



# Operators Manual

## Bunker Auger

15 Inch Model - PTO Drive



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### 1.3 Grainline Warranty Registration

Please ensure that you complete the warranty registration for your Bunker Auger as directed below. This will ensure that your details as the owner are accurate and allow a faster response time to any issues that may arise.

To complete your warranty registration please scan the QR code or go to:

[www.grainline.com.au/warranty-registration](http://www.grainline.com.au/warranty-registration)



### 1.4 Grainline Warranty Conditions

Limited 1 year warranty

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#### What this warranty will cover.

- Grainline will at its own discretion, repair or replace without charge any part of our products which may be found defective in material and/or workmanship within 12 months of the original purchase date.
- At Grainline's request the customer will make the defective part available for inspection by Grainline so that cause of the faulty / defective part can be identified for accurate repair.
- It is the owner's responsibility to transport defective parts and/or units to their local service dealer who can negotiate a call-out fee at the owner's expense.
- A warranty form must be completed and sent to Grainline and authorisation is needed before a service dealer is able to commence any repairs on Grainline products.

#### What this warranty will not cover.

- Defects caused by depreciation or damage caused by normal wear, accidents, improper maintenance, improper use and abuse of the product, alterations, or failure to follow the instructions contained in the owner's manual for operation and maintenance.
  - Transport cost for making Grainline products available for inspection and/or repair to and from the place where the warranty work is performed.
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#### How to obtain service under this warranty.

Warranty service can be arranged by contacting either your Grainline Dealer or Grainline direct on 1800 810 498. Please have the auger model and serial number available as this will be required by the service technician.

## 2. Safety Information

The owner is responsible for the safe operation and maintenance of this equipment. Please note that information of special importance has been highlighted in this manual using the below signal words.

### 2.1 Hazard Labels

#### **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

### 2.2 General Safety

Manufacturers, retailers, owners, and operators all have responsibilities with regards to safety. Be aware of your responsibilities and carry them out. The owner or designated officer is responsible for the safe operation and maintenance of this equipment. All operators must have read the instructions in this manual before operating the machine. Untrained operators can cause injury or death.

#### **A Qualified Operator:**

- Does not use drugs or alcohol which will impair alertness or coordination. An operator who is taking prescription drugs must seek medical advice to determine if they can safely operate a machine and the equipment.
- Has completed training including a demonstration and verbal instruction by the owner/manager prior to operation.
- Initially operates the auger in an area without bystanders and uses all the controls until they can operate the machine safely under all working conditions.
- Understands all written instructions, rules, and regulations.
- Wears close fitting clothing, including safety glasses and hearing protection.
- Only uses the bunker auger with an approved tractor.
- Does not modify the equipment in any way. Unauthorized modification may impair the function or safety and could affect the life of the machine.
- Does not complete any adjustments or repairs on the equipment while the machine is running.

### 2.3 Operation Safety

- The Auger is only to be used in low wind conditions. If the wind speed is to exceed 45km/h the auger must be tied down with ramps lowered.
- Maintain a 20m exclusion around the machine while the truck is unloading and when in storage. A temporary barrier fence may be required. Two trained operators' may be in this area. Training is to include reading and signing of a Safe Work Method Statement.
- The machine is only to operate on a well compacted gravel hard stand with an allowable bearing capacity of 150kPa.
- The truck is to remain on the hopper until the auger is completely empty.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness and correct training of personnel involved in the operation, transport, maintenance, and storage of equipment.

The most important part of safe operation is a safety conscious operator who always:

- Reads and follows the instructions in this manual and the Tractor's Operators Manual.
- Follows all safety signs/decals on machine and replaces damaged or missing signs/decals.
- Keeps children away from the bunker auger work area.
- Stays clear of overhead powerlines. Electrocutation can occur without direct contact.
- Ensures all unauthorized personal are clear of the area before operating.
- Attaches the Bunker Auger to the draw bar of the tractor during operation.
- Lowers the hydraulic ramps and raises the hydraulic transport wheels, ensuring that the Auger base is supported on level ground before operating.
- Stands clear of the machine or ramps when raising and lowering.
- Makes sure all shields and guards are in correct position before operating and replaces them if damaged.
- Stays clear of PTO driveline when engaging, disengaging and during operation.
- Wears appropriate PPE. Safety glasses are to be worn when fluids are under pressure, there is flying debris or loose material, engine is running or when tools are being used.

## **2.4 Power Take-Off (PTO)**

When operating PTO driven machinery the operator must:

- Read and understand the manuals for the PTO driven equipment and be aware of safe operating procedures.
- Keep PTO shields and guards in place. Replacing any damaged or missing shields and guards before operating.
- Not wear loose or bulky clothing around the PTO or other moving parts
- Keep bystanders away from PTO driven equipment and never allow children near machines.
- Always walk around equipment to avoid PTO driveline. Stepping over, leaning across or crawling under a turning PTO driveline can cause entanglement resulting in serious injury or death.
- Use caution when turning. Turning sharply can cause damage to the PTO driveline.

## **2.5 Transportation**

The Grainline Bunker Auger has been designed so it can be easily transported between bunkers or into a storage location. When transporting the Bunker Auger the following steps must be completed.

- Review Transport Safety instructions in the Tractor Manual before moving.
- Empty Bunker Auger before moving to prevent machine damage.
- Inflate transport tyres to recommended pressure.
- Always install transport locks, pins, or brackets before transporting.
- Remove the implement driveline from the tractor when moving the Bunker Auger.
- Lock hydraulic valve bank and remove hydraulic hoses from tractor when changing to transport position.
- The bunker must only be towed on a compact, smooth, and level surface.
- Do not tow equipment at speeds over 5 kilometres per Hour.
- Take extreme caution when manoeuvring around tight corners not to entangle the end of the Auger on trees, silo's, buildings, powerlines etc.
- Always Keep tractor/towing vehicle in a low gear when transporting
- Always wear seat belt when manoeuvring, serious injury or death could result from falling off the machine.
- Never allow riders on the machine or equipment, falling off can result in serious injury or death.

## **2.6 Machine Requirements and Capabilities**

- Operate the Bunker Auger with a machine equipped with an approved rollover protective structure.
- Machine's three-point linkage must be equipped with sway bars or chains.
- Use increased caution on slopes, near banks, and ditches to prevent damage or overturn.
- Start the equipment only when seated in operator's position, starting a machine in gear can result in serious injury or death.
- Operate the machine and equipment from the operator's position only.

- Before leaving the operator's position:
  1. Always park on a flat level surface.
  2. Place all controls in neutral.
  3. Engage the parking brake.
  4. Stop engine and wait for all moving parts to stop.

