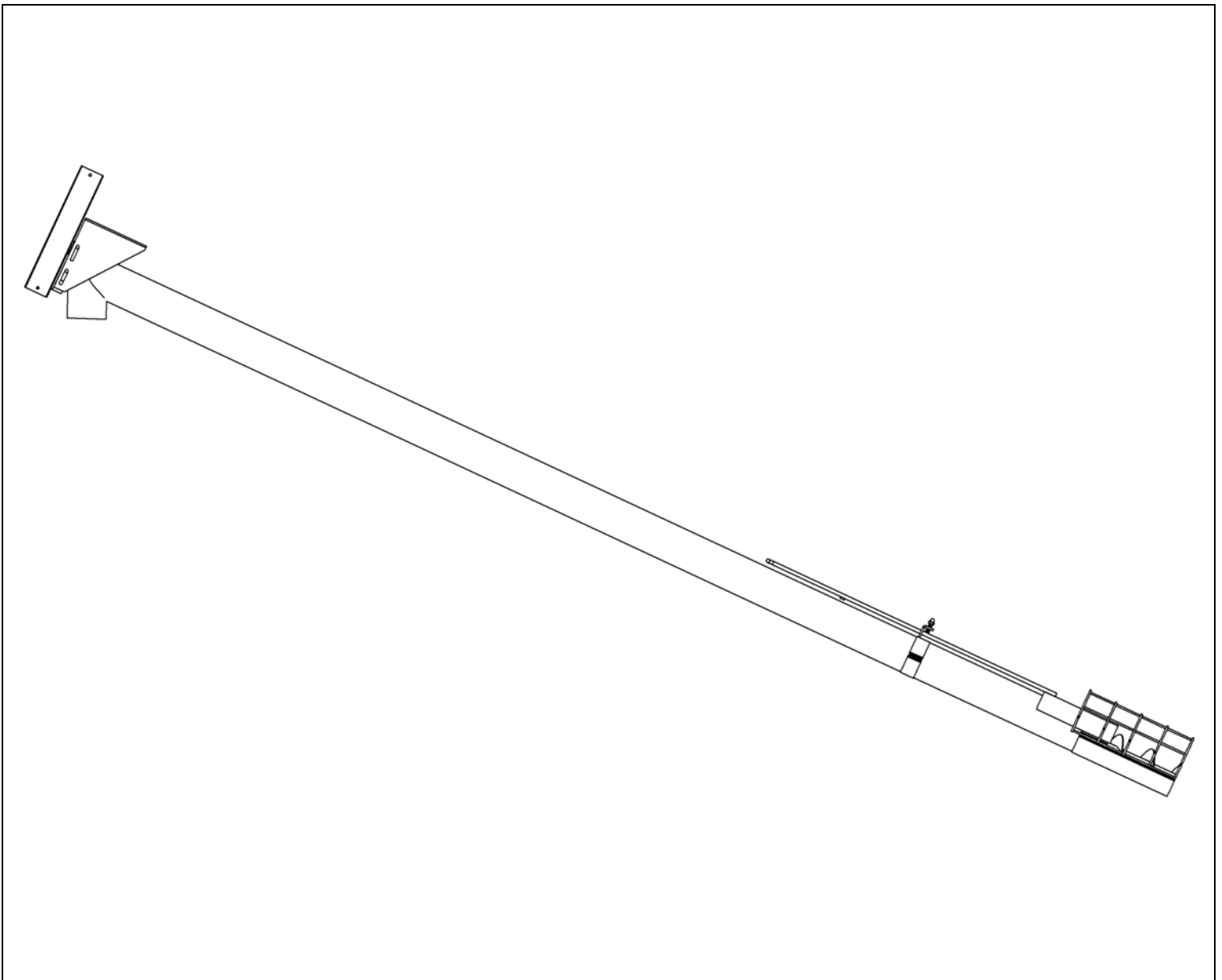




# GRAIN AUGERS

## 4" GALVANIZED UTILITY ASSEMBLY & 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: 30645 R0

Revised: 26/4/10



This product has been designed and constructed according to general engineering standards<sup>a</sup>. 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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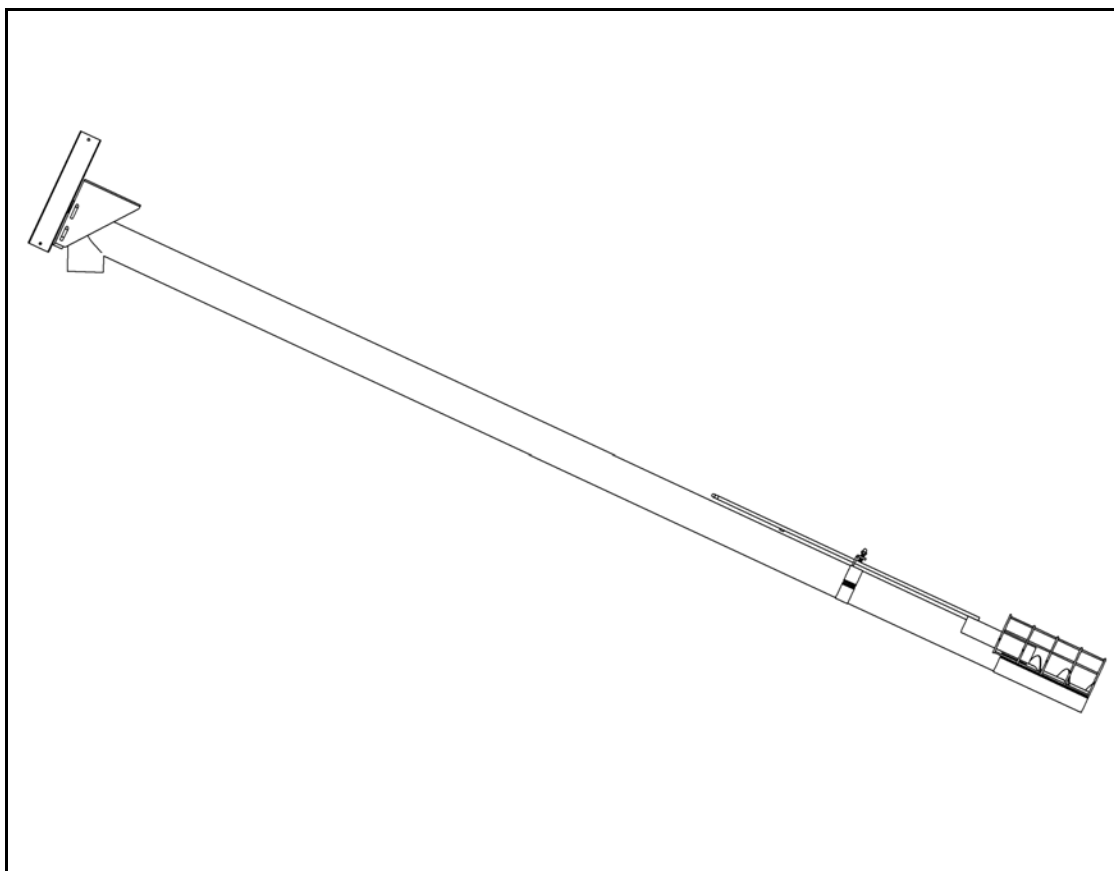


# 1. Introduction

Congratulations. As the new owner of a grain auger, you will be working with equipment designed to complement and improve your farming operation. Before using this auger, please read this manual and all safety labels and familiarize yourself with the various features of the machine and the necessary precautions for efficient and safe operation.

In addition, anyone using this auger is required to comply with all safety precautions in this manual and in safety labels attached to the auger. A sign-off form is supplied on the inside front cover to record your safety reviews.

Thank you.



<b>Serial Number:</b>	
Serial number is located at the top of the tube.	



## 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 annually 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. ASSEMBLY SAFETY

---

- Read through the instructions to get to know the sub-assemblies and hardware that make up the equipment.
- Do not take chances with safety. The components are large, heavy, and can be hard to handle. Always use the proper tools, stands, jacks, and hoists for the job.
- Always have 2 or more people assembling the equipment. Because of the weight, do not attempt assembly alone.

## 2.3. OPERATION SAFETY

---

- Have another person nearby who can shut down the auger in case of accident. Always work with a second person around augers.
- Do not operate with any of the safety guards removed.
- Keep body, hair, and clothing away from moving parts. Stay away from intake during operation.
- Augers are not insulated. Keep away from electrical lines. Electrocution can occur without direct contact.
- Ensure that auger is empty before moving.
- Inspect auger supports on a daily basis.
- Support auger securely to prevent upending or upsetting.

