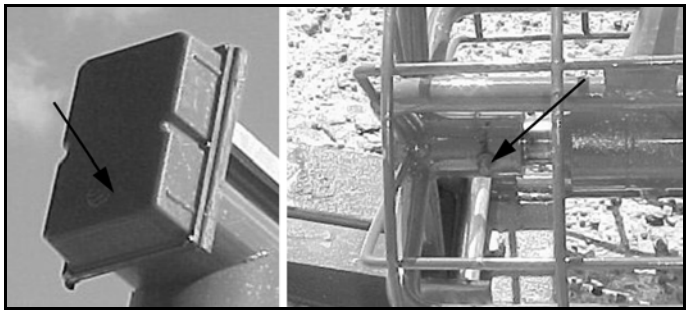


Figure 6.3 Upper Chain Drive Zerk & Intake Zerk

3. Use grease recommended in Section 6.1.
4. Use only a hand-held grease gun.
5. Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
6. If a fitting will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.
7. Replace and repair broken fittings immediately.

6.3.4. CLEANING MACHINE

1. Lockout all power.
2. Clean out excess grain from auger tube and intake.
3. Make sure nothing is obstructing the auger intake so water can run out.
4. Wash the tube with a water hose or pressure washer until all dirt, mud, debris, or residue is washed from the auger.
5. Provide sufficient time for the water to drain from the auger.

6.3.5. REPACKING WHEEL BEARINGS

1. Block wheels and ensure unit is stable.
2. Remove the wheel bolts and the wheels.
3. Remove the wheel bearing and pack with grease. Refer to Section 6.1. for recommended grease.

6.3.6. TIGHTENING WHEEL BOLTS

1. Clean wheel and hub mounting surfaces to ensure there is no rust or debris.
2. Install the wheel and "finger tighten" the wheel bolts. Inspect to make sure the wheel is sitting flush with the hub.

3. 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 in Figure 6.4.*

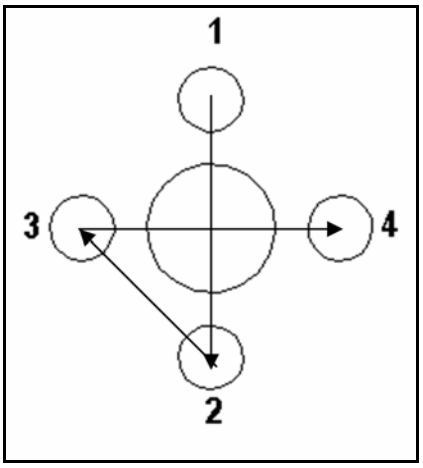


Figure 6.4 Crisscross Pattern

6.3.7. SERVICE ENGINE

1. See engine operation manual for service requirements.

6.3.8. CHECKING GEAR BOX OIL LEVELS

1. Lock out all power.
2. Remove oil filler plug.
3. Make sure the gearbox is half full (center of cross shaft) and free of foreign objects. Gearbox should be level when checking gears.

6.3.9. CHANGING GEARBOX OIL

1. Remove guards and gearbox from auger.
2. Place a pan under the drain plug.
3. Use a wrench and remove the drain plug.
4. Loosen the filler plug so air can enter the gearbox and the oil will drain freely.
5. Allow the oil to drain completely.
6. Replace the drain plug.
7. Add oil until the gearbox is half full (center of cross shaft) and replace filler plug. Gearbox should be level when checking or refilling. Do not overfill.
8. Reinstall gearbox and guards.

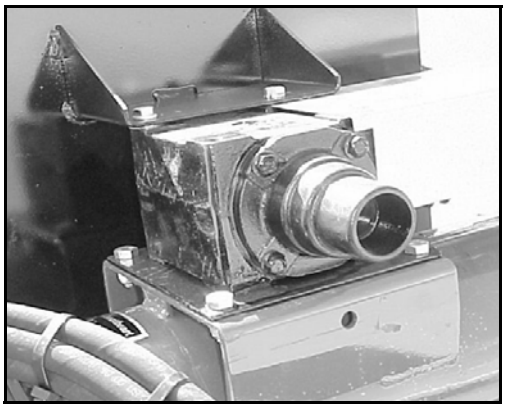


Figure 6.5 Gearbox

6.3.10. TRUSS CABLE SERVICE (51' AUGER ONLY)

1. Locate the eyebolt anchors for the cable. Refer to Figure 6.6.

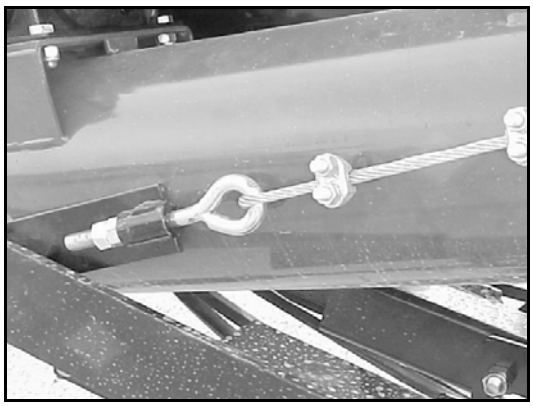


Figure 6.6 Cable Adjustment

2. Tighten the nut on the eyebolt until there is enough tension in the cable as to keep the tube straight.
3. If the proper cable tension cannot be obtained before the eyebolt runs out of adjustment:
   - Support auger tube.
   - Loosen the eyebolts but do not remove the nut.
   - Loosen the clamps on the cable on both sides.
   - Shorten the cable until there is tension on the cable and tighten the clamps.
   - Return to step 2.

WARNING	
	Before doing anything to the trussing, ensure auger tube is properly supported by overhead crane or other proper lifting device.

6.3.11. PTO DRIVELINE

1. Lock out all power.
2. Check shield and replace if damaged.
3. Use grease recommended in Section 6.1.
4. Lubricate both universal joints after every 8 hours of operation. Lubricate the center portion of the driveline (grease fitting is beneath shield) on a yearly basis (where applicable).

6.3.12. WINCH (41', 46', AND 51' AUGERS ONLY)

1. Service winch with auger in fully lowered position and cable slack.
2. Check to make sure cable clamps are secure.
3. Keep a film of grease on gears. Occasionally oil the bushings, drumshaft and ratchet. Take care not to get oil or grease on brake discs.
4. Inspect brake discs, replace if less than 1/16" thick.

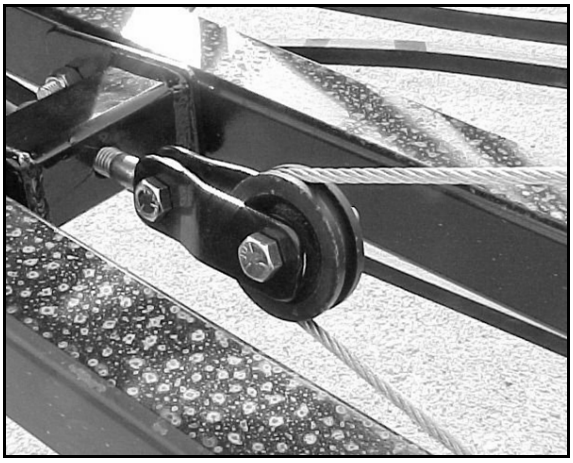


Figure 6.7 Cable Pulley

6.3.13. REPLACING BELTS

1. Lock out all power.
2. Make sure that the belt engaging lever is disengaged.
3. **On motor drive**: Remove pulley shield at motor if necessary (belts may slip past pulley without removing shield). If belts do not come off easily, the engine mounting bolts will have to be loosened and the engine pushed toward the intake end of the auger.
   On PTO drive: The PTO driveline and shield will need to be removed before the belts can be taken off the pulley.
4. The new auger belts can now be put in place. Make sure to route the belt over the idler pulley.
5. Follow the procedure in Section 6.3.14. for the proper belt tension.
6. Re-attach shield and PTO driveline (where applicable).

6.3.14. TIGHTENING BELTS

1. Lock out all power.
2. Engage the belt engaging lever.
3. Loosen the bolts on the engine mount shown in Figure 6.8.

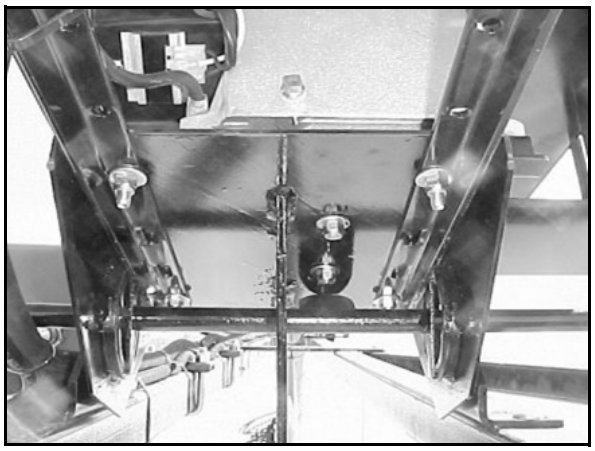


Figure 6.8 Engine Mount Bolts

7. Slide the engine back (towards the spout) until there is adequate tension on the belt. If the alignment of the pulleys needs adjustment, slide the engine left or right until the pulleys line up.
8. Re-tighten the engine mount bolts and torque as shown in the tables in Section 9.
9. Minor tension adjustments can be made by sliding the idler up or down. Idler shown in Figure 6.9.