The Parking Brake must be engaged before leaving the operator's seat, roll away can occur because the transmission may not prevent machine movement.

## 2.7 Fire Prevention

- The tractor will have components that are at high temperatures under normal operating conditions. The primary source of high temperature is the engine, exhaust system, electrical system and if damaged or incorrectly maintained can be a source of arcs or sparks.
- Flammable debris (leaves, straw, etc) must be removed regularly. If flammable debris accumulates, it can cause a fire hazard, clean often to avoid this accumulation. Flammable debris in the engine compartment is a potential fire hazard.
- The operator's area, engine compartment and engine cooling system must be inspected every day, cleaned if necessary, to prevent fire hazards and overheating.
- Check all electrical wiring and connections for damage, keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.
- Stop engine on the tractor and allow to cool down before adding fuel, No Smoking! Do not refuel a machine near open flames or sparks, fill the tank in well-ventilated areas.
- Check all the items listed on the service schedule.
- Do not use the machine where exhaust, arcs, sparks, or hot components can contact flammable material, explosive dust or gases.
- Check hydraulic hoses and fittings for damage or leakage, never use open flame or bare skin to check for leaks. Hydraulic hoses must be correctly routed, have adequate support and secure clamps, tighten, or replace any parts that show leakage.
- Know where fire extinguishers and first aid kits are located including how to use them, inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

## 2.8 Intended Use

The Grainline Bunker Auger has been designed and manufactured, to assist in the safe and effective transfer of various grain types. Use of the auger in any other way is considered as misuse and is not covered by the warranty.

## 2.9 Correct Usage

The Grainline auger must be used in accordance with the safety instructions contained within this manual. Only competent personnel who have received proper training and are familiar with the machine should operate and perform any service work on the auger. When the auger is being used hearing protection must be worn, and it is the owner's responsibility to provide the appropriate hearing protection to all others involved in the operation of the auger. When the auger is not in use, it must be immobilized – i.e., turned off and key removed from the power source. Please note, where guards and safety features are removed in this manual it is for illustration purposes only.

## 2.10 Incorrect Usage

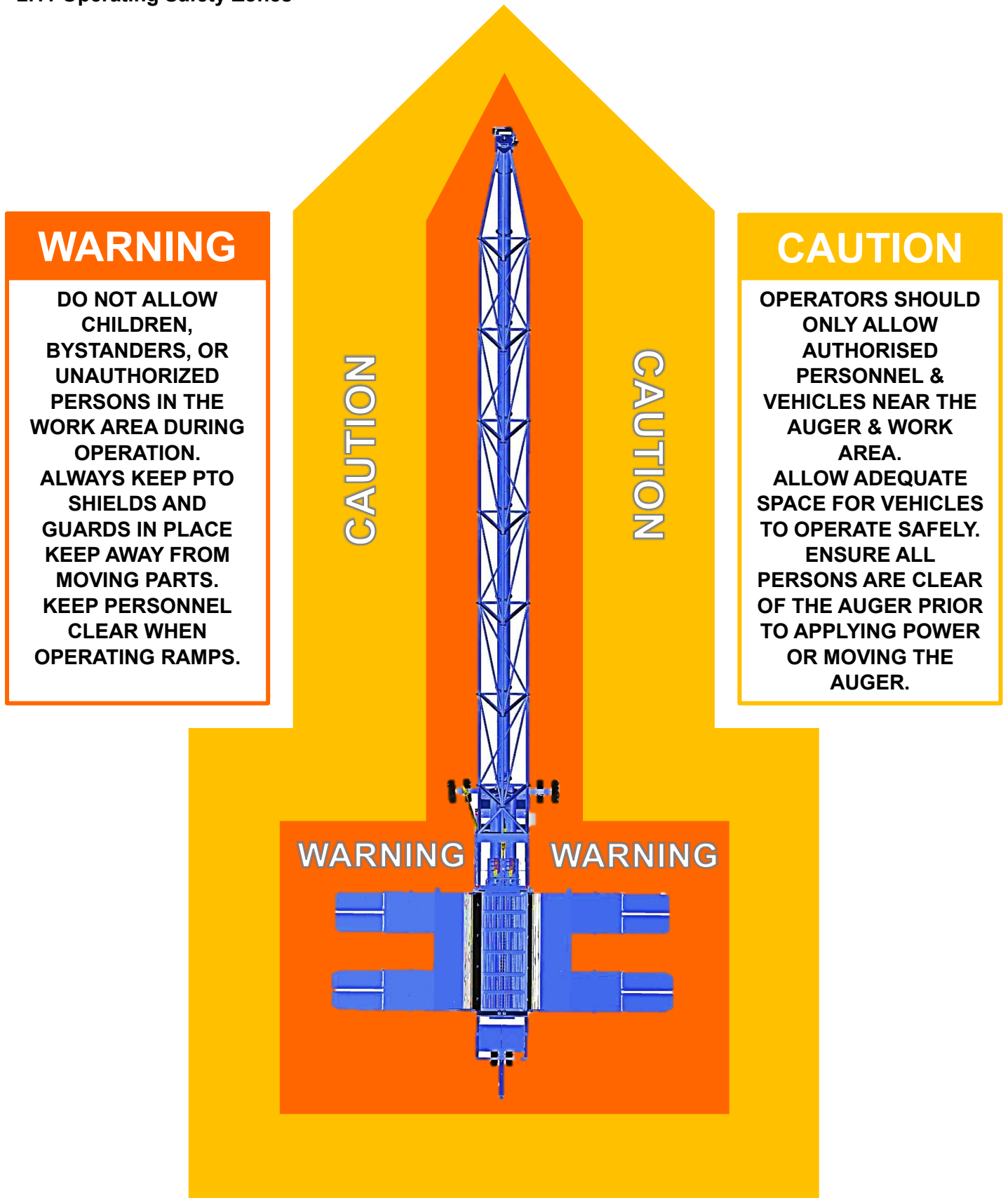
The Grainline auger must not be used for anything other than the intended purpose set out by Grainline.

Incorrect use of the auger includes:

- Using the auger as a hoist or crane.
- Using the auger to transfer grains or materials other than dry, free-flowing food grains.

**WARNING:** Any modification to the Grainline auger without the approval of Grainline will void all warranty and could result in death or serious injury.






## 2.11 Operating Safety Zones













## 2.12 Safety Decals



Samples of the safety decals here are those used on the Grainline Bunker augers.

**WARNING:** Regularly read all safety decals that appear on your Grainline auger and replace them if damaged. Failure to do so could result in serious injury or death.

