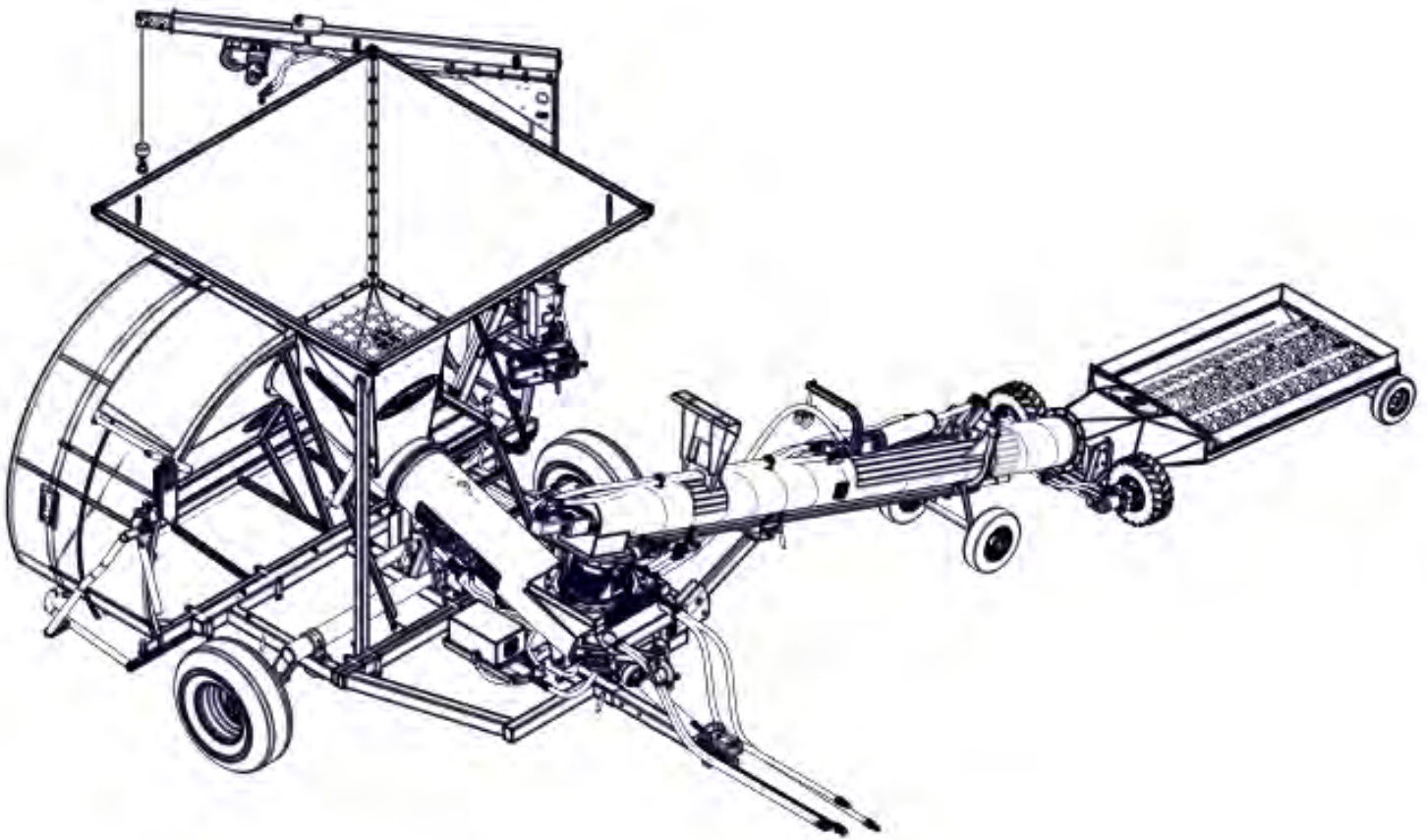




**1016T Grain Bagger
Operator's & Parts Manual
P.T.O.
Model No. 981000-0060.03**



RENN Mill Center LP.

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INTRODUCTION

Congratulations on your decision to purchase a Renn Bagger. 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 Bagger. We urge you to read the publication carefully and refer to it extensively for correct operating procedure.

The Renn Bagger allows the operator the flexibility to load from either a grain truck, trailer, or from a machine into the optional surge hopper. The transfer auger has the capability of telescoping in and out, swinging to the left and right, and is capable of loading at a rate of up to 150 bushels per minute.

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

• UNAPPROVED SERVICE OR MODIFICATION

All obligations of RENN under this warranty shall be terminated:

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

Accidents and normal maintenance

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

• NO REPRESENTATION OR IMPLIED WARRANTY

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

• IMPROVEMENTS OR CHANGES

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

• WARRANTY CLAIM PROCEDURE

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

• ACKNOWLEDGEMENT REQUIRED

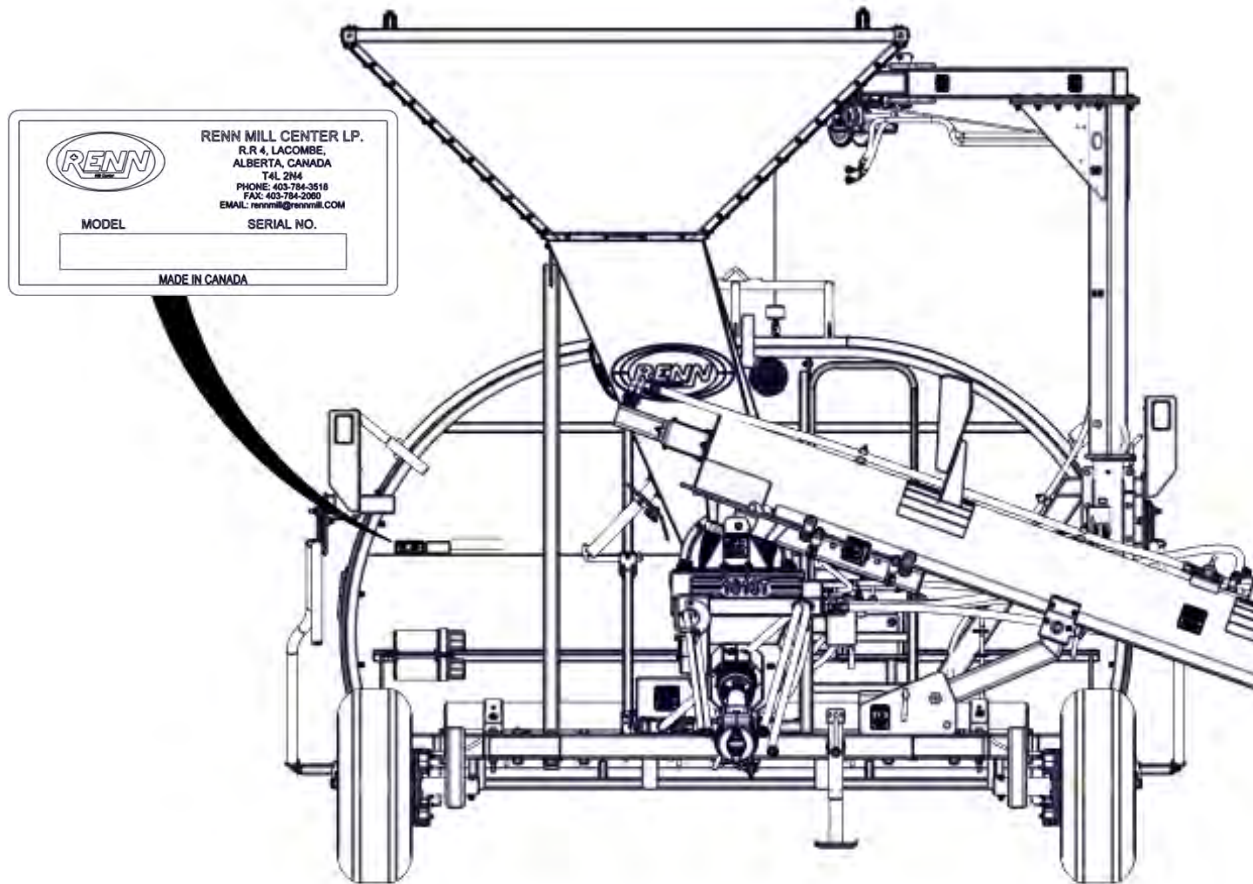
RENN shall have no obligation under this warranty unless the "Warranty Registration" included with your owners manual signed by purchaser and dealer is delivered to RENN within 30 days from the date of sale.

IMPORTANT NOTICE

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

SERIAL NUMBER LOCATION

The serial number plate is located on the passenger side of the push plate near the manual canister of the machine. The tractor half of the unit has a serial number plate installed on the auger rest.



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 Grain Bagger.



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 Grain Bagger and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

Accidents Disable and Kill

3 Big Reasons

Accidents Cost

Accidents Can Be Avoided

SIGNAL WORDS:

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

DANGER -

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

WARNING -

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

CAUTION -

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

2 SAFETY



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

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 of the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Bagger owners must give operating instructions to operators or employees before allowing them to operate the bagger, 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 of the 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 bagger. 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 ignition key, 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 bagger or tractor during operation or transportation.
6. Clear the area of all bystanders, especially children, before starting.
7. Stay away from the bagger when swinging the bag crane out, and never operate the bag lift with someone standing under the load. Always stand well clear of the suspended load.
8. Attach any necessary flags and signs to the bagger 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 bagger is designed to bag GRAIN. It is not suggested to use the bagger to bag fertilizer or other corrosive materials.
11. Do not exceed a safe travelling speed.
12. Use a light kit on the bagger when transporting.
13. Ensure that adequate lighting is available when bagging at night.
14. Use caution while bagging on uneven terrain.
15. Always check behind you when backing up. The bagger may block parts of your view.
16. Never unhook the bagger while it is in use.
17. Be careful on slopes of more than 3 degrees as the tractor weight can cause the bag to stretch.
18. Before pressurizing the hydraulic system, make sure that all components are tight and that hoses, fittings and couplings are in good condition.
19. Due to the increasingly longer and heavier grain bags, It is important that the winch bag lift hook and cable attachment is inspected before use.
20. Review safety instructions annually.

2.3 Maintenance Safety

1. Place all controls in neutral, stop the engine, set the parking brake, remove the ignition key, wait for all moving parts to stop and disengage the PTO before servicing, adjusting, repairing or unplugging.
2. Perform a lock out tag out (LOTO) procedure if required.
3. Depressurize 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 are clean.
3. Replace any worn, cut, abraded, flattened or crimped hoses.
4. Do not attempt any makeshift repairs to the hydraulic fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high pressures. Such repairs can fail suddenly and create a safety hazard.
5. Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a shield rather than your hands to isolate and identify a leak.
6. If injured by a concentrated high pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin.
7. Before pressurizing the system, make sure all components are tight and that hoses, fittings and couplings are in good condition.

2.5 Storage Safety

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

2.6 Safety Decals

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

2 SAFETY



2.7 Sign-Off Form

Anyone operating and/or maintaining the bagger 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 the 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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148000-0104



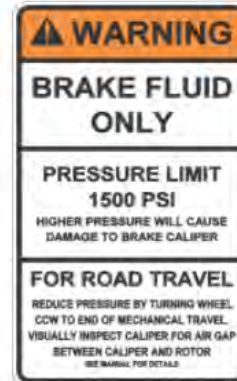
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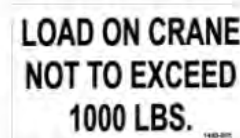
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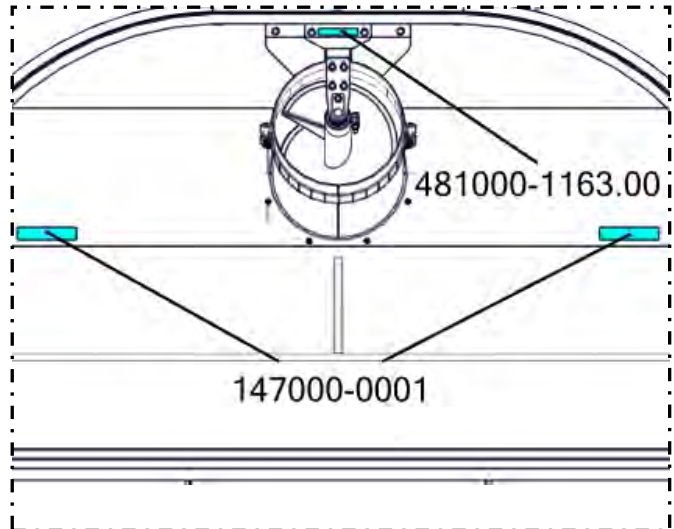
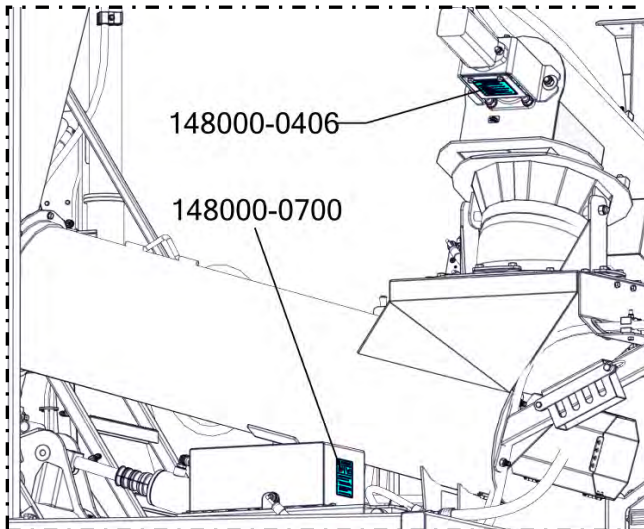
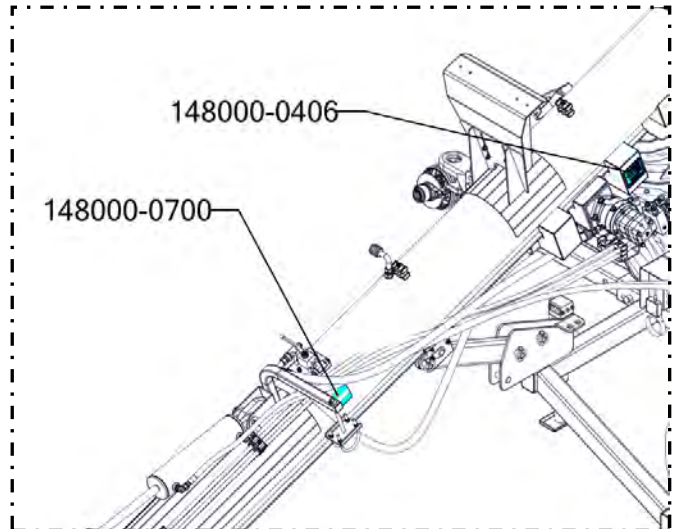
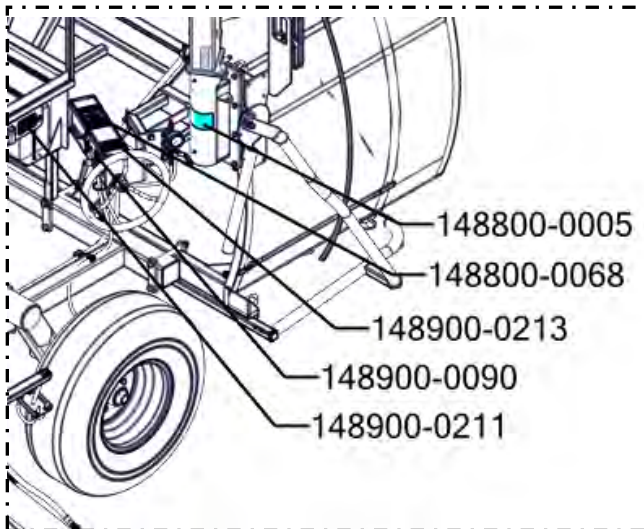
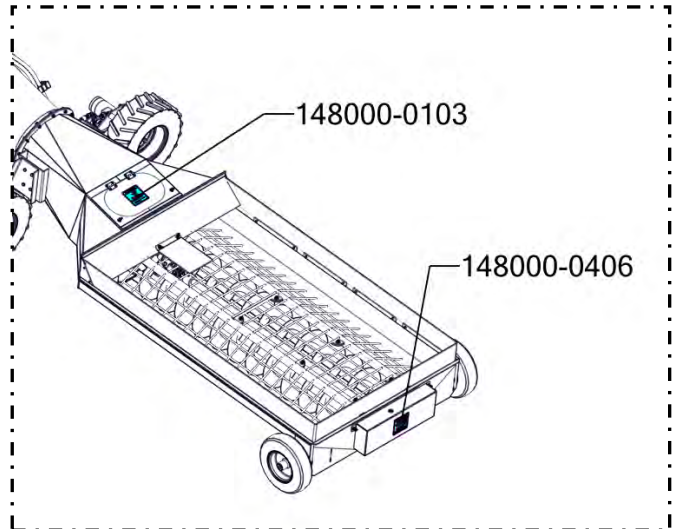
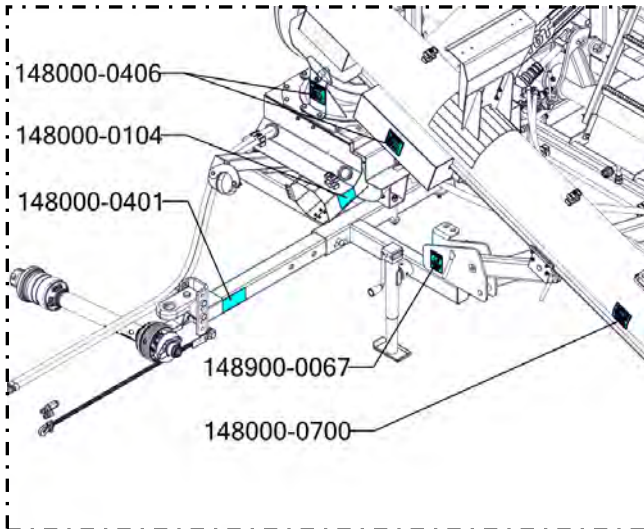


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REMEMBER - If safety decals have been damaged, removed, or become illegible, or replaced parts that previously displayed safety decals no longer contain safety decals, new decals must be applied. New safety decals are available from your authorized 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!!



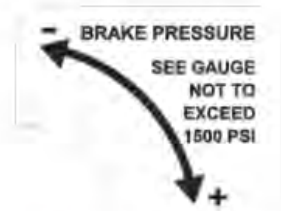
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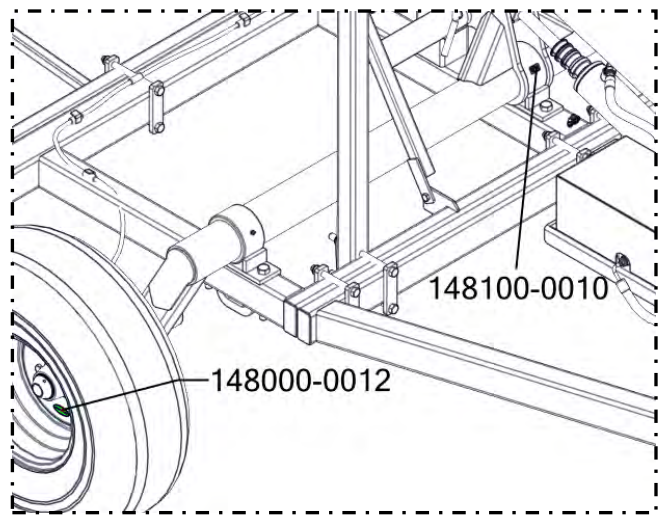
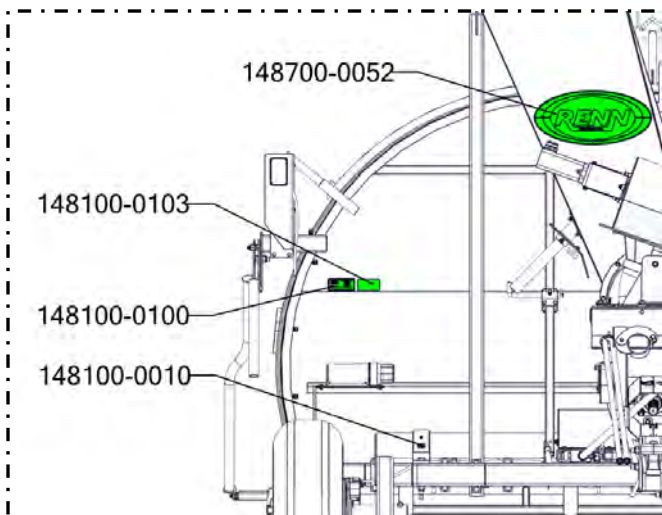
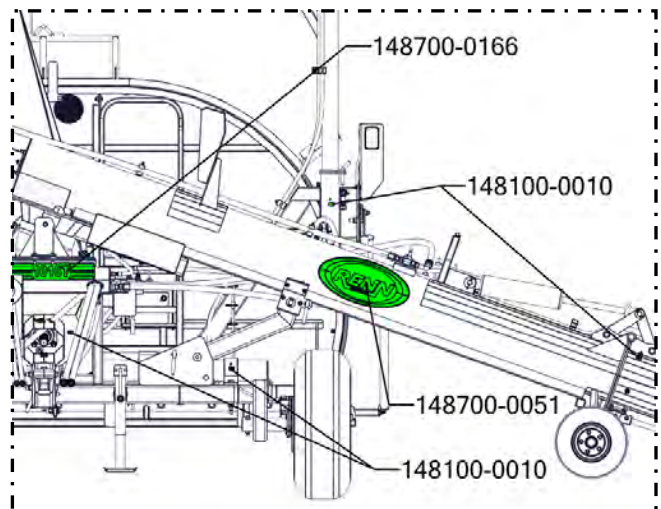
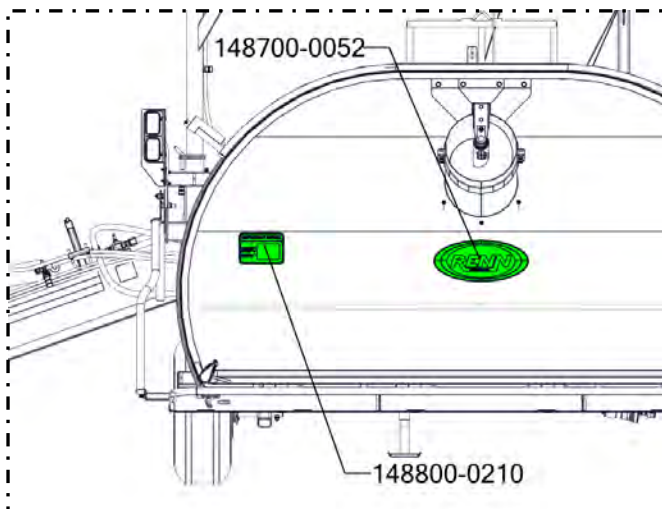
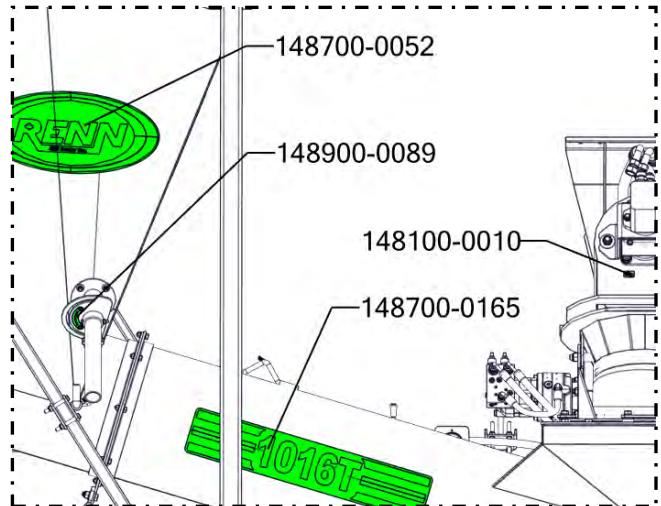
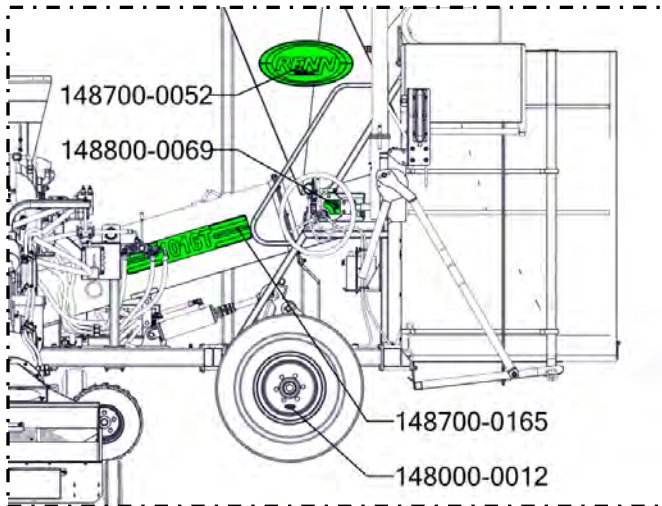
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3 DECAL LOCATIONS

3.2 Information Decal Locations



4 OPERATION

4.1 To the New Operator or Owner

The Renn Grain Bagger is designed to receive dry grain from a combine, grain buggy, truck or gravity wagon and deposit that grain into the bag. 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 bagger will provide you with many years of trouble-free service.