## 2.4. MAINTENANCE SAFETY

---

- Shut down and lock out all power before attempting maintenance of any kind. If applicable, disconnect PTO driveline from tractor or hydraulic hoses on units with hydraulic drive hoppers.
- After maintenance is complete, replace and secure all safety guards and safety devices, and if applicable, service doors and cleanout covers.
- Use only genuine Wheatheart replacement parts or equivalent. Replacement parts such as intake guards, pulley guards, PTO driveline shields, winches, and lift cables must meet ASAE standards or serious injury may result. Use of unauthorized parts will void warranty. If in doubt, contact Wheatheart or your Wheatheart dealer. Do not modify any auger components.
-

## 2.5. 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.

### 2.5.1. 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.

### 2.5.2. DECAL LOCATIONS

---

Replicas of the safety decals that are attached to the equipment are shown in the figure(s) that follow. 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.

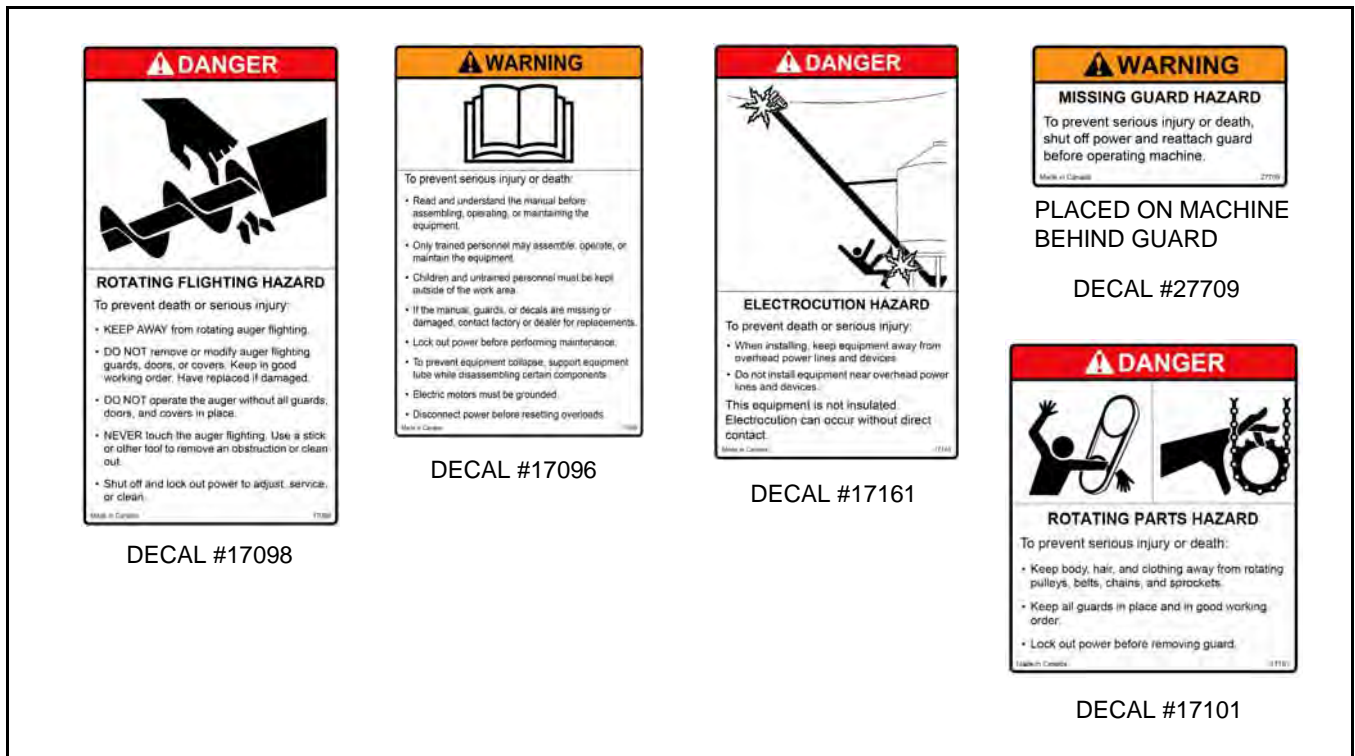


Figure 2.1 Safety Decals

*\* Wheatheart reserves the right to update safety decals without notice. Safety decals may not be exactly as shown.*



# 3. Assembly

**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.

Before starting assembly of your new auger, please read the following instructions carefully and familiarize yourself with all the sub-assemblies and hardware making up the auger. Arrange all parts for easy access. Carry out assembly in a large open area with a level surface.

