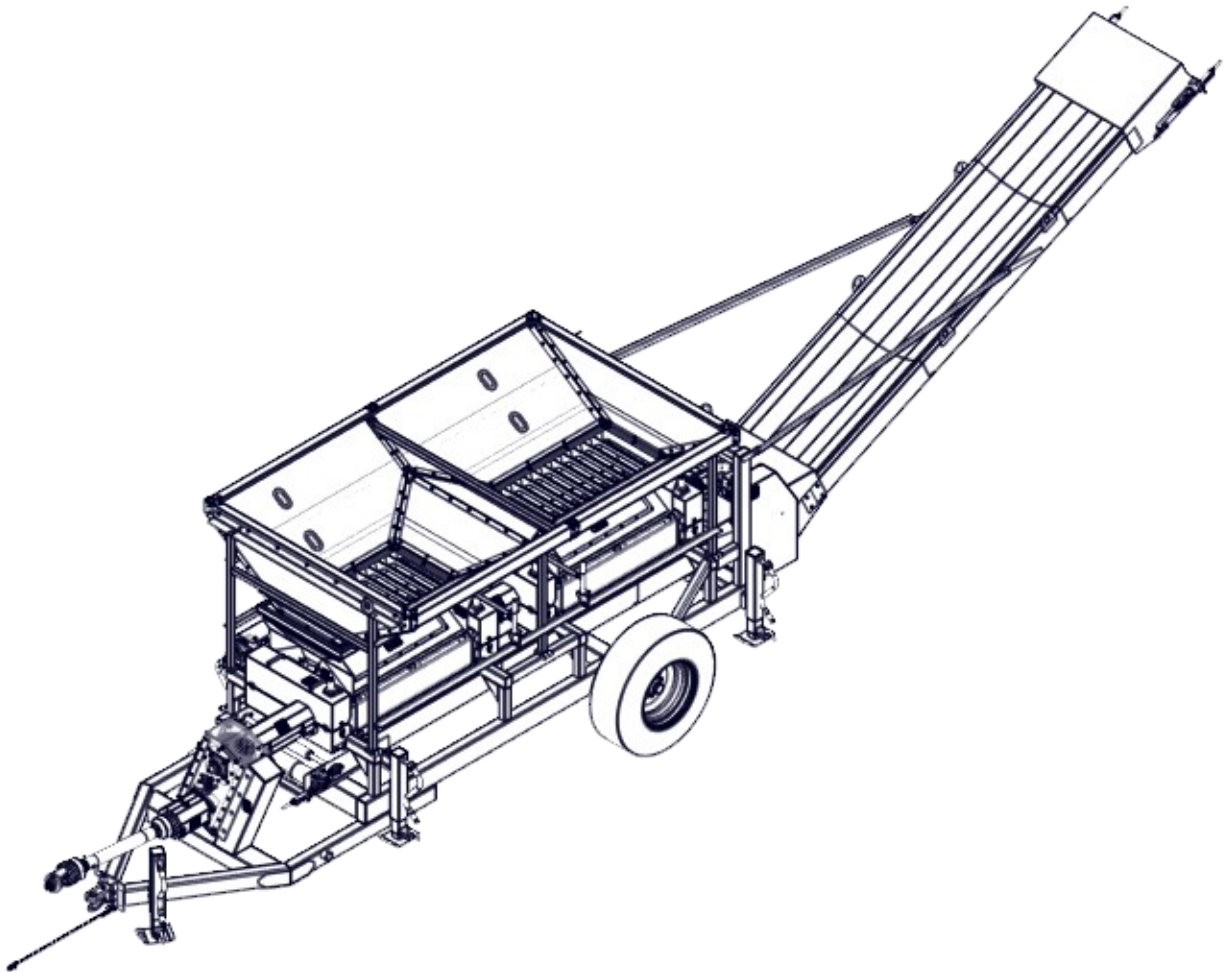


# RENN

A DIVISION OF *Degelman*

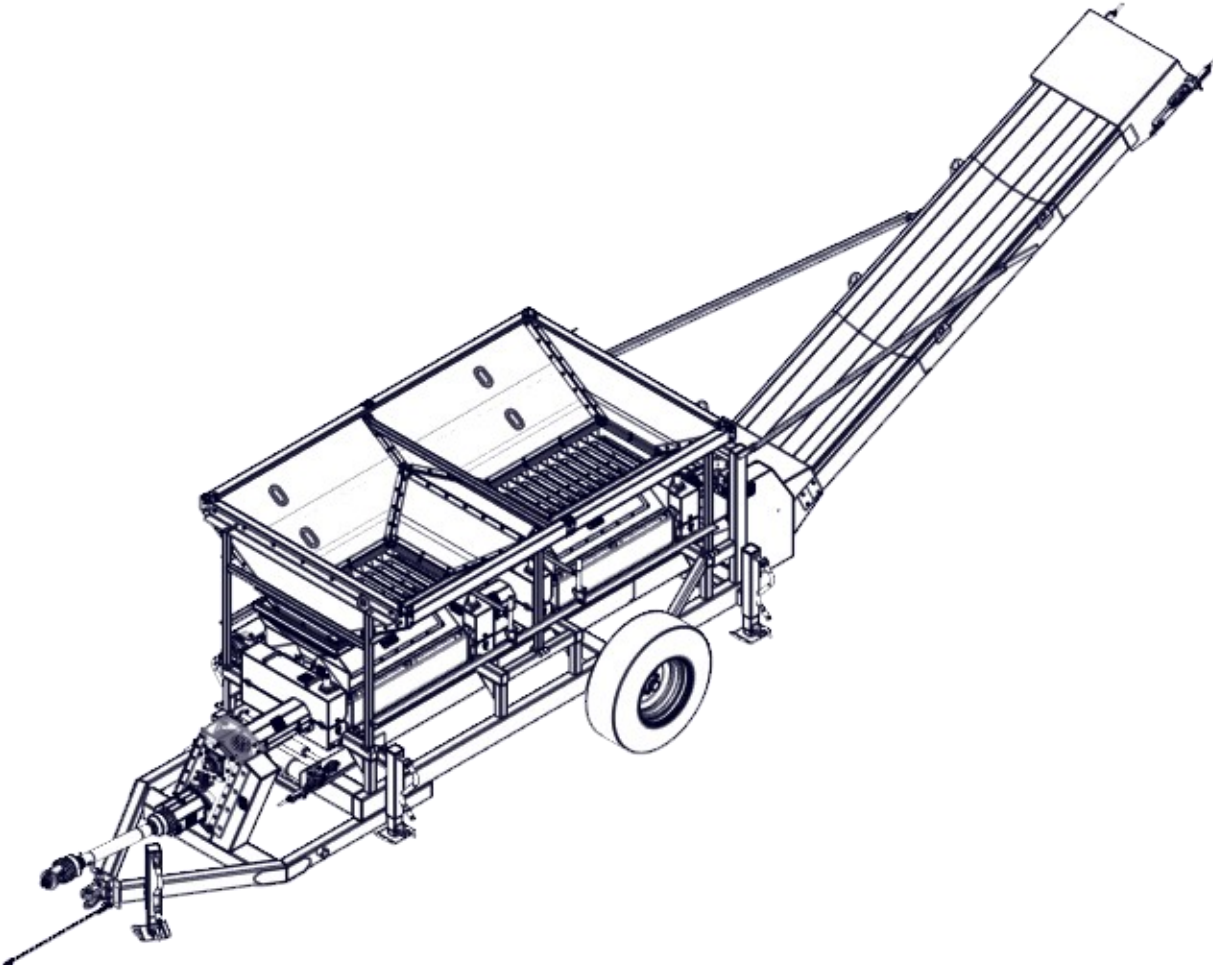
## 48" TANDEM ROLLER MILL 36" Conveyor Discharge

Operator's & Parts Manual  
Model No. 974800-0610.03



**RENN** Mill Center LP.  
R.R. #4  
Lacombe, Alberta, Canada  
T4L 2N4  
Phone: (403) 784-3518  
Fax : (403) 784-2060  
Email : [rennmill@rennmill.com](mailto:rennmill@rennmill.com)  
[www.rennmill.com](http://www.rennmill.com)

# 48" TANDEM ROLLER MILL



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## INTRODUCTION

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Congratulations on your decision to purchase a Renn Conveyor Mill. 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 mill. We urge you to read this publication carefully and refer to it extensively for correct operating procedure.

The Renn Roller Mill is designed to give the operator a maximum capacity and working surface through the use of a large diameter roll. Added to this is a convenient method of roll removal, and a new process of roll adjustment, giving the operator infinite control of feed quality. The unit is constructed in a solid manner, giving you value for your dollar and a mill that will last.

This manual includes a Warranty Policy, a Safety Section, and Lubrication and Maintenance Schedule. We urge you to read through this information carefully. This will help to ensure the safe and trouble-free operation of your mill. 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



A DIVISION OF **Ziegelman**

## • 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 purchaser's 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

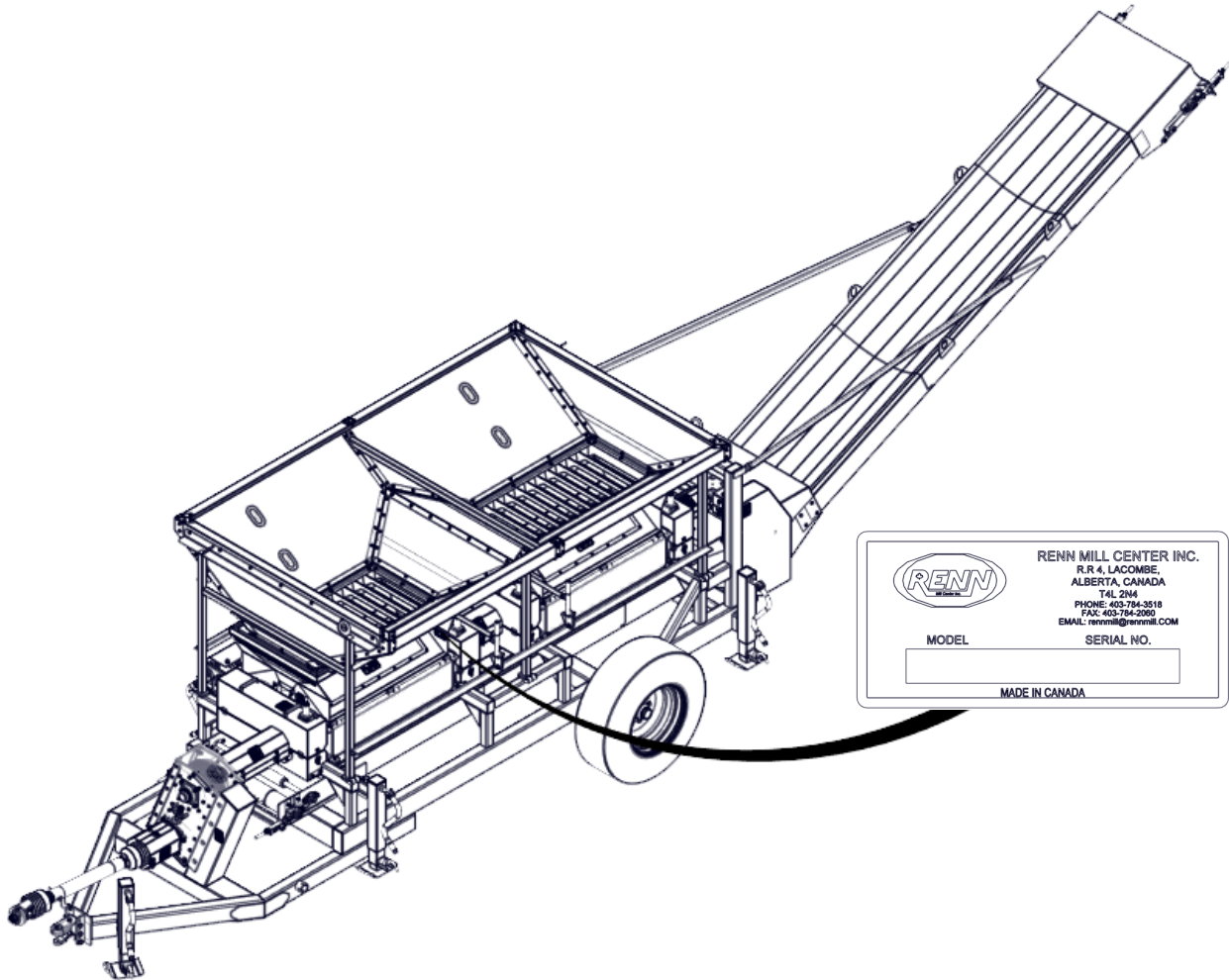
RENN shall have no obligation under this warranty unless the "Warranty Registration" included with your owners manual signed by purchaser and dealer is delivered to RENN within 30 days from the date of sale.

## 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.**

## MILL SERIAL NUMBER LOCATION

The serial number plate is located on the inside face of the back panel of the top hopper, on the driver's side of the machine.



**IMPORTANT:** For fast, correct service when ordering parts, provide 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 Roller Mill.



## 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 Mill 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?

#### 3 Big Reasons

#### Accidents Disable and Kill

#### 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

---



You are responsible for the SAFE operation and maintenance of your Renn Conveyor Mill. YOU must ensure that you and anyone else who is going to operate, maintain or work around the mill 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 mill.

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.

- Mill owners must give operating instructions to operators or employees before allowing them to operate the mill, 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 mill. 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.
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 mill 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 mill 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 mill is designed to mill GRAIN. It is not suggested to use the mill for other materials without receiving consent from the factory to do so. Failure to heed this warning will result in forfeiture of warranty.
11. Do not exceed a safe travelling speed during transportation.
12. Use a light kit on the mill 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 mill may block parts of your view.
16. Never unhook the mill while it is in use.
17. If applicable, make sure that all components are tight and that hoses, fittings and couplings are in good condition before pressurizing the hydraulic system.
18. 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 mill.

### **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.



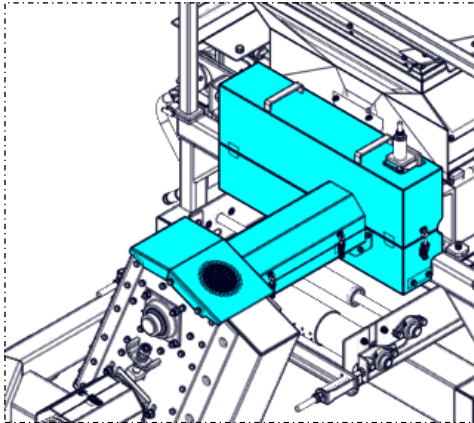
## 2 SAFETY



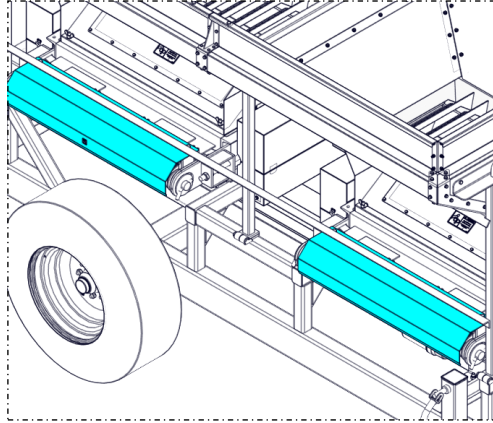
### 2.7 Safety Shield Placement

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

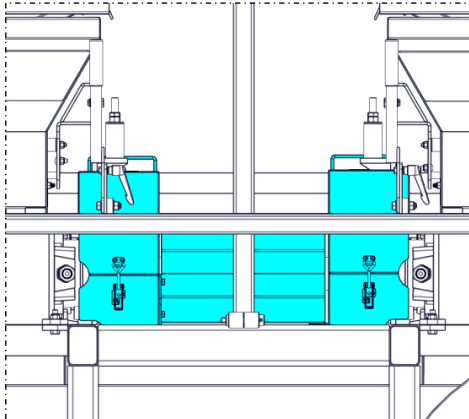
Front Shield



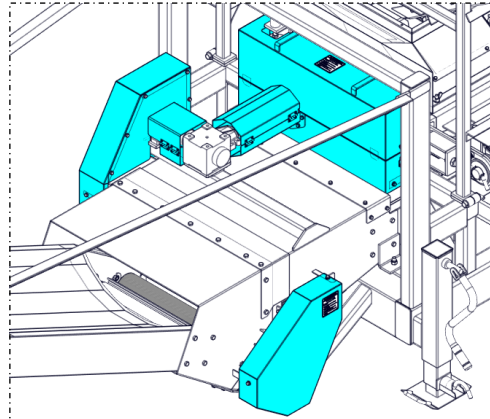
Cam Shield



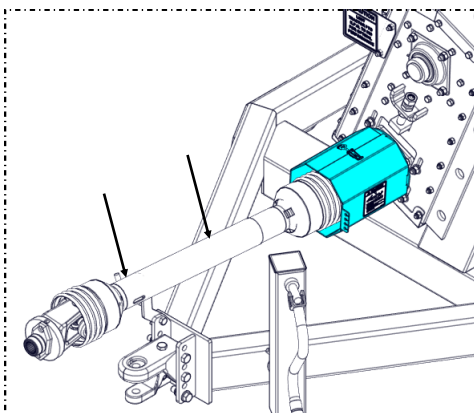
Middle Shields



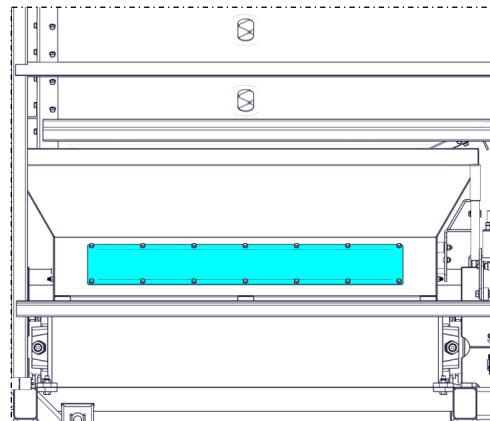
Rear Shield



PTO: Front and Rear Covers



Top Hopper Cover Plate





## 2 SAFETY



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

Anyone operating and/or maintaining the mill 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!!



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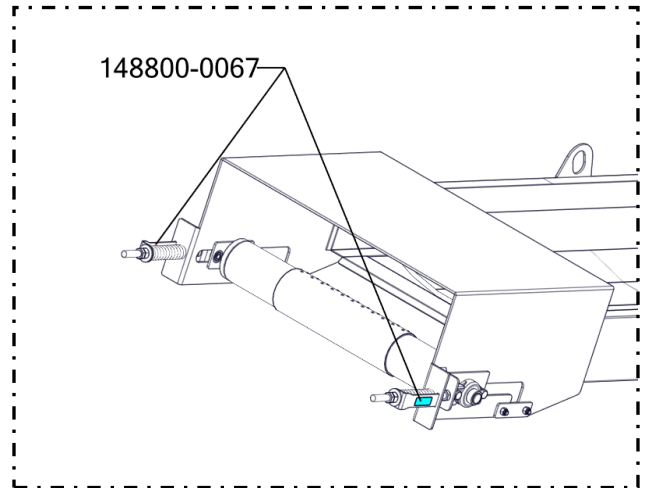
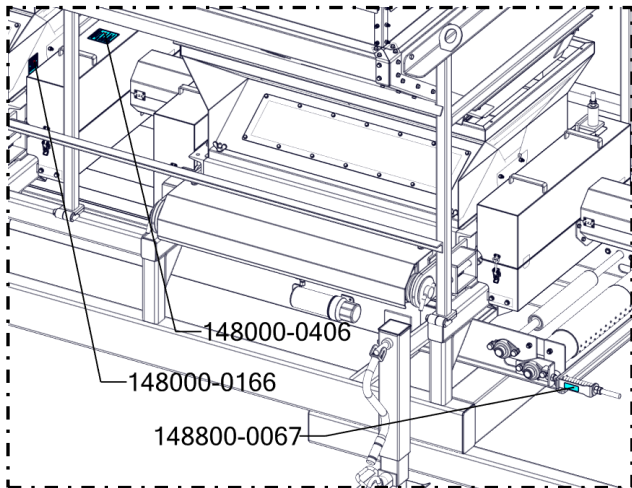
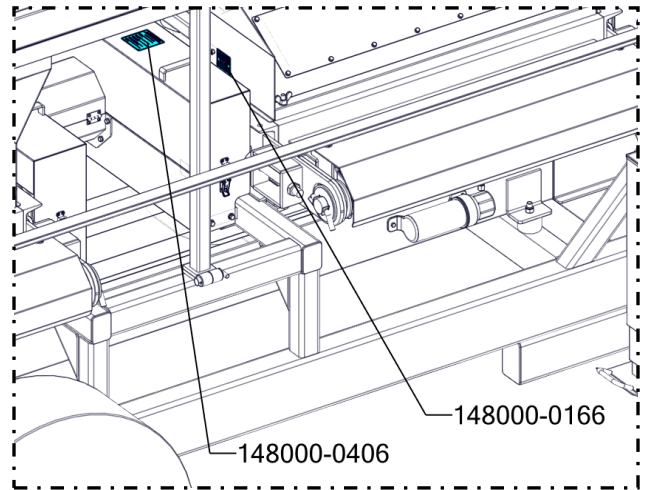
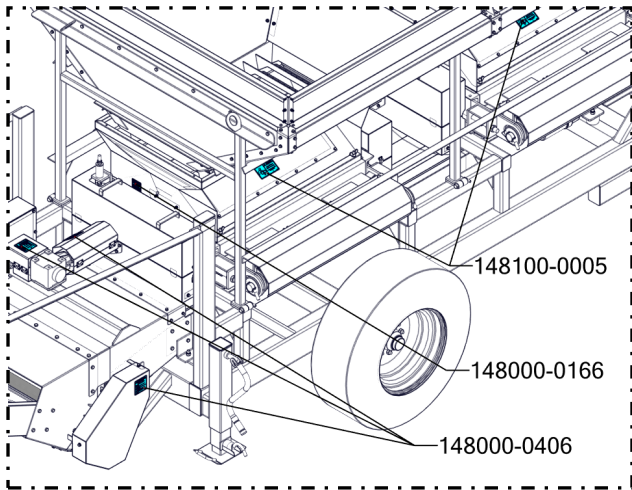
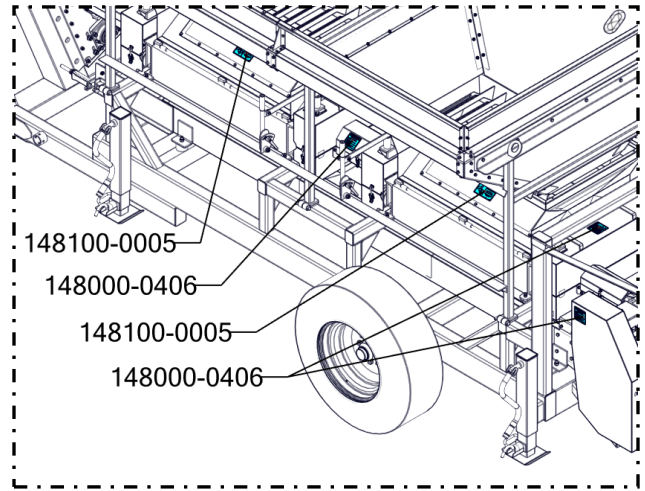
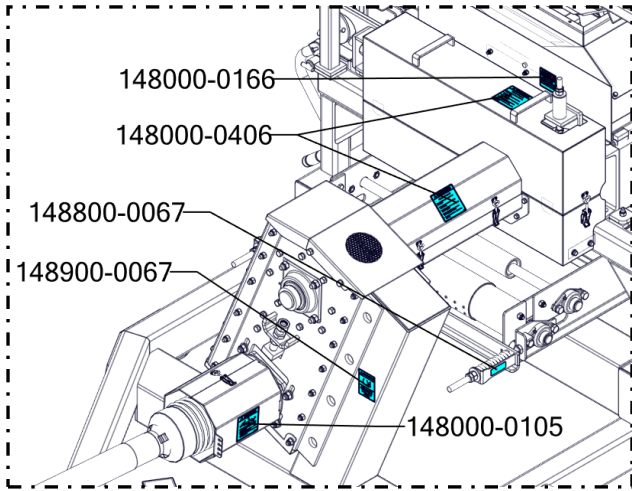


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REMEMBER - If safety decals have been damaged, removed, or become illegible, or if parts have been replaced and do not contain safety decals where there were some previously, new decals must be applied. New safety decals are available from your authorized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

# 3 DECAL LOCATIONS

## 3.1 Safety Decal Locations



## 3 DECAL LOCATIONS

### 3.2 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!!



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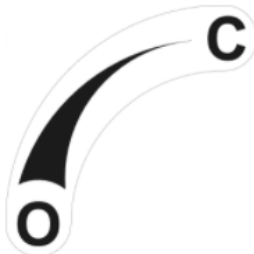
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**GREASE**



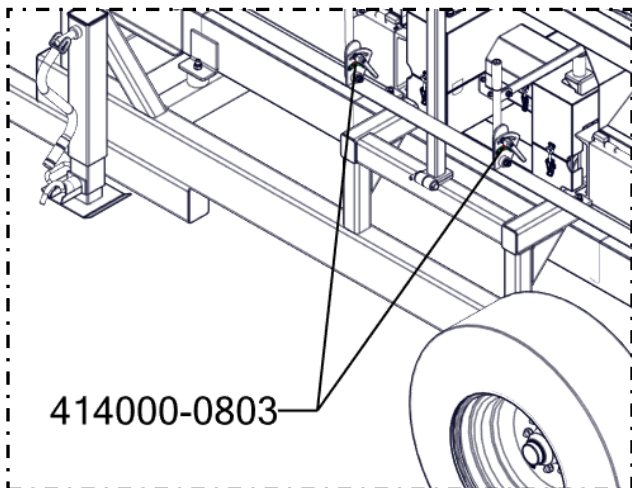
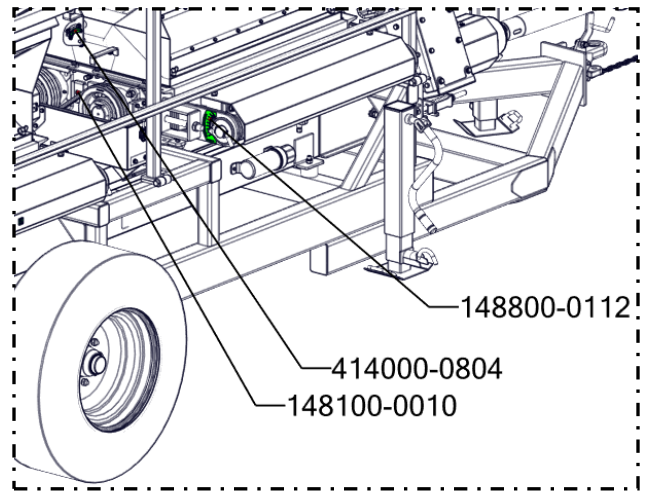
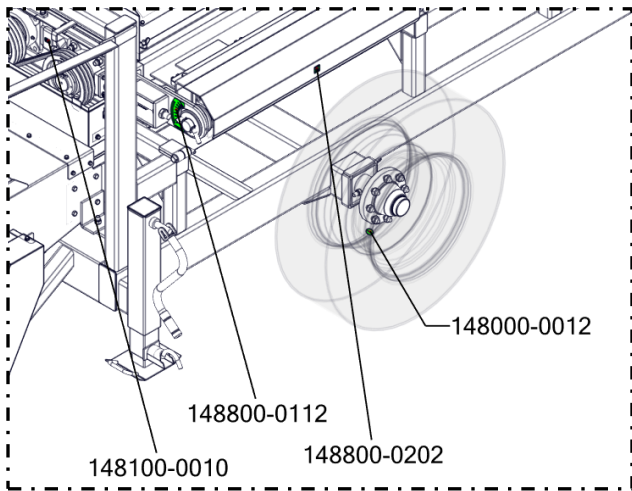
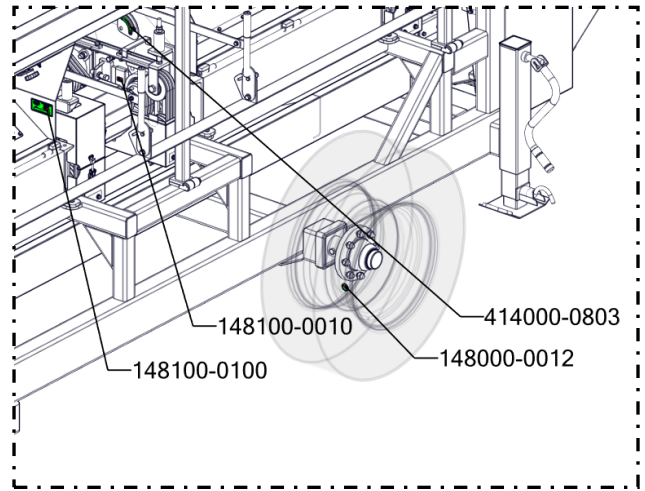
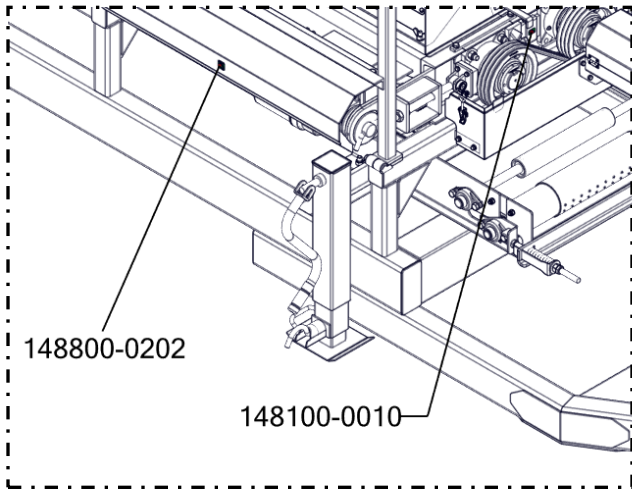
**50 HOURS**

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# 3 DECAL LOCATIONS

## 3.2 Information Decal Locations



## **4 OPERATION**

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

The Renn Mill is designed to receive dry grain from an auger, process it, and deposit it via the conveyor. 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 roller mill 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**

Read the set-up instructions completely. Decide in advance where and how much you're going to roll, and how you plan to unload the grain from the roller mill. Thinking through the process can prevent panic and frustration later. Set up your roller mill before you need it, not when you need it. Do a small trial run if this is your first time using the machine or the process.

### **4.3 Pre-Operational Checklist**

The efficient and safe operation of the Renn Conveyor Mill 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 mill that this checklist be followed.

Before operating the mill, 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. Adjust the hitch position to make the mill level with the tractor.
5. Inspect all hydraulic lines, fittings and couplers.
6. 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.
7. Make sure all safety shields are properly installed.



## 4 OPERATION

### 4.4 Setting up the Roller Mill

#### 4.4.1 Roll Setting

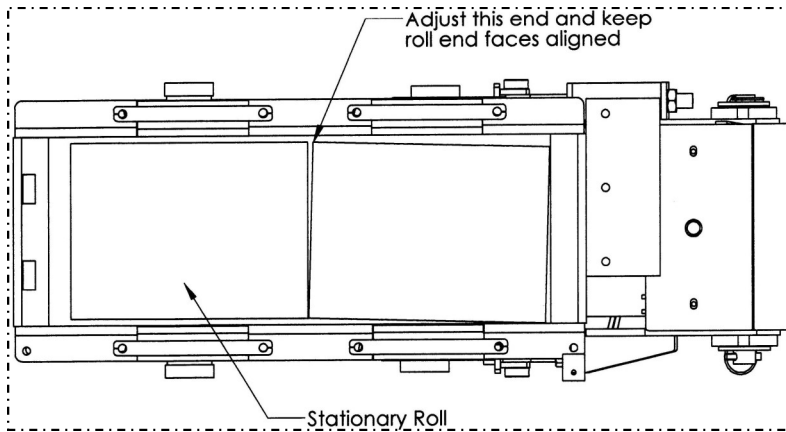


Figure 4.1

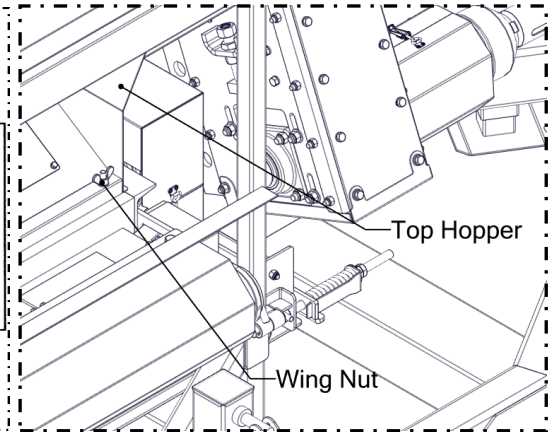


Figure 4.2

Loosen the wing nuts holding down the top hopper (Figure 4.2) and tip it over center, rotating on the hinge pin until it hits the stoppers.