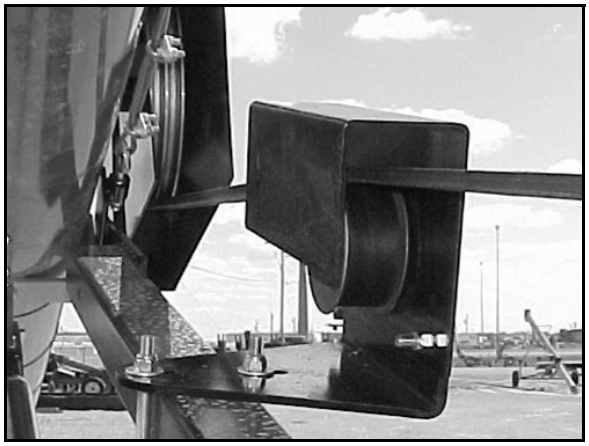


Figure 6.9 Belt Idler

7. 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 to persons using this equipment, follow basic safety precautions. **When storing:** • Store in an area away from human activity.

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

- Lower auger fully, with slight tension on the cable.
- Store the machine on a level surface, free of debris, and in an area away from human activity. Store in a dry place, or use a tightly secured tarp to protect the equipment from the weather.
- Ensure that the unit is in transport position.
- Remove all residual material and clean the machine thoroughly.
- Inspect the unit at stress points for cracks.
- Repair or replace any worn or damaged components to prevent any unnecessary downtime at the start of the next season.
- Touch up paint nicks and scratches to prevent rusting.
- Check hydraulic fittings, hoses, lines, couplers, and valves. Tighten any loose fittings. Replace any hose that is badly cut, nicked, abraded, or is separating from the crimped end of the fitting. Secure the hoses to the machine.
- Inspect and tighten all fasteners; replace fasteners if required.
- Inspect the engine for any abnormal leaks, check the air filter and clean or replace as necessary. Drain the gas from the carburetor and gas tank. Check to see if there is sufficient oil in the crankcase.
- Support intake on blocks to eliminate prolonged contact with the ground.
- Lubricate all grease fittings.
- Cover motor/engine to protect from weather.
- Chock wheels.
- Remove battery (where applicable) and store in a cool, dry place.

WARNING	
	To reduce the risk of injury or death to persons using this equipment, follow basic safety precautions. **When handling batteries:** Exercise caution; batteries contain acid which can eat through clothing, burn skin, and cause blindness.

8. Troubleshooting

The following table lists the causes and solutions to some potential problems you may encounter in operating your BH Auger.

Table 8.1

PROBLEM	CAUSED BY	SOLUTION
The auger does not turn.	• auger is plugged or obstructed	• identify and remove obstruction
	• drive belt is slipping	• adjust the tension of the belt
		• fully engage the belt release
	• a bearing is seized	• identify the bearing and replace
	• a chain is broken	• identify the chain and repair or replace
	• gearbox is seized	• fix or replace the gearbox
	• gearbox coupler bolt is broken or missing	• replace the bolt
The bottom auger will not turn.	• center coupler bolt is broken or missing	• replace the bolt
Auger is noisy.	• obstruction in the auger	• identify and remove obstruction
	• auger shaft bolts are loose or damaged	• tighten or replace bolts
	• auger shaft is bent	• repair or replace auger
	• flighting is damaged	• repair or replace auger
	• worn bearing	• repair or replace bearing
	• low gear oil level	• inspect the gearbox, replace if damaged or add oil if not damaged
	• upper chain drive loose	• tighten the chain as required
The auger will not raise or lower.	• auger is already at its maximum or minimum height	• if at maximum height, lower the auger
		• if at minimum height, raise the auger
	• broken cable	• replace cable
	• obstruction in the slide	• clear the obstruction
	• winch is seized	• consult your local Wheatheart dealer
	• the bottom or top of auger is obstructed	• clear the obstruction
Low material augering rate.	• engine speed is too slow	• increase rpm of the engine
	• inadequate material flow from truck or hopper	• increase flow of material
	• flow into the auger intake is restricted	• clear grating of obstructions
	• material too wet or heavy	• unloading rates are for dry grain
	• flighting is worn	• repair or replace as required
	• belt slipping	• identify the belt, adjust or replace as required
Auger will not hold in elevated position.	• malfunctioning or damaged winch mechanism	• consult your local Wheatheart dealer
Tube is flexing.	• loose truss cables	• tighten cables as required

9. Appendix

9.1. SPECIFICATIONS

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

Table 9.1

Auger Length		8 X 36'	8 X 41'	8 X 46'	8 X 51'	10 X 36'	10 X 41'
Tube Size		8"(203mm)	8"(203mm)	8"(203mm)	8"(203mm)	10"(254mm)	10"(254mm)
CAPACITIES							
Unloading Rate		Up to 3000 Bu/ Hr	Up to 3000 Bu/ Hr	Up to 3000 Bu/ Hr	Up to 3000 Bu/ Hr	Up to 6000 Bu/Hr	Up to 6000 Bu/Hr
		(106m^3/Hr)	(106m^3/Hr)	(106m^3/Hr)	(106m^3/Hr)	(212m^3/Hr)	(212m^3/Hr)
DIMENSIONS							
Transport	Length	36'5"(11.1m)	41'5"(12.6m)	46'4"(14.1m)	51'3"(15.6m)	36'11"(11.2m)	42'(12.8m)
	Width	8' (2.44m)					
	Height	11'(3.35m)	10' 9"(3.28m)	11'10"(3.6m)	12'10"(3.91m)	11'2"(3.39m)	11'6"(3.39m)
Discharge Clearance	Min	9' 7"(2.92m)	9' 6"(2.9m)	10' 6"(3.2m)	11' 6"(3.5m)	9'2"(2.78m)	9'5"(2.86m)
	Max	21' 6"(6.55m)	24' 8"(7.52m)	27' 6"(8.38m)	30' 8"(9.35m)	20'7"(6.25m)	23'7"(7.17m)
TIRES							
Type		15" Radial					
Inflation Pressure		20 – 24 PSI (137-165kPa)					
WEIGHT							
Hitch Tongue Weight (no engine)		66 LB(30kg)	68 LB(31kg)	72 LB(33kg)	70 LB(32kg)	70 LB(32kg)	90LB(41kg)
Total Weight		1188LB (539kg)	1285LB (583kg)	1397 LB (634kg)	1540LB (699kg)	1250LB (567kg)	1351LB (617kg)
POWER REQUIREMENTS							
Gas Engine		15-18 HP (11-13.5KW)	18-20 HP (13.5-15KW)	22-25 HP (16.5-18.8KW)	25-27 HP (18.8-20.3KW)	27-35 HP (20.3-26.3KW)	30-35HP (22.5-26.3KW)
Electric Motor		5 - 7 1/2 HP (3.75-5.6KW)	5 - 7 1/2 HP (3.75-5.6KW)	7 1/2 HP (5.6KW)	7 1/2 - 10 HP (5.6-7.5KW)	10 HP (7.5 KW)	10 - 15 HP (7.5-11.3KW)
PTO Drive		540 rpm					
PART SPECIFICATIONS							
Gas Tank Capacity		5 Imp Gal (22 L)					
Gearbox Oil Capacity		1/2 Imp Gal (2.3 L)					
Belt Size		B210	B240	B270	B300	B210	B240

9.2. 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 9.2 Imperial Bolt Torque

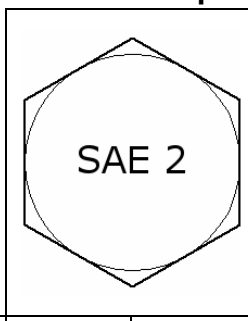
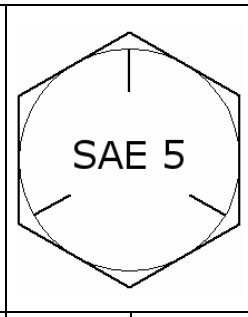
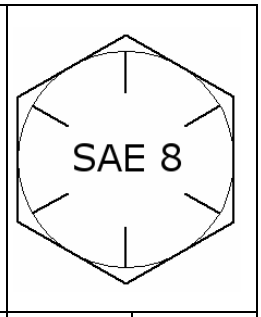
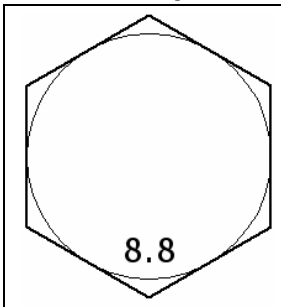
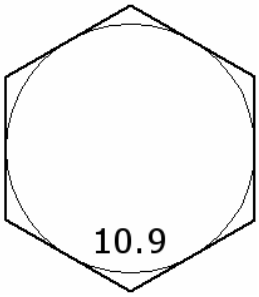
						
BOLT DIAMETER	**(Nm)**	**(Lb-ft)**	**(Nm)**	**(Lb-ft)**	**(Nm)**	**(Lb-ft)**
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420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

Table 9.3 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

9.3. 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. Lubricate connection and hand tighten swivel until snug.
4. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.