## 3.1. TUBE / FLIGHT EXTENSIONS

1. When extending the basic upper section, align upper and lower tube sections on a flat surface.
2. Connect the flighting by screwing the lower flight into the threaded pipe on upper flight until flight ends butt together and flighting spiral matches up (Figure 3.1).
3. Slide tube sections together and connect with 2 half-tube connector bands. Secure with 5/16" x 3/4" bolts and washer-locknuts (Figure 3.2.).

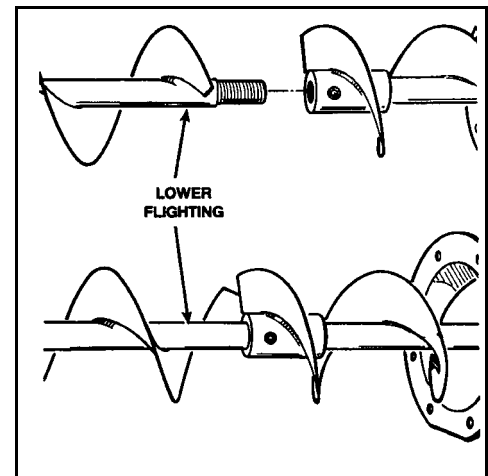


Figure 3.1

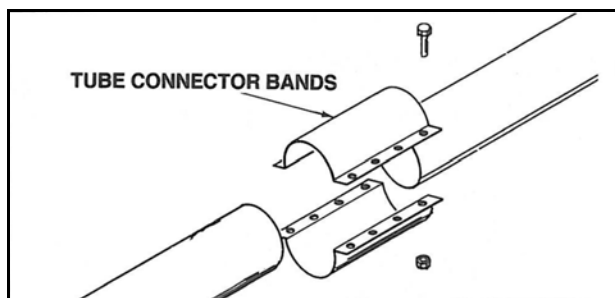


Figure 3.2

## 3.2. INTAKE ASSEMBLY

Attach the guarded intake assembly to lower end of auger tube with tube clamp and four 5/16" x 3/4" bolts and washer-locknuts.

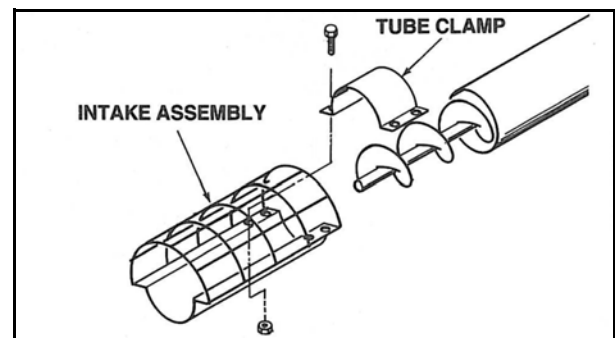


Figure 3.3

## 3.3. HOPPER ASSEMBLY (OPTIONAL)

See Figure 3.4.

1. Screw the stub shaft into threaded pipe on lower end of auger flight.
2. Slide hopper over lower flighting and secure to auger tube with four 5/16" x 3/4" bolts and washer locknuts.

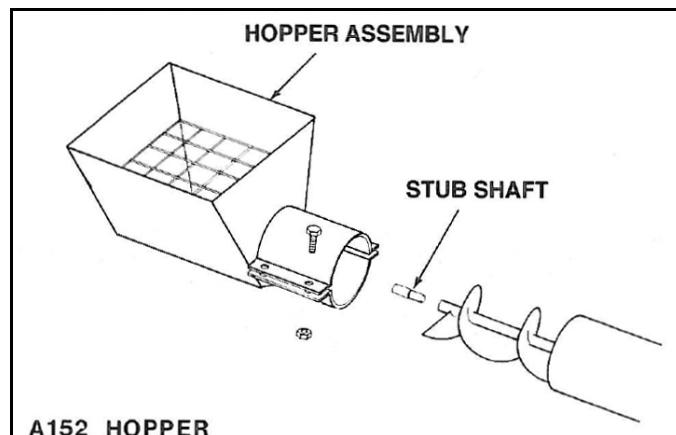


Figure 3.4

## 3.4. HEAD DRIVE ASSEMBLY

See Figure 3.5.

