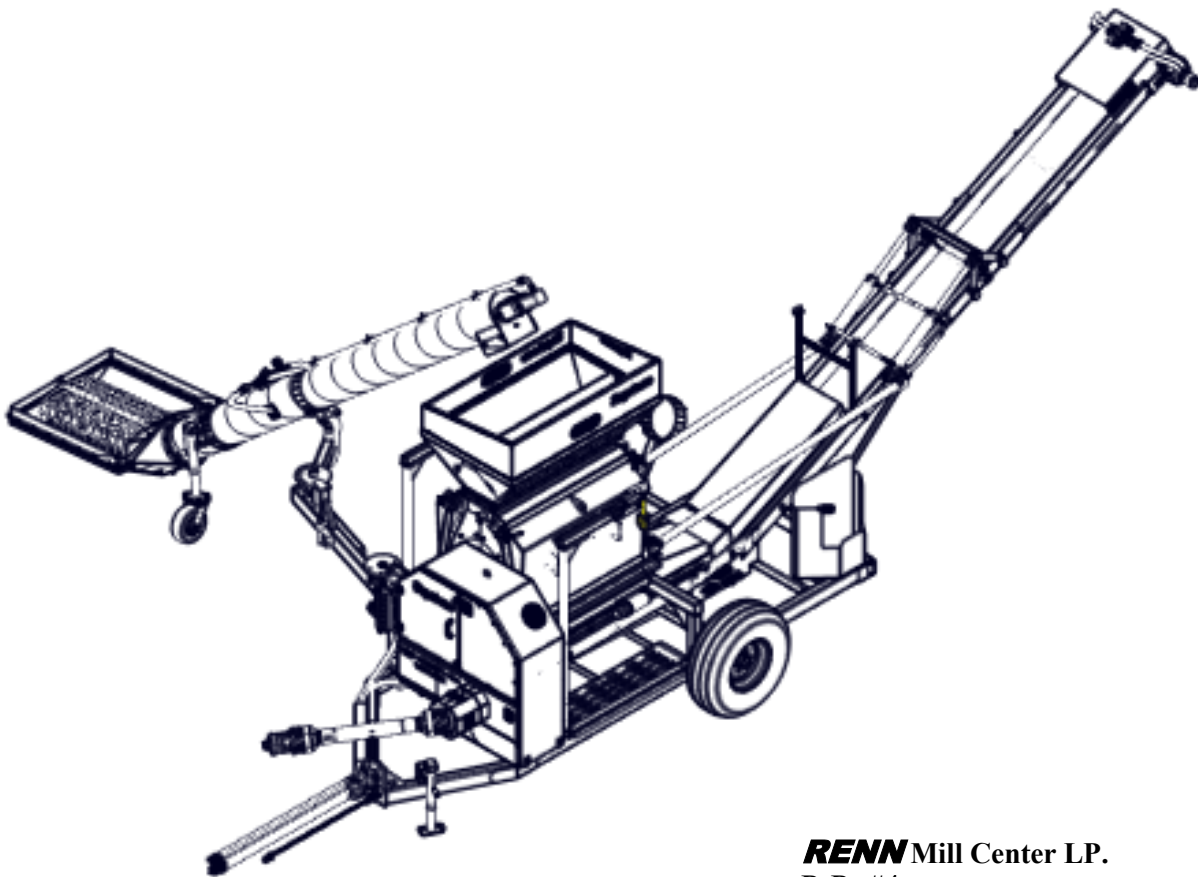




**CONVEYOR MILL
48" HAMMER MILL
18" Hydraulic Folding Conveyor**

**Operator's & Parts Manual
Model No. 974900-0010.04**



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INTRODUCTION

Congratulations on your decision to purchase a Renn Hammer/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 often for correct operating procedure.

The Renn Hammer Mill is designed to give the operator maximum capacity with fixed hammering and grind quality with its rigid mounted hardox hammers. The Renn Hammer Mill is solidly constructed, giving you value for your dollar and a mill that will last.

This manual includes a warranty policy, a safety section, and a lubrication and maintenance schedule. We urge you to read through this information carefully. This will help ensure the safe and trouble-free operation of your 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



• NEW EQUIPMENT WARRANTY

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

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

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

• LIMITATIONS AND EXCLUSIONS

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

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

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

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

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

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

• WARRANTY AND PARTS REPLACED BY WARRANTY

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

• WHAT YOU MUST DO TO ENFORCE THIS WARRANTY

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

• UNAPPROVED SERVICE OR MODIFICATION

All obligations of Renn under this warranty shall be terminated:

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

Accidents and normal maintenance

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

• NO REPRESENTATION OR IMPLIED WARRANTY

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

• IMPROVEMENTS OR CHANGES

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

• WARRANTY CLAIM PROCEDURE

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

• ACKNOWLEDGEMENT REQUIRED

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

IMPORTANT NOTICE

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

LIMITED WARRANTY



BEARING WARRANTY

RENN MILL CENTER INC. WARRANTS THE BEARINGS 60 DAYS FROM START-UP,

NOT TO EXCEED 120 DAYS FROM SHIPMENT.

WARNING: DO NOT OVERFILL THE GREASE RESERVOIR!!!!

Too much grease is as detrimental to the life of a bearing as too little.

AFTER EVERY 700-1000 HOURS OF OPERATION REMOVE THE BEARING CAP, OR IF THE BEARING TEMPERATURE INCREASES, CHECK THE GREASE FOR DISCOLORING, FOREIGN MATERIALS, AND THE AMOUNT OF GREASE. THE GREASE LEVEL SHOULD BE A MINIMUM OF ½ THE WAY UP ON THE BOTTOM THREE ROLLERS, AND NOT HIGHER THAN THE BOTTOM OF THE LABYRINTH SEAL RING

USE A MEDIUM VISCOSITY, LOW TEMPERATURE, CHANNELING, LITHIUM BASE

EP2 GREASE.

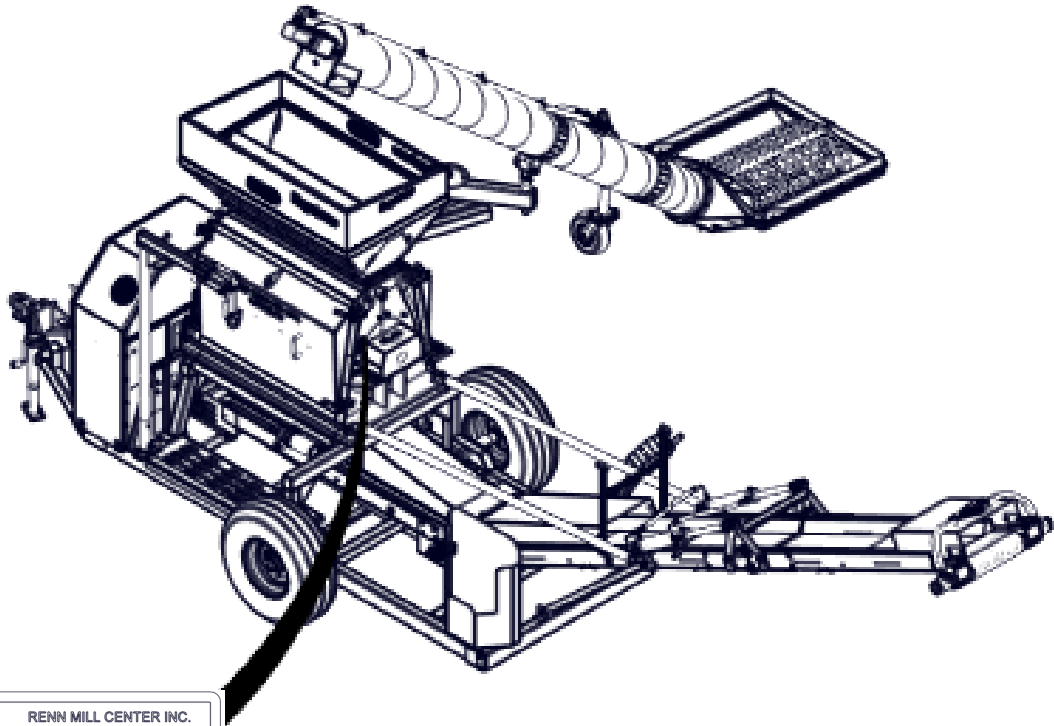
FAILURE TO SERVICE BEARINGS WILL VOID WARRANTY.

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 at the back of the hammer mill on the driver's side of the machine.



	RENN MILL CENTER INC. R.R. 4, LACOMBE, ALBERTA, CANADA T4L 2N4 PHONE: 403-784-3518 FAX: 403-784-2060 EMAIL: rennmill@rennmill.com
MODEL	SERIAL NO.
<input type="text"/>	<input type="text"/>
MADE IN CANADA	

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

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

This information is essential when ordering parts for your Renn Hammer Mill.



2 SAFETY

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 Hammer Mill and in the manual. When you see this symbol, be alerted 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 Hammer 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 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 hammer 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.

2 SAFETY



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 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 key from the ignition, 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 pressure from the hydraulic circuit 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



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, rather than your hands, as a shield 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 displayed a safety decal should also display the same decal.
4. Safety decals are available through your authorized Renn Dealer.

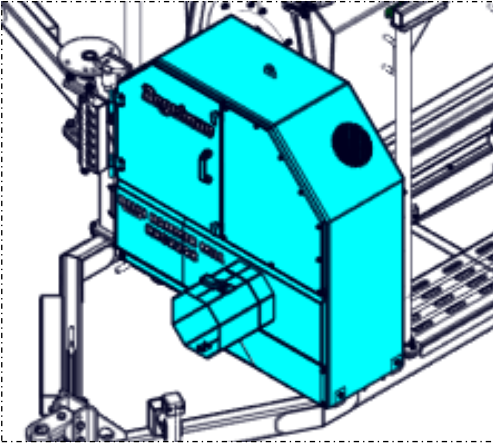
2 SAFETY



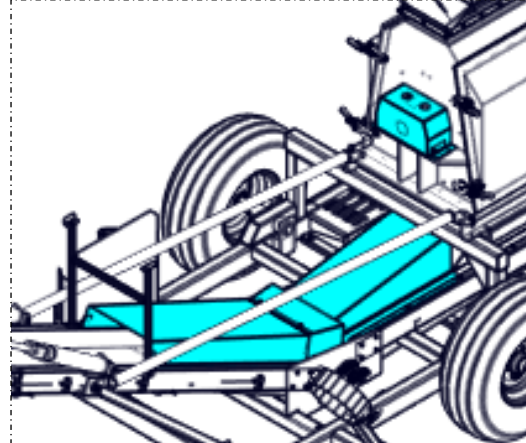
2.7 Safety Shield Placement

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

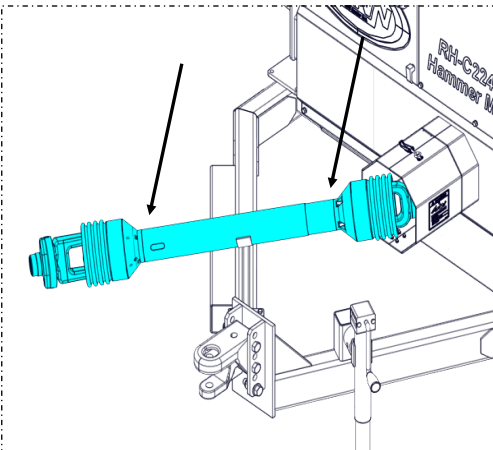
Front Shield



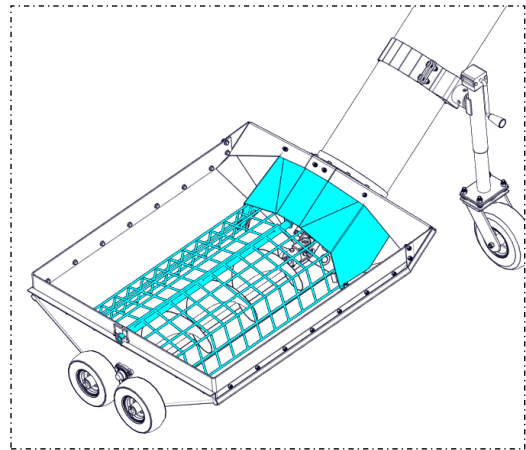
Rear Shield



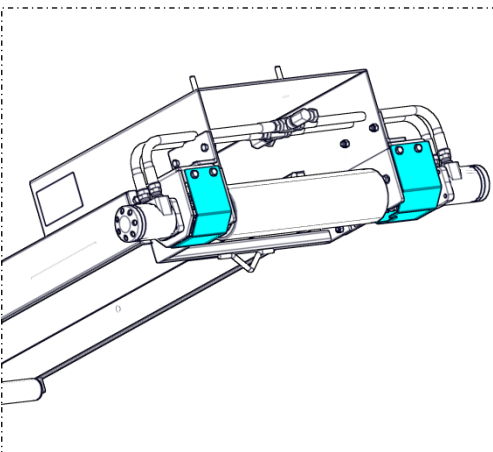
Inspection Plate



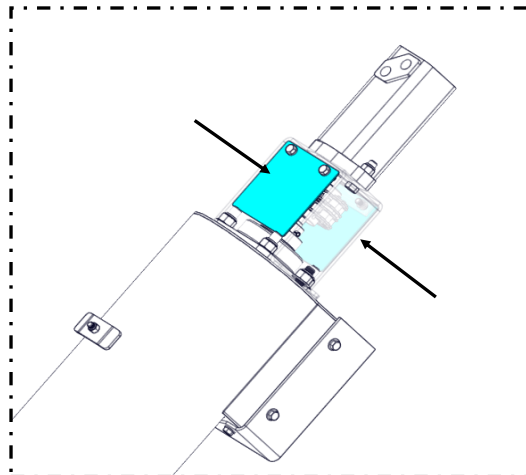
Feed Auger Intake Shield



Conveyor Coupling Chain Covers



Auger Coupling Chain Covers



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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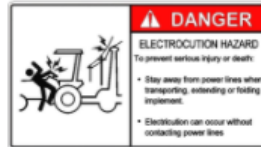
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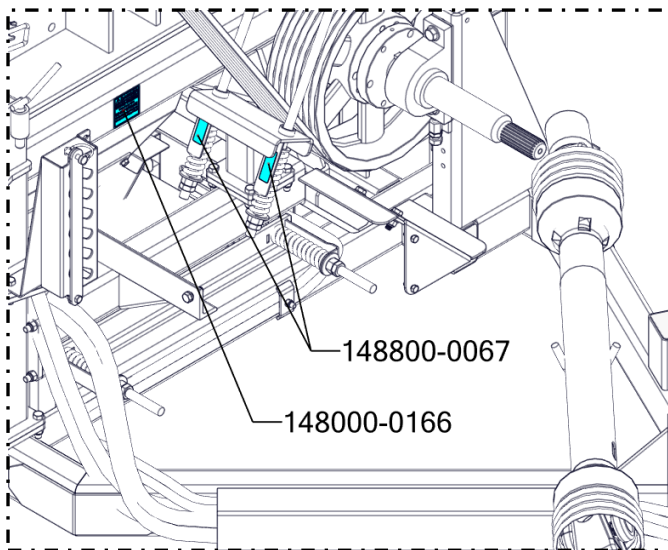
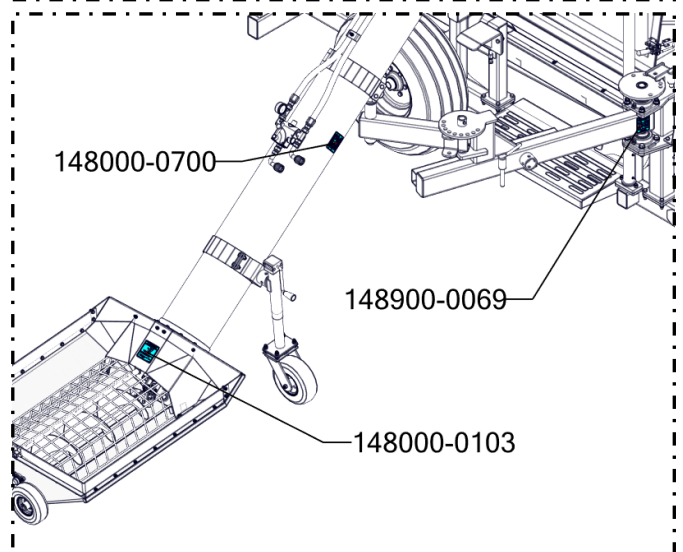
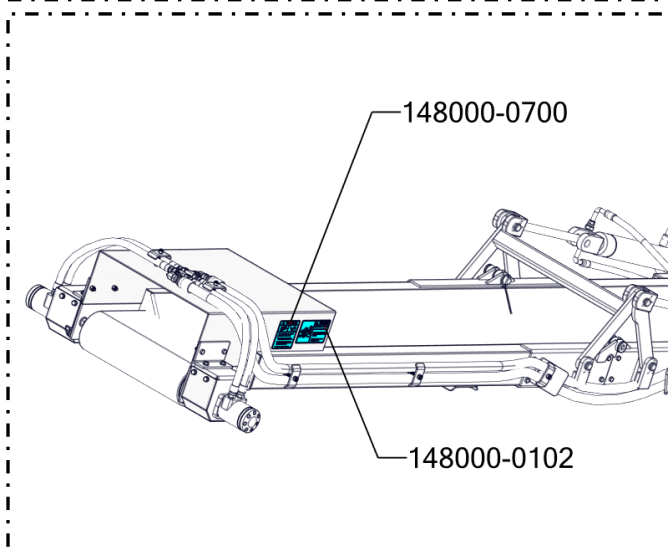
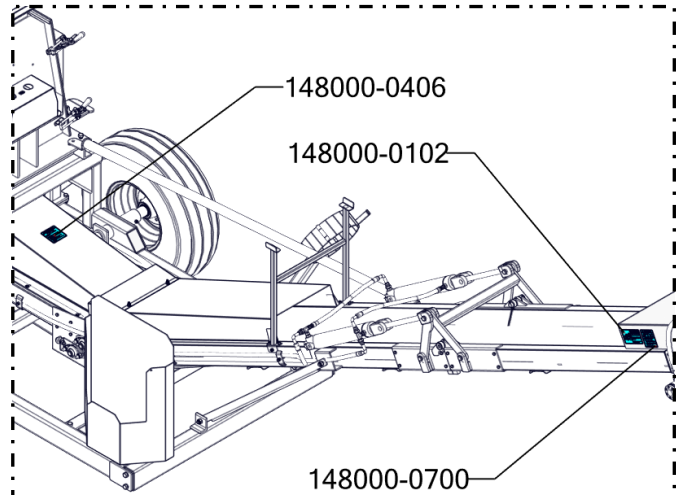
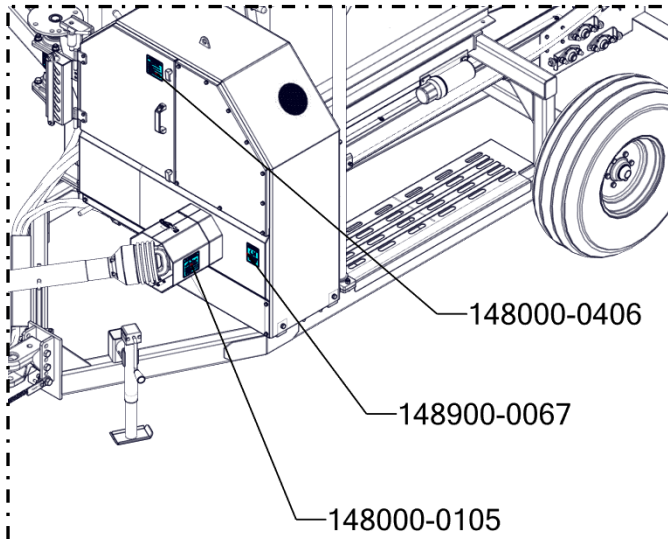


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REMEMBER - If safety decals have been damaged, removed, or become illegible, or if parts have been replaced that do not contain safety decals where there were some previously, new decals must be applied. New safety decals are available from your authorized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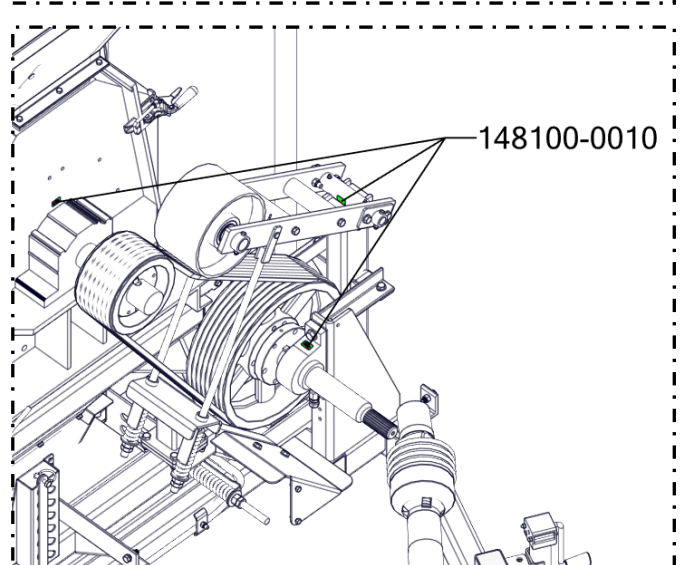
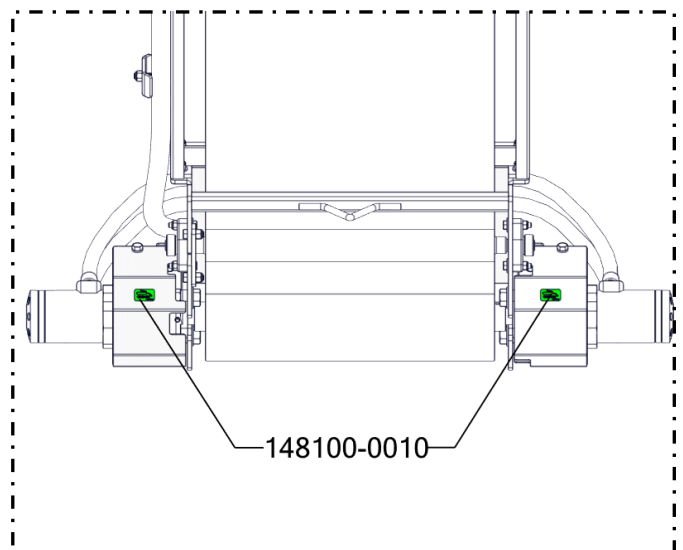
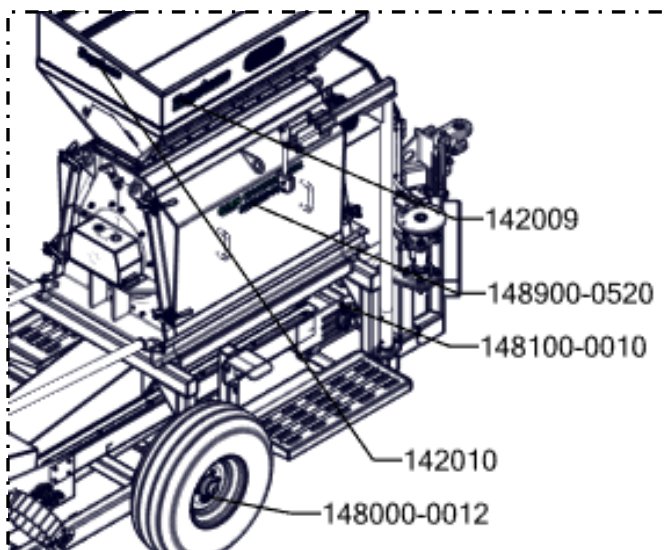
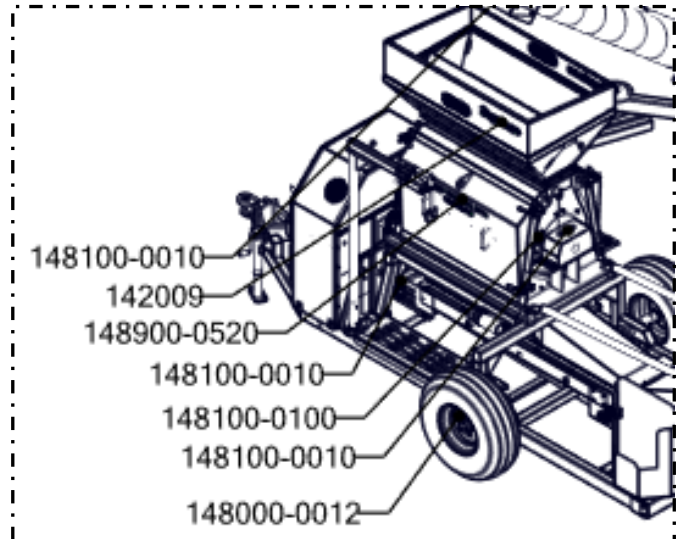
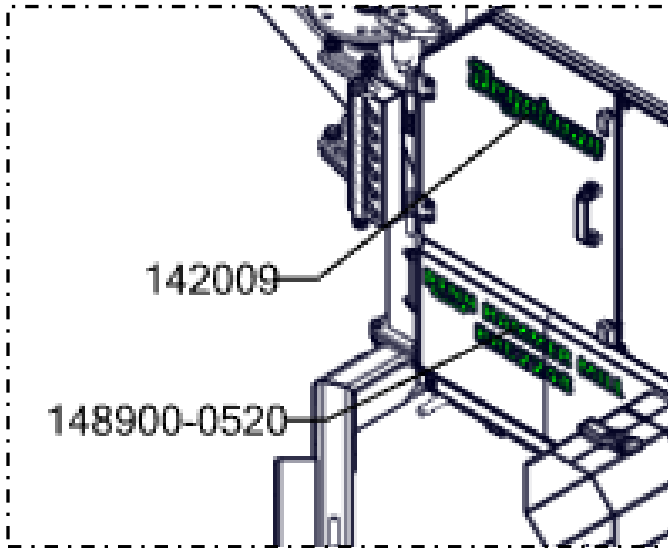
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3 DECAL LOCATIONS

3.2 Information Decal Locations



4 OPERATION

4.1 To the New Operator or Owner

The Renn Hammer Mill is designed to receive dry grain from an auger, process it, and deposit it via the discharge 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 hammer mill will provide you with many years of trouble-free service.