Decal No.	Decal Description	Decal Detail
Decal 1.	<ul style="list-style-type: none"> <li>- UPENDING HAZARD</li> <li>- WEIGHT MUST NOT BE REMOVED UNLESS THE AUGER BARREL HAS BEEN DISASSEMBLED</li> </ul>	
Decal 2.	<ul style="list-style-type: none"> <li>- KEEP CLEAR</li> <li>- BYSTANDERS MUST BE AT LEAST 6 METRES CLEAR OF RAMPS WHEN THEY ARE BEING FOLDED</li> </ul>	
Decal 3.	<ul style="list-style-type: none"> <li>- ENSURE LOCKING PIN IS IN PLACE WHEN RAMPS ARE FOLDED IN THE UPRIGHT POSITION</li> </ul>	
Decal 4.	<ul style="list-style-type: none"> <li>- MUST NOT EXCEED 5KM/H WHEN TOWING</li> <li>- KEEP AWAY FROM OVERHEAD POWERLINES</li> </ul>	
Decal 5.	<ul style="list-style-type: none"> <li>- PINCH POINT</li> </ul>	

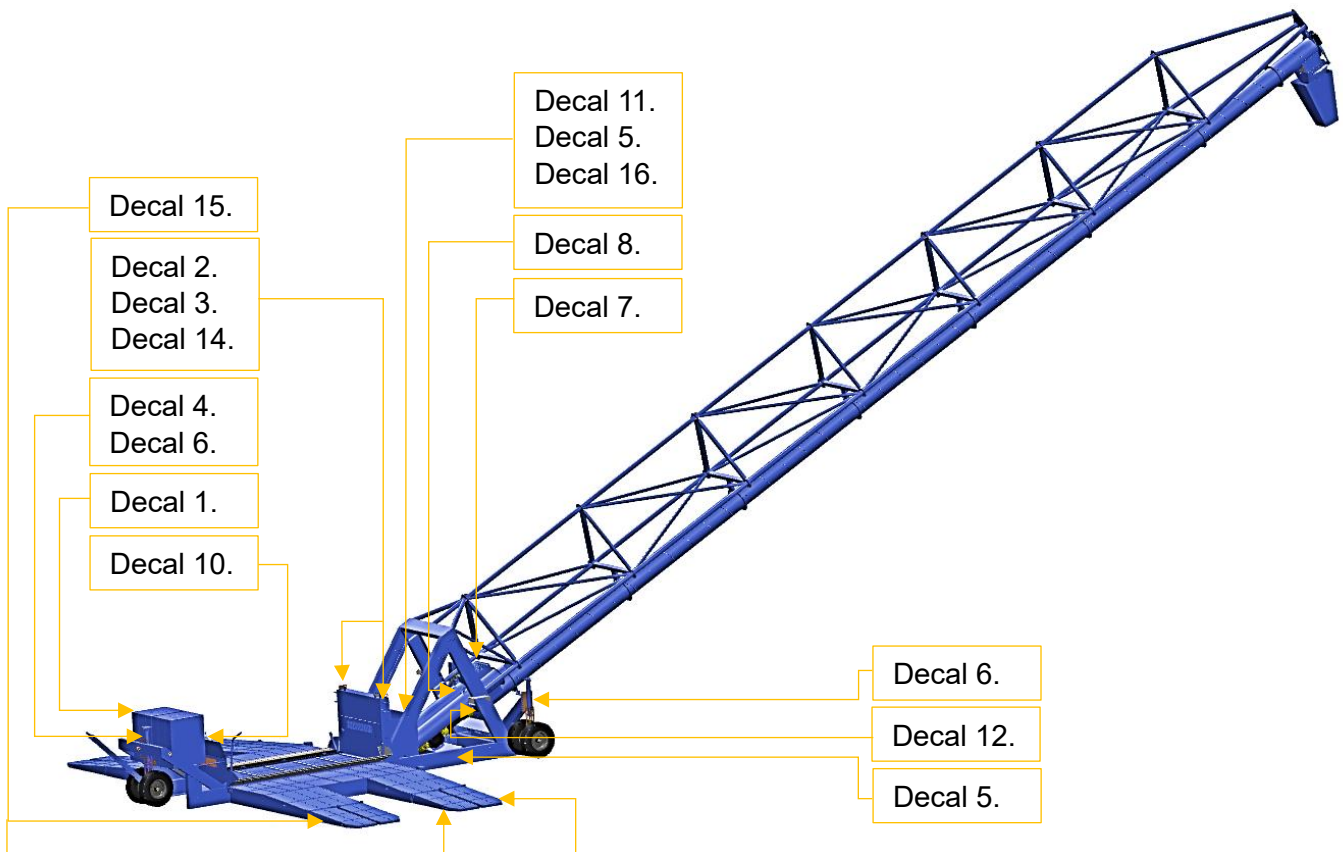
<p><b>Decal 6.</b></p>	<ul style="list-style-type: none"> <li>- RAISE WHEELS BEFORE USE</li> <li>- DO NOT OPERATE WITH WHEELS IN TRANSPORT POSITION</li> </ul>	
<p><b>Decal 7.</b></p>	<ul style="list-style-type: none"> <li>- DO NOT OPERATE EQUIPMENT WHEN HOPPER LID IS OPEN</li> </ul>	
<p><b>Decal 8.</b></p>	<ul style="list-style-type: none"> <li>- ENSURE VALVES ARE CLOSED AND HYDRAULIC PRESSURE IS NEUTRALISED BEFORE DISCONNECTING FROM TRACTOR</li> </ul>	
<p><b>Decal 9.</b></p>	<ul style="list-style-type: none"> <li>- DO NOT OPERATE THIS EQUIPMENT UNTIL SAFETY GUARD IS FITTED</li> </ul>	
<p><b>Decal 10.</b></p>	<ul style="list-style-type: none"> <li>- ENSURE DRIVE CHAIN IS OILED DAILY</li> </ul>	