1. Remove dirt from upper end of flight shaft and insert Woodruff key.
2. Slide pulley onto flight shaft with hub facing the auger. Washer should already be in place. Tighten set screws.
3. Place motor mount over top end of auger and secure with four 5/16" x 3/4" bolts and washer locknuts.
4. Place pulley guard over pulley and secure with two 5/8" self-tapping screws.
5. After mounting the motor, align the two pulleys with a straight edge and adjust the tension.
  - The correct operating tension is the lowest tension at which the belts will not slip under peak load conditions.
  - Recommended pulley size for a 1750 rpm motor is 2".

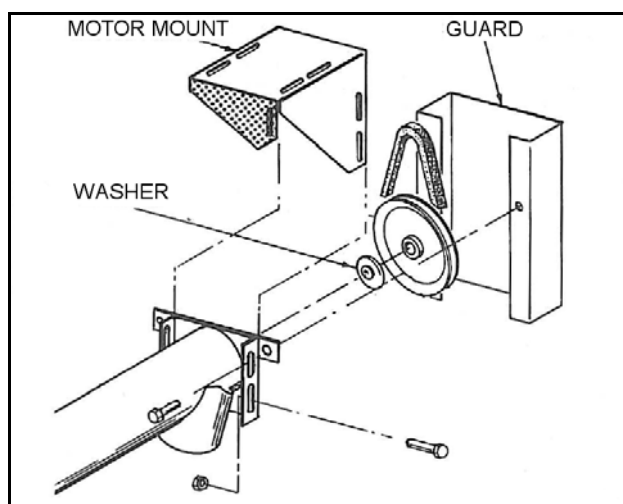


Figure 3.5

### When using an electric motor:

- The motor and controls should be installed by a qualified electrician in accordance with all local and national codes.
- Incorporate a magnetic starter to protect the motor.
- The motor must have a manual reset button.
- Locate reset and starter controls so that the operator has full view of the entire operation.
- Locate main power disconnect switch within reach from ground level to permit ready access in case of an emergency.
- A main power disconnect switch capable of being locked (in the off position only) must be provided.

## 3.5. FEED CONTROL ASSEMBLY (OPTIONAL)

See Figure 3.6.

1. Loosely attach tube clamp to auger tube with two 5/16" x 3/4" bolts and washer-locknuts. Do not tighten at this time.
2. Thread the control handle through tube clamp as shown, then place feed control slide beneath the intake guard.
3. Seat tube clamp against stop on control handle and lock into place with the t-bolt on the clamp.
4. Slide feed control assembly down until lower end is 1/2" past lower end of auger tube. Tighten the tube clamp.

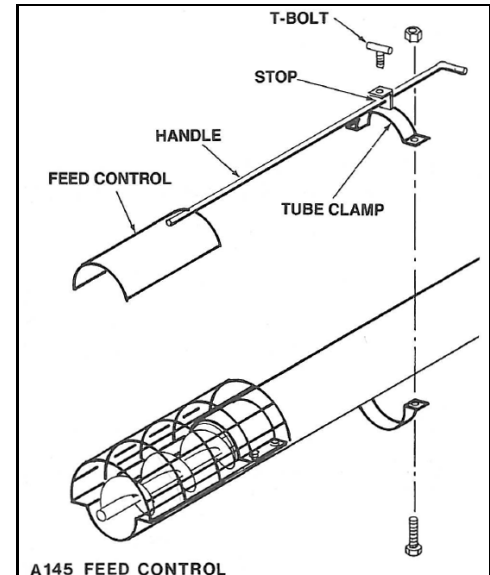


Figure 3.6

## 3.6. SWIVEL MOUNT ASSEMBLY (OPTIONAL)

See Figure 3.7.

1. Attach the half tube clamps with two 5/16" x 3/4" bolts and washer-locknuts.
2. Attach the swivel bracket to bottom tube clamp with one 5/16" x 3/4" bolt and locknut.
3. Screw the t-bolt into box clamp, then attach box clamp to swivel bracket with one 5/16" x 3/4" bolt and locknut.