If using flat rolls to roll dry grain, set the rolls a very small distance apart. Using a sheet of lined paper or feeler gauge, sweep from end to end as you reduce the gap on each end of the roll using the cam linkage adjustment nut (Figure 4.3). Ensure that the positional indicator on the spring cam is in position 1 (Figure 4.3). Turn the adjustment nuts in 1/2 turn segments (less as you near the goal) to adjust the bearing as required. Continue to adjust the roll until some resistance is felt on the paper or feeler gauge.

Turn the roll by hand to confirm that the roll has clearance all the way around. When adjustments are complete, set the jam nuts. Replace the top hopper.

For grooved rolls, the gap may vary based on the required final product. The process for this is the same but with a thicker piece of paper (or multiple pieces) or a feeler gauge.

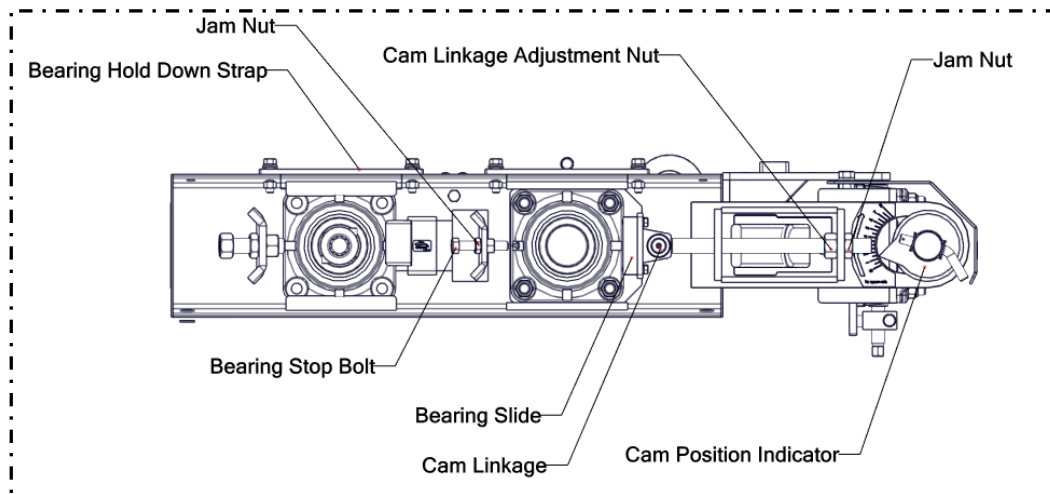


Figure 4.3

## 4 OPERATION

### 4.4.2 Roll Gap Adjustment

The cam control ( Figure 4.4) serves as a mechanism to make roll gap adjustments accurately and quickly using a 3/4" wrench or socket. The cam positional indicator is set at the factory to the "1" position with 5 thousandths of clearance between the rolls. The adjustment nuts are also set at this position to maintain the minimum clearance required to keep the rolls from touching—See 4.4.1 Roll Setting.

To obtain a setting with greater roll gap, rotate the cam control in a clockwise direction after releasing the brake. The brake is released by loosening the brake cross bolt. Rotating the control by more than a half turn at a time is not advised without checking a feed sample. Once the desired setting is obtained, reset the brake to maintain the setting. The cam control may be adjusted while the machine is in operation.

To obtain a setting that delivers a smaller particle size, rotate the cam control in a counter clockwise direction (equates to lower numbers on positional indicator).

To release trapped items, or to unplug the rolls, rotate the cam control so that the positional indicator rotates clockwise and points vertically. Continue turning clockwise until it points horizontally away from the indicated scale.

***This is the maximum gap attainable to release articles caught above the rolls. Larger particles should be removed from above the rolls with the machine powered down. Return the indicator to the former position to resume grinding.***

Additionally, the spring pressure can be increased to control the outcome of the final product. Adjusting the spring pressure is not an exact science and may take some trial and error to achieve the desired results. To adjust the spring pressure, loosen the jam nuts on the spring push bolts and turn the spring bolts in and out until the desired pressure is reached.

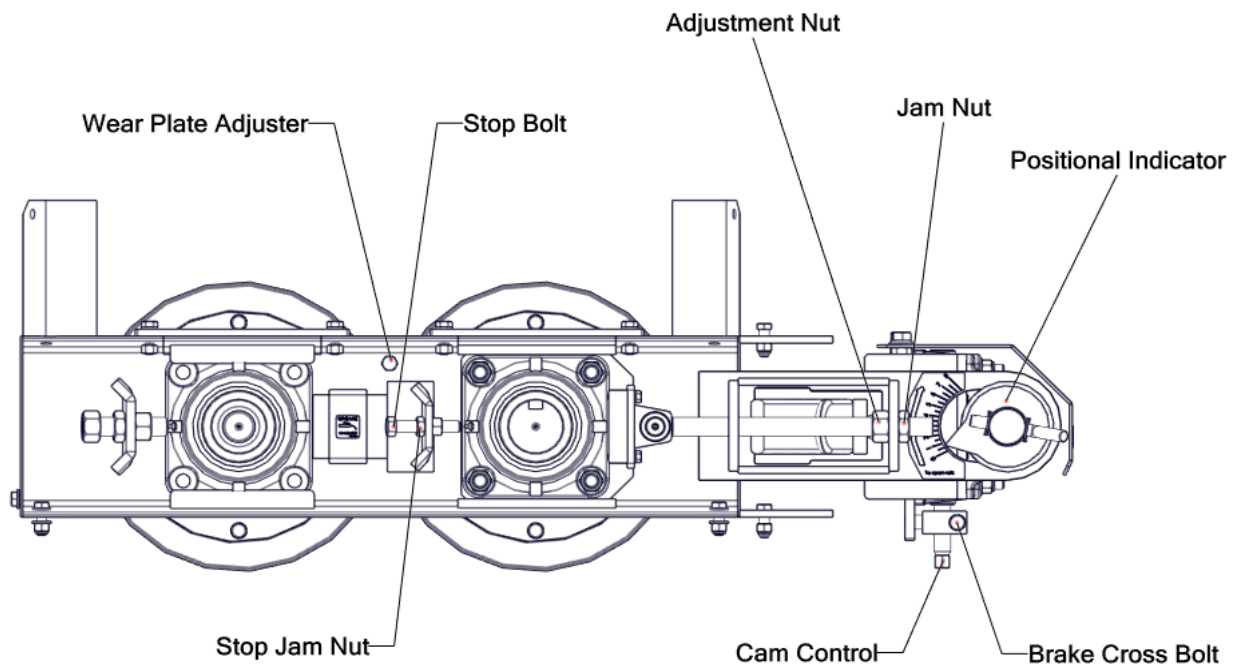


Figure 4.4



## 4 OPERATION

### 4.4.3 Feed Gate Control

Set the friction knob (Figure 4.5) so that it supports the weight of the feed gate and yet allows the gate to be opened and closed by hand. Note that the setting of the feed gate helps to spread the feeding of grain evenly across the face of the roll. The feed gate also serves to limit the overall flow of grain through the rolls.

### 4.4.4 Setting Wear Plates

Wear plates (Figure 4.6) are used to keep grain from escaping around the ends of the rolls. The positioning of the wear plates can be seen when the feed gate is fully open. A noise can be heard if the wear plates are contacting the rolls. To remedy this, loosen the jam nut and wear plate adjustment bolt (Figure 4.5) until the noise stops. Alternately, if the gap is excessive, turn the bolt into the plate until the plate touches the roll, then back off until the noise stops. Tighten the jam nuts when the desired setting is obtained. Be sure to maintain the position of 'UHMW "V"' (Figure 4.6) to cover chamfer at ends of rolls. Replace as necessary.

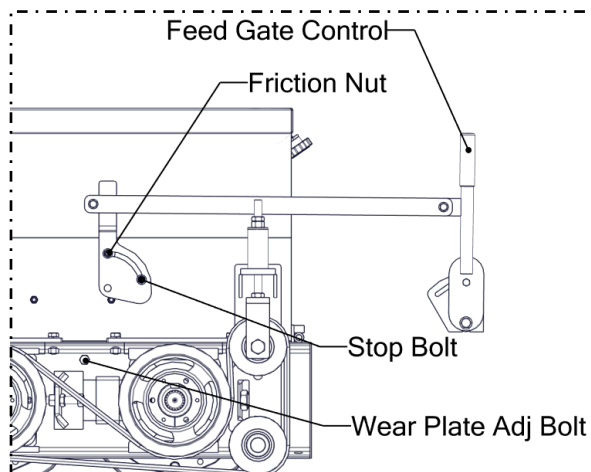


Figure 4.5

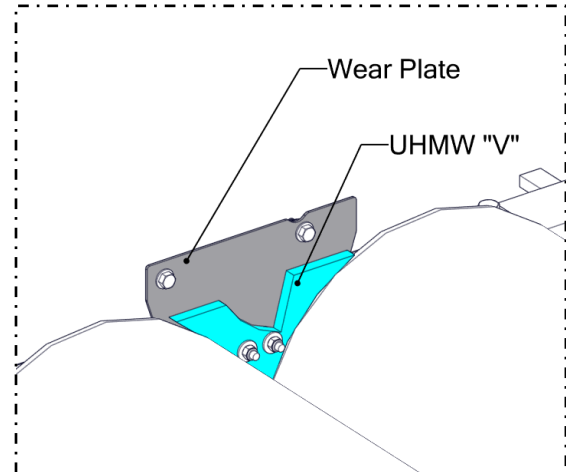


Figure 4.6

## 4 OPERATION

### 4.4.5 Roll Drive Belt Tension

To increase belt tension, loosen the jam nut and turn the tensioning bolt until approximately 15lbs of force at the center of the longest belt span causes a 3/8" deflection. Reset the jam nut to lock the adjustment bolt in place. Always leave a minimum of 1/16" of room for take-up in the coils of the spring (Figure 4.7).

Roll Drive Belt Front

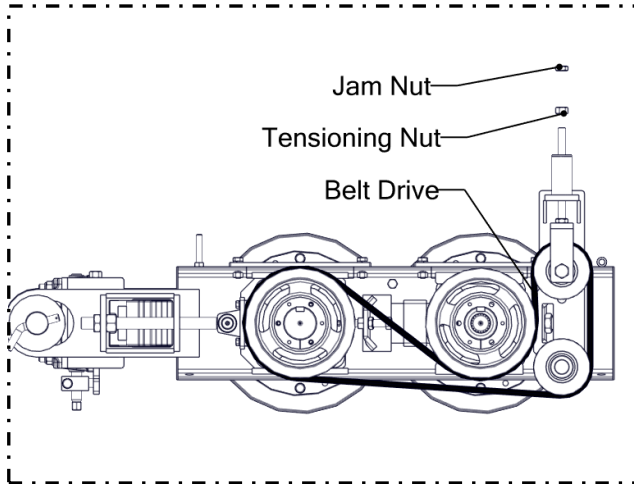


Figure 4.7

Roll Drive Belt Rear

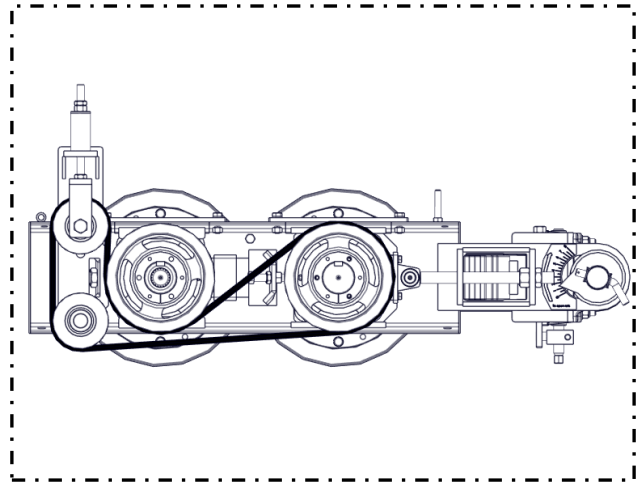


Figure 4.8

### 4.4.6 Spring Pressure

To increase spring pressure, loosen the jam nut and turn the spring push bolt inward a 1/4 turn at a time. Setting the pressure higher than necessary is hard on the bearings and the roll surfaces when hard particles like rocks go through the rolls. Always turn the bolts so that the load carried by each is the same. The factory setting for the deflection of the spring is 0.500" from rest (max deflection is 0.875") as per the chart on the following page.

*(Note: Figure shows top view of the mill; shield removed for illustration purposes only)*

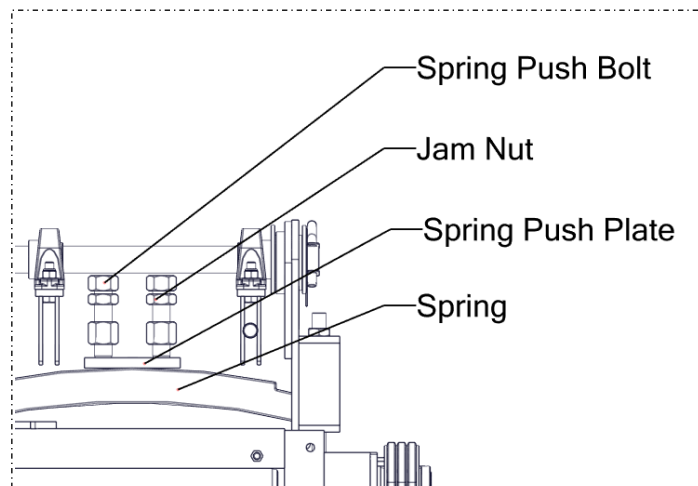


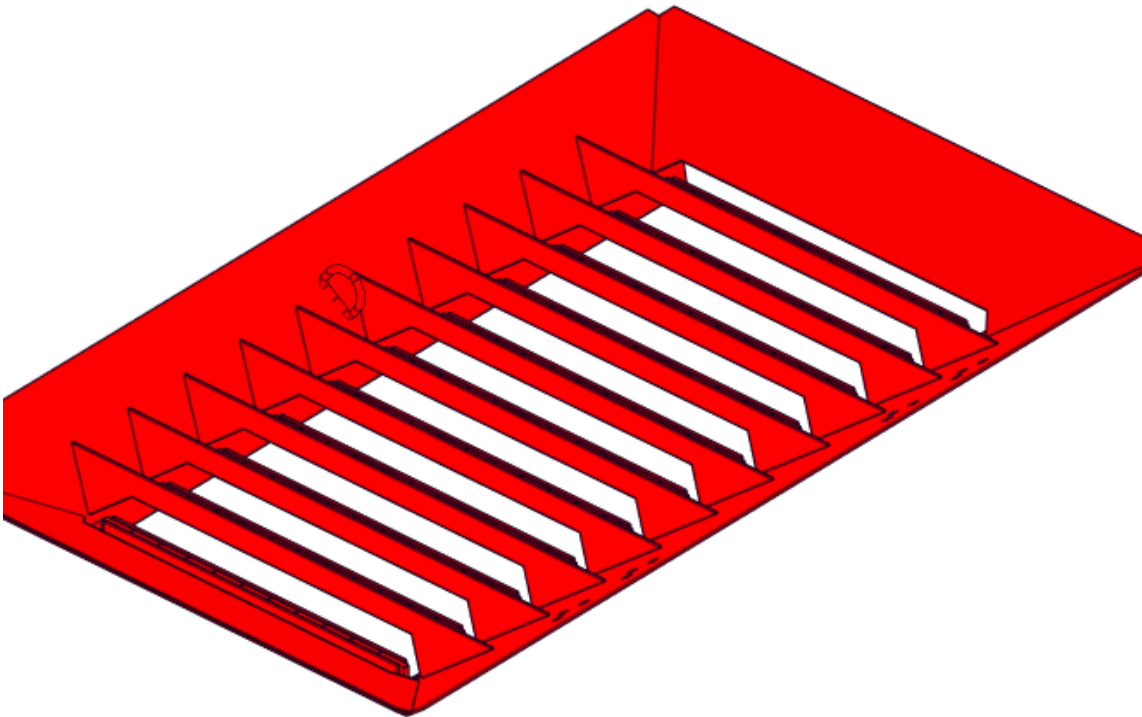
Figure 4.9

## 4 OPERATION

Leaf Spring Pressure (48" Roller Mill)		
Deflection (in) (from rest)	lbs/in	
0.500	199	Factory Setting
0.625	250	
0.750	280	
0.875	324	Max for bearings

### 4.4.7 Grate Magnet

Grate Magnets offer excellent protection from metal contamination as product flows over the magnetic grate.



*Figure 4.10*

## 4 OPERATION

### 4.4.8 Main Drive Belt Tension

Make sure there is an adequate tension on the drive belt.  
150 lbs. force for 5/16" deflection at the center of the belt.

The belt should not rub on the pulley side plates. Remove the top and bottom panels to view the belt for alignment. Loosen the slide plate nuts for adjustment. Use both front and rear tensioning bolts for tensioning and aligning the belt. Tighten the slide plate nuts after tensioning the belt. The belt should run approximately in the center of the pulleys. Before replacing the belt take note of the distance at the tensioning rod.

*Note: The belt moves towards the side with less tension.*

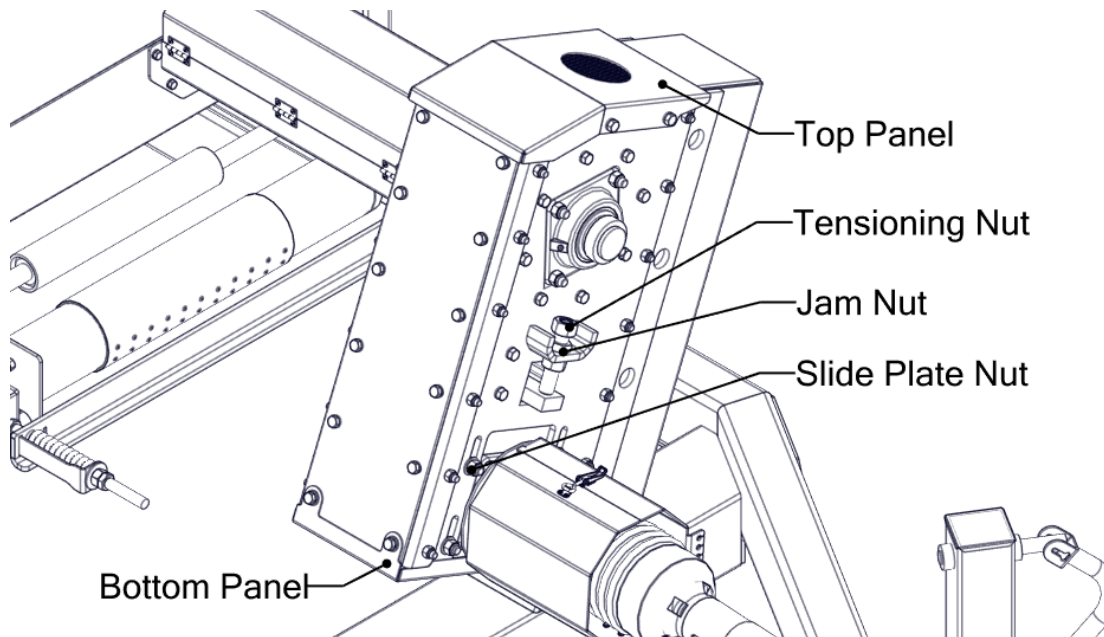


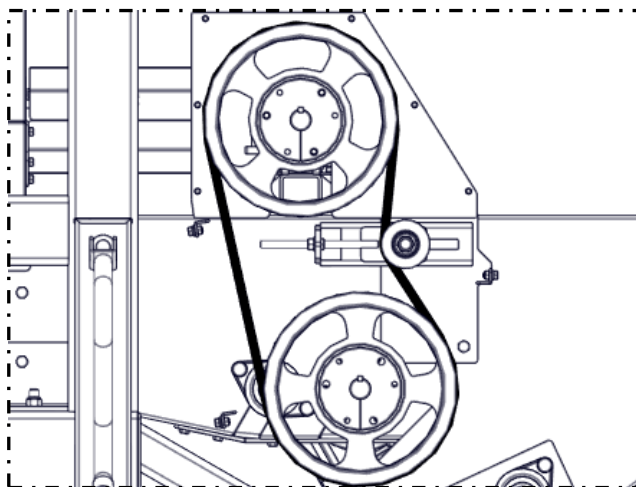
Figure 4.11

## 4 OPERATION

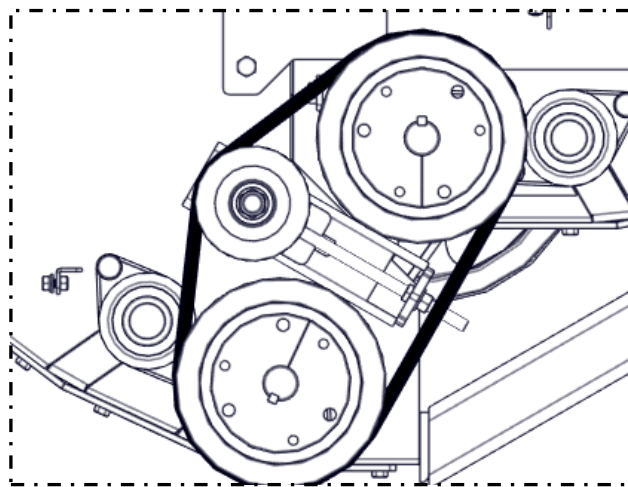
### 4.4.9 Conveyor Drive Belt Tension

To increase belt tension, loosen the jam nut and turn the tensioning bolt until approximately 15lbs of force at the center of the longest belt span causes a 3/8" deflection. Reset the jam nut to lock the adjustment bolt in place.

Slave Bed Drive Belt



Incline Bed Drive Belt



### 4.5 Operating the Roller Mill

1. Make sure to read and understand all of the safety items in Section 2.
2. Ensure that the feed gate is closed (Figure 4.5) before starting the mill. Even a few grains will keep the rolls from turning. Start the rolls turning at minimum RPM and slowly increase the RPM speed to 540.
3. Check the wear plate, roll gap, and feed gate friction nut settings.
4. Open the gate slowly and increase the flow, continuing to check grain quality as you do.

***Note: Rolling quality is impacted by three variables: roll speed, spring pressure, and feed rate. If grain quality is good at low feed rates, but decreases quickly as feed rate increases, the spring pressure may be too low. To increase pressure, loosen the jam nuts and turn the spring push bolts (Figure 4.9) inward a 1/2 turn at a time. Keep the pressure even on both bolts (if applicable). In difficult cases, reducing the feed rate is one more way to control feed quality.***

5. Always ensure that belt tension is adequate on the cross auger drive belt. Plugging of the mill can occur if the belts begin to slip significantly (see sections 4.4.5 & 4.4.6).
6. When finishing the rolling process, always clean the top hopper out completely, and close the feed gate. Note that the feed gate stop bolt (Figure 4.5) can be used to set a consistent opening point. This maintains product consistency each time rolling is performed.
7. If not using the mill for some time, clean the grain out of the gearbox using the rear door access. Best practice is to store the mill under cover.

## 4 OPERATION

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### **4.6 Roller Mill Break-in**

It is recommended that the mill be run at moderate to full operational speed and at 1/2 to 2/3 capacity during the first hour 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 mill has been stored for extended periods of time as well.

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

**1. At start up:**

- Check wear plate settings.
- Check roll gap settings.
- Check operation of the feed gate; set the friction nut.

**2. After operating for a 1/2 hour:**

- Re-torque all fasteners and hardware.
- Lubricate all grease fittings.
- Check operation of the feed gate; reset the friction nut as needed.
- Check the roll gap setting. Due to the use of mechanical means to hold the roll in place, “settling” can occur within the system due to spring impact and other factors.
- Check the setting of the gap between the rolls, not only for a change in gap setting, but also for gap consistency from one end of the roll to the other.

*A half hour of running will take care of any inconsistencies in the roll surface, and allow an accurate setting of the roll gap. See 4.4.1 for setting of the roll gap.*

**3. After 5 hours and 10 hours of operation:**

- Re-torque all wheel bolts, fasteners and hardware.
- Lubricate all grease fittings - do not over-grease.
- Proceed to the normal servicing and maintenance schedule as defined in the Maintenance Section (section 5).

## 4 OPERATION

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### **4.7 Conveyor Break-in**

Although there are no operational restrictions on the conveyor when used for the first time, it is recommended that the following mechanical items be checked:

**1. At start up:**

- Check that the discharge and intake areas are free of obstructions.
- Connect the hoses to the tractor.
- Start the tractor engine and run at a low idle.
- During the first few minutes of operation, check belt alignment to ensure preset alignment does not vary under loaded conditions.

**2. After operating for a 1/2 hour:**

- Re-torque all fasteners and hardware.
- Check the conveyor belt tension alignment. Tension and align as required.

**3. After 5 hours and 10 hours of operation:**

- Re-torque all wheel bolts, fasteners and hardware.
- Check that all guards are installed and working properly.
- Check the conveyor belt tension alignment. Tension and align as required.
- Proceed to the normal servicing and maintenance schedule as defined in the Maintenance Section (section 5).

## 5 SERVICE AND MAINTENANCE

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### 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>8 Hours of Driveline Use</b>																			
L   U-Joint - PTO																			
L   U-Joints																			
L   Main Bearings - Rolls																			
L   Conveyor Bearing																			
<b>50 Hours of Use</b>																			
CH  Rolls Position - Square																			
L   Cam Bearings																			
<b>Annually</b>																			
T   All Fasteners																			
L   Wheel Hubs																			
L   Lift & Swing Pole Bearings																			
CL  Machine																			
CH  Wear Plates																			



## 5 SERVICE AND MAINTENANCE

### 5.2 Servicing Intervals

#### Grease

Use an S.A.E. multi-purpose high temperature grease with extreme pressure (EP) performance. An S.A.E. multi-purpose lithium base grease is also acceptable.

Use the Maintenance Checklist provided to keep a record of all scheduled maintenance.

1. Only use a hand-held grease gun for all greasing.
2. Wipe grease fittings with a clean cloth before greasing to avoid injecting dirt and grit.
3. Replace and repair broken fittings immediately.
4. If a fitting will not take grease, remove and clean thoroughly. Clean the lubricant passageway also. Replace fittings as necessary.

#### Oil

Use 80W90 oil for discharge auger gearbox.

Use the Maintenance Checklist provided to keep a record of all scheduled maintenance.

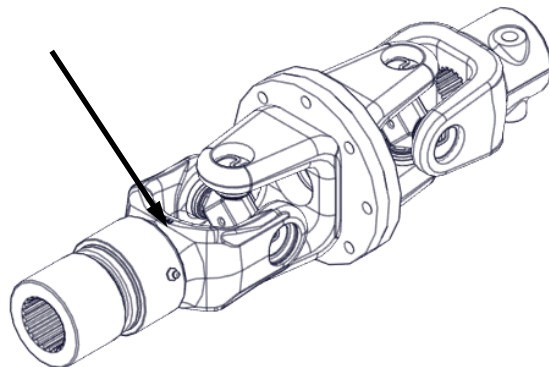
PTO, front and rear yoke: grease zerk (every 8 hours)



PTO, mid: grease zerk, extend PTO and rotate shield to find zerk (every 8 hours)



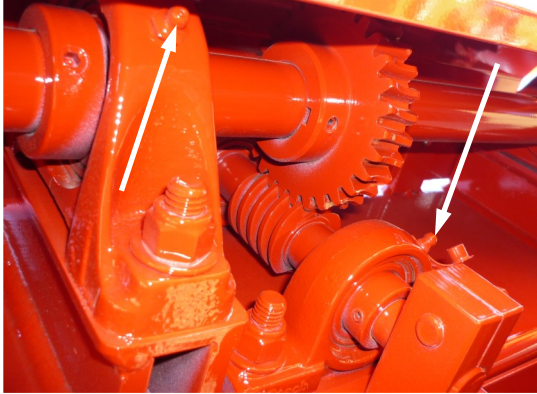
PTO: grease zerk (every 8 hours)



## 5 SERVICE AND MAINTENANCE

### 5.2 Servicing Intervals

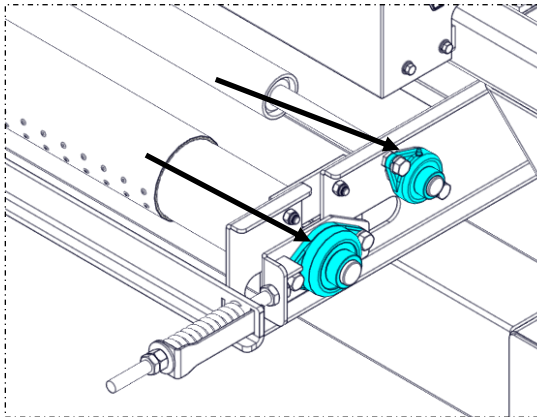
Cam adjuster bearings  
(grease lightly every 50 hours)



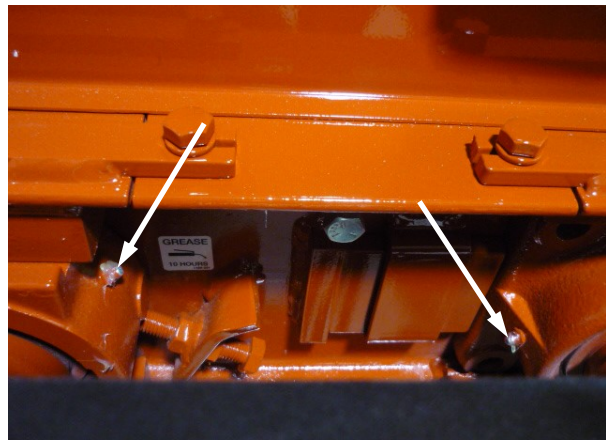
Jack: grease zerk  
(once per season)



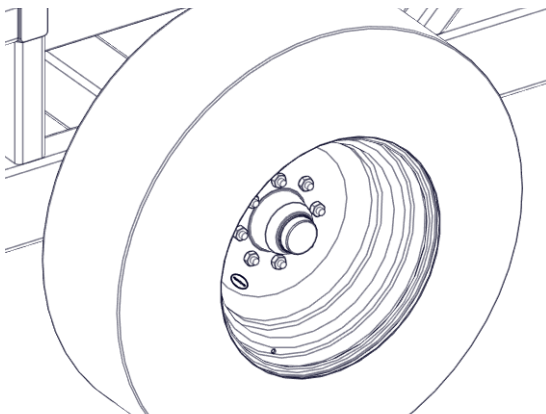
Conveyor idler bearings: grease zerk left  
and right (every 50 hours)



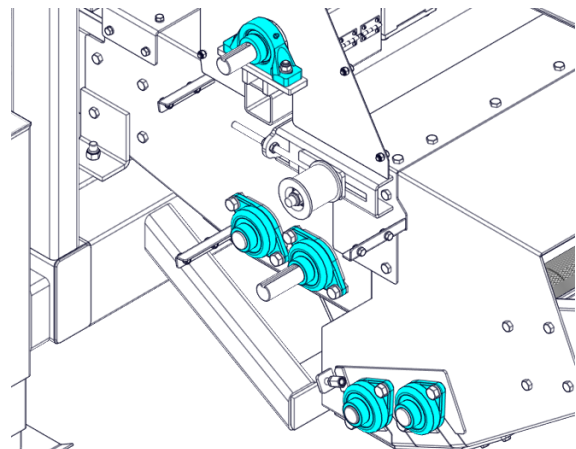
Main bearings: grease zerk front and rear  
(every 8 hours)



Wheel hub: grease zerk and torque bolts  
(once per season)



Conveyor driver bearings: grease zerk left  
and right, & oil the chain (every 50 hours)

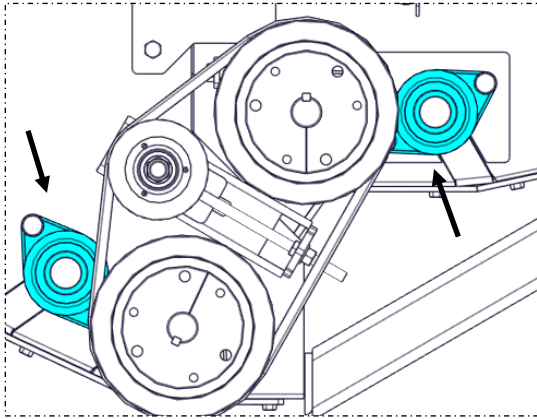


## 5 SERVICE AND MAINTENANCE

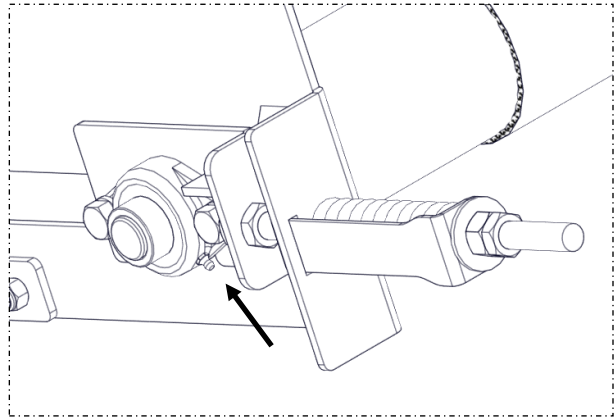
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### 5.2 Servicing Intervals

Incline Conveyor Tail End Bearings  
(Passenger Side): Grease every 8 hrs. of  
operation



Incline Conveyor Head Bearings (Both  
Sides): Grease every 8 hrs. of operation



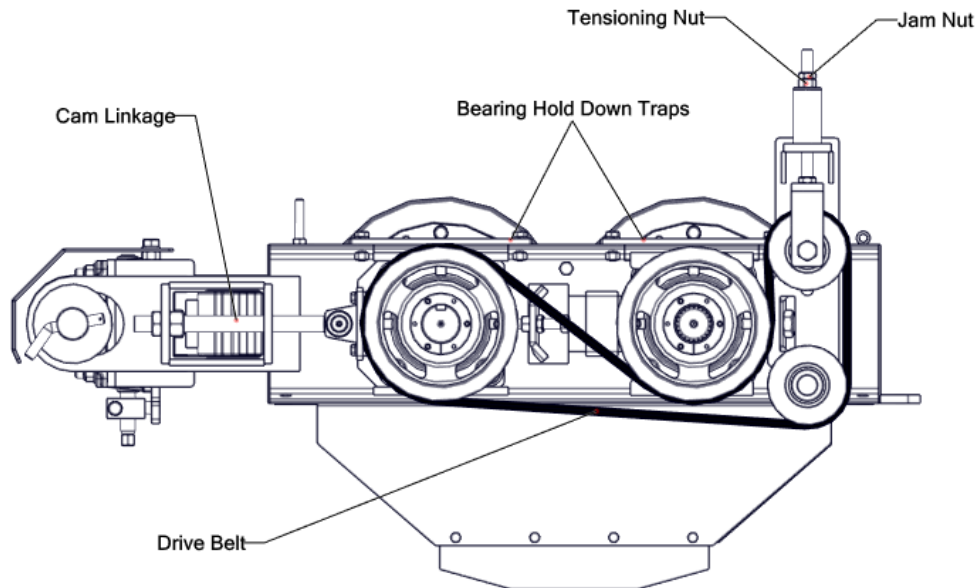


## 5 SERVICE AND MAINTENANCE

### **5.3 Removal Of Rolls For Servicing**

1. With power disconnected, remove the surge hopper.
2. Loosen the jam nuts on each of the spring tension bolts and relieve all pressure from the spring (see section 4.4.6).
3. Relieve tension on the drive belts and remove.
4. Loosen the jam nuts on the tensional bolt (see section 4.4.5). Loosen and remove the belts.
5. Remove the magnet from the top hopper. Loosen the wing nuts holding the top hopper down and lift the topper up, over center, gently setting it on the rests.
6. Loosen and remove the bearing hold-down straps.
7. Remove the bolts that tie the cam linkage to the bearing.
8. After loosening the brake, turn the cam controller to create some space between the bearing and the cam linkage (see section 4.4.1).
9. Disconnect the mill connector yoke from the center by removing the center bolts. Torque the bolts to spec for installation.
10. Remove 1 roll at a time.