<p><b>Decal 11.</b></p>	<ul style="list-style-type: none"> <li>- FLIGHT MUST NOT RUN GREATER THAN 540RPM</li> </ul>	 <p><b>CAUTION</b></p> <p><b>FLIGHT MUST NOT RUN GREATER THAN 540RPM</b></p> <hr/> <p>Failure to do so will void warranty</p>
<p><b>Decal 12.</b></p>	<ul style="list-style-type: none"> <li>- ENSURE UNIVERSAL JOINTS ARE GREASED DAILY</li> </ul>	 <p><b>NOTICE</b></p> <p><b>ENSURE UNIVERSAL JOINTS ARE GREASED DAILY</b></p> <hr/> <p>Failure to do so will void warranty</p>
<p><b>Decal 13.</b></p>	<ul style="list-style-type: none"> <li>- GREASE DAILY</li> </ul>	 <p><b>NOTICE</b></p> <p><b>GREASE DAILY</b></p>
<p><b>Decal 14.</b></p>	<ul style="list-style-type: none"> <li>- WHEN IN USE ENSURE RAMPS ARE FULLY LOWERED AND IN COMPLETE CONTACT WITH GROUND BEFORE USE</li> </ul>	 <p><b>NOTICE</b></p> <p><b>WHEN IN USE</b></p> <hr/> <p>Ensure ramps are fully lowered and in complete contact with ground before use</p> <hr/> <p>Failure to do so will result in serious injury or death</p>
<p><b>Decal 15.</b></p>	<ul style="list-style-type: none"> <li>- HEAVY – MECHANICAL LIFT ONLY</li> </ul>	 <p><b>CAUTION</b></p> <p><b>HEAVY</b></p> <hr/> <p><b>MECHANICAL LIFT ONLY</b></p> <hr/> <p>Failure to do so will cause serious injury</p>

<p><b>Decal 16.</b></p>	<ul style="list-style-type: none"> <li>- ROTATING PTO DRIVE HAZARD</li> <li>- DO NOT OPERATE EQUIPMENT UNLESS GUARDS AND SHIELDS ARE IN PLACE AND IN GOOD WORKING ORDER.</li> <li>- ENSURE ALL BODY PARTS, HAIR, CLOTHING AND OTHERS ARE WELL CLEAR FROM ROTATING PTO DRIVE SHAFT.</li> <li>- ENSURE DRIVE SHAFT SHIELD TURNS FREELY ON SHAFT AND SHIELD IS SECURELY ATTACHED ON BOTH ENDS BEFORE OPERATING.</li> <li>- DO NOT EXCEED OPERATING SPEED OF 540 RPM.</li> <li>- KEEP UNIVERSAL JOINTS AT SMALL ANGLES AND DO NOT EXTEND PTO SHAFT BEYOND RECOMMENDED LENGTH.</li> </ul>	<div style="text-align: center;">  <p><b>ROTATING PTO DRIVE HAZARD</b></p> <p>Do not operate equipment unless guards and shields are in place and in good working order.</p> <p>Ensure all body parts, hair, clothing and others are well clear from rotating PTO drive shaft.</p> <p>Ensure drive shaft shield turn freely on shaft and shield is securely attached on both ends before operating.</p> <p>Do not exceed operating speed of 540 rpm.</p> <p>Keep universal joints at small angles. do not extend PTO drive shaft beyond recommended length.</p> <hr/> <p><b>Failure to do so will result in serious injury or death.</b></p> <hr/>  </div>
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### 2.13 Diagram of Decal Placement

Figure 1. Decal Positions



### 3. Operation

#### 3.1 Pre-Operation

The following pre-operation checklist must be completed every time the Bunker Auger is used.

##### Safe Operating Procedure:

- Disengage the PTO, engage the tractors parking brake, stop the engine, and make sure all rotating components are completely stopped before connecting, disconnecting, adjusting or cleaning any PTO Driven equipment.
  - Always keep PTO shields and all guards in place when using PTO driven equipment.
  - Disengage PTO when in transport position.
  - Keep hands, feet, clothing, and long hair away from any rotating shafts.
- 
1. Lubricate the equipment per the schedule outline in the Maintenance Section.
  2. Check the Auger Hitch for damaged, or missing parts before operation.
  3. Check tyre pressure and inflate per manufacturer's specification.
  4. Check wheel nuts for tightness.
  5. Check that all bearings turn freely, replace as required.
  6. Make sure all guards and shields are in place, secured and functioning as designed.
  7. Check conditions of all hydraulic components for leaks, repair as required.
  8. Check gearbox oil level, fill as required.
  9. Verify that the tractors draw-bar is adjusted correctly to use with the Bunker Auger.
  10. Check that the PTO drivelines telescope easily and turn freely.
  11. Make sure the PTO ends are securely attached to the Bunker Auger and the tractor.

**WARNING:** High pressure fluid hazard. Leaking fluids under pressure can enter the skin and cause serious injury or death. Wear eye safety goggles and do not use hands to check for leaks. Do not operate with hydraulic leaks.

#### 3.2 Break-In Phase

The Bunker Auger must have a break-in period for all operating conditions. The tube and flighting must get a polished surface through use. Once the new Bunker Auger has a polished surface it will run smoothly at the recommended speed.

During the break-in-period:

1. Run the tractor at a slow idle until grain begins to flow from the discharge end, for the first approximately 15 Tonnes, operate at a slow speed and restrict the flow of grain through the Hopper.
2. Gradually increase the PTO RPM until operating at maximum recommended PTO Speed.

**NOTICE:** Running the auger empty for extended periods of time will result in excessive wear to the barrel and flighting.

#### 3.3 Tractor Requirements

- The GBA1575, has a total weight of approximately 12,000 KG. The tractor or tow vehicle must be rated for this amount of weight to transport the Bunker Auger.
- The GBA1575, will require a Tractor with a minimum of 200 HP and 4 auxiliary hydraulic functions.

**NOTICE:** Do not exceed 540 rpm with the PTO drive. When using a tractor with a 1000 rpm PTO drive, the auger will need to be fitted with a reduction gearbox.

### 3.4 Entering and Leaving The Operator's Position

#### Entering the operator's Position:

1. Move to the operator's position, start the engine and remain in the seat while machine is in operation.

#### Leaving the Operator's Position:

1. Park on a flat level surface.
2. Place all controls in neutral, engage park brake, switch off the engine and wait for all moving parts to stop.
3. Leave operator's position.

**Notice:** The engine will need to remain running, and the PTO engaged for Bunker Auger operation.

### 3.5 Initial Setup

#### Connecting the Bunker Auger to the Tractor:

1. Always inspect the tractor's drawbar and Bunker Auger hitch before connecting.
2. Verify the tractor's drawbar is adjusted correctly for use with the Bunker Auger.
3. Enter the operators position and move the tractor into position beside the Bunker Auger.
4. Reverse the tractor, aligning the drawbar with the Bunker Auger hitch pin hole.
5. Stop the tractor, engage park brake, and leave operator's position.
6. Install hitch pin to securely fasten Bunker Auger hitch to the tractor drawbar. See image 1 below.

**WARNING:** Before moving the tractor, look in all directions and make sure there are no bystanders. Do not allow anyone between the tractor and the equipment when reversing up to the equipment for connection. Be aware of pinch points when connecting and disconnecting equipment. Always use a hitch pin of adequate size and strength, ensure pin has a locking device.