Table 9.4 Flare Type Tube Fittings

Tube Size OD (in.)	Nut Size Across Flats (in.)	Torque Values(N-m)	Torque Values (lb-ft)	# of Turns to Tighten (Flats)	(After Finger Tightening) (Turn)
3/16	7/16	8	6	1	1/6
1/4	9/16	12	9	1	1/6
5/16	5/8	16	12	1	1/6
3/8	11/16	24	18	1	1/6
1/2	7/8	46	34	1	1/6
5/8	1	62	46	1	1/6
3/4	1 1/4	102	75	3/4	1
7/8	1 3/8	122	90	3/4	1

* The torque values shown are based on lubricated connections as in reassemble.

9.4. TIGHTENING O-RING FITTINGS

1. Inspect o-ring and seat for dirt or obvious defects.
2. On the angle fittings, back the lock nut off until washer bottoms out at top of groove.
3. Hand-tighten fitting until back up washer or washer face (if straight fitting) bottoms on face and o-ring is seated.
4. Position angle fittings by unscrewing no more than one turn.
5. Tighten straight fittings to torque shown.
6. Tighten while holding body of fitting with a wrench.

Table 9.5 "O" Ring Fittings

Tube Size OD (in.)	Nut Size Across Flats (in.)	Torque Values (Nm)	Torque Values (Lb-ft)	# of Turns to Tighten (Flats)	(After Finger Tightening) (Turn)
3/8	1/2	8	6	2	1/3
7/16	9/16	12	9	2	1/3
1/2	5/8	16	12	2	1/3
9/16	11/16	24	18	2	1/3
3/4	7/8	46	34	2	1/3
7/8	1	62	46	1-1/2	1/4
1-1/16	1-1/4	102	75	1	1/6
1-3/16	1-3/8	122	90	1	1/6
1-5/16	1-1/2	142	105	3/4	1/8
1-5/8	1-7/8	190	140	3/4	1/8
7/8	2-1/8	217	160	1/2	1/12

* The torque values shown are based on lubricated connections as in reassemble.