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

4.2 Before You Begin

Read the set-up instructions completely. Decide in advance where and how much you're product going to process, and how you plan to unload the grain from the hammer mill. Thinking through the process can prevent panic and frustration later. Set up your hammer 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 OPERATION

4.3 Pre-Operational Checklist

The efficient and safe operation of the Renn Hammer 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 for 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 as per section 8.2.
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 level the mill 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.

4.4 Setting up the Hammer Mill

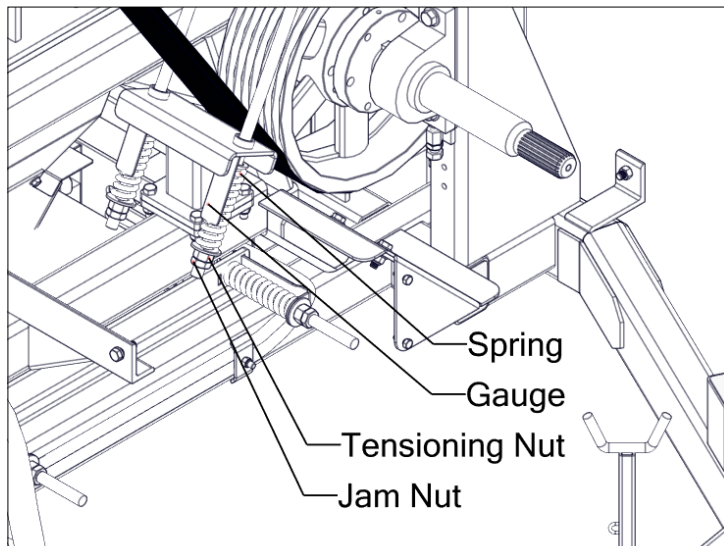
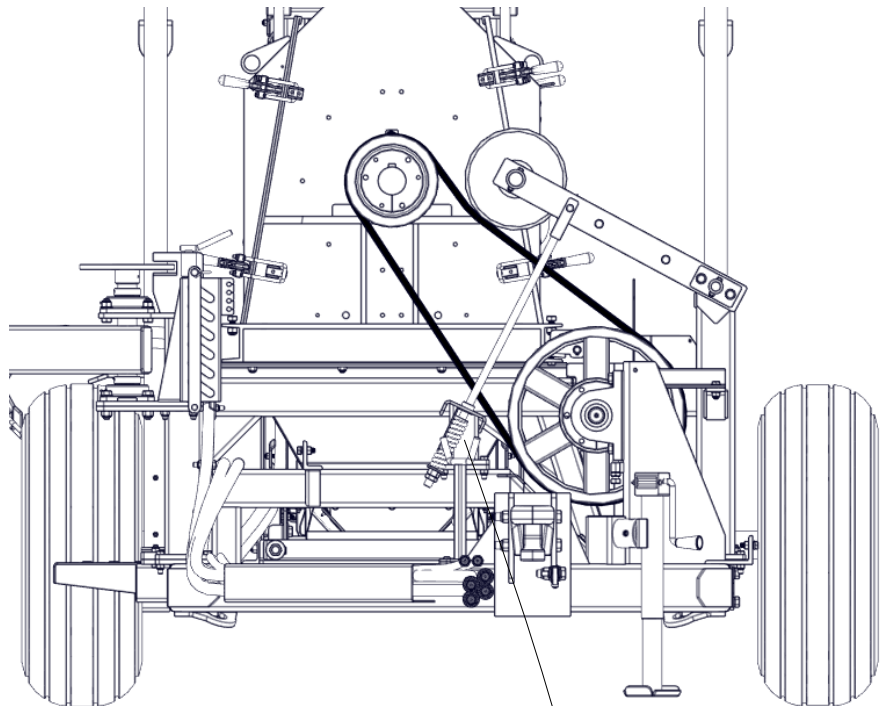
1. Hitch the tractor to the hammer mill, making sure that the mill frame is horizontal. Be sure to install the drawbar pin and retainer (if possible, move the tractor draw bar all the way to one side to allow the PTO to run as straight as possible).
2. Attach the safety chain securely around the tractor's drawbar to prevent unwanted separation.
3. Connect the hydraulic hoses to the tractor (make sure to clean the connectors before connecting to the tractor).
4. Attach the PTO to the tractor and have a minimum distance of 18 inches from the mill hitch to the tractor. Ensure that the shear bolts are in the yoke.
5. Position the mill in an area with enough space to set up the transfer auger, allowing for access to the transfer auger hopper, and with enough space for the discharge conveyor to unfold and the processed product to be handled or piled.
6. Use the arm post on the transfer auger to swing the auger out of the transport support clamp.
7. Use the tractor hydraulics to set up the discharge conveyor.

4 OPERATION

4.5 Hammer Drive Belt Tension

Adequate belt tension can be maintained by keeping the spring lengths set to the indicator tabs as shown.

Belt tension is maintained by spring tension. The current setting for the main drive has the spring compressed one inch from the 6 inch free length. Between the two springs this delivers 1,120 lbs of force to the tensioner. The gauges are five inches in length. This should be adequate tension for 250-275 hp. However, in the case of belt slippage, the springs can be tightened to a maximum of 4.5 inches in overall height. At this setting the combined spring load will apply 1,700 lbs of force.



NOTE: There may be some initial belt stretch. After the first 12 hours of operation, recheck the belt spring tension and readjust it to the 5" length. This should only be required once under normal loading.

NOTE: SOME PARTS HIDDEN FOR ILLUSTRATIVE PURPOSES

4 OPERATION

4.6 Operating the Hammer Mill

1. Clear the working area of any bystanders.
2. Inspect the PTO, transfer auger, and discharge conveyor to make sure that they are free to operate.
3. Start the tractor.
4. Engage the discharge conveyor, then the PTO, and finally the transfer auger.
5. Monitor the final product throughout milling.
6. Check grain quality. Note that quality is a factor of the following variables: hammer speed, screen size and feed rate.
7. When finishing the hammering process, always clean the top hopper out completely and close the feed gate.
8. If not using the mill for some time, clean all of the grain out of the mill using the door accesses, and put the mill under cover.

4.7 Operating the Conveyor

Although there are no operational restrictions on the conveyor operate slowly when folding and unfolding. Adjust the flow of the tractor hydraulics to control the speed of the conveyor. It is also recommended that the following speed is maintained for the conveyor:

CONVEYOR SPEED CHART	
Belt Speed (ft/min)	Tractor Flow (gpm)
Min 500	14
Max 700	19
Note: A belt speed of 700 ft/min = 19 gpm. This equates to 14.28 rev/min of the conveyor belt.	

4.8 Break-In

Hammer Mill

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. **Read the Tractor and Hammer Mill equipment manuals before starting.**
2. **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 5.

4 OPERATION

4.8 Break-In (Continued)

Conveyor

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

3. After operating for a 1/2 hour:

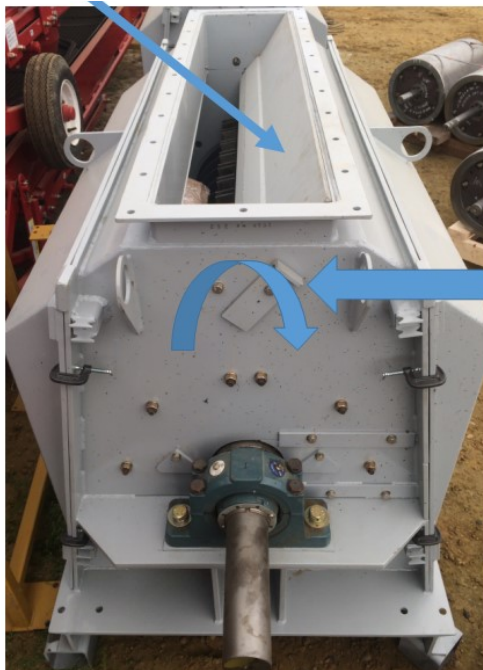
- Re-torque all fasteners and hardware.
- Check the conveyor belt tension alignment. Tension and align as required.

4. 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 and alignment. Tension and align as required.
- Proceed to the normal servicing and maintenance schedule as defined in the Maintenance Section 5.

4.9 Slide Setting

When setting up the Hammer Mill slide the orientation of the slide handle should be to the driver side, which would allow the material to slide down to the passenger side.



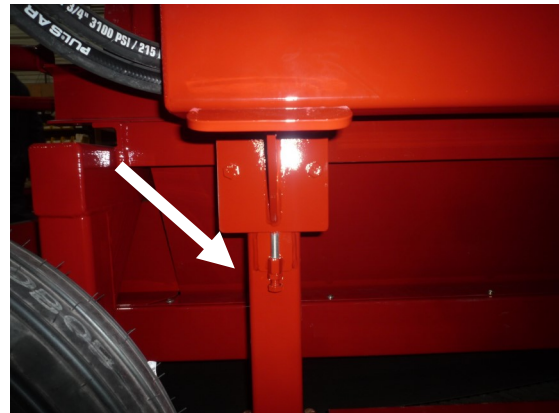
4 OPERATION

4.10 Operating the In-feed Auger

1. Remove the position pins from the Swing arm.
2. Remove the jack assembly from the swing arm and attach it to the discharge auger .



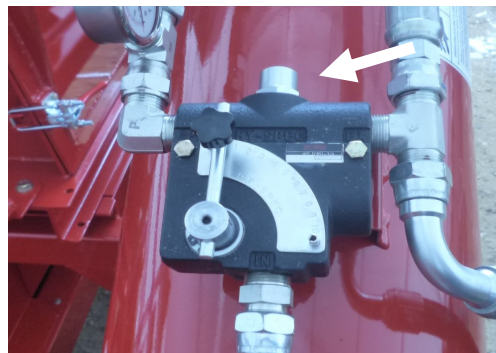
3. Unlatch the clamp and lift the feed auger from the support and place it to the ground.
4. Use the wheels on the hopper and jack to freely rotate the feed auger into position.
5. When placing back the discharge auger, use the adjustment nut on the arm rest to adjust the height.



4.11 In-feed Auger Pressure Relief Valve

To reduce the pressure, remove the acorn nut then turn the relief valve screw out and to increase the pressure turn the screw in.

Note: The pressure can be increased to a maximum of 2000 PSI.



4 OPERATION

4.12 Hose Hanger

- A) Open the quick pin that is holding the lock plate and the front panel of the hose hanger (Figure 4.1).
- B) Rotate the lock plate counter clockwise (Figure 4.2). If the lock plate is too tight, loosen the bolt at the bottom of the lock plate.

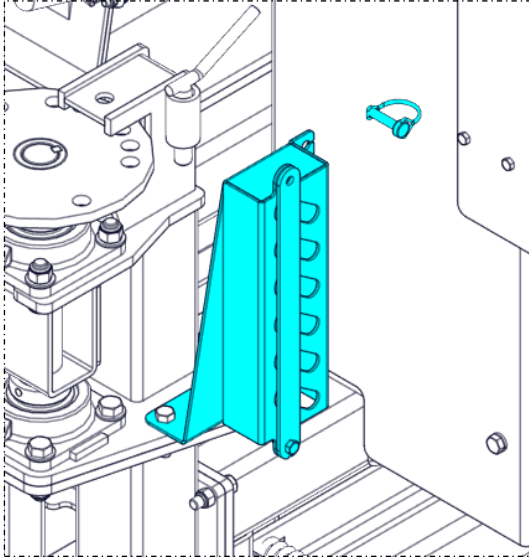


Figure 4.1

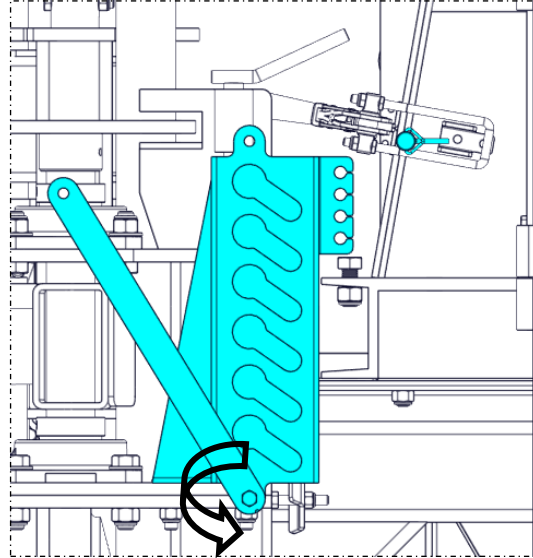


Figure 4.2

- C) Hang the hoses on the hanger.
- D) Place the lock plate and the pin back on.



Note: All hoses should be on the hose hanger when not in use.

5 SERVICE AND MAINTENANCE

5.1 Servicing Record

5.1.1 General

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;"> MAINTENANCE Hours Serviced By </div>										
	8 Hours of Driveline Use									
L U-Joint - PTO										
L U-Joint - Transfer Auger										
L Transfer Auger Bearings										
50 Hours of Use										
L Chain Coupling - Transfer Auger										
L Roller Bearings - Conveyor										
L Chain Bearings - Conveyor										
L Main Bearings - Hammer Mill *										
L Main Shaft Bearings										
Annually										
T All Fasteners										
L Wheel Hubs										
CL Machine										
CH Oilite Bushing - Transfer Auger										
L Jack										

* Lubricate the Dodge bearings slowly while mill is turning to allow excess grease to purge. Pump in 12-15 grams per week based on 12hrs of run time per day. The bearings come 1/3 full of grease.

5 SERVICE AND MAINTENANCE

5.1 Servicing Record

5.1.2 Hammer Mill

Please, keep a first class prevention maintenance program by hand or in your computer, Thank you.

HAMMERMILL SERVICE RECORD

A - Date the Hammermill was first put in to operation: _____ B - Hammermill installed by: _____

"Enter dates of service under the following"

C	D	E	F	G	H	I	J	K	L
Brg. Lub. last level checked	Brg. Lub. last level added to	New Brg. installed	Spacer Pin bolts last checked	New Hammers Installed	New hmr. pins installed	New Spacers installed	New Screens installed	Other Service Performed	Other service performed

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.

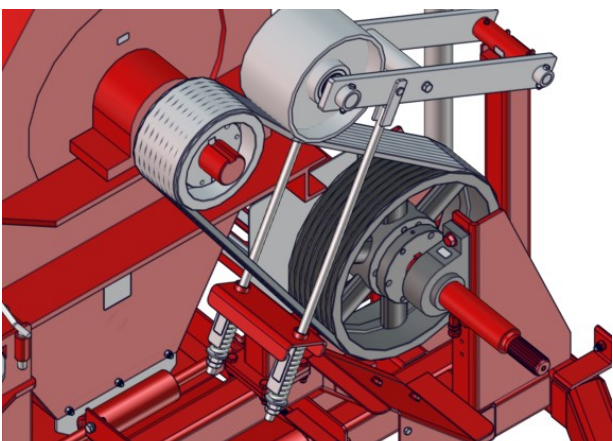
PTO, front and rear yoke: grease zerk (every 8 hours)



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



Main shaft bearings: grease zerk front and rear (every 50 hours)



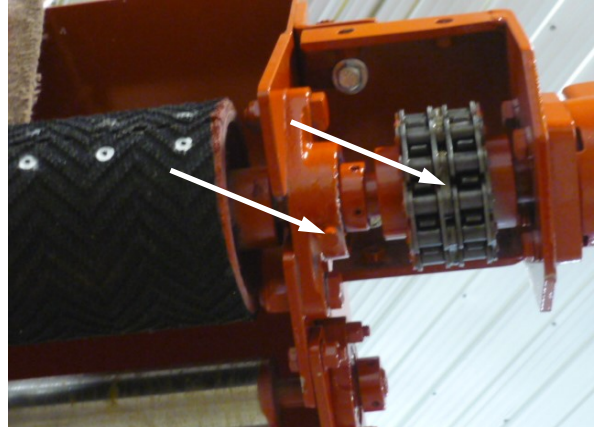
5 SERVICE AND MAINTENANCE

5.2 Servicing Intervals

Transfer auger bearing: grease zerk (every 8 hours)



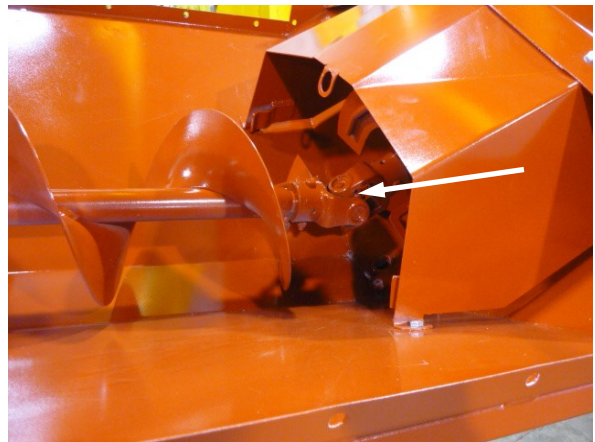
Conveyor driver bearings: grease zerk left and right, oil the chain (every 50 hours)



Oilite bushing: check for wear (once per season)



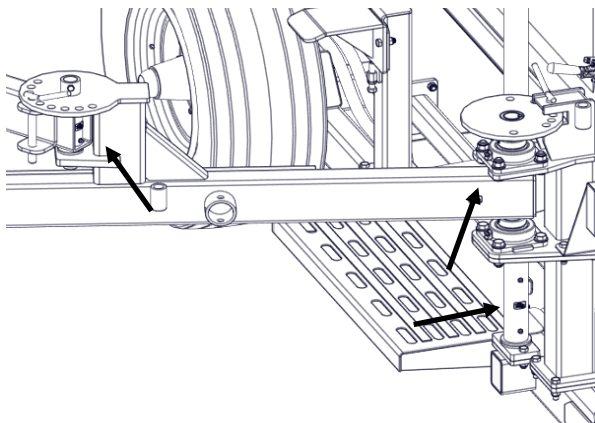
Transfer auger: grease zerk (every 8 hours)



Jack: grease zerk (once per season)



Transfer auger: grease zerk (Once per season)



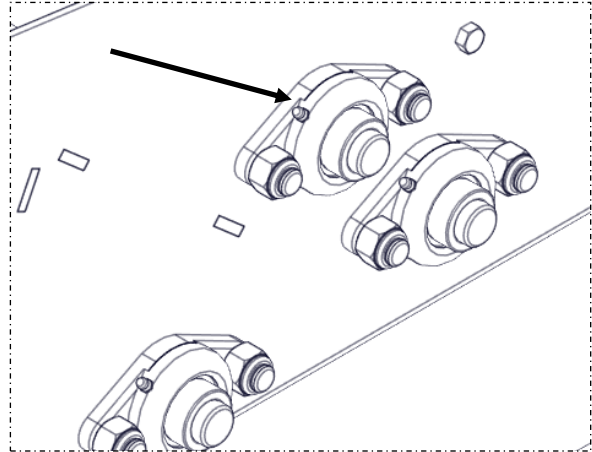
5 SERVICE AND MAINTENANCE

5.2 Servicing Intervals

Conveyor driver bearing: grease zerk (every 50 hours)



All cast flange bearings: grease zerk (every 50 hours)



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



5 SERVICE AND MAINTENANCE

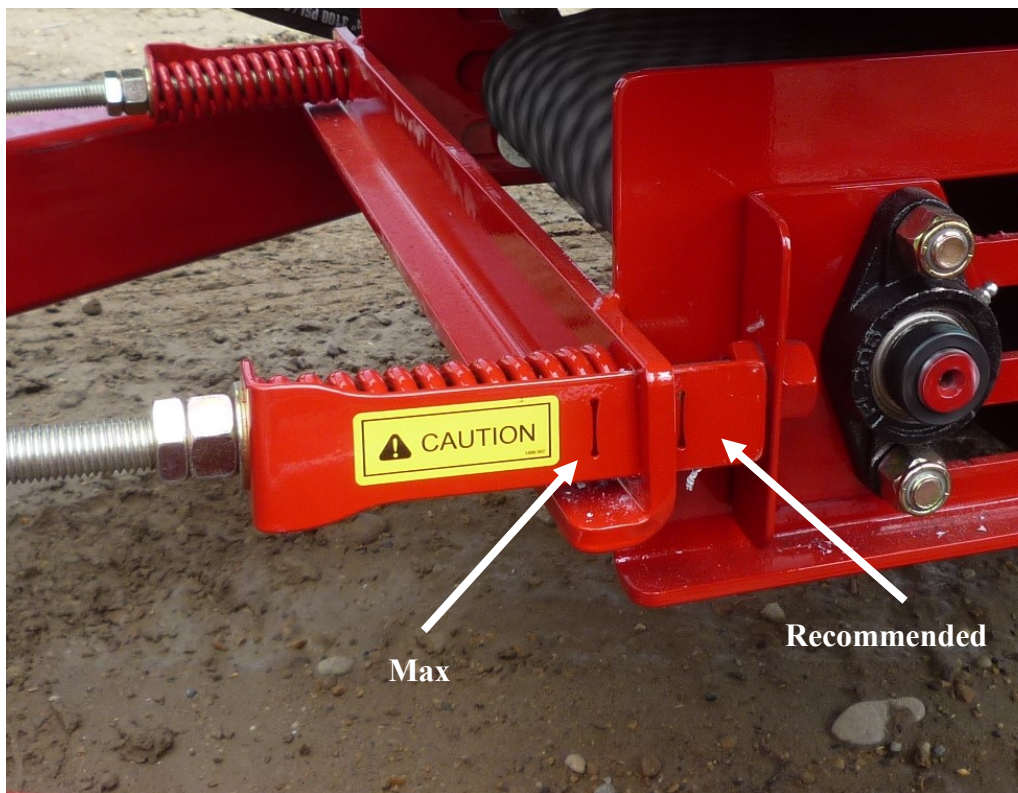
5.3 Conveyor Belt Servicing

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 tension to the belt.
2. A properly tensioned belt will not slip when it is operating. The horizontal section of the conveyor can be used as a guide when checking belt tension. Check for belt sag relative to the bottom edge of the conveyor body. Significant belt sag below this point may indicate a loose belt. Conversely, a belt that is too tight will wear the connector lacing prematurely and apply excessive pressure to the bearings of the conveyor, causing the conveyed material to 'spray' at the elbow of the conveyor.
3. To tension the belt, loosen the jam nuts on the adjuster and adjust the roller to apply proper tension. Operate the conveyor to check belt alignment and tighten the jam nuts on the adjuster.

When adjusting the tension of the belt it is recommended that the tension bar stay between the slots in the spring tension guide plate.



5 SERVICE AND MAINTENANCE

5.3 Conveyor Belt Servicing (Cont'd)

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. If the belt is out of alignment, the belt will move towards the tight side. Reset 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 the belt is tracking satisfactorily. Alignment adjustment is available on both the intake and discharge rolls - adjust the roll where the greatest misalignment appears. Tightening in the direction in figure 5.1 will move the belt towards you.
3. Keep the other two movable bearings equal with the fixed ones on the other side (Figure 5.2).

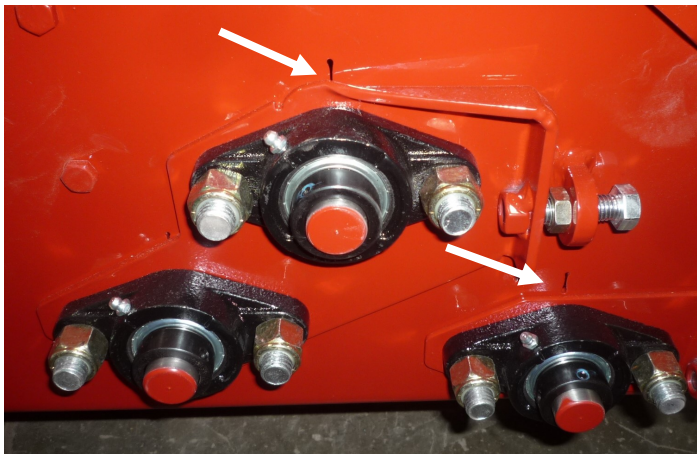


Figure 5.1

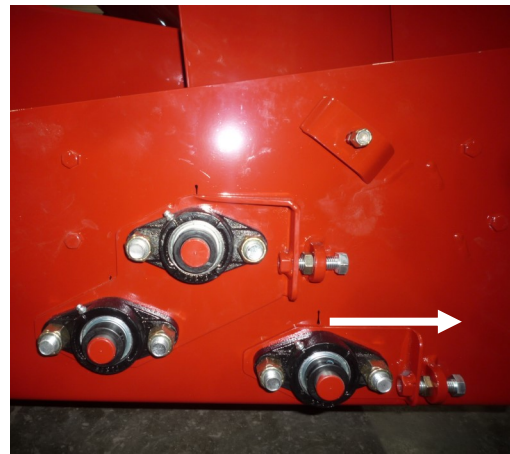


Figure 5.2

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 the replacement belt to the belt being removed.
6. Pull the old belt out. The new belt will 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 lacing stops are in place or crimp the end of the lacing to secure cross rod placement. Cut the corners of the belting 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.

5 SERVICE AND MAINTENANCE

5.4 Hammer Mill Door Removal

Renn Hammer Mills have clamps on the doors to secure it to every unit. The rotor on the hammer mill must be completely stopped before the doors can be removed.

Door Removal:

1. Shut the power off to the hammer mill motor and perform a power lock out procedure.
2. Allow the hammer mill rotor to stop turning.
3. Release all door clamps.
4. Door lifters have been provided to assist in the raising/swinging of doors (to provide access for screen change-out). To operate, simply loosen the lock nuts and turn the handle to lift the door up and off the top row of bolts.
5. The operator can then roll and pivot the lifters to position the door away from the mill.
6. Be sure to check the soundness of the door seal before reattaching the door and that all door hardware is tight prior to restarting the mill.



Clamp Close Position



Clamp Open Position

5 SERVICE AND MAINTENANCE

5.5 Screen Carriage Inspection and Replacement

Screen carriages are an integral part of the hammer mill and must be handled carefully and inspected regularly. Damaged or distorted screen carriages will allow undersized product to leak through.

Screen carriage inspection procedure:

1. Turn power off to the hammer mill motor and perform a power lock out procedure.
2. Open the doors.
3. Lift the screen carriage latch handle. **Note: Be careful as the latch handle is spring loaded and may cause injury while being released.**
4. Lower the screen carriage and remove the screens from both sides of the hammer mill. **Note: Do not drop; damage to the carriage will occur.**
5. Inspect the carriage's eccentric hinges at the bottom of the carriage, making sure they move freely.
6. Lift and hook all screen carriages into the up position, and pull the latch handle to the locked position.
7. Using a light, inspect the area between the carriage and teardrop, or side wear plates, where the screen seals.
8. The screen carriage should fit the contour of the wear plate evenly from top to bottom with no gaps of more than 1/16".
9. If the carriage does not fit evenly around the teardrop, it has been damaged and will need to be replaced.