### 3.6 Connecting PTO Driveline

1. Switch off engine, engage park brake and leave operator's position.
2. Remove the PTO drive line from the storage position.
3. Push in the 2 x lock collar pins and slide the PTO driveline onto the tractor PTO shaft until it locks onto the shaft. Push and pull on the PTO driveline to verify it is securely attached to the PTO shaft. See image 2.

Image 1.



Image 2.

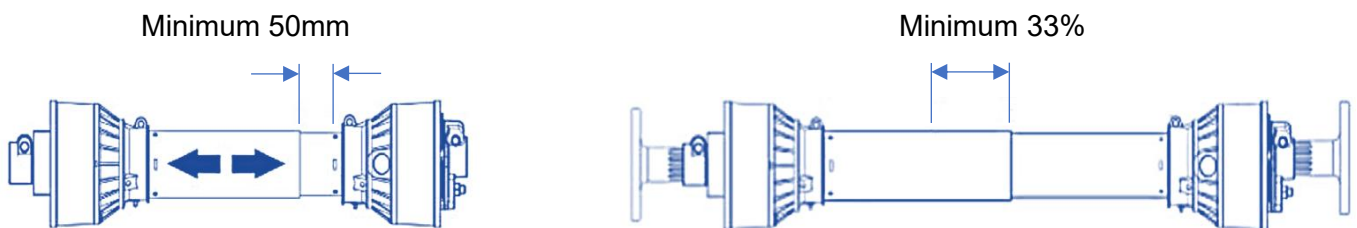


### 3.7 PTO Driveline

Due to variations in distances between tractor PTO shafts and implement input shafts, drivelines may need to be shortened or a longer shaft may be required. When fitting the implement to the tractor, the PTO driveline with telescopic sections must be inspected. At the PTO's shortest length there must be at least 50mm of clearance between each section end. When the PTO driveline is at the most extended position, there must be enough engagement between the sections. At its farthest operating extension, a minimum section engagement of 33% of shaft length must be maintained.

Safe operating procedure:

- Do Not exceed the rated implement PTO speed.
  - Stay clear of rotating driveline.
  - Keep bystanders away.
  - Keep hands, feet, clothing, and long hair away.
  - Keep PTO shields and all guards in place.
1. Disengage PTO, move the tractor controls to the neutral position, stop the engine, engage park brake, and make sure all rotating components are stopped before leaving the operator's position.
  2. Do not service the tractor or implement with the PTO engaged.
  3. Disengage PTO when in transport mode.



### 3.8 Connecting Hydraulic Hoses

To prevent serious injury or death from high pressure fluid:

- Relieve pressure on system before repairing or adjusting.
- Wear correct hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.
- Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.
- Ensure hydraulic valve block taps are turned off before connecting or disconnecting hydraulic hose couplings to the tractor.



To Connect:

1. Install the two-axle height adjustment quick coupler hydraulic hoses (1).
2. Install the two-access ramp quick coupler hydraulic hoses (2).

To Disconnect:

1. Release tractor hydraulic coupling lock system and remove quick coupler hydraulic hoses.

**DANGER:** Avoid Burns. Hydraulic fluid, hoses, fittings, and quick couplers can get very hot when running equipment. Be careful when connecting and disconnecting quick couplers.

### 3.9 Bunker Auger Operation

1. Remove transport safety locking pins from access ramps. There is one locking pin per access ramp.



2. Ensure hydraulic valve block taps are turned on before operating the axle height or access ramp adjustment.

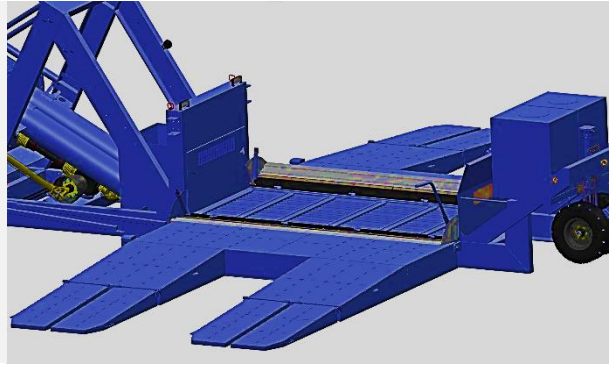


3. Enter the tractor and start the engine. Using the axle height adjustment tractor hydraulic controls, lower the Bunker Auger base on to a level surface. Ensure all three axles are completely retracted.



**WARNING:** Do not stand under or beside access ramps when removing locking pins. Never operate the hydraulic axle height or ramps when PTO is engaged..

4. Using the hydraulic controls, lower the ramps until resting on the ground then manually fold out ramp extensions.



5. Allow the unloading vehicle to move into position, raise the anti-spill gates into position and secure handles. For best results unload grain into the centre of hopper.



**WARNING:** Remain at a safe distance from any moving or unloading vehicles.

- With tractor running at a low idle, engage the tractor PTO slowly to start the Bunker Auger. Increase engine RPM (Do not exceed recommended RPM PTO speed).
- Adjust chute or tail gate accordingly to prevent overflowing of the intake hopper.
- When the unloading vehicle is empty, lower the tractor engine RPM until no more material is being discharged from auger outlet and disengage the PTO.
- Lower anti-spill gates, if there are more unloading vehicles repeat previous steps, otherwise, allow tractor to cool down (refer Tractor's Operators Manual) and switch off engine.

**WARNING:** Keep PTO shields in place, keep away from rotating shafts and ensure bystanders remain at a safe distance.

### 3.10 Actuated Spout & Work Lights Operation

#### Work Lights

The auger is fitted with LED work lights to illuminate the work area. There are lights to illuminate the control box, hopper and barrel. Each set of lights have individual toggle switches on the control box. The control box requires a 12 volt power supply and needs to be connected to the tractor at all times to be operational.

1. Connect Anderson plug to the tractor or alternative 12 volt power supply.



2. Identify work light locations and move all light switches to on position to ensure working.



#### Actuated Spout

The outlet spout is fully adjustable to allow the operator to direct grain precisely onto the bunker stack. This enables you to maximise the storage capacity of the bunker stack.

3. Use the toggle switch on the bottom left side of the control box to adjust throw and the bottom right side switch to control sideways flow.



### 3.11 Operation Movement

#### Safe Operating Procedure:

- Do not operate this unit before reading and understanding the Operator's Manual.
- Make sure everyone is clear of the equipment before applying power or moving the machine.
- Make sure Bunker Auger is empty before attempting to move.
- Keep Bunker Auger Wheels on level and firm ground.
- Never Exceed 5 Km/h when Transporting.

