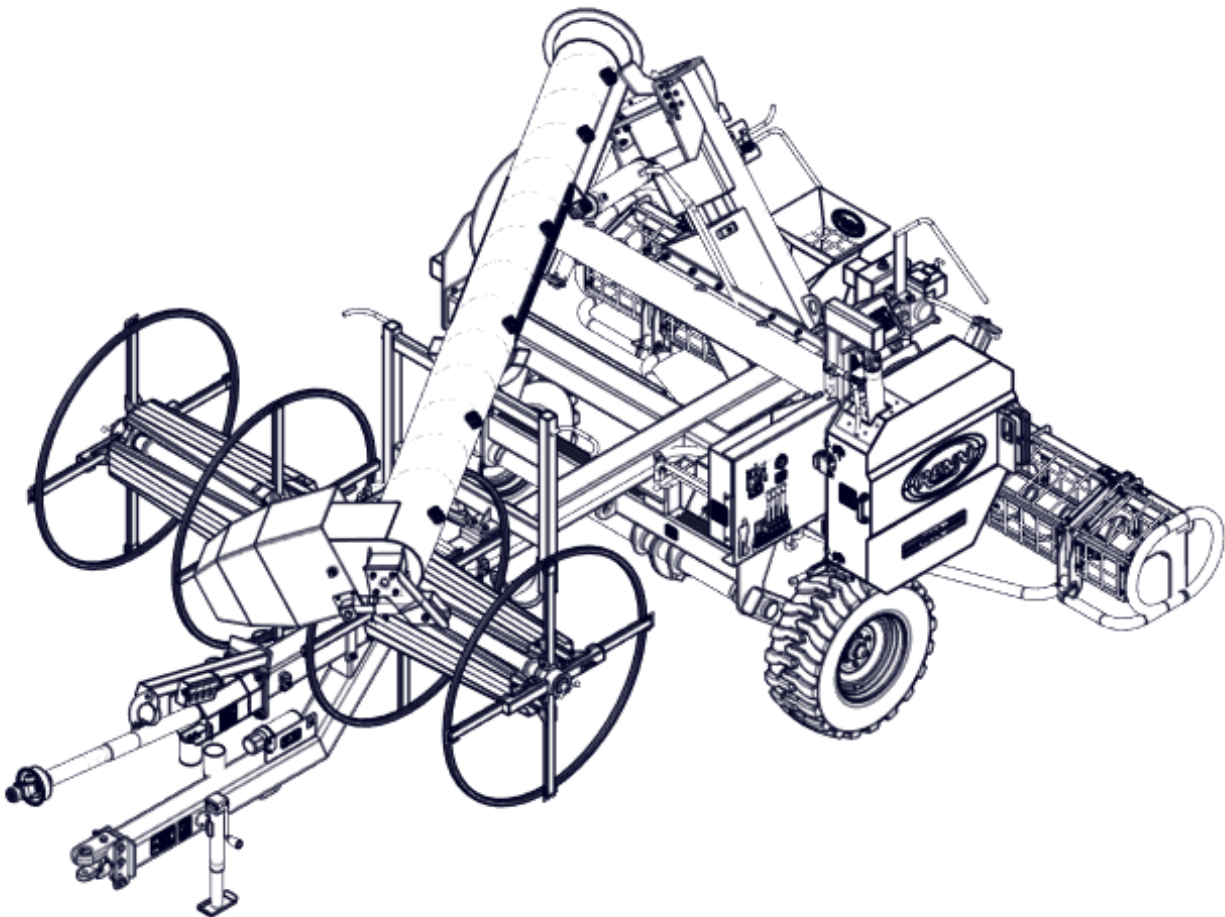




## 1014LS GRAIN UNLOADER

Operator's & Parts Manual  
Model No. 980200-0015.03



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## INTRODUCTION

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Congratulations on your decision to purchase a Renn Bag Unloader. This machine has been designed to provide you with the highest standards of quality, reliability and durability. This manual has been prepared to familiarize you with the operation and maintenance of your Bag Unloader. We urge you to read the publication carefully and refer to it extensively for correct operating procedure.

The 1014 Renn Bag Unloader has unloading rates of up to 150 bu/min and is designed to unload 9ft & 10ft diameter bags.

This manual includes a Warranty Policy, a Safety Section, and a Lubrication and Maintenance Schedule. We urge you to read through this information carefully. This will help ensure the safe and trouble-free operation of your Bag Unloader. All information, illustrations and specifications in this manual are based on the latest product information available. We, the manufacturer, reserve the right to make any changes at any time without prior notice.



# LIMITED WARRANTY



## • NEW EQUIPMENT WARRANTY

Subject to the limitations and exclusions set out herein, RENN Mill Center LP. ("Renn") warrants that if any component or part of a machine manufactured by Renn proves to be defective in material or workmanship within

1. (1) year from the delivery date of the original sale to a purchaser who purchases the equipment for their own farming operation use; OR
2. (90) days from the delivery date of the original sale to any other purchaser.

Renn will at Renn's option either repair or replace the defective part without charge. No payments will be made in lieu of repair to the machine. This limited warranty may be enforced by the first purchaser or first consumer user; all subsequent purchasers acquire the product "as is" without any benefit of this limited warranty.

## • LIMITATIONS AND EXCLUSIONS

This limited warranty by Renn does not extend to or include:

1. New tires - installed on the equipment which are subject to a separate warranty by the tire manufacturer—see warranty sheet included with your owners manual. All warranty claims must be submitted to the tire manufacturer for approval and payment.
2. Used tires
3. Drive Belts
4. Drive Chains

This limited warranty covers defects in material and workmanship in the parts manufactured by Renn except:

1. Damage resulting from accident, misuse, abuse, neglect or from other than normal and ordinary use of the equipment.
2. Damage resulting from failure to clean or use the product in accordance with the manufacturer's instructions.
3. Renn reserves the manufacturer's right to determine the responsibility for damage as detailed in 1 and 2 above.

Renn shall, as to each defect, be released from all obligations and liabilities under this warranty if;

1. The equipment shall have been operated with any accessory, equipment, component or part not manufactured by Renn or not approved for use by Renn.
2. The equipment shall have been repaired, altered or modified without Renn's approval or if the equipment shall have been operated subsequent to its involvement in an accident or breakdown unless the purchaser furnishes reasonable evidence that such repair, modification or operation subsequent to its involvement in an accident or breakdown was not the cause of the defect;
3. If the purchaser or consumer does not, within 30 days from the date of discovery of the defect, return the defective machine, accessory, equipment component or part at the purchaser's or users expense to an authorized dealer, purchaser shall be responsible for submission of reasonable evidence or proof of date of discovery of subsequent defect.

## • WARRANTY AND PARTS REPLACED BY WARRANTY

Renn further warrants that if any genuine Renn part or component utilized by authorized Renn dealers in accordance with this limited warranty proves to be defective in material or workmanship within 90 days of such utilization, Renn will, at Renn's option either repair or replace the defective part without charge. Purchaser shall be responsible for any shipping charges including freight to and from the place where the warranty work is done or performed.

## • WHAT YOU MUST DO TO ENFORCE THIS WARRANTY

1. Warranty services must be performed by a dealer authorized by Renn. The purchaser must, at the purchaser's expense, deliver, mail or ship the defective part to any duly authorized dealer in the purchasers area. If the purchaser is unable to locate a dealer in the purchaser's area, please contact Renn. Renn will either refer you to an authorized dealer or instruct you where to return the product. Do not return the product to Renn, without Renn's prior authorization
2. Purchaser must pay any postage, shipping charges, insurance costs, freight and other expenses to and from the place where the warranty work is done or performed if required to return equipment or any component or part to an authorized dealer or as directed by Renn. Purchaser shall be obligated to pay any premium payable for overtime labour if overtime is incurred as a result of a request by the purchaser.

## • UNAPPROVED SERVICE OR MODIFICATION

All obligations of Renn under this warranty shall be terminated:

1. If service is performed by someone other than a dealer authorized by Renn or,
2. If equipment is altered or modified in ways not approved by Renn.

Accidents and normal maintenance

This warranty covers only defective material and workmanship. It does not cover depreciation or damage caused by normal wear, accident, improper maintenance, improper protection in storage or improper use. The cost of normal maintenance and replacement of service items, oil filters, cutting parts, tires, bearings, chains, sprockets or brake parts shall be paid for by the purchaser.

## • NO REPRESENTATION OR IMPLIED WARRANTY

1. Where permitted by law, neither Renn nor any company affiliated with it makes any warranties, representation or promises expressed or implied as to the quality or performance of its products other than those set forth above.
2. Renn makes no warranty of merchantability or fitness for a particular purpose.

## • IMPROVEMENTS OR CHANGES

Renn reserves the right to make improvements or changes in design and specifications at any time without incurring any obligation to owners of previously sold units.

## • WARRANTY CLAIM PROCEDURE

Warranty Claim Form must be delivered to Renn within 60 days after the warranty work was performed. Defective parts must be held for inspection for 90 days after the work was performed. Renn may request that parts be returned to the Renn factory for inspection. If approved, Renn will issue a credit within 60 days of receiving the warranty claim.

## • ACKNOWLEDGEMENT REQUIRED

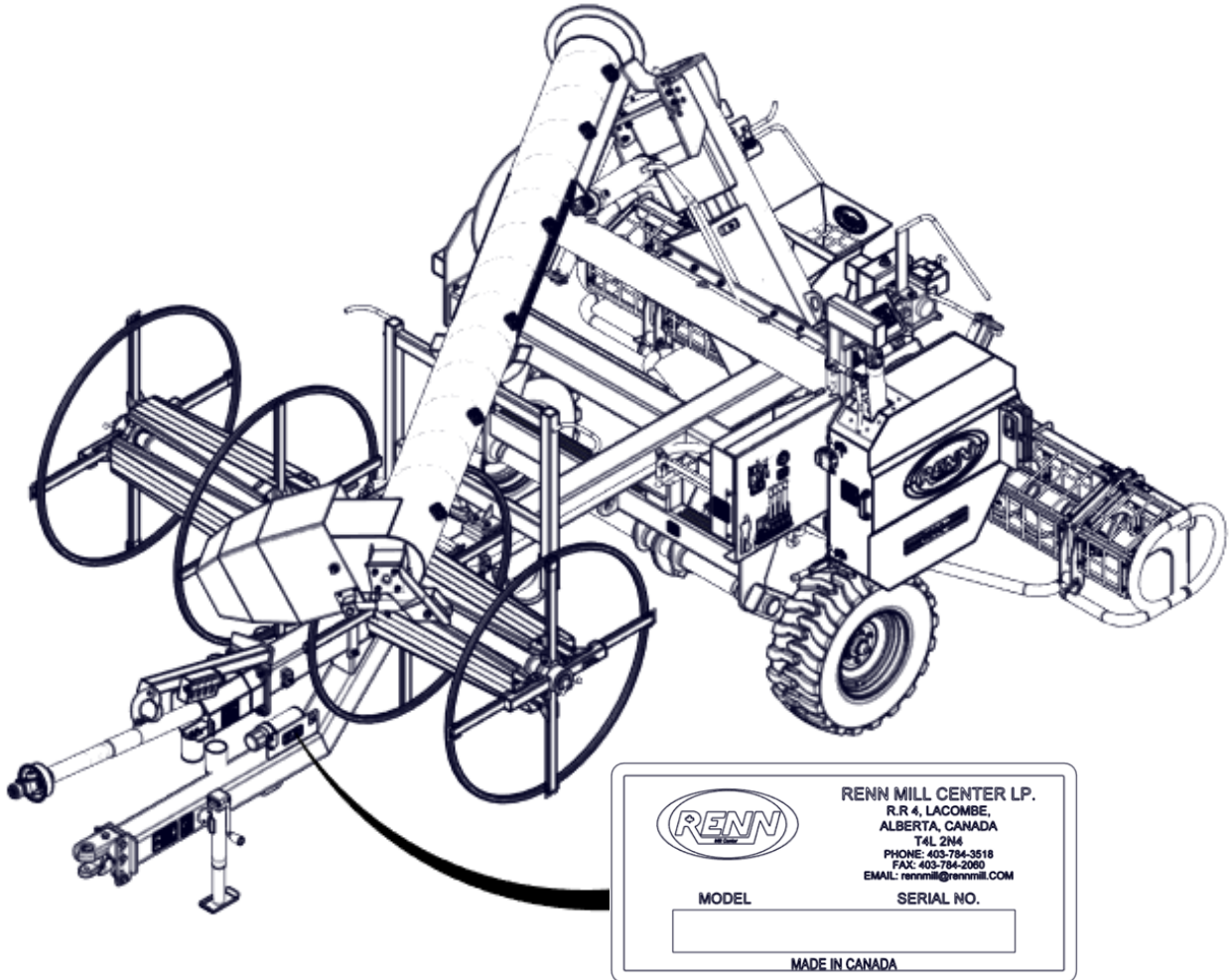
Renn shall have no obligation under this warranty unless the "Warranty Registration" included with your owners manual signed by purchaser and dealer is delivered to Renn within 30 days from the date of sale.

## IMPORTANT NOTICE

**To activate warranty coverage, the owner / dealer must complete the Warranty Registration form that can be found online and return to Renn Mill Center LP. R.R. 4, Lacombe, Alberta, Canada, T4L 2N4 within 30 days of retail sale.**

# SERIAL NUMBER LOCATION

The serial number plate is located on the driver's side of the machine near the manual canister.



**IMPORTANT:** For fast, correct service when ordering parts, supply the following information to your local Renn Dealer:

- 1) The model number
- 2) The serial number

This information is essential when ordering parts for your Renn Bag Unloader.



## 2 SAFETY

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### Safety Alert Symbol

This Safety Alert symbol means

**ATTENTION!  
BE ALERT!  
YOUR SAFETY IS  
INVOLVED!**



The Safety Alert symbol identifies important safety messages on the Renn Bag Unloader 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 message.

Why is SAFETY important to you?

**Accidents Disable and Kill**

**3 Big Reasons**

**Accidents Cost**

**Accidents Can Be Avoided**

#### **SIGNAL WORDS:**

Note the use of the signal words **DANGER**, **WARNING**, and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guidelines:

#### **DANGER -**

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.

#### **WARNING -**

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

#### **CAUTION -**

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

## 2 SAFETY

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You are responsible for the SAFE operation and maintenance of your Renn Bag Unloader. YOU must ensure that you and anyone else who is going to operate, maintain or work around the unloader be familiar with the operating and maintenance procedures and related SAFETY information contained in this manual. This manual will take you step-by-step through your working day and will alert you to all good safety practices that should be adhered to while operating the Unloader.

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. Be certain that EVERYONE operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Unloader owners must give operating instructions to operators or employees before allowing them to operate the Unloader, and at least annually thereafter per OSHA regulation 1928.57.
- The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to read and understand ALL safety and operating instructions in the manual and to follow them. All accidents can be avoided.
- A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- 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.
- Think SAFETY! Work SAFELY!

### **2.1 General Safety**

1. Only trained, competent persons should operate the Unloader. An untrained operator is not qualified to operate the machine.
2. Have a first-aid kit available for use, should the need arise, and know how to use it.
3. Have a fire extinguisher available for use, should the need arise, and know how to use it.
4. Wear appropriate protective gear. This list includes but is not limited to:
  - A hard hat
  - Protective shoes with slip resistant soles
  - Protective goggles
  - Hearing protection
5. Review safety related items with all personnel annually.
6. Place all controls in neutral, stop the engine, set the parking brake, remove the ignition key, wait for all moving parts to stop and disengage the PTO before servicing, adjusting, repairing or unplugging.

## 2 SAFETY

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### **2.2 Operating Safety**

1. Read and understand the Operator's Manual and all safety signs before using the machine.
2. Place all controls in neutral, stop the engine, set the parking brake, remove the key from the ignition, wait for all moving parts to stop and disengage the PTO before servicing, adjusting, repairing or unplugging.
3. Install and secure all guards and shields before starting or operating.
4. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
5. Do not allow riders on the unloader or tractor during operation or transportation.
6. Clear the area of all bystanders, especially children, before starting.
7. Be aware of overhead power lines at all times.
8. Attach any necessary flags and signs to unloader before transporting.
9. Attach securely to the towing unit using a hardened pin with a retainer and a safety chain. The pin should be the maximum allowable size possible.
10. The unloader is designed to unload GRAIN. DO NOT use the unloader to unload other materials such as silage or fertilizers.
11. Do not exceed a safe travelling speed during transportation.
12. Use a light kit on the unloader to transport.
13. Ensure that adequate lighting is available when operating at night.
14. Use caution when using the machine on uneven terrain.
15. Always check behind you when backing up. The unloader may block parts of your view.
16. Never unhook the unloader while it is in use or with the discharge auger in the unload position, as the hitch may rise unexpectedly.
17. Open the disconnect between the discharge auger and the sweep augers when doing final grain clean-up.
18. If applicable, make sure that all components are tight and that hoses, fittings and couplings are in good condition before pressurizing the hydraulic system.
19. Review safety instructions annually.

### **2.3 Maintenance Safety**

1. Place all controls in neutral, stop the engine, set the parking brake, remove the ignition key, wait for all moving parts to stop and disengage the PTO before servicing, adjusting, repairing or unplugging.
2. Perform a lock out tag out (LOTO) procedure if required.
3. Relieve the pressure from the hydraulic system before servicing or disconnecting from the tractor.
4. Place stands or blocks under the frame before working beneath the machine or when changing tires.
5. Only use tools, jacks and hoists appropriate for the job.
6. Install and secure all guards and shields before resuming operation.

## 2 SAFETY

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### **2.4 Hydraulic Safety**

1. Always place all tractor hydraulic controls in neutral before dismounting.
2. Make sure that all components in the hydraulic system are kept in good condition and replace any worn, cut, abraded, flattened or crimped hoses.
3. Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a shield instead of hands to isolate and identify a leak.
4. If injured, seek medical attention immediately. Serious infection or reaction can develop from hydraulic fluid piercing the skin.
5. Before pressurizing the system, make sure that all components are tight and that hoses, fittings and couplings are in good condition.

### **2.5 Storage Safety**

1. Store unit in an area away from human activity.
2. Do not permit children to play on or around the stored unloader.

### **2.6 Safety Decals**

1. Keep safety decals clean and legible at all times.
2. Replace safety decals that are missing or have become illegible.
3. Replaced parts that previously displayed a safety decal should display the same decal.
4. Safety decals are available through your authorized Renn Dealer.



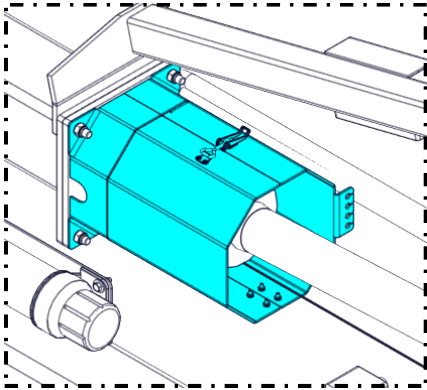
## 2 SAFETY



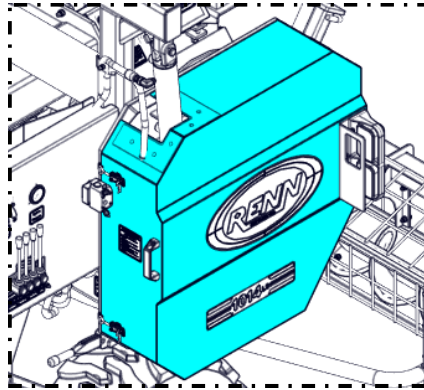
### **2.7 Safety Shield Placement**

After servicing or maintenance, these shields should be back in place.

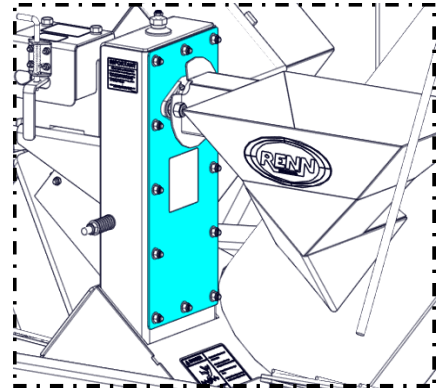
Main / PTO Shield



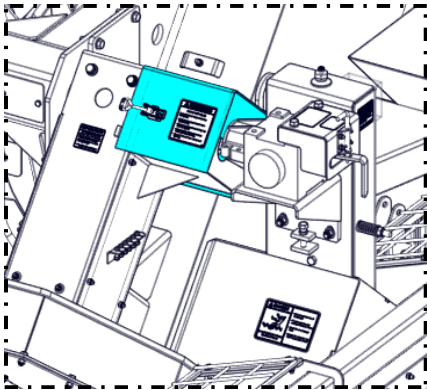
Ratchet Drive Shield



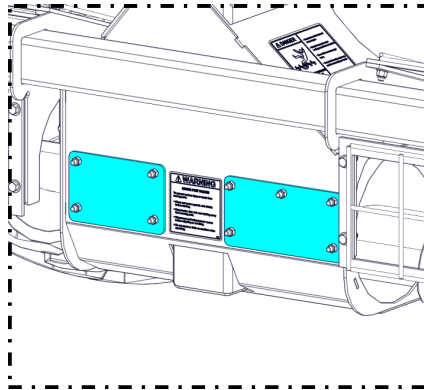
Sweep Drive Belt Cover



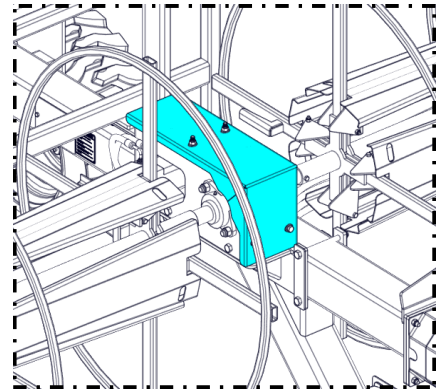
Sweep Drive Universal Joint Shield



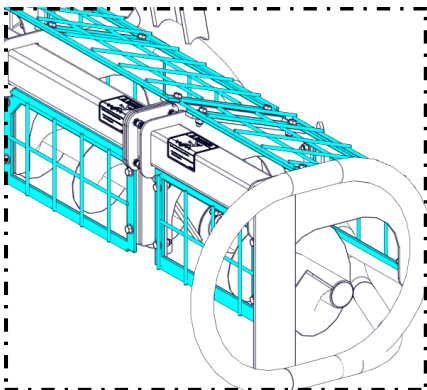
Grain Box Covers



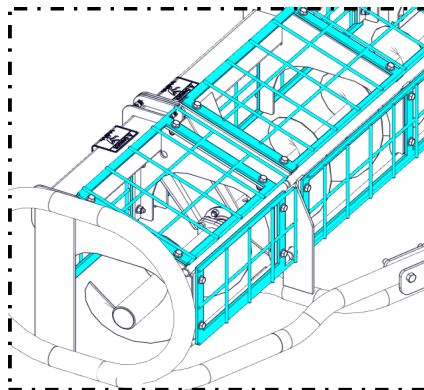
Collapsible Rewind Drive Cover



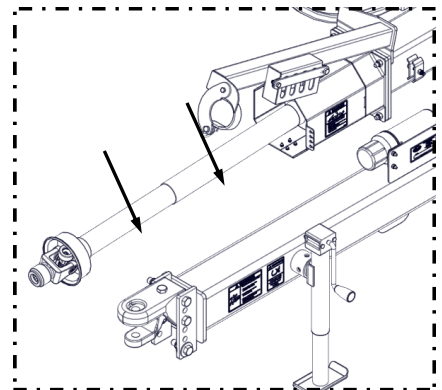
Sweep Auger Safety Cage



Sweep Auger Safety Cage



PTO: Front and Rear Covers



## 2 SAFETY



### **2.8 Sign-off Form**

Anyone operating and/or maintaining the unloader must read and clearly understand ALL Safety, Operating, and Maintenance information presented in this manual.

Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Review this information annually, before the season start-up.

Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. We feel that an untrained operator is unqualified to operate this machine. A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understood the information in the Operator's Manual and have been instructed in the operation of the equipment.

### **Sign-off Form**

<i>DATE</i>	<i>EMPLOYEE SIGNATURE</i>	<i>EMPLOYER SIGNATURE</i>



## 3 DECAL LOCATIONS

### 3.1 Safety Decal Locations

The types of safety decals and locations on the equipment are shown in the following illustrations. Good safety requires that you familiarize yourself with the various safety decals, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- THINK SAFETY!!, WORK SAFELY!!



148000-0700



148000-0406



148800-0055



148000-0103



148800-0065



148000-0402



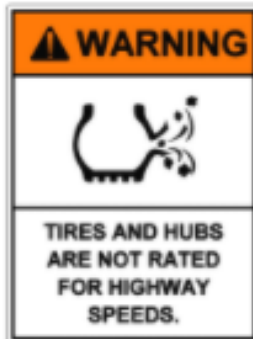
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148800-0057



148900-0067



148000-0102

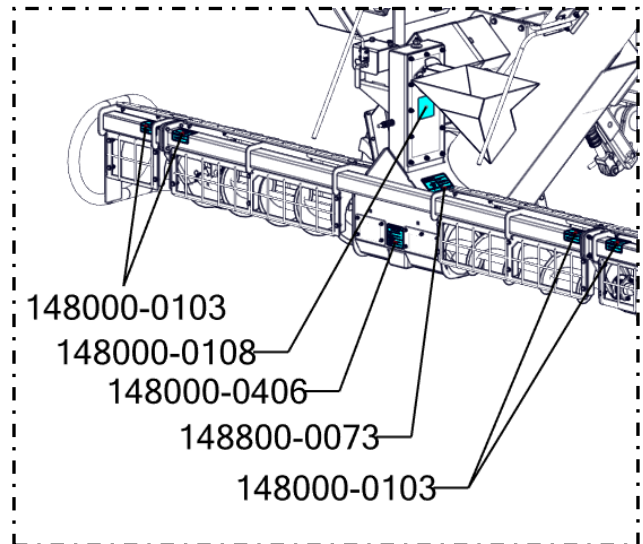
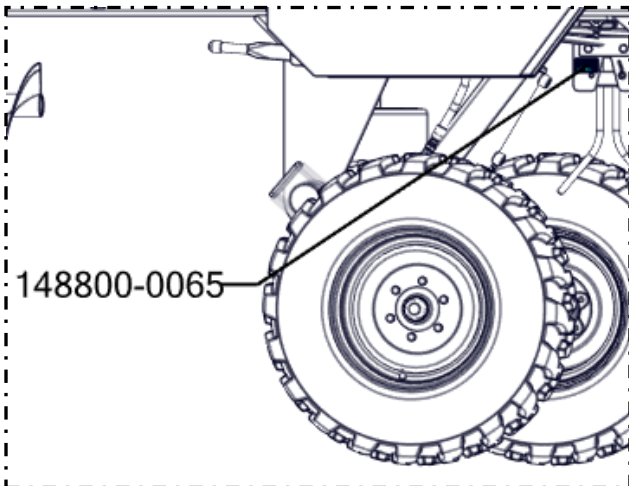
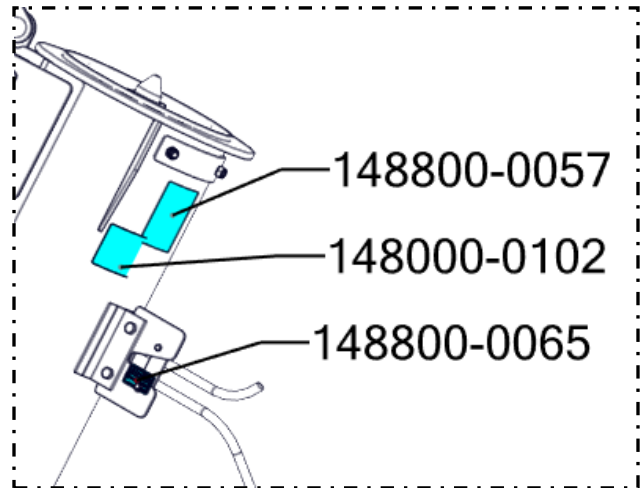
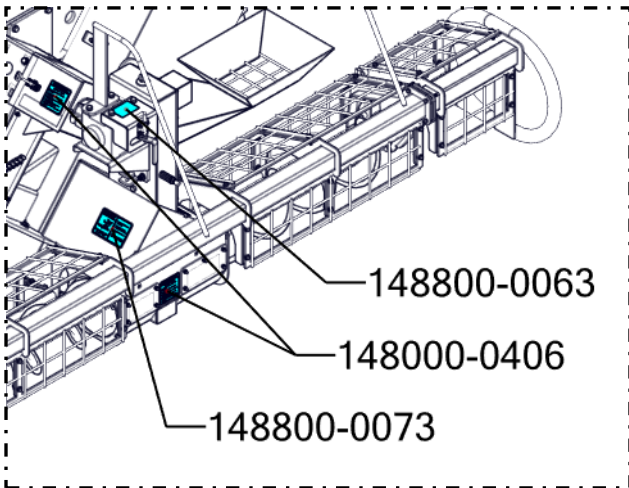
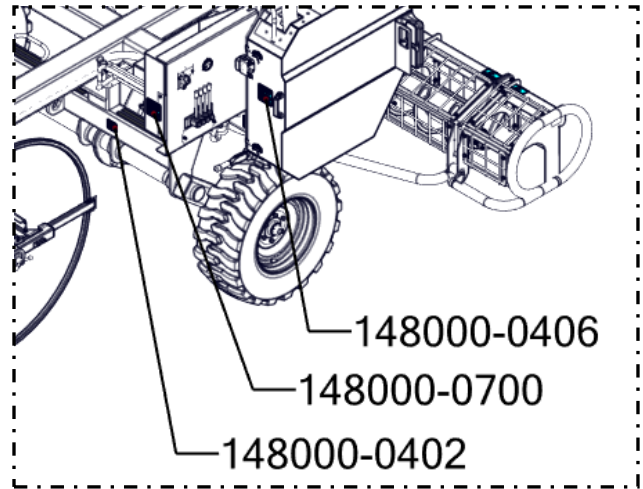
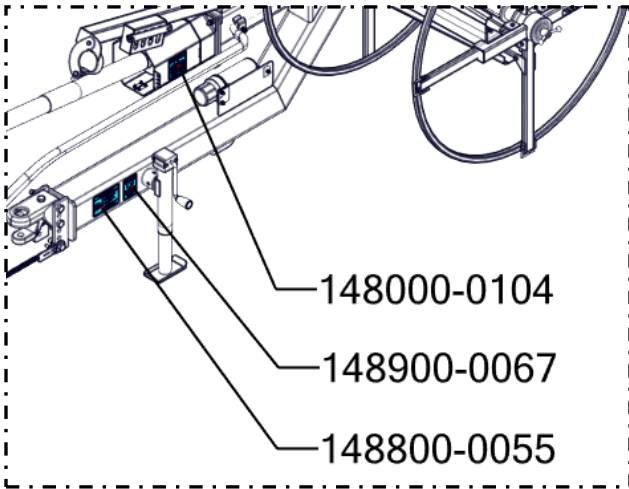


148000-0108

REMEMBER - If safety decals have been damaged, removed, or become illegible, or if parts have been replaced and do not contain safety decals where there were some previously, new decals must be applied. New safety decals are available from your authorized dealer.