Screen carriage replacement procedure:

1. Follow steps 1 through 5 from above.
2. Lift and hook all carriages in the up position, but do not latch.
3. Remove the 3/8" bolt holding the screen carriage hinge pin.
4. Remove the hinge pin by pulling and twisting.
5. Lift and remove screen carriages and set aside.
6. Lift and hook the new carriage at the top.
7. Install the carriage hinge pin and 3/8" retaining bolt and tighten.
8. Lower the screen carriage and install the screen. **Note: Do not drop; damage to the carriage will occur.**
9. Lift and latch the carriage.
10. Lock the carriage into position.
11. Close the hammer mill doors (See section 5.4).
12. Restore power to the mill.
13. If the problem persists call Renn Mill Center for help.

5 SERVICE AND MAINTENANCE

5.6 Screen Replacement

Screens are an integral part of the hammer mill which determines the fineness of the grain sample. The screens are changed when they have worn or when you are going to grind a different material to the one that is specified for the screen that is set.

Screen inspection procedure:

1. Shut off power to the hammer mill and perform a safety power lock out procedure.
2. Open the mill doors (See section 5.3).
3. Examine for any wears on the screens.
4. If the holes have enlarged or the sharpness has worn out, then the screens needs to be replaced.
5. For a finer grain sample, the screen on the passenger side of the hammer mill can be changed to a smaller diameter hole. This will decrease the capacity. However as most of the grinding takes place on the downward swing, hence only by changing the passenger side screen to a smaller diameter hole can help optimize capacity.

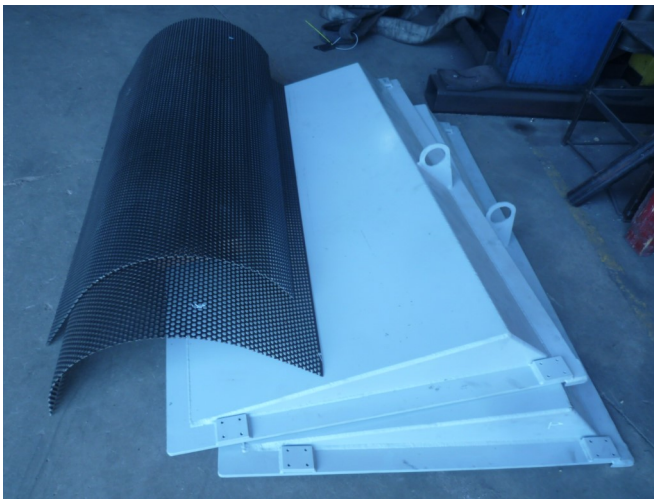
Screen replacement procedure:

1. Shut off power to the hammer mill and perform a safety power lock out procedure.
2. Open the mill doors (See section 5.3).
3. Lift the screen carriage latch handle. **Note: Be careful as the handle is spring loaded and could cause injury while being released if done so improperly.**
4. Lower the screen carriage and remove the screen to be replaced. **Note: Do not drop the carriage; damage to the carriage will occur.**
5. Inspect the carriage and carriage eccentric hinges at the bottom of the carriage, making sure they move freely.
6. Install the new screen. **Note: Make sure the screen slides under the vortex cutter bar in the bottom of the hammer mill.**
7. Lift and hook the screen carriage into the up position, and pull the latch handle to the locked position.
8. Repeat steps 4 through 7 for all other screen carriages.
9. Close the hammer mill doors.
10. Restore power to the mill.

ATTENTION: When placing the screens you must be careful with your hands (wear gloves).

5 SERVICE AND MAINTENANCE

5.6 Screen Replacement



5 SERVICE AND MAINTENANCE

5.7 Hammer, Pin, and Spacer Replacement

1. Shut off power to the hammer mill motor and perform a power lock out procedure.
2. Close the rack and pinion gate under the mill (if equipped).
3. Wait for the mill rotor to stop turning.
4. Open the hammer mill doors (See section 5.4).
5. Remove the screen and screen carriage from one side of the mill (Sections 5.5 & 5.6).
6. Cut and install a piece of used screen in the bottom of the mill (if not equipped with a rack and pinion gate) to keep hammers and spacers from falling into the plenum or air line.
7. Open the pin hole covers on both ends of the mill.
8. Determine the row that you want to start with, using the hammer pattern received with the new hammers.
9. Locate and loosen the squeeze collar on the pin to be removed.
10. Using a drift and hammer, tap the pin out until you can pull the pin out by hand.
11. After removing the hammer pin, remove and dispose of the hammers that fell into the screen or onto the gate in the bottom of the mill.
12. Remove and sort the spacers if being reused, and if not dispose of them.
13. Lay out new hammers and pins to be installed.
Note: Keep in mind that opposing rows weigh the same. Check the hammer pattern received with the new hammers and retrieve the corresponding rows to be installed. DO NOT break the hammer bundles yet.
14. Start the hammer pin in the rotor far enough to hold the rotor and still be able to install the first hammers and spacers.
15. Start installing the hammers and spacers according to the hammer pattern received. *Note: The squeeze collar may be installed at either end of the row, but must be installed in the same position on the opposing row.*
Continue installing hammers and spacers, repeating the sequence between each rotor plate until the row is full. *Note: There should not be any hammers or spacers left, and you shouldn't need more.*
16. Center the pin in the rotor, with equal amounts of pin at each end of the rotor.
17. Tighten the squeeze collar.
18. Repeat steps (14-18) for the remaining rows.
19. Close the pin hole covers and tighten the retaining bolts.
20. Install the screen carriage and carriage hinge pin, and secure the hinge pin with bolts.
21. Install the screen. Close and lock the carriage (Section 5.5 & 5.6).
22. Close the doors of the hammer mill (See section 5.4).
23. Open the rack and pinion gate under the hammer mill (if equipped).
24. Restore power to the mill.
25. Start the hammer mill and check for vibration. If the mill vibrates, SHUT IT DOWN, and perform a power lock out procedure. Check that the hammers are installed correctly (use the pattern shipped with replacement hammers).
26. DO NOT run the mill if there is any vibration.
27. If the installed hammers, pins, and spacers DO NOT match the pattern exactly, call service at Renn Mill Center for help.

5 SERVICE AND MAINTENANCE

5.7 Hammer, Pin, and Spacer Replacement (Cont'd)

Hammers are balanced so that opposing rows weigh within one gram of each other. **Hammers must be installed as a set.**

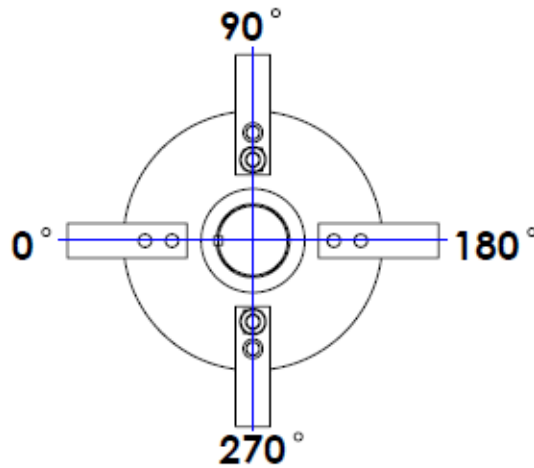
Hammer pins are also balanced so that opposing pins weigh within one gram. **Hammer pins must also be installed as a set.**

This will ensure that the rotor remains in balance when running.

A hammer pattern has been selected for your application and horse power requirements. The hammer pattern must be installed **exactly** as illustrated to avoid vibration and rotor imbalance.

A four row hammer pattern will be designated as inside or outside hole setting. This refers to the hole setting in the rotor (see illustration on page 5.12). The tip of the hammers will be either 1/2" or 3/16" away from the screens. On an eight row pattern the hammers will be installed on pins in all holes in the rotor.

NOTE: Hammers have been designed and manufactured to provide the best compromise between *hardness* (for good wearing qualities) and *strength* (for dependability and resistance to breakage). Any alteration of the hammer by heating, grinding, resurfacing, or any other process can change the mechanical properties of the hammer and make it unsuitable or dangerous to use.



SPACERS ON 0° & 180°:

- 1-1/16" Long (474900-0968.00)
- 1/2" Long (474900-0969.00)

SPACERS ON 90° & 270°:

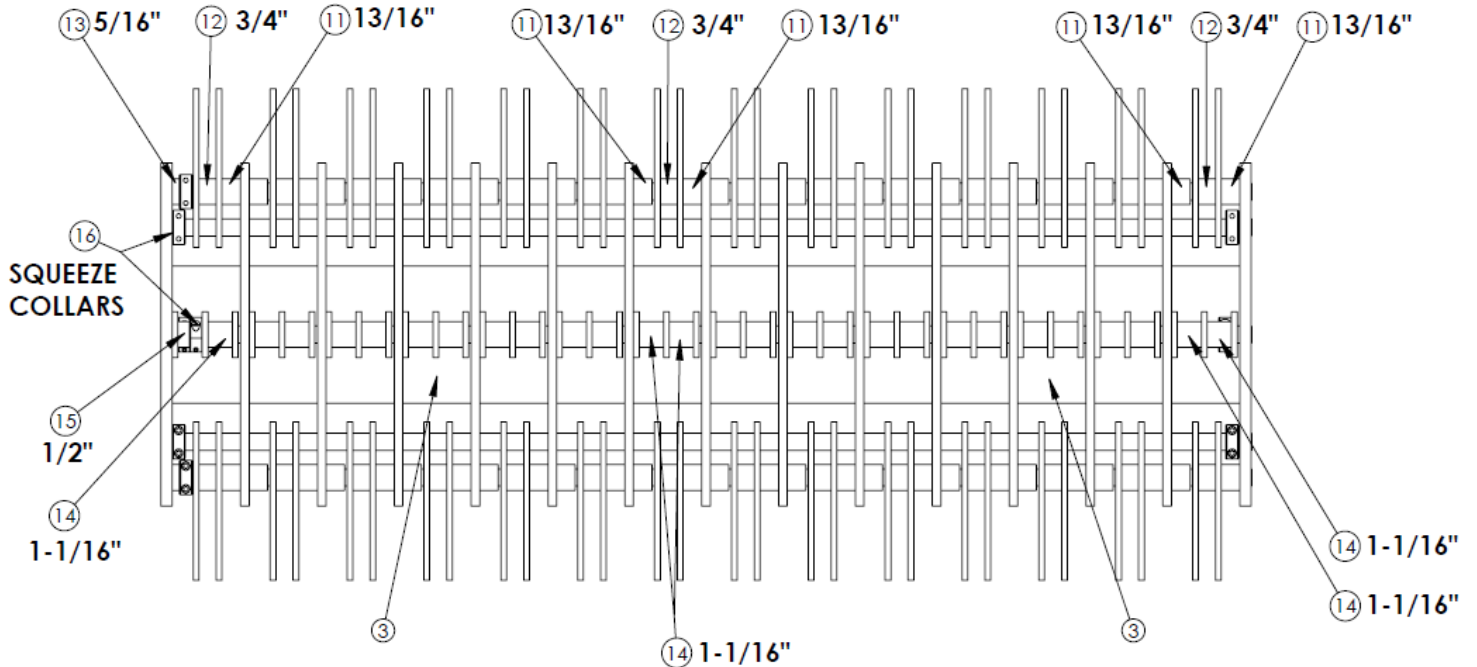
- 13/16" Long (474900-0965.00)
- 3/4" Long (474900-0966.00)
- 5/16" Long (474900-0967.00)

Important:

Your replacement hammers, pins, and spacers are balanced in sets at Renn Mill Center. DO NOT BREAK BUNDLES OR CLEAN OFF THE NUMBERS. If you receive a shipment that has been broken apart please call Renn Mill Center.

5 SERVICE AND MAINTENANCE

5.7 Hammer, Pin, and Spacer Replacement (Cont'd)



REF #	PART #	DESCRIPTION	QTY
1	474900-0851.00	Rotor Shaft	1
2	474900-0852.00	Outer Disc 15" OD X 1/2" THK	2
3	474900-0854.00	Aluminum 6" OD X 4" ID	14
4	474900-0853.00	Inner Disc 15" OD X 3/8" THK	13
5	474900-0856.00	Key Stock- Rotor Shaft	1
6	474900-0964.00	Hammer Rod	8
7	113700-0011	AN20 Luck Nut	2
8	113700-0010	Timken W20 Axle Lock Washer	2
9	114100-0305	2-15/16" Dodge Sperical Split PILLOW BLOCK BEARING	2
10	300000-0300	2 Hole Swing - 1/4" Hammer Plate	140
11	474900-0965.00	Spacer - 13/16" Long	54
12	474900-0966.00	Spacer - 3/4" Long	28
13	474900-0967.00	Spacer - 5/16" Long	2
14	474900-0968.00	Spacer - 1-1/16" Long	54
15	474900-0969.00	Spacer - 1/2" Long	2
16	300000-0304	Set Collar 3/4" SPLIT	12

5 SERVICE AND MAINTENANCE

5.8 Directional Gate Replacement

The purpose of the directional gate is to channel the product flow into the down side of the rotation of the mill rotor.

The bulk density of the material being ground determines if the hammer mill will have a directional gate.

Notice: This operation requires two people to complete safely.

Directional Gate Removal:

1. Shut off power to the hammer mill motor and perform a power lock out procedure.
2. Open the mill doors (See section 5.4).
3. Open the screen carriages (See sections 5.5 & 5.6).
4. Remove the screens (See section 5.5).
5. Remove the screen carriages (See section 5.5 & 5.6).
6. Remove the retaining bolts from the directional handles.
Note: Do not remove the handles at this time.
7. One person will support the directional gate by hand. *Caution: the directional gate is heavy.*
8. The other person will slowly pull the hinge pin from one side, releasing one side of the directional gate.
9. Slowly pull the hinge pin from the other side, releasing the directional gate into the hands of the supporting person.
10. Slowly remove the directional gate from the hammer mill.

Directional Gate Installation:

11. Carefully insert the directional gate into the hammer mill inlet.
12. While the gate is supported by one person, install the first half of the hinge pin.
13. Repeat #12 for the other hinge pin.
14. Secure the hinge pins with retaining bolts.
15. Install screen carriages and screens (See sections 5.5 & 5.6).
16. Close the hammer mill doors (See section 5.4).
17. Restore power to the mill.
18. Start the hammer mill and confirm that the directional gate is set correctly for the rotation of the rotor.

To confirm that the directional gate and rotation are correct, observe the rotation of the rotor shaft. Look at the directional gate hinge pin handle. The handle is in direct relation to the directional gate inside the mill. Product must slide down the directional gate into the down side of the rotation of the mill rotor.

5 SERVICE AND MAINTENANCE

5.9 Vortex Cutter Bar Single Chamber Replacement

The vortex cutter bar disrupts the air currents in the bottom of the mill. This slows the product down, moving it into the path of the hammers which allows it to be impacted again.

Notice: This operation requires two people to complete safely.

Vortex Cutter Bar replacement:

1. Shut off power to the hammer mill motor and perform a power lock out procedure.
2. Close the rack and pinion gate under the mill (if so equipped).
3. Open the doors (See section 5.4).
4. Lift the screen carriage latch handle. *Note: Be careful; the latch handle is spring loaded and may cause injury while being released.*
5. Lower the screen carriage and remove the screen from both sides. *Note: Do not drop; damage to the carriage will occur.*
6. Hook both screen carriages in the up position, but do not latch.
7. Remove the 3/8" NC bolt holding the screen carriage hinge pin and remove the hinge pin from one side only.
8. Lift and remove the screen carriage and set aside. Only one carriage needs to be removed, but both can be removed to allow for more working room.
9. Remove the coupling guard, and set aside.
10. Remove the 3/8" bolt holding the well cover in place under the bearing base, and remove the cover. *Note: This gives you access to the bolts holding the end of the vortex cutter bar.*
11. At this point you will need a helper to hold the cutter bar while bolts are removed.
12. Remove the bolts holding the vortex cutter bar in place, and bring the cutter bar out of the side that has the screen carriage removed.
13. Install the new vortex cutter bar by reversing the procedure, but do not tighten the bolts.
14. Using a long bar or come-a-long attached to the mill door frames, lift the cutter bar into the cut-out in the bottom of the side wear plates, and tighten the retaining bolts.
15. Rotate the hammer mill rotor by hand to ensure that the hammers are not hitting the vortex cutter bar.
16. Install the well cover and coupling guard and tighten the retaining bolts.
17. Install the screen carriage, carriage hinge pin and bolt.
18. Install the screens and close and latch the screen carriages.
19. Align the rotor lock ring hole with the lock pin and depress the handle.
20. Slide or swing the door closed and lock it into the closed position.
21. Make sure that the rotor lock pin is released from the lock ring.
22. Open the rack and pinion gate under the hammer mill (if equipped).
23. Restore power to the mill.
24. Start the hammer mill and check for noise or vibration. If the mill has noise or vibration SHUT IT DOWN. Check for source of noise or vibration.
25. DO NOT run the mill with noise or vibration.
26. If problem persists call service at Renn Mill Center for help.

5 SERVICE AND MAINTENANCE

5.10 Dodge Bearings

Instruction Manual for Dodge Imperial & ISAF Bearing

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see www.baldor.com for updated instruction manuals.

WARNING: To ensure the drive is not unexpectedly started, turn off and lock-out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

WARNING: All products over 25 kg (55 lbs) are noted on the shipping package. Proper lifting practices are required for those products.

Inspection

Inspect shaft to ensure it is smooth, straight, clean, and within commercial tolerances.

Mounting

Install the Non-Expansion unit first.

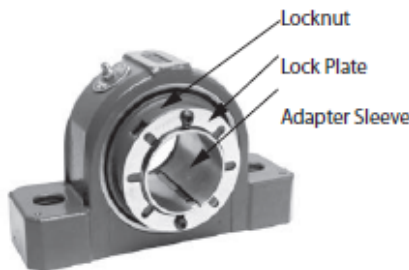


Figure 1

1. Remove lock plate located on the face of the locknut.
2. Turn locknut counter clockwise until bearing will freely slide onto the shaft.
3. Slide bearing to the desired position on the shaft.

NOTE: All Weight Must Be Removed from the Bearing When Obtaining The ZERO Reference Point*.

4. The "ZERO Reference Point" is defined as the point when the clearance between the adapter sleeve, shaft and bearing bore has been removed.

WARNING: Because of the possible danger to persons(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Baldor Electric Company nor are the responsibility of Baldor Electric Company. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

To reach the "ZERO Reference Point" rotate locknut clockwise, using both hands, as tight as possible. When mounting bearing with shaft sizes 3-15/16" and larger, the following TEST must be performed. As a test to insure you have reached the "ZERO Reference Point" tap on the O. D. of the nut with a hammer and attempt to rotate the nut using both hands. If the nut will not rotate then you have reached the "ZERO Reference Point" and you should proceed to step 5. If you can rotate the nut, using both hands, then you have not reached the true "ZERO Reference Point", and should repeat step 4A until "ZERO Reference Point" is obtained. When the "ZERO Reference Point" is reached, the bearing will not be able to move by hand axially on the shaft.

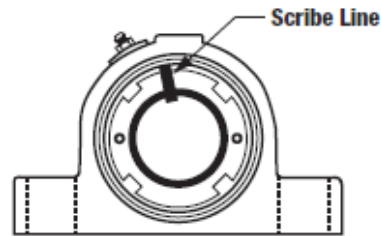


Figure 2

5. Scribe a line through the locknut face and adapter race.
6. Using a Spanner or Drift & Hammer, rotate locknut clockwise by the number of turns shown in Table 1.

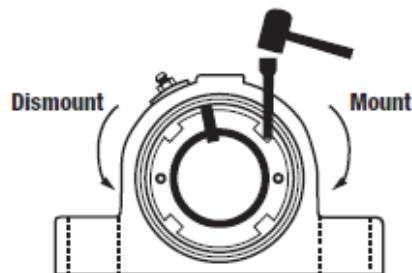


Figure 3

Table 1 - Locknut Rotation from "Zero Reference Point"

Shaft Size (inches)	Locknut Rotation
1-1/8 - 1 7/16	3/4 to 7/8 turn
* 1-1/2	3/4 to 7/8 turn
** 1-1/2	7/8 to 1 turn
1-5/8 - 2	7/8 to 1 turn
2-3/16 - 3	1 to 1-1/4 turns
3-3/16 - 4	1-1/4 to 1-1/2 turns
4-7/16 - 4 1/2	1-1/8 to 1-3/8 turns
4-15/16 - 5 1/2	1-3/8 to 1-5/8 turns
5-15/16 - 6	1 to 1-1/4 turns
6-7/16 - 7	1-1/8 to 1-3/8 turns

* IMPERIAL IP & ISAF

** IMPERIAL IP With Type E Dimensioned Housing



5 SERVICE AND MAINTENANCE

5.10 Dodge Bearings (Cont'd)

7. Slide lock plate over shaft and align tang of lock plate with slot in adapter sleeve.
8. TIGHTEN NOT LOOSEN locknut until lock plate slots overlap the two threaded holes on the locknut face.
9. Insert and tighten button head screws to locknut face.
10. Bolt down pillow block or flange unit to the structure.

Install the Expansion Unit

1. Remove lock plate located on the face of the locknut.
2. Turn locknut counter clockwise until bearing will freely slide onto the shaft.
 - a. If Locknut Facing Outboard: Align housing mounting holes with substructure mounting holes and snug bolts. Push insert as far as possible in the direction of the fixed bearing.
 - b. If Locknut Facing Non-Expansion Bearing: Align housing mounting holes with substructure mounting holes and snug bolts. Position Expansion bearing insert in center of housing (NOTE: This is necessary because in the process of mounting, the bearing is being drawn toward the locknut.)

Note: All Weight Must be Removed from the Bearing when Obtaining the "ZERO Reference Point".

3. Follow steps 4 through 10 found under mounting of the Non-Expansion bearing.

Dismounting

1. Remove weight off bearing via slings or jacks.
2. Remove mounting bolts from bearing.
3. Remove button head screws and lock plate from locknut.
4. (Figure 3) Rotate locknut counter clockwise until bearing freely slides from the shaft.

Successful operation is dependent upon adequate lubrication. Precaution should be taken during handling and recycling grease, oil or water glycol mixtures.

Field Conversion of a Non-Expansion Bearing into an Expansion Bearing

Imperial IP

1. Move snap ring opposite collar side, to the outmost snap ring groove.
2. Remove Non-Expansion nameplate and re-label as an Expansion bearing.

ISAF

1. Remove bearing cap.
2. Remove stabilizing ring.
3. Reassemble cap on base and torque cap bolts to values in Table 2.

Table 2 - Cap Bolt Torque for ISAF Grade 5 Bolts

ISAF Shaft Size (inches)	2 Bolt Base		4 Bolt Base	
	Bolt Size	Torque Ft.-Lbs.	Bolt Size	Torque Ft.-Lbs.
1-7/16 - 1-11/16	3/8 - 16	24 - 30		
1-15/16 - 2-3/16	7/16 - 14	40 - 50		
2-7/16 - 2-1/2	1/2 - 13	60 - 75	1/2 - 13	60 - 75
2-11/16 - 3	5/8 - 11	120 - 150	5/8 - 11	120 - 150
3-3/16 - 3-1/2	3/4 - 10	208 - 260	3/4 - 10	208 - 260
3-11/16 - 4			3/4 - 10	208 - 260
4-7/16 - 4-1/2			7/8 - 9	344 - 430
4-15/16 - 7			1 - 8	512 - 640

Grease Lubrication

DODGE IP and ISAF bearings are pre-packed with NLGI #2 Lithium Complex grease. For re-lubrication select a grease that is compatible with a #2 Lithium Complex grease. Re-lubricate in accordance with Table 3.

Storage or Special Shutdown

If exposed to wet or dusty conditions or to corrosive vapors, extra protection is necessary. Add grease until it shows at the seals; rotate the bearing to distribute grease; cover the bearing. After storage or idle period, add a little fresh grease before running.

Table 3 - Re-Lubrication Intervals (Months) Based on 12 hours per day, 150° F M

Shaft Size (inches)	RPM								
	250	500	750	1000	1250	1500	2000	2500	>3000
1-1/8 to 2	4	3	2	2	1	0.5	0.25	0.25	0.25
2-3/16 to 2-1/4	3.5	2.5	1.5	1	0.5	0.5	0.25	0.25	0.25
2-3/8 to 3	3	2	1.5	1	0.5	0.25	0.25	0.25	0.25
3-3/16 to 3-1/2	2.5	1.5	1	0.5	0.25	0.25	0.25	0.25	-
3-11/16 to 4-1/2	2	1.5	1	0.5	0.25	0.25	0.25	-	-
4-15/16 to 5-1/2	1.5	1	0.5	0.25	0.25	0.25	-	-	-
5-15/16 to 6	1	0.5	0.5	0.25	0.25	0.25	-	-	-
6-7/16 to 7	1	0.5	0.25	0.25	0.25	-	-	-	-



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Dodge Product Support

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11/15 Litho 25,000

5 SERVICE AND MAINTENANCE

5.11 Dodge Imperial Bearing Replacement

Fixed:

The Dodge Imperial bearings are installed on mills with a 40" or longer grinding chamber. Instructions for installation are as follows:

1. Turn power to the hammer mill off and perform a power lock out procedure.
2. Remove coupling guard and coupling drive element.
3. Unbolt the motor rails from the mill deck. **Note: Do not unbolt the motor from the rails.**
4. Slide the motor and rails to one side, allowing enough room to remove the coupling drive and bearing.
5. Remove the button head screws and locking plate from the bearing nut.
6. Remove the bolts from the bearing base.
7. Open the mill doors (See section 5.4).
8. Unlatch and lower the screen carriages (See section 5.5).
9. Use a chain come-a-long to lift the rotor. Attach the hook to the upper door flange on the mill, run the chain under the rotor, attach the other hook to the other door flange.
10. Lift the rotor enough to allow for removal of the bearing.
11. Rotate the lock nut counter clockwise until the bearing will slide from the shaft. **Note: The nut will get tight again. Keep turning counter clockwise until it will slide on the shaft.**
12. Remove the bearing and housing assembly from the shaft. **Note: Use proper lifting techniques; the assembly is very heavy.**
13. Clean and inspect the rotor shaft for scoring and damage.
Note: The shaft should be free of damage. Damage to the shaft can be transferred to the inner race of the new bearing and cause overheating and bearing failure.
14. Remove the button head screws and locking plate from the new bearing.
15. Rotate the adjusting nut counter clockwise about four (4) rounds, or until the assembly will slide onto the shaft freely.
16. Install the bearing assembly on the shaft.
17. Start the retaining bolts in the bearing base and leave loose.
18. Hand turn the bearing adjusting nut clockwise to achieve a set reference point. **Note: All weight must be removed from the bearing to obtain the zero reference point.**
19. **STOP-STOP-STOP: An important check must be completed at this time. Remove the bearing cap on the floating bearing to ensure that the bearing is centered in the housing for expansion and contraction of the shaft. If the bearing is not centered, loosen the adjusting nut on the previously tightened bearing and move the rotor assembly until the bearing is centered. Retighten the adjusting nut to achieve the set reference point.**
20. Test the zero reference point by tapping the adjusting nut with a hammer and attempting to rotate the nut using both hands. If the adjusting nut will not rotate you are at the zero reference point.
21. Mark or scribe a line through the adjusting nut face and adaptor face.
22. Using a spanner wrench or a hammer and drift, rotate the adjusting nut clockwise by the number of turns shown on the chart supplied with the bearing.
23. Lower the rotor assembly.
24. Check the hammer to tip clearance of the rotor to ensure that the rotor is centered between the teardrops.