**DANGER:** Be aware of overhead powerlines. Keep away from powerlines when transporting as electrocution can occur without direct contact.

#### Moving auger alongside of bunker stack

1. Ensure all three wheels are running parallel with the side of the bunker stack and ensure wheels are locked into position with locking pins.



2. Using the hydraulic controls raise the ramps approximately 400mm off the ground.



3. Using the hydraulic controls raise the Bunker base to its maximum height. Note: If tractor hydraulics are unable to hold pressure and causing system creep, the axle height adjustment taps will need to be turned off when in transport mode.



4. Move the Bunker Auger into position, and lower base and ramps down onto the ground using the hydraulic controls. Note: Ensure the surface area is level and all three axles are fully retracted.



### 3.12 Transport Format

1. Manually fold in all ramp extensions then using hydraulic controls fold ramps to vertical position for transport.



2. Insert transport safety locking pins and secure with attached lynch pin.



**WARNING:** All bi-folding ramps must be folded in prior to the main ramps being lifted past an angle of 30 degrees. Remain clear of the ramps when inserting transport locking pins.

3. Unlock quick release pins and turn wheels until parallel with auger. Ensure quick release pins are reengaged prior to moving auger.



**NOTICE:** Prior to moving auger, ensure drawbar is raised and secured as shown in the image above. This will prevent possible damage caused by dragging on the ground.

4. Turn off hydraulic taps to lock out hydraulic system.



**CAUTION:** Hydraulic fluid, hoses and fittings can get hot when equipment is running. Exercise caution when connecting and disconnecting couplings. Before leaving operators position, place controls in neutral, engage park brake, stop engine, and remove key.

5. Disconnect PTO shaft from tractor and stow in storage position.



6. Disconnect hydraulic lines and power supply and stow.



7. Disconnect drawbars and stow.



**WARNING:** Before moving tractor ensure surrounding area is clear of bystanders. Keep area clear between tractor and Bunker Auger when reversing to connect to tow hitch. Use of an unapproved hitch or tractor can result in loss of control, leading to serious injury or death. Tractor and tow connections must be rated to tow Bunker Auger.

8. To transport auger to storage location, connect tractor to auger drawbar and ensure secured.



**DANGER:** To prevent serious injury or death from electrocution, be aware of overhead powerlines and keep away from powerlines when transporting. Electrocution can occur without direct contact. Never exceed 5 km/h when transporting.

### 3.13 Storage

Long term storage

1. Using the hydraulic controls, lower the Bunker Auger base onto a level surface and ensure wheels are completely retracted.



2. Remove ramp safety pins and using the hydraulic controls, lower the ramps until flat on the ground.



3. Turn off hydraulic taps, disconnect hydraulic lines and remove tractor.



## Storage Checklist

1. Ensure auger is thoroughly cleaned and all residual grain/debris is removed from hopper.
2. Lubricate all drives and grease points.
3. Inspect auger for damage and signs of wear. Conduct repairs or replace parts as necessary.
4. Check all fasteners and pins.
5. Ensure all guards are in place and safety decals are readable. Replace if necessary.
6. Ensure base and ramps are flat on the ground and wheels are fully retracted.

## 4. Lubrication and Maintenance

### 4.1 Inspections

The machine should be inspected on a 12-monthly basis by a trained professional. During this inspection the following should be completed.

1. Bolts should be retightened.
2. Inspect welds.
3. Inspect plates.
4. Inspect members.
5. Careful checking should pay particular attention to any signs of fatigue or over stressing.

### 4.2 Maintenance Intervals

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and premature failure of equipment.

#### Safe operating Procedure

1. Stop engine, set brake, remove key from ignition and wait for all moving parts to stop before servicing, adjusting, and repairing the machine.
2. Wear appropriate safety gear.
3. Use tools, jacks and lifting equipment with appropriate capacity.
4. Relieve Hydraulic pressure on hydraulic system before repairing or adjusting.
5. Replace and secure all shields and guards removed during servicing before operating equipment.

**CAUTION:** Operating instructions must be read before operating or servicing equipment. Read and understand this operator's manual including safety decals on equipment. Follow warnings and instructions in the manuals when completing repairs, adjustments, or servicing. Check for correct function after adjustments, repairs, or service. Untrained operators and failure to follow instructions can cause injury or death.

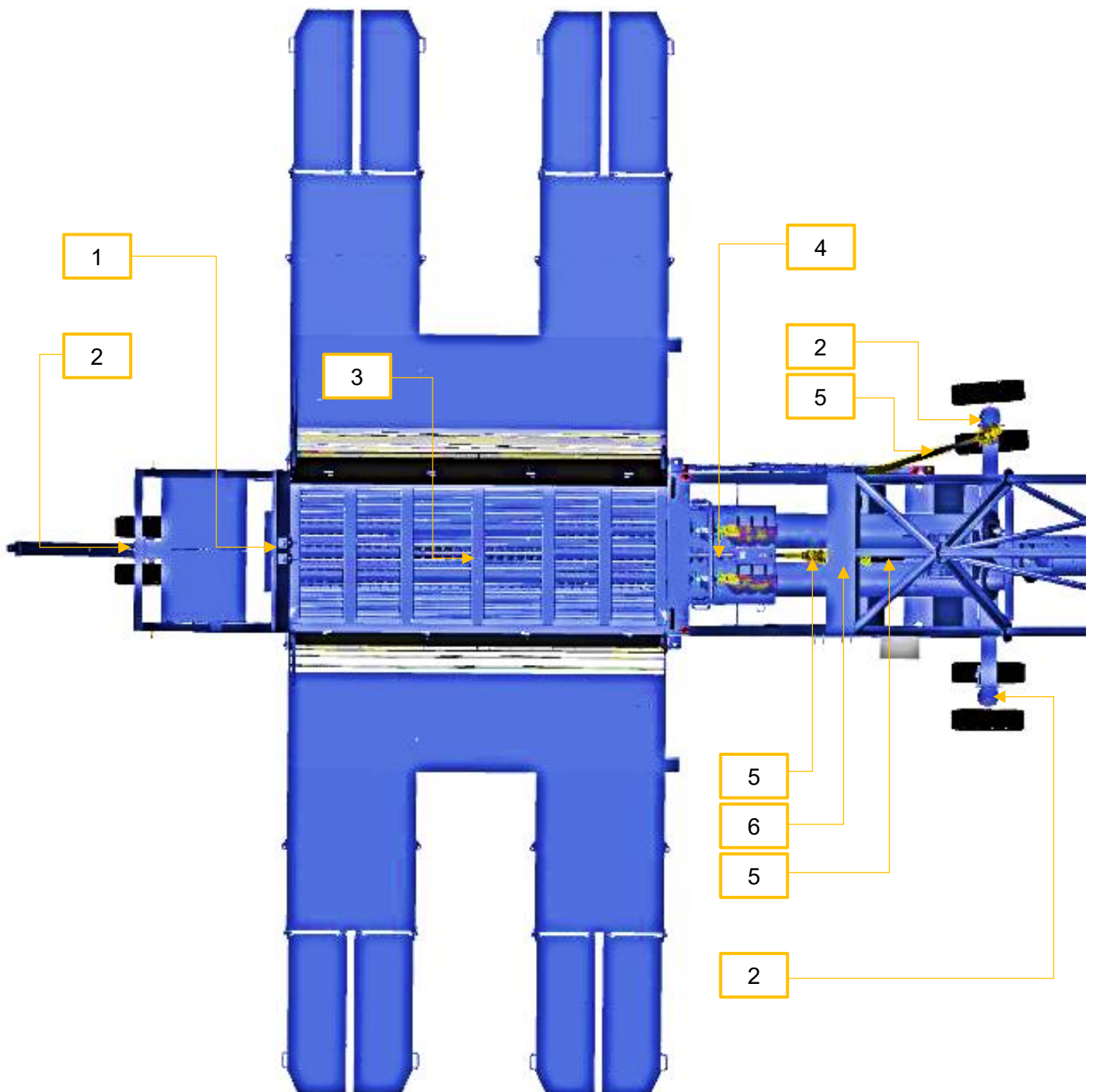
### 4.3 Service Schedule & Maintenance Intervals