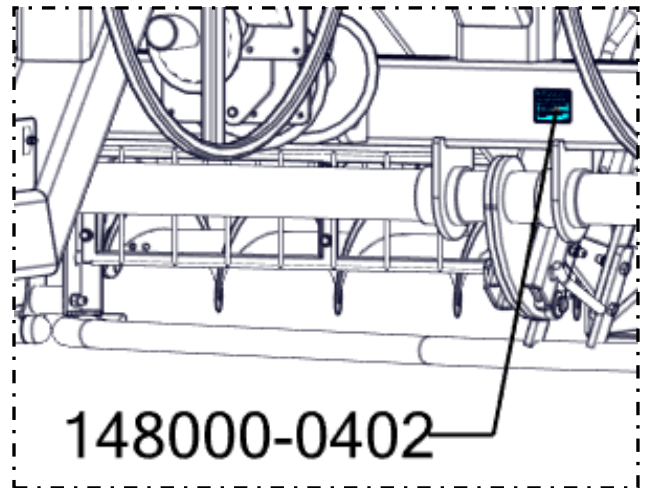
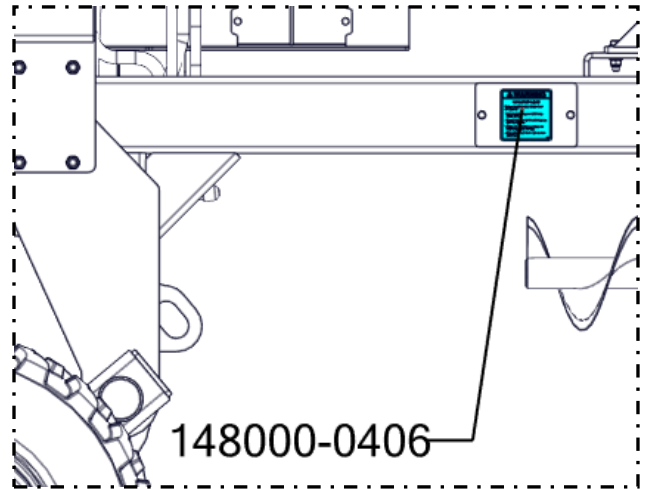
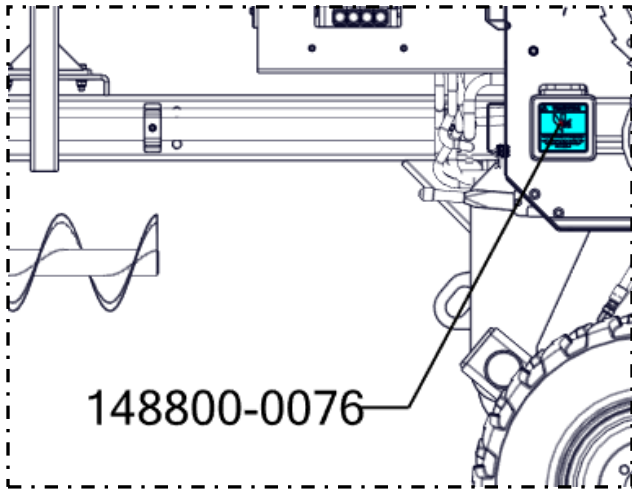
## 3 DECAL LOCATIONS

### 3.1 Safety Decal Locations



## 3 DECAL LOCATIONS

### 3.1 Safety Decal Locations




## 3 DECAL LOCATIONS

### 3.2 Information Decal Locations

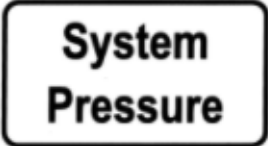
The types of informational and operational decals and locations on the equipment are shown in the following illustrations. Good operation requires that you familiarize yourself with the various operational decals, the type of warning and the area, or particular function related to that area, that requires your AWARENESS.

- WORK SAFELY!!



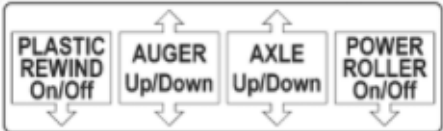
**FARM BOY UNLOADER**

148700-0204




**System Pressure**

148800-0053




PLASTIC REWIND On/Off  
AUGER Up/Down  
AXLE Up/Down  
POWER ROLLER On/Off

148800-0052




RENN MILL CENTER INC.  
7000 100th AVE  
ALBERTA, CANADA  
T4B 2R6  
PHONE: 403-221-2241  
WWW.RENNMILLCENTER.COM  
MODEL: SERIAL NO.  
MADE IN CANADA

148100-0100



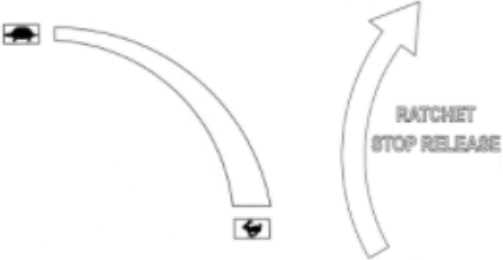
Made in Canada

148000-0012




**TENSION CONTROL PLASTIC REWIND**

148800-0056



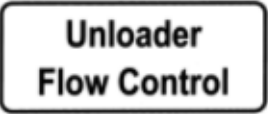
RATCHET STOP RELEASE

148800-0050      148800-0051




**RENN**  
MILL CENTER INC.

148700-0050  
148700-0051  
148700-0052



**Unloader Flow Control**

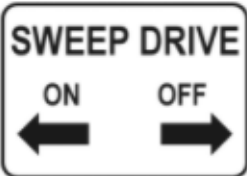
148800-0054



**GREASE**

1481-010


148100-0010




**SWEEP DRIVE**

ON      OFF

148800-0062




148800-0022



**1014LS**

148700-0205



**IMPORTANT**

**GEAR BOX LUBRICATION**

- Use SAE 80W90 oil when filling gear box.
- Check that the gear box is filled up to the check plug level on the first operation.
- Check at the beginning of every season or if leakage is noticed.

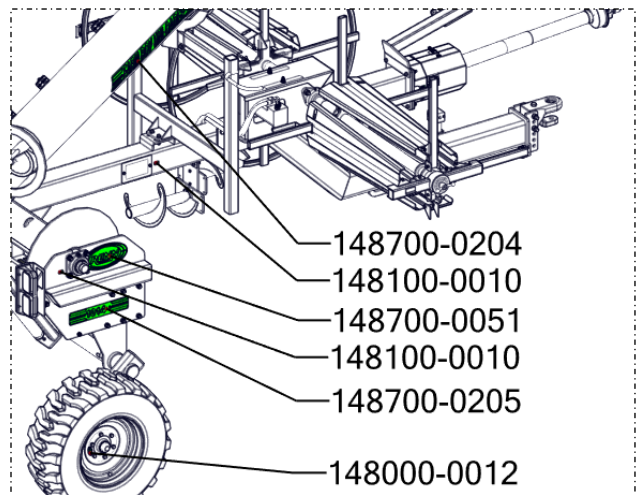
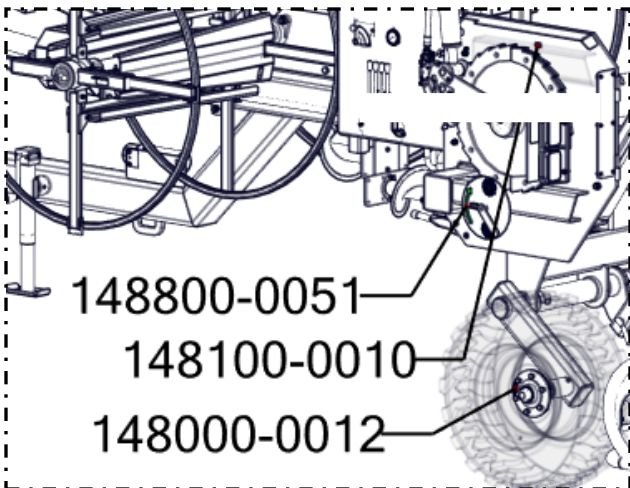
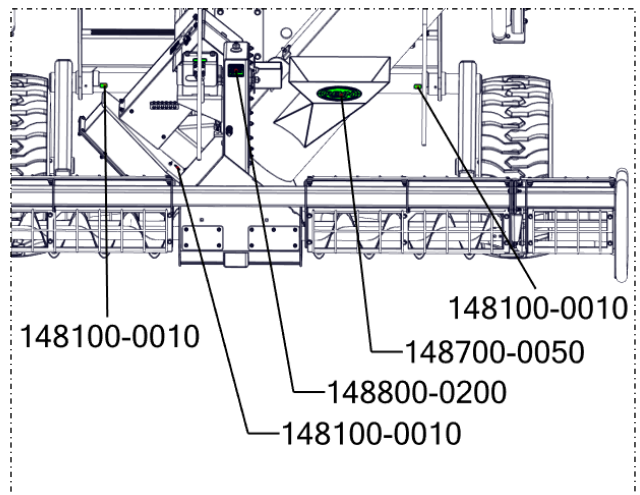
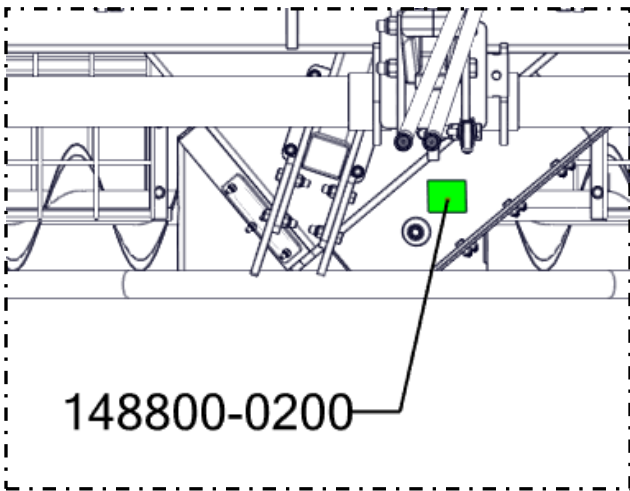
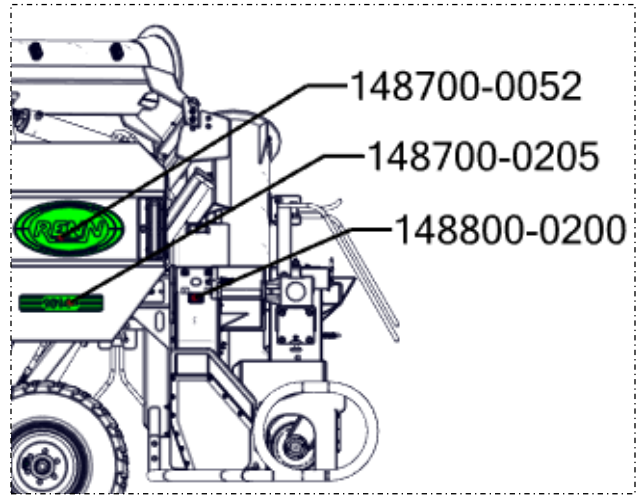
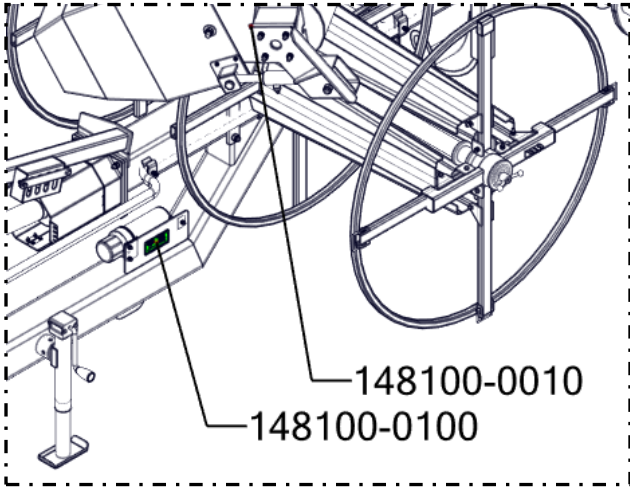
REFER TO OPERATOR'S MANUAL FOR FURTHER DETAILS ON GEAR BOX OPERATION AND MAINTENANCE. 1001 08

148800-0200



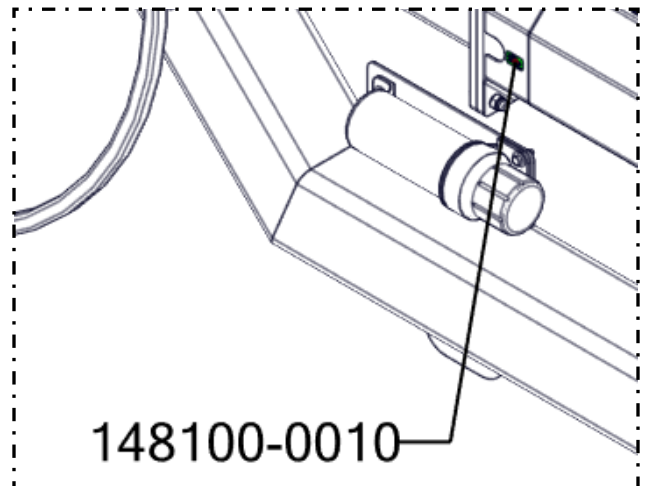
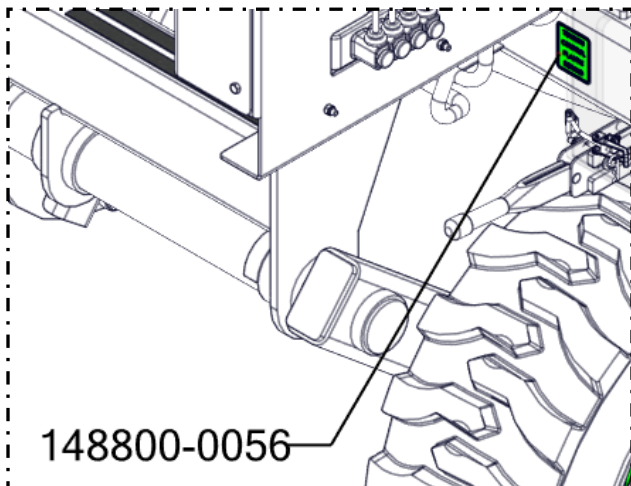
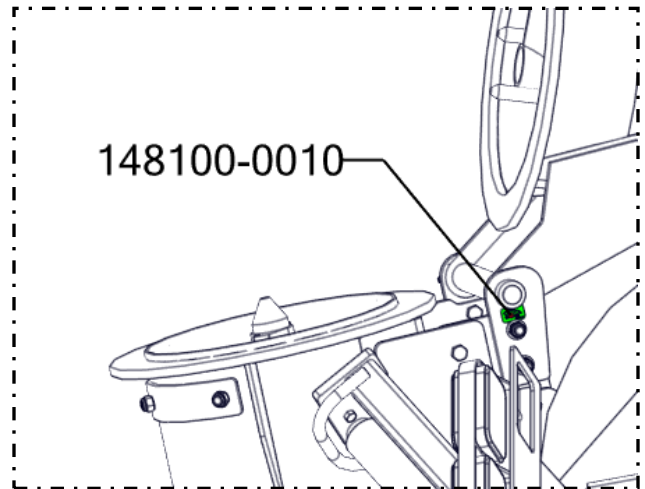
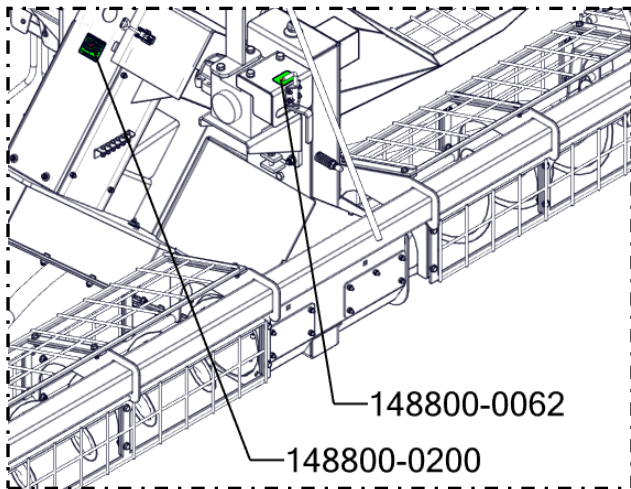
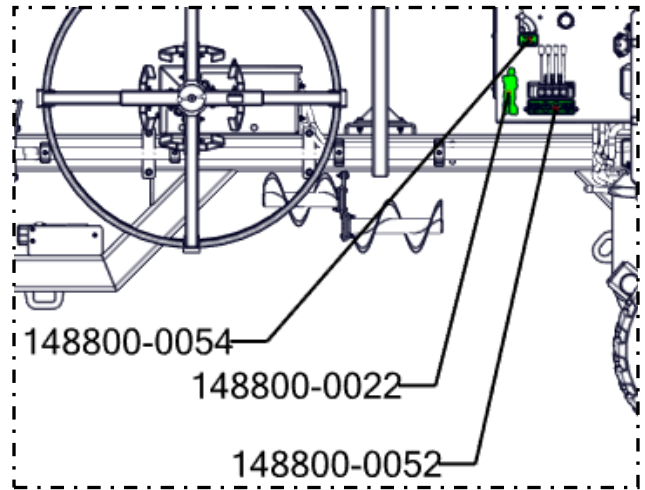
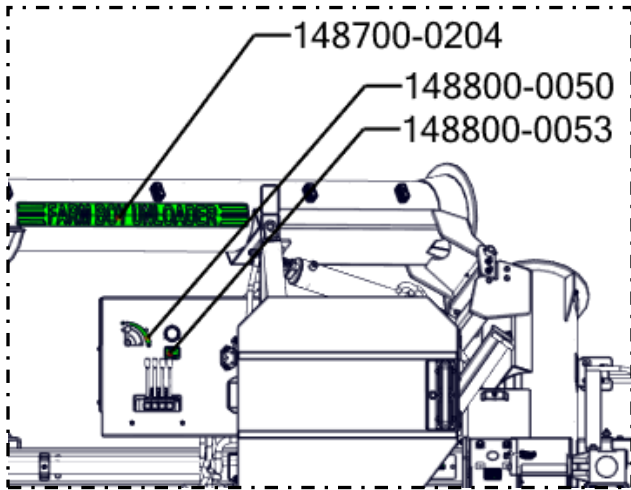
# 3 DECAL LOCATIONS

## 3.2 Information Decal Locations



# 3 DECAL LOCATIONS

## 3.2 Information Decal Locations



## **4 OPERATION**

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### **4.1 To the New Operator or Owner**

The Renn Unloader is designed to unload grain from your grain bag and deposit it into a transport trailer. Be familiar with the machine before starting.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, and prudence of personnel involved in the operation, transportation, maintenance and storage of equipment or in the use and maintenance of facilities.

It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the work site. Untrained operators are not qualified to operate the machine.

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 efficiently. By following the operating instructions in conjunction with a good maintenance program, your unloader will provide you with many years of trouble-free service.

For more information, please refer to Section 2.3 & Section 5 for further maintenance directions.

### **4.2 Before You Begin**

Unloading a bag using the Renn Bag Unloader can be a better experience if a number of things are kept in mind before beginning and while operating.

The first consideration is something to be taken into account when beginning bagging. Sealing the end of the bag by tying a knot before you begin to fill it can seem like a good idea, but it can cause problems later on in the process. What could potentially happen is that when nearing the end of unloading the bag (the last 20 feet or so), the knot may be picked up with the grain due to being buried amongst it, thus causing damage to your unloader and ripping the bag, dumping your grain onto the ground. Although you may be able to avoid this occurrence by being extremely careful, a better solution would be to seal the bag with a strip of polyfastener (or a similar tool) or by nailing lumber together to seal off the end. It is best if the seal is wide enough to be seen at the edges of the bag, or to mark its location so that you know when it is approaching. With some practice you can unload all but a few bushels of grain out of the bag.

A second consideration while bagging is the amount of plastic to leave at the end of the bagging process. This will be the amount of plastic you will have available when you begin the unloading process. Generally, the idea is to minimize waste and therefore leave as little plastic as possible. This makes the start-up challenging, but not impossible. It is suggested to leave a minimum of 10-12 feet past the last grain in the bag. This allows for ample plastic to hook onto the power windup roll.

A further consideration while emptying the bag is the necessity to steer the tractor and Unloader down the middle of the bag. Although there is some room for error, best results occur when the balance is well kept.

## 4 OPERATION

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### 4.2 Before You Begin (Cont.)

Another consideration is the size of the tractor to use in conjunction with the unloader. The unloader requires approximately 50 hp to operate at 540 rpm, but can be operated with tractors with higher speed ranges and with larger tractors, keeping some basic limitations in mind. Note that the larger the tractor, the more weight there is for the unloader and the bag to pull during operation. A tractor exceeding 90 hp is discouraged for this reason. When using a tractor running in the 1000 rpm range, throttle back to 50% of rated RPM. For most tractors, this still leaves enough hydraulic capacity to operate the bag pulling components. Excessive speed is actually a disadvantage during operation because it does not add to the capacity of the machine and causes unneeded wear. Note also that running the unloader at low rpm (400 or less) under load also has a down side, namely adding strain on the driveline components. This, coupled with excessive ground speed, can result in the premature failure of components.

Keep in mind that a significant amount of plastic can be wound onto the power windup roll, but the roll is not necessarily intended to roll up an entire bag length, and should be emptied so that the amount of plastic being removed is manageable in size and weight. Also keep in mind that a power windup roll with a lot of plastic on it reduces the pulling power of the machine, and changes the trajectory of the plastic being wound up on the roll.

When cutting into the plastic bag for any reason, keep in mind that considerable forces are at work where the plastic is under load. When necessary, cut the bag in line with the force, never across the force. In other words, never cut a full bag along its length, and never cut a bag that is being pulled across the direction of pull.

### 4.3 Pre-Operational Checklist

The efficient and safe operation of the Renn Unloader requires that each operator read and understand the operating procedures and all related safety precautions outlined in this section. A pre-operational checklist is provided for the operator. It is important for both personal safety and maintaining the good mechanical condition of the unloader that this checklist be followed. Before operating the unloader, and each time thereafter, the following areas should be checked:

1. Inspect the machine if it is the start of the season.
2. Lubricate the machine per the schedule outlined in the Maintenance Section (section 5).
3. Be sure that the machine is properly attached to the tractor. Be sure that a mechanical retainer is installed through the drawbar pin and the safety chain is installed.
4. Inspect all hydraulic lines, fittings and couplers.
5. Check all bearing locking collars to ensure that they are tight on the shafts and in good condition. Check that all set screws on the bearing collars are tight. Check that all bearing mounting hardware is secure.
6. Slowly raise the discharge auger to the unloading position to ensure that the auger has a clear path. Rotate the driveline by hand or slowly engage the PTO with the tractor until the discharge auger falls into drive. **Important!!** Make sure the auger is engaged prior to fully engaging the PTO.
7. Check the fluid levels in all gearboxes. There is a fluid level plug on the side of the gearbox. When the plug is removed, the fluid should trickle a little out of the hole. This will indicate that there is enough fluid in the gearbox.
8. Make sure all safety shields are properly installed.



## 4 OPERATION

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### 4.4 Attaching/Unhooking Tractor/Unloader

Follow this procedure when attaching the unloader to the tractor:

1. Make sure that all bystanders, especially small children, are clear of the working area.
2. Make sure there is enough room and clearance to safely back up to the machine.
3. Attaching the unloader:
  - A) Slowly back the tractor until the holes on the hitch and drawbar are aligned. The hitch tongue can be moved vertically to give a wider range of connection heights.
  - B) Lift the hitch with the hitch jack and install the drawbar pin and the retainer.
  - C) Attach the safety chain securely around the tractor drawbar cage to prevent separation.
  - D) Retract the hitch jack, remove the connecting cross pin, turn the jack 90 degrees so that it falls in line with the hitch pole, and replace the cross pin to fix the jack into transport position.
  - E) Connect the hydraulics:
    1. Use a clean rag or paper towel to clean the dirt from the couplers on the hose ends and the tractor.
    2. Connect the hoses to the tractor couplers. Be sure the couplers are securely seated.
    3. Set hoses so that the hoses do not rub PTO shield.
  - F) Reverse the above procedure when unhooking tractor, making sure the discharge auger is in transport position. Place the hoses in the hose holder provided.

### 4.5 Equipment Matching

To ensure the safe and reliable operation of the unloader, it is necessary to use a tractor with appropriate specifications. As a guideline, ensure that these specifications are met:

1. **Tractor Horsepower**: Power requirements for the unloader are a minimum of 50 PTO hp. Tractor size beyond this should be as minimal as possible due to the nature of the operation. **At no time should the tractor size exceed 90 hp. Doing so may exceed the pulling capabilities of the machine and result in failure of machine components.**
2. **Hydraulic System**: Ensure that the quick couplers are completely coupled, and that 1 outlet is available to operate the various cylinders on the unloader, and that the outlet is fitted for a continuous flow of 5 gallons per minute with minimal return to tank backpressure. The flow control on the tractor's directional control valve **MUST** be set to the lowest flow position.
3. **Components**: A hardened pin with a retainer and a safety chain must be used when connecting the unloader to the tractor.

## 4 OPERATION

### 4.6 Controls

#### 4.6.1 Hydraulics

1. The flow control valve (A) allows the operator to meter the amount of flow to the cylinders and rewind motor. It is recommended to closely match the hydraulic flow from the tractor to the required flow of the cylinder to maintain adequate ground speed (i.e. the valve should normally operate in the '3' to '5' range on the indicator (B).).
2. The acorn nut (C) at the top of the valve (A) is a relief setting. Removal of the nut will reveal a threaded plug which can be adjusted in or out, which correlates to higher or lower pressure settings. The relief setting should not be set beyond 2200psi on the pressure gauge (D). Oil escaping over the relief will make the valve 'squeal'. The main relief on the mono block control valve (I) is preset at 2600psi. This valve **MUST NEVER** be adjusted higher than the preset.
3. Control H is used to rotate the power wind-up roll. Control G is used to move the axle up-ward or downward. Control F is used to move the folding auger to either the working or transport position. Control E is used to rotate the bag rewind.

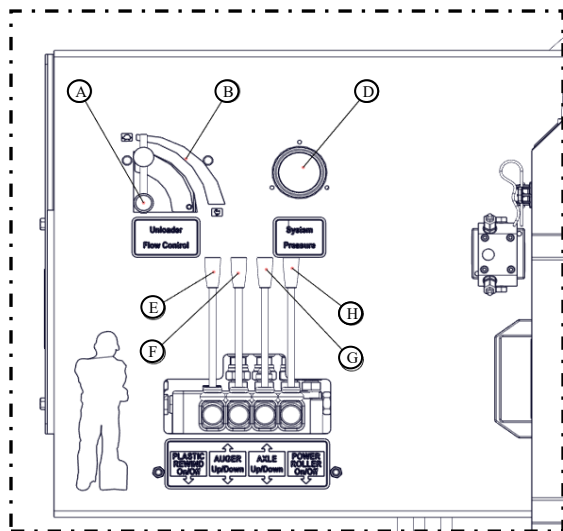


Figure 4.6.1-1

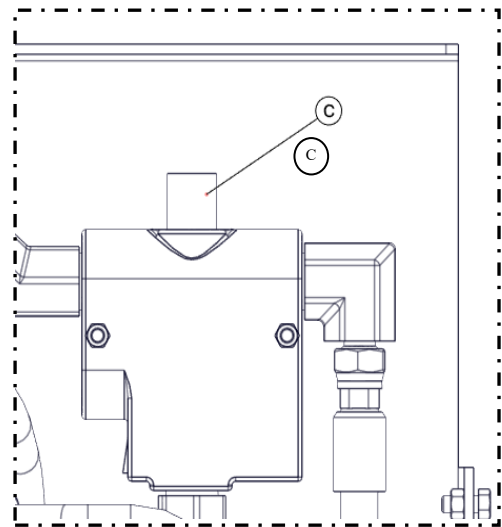


Figure 4.6.1-2

BACK SIDE OF CONTROL THE PANEL

#### 4.6.2 Ratchet Drive Control

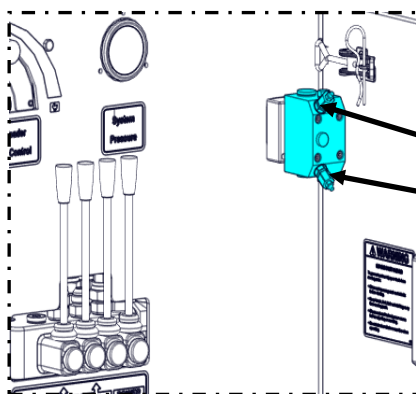


Figure 4.6.2-1

The switching pressure should operate at 1500 PSI. Increase switching pressure by turning the screw inward (release and tighten the jam nuts accordingly). The switching sequencing is factory set and should not be adjusted.

See troubleshooting section for adjustment (Section 8).

## 4 OPERATION

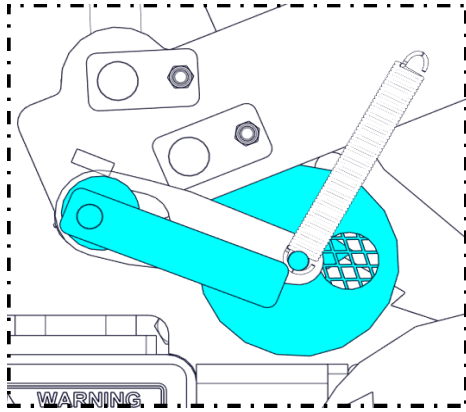


Figure 4.6.2-2

Ratchet Cog Release - Rotate the handle to disengage or engage the cog from the ratchet wheel.

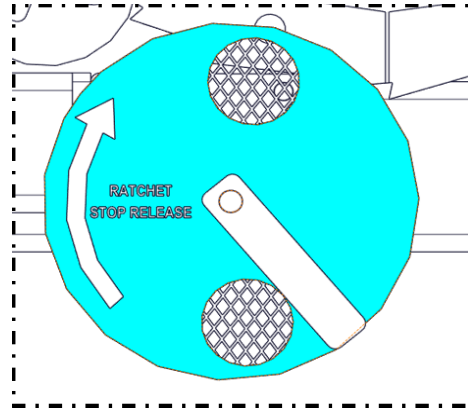


Figure 4.6.2-3

Ratchet Stop Release - Rotate the handle to disengage or engage the cog from the ratchet wheel.

### 4.6.3 Axle Lift Cylinder

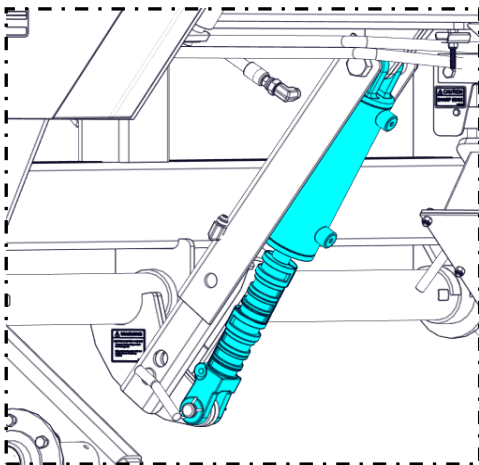


Figure 4.6.3-1

Shown with cylinder stops to set and hold machine height at desired level.

## 4 OPERATION

### 4.6.4 Gearbox Disconnect

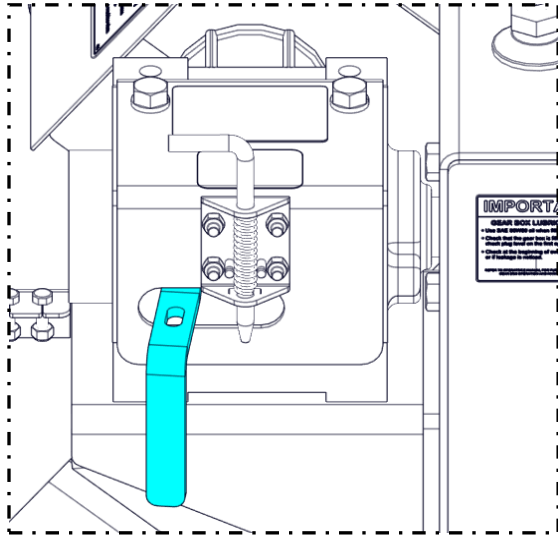


Figure 4.6.4-1

Sweep drive shown in ON position.  
**CAUTION: DO NOT** shift during operation to prevent gearbox failure.

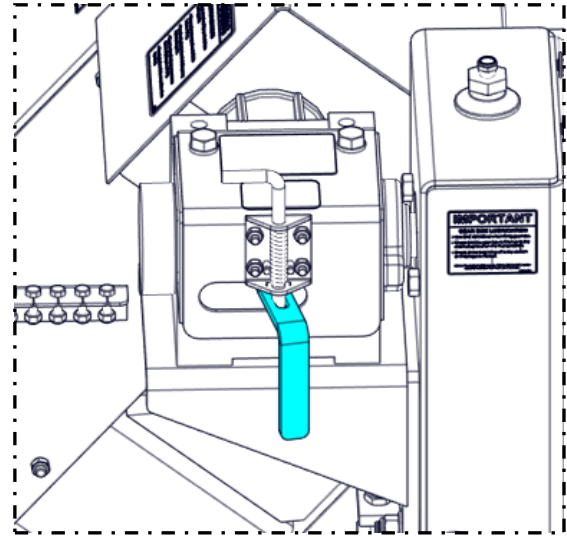


Figure 4.6.4-2

Sweep drive shown in OFF position.  
To turn the sweep drive off, move the lever and lock it using the latch.