*Note: Rolls are heavy, take appropriate precautions.*



## 5 SERVICE AND MAINTENANCE

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### **5.4 Conveyor Belt Servicing**

Belt tension and alignment should be checked regularly to minimize slippage and edge wear. Place all controls in neutral or off, stop the motor, and disable all power sources before working on the belt.

#### BELT TENSION

1. Use the intake end roller adjustment bolts to move the roller and apply belt tension to the belt.
2. A properly tensioned belt will not slip when it is operating. A possible indicator to use as a guide when checking belt tension is the horizontal section of the conveyor. Check for belt sag relative to the bottom edge of the conveyor body. Significant belt sag below this point may indicate a loose belt. A belt that is too tight will wear the connector 'lacing' prematurely and apply excessive pressure to the bearings of the conveyor.
3. The incline part of the conveyor belt can be tensioned by the tension adjuster at the discharge end, and the slave part of the belt can be tensioned by the tension adjuster at the tail of the conveyor.
4. To tension the belt, loosen the jam nuts on the adjuster, adjust the roller to apply proper tension, operate the conveyor to check belt alignment, and then tighten the jam nuts on the adjuster.

#### BELT ALIGNMENT

1. Use the intake end (bottom or front end) roller to check alignment. The belt is properly aligned when the belt runs in the center of the roller on each end of the conveyor.
2. The belt will move to the tight side if out of alignment. Set the alignment by loosening the jam nut and moving the adjuster on the tight side so as to loosen the tension on the belt. Note that the tension of the belt should be checked prior to this step so that a loose belt is not further loosened. Conversely, if the belt is loose, tighten the end of the intake roller away from where the belt is tracking. Continue to adjust the tension and alignment until a satisfactory tracking of the belt is achieved. Alignment adjustment is available on both the intake and discharge rolls - adjust the roll where the greatest misalignment appears.

#### BELT REPLACEMENT

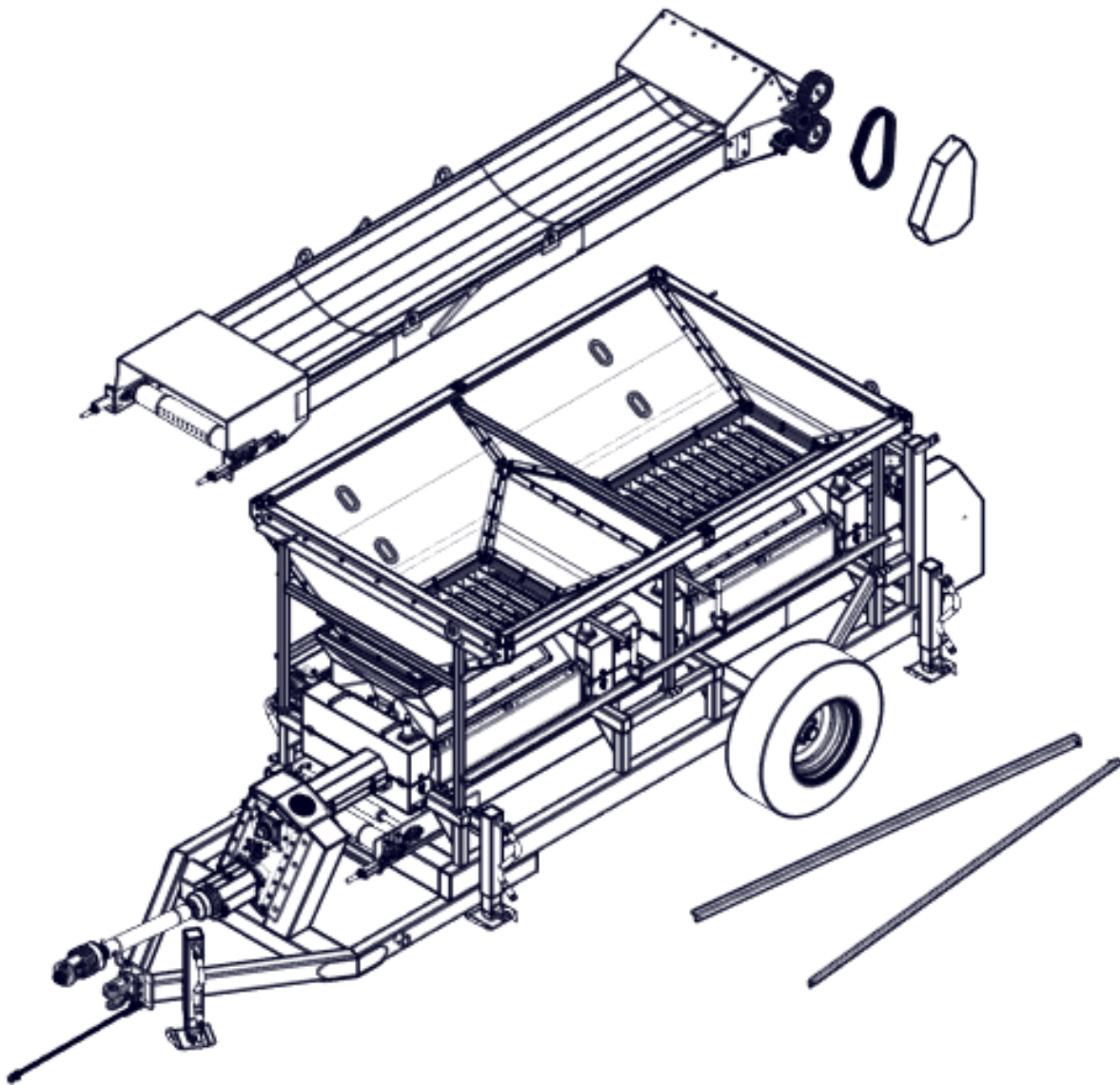
1. Rotate the belting until the seam is in the open.
2. Move the idler roller to its loosest position.
3. Pull all the slack to the seam area.
4. Remove the wire connector and open the belt.
5. Attach one end of replacement belt to the belt being removed.
6. Pull the old belt out and the new belt will automatically be pulled into place.
7. Disconnect the old belt from the new belt.
8. Connect the ends of the new belt together and secure the lacing pin (nylon line). Ensure that the lacing stops are in place or crimp the end of the lacing to secure the cross rod placement. Cut the corners of the belt to 45° angle x 1/2" to minimize the chances of the belt corner catching on anything in the belt path.
9. Set the belt tension.
10. Check and set the belt alignment.

## 6 PDI SETUP

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**Your Renn Mill is shipped partially assembled. Take all necessary precautions when moving and operating the equipment.**

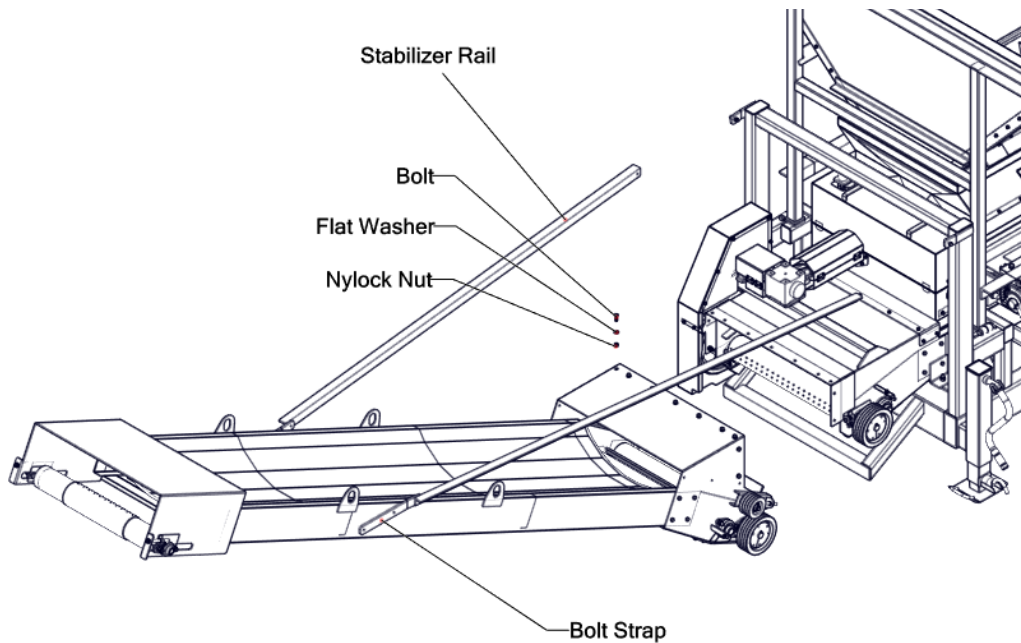
After the PTO is installed, there is no provision for transportation. The owner must secure it (or remove the front half) during transportation.



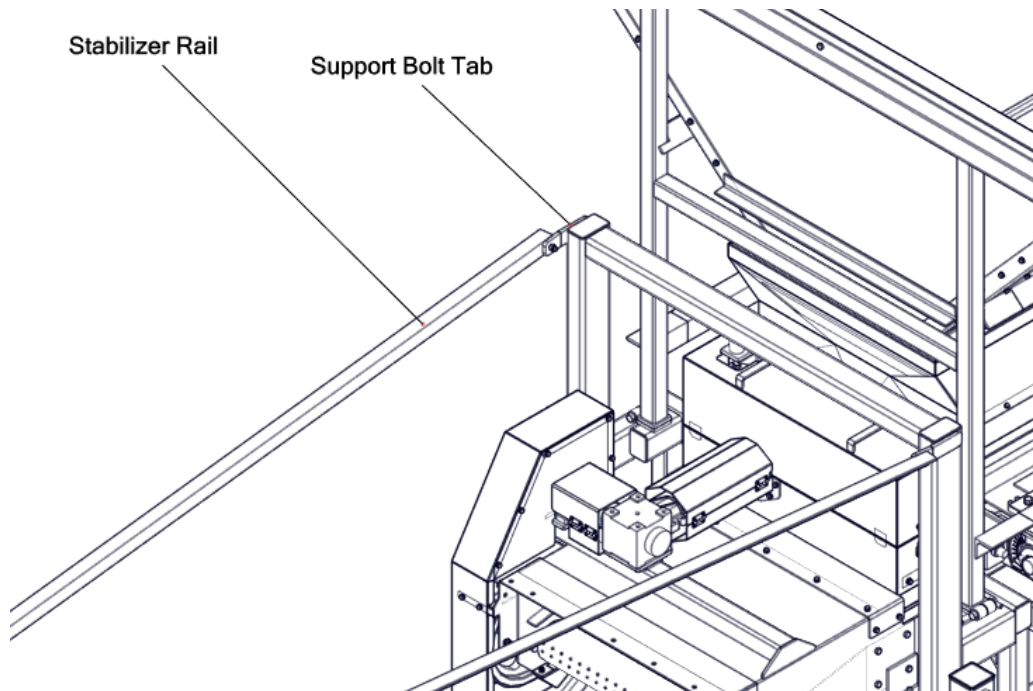
**IMPORTANT:** Retorque wheels before towing or any operation. Refer section 10 for torque specification.

## 6 PDI SETUP

1. Carefully lift the incline conveyor assembly and attach it to the slave assembly using the existing bolts, washers and nylock nuts.
2. While continuing to support the incline conveyor attach one end of the stabilizer rails to the bolt straps of the incline conveyor using the bolts/nylock nuts.



3. Attach the stabilizer rails to support the bolt tabs using the existing bolts/nylock nuts.

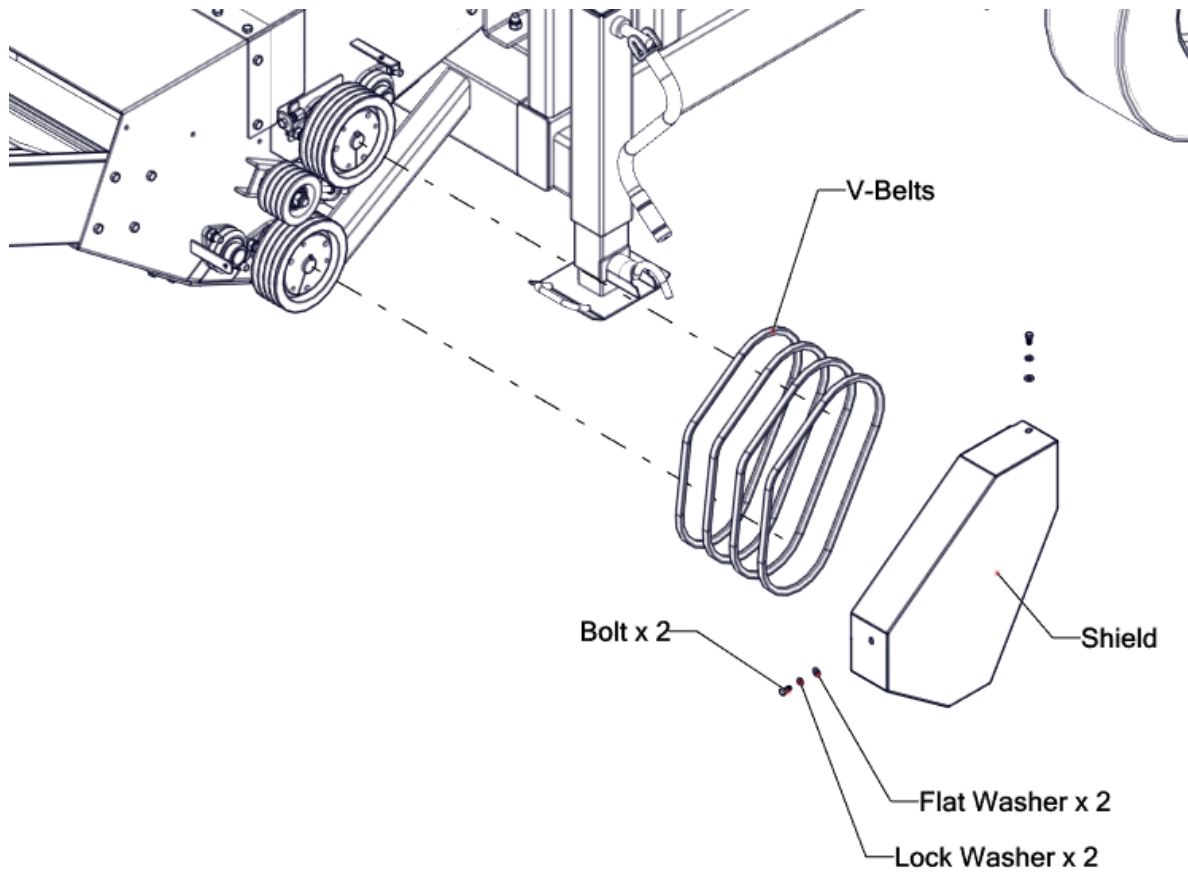


**IMPORTANT:** Use proper safety procedures while lifting heavy objects.

## 6 PDI SETUP

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4. Install the V-Belts onto the sheaves.
5. Tension the belts using the belt tensioner.
6. Install the drive shield over the sheaves and V-Belts for the conveyor assembly.



**IMPORTANT:** Use proper safety procedures while lifting heavy objects.



## 7 TRANSPORTATION

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1. Check with local authorities regarding mill 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 mill are working to safeguard against rear end collisions. Daybreak and dusk are particularly dangerous and pilot vehicles are recommended.
5. Be sure that the mill 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.
9. When transporting a mill with a conveyor discharge, be aware of overhead power lines at all times.

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

## 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 conveyor of any residual material.
2. Thoroughly clean 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 water left over from clean up.
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. Move the machine to the storage location.
7. Select an area that is dry, level and free of debris.
8. Chock the tires, front and rear, to prevent the machine from rolling.
9. Place planks under the jack for added support if required.
10. Unhook the machine from the tractor.

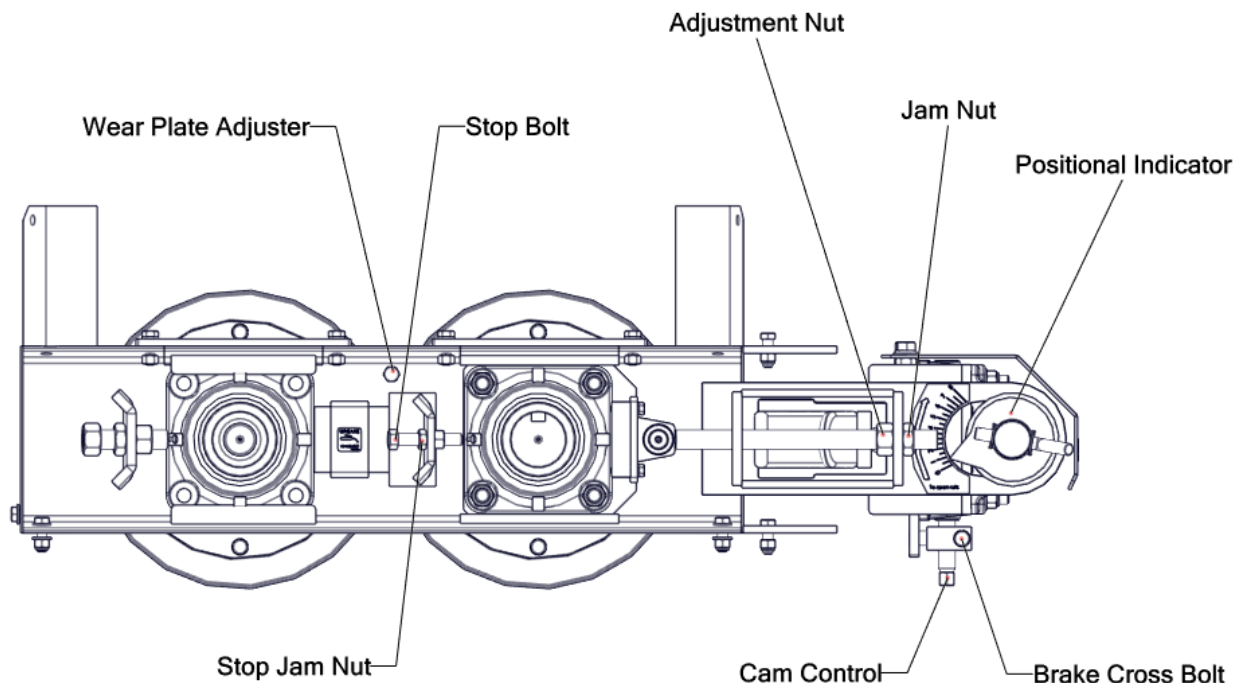
### **8.2 Removing from Storage & Pre-Season Preparation**

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 roller mill to the tractor.
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.
  - c) Check that all set screws on the bearing collars are tight.
  - d) Check that all bearing mounting bolts are tight.
  - e) Check that all tires are inflated per the recommended pressures.
  - f) Re-torque all wheel bolts.
5. Lubricate all grease fittings.
6. Replace any defective parts.
7. Go through the **Pre-Operational Checklist** (Section 4.3) before using.

## 9 TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	REMEDY
Whole grain in sample	Wear plate not adjusted.	With the power disconnected & the rolls not rotating, use a 3/4" wrench to loosen the jam nut on the wear plate adjuster. Adjust the wear plates in so that there is minimal clearance between the end of the rolls & the wear plates and tighten the jam nuts. This will prevent any whole grains from passing around the end of the rolls. Maintain the position of the poly 'V' section to cover the chamfer at the ends of the rolls. Replace as necessary.
Wear plates and poly 'V' adjusted, roll gap at desired setting, <u>whole grain in sample</u> when gate is opened for increased flow	Rolls are opening up when negative pressure is applied from grain going between rolls.	Decrease flow of grain by closing inlet gate or Increase spring pressure by turning the spring adjusting bolts clockwise. <i>NOTE : When increasing the spring pressure, add pressure by turning the adjusting bolts in increments of 1/2 turn inward at a time. i.e. (1) adjust in 1/2 turn increments (2) check sample, if not as desired repeat steps 1 &amp; 2.</i>



## 9 TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	REMEDY
Wear plates checked, spring pressure is sufficient, cam positional indicator adjusted to the #1 position or less, gap still too wide for desired rolling	Roll has worn or is out of adjustment.	See Sections 4.4.1 & 4.4.2 for resetting the roll gap.
Wear plates and poly 'V', roll gap & spring pressure set properly, still <u><i>whole grain in sample</i></u>	Grain smaller than the space between the grooves	Need finer groove pattern  Rolls need re-grooving or are no longer true (badly worn).
Grain is rolled too fine	Roll gap is too narrow.	Using the cam control, release the cam brake and move the indicator toward the #2 position (or next largest number - 1/2 turn at a time, checking a sample at each 1/2 turn).
Grain is rolled too fine, gap is set to desired setting.  Coarse grains (corn, peas, lupins)  Small grains (wheat, oats, barley, milo)	Roll pattern is too fine. i.e. more grooves per inch than necessary  Rolls are turning faster than thru-put.	Change roll to a coarser groove pattern.  Slow R.P.M. down: the closer the roll speed is to the grain through-put the more consistent the rolled product will be.

# 10 SPECIFICATIONS

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## **10.1 General Specifications**

Weight ..... 17560 lbs  
Minimum Tractor Horsepower ..... 180 hp - PTO  
Discharge Belt Size. .... 36”  
Machine Capacity ..... 10,000 Bu/hr (4GPI Dry Corn)

\*Capacity will change with moisture content, roll configuration and particle size desired.\*

## **10.2 Tire Specifications**

Tire/Rim ..... 385/65R22.5 TIRE/RIM 8-BOLT  
Tire Pressure ..... Check Tire for Info





## **10.3 Bolt Torque Specifications**

PTO shear bolts 7/16"NC x 1 Gr5 *Shear Bolt* ..... 50 ft.lbs.  
..... *All Other Bolts—Refer to Bolt Torque Chart On Following Page*

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

# 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

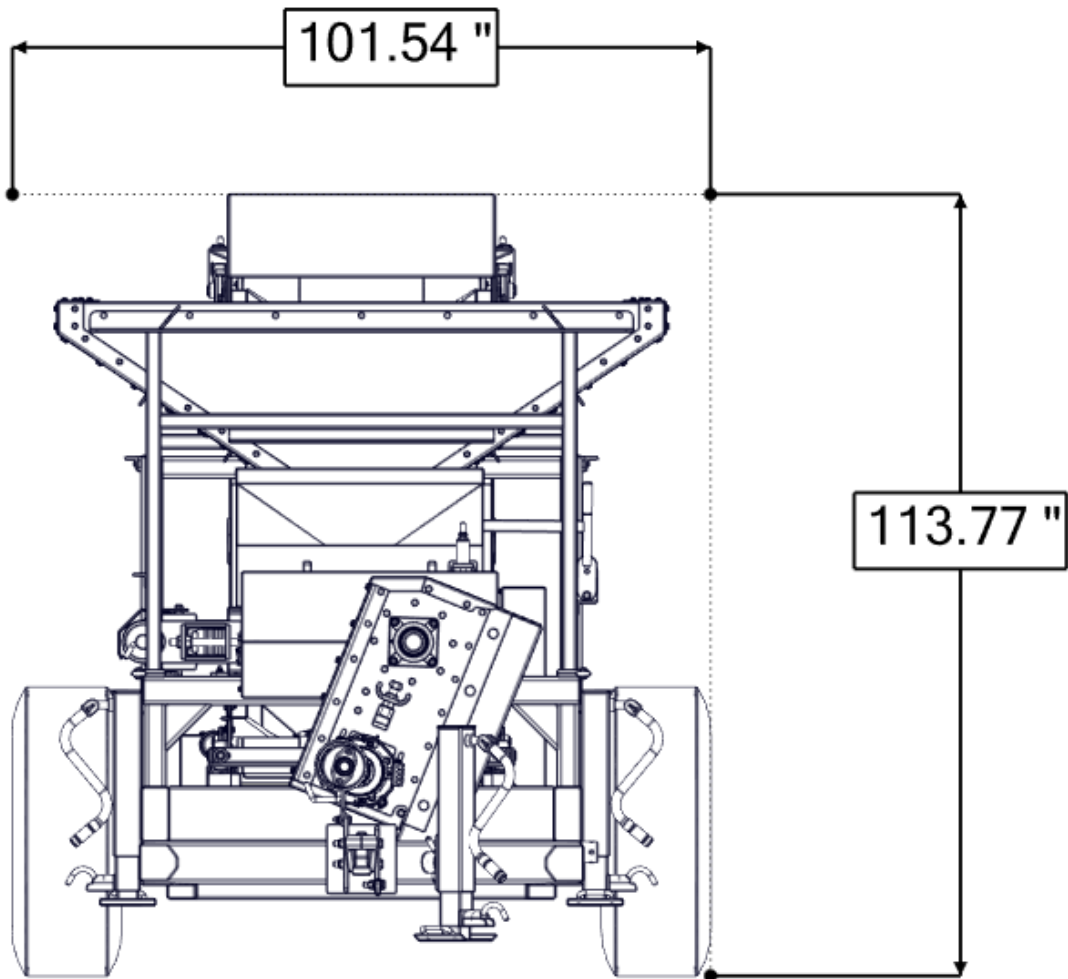
**ITEMS WITH \* = INCH POUNDS  
ALL OTHERS = FOOT POUNDS**