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

4.2 Before You Begin

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

4.3 Machine Components

The Renn 10ft Bagger consists of a central auger which directs grain into the bag. The bag is carried on a tunnel which contains the grain as it moves into the bag, and also controls the flow of the bag off of the tunnel via a strap. The bottom of the bag is supported on a bag pan. The unit also contains a bag lift which lifts the new bag onto the tunnel via a winch operated overhead crane.

The bagger is fitted with hydraulic brakes which can be set to slow the forward movement of the bagger, thus resulting in stretching of the circumference of the bag for optimum storage.

4 OPERATION

4.4 Pre-Operational Checklist

The efficient and safe operation of the Renn Grain Bagger 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 the maintenance of the good mechanical condition of the bagger that this checklist be followed.

Before operating the bagger and each time thereafter, the following areas should be checked:

1. Inspect the machine if it is the start of the season.
2. Lubricate the machine per the schedule outlined in the Maintenance Section (section 5).
3. Be sure that the machine is properly attached to the tractor. Be sure that a mechanical retainer is installed through the drawbar pin and the safety chain is installed.
4. Adjust the hitch position to make the bagger level with the tractor.
5. Inspect all hydraulic lines, fittings and couplers.
6. Check all bearing locking collars to ensure that they are tight on the shafts and in good condition. Check that all set screws on the bearing collars are tight. Check that all bearing mounting hardware is secure.
7. Inspect the winch bag lift hook and cable attachment before use.
8. Make sure all safety shields are properly installed.
9. Inspect the length of the cable for cracks and frays.
10. Before connecting the PTO shaft to the tractor:
 - Check that the auger turns freely by rotating the driveshaft by hand.
 - Ensure that the shear bolt is in the yoke on the bagger PTO drive shaft.
 - When connecting the bagger to the tractor PTO shaft, be sure that the cross pin on the yoke is seated in the groove on the tractor PTO shaft.

4.5 Break-In

Do not fill the surge hopper at any time, and especially not during break-in. Filling even the lower portion of the hopper will fill the auger to a point where it will jam. The hopper may need to be drained to be operational once again. Filling the surge hopper puts significant stress on the auger assembly - use the hopper as a funnel only.

It is recommended that the augers be run at moderate to full operational speeds and at 1/2 to 2/3 capacity during the first 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 bagger has been stored for extended periods of time as well. It is also recommended that the following mechanical items be checked:

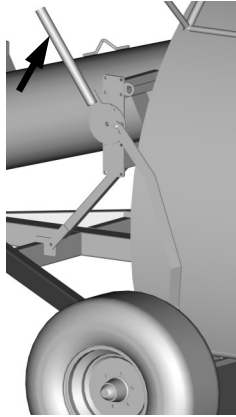
1. After operating for a 1/2 hour:
 - Re-torque all wheel bolts, fasteners and hardware.
 - Check that all hydraulic connections are tight.
 - Check that no hydraulic hoses are being pinched or crimped. Reroute as required.
 - Lubricate all grease fittings.
2. After 5 hours and 10 hours of operation:
 - Re-torque all wheel bolts, fasteners and hardware.
 - Check that all hydraulic connections are tight.
 - Check that no hydraulic hoses are being pinched or crimped. Reroute as required.
 - Lubricate all grease fittings - do not over-grease.
 - See the normal servicing and maintenance schedule as outlined in the Maintenance Section (section 5).

4 OPERATION

4.6 Controls

4.6.1 Bag Pan Lower/Raise

Using the two handles provided, you can raise the bag pan in one motion. In the upmost position, the pan is locked in place.



Bag Pan in Lowered Position



Bag Pan in Raised Position

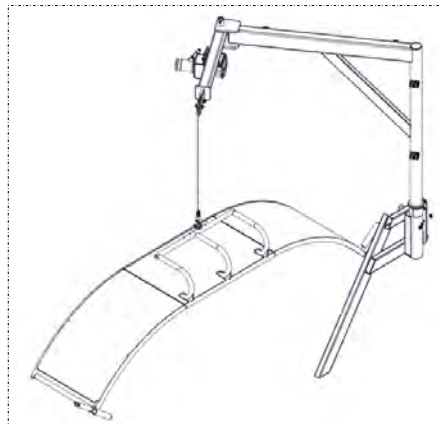
4.6.2 Winch - Bag Lifting Crane

The bag lifting crane allows the raising of the bag onto the tunnel. With the bag lift attached to the lift hook, the crane is rotated so that the bag lift hangs off of the rear of the tunnel, giving it room to be lowered to the ground below. The bag is then loaded onto the bag lift, and then raised into position (see instructions on section 4.7, steps 7 and 8).

The hydraulically driven bag lift system is protected from being overstrained by a relief valve located next to the control valve. The relief valve has been factory set. This will provide ample lifting capacity and avoid any damage to the bagger components. To speed up crane winch, turn the priority flow divider knob C.W. for more flow to auxiliary circuits. See section 4.9.6 for adjustment. Note that the knob will have to be turned back on some to achieve more operating speed of auger and hopper functions.

Do not exceed a 1000lb lift load or else damage will occur!

Safety Note: Never stand under the load being lifted. Mechanical or hydraulic failure could cause serious injury or death!



4 OPERATION

4.6.3 Cable clamping procedure

Due to the increasingly longer and heavier grain bags, It is important that the bag lift hook cable attachment be inspected and properly secured. The following information pertains to the proper cable clamping procedure for all bagger cranes and lifting cables.

A cable clamp has two main parts, the U-bolt and the saddle. The saddle must be on the pull line or live line. The U-bolt goes over the tail or dead end. Figure 4.1 shows 3 3/4 in of tail or turnback. The first clamp is positioned close to the hook loop and the other further down leaving approximately 1 1/4 in space between clamps. At this point the nuts are snugged firm.

Do not pull the cable clamps up against the pullet frame as the cable could break as shown in Figure 4.2 and 4.3.



Figure 4.1



Figure 4.2



Figure 4.3

4 OPERATION

After snugging up the nuts some tension is applied to cable using the winch. This will cause the cable to shrink in diameter slightly. Final torquing can be completed. For the 3/16 inch cable it is recommended that two clamps be used and nuts torqued to 7 ft.lbs or 84 in.lbs. It is also recommended that the clamps have forged saddles.

Action items on grain baggers are:

1. Check orientation of clamp.
2. Install two new forged clamps using procedure described above.



Figure 4.4

4.6.4 Ratchet & Strap

To set the strap length, pull the excess strap length through the ratchet until the slack is gone. Pump the handle to increase strap tension.

To release, open the handle upward and away from the ground while pulling the release cog at the same time, and pull the ratchet assembly out or down to unwind the strap.



4 OPERATION

4.6.5 Brake Pump

The braking system is used to hold back the weight of the grain pushing the machine forward. Using brake fluid, the braking system pushes fluid to the calipers, pressing the brake pads against the brake rotors at the wheel assembly. Increased fluid pressure (registered on the gauge) results in increased braking capacity.

Turn the steering wheel clockwise to increase the brake pressure. To reduce brake pressure, turn the steering wheel counter-clockwise. The ball valve is put in place to restrict flow as a secondary measure. Turning the valve clockwise will reduce flow. Typical pressure ranges from 500 to 750 PSI.

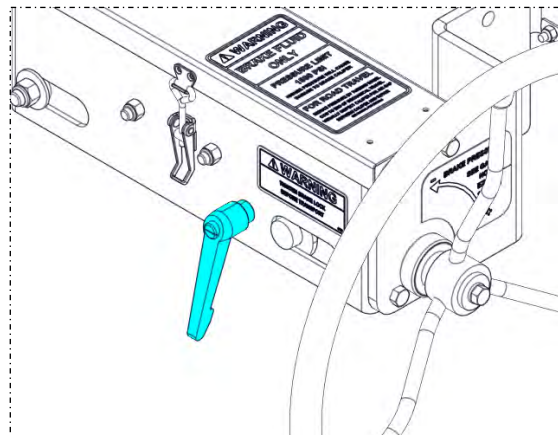
When transporting, turn the steering wheel counter-clockwise until it will no longer turn. At this point the reading on the pressure gauge should be zero. Use the wheel lock to lock the steering wheel in place.

Caution is always advised when there is pressure on the bagger created by grain push. It is best to stand clear of the machine when relieving brake pressure.

Note: The Ball Valve should always be in vertical position except during bagging.



Ball Valve



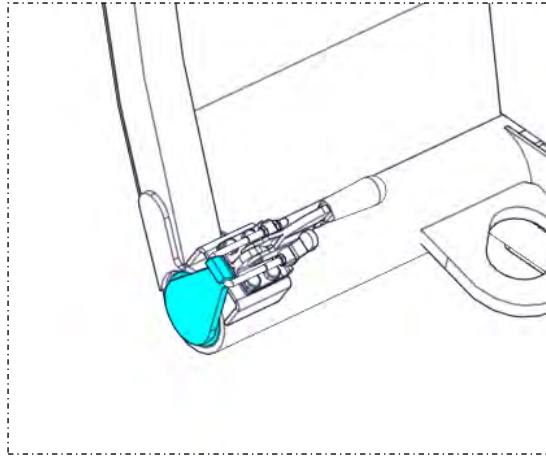
Mechanical Stop



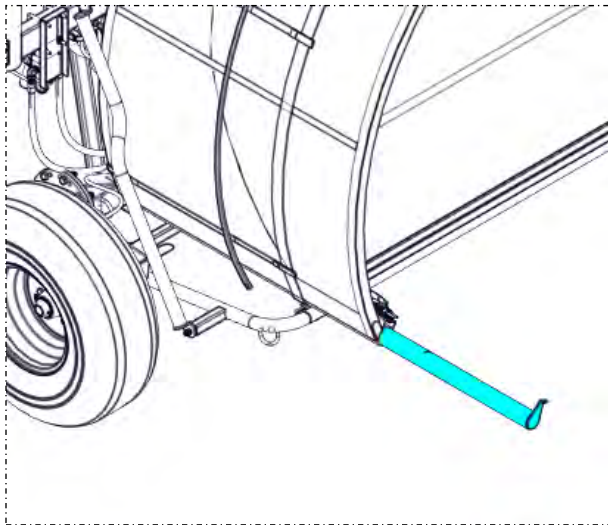
4 OPERATION

4.6.6 Bag Installation Pull-Out Bar

The pull-out bar is designed to help the operator during the bag installation process. The bar can be pulled out and held by the bail of the clamp in the hold slot. Make sure to lock the clamp during bagging and while transporting.



Bar locked into bagging position.



Bar extended into bag installation position.



Clamp bail in hold slot.

4 OPERATION

4.7 Setting Up the Grain Bagger

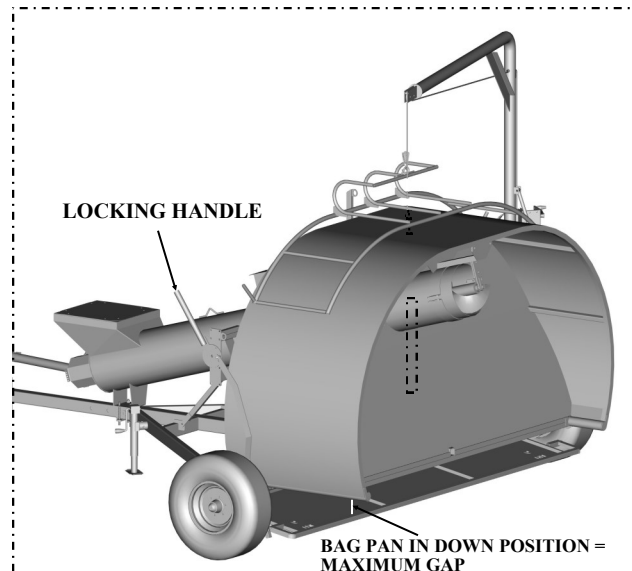
1. Tow the Renn Grain Bagger to the desired location and align the bagger with the desired tracking path.

Ensure that the location is:

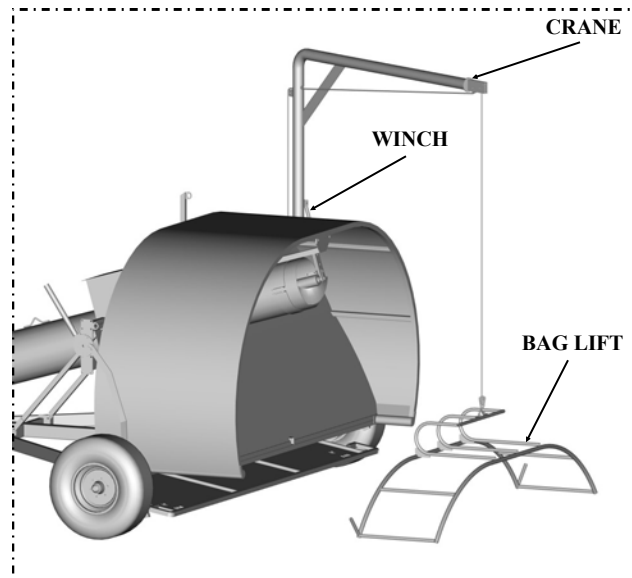
- a well drained, hard surface (crushed gravel, concrete or asphalt are ideal sites)
 - in an area suited for easy grain removal
 - in an area protected from livestock and rodents
 - in an area protected from the wind
 - A slight uphill slope works best - it drains water and it allows the unloader to travel downhill, which works best when the time comes to unload.
2. Loosen and remove the strap and tension cord harness from the tunnel (if already installed). This allows the bag to be loaded onto the tunnel.

3. Lower the bag pan all the way so that there is sufficient room to slide the bag into position. Do so by taking the locking handles and raising them vertically (see Section 4.6.1).

***Note:** When transporting between fields, the winch hook can be secured to the cradle ring on top of the bag tunnel, and the winch tightened slightly to hold the arm in place.*



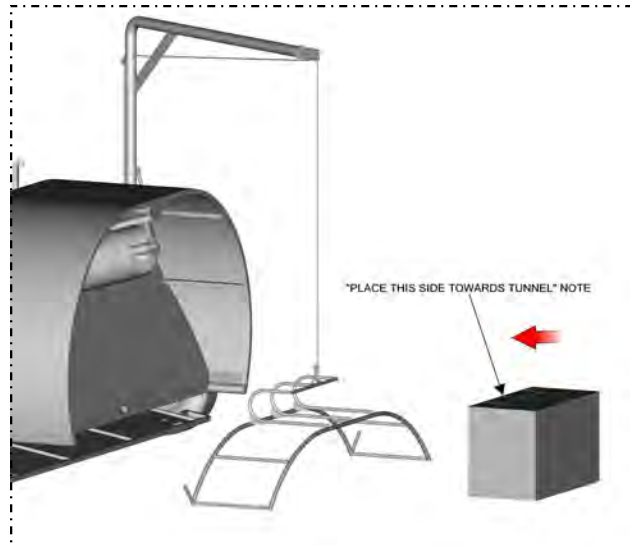
4. Lower the bag lift to the ground.



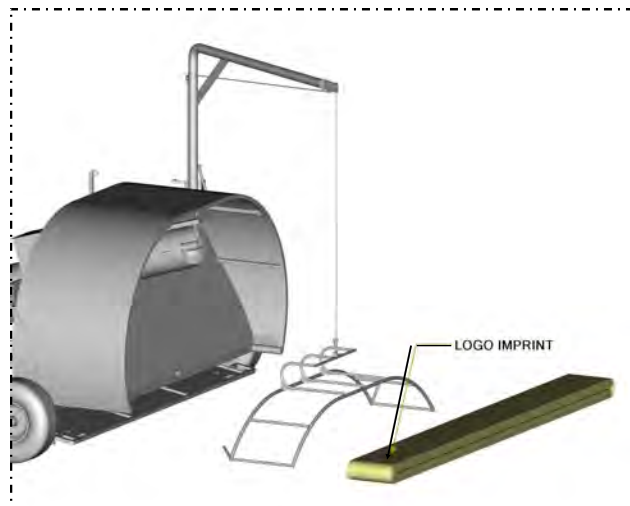
4 OPERATION

4.7 Setting Up the Grain Bagger (Cont'd)

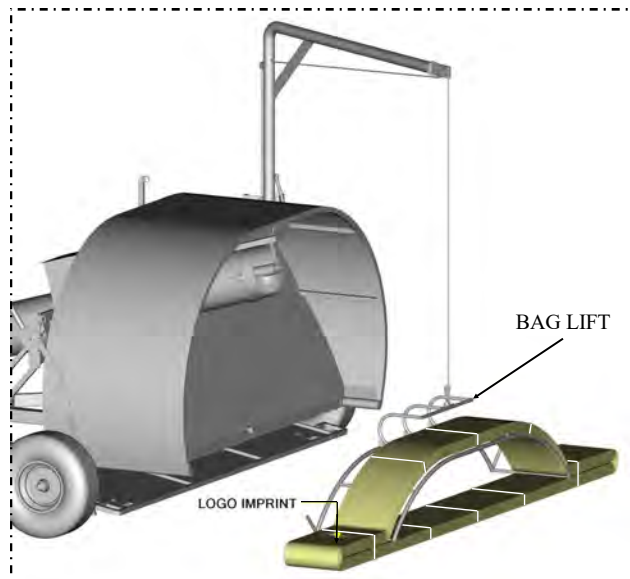
5. Place the box containing the grain bag behind the machine, taking notice of the “Place this side towards tunnel” message. Double check to make sure that the white side of the bag is pointed away from the tunnel and the black side is pointed towards the tunnel. *Note that color orientation trumps signage.*



6. Lay the bag out flat so that the logo is upright from the side view and in the position shown.



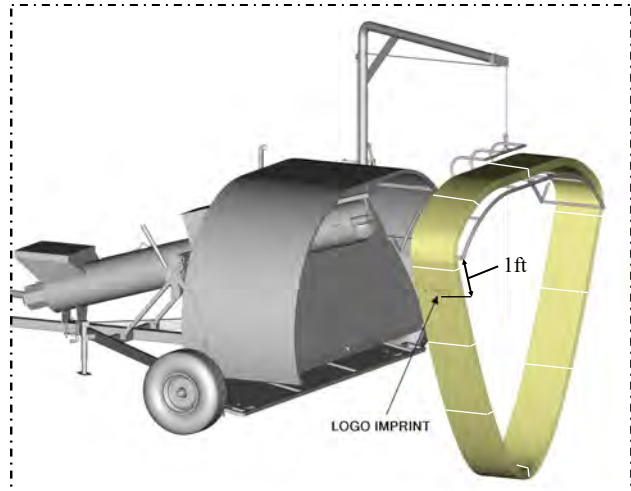
7. Mount the bag along with the strapping ropes onto the bag lift. Make sure that the folds remain flat. Ensure that the logo located on the side of the bag is visible and accessible (the logo contains the stretch bar and codes which are necessary for properly filling the bag and for warranty information - see manufacturer's instructions for precise location of the stretch bar). You may now remove the ropes/tape from around the folds, but only those located in contact with the bag lift.



4 OPERATION

4.7 Setting Up the Grain Bagger (Cont'd)

8. Before raising the bag, ensure that all bystanders are clear of the load. Never stand beneath a suspended load. Do not exceed the crane's 1000lb lifting capacity. Raise the bag lift until it is at the same height as the tunnel and push it halfway onto the tunnel. Begin fitting the bag to the bottom corners of the tunnel.



9. Position the folded bag on the tunnel so that the folds are as far forward on the tunnel as possible.



10. Raise the bag lift further to eliminate any creases or bunches of folded bag in the bag pan region. This will eliminate plastic bunched under the bag. Do not overload the bag crane and watch for any downward deflection of the horizontal arm.