Description	Check	Lube	Change
<b>Daily Maintenance or Every 8 Hours</b>			
Universal Joints	✓	✓	
Greaseless Bearings	✓		
PTO Driveline		✓	
Intake Hopper Drive Chains		✓	
<b>Weekly or Every 50 Hours</b>			
Gearbox Oil Level	✓		
Wheel Nut Tension	✓		
Intake Hopper Drive Chains & Tension Rollers	✓		
Intake Hopper & Cross Flight Bearings	✓		
Dual Auger Transfer Bearings	✓		
<b>Annually or Every 500 Hours</b>			
Gearbox Oil (9 litres – LA 490)			✓




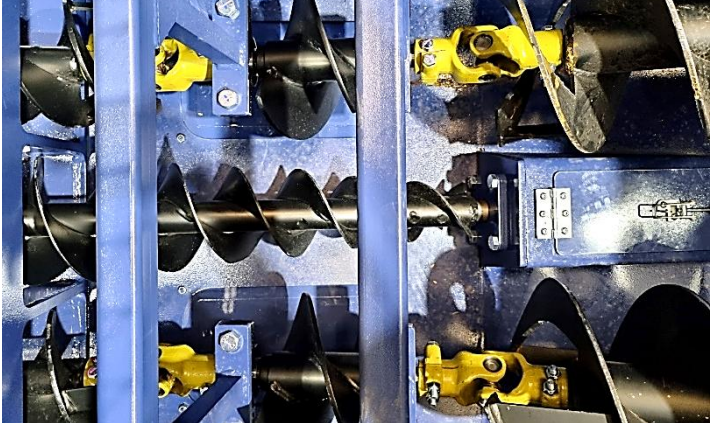
### 4.4 Lubrication



- Always use a good quality multi-purpose or lithium-based grease when lubricating the equipment.
- Always use a hand-held grease gun.
- Clean grease points before greasing, to avoid injecting dirt and grit.
- Replace and repair broken grease points immediately.
- If grease points will not take grease, remove, and clean thoroughly. Replace if necessary.

## 4.5 Maintenance Point Locations



## 4.6 Maintenance Point Descriptions

Location	Description	Image
1	Drive chain and chain tensioner rollers. Check every 50 hours for excessive wear and ensure free movement.	
2	Wheel turn tables & wheel nuts. Check wheel nut tension every 50 hours & grease turn tables	
3	Centre hopper hanger bearing bushes. Check every 50 hours.	
4	Transfer box universal joints. Check every 50 hours.	

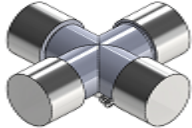









5	PTO shaft universal joints. Grease every 50 hours.	
6	Gearbox. Check oil level every 50 hours.	


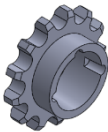
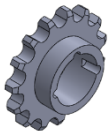

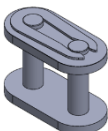
## 4.7 Troubleshooting

<b>Problem</b>	<b>Cause</b>	<b>Correction</b>
<b>Unable start auger</b>	Plugged auger or obstruction	Shutdown tractor, disconnect PTO shaft & remove obstruction.
	Bearing failure	Check bearings and replace as required.
	Broken drive chain	Check hopper drive chain & replace if required.
	Slipped or faulty clutch	Allow to cool & replace if required.
	Sheared pin or bolt	Check shear pins and flighting bolts. Replace if required.
	Seized or faulty gearbox	Check gearbox and replace if required.
<b>Grain flow too fast</b>	Discharge gate/s open too far	Close gate/s to reduce grain flow to hopper.
<b>Grain flow too slow</b>	Discharge gate/s not open enough	Open gate/s to increase grain flow to hopper.
	Tractor RPM set too low	Increase tractor RPM
<b>Hydraulic ramps or jacks not functioning.</b>	Hydraulic hose quick release couplings not connected correctly	Check couplings are connected correctly
	Control valve taps not turned to open position	Turn valve taps to open position
<b>Hydraulic lift jacks unable to hopper to maximum height.</b>	Low hydraulic oil level in tractor	Fill with hydraulic oil to level specified in tractor manual
	Faulty hydraulic pump on tractor	Refer tractor service manual or tractor service agent.
<b>Hydraulic ramps or jacks creep down</b>	Air in hydraulic lines	Refer tractor operator's manual for correct procedure to
	Faulty hydraulic pump on tractor	Refer tractor service manual or tractor service agent.