9.5. PARTS LIST

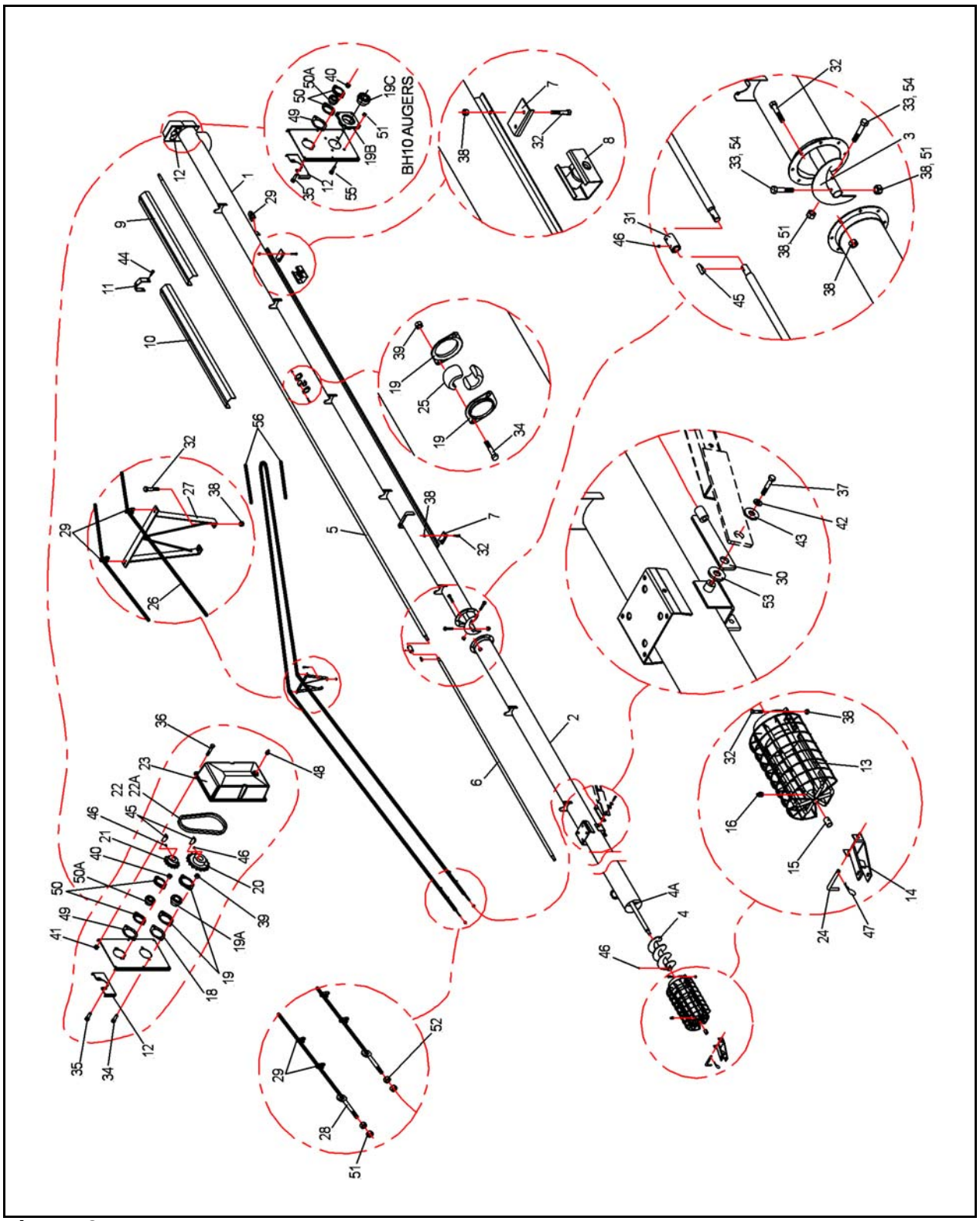


Figure 9.1 51' Foot Auger

REF.NO.	PART NO.	PARTS DESCRIPTION	8x36'	8x41'	8x46'	8x51'	10x36'	10x41'
1	4503112	UPPER TUBE WELDMENT, BH8"	1	1	1	1	-	-
1	4506101	UPPER TUBE WELDMENT, BH10"	-	-	-	-	1	1
2	4503116	LOWER TUBE WELDMENT, 8" X 51'	-	-	-	1	-	-
2	4503115	LOWER TUBE WELDMENT, 8" X 46'	-	-	1	-	-	-
2	4503114	LOWER TUBE WELDMENT, 8" X 41'	-	1	-	-	-	-
2	4503113	LOWER TUBE WELDMENT, 8" X 36'	1	-	-	-	-	-
2	4506116	LOWER TUBE WELDMENT, 10" X 41'	-	-	-	-	-	1
2	4506102	LOWER TUBE WLEDMENT, 10" X 36'	-	-	-	-	1	-
3	4503123	UPPER FLIGHTING, 8 IN	1	1	1	1	-	-
3	4506104	UPPER FLIGHTING, 10 IN	-	-	-	-	1	1
4	4503154	INTAKE FLIGHTING, 8 IN	1	1	1	1	-	-
4	4506113	INTAKE FLIGHTING, 10 IN	-	-	-	-	1	-
4A	4503158	LOWER FLIGHTING, 51 X 8 IN	-	-	-	1	-	-
4A	4503157	LOWER FLIGHTING, 46 X 8 IN	-	-	1	-	-	-
4A	4503156	LOWER FLIGHTING, 41 X 8 IN	-	1	-	-	-	-
4A	4503155	LOWER FLIGHTING, 36 X 8 IN	1	-	-	-	-	-
4A	4506117	LOWER FLIGHTING, 41 X 10 IN	-	-	-	-	-	1
4A	4506103	LOWER FLIGHTING, 36 X 10 IN	-	-	-	-	1	-
5	4503122	DRIVESHAFT, 1-1/4 X 288 IN	1	1	1	1	1	1
6	4503144	DRIVESHAFT, 1-1/4 X 125 IN	-	-	-	1	-	-
6	4503143	DRIVESHAFT, 1-1/4 X 89 IN	-	-	1	-	-	-
6	4503142	DRIVESHAFT, 1-1/4 X 53 IN	-	1	-	-	-	1
6	4503141	DRIVESHAFT, 1-1/4 X 17 IN	1	-	-	-	1	-
7	4503127	TRACK STOP	2	2	2	2	2	2
8	4503053	TRACK SHOE	1	1	1	1	1	1
9	4503060	48" DRIVESHAFT SHIELD	1	1	1	1	1	1
9	4503220	42" DRIVESHAFT SHIELD	-	-	1	-	-	-
9	4503219	24" DRIVESHAFT SHIELD	1	-	-	-	1	-
10	4503061	60" DRIVESHAFT SHIELD	4	5	5	6	4	5
11	4503062	SHIELD TIE-DOWN STRAP	6	6	7	7	6	6
12	4503073	BEARING ADJUST PLATE, TOP	1	1	1	1	1	1
13	4503159	INTAKE GUARD 8 IN	1	1	1	1	-	-
13	4503233	INTAKE GUARD W/BIN SWEEP MNT	1	1	1	1	-	-
13	4506115	INTAKE GUARD 10 IN	-	-	-	-	1	1
13A	4503249	INTAKE GUARD 8 IN, AUSTRALIA	1	1	1	1	-	-
13A	4503250	INTAKE GUARD 8 IN, W/BIN SWEEP MT, AUSTRALIA	1	1	1	1	-	-
13A	4506114	INTAKE GUARD 10 IN, AUSTRALIA	-	-	-	-	1	1
14	4503068	CLEVIS	1	1	1	1	-	-
14	4506100	CLEVIS	-	-	-	-	1	1
15	4503160	1" BUSHING	1	1	1	1	-	-
15	19776	1 1/4" BUSHING	-	-	-	-	1	1
16	2300028	PRESS-IN GREASE FITTING 1/4"	1	1	1	1	1	1
18	4503214	GASKET FOR 1 1/4" FLANGETTE BEARING	1	1	1	1	-	-
19	4500062	1 1/4" BEARING FLANGE, SINGLE	12	12	14	16	10	10
19A	4503131	1 1/4" BEARING INSERT, LESS FLANGES	1	1	1	1	-	-
19B	4500067	1 1/4" FLANGE BEARING, 4 BOLT	-	-	-	-	1	1
19C	9900856	1 1/4" BEARING, LESS FLANGE	-	-	-	-	1	1
20	4503125	LOWER SPROCKET, 25 TOOTH	1	1	1	1	-	-
20	B009012	LOWER SPROCKET, 30 TOOTH	-	-	-	-	1	1
21	4503124	UPPER SPROCKET, 14 TOOTH	1	1	1	1	1	1
22	4503129	ROLLER CHAIN W/CONNECTOR	1	1	1	1	-	-
22A	9900771-2	ROLLER CHAIN CONNECTOR ONLY	1	1	1	1	1	1
22	4506111	ROLLER CHAIN, BH10"	-	-	-	-	1	1
23	4500085	OIL BATH COVER, 10"	-	-	-	-	1	1
23	4503126	OIL BATH HOUSING COVER	1	1	1	1	-	-
24	4503069	CLEVIS PIN	1	1	1	1	1	1
25	4500063	1 1/4" SPLIT HARDWOOD BRG, TWO HALVES	5	5	6	7	5	5
26	4503058	AIRCRAFT CABLE, 51' TRUSS (1/4" X 60')	-	-	-	1	-	-
27	4503070	TRUSS SUPPORT BRACKET	-	-	-	1	-	-
28	4503071	EYEBOLT W/NUT	-	-	-	2	-	-
29	4500081	1/4" CABLE CLAMP	-	-	-	7	-	-
30	4503099	TRUSS CABLE ANCHOR	-	-	-	2	-	-
31	4503149	DRIVESHAFT COUPLER	1	1	1	1	1	1
32	4500068	BOLT, 7/16" - 14 X 1"	18	18	18	20	18	18
33	9900128	BOLT, 7/16" - 14 X 2-1/4" GR8	2	2	2	2	-	-
34	9900530	BOLT, 3/8" - 16 X 3/4"	12	12	14	16	12	12
35	9900797	BOLT, 5/16" - 18 X 3/4	"2	2	2	2	2	2
36	9900603	BOLT, 1/4" - 20 X 1", GR5	6	6	6	6	6	6
37	9900558	BOLT, 1/2" - 13 X 1"	2	2	2	2	2	2

REF.NO.	PART NO.	PARTS DESCRIPTION	8x36'	8x41'	8x46'	8x51'	10x36'	10x41'
38	9900643	LOCKNUT, 7/16" - 14	20	20	20	22	18	18
39	9900788	FLANGE NUT, 3/8" - 16	12	12	14	16	12	12
40	9900129	FLANGE NUT, 5/16"	2	2	2	2	2	2
41	9900130	FLANGE NUT, 1/4" - 20	6	6	6	6	6	6
42	9900537	WASHER, 1/2" LOCK	2	2	2	2	2	2
43	9900565	WASHER, 1/2" FLAT	2	2	2	2	2	2
44	9900132	SELF-TAPPING SCREW, 1/4-14X5/8"	12	12	14	14	12	12
45	4503192	WOODRUFF KEY, 1/4" X 1"	4	4	4	4	4	4
46	9900131	SETSCREW, 3/8" - 16 X 3/8"	5	5	5	5	5	5
47	0309027-2	HAIR PIN	1	1	1	1	1	1
48	9900685	3/8" NPT PLUG	1	1	1	1	1	1
49	4503215	GASKET FOR 1" FLANGETTE BEARING	1	1	1	1	1	1
50	4503128	1" BEARING FLANGE, SINGLE	2	2	2	2	2	2
50A	4503130	1" BEARING INSERT, LESS FLANGES	1	1	1	1	1	1
51	9900538	LOCK NUT, 1/2"	-	-	-	2	6	6
52	9900678	NUT JAM , 1/2"	-	-	-	2	-	-
53	500705	WASHER 1" SAE PLT	-	-	-	2	-	-
54	9900169	BOLT, 1/2-13 X 2-3/4" GR8 PLD	-	-	-	-	2	2
55	9900588	BOLT, 1/2" X 1-1/4" GR5 PLD	-	-	-	-	4	4
56	4503306	HOSE, CLEAR, 5/16" x 12"	-	-	-	-	2	2

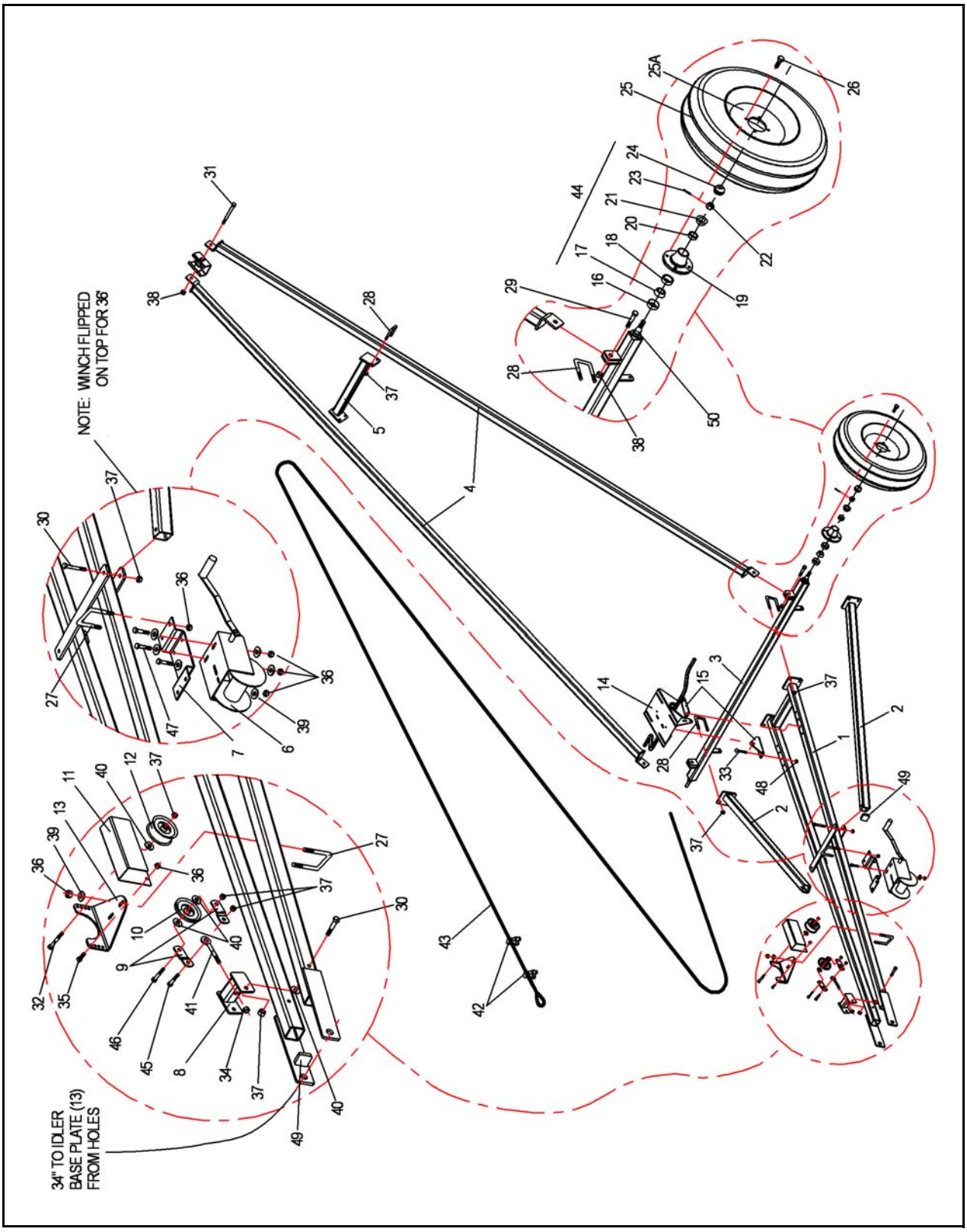


Figure 9.2 51' Auger (2)