### 4.6.5 Bag Knives

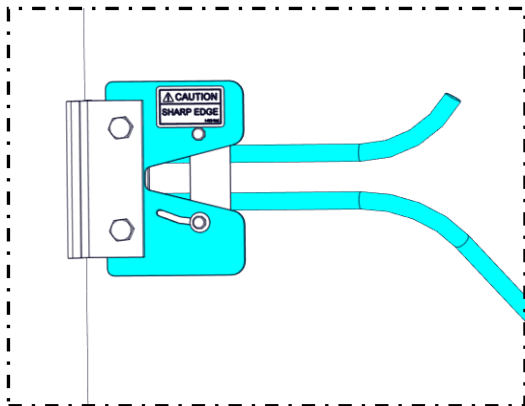


Figure 4.6.5-1

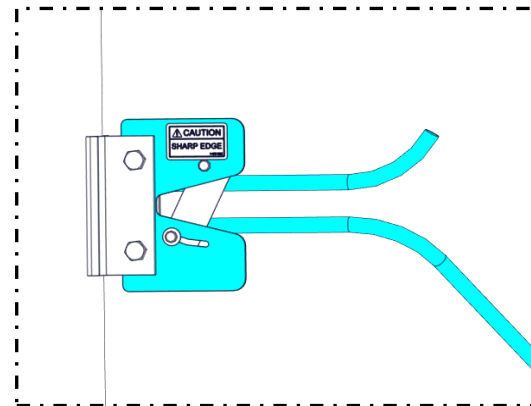


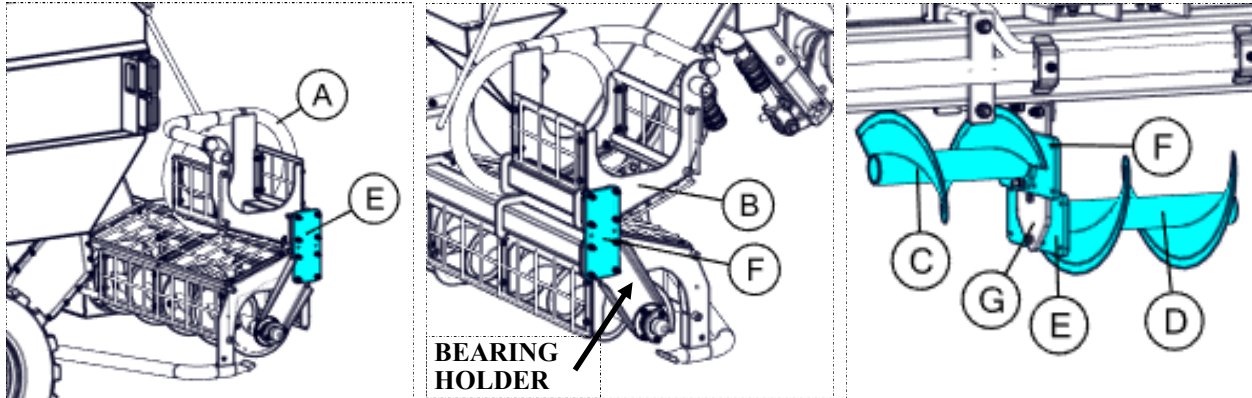
Figure 4.6.5-2

The bag knives can be rotated to an angled position. This may aid in better plastic cutting.

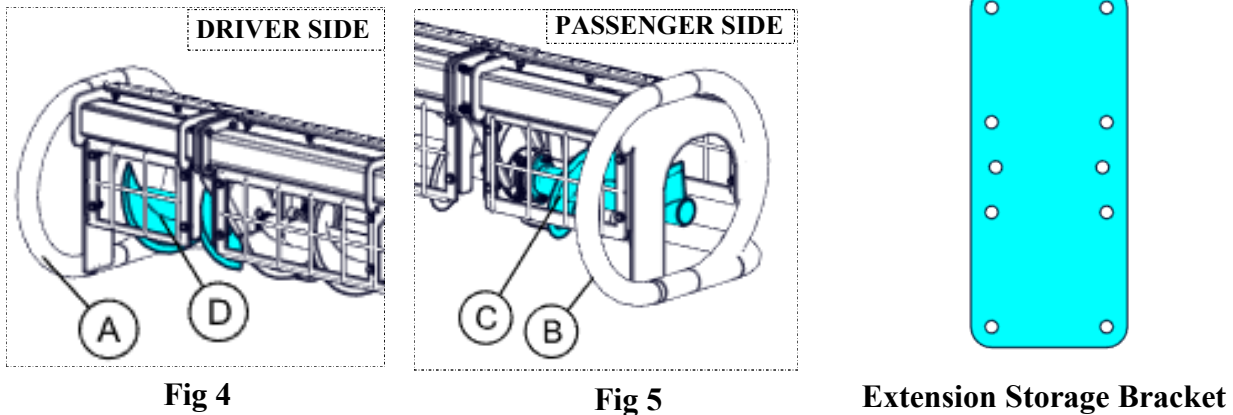
## 4 OPERATION

### 4.6.6 Sweep Auger Extensions

#### Sweep Extensions Transport Position



#### 10ft Sweep Extensions

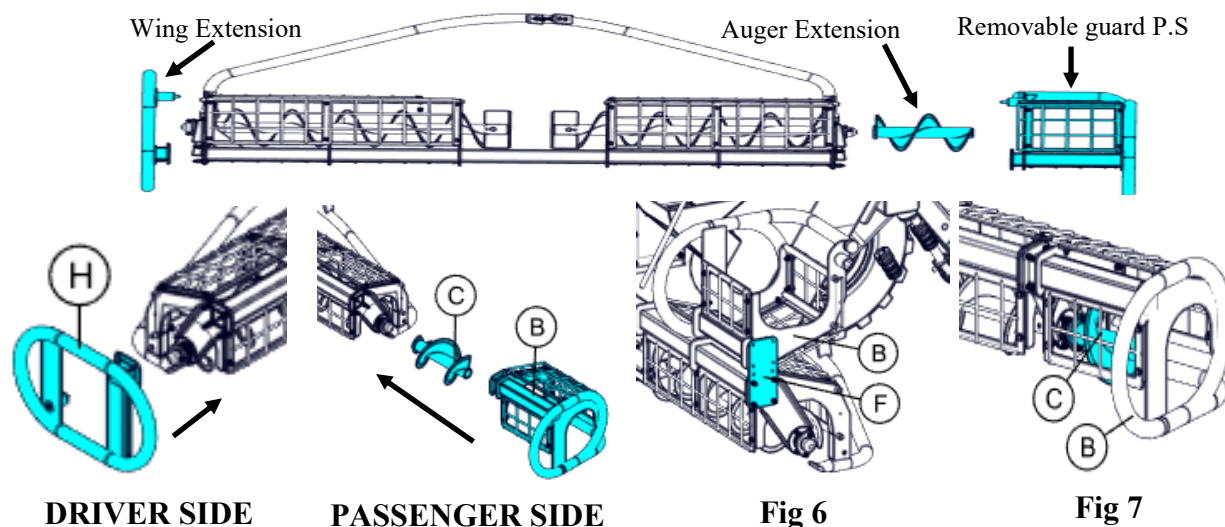


1. Remove 16" long auger extension 'C' (Fig 3) and install on Passenger side of sweep (Fig 5) and secure it with two 3/8" bolts and nuts.
2. Remove the frame extension 'B' (Fig 2) from passenger side and set it aside.
3. Remove Extension Storage Bracket 'F' (Fig 2) which is on the Passenger side and secure it on the Transport Mounting Plate 'G' (Fig 3).
4. Now secure the frame extension 'B' (Fig 2) with two 1/2" bolts & nuts on side plates and four 3/8" nuts on bearing holder.
5. Remove 16" long auger extension 'D' (Fig 3) and install on Driver side of sweep (Fig 4). Secure with two 3/8" bolts and nuts.
6. Remove the frame extension 'A' (Fig 1) from Driver side and set it aside.
7. Remove extension storage bracket 'E' (Fig 2) which is on the driver side and secure it on the Transport Mounting Plate 'G' (Fig 3).
8. Now secure the frame extension 'A' (Fig 1) with two 1/2" bolts & nuts on side plates and four 3/8" nuts on bearing holder.

Note: Always ensure to remove extension storage bracket "E" and 'F' from the Sweep Auger and secure it on the Transport Mounting Plate 'G' also ensure that 'A', 'B', 'C', and 'D' are installed before beginning the unloading operation.

## 4 OPERATION

### 9ft Sweep Extensions (Optional)



1. Remove 16" long auger extension 'C' (Fig 3) and install on Passenger side of sweep (Fig 7). Secure with two 3/8" bolts and nuts.
2. Remove the Frame Extension 'B' (Fig 6) from Passenger side and set it aside.
3. Remove Extension Storage Bracket 'F' (Fig 2) which is on the Passenger side and secure it on the Transport Mounting Plate 'G' (Fig 3).
4. Now secure Frame Extension 'B' (Fig 6) and install on passenger side of sweep (Fig 7) with two 1/2" bolts & nuts on side plates and four 3/8" nuts on bearing holder.

**Note:** Always ensure to remove the extension storage bracket 'F' from the Sweep Auger and secure it on the Transport Mounting Plate 'G' also ensure that 'B', and 'C' are installed before beginning the unloading operation.

### 4.7 Break-in

It is recommended that the augers be run at moderate to full operational speeds and at 1/2 to 2/3 capacity during the first few hours of operation. This allows the frictional forces to diminish significantly within the auger tube, and allows the free flow of grain to approach acceptable levels in the system. Keep this in mind after the unloader has been stored for extended periods of time as well.

It is also recommended that the following mechanical items be checked:

1. **Read the tractor and unloader equipment manuals before starting.**
2. **After operating for a 1/2 hour:**
  - Re-torque all wheel bolts, fasteners and hardware.
  - Check that all hydraulic connections are tight.
  - Check that no hydraulic hoses are being pinched or crimped. Reroute as required.
  - Lubricate all grease fittings.
3. **After 5 hours and 10 hours of operation:**
  - Re-torque all wheel bolts, fasteners and hardware.
  - Check that all hydraulic connections are tight.
  - Check that no hydraulic hoses are being pinched or crimped. Reroute as required.
  - Lubricate all grease fittings—do not over-grease.
  - Go to the normal servicing and maintenance schedule as defined in the Maintenance Section.

## 4 OPERATION

### 4.7 Break-in (cont'd)

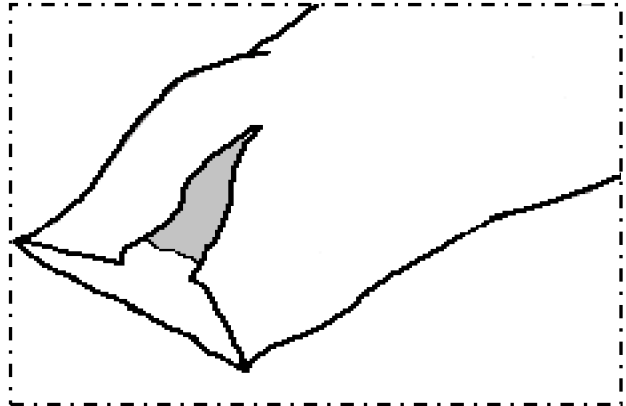
#### COLD WEATHER OPERATION

Colder weather will raise the viscosity of hydraulic oil in tractors. The result is thicker oil and an increase in hydraulic pressure. The unloader will perform at its best when the tractor is supplying 4~5 GPM of warm oil. To warm-up the oil, first make sure your directional valve flow control on the tractor is turned all the way down. This may be indicated by a turtle icon on some tractors. Run the rewind system to cycle oil through the valve on the unloader for 15~20 minutes or until the hoses feel warm to the touch.

### 4.8 Running The Bag Unloader

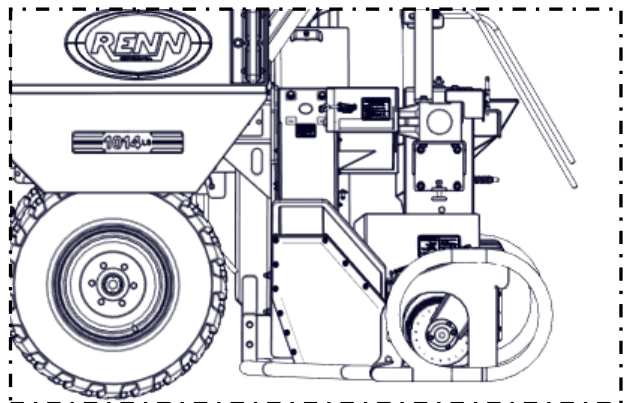
- 1) Open up the grain bag for the unloader to gain access to the grain pile. It is recommended to have about 8' of empty bag space \*\*from the front of the bag to the grain pile to attach the bag to the power roll.

**\*\*Note: You are required to have an absolute minimum of 6' of empty bag space. If there is not enough empty bag, refer to section 4.12**



- 2) Align the unloader so that the sweep auger is centered in the bag. Cut the bag about 4 feet past the edge of the grain pile and in line with the knife on the discharge auger. This would allow for enough plastic to go beyond the sweeps and be attached to the power roll.
- 3) Back up the unloader, passing the sweeps over the portion of the bag resting at the ground level. Do not drive the tires on to the bag.

- 4) Lower the machine down to a point where the sweeps clear the ground/ bottom of the bag by two inches. Use the cylinder stop to maintain the machine's height. Adjust the height of the sweeps when on uneven terrain to keep from tearing the bag.

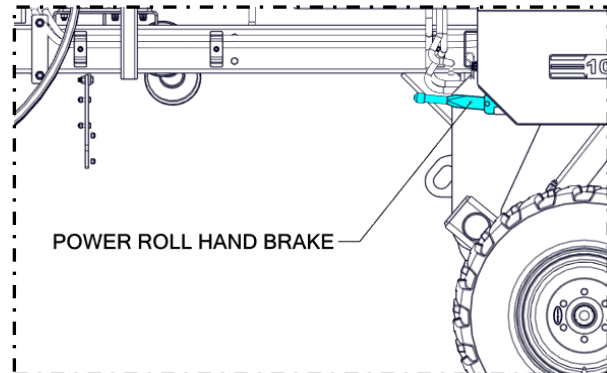




## 4 OPERATION

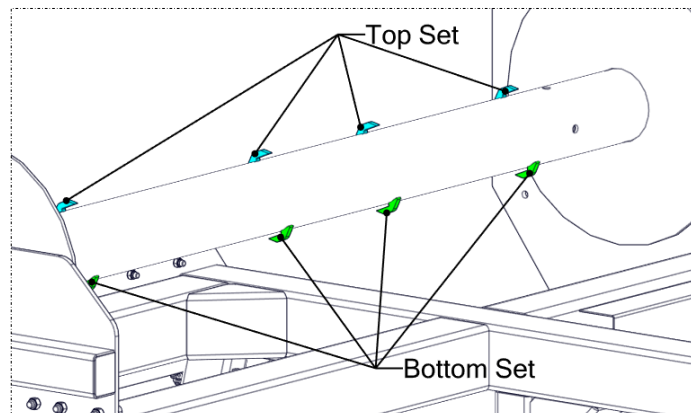
### 4.8 Running The Bag Unloader (Cont.)

- 5) Lower the power roll hand brake lever to release the brake band from the power roll to allow the power roll to be turned by hand. (Brake shown as fully engaged.)



- 6) Pull the bottom section of the bag under the sweeps and through the knife under the axle. Hook the bottom half of the bag onto the top set of the power roll teeth. Also make sure the bag is inside of the guide rollers and cut excess bag in front of the top set power roll teeth.

**Note: Remove any slack and ensure the bag is tight prior to hooking onto the teeth.**



- 7) Pull the top section of the bag over the bag guide and through the knife on the discharge auger. Hook the top section of the bag to the bottom set power roll teeth by pulling it up and over the first (top) set of teeth's where the bottom section of the bag is hooked on.





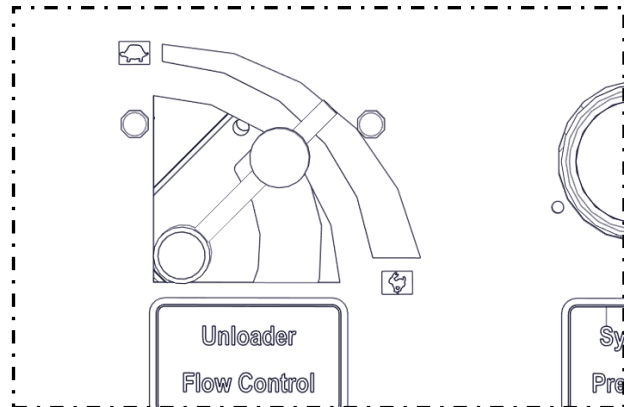
## 4 OPERATION

### 4.8 Running The Bag Unloader (Cont.)

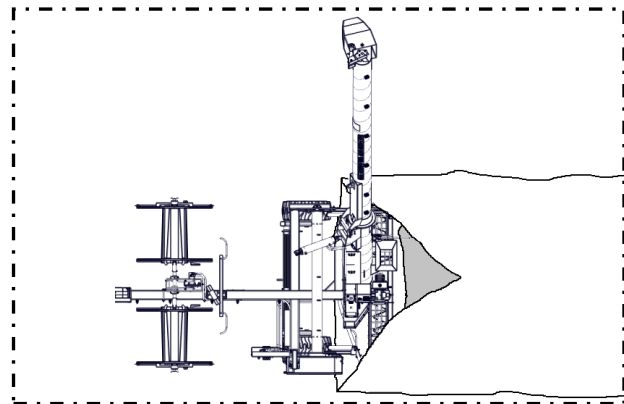
- 8) Turn the power roller by hand and make sure the bag is held tight evenly around the power roll. Below pictures shows how it would look like after first few stokes of the ratchet cylinder, if done properly.



- 9) Set the tractor to a minimum hydraulic flow and run the flow control valve in the '3' position



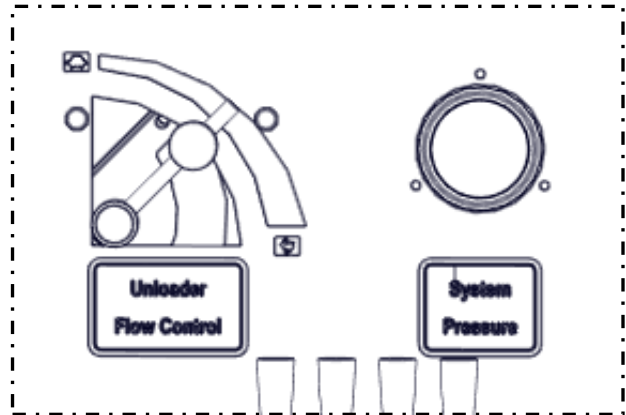
- 10) Using the hydraulics, raise the discharge auger and bring the truck into position underneath it.



## 4 OPERATION

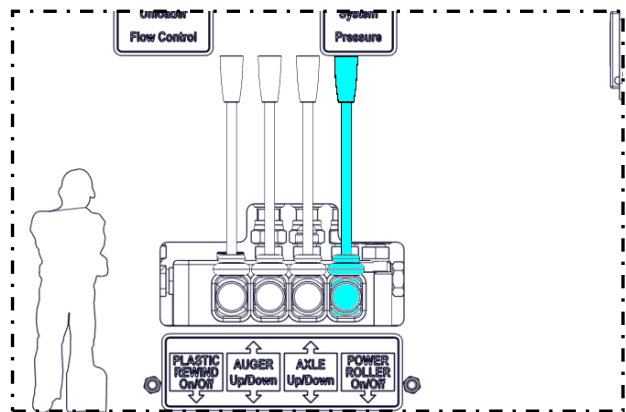
### 4.8 Running The Bag Unloader (Cont.)

11) Without engaging the PTO, provide a continuous hydraulic flow to the ratchet system. This system develops pressure as it operates, so a secondary locking device may be required on the tractor control. This system also controls the unloader's ground speed. Set the tractor to maintain an appropriate ground speed (Approx. 5GPM).

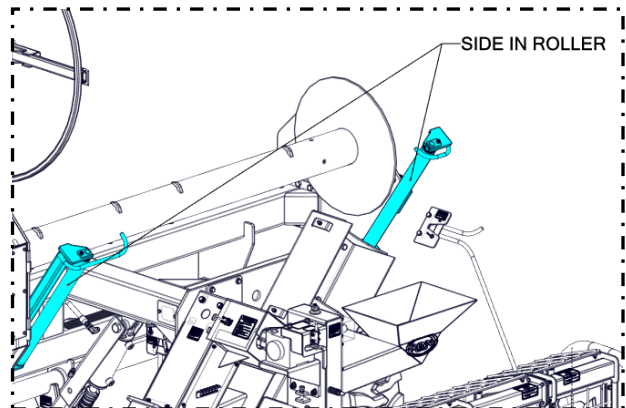


12) The system will not operate in forward motion until the power roll control lever is pulled into the operating position. Pulling the power roller lever engages the ratcheting process.

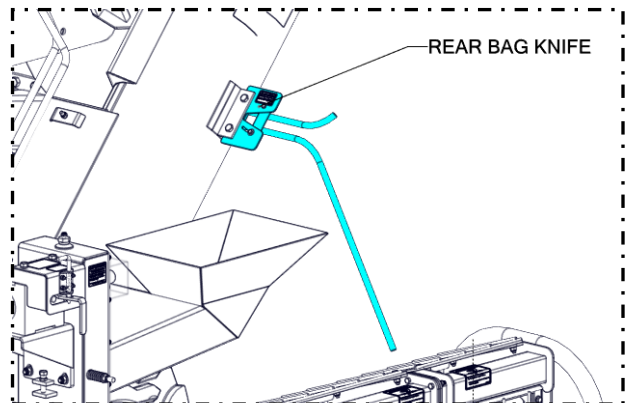
**The ratchet cylinder complete cycle time should be approximately 12 seconds.**



13) The first few strokes of the ratchet cylinder will take up the remaining slack in the bag. Watch the side-in rollers to make sure the bag is not caught under or behind them, and is tracking properly. Watch the power roll to ensure that all of the hook points remain intact, and that it keeps hold of the bag for the first turn.



14) Make sure to feed the plastic into the knife on the rear of the machine. At this point the lower knife should feed itself. Watch the plastic to make sure it feeds through both knives. Once the slack is out of the bag and the knives are successfully engaged turn off the power roll system.

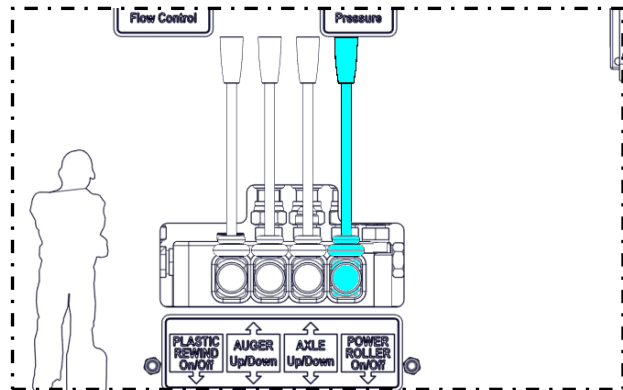


## 4 OPERATION

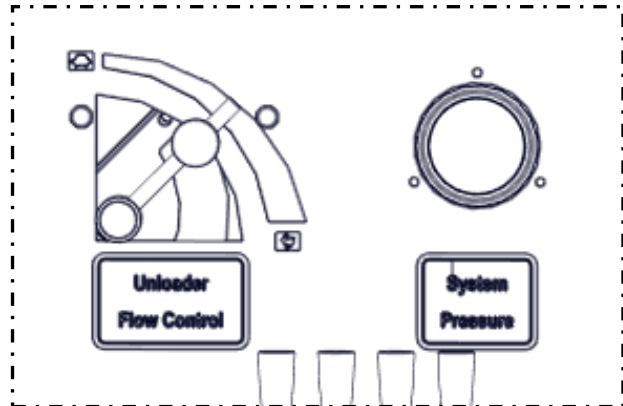
### 4.8 Running The Bag Unloader (Cont.)

- 15) With the tractor in neutral and any parking brake disengaged, start the PTO and bring it up to full operational speed. Do not exceed 540 RPM. Do not run the system on idle, especially when breaking in the machine. Higher than normal frictional forces will exist in the machine during break-in, placing unnecessary stress on the drive components.

- 16) Ensure that the tractor is in neutral (free wheel) and engage the power roll ratchet system. Check the flow of plastic across the knives again.



- 17) Adjust the setting on the flow control to adjust the ground speed to meet unloading requirements. This is dependent on the flow delivered by the tractor. If ground speed is too slow (with flow control at its maximum) the oil flow level from the tractor may be set too low, and will need to be adjusted.



***Do not travel faster than the ability of augers to take up the material.***

- 18) Ensure that there is not too much grain accumulation on the forward side of the sweep augers (having passed the augers and in front of the tires) as this can create unwanted issues. This bulge should be kept to a minimum.

***Watch the lower knife to ensure there is not an excessive build up accumulating on the forward side of the knife. (Acceptable build up shown.)***

***NOTE: The goal is to find a good balance between keeping the augers full—but not putting too much stress on the sweep system by pushing into the grain pile unnecessarily.***



## 4 OPERATION

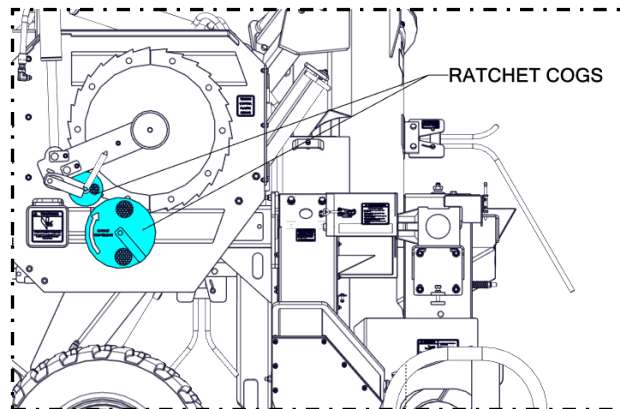
### 4.9 Stopping The Unloading Process

When the power roll is almost full of plastic, think ahead and be sure to have ample free space in a truck to empty the grain from the discharge auger to clear the machine.

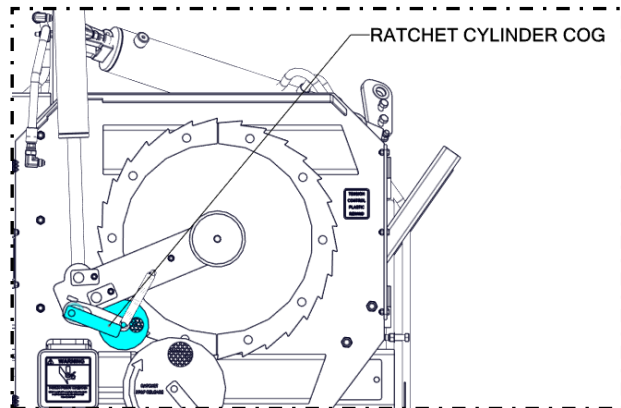
- 1) Disengage the power drive roll (ratchet) system.
- 2) Back the tractor and unloader into the bag a short distance to relieve bag tension.
- 3) Allow the PTO to run until the augers run empty.
- 4) Shut off the tractor PTO and set the parking brake, keeping the hydraulic flow running.

**If excessive tension still exists on the bag, proceed to the following steps to De-Ratcheting Power Roll.**

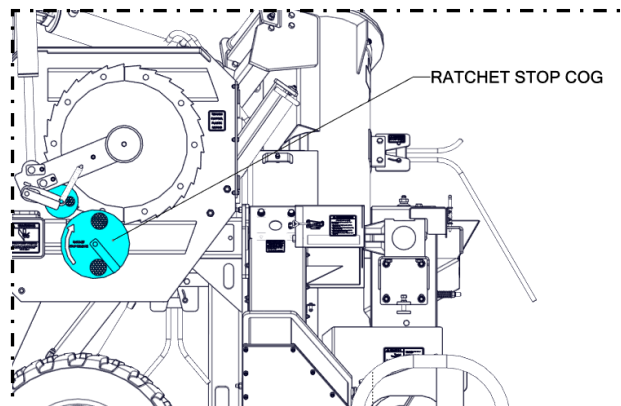
- 1) Release the bag pressure from the power roll by manipulating the ratchet cogs.
- 2) Lower the flow control to slow the movement of the ratchet drive cylinder. The actions required to remove tension from the bag are much easier to accomplish at a slower speed.



- 3) As the ratchet drive cylinder reaches a contracted position release the ratchet cylinder cog.
- 4) Allow the ratchet cylinder to extend and engage the ratchet cylinder cog just before the ratchet cylinder reaches full extension.



- 5) As the ratchet cylinder removes the pressure from the ratchet stop cog, release the stop cog, allowing the ratchet cylinder to retract and release the pressure on the grain bag.
- 6) Repeat this process 2-3 times or until there is adequate slack in the grain bag. If removing the unloader from the bag, make sure to leave 10 feet of empty/free plastic bag to allow re-attachment of the bag to the unloader.





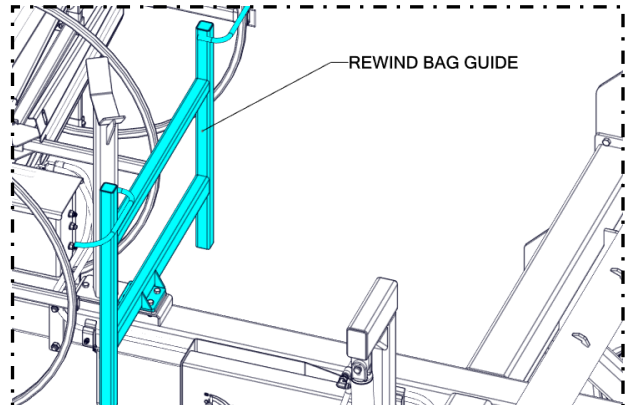
## 4 OPERATION

### 4.10 Using The Bag Rewind System

- 1) When the bagging process has finished, or you have cut the bag at the point at which you would like to begin the rewind process, disengage the brake and cylinder cogs on the ratchet wheel, leaving it free to turn under pressure from the rewind system (section 4.9).

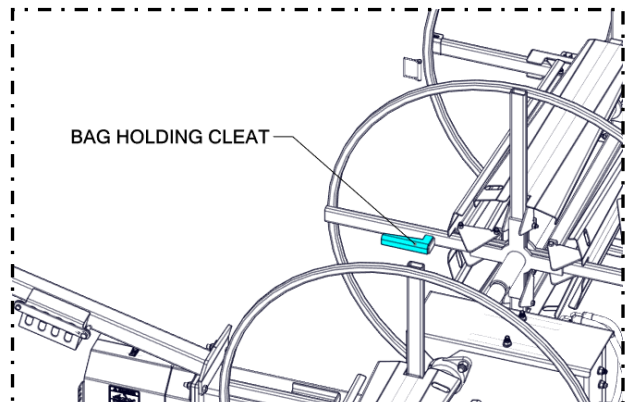
- 2) To begin the rewinding process, pass the two ends on the halves of the bag around the rewind bag guide and proceed on to the rewind spools.

**Plastic from the drivers side and passenger side of the knives should go to their respective sides of the rewind rolls.**

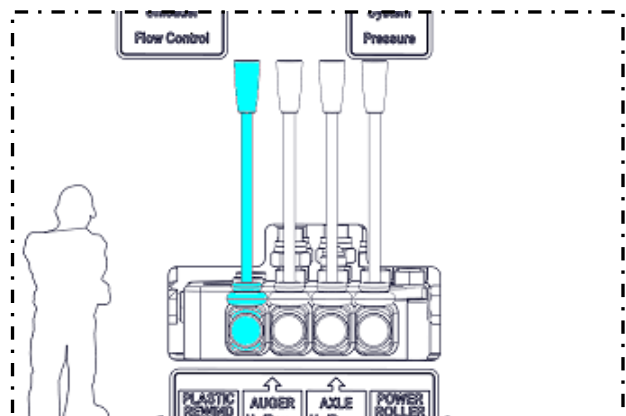


- 3) Run the two bag sections over the top of each of the bag rewind spools. Pass them through the inner guide ring and hook them into the bag holding cleats.

***Ensure that the hold is firm enough on the plastic to allow for at least one full rotation of the rewind spool.***



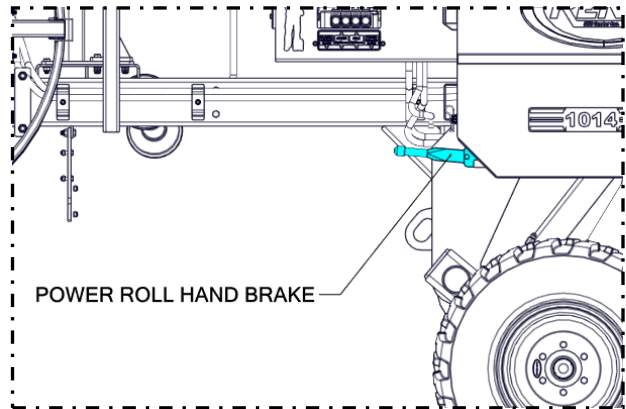
- 4) Engage the plastic rewind drive by pulling on the plastic rewind on/off lever. Ensure that the flow control is turned down at the beginning of the process so that both spools can be watched to see that they are successfully taking up plastic. Increase speed when ready.