5 SERVICE AND MAINTENANCE

5.11 Dodge Imperial Bearing Replacement (Cont'd)

25. Install the lock plate over the shaft and align the tang with the slot in the adaptor sleeve.
26. Tighten the adjusting nut until the lock plate holes align with the threaded holes in the adjusting nut.
27. Install the button head screws and tighten.
28. Slide the motor and rails into position.
29. Align the motor to the hammer mill shaft to within .003 total indicator run out in all directions.
30. Install the drive coupling element and retaining bolts.
31. Install the coupling guard and retaining bolts.
32. Close the screen carriages and lock into position.
33. Close the hammer mill doors.
34. Restore power to the mill.
35. Start the hammer mill and record the bearing temperatures.
36. The bearing temperatures will rise with a new bearing and grease. ***Note: Do no allow the temperature to exceed 170 degrees Fahrenheit. The normal operating temperature can be as much as 50 degrees above ambient.***
37. If you have problems please call service at Renn Mill Center for help.

Floating:

The Dodge Imperial bearings are installed on mills with a 40" or longer grinding chamber. Instructions for installation are as follows:

1. Turn power to the hammer mill off and perform LOTO per company SOP.
2. Remove the button head screws and locking plate from the bearing nut.
3. Remove the bolts from the bearing base.
4. Open the mill doors (See section 5.4).
5. Unlatch and lower the screen carriages (See section 5.5).
6. Use a chain come-a-long to lift the rotor. Attach the hook to the upper door flange on the mill, run the chain under the rotor, and attach the other hook to the other door flange.
7. Lift the rotor enough to allow for removal of the bearing.
8. Rotate the lock nut counter clockwise until the bearing will slide from the shaft. ***Note: The nut will get tight again. Keep turning counter clockwise until it will slide on the shaft.***
9. Remove the bearing and housing assembly from the shaft. ***Note: Use proper lifting techniques; the assembly is very heavy.***
10. Clean and inspect the rotor shaft for scoring and damage.
Note: The shaft should be free of damage. Damage to the shaft can be transferred to the inner race of the new bearing and cause overheating and bearing failure.
11. Remove the button head screws and locking plate from the new bearing.
12. Remove the housing cap from the bearing assembly, and also remove the "C" shaped retaining ring, discarding both to make this bearing the floating or expansion bearing.
13. Rotate the adjusting nut counter clockwise about four (4) rounds, or until the assembly will slide onto the shaft freely.
14. Replace the housing cap; leave loose at this time.
15. Install the bearing assembly on the shaft.

5 SERVICE AND MAINTENANCE

5.11 Dodge Imperial Bearing Replacement (Cont'd)

16. Start the retaining bolts in the bearing base and leave loose.
17. Turn the bearing by hand, adjusting the nut clockwise to achieve a zero reference point.
Note: All weight must be removed from the bearing to obtain the zero reference point.
18. Remove the housing cap to ensure that the bearing is centered in the housing for expansion and contraction of the shaft.
19. If the bearing is not centered loosen the adjusting nut on the bearing and readjust the bearing. Re-tighten the adjusting nut to achieve the zero reference point.
20. Test the zero reference point by tapping the adjusting nut with a hammer and attempting to rotate the nut using both hands. If the adjusting nut will not turn you are at the zero reference point.
21. Mark or scribe a line through the adjusting nut face and adaptor face.
22. Using a spanner wrench or a hammer and drift, rotate the adjusting nut clockwise by the number of turns shown on the chart supplied with the bearing.
23. Lower the rotor assembly.
24. Check the hammer to tip clearance of the rotor to ensure that the rotor is centered between the side (teardrop) wear plates.
25. Install the lock plate over the shaft and align the tang with the slot in the adaptor sleeve.
26. Tighten the adjusting nut until lock plate holes align with the threaded holes in the adjusting nut.
27. Install the button head screws and tighten.
28. Close the screen carriages and lock into position.
29. Close the hammer mill doors.
30. Restore power to the mill.
31. Start the hammer mill and record the bearing temperatures.
32. The bearing temperatures will rise with a new bearing and grease. *Note: Do not allow the temperature to exceed 170 degrees Fahrenheit. The normal operating temperature can be as high as 50 degrees above ambient.*
33. If you have problems please call Renn Mill Center for help.

Dodge Imperial Bearings Lubrication Schedule

The lubrication schedule is based on the speed, operating conditions, and recommendations of the bearing manufacturer.

Lube intervals are as follows:

1. Once a week , lubricate while the machine is operating. Lubrication should be done slowly to minimize temperature rise and allow excess grease to purge.
2. **Quantity of grease required at each interval:** 4-7/16" bearing requires 22 grams; 4-15/16" bearing requires 30 grams. *Note: Check your grease gun to see how many strokes are needed to get the required grams. A standard grease cartridge has approximately 400 grams.*
3. **Recommended grease to be used:** Bearings come with a grease fill of 1/3 full Exxon/Mobil Ronex MP or Lubriplate 1551.

Normal operating temperature of the bearings can be 50 degrees Fahrenheit above ambient. Maximum operating temperature of the bearings is 180 degrees Fahrenheit. Lube fails at 180 degrees Fahrenheit.

5 SERVICE AND MAINTENANCE

5.11 Dodge Imperial Bearing Replacement (Cont'd)

PREMIUM LITHIUM EP # 2 GREASE

A premium Lithium 12-Hydroxy Stearate base grease compounded with a premium additive system makes an excellent multi-purpose grease with a broad temperature range, for slow to high-speed bearings. This grease is fully additive treated with antirust, extreme pressure/anti-wear, and oxidation inhibitor additives. It is water insoluble and washout resistant.

Typical Specifications

Code.....	5443
Thickener.....	Lithium 12 Hydroxy Stearate
Cone Penetration, ASTM D-217.....	265-295
Dropping Point, ASTM D-556, degree F. (degree C).....	360 (182)
Wheel Bearing Leakage, ASTM D-1263.....	Pass
Rust Prevention, ASTM D-1743.....	1, 1, 1
Oxidation Resistance, ASTM D-942, 100HRS.....	5.0 psi Drop Max
Timken OK Load, ASTM D-2509.....	45 lbs.
Color.....	Dark Amber
Texture.....	Smooth
Consistency Grade.....	NLGI # 2
Approximate Temp. Range, degree F, (degree C).....	5 to 290 (-15 to 143)

Properties of Oil;

Viscosities:

@ 100 o C., cST.....	15.8
@ 40 o C., cST.....	187
@ 210 o F., cST (SUS).....	16.3 (83)
@100 o F., cST (SUS).....	213 (987)
Viscosity Index.....	85
Flash Point, COC, degree F. (degree C).....	460 (238)

Features:

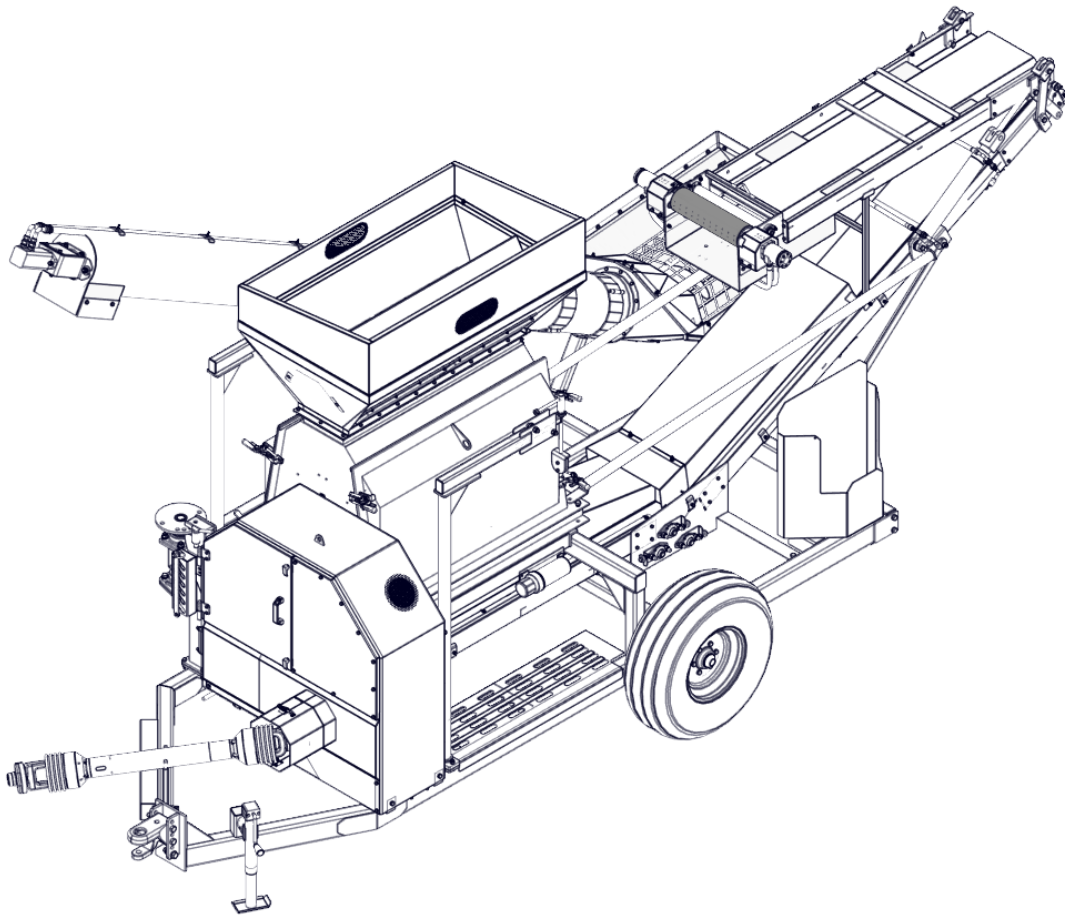
1. Very water insoluble and washout resistant.
2. Fully additive treated: antirust, extreme pressure/anti-wear, and antioxidant.
3. A premium quality multi-purpose grease.
4. Recommended for use where an NLGI # 2 multi-purpose grease is specified.

These are the recommended grease specifications.

6 PDI SETUP

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

*Note: All hoses should be on the hose hanger when not in use.
Refer section 4 before operating the machine*



Note: Conveyor should be in folded mode before transportation

IMPORTANT: Re-torque wheels before towing or any operation. Refer section 10 for torque specification.

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7 TRANSPORTATION



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 discharge conveyor, 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

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 Hammer Mill to the tractor.
4. **INSPECTION:**
 - a) Check that all hydraulic lines are seated and completely coupled.
 - b) Check that all 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

SYMPTOM	PROBABLE CAUSE	SOLUTION
Belts Slipping	Belts Loose	See Section 4.5
Low Capacity	Screens worn Hammers worn Directional gate in wrong position Hammers in wrong holes High moisture content (new crop) High fat content	See Sections 5.5 See Sections 5.7 See Sections 5.8 See Sections 5.7
Hammers Hitting Screens	Wrong hammers Hammer holes elongated Hammer pins grooved Rotor not centered Wear plates out of adjustment Screen carriages bent Wrong screens	See Sections 5.5, 5.6, 5.7
Bearings Overheating	Grease level high Grease level low Bearing out of adjustment Bearing out of alignment Worn out bearing Foreign material in grease	See Section 5

10 SPECIFICATIONS

10.1 General Specifications

Weight.....	7397 lbs
Minimum Tractor Horsepower	300 hp - PTO
Discharge Size	18" Belt
Hydraulic Flow	25 gal /min
Machine Capacity	3400 bu /hr

10.2 Tire Specifications

Tire/Rim.....	12.5L x 16IMP 16 x 10 x 6BL
Tire Pressure	Check Tire for Info





10.3 Bolt Torque Specifications

Wheel Bolts/nuts.....	90-120 ft.lbs.
Main PTO shear bolts <i>7/16" NC x 1" Gr.5 Shear Bolt</i>	<i>30 ft.lbs.</i>
Note: Use 2 shear bolts on 48" HM, 1 shear bolt on 24" and 36" HMs.	
Double Center PTO Connection <i>5/16" x 2" Gr.8 Shear Bolt</i>	<i>30 ft.lbs.</i>
Note: Use 1 shear bolt.	

..... *All Other Bolts—Refer to Bolt Torque Chart On Following Page*

10 SPECIFICATIONS

BOLT TORQUE CHART

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

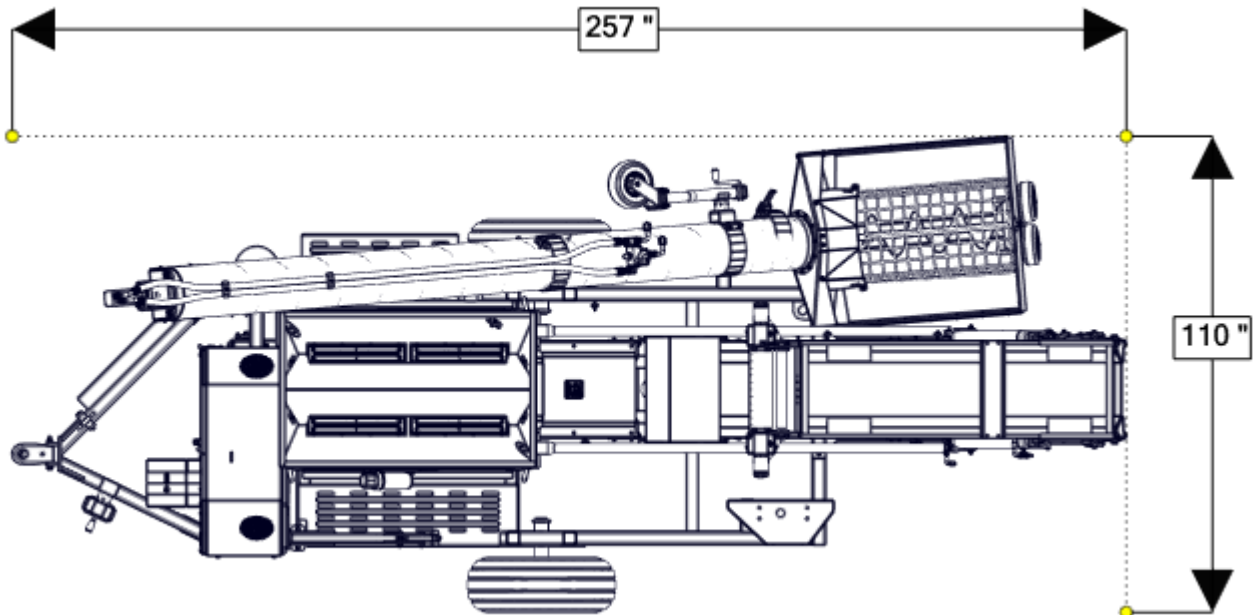
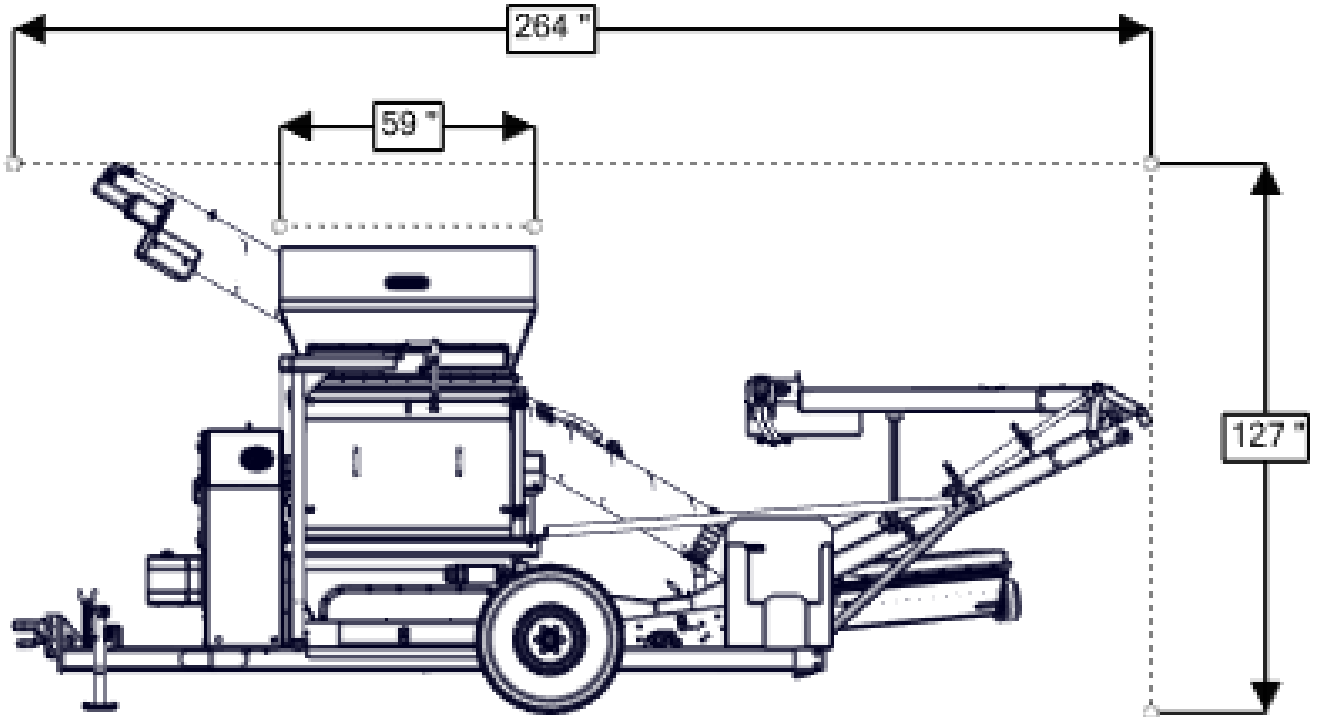
**ITEMS WITH * = INCH POUNDS
ALL OTHERS = FOOT POUNDS**

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

10 SPECIFICATIONS

10.4 Overall Dimensions

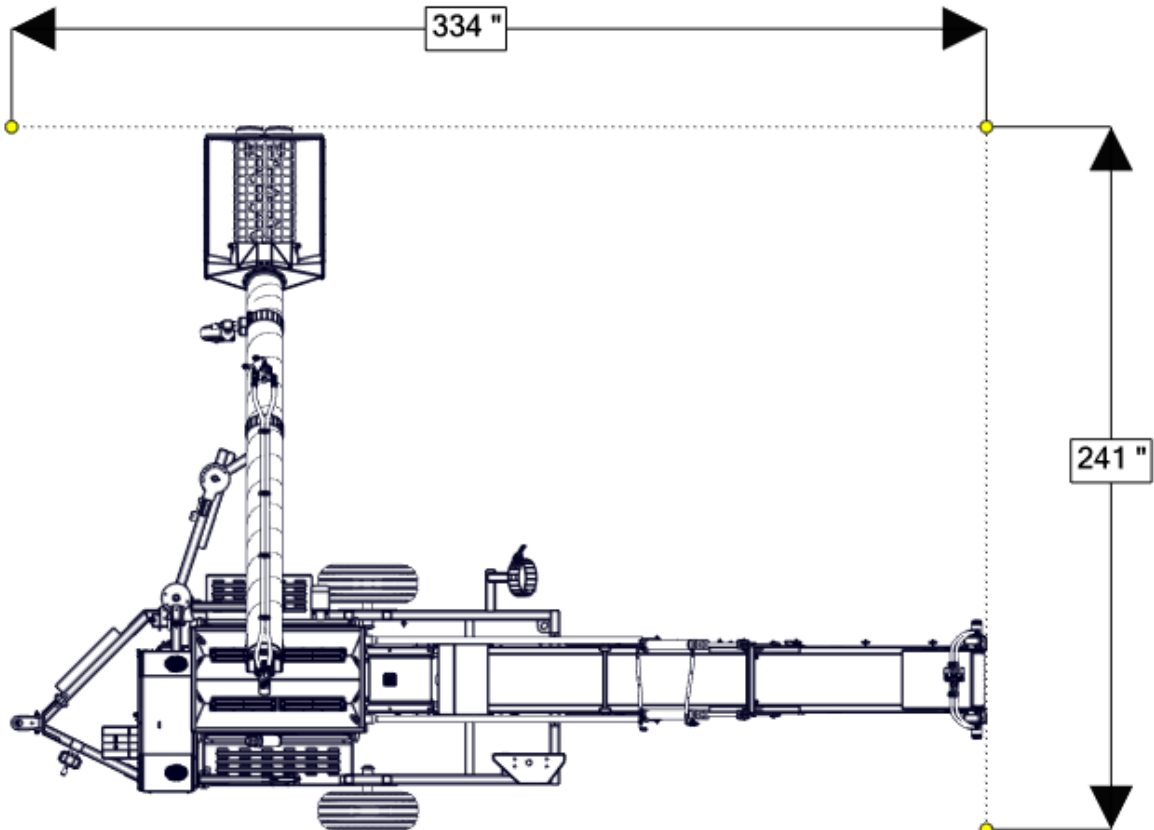
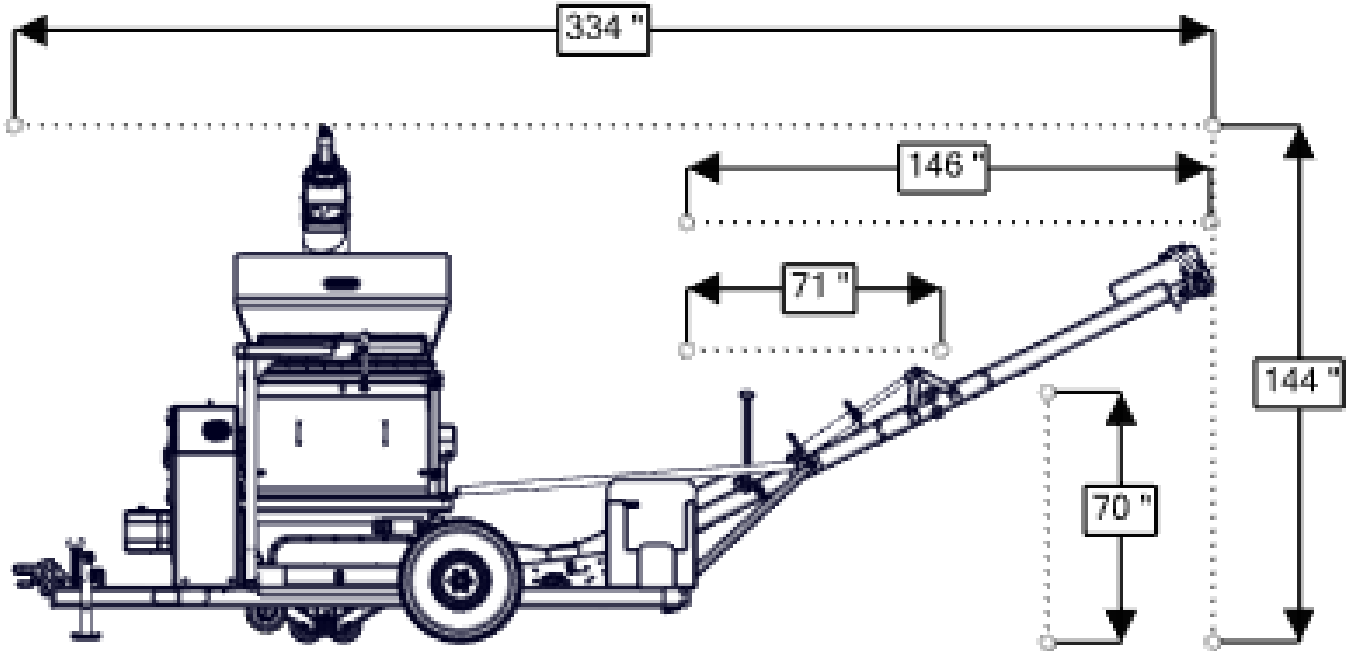
10.4.1 Transport Mode