REF.NO.	PART NO.	PARTS DESCRIPTION	8x36'	8x41'	8x46'	8x51'	10x36'	10x41'
1	4503002	51' LOWER ARM WELDMENT	-	-	-	1	-	-
1	4503208	46' LOWER ARM WELDMENT	-	-	1	-	-	-
1	4503198	41' LOWER ARM WELDMENT	-	1	-	-	-	1
1	4503193	36' LOWER ARM WELDMENT	1	-	-	-	1	-
2	4503003	OUTER SUPPORT ARM	2	2	2	2	2	2
3	4503004	AXLE WELDMENT W/SP TABS	1	1	1	1	1	1
3A	4503235	AXLE W/SP TABS & HUBS	1	1	1	1	1	1
4	4503006	LIFT ARM, 51', 211-15/16"	-	-	-	2	-	-
4	4503212	LIFT ARM, 46', 188-3/8"	-	-	2	-	-	-
4	4503202	LIFT ARM, 41', 164-5/16"	-	2	-	-	-	2
4	4503196	LIFT ARM, 36', 141"	2	-	-	-	2	-
5	4503007	LIFT ARM X-SUPPORT	-	-	-	1	-	-
6	702001	WINCH	1	1	1	1	1	1
7	4503059	HAND WINCH MOUNT PLATE	1	1	1	1	1	1
8	4503098	CABLE PULLEY MOUNT	-	1	1	1	-	1
9	4503108	CABLE PULLEY MOUNT STRAP	-	2	2	2	-	2
10	1900011	CABLE PULLEY	-	1	1	1	-	1
11	4503046	IDLER BRACKET PLATE	-	1	1	1	-	1
12	4500064	PULLEY IDLER FLAT 1/2"	-	1	1	1	-	1
13	4503047	IDLER BASE PLATE	-	1	1	1	-	1
14	4503054	MOTOR MOUNT	1	1	1	1	1	1
15	4503110	MOUNT ANGLE	2	2	2	2	2	2
16	4500059-5	INNER SEAL SE11	2	2	2	2	2	2
17	4500059-3	INNER BEARING LM67048	2	2	2	2	2	2
18	4500059-4	INNER RACE LM67010	2	2	2	2	2	2
19	4500059-8	HUB W/CUPS (INCL. 16, 18, 20)	2	2	2	2	2	2
20	4500059-2	OUTER RACE LM11910	2	2	2	2	2	2
21	4500059-1	OUTER BEARING LM1949	2	2	2	2	2	2
22	4500059-10	NUT, CASTELLATED 3/4 UNF	2	2	2	2	2	2
23	2300198	COTTER PIN 3/16 X 2	2	2	2	2	2	2
24	4500059-6	DUST CAP DC12	2	2	2	2	2	2
25	4503236	TIRE 15"	2	2	2	2	2	2
25A	4500059-11	RIM AG 4 BOLT	2	2	2	2	2	2
26	4500059-7	WHEEL BOLT WB10	8	8	8	8	8	8
27	9900038	3/8" U-BOLT TO FIT 2 1/2" HSS	2	3	3	3	2	3
28	9900011	1/2" U-BOLT TO FIT 2 1/2" HSS	4	4	4	6	4	4
29	9900535	BOLT, 3/4" X 2 1/2" GR5	2	2	2	2	2	2
30	9900647	BOLT, 1/2" X 4" GR5	2	4	4	4	2	4
31	9900039	BOLT, 3/4" X 6-1/2" GR5	1	1	1	1	1	1
32	9900599	BOLT, 1/2" X 2-1/2"	-	1	1	1	-	1
33	9900009	CARRIAGE BOLT 7/16" X 3-1/2"	4	4	4	4	4	4
34	9900831	NUT NYLOCK 5/8"	-	1	1	1	-	1
35	9900699	BOLT 3/8" X 1" GR5	-	2	2	2	-	2
36	601007	NUT NYLOCK 3/8"	7	11	11	11	7	11
37	9900538	NUT NYLOCK 1/2"	10	15	15	19	10	15
38	9900695	NUT NYLOCK 3/4"	3	3	3	3	3	3
39	601008	WASHER 3/8" FLAT	4	6	6	6	4	6
40	9900565	WASHER 1/2" FLAT	-	5	5	5	-	5
41	9900002	EYEBOLT, 5/8"	-	1	1	1	-	1
42	4500081	1/4" CABLE CLAMP	2	2	2	2	2	2
43	4503056	1/4" CABLE 35' LONG	1	-	-	-	1	-
43	4503057	1/4" CABLE 40' LONG (HAND WINCH)	-	1	-	-	-	1
43	4503067	1/4" CABLE 44' LONG (HAND WINCH)	-	-	1	-	-	-
43	4503183	1/4" CABLE 49' LONG (HAND WINCH)	-	-	-	1	-	-
43	207017	1/4" CABLE 38' LONG (HYD. WINCH)	-	1	-	-	-	-
43	4503065	1/4" CABLE 41' LONG (HYD. WINCH)	-	-	1	-	-	-
43	4503182	1/4" CABLE 45.5' LONG (HYD WINCH)	-	-	-	1	-	-
44	4500059	HUB 411 COMPLETE LESS NUT	2	2	2	2	2	2
45	9900536	BOLT 1/2" X 1-1/2"	-	1	1	1	-	1
46	9900560	BOLT 1/2" X 2-1/4"	-	1	1	1	-	1
47	9900531	BOLT 3/8" X 1-1/4" GR 5	3	3	3	3	3	3
48	9900643	NUT NYLOCK 7/16"	4	4	4	4	4	4
49	3	PLASTIC CAP	4	4	4	4	4	4
50	4500010-4	SPINDLE	2	2	2	2	2	2

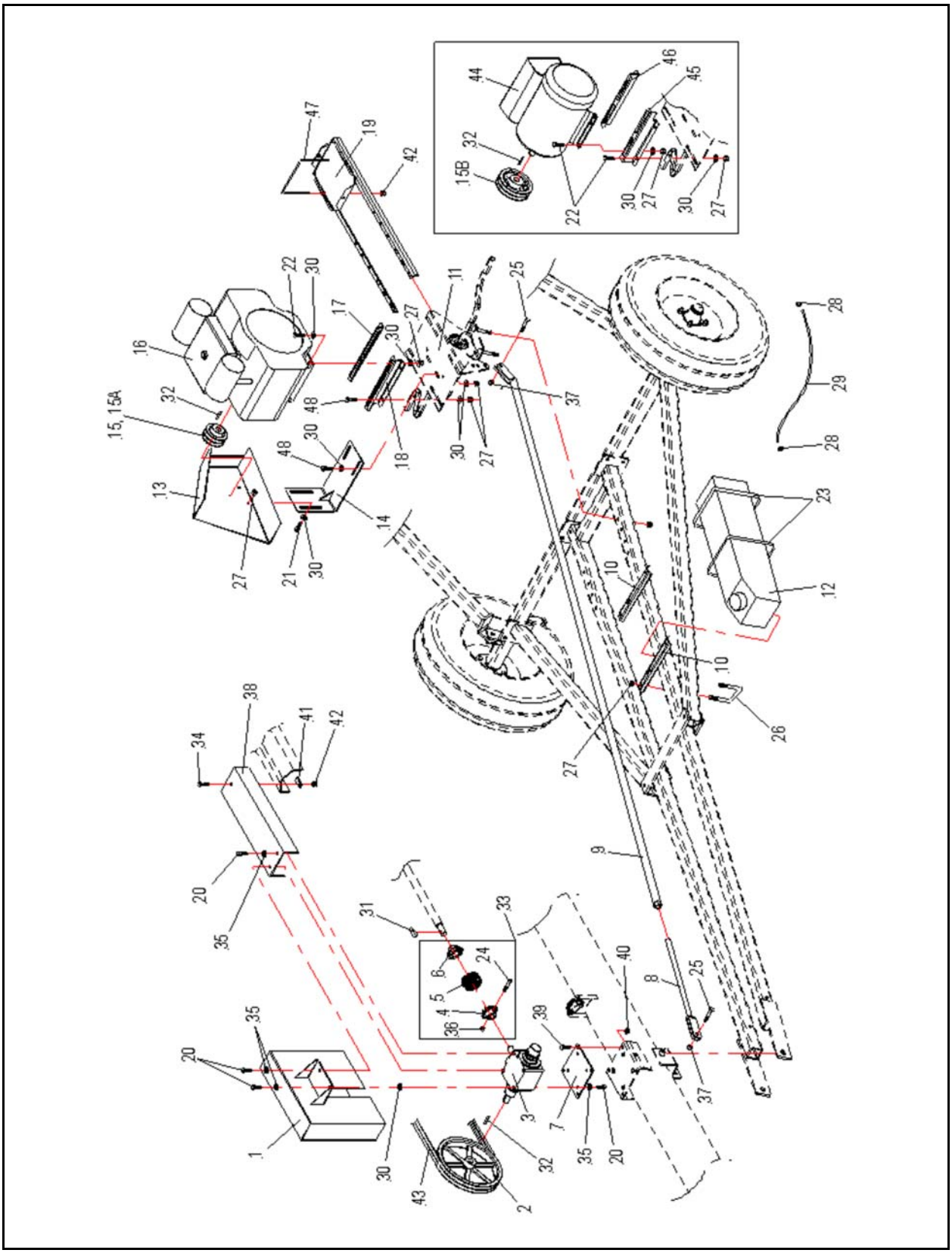


Figure 9.3 51' Auger (3)