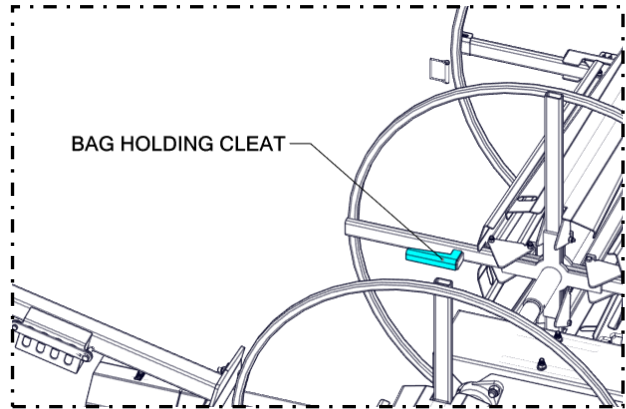
## 4 OPERATION

### 4.10 Using The Bag Rewind System (Cont.)

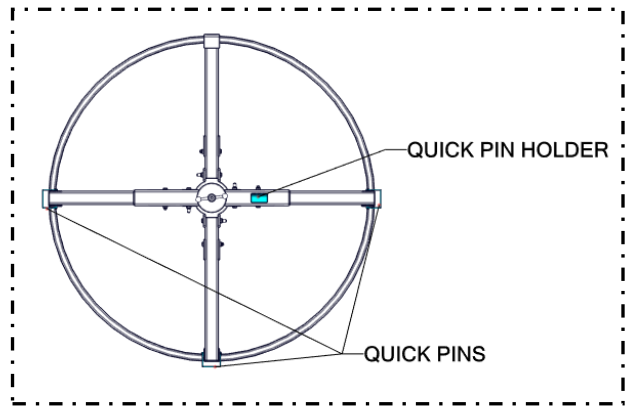
- 5) Start rewinding the plastic without the hand brake pulled on. Make three to four wraps and then use the power roll brake handle to apply friction to control the rewind wrapping tension. The brake friction will need to be reduced as the size of the plastic roll grows. The brake can apply more friction than the rewind can overcome, so operate accordingly to achieve a tightly wound finished product.



- 6) Continue wrapping the plastic on to the rewind until either the rewind becomes full or the power roll becomes empty.
- 7) Remove the rolls of plastic from the rewind by first unhooking the bag from the bag holding cleats mentioned in step 3.

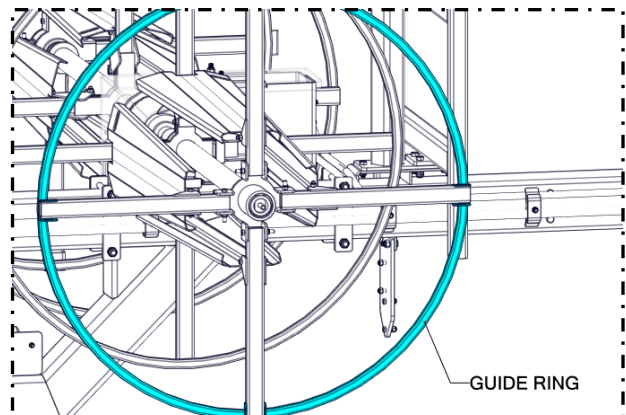


- 8) Remove the three quick pins on the outside guide ring and place in the quick pin holder bracket.



- 9) Remove the guide ring.

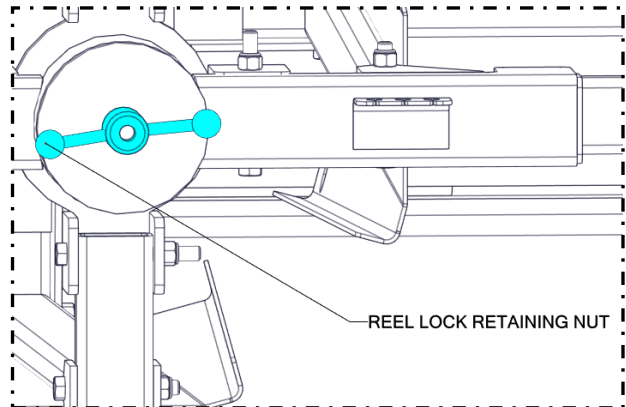
***Tie or tape the outside wrap of the bag roll to keep the roll intact.***



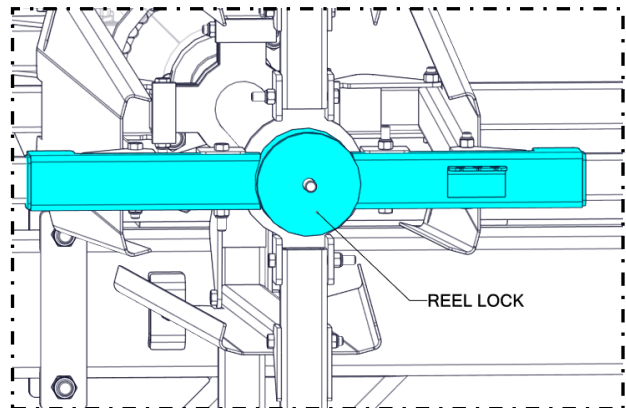
## 4 OPERATION

### 4.10 Using The Bag Rewind System (Cont.)

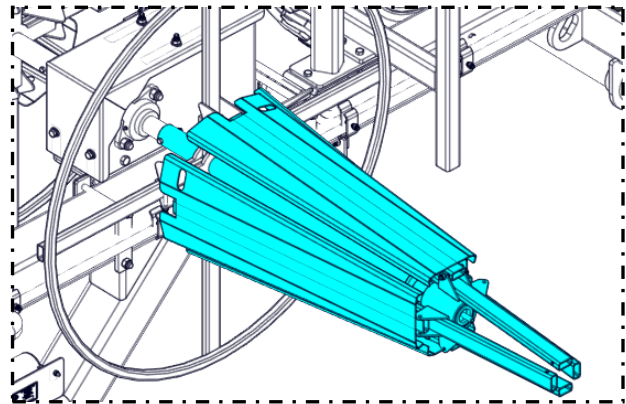
- 10) Loosen and remove the reel lock retaining nut (T-handle).



- 11) Remove the reel lock bracket.



- 12) Fold the 4 spokes in towards each other, collapsing the attached reel plates. The plastic roll should slide off of the reel easily.



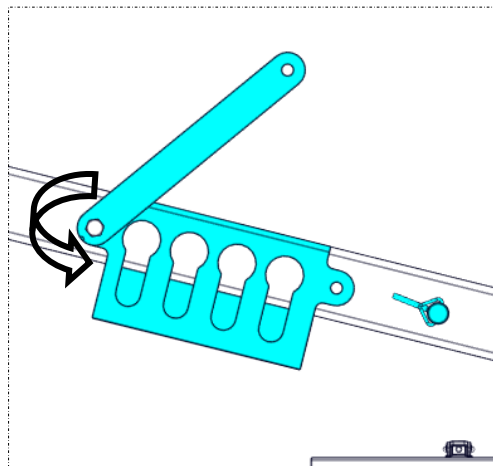
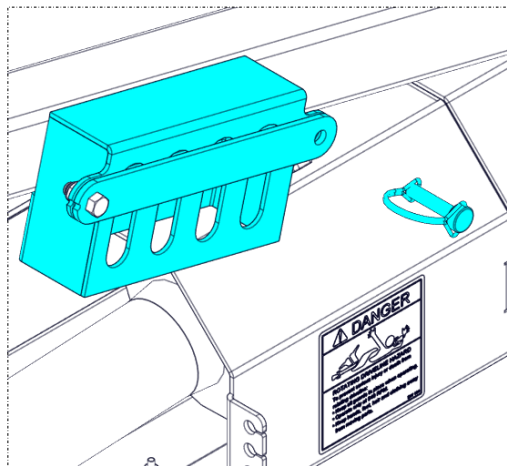
***Warning: Rolls of plastic may be extremely heavy. Take care when removing large rolls of plastic.***

- 13) Put the rewind reel assembly back together by reversing steps 12 through 7.

## 4 OPERATION

### 4.11 Hose Hanger

- A) Open the quick pin that's holding the lock plate and the front panel of the hose hanger.
- B) Rotate the Lock plate counter clockwise. If the lock plate is too tight, loosen the bolt at the bottom of the lock plate.



### 4.12 Create Empty Bag Space

- A) Align the unloader so that the sweep auger is centered in the bag. Open up the bag and cut the top of the bag perpendicular to the end of the bag (section 4.8 step 1 ) to create enough access into the grain pile.
- B) Lower the sweeps to a distance of about 2” from the ground and place the discharge auger into place.
- C) Line up the truck and the discharge auger spout.
- D) Start the unloader, make sure sweeps are engaged. **\*Do not engage the ratchet system\***
- E) Back up the unloader using the tractor, slowly, and make sure not to let any of the plastic get into the sweeps. Unload grain until there is enough plastic to go beyond the sweeps and be attached to the power roll.
- F) Once there is enough plastic, pull the unloader forward until it is off the bag.
- G) Once the unloader is off the bag, follow from section 4.8 step 3 to 18.



# 5 SERVICE AND MAINTENANCE

## 5.1 Servicing Record

See the Lubrication and Maintenance sections for details of service. Copy this page to continue record.

ACTION CODE: CL.....CLEAN                      T.....TIGHTEN  
                   L.....LUBRICATE                    CH.....CHECK

<div style="display: flex; justify-content: space-between;"> <span>MAINTENANCE</span> <span>Hours Serviced By</span> </div>										
<b>10 Hours of Driveline Use</b>										
L U-Joints - PTO										
L U-Joint - Sweep Drive										
L Discharge Auger Bushing										
L Sweep Drive Gear Case										
<b>30 Hours of Driveline Use</b>										
L Drive Line Bearing - Primary - Front										
L Drive Line Bearing - Primary - Mid										
L Drive Line Bearing - Discharge Auger										
<b>50 Hours of Driveline Use</b>										
CH Gear Box Oil Level ( x 2 )										
CH Auger Drive Gear Case Oil Level										
L Wheel Hubs										
CH Side-in Roller Bearing ( x 4 )										
CH Sweep Drive Chain Tension										
<b>Once per Season, as Necessary</b>										
L Wind-up Roll Bearing ( x 2 )										
L Axle Pivot Points ( x 3 )										
L Rewind Bearing ( x 2 )										
L Discharge Auger Hinge										
<b>Annually</b>										
T All Fasteners										
CH Gear Box Oil Level and Quality (1 US Gallon)										
CL Machine										
L Drive Line Bearing - Auger Drive ( x 3 )										

## 5 SERVICE AND MAINTENANCE

---

### **5.2 Maintenance**

By following a careful service and maintenance program for your machine, you will enjoy many years of trouble-free service.

#### **Grease**

Use an S.A.E. multi-purpose high temperature grease with extreme pressure (EP) performance or an S.A.E. multi-purpose lithium based grease.

1. Use only a hand-held grease gun for all greasing.
2. Wipe grease fittings with a clean cloth before greasing to avoid injecting dirt and debris.
3. Replace or repair any grease fittings immediately.
4. If a fitting will not take grease, remove and clean thoroughly. Clean the lubricant passage-way

#### **5.2.1 Auger Drive 'T' Gearbox**

1. Check the fluid level of the gearbox. If a new gearbox is installed, ensure that it is filled with 80W90 oil. The gearbox should be filled so that the oil slowly trickles out of the level check. Replace the fill plug after checking or filling with oil.
2. Check that the 1/2" bolts used to mount the gearbox are torqued to 75ft-lbs to properly fasten the casting.

##### **Replacing the Auger Drive 'T' Gearbox**

1. Remove the sweep drive gearbox as outlined in section 5.2.4. Also remove the seal plate after the top sprocket is removed.
2. Continue removing the sweep drive gearbox
3. The auger drive 'T' gearbox chain coupler can be removed at this point.
4. Remove the four bolts that bolt the gearbox to the bracket. Note that it may be necessary to allow for extra clearance for the sweep drive gearbox shaft to come out of u-joint.
5. Replace the 'T' box.
6. Assemble following steps 1-5 in reverse.
7. Note that care is required when re-aligning the chain coupler sprockets and the u-joint shafts from the 'T' box to the sweep drive gearbox. If aligned correctly, you should be able to move the chain coupler and slide the u-joint back and forth by hand prior to dropping in the 5/16 bolt and tightening the set screws. There are adjustment provisions available at the sweep drive gearbox mount bracket if needed.
8. All gearbox bolts must be torqued to 75 ft-lbs.

**IMPORTANT:** *Use 80W90 oil to fill the gearbox with oil to the correct level. When replacing the 'T' gearbox, ensure that rotation of the primary shaft is pointed in the correct direction. The primary shaft should rotate clockwise from the back of the machine.*

## 5 SERVICE AND MAINTENANCE

---

### 5.2.2 Gear Case—Discharge Auger Drive

To inspect the tension of the drive chain or to remove and replace gear case components.

To remove the sprocket:

1. Drain the oil from the gear case.
2. Remove the oil pan from the bottom of the gear case.
3. Relieve the spring tension from the drive chain.
4. Remove the drive chain by removing the connector link from the chain.
5. Remove the sprockets as necessary. Note that these are bushings with a taper.
6. Reassemble by following steps 1-5 in reverse. Note that the spring should have a 1/16" minimum gap between coils when properly tensioned. Reseal oil pan as necessary.

### 5.2.3 Discharge Auger Assembly

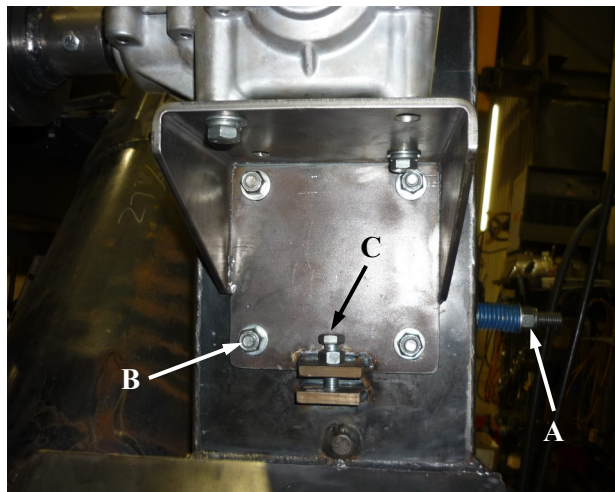
To remove and replace the discharge auger, place the auger into the transport position as shown on the front cover. Ensure proper lifting and holding devices are used in this process.

1. Secure the discharge auger to the transport post.
2. Remove the pin connecting the cylinder to the auger.
3. Support the auger at the hinge point and remove the bolt and the hinge pin.
4. Carefully place the auger on the ground for further work or to remove components required in the new auger.
5. Replace the auger following steps 1-4 in reverse.

### 5.2.4 Sweep Drive 90° Gearbox Height Adjustment

The gearbox height adjustment is set at the factory to minimize u-joint angle. If field adjustment is required, follow the steps below.

1. Loosen the chain tension spring by rotating the Nyloc nut (A) counterclockwise.
2. Loosen the four bracket bolts (B).
3. Adjust bolt (C). The bracket can be tilted as well.
4. Tighten all bolts and reset the chain tension (chain tension should be checked every 50 hours).
  - The chain tension is kept constant by a compression spring (A).
  - Turn the Nyloc nut in or out on the stud to set the spring length to 1-3/4".



## 5 SERVICE AND MAINTENANCE

---

### 5.2.5 Sweep Drive 90° Gearbox

1. Check the fluid level of the gearbox. If a new gearbox is installed, ensure that it is filled with 80W90 oil. The oil level in the gearbox should be filled and maintained at half capacity. The oil level can be checked by removing the level plug. Oil should just trickle out from hole. Replace the fill plug after checking or filling with oil.
2. Check that the 1/2" bolts used to mount the gearbox are torqued to 75ft-lbs to properly fasten the casting.

### 5.2.6 Replacing the Sweep Drive Gearbox

1. Remove the drive chain, upper sprocket and seal plate as outlined in section 5.2.4.
2. Release the sweep auger disconnect.
3. Remove the four 5/16" bolts on the lower disconnect shield and rotate the shield out.
4. Remove the four 1/2" bolts securing the gearbox to the mount. Do not remove mounting bolts from sweep box or misalignment may occur.
5. Replace the gearbox and re-align the disconnect.
6. Torque the bolts to 75 ft-lbs.

*NOTE: It may be necessary to remove the chain coupler and 'T' drive gearbox bolts to pull the sweep box from the u-joint.*

### 5.2.7 Sweep Section Gear Case

To inspect the tension of the drive chain or to remove and replace gear case components, remove the side cover plate from the box to gain access. Be careful not to over-tighten the chain.

To remove the upper sprocket:

1. Remove the shaft cover and outboard bearing on the sweep gearbox.
2. Remove the side cover plate.
3. Push the disconnect back to disengage the sweep drive and relieve the tension on the chain.
4. Remove the drive chain by removing the connector link from the chain.
5. Loosen the lock collar set screws on the sprocket and slide off the gearbox shaft.

To remove the lower shaft or sprocket: *(Note: This is a dry Gear Case.)*

1. Remove the side cover plate and release the chain tension.
2. Disconnect the drive chain by removing the connector link.
3. Remove both sweep extensions on the ends of the sweep assembly by removing the four 3/8" bolts on the frame and the two 1/2" bolts on the pipe bag hold down.
4. Take off the access covers on the sweep box and remove the sweep auger 1/2" drive bolts on both sides of the box.
5. Pull off both the right and left sweep augers.
6. Take note of the shaft position for re-assembly.
7. Loosen the lock collar set screws on driver's side of unloader and turn the lock collar in the opposite direction of the shaft rotation and remove.
8. Reaching through passenger side gearbox sweep auger hole, remove the lower side plate bolts.
9. Pull the assembly out of the passenger's side of the gearbox.
10. Loosen the lower sprocket set screws and slide off the shaft.
11. Re-assemble by following steps 1-10 in reverse.

## 5 SERVICE AND MAINTENANCE

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### 5.2.8 Bevel Gear Drives

Check the oil level every 24 hours of operations. Change the oil when the gear drive has been in service for 50 hours. Routine oil changes intervals will vary for each particular installation depending on the severity of the environment. Normal changes should occur between 250 and 1000 hours of operations. The longest life at continuous service will be realized when the oil temperature does not exceed 200° F.

### 5.3 Servicing Intervals

#### 5.3.1 Daily Check

Removable fasteners - ensure the existence, placement, and tightness of the fasteners prior to using the equipment.



Sweep Extension Bolts - Left and Right Side( x8 )



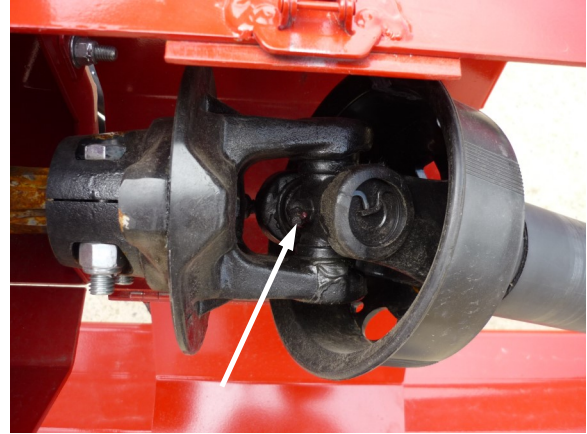
## 5 SERVICE AND MAINTENANCE

### 5.3.2 10 Hours of Driveline Use (Cont.)

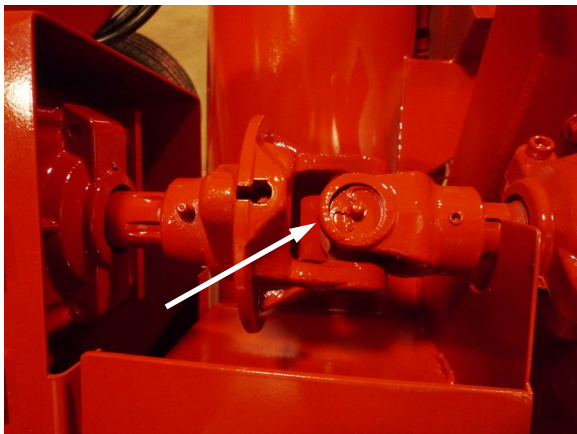
Grease the u-joints and discharge auger bushing with 2 shots of grease and lubricate the sweep drive chain.



PTO Front Yoke



PTO Rear Yoke



Sweep Drive U-Joint



Discharge Auger Bushing



Sweep Drive Gear Case

Drop enough oil to lightly coat the chain through the access plug and onto the chain. Chain spray lube will also suffice. This is a dry box. There is no oil level to maintain.



## 5 SERVICE AND MAINTENANCE

### 5.3.3 30 Hours of Driveline Use

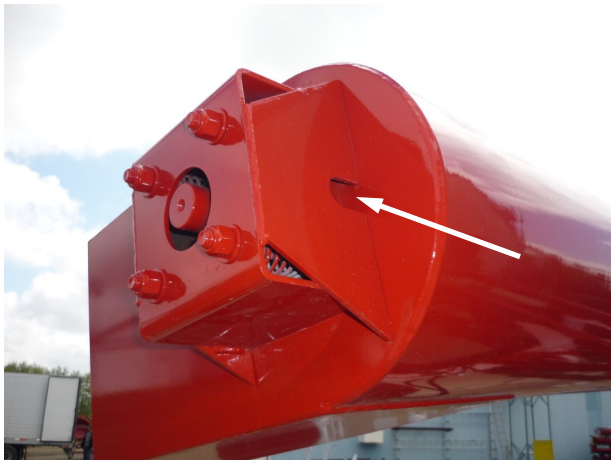
Grease the driveline bearings with 2 pumps of grease



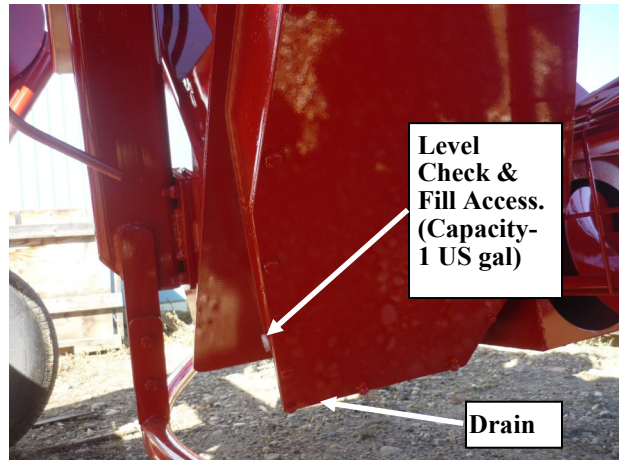
Primary Driveline Flange Bearing



Primary Driveline Support Bearing



Discharge Auger Flange Bearing



Auger Drive Gear Case.  
Fill until oil just comes out fill plug.  
80w-90 gear oil

## 5 SERVICE AND MAINTENANCE

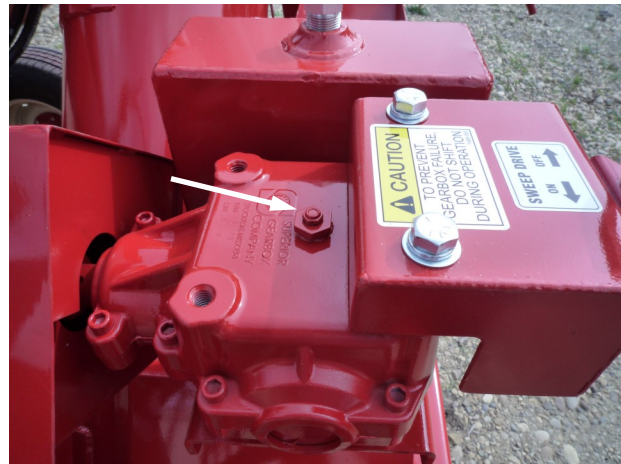
### 5.3.4 50 Hours of Driveline Use

Check oil levels and oil seals for any leaks, add fluid as necessary.

Check the gearbox oil level. Remove the plug in the side of the gearbox. The oil should trickle out slightly from the level check plug hole of the **'T' gearbox** when it is filled to the correct level. For the **90° gearbox**, maintain oil level at half capacity.



'T' Gearbox Fill Access



90° Gearbox Fill Access



'T' Gearbox Level Check



90° Gearbox Level Check

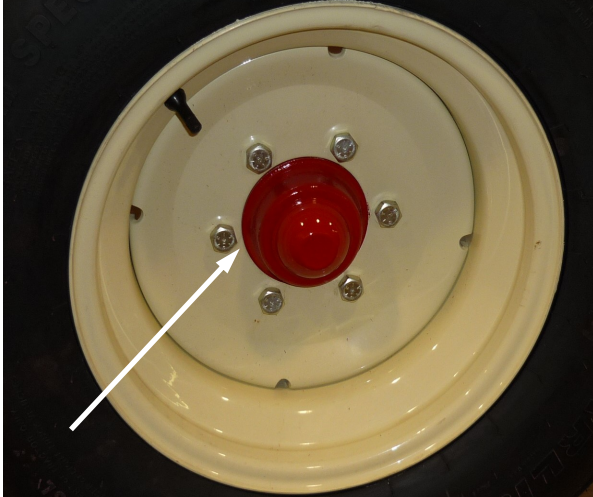


## 5 SERVICE AND MAINTENANCE

### 5.3.5 50 Hours of Use

Grease the wheel hubs (2 locations). Apply a generous amount of grease.

*NOTE: Over-greasing may lead to seal damage.*



Re-torque wheel bolts after first use to 85 ft-lbs.



Side-in Rollers

Check rotation. If rough or difficult to rotate, replace friction fit bearings.

**IMPORTANT:** Retorque wheels after 100Kms of towing or 8 hours of operation. Refer section 10 for torque specification.

### 5.3.6 Once Per Season

Grease the bearings and bushings with 2 shots of grease.



Wind-up Roll Flange Bearing ( x2 )



Axle Pivot Points ( x3 )

## 5 SERVICE AND MAINTENANCE

### 5.3.6 Once Per Season (Cont.)

Grease the bearings and bushings with 2 shots of grease.



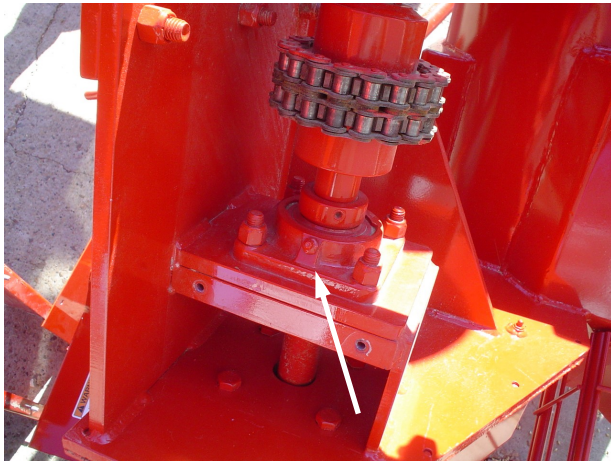
Rewind Flange Bearing ( x2 )



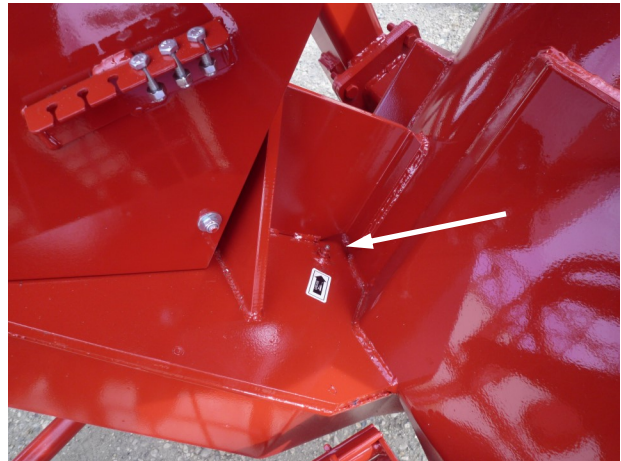
Discharge Auger Hinge

### 5.3.7 Annually

1. Tighten all fasteners, refer to Section 9 for torque specifications.
2. Check gear box/gear case oil quality.
3. Clean the entire machine.



Auger Drive Flange Bearing  
(Safety covers removed)



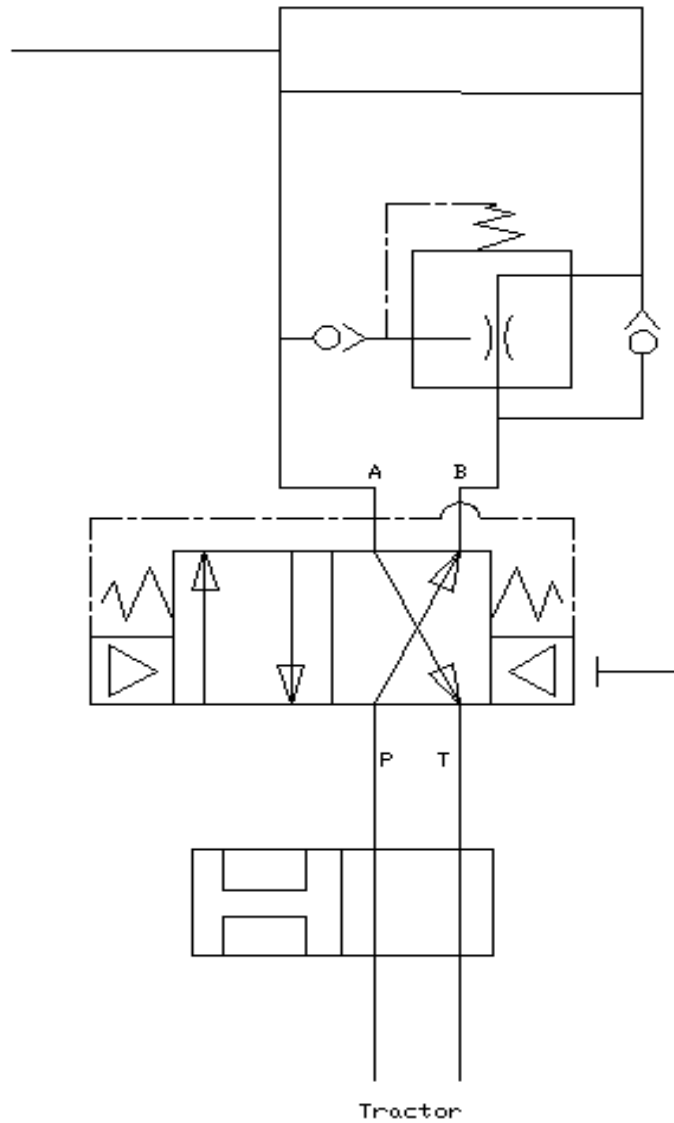
Auger Drive Flange Bearing  
(Greaseline to Flange Bearing)

## 5 SERVICE AND MAINTENANCE

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### 5.4 Hydraulic Schematics

Hydraulic schematic for ratchet cycling mechanism.