10 SPECIFICATIONS

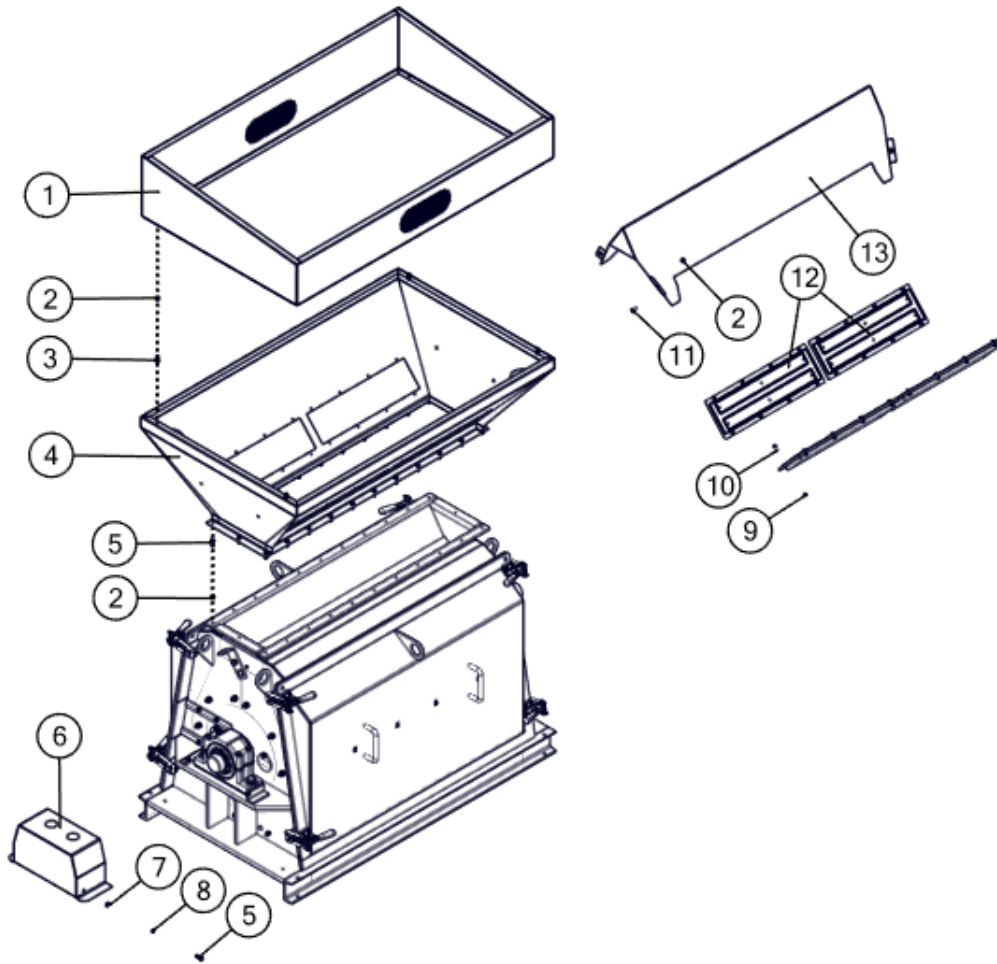
10.4 Overall Dimensions

10.4.2 Working Mode



11 PARTS

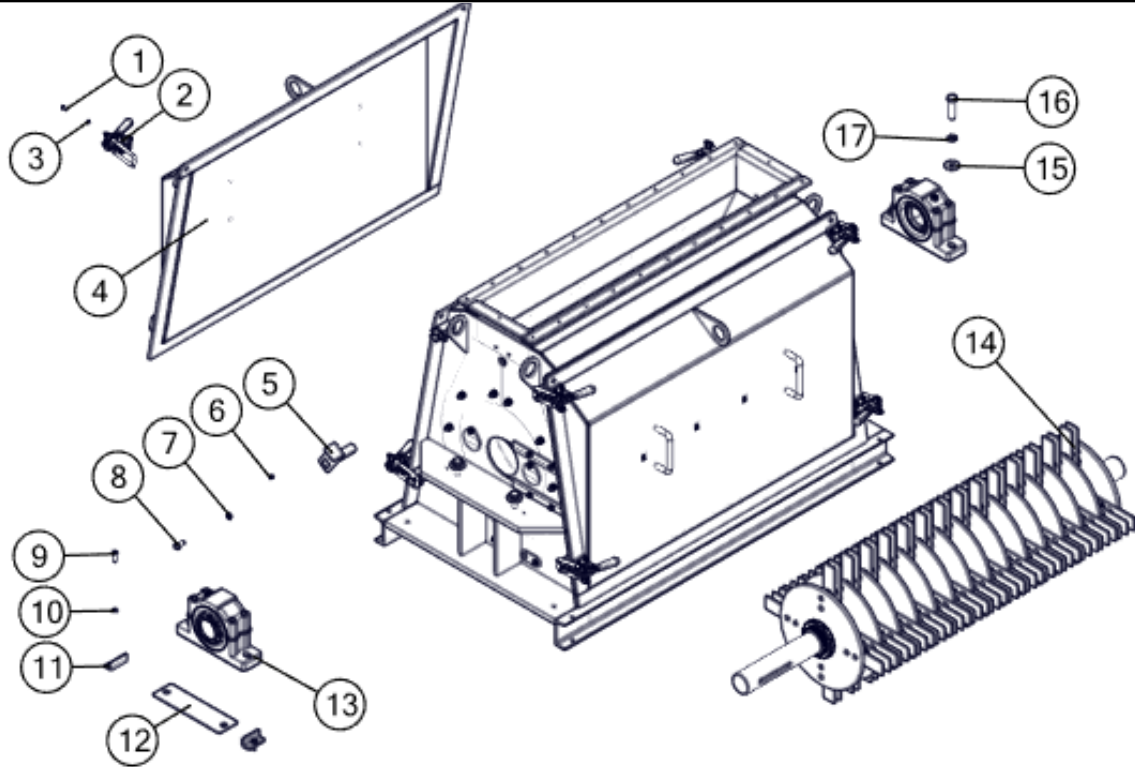
11.1 Upper Half



REF #	PART #	DESCRIPTION	QTY
1	674900-0151.01	Top Hopper Extension - 48"	1
2	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	32
3	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	4
4	674900-0175.00	48" Top Hopper Assembly	1
5	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	26
6	675100-0075.00	CSE Bliss Bearing Cover	1
7	168000-0540	Flat Washer 3/8" SAE	2
8	168600-0071	Washer Lock 3/8" NC PL	2
9	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	32
10	159300-0730	Hex Bolt - 5/16" NC x 3/4" Gr.5 PL	32
11	163000-0506	Carriage Bolt 3/8" NC x 3/4" Gr.5 PL	4
12	010000-0050	22.125" x 5.5" Plate Magnet	4
13	674900-0176.00	Grain Spreader - Top Hopper - 48" Aux HM	1

11 PARTS

11.1.1 Upper Half Cont'd



REF #	PART #	DESCRIPTION	QTY
1	159300-0540	Hex Bolt 1/4" NC x 1/2" Gr.5 PL	32
2	154000-0176	344R Pull Action Latch	8
3	168600-0060	Lock Washer - 1/4" PL	32
4	674900-0564.01	Door Weldment	2
5	674900-0568.00	Lever - Dirctional Panel	2
6	160200-0825	Socket Set Screw - 1/2" x 1/2" NC	2
7	168600-0098	Lock Washer - 1/2" PL	2
8	159400-0390	Hex Bolt - 1/2" NC x 1" Gr.5 PL	2
9	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	2
10	168600-0071	Lock Washer - 3/8" PL	2
11	474900-0961.00	RESTRAIN BAR - FRONT BEARING	2
12	474900-0922.00	10GA BEARING SHIM	2
13	114100-0305	2-15/16" Dodge Sperical Split Pillow Block Bearing	2
14	774900-0570.00	CSE Bliss 48" Hammer Mill Assembly	1
15	168000-0090	Flat Washer - 3/4" USS PL	4
16	159500-0260	3/4" x 3" NC Gr.8 Hex Bolt	4
17	168600-0127	Lock Washer - 3/4" NC PL	4

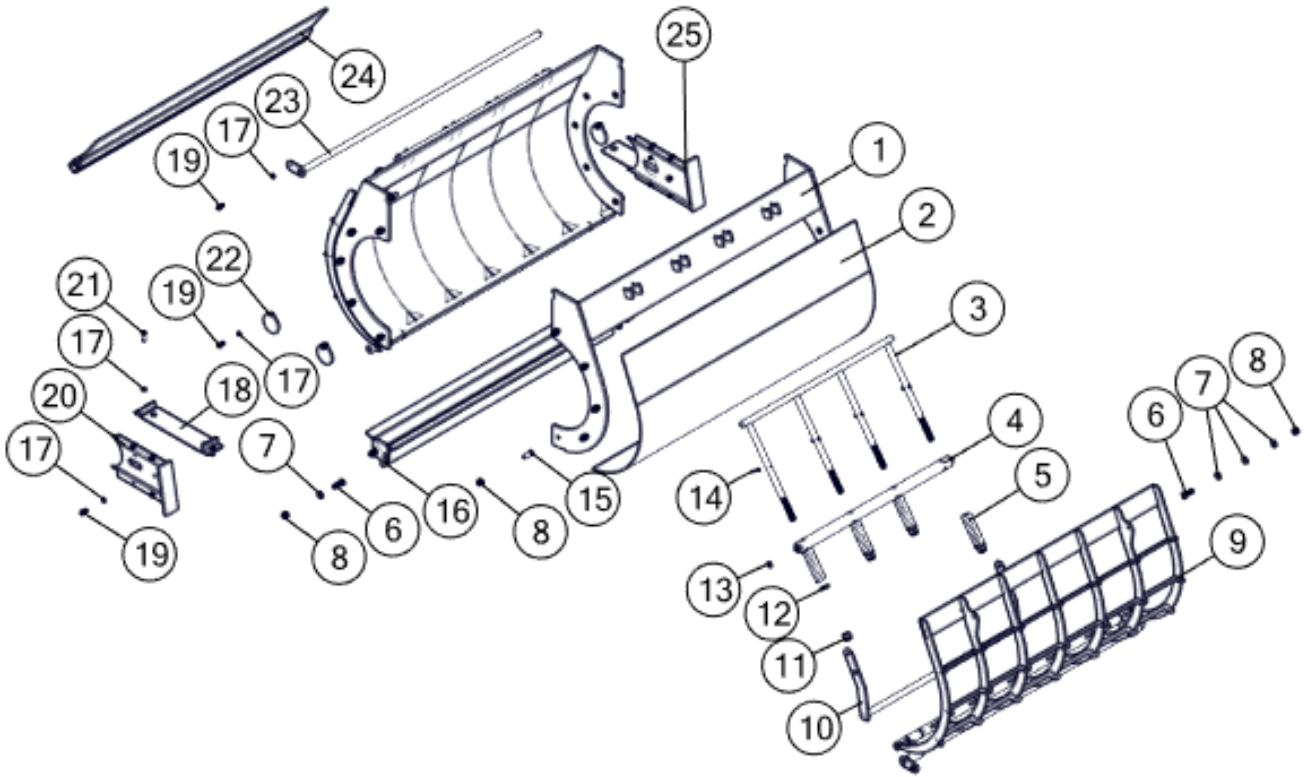
11 PARTS

11.2 Internal Assembly

REF #	PART #	DESCRIPTION	QTY
1	674900-0574.00	WEAR PLATES WELDMENT	2
2	300000-0510	1/4" x 48" x 10ga Screen	2
3	674900-0579.00	HANDLE WELDMENT - SCREEN CARRIAGE LATCH	2
4	474900-0878.00	CROSS SHAFT - CARRIAGE LATCH	2
5	303100-0208	Compression Spring - 1.5" OD x 5" Long	8
6	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	8
7	168000-0544	Flat Washer - 1/2" SAE PLTD	16
8	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	28
9	674900-0555.00	SCREEN CARRIAGE FRAME ASSY	2
10	674900-0558.00	HANDLE - LATCH SYSTEM	2
11	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	8
12	168000-0587	Flat Washer - 3/4" SAE PL	8
13	113900-0878	3/4" ID HD External Snap Ring .046 Thick	4
14	170000-0111	1/8" x 1-1/2" COTTER PIN	8
15	160300-0030	1/2" x 1-1/2" Flat Head Cap Screw	20
16	674900-0575.00	VORTEX CUTTER BLADE	1
17	168600-0071	Lock Washer - 3/8" PL	15
18	474900-0922.00	10GA BEARING SHIM	2
19	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	15
20	674900-0565.00	FRONT SLIDE PANEL - HOUSING	2
21	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	2
22	474900-0917.00	ROD COVER - SLID PANEL	4
23	674900-0557.00	HINGE PIN - SCREEN CARRIAGE	2
24	674900-0567.00	DIRECTIONAL GATE	1
25	674900-0566.00	REAR SLID PANEL - HOUSING	1

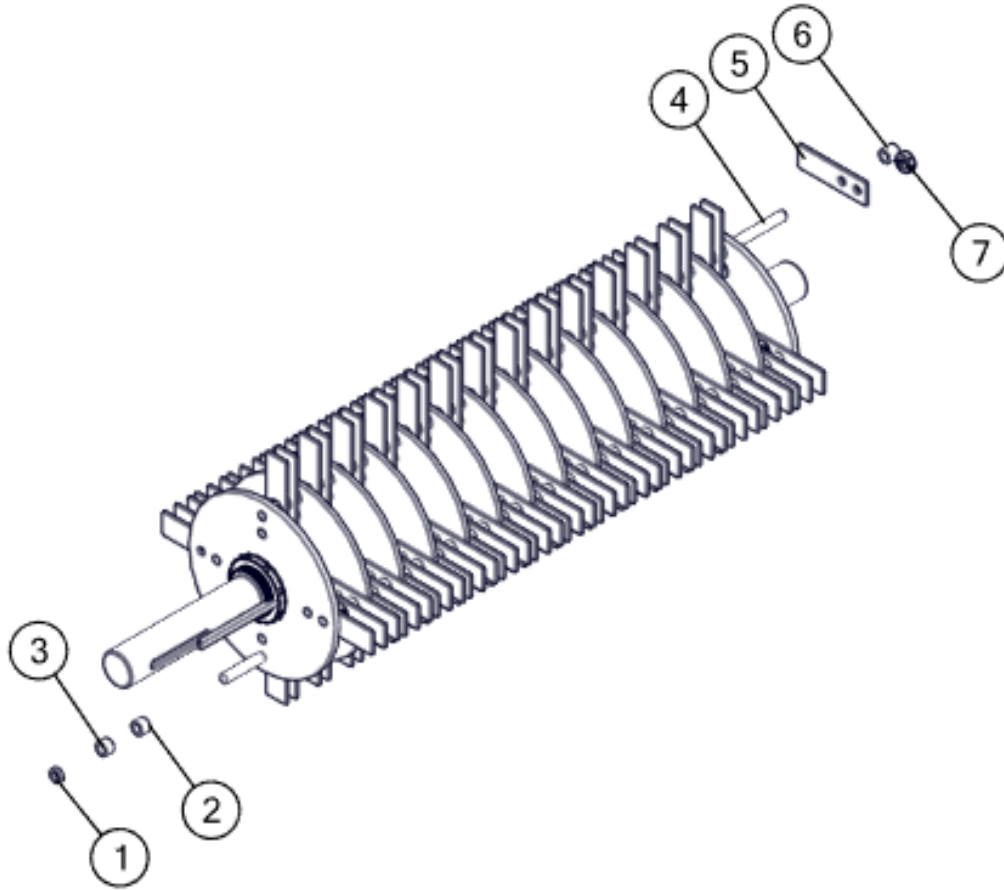
11 PARTS

11.2 Internal Assembly



11 PARTS

11.3 Hammer Mill Assembly (774900-0570.00)



REF #	PART #	DESCRIPTION	QTY
1	474900-0967.00	Spacer - 5/16" Long	2
2	474900-0965.00	Spacer - 13/16" Long	54
3	474900-0966.00	Spacer - 3/4" Long	28
4	474900-0964.00	HAMMER ROD	8
5	300000-0300	2 Hole Swing - 1/4" Hammer Plate	140
6	474900-0968.00	Spacer - 1-1/16" Long	54
7	300000-0304	SET COLLAR 3/4" SPLIT	12

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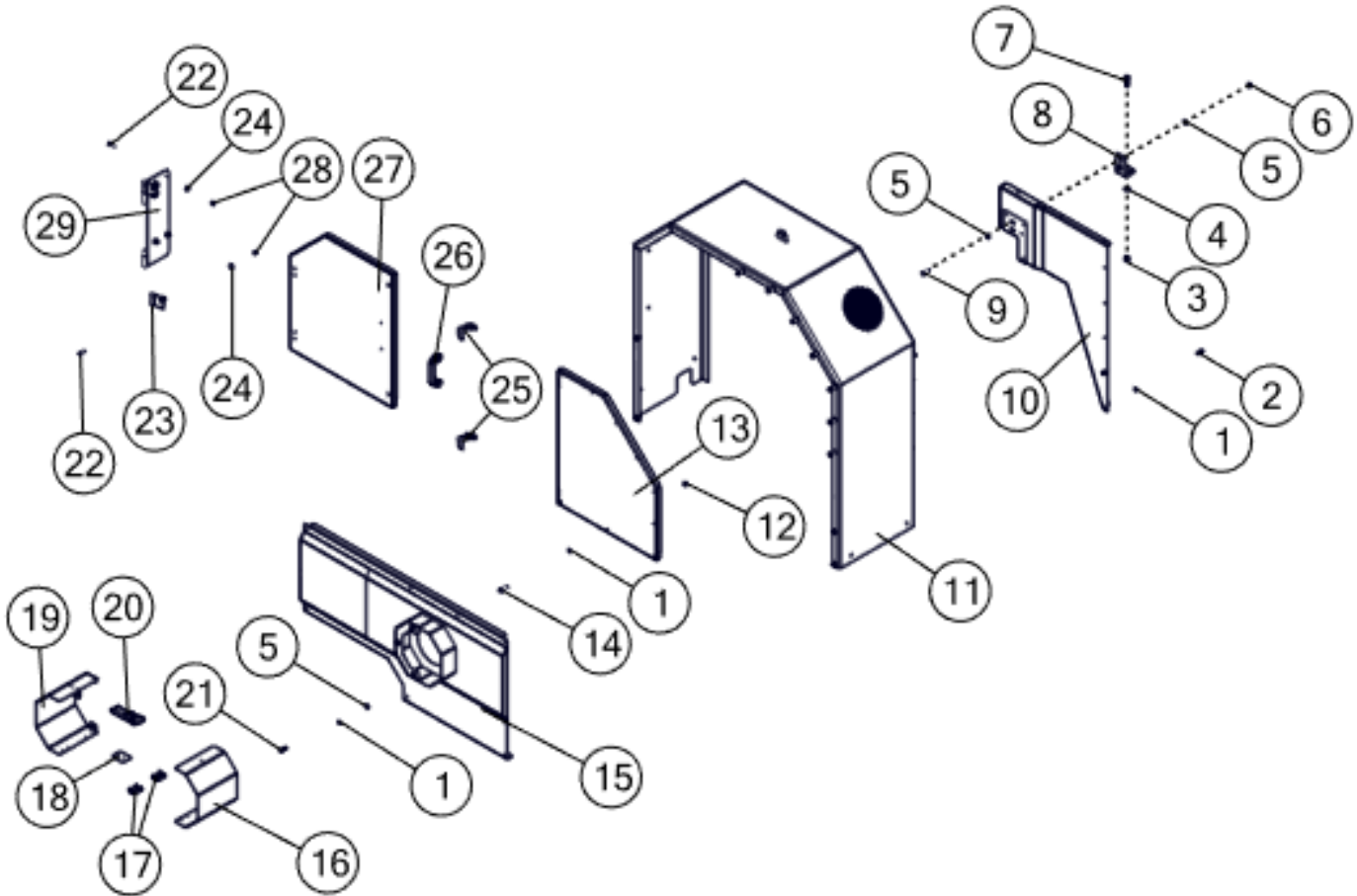
11 PARTS

11.4 Drive Shield - Front

REF #	PART #	DESCRIPTION	QTY
1	168600-0071	Lock Washer - 3/8" PL	21
2	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	12
3	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	1
4	168000-0544	Flat Washer - 1/2" SAE PLTD	1
5	168000-0540	Flat Washer - 3/8" SAE	7
6	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	5
7	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	1
8	474900-0750.01	Rear Bracket - Front Shield 2021	1
9	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	2
10	674900-0526.00	Lower Rear Panel Weldment - Front Shield	1
11	674900-0508.00	Front Shield Frame	1
12	167000-0787	Hex Nut - 3/8" NC Gr.5 PL	21
13	675100-0052.00	Bolt-up Lid - Front Shield	1
14	159300-0988	Hex Bolt - 3/8" NC x 1-1/2 Gr.5 PL	9
15	674900-0188.00	Lower Panel Weldment - Front Shield	1
16	474900-0979.00	PTO Shield	1
17	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
18	474900-0981.00	Lap Flat	1
19	474900-0980.01	PTO Shield	1
20	129085	LATCH, DRAW - SOUTHCO #C7-20	1
21	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	3
22	159300-0735	Hex Bolt - 5/16" NC x 1" Gr.5 PL	8
23	675100-0055.00	Hinge - Swing Door - Front Shield	2
24	168000-0040	Flat Washer - 5/16" USS PL	8

11 PARTS

11.4 Drive Shield - Front



25	154000-0150	Compression Latch	2
26	140000-0220	Pull Handle	1
**	159300-0730	Hex Bolt - 5/16" NC x 3/4" Gr.5 PL	2
**	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	2
27	475100-0111.01	Door Panel - Front Shield	1
28	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	10
29	675100-0054.00	Hinge Plate Weldment	1

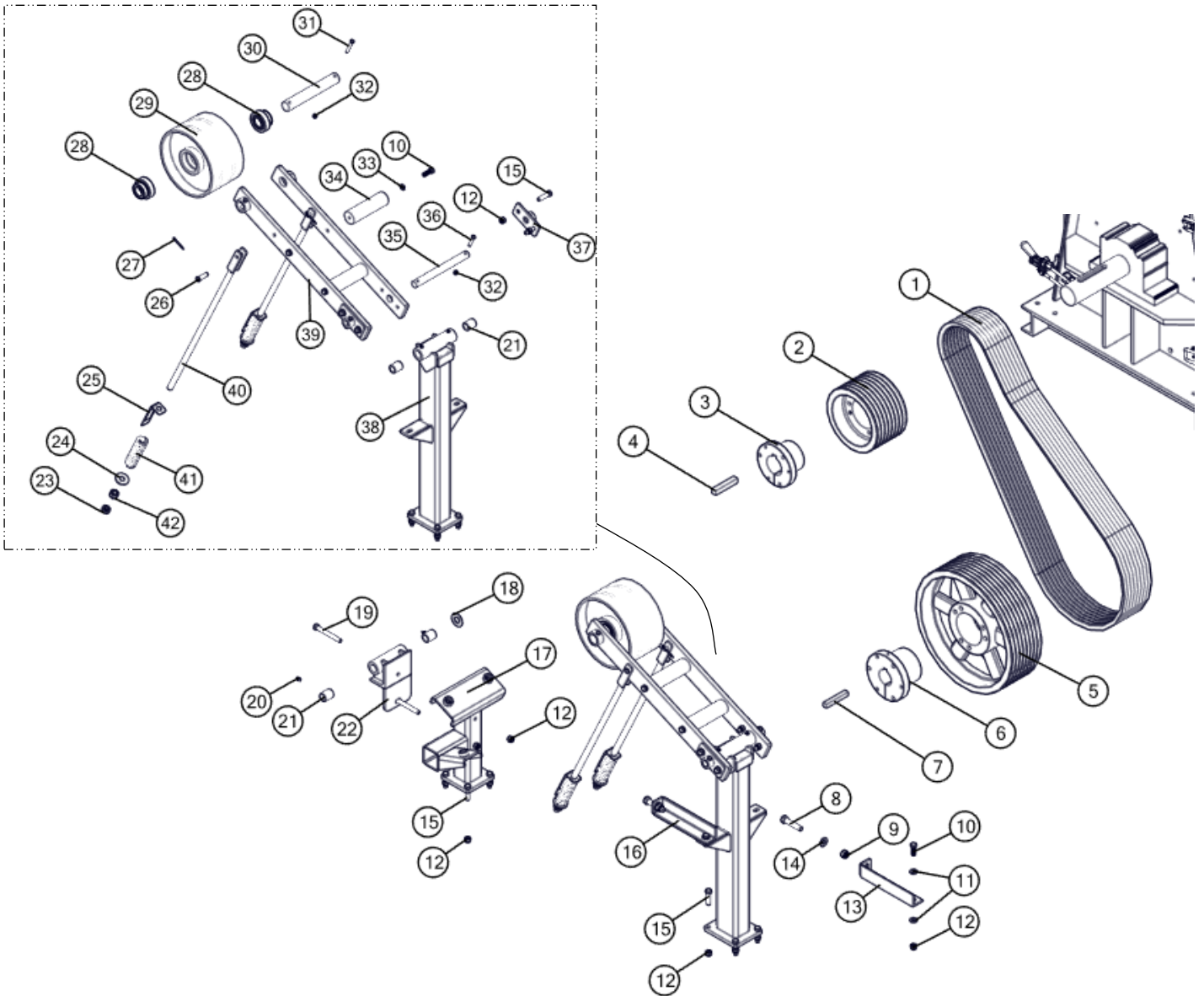
11 PARTS

11.5 Hammer Mill Belt Drive

REF #	PART #	DESCRIPTION	QTY
1	144700-0704	8/5VX1120 Super HC Power Band Belt	1
2	143500-0809	Sheave - 8-5V x 9.75dia. (F)	1
3	142100-0538	QD Bushing - 'F' Series - 2-15/16"	1
4	415000-0745.01	3/4" Keystock x 4.25"	1
5	143500-0818	Sheave - 8-5V x 18.7dia. (J)	1
6	142100-0540	QD Bushing - 'J' Series - 2-7/16" Bore	1
7	415000-0694.00	5/8" Keystock - Front Drive Pulley	1
8	159400-0646	Hex Bolt 5/8" NC x 3" Gr.5 PL	2
9	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	2
10	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	4
11	168000-0544	Flat Washer - 1/2" SAE PLTD	4
12	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	16
13	674900-0157.00	Rear Bracket - Idler Support Post - 48"	1
14	168000-0580	Flat Washer - 5/8" SAE PL	4
15	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	4
16	674900-0158.00	Front Bracket - Idler Support Post - 48"	1
17	674900-0162.00	Tensioner Support	1
18	168000-0598	Flat Washer - 1" SAE PL	1
19	159400-0500	Hex Bolt - 1/2" NC x 4-1/2" Gr.5	2
20	133200-0040	Grease Nipple - 1/8" NPT	4
21	113500-0127	Oilite Bushing - 1" x 1-1/4" x 1-1/2"	4
22	674900-0163.00	Tensioning Arm Bushing	1
23	167000-0675	Jam Nut - 3/4" NC Gr.5 PL	2
24	168000-0090	Flat Washer - 3/4" USS PL	2
25	474900-0287.00	Spring Guide - Tensioner	2
26	161400-0280	Pin - 1/2"dia. x 1-3/4" long	2
27	170000-0160	Cotter Pin 5/32" x 1-1/2"	2
28	114100-0040	Bearing - Cylindrical 80mm OD, 1-1/2" ID	2
29	674900-0020.00	Idler Pulley Weldment - Mill	1
30	474900-0063.00	Idler Pulley Shaft - Mill	1
31	159300-0800	Hex Bolt - 5/16" NC x 2-1/2" Gr.5 PL	2
32	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	4
33	168600-0098	Lock Washer - 1/2" PL	2