REF. NO.	PART NO.	PARTS DESCRIPTION	8X36'	8X41'	8X46'	8X51'	10X36'	10X41'
1	4503077	GEARBOX GUARD	1	1	1	1	1	1
2	W19613	SHEAVE, 13"	1	1	1	1	1	1
3	4503064	GEARBOX	1	1	1	1	1	1
3	4503259	GEARBOX, REVERSIBLE	1	1	1	1	1	1
4	4503132	COUPLING SPROCKET, BOLT STYLE	1	1	1	1	1	1
5	4503216	COUPLING CHAIN W/CONNECTOR LINK	1	1	1	1	1	1
6	4503217	COUPLING SPROCKET, KEY STYLE	1	1	1	1	1	1
7	4503010	GEARBOX MOUNT PLATE	1	1	1	1	1	1
8	4503161	LEVELER BAR CLEVIS	1	1	1	1	1	1
9	4503171	LEVELER BAR TUBE, 51'	-	-	-	1	-	-
9	4503170	LEVELER BAR TUBE, 46'	-	-	1	-	-	-
9	4503169	LEVELER BAR TUBE, 41'	-	1	-	-	-	1
9	4503168	LEVELER BAR TUBE, 36'	1	-	-	-	1	-
10	4503190	TANK MOUNT BRACKET, SINGLE	2	2	2	2	2	2
10	4503111	TANK MNT BKT, DBL (GAS & HYD TANK)	2	2	2	2	2	2
11	4503054	MOTOR MOUNT	1	1	1	1	1	1
12	1200051	PLASTIC FUEL TANK	1	1	1	1	1	1
13	4503005	MOTOR PULLEY GUARD	1	1	1	1	1	1
14	4503117	MOTOR PULLEY GUARD MOUNT	1	1	1	1	1	1
15	1902216	PULLEY 4.2" X 1-1/8"	1	1	1	1	1	1
15A	1901216	PULLEY 4.2" X 1" (HONDA 20 HP)	1	1	1	1	1	1
15B	4503072	PULLEY 6.55"	1	1	1	1	1	1
16		GAS ENGINE	1	1	1	1	1	1
17	4503176	GAS MOTOR MOUNT DISCHARGE SIDE	1	1	1	1	1	1
18	4503177	GAS MOTOR MOUNT INTAKE SIDE	1	1	1	1	1	1
19	4503052	BATTERY MOUNT	1	1	1	1	1	1
20	9900530	BOLT, 3/8" X 3/4" GR5	7	7	7	7	7	7
21	9900699	BOLT, 3/8" X 1" NC GR5 PLTD	2	2	2	2	2	2
22	9900715	BOLT, 3/8" X 1-3/4" GR5 UNC PLTD	4	4	4	4	4	4
23	9900216	CLAMP GEAR	2	2	2	2	2	2
24	9900114	BOLT 5/16" X 2-3/4"	1	1	1	1	1	1
25	9900133	BOLT 1/2" X 1-3/4" GR 5	2	2	2	2	2	2
26	9900038	3/8" U-BOLT TO FIT 2-1/2" HSS	2	2	2	2	2	2
27	601007	NUT NYLOCK 3/8"	16	16	16	16	16	16
28	1200024	HOSE CLAMP 1/4"	2	2	2	2	2	2
29	1200023	HOSE 1/4" X 3'	1	1	1	1	1	1
30	601008	WASHER 3/8" FLAT	17	17	17	17	17	17
31	4503192	KEY WOODRUFF 1/4" X 1"	1	1	1	1	1	1
32	700615	KEY 1/4" X 1-1/2"	2	2	2	2	2	2
33	310008	CHAIN COUPLER 12T (4,5,6,24,36)	1	1	1	1	1	1
34	9900800	BOLT 1/4" X 3/4" GR5 UNC PLTD	1	1	1	1	1	1
35	9900528	WASHER 3/8" LOCK	7	7	7	7	7	7
36	9900520	NUT NYLOCK 5/16"	1	1	1	1	1	1
37	9900538	NUT NYLOCK 1/2"	2	2	2	2	2	2
38	4503063	GEARBOX COUPLER SHIELD	1	1	1	1	1	1
39	4500068	BOLT, 7/16" X 1"	4	4	4	4	4	4
40	9900643	NUT, NYLOCK, 7/16"	4	4	4	4	4	4
41	4503066	SHIELD SECURING PLATE	1	1	1	1	1	1
42	9900562	NUT NYLOCK 1/4"	3	3	3	3	3	3
43	W18689	B300 BELT	-	-	-	2	-	-
43	4500078	B270 BELT	-	-	2	-	-	-
43	W19479	B240 BELT	-	2	-	-	-	2
43	W19478	B210 BELT	2	-	-	-	2	-
44		ELECTRIC MOTOR (1725 RPM)	1	1	1	1	-	-
45	4503167	ELECTRIC MOTOR MOUNT INTAKE	1	1	1	1	-	-
46	4503166	ELECTRIC MOTOR MOUNT DISCHARGE	1	1	1	1	-	-
47	4500071	UBOLT SQ 1/4NCX8-1/4X9-3/4X4 THD PLD	1	1	1	1	1	1
48	9900531	BOLT 3/8" X 1-1/4" GR5 UNC PLTD	6	6	6	6	6	6