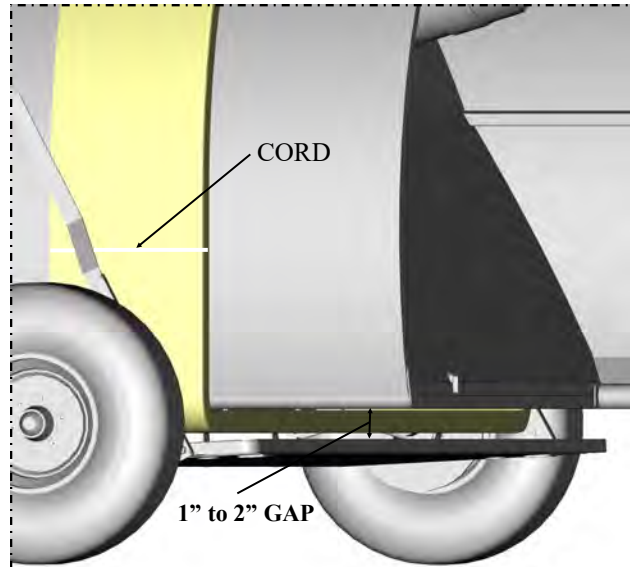


4 OPERATION

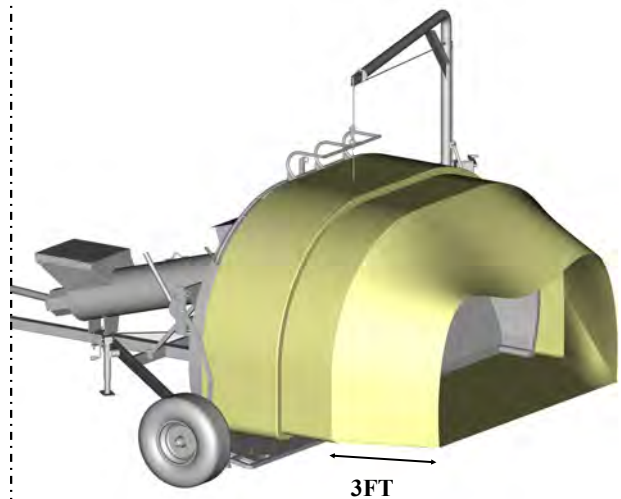
4.7 Setting Up the Grain Bagger (Cont'd)

11. Raise the bag pan until there is about 1"-2" of space between the bottom of the tunnel and the bag pan. Lower the bag lift until it rests on the tunnel. Cut and remove the strapping tapes, rope or twine that are located around the folded bag.

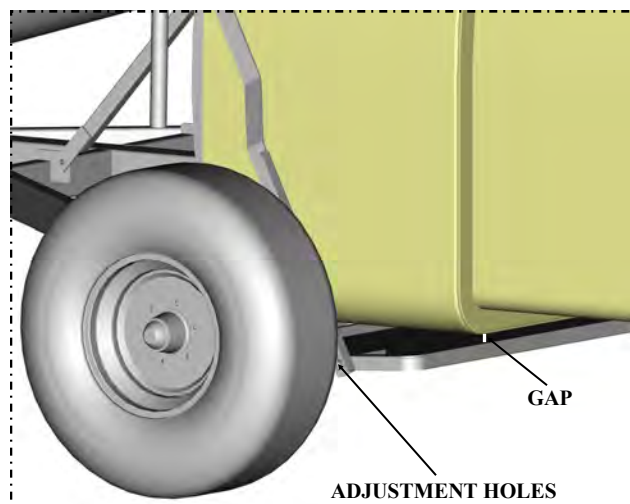
Use the bag lift cradle holder to hold the bag lift cradle to the bag tunnel. The cradle holder is designed to wrap around the tractor side of the tunnel and prevent the bag lift cradle from moving.



12. Carefully take hold of the leading edge (inside fold) and pull approximately 1 fold (3ft) off of the tunnel. Use one hand to pull and the other hand to keep the rest of the folding in place. The outside of the bag should be white and the interior black.



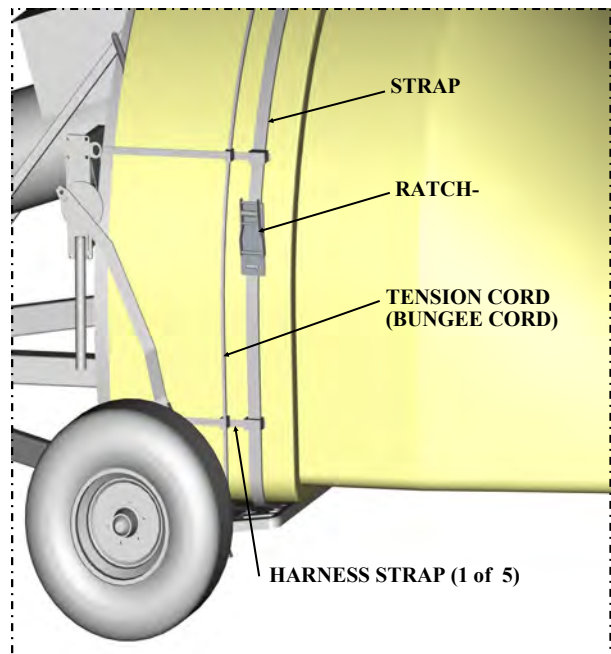
13. Tighten the bag pan until there is approximately 1" of space between the bottom of the tunnel and the bag pan. *Do not pinch the plastic between the bag pan and the bagger tunnel!*



4 OPERATION

4.7 Setting Up the Grain Bagger (Cont'd)

14. Place the tension cord and strap over the tunnel and bag (as shown) and secure tightly using the 5 harness straps provided. Position the tension cord just in front of the folds so that only one layer of plastic comes off the tunnel at any one time. Position the strap over the single layer of plastic to keep the grain from flowing toward the front of the bagger. Take the excess slack out of the strap but do not tighten at this point. Pull the tension cord tight to tie the knot, and then remove the knot from the 'V' to create slack in the tension cord for now (see figures below). The cord is routed through D rings in the pan.



Strap components

4 OPERATION

- 14.1 Take the ratchet strap (red) and spread it straight across.
- 14.2 Take each harness strap (black) and put it through the ratchet strap in the same orientation as in Figure 4.5.
- 14.3 Have just one harness strap on the short side of the ratchet.



Figure 4.5



Figure 4.6

- 14.4 Take the other 4 harness strap (black) and put it through the ratchet strap in the same orientation as in Figure 4.7.
- 14.5 Have the other 4 harness straps on the long side of the ratchet (Figure 4.8).



Figure 4.7



Figure 4.8

4 OPERATION

14.6 Insert the bungee cord through the harness straps as in Figure 4.9.

14.7 Spread the harness strap on the ratchet strap and the bungee cord as in Figure 4.10.



Figure 4.9



Figure 4.10

14.8 Put the straps on the bagger and latch the harness straps on to the “D” rings (Figure 4.11).

14.9 Insert the ratchet through the side by side “D” ring and latch it to the outer “D” ring as in Figure 4.12.



Figure 4.11



Figure 4.12

4 OPERATION

14.10 Do not tighten the ratchet strap all the way, but leave at least two fingers' worth of room (Figure 4.13).

14.11 Insert the bungee cord through the double "D" ring and tie a knot at the end of the bungee cord.



Figure 4.13



Figure 4.14

14.12 Place the bungee cord knot on the v weldment, pointed out in Figure 4.15.

14.13 On the other side, repeat steps 9 and 10. Then pull the bungee cord as in figure 4.16 to remove excess slack.



Figure 4.15



Figure 4.16

4 OPERATION

14.14 Place the bungee cord knot on the v weldment as in Figure 4.17.



Figure 4.17

An alternate way to tie the bungee cord (Figure 4.18),

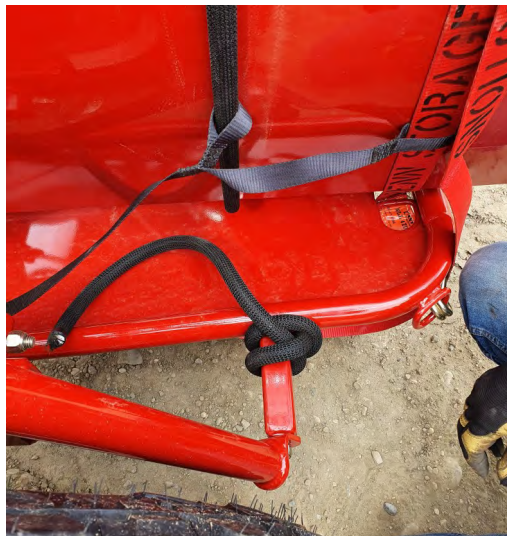
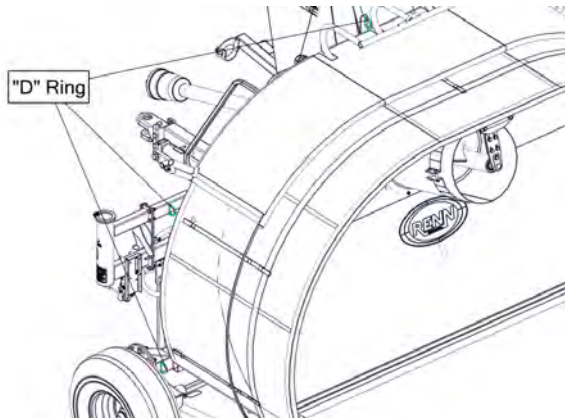


Figure 4.18

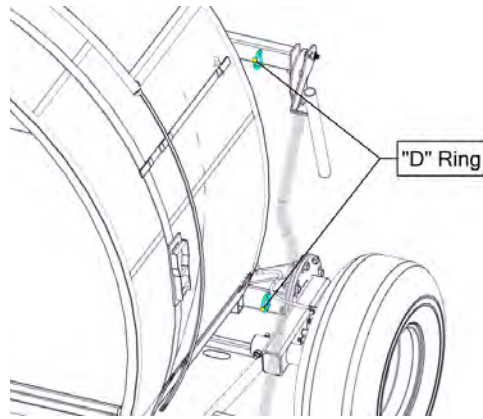
4 OPERATION

4.7 Setting Up the Grain Bagger (Cont'd)

NOTE: The harness strap has two settings to connect to the “D” ring. Use the longest setting for a 500ft bag with 21” folds. Use the shorter setting for a 300ft bag with 18” folds.



Longest setting (500ft bag)



Shorter setting (300 ft bag)

The 500 ft bag is about 4 1/4” thick. The 300 ft bag is about 3 3/4” thick. The goal is to keep the folds from bunching up against the red strap. The two settings are to place the bungee cord just ahead of the folds. If the longer setting is used on a 300 ft bag, the folds could move back against the red strap. As the 500 ft bag comes off the tunnel it may be advantageous to raise the bag cradle to help keep the bottom corners from bunching.

15. Pull 12 - 15 ft of plastic off of the tunnel to tie off the end of the bag.

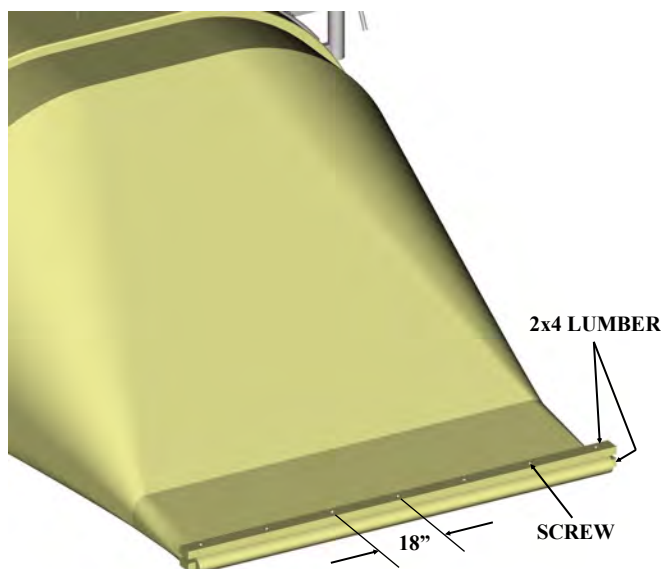


4 OPERATION

4.7 Setting Up the Grain Bagger (Cont'd)

16. With one person at each side of the bag, pull the bag flat.

Consider how you are going to empty the bag. If using an unloader, do not use a knot to seal this end of the bag. Instead, use a pair of 16ft 2x4 pieces of lumber (or something similar). Narrow the end of the bag to 13ft minimum by folding in once from each side. Lay one 2x4 across the end of the bag, 10" from the end. Fold the end of the bag (the 10") on top of the 2x4 and secure with staples (or something similar). Roll the 2x4 with the bag attached onto the bag three times, then lay the second 2x4 on top. Screw the 2x4s together every 18" to create a seal. Do not push the screws through the lumber. Sharp tips will create holes in the bag.



17. Pull another 3-4 ft of plastic from the tunnel and position the sealed end underneath the bag (this method ensures that when grain is placed in the bag, the end will remain hidden underneath the bag, providing an excellent seal).

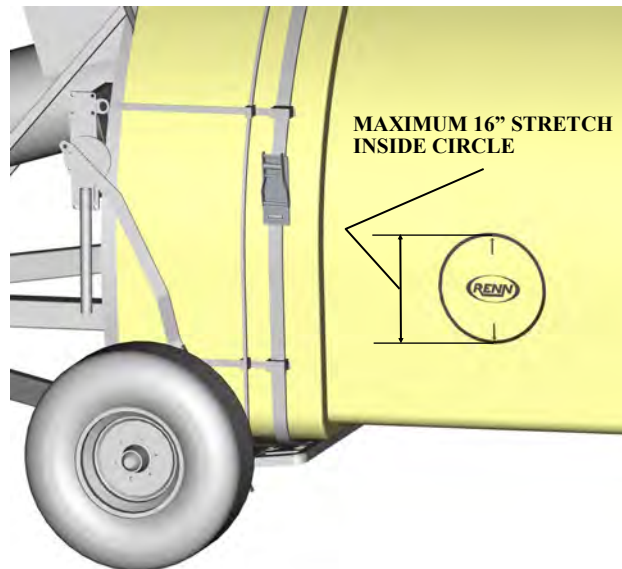
18. Replace the tension cord knots into the 'V's on the front of the bag pan (see step 14). Using the ratchet, tighten the strap until you have just enough room to get two fingers underneath it - be careful not to pull up on the bag pan and pinch the plastic.

19. Go to Section 4.8 to continue.

4 OPERATION

4.8 Filling the Bag with Grain

1. Ensure that the bag seal (boarded or otherwise - it is recommended to not use a knot if you are using an unloader to empty the bag. If using a vacuum, or manually unloading, a knot is fine.) is underneath the bag and confirm that there is a sufficient amount of plastic pulled from the bottom (rather than the top) of the tunnel before filling. This provides a ready made bag for the initial flow of grain to enter.
2. Place the tractor transmission into neutral. Do not set the grain bagger brake at this time unless you are on a downward slope.
3. During the filling of the bag, the tractor and bagger will be forced ahead by the grain flowing into the bag.
4. Take notice of the logo and stretch bar located on the side of the bag. This stretch bar is an indicator of the amount of grain that can be safely put into the bag. Do not allow the bar to stretch more than what is allowable for the bag you are using. Consult the bag information provided with your bag.



4 OPERATION

4.8 Filling the Bag with Grain (Cont'd)

5. **Adjust the grain bagger brakes.** Start with minimal brake pressure and work your way toward the desired setting. Note that disc cleanliness will affect performance, so check brake operation periodically to adjust as necessary.

CAUTION! Releasing the brake will allow the bagger to move ahead. Adjust the brake positioning arm so that the brake is positioned out and away from the bagger. Be prepared to move with the bagger when it does move. Failure to do so could result in injury.

6. As the bag is nearing the end, a series of yellow “Caution” tapes may appear. This is an indication that the end of the bag is near. Consider stopping the input of grain as you will need sufficient loose plastic to close the bag and to begin the unloading process. 10-15ft of loose plastic is suggested as an absolute minimum to begin unloading and to properly tie the bag off with boards when using the Renn 1214 Unloader (*When using the Renn 1014 Unloader, less loose plastic is required - the recommended amount is 10-12’*). Note that the grain will slope down to the floor of the bag at a slope of approximately 2½ft of run for every foot of rise. This requires approximately 16ft of plastic to go from ‘Bagging Mode’ to ‘Bagger Free Mode’. It is therefore suggested to stop bagging with at least 7 folds (21ft) left on the tunnel.
7. If the bag is full, release the brake and advance the tractor and bagger forward. This will allow the remaining plastic to be pulled off the tunnel. Releasing the strap and cord tension is suggested prior to pulling the final folds off, but only after releasing the brake.
8. The end of the bag must be sealed to keep out moisture and rodents. There are various methods for sealing off the bag.
 - α) Pull the top and bottom edges out flat. Fold the two outside edges inward as necessary to match the length of your 2x4. Lay these folded edges along a single 2x4 piece of lumber and tack the bag down using a staple gun (or something similar). Roll the board and plastic 2 or 3 times and place a second 2x4 piece of lumber on top. Nail the two boards together using 2-1/2” nails (or screws), 6 to 8 inches apart, at a slight alternating angle.
 - β) Seal the bag using Polyfastener - this is a two piece plastic extrusion comprised of a channel and an insert. Place a length of channel underneath the bag, along the edge of the grain. Pull the top and bottom edges of the bag out flat over the top of the channel. Using the poly tool, insert the strip into the channel, locking the film in-between the strip and channel.

4 OPERATION

4.9 Operating Grain Bagger Hydraulics

4.9.1 Electric/hydraulic operation requires that 12 VDC is supplied from the tractor or, in this case, a stand alone battery.

Note: The red grummet is positive and the black grummet on the black wire is negative.



4.9.2 The electric/hydraulic system is controlled by a remote pendant. To energize the pendant, first make sure that there is 12VDC supplied to the receiver as set up in step 1. Push and hold the **Red Power Button** until the green light flashes. This indicates that there is communication between the receiver and the transmitter. A red flashing light indicates an error. Note all of the functions and their locations. The circuits are activated by holding down the button that corresponds with the function.

NOTE: *There may be a slight delay before hydraulic movement.*

For remote instructions refer to Appendix A.

Note: That the battery may require some recharging. Manufacturer recommendation is to use a 12V deep cycle battery only.

POWER BUTTON

INDICATOR LIGHT



There is a wall charger and a remote power cord for charging the remote. Solid green indicates full charge.

4 OPERATION

4.9 Operating Grain Bagger Hydraulics (Cont'd)

4.9.3 In case of electrical failure, manual override can be achieved by using a screwdriver to push the pin on the spool end.



4.9.4 Tractor hydraulic remote levers: Hydraulic flow is supplied by the tractor directional control valves (DCV). The system on the 1016T is an open center. It can be operated either by open or closed center hydraulics tractors.



NOTE: *In order to reduce the unnecessary heating of hydraulic oil through the priority flow control valve, only operate hydraulics during set up/take down, or running the transfer auger.*

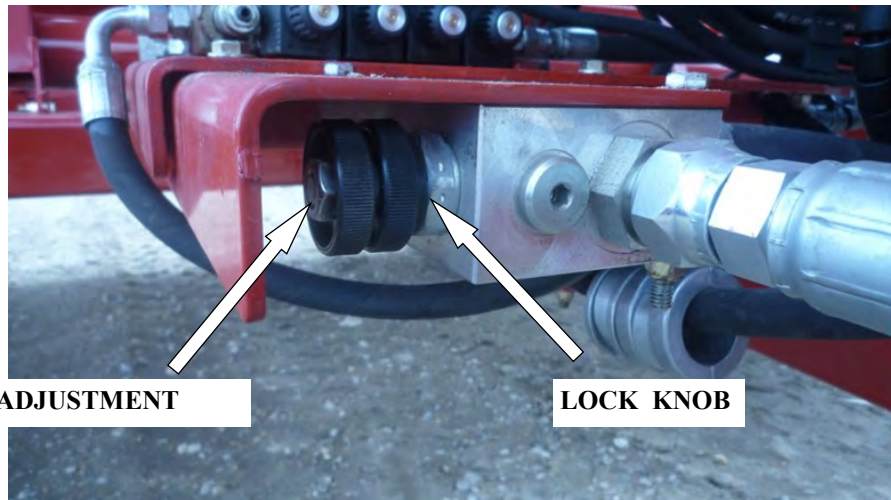
4.9.5 If possible, set the tractor DCV that provides flow to the bagger hydraulics so that the tractor hydraulic lever will be locked into the flow position. Open the flow control to approximately 20 gpm on the DCV. Consult your tractor manual for more information.



4 OPERATION

4.9 Operating Grain Bagger Hydraulics (Cont'd)

4.9.6 The tractor should be operated at or near 540 PTO RPM to produce the required flow to the priority low control valve. The electric/hydraulic system only requires 2-4 gpm. The flow to this circuit should be set as low as possible so that functions operate in a controlled manner. The separate circuit to the auger hydraulic motor requires 15-18 gpm. Note that in order to run both the auger and the electric/hydraulic circuit, some fine tuning of the priority flow control will be required. Turning the black knob clockwise will allow more flow to go to the electro-hydraulic circuit. Note that the inner knob is a locking knob. Turn the knob in while holding down a button on the remote to activate a circuit. The hopper wheel move is a good choice. When wheel movement is detected and at a slow speed, stop turning in the knob. This will ensure that the priority circuit to operate the auger motor gets most of the flow available from the tractor.



The priority flow control valve is located on the underside of the valve mounting plate.



Note: Remember to switch the battery disconnect knob to the "off" position once you're done using the Bagger.

4 OPERATION

4.10 Set Up and Operation

1. Locate the transport pin as indicated and remove. You may have to move the auger in slightly to relieve pressure from pin. The transport pin is held in place using a lynch pin.



2. Push the “Auger Out” button on the remote to move the auger completely out. The support wheels will be completely on the ground.



3. Activate the folding auger control to unfold the auger by pulling to extend the cylinder or pushing handle to retract. There are orifices in the valve to modulate the flow to the folding auger cylinder. It is **very important** that the auger folding action be done in a slow, controlled manner or damage may occur.



4 OPERATION

4.10 Set Up and Operation (Cont'd)

4. The auger can now be unfolded.

Note that completely unfolding the auger will require full hydraulic pressure. You must lift the hopper up all the way with the remote in order to extend the cylinder.



5. When the auger is fully unfolded, latch the auger joint as indicated. Make sure that the over-center latch is tight. Secure with safety pin.



6. Prior to moving the auger from side to side the transport stand must be lowered as shown. Raise the hopper up, pull the pin on the stand while supporting it with your free hand, and lower it out of harms way. This step is **very important** to prevent damage.