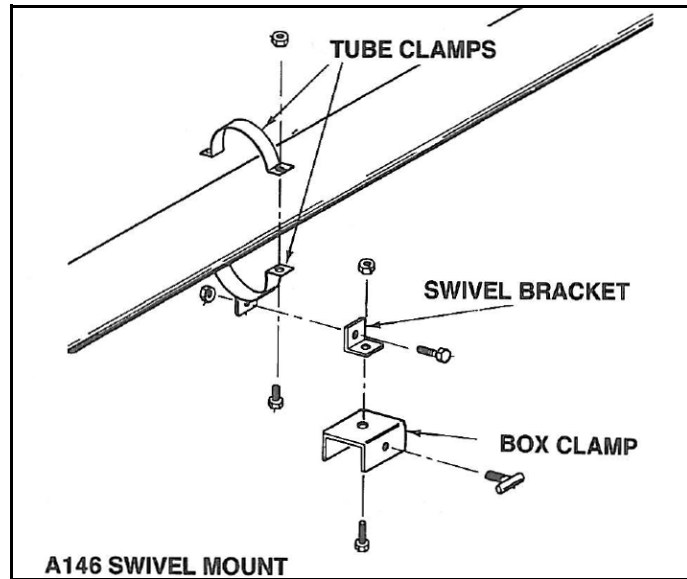


Figure 3.7



# 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.

Operators must observe safety procedures at all times and follow the pre-operational checklist before each start-up.

## 4.1. PRE-OPERATIONAL CHECKLIST

Before operating auger each time, the operator must confirm the following:

- All fasteners are secure as per assembly instructions.
- Drive belt(s) are not frayed or damaged.
- Drive belt(s) are properly adjusted and aligned.
- Tube alignment is reasonably straight.
- Intake area and discharge spout are free of obstructions.
- Proper maintenance has been performed.
- Inspect auger supports frequently.

## 4.2. AUGER DRIVE AND LOCKOUT PROCEDURE


Drive Type	Before Operation	Lockout
Electric Motor	Before starting motor, ensure <ul style="list-style-type: none"> <li>• motor is properly grounded</li> <li>• pulley shields are in place and secure</li> </ul>	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. <ul style="list-style-type: none"> <li>• If reset is required, disconnect all power <b>before</b> resetting motor.</li> </ul>

## 4.3. OPERATING PROCEDURE

### 4.3.1. START-UP AND BREAK-IN

#### BREAK IN

1. Complete the checklist at the beginning of this chapter. If everything is satisfactory, prepare for a 30-minute operation at half speed.
2. Correctly position the portable grain hopper secure it to auger with both straps (where applicable).

CAUTION	
	Maintain a hazard zone of 20' around the work site. Do not start auger until area is clear of all untrained personnel.

3. Start electric motor, then feed grain to auger.

**Important:** *When starting auger for the first time, be prepared for an emergency shutdown in case of excessive vibration or noise. Note that auger may run rough until tube is polished.*

4. Upon completion of initial run, decrease grain input until auger is empty, then stop.
5. Lock out motor and conduct a complete inspection of auger following the checklist at the beginning of this chapter.

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


Keep operation of empty auger to a minimum, as this results in excessive wear.

Once auger is broken in, the checklist should be a part of the daily routine before operating auger.

### 4.3.2. OPERATING WITH A FULL LOAD

---

1. When operating the auger, always work with a second person in a position to monitor the operation and initiate a shutdown in case of emergency.
2. Monitor the auger during operation for abnormal noises or vibrations.
3. Shut off all power before making adjustments, servicing, or clearing the machine.

<b>DANGER</b>	
	<p><b>Rotating Flighting Hazard!</b></p> <p>To prevent death or serious injury:</p> <ul style="list-style-type: none"><li>• Keep away from rotating auger flighting.</li><li>• Do not remove or modify auger flighting guards, doors, or covers. Keep in good working order. Have replaced if damaged.</li><li>• Do not operate the auger without all guards, doors, and covers in place.</li><li>• Never touch the auger flighting. Use a stick or other tool to remove an obstruction or clean out.</li><li>• Shut off and lock out power to adjust, service, or clean.</li></ul>

**USE OF GRAIN SPREADERS:** Many grain spreaders cannot handle the large capacity of some augers. Some augers plug, causing damage to the flighting and other drive components. This type of damage is not covered by warranty. Hints on how to avoid this...