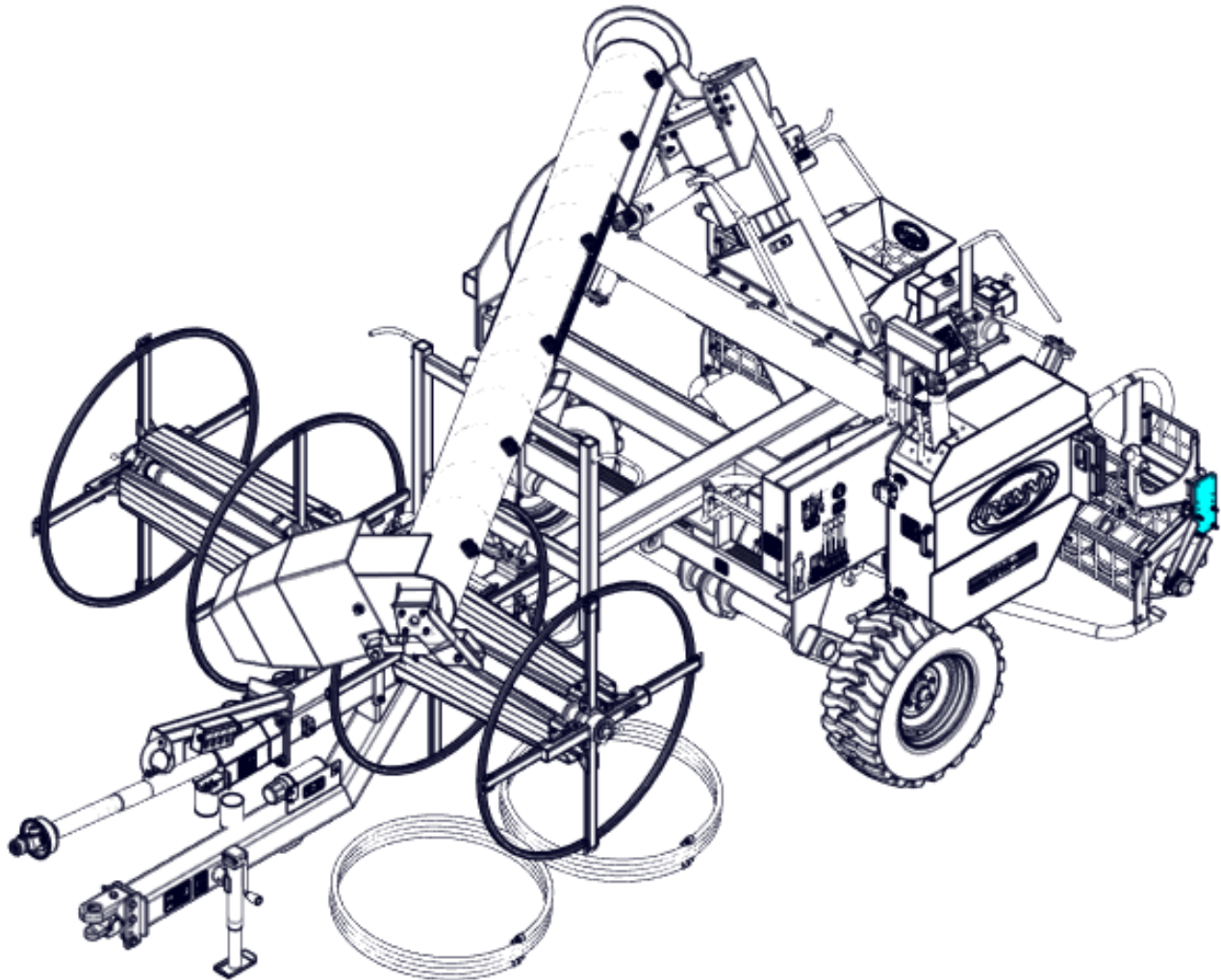


## 6 PDI SETUP

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Your Renn Unloader is shipped partially assembled. Refer (4.6.6 Sweep Auger Extensions) under operations tab (Page 4.8) and follow the 10FT sweep extension to complete the setup.

Take all necessary precautions when moving and operating the equipment.

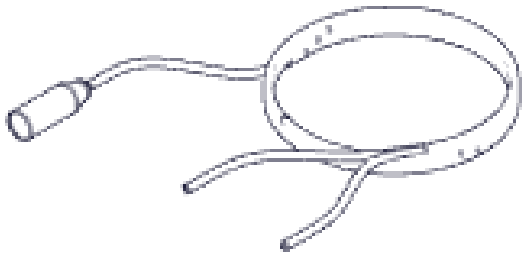


**IMPORTANT:** Retorque wheels before towing or any operation. Refer section 10 for torque specification.



## 6 PRE-DELIVERY INSTRUCTION (PDI)

### 6.1 Optional Light Kit



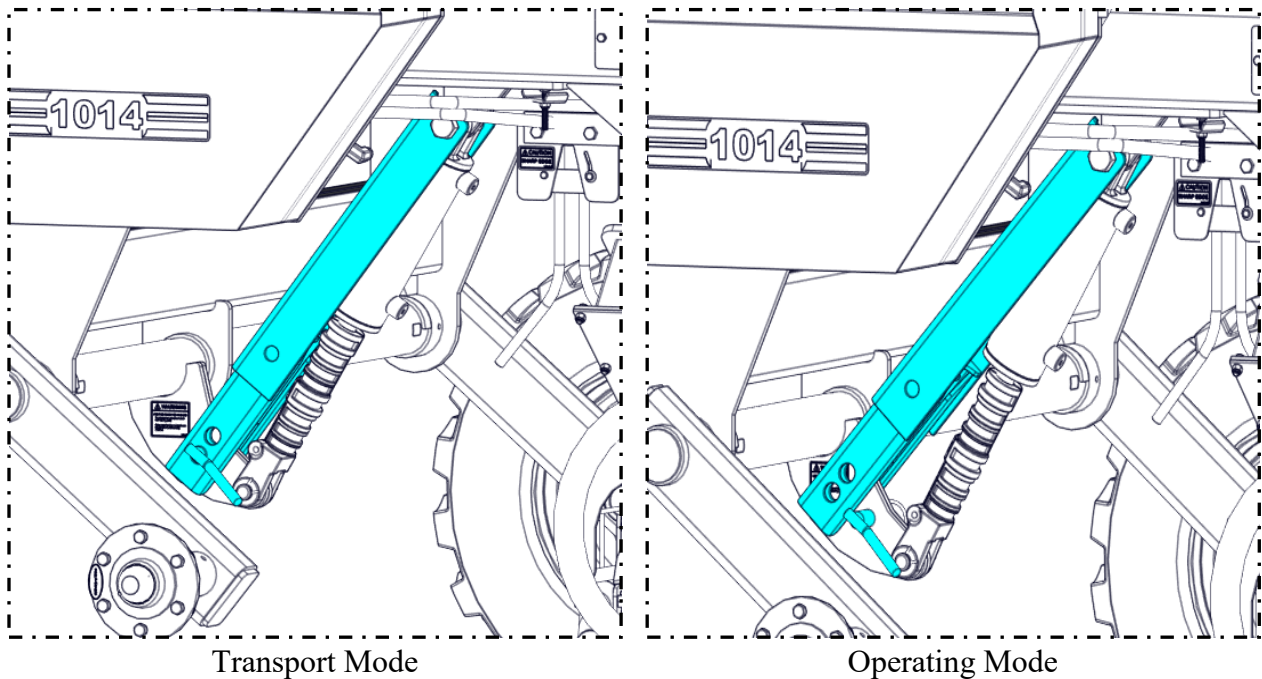
REF #	PART #	DESCRIPTION	QTY
1	1470000-0622.00	84" HARNESS EXT- BAGGER WORK LIGHTS	1
2	1470000-0624.00	300" HARNESS EXT- FARMBOY WORK LIGHTS	1
3	1470000-0625.00	48" HARNESS EXT- FARMBOY WORK LIGHTS	1
4	1470000-0604.00	3.9" LED FLOOD LIGHT- 1800 LUMEN	1

## 7 TRANSPORTATION



1. Check with local authorities regarding unloader transportation on public roads. Obey all applicable laws and regulations.
2. Always travel at a safe speed. Use caution when going around corners or meeting traffic.
3. Make sure an SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by local highway and transportation authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
4. If possible use a light kit when transporting. Be sure all lights attached to the rear of the unloader are working to safeguard against rear end collisions. Daybreak and dusk are particularly dangerous and pilot vehicles are recommended.
5. Be sure that the unloader is hitched positively to the towing vehicle and a retainer is used through the drawbar pin. Always use a safety chain between the machine and the towing unit.
6. Keep to the side and yield the right-of-way to allow faster traffic to pass. Drive on the shoulder of the road if safe to do so and permitted by law.
7. Do not exceed a 25mph (40kph) travelling speed. Reduce speed on rough roads and surfaces. Reduce speed when going around tight bends and corners in the road. Be especially careful when traveling on roads with a significant center crown, or when moving to the shoulder of the road with one wheel.
8. Always use the hazard warning flashers on the tractor when transporting unless prohibited by law.

**Do not transport the unloader without all of the transport pins and clamps installed and fastened.**



When in operating mode, the pin is installed into the same hole on the axle plate and the transport lock arm is left to rest on the backside of the pin.

## 8 STORAGE

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### **8.1 Placing in Storage**

At the end of the operating season, the machine should be thoroughly inspected and prepared for storage. Repair or replace any worn or damaged components to prevent any unnecessary down time at the beginning of the next season. Follow this procedure:

1. Empty the augers of any residual material.
2. Thoroughly wash the machine to remove all dirt, mud, debris or residue.
3. Lubricate all grease points. Make sure all grease cavities have been filled with grease to remove any excess water left over from washing.
4. Inspect all hydraulic hoses, couplers and fittings. Tighten any loose fittings. Replace any hose that is badly cut, nicked, abraded or is separating from the crimped end of a fitting.
5. Touch up all paint nicks and scratches to prevent rusting.
6. Retract cylinder rods to protect them from rusting whenever possible.
7. Move the machine to storage position.
8. Select an area that is dry, level and free of debris.
9. Chock the front and rear tires to prevent the machine from rolling.
10. Place planks under the jack for added support if required.
11. Unhook the machine from the tractor.
12. If storing the machine outside, cover the augers, clean up the hopper, and protect the tires from direct sunlight to prolong life expectancy.

### **8.2 Removing from Storage & Pre-Season Preparation**

When removing from storage and preparing to use, follow this procedure:

1. Clear the area of bystanders, especially small children, and remove foreign objects from the machine and the working area.
2. Remove any storage covers used to protect the machine.
3. Attach the unloader to the tractor using the procedure described in Section 4.4.
4. **INSPECTION:**
  - a) Check that all hydraulic lines are seated and completely coupled.
  - b) Check that all of the bearing locking collars on the shafts are tight and in good condition. Check that all set screws on the bearing collars are tight.
  - c) Check that all bearing mounting bolts are tight.
  - d) Check that all of the tires are inflated per the recommended pressures.
  - e) Re-torque all wheel bolts and gearbox mounting bolts.
  - f) Slowly raise the discharge auger to the unloading positions to ensure that the auger has a clear path and that the upper auger bearing is moving freely.
  - g) Check all sweep hardware to ensure tightness.
5. Lubricate all grease fittings.
6. Replace any defective parts.
7. Rotate the driveline by hand, checking to make sure the discharge auger falls into drive.
8. Go through the **pre-operational checklist** (Section 4.3).

## 9 TROUBLESHOOTING GUIDE

### 9.1 Auger Systems

PROBLEM	PROBABLE CAUSE	REMEDY
Discharge auger flighting will not turn	Broken shear bolt in PTO shaft	Determine if augers are plugged. If neither auger is plugged, replace the shear bolt and try to run the augers again. Refer to Section 5 for replacement.
		Auger gearbox has failed. Check the gearbox and replace if necessary. Replace the shear bolt. Refer to Section 5 for replacement.
	Plugged discharge auger	If discharge auger is plugged, clean the auger out. Replace the shear bolt and try to run the auger again.
		Lower the discharge auger to the transport position. Replace the shear bolt and run the lower auger to clean out. Back up the upper section auger flighting by hand clearing the upper tube. Raise the discharge auger to operating position.
	Gear case failure	The gear case on the bottom of the discharge auger has failed. Remove and replace the chain/sprockets/key as necessary.
	Coupler failure	Remove and replace the coupler.
Gearbox failure	Remove and replace the gearbox.	
Discharge auger spout turns, sweep system does not turn	Shear bolt failure	Shear bolt on the sweep system has failed. Test turn the sweep system by hand. Replace the shear bolt and try to run the augers again under no load.
	Gearbox failure	The 'T' gearbox or sweep drive gearbox has failed. Remove and replace the gearbox, noting the proper orientation.
	Drive coupling failure	Remove and replace the coupler or the key as necessary. Refer to Section 5 for procedure.
	Gear case failure	Input shaft turns, output shaft does not. Remove cover and replace/repair chain/sprockets/keys as necessary.

## 9 TROUBLESHOOTING GUIDE

### 9.2 Machine Raise and Lower

PROBLEM	PROBABLE CAUSE	REMEDY
Machine raised and will not lower	Transport cylinder lock	Remove transport cylinder lock. Lower machine.
Machine will not lower into position	Working cylinder stops in place	Remove cylinder stops until desired level is reached.

### 9.3 Ratchet System

PROBLEM	PROBABLE CAUSE	REMEDY
System will not cycle	Tractor lever in wrong position	Pull on rewind control to indicate flow through hydraulics if a rewind kit is present. Try different tractor lever position.
	Flow control valve set to '0'	Set flow control valve to '3' or more
System cycles and then stops, valve squeals	<ol style="list-style-type: none"> <li>1. Tractor flow from directional control valve set too high</li> <li>2. Flow control valve pressure relief is set too low, oil is going over the relief</li> </ol>	<ol style="list-style-type: none"> <li>1. Set flow from tractor to lowest setting. System only requires 5gpm! Set flow from tractor directional control valve to lowest setting.</li> <li>2. Remove 'acorn' nut from top of valve, turn allen head nut in a half turn at a time until the system cycles. Set at 2000 psi maximum!</li> </ol>
System cycles and then stops	Tractor return to tank contains significant back pressure	Use another set of tractor outlets, some tractors vary.
		Use another tractor.
		Find an alternate route to tank.
		Check hydraulic end tips for proper function.
Ratchet cylinder stops at end of stroke	Switching valve requires adjustment	<p>If cylinder stops at full stroke adjust lower switching valve set screw OUT until cylinder cycles.</p> <p>If cylinder stops at fully retracted adjust upper switching valve set screw OUT until cylinder cycles.</p>
	Pressure set too low on switching valve	Setting should be at min 1500 PSI. Adjust set screw.

## 9 TROUBLESHOOTING GUIDE

### 9.4 General

PROBLEM	PROBABLE CAUSE	REMEDY
Grain building up in front of lower knife or above knife	Movement into the bag too fast	Slow down movement into the bag, allow the machine to clean up grain as it moves.
	Sweep auger height set too high	Lower sweep auger height.
	Tough/wet grain in bottom of bag	Slow movement into bag and allow augers to break up tough grain. <b>DO NOT</b> attempt to push augers through grain, damage to components will result.
Holes made in bottom of bag by Unloader	Sweep auger level too low	Raise height of sweep augers appropriately.
	Uneven ground or rocks pushing bag into auger	
Plastic bag is stretching to the point of breaking	Pulling force on bag excessive	Movement of machine into bag is beyond auger capacity, slow down movement and/or speed up augers to rated speed.
		Raise sweep system off of ground if dragging.
	Bag quality may be questionable	Handle with care, take your time, follow directions above.



# 10 SPECIFICATIONS

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## **10.1 General Specifications**

Weight .....	6120lbs
Minimum Tractor Horsepower .....	50 hp
Maximum Tractor Horsepower .....	90 hp
Auger Discharge Size .....	14”
Auger Discharge Height .....	171”
Auger Discharge Reach .....	102”
Auger Discharge Capacity .....	150 Bu/min

## **10.2 Tire Specifications**





Tire/Rim Size .....	12-16.5 6 Bolt Skid Steer Tire
Passenger Side Tire Pressure .....	45 psi
Drivers Side Tire Pressure .....	55 psi

## **10.3 Bolt Torque Specifications**

Main PTO Shear Bolt.....	3/8 x 2 GR 5 UNC
Sweep Drive Shear Bolt.....	1/4 x 1-1/4 GR 5 UNC
- For Tough Conditions.....	1/4 x 1-1/4 GR 8 UNC
Wheel 6 Bolts/Nuts 611 Hub .....	72 ft./lbs.
.....	<i>All Other Bolts—Refer to Bolt Torque Chart On Following Page</i>

# 10 SPECIFICATIONS

## BOLT TORQUE CHART

SIZE							
	SAE GRADE 2		SAE GRADE 5		SAE GRADE 8		L9
	ASSEMBLY TORQUE DRY	LUBRICATED	ASSEMBLY TORQUE DRY	LUBRICATED	ASSEMBLY TORQUE DRY	LUBRICATED	ASSEMBLY TORQUE LUBRICATED
1/4-20	66*	49*	8	75*	12	9	11
1/4-28	76*	56*	10	86*	14	10	13
5/16-18	11	8	17	13	20	18	21
5/16-24	12	9	19	14	25	20	23
3/8-16	20	15	30	23	45	30	33
3/8-24	23	17	35	25	50	35	38
7/16-14	30	24	50	35	70	55	60
7/16-20	35	25	55	40	80	60	65
1/2-13	50	35	75	55	110	80	95
1/2-20	55	40	90	65	120	90	105
9/16-12	65	50	110	80	150	110	140
9/16-18	75	55	120	90	170	130	150
5/8-11	90	70	150	110	220	170	185
5/8-18	100	80	180	130	240	180	205
3/4-10	160	120	260	200	380	280	290
3/4-16	180	140	300	220	420	320	355
7/8-9	190	140	400	300	600	460	505
7/8-14	210	155	440	320	660	500	585
1-8	220	160	580	440	900	680	775
1-14	240	170	640	480	1000	740	900
1 1/8-7	300	220	800	600	1280	960	1150
1 1/8-12	340	260	880	660	1440	1080	1325
1 1/4-7	420	320	1120	840	1820	1360	1600
1 1/4-12	460	360	1240	920	2000	1500	1750
1 3/8-6	560	420	1460	1100	2380	1780	—
1 3/8-12	640	460	1680	1260	2720	2040	—
1 1/2-6	740	560	1940	1460	3160	2360	3250
1 1/2-12	840	620	2200	1640	3560	2660	3650

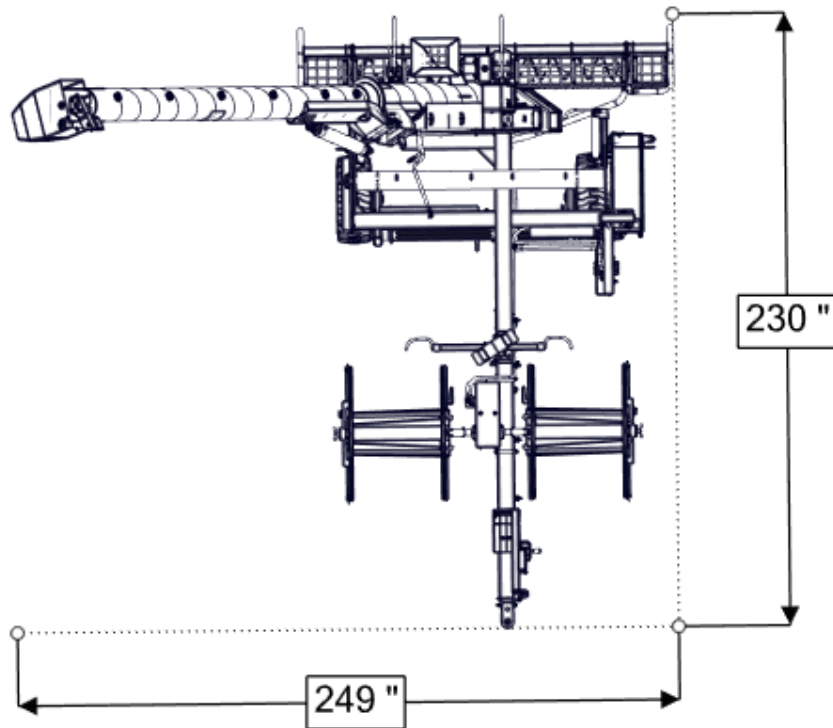
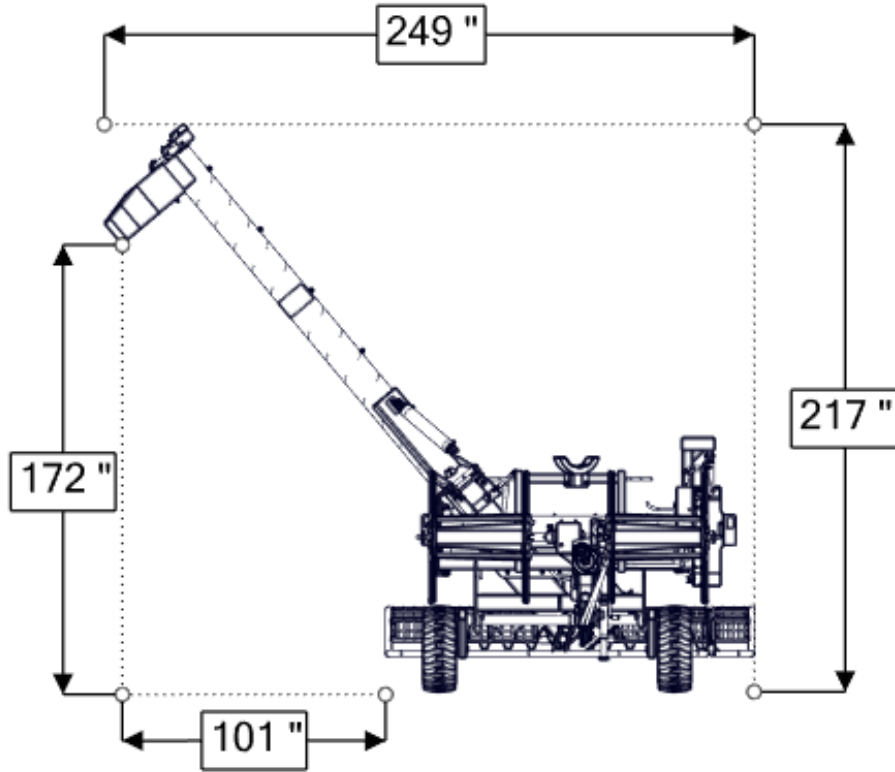
**ITEMS WITH \* = INCH POUNDS  
ALL OTHERS = FOOT POUNDS**

**"LUBRICATED"  
INCLUDES LUBRICANTS, LUBRIZING, PLATING, AND HARDENED WASHERS**

# 10 SPECIFICATIONS

## 10.4 Overall Dimensions

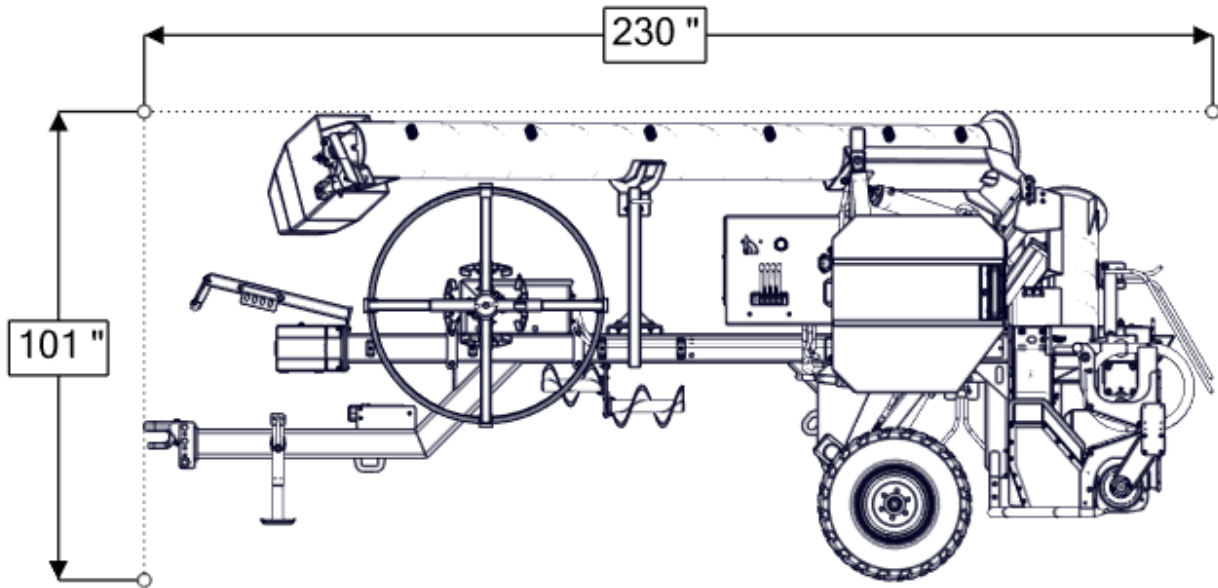
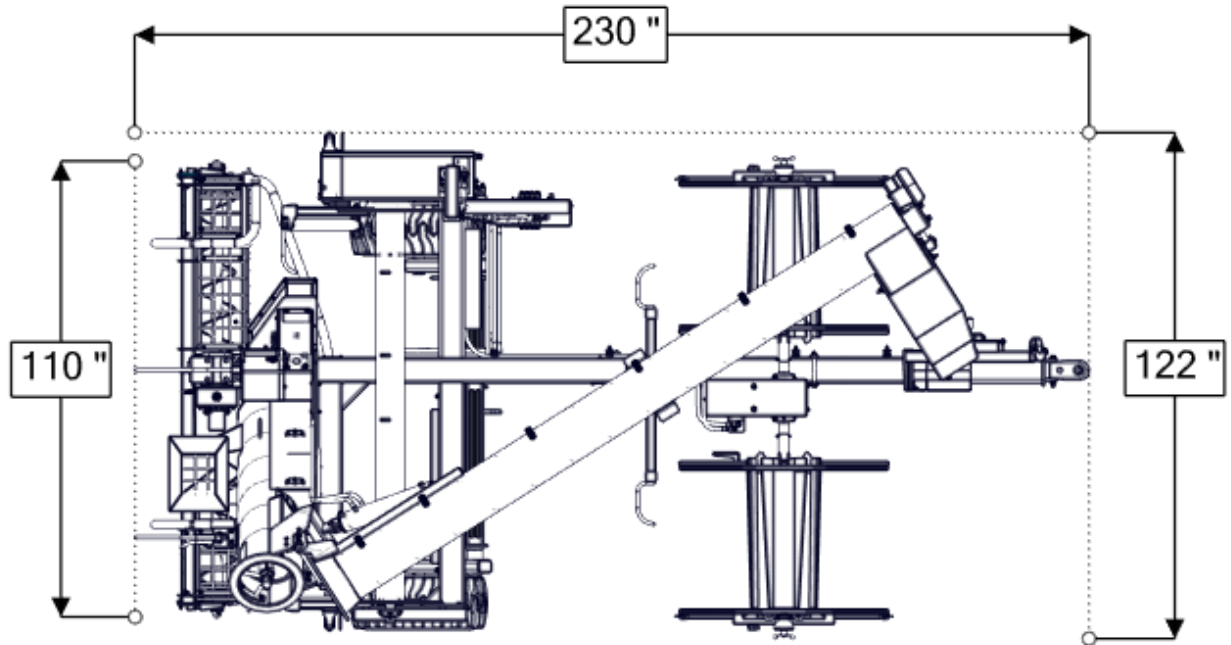
### 10.4.1 Working Mode



# 10 SPECIFICATIONS

## 10.4 Overall Dimensions (Cont.)

### 10.4.2 Transport Mode



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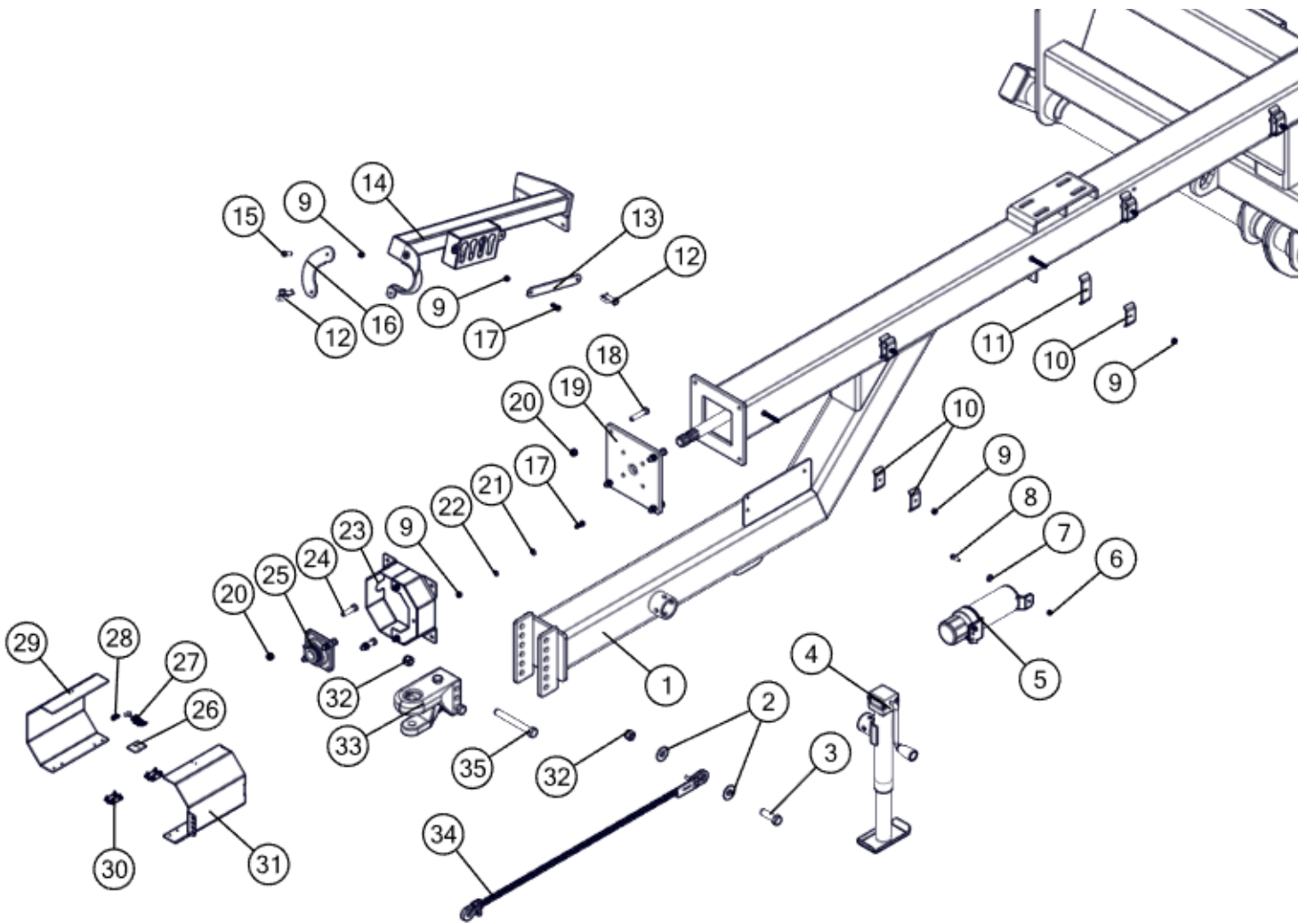
## 11 PARTS

### 11.1 Hitch Assembly

REF #	PART #	DESCRIPTION	QTY
1	680200-0323.02	1014 Main Frame Weldment	1
2	168000-0090	Flat Washer - 3/4" USS PL	2
3	159400-0806	Hex Bolt - 3/4" NC x 2-1/2" Gr.5 PL	1
4	341100-0050	Jack - 7000lb x 10" - Side Wind	1
5	147000-0010	Manual Canister	1
6	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	3
7	168000-0040	Flat Washer - 5/16" USS PL	3
8	159300-0735	Hex Bolt - 5/16" NC x 1" Gr.5 PL	3
9	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	12
10	480100-0722.01	Hose Clamp	8
11	480100-0710.01	Hose Clamp	6
12	161500-0498	Quick Pin, 3/8" x 1-5/8"	2
13	480200-0835.00	Clamp Plate - Hose Hanger	1
14	680200-0325.00	PTO Holder - Weldment	1
15	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	1
16	481000-0848.00	Clamp Plate	1
17	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	4
18	159400-0430	Hex Bolt - 1/2" NC x 2-1/2" Gr.5 PL	2
19	480200-0143.01	Front bearing mount plate	1
20	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	8
21	168000-0540	Flat Washer - 3/8" SAE	3
22	168600-0071	Lock Washer - 3/8" PL	3
23	680200-0086.00	PTO Shield - Base Section	1
24	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	6
25	114000-0322	1-3/8" - 4-Bolt Flange Bearing	1
26	414000-0906.01	Lap Flat	1
27	154000-0142	Overcenter Latch - 3.5"	1
**	159300-0515	Stove Bolt - 8-32 x 1/2"	2
**	167000-0519	Hex Nut - 8-32 PL	2
28	154000-0143	Catch - Overcenter Latch - 3.5"	1
**	159300-0515	Stove Bolt - 8-32 x 1/2"	2
**	167000-0519	Hex Nut - 8-32 PL	2

## 11 PARTS

### 11.1 Hitch Assembly



REF #	PART #	DESCRIPTION	QTY
29	480200-0721.00	PTO Shield	1
30	153000-0800	Butt Hinge - 2" x 1-1/2"	2
31	480200-0720.00	PTO Shield	1
32	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	3
33	343000-0299	Base Hitch/Clevis Assembly Cat. 2	1
34	140000-0490	Safety Chain	1
35	159400-0819	Hex Bolt - 3/4" NC x 6-1/2" Gr.5 PL	2