11 PARTS

11.5 Hammer Mill Belt Drive



34	474900-0012.00	Holder - Idler Arms	2
35	475000-0097.00	Pivot Pin - Idler Support	1
36	159300-0792	Hex Bolt - 5/16" x 2" Gr5 PL	2
37	675000-0043.00	Pivot Pin Support Bushing	2
38	674900-0205.00	Idler Pulley Post Weldment	1
39	674900-0165.00	Idler Pulley Arm	2
40	674900-0122.00	Tensioning Rod - Idler - Mill	2
41	303100-0206	Comp Spring .5pitch -.306"wire dia x 1.625" od x 6" long	2
42	167000-0835	Hex Nut - 3/4" NC Gr.5 PL	2

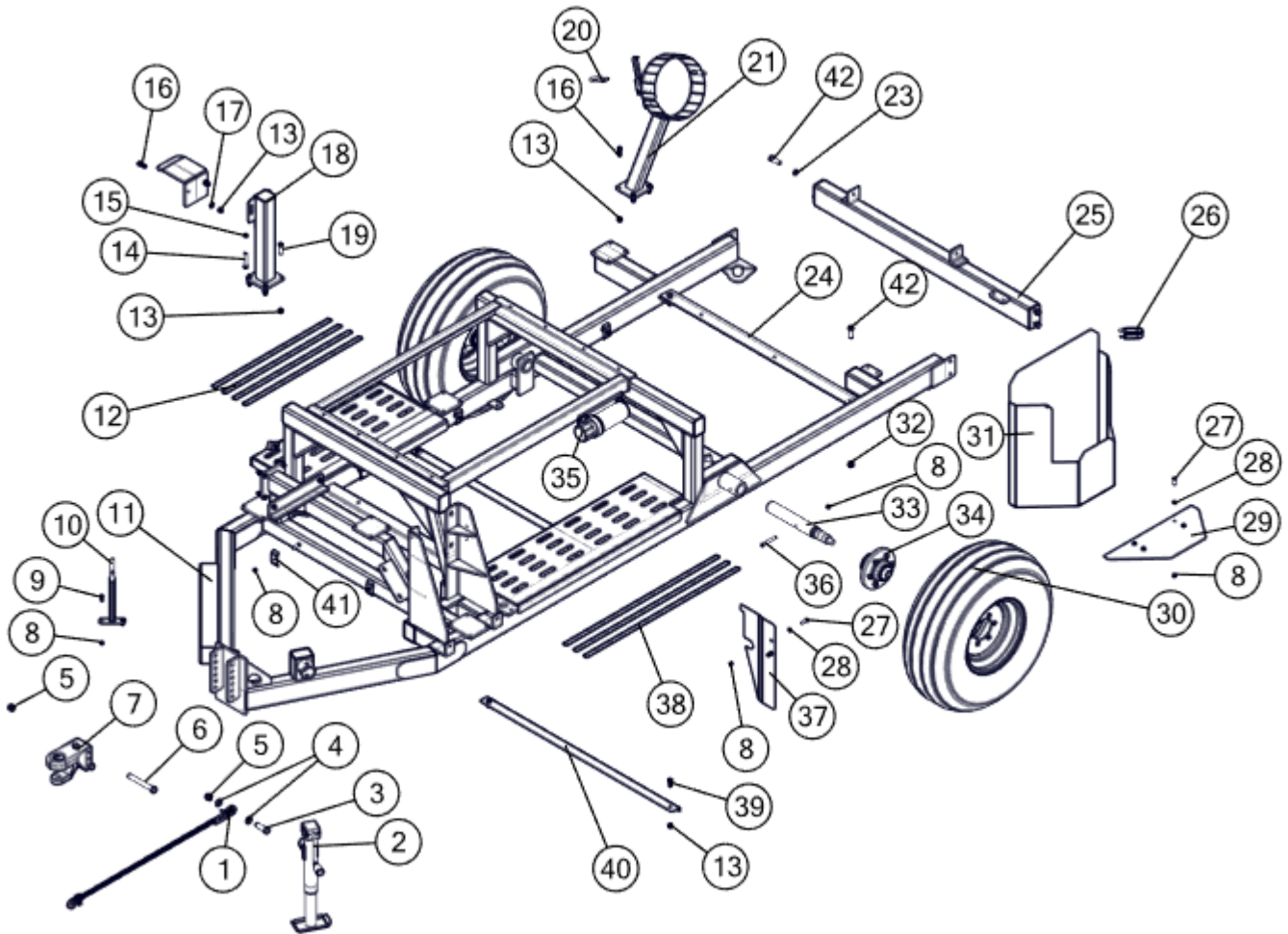
11 PARTS

11.6 Trailer Assembly

REF #	PART #	DESCRIPTION	QTY
1	140000-0490	Safety Chain	1
2	341100-0050	Jack - 7000lb x 10" - Side Wind	1
3	159400-0806	Hex Bolt - 3/4" NC x 2-1/2" Gr.5 PL	1
4	168000-0587	Flat Washer - 3/4" SAE PL	2
5	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	3
6	159400-0819	Hex Bolt - 3/4" NC x 6-1/2" Gr.5 PL	2
7	343000-0299	Base Hitch/Clevis Assembly Cat. 2	1
8	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	16
9	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	2
10	674900-0199.00	PTO Stand - Hammer Mill	1
11	674900-0528.00	Hitch Frame - HM 18S Conveyor	1
12	474900-0528.00	Tread Tape - 1"	4
13	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	18
14	159600-0430	Hex Bolt - Full Thread - 1/2" NC x 3" Gr.5 PL	1
15	167000-0650	Jam Nut - 1/2" NC Gr.5 PL	1
16	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	6
17	168000-0544	Flat Washer - 1/2" SAE PLTD	2
18	674900-0140.01	In-Feed Auger - Arm Rest	1
19	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	8
20	161500-0505	Safety Pin - 1/8"	1
21	674900-0529.00	12" Feed Auger Transport Support	1
22	159400-0628	Hex Bolt - 5/8" NC x 2" Gr.5	6
23	168600-0120	Lock Washer - 5/8" PL	4
24	474900-0709.00	Cross Angle Mill Support - Rear	1
25	674900-0520.00	Rear Cross Tube - Bolt-up - Chassis	1
26	140000-0217	9" TARP STRAP	1
27	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	6
28	168000-0540	Flat Washer - 3/8" SAE	6
29	474900-0747.00	Rubber Matt - Screen Storage - HM-C	1
30	100100-0600	Tire & Rim - 12.5L x 16IMP 16 x 10 x 6BL	2
31	674900-0141.00	Screen Storage	1
32	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	2

11 PARTS

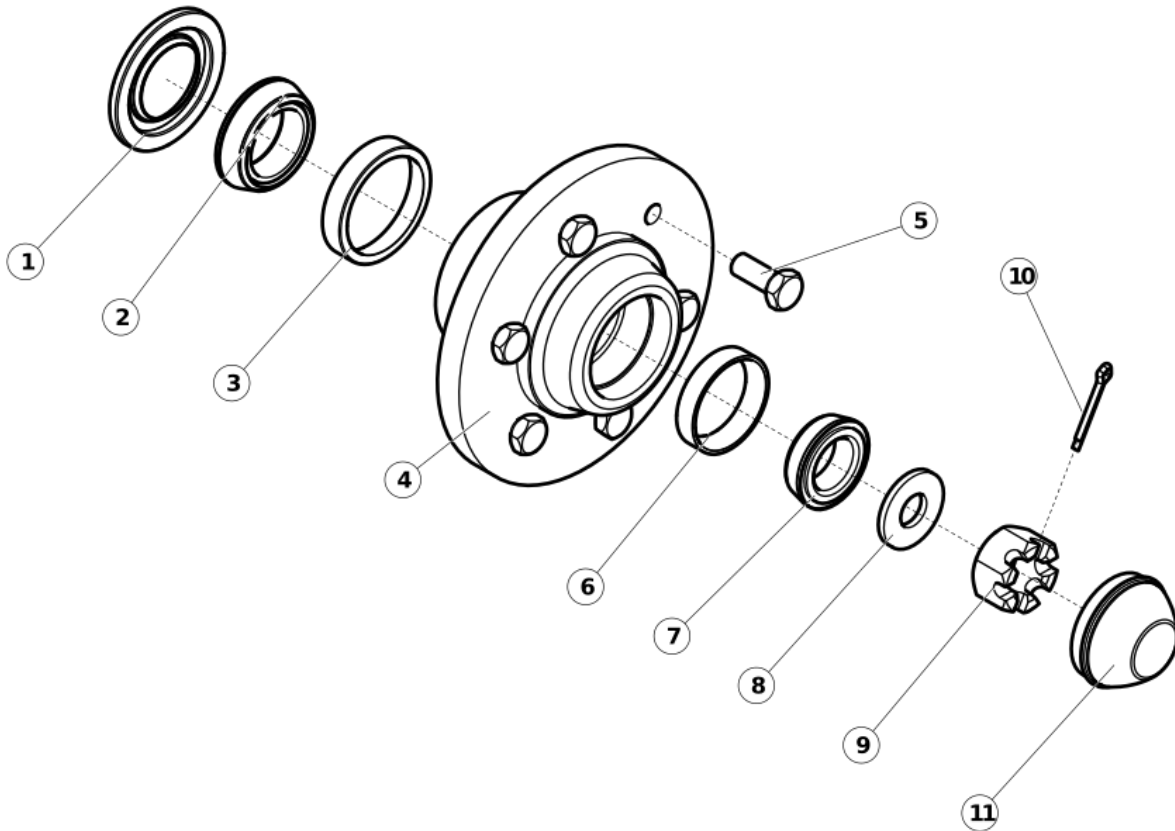
11.6 Trailer Assembly



33	414800-0516.00	Spindle - 614	2
34	340800-0615	Hub Assembly - 614	2
35	147000-0010	Manual Canister	1
**	159300-0735	Hex Bolt - 5/16" NC x 1" Gr.5 PL	2
**	168000-0040	Flat Washer - 5/16" USS PL	2
**	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	2
36	159400-0007	Hex Bolt - 3/8" NC x 3-1/2" NC Gr.5 PL	2
37	474900-0738.00	Rear Panel - Front Shield - HM-C	1
38	474900-0529.00	Tread Tape - 1" X 42"	3
39	159400-0395	Hex Bolt - 1/2" NC x 1-1/4" Gr.5 PL	4
40	474900-0752.00	Belt Rest Cross Bar	2
41	480100-0722.01	Hose Clamp	6

11 PARTS

11.6.1 Hub Assembly (340800-0615)

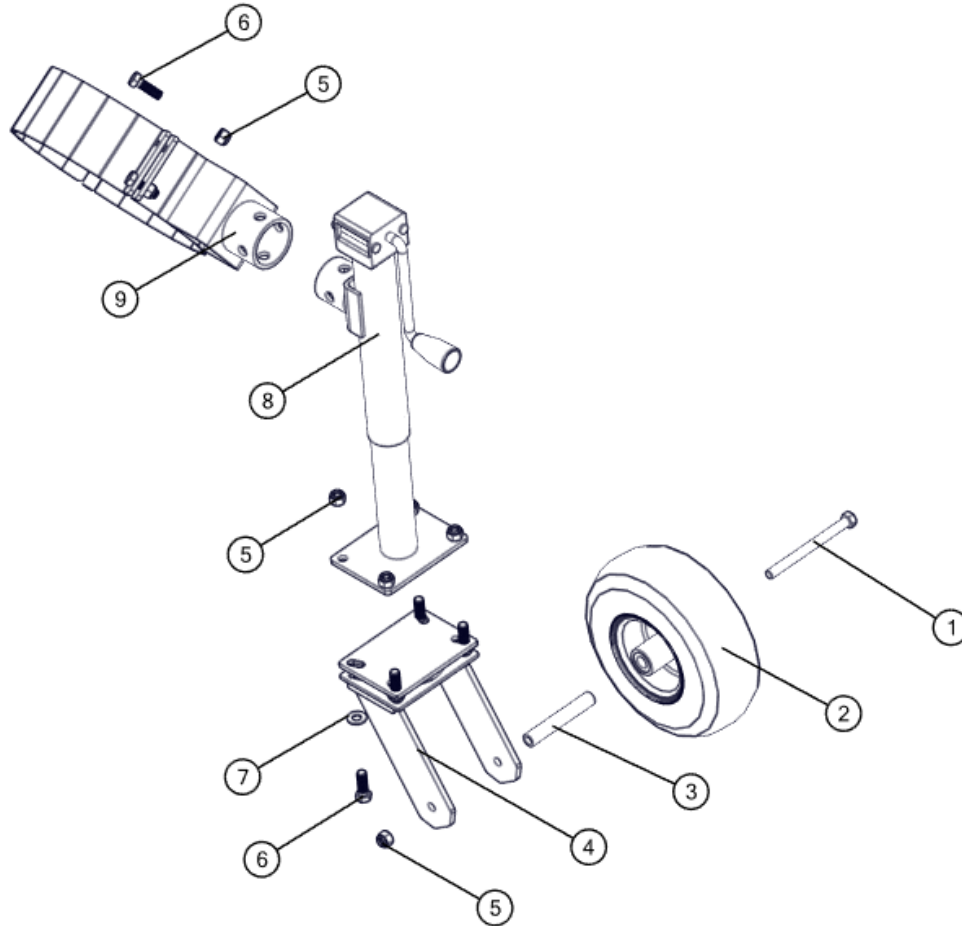


REF #	PART #	DESCRIPTION	QTY
1	340100-0016	Grease Seal - SE-16	1
2	114500-0135	Inner Cone - LM-603049	1
3	115000-0026	Inner Cup - LM-603011	1
4	340000-0614	614 Hub	1
5	340300-0012	Wheel Bolt - 9/16" - 18 NF x 1-1/4"	6
6	115000-0027	Outer Cup - LM-48510	1
7	114500-0022	Outer Cone - LM-48548	1
8	340700-0517	Spindle Washer 7/8" I.D., 2" O.D., 0.187" Thick	1
9	340700-0033	Spindle Nut - 1" x 14 UNF	1
10	170000-0190	Cotter Pin - 3/16" x 1.5"	1
11	340200-0015	Dust Cap - 2.72" x 1.45"	1

11 PARTS

11.7 In-Feed Auger

11.7.1 In-Feed Auger - Support Jack Assembly



REF #	PART #	DESCRIPTION	QTY
1	159400-0520	Hex Bolt - 1/2" NC x 6" Gr5 PL	1
2	100100-0415	Caster - 4" x 11" - Non-tread - Tire Only	1
3	100100-0416	Center Spanner Bushing	1
4	680700-0068.00	Frame Weldment - Caster	1
5	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	7
6	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	6
7	168000-0544	Flat Washer - 1/2" SAE PLTD	4
8	674900-0048.00	Jack - In-feed Auger	1
9	674900-0086.00	12" Feed Auger Clamp - Pivot	1

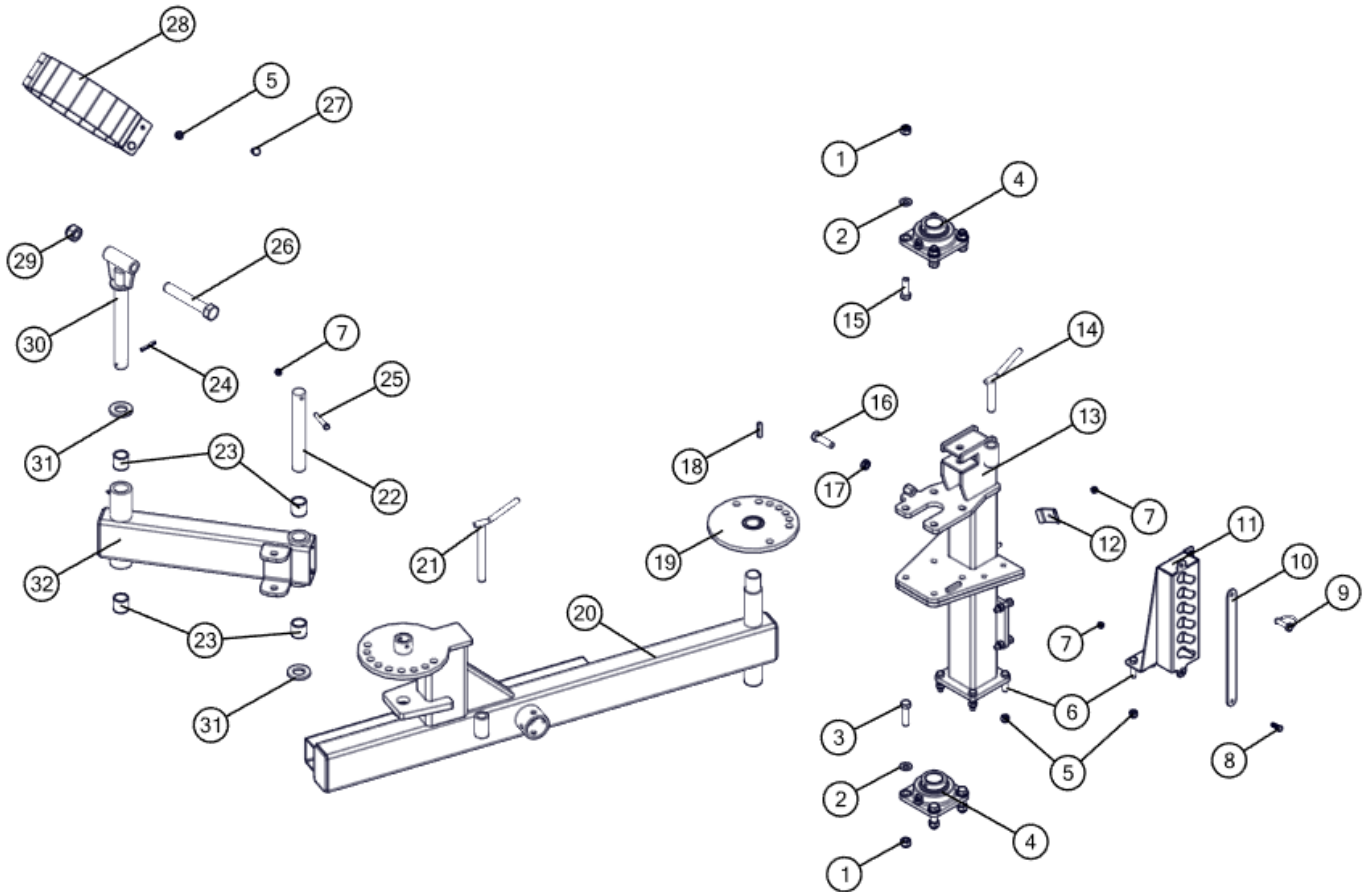
11 PARTS

11.7.2 In-Feed Auger - Lift and Swing Pedestal

REF #	PART #	DESCRIPTION	QTY
1	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	8
2	168000-0580	Flat Washer - 5/8" SAE PL	8
3	159400-0636	Hex Bolt - 5/8" NC x 2-1/2" Gr.5 PL	4
4	114000-0250	Bearing - 4-Bolt Flange 1-15/16" ID NTN (UELFU-1.15/16M)	2
5	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	12
6	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	10
7	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	3
8	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	1
9	161500-0498	Quick Pin, 3/8" x 1-5/8"	1
10	474900-0695.00	Lock Plate - Hose Hanger (3 Sets)	1
11	674900-0513.00	Hose Hanger (2 Sets) - Vertical Mount	1
**	159400-0110	Hex Bolt 7/16" NC x 1"	4
**	167200-0414	Top Lock Nut 7/16" NC	4
12	480100-0722.01	Hose Clamp	1
13	674900-0503.00	Arm Post Weldment - In-feed Auger (HM Conveyor)	1
14	120000-0515	3/4" x 4" Long Plated Pin	1
15	159400-0628	Hex Bolt - 5/8" NC x 2" Gr.5	4
16	159400-0634	Hex Bolt 5/8" NC x 2-1/4" Gr.5 PL	1
17	167000-0658	Jam Nut - 5/8" NC Gr.5 PL	1
18	474900-0187.00	Keystock 3/8" x 1-3/4"	1
19	674900-0027.00	Positioning Disc - Primary Arm	1
20	674900-0186.00	Primary Arm Weldment - 48" HM	1
21	120000-0514	3/4" x 7-1/2" Long Plated Pin	1
22	475100-0097.00	Pin - Secondary Arm	1
23	113500-0141	Oilite Bushing - 1-3/8" x 1-5/8" x 1-1/2"	4
24	172200-0793	Spring Pin - 5/16" x 2"	1
25	159400-0004	Hex Bolt - 3/8" NC x 2-1/2" Gr.5 PL	1
26	159500-0075	Hex Bolt - 1" NC x 6-1/2" Gr5	1
27	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	2
28	671300-0364.00	12" Auger Clamp	1
29	167200-0694	Nyloc Nut - 1" NC Gr.5 PL	1

11 PARTS

11.7.2 In-Feed Auger - Lift and Swing Pedestal



30	674900-0025.00	Pivot Pin Weldment - In-feed Auger	1
31	147100-0256	UHMW Washer - 2.5OD x 1.375ID x .25T	1
32	675100-0028.00	Secondary Arm Weldment	1

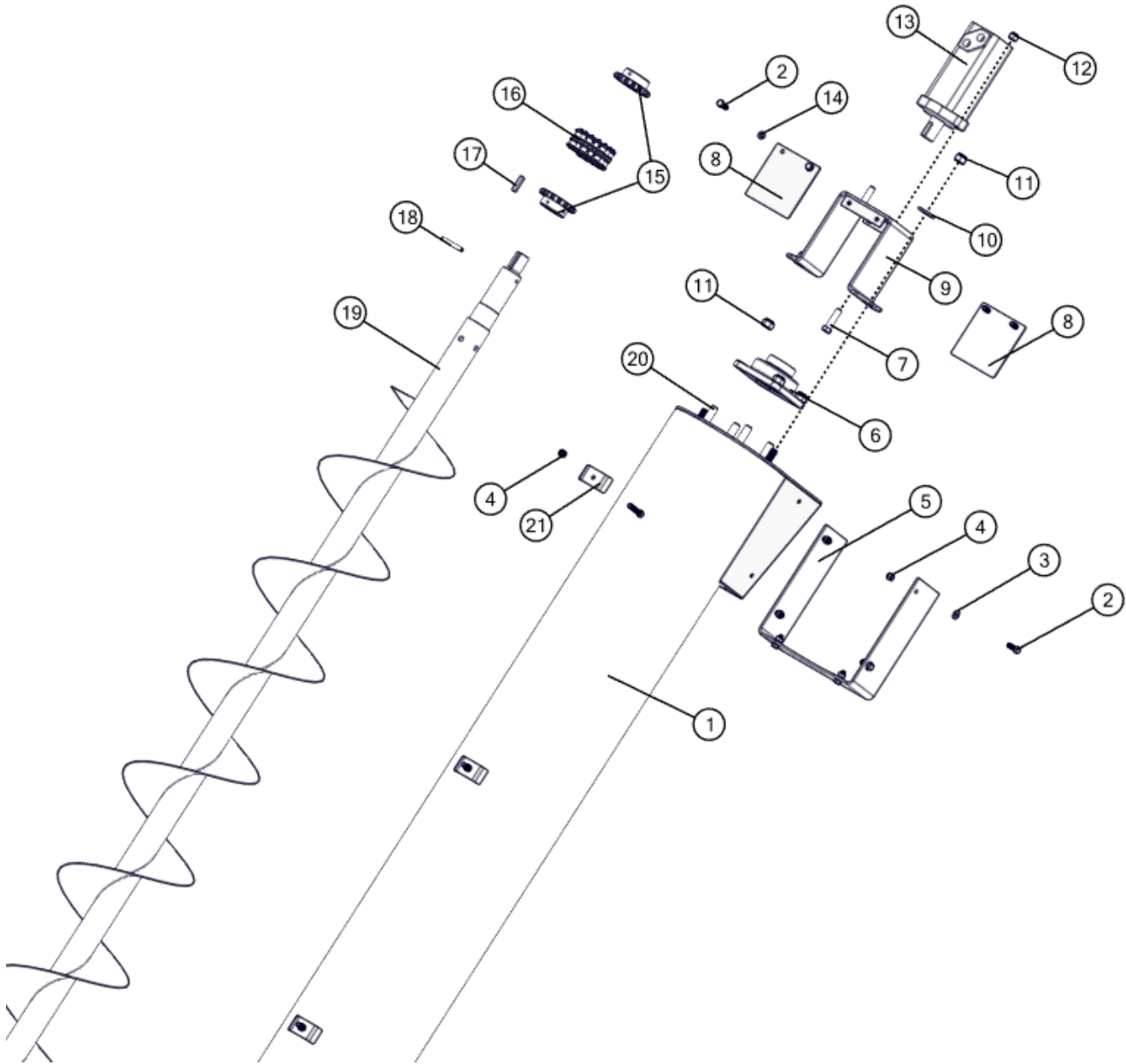
11 PARTS

11.7.3 In-Feed Auger - Upper Assembly

REF #	PART #	DESCRIPTION	QTY
1	671300-0372.00	12' x 14' Transfer Auger Tube - 3/4" Hyd. Hose	1
2	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	10
3	168000-0540	Flat Washer - 3/8" SAE	6
4	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	10
5	470000-0214.00	Rubber Belting - 3/16" x 4"	1
6	114000-0250	Bearing - 4-Bolt Flange 1-15/16" ID NTN (UELFU-1.15/16M)	1
7	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	2
8	471300-0293.00	Shield - 2000 Series Motor	2
9	671300-0324.00	Hydraulic Motor Mount Weldment	1
10	168000-0080	Flat Washer - 5/8" USS PL	2
11	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	6
12	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	2
13	111200-0029	Hydraulic Motor 11.9cu in. 2000 Series	1
14	168600-0071	Lock Washer - 3/8" PL	4
15	129000-0514	Sprocket - 14 Tooth #60 x 1-1/4"	2
16	140100-0059	Chain - Double #60 - 14 Pins, 14 Rollers, w/ Connector	1
17	414000-0583.00	5/16" Keystock x 1-1/2"	1
18	172200-0790	Spring Pin - 5/16 x 2-1/2"	1
19	671300-0358.00	Auger Weldment - Upper Section	1
20	159400-0628	Hex Bolt - 5/8" NC x 2" Gr.5	4
21	480100-0722.01	Hose Clamp	4