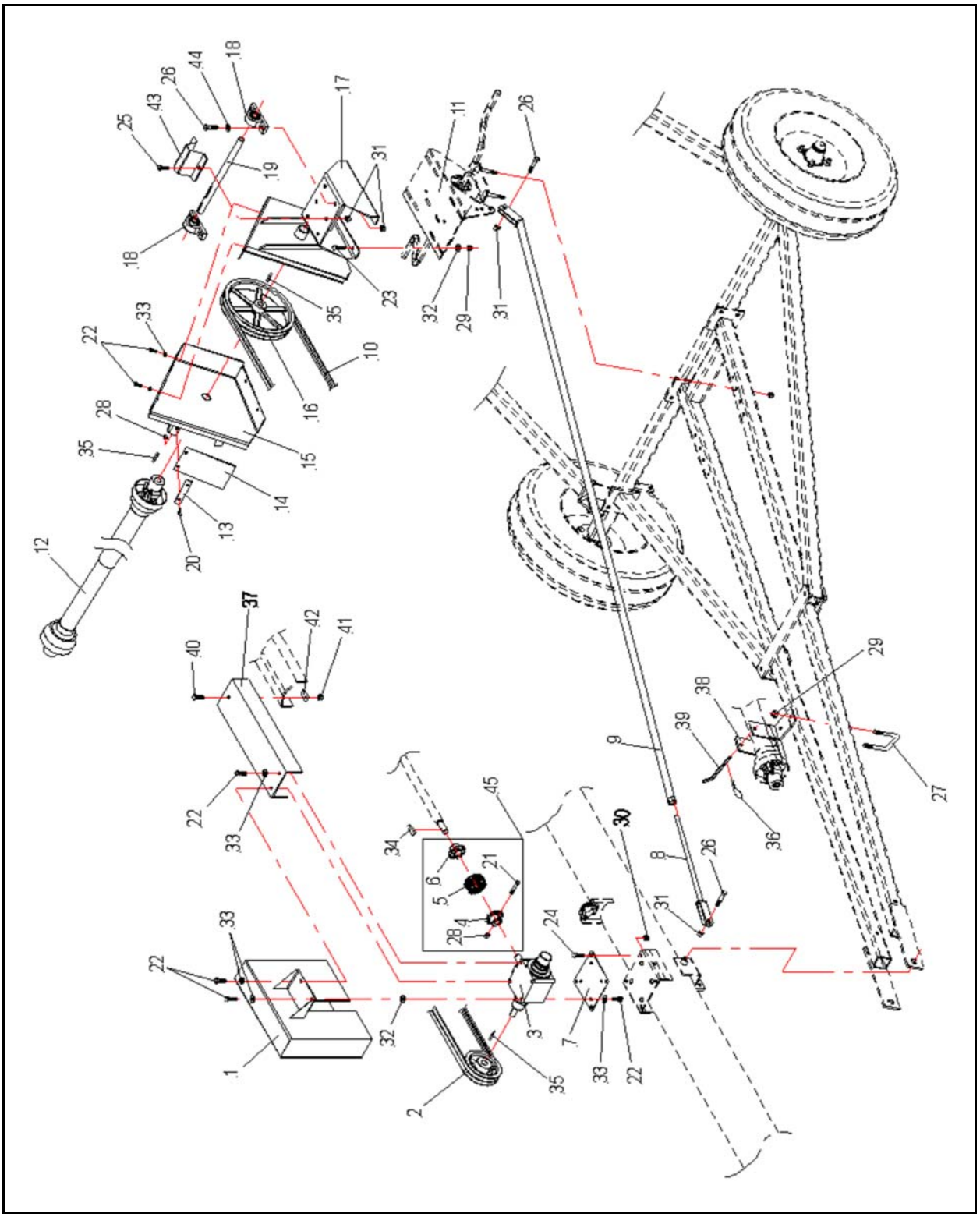


Figure 9.4 51' Auger PTO Drive

REF. NO.	PART NO.	PARTS DESCRIPTION	8x36'	8x41'	8x46'	8x51'	10x36'	10x41'
1	4503077	GEARBOX GUARD	1	1	1	1	1	1
2	4503072	PULLEY 6.55"	1	1	1	1	1	1
3	4503064	GEARBOX	1	1	1	1	1	1
3	4503259	GEARBOX, REVERSIBLE	1	1	1	1	1	1
4	4503132	COUPLING SPROCKET, BOLT STYLE	1	1	1	1	1	1
5	4503216	COUPLING CHAIN W/CONNECTOR LINK	1	1	1	1	1	1
6	4503217	COUPLING SPROCKET, KEY STYLE	1	1	1	1	1	1
7	4503010	GEARBOX MOUNT PLATE	1	1	1	1	1	1
8	4503161	LEVELER BAR CLEVIS	1	1	1	1	1	1
9	4503171	LEVELER BAR TUBE, 51'	-	-	-	1	-	-
9	4503170	LEVELER BAR TUBE, 46'	-	-	1	-	-	-
9	4503169	LEVELER BAR TUBE, 41'	-	1	-	-	-	1
9	4503168	LEVELER BAR TUBE, 36'	1	-	-	-	1	-
10	W18689	B300 BELT	-	-	-	2	-	-
10	W19480	B270 BELT	-	-	2	-	-	-
10	W19479	B240 BELT	-	2	-	-	-	2
10	W19478	B210 BELT	2	-	-	-	2	-
11	4503054	MOTOR MOUNT	1	1	1	1	1	1
12	4503225	60" PTO - DRIVELINE	1	1	1	1	1	1
13	4503222	PTO RUBBER MOUNT STRAP	1	1	1	1	1	1
14	4503221	PTO RUBBER FLAP 5-1/4" X 9"	1	1	1	1	1	1
15	4503089	PTO FRONT GUARD	1	1	1	1	1	1
16	W19613	SHEAVE, 13"	1	1	1	1	1	1
17	4503084	PTO MOUNT	1	1	1	1	1	1
18	310031	UELPL205-100T 1" PILLOW BLOCK ASSY.	2	2	2	2	2	2
19	4503093	PTO JACKSHAFT	1	1	1	1	1	1
20	9900797	BOLT 5/16" X 3/4" GR5 UNC PLTD	2	2	2	2	2	2
21	9900114	BOLT 5/16" X 2-3/4"	1	1	1	1	1	1
22	9900530	BOLT 3/8" X 3/4" GR5	11	11	11	11	11	11
23	9900699	BOLT 3/8" X 1" GR5 UNC PLTD	4	4	4	4	4	4
24	4500068	BOLT 7/16" X 1"	4	4	4	4	4	4
25	9900558	BOLT 1/2" X 1" GR5 PLTD	2	2	2	2	2	2
26	9900133	BOLT 1/2" X 1-3/4" GR5	6	6	6	6	6	6
27	9900038	3/8" U-BOLT TO FIT 2 1/2" HSS	1	1	1	1	1	1
28	9900520	NUT NYLOCK 5/16"	3	3	3	3	3	3
29	601007	NUT NYLOCK 3/8"	6	6	6	6	6	6
30	9900643	NUT NYLOCK 7/16"	4	4	4	4	4	4
31	9900538	NUT NYLOCK 1/2"	8	8	8	8	8	8
32	601008	WASHER 3/8" FLAT	5	5	5	5	5	5
33	9900528	WASHER 3/8" LOCK	11	11	11	11	11	11
34	4503192	KEY WOODRUFF 1/4" X 1"	1	1	1	1	1	1
35	700615	KEY 1/4" X 1-1/2"	3	3	3	3	3	3
36	0309027-2	HAIR PIN	1	1	1	1	1	1
37	4503063	GEARBOX COUPLER SHIELD	1	1	1	1	1	1
38	4503094	PTO TRANSPORT SADDLE	1	1	1	1	1	1
39	4503223	PIN PTO TRANSPORT SADDLE	1	1	1	1	1	1
40	9900800	BOLT 1/4" X 3/4" GR5 UNC PLTD	1	1	1	1	1	1
41	9900562	NUT NYLOCK 1/4"	1	1	1	1	1	1
42	4503066	SHIELD SECURING PLATE	1	1	1	1	1	1
43	4503092	PTO SHAFT GUARD	1	1	1	1	1	1
44	9900565	WASHER 1/2" FLAT	4	4	4	4	4	4
45	310008	CHAIN COUPLER, 12T (4,5,6,21,28)	1	1	1	1	1	1

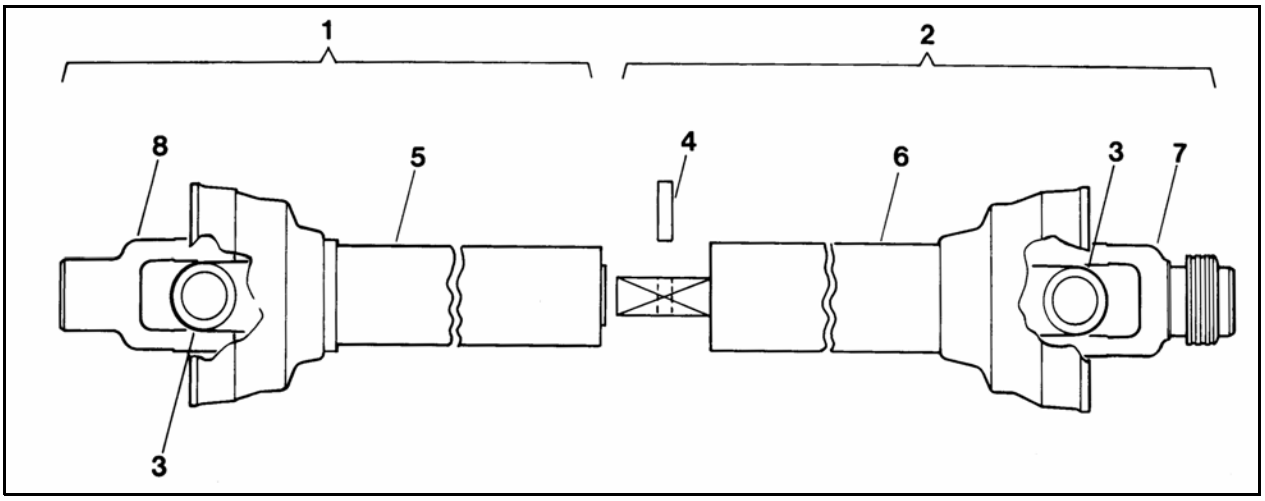


Figure 9.5 Tractor End

TRACTOR END

Ref. NO.	PART NO. 12R	PART DESCRIPTION
1	18595	½ PTO SHAFT, IMPLEMENT END, 60"
2	18597	½ PTO SHAFT, TRACTOR END, 60"
3	18473	UNIVERSAL JOINT REPAIR KIT
4	18593	ROLL PIN, 1/4 X 1"
5	18603	INNER PLASTIC SHIELD, 60", C/W RETAINER RING & NYLON BRG
6	18605	OUTER PLASTIC SHIELD, 60", C/W RETAINER RING & NYLON BRG
7	18471	SNAP HITCH YOKE
8	18476	IMPLEMENT YOKE, 1" BORE
9A	4503225	60" PTO - SHAFT, COMPLETE