#### 4.8 Recommended Spare Parts Holdings & Quantities Guide

Description	Qty	Part Preview
10MM X 8MM KEY 60MM LONG	1	
10MM X 8MM KEY 100MM LONG	1	
B6101 ANTI SPILL GATE HANDLE PIN	2	
CHAIN TENSIONER TORSION SPRING	1	
RUBBER WASHER FOR TRANSFER BEARING SHIELD	4	
6202 CHAIN ROLLER BEARING	4	
CHAIN ROLLER	2	
35MM HANGTUFF INSERT BUSH	2	
A622 6 SERIES UNI CROSS	1	

A824 8 SERIES UNI CROSS	1	
UC206-LP99 SEALED 30MM BEARING	4	
P206 PILLAR BEARING HOUSING	4	
UC207-LP99 SEALED 35MM BEARING	2	
F207 FLANGE BEARING HOUSING	2	
FUC208-108/LP03 SEALED 40MM BEARING	1	
F208 FLANGE BEARING HOUSING	1	
UC212-LP99 60MM BEARING	1	
F212 FLANGE BEARING HOUSING	1	
TRANSFER BOX UNI JOINT	2	

1610 35MM TAPER LOCK BUSH	2	
16B 13 TOOTH SIMPLEX SPROCKET	1	
16B 15 TOOTH SIMPLEX SPROCKET	1	
16B 15 LINK SIMPLEX CHAIN	2	
16B SIMPLEX CONNECTOR LINK	2	
M8 X 20 BOLT	3	
M10 X 65 BOLT	6	
M10 X 75 BOLT	6	
M12 X 65 BOLT	4	
M14 X 140 BOLT	4	
M8 SPRING WASHER	3	
M8 FLAT WASHER	6	
M12 SPRING WASHER	4	
M10 NYLOC NUT	12	
M12 PLAIN NUT	4	
M14 NYLOC NUT	4	
5L CHAIN OIL	1	

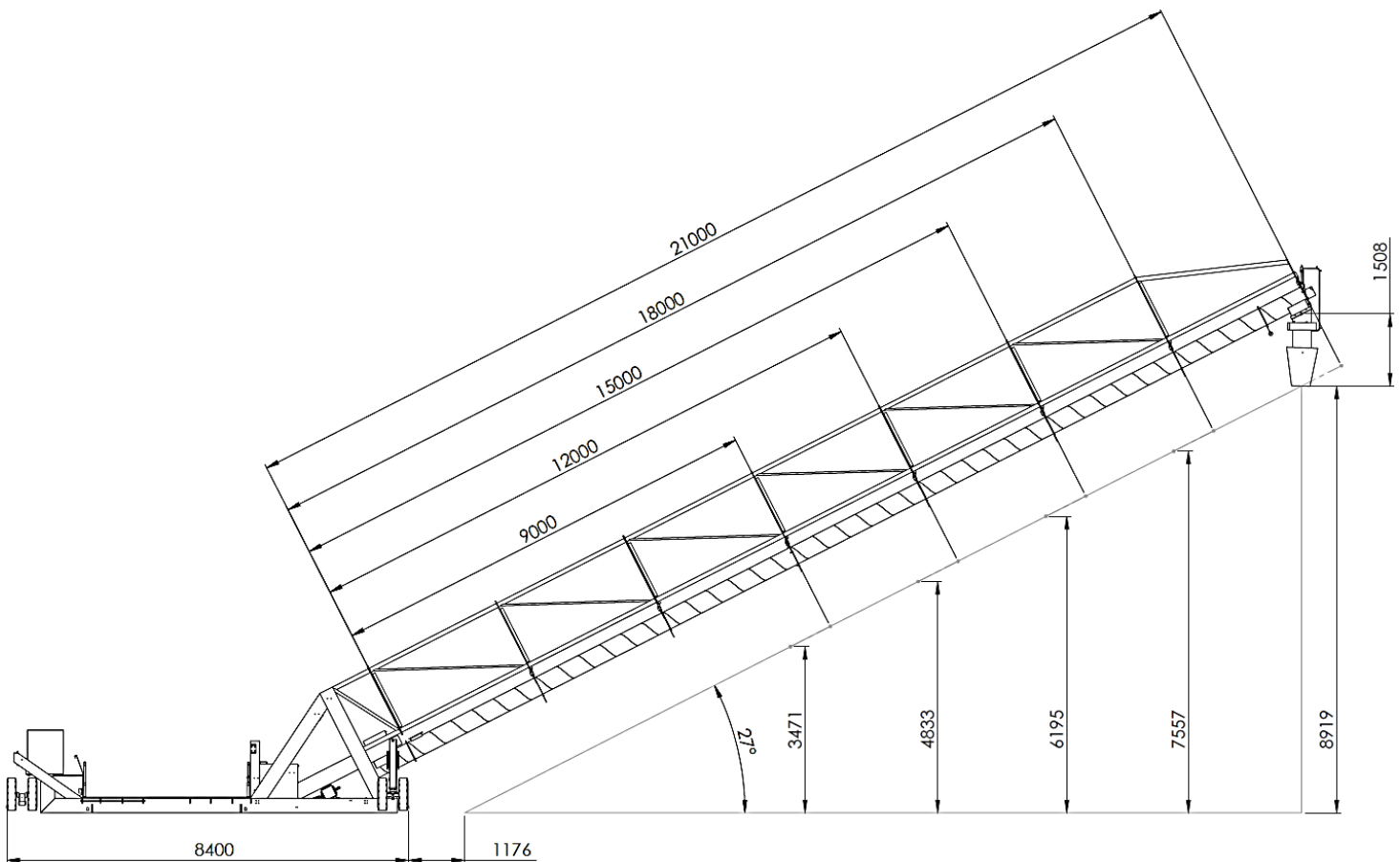
For assistance with parts identification and to order replacement parts contact Grainline on **1800 810 498** or Grainline Bunker Auger Technical Service on **0456 651 284**. Please have the model and serial number of your machine available. Refer page 3 of this manual for serial number location.

## 5. Specifications

### 5.1 15 inch Bunker Auger Specifications

<b>Product Code</b>	GBA1575
<b>Auger Size</b>	15 inch diameter with 21 metre long barrel
<b>Tractor Requirements</b>	180 Horsepower
<b>Flight Operating Speed</b>	540 RPM running from 1-1:85 ratio gearbox. (Requires tractor with 1000 RPM PTO).
<b>Hopper Dimensions</b>	3.5m x 1.5m x 300mm Low profile triple flighted hopper
<b>Hopper Flight</b>	3 x 184mm x 184mm
<b>Transfer Flight</b>	2 x 280mm x 280mm x 4.8mm & Wear Points have 6mm Segmented Flighting
<b>Auger Capacity</b>	Approximately 360 tonne/hour based on wheat
<b>Ramps</b>	4.2m x 3.5m with Hydraulic folding & bi-folding extensions
<b>Auger Tube</b>	15 inch (380mm) x 3mm wall
<b>Auger Flighting</b>	355mm x 355mm x 4.8mm welded to 80nb (88.9mm) bore centre pipe
<b>Finish</b>	2 Pac polyurethane paint with powder coated ramps
<b>Operating Angle</b>	27 degrees
<b>Warranty</b>	12 months

### 5.2 Barrel Dimensions & Reach Heights





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