- Get a larger spreader, if available.
- Remove the spreader.
- Make sure spreader is turned on and operating.
- When using a flex down spout, center auger spout above spreader and do not lower auger spout into spreader.
- Suspend the spreader lower from bin ceiling leaving extra room for excess grain to flow over the spreader.

**BIN LEVEL INDICATORS:** These augers are fast and bins fill up quickly. A full bin will cause auger to plug, which can damage the flighting and other drive components. Installing quality grain-level indicators on your bins will allow you to monitor bin filling and help prevent damage to your auger.

### 4.3.3. SHUTDOWN

---

#### **NORMAL SHUTDOWN:**

1. Near the end of a load, decrease the flow of grain until auger is clear.
2. Once auger is clear, stop motor and lockout power (Section 4.2.).

**Note:** *Remember that the flighting rpm on augers equipped with electric motors is not adjustable except with a change of pulley size.*

#### **EMERGENCY RESTART:**

1. If the auger is shut down for an emergency, lock out motor before correcting problem.

- If the problem is plugging, clear as much of the grain as possible using a piece of wood, vacuum cleaner or other tool (not your hands) before restarting auger. **Do not reach in and use your hands.** See “Auger Drive and Lockout Procedure” on page 17.

### NOTICE

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

## 4.4. MAINTENANCE

---

Proper maintenance on the auger mean a longer life for the machine, better efficiency and safer operation. Please follow the guidelines below.

### 4.4.1. GENERAL MAINTENANCE PROCEDURES

---

Area	Maintenance Procedure	Frequency
General	While auger is in use, observe the operation checklist on page 17.	Daily
General	If for any reason a part becomes damaged, replace it immediately. If possible, lower auger to replace parts.	Regularly
Drive Belt	Check and replace if frayed or damaged. Ensure tension is correct under load (correct tension is the lowest at which the belts will not slip under peak load conditions)	Frequently
Auger Supports	Inspect (cracked welds, proper configuration of supports, bent/damaged pieces, etc.)	Frequently
Motor Cover	Protect motor from weather by covering.	During off season or when not in use.

**Important:** *Use only genuine Wheatheart replacement parts or equivalent. Replacement parts such as intake guards, pulley guards, PTO driveline shields, winches, and lift cables must meet ASAE standards or serious injury may result. Use of unauthorized parts will void warranty. If in doubt, contact Wheatheart or your Wheatheart dealer. Do not modify any auger components.*

# 5. Troubleshooting

Problem	Possible Cause	Remedy
<b>Excessive noise or vibration.</b>  *Remember to follow proper break-in procedures—auger may run rough until tube is polished. If noise is extreme from outset or continuous after several loads of grade are fed, continue with troubleshooting below	Truss cables incorrectly adjusted.	Support end of auger and adjust cables so auger is flat or curves slightly upwards.
	Flighting peeled back due to plugging.	Inspect spout end of auger for flight condition. Remove and replace flight sections as necessary.
	Bent flighting sections.	Support auger and remove all flight sections. Check for straightness of flight stubs by rolling across flat concrete section. Straighten stub or replace as necessary. Take care not to bend flighting when reinstalling.
	Obstruction in tube.	Visually inspect for cloth or trash wrapped around flighting, or buildup of gum from oily crops such as flax or canola.
<b>Drive belts jumping off pulleys.</b>	Motor misaligned.	Ensure drive and driven pulleys are correctly aligned.
	Belts mismatched.	Check Assembly Section for correct belt sizes and only replace in pairs.
	Belt tension inadequate.	Maintain correct tension as per assembly section.
	Using a lower horsepower motor than recommended.	See Assembly Section for recommended motor sizes.
<b>Premature wear on auger tubes.</b>	Auger being run at low capacity or empty for extended period of time.	Frequently occurs on farms using grain wagons. Auger should not be left unattended when filling bins.
	Bent flighting.	
	Flighting allowed to wear beyond normal point of replacement.	When flighting becomes razor-thin at intake, replacement is critical. Since flight material is double thickness at welded lap joints, high spots on flight occur and can accelerate spot tube wear.



# 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**

Wheatheart

Part of the Ag Growth International Inc. Group

P.O. Box 39

Rosenort, Manitoba, Canada R0G 1W0

Phone: (866) 467-7207 (Canada & USA)

Fax: (866) 768-4852

website: [www.wheatheart.com](http://www.wheatheart.com)

email: [sales@wheatheart.ca](mailto:sales@wheatheart.ca)

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