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

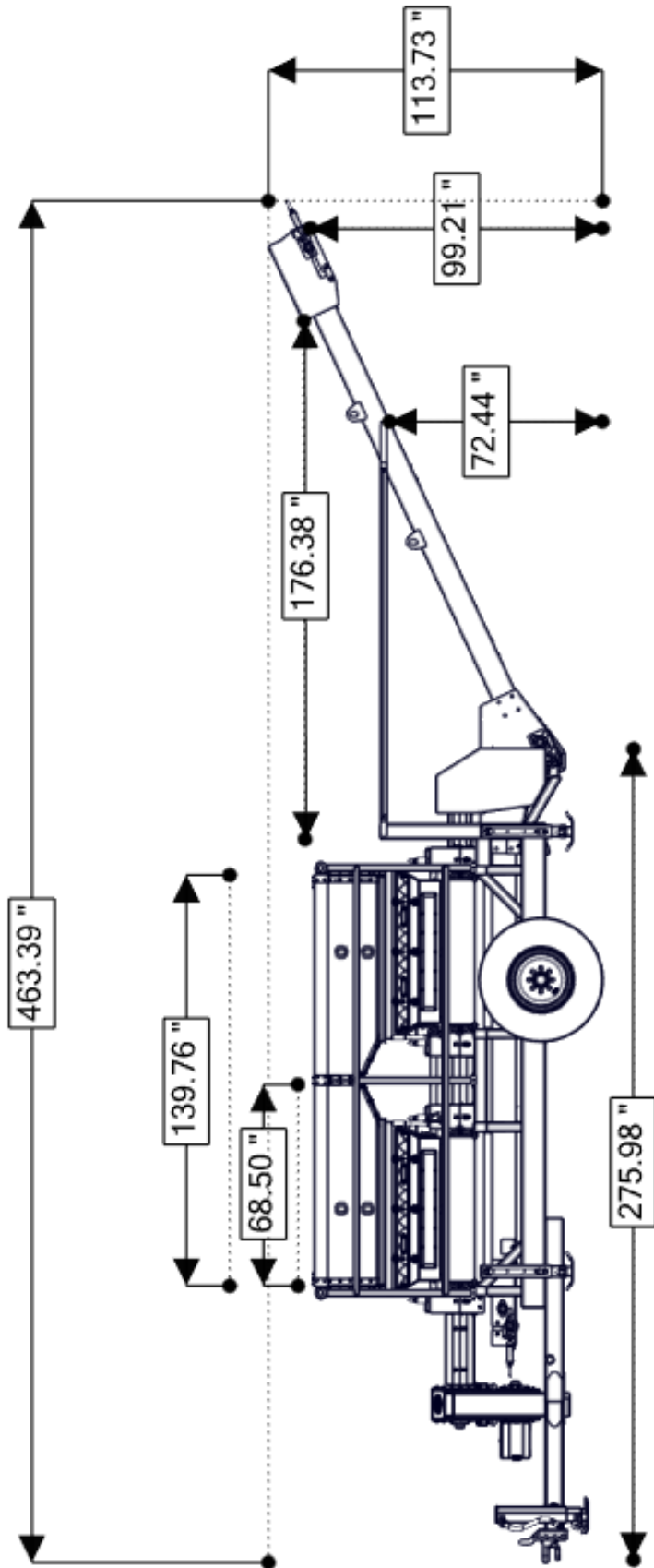
## 10 SPECIFICATIONS

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### 10.4 Overall Dimensions

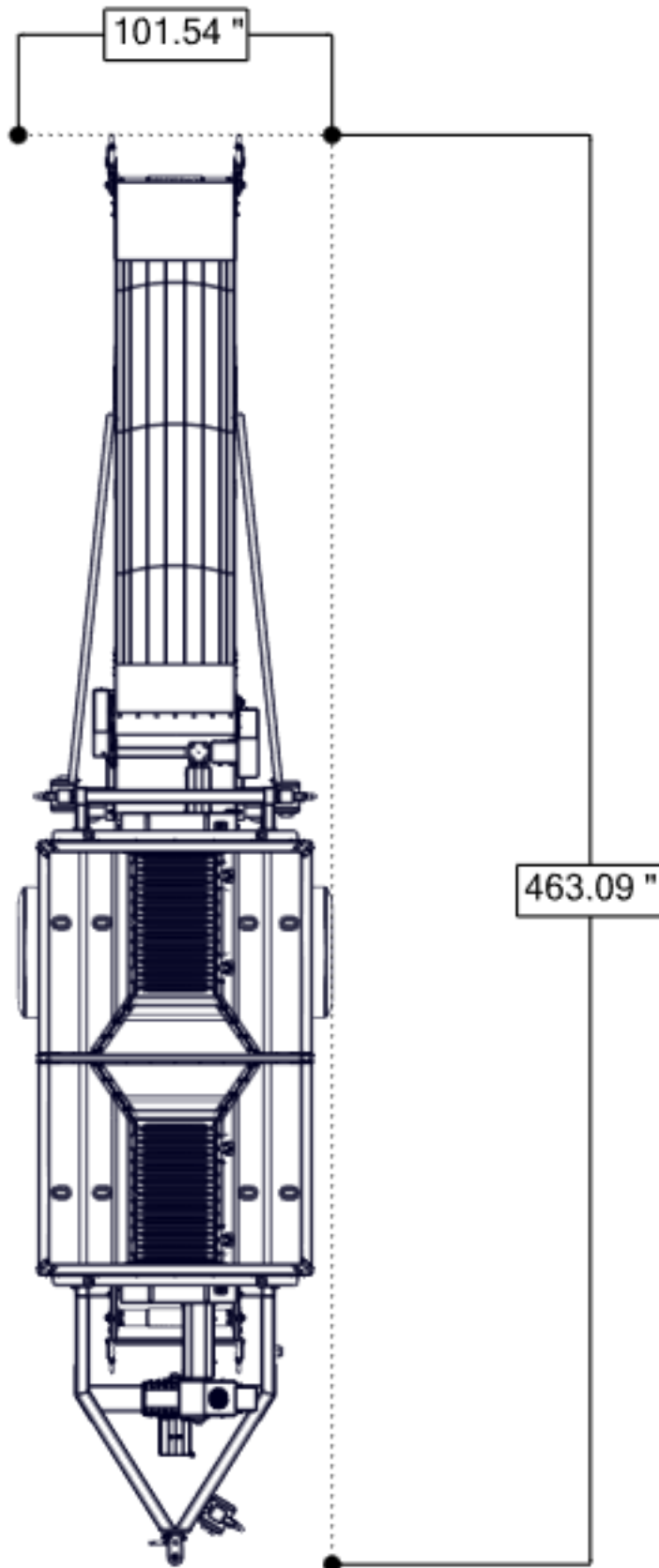


# 10 SPECIFICATIONS





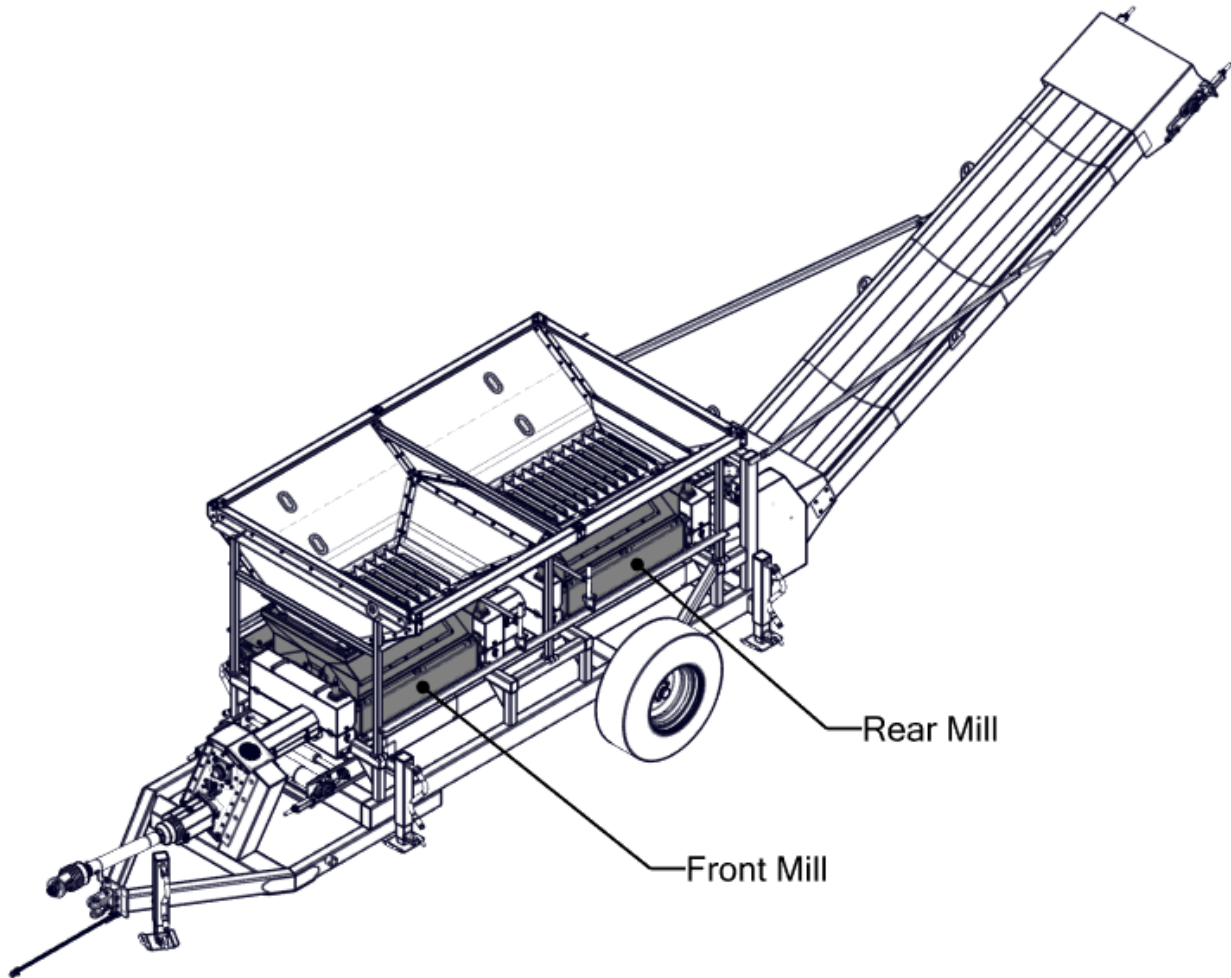
# 10 SPECIFICATIONS



## 11 PARTS

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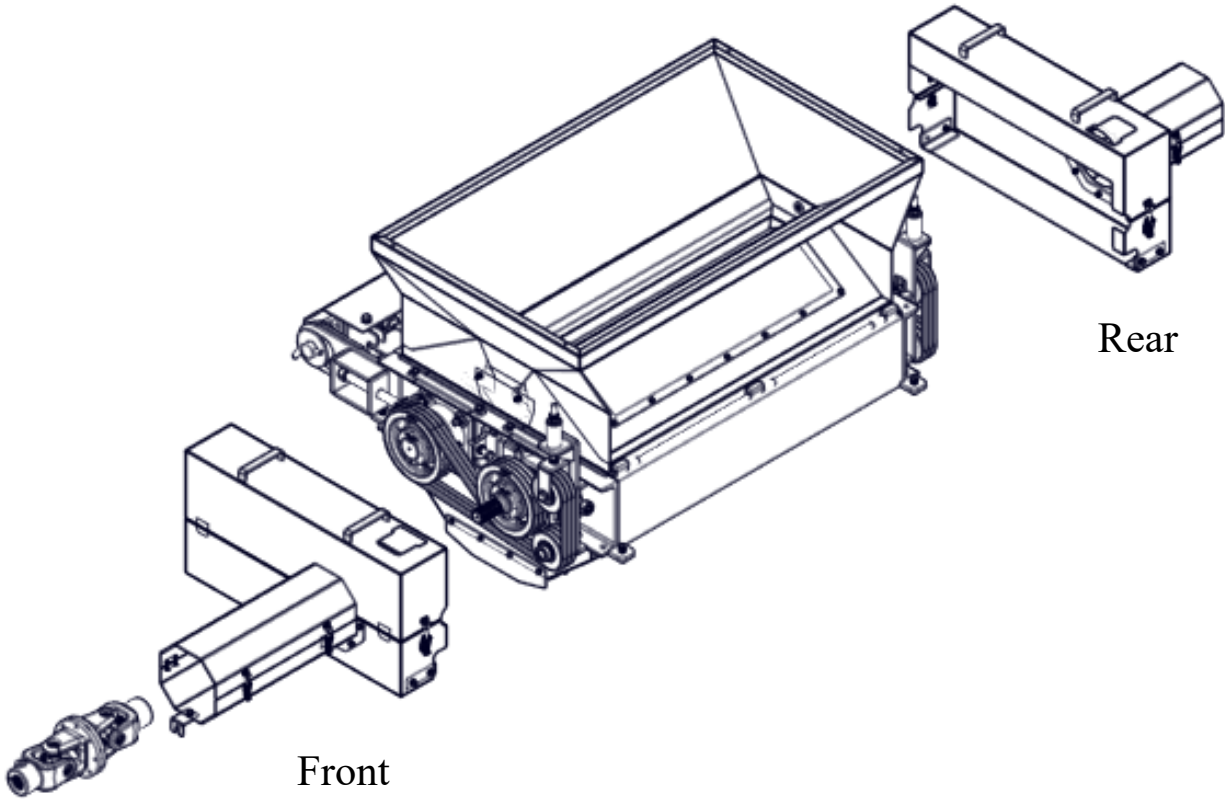
### 11.0 Double 48" Roller Mill



## 11 PARTS

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### 11.1 Front Mill



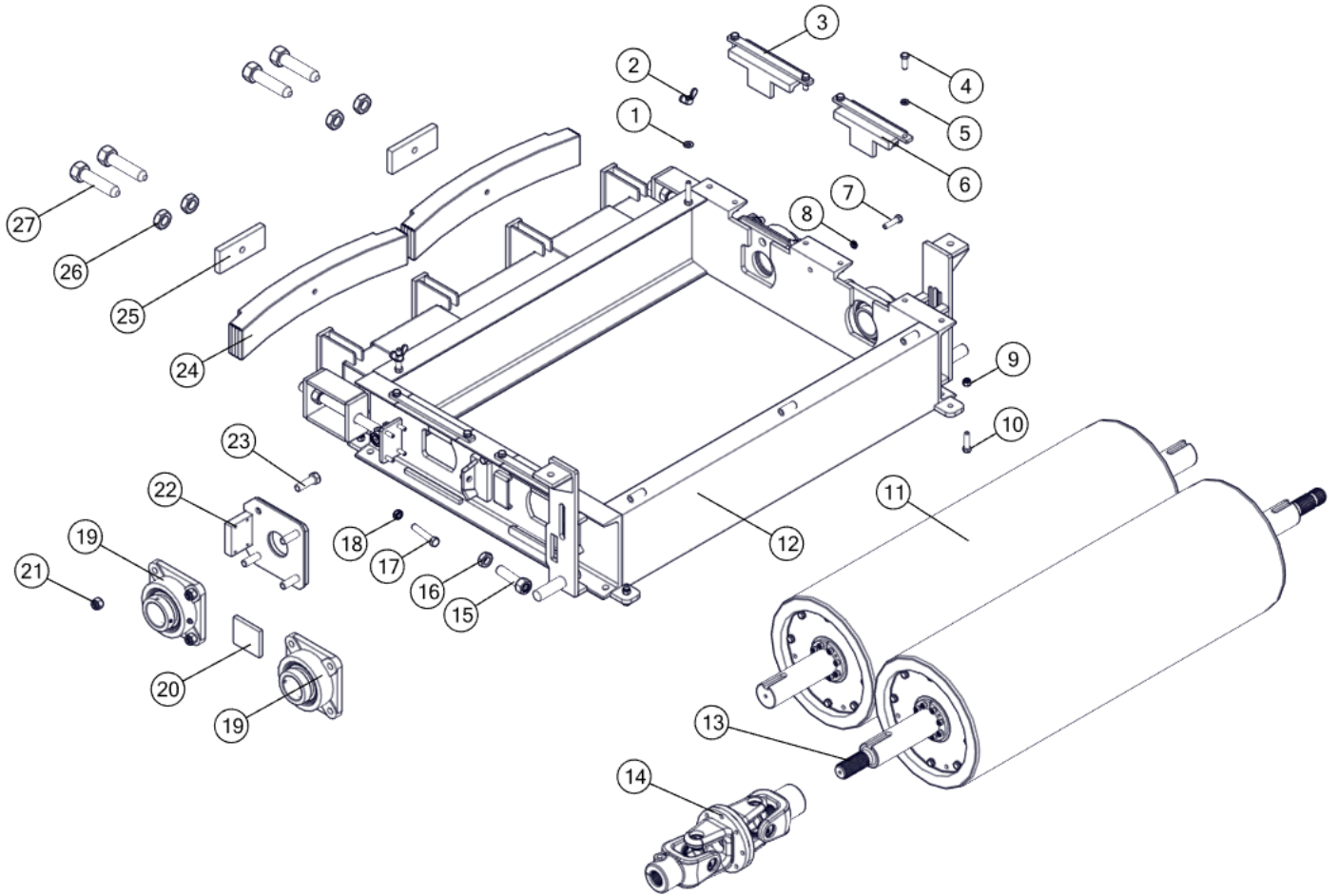
## 11 PARTS

### 11.1.1 Mill Frame Assembly

REF #	PART #	DESCRIPTION	QTY
1	168000-0544	Flat Washer - 1/2" SAE PLTD	2
2	167100-0995	Wing Nut 1/2" NC	2
3	615100-0765.00	Brg Hold-Down Bracket - Mill Frame - 2020	2
4	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	8
5	168600-0098	Lock Washer - 1/2" PL	8
6	615100-0526.00	Take Up Bearing Hold Down Bracket	2
7	159600-0420	Hex Bolt - Full Thread - 1/2" NC x 2" Gr.5 PL	2
8	167000-0650	Jam Nut - 1/2" NC Gr.5 PL	2
9	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	4
10	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	4
11	774800-0949.00	48" Idler Roll B-Loc 2-15/16" Chilled Cast Roll - 1IN	1
12	614800-0582.00	48" Mill Frame - SCA - Flange Brgs - 1:1 Drive - 2020	1
13	774800-0985.00	48" Drive Roll B-Loc 2-15/16" Chilled Cast Roll - 1IN	1
14	375500-0124	PTO U-Joint - Series 77 - Double Center	1
15	614000-0229.00	Stop Bolt - 1" NF x 4-1/2" Full Thread	2
16	167000-0697	Jam Nut - 1" NF RH Gr.5 BL	2
17	159600-0535	Hex Bolt - Full Thread - 5/8" NC x 3-1/2" Gr.5 PL	2
18	167000-0658	Jam Nut - 5/8" NC Gr.5 PL	2
19	114000-0255	Bearing - 4-Bolt Flange 2-15/16"	4
20	415100-0319.00	Bearing Push Plate	2
21	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	8
22	615100-0546.00	2 15/16" Bearing Slide - SCA non diff - 2021	2
23	159400-0806	Hex Bolt - 3/4" NC x 2-1/2" Gr.5 PL	8
24	303100-0048	Leaf Spring - 5-Leaf - 48"	2
25	414800-0502.00	Spring Push Plate	2
26	167000-0705	Jam Nut - 1-1/4" NF Gr.5 PL RH	4
27	613600-0099.02	Spring Push Bolt	4

# 11 PARTS

## 11.1.1 Mill Frame Assembly



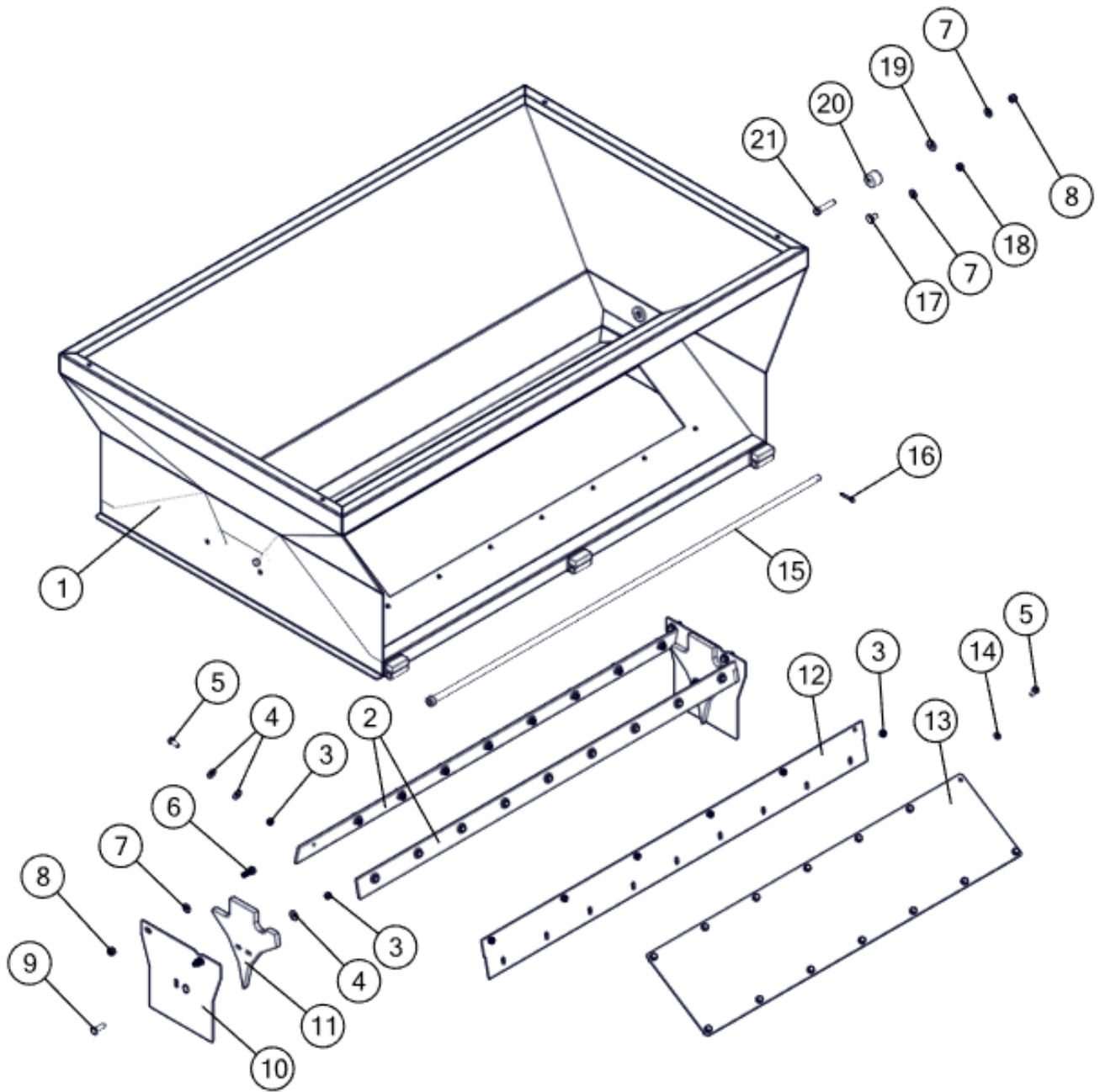
## 11 PARTS

### 11.1.2 Top Hopper Assembly

REF #	PART #	DESCRIPTION	QTY
1	614800-0609.00	Front Mill Top Hopper - Rear Feed - 10" Frame - 2022	1
2	414800-0116.00	Belt - Grain Containment - Top Hopper	2
3	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	28
4	168000-0040	Flat Washer - 5/16" USS PL	40
5	159300-0730	Hex Bolt - 5/16" NC x 3/4" Gr.5 PL	46
6	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	4
7	168000-0540	Flat Washer - 3/8" SAE	6
8	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	5
9	163000-0302	Carriage Bolt - 5/16" x 1-1/4" Gr.5 PL	4
10	414800-0622.00	WEAR PLATE - 10" Mill Frame - New Style TH	2
11	147100-0288	UHMW Wear Plate Insert - 10"	2
12	414800-0128.00	Mount Plate - Belt Containment	1
13	414800-0575.00	Cover Plate	2
14	168600-0062	Lock Washer - 5/16" PL	28
15	614800-0008.00	Hinge Pin - Top Hopper	1
16	170000-0180	Cotter Pin - 3/16" x 1"	1
17	163000-0506	Carriage Bolt 3/8" NC x 3/4" Gr.5 PL	1
18	167200-0412	Lock Nut - 3/8" NC	1
19	168000-0049	Flat Washer - 3/8" USS PL	1
20	414000-0700.00	Spacing Boss	1
21	159400-0003	Hex Bolt - 3/8" NC x 2" Gr.5 PL	1

# 11 PARTS

## 11.1.2 Top Hopper Assembly





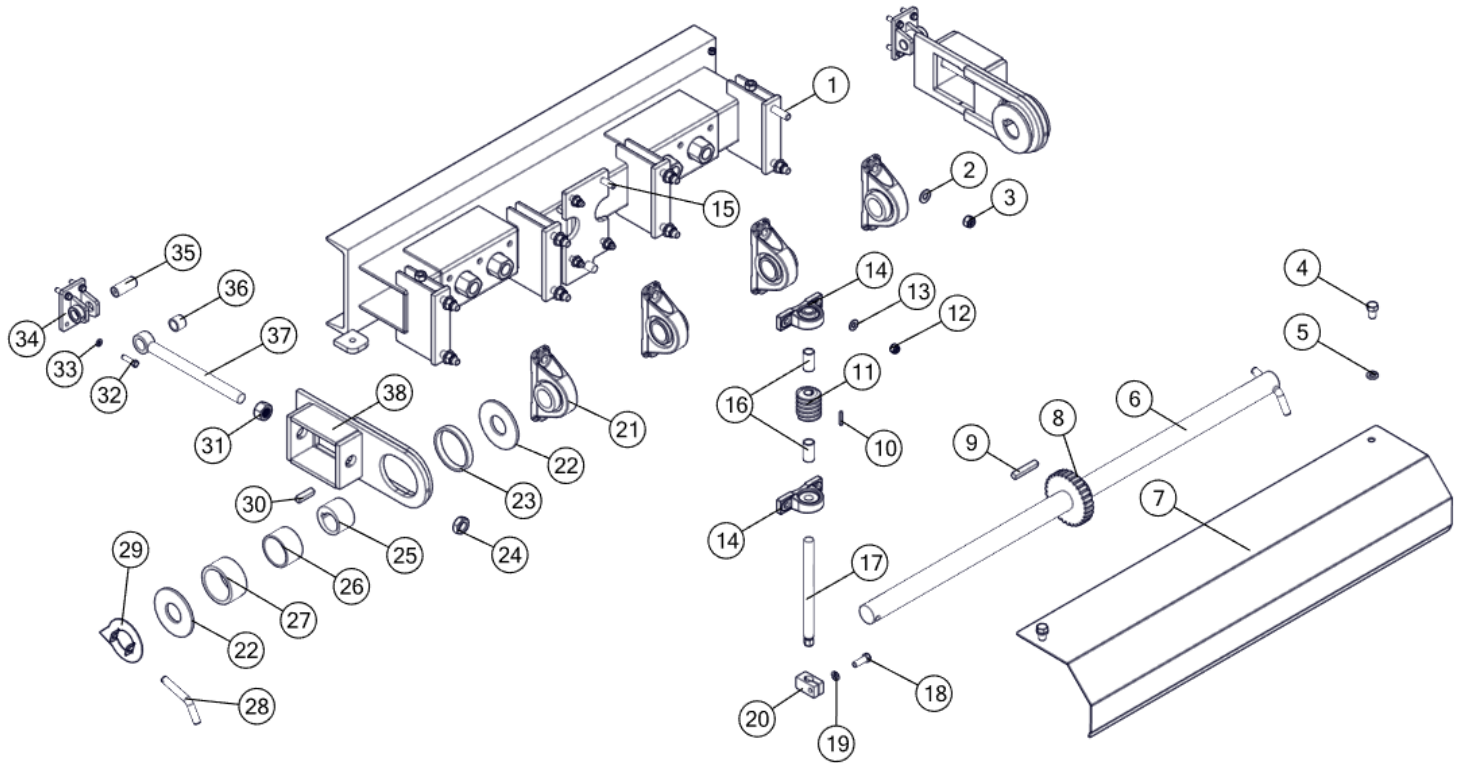
## 11 PARTS

### 11.1.3 Worm Drive Roll Assembly

REF #	PART #	DESCRIPTION	QTY
1	159400-0636	Hex Bolt - 5/8" NC x 2-1/2" Gr.5 PL	8
2	168000-0580	Flat Washer - 5/8" SAE PL	8
3	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	8
4	159400-0580	Hex Bolt - 5/8" NC x 1" GR5 PL	2
5	168600-0120	Lock Washer - 5/8" PL	2
6	415100-0716.01	Cam Shaft	1
7	415100-0721.01	SCA Shield - No Lift and Swing	1
8	121000-0632	Worm Gear - 6DP - Single Start, 30 Tooth, 1-15/16" Dia	1
9	414000-0400.00	1/2" Keystock x 3"	1
10	414000-0582.00	3/16"Keystock x 1-1/2"	1
11	120000-0601	Steel Worm 6DP Single Start RH 7/8" ID	1
12	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	4
13	168000-0544	Flat Washer - 1/2" SAE PLTD	4
14	113900-0914	7/8" Bearing - Pillow Block	2
15	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	4
16	413600-0114.00	Worm Gear Spacer	2
17	615100-0361.00	Worm Shaft - 7/8" x 11"-3/4"	1
18	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	1
19	168600-0098	Lock Washer - 1/2" PL	1
20	414000-0243.01	Worm Wheel Brake	1
21	114000-0262	Bearing - Pillow Block 1-1/516" ID NTN (UELP-1.15/16M)	4
22	415100-0525.01	Cam Shaft Capping Washer	4
23	415100-0534.00	Pipe Bushing	2
24	167000-0697	Jam Nut - 1" NF RH Gr.5 BL	2
25	415100-0533.00	Spring Cam Hub	2
26	415100-0017.00	Oilite Bushing - 2-15/16" x 3-5/16" x 2"	2
27	415100-0526.00	Oilite Bushing - 3-5/16" x 4" x 2"	2
28	161800-0010	Bent Pin - 5/8" x 3"	2
29	415100-0022.00	Cam Position Indicator	1
30	414000-0881.00	1/2" Keystock x 2"	2
31	167000-0870	Hex Nut - 1" NF Gr.5 BL RH	2
32	159300-0988	Hex Bolt - 3/8" NC x 1-1/2 Gr.5 PL	8

# 11 PARTS

## 11.1.3 Worm Drive Roll Assembly



REF #	PART #	DESCRIPTION	QTY
33	168600-0071	Lock Washer - 3/8" PL	8
34	615100-0527.00	Bearing Cam Base	2
35	414000-0239.00	Cam Pivot Pin - 1" x 2-1/2"	2
36	113500-0126	Oilite Bushing - 1" x 1-1/4" x 1"	2
37	615100-0705.02	Pivot Eye Rod	2
38	615100-0704.02	Main Adjuster Arm	2

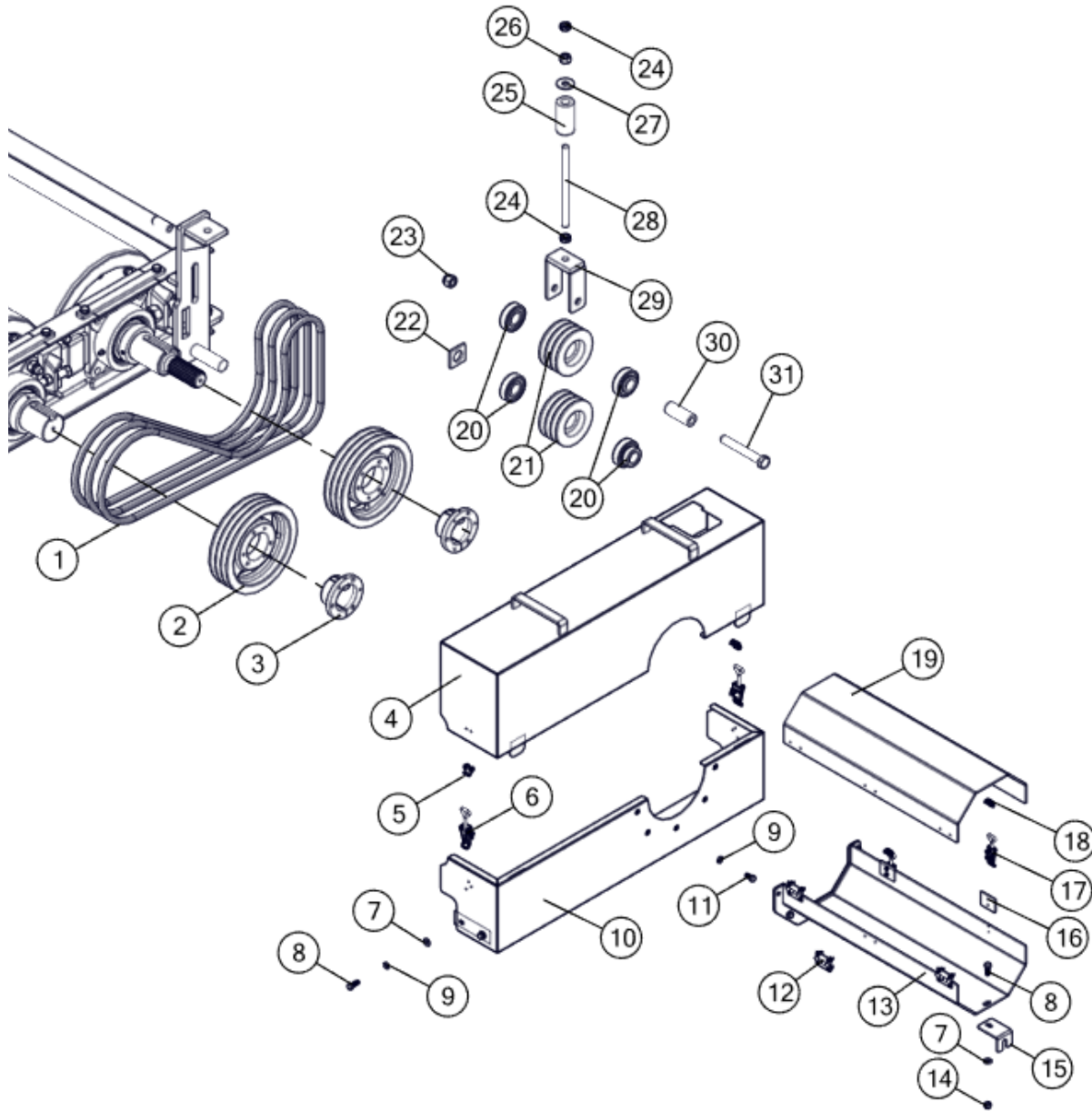
## 11 PARTS

### 11.1.4 Roll Drive - Front

REF #	PART #	DESCRIPTION	QTY
1	144000-0685	Double V-Belt - BB85	3
2	143300-0097	Pulley - 3 Groove 9.4" x SF Bushing	2
3	142000-0220	Taper Bushing SF 2-15/16"	2
4	674800-0755.00	Upper Shield Body	1
5	154000-0141	Catch - Overcenter Latch - 4.7"	2
**	159300-0520	Stove Bolt - #10-24 x 1/2"	4
**	167000-0520	Hex Nut - #10-24 PL	4
6	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
7	168000-0540	Flat Washer - 3/8" SAE	5
8	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	5
9	168600-0071	Lock Washer - 3/8" PL	9
10	674800-0806.00	Lower Front Drive Shield	1
11	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	5
12	153000-0800	Butt Hinge - 2" x 1-1/2"	3
**	159300-0501	Stove Bolt - #10-24 x 5/8"	12
**	167000-0520	Hex Nut - #10-24 PL	12
13	674800-0836.00	PTO Shield - Front Mill to Transfer - 48 T (2020)	1
14	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	1
15	470000-1133.00	Support Tab - Front Shield	1
16	414000-0906.01	Lap Flat	2
17	154000-0142	Overcenter Latch - 3.5"	2
**	159300-0515	Stove Bolt - 8-32 x 1/2"	4
**	167000-0519	Hex Nut - 8-32 PL	4
18	154000-0143	Catch - Overcenter Latch - 3.5"	2
**	159300-0515	Stove Bolt - 8-32 x 1/2"	4
**	167000-0519	Hex Nut - 8-32 PL	4
19	470000-0941.00	PTO Shield - Tandem 2018	1
20	114100-0021	Bearing - Cylindrical 72mm OD, 1-1/4" ID	4
21	124000-0016	5" x 72mm 3-Groove Pulley	2
22	414000-0653.02	Spacer Plate	1