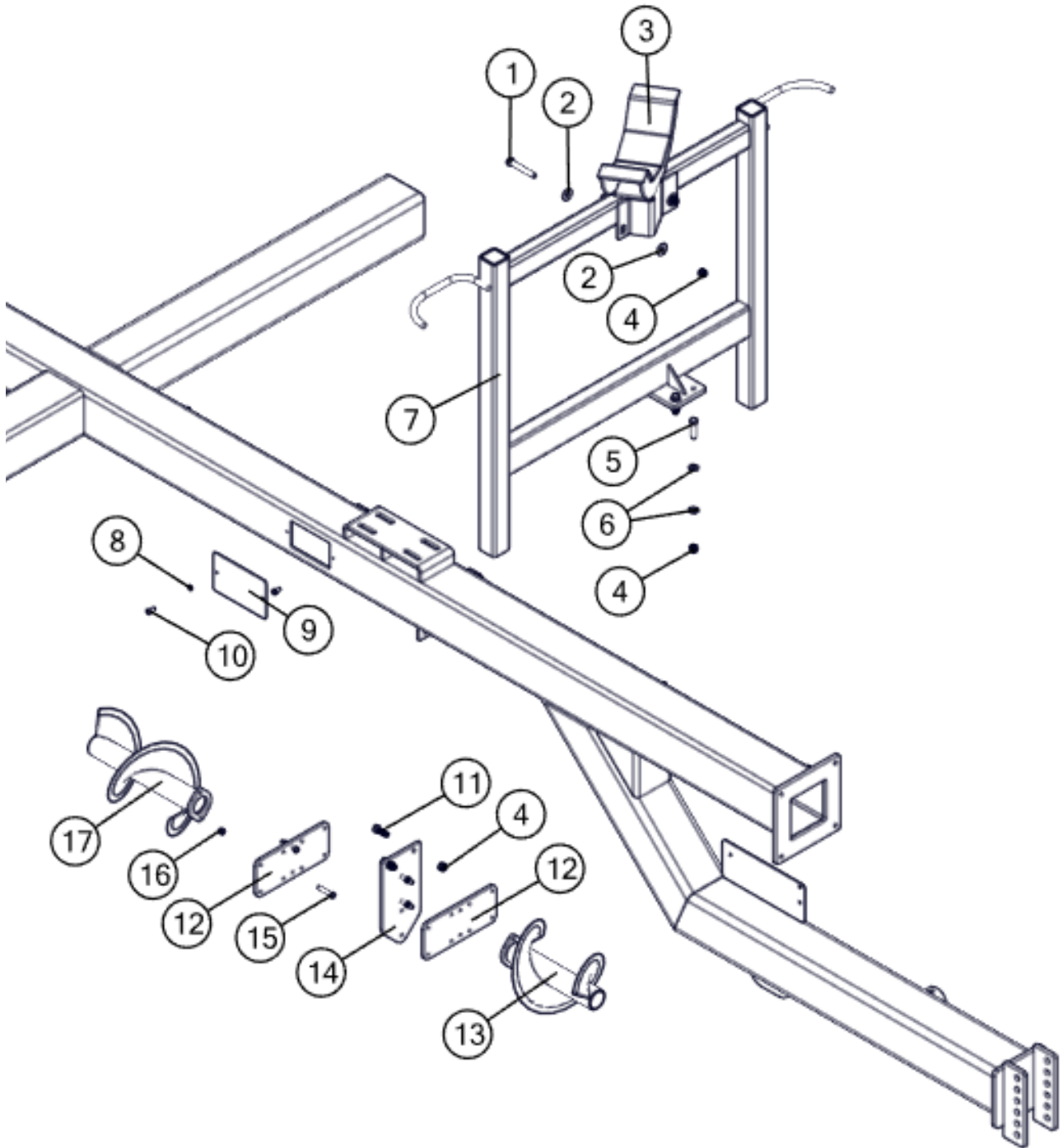
## 11 PARTS

### 11.2 Discharge Auger Support

REF #	PART #	DESCRIPTION	QTY
1	159400-0485	Hex Bolt - 1/2" NC x 3-1/2" Gr.5 PL	2
2	168000-0065	Flat Washer - 1/2" USS PLTD	4
3	680200-0356.00	Auger Rest	1
4	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	8
5	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	4
6	168000-0544	Flat Washer - 1/2" SAE PLTD	8
7	680200-0357.00	Rewind Plastic Guide	1
8	168600-0062	Lock Washer - 5/16" PL	2
9	480200-0146.01	Cover Panel - Frame	1
10	159300-0730	Hex Bolt - 5/16" NC x 3/4" Gr.5 PL	2
11	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	2
12	480200-1029.01	Ext storager bracket	2
13	680200-0046.00	10ft Sweep Extension - Driver Side	1
14	480200-0488.00	Sweep Auger Flighting Mount Plate	1
15	159400-0003	Hex Bolt - 3/8" NC x 2" Gr.5 PL	4
16	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	4
17	680200-0042.00	9ft Sweep Extension - Passenger Side	1

## 11 PARTS

### 11.2 Discharge Auger Support



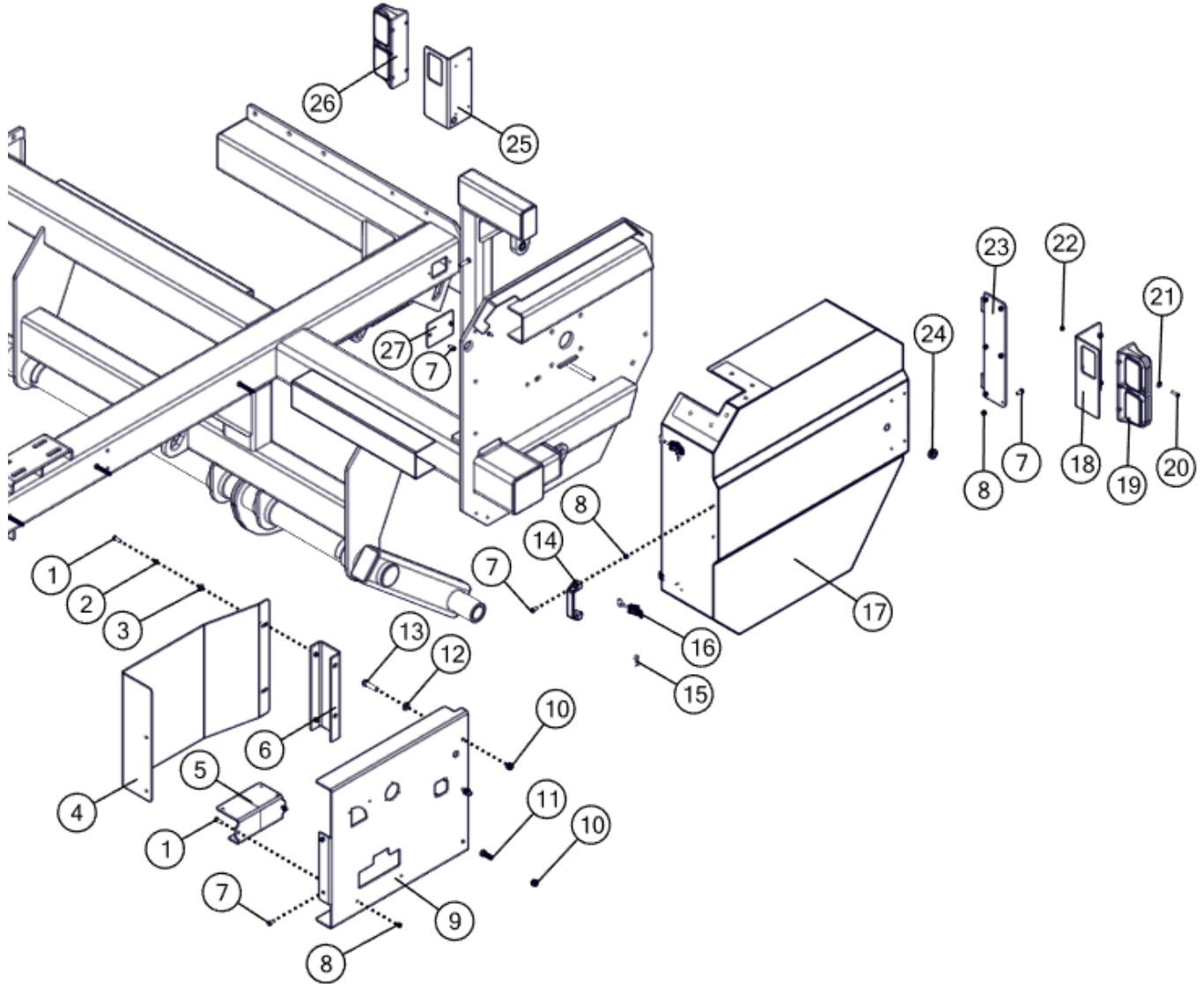
## 11 PARTS

### 11.3 Control Panel and Ratchet Drive Cover

REF #	PART #	DESCRIPTION	QTY
1	159300-0735	Hex Bolt - 5/16" NC x 1" Gr.5 PL	4
2	168600-0062	Lock Washer - 5/16" PL	2
3	168000-0040	Flat Washer - 5/16" USS PL	2
4	480200-0853.01	Hydraulic Valve Guide Panel	1
5	680200-0125.00	Hydraulic Valve Mount	1
6	680200-0294.00	Hyd Guard Mount Weldment	1
7	159300-0730	Hex Bolt - 5/16" NC x 3/4" Gr.5 PL	12
8	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	10
9	680200-0293.00	Control Panel Weldment	1
10	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	3
11	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	1
12	168000-0544	Flat Washer - 1/2" SAE PLTD	2
13	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	2
14	140000-0220	Pull Handle	1
15	161300-0771	Hair Pin - 3/16 x 3-1/4"	2
16	154000-0140	Overcenter Latch - 4.7"	2
**	159300-0520	Stove Bolt - #10-24 x 1/2"	6
**	167000-0520	Hex Nut - #10-24 PL	6
17	680200-0299.01	Ratchet Drive Cover	1
18	480200-0968.01	D.S Light Mount Plate - FBU	1
19	147000-0600	LED Dual Tail Light Kit - Left	1
20	159300-0545	Hex Bolt 1/4" NC x 1-1/4 Gr.5 PL	4
21	168000-0022	Flat Washer - 1/4" USS PL	4
22	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	4
23	680200-0119.01	Hinge Plate Weldment	1
24	147100-0424	1" x .875" Rubber Grommet	2
25	480200-0967.01	P.S Light Mount Plate - FBU	1
26	147000-0601	LED Dual Tail Light Kit - Right	1
27	480200-0856.00	Rear Cover Plate	1

## 11 PARTS

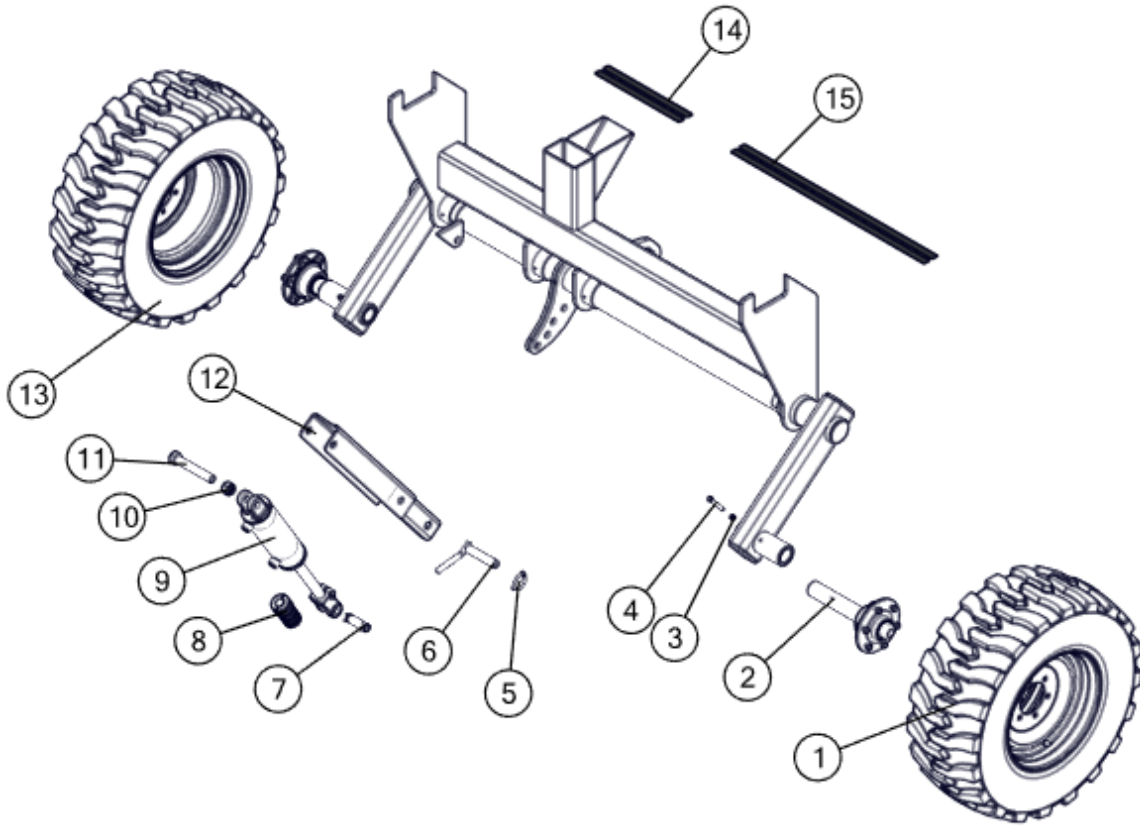
### 11.3 Control Panel and Ratchet Drive Cover





## 11 PARTS

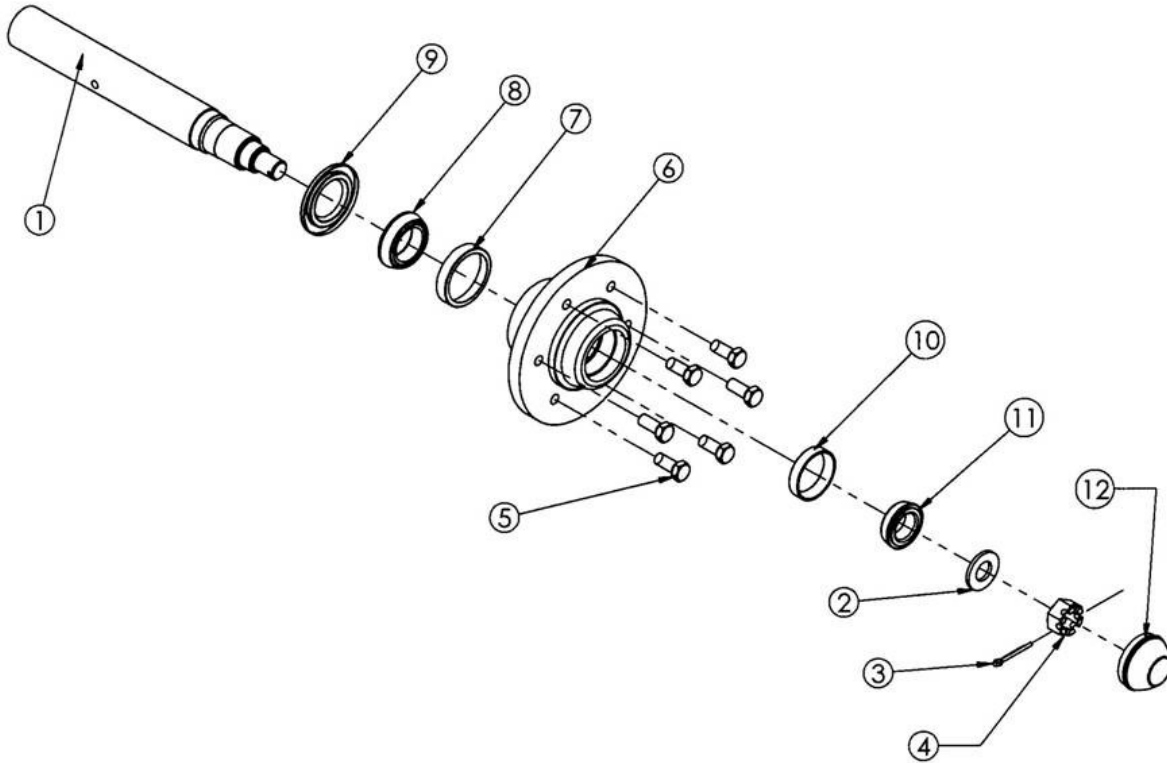
### 11.4 Axle, Wheel, and Cylinder



REF #	PART #	DESCRIPTION	QTY
1	100100-0702	Tire & Rim - 12-16.5 6 Bolt RH	1
2	341000-0611	611 Hub & Spindle Complete	2
3	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	2
4	159400-0007	Hex Bolt - 3/8" NC x 3-1/2" NC Gr.5 PL	2
5	161500-0455	Lynch Pin - 7/16" x 1-3/4"	1
6	066100-0110	1" x 5-1/4" Transport Lock Pin	1
7	107000-0103	Cylinder Pin - 1" Dia x 3"	1
8	107200-0900	Aluminum Cylinder Stop Kit	2
9	107700-0002	Hydraulic Cylinder - 3-1/2" x 8" Stroke	1
10	167200-0694	Nyloc Nut - 1" NC Gr.5 PL	1
11	159500-0075	Hex Bolt - 1" NC x 6-1/2" Gr5	1
12	680200-0300.00	Transport Lock - Weldment	1
13	100100-0703	Tire & Rim - 12-16.5 6 Bolt LH	1
14	480200-0566.00	Safety Tread	2
15	480200-0567.00	Safety Tread Tape	2

## 11 PARTS

### 11.5 Hub Assembly (341000-0611)



REF #	PART #	DESCRIPTION	QTY
1	480200-0411.00	611 Spindle	1
2	340700-0517	Spindle Washer 7/8" I.D., 2" O.D., 0.187" Thick	1
3	170000-0200	Cotter Pin - 3/16" x 2"	1
4	340700-0033	Spindle Nut - 1" x 14 UNF	1
5	340300-0010	Wheel Bolt - 1/2" x 1-1/4" - 20 UNF	6
6	340000-0611	611 Hub	1
7	115000-0025	Inner Cup - 29710	1
8	114500-0025	Inner Cone - 29749	1
9	340100-0013	Grease Seal - SE-13	1
10	115000-0015	Outer Cup - 67010	1
11	114500-0015	Outer Cone - 67408	1
12	340200-0013	Dust Cap - 611 Hub	1

## 11 PARTS

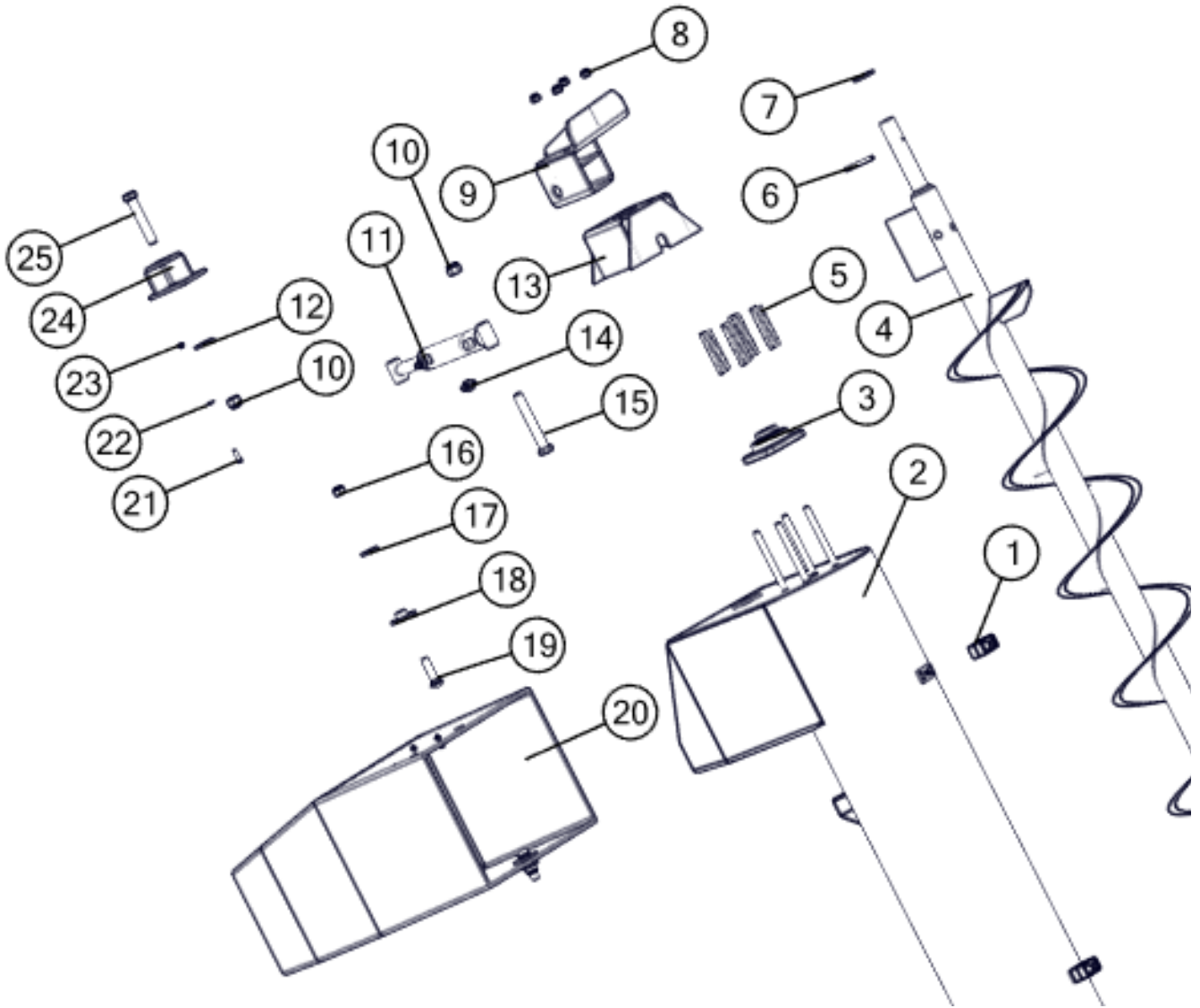
### 11.6 Discharge Auger

#### 11.6.1 Discharge Auger – Upper Section

REF #	PART #	DESCRIPTION	QTY
1	070000-0606	Hose Holder - 3/8" Dual	12
2	680200-0237.04	Upper Auger Weldment - Discharge	1
3	114000-0322	1-3/8" - 4-Bolt Flange Bearing	1
4	680200-0036.05	Auger Flying Weldment - Upper	1
5	303100-0124	Compression Spring - 1.125" OD x 4.5" Long	4
6	172200-0792	Spring Pin - 5/16" x 3"	1
7	168000-0627	Machinery Bushing - 1-3/8" x 10ga	1
8	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	4
9	680200-0193.00	Cylinder Mount	1
10	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	2
11	107700-0006	HYD. CYL. 1-1/2" x 6"	1
12	168000-0090	Flat Washer - 3/4" USS PL	1
13	680200-0060.00	Bearing Mount - Floating - Discharge	1
14	086400-0606	Hex Nipple - #6 JICM x #6 ORBM	2
15	159400-0817	Hex Bolt - 3/4" NC x 5-1/2" Gr.5 PL	1
16	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	2
17	168000-0080	Flat Washer - 5/8" USS PL	2
18	680200-0284.00	Pivot Washer Spacer Weldment	2
19	163100-0125	5/8 x 2-1/2" NC Carriage Bolt	2
20	480200-0832.00	D&M Plastic Deflector Spout	1
21	159300-0544	Hex Bolt - 1/4" NC x 1" Gr.5 PL	3
22	168000-0022	Flat Washer - 1/4" USS PL	3
23	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	3
24	680200-0258.00	Cylinder Mount Bracket	1
25	159400-0814	Hex Bolt 3/4" NC x 4-1/2" Gr.5 PL	1

# 11 PARTS

## 11.6.1 Discharge Auger – Upper Section



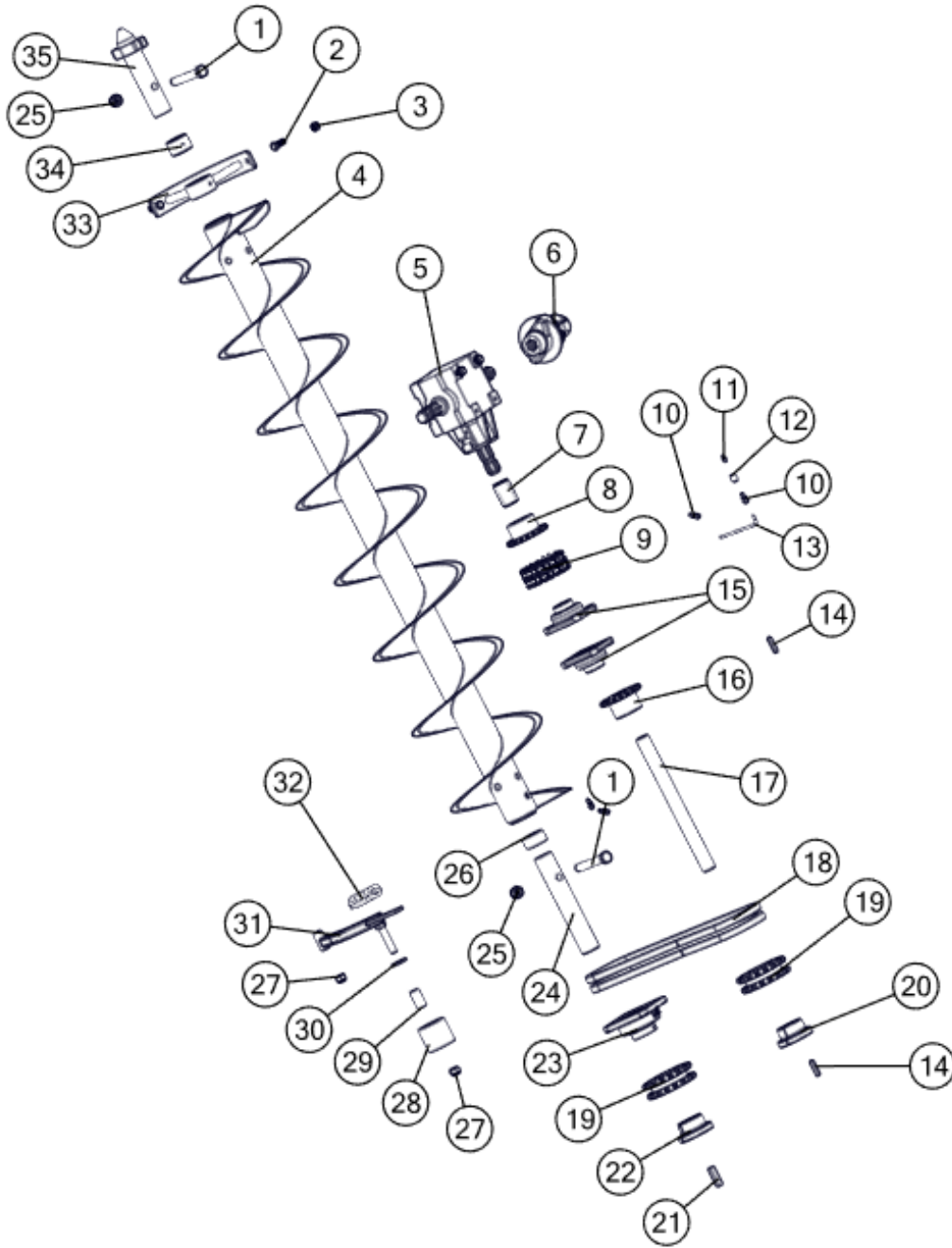
## 11 PARTS

### 11.6.2 Discharge Auger – Drive

REF #	PART #	DESCRIPTION	QTY
1	159500-0264	Hex Bolt 3/4" NC x 5-1/2" Gr.8 PL	2
2	159400-0395	Hex Bolt - 1/2" NC x 1-1/4" Gr.5 PL	3
3	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	3
4	680200-0033.01	Discharge Auger Lower Flighting	1
5	342100-0515	T-Box - 500 Series	1
6	375500-0118	Universal Joint - 1-1/4"RB to 1-3/8" 6 Spline Shear	1
7	374000-0004	Coupler - 1-3/8" x 6 Spline x 2-1/2"	1
8	129000-0522	Sprocket #60-18T, 1-3/4" Bore - FB Coupling Sprocket	1
9	140100-0062	Chain Coupler - #60D x 18T	1
10	107800-0203	Fitting - Brake Line to 1/8" NPT	2
11	133200-0040	Grease Nipple - 1/8" NPT	2
12	107600-0100	Steel Coupler - 1/8"	1
13	480200-0474.00	Steel Grease Line	1
14	480200-0489.00	5/16" Keystock x 1-3/4"	2
15	114000-0261	Bearing - 4-Bolt Flange 1-3/8" ID NTN (UELFU-1.3/8M)	2
16	680200-0158.01	Chain Coupling Sprocket Weldment	1
17	480200-0129.01	Lower Vertical Drive Shaft	1
18	480200-0449.00	Chain - #80D - 59 Links	1
19	127400-0816	Sprocket D80-16T	2
20	142300-0106	QD Bushing - SK x 1-3/8"	1
21	480200-0491.01	1/2" Keystock x 2-1/2"	1
22	142300-0115	QD Bushing - SK x 1-15/16"	1
23	114000-0250	Bearing - 4-Bolt Flange 1-15/16" ID NTN (UELFU-1.15/16M)	1
24	480200-0216.03	Lower Stub Shaft - Vertical Auger	1
25	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	2
26	480200-0137.00	Shaft Bushing - Lower Auger	1
27	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	2
28	480200-0483.02	Tensioner Bushing	1
29	480200-0484.01	Chain Tensioner Bushing	1
30	168000-0080	Flat Washer - 5/8" USS PL	1
31	680200-0143.01	Tensioning arm	1

## 11 PARTS

### 11.6.2 Discharge Auger – Drive



REF #	PART #	DESCRIPTION	QTY
32	303200-0050	Extension Spring - 1-1/4" x 7"	1
33	680200-0037.01	Auger Support Assembly	1
34	480200-0792.00	Oilite Bushing - 1-15/16" x 2-5/16" x 1-1/2"	1
35	680200-0035.01	Lower Auger Stub Shaft	1



## 11 PARTS

### 11.6.3 Discharge Auger – Base - Part 1

REF #	PART #	DESCRIPTION	QTY
1	680200-0306.00	Lower Auger Tube Section	1
2	159400-0395	Hex Bolt - 1/2" NC x 1-1/4" Gr.5 PL	2
3	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	12
4	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	6
5	480200-0670.00	Knife Guard	1
6	159300-0543	Hex Bolt - 1/4" NC x 3/4" Gr.5 PL	2
7	168000-0022	Flat Washer - 1/4" USS PL	1
8	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	2
9	161900-0106	Unloader Knife Blade	1
10	680200-0096.00	Guide Bar Section - Knife	1
11	110300-0027	Filler Breather - 3/8" NPT	1
12	085400-0906	Reducer 3/4" MPT x 3/8" FPT	1
13	480200-0866.00	Cover Plate	1
14	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	12
15	480200-0141.02	Cover Plate Grain Box - Right Side	1
16	480200-0140.02	Cover Plate Grain Box - Left Side	1
17	167000-0650	Jam Nut - 1/2" NC Gr.5 PL	1
18	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	5
19	168000-0544	Flat Washer - 1/2" SAE PLTD	12
20	680200-0127.04	Gear Box Bracket	1
21	168600-0098	Lock Washer - 1/2" PL	4
22	680200-0195.01	Gearbox Mount Weldment	1
23	480100-0710.01	Hose Clamp	2
24	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	2