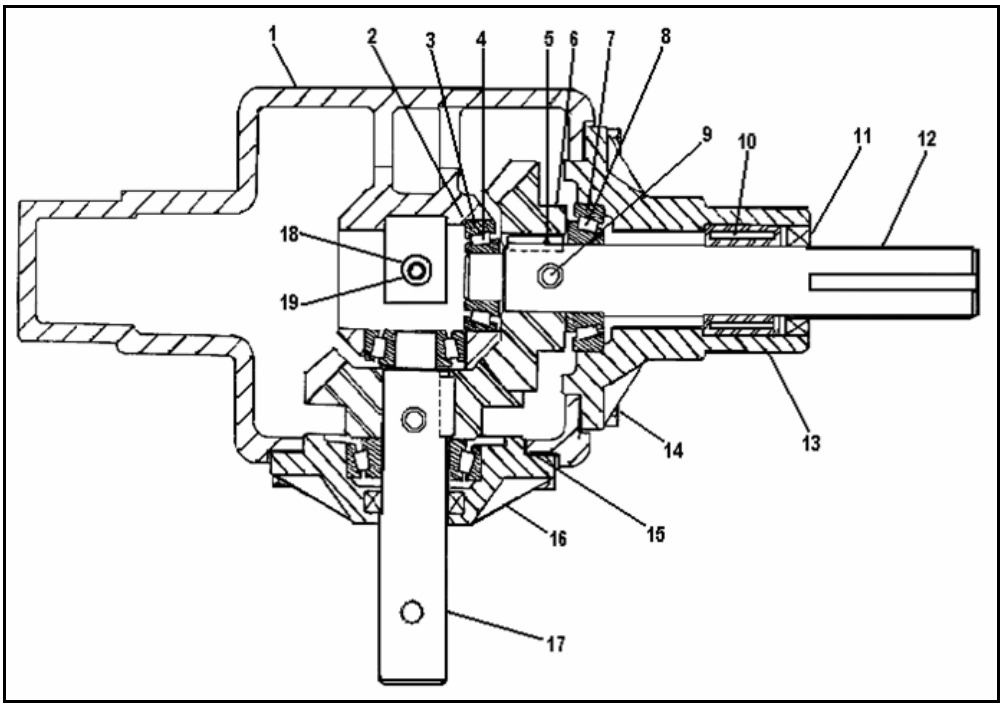


Figure 9.6 Gearbox

Ref. NO.	PARTNO.	PART DESCRIPTION
1	18376	HOUSING
2	18377	SHIM (.005)
3	18378	BEARING CUP, TIMKEN #LM 11710
4	18379	BEARING CONE, TIMKEN #LM 11749
5	18380	SQ. KEY, 1/4" X 3/4"
6	18381	GEAR
7	18382	BEARING CUP, TIMKEN #LM 44610
8	18383	BEARING CONE, TIMKEN #LM 44643
9	18079	ROLL PIN
10	18385	BUSHING
11	18386	SEAL, (NATIONAL #470553, CR #9843)
12	18387	SHAFT
13	18388	CAP
14	18091	BOLT, 5/16 – 18 X 1", GR. 2
15	18390	GASKET (.005)
16	18391	CAP
17	18392	SHAFT
18	18393	1/4" PIPE PLUG-SOLID
19	18394	1/4" PIPE PLUG-VENTED
20	4503064	GEARBOX, COMPLETE

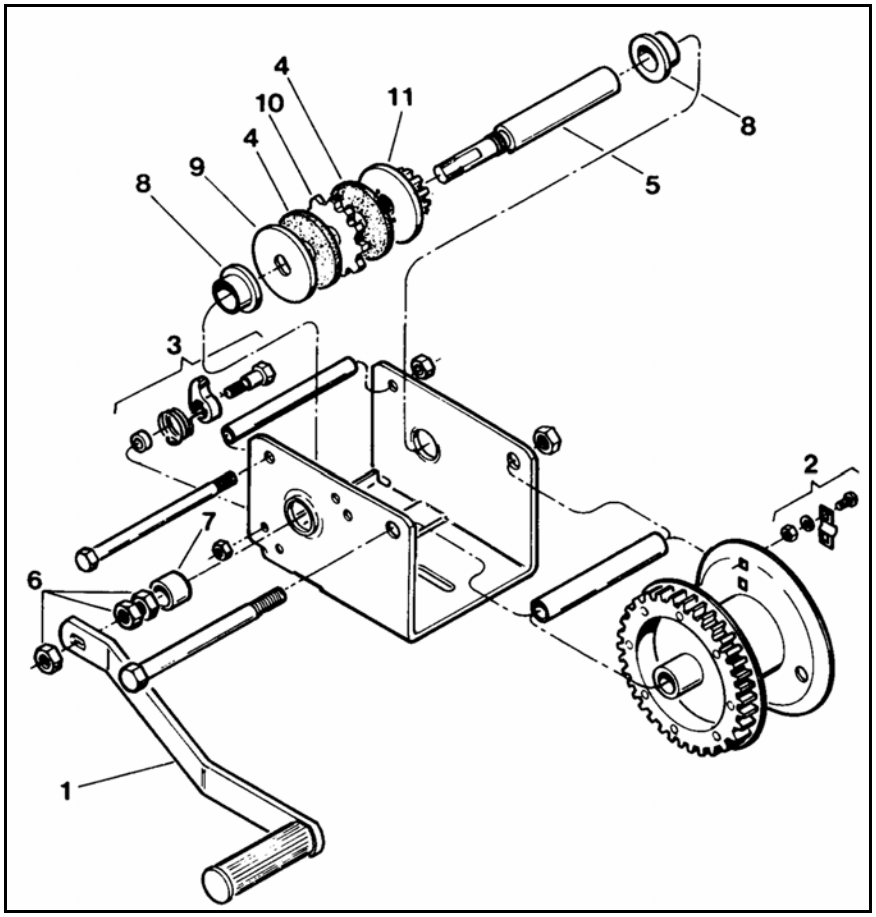


Figure 9.7 Model K1550

REF. NO.	PART NO.	DESCRIPTION
1	18561	HANDLE ASSEMBLY
2	18496	ROPE KEEPER KIT
3	18497	RATCHET KIT
4	18573	FRICTION DISC
5	18574	INPUT SHAFT
6	18567	LOCKNUT, 1/2 - 13, SPECIAL
7	18575	SPACER
8	18438	STEEL BUSHING
9	18576	BRAKE DISC
10	18577	RATCHET GEAR ASSEMBLY
11	18578	PINION AND DISC ASSEMBLY
12	702001	WINCH, COMPLETE

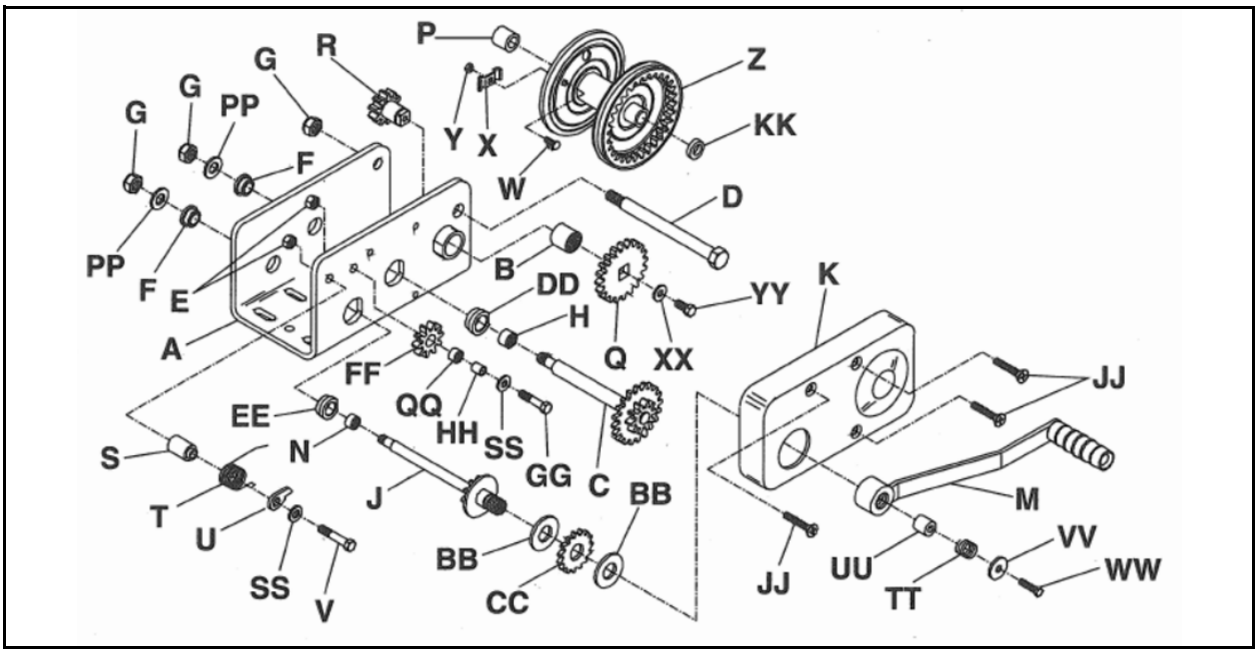


Figure 9.8 Hydraulic Winch Kit

Ref. No.	Description	Part No.	Ref. No.	Description	Part No.
A	BASE	0707011	Y	NUT	0707031

Ref. No.	Description	Part No.	Ref. No.	Description	Part No.
B	BEARING	0707012	Z	REEL (3-1/8" HUB)	0707032
C	DRIVE SHAFT	0707013	BB	PRESSURE PLATE	0707033
D	BOLT	0707014	CC	RATCHET WHEEL	0707034
E	LOCKNUT	0707015	DD	HOUSING	0707035
F	BEARING	0707016	EE	HOUSING	0707036
G	LOCKNUT	0707017	FF	GEAR	0707037
H	BEARING	0707018	GG	BOLT	0707038
J	DRIVE SHAFT	0707019	HH	SPACER	0707039
K	GEAR COVER	0707020	JJ	SCREW	0707040
M	HANDLE (B2500)	0707006	KK	SPACER	0707041
N	BEARING	0707021	PP	WASHER	0707042
P	SPACER	0707022	QQ	BEARING	0707043
Q	GEAR	0707023	SS	WASHER	0707044
R	DRIVE SHAFT	0707024	TT	SPRING	0707007
S	SPACER	0707025	UU	SHAFT EXTENSION	0707008
T	SPRING (B2500)	0707026	VV	WASHER	0707005
U	PAWL	0707027	WW	BOLT	0707009
V	BOLT	0707028	XX	WASHER	0707045
W	CARRIAGE BOLT	0707029	YY	BOLT	0707046
X	ROPE CLAMP	0707030			

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

Wheatheart is a Division of Ag Growth Industries LP

Part of the Ag Growth International Inc. Group

P.O. Box 39

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