## 11 PARTS

### 11.1.4 Roll Drive - Front



23	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	1
24	167000-0658	Jam Nut - 5/8" NC Gr.5 PL	2
25	303100-0204	Compression Spring - 1.75" OD x 3.41" Long	1
26	167000-0827	Hex Nut - 5/8" NC Gr.5 PL	1
27	168000-0080	Flat Washer - 5/8" USS PL	1
28	414000-0608.01	Tensioner Bolt	1
29	614800-0019.00	Tensioner Pulley Weldment	1
30	414000-0598.00	Spacer Bushing	1
31	159400-0817	Hex Bolt - 3/4" NC x 5-1/2" Gr.5 PL	1

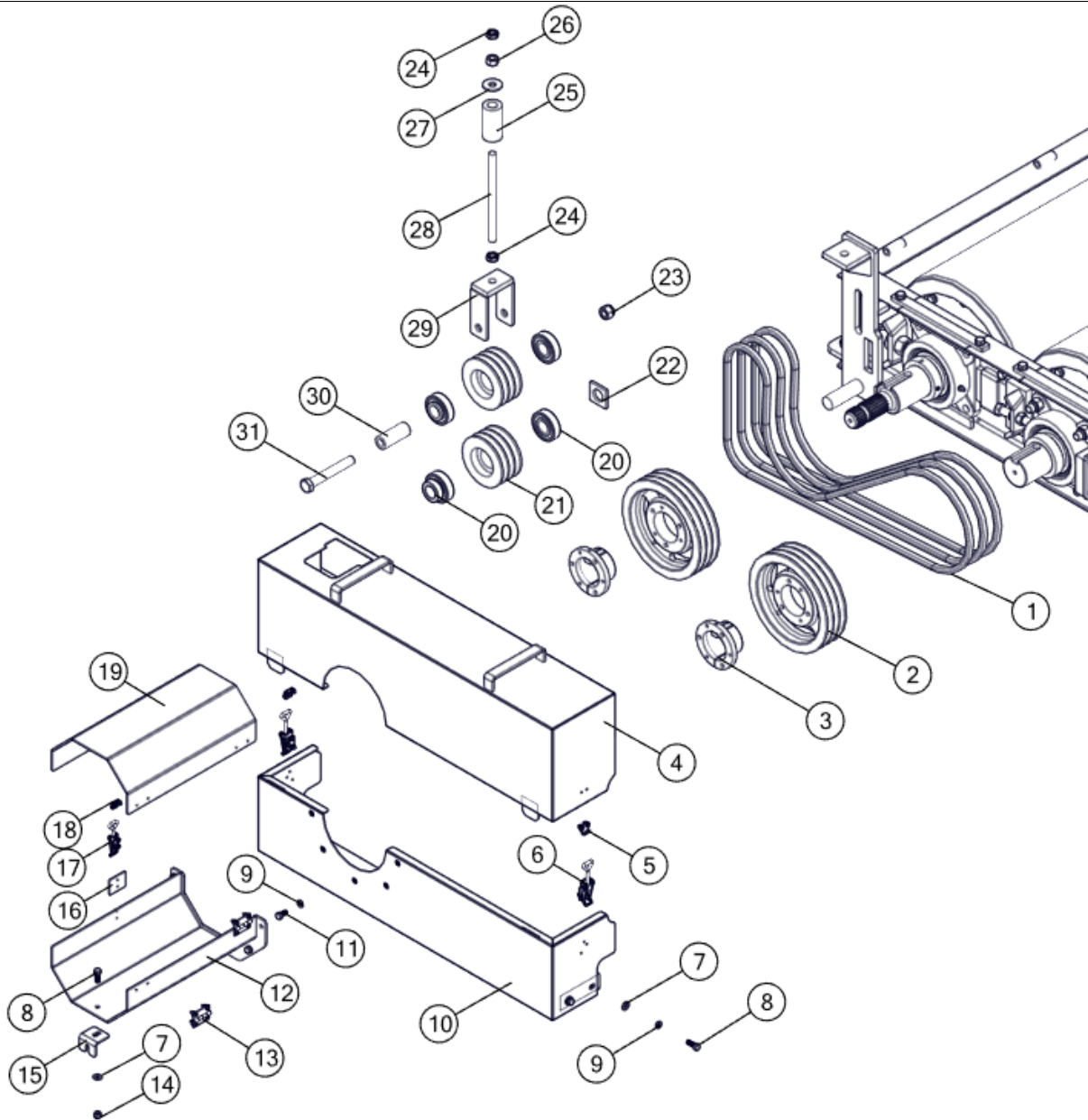
## 11 PARTS

### 11.1.5 Roll Drive - Rear

REF #	PART #	DESCRIPTION	QTY
1	144000-0685	Double V-Belt - BB85	3
2	143300-0097	Pulley - 3 Groove 9.4" x SF Bushing	2
3	142000-0220	Taper Bushing SF 2-15/16"	2
4	674800-0753.00	Top Rear Shield Assembly	1
5	154000-0141	Catch - Overcenter Latch - 4.7"	2
**	159300-0520	Stove Bolt - #10-24 x 1/2"	4
**	167000-0520	Hex Nut - #10-24 PL	4
6	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
7	168000-0540	Flat Washer - 3/8" SAE	4
8	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	4
9	168600-0071	Lock Washer - 3/8" PL	9
10	674800-0808.00	Lower Rear Drive Shield - Mill - 1:1 Drive	1
11	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	5
12	674800-0768.00	Rear Shield Lower Panel	1
13	153000-0800	Butt Hinge - 2" x 1-1/2"	2
**	159300-0501	Stove Bolt - #10-24 x 5/8"	8
**	167000-0520	Hex Nut - #10-24 PL	8
14	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	1
15	470000-0938.00	Rear Shield Support Tab	1
16	414000-0906.01	Lap Flat	1
17	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
18	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
19	470000-0786.01	PTO Shield - Mid - Tandem	1
20	114100-0021	1-1/4" Bearing - Cylindrical 72mm OD	4
21	124000-0016	5" x 72mm 3-Groove Pulley	2
22	414000-0653.02	Spacer Plate	1

# 11 PARTS

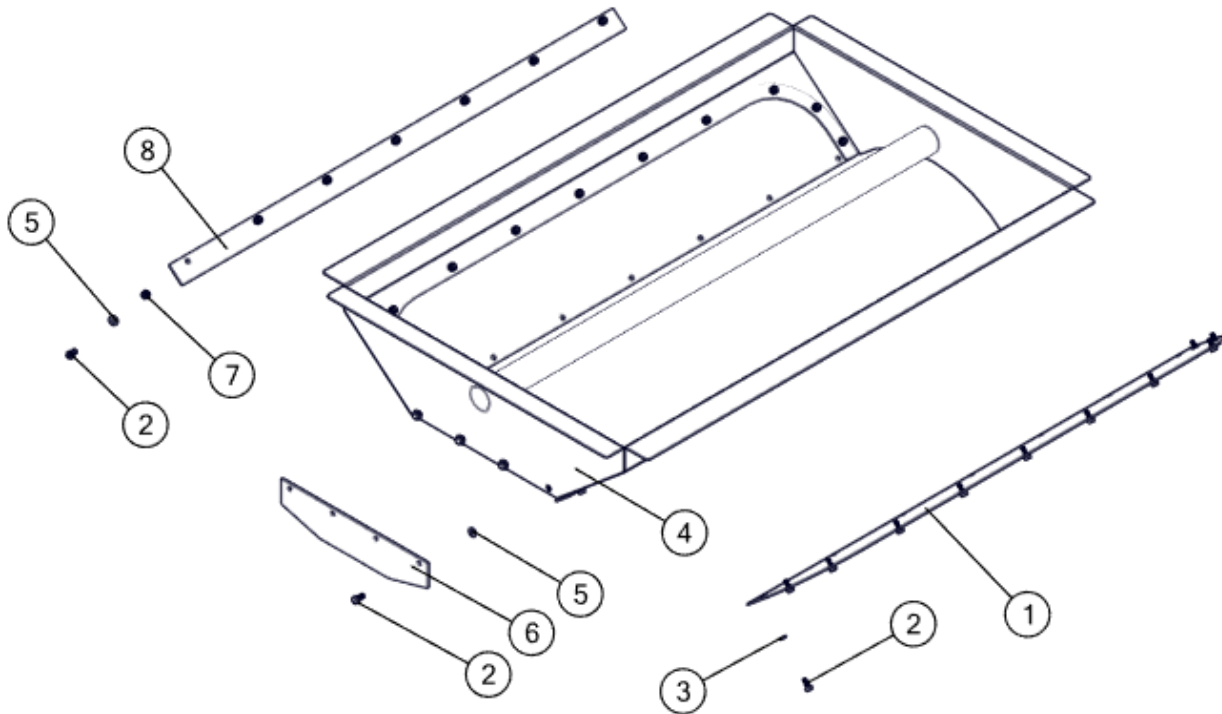
## 11.1.5 Roll Drive - Rear



23	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	1
24	167000-0658	Jam Nut - 5/8" NC Gr.5 PL	2
25	303100-0204	Compression Spring - 1.75" OD x 3.41" Long	1
26	167000-0827	Hex Nut - 5/8" NC Gr.5 PL	1
27	168000-0080	Flat Washer - 5/8" USS PL	1
28	414000-0608.01	Tensioner Bolt	1
29	614800-0019.00	Tensioner Pulley Weldment	1
30	414000-0598.00	Spacer Bushing	1
31	159400-0817	Hex Bolt - 3/4" NC x 5-1/2" Gr.5 PL	1

## 11 PARTS

### 11.1.6 Bottom Hopper



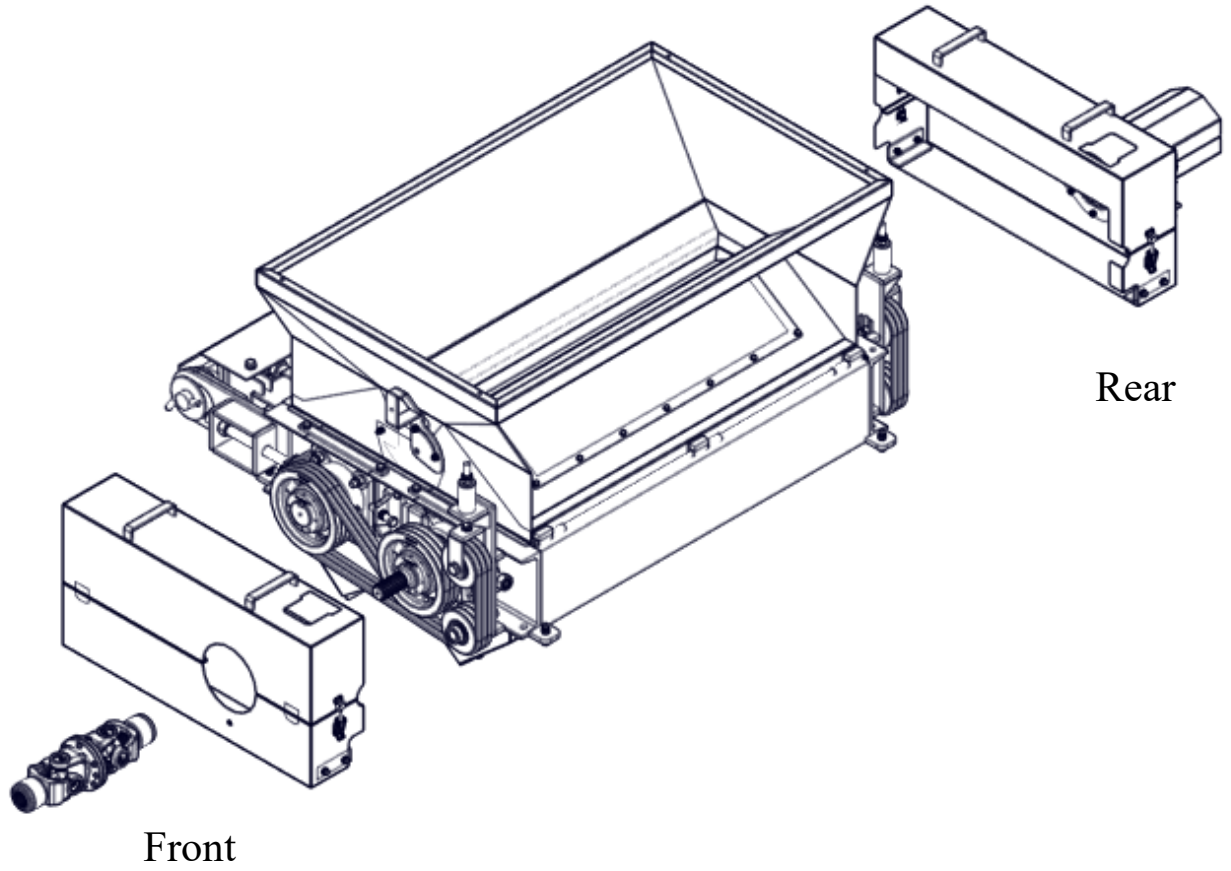
REF #	PART #	DESCRIPTION	QTY
1	474800-1263.00	Clean-up Cover - Drop Hopper - 48T 2024	2
2	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	40
3	168600-0071	Lock Washer - 3/8" PL	22
4	674800-0959.00	Drop Hopper Weldmt - Front Mill - Tan/Tri 2024	1
5	168000-0540	Flat Washer - 3/8" SAE	18
6	470000-0578.00	Rubber Belting 3/16 x 4	1
7	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	14
8	474800-0966.00	Containment Strip -2" x 51.5"	2



## 11 PARTS

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### 11.2 Rear Mill



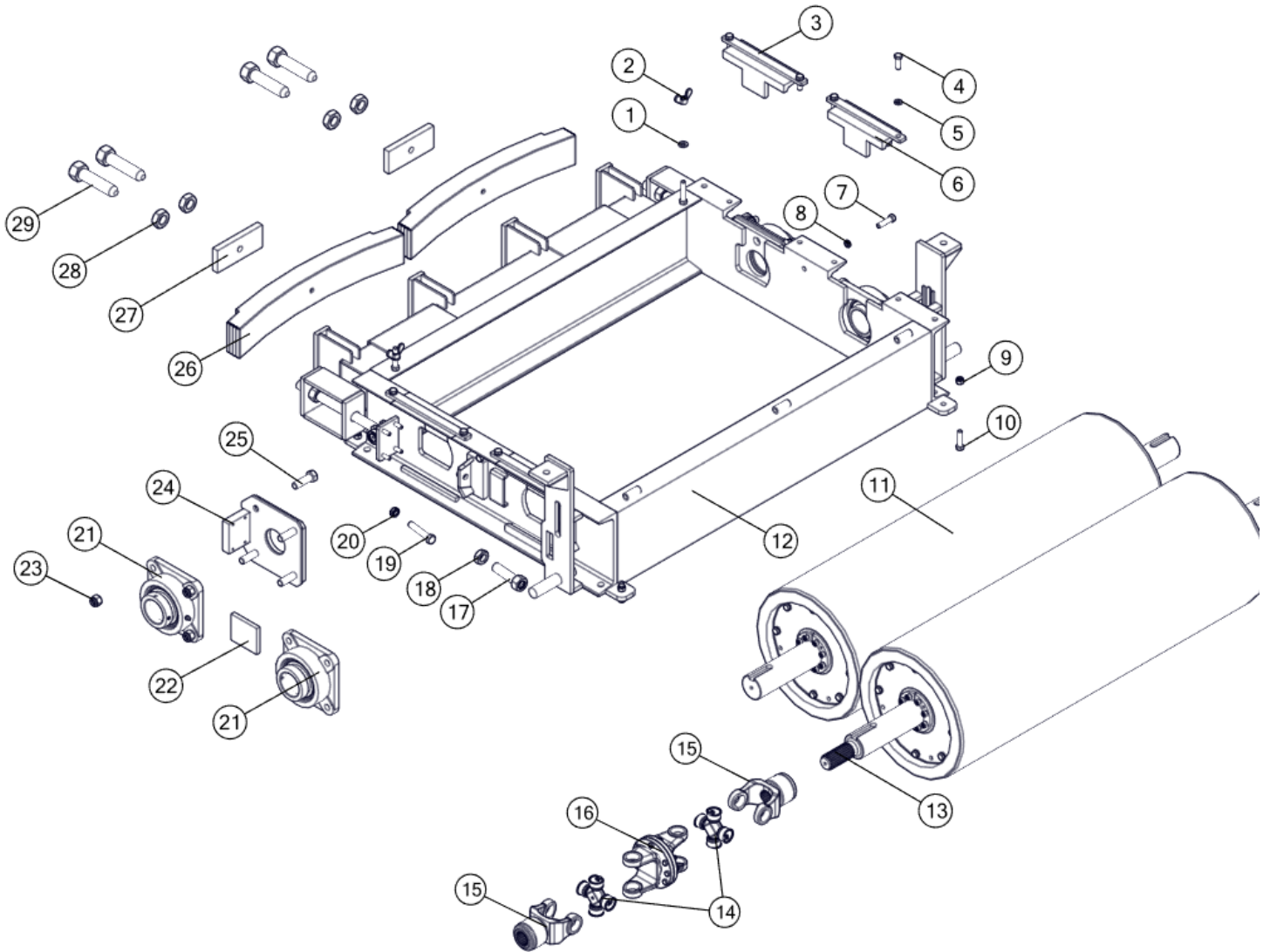
## 11 PARTS

### 11.2.1 Mill Frame Assembly - Rear Section

REF #	PART #	DESCRIPTION	QTY
1	168000-0544	Flat Washer - 1/2" SAE PLTD	2
2	167100-0995	Wing Nut 1/2" NC	2
3	615100-0765.00	Brg Hold-Down Bracket - Mill Frame - 2020	2
4	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	8
5	168600-0098	Lock Washer - 1/2" PL	8
6	615100-0526.00	Take Up Bearing Hold Down Bracket	2
7	159600-0420	Hex Bolt - Full Thread - 1/2" NC x 2" Gr.5 PL	2
8	167000-0650	Jam Nut - 1/2" NC Gr.5 PL	2
9	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	4
10	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	4
11	774800-0949.00	48" Idler Roll B-Loc 2-15/16" Chilled Cast Roll - 1IN	1
12	614800-0582.00	48" Mill Frame - SCA - Flange Brgs - 1:1 Drive - 2020	1
13	774800-0948.00	48" Drive Roll B-Loc 2-15/16" Chilled Cast Roll - 1IN	1
14	380000-0055	55E Cross & Bearing Kit	2
15	380200-0177	Series 55 - 1-3/4" 20 Spline Slide Lock Yoke	2
16	380200-0169	Series 55 Double Center Yoke	1
17	614000-0229.00	Stop Bolt - 1" NF x 4-1/2" Full Thread	2
18	167000-0697	Jam Nut - 1" NF RH Gr.5 BL	2
19	159600-0535	Hex Bolt - Full Thread - 5/8" NC x 3-1/2" Gr.5 PL	2
20	167000-0658	Jam Nut - 5/8" NC Gr.5 PL	2
21	114000-0255	Bearing - 4-Bolt Flange 2-15/16"	4
22	415100-0319.00	Bearing Push Plate	2
23	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	8
24	615100-0546.00	2 15/16" Bearing Slide - SCA non diff	2
25	159400-0806	Hex Bolt - 3/4" NC x 2-1/2" Gr.5 PL	8
26	303100-0048	Leaf Spring - 5-Leaf - 48"	2
27	414800-0502.00	Spring Push Plate	2
28	167000-0705	Jam Nut - 1-1/4" NF Gr.5 PL RH	4
29	613600-0099.02	Spring Push Bolt	4

# 11 PARTS

## 11.2.1 Mill Frame Assembly - Rear Section



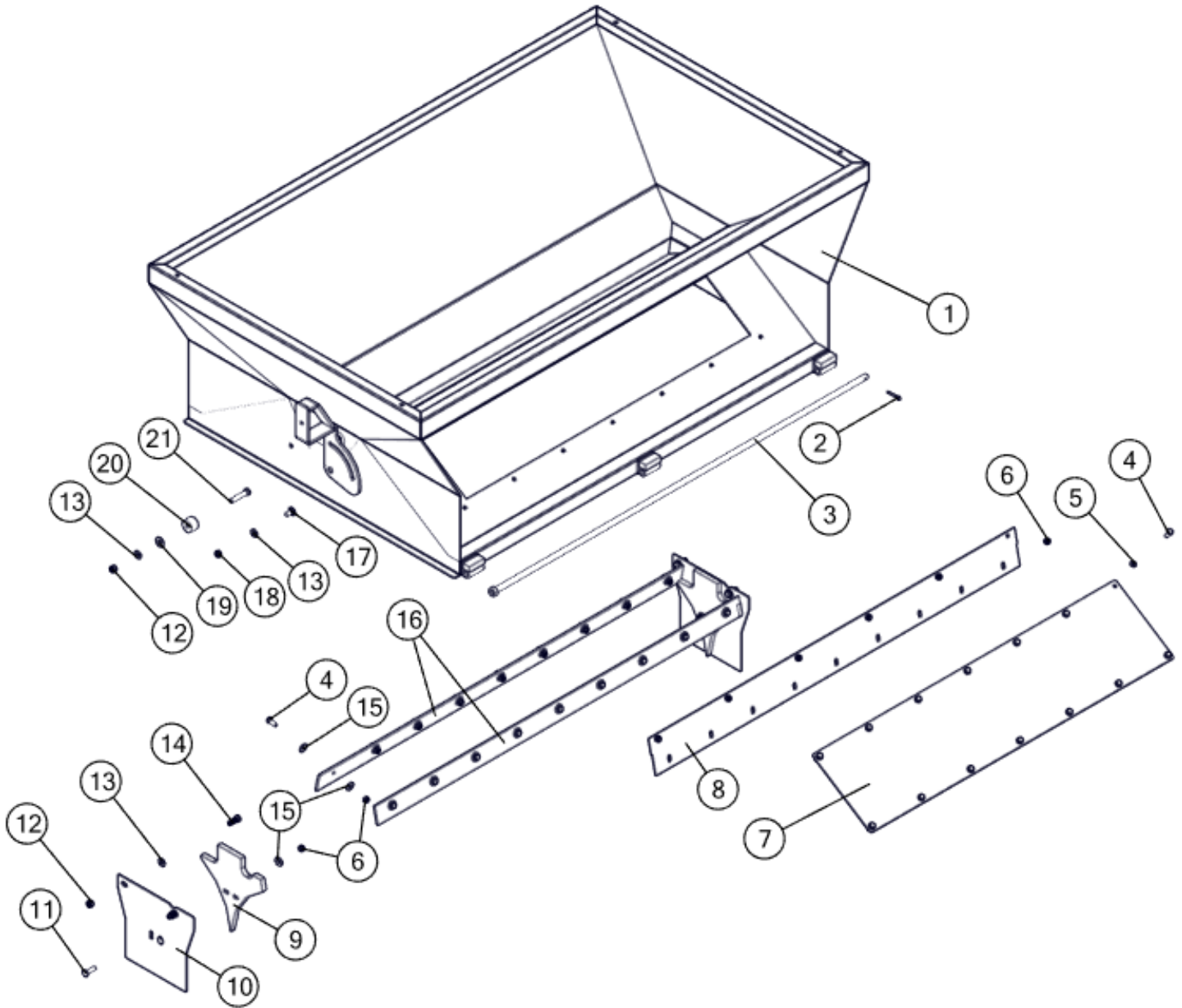
## 11 PARTS

### 11.2.2 Top Hopper Assembly - Rear Section

REF #	PART #	DESCRIPTION	QTY
1	614800-0610.00	Rear Mill Top Hopper - 10" Frame - 48 Tandem 2022	1
2	170000-0180	Cotter Pin - 3/16" x 1"	1
3	614800-0008.00	Hinge Pin - Top Hopper	1
4	159300-0730	Hex Bolt - 5/16" NC x 3/4" Gr.5 PL	46
5	168600-0062	Lock Washer - 5/16" PL	28
6	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	28
7	414800-0575.00	Cover Plate	2
8	414800-0128.00	Mount Plate - Belt Containment	1
9	147100-0288	UHMW Wear Plate Insert - 10"	2
10	414800-0622.00	WEAR PLATE - 10" Mill Frame - New Style TH	2
11	163000-0302	Carriage Bolt - 5/16" x 1-1/4" Gr.5 PL	4
12	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	5
13	168000-0540	Flat Washer - 3/8" SAE	6
14	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	4
15	168000-0040	Flat Washer - 5/16" USS PL	40
16	414800-0116.00	Belt - Grain Containment - Top Hopper	2
17	163000-0506	Carriage Bolt 3/8" NC x 3/4" Gr.5 PL	1
18	167200-0412	Lock Nut - 3/8" NC	1
19	168000-0049	Flat Washer - 3/8" USS PL	1
20	414000-0700.00	Spacing Boss	1
21	159400-0003	Hex Bolt - 3/8" NC x 2" Gr.5 PL	1

# 11 PARTS

## 11.2.2 Top Hopper Assembly - Rear Section



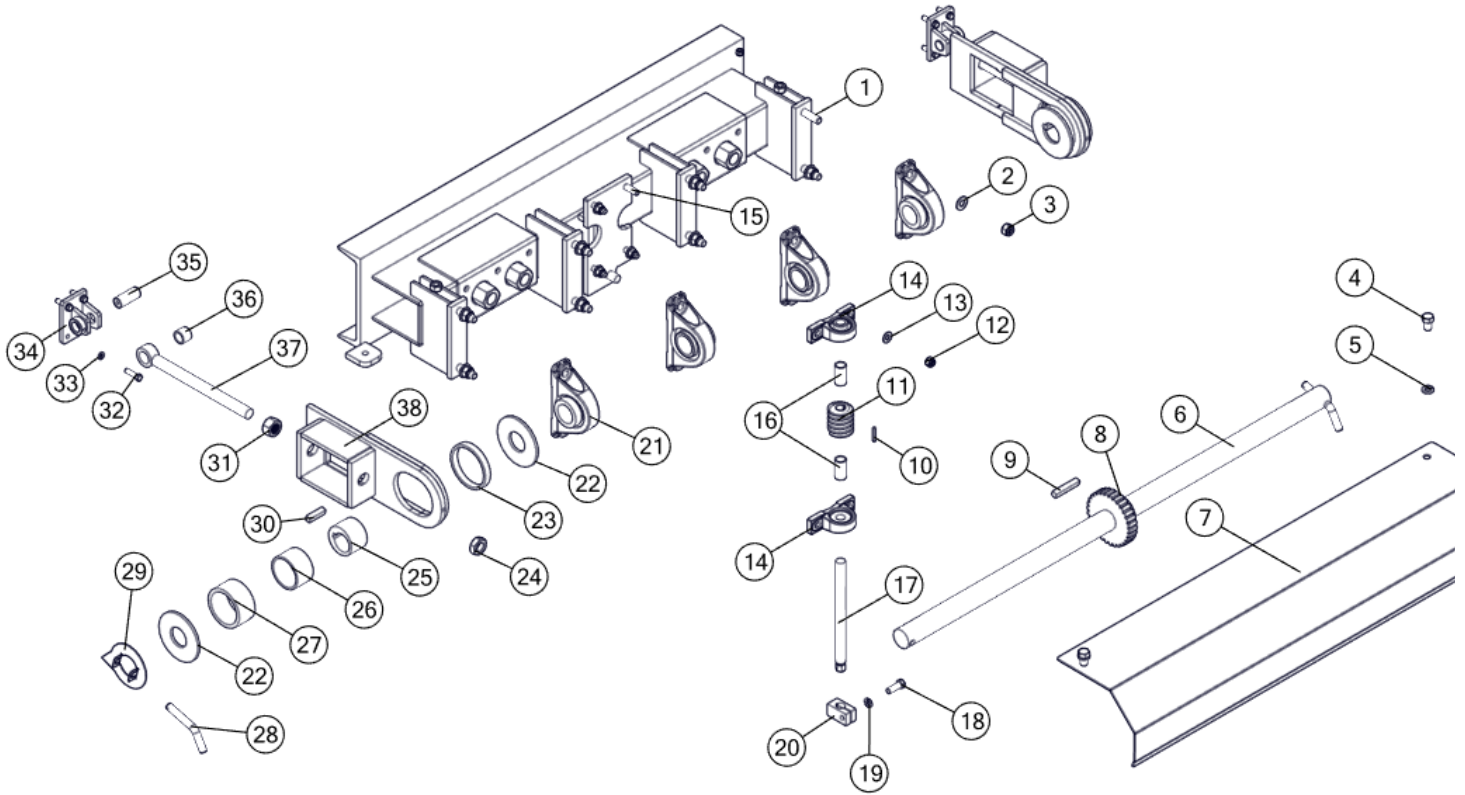
## 11 PARTS

### 11.2.3 Worm Drive Roll Assembly - Rear Section

REF #	PART #	DESCRIPTION	QTY
1	159400-0636	Hex Bolt - 5/8" NC x 2-1/2" Gr.5 PL	8
2	168000-0580	Flat Washer - 5/8" SAE PL	8
3	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	8
4	159400-0580	Hex Bolt - 5/8" NC x 1" GR5 PL	2
5	168600-0120	Lock Washer - 5/8" PL	2
6	415100-0716.01	Cam Shaft	1
7	415100-0721.01	SCA Shield - No Lift and Swing	1
8	121000-0632	Worm Gear - 6DP - Single Start, 30 Tooth, 1-15/16" Dia	1
9	414000-0400.00	1/2" Keystock x 3"	1
10	414000-0582.00	3/16"Keystock x 1-1/2"	1
11	120000-0601	Steel Worm 6DP Single Start RH 7/8" ID	1
12	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	4
13	168000-0544	Flat Washer - 1/2" SAE PLTD	4
14	113900-0914	7/8" Bearing - Pillow Block	2
15	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	4
16	413600-0114.00	Worm Gear Spacer	2
17	615100-0361.00	Worm Shaft - 7/8" x 11"-3/4"	1
18	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	1
19	168600-0098	Lock Washer - 1/2" PL	1
20	414000-0243.01	Worm Wheel Brake	1
21	114000-0262	Bearing - Pillow Block 1-1/516" ID NTN (UELP-1.15/16M)	4
22	415100-0525.01	Cam Shaft Capping Washer	4
23	415100-0534.00	Pipe Bushing	2
24	167000-0697	Jam Nut - 1" NF RH Gr.5 BL	2
25	415100-0533.00	Spring Cam Hub	2
26	415100-0017.00	Oilite Bushing - 2-15/16" x 3-5/16" x 2"	2
27	415100-0526.00	Oilite Bushing - 3-5/16" x 4" x 2"	2
28	161800-0010	Bent Pin - 5/8" x 3"	2
29	415100-0022.00	Cam Position Indicator	1
30	414000-0881.00	1/2" Keystock x 2"	2
31	167000-0870	Hex Nut - 1" NF Gr.5 BL RH	2
32	159300-0988	Hex Bolt - 3/8" NC x 1-1/2 Gr.5 PL	8