4 OPERATION

4.10 Set Up and Operation (Cont'd)

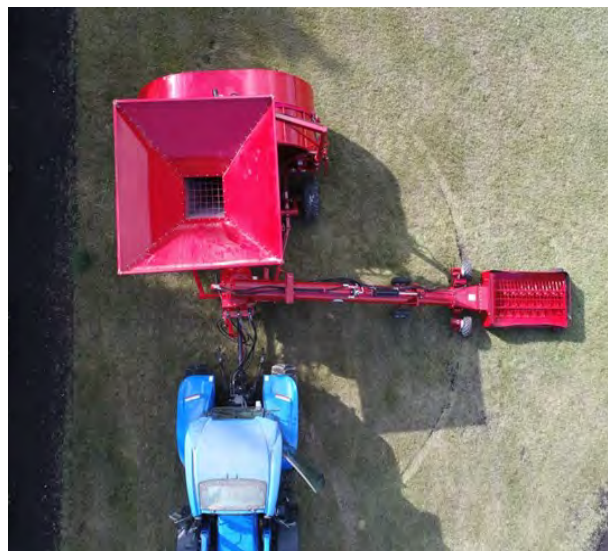
7. The auger should be telescoped all the way in prior to bringing the truck and trailer alongside. For best results in terms of hopper alignment under the trailer, the driver's side tires should be 6-8 inches away from the end of the hopper.



8. Keep an eye on hoses during initial operation to make sure that they move freely from the auger fully out position to the fully in position.



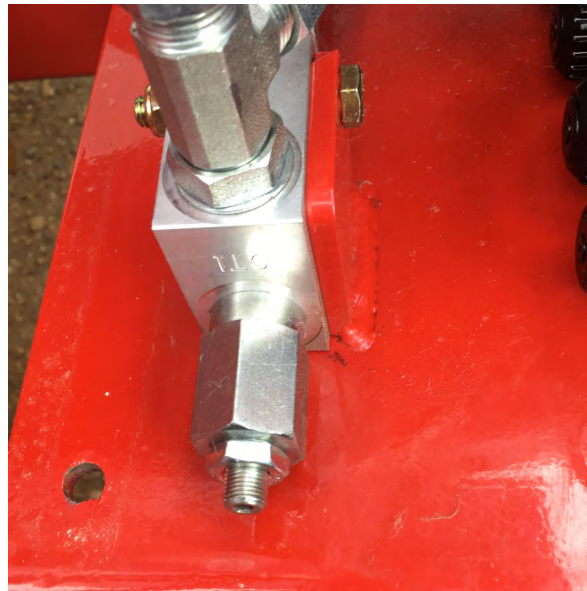
9. The hopper auger can be raised up on the hopper drive wheels and moved left or right to align with the discharge on the truck using the hydraulic pendant control.



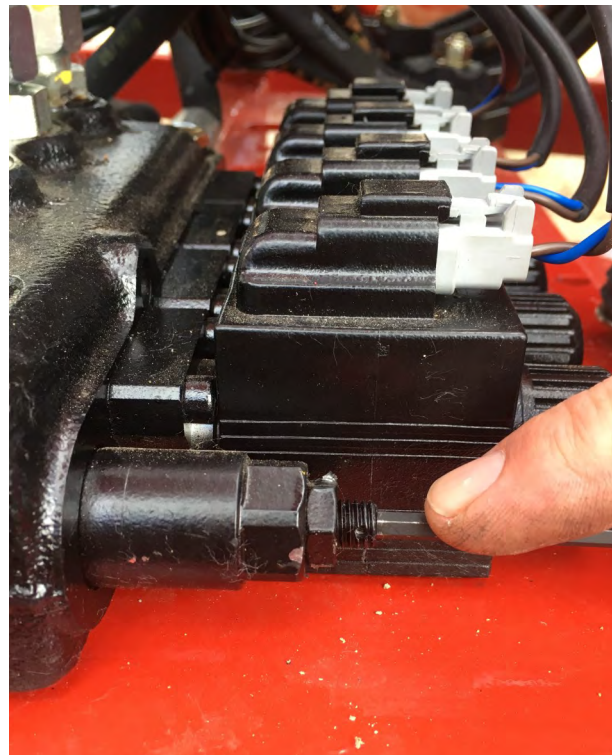
4 OPERATION

4.10 Set Up and Operation (Cont'd)

10. The bag crane pressure relief valve is set at the factory to approx. 750lb capacity. The relief valve adjustment screw sits 3/8" past the jam nut. If this setting is adjusted to complete a lift, it should be returned to factory settings once lift is complete.



11. The electro-hydraulic valve pressure should be set to 2200 PSI. The adjustment screw at this pressure is approximately 5-6 threads extended past the jam nut. If you experience issues with the “in/out”, “hopper raise”, or “hopper move” functions, this screw may need to be adjusted.



4 OPERATION

4.11 Setting the Grain Bagger For Transportation

1. Raise up the hopper and fully extend the folding auger cylinder to undo the latch .

Make sure that you are aligned with the transport support roller before releasing latch.



2. Lower the hopper down and start to slowly fold the auger.



3. When transporting the bagger, the transfer auger must be folded up into the transport position and the transport pins must be installed.

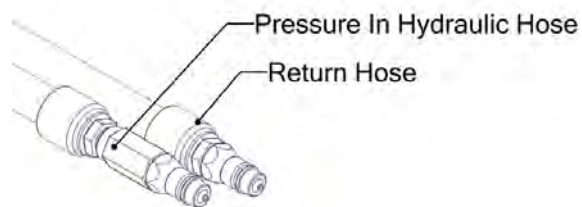


4 OPERATION

4.12 Attaching/Unhooking the Tractor/Bagger

Follow this procedure when attaching the bagger to the tractor:

1. Make sure that all bystanders, especially small children, are clear of the working area.
2. Make sure there is enough room and clearance to safely back up to the machine.
3. Attaching the bagger:
 - A. Slowly back the tractor until the holes on the hitch and drawbar are aligned. The hitch tongue can be moved vertically to give a wider variety of connection locations.
 - B. Lift the hitch with the hitch jack and install the drawbar pin and the retainer.
 - C. Attach the safety chain securely around the tractor drawbar cage to prevent unexpected separation.
 - D. Retract the hitch jack, remove the connecting cross pin, turn the jack 90 degrees so that it falls in line with the hitch pole, and replace the cross pin to fix the jack into the transport position.
 - E. The bagger hitch is also horizontally adjustable, allowing for the proper PTO extension during operation. Use the longest setting available, ensuring a minimum of 5" overlap in the PTO during operation.
 - F. Connect the hydraulics:
 1. Use a clean rag or paper towel to clean the dirt from the couplers on the hose ends and the tractor.
 2. Connect the hoses to the tractor couplers. Be sure the couplers are securely seated.
 3. Reset hoses in the hose support arm so that hoses do not rub on the PTO shield.
 4. The one with the check valve is the pressure/fluid in hydraulics hose from the tractor and the other one is the hydraulics return hose.



4 OPERATION



4.13 Operating Transfer Auger

IMPORTANT OPERATION NOTICE!

When using the transfer auger to fill bag, it is recommended that the bagger auger rpm be slowed down to 300-350 RPM. The transfer auger maximum hydraulic flow rate is 18 gpm. This will achieve 150 bu/min. On some tractors maximum hydraulic pump flow rate can be achieved around 1400 engine rpm which will may be around 332 rpm pto speed. That is if the gear ratio is 4.2 between engine speed and pto speed.

Some simple trial and error of reducing tractor engine rpm, while watching transfer auger speed will give you an idea of where your tractors max hydraulic pump flow begins to go down.

The reason for the slower bagger auger speed is to reduce the wear on auger flighting. The 300-350 rpm is more matched to the incoming grain flow from the transfer auger.

When using the surge hopper to feed bagger, run at the 540rpm recommended speed.

5 SERVICE AND MAINTENANCE

5.1 Servicing Record

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

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

MAINTENANCE	Hours Serviced By									
10 Hours of Driveline Use										
L PTO U-Joints										
L Drive Line Bearing - Packing Auger										
L Transfer Auger Upper Bearing										
L Packing Auger Lower Bearing										
L Lower Transfer Auger Thrust Support Bearing										
L Transfer Auger Hopper Drive Chains										
Annually										
T All Fasteners										
T Re-torque Wheel Bolts										
L Wheel Hubs										
L Bag Crane Pivot Post										
CL Machine										
CH Brake Rotor and Pads										
CH Brake Fluid Level - Brake Pump										
CH Brake lines for leaks										
CH Crane cable for damage										
CH Upper Transfer Auger Flex Drive Connector										

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 it and clean it thoroughly. Clean the lubricant passageway also. Replace fittings as necessary.

Oil

Only use a standard brake fluid in the brake system.

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)



Lower auger bearing: grease zerk (8 hours)



5 SERVICE AND MAINTENANCE

5.2 Servicing Intervals

Upper Feed Auger Bearing: grease zerk



Lower Feed Auger Thrust Support Bearing: grease zerk



Daily

Bag Crane Winch: Extend all of the cable off of the winch drum, and inspect the length of the cable for cracks and frays. Cracked or frayed sections will limit the cable's strength and could suffer failure, resulting in injury or death.



Annually

Auger, end bearing set, sealed units; torque clamp bolts; check bearing seal on outer bearing and set collar tight and set screw locked



Check pad wear and clearance; rough spots on discs; check for leaks; torque bolts to spec

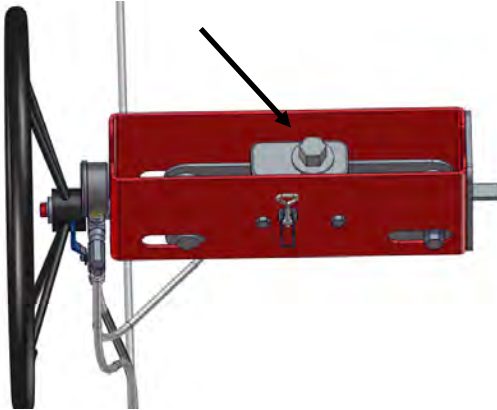


5 SERVICE AND MAINTENANCE

5.2 Servicing Intervals

Annually

Check/Fill point for brake pump
(Use brake fluid only)



Upper Feed Auger Flex Drive Connector: The female pin of the flex drive connection should be checked to ensure it still actuates smoothly. If the flex drive coupler does not move freely, it can result in damage to the flighting, or the inability to operate.



Grease wheel hubs (2 locations). Apply a generous amount of grease. *NOTE:* Over-greasing may lead to seal damage.



Grease bag crane pivot post.

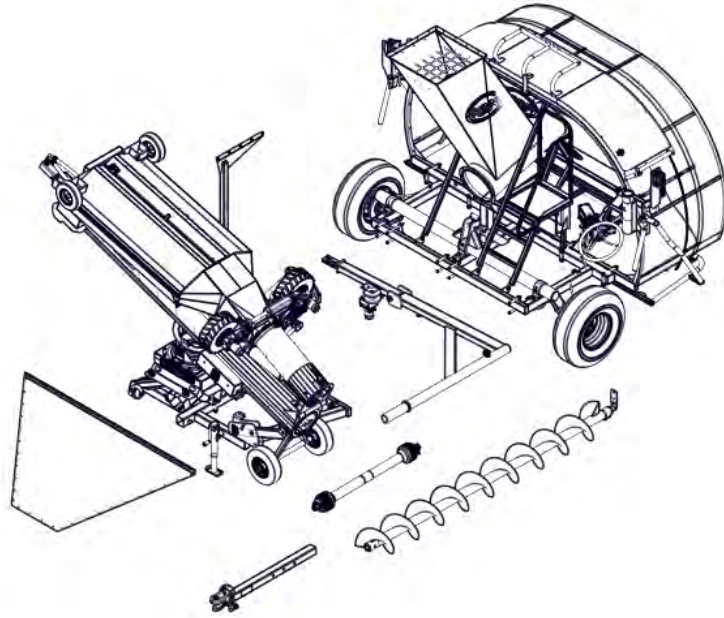


Bleed lines when necessary



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

6 POST DELIVERY INSTRUCTION (PDI)



1. The 1016T Bagger has been shipped as separate pieces:
 - Transfer Auger Section
 - Bag Tunnel Section
 - Packing Auger Flighting
 - Surge Hopper
 - Bag Crane
 - PTO
 - Hitch/Tongue



NOTE: Make sure that the Serial Number on the In-Feed auger matches the one on the tunnel.

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

6 POST DELIVERY INSTRUCTION (PDI)

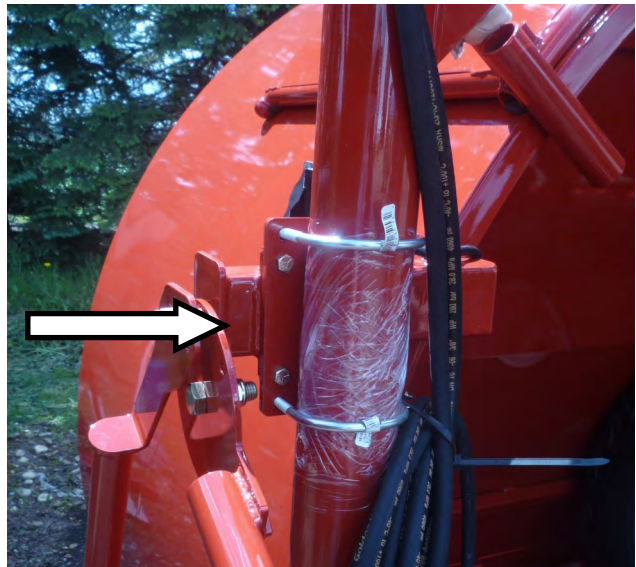
1. Start by removing the wire ties holding the packing auger flighting, PTO, and tongue from the transfer auger section.



2. Cut the band and remove the wheels from the bag tunnel section.



3. Remove the u-bolts and shipping plate holding the bag crane to the passenger side of the grain tunnel.



6 PRE-DELIVERY INSTRUCTION (PDI)

4. Unbolt the shipping bracket holding the bag crane to the top of the bag tunnel.



5. Unbolt the passenger side light and bracket from the top of bag crane receiver. The light can be bolted to the mount on the passenger side using the bolts that held the shipping plate. Plug the light into the existing wiring harness.



6. Remove the package containing the ratchet strap, bungee cord, bag harnesses and the frame bolt plates, nuts and bolts from under the bag tunnel stairs.



6 PRE-DELIVERY INSTRUCTION (PDI)

7. Block the bag tunnel half 12-18" off the ground.



8. Mount the rims and tires to the hub assemblies using the bolts provided.

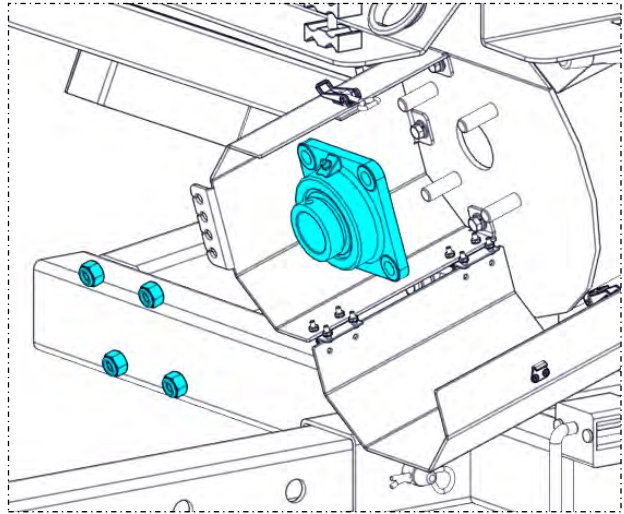


9. Remove the bolt/shipping tab holding the axle in place.

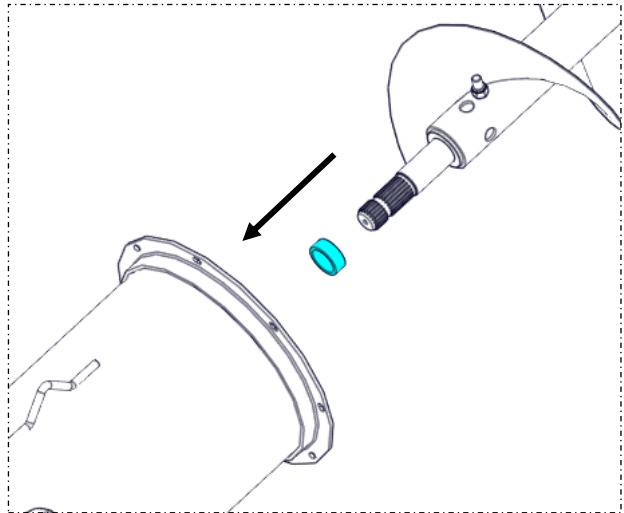


6 PRE-DELIVERY INSTRUCTION (PDI)

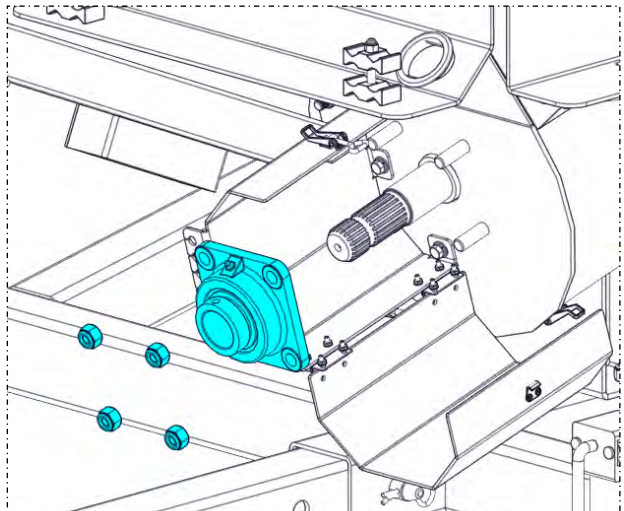
10. Open the PTO shield swing panel and un-bolt the bearing from the auger assembly.



11. Install the thrust washer on to the PTO shaft end of the auger flighting. Use copious amounts of axle grease or copper coat to keep the washer in place while installing flighting. Insert the auger flighting through the auger assembly.

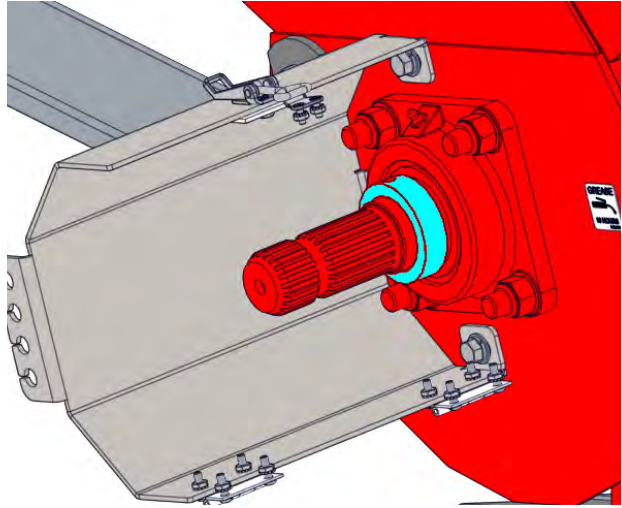


12. Once the auger flighting is in place, fasten the bearing back on to the auger assembly.



6 PRE-DELIVERY INSTRUCTION (PDI)

13. Install the eccentric lock collar to the bearing on the bottom of the auger tube. Install the PTO.



14. Take the frame bolt plates, nuts, and bolts off the bag tunnel frame holding the surge hopper throat support. Scrap the wooden pieces.

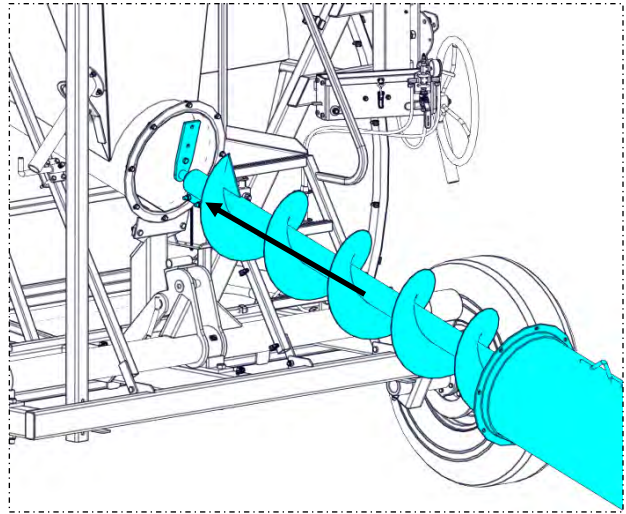


15. Remove the nuts/bolts from the packing auger tube bolt flange.

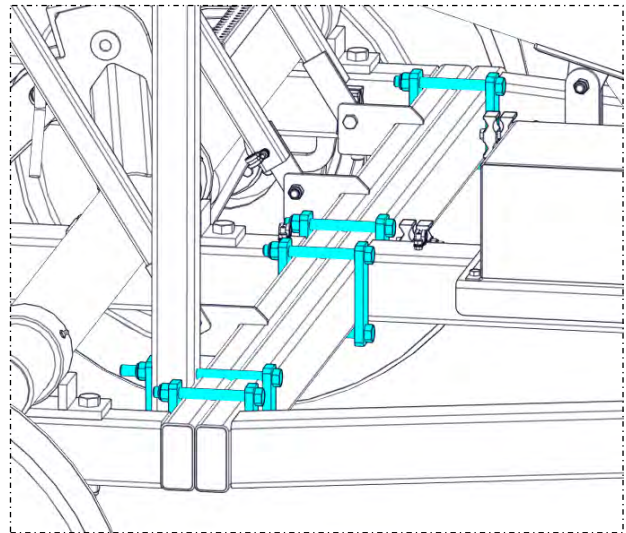


6 PRE-DELIVERY INSTRUCTION (PDI)

16. Using a forklift or other lifting equipment guide the auger flighting through the auger throat assembly.



17. Align the two halves of the grain bagger flush with the sides and attach using the plates/nuts/bolts. Space the plates approximately 2.5" off the beams on the bag tunnel half.