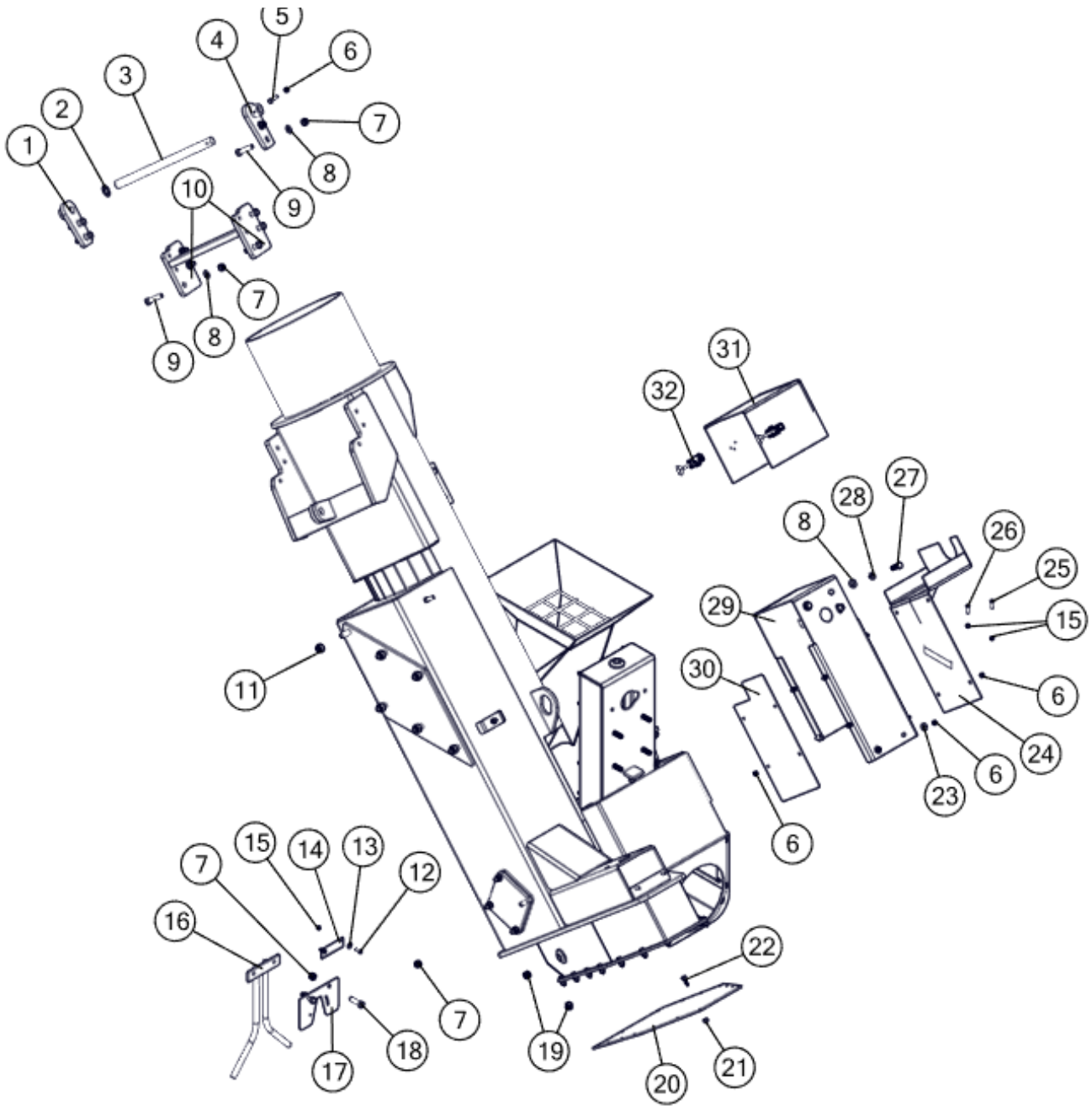
## 11 PARTS

### 11.6.4 Discharge Auger – Base - Part 2

REF #	PART #	DESCRIPTION	QTY
1	680200-0203.00	Discharge Auger Hinge Weldment	2
2	168000-0615	Machinery Bushing - 1" ID x 14 Ga	1
3	480200-0297.00	Hinge Pin - 1" x 15-1/2"	1
**	133200-0040	1/8" NPT Grease Fitting	1
4	680200-0201.00	Discharge Auger Hinge Weldment	1
5	159300-0792	Hex Bolt - 5/16" x 2" Gr5 PL	1
6	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	10
7	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	16
8	168000-0544	Flat Washer - 1/2" SAE PLTD	12
9	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	10
10	680200-0200.00	Discharge Auger Hinge Base	1
11	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	9
12	159300-0543	Hex Bolt - 1/4" NC x 3/4" Gr.5 PL	2
13	168000-0022	Flat Washer - 1/4" USS PL	1
14	161900-0106	Unloader Knife Blade	1
15	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	2
16	680200-0160.00	Guide Bar Section - Lower Knife	1
17	480200-0670.00	Knife Guard	1
18	159400-0410	Hex Bolt - 1/2" NC x 1-3/4" Gr.5 PL	2
19	105000-0671	Pipe Plug - 3/4" Hex Key	2
20	480200-0625.00	Oil Pan Cover	1
21	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	15
22	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	13
23	168000-0040	Flat Washer - 5/16" USS PL	2
24	680200-0092.01	Sweep Drive Lower Shield Weldment	1
**	159300-0545	Hex Bolt 1/4" NC x 1-1/4 Gr.5 PL	6
**	167200-0642	Nyloc Nut 1/4" NC Gr.5 PL	6
25	159500-0201	Hex Bolt 1/4" NC x 3/4" Gr.8 PL	3
26	159300-0545	Hex Bolt 1/4" NC x 1-1/4 Gr.5 PL	3
27	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	2
28	168600-0098	Lock Washer - 1/2" PL	2
29	680200-0196.00	Auger Drive Shield	1

# 11 PARTS

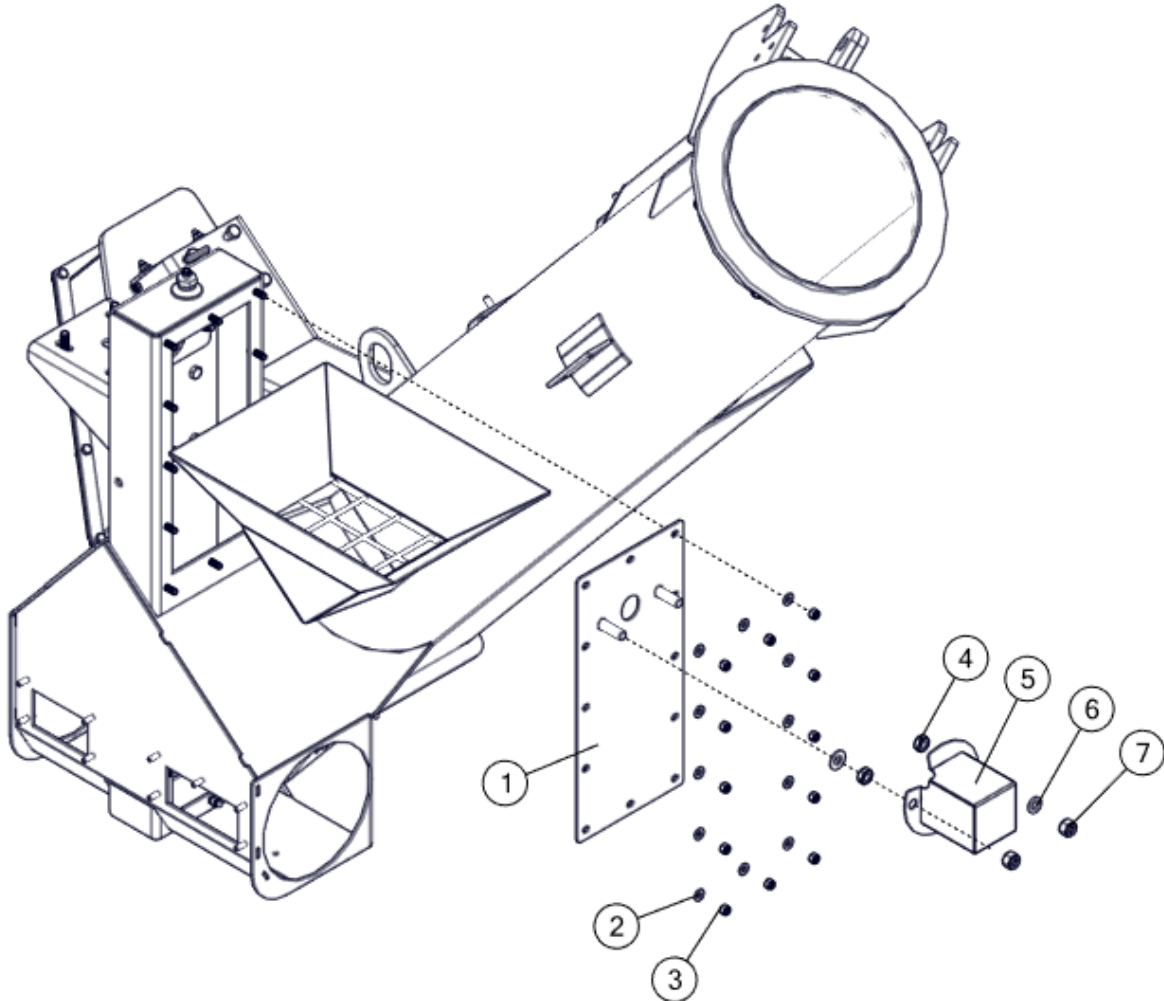
## 11.6.3 Discharge Auger – Base - Part 2



REF #	PART #	DESCRIPTION	QTY
30	480200-0667.01	Auger Drive Cover Plate	1
31	680200-0173.00	Drive Cover	1
32	154000-0140	Overcenter Latch - 4.7"	2
**	159300-0520	Stove Bolt - #10-24 x 1/2"	6
**	167000-0520	Nut Hex M/C 10-24 PL	6

## 11 PARTS

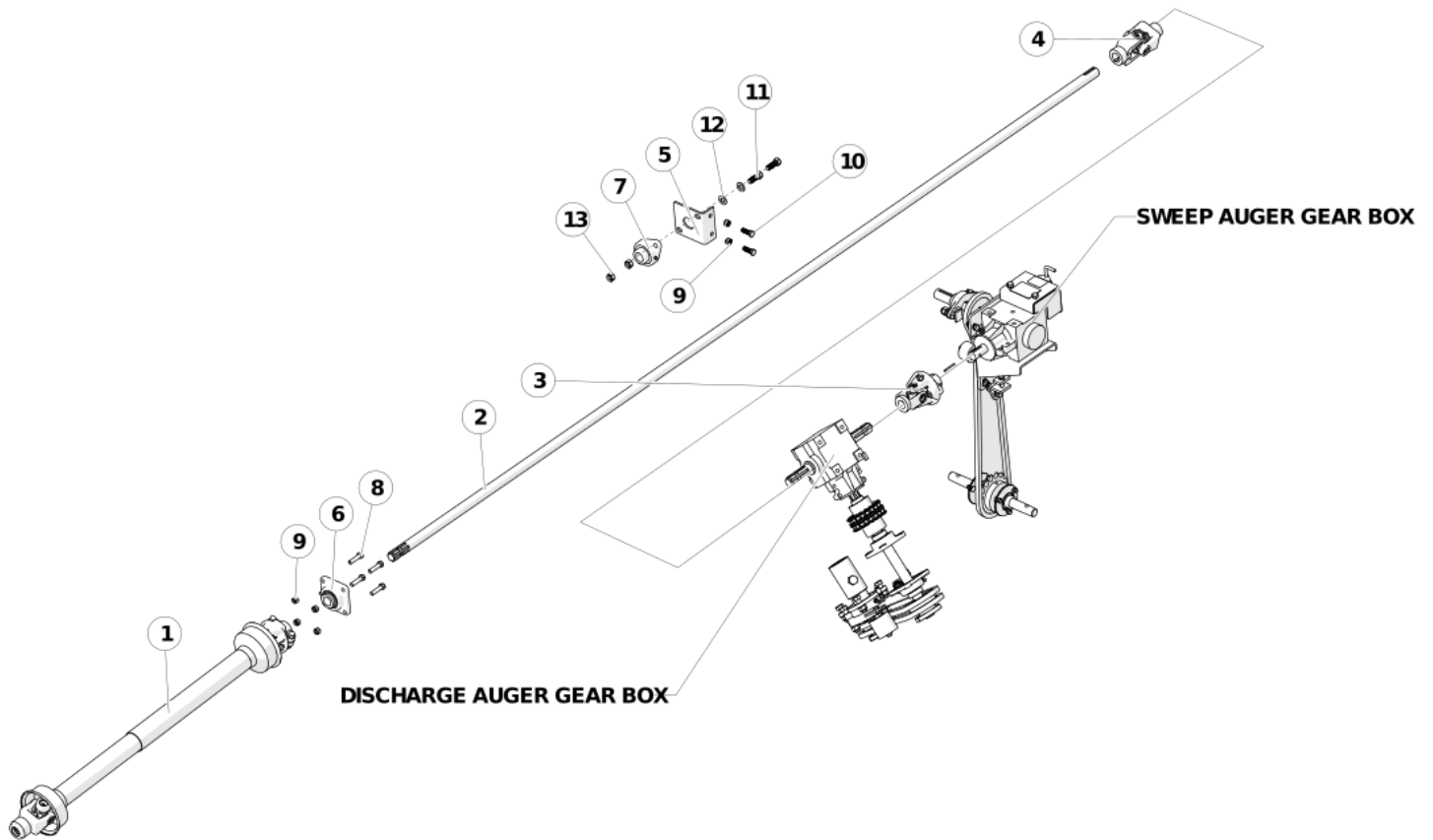
### 11.6.3 Discharge Auger – Base - Part 3



REF #	PART #	DESCRIPTION	QTY
1	680200-0248.01	Cover Panel - Sweep Drive	1
2	168000-0540	Flat Washer - 3/8" SAE	12
3	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	12
4	167000-0658	Jam Nut - 5/8" NC Gr.5 PL	2
5	680200-0249.01	Gearbox Shaft Cap - 1-3/8" Bearing	1
6	168600-0120	Lock Washer 5/8"	2
7	167000-0827	Hex Nut - 5/8" NC Gr.5 PL	2

## 11 PARTS

### 11.7 Driveline Assembly



REF #	PART #	DESCRIPTION	QTY
1	375000-0357	PTO Shaft - 35 Series - 1-3/8" 6-spline to 1-3/8" 6-spline	1
2	480200-0855.00	Drivelines Shaft	1
3	375500-0118	Universal Joint - 1-1/4"RB to 1-3/8" 6 Spline Shear	1
4	375500-0119	Series 35 U-Joint w/ Slide Lock	1
5	680200-0221.00	Driveline Bearing Holder	1
6	114000-0322	1-3/8" - 4-Bolt Flange Bearing	1
7	114000-0139	1-3/8" - 2 Hole Flange Bearing	1
8	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	4
9	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	6
10	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	2
11	159400-0595	Hex Bolt - 5/8" NC x 1-3/4" Gr 5 PL	2
12	168000-0580	Flat Washer - 5/8" SAE PL	2
13	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	2



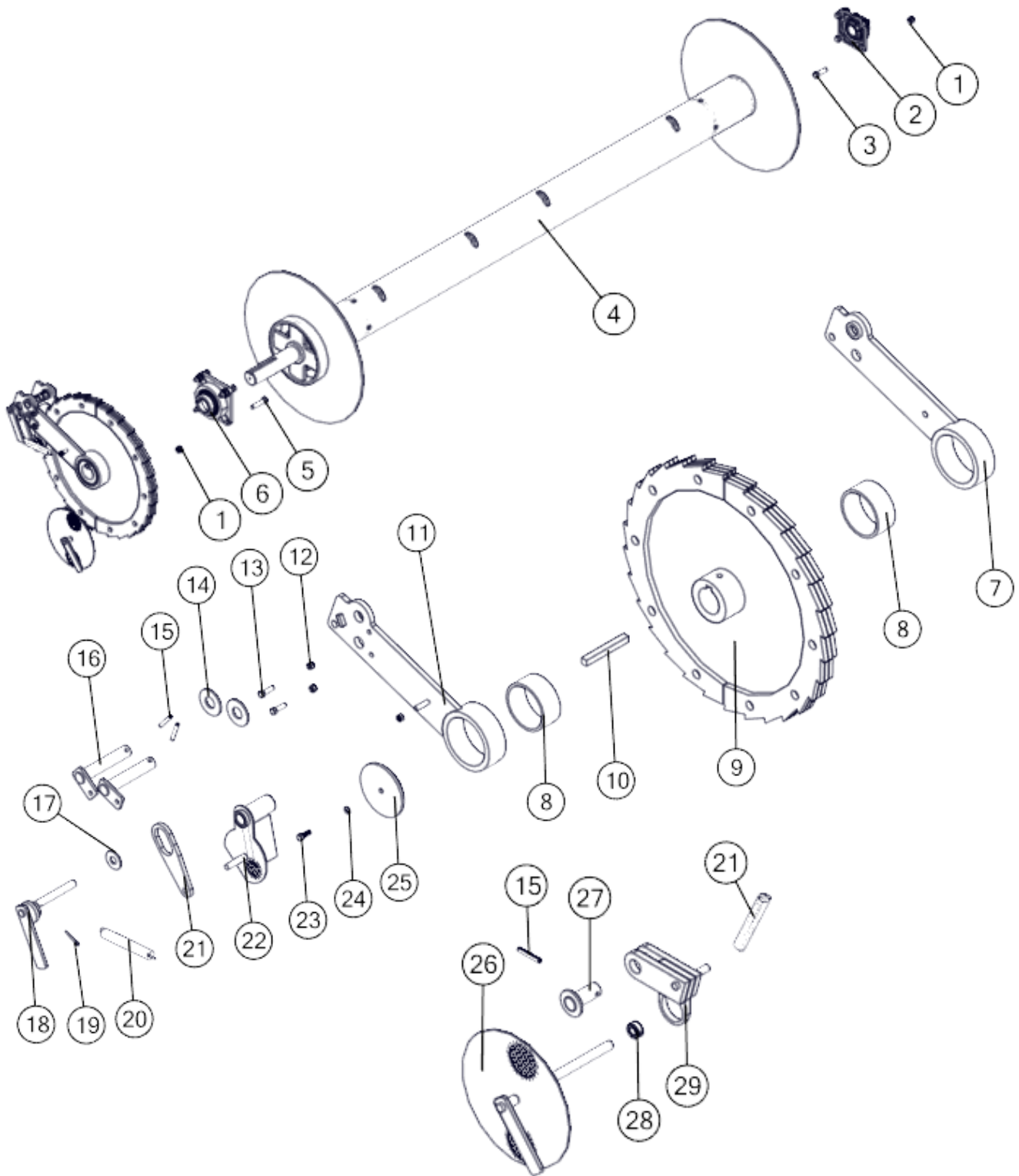
## 11 PARTS

### 11.8 Power Roll Assembly - Part 1

REF #	PART #	DESCRIPTION	QTY
1	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	8
2	114000-0250	Bearing - 4-Bolt Flange 1-15/16" ID NTN (UELFU-1.15/16M)	1
3	159400-0634	Hex Bolt - 5/8" NC x 2" Gr.5	4
4	680200-0296.01	Power Roll	1
5	159400-0636	Hex Bolt - 5/8" NC x 2-1/2" Gr.5 PL	4
6	114000-0253	NTN 2-7/16" 4 BOLT FLANGE BEARING	1
7	680200-0020.01	Right Arm Weldment	1
8	480200-0166.00	Oilite Bushing - Ratchet Wheel	2
9	680200-0017.00	Ratchet Wheel	1
10	480200-0482.00	5/8" Keystock x 5"	1
11	680900-0087.01	Left Arm Weldment	1
12	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	2
13	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	2
14	168000-0139	Flat Washer - 1" USS PL	2
15	172200-0793	Spring Pin - 5/16" x 2"	3
16	066100-0108	1" 5-5/16" Cylinder Pin - Ratchet Arm Assembly	2
17	168000-0080	Flat Washer - 5/8" USS PL	1
18	680000-0901.00	Ratchet Cog Release Arm	1
19	170000-0180	Cotter Pin - 3/16" x 1"	1
20	303300-0433	Extension Spring - 0.75" OD x 6.5" Long	2
21	480200-0168.02	Arm Lug Attachment	1
22	680200-0327.00	Cylinder Cog	1
23	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	1
24	168600-0071	Lock Washer - 3/8" PL	1
25	680200-0122.00	Shaft End Cap	1
26	680200-0189.00	Ratchet Stop Release	1
27	066100-0109	1" x 2 1/4" Cross Pin Assembly - Bag Pull	1
28	280000-0010	Set Collar - 5/8"	2
29	680200-0002.01	Ratchet Wheel Stop	1

# 11 PARTS

## 11.8 Power Roll Assembly - Part 1



## 11 PARTS

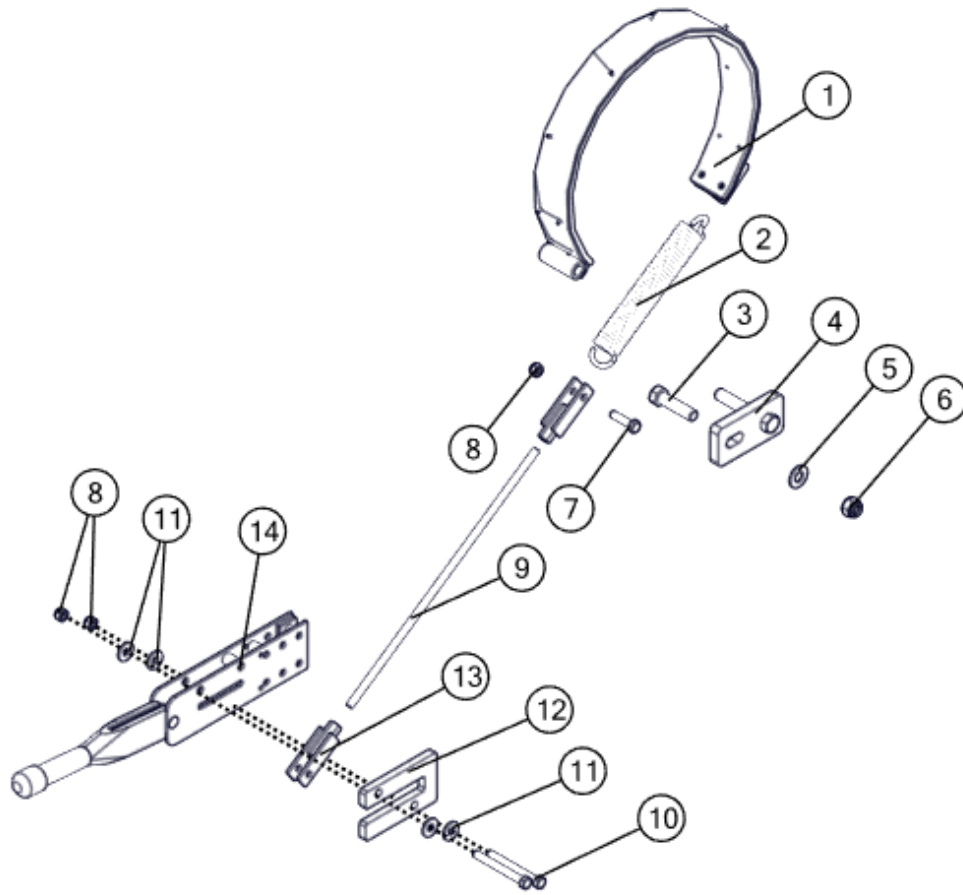
### 11.9 Power Roll Assembly - Part 2

REF #	PART #	DESCRIPTION	QTY
1	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	1
2	680200-0324.00	Roller End Plate Weldment	1
3	680200-0361.00	Wire Support-Tail lights	1
4	168000-0544	1/2" Flat Washer SAE PLTD	1
5	159400-0401	Hex Bolt 1/2" NC x 1-1/2" Gr.5 PL	1
6	147100-0430	3/8" ID x 1/4" Bolt Hole Rubber Cushion Cable Clamp	10
7	167200-0642	Nyloc Nut 1/4" NC Gr.5 PL	10
8	680200-0360.00	PS Bag Pull Side Roller - 2019	1
9	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	4
10	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	4
11	780000-0516.00	Roller Assembly - Side In Roller	1
**	480000-0632.02	Roller Pipe - Side-in Roller	2
**	114100-0016	1" Bearing - 52mm Cylindrical OD	4
12	480000-0639.00	Shaft End Plate - Side In Roller	2
13	680000-0959.00	Side Roller Pin Assembly	2
14	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	10
15	680200-0296.01	Power Roll	1
16	159400-0628	Hex Bolt 5/8" NC x 2" Gr.5	10
17	680200-0297.00	Bag Side In Roller - DS	1



## 11 PARTS

### 11.10 Rewind Brakes



REF #	PART #	DESCRIPTION	QTY
1	147800-0012	Brake Band Assembly	1
2	303200-0050	Extension Spring - 1-1/4" x 7"	1
3	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	1
4	680900-0054.00	Brake Adjuster Assembly	1
5	168000-0544	Flat Washer - 1/2" SAE PLTD	1
6	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	1
7	159300-0736	Hex Bolt - 5/16" NC x 1-1/4" Gr.5 PL	1
8	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	3
9	480200-0775.00	Brake Rod	1
10	159300-0805	Hex Bolt - 5/16" NC x 3" Gr.5 PL	2
11	168000-0040	Flat Washer - 5/16" USS PL	2
12	480200-0778.00	Brake Spacer	1
13	680200-0255.00	Turn Buckle	1
14	480200-0873.01	Brake Handle	1

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## 11 PARTS

### 11.11 Collapsible Rewind Wheel

REF #	PART #	DESCRIPTION	QTY
1	140000-0219	Swing Knob	2
2	680400-0048.00	Reel Lock	2
3	680400-0052.01	Collapsing Spoke Weldment	8
4	161500-0500	Quick Pin - 3/8 x 2-1/2" PLT Wire Lock	6
5	680400-0050.01	Floating Guide Ring	2
6	159400-0006	Hex Bolt 3/8" NC x 3-1/4" NC Gr.5 PL	32
7	680400-0042.01	Sliding Hub	2
8	113900-0521	Internal Snap Ring - 2-13/16"	4
9	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	32
10	480400-0183.00	UHMW Hub Bushing	2
11	680400-0046.02	Reel Plate	8
12	680400-0053.00	Drive Wheel	2
13	159400-0006	Hex Bolt 3/8" NC x 3-1/4" NC Gr.5 PL	2
14	480400-0162.01	Pivot Plates	16



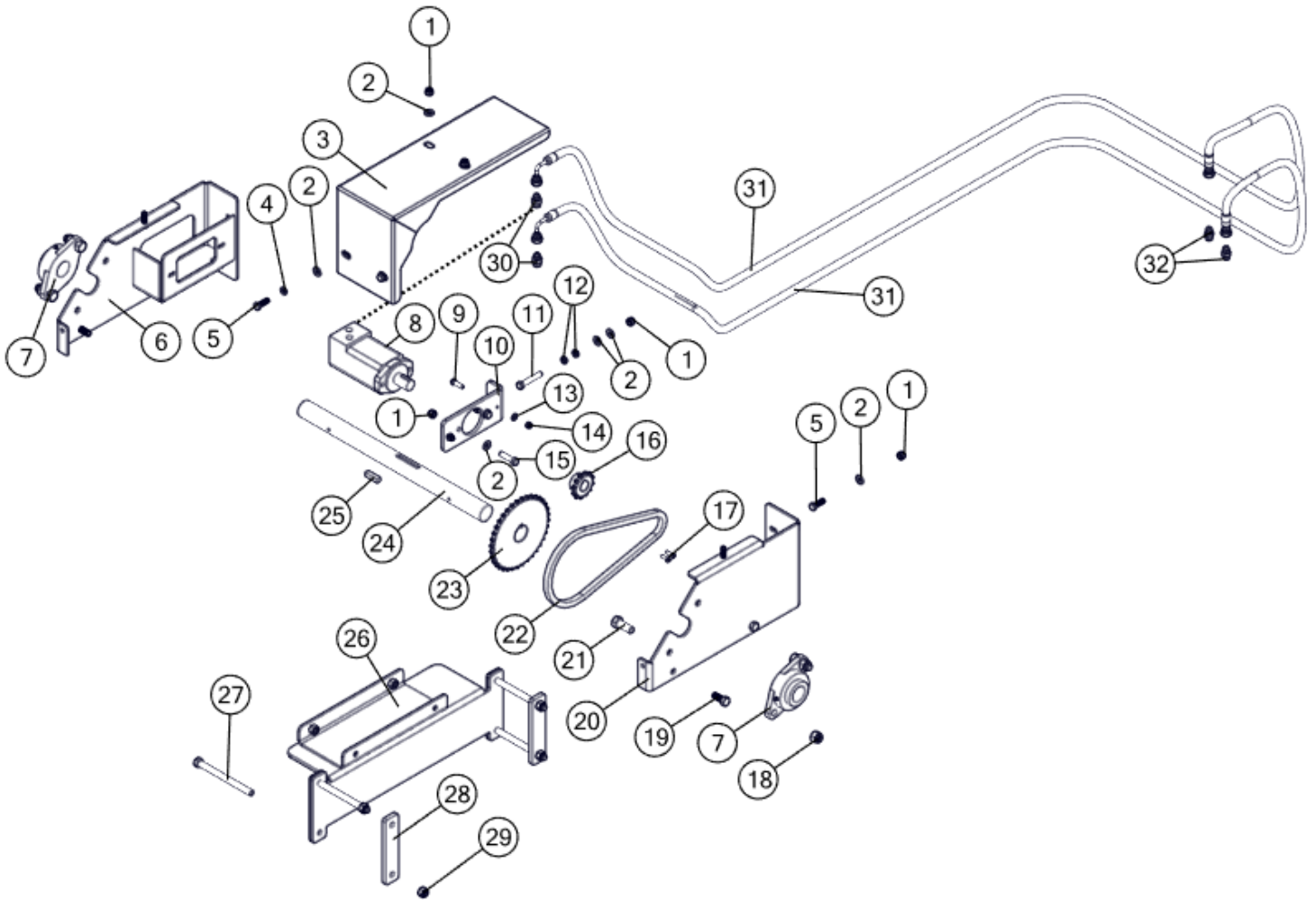
## 11 PARTS

### 11.12 Collapsible Rewind Box Assembly

REF #	PART #	DESCRIPTION	QTY
1	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	7
2	168000-0544	Flat Washer - 1/2" SAE PLTD	10
3	480400-0195.00	Cover Plate - Rewind Body	1
4	168600-0098	Lock Washer - 1/2" PL	1
5	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	4
6	680400-0058.00	Bag Rewind Side Panel - RH	1
7	114000-0143	1-15/16" - 2-Bolt Flange Bearing	2
8	111200-0030	Hydraulic Motor - 14.9 cu.in.	1
9	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	2
10	480900-0367.00	Motor Mount - Bag Rewind	1
11	159600-0430	Hex Bolt - Full Thread - 1/2" NC x 3" Gr.5 PL	1
12	167000-0650	Jam Nut - 1/2" NC Gr.5 PL	12
13	168000-0540	Flat Washer - 3/8" SAE	2
14	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	2
15	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	2
16	129000-0610	Sprocket - 12 Tooth #60 x 1-1/4"	1
17	140200-0065	Connector Link - #60	1
18	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	4
19	159400-0594	Hex Bolt - 5/8" NC x 1-1/2" Gr.5 PL	4
20	680400-0057.00	Bag Rewind Side Panel - LH	1
21	159400-0800	Hex Bolt - 3/4" NC x 2" Gr.5 PL	4
22	480900-0366.00	Chain - #60 x 55 Links	1
23	129000-0636	Sprocket - 36 Tooth #60 x 1-15/16"	1
24	480400-0169.00	Driveline Shaft - Rewind	1
25	480500-0122.00	KS 1/2" x 1-7/8" - Driveline Shaft - Bag Rewind	1
26	680200-0282.00	Collapsible Rewind - Bolt Up Bracket	1
27	159400-0750	Hex Bolt 5/8" x 8" Gr.5 PL	4
28	480200-0820.00	C/Rewind Bolt Bracket	2
29	167200-0690	Nyloc Nut 5/8" NC Gr.5 PL	4
30	086400-0812	Hex Nipple #8 JICM x #10 ORBM	2
31	392700-0156	HYD HOSE 2WB THIN COVER 3/8" x 156"	2
32	086400-0808	Hex Nipple #8 JICM x #8 ORBM	2