# 11 PARTS

## 11.2.3 Worm Drive Roll Assembly - Rear Section



REF #	PART #	DESCRIPTION	QTY
33	168600-0071	Lock Washer - 3/8" PL	8
34	615100-0527.00	Bearing Cam Base	2
35	414000-0239.00	Cam Pivot Pin - 1" x 2-1/2"	2
36	113500-0126	Oilite Bushing - 1" x 1-1/4" x 1"	2
37	615100-0705.02	Pivot Eye Rod	2
38	615100-0704.02	Main Adjuster Arm	2



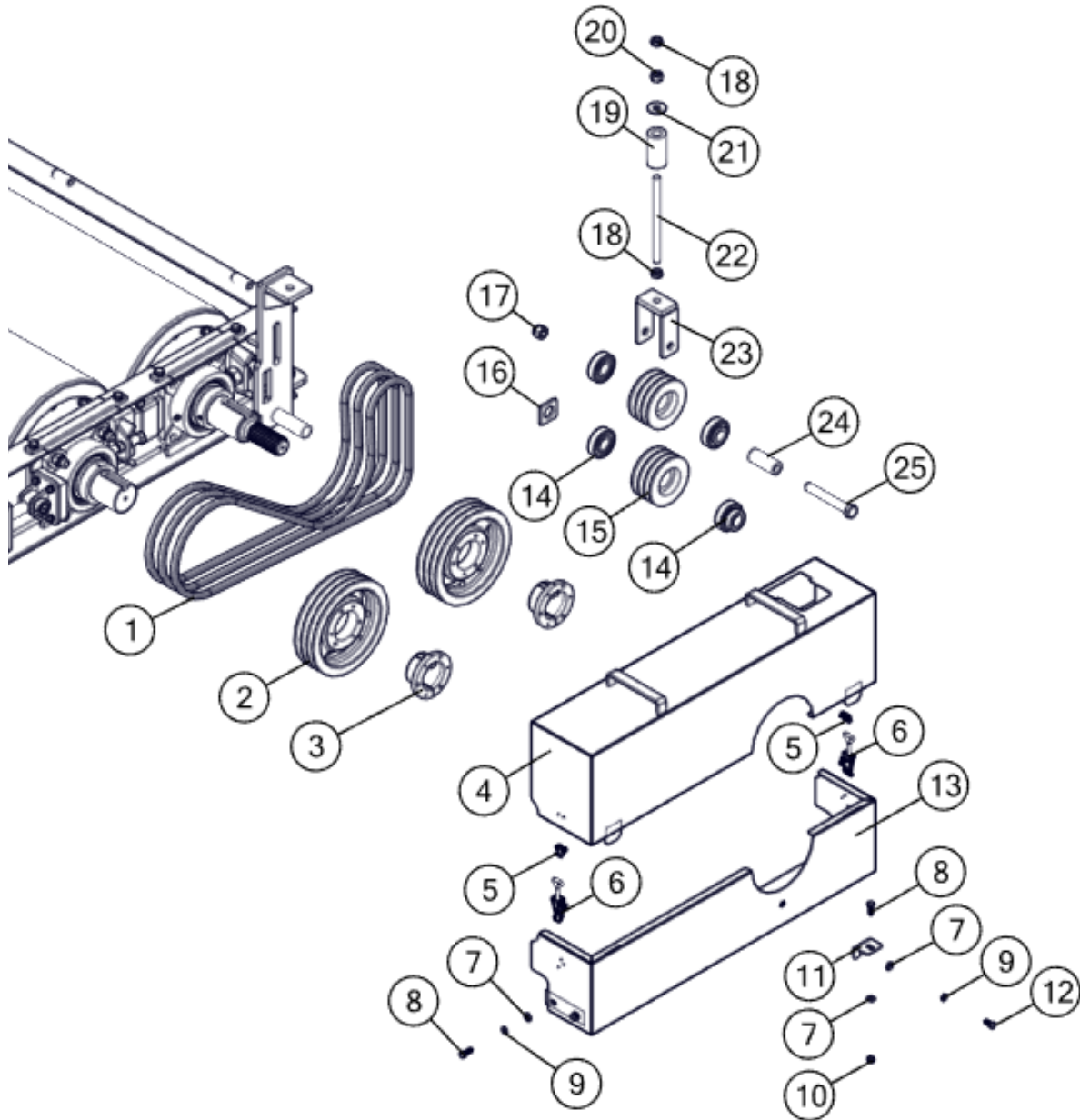
## 11 PARTS

### 11.2.4 Roll Drive - Front - Rear Section

REF #	PART #	DESCRIPTION	QTY
1	144000-0685	Double V-Belt - BB85	3
2	143300-0097	Pulley - 3 Groove 9.4" x SF Bushing	2
3	142000-0220	Taper Bushing SF 2-15/16"	2
4	674800-0755.00	Upper Shield Body	1
5	154000-0141	Catch - Overcenter Latch - 4.7"	2
**	159300-0520	Stove Bolt - #10-24 x 1/2"	4
**	167000-0520	Hex Nut - #10-24 PL	4
6	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
7	168000-0540	Flat Washer - 3/8" SAE	4
8	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	4
9	168600-0071	Lock Washer - 3/8" PL	5
10	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	1
11	470000-0938.00	Rear Shield Support Tab	1
12	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	1
13	674800-0807.00	Lower Front Drive Shield	1
14	114100-0021	1-1/4" Bearing - Cylindrical 72mm OD	4
15	124000-0016	5" x 72mm 3-Groove Pulley	2
16	414000-0653.02	Spacer Plate	1
17	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	1
18	167000-0658	Jam Nut - 5/8" NC Gr.5 PL	2
19	303100-0204	Compression Spring - 1.75" OD x 3.41" Long	1
20	167000-0827	Hex Nut - 5/8" NC Gr.5 PL	1
21	168000-0080	Flat Washer - 5/8" USS PL	1
22	414000-0608.01	Tensioner Bolt	1
23	614800-0019.00	Tensioner Pulley Weldment	1
24	414000-0598.00	Spacer Bushing	1
25	159400-0817	Hex Bolt - 3/4" NC x 5-1/2" Gr.5 PL	1

# 11 PARTS

## 11.2.4 Roll Drive - Front - Rear Section



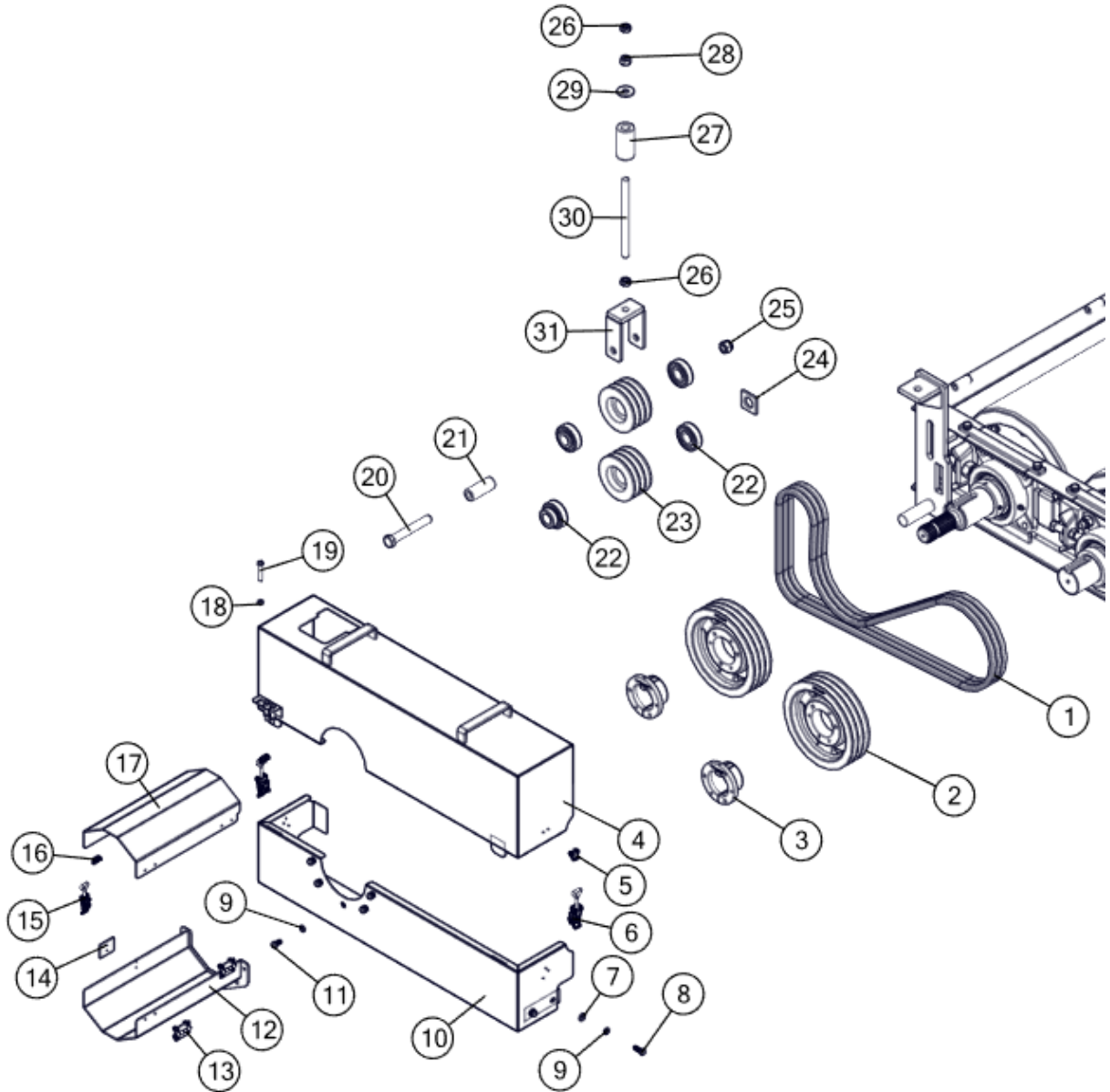
## 11 PARTS

### 11.2.5 Roll Drive - Rear - Rear Section

REF #	PART #	DESCRIPTION	QTY
1	144000-0685	Double V-Belt - BB85	3
2	143300-0097	Pulley - 3 Groove 9.4" x SF Bushing	2
3	142000-0220	Taper Bushing SF 2-15/16"	2
4	674800-0754.01	Top Rear Shield Assembly - SCA - Aux	1
5	154000-0141	Catch - Overcenter Latch - 4.7"	2
**	159300-0520	Stove Bolt - #10-24 x 1/2"	4
**	167000-0520	Hex Nut - #10-24 PL	4
6	154000-0140	Overcenter Latch - 4.7"	2
**	159300-0520	Stove Bolt - #10-24 x 1/2"	4
**	167000-0520	Hex Nut - #10-24 PL	4
7	168000-0540	Flat Washer - 3/8" SAE	4
8	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	4
9	168600-0071	Lock Washer - 3/8" PL	9
10	674800-0805.00	Lower Rear Shield - Rear Mill - Tandem	1
11	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	5
12	670000-0173.00	Lower Panel Weldment - PTO Aux Shield	1
13	153000-0800	Butt Hinge - 2" x 1-1/2"	2
**	159300-0500	#10-24 x 1/2 screw - shields	8
**	167000-0520	Hex Nut - #10-24 PL	4
14	414000-0906.01	Lap Flat	1
15	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
16	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
17	470000-0413.01	Bottom Panel - Rear PTO Shield	1
18	167200-0410	Lock Nut - 5/16" NC	3
19	159300-0792	Hex Bolt - 5/16" x 2" Gr5 PL	3
20	159400-0817	Hex Bolt - 3/4" NC x 5-1/2" Gr.5 PL	1
21	414000-0598.00	Spacer Bushing	1
22	114100-0021	1-1/4" Bearing - Cylindrical 72mm OD	4

## 11 PARTS

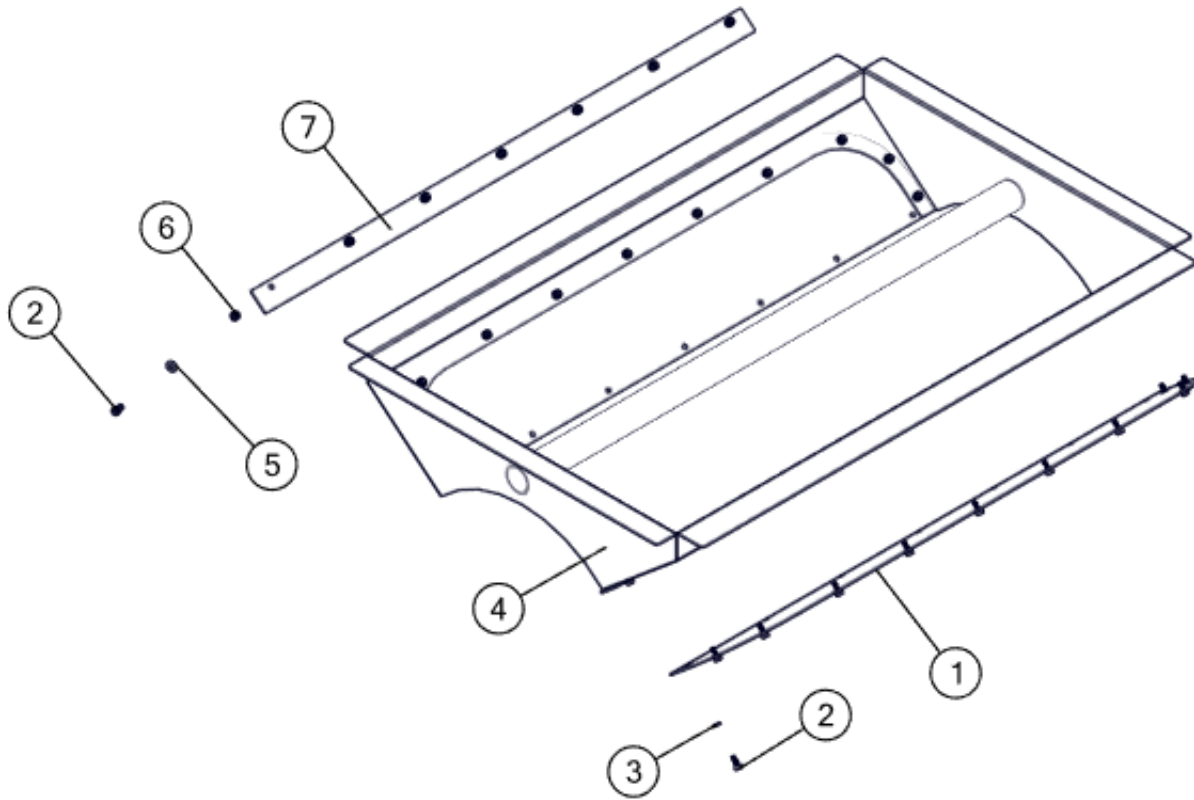
### 11.2.5 Roll Drive - Rear - Rear Section



23	124000-0016	5" x 72mm 3-Groove Pulley	2
24	414000-0653.02	Spacer Plate	1
25	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	1
26	167000-0658	Jam Nut - 5/8" NC Gr.5 PL	2
27	303100-0204	Compression Spring - 1.75" OD x 3.41" Long	1
28	167000-0827	Hex Nut - 5/8" NC Gr.5 PL	1
29	168000-0080	Flat Washer - 5/8" USS PL	1
30	414000-0608.01	Tensioner Bolt	1
31	614800-0019.00	Tensioner Pulley Weldment	1

## 11 PARTS

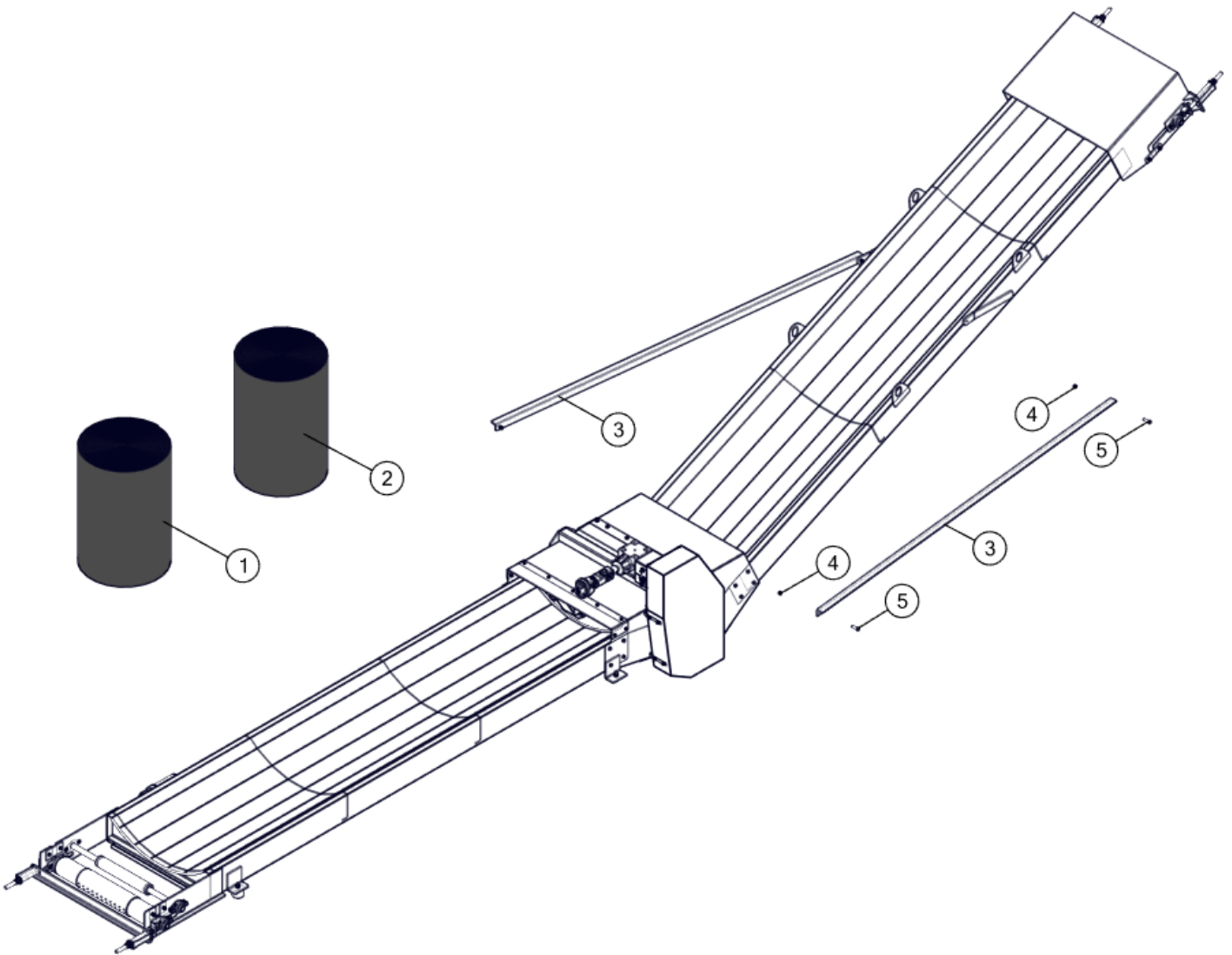
### 11.2.6 Bottom Hopper - Rear Section



REF #	PART #	DESCRIPTION	QTY
1	474800-1263.00	Clean-up Cover - Drop Hopper - 48T 2024	2
2	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	36
3	168600-0071	Lock Washer - 3/8" PL	22
4	674800-0960.00	Drop Hopper Weldmt - Rear Mill - Tan/Tri 2024	1
5	168000-0540	Flat Washer - 3/8" SAE	14
6	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	14
7	474800-0966.00	Containment Strip -2" x 51.5"	2

## 11 PARTS

### 11.3 Conveyor & Support



REF #	PART #	DESCRIPTION	QTY
1	181200-0101	Rubber Belting - 36" wide x 32' 7" long (Slave Bed)	1
2	181200-0102	Rubber Belting - 36" wide x 33' 6" long (Incline Bed)	1
3	474800-0583.00	Stabilizer Rail - Secondary Conveyor	2
4	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	4
5	159400-0410	Hex Bolt - 1/2" NC x 1-3/4" Gr.5 PL	4

## 11 PARTS

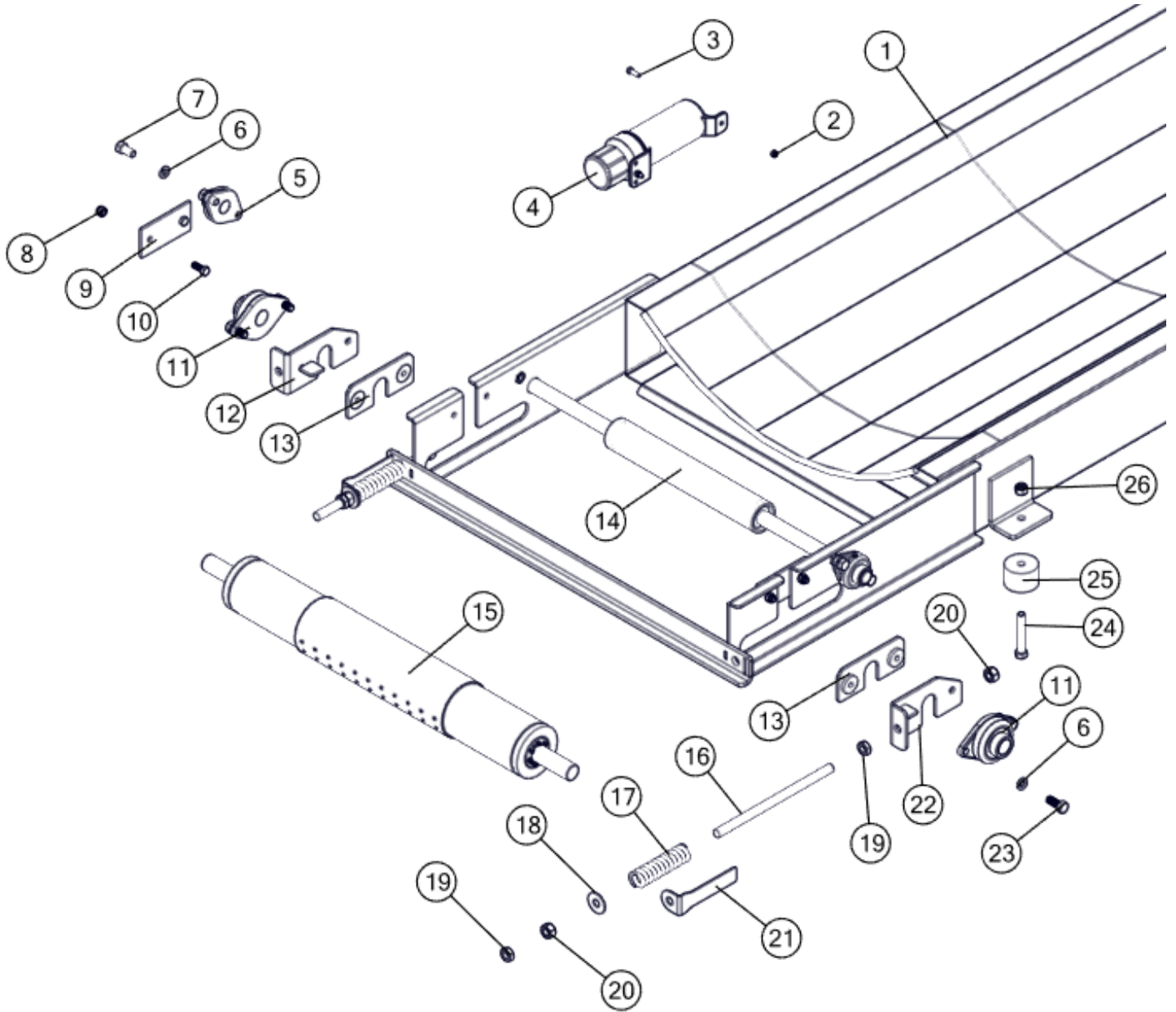
### 11.3.1 Conveyor Slave Bed - Lower End

REF #	PART #	DESCRIPTION	QTY
1	674800-0670.00	Slave Body Weldm't - 48 Non diff Tandem - 2022	1
2	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	2
3	159300-0735	Hex Bolt - 5/16" NC x 1" Gr.5 PL	2
4	147000-0010	Manual Canister	1
5	114000-0138	1-1/4" - 2 bolt Cast Flange Bearing	2
6	168600-0120	Lock Washer - 5/8" PL	6
7	159400-0586	Hex Bolt 5/8" NC x 1-1/4" GR5 PL	4
8	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	4
9	474800-0610.00	PATCH BAR	2
10	159400-0395	Hex Bolt - 1/2" NC x 1-1/4" Gr.5 PL	4
11	114000-0140	1 1/2" SHAFT / 2 BOLT FLANGE BEARING	2
12	674800-0678.00	P-S. End Bearing Slide - Slave Bed Tensioner	1
13	674800-0680.01	Bearing Bolt Plate Weldment - 2021	2
14	674800-0681.00	End Push Down Roller Weldm't - Slave Bed	1
15	774800-0639.00	End Tensioner Roller Ass'y - 1 1/2" B-Loc	1
**	474800-0642.00	Belt Covering - End Roller	1
**	674800-0675.00	End Roller Weldment - 1 1/2" B-Loc	1
**	141000-0011	1-1/2" B-Loc Taper Bushing (B106)	2
**	474800-6054.00	End Roller Shaft - 1-1/2" Dia.	1
**	171000-0075	3/16" x .75" grip Pop Rivet	22
16	474800-0419.00	3/4" Threaded Rod - Tensioner	2
17	303100-0203	Comp Spring .5pitch -.343"wire dia x 1.625" od x 6" long	2
18	168000-0090	Flat Washer - 3/4" USS PL	2
19	167000-0675	Jam Nut - 3/4" NC Gr.5 PL	4
20	167000-0835	Hex Nut - 3/4" NC Gr.5 PL	4
21	470000-1055.01	Guide Plate - Spring Tension	2
22	674800-0677.00	D-S. End Bearing Slide - Slave Bed Tensioner	2
23	159400-0594	Hex Bolt - 5/8" NC x 1-1/2" Gr.5 PL	4
24	159400-0720	Hex Bolt 5/8" NC x 4" Gr.5 PL	2
25	474800-0386.00	2" Spacer - Lower Bed	2
26	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	2



# 11 PARTS

## 11.3.1 Conveyor Slave Bed - Lower End



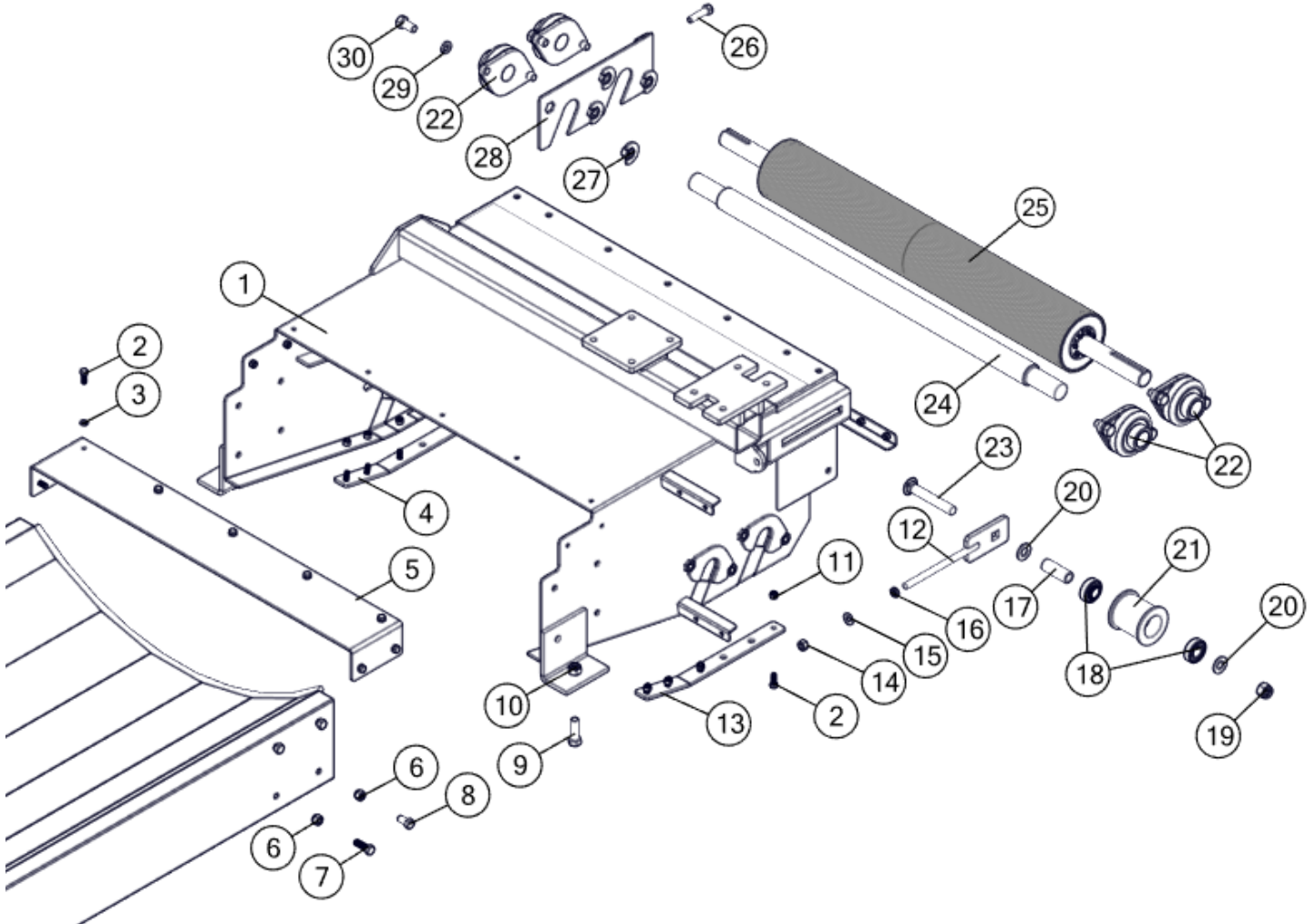
## 11 PARTS

### 11.3.2 Conveyor Slave Bed - Transition

REF #	PART #	DESCRIPTION	QTY
1	674800-0671.00	Transition Panel Weldment - Slave Bed	1
2	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	17
3	168600-0071	Lock Washer - 3/8" PL	9
4	674800-0683.00	P.S. Support Bar - Transition Ass'y - Slave Bed	1
5	474800-1089.00	Bolt-up Top Panel - Transition	1
6	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	8
7	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	2
8	159400-0390	Hex Bolt - 1/2" NC x 1" Gr.5 PL	6
9	159400-0628	Hex Bolt - 5/8" NC x 2" Gr.5	2
10	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	2
11	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	8
12	674800-0626.00	Tensioner	1
13	674800-0682.00	D.S. Support Bar - Transition Ass'y - Slave Bed	1
14	167000-0809	Hex Nut - 1/2" NC Gr.5 PL	1
15	168000-0544	Flat Washer - 1/2" SAE PLTD	1
16	167000-0650	Jam Nut - 1/2" NC Gr.5 PL	2
17	415400-0141.03	Sleeve - 3-1/2" Triple Idler Pulley	1
18	114100-0016	1" Bearing - 52mm Cylindrical OD	2
19	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	1
20	168000-0587	Flat Washer - 3/4" SAE PL	2
21	483100-0655.00	Idler Pulley 3-5/8" OD x 3.25 x 52mm Bore	1
22	114000-0140	1-1/2" - 2 Bolt Flange Bearing	4
23	163100-0150	Carriage Bolt 3/4" NC x 5" Gr.5 PL	1
24	474800-6058.00	Idler Roll 1-15/16" Dia. - Slave Bed	1
25	774800-0640.00	Drive Roller Ass'y - Belt Drive - 1 1/2" B-Loc	1
**	474800-0671.00	Belting - 18" Wide Belt Lagging - Drive Roll Wrap	1
**	674800-0676.00	Drive Roller Weldment - 1 1/2" B-Loc	1
**	141000-0011	1-1/2" B-Loc Taper Bushing (B106)	2
**	474800-6057.00	Drive Roller Shaft - 1 1/2" B-loc - Slave Bed	1
**	171000-0075	3/16" x .75" grip Pop Rivet	46