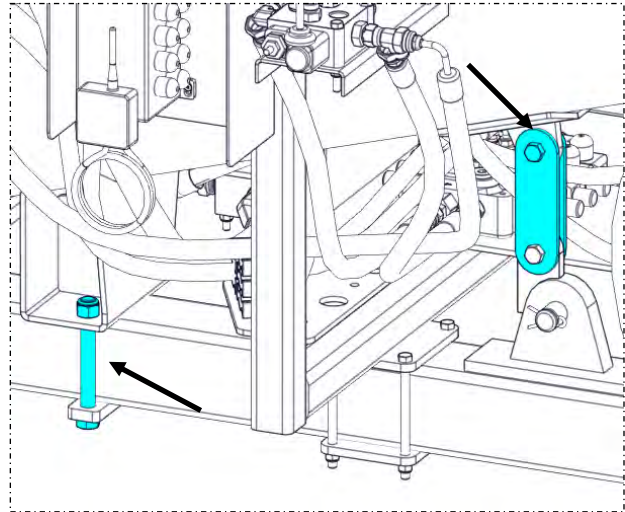


18. Bolt the two halves of the packing auger tube together with the bolts/nuts removed in step 15.



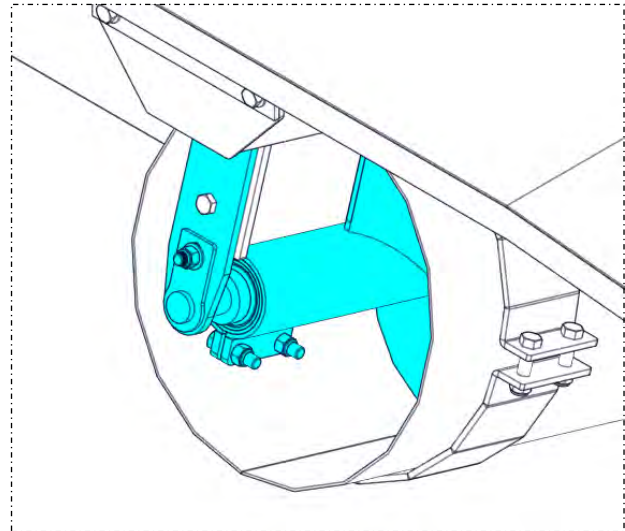
6 PRE-DELIVERY INSTRUCTION (PDI)

19. If the two halves of the auger tube doesn't align properly, or if there is space in-between the auger tubes, then loosen the fasteners holding down the auger assembly and support strap to properly bolt in the two halves.



20. Bolt the packing auger support bearing to the hanger on the grain tunnel. Make sure to align the flighting centered within the tube.

Note: You may have to rotate the auger flighting to get it to the right position.



21. Open the manual canister on the tractor side of the bag tunnel and remove the crane swing lock and the axle lift ram stroke stoppers.



6 PRE-DELIVERY INSTRUCTION (PDI)

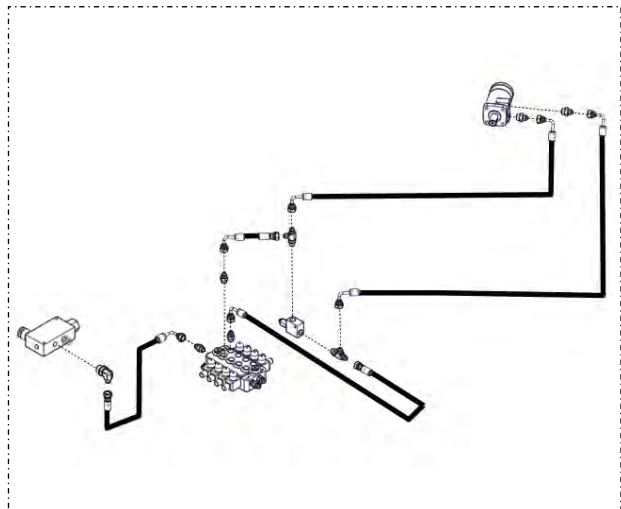
22. Using a hydraulic power pack or tractor, extend the axle lift ram and attach it to the axle using the existing pin. The stroke stops are to be installed at this point.



23. Install the bag crane into the bag crane receiver. Connect the crane hook to the bag lift frame.



24. Run the hydraulic hoses from the bag crane motor to the pressure relief valve. Use the installed hose holders along the frame to mount the hydraulic hoses, following the routing shown in section 11.17.

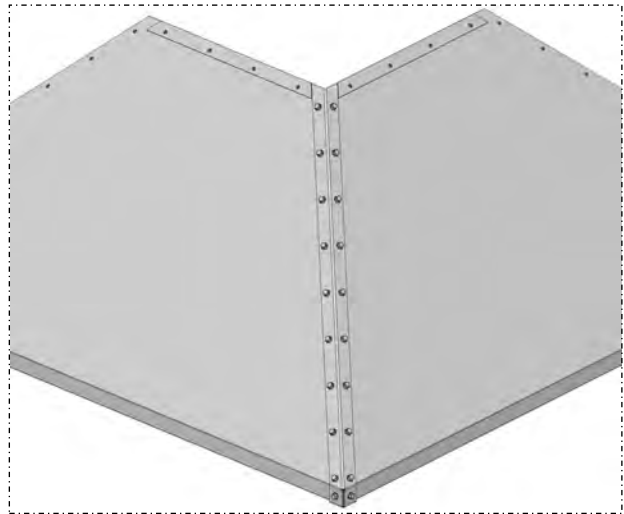


6 PRE-DELIVERY INSTRUCTION (PDI)

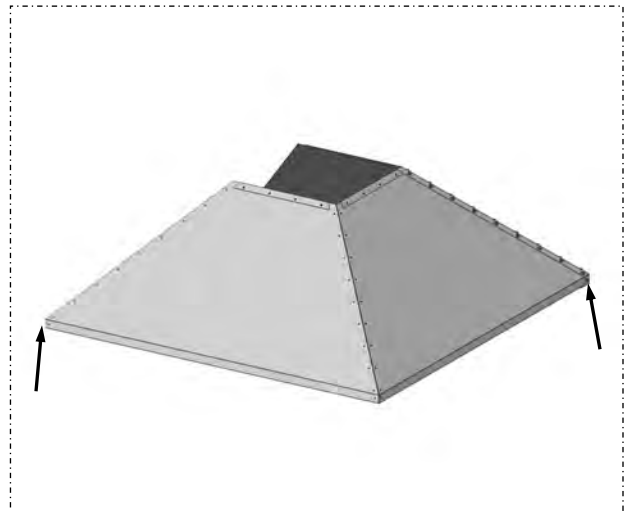
25. Remove the lifting bracket from the front of the tractor half of the bagger, and install the tongue.



26. Note that panels are symmetrical. Take 2 panels and 1 corner bracket. Set panels up on padded surface with corner raised off of surface.
27. Set corner bracket in place and install top 2 bolts. Install the rest of the bolts. Do not tighten.

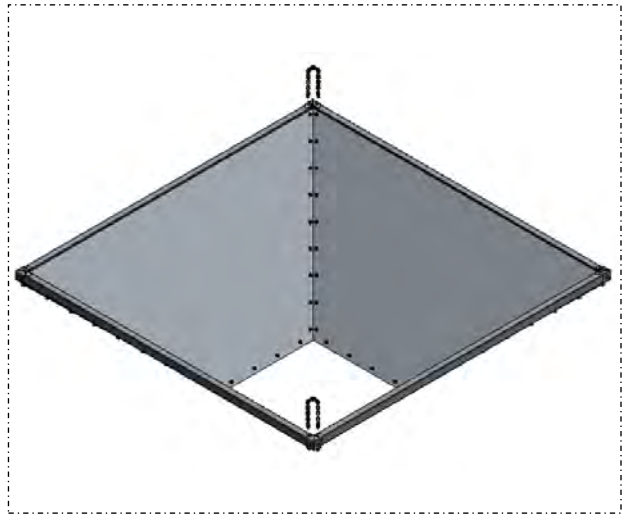


28. Install remainder of panels and corner brackets until complete. Torque bolts to spec (3/8" NC). Remember to bolt chain loops into bottom corners (2 chains set diagonally across from each other) to aid in lifting the hopper into position.



6 PRE-DELIVERY INSTRUCTION (PDI)

29. Turn hopper over and install onto machine. Use a long rigid, support so that corners are lifted directly upward so as not to deform the square-ness of the hopper during installation.
30. Two lengths of chain have been provided to bolt into opposing corners of the hopper to assist with lifting the hopper onto the bagger throat assembly.



31. Mount the surge hopper to the top of the intake throat.



6 PRE-DELIVERY INSTRUCTION (PDI)

6.1 Optional Light Kit

1. The harness (Part no. 147000-0622.00) can be connected to the existing wiring.
2. Light Kit Part No. 147000-0604.00



7 TRANSPORTATION



1. Check with local authorities regarding bagger 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) sign and all of 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 bagger are working to safeguard against rear end collisions. Daybreak and dusk are particularly dangerous and pilot vehicles are recommended.
5. Be sure that the bagger 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. Make sure to lock the clamp on the pull-out bar while transporting.

Do not transport the bagger 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 bagger to the tractor.
4. **INSPECTION:**
 - a) Check that all hydraulic lines are seated and completely coupled.
 - b) Check that all of the bearing locking collars on the shafts are tight and in good condition.
 - c) Check that all set screws on the bearing collars are tight.
 - d) Check that all bearing mounting bolts are tight.
 - e) Check that all tires are inflated per the recommended pressures.
 - f) Re-torque all wheel bolts.
5. Lubricate all grease fittings.
6. Replace any defective parts.
7. Go through the **Pre-Operational Checklist** (Section 4.4) before using.

9 TROUBLESHOOTING GUIDE

SHEAR BOLT

SYMPTOM	PROBABLE CAUSE	SOLUTION
Shear bolt breaking	Loading the hopper/auger prior to starting auger	Ensure auger is turning prior to filling.
	Incorrect shear bolt	Install factory recommended shear bolt.
	Foreign element in auger	Clear all objects out of auger path.

BAGGING

SYMPTOM	PROBABLE CAUSE	SOLUTION
Ripped bag at base of machine	Bag pinched by bag pan	Increase pan gap to factory recommended gap.
Grain leaking around tunnel	Brake pressure too high	Reduce brake pressure.
Grain passing by strap	Strap not tight enough	Tighten strap.
	Brake pressure too high	Reduce brake pressure.
Bag sliding off of tunnel	Bungee rope tension	Tighten bungee rope.
	Bungee rope placement	Ensure bungee rope is tight just in front of bag pile.
Brake pressure off, bungee cord tight and still grain wants to push around the strap	Too much weight to push	Use smaller tractor.
		Hill is too steep.
Not filling bag to maximum stretch marks	Not enough brake pressure	Increase brake pressure by 50lbs and re-check bag stretch marks.

9 TROUBLESHOOTING GUIDE

BRAKING

SYMPTOM	PROBABLE CAUSE	SOLUTION
Brake pressure not registering	Pump malfunction	Repair or replace pump.
	Lacking brake fluid	Fill pump with fluid as per manual instructions. Follow above instructions to pressurize system.
Brake pressure goes down by itself	Ball valve open	Close ball valve to act as secondary lock.
	Leak in line	Check lines and brake assemblies for leaks. Tighten fittings as necessary.
Brake pressure goes up and down by itself periodically	Note that ambient temperature changes can affect brake pressure	Adjust as necessary.
Brakes not holding bagger back with lots of pressure	Wet/dirty discs	Dry/clean off discs, check pad.
	Stretching bag too much	Reduce stretching of bag to within limits prescribed by manufacturer.

10 SPECIFICATIONS

10.1 General Specifications

Weight.....	10460 lbs
Minimum Tractor Horsepower.....	80 hp
Auger Discharge Size.....	16"
Auger Discharge Capacity	300 Bu/min 8 Tonne/min
Surge Hopper Size—Top Entry	96" x 96"
Surge Hopper Size — Bottom Discharge	26" x 26"
Surge Hopper Capacity	83 cu. ft.
Bag Lift Winch.....	1000 lbs

10.2 Tire Specifications

Bagger—Tire Size	33 x 12.5 x 15 Traction Tire
Bagger—Tire Pressure	Check tire for info
Hopper—Castors.....	3.5" x 12.5" Caster - non-flat
Hopper—Mover Tires.....	16 x 6.5-8NHS GROUND DRIVE TIRE/RIM
Hopper—Mover Tire Pressure.....	Check tire for info





10.3 Bolt Torque Specifications

3/8" x 2" long, UNC, Gr5 with 3/8" top lock nut, shear bolt, used on PTO shaft	30 ft-lbs
Wheel Bolts 9/16"- 18 UNF x 1-1/4" - 635 Hub	128 ft-lbs

For all other fasteners please refer to bolt torque chart on the following page.

10 SPECIFICATIONS

BOLT TORQUE CHART

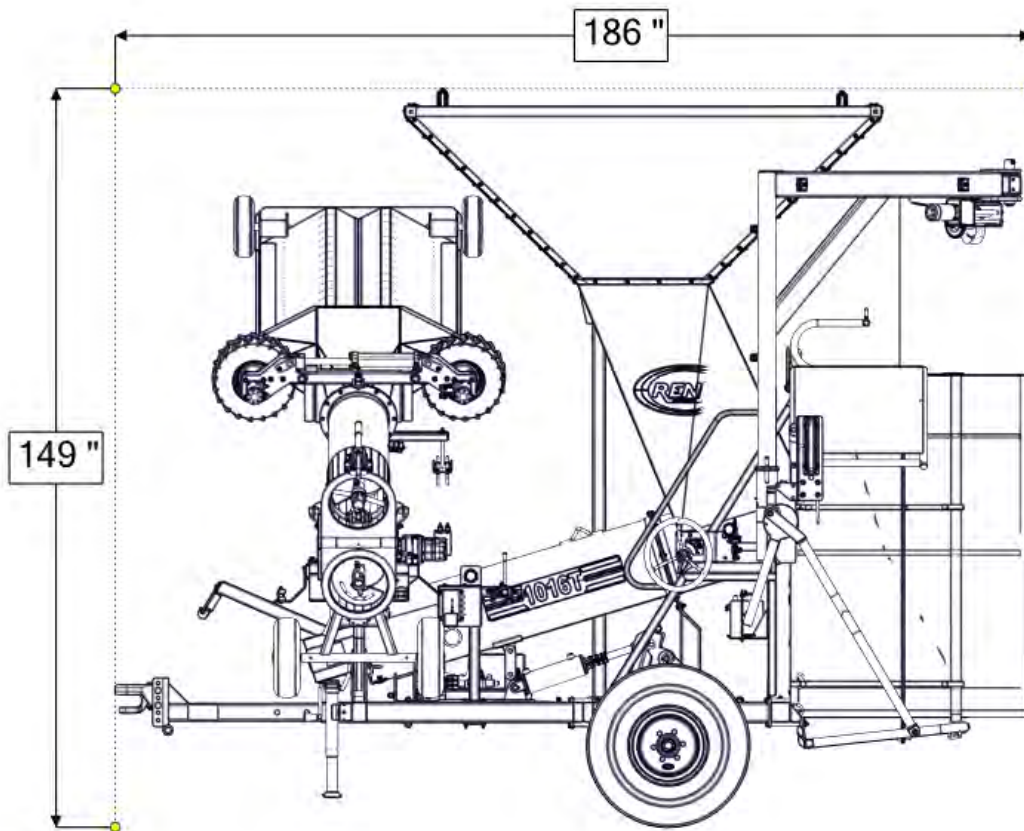
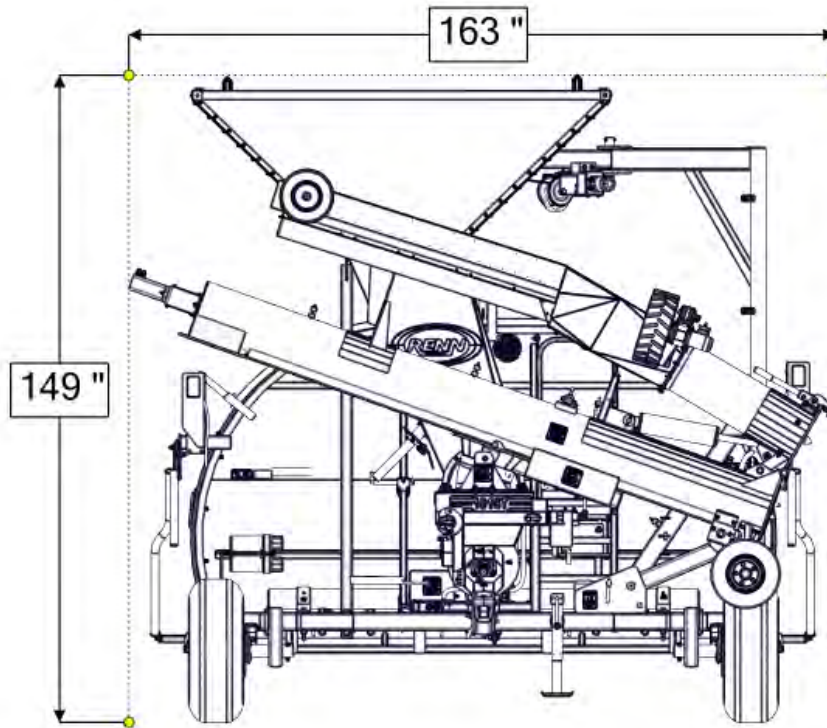
SIZE								
	SAE GRADE 2		SAE GRADE 5		SAE GRADE 8		L9	
	ASSEMBLY TORQUE DRY	LUBRICATED	ASSEMBLY TORQUE DRY	LUBRICATED	ASSEMBLY TORQUE DRY	LUBRICATED	ASSEMBLY TORQUE LUBRICATED	LUBRICATED
1/4-20	66*	49*	8	75*	12	9	11	
1/4-28	76*	56*	10	86*	14	10	13	
5/16-18	11	8	17	13	20	18	21	
5/16-24	12	9	19	14	25	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**