11 PARTS

11.7.3 In-Feed Auger - Upper Assembly



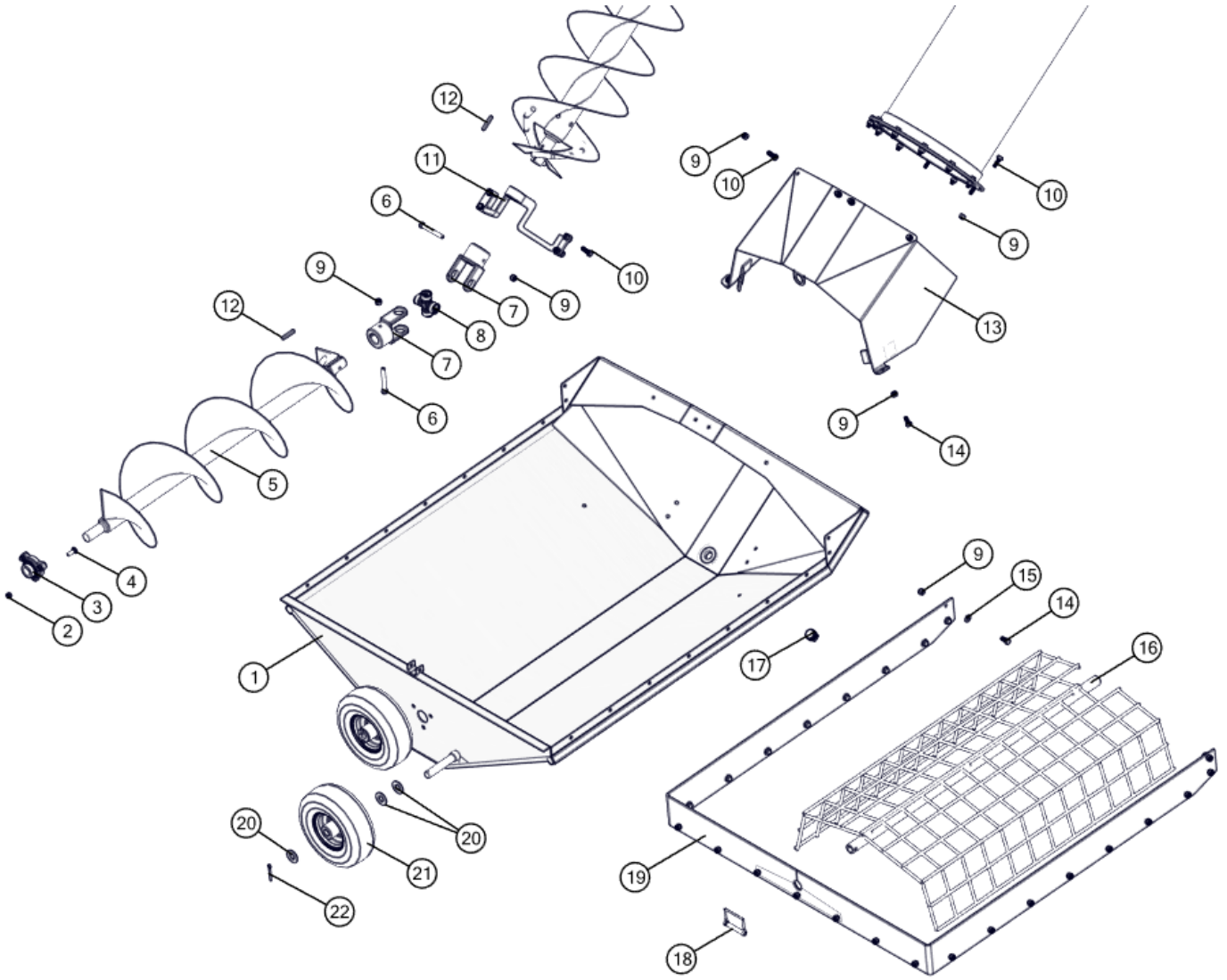
11 PARTS

11.7.4 In-Feed Auger - Lower Assembly

REF #	PART #	DESCRIPTION	QTY
1	671300-0659.00	Hopper Weldment	1
2	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	3
3	114000-0144	1" - 3-Hole Cast Flange Bearing	1
4	163000-0299	Carriage Bolt - 5/16" x 1" Gr.5 PL	3
5	671300-0320.00	Auger Weldment	1
6	159400-0005	Hex Bolt - 3/8" NC x 3" Gr.5 PL	2
7	470000-0225.00	End Yoke Series 14 1-1/4" Bore w/ Cross Hole	2
8	380000-0014	Series 14 Cross Bearing Kit - Transfer Hopper	1
9	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	43
10	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	20
11	671300-0293.00	Bushing Support Assembly	1
12	414000-0856.00	1/4" Keystock x 1-3/4"	2
13	471300-0729.00	Deflector Shield	1
14	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	27
15	168000-0540	Flat Washer - 3/8" SAE	25
16	671300-0341.01	Safety Shield	1
17	105000-0672	Hopper Drain Plug	1
18	161500-0500	Quick Pin - 3/8 x 2-1/2" PLT wire lock	1
19	470000-0255.01	Rubber Belting - 3/16" x 4"	1
20	168000-0587	Flat Washer - 3/4" SAE PL	6
21	100100-0423	Tire - 9" Smooth Solid	2
22	170000-0190	Cotter Pin - 3/16" x 1.5"	2

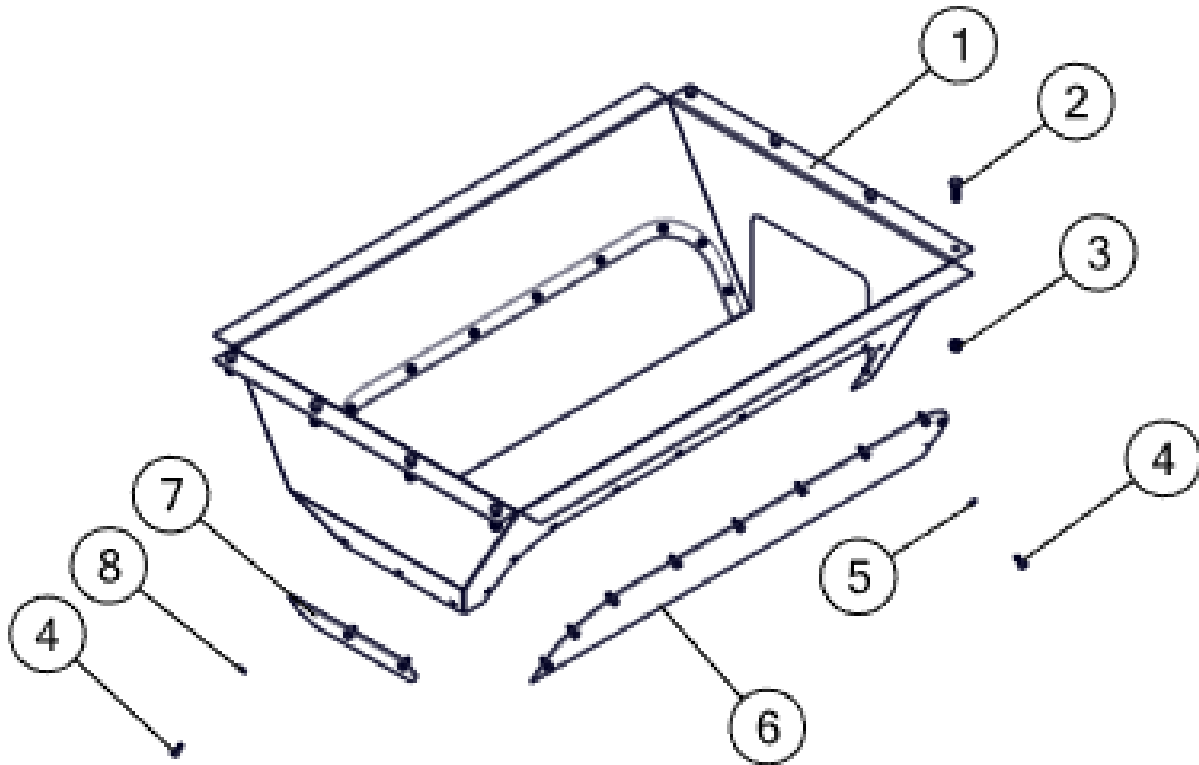
11 PARTS

11.7.4 In-Feed Auger - Lower Assembly



11 PARTS

11.8 Bottom Hopper

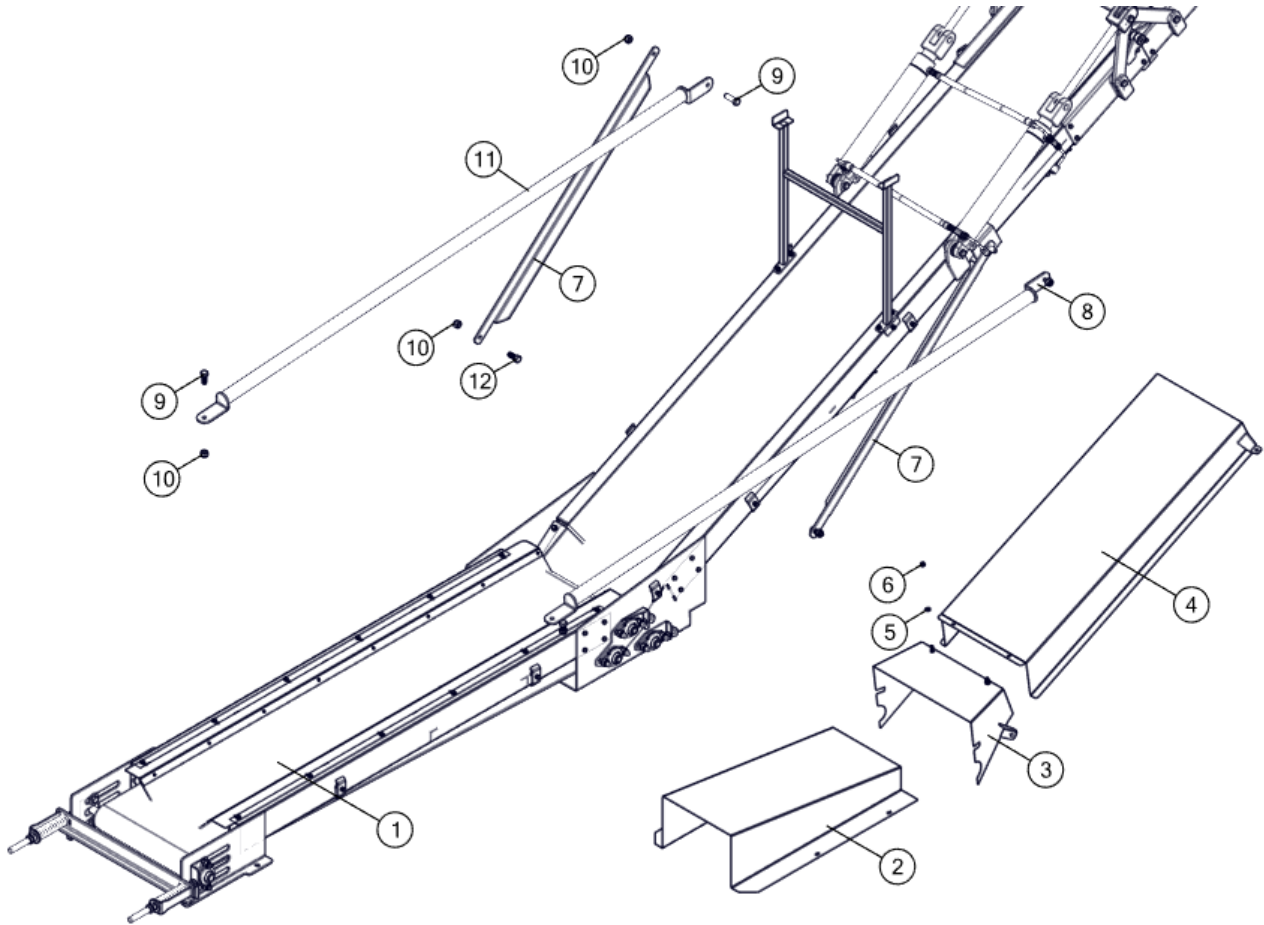


REF #	PART #	DESCRIPTION	QTY
1	674900-0582.00	Bottom Drop Hopper - 48 HM 18S Conv - 2024	1
2	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	8
3	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	8
4	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	23
5	168600-0071	Lock Washer - 3/8" PL	20
6	474900-0988.00	Clean-up Cover - Drop Hopper - 2024	2
7	470000-1046.01	Belt - Front Grain Containment - Drop Hopper - 2020	1
8	168000-0540	Flat Washer - 3/8" SAE	3

11 PARTS

11.9 Conveyor

11.9.1 Conveyor - Cover & Support



REF #	PART #	DESCRIPTION	QTY
1	145000-0050	Rubber Belting - 18" wide x 50' 1" long	1
2	474900-0742.00	Cover - Slave Bed - Conveyor - 48" HM-C	1
3	674900-0524.00	Transition Cover Weldment - Conveyor - HM-C	1
4	674900-0525.00	Cover Weldment - Incline Bed - Conveyor	1
5	168000-0540	Flat Washer - 3/8" SAE	2
6	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	2
7	474900-0739.00	D.S. Stabilizer - Incline Bed - HM-C	2
8	674900-0522.00	D.S. Support Pipe - Lateral - HM-C	1
9	159400-0595	Hex Bolt - 5/8" NC x 1-3/4" Gr 5 PL	4
10	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	6
11	674900-0523.00	P.S. Support Pipe - Lateral - HM-C	1
12	159400-0594	Hex Bolt - 5/8" NC x 1-1/2" Gr.5 PL	2

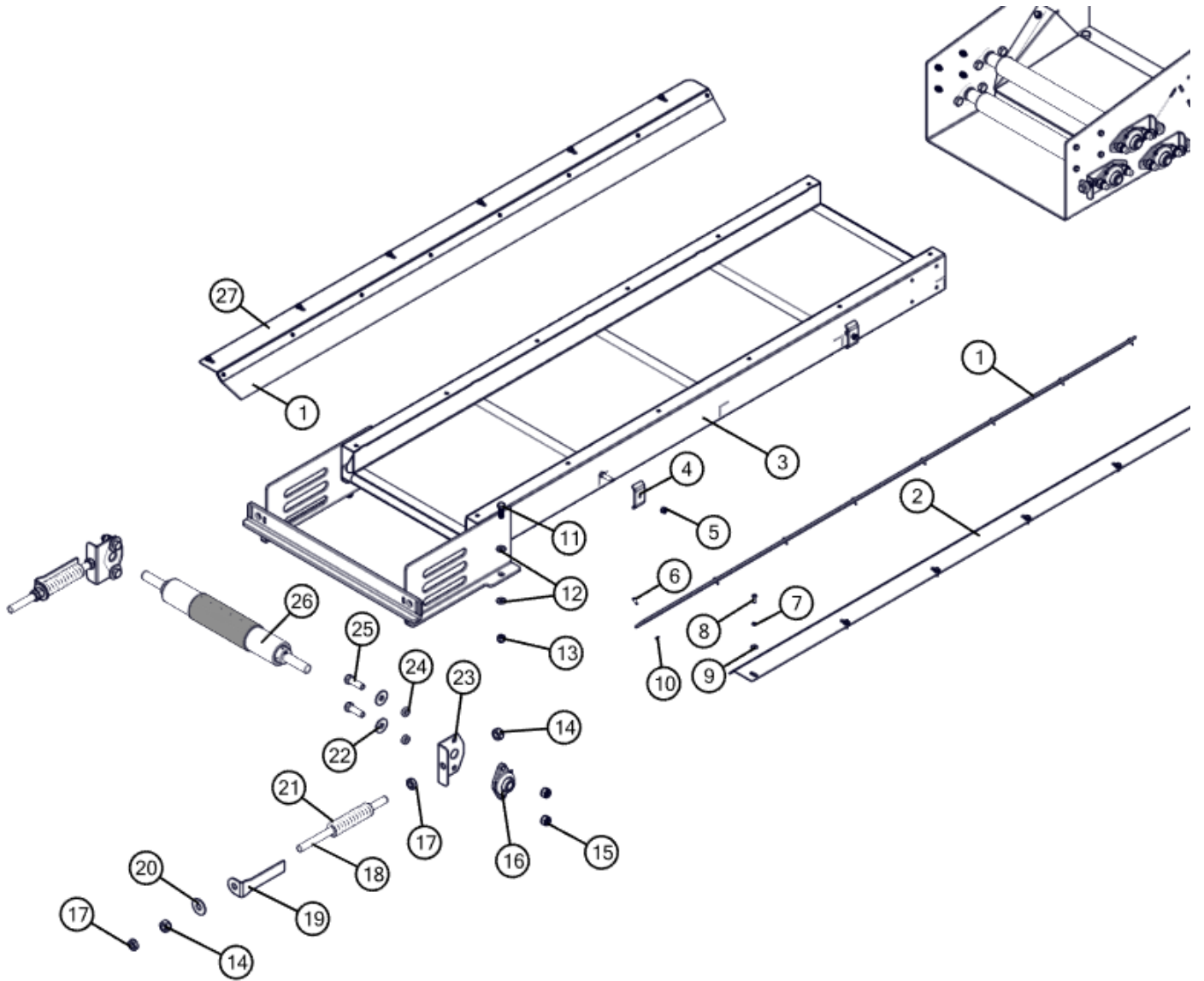
11 PARTS

11.9.2 Conveyor - Lower Section

REF #	PART #	DESCRIPTION	QTY
1	474800-0427.01	Rubber Belt - 4" x 82"	2
2	474800-0426.01	D.S. Slide Plate - Slave Bed - 2020	1
3	674800-0348.00	Slave Bed Weldment - 18S Conveyor - 2020	1
4	480100-0722.01	Hose Clamp	3
5	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	2
6	171000-0074	Pop Rivet - 3/16" x 1/2" Grip	16
7	168600-0060	Lock Washer - 1/4" PL	12
8	159300-0543	Hex Bolt - 1/4" NC x 3/4" Gr.5 PL	12
9	168000-0022	Flat Washer - 1/4" USS PL	12
10	171000-0090	Flat Washer - 3/16" x 1/2" OD	16
11	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	2
12	168000-0544	Flat Washer - 1/2" SAE PLTD	4
13	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	2
14	167000-0835	Hex Nut - 3/4" NC Gr.5 PL	4
15	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	4
16	114000-0135	1" - 2 Bolt Cast Flange Bearing	2
17	167000-0675	Jam Nut - 3/4" NC Gr.5 PL	4
18	474800-0419.00	3/4" Threaded Rod - Tensioner	2
19	470000-1055.01	Guide Plate - Spring Tension	2
20	168000-0090	Flat Washer - 3/4" USS PL	2
21	303100-0206	Comp Spring .5pitch -.306"wire dia x 1.625" od x 6" long	2
22	168000-0080	Flat Washer - 5/8" USS PL	4
23	474800-0417.01	Slide Bearing Plate - Tensioner - Slave Bed	2
24	474800-0430.00	Slide Bushing - Tensioner - Slave Bed	4
25	159400-0628	Hex Bolt - 5/8" NC x 2" Gr.5	4
26	774800-0302.00	Primary Idler Roll Assembly	1
**	474800-0312.00	Belt Covering - Idler Roll	1
**	674800-0304.00	Primary Idler Roll	1
**	474800-0311.01	Shaft - Primary Idler Roll	1
**	414000-0646.00	1/4" x 1-1/2" Keystock	
27	474800-0435.01	P.S. Slide Plate - Slave Bed - 2020	1

11 PARTS

11.9.2 Conveyor - Lower Section



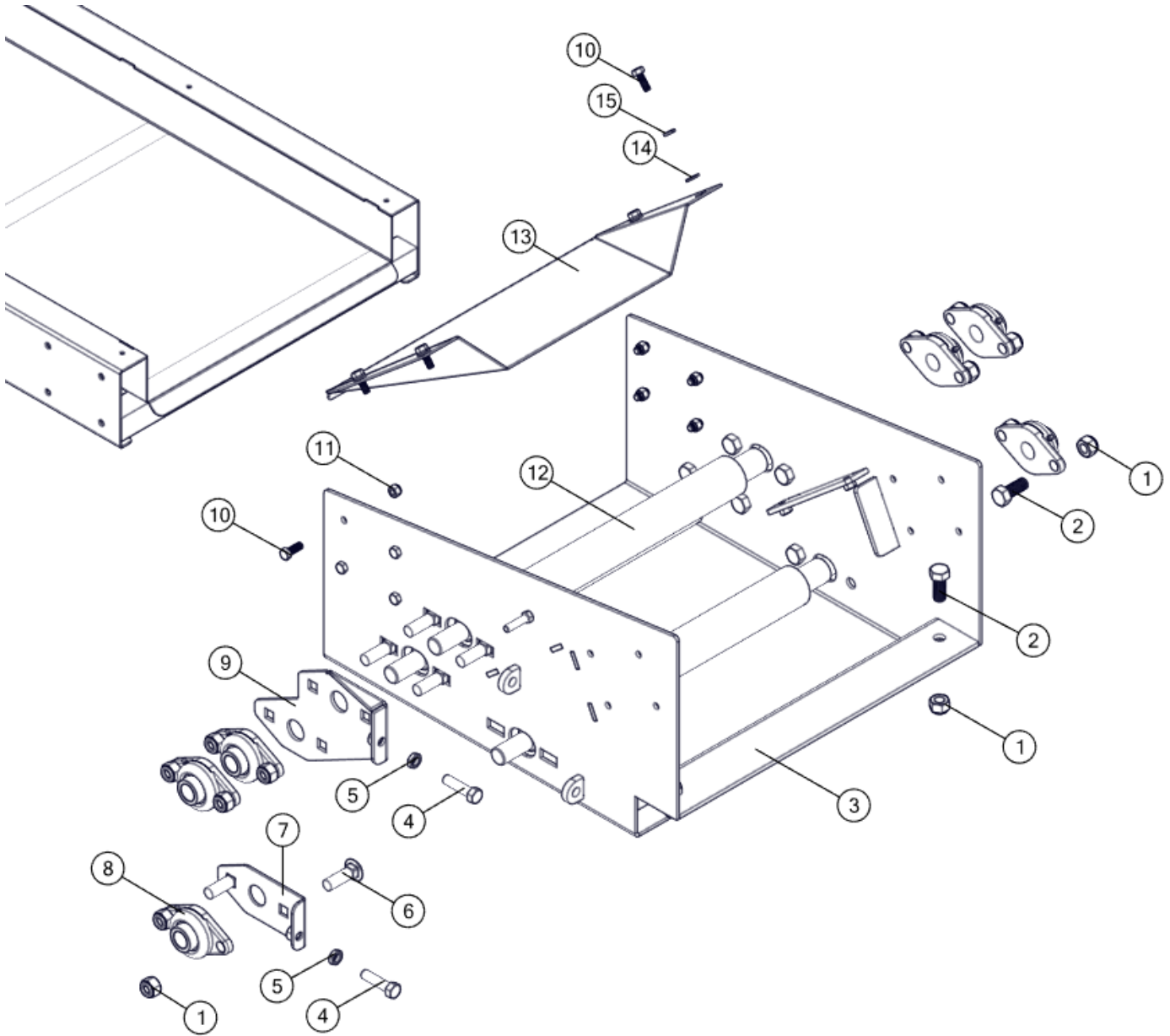
11 PARTS

11.9.3 Conveyor Belt Transition

REF #	PART #	DESCRIPTION	QTY
1	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	14
2	159400-0594	Hex Bolt - 5/8" NC x 1-1/2" Gr.5 PL	8
3	674800-0360.02	S-Transition Panel Weldment	1
4	159600-0420	Hex Bolt - Full Thread - 1/2" NC x 2" Gr.5 PL	2
5	167000-0650	Jam Nut - 1/2" NC Gr.5 PL	2
6	163100-0124	Carriage Bolt - 5/8" NC x 2"	6
7	674800-0350.00	Bearing Slide - S-Transition Roller	1
8	114000-0195	2-Bolt Cast Flange 1" Bearing	6
9	674800-0359.00	Double Bearing Slide - S-Transition Roller	1
10	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	12
11	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	8
12	476000-0373.00	2.5" Dia. - 24S Transition Roller	3
13	474800-0428.01	Belt Transition Plate - S-Transition	1
14	168000-0540	Flat Washer - 3/8" SAE	4
15	168600-0071	Lock Washer - 3/8" PL	4