## 11 PARTS

### 11.3.2 Conveyor Slave Bed - Transition



REF #	PART #	DESCRIPTION	QTY
26	159600-0420	Hex Bolt - Full Thread - 1/2" NC x 2" Gr.5 PL	1
27	674800-0665.00	5/8" Nut Weldm't - Roller Bearing Slide	4
28	674800-0693.00	Double Bearing Slide - Slave Bed - 2021	1
29	168600-0120	Lock Washer - 5/8" PL	4
30	159400-0586	Hex Bolt 5/8" NC x 1-1/4" GR5 PL	8

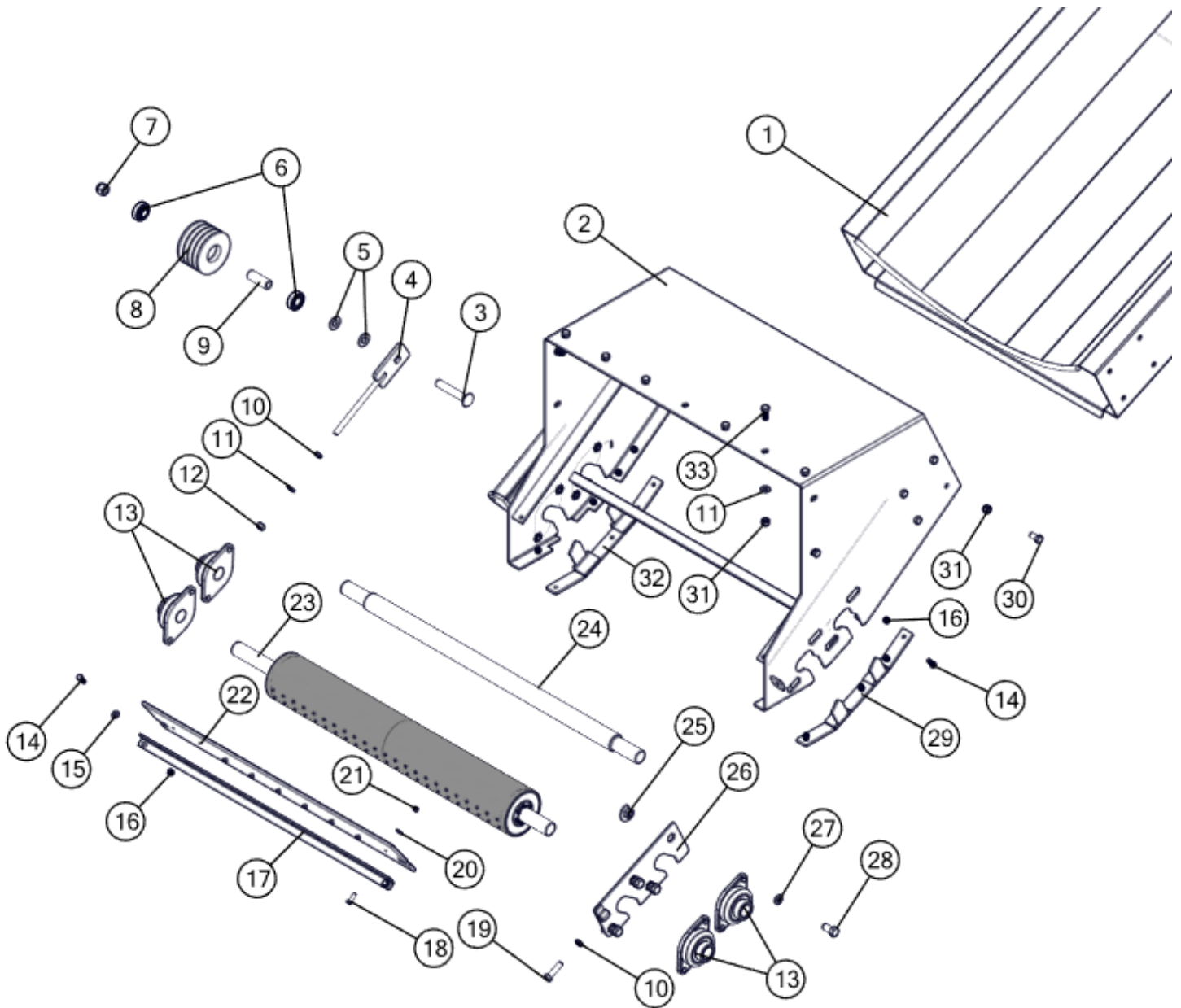
## 11 PARTS

### 11.3.3 Conveyor Incline Bed - Lower Section

REF #	PART #	DESCRIPTION	QTY
1	674800-0686.00	Incline Bed w/ Hood Weldment	1
2	674800-0692.01	Incline Bed Connector Weldm't	1
3	163100-0145	Carriage Bolt - 3/4" NC x 4-1/2" Gr.5 PL	1
4	674800-0626.00	Tensioner	1
5	168000-0587	Flat Washer - 3/4" SAE PL	2
6	114100-0016	1" Bearing - 52mm Cylindrical OD	2
7	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	1
8	124000-0054	4-Groove Idler Pulley 4.9" (4B5V49)	1
9	415400-0141.03	Sleeve - 3-1/2" Triple Idler Pulley	1
10	167000-0650	Jam Nut - 1/2" NC Gr.5 PL	2
11	168000-0544	Flat Washer - 1/2" SAE PLTD	12
12	167000-0809	Hex Nut - 1/2" NC Gr.5 PL	1
13	114000-0140	1-1/2" - 2 Bolt Flange Bearing	4
14	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	10
15	168000-0540	Flat Washer - 3/8" SAE	2
16	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	10
17	474800-6070.00	Belting Mounting Bracket	1
18	159300-0735	Hex Bolt - 5/16" NC x 1" Gr.5 PL	9
19	159600-0420	Hex Bolt - Full Thread - 1/2" NC x 2" Gr.5 PL	1
20	168000-0040	Flat Washer - 5/16" USS PL	9
21	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	9
22	474800-6071.00	Belting 3/16" X 6" X 37.5"	1
23	774800-0642.00	Drive Roller Ass'y - Belt Drive - 1 1/2" B-Loc - Incline Bed	1
**	474800-0671.00	Belting - 18" Wide Belt Lagging - Drive Roll Wrap	1
**	674800-0676.00	Drive Roller Weldment - 1 1/2" B-Loc	1
**	141000-0011	1-1/2" B-Loc Taper Bushing (B106)	2
**	474800-6076.00	Drive Roller Shaft - Incline Bed	1
**	171000-0075	3/16" x .75" grip Pop Rivet	46
24	474800-6058.00	Idler Roll 1-15/16" Dia. - Slave Bed	1
25	674800-0665.00	5/8" Nut Weldm't - Roller Bearing Slide	4
26	674800-0679.00	Double Bearing Slide - Incline Bed - 2021	1
27	168600-0120	Lock Washer - 5/8" PL	8

# 11 PARTS

## 11.3.3 Conveyor Incline Bed - Lower Section



REF #	PART #	DESCRIPTION	QTY
28	159400-0586	Hex Bolt 5/8" NC x 1-1/4" GR5 PL	8
29	674800-0694.00	D.S. Support Bar - Transition Ass'y - Incline Bed	1
30	159400-0390	Hex Bolt - 1/2" NC x 1" Gr.5 PL	8
31	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	19
32	674800-0695.00	P.S. Support Bar - Transition Ass'y - Incline Bed	1
33	159400-0395	Hex Bolt 1/2" NC x 1-1/4" Gr.5 PL	11

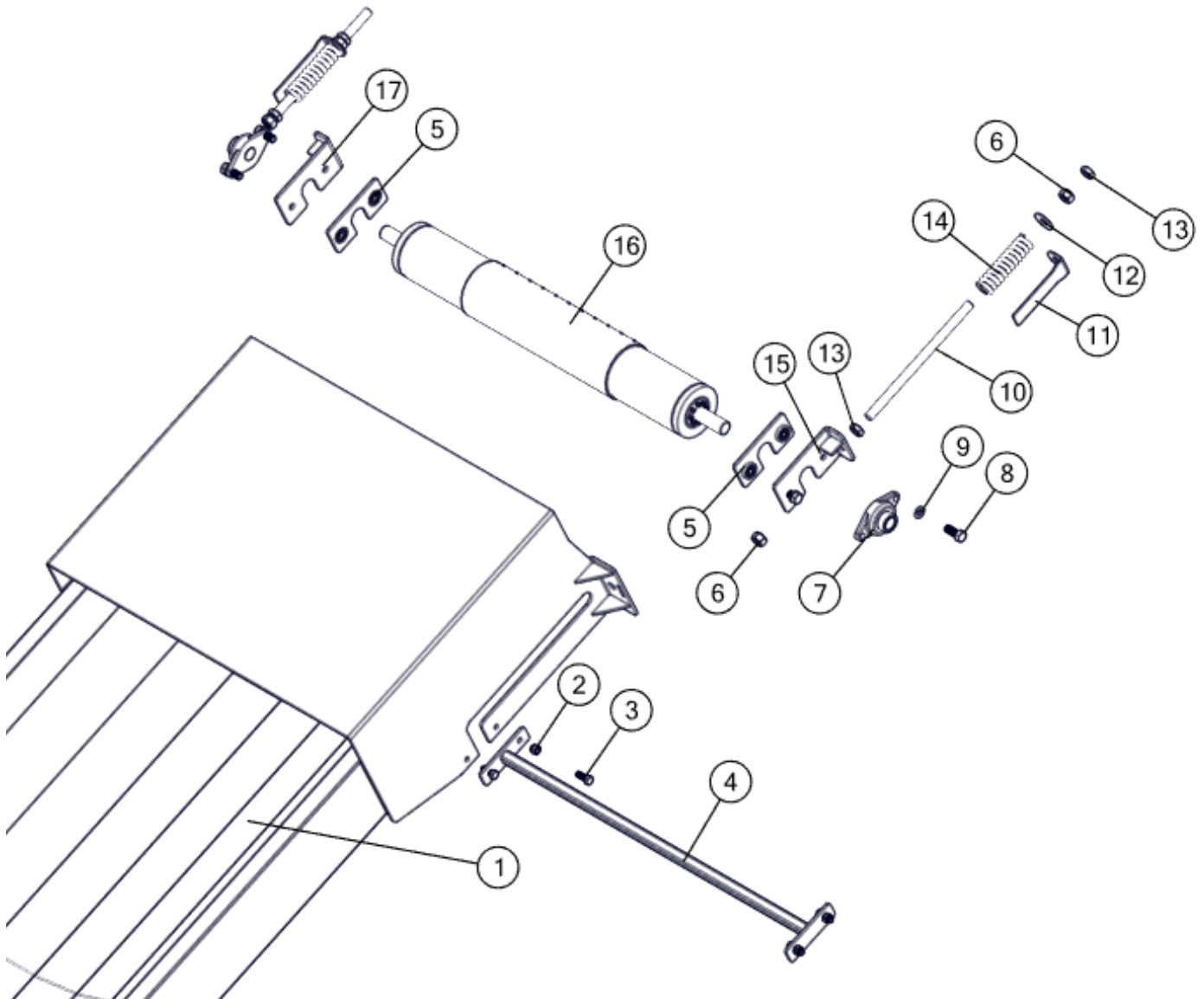
## 11 PARTS

### 11.3.4 Conveyor Incline Bed - Upper Section

REF #	PART #	DESCRIPTION	QTY
1	674800-0686.00	Incline Bed w/ Hood Weldment	1
2	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	4
3	159400-0395	Hex Bolt - 1/2" NC x 1-1/4" Gr.5 PL	4
4	674800-0691.00	Spreader Bar - Discharge Hood	1
5	674800-0680.01	Bearing Bolt Plate Weldment - 2021	2
6	167000-0835	Hex Nut - 3/4" NC Gr.5 PL	4
7	114000-0140	1 1/2" SHAFT / 2 BOLT FLANGE BEARING	2
8	159400-0594	Hex Bolt - 5/8" NC x 1-1/2" Gr.5 PL	4
9	168600-0120	Lock Washer - 5/8" PL	4
10	474800-0419.00	3/4" Threaded Rod - Tensioner	2
11	470000-1055.01	Guide Plate - Spring Tension	2
12	168000-0090	Flat Washer - 3/4" USS PL	2
13	167000-0675	Jam Nut - 3/4" NC Gr.5 PL	4
14	303100-0203	Comp Spring .5pitch -.343"wire dia x 1.625" od x 6" long	2
15	674800-0690.00	D-S. End Bearing Slide - Incline Bed Tensioner	1
16	774800-0639.00	End Tensioner Roller Ass'y - 1 1/2" B-Loc	1
**	141000-0011	1-1/2" B-Loc Taper Bushing (B106)	2
**	474800-0642.00	Belt Covering - End Roller	1
**	674800-0675.00	End Roller Weldment - 1 1/2" B-Loc	1
**	171000-0075	3/16" x .75" grip Pop Rivet	22
**	474800-6054.00	End Roller Shaft - 1-1/2" Dia.	1
17	674800-0689.00	P-S. End Bearing Slide - Incline Bed Tensioner	1

# 11 PARTS

## 11.3.4 Conveyor Incline Bed - Upper Section



## 11 PARTS

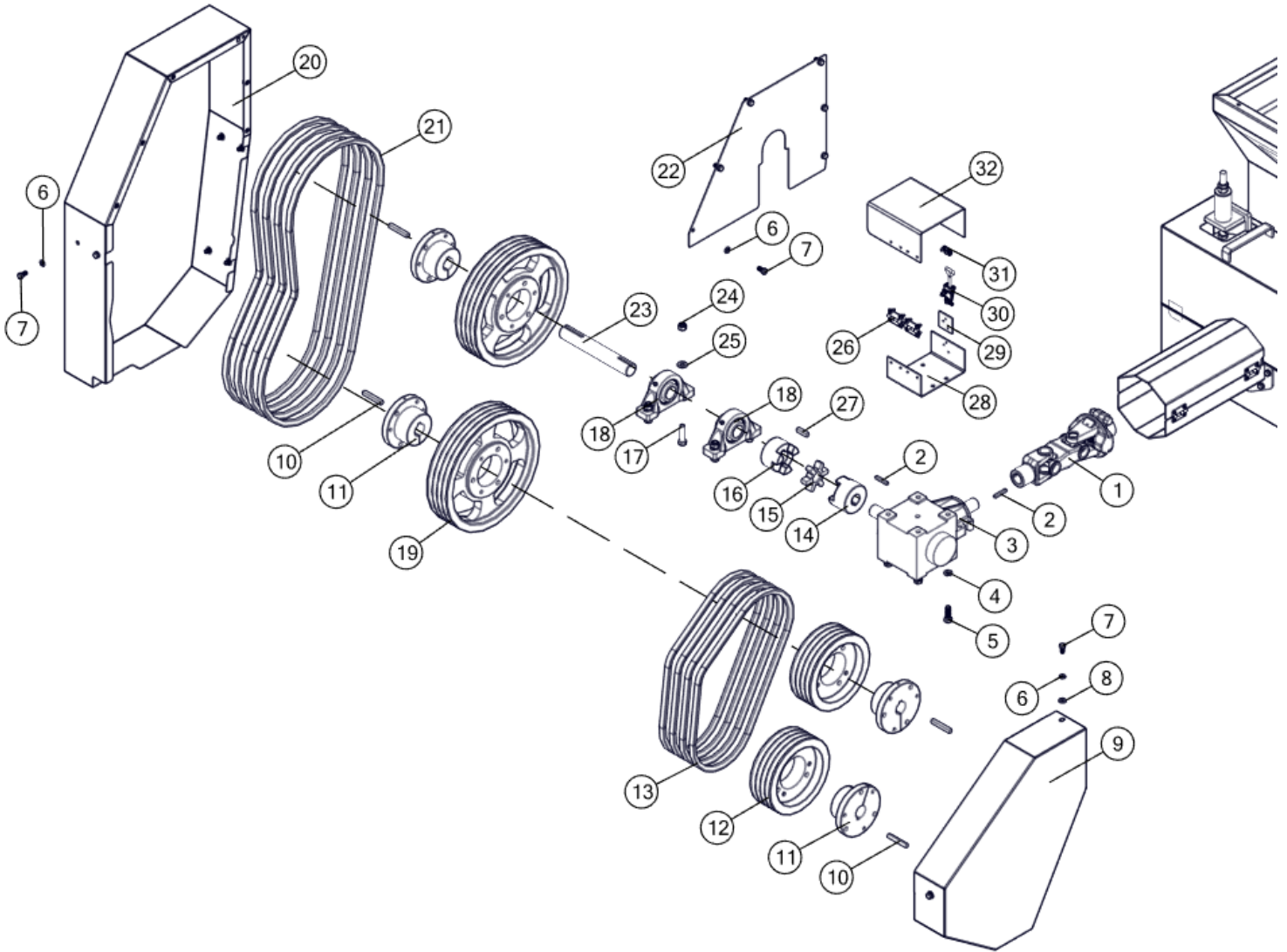
### 11.4 Conveyor Drive

REF #	PART #	DESCRIPTION	QTY
1	375500-0434	Series 35 Double 'U' Joint 1-3/4 20 Spline to 1-1/4" Plain Bore	1
2	414000-0856.00	1/4" Keystock x 1-3/4"	2
3	342100-0500	Gearbox - 500 Series 90°	1
4	168600-0098	Lock Washer - 1/2" PL	4
5	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	4
6	168600-0071	Lock Washer - 3/8" PL	14
7	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	14
8	168000-0540	Flat Washer - 3/8" SAE	6
9	474800-0697.02	Belt Drive Shield - Inclined Bed - Tridem	1
10	414000-0893.00	3/8" Keystock x 2.75"	4
11	142100-0050	Taper Bushing - E108 1-1/2"	4
12	143400-0090	Pulley - 4 Groove 45V900E Bushing	2
13	144400-0540	V-Belt - 5VX540	4
14	110000-0971	Lovejoy Shaft Coupler - L110 1-1/4" Bore	1
15	110000-0975	Lovejoy Insert - L110	1
16	474800-0226.00	Lovejoy Coupler - L110 x 1-1/2" Bore	1
17	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	4
18	114000-0008	1-1/2" Bearing - Pillow Block	2
19	143400-0140	4 Belt Pulley 45V1400E Bushing	2
20	674800-0843.00	Belt Guard Weldment - Primary Conveyor Drive - 2021	1
21	144500-0850	V Belt - 5VX850	4
22	470000-0856.00	Rear Cover - Belt Drive - Conveyor 2018	1
23	474800-6059.00	Jack Shaft - Gbx Conveyor Drive	1
24	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	4
25	168000-0544	Flat Washer - 1/2" SAE PLTD	4
26	153000-0800	Butt Hinge - 2" x 1-1/2"	2
**	159300-0501	Stove Bolt - #10-24 x 5/8"	8
**	167000-0520	Hex Nut - #10-24 PL	8
27	414000-0895.00	3/8" Keystock x 1.5"	1
28	474800-0680.00	Bottom Mount Bracket	1
29	480900-0253.00	Lap Flat	1



# 11 PARTS

## 11.4 Conveyor Drive



REF #	PART #	DESCRIPTION	QTY
30	414000-0873.00	4.7" Overcenter Latch	1
**	159300-0521	10-24 x 5/8" Stove Bolt	3
**	167000-0520	Hex Nut - #10-24 PL	3
31	154000-0141	Catch - Overcenter Latch - 4.7"	1
**	159300-0521	10-24 x 5/8" Stove Bolt	2
**	167000-0520	Hex Nut - #10-24 PL	2
32	474800-0681.00	Top Guard Bracket	1

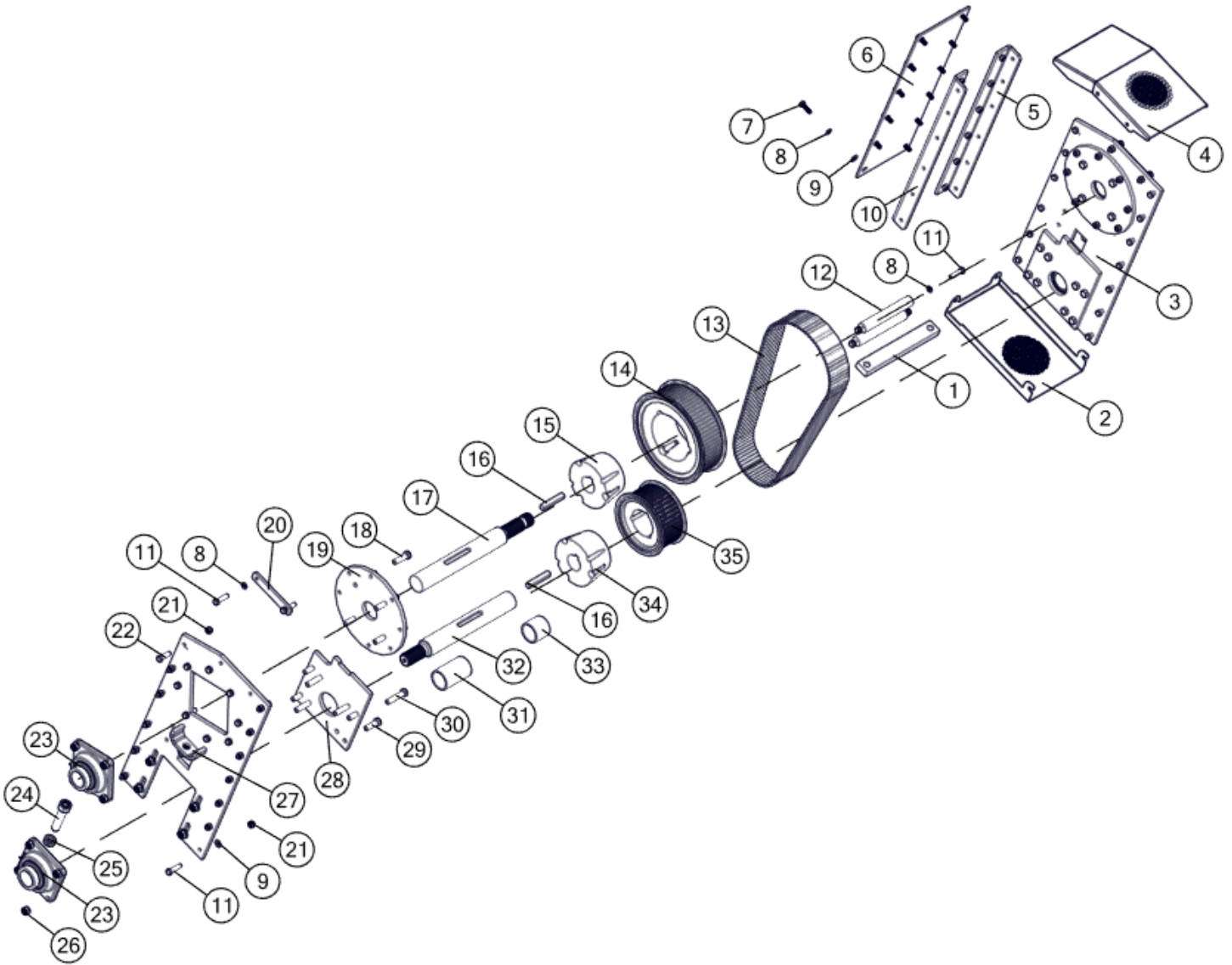
## 11 PARTS

### 11.5 Main Drive Box

REF #	PART #	DESCRIPTION	QTY
1	470000-0373.00	push bar - transfer case	1
2	674800-0790.00	Bottom Cover - Transfer Box - Tridem 2018	1
3	674800-0779.00	Rear Panel Weldmt - Transfer Box 2018	1
4	674800-0782.00	Top Cover - Transfer Box 2018	1
5	674800-0781.00	Rear Side Bracket Weldmt - Transfer Box 2018	1
6	470000-0461.01	Cover Panel - Transfer Box 2018	1
7	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	2
8	168600-0098	Lock Washer - 1/2" PL	36
9	168000-0544	Flat Washer - 1/2" SAE PLTD	4
10	674800-0780.00	Front Side Bracket Weldmt - Transfer Box 2018	1
11	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	10
12	470000-0396.00	Spacing Leg - Transfer Box	2
13	144700-0747	14M-1890-90 Timing Belt	1
14	143600-0021	14MX-75S-90 (4030 Bushing)	1
15	142500-0102	Taper-Lock Bushing - 2-7/16" Bore (4030)	1
16	470000-0842.00	5/8" x 4" KS - Transfer Box 2018	2
17	470000-0927.01	Output Shaft - Transfer Box - Main Drive - 48T	1
18	159400-0634	Hex Bolt 5/8" NC x 2-1/4" Gr.5 PL	12
19	674800-0789.00	Bearing Mount Plate Weldm't - Transfer Box 2018	2
20	470000-0383.00	spacer bar	2
21	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	26
22	159400-0410	Hex Bolt - 1/2" NC x 1-3/4" Gr.5 PL	40
23	114000-0253	NTN 2-7/16" 4 BOLT FLANGE BEARING	4
24	670000-0166.00	Stop Bolt 1" NF x 4-1/2" Full Thread	2
25	167000-0697	Jam Nut - 1" NF RH Gr.5 BL	2
26	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	24
27	674800-0778.00	Front Panel Weldmt - Transfer Box 2018	1
28	470000-0839.00	Brg Slide Plate - Transfer Box 2018	2
29	159400-0628	Hex Bolt - 5/8" NC x 2" Gr.5	8
30	159600-0530	Hex Bolt - Full Thread - 5/8" NC x 3" Gr.5 PL	4

# 11 PARTS

## 11.5 Main Drive Box



REF #	PART #	DESCRIPTION	QTY
31	470000-1366.00	Front Stop Pipe - Power Tower 43T/75T	1
32	470000-0926.01	Input Shaft - Transfer Box - Main Drive - 48T	1
33	470000-1367.00	Front Stop Pipe - Power Tower 43T/75T	1
34	142500-0101	Taper-Lock Bushing - 2-7/16" Bore (3525)	1
35	143600-0020	14MX-43S-90 (3525 Bushing)	1

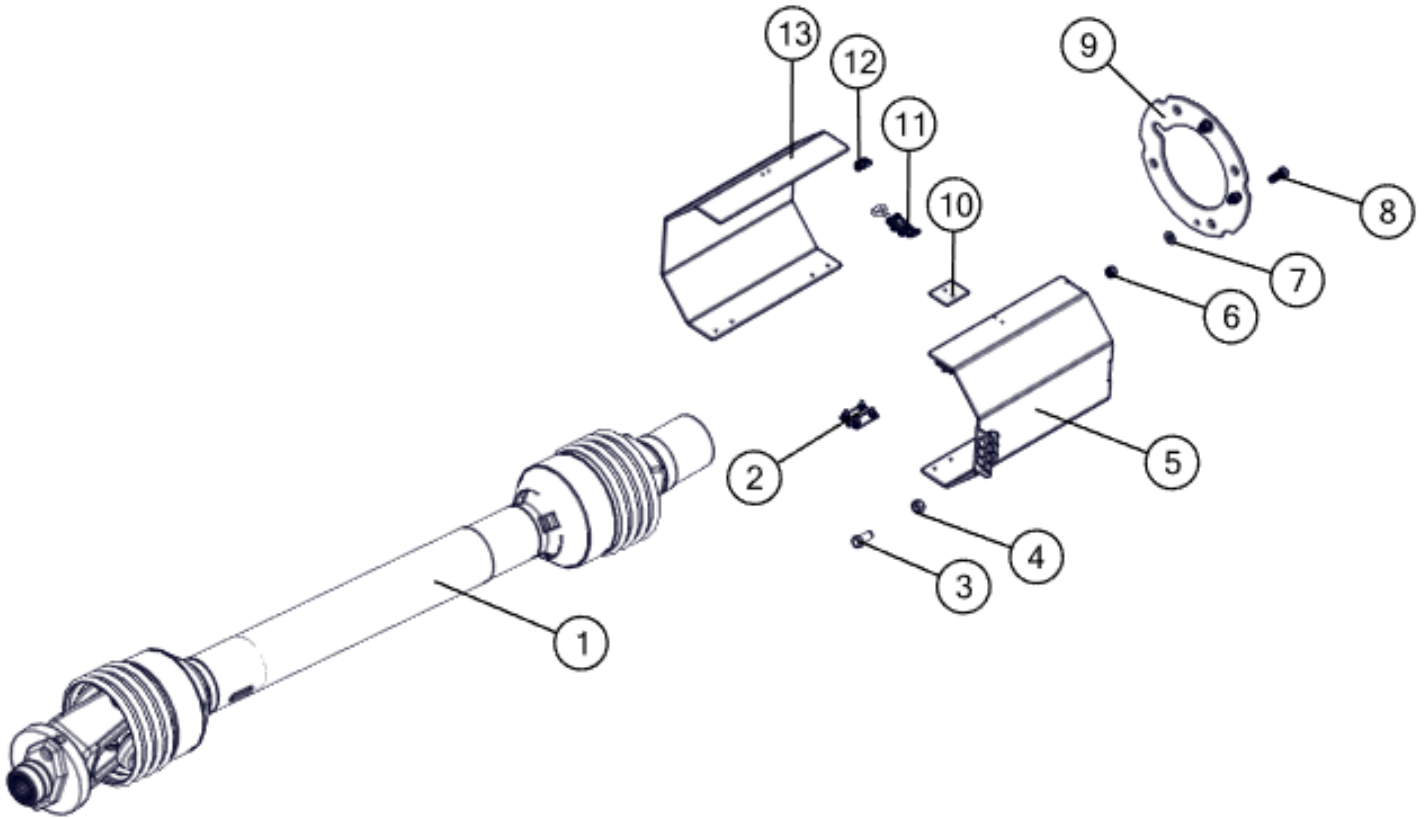
## 11 PARTS

### 11.5.1 PTO Assembly

REF #	PART #	DESCRIPTION	QTY
1	375000-0770	77E Series PTO, O/R Clutch, 1000H 1-3/4-20 Spline Input w/ Shear	1
2	153000-0800	Butt Hinge - 2" x 1-1/2"	2
**	159300-0501	Stove Bolt - #10-24 x 5/8"	8
**	167000-0520	Hex Nut - #10-24 PL	8
3	159400-0110	Hex Bolt 7/16" NC x 1"	4
4	167200-0414	Top Lock Nut 7/16" NC	4
5	470000-0934.01	PTO Shield - 48 Tandem Transfer Box	1
6	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	3
7	168000-0540	Flat Washer - 3/8" SAE	2
8	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	3
9	470000-0464.01	Bolt Plate - PTO Shield - Tridem 2018	1
10	414000-0906.01	Lap Flat	1
11	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
12	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
13	470000-0935.00	PTO Shield	1