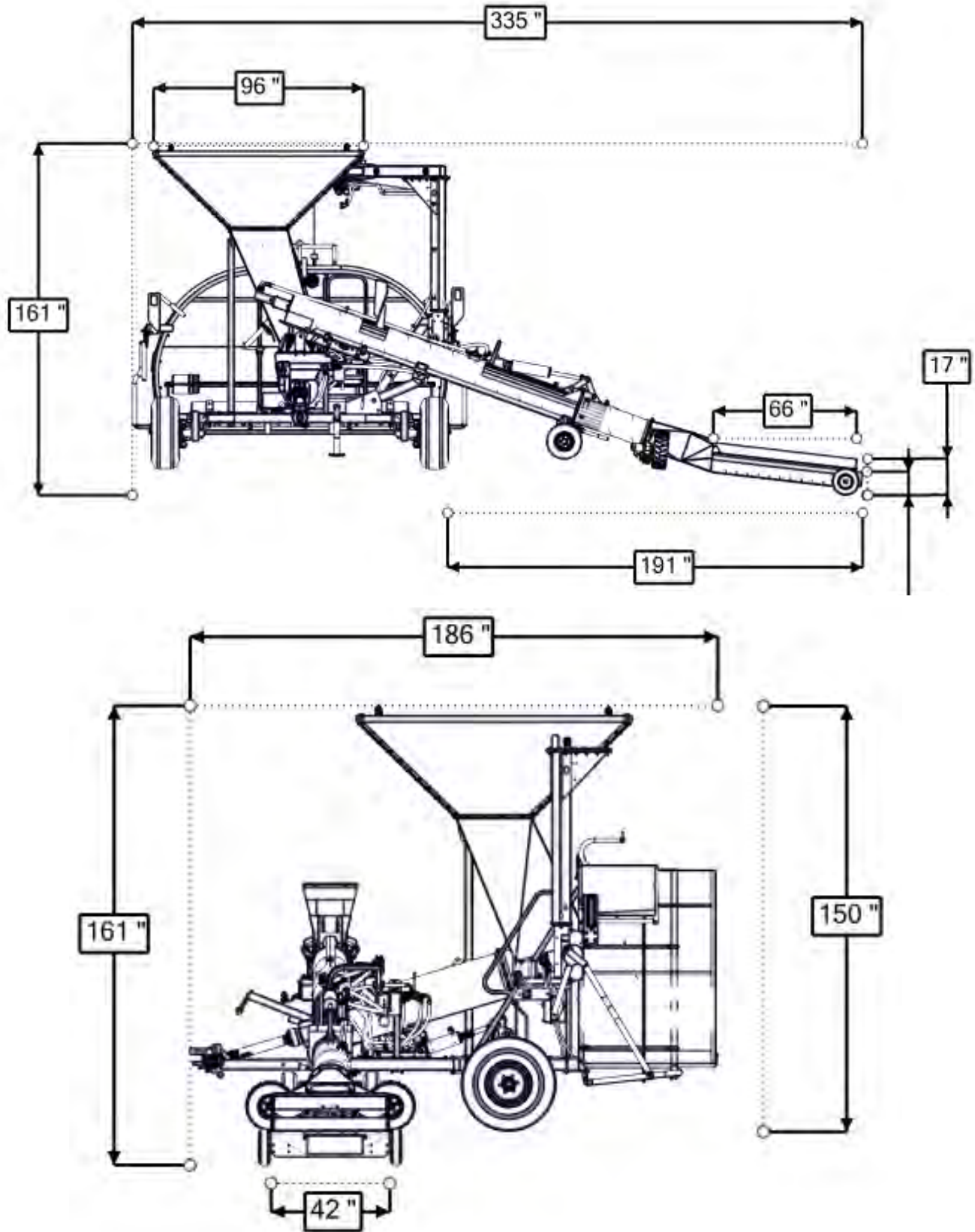
10 SPECIFICATIONS

10.4 Overall Dimensions



10 SPECIFICATIONS

10.4 Overall Dimensions



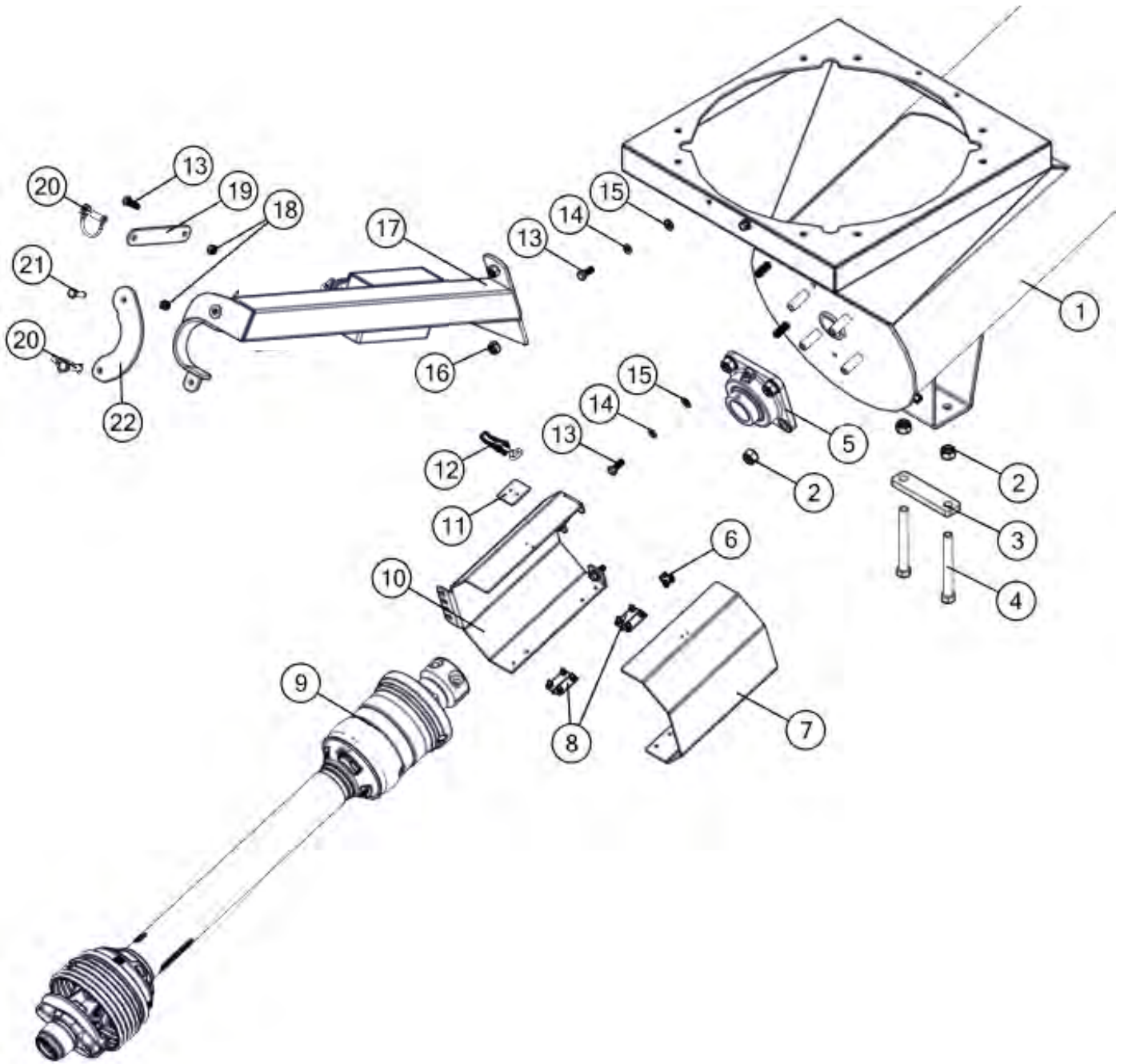
11 PARTS

11.1 PTO Shield and Holder Assembly

REF #	PART #	DESCRIPTION	QTY
1	681000-0413.01	Auger Assembly - Lower Section	1
2	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	6
3	481000-0028.00	Bolt Plate - Tunnel Attachment	1
4	159400-0731	Hex Bolt - 5/8" NC x 5-1/2" Gr.5 PL	2
5	114000-0019	1-15/16" - 4 Bolt Flange Bearing	1
6	154000-0143	Catch - Overcenter Latch - 3.5"	1
**	159300-0515	Stove Bolt - 8-32 x 1/2"	2
**	167000-0519	Hex Nut - 8-32 PL	2
7	481000-0844.00	Swing Panel - PTO Shield - 1016 RGB	1
8	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
9	375000-0349	Series 35, CAT4 CV Drive Shaft, Guarded	1
10	481000-0843.00	Fix Panel - PTO Shield - 1016 RGB	1
11	414000-0906.01	Lap Flat	1
12	154000-0142	Overcenter Latch - 3.5"	1
**	159300-0515	Stove Bolt - 8-32 x 1/2"	2
**	167000-0519	Hex Nut - 8-32 PL	2
13	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	6
14	168600-0071	Lock Washer - 3/8" PL	5
15	168000-0540	Flat Washer - 3/8" SAE	5
16	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	2
17	681000-0485.00	PTO & Hose Holder - 1016T - 2023	1
18	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	2
19	481000-1200.00	Clamp Plate - 4 Hose Hanger	1
20	161500-0498	Quick Pin, 3/8" x 1-5/8"	2
21	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	1
22	481000-1578.00	Clamp Plate - Driveline Cradle 2023	1

11 PARTS

11.1 PTO Shield and Holder Assembly



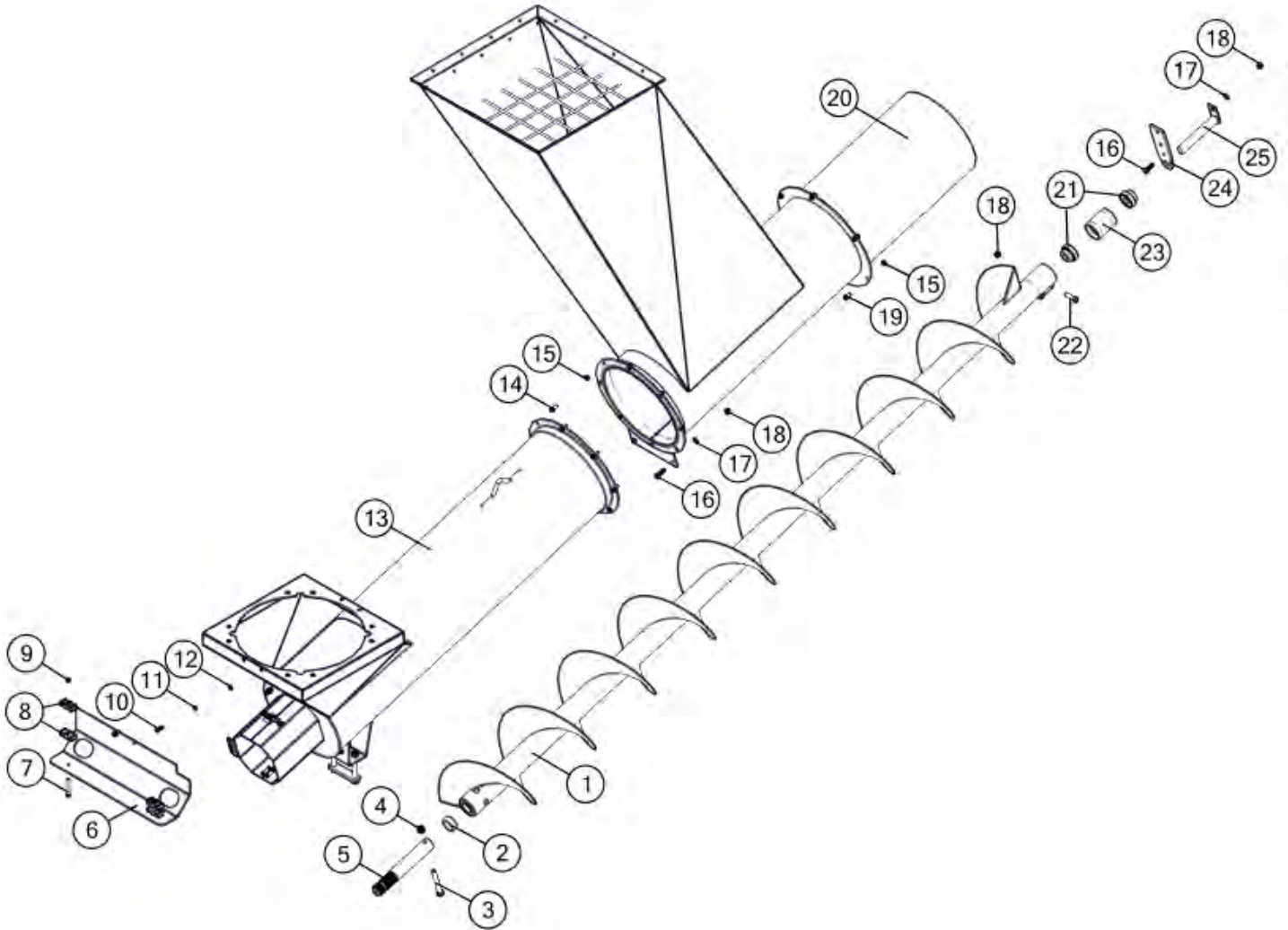
11 PARTS

11.2 Auger Weldment and Flighting

REF #	PART #	DESCRIPTION	QTY
1	681000-0163.01	Auger Weldment - single aug boltup	1
2	481000-0221.01	Shaft Bushing - Packing Auger	1
3	159500-0258	Hex Bolt 5/8" NC x 5" Gr.8	1
4	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	1
5	481000-0286.00	Drive Stub Shaft - Packing Auger	1
6	481000-1099.04	Hose mount plate	1
7	159400-0005	Hex Bolt - 3/8" NC x 3" Gr.5 PL	2
8	070000-0601	Hose Clamp Half	4
9	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	2
10	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	2
11	168600-0071	Lock Washer - 3/8" PL	2
12	168000-0540	Flat Washer - 3/8" SAE	2
13	681000-0413.01	Auger Assembly - Lower Section	1
14	159300-0963	Hex Bolt - Flanged - 3/8" NC x 1" Gr.5 PL	8
15	167200-0510	Hex Nut - Flanged - 3/8" NC Gr.5 PL	14
16	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	3
17	168000-0544	Flat Washer - 1/2" SAE PLTD	3
18	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	5
19	159300-0945	Hex Bolt - Flanged - 3/8" NC x 3/4" Gr.5 PL	6
20	681000-0417.00	Auger Assembly	1
21	114000-0129	BEARING 1.25id ECC 72mm CYL. OD FAFNIR	2
22	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	2
23	481000-0252.01	Bearing Holder - Auger	1
24	481000-0208.02	Bolt Plate - Auger Support Bracket	1
25	681000-0053.00	Rear Bushing Support	1

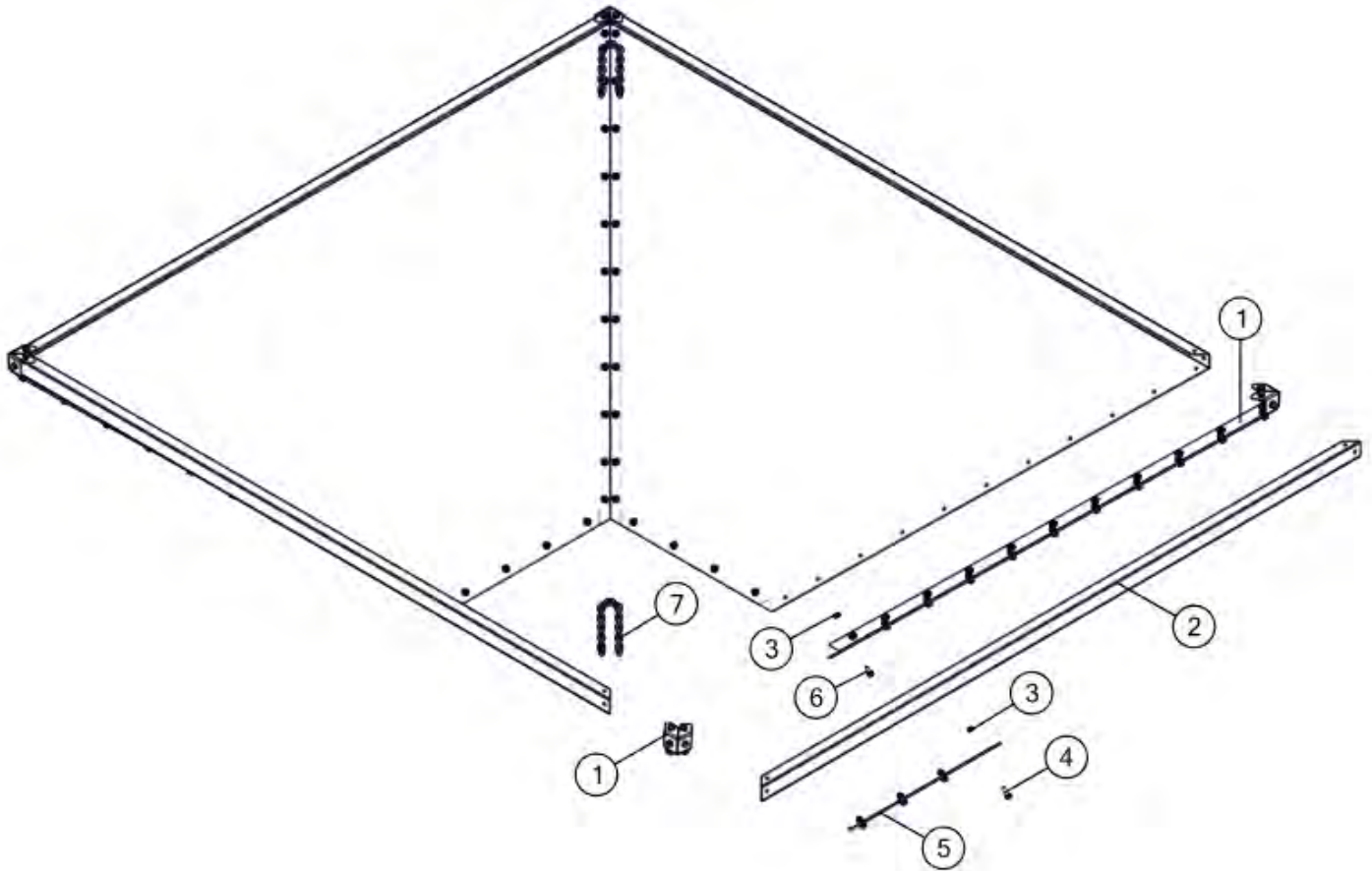
11 PARTS

11.2 Auger Weldment and Flighting



11 PARTS

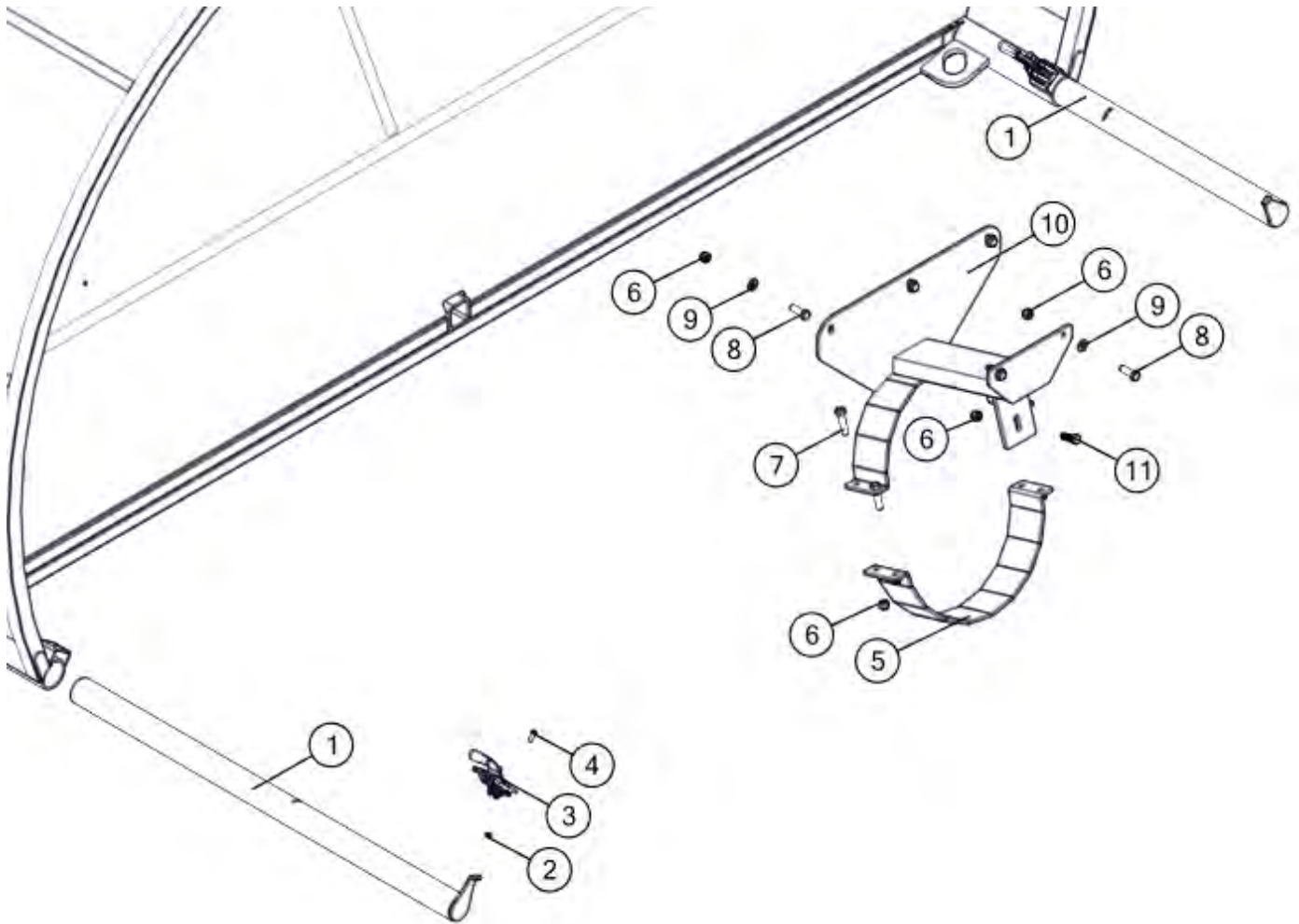
11.3 Surge Hopper



REF #	PART #	DESCRIPTION	QTY
1	481000-0704.01	Panel Connector - 8' x 8' surge	4
2	481000-0703.00	Surge Hopper Panel - 8' x 8'	4
3	167200-0510	Hex Nut - Flanged - 3/8" NC Gr.5 PL	121
4	159300-0963	Hex Bolt - Flanged - 3/8" NC x 1" Gr.5 PL	20
5	481200-0630.00	Panel Spacer	4
6	159300-0945	Hex Bolt - Flanged - 3/8" NC x 3/4" Gr.5 PL	100
7	481200-0728.00	Surge Hopper Lift Chain	2

11 PARTS

11.4 Auger Support Assembly



REF #	PART #	DESCRIPTION	QTY
1	681000-0253.00	Rear Pull-out Pipe - Tunnel -	2
2	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	8
3	154000-0177	Toggle Clamp	2
4	159300-0543	Hex Bolt - 1/4" NC x 3/4" Gr.5 PL	8
5	481000-0072.01	1/2" Clamp - 16" Auger Support	1
6	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	11
7	159400-0430	Hex Bolt - 1/2" NC x 2 1/2" Gr.5 PL	4
8	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	5
9	168000-0544	Flat Washer - 1/2" SAE PLTD	5
10	681000-0064.02	Auger Support Assembly	1
11	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	2

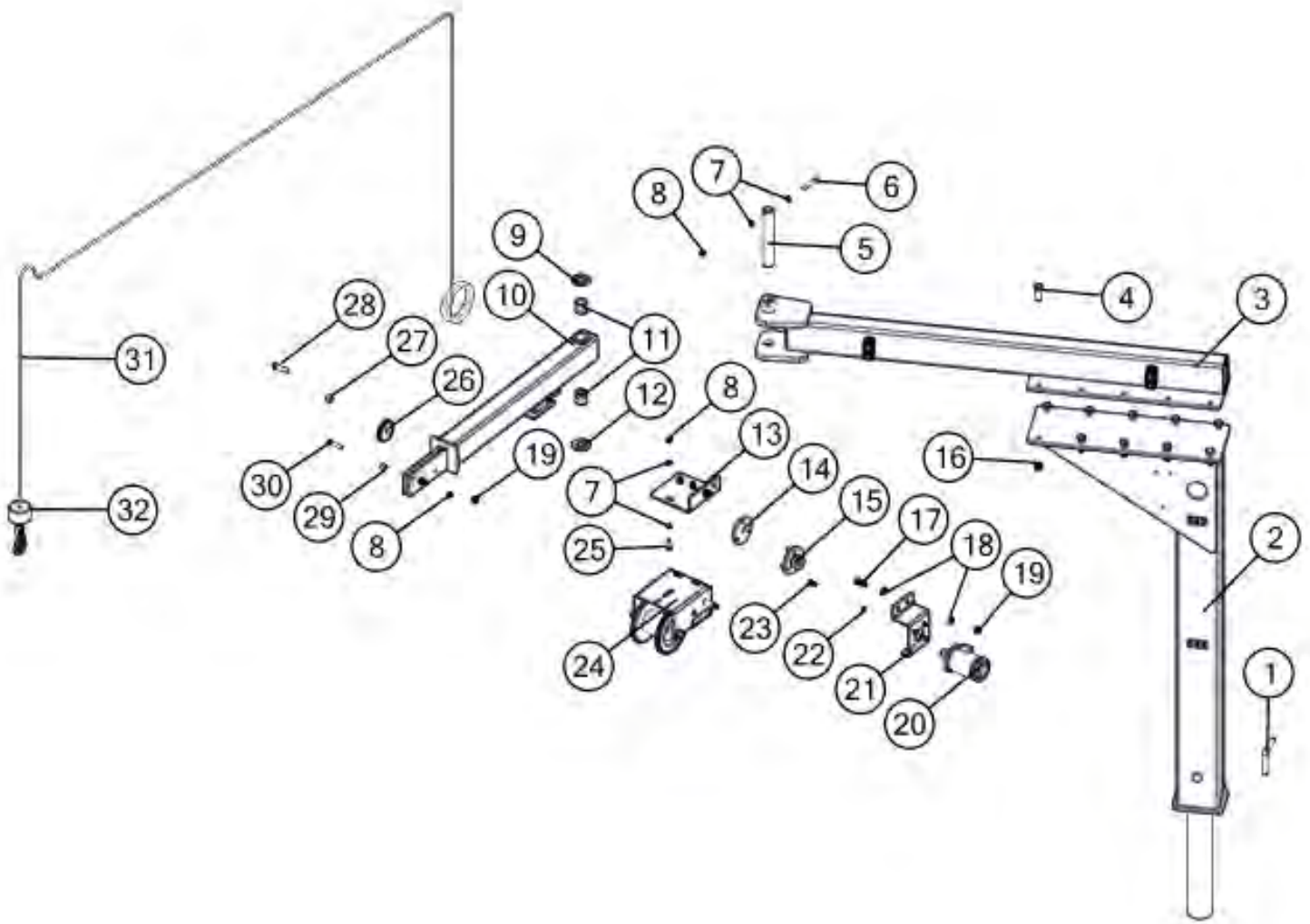
11 PARTS

11.5 Crane Assembly

REF #	PART #	DESCRIPTION	QTY
1	161800-0010	Bent Pin - 5/8" x 3"	1
2	681000-0472.00	Folding Crane - Weldment - 2020	1
3	681000-0471.00	Folding Crane - Weldment - 2020	1
4	159400-0628	Hex Bolt - 5/8" NC x 2" Gr.5	10
5	120000-0521	Swivel Pin	1
6	159400-0004	Hex Bolt - 3/8" NC x 2-1/2" Gr.5 PL	1
7	168000-0540	Flat Washer - 3/8" SAE	8
8	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	5
9	168000-0599	Washer -Flat 1-1/4" SAE PLT	1
10	681000-0419.02	Folding Arm - Crane	1
11	481000-1554.00	Oilite Bushing 1-5/8" OD x 1-3/8" ID x 1-1/2" Long	2
12	147100-0256	UHMW Washer - 2.5OD x 1.375ID x .25T	1
13	481000-1268.00	Large Base Plate - Hyd Winch	1
14	450000-0319.01	Bolt Plate - Hyd Winch	1
15	650000-0063.00	Hyd Motor Connector - Winch	1
16	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	10
17	159400-0395	Hex Bolt - 1/2" NC x 1-1/4" Gr.5 PL	2
18	168000-0544	Flat Washer - 1/2" SAE PLTD	4
19	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	4
20	111200-0205	XL Orbit Motor 4.9cu.in.	1
21	481000-0583.02	Motor Plate - Hyd Winch	1
22	168600-0071	Lock Washer - 3/8" PL	4
23	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	4
24	139000-0370	2500 LB Hand Winch	1
25	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	3
26	142600-0004	Pulley 1/4" Cable x 3" OD	2
27	113600-0005	Bushing Pulley 1/2" i.d.	2
28	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	2
29	481000-0186.00	Pully Spacer	1
30	159400-0003	Hex Bolt - 3/8" NC x 2" Gr.5 PL	1
31	142600-0030	30ft Cable and Hook Assembly	1
32	481000-1570.01	Winch cable hook stopper	1