# 11 PARTS

## 11.12 Collapsible Rewind Box Assembly



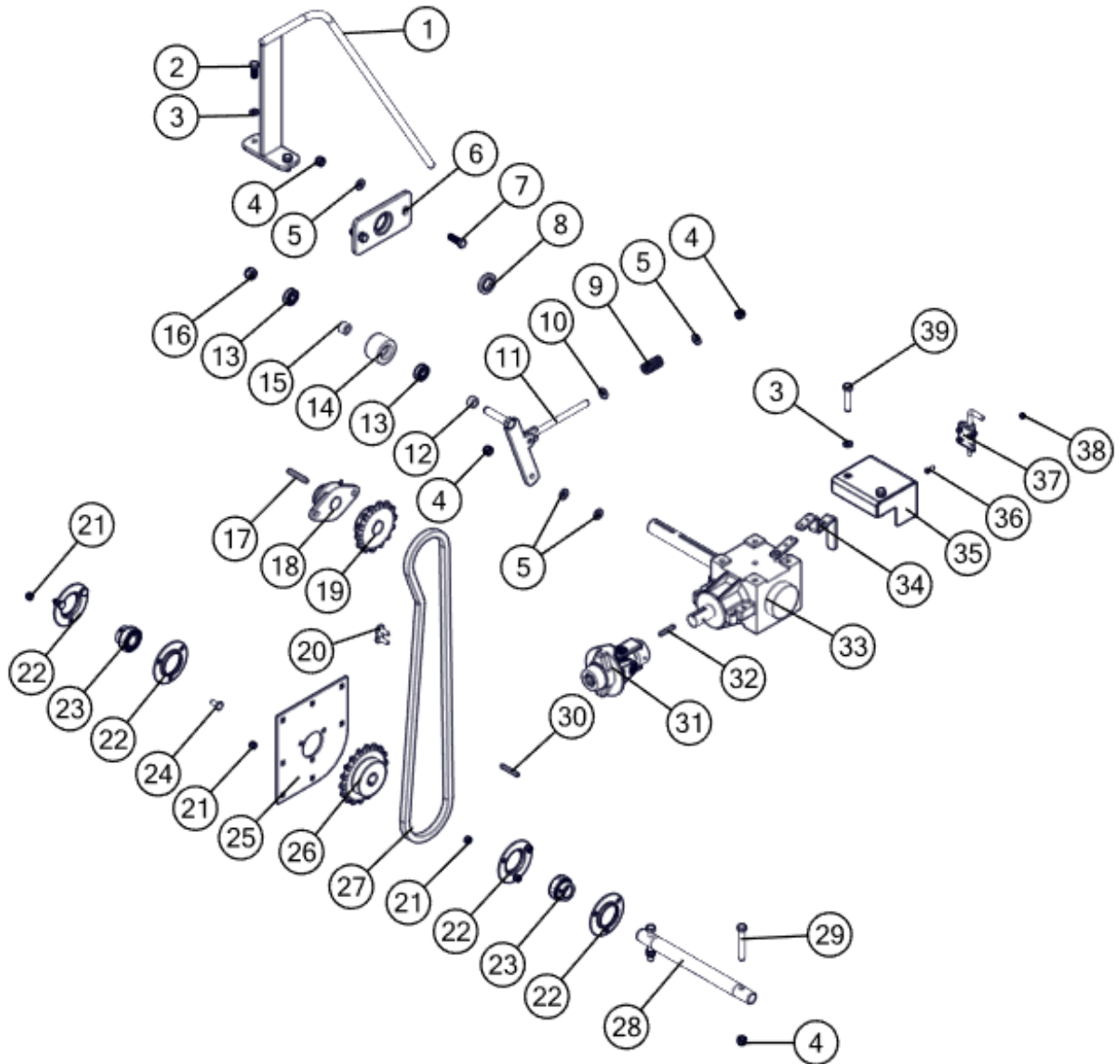
## 11 PARTS

### 11.13 Sweep Auger Drive

REF #	PART #	DESCRIPTION	QTY
1	680200-0330.01	Bag Guide - Weldment	1
2	159400-0395	Hex Bolt - 1/2" NC x 1-1/4" Gr.5 PL	2
3	168600-0098	Lock Washer - 1/2" PL	4
4	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	6
5	168000-0544	Flat Washer - 1/2" SAE PLTD	5
6	680200-0128.00	Seal plate	1
7	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	2
8	340100-0005	Seal - 1.375 ID x 2 OD x .313 T	1
9	303100-0155	Compression Spring - 1" OD x 2" Long	1
10	168000-0053	1/2" Rubber Washer	1
11	680200-0014.02	Sweep Drive chain tensioner	1
12	480200-0686.00	Chain Tensioner Idler Spacer - Sweep Drive Box	1
13	114100-0062	5/8" Bearing - 40mm OD	2
14	480200-0393.00	Idler Roll - Sweep Gear Drive	1
15	480200-0394.00	Chain tensioner idler spacer	1
16	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	1
17	480200-0765.00	KS 5/16" x 2-1/2" - Cross Shaft - Sweep Drive 2017	1
18	114000-0139	1-3/8" - 2 Hole Flange Bearing	1
19	129000-0808	Sprocket #80 - 14T x 1-3/8"	1
20	140200-0080	Connector Link - #80	1
21	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	13
22	114000-0162	Flangette - 62mm	4
23	114000-0111	1-1/4" Bearing - 62mm OD, Eccentric Lock	2
24	163000-0507	Carriage Bolt - 3/8" NC x 1" Gr.5 PL	3
25	480200-0121.02	Cover Panel/Brg Plate - Sweep Drive	1
26	129000-0811	Sprocket - 18 Tooth #80 x 1-1/4"	1
27	480200-0448.00	Single #80 Chain - 75 Links + Conn.	1
28	480200-0124.02	Cross Shaft - Sweep Drive	1
29	159400-0485	Hex Bolt - 1/2" NC x 3-1/2" Gr.5 PL	2
30	480200-0685.00	Key 1/4" x 2-1/4"	1
31	375500-0118	Universal Joint - 1-1/4"RB to 1-3/8" 6 Spline Shear	1
32	480500-0119.00	KS 1/4" x 1-9/16" - Cross Shaft - Sweep Drive	1

## 11 PARTS

### 11.13 Sweep Auger Drive



REF #	PART #	DESCRIPTION	QTY
33	342100-0504	Shifter Gearbox/ R500 G-box - 1-3/8" Shafts, 90deg	1
34	480500-0091.04	Gearbox Lever	1
35	680000-0881.00	Lever Lock Weldment	1
36	159300-0543	Hex Bolt - 1/4" NC x 3/4" Gr.5 PL	4
37	154000-0175	Spring Latch - 3/8"	1
38	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	4
39	159400-0430	Hex Bolt - 1/2" NC x 2-1/2" Gr.5 PL	2



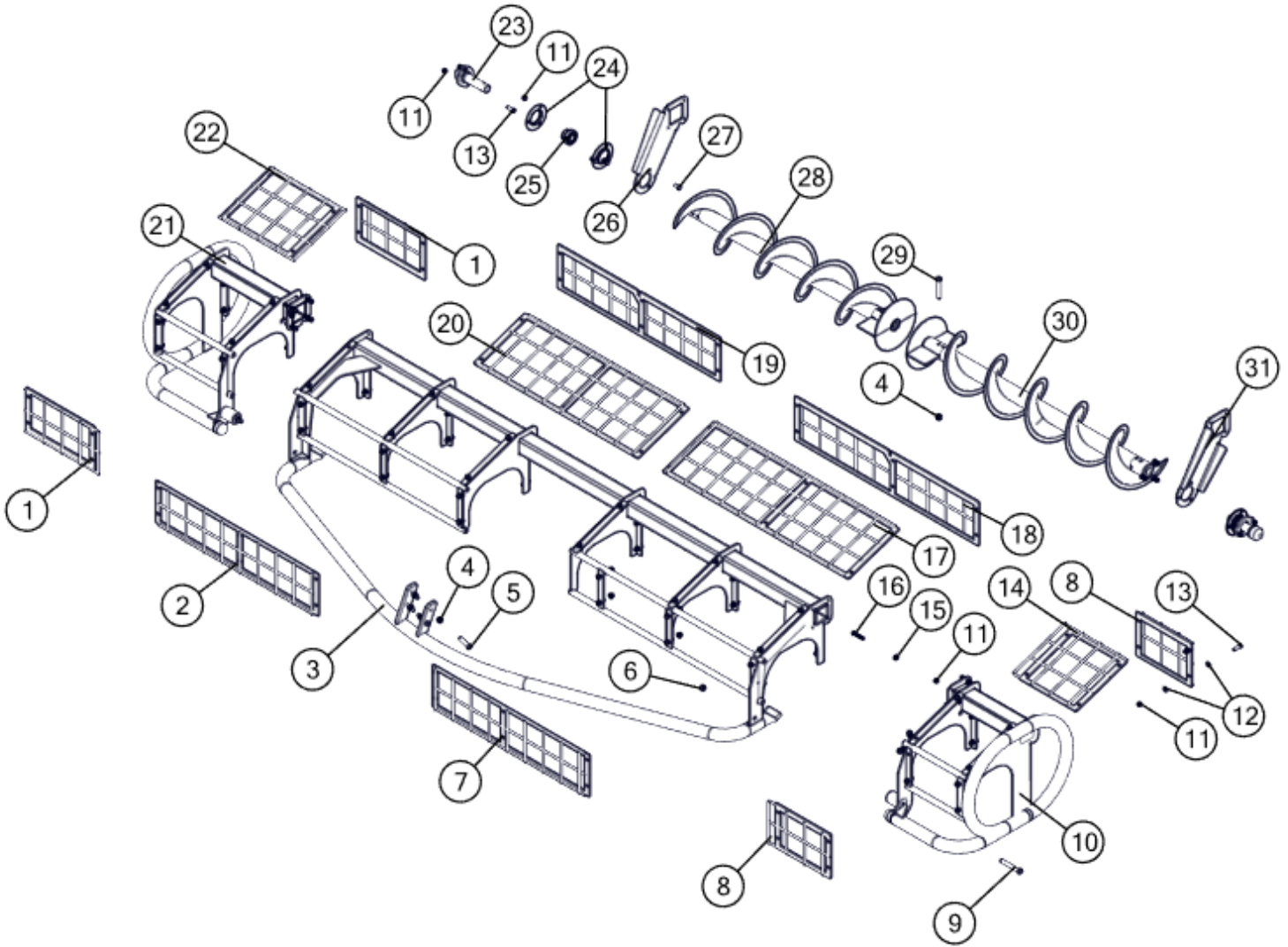
## 11 PARTS

### 11.14 10FT Sweep Auger Assembly

REF #	PART #	DESCRIPTION	QTY
1	680200-0372.00	F-P Sweep Ext Guard	2
2	680200-0241.00	Bolt-up Mesh Guard - PS Front - Main Sweep	1
3	680200-0367.00	Auger Guard Weldment - Sweeps	1
4	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	10
5	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	4
6	167200-0416	1/2" Top Lock Nut	2
7	680200-0239.00	Bolt-up Mesh Guard - DS Front - Main Sweep	1
8	680200-0370.00	F-D Side Sweep Ext Guard	2
9	159400-0488	Hex Bolt - 1/2" NC x 4" Gr.5 PL	2
10	680200-0368.00	10ft Sweep Frame Extension - Driver Side	1
11	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	78
12	168000-0540	Flat Washer - 3/8" SAE	120
13	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	64
14	680200-0371.00	T-D Side Sweep Ext Guard	1
15	167200-0510	Hex Nut - Flanged - 3/8" NC Gr.5 PL	8
**	167200-0408	Top Lock Nut 1/4" NC	4
16	159300-0988	Hex Bolt 3/8" NC x 1-1/2 Gr.5 PL	8
**	159300-0544	Hex Bolt 1/4" NC x 1" Gr.5 PL	4
17	680200-0240.00	Sweep Guard - Driver Side Top	1
18	680200-0243.00	Sweep Guard - Driver Side Back	1
19	680200-0244.00	Sweep Guard - Passenger Side Back	1
20	680200-0242.00	Sweep Guard - Passenger Side Top	1
21	680200-0369.00	9ft Sweep Frame Extension - Passenger Side	1
22	680200-0373.00	T-P Side Sweep Ext Guard	1
23	680200-0041.01	Sweep End Axle	2
24	114000-0162	Flangette - 62mm	4
25	114000-0001	1-1/4" Bearing - 62mm OD, Eccentric Lock	2
26	480200-1062.00	Brg Hanger - Passenger Side - Sweep	1
27	163000-0507	Carriage Bolt - 3/8" NC x 1" Gr.5 PL	6
28	680200-0003.03	Sweep Auger - Passenger Side	1

## 11 PARTS

### 11.14 10FT Sweep Auger Assembly



REF #	PART #	DESCRIPTION	QTY
29	159400-0485	Hex Bolt - 1/2" NC x 3-1/2" Gr.5 PL	6
30	680200-0004.03	Sweep Auger - Driver Side	1
31	480200-1061.00	Brg Hanger - Driver Side - Sweep	1

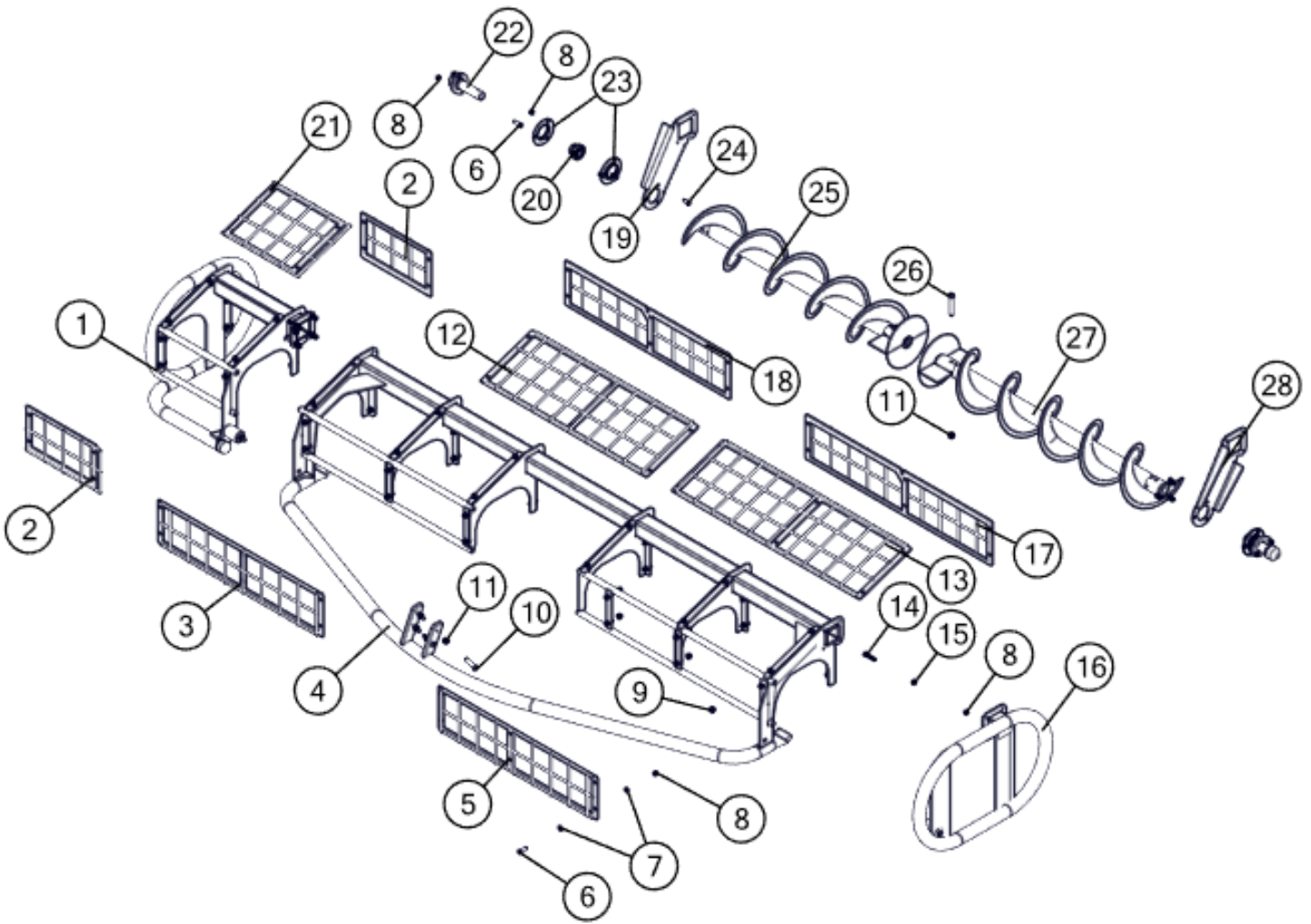
## 11 PARTS

### 11.15 9FT Sweep Auger Assembly (Optional)

REF #	PART #	DESCRIPTION	QTY
1	680200-0369.00	9ft Sweep Frame Extension - Passenger Side	1
2	680200-0372.00	F-P Sweep Ext Guard	2
3	680200-0241.00	Sweep Guard - Passenger Side Front	1
4	680200-0367.00	Auger Guard Weldment - Sweeps	1
5	680200-0239.00	Sweep Guard - Driver Side Front	1
6	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	52
7	168000-0540	Flat Washer - 3/8" SAE	96
8	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	66
9	167200-0416	1/2" Top Lock Nut	2
10	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	4
11	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	6
12	680200-0242.00	Sweep Guard - Passenger Side Top	1
13	680200-0240.00	Sweep Guard - Driver Side Top	1
14	159600-0321	Hex Bolt - Full Thread - 3/8" NC x 2" Gr.5 PL	8
**	159300-0544	Hex Bolt 1/4" NC x 1" Gr.5 PL	4
15	167200-0510	Hex Nut - Flanged - 3/8" NC Gr.5 PL	8
**	167200-0408	Top Lock Nut 1/4" NC	4
16	680200-0362.01	9ft Bag Wing Extension Weldment - Sweep	1
17	680200-0243.00	Sweep Guard - Driver Side Back	1
18	680200-0244.00	Sweep Guard - Passenger Side Back	1
19	480200-1062.00	Brg Hanger - Passenger Side - Sweep	1
20	114000-0001	1-1/4" Bearing - 62mm OD, Eccentric Lock	2
21	680200-0275.00	Side Sweep Guard - T.P.	1
22	680200-0041.01	Sweep End Axle	1
23	114000-0162	Flangette - 62mm	4
24	163000-0507	Carriage Bolt - 3/8" NC x 1" Gr.5 PL	6
25	680200-0003.03	Sweep Auger - Passenger Side	1
26	159400-0485	Hex Bolt 1/2" NC x 3-1/2" Gr.5 PL	2
27	680200-0004.03	Sweep Auger - Driver Side	1
28	480200-1061.00	Brg Hanger - Driver Side - Sweep	1

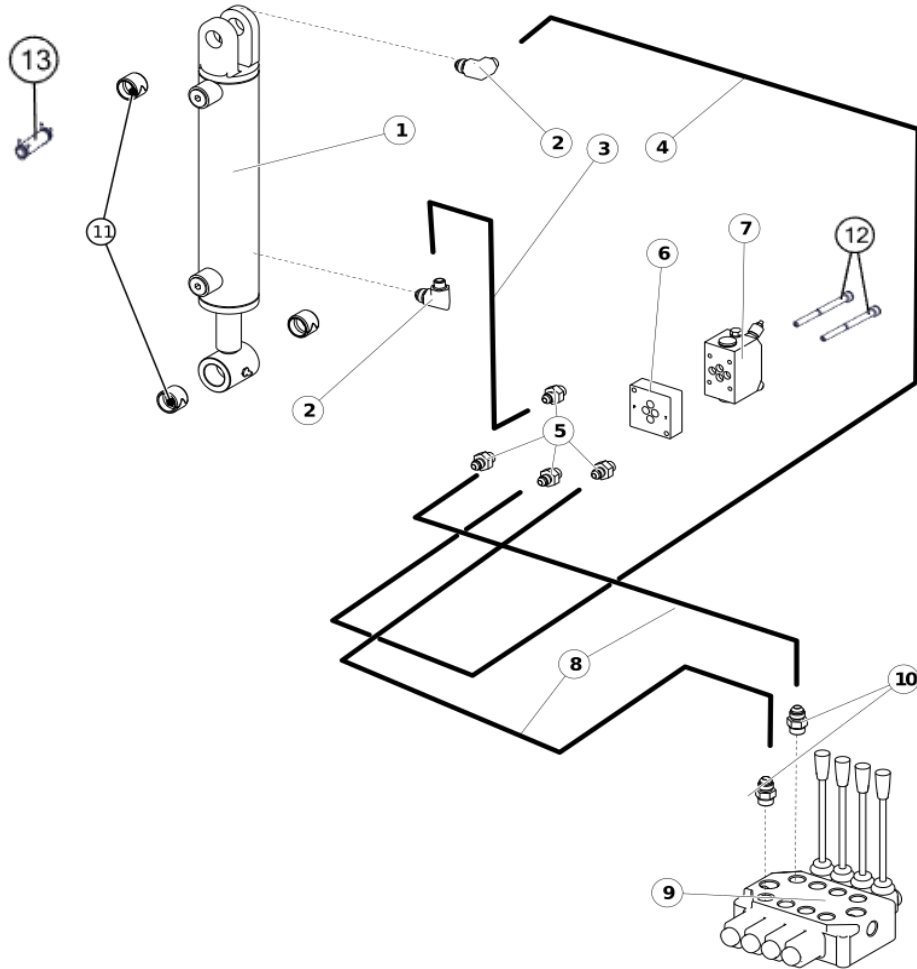
## 11 PARTS

### 11.15 9FT Sweep Auger Assembly (Optional)



## 11 PARTS

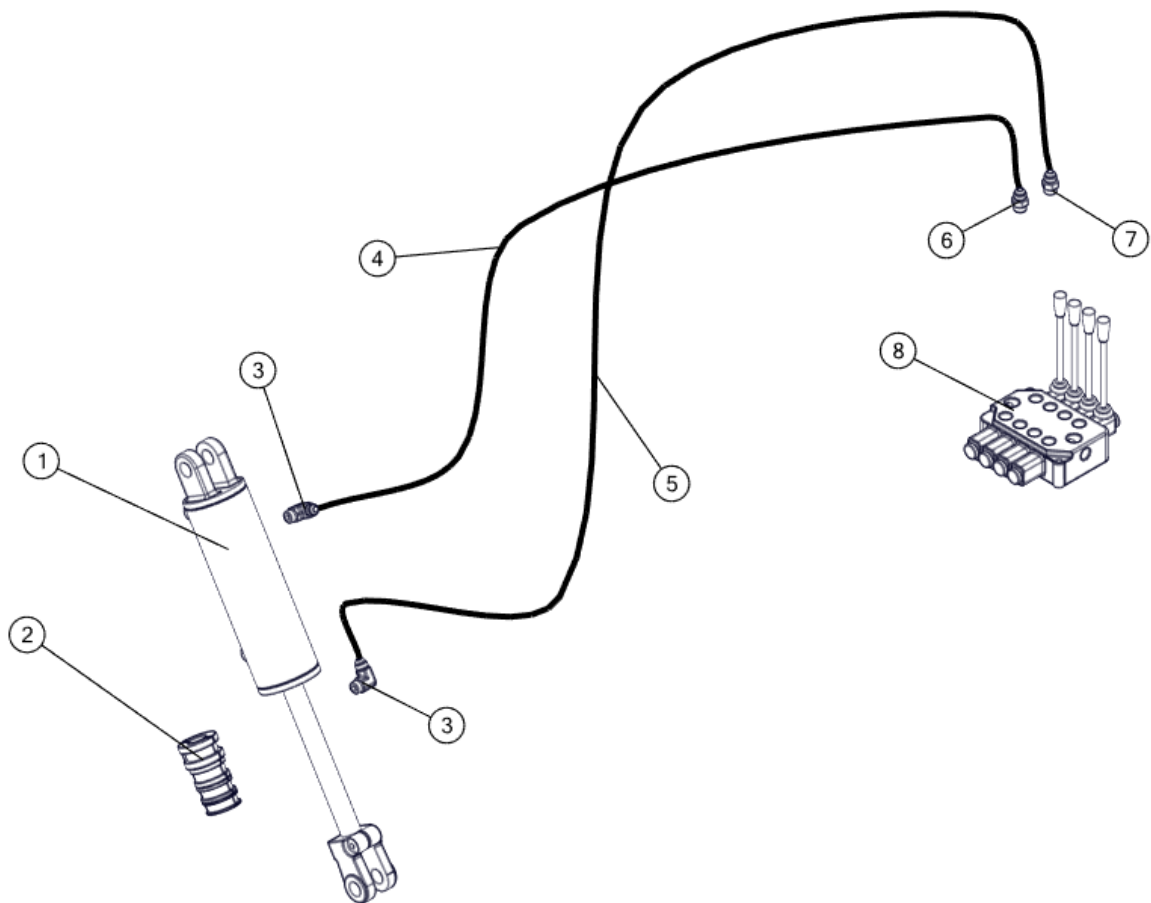
### 11.16 Power Roll Hydraulics



REF #	PART #	DESCRIPTION	QTY
1	107700-0001	2-1/2" Hydraulic Cylinder x 10" Stroke	1
2	086900-908	90deg Elbow #8 ORBM x #8 JICM	2
3	392600-0056	3/8" 2w x 56"- #8 JICF x 90de short #6 JICF	1
4	392600-0043	3/8" 2w x 43"- #8 JICF x 90de short #6 JICF	1
5	086400-0606	Hex Nipple #6 JICM x #6 ORBM	4
6	110100-0311	Sub Plate - Inversion Valve	1
7	110100-0310	Inversion Valve	1
8	392600-0025	3/8" 2w x 25"- #8 JICF x short 90de #6 JICF	2
9	110100-0415	Directional Control Valve - 1&4 Detent - FB Unloader	1
10	086400-0808	Hex Nipple #8 JICM x #8 ORBM	2
11	113200-0030	1" x 1" Split Spring Bushing	3
12	110100-0302	Socket Head Cap Screw 10-24 x 2-1/4"	2
13	107000-0103	Cylinder Pin 1" Dia x 3"	1

## 11 PARTS

### 11.17 Axle Hydraulics



REF #	PART #	DESCRIPTION	QTY
1	107700-0002	Hydraulic Cylinder - 3-1/2" x 8" Stroke	1
2	107200-0900	Aluminum Cylinder Stop Kit	2
3	086900-0908	90deg Elbow #8 ORBM x #8 JICM	2
4	392600-0116	3/8" 2w x 116"- #8 JICF x #8 JICF	1
5	392600-0096	3/8" 2w x 96"- #8 JICF x #8 JICF	1
6	086400-0808	Hex Nipple - #8 JICM x #8 ORBM	1
7	081000-0108	Orifice Adapter - #8 ORBM x #8 JICM x .062"	1
8	110100-0415	Directional Control Valve - 1&4 Detent - FB Unloader	1



## 11 PARTS

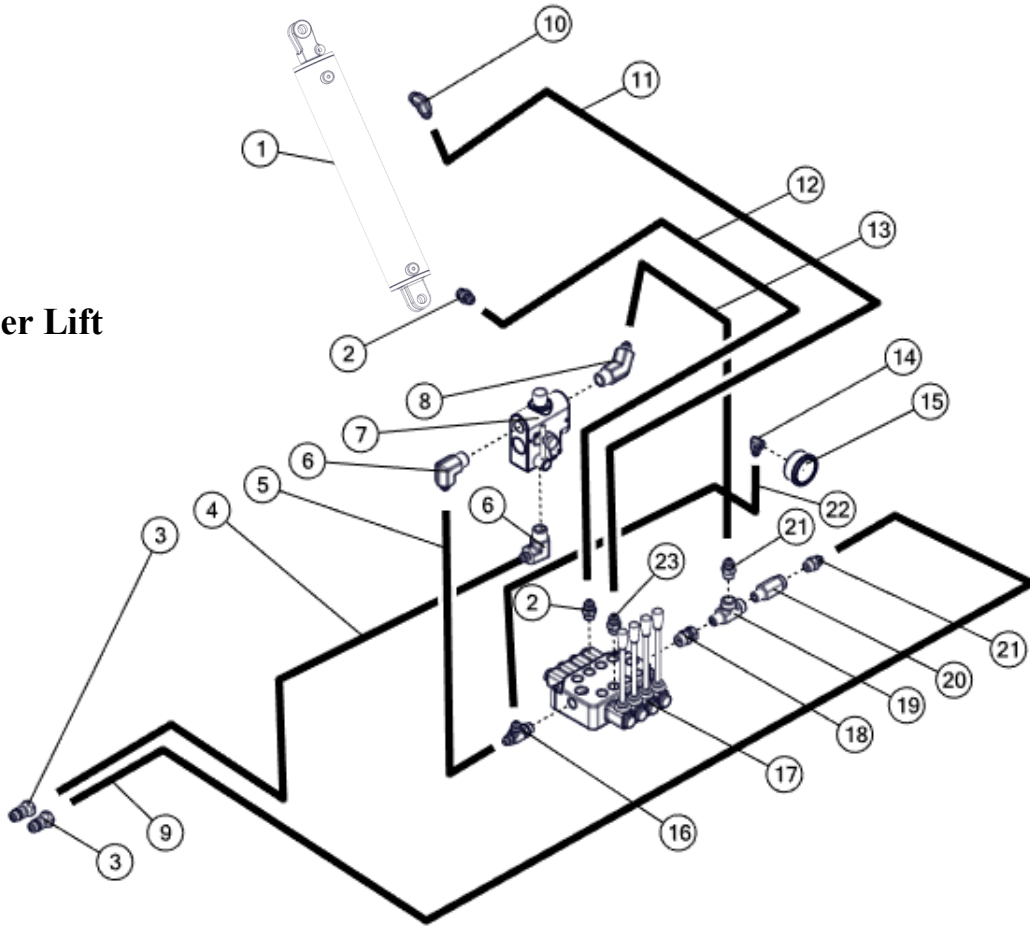
### 11.18 Auger Hydraulics

REF #	PART #	DESCRIPTION	QTY
1	107700-0007	3" Bore x 20" Stroke Hyd Cylinder	1
2	086400-0808	Hex Nipple - #8 JICM x #8 ORBM	2
3	104000-0610	Hydraulic - Q/C Male Poppet 1/2" FNPT	2
4	392800-0252	Hydraulic Hose - 1/2" x 252" x 1/2" MPT x #8JICF	1
5	392600-0010	Hydraulic Hose - 3/8" x 10" x #8 JICF x #8 JICF Short 90°	1
6	082500-0812	90° Elbow - 3/4" MNPT x #8 JICM	2
7	110100-0402	Flow Control Valve - 3/4" Ports	1
8	086700-0910	45deg Elbow 3/4" MPT x #8 JICM	1
9	392800-0240	Hydraulic Hose - 1/2" x 240" x 1/2" MPT x #8 JICF	1
10	086900-0908	90deg Elbow #8 ORBM x #8 JICM	1
11	392600-0200	Hydraulic Hose - 3/8" x 200"x #8 JICF x #8 JICF	1
12	392600-0176	Hydraulic Hose - 3/8" x 176"x #8 JICF x #8 JICF	1
13	393000-0020	Hydraulic Hose - 1/2" x 19" x #8 JICF x #8 JICF	1
14	082500-0603	90° Elbow - #6 JICM x 1/4" FNPT	1
15	110300-0023	Pressure Gauge	1
16	085100-0908	Tee - #8 ORBM x #8 JICM x #8 JICM	1
17	110100-0415	Directional Control Valve - 1&4 Detent - FB Unloader	1
18	086900-0810	Swivel Adapter - #10 ORB x 1/2" FNPT-sw	1
19	085600-0808	Tee - 1/2" MNPT x 1/2" FNPT x 1/2" FNPT	1
20	111000-0204	Check Valve - 1/2" MNPT x 1/2" FNPT	1
21	082400-0808	Hex Nipple - 1/2" MNPT x #8 JICM	2
22	392600-0019	Hydraulic Hose - 3/8" x 19" x #8 JICF x #6 JICF Short 90°	1
23	081000-0108	Orifice Adapter - #8 ORBM x #8 JICM x .062"	2
24	107700-0006	HYD. CYL. 1-1/2" x 6"	1
25	086400-0606	Hex Nipple #6 JICM x #6 ORBM	2
26	392700-0504	3/8"2w x 504" 1/2MPT x #6JICFsw SHORT 90deG	2

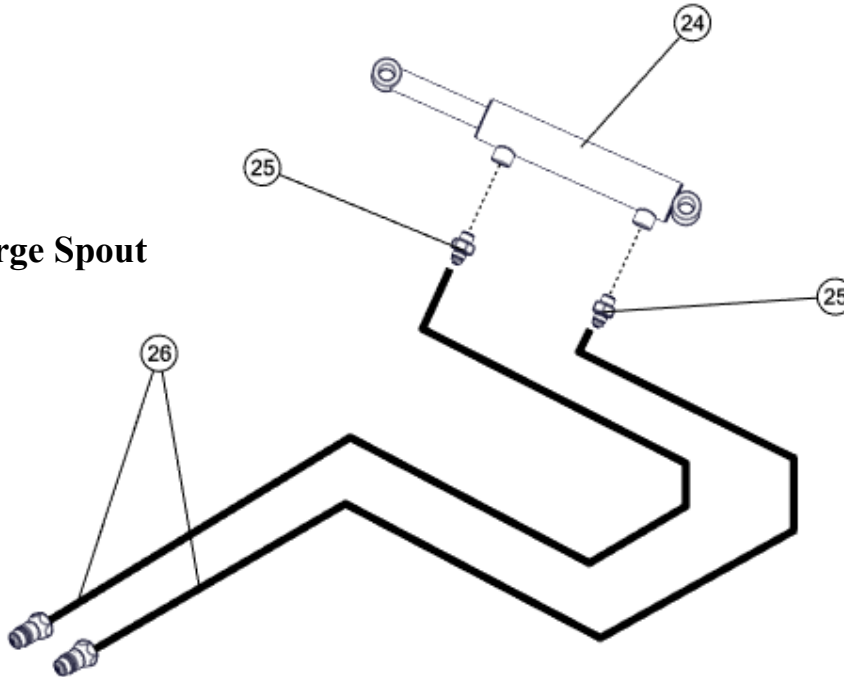
# 11 PARTS

## 11.18 Auger Hydraulics

**Auger Lift**



**Discharge Spout**







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