## 11 PARTS

### 11.5.1 PTO Assembly



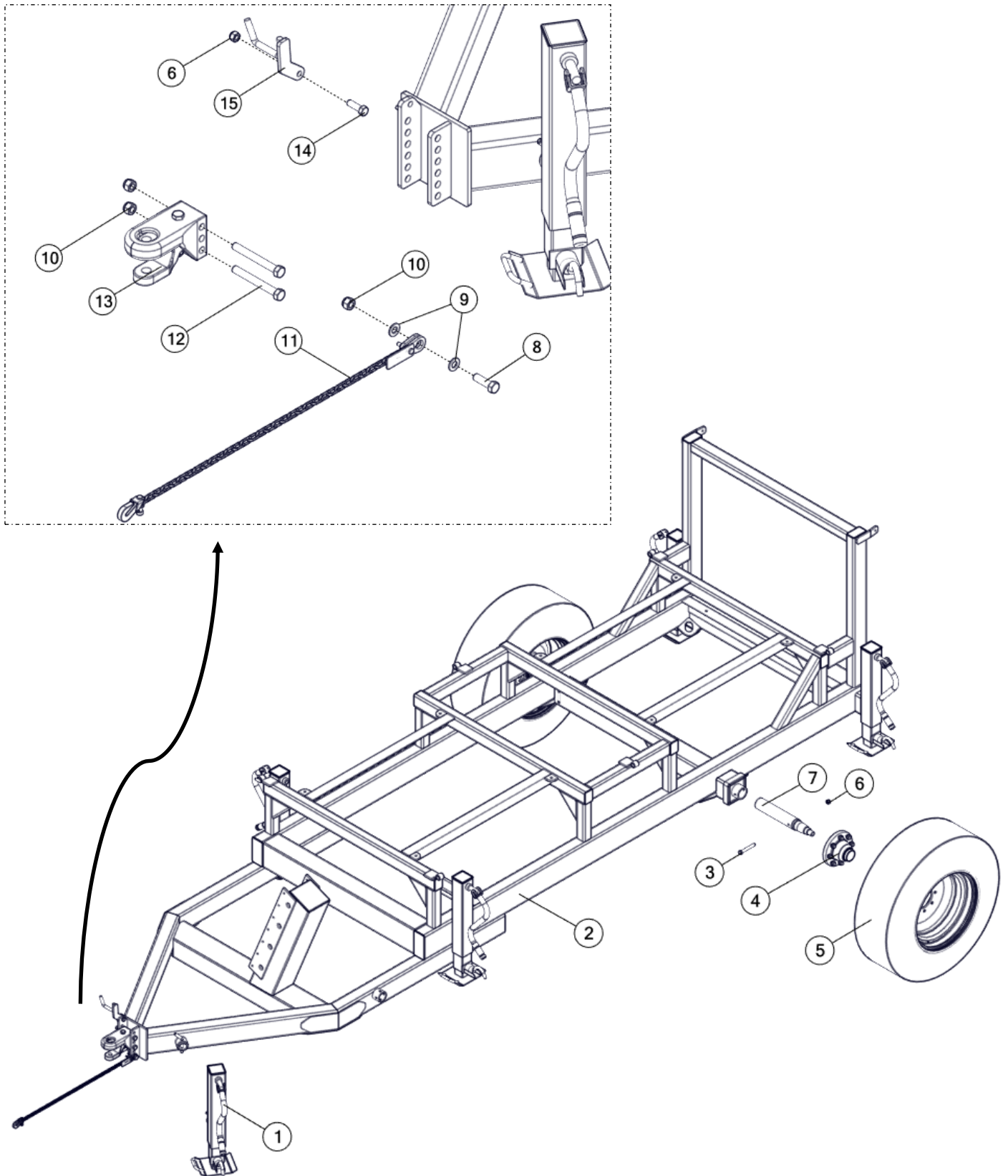
## 11 PARTS

### 11.6 Trailer Assembly

REF #	PART #	DESCRIPTION	QTY
1	674800-0059.00	Jack Weldment - Hitch	1
2	674800-0874.00	Frame Assembly - Tandem 2022	1
3	159400-0730	Hex Bolt - 5/8" NC x 5" Gr.5	2
4	340800-0813	10K, 8 on 8 x 6 Hub Ass'y Complete	2
5	100100-0622	Tire & Rim - 385/65R22.5 8-BOLT	2
6	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	3
7	474800-0788.00	Spindle - 10 000 LB 3"DIA	2
8	159400-0806	Hex Bolt - 3/4" NC x 2-1/2" Gr.5 PL	1
9	168000-0587	Flat Washer - 3/4" SAE PL	2
10	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	3
11	140000-0490	Safety Chain	1
12	159400-0819	Hex Bolt - 3/4" NC x 6-1/2" Gr.5 PL	2
13	343000-0299	Base Hitch/Clevis Assembly Cat. 2	1
14	159400-0628	Hex Bolt - 5/8" NC x 2" Gr.5	1
15	681000-0269.00	PTO Stand	1

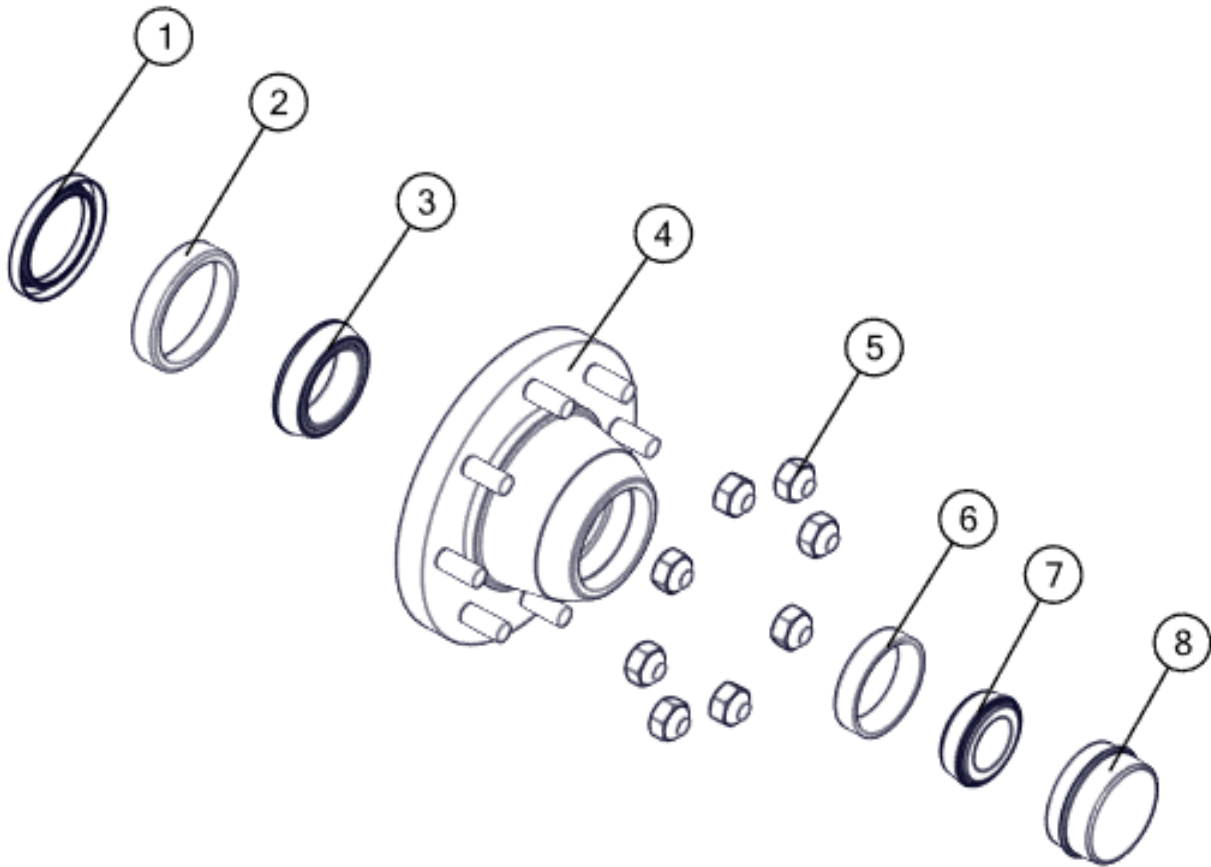
# 11 PARTS

## 11.6 Trailer Assembly



## 9 PARTS

### 11.6.1 813 Hub Assembly



REF #	PART #	DESCRIPTION	QTY
1	340100-0050	Grease Seal	1
2	115000-0053	Inner Cup	1
3	114500-0053	Inner Cone 2.46 dia.	1
4	340000-0813	8 bolt Hub - 10,000 lb complete	1
5	340400-0019	Wheel Nut 5/8" UNF	8
6	115000-0031	Outer Cup	1
7	114500-0031	Outer Cone	1
8	340200-0020	Dust Cap	1



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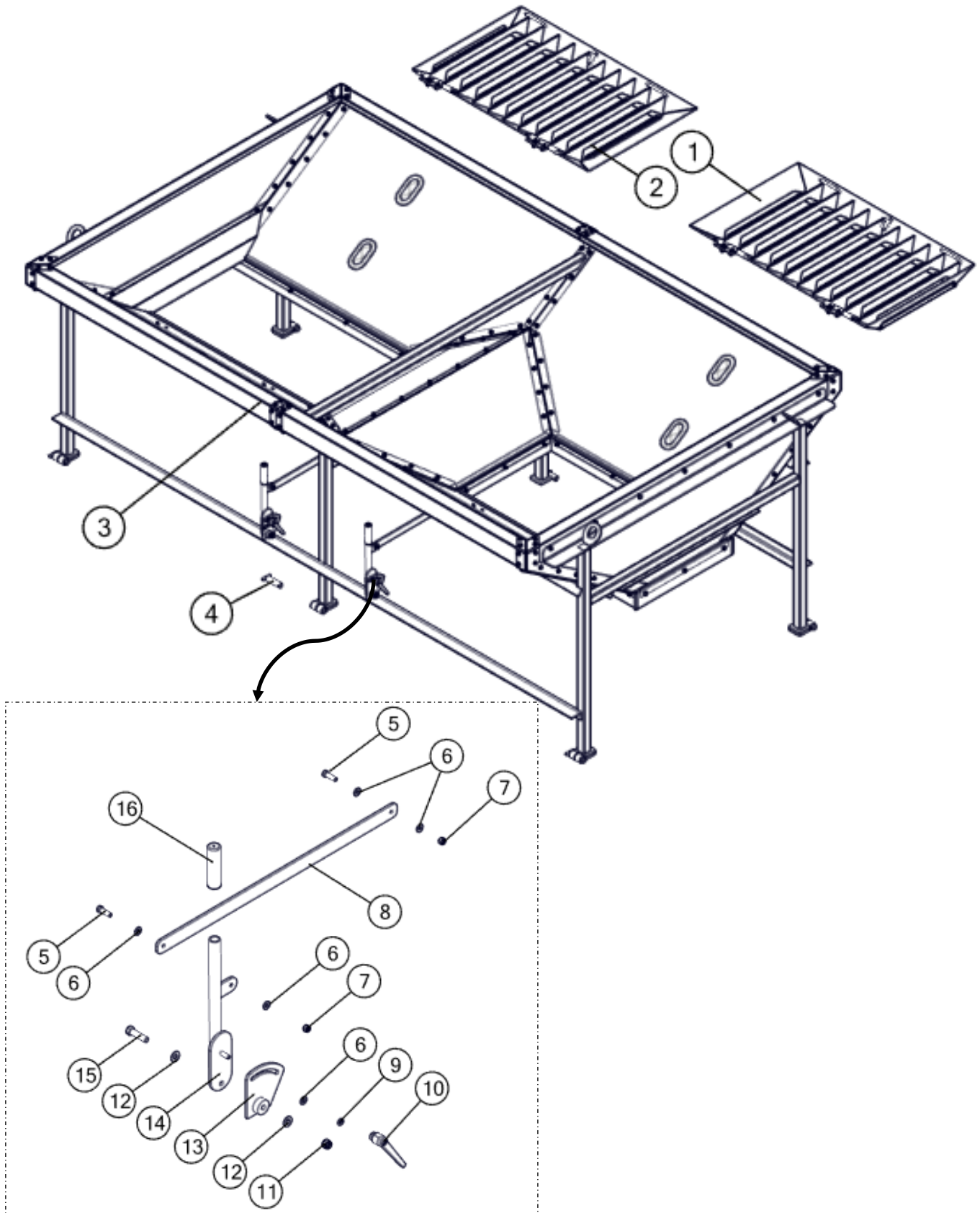
## 11 PARTS

### 11.7 Surge Hopper Assembly

REF #	PART #	DESCRIPTION	QTY
1	674800-0873.00	Front 20" Grate Magnet Weldment - Hinge Style - 2022	1
2	674800-0863.00	Front 20" Grate Magnet Weldment - Hinge Style - 2022	1
3	774800-0979.00	Surge Hopper Assembly - Tandem 2022	1
4	066100-0118	Pin - Surge Hopper Pivot - Tandem/ Tridem	6
5	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	4
6	168000-0540	Flat Washer - 3/8" SAE	10
7	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	4
8	474800-0290.01	Feed Gate Lever Arm	2
9	168600-0071	Lock Washer - 3/8" PL	2
10	154000-0155	Teardrop Clamping Handle Latch	2
11	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	2
12	168000-0544	Flat Washer - 1/2" SAE PLTD	4
13	674800-0100.01	Pivot - Feed Gate Handle Ext.	2
14	674800-0101.00	Feed Mill Grate Handle	2
15	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	2
16	140000-0227	Round Black Vinyl Grip Handle - 1" ID	2

# 11 PARTS

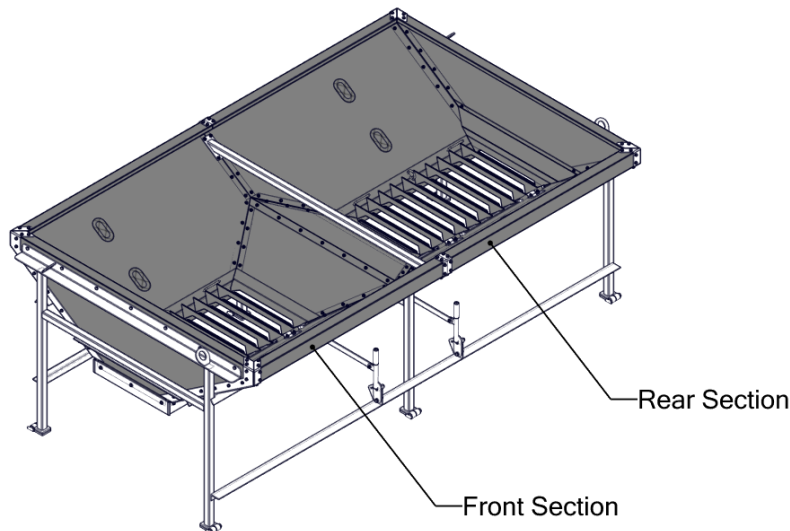
## 11.7 Surge Hopper Assembly



## 11 PARTS

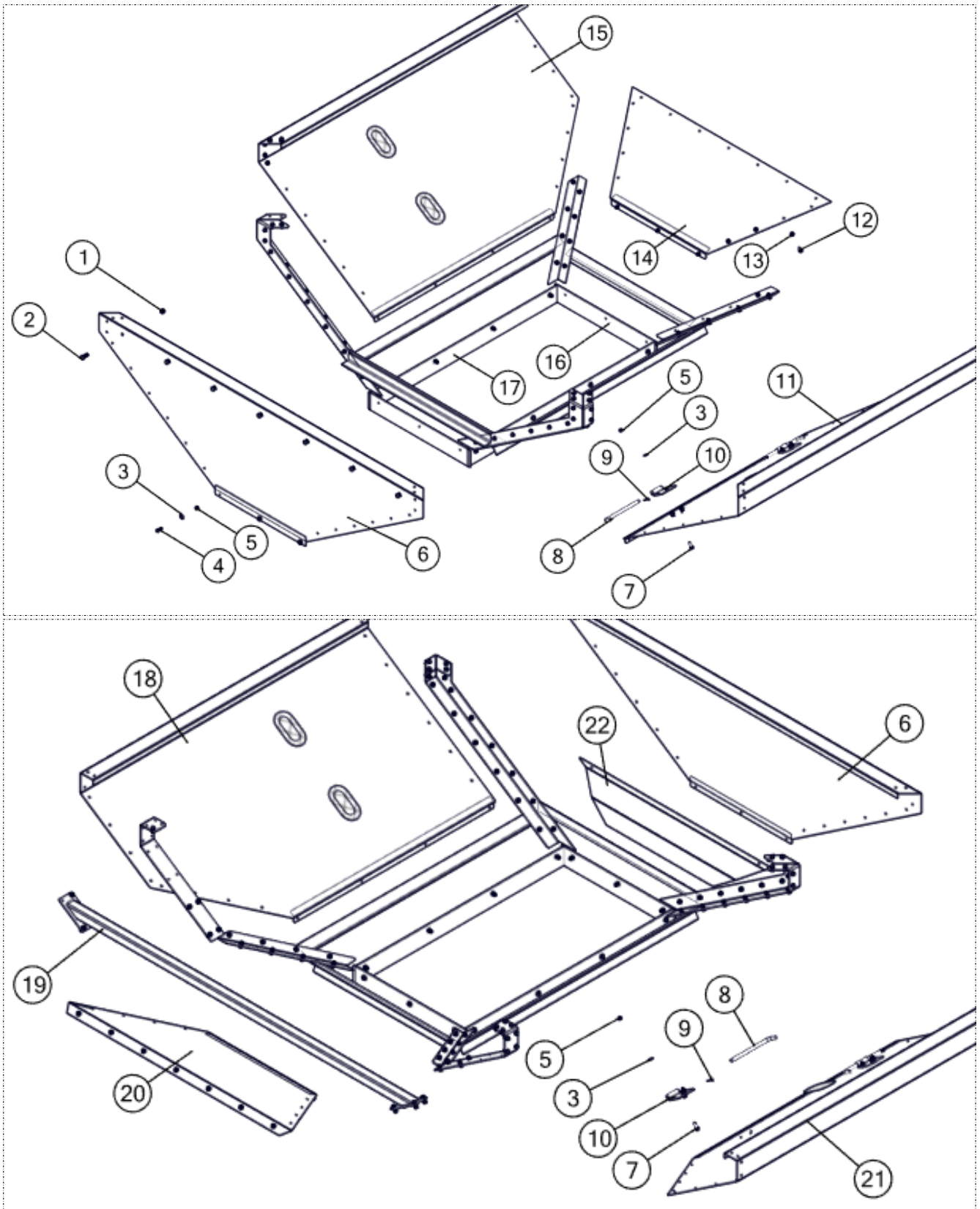
### 11.7.1 Surge Hopper Assembly (774800-0979.00) Cont'd

REF #	PART #	DESCRIPTION	QTY
1	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	14
2	159400-0395	Hex Bolt - 1/2" NC x 1-1/4" Gr.5 PL	14
3	168000-0049	Flat Washer - 3/8" USS PL	52
4	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	28
5	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	40
6	674800-0866.00	End Panel Weldment - Surge Hopper - 48 Tandem 2022	2
7	159300-0963	Hex Bolt - Flanged - 3/8" NC x 1" Gr.5 PL	20
8	120000-0500.00	Hinge Rod	4
9	170000-0095	1/8" x 1-1/4" COTTER PIN	4
10	674800-0865.00	Single Hinge Pipe - Grate Magnet - SH- Tandem 2022	4
11	674800-0868.00	DS Panel Weldm't Front - Surge Hopper - 48 Tandem 2022	1
12	159300-0945	Hex Bolt - Flanged - 3/8" NC x 3/4" Gr.5 PL	151
13	167200-0510	Hex Nut - Flanged - 3/8" NC Gr.5 PL	143
14	674800-0872.00	Center Panel - Surge Hopper - 48 Tandem 2022	1
15	674800-0867.00	PS Panel Weldm't Front - Surge Hopper - 48 Tandem 2022	1
16	474800-1140.00	Front & Rear Grain Containment - 48 Tandem	4
17	474800-1141.00	Side Grain Containment - Tandem 2022	4
18	674800-0869.00	PS Panel Weldm't Rear - Surge Hopper - 48 Tandem 2022	1
19	674800-0757.00	Cross Bar - Surge Hopper - Tandem 2017	1
20	674800-0871.00	Top Center Panel - Surge Hopper - 48 Tandem 2022	1
21	674800-0870.00	DS Panel Weldm't Rear - Surge Hopper - 48 Tandem 2022	1
22	474800-1138.01	End Deflector Plate - Front & Rear - SH - Tandem	2



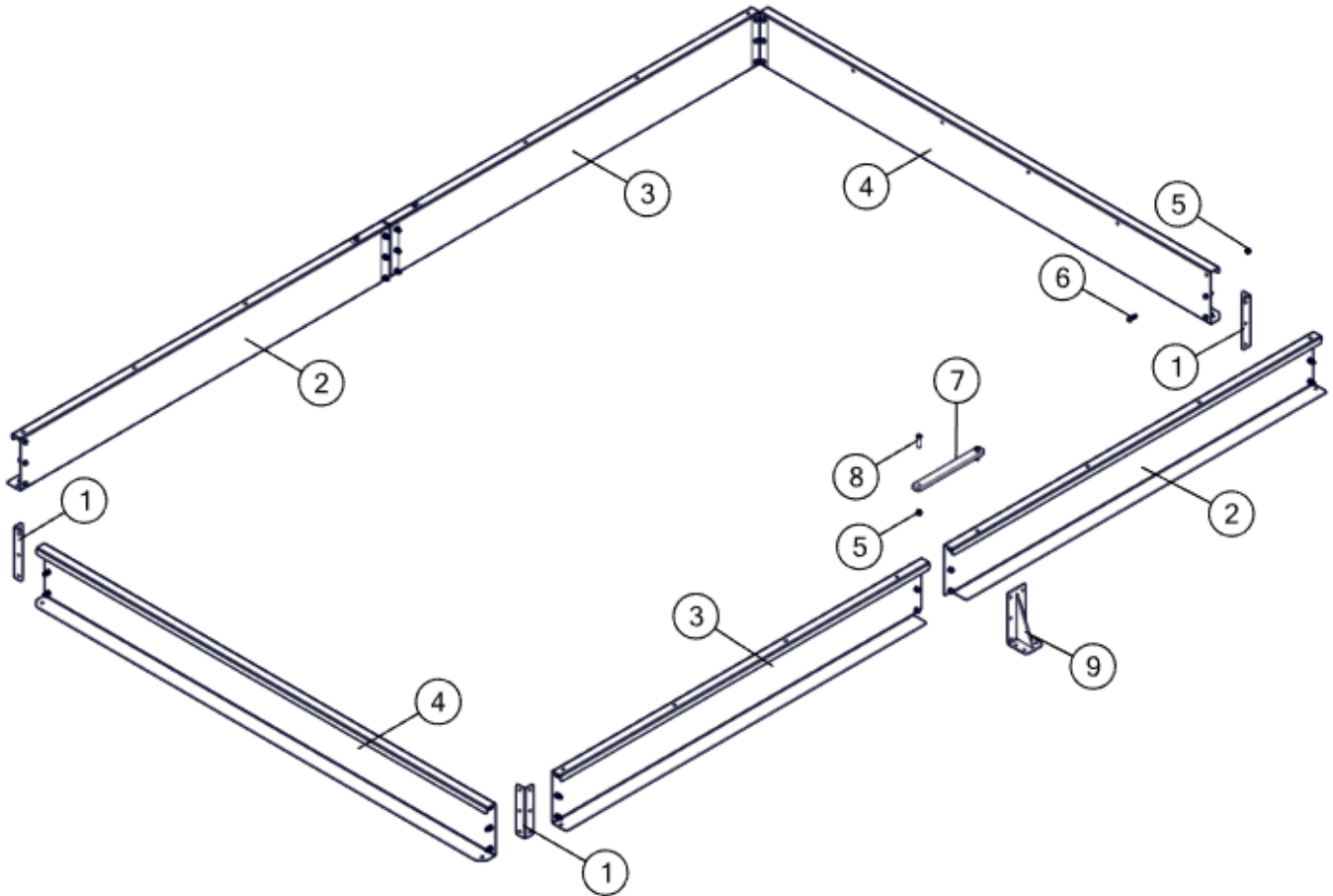
# 11 PARTS

## 11.7.1 Surge Hopper Assembly (774800-0979.00) Cont'd



## 11 PARTS

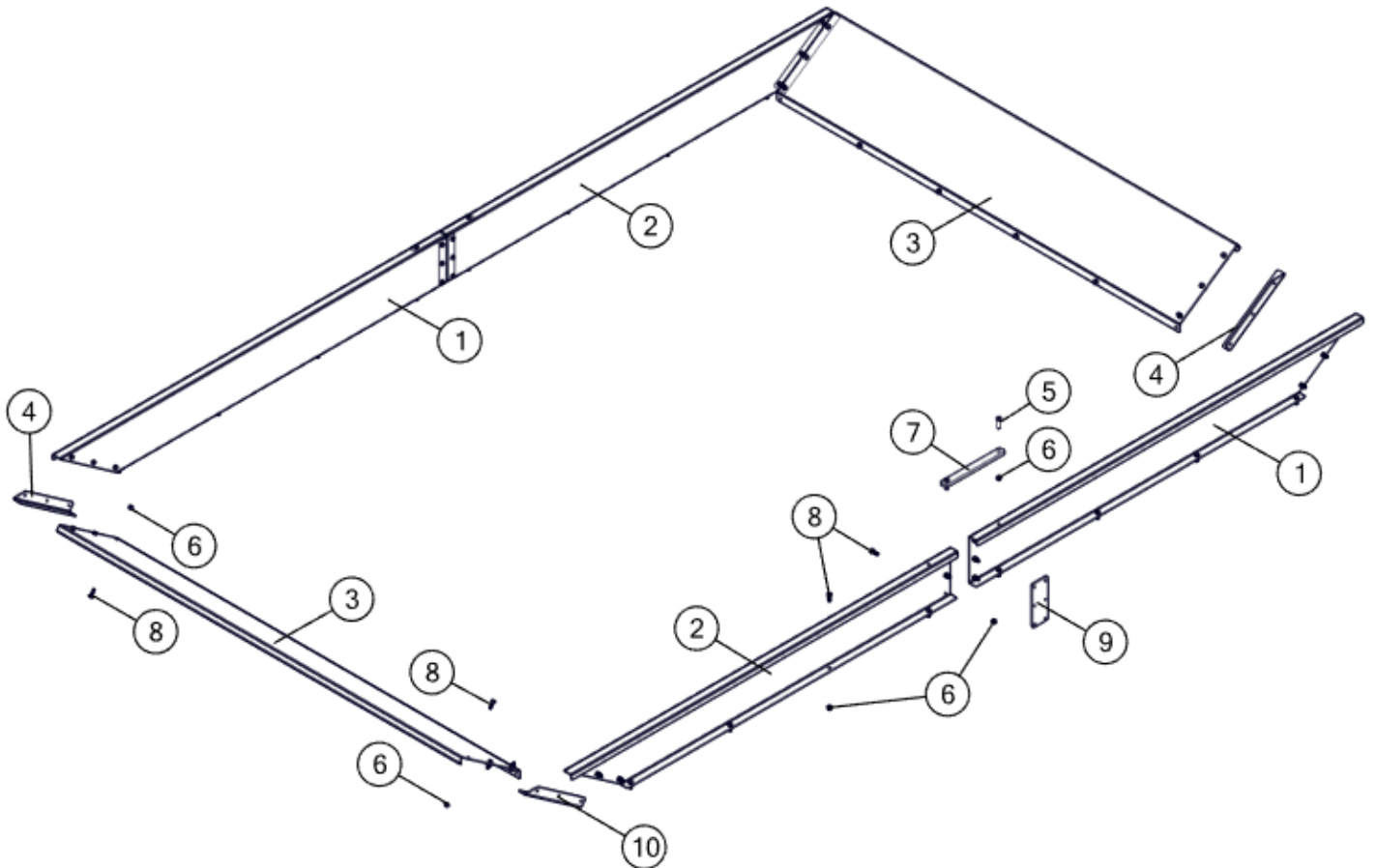
### 11.7.2 Surge Extension (874800-0600.01) Optional



REF #	PART #	DESCRIPTION	QTY
1	470000-0775.00	Corner Bracket - Surge Hopper Ext.	4
2	470000-0772.01	Extension Panel - Side - Right - Tandem Surge Hopper	2
3	470000-0771.01	Extension Panel - Side - Left - Tandem Surge Hopper	2
4	470000-0770.01	Extension Panel - End - Tandem Surge Hopper	2
5	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	40
6	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	36
7	470000-0773.00	Panel Support Bar - Tandem Surge Hopper Extension	2
8	159300-0988	Hex Bolt - 3/8" NC x 1-1/2 Gr.5 PL	4
9	674800-0763.00	Panel Bracket - Extension Hopper - Tandem	2

## 11 PARTS

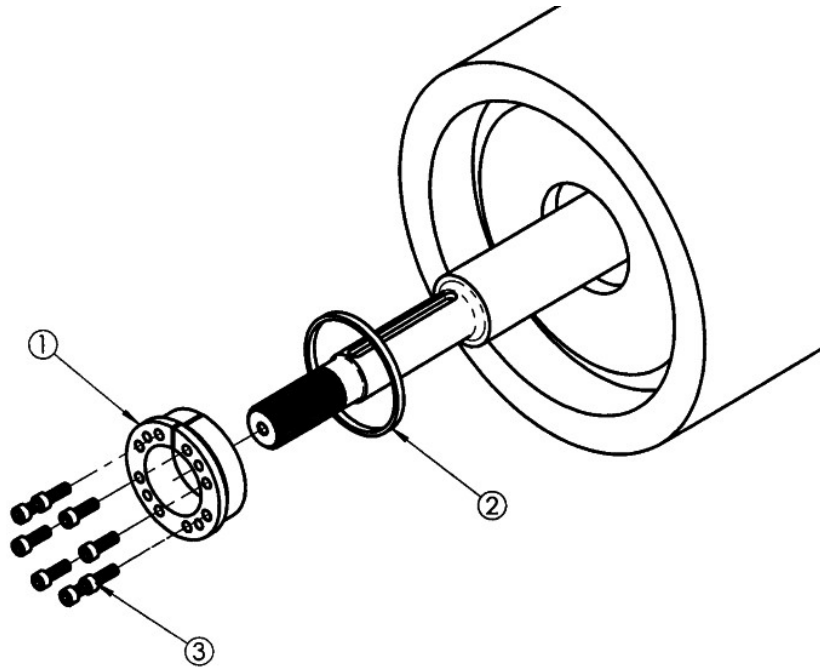
### 11.7.3 Surge Extension (874800-0620.00) Optional



REF #	PART #	DESCRIPTION	QTY
1	470000-1167.00	Extension Panel - Side - top tier	2
2	470000-1163.00	Extension Panel - Side - Left - Tandem Surge Hopper	2
3	470000-1166.00	Extension Panel - End - Tandem Surge Hopper	2
4	470000-1165.00	Corner Bracket - Surge Hopper Ext.	2
5	159300-0988	Hex Bolt - 3/8" NC x 1-1/2 Gr.5 PL	4
6	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	65
7	470000-0773.00	Panel Support Bar - Tandem Surge Hopper Extension	2
8	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	60
9	470000-1168.00	extension bracket - surge hopper - tandem	2
10	470000-1164.00	Corner Bracket - Surge Hopper Ext.	2

## 11 PARTS

### 11.8 Roll Bushing Assembly - B-Loc Bushing



Roll Size Dia. x Length	[ #1 ] B-Loc Hub Part # & I/D	[ #2 ] B-Loc Spacer Ring & Size	[ #3 ] Socket Head Cap Screw (QTY) & Size	Tightening Torque (ft-lbs)
8-5/8" n x 10"	141000-0001 1-3/8"	N/A	(8) 6mm x 1.0 x 20mm	12
10-5/8" n x 16"	141000-0002 1-15/16"	N/A	(7) 8mm x 1.25 x 25mm	30
12 3/4" n x 12"	141000-0003 2-15/16"	141000-0006	(8) 10mm x 1.5 x 30mm	60
16" n x 12"	141000-0002 1-15/16"	N/A	(7) 8mm x 1.25 x 25mm	30
16" n x 18"	141000-0002 1-15/16"	N/A	(7) 8mm x 1.25 x 25mm	30
16" n x 24"	141000-0002 1-15/16"	N/A	(7) 8mm x 1.25 x 25mm	30
16" n x 24H	141000-0004 2-7/16"	N/A	(9) 8mm x 1.25 x 25mm	30
16" n x 30"	141000-0004 2-7/16"	N/A	(9) 8mm x 1.25 x 25mm	30
16" n x 30H	141000-0003 2-15/16"	141000-0006	(8) 10mm x 1.5 x 30mm	60
16" n x 36"	141000-0003 2-15/16"	141000-0006	(8) 10mm x 1.5 x 30mm	60
16" n x 48"	141000-0003 2-15/16"	141000-0006	(8) 10mm x 1.5 x 30mm	60
16" n x 60"	141000-0010 3-7/16"	N/A	(8) 10mm x 1.5 x 30mm	60

Locking screws, taper, shaft & bore contact areas should be clean and lightly oiled, all collar slits should be aligned.

**DO NOT** use Molybdenum Disulfide (e.g. Molykote, Never-Seize or similar lubricants) in any locking assembly.







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