11 PARTS

11.5 Crane Assembly



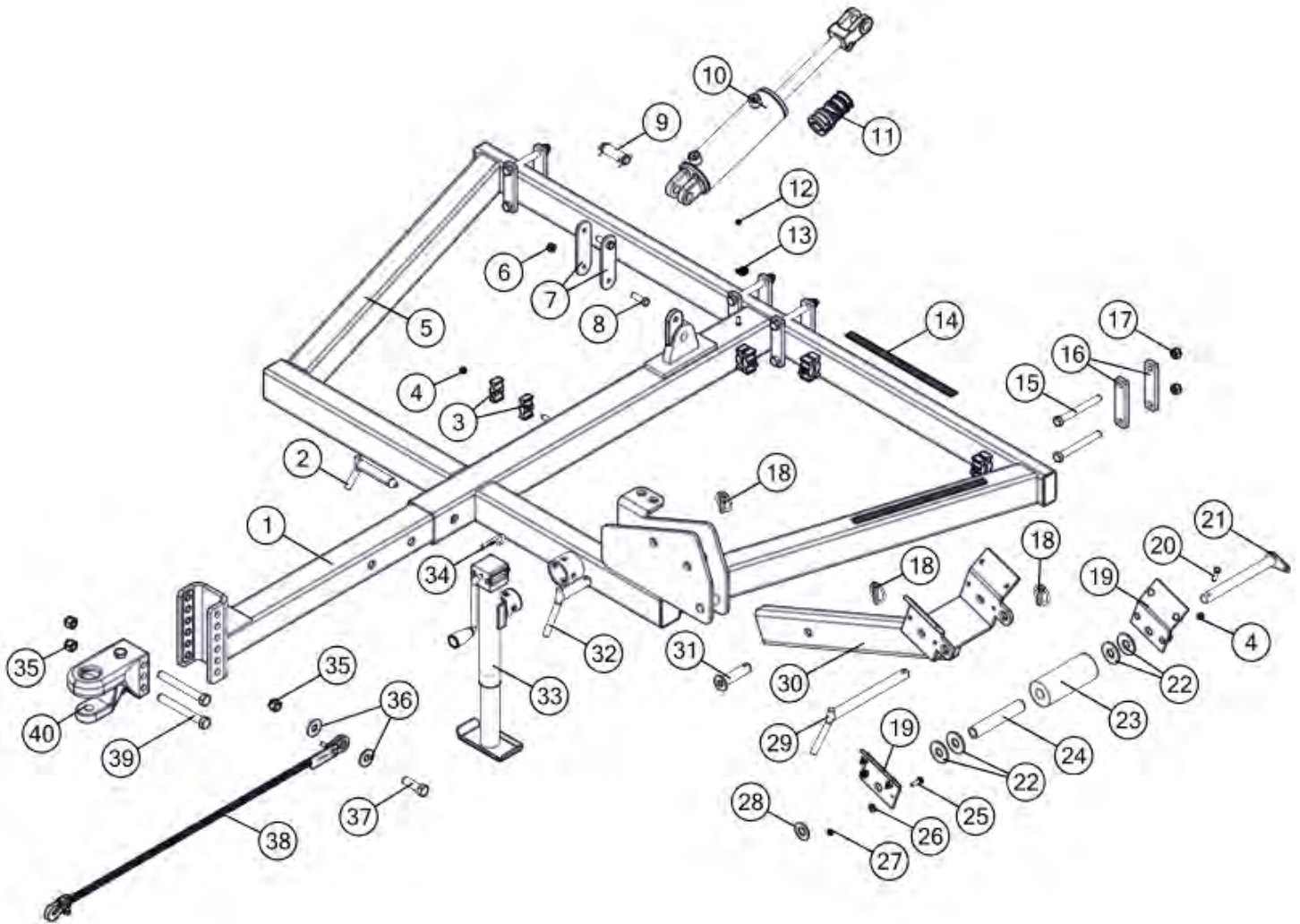
11 PARTS

11.6 Front Hitch Assembly

REF #	PART #	DESCRIPTION	QTY
1	681000-0301.02	Hitch Weldment - 1016 RGB	1
2	120000-0504	PLATED 5-1/2" CROSS PIN	2
3	070000-0601	Hose Clamp Half	8
4	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	5
5	681000-0266.02	Frontal Hitch Frame	1
6	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	2
7	481000-1215.00	Support Strap	2
8	159400-0410	Hex Bolt - 1/2" NC x 1-3/4" Gr.5 PL	2
9	107000-0103	Cylinder Pin - 1" Dia x 3"	1
10	107700-0002	Hydraulic Cylinder - 3-1/2" x 8" Stroke	1
11	107200-0900	Aluminum Cylinder Stop Kit	1
12	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	1
13	147100-0430	RUBBER CUSION CABLE CLAMP	1
14	481000-1393.00	Safety Tread Tape	2
15	159400-0740	Hex Bolt 5/8" NC x 6" Gr.5 PL	8
16	481000-0028.00	Bolt Plate - Tunnel Attachment	8
17	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	8
18	161500-0455	Lynch Pin - 7/16" x 1-3/4"	3
19	147100-0310	Catch Slide	2
20	159300-0988	Hex Bolt - 3/8" NC x 1-1/2 Gr.5 PL	1
21	120000-0529	Roller Pin Weldment	1
22	168000-0139	Flat Washer - 1" USS PL	4
23	481000-1367.00	Catch Roller - DOM Core	1
24	481000-1366.00	Internal Roller Bush	1
25	163000-0302	Carriage Bolt - 5/16" x 1-1/4" Gr.5 PL	8
26	168000-0040	Flat Washer - 5/16" USS PL	8
27	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	8
28	168000-0598	Flat Washer - 1" SAE PL	1
29	120000-0530	Transport Pin - Weldment	1
30	681000-0300.01	Catch Arm Weldment	1
31	120000-0531	Catch Arm Pin Weldment	1
32	120000-0532	Catch Arm Adjustment Pin Weldment	1

11 PARTS

11.6 Front Hitch Assembly



33	341100-0050	Jack - 7000lb x 10" - Side Wind	1
34	161300-0776	Hairpin 3/16" x 3-3/4" #6	1
35	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	3
36	168000-0090	Flat Washer - 3/4" USS PL	2
37	159400-0806	Hex Bolt - 3/4" NC x 2-1/2" Gr.5 PL	1
38	140000-0490	Safety Chain	1
39	159400-0819	Hex Bolt - 3/4" NC x 6-1/2" Gr.5 PL	2
40	343000-0299	Base Hitch/Clevis Assembly Cat. 2	1
**	343000-0237	BASE HITCH - Cat.2 65-125 hp	1
**	343000-0206	CLEVIS - Cat.2 HITCH	1

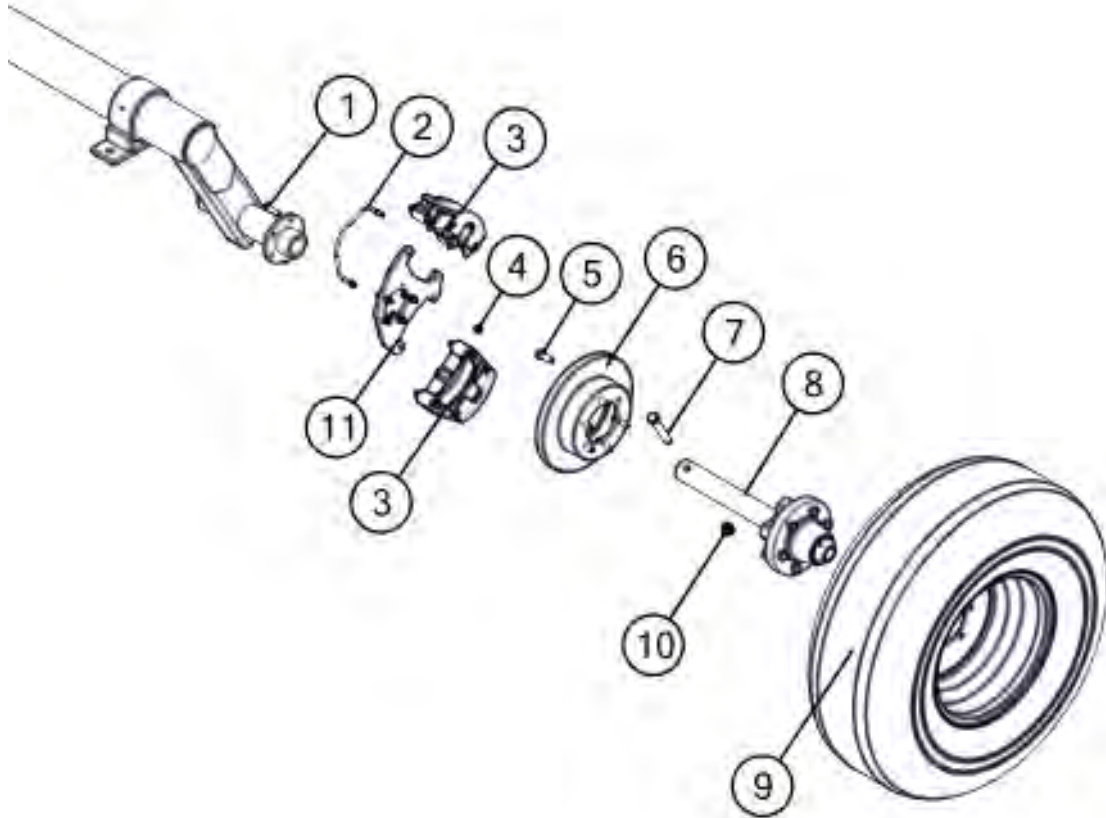
11 PARTS

11.7 Main Frame Assembly

REF #	PART #	DESCRIPTION	QTY
1	781000-0135.02	Wheel Assembly - Left Side - single caliper	1
2	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	6
3	133200-0040	Grease Nipple - 1/8" NPT	3
4	681000-0276.00	Axle Assembly - Main Frame	1
5	159400-0818	Hex Bolt 3/4" NC x 6" Gr.5 PL	6
6	161500-0455	Lynch Pin - 7/16" x 1-3/4"	2
7	120000-0523	Cross Pin Assembly - Axle Cylinder	1
8	481000-0028.00	Bolt Plate - Tunnel Attachment	9
9	159400-0755	Hex Bolt 5/8" x 9" Gr.5 PL	3
10	781000-0134.02	Wheel Assembly - Right Side - single caliper	1
11	681000-0354.00	Throat Support Weldment - Auger Bagger	1
12	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	5
13	168000-0540	Flat Washer - 3/8" SAE	5
14	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	7
15	681000-0085.00	Support Tunnel Bar	1
16	159400-0395	Hex Bolt - 1/2" NC x 1-1/4" Gr.5 PL	5
17	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	14
18	481000-0758.00	Bolt Plate - Surge Support	1
19	120000-0522	Cross Pin Assembly - Axle Lock	1
20	147100-0430	RUBBER CUSION CABLE CLAMP	8
21	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	6
22	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	5
23	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	2
24	430000-0274.01	Battery Holder Bolt	2
25	430000-0275.01	Bolt Angle - Battery Holder	1
26	167000-0778	Hex Nut 5/16" NC Gr.5 Plated	2
27	481000-1393.00	Safety Tread Tape	3
28	681000-0326.02	10' bagger stairs	1
29	168000-0580	Flat Washer - 5/8" SAE PL	1
30	159400-0750	Hex Bolt 5/8" x 8" Gr.5 PL	7
31	070000-0601	Hose Clamp Half	4
32	681000-0264.03	Main Chassis Weldment	1

11 PARTS

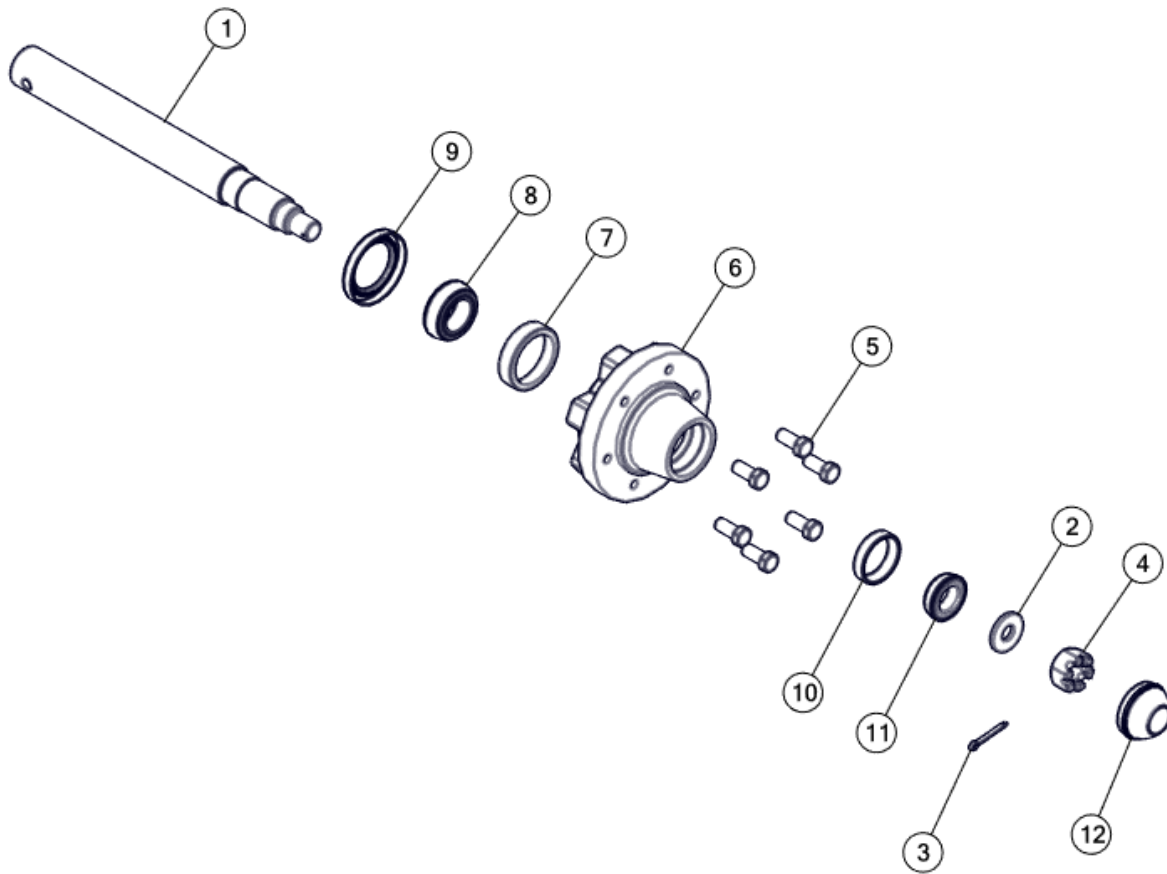
11.7.1 Wheel Assembly (781000-0134.02 & 781000-0135.02)



REF #	PART #	DESCRIPTION	QTY
1	159500-0220	BOLT-HEX 3/8 NC x 1-1/2 Gr8 PL	10
2	147800-0112	Connector - Brake Line	2
3	147800-0118	Brake Assembly inc. Bolts and Caliper - BRAKE FLUID	4
**	147800-0110	Brake Pad Kit	4
4	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	10
5	340300-0010	Wheel Bolt 1/2"-20 UNF x 1-1/4"	12
6	481000-0554.00	Rotor - Brake Assembly	2
7	159400-0720	Hex Bolt 5/8" NC x 4" Gr.5 PL	2
8	341000-0635	635 HUB AND SPINDLE COMPLETE	2
9	100100-0435	Tire & Rim - 33 x 12.5 x 15	2
10	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	2
11	481000-0481.02	Caliper Bolt Plate - Brake	2

11 PARTS

11.7.2 635 Hub & Spindle Assembly (Part # 341000-0635)



REF #	PART #	DESCRIPTION	QTY
1	481000-0229	Spindle Assembly Complete (includes #2, 3, & 4)	1
2	340700-0517	Spindle Washer 7/8" i/d, 2" o/d, 0.187" thick	1
3	170000-0200	Cotter Pin	1
4	340700-0033	Spindle Nut 1"-14 UNF	1
5	340300-0012	Wheel Bolts 9/16"-18NF x 1-1/4"	6
6	340000-0635	Hub Complete with Cups & Bolts (includes #5, 7, & 10)	1
7	115000-0031	Inner Cup (25520)	1
8	114500-0030	Inner Cone (25580)	1
9	340100-0030	Grease Seal	1
10	115000-0027	Outer Cup (LM-48510)	1
11	114500-0022	Outer Cone (LM-48548)	1
12	340200-0015	Dust Cap	1

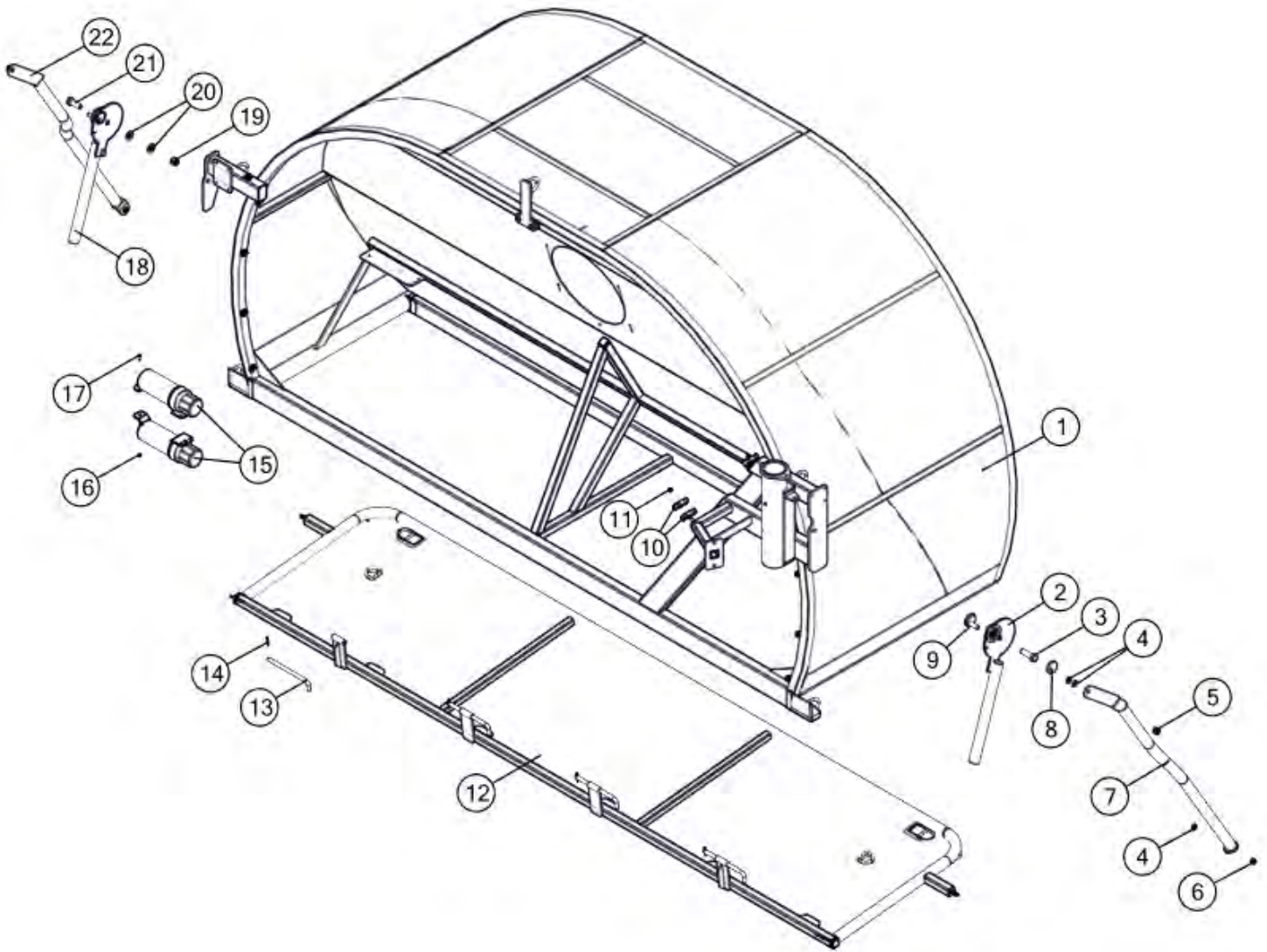
11 PARTS

11.8 Bag Pan Assembly

REF #	PART #	DESCRIPTION	QTY
1	681000-0482.00	Bagger Tunnel - 1016T	1
2	681000-0436.01	D.S. Rotating Lift Arm - Bag Pan Adjuster	1
3	159400-0806	Hex Bolt - 3/4" NC x 2-1/2" Gr.5 PL	1
4	168000-0544	Flat Washer - 1/2" SAE PLTD	6
5	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	2
6	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	2
7	681000-0441.00	Bag Pan Arm D.S	2
8	481000-1418.00	Inner Octagon Plate - Bag Pan Adjuster	2
9	681000-0437.01	Eccentric Cap Weldm't - Bag Pan Adjuster	2
10	070000-0601	Hose Clamp Half	4
11	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	2
12	681000-0321.02	Bag Pan Frame - Modular	1
13	120000-0500	PLATED HINGE ROD	4
14	170000-0095	1/8" x 1-1/4" COTTER PIN	4
15	147000-0010	Manual Canister	2
16	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	2
17	159300-0543	Hex Bolt - 1/4" NC x 3/4" Gr.5 PL	2
18	681000-0435.01	P.S. Rotating Lift Arm - Bag Pan Adjuster	1
19	167200-0692	Nyloc Nut - 3/4" NC Gr.5 PL	2
20	168000-0587	Flat Washer - 3/4" SAE PL	4
21	159400-0800	Hex Bolt - 3/4" NC x 2" Gr.5 PL	1
22	681000-0440.00	Bag Pan Arm P.S	1