11 PARTS

11.9.3 Conveyor Belt Transition



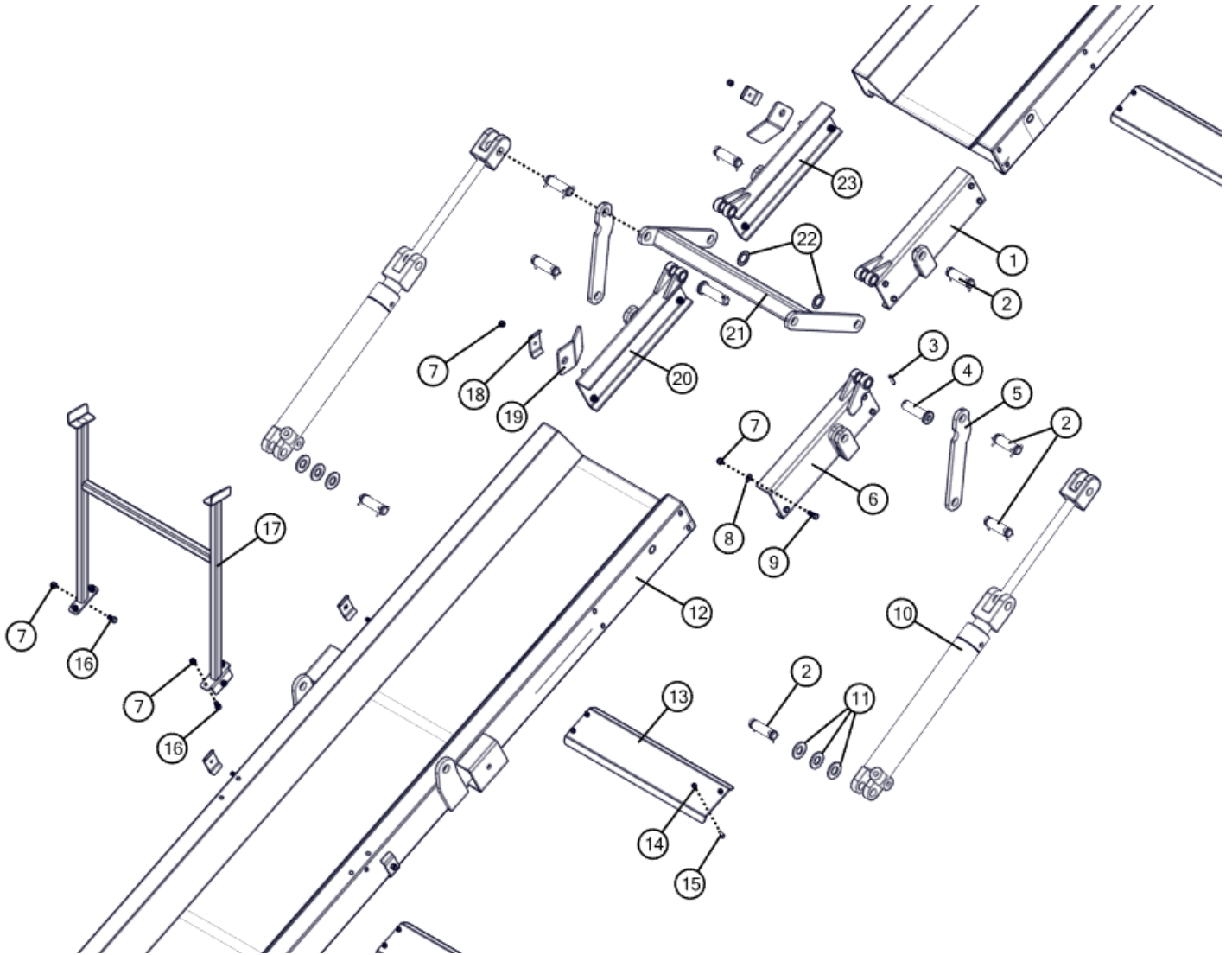
11 PARTS

11.9.4 Conveyor - Mid Section

REF #	PART #	DESCRIPTION	QTY
1	674800-0332.01	Hinges RS - Folding Bed	1
2	107000-0103	Cylinder Pin - 1" Dia x 3"	8
3	172200-0780	Spring Pin - 1/4" x 1-1/2"	2
4	674800-0330.00	Hinge Pin Weldment	2
5	470000-0604.01	Pivot Arm	2
6	674800-0331.01	Hinges RD - Incline Bed	1
7	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	30
8	168000-0540	Flat Washer - 3/8" SAE	16
9	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	16
10	107700-0023	fromparent+2-1/2" Bore x 16" Storke Hyd Cylinder	2
11	168000-0598	Flat Washer - 1" SAE PL	6
12	674800-0351.00	Incline Bed - 2020	1
13	474900-0669.02	Cross Belt Supports - Retrofit	3
14	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	12
15	159300-0543	Hex Bolt - 1/4" NC x 3/4" Gr.5 PL	12
16	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	6
17	674800-0353.00	Rest - Folding Bed - 2020	1
18	480100-0722.01	Hose Clamp	8
19	470000-0890.01	Hose Offset Bracket	2
20	674800-0333.01	Hinges RS - Incline Bed	1
21	674800-0329.01	Pivot Weldment	1
22	168000-0620	Machinery Bushing/ Washer - 1-1/8" id x 18 Ga	2
23	674800-0334.01	Hinges RD - Folding Bed	1

11 PARTS

11.9.4 Conveyor - Mid Section



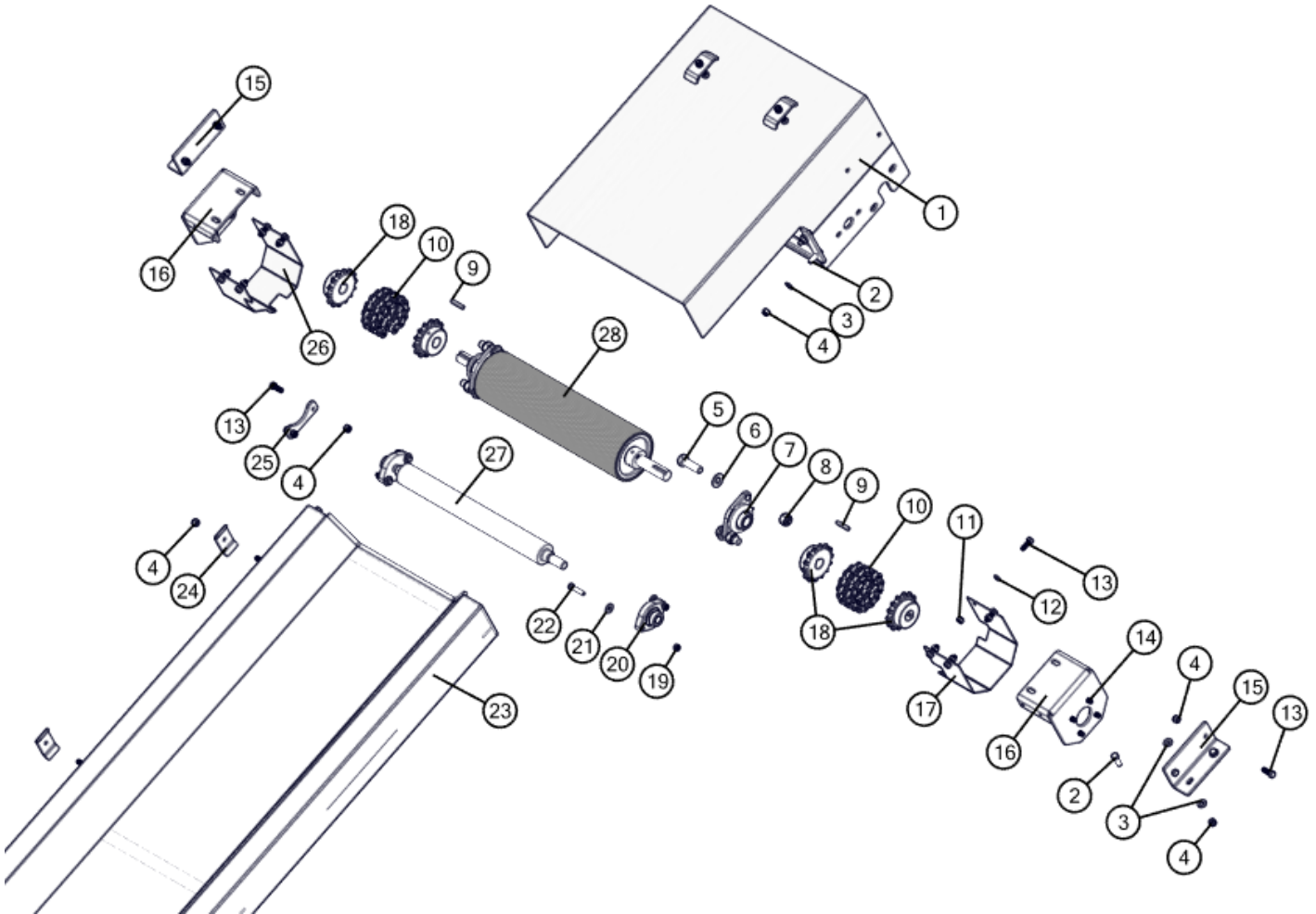
11 PARTS

11.9.5 Conveyor - Upper Section

REF #	PART #	DESCRIPTION	QTY
1	674800-0319.01	Hood Weldment	1
2	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	8
3	168000-0540	Flat Washer - 3/8" SAE	10
4	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	16
5	159400-0628	Hex Bolt - 5/8" NC x 2" Gr.5	4
6	168000-0580	Flat Washer - 5/8" SAE PL	4
7	114000-0135	1" - 2 Bolt Cast Flange Bearing	2
8	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	4
9	414000-0646.00	1/4" Keystock x 1-1/2"	2
10	140100-0059	Chain - Double #60 - 14 Pins, 14 Rollers, w/ Connector	2
11	167000-0787	Hex Nut - 3/8" NC Gr.5 PL	8
12	168600-0071	Lock Washer - 3/8" PL	8
13	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	14
14	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	8
15	474800-0351.03	Bracket Support	2
16	474800-0350.03	Motor Bracket	2
17	474800-0370.05	Motor Guard	1
18	129000-0513	Sprocket - 14 Tooth #60 x 1"	4
19	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	4
20	114000-0137	3/4" - 2-Bolt Cast Flange Bearing	2
21	168000-0040	Flat Washer - 5/16" USS PL	4
22	159300-0737	Hex Bolt - 5/16" x 1-1/2" Gr.5 PL	4
23	674800-0352.00	Folding Bed - 2020	1
24	480100-0722.01	Hose Clamp	4
25	474800-0359.00	Bearing Spacer	1
26	474800-0352.05	Motor Guard	1
27	474800-0379.00	Secondary Roll	1
28	774800-0303.00	Drive Roll - 1826 Conveyor	1
**	474800-0337.00	Belt Covering - Head Roll	1
**	674800-0314.00	Primary Drive Roll	1
**	474800-0334.01	Shaft - Primary Drive Roll	1

11 PARTS

11.9.5 Conveyor - Upper Section



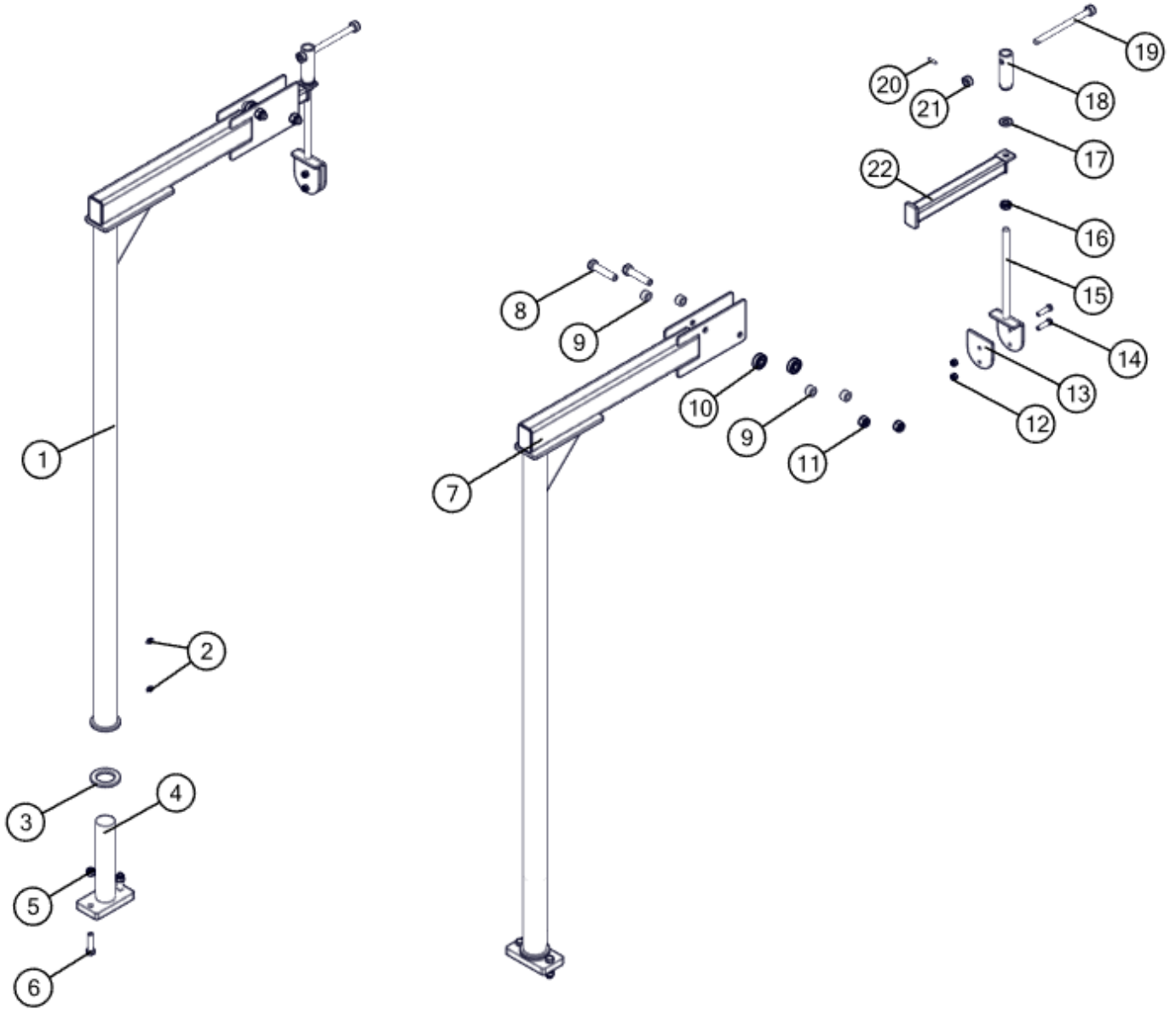
11 PARTS

11.10 Door Hoist

REF #	PART #	DESCRIPTION	QTY
1	674900-0198.01	Door Hoist P.S. - 48" HM	1
2	133200-0040	Grease Nipple - 1/8" NPT	4
3	147100-0255	UHMW Washer 3" OD x 2" ID x 1/4" Thick	2
4	674900-0057.01	Door Hoist - Pole Mount	2
5	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	4
6	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	4
7	674900-0197.01	Door Hoist D.S. - 48" HM - 2018	1
8	159400-0646	Hex Bolt 5/8" NC x 3" Gr.5 PL	4
9	474900-0272.00	Spacer - Door Hoist	8
10	114100-0062	5/8" Bearing - 40mm OD	4
11	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	4
12	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	4
13	474900-0253.00	Lift Plate - Door Hoist	2
14	159300-0988	Hex Bolt - 3/8" NC x 1-1/2 Gr.5 PL	4
15	674900-0527.00	Door Lift	2
16	167000-0658	Jam Nut - 5/8" NC Gr.5 PL	2
17	168000-0580	Flat Washer - 5/8" SAE PL	2
18	675100-0023.00	T-Handle - Door Hoist	2
19	120000-0516	Hammer Mill Door Hoist Handle	2
20	172200-0791	Roll Pin 3/16" x 1"	2
21	280000-0008	Set Collar 1/2" id	2
22	674900-0061.00	Slide - Door Lift	2

11 PARTS

11.10 Door Hoist



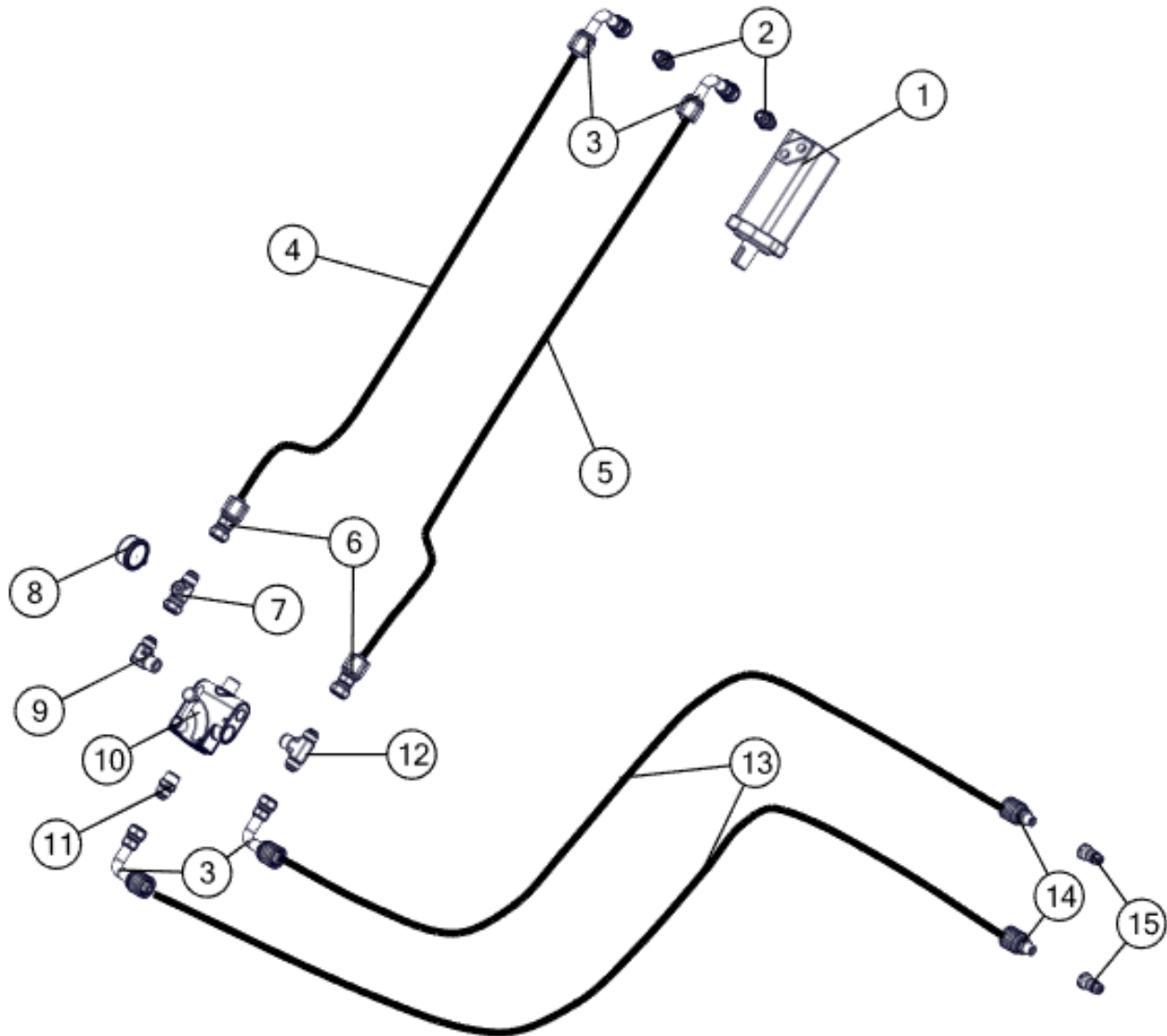
11 PARTS

11.11 In-Feed Auger Hydraulics

REF #	PART #	DESCRIPTION	QTY
1	111200-0029	Hydraulic Motor 11.9cu in. 2000 Series	1
2	086400-0820	Hex Nipple - #10 ORBM x #12 JICM	2
3	073800-0912	Hose End - 3/4" Dia x #12 90JICFsw	3
4	H75000-0249	Hyd Hose 2WB Thin Cover 3/4" X 126"	1
5	H75000-0219	Hyd Hose 2WB Thin Cover 3/4" X 129"	1
6	073700-0212	Hose End - 3/4" Dia x #12 JICF-sw	2
7	084900-0100	Tee Port Adaptor #12 JICM x #12 JICF x 1/4" FPT	1
8	110300-0032	Pressure Gauge - Vertical - 0 to 5000 psi	1
9	082500-0825	90° Elbow - 3/4" MNPT x #12 JICM	1
10	110100-0402	Flow Control Valve - 3/4" Ports	1
11	082400-0820	Hex Nipple 3/4" MPT x #12 JICM	1
12	085100-0824	Tee - #12 JICM x #12 JICM x 3/4" MNPT	1
13	H75000-0222	Hyd Hose 2WB Thin Cover 3/4" X 276"***	2
14	071000-0910	Hose End - 3/4" Dia x 1/2" MNPT	2
15	104000-0610	Hydraulic - Q/C Male Poppet 1/2" FNPT	2

11 PARTS

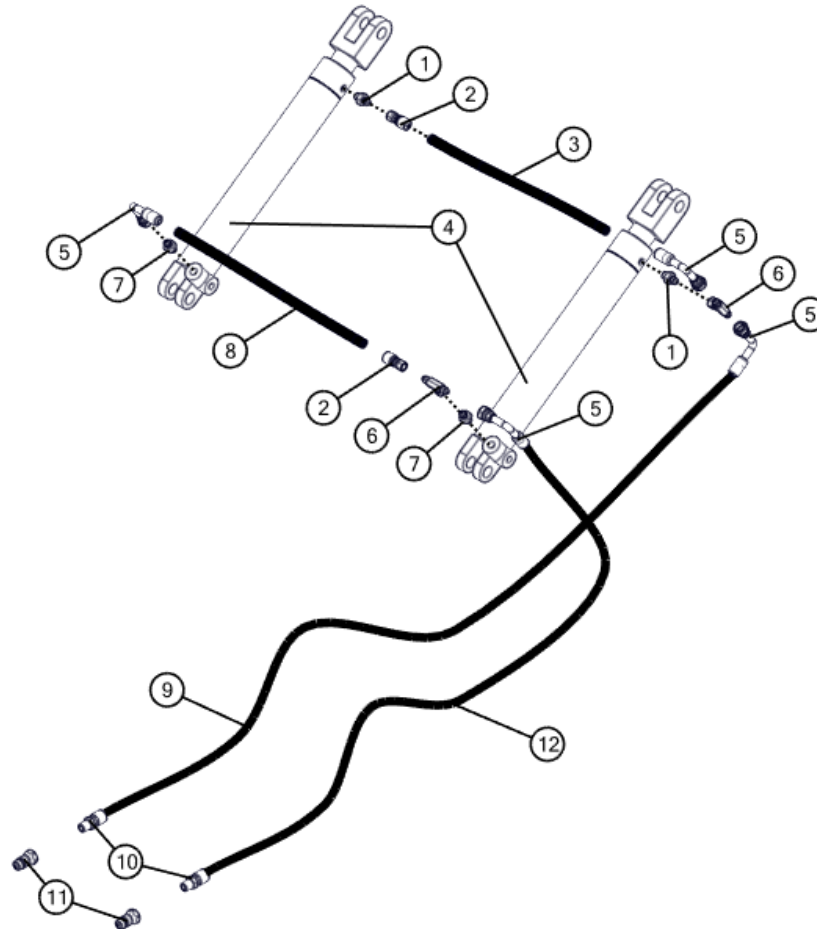
11.11 In-Feed Auger Hydraulics



11 PARTS

11.12 Conveyor Hydraulics

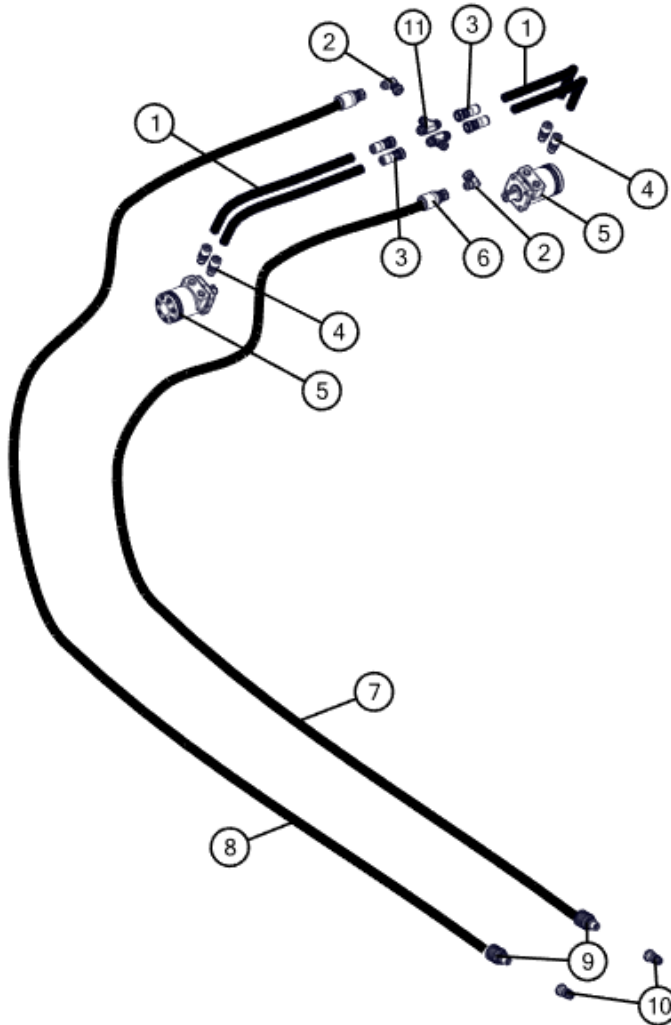
11.12.1 Fold Hydraulics



REF #	PART #	DESCRIPTION	QTY
1	086400-0606	Hex Nipple - #6 JICM x #6 ORBM	2
2	073600-0606	Hose End - 3/8"Dia x # 6 JICF-sw	2
3	H37500-0157	Hydraulic Hose - 3/8" x 22"***	1
4	107700-0023	fromparent+2-1/2" Bore x 16" Storke Hyd Cylinder	2
5	071000-0607	Hose End - 3/8" Dia x #6 JICF-sw 90° Long	4
6	085000-0304	Tee - # 6JICMx # 6JICMx # 6JICF	2
7	081000-0100	Orifice Adapter - #6 ORBM to #6 JICM x.062"	2
8	H37500-0005	3/8" x 20" Hose**	1
9	H37500-0222	Hyd Hose 2WB Thin Cover 3/8" X 342"***	1
10	071000-0608	Hose End - 3/8" Dia x 1/2" MNPT	2
11	104000-0610	Hydraulic - Q/C Male Poppet 1/2" FNPT	2
12	H37500-0221	Hyd Hose 2WB Thin Cover 3/8" X 321"***	1

11 PARTS

11.12.2 Drive Hydraulics



REF #	PART #	DESCRIPTION	QTY
1	H50000-0053	Hydraulic Hose - 1/2" x 24"***	4
2	087000-0810	90° Elbow - #10JICM x #10JICF-sw	2
3	073600-0810	Hose End 1/2"Dia x # 10 JICFsw	4
4	071000-0808	Hose End - 1/2" Dia x 1/2" MNPT	4
5	111100-0036	Hydraulic Motor - 3.6 cu. in. - Orbital	2
6	073700-0211	Hose End - 3/4" Dia x #10 JICF-sw	2
7	H75000-0243	Hyd Hose 2WB Thin Cover 3/4" X 438"***	1
8	H75000-0244	Hyd Hose 2WB Thin Cover 3/4" X 440"***	1
9	071000-0910	Hose End - 3/4" Dia x 1/2" MNPT	2
10	104000-0610	Hydraulic - Q/C Male Poppet 1/2" FNPT	2
11	085000-0311	Tee - #10 JICM x #10 JICM x #10 JICM	2



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