11 PARTS

11.8 Bag Pan Assembly



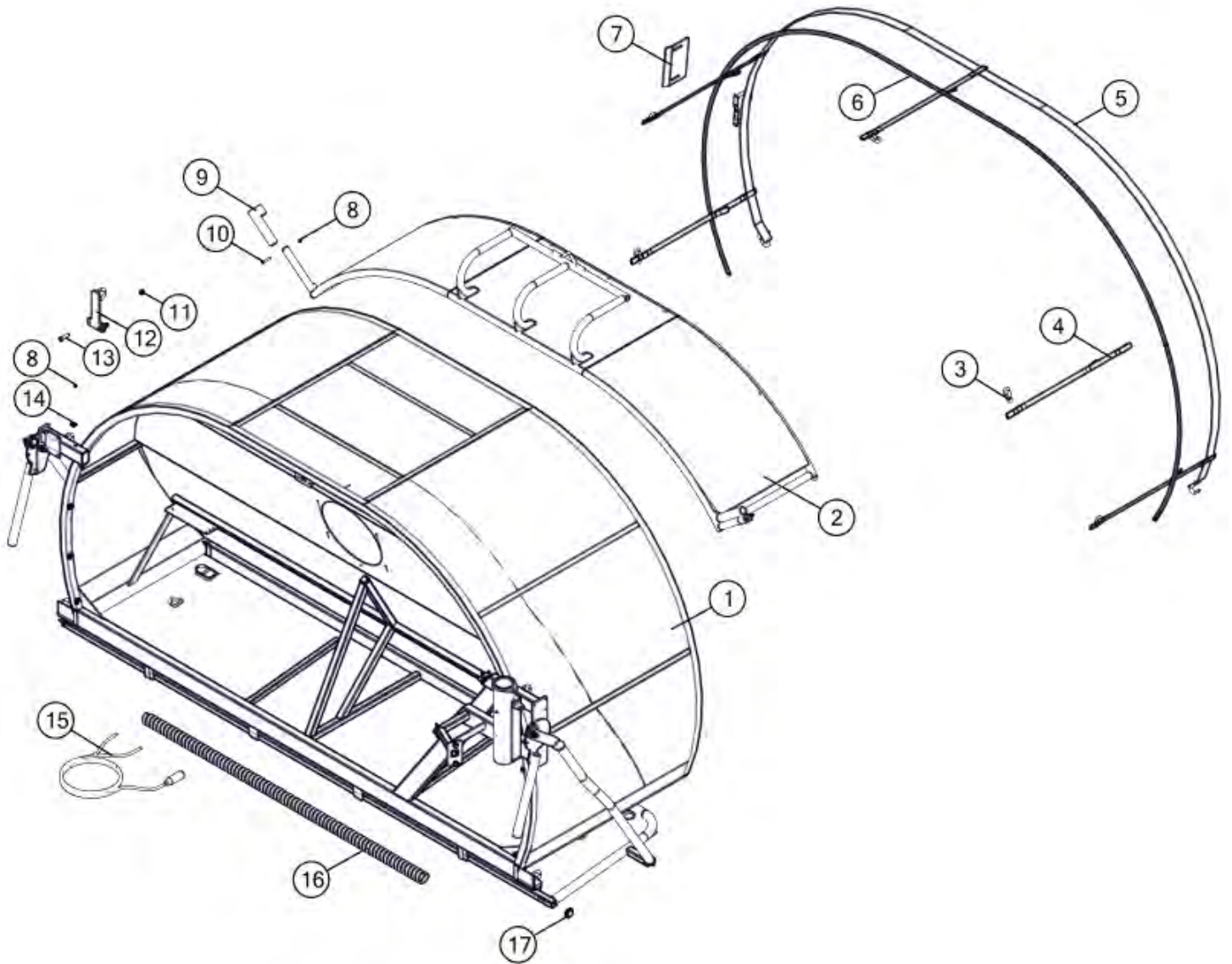
11 PARTS

11.9 Tunnel Assembly

REF #	PART #	DESCRIPTION	QTY
1	681000-0482.00	Bagger Tunnel - 1016T	1
2	681000-0248.02	Bag Lift	1
3	140000-0150	Snap Latch	5
4	481000-1299.01	Harness Strap (Bungee Relief)	5
5	140000-0205	Ratchet Strap	1
6	481000-1352.00	Bungee Cord 3/4" x 25'	1
7	481200-0370.02	Ratchet Slide Plate	1
8	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	12
9	681000-0324.00	Cradle Holder - Bag Lift	2
10	159300-0560	Hex Bolt 1/4" NC x 2" Gr.5 PL	2
11	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	2
12	681000-0325.00	Strap Anchor Weldment - Top Strap - 2019	1
13	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	2
14	147100-0430	RUBBER CUSION CABLE CLAMP	10
15	147000-0621	10ft BAGGER HARNESS—180" Main	1
16	481000-1206.00	2.25" ID x 6.5ft Plastic Hydraulic Hose Wrap	1
17	147100-0405	1-1/2" Square Push In Plastic Cap	3

11 PARTS

11.9 Tunnel Assembly



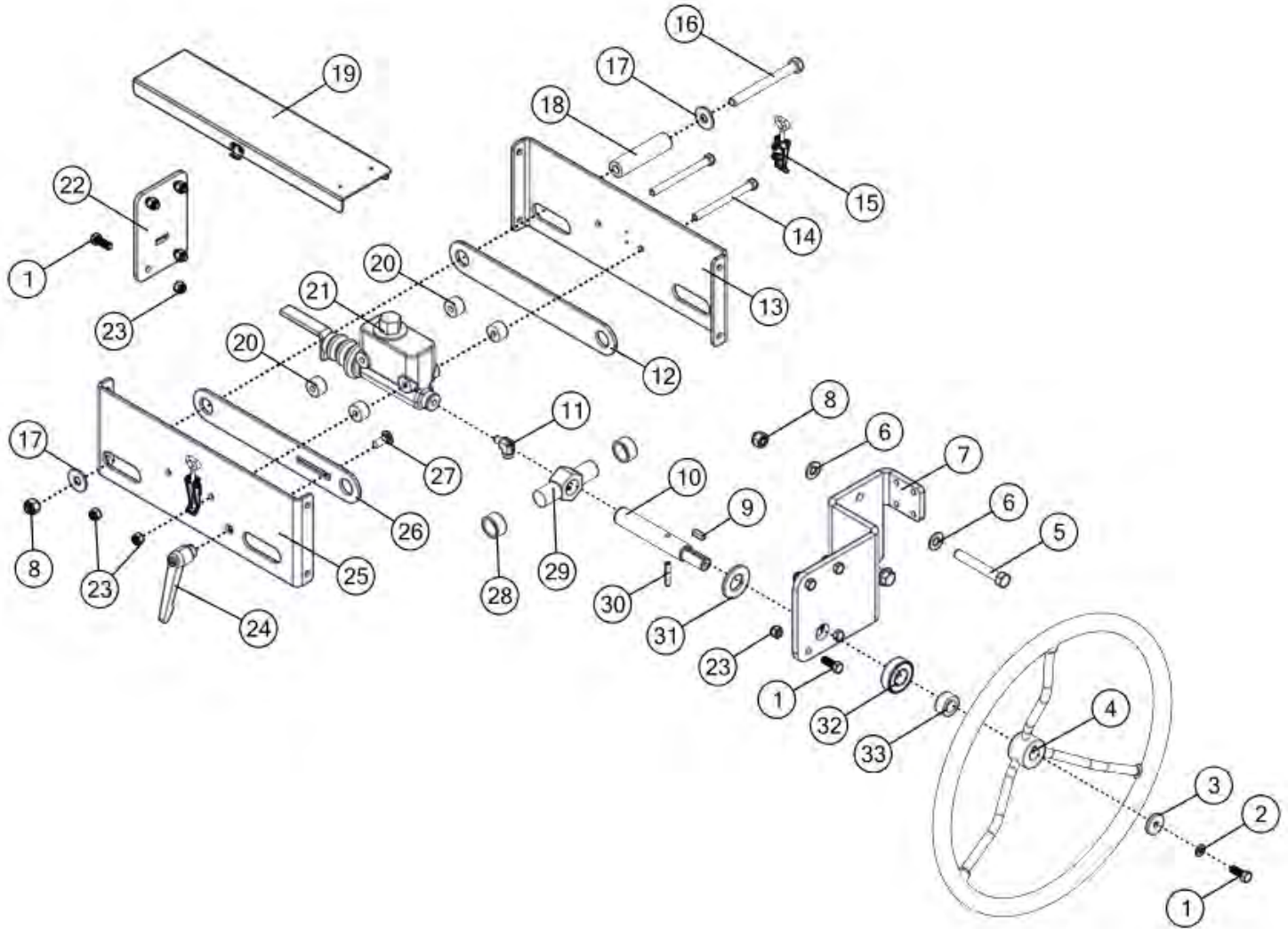
11 PARTS

11.10 Brake System Assembly

REF #	PART #	DESCRIPTION	QTY
1	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	9
2	168600-0071	Lock Washer - 3/8" PL	1
3	481000-0729.00	Stop Washer - Wheel - Brake Unit	1
4	147800-0013	Wheel Assy - Brake Unit	1
5	159400-0401	Hex Bolt 1/2" NC x 1-1/2" Gr.5 PL	2
6	168000-0544	Flat Washer - 1/2" SAE PLTD	4
7	481000-1303.02	Fixed Brake Housing Plate	1
8	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	3
9	481000-1155.00	key stock - brake unit	1
10	481000-1264.01	Rod - brake unit ACME thread- 1" dia	1
11	085500-0202	Elbow 90deg 1/8" MPT x 1/8" FPT	1
12	481000-0694.01	Pull Plate	1
13	481000-0674.04	Side Plate - Brake box	1
14	159400-0015	Hex Bolt - 3/8" NC x 4-1/2" Gr.5 PL	2
15	154000-0142	Overcenter Latch - 3.5"	2
**	159300-0515	Stove Bolt - 8-32 x 1/2"	4
**	167000-0519	Hex Nut - 8-32 PL	4
16	159400-0510	Hex Bolt - 1/2" NC x 5" Gr5 PL	1
17	168000-0065	Flat Washer - 1/2" USS PLTD	2
18	481000-0692.01	cross member - push rod	1
19	681000-0390.00	Cover Weldment - Brake unit	1
20	481000-0696.00	spacer - brake body	4
21	112000-0006	Master Cylinder	1
22	481000-1527.00	End Plate - Brake Unit	1
23	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	10
24	154000-0155	Teardrop Clamping handle Latch	1
**	168000-0049	Flat Washer 3/8" USS PL	1
25	481000-1437.00	Side Plate - Brake box	1
26	481000-1436.00	Slotted - Pull Plate	1
27	163000-0507	Carriage Bolt - 3/8" NC x 1" Gr.5 PL	1
28	481000-1265.00	bushing - brake	2

11 PARTS

11.10 Brake System Assembly



29	681000-0381.00	Push cross brake system	1
**	133200-0031	Straight Grease Fitting - 1/4" 28UNF	1
30	172200-0780	Spring Pin - 1/4" x 1-1/2"	1
31	168000-0598	Flat Washer - 1" SAE PL	1
32	114000-0099	1" ID - Thrust Tapered Roller Bearing	1
33	481000-1156.00	Steering Wheel Spacer	1

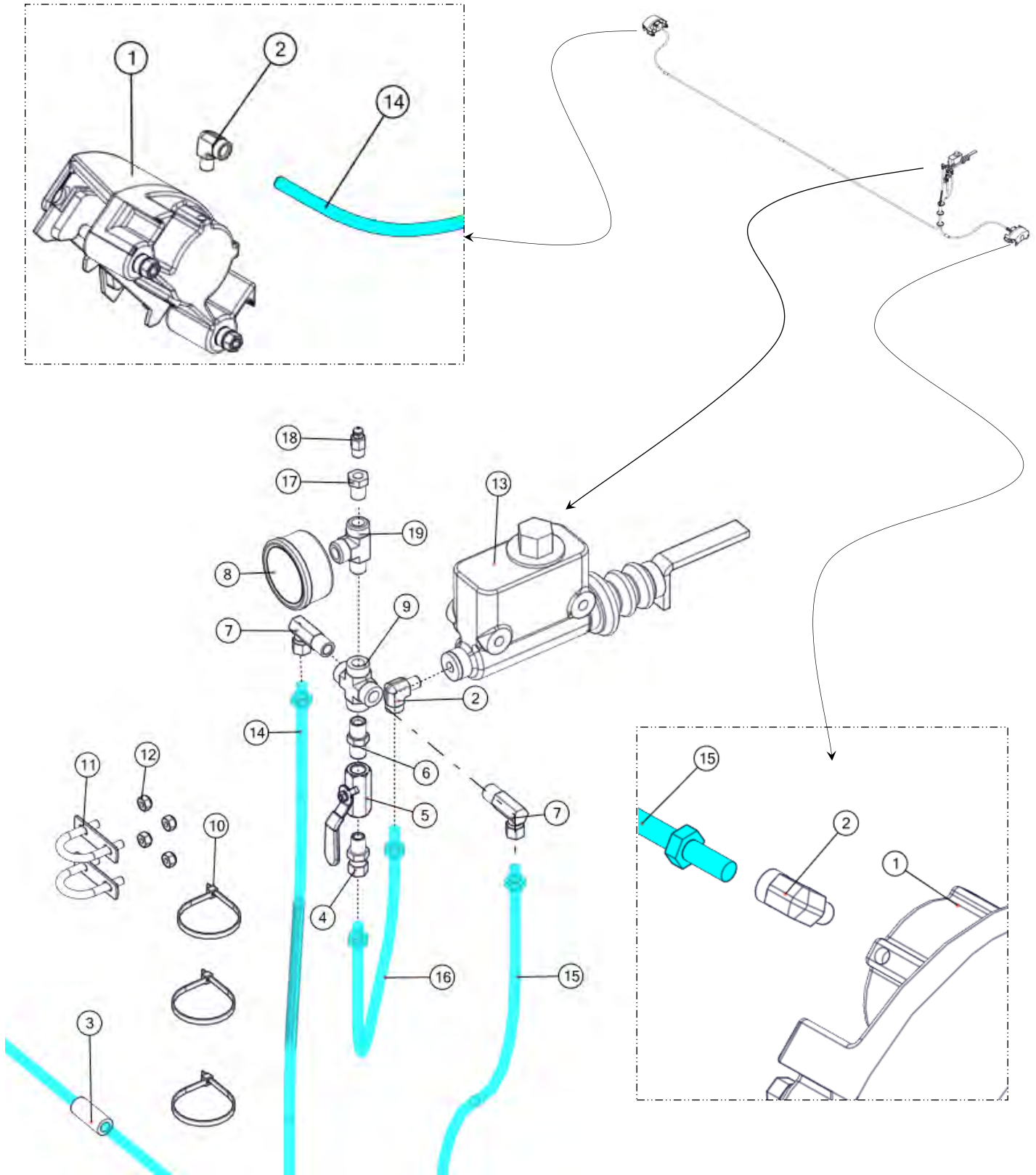
11 PARTS

11.11 Brake System Hydraulics

REF #	PART #	DESCRIPTION	QTY
1	147800-0118	Brake Assembly inc. Bolts and Caliper - Brake Fluid	4
2	085500-0202	Elbow 90 1/8"MPT x 1/8"FPT	3
3	481000-0735.00	3/8 Brake Hose Insulator	9
4	081400-0402	Adaptor 1/4"MPT x 1/8"FPsw	1
5	110200-0496	1/4" SS Ball Valve	1
6	085200-0404	Hex Nipple 1/4"MPT x 1/4"MPT	1
7	082600-0402	Elbow 90 1/4"MPT x 1/8"FPSw	2
8	110300-0031	SS Pressure Gauge - Center Back 0-1500 lbs.	1
9	081100-0200	1/4" MPT Cross	1
10	100200-0636	Plastic Tie Wrap 8" Natural	3
11	159000-0420	1/4" x 1-1/4" U-Bolt	2
12	167200-0642	Nut - Nyloc 1/4" NC PLT	4
13	112000-0006	Master Brake Cylinder	1
14	390000-0013	3/16" x 100" SS BRAIDED HOSE-1/8 MPTto1/8 MPT	1
15	390000-0010	3/16" x 180" SS BRAIDED HOSE-1/8 MP to1/8 MPT	1
16	390000-0012	3/16" x 16" SS Braided Hose-1/8 MPTto1/8 MPT	1
17	085400-0402	Reducer 1/4" MPT x 1/8" FPT	1
18	147800-0108	Brass Bleed Port - 1/8" NPT	1
19	085600-0404	Tee 1/4" MPT x 1/4" FPT x 1/4" FPT	1

11 PARTS

11.11 Brake System Hydraulics



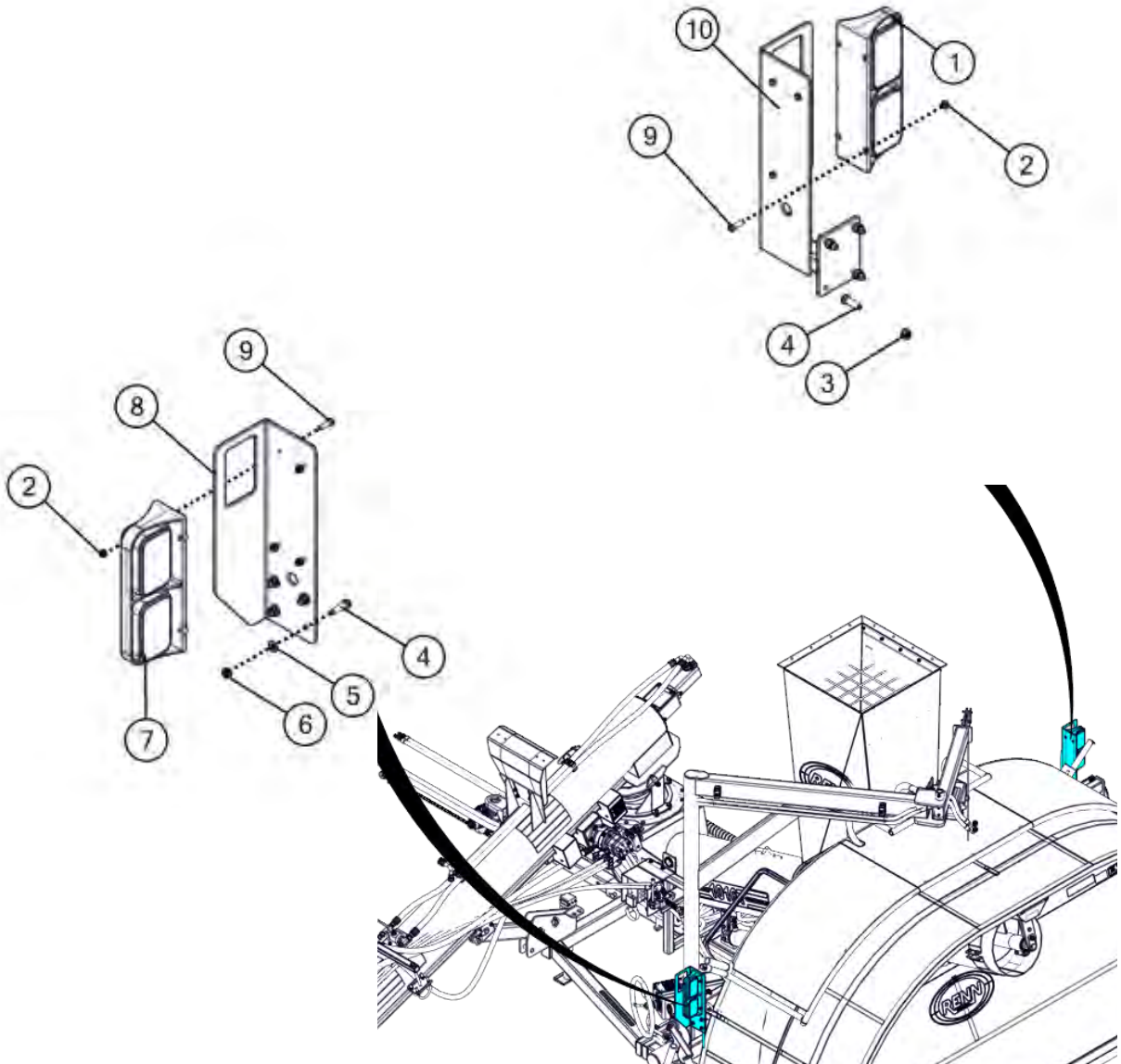
11 PARTS

11.12 Light Kit

REF #	PART #	DESCRIPTION	QTY
1	147000-0601	LED Dual Tail Light Kit - Right	1
2	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	8
3	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	4
4	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	8
5	168000-0540	Flat Washer - 3/8" SAE	4
6	167000-0787	Hex Nut - 3/8" NC Gr.5 PL	4
7	147000-0600	LED Dual Tail Light Kit - Left	1
8	481000-1145.01	D.S Bagger Light Bracket	1
9	159300-0544	Hex Bolt - 1/4" NC x 1" Gr.5 PL	8
10	681000-0346.00	P.S Light Weldment	1

11 PARTS

11.12 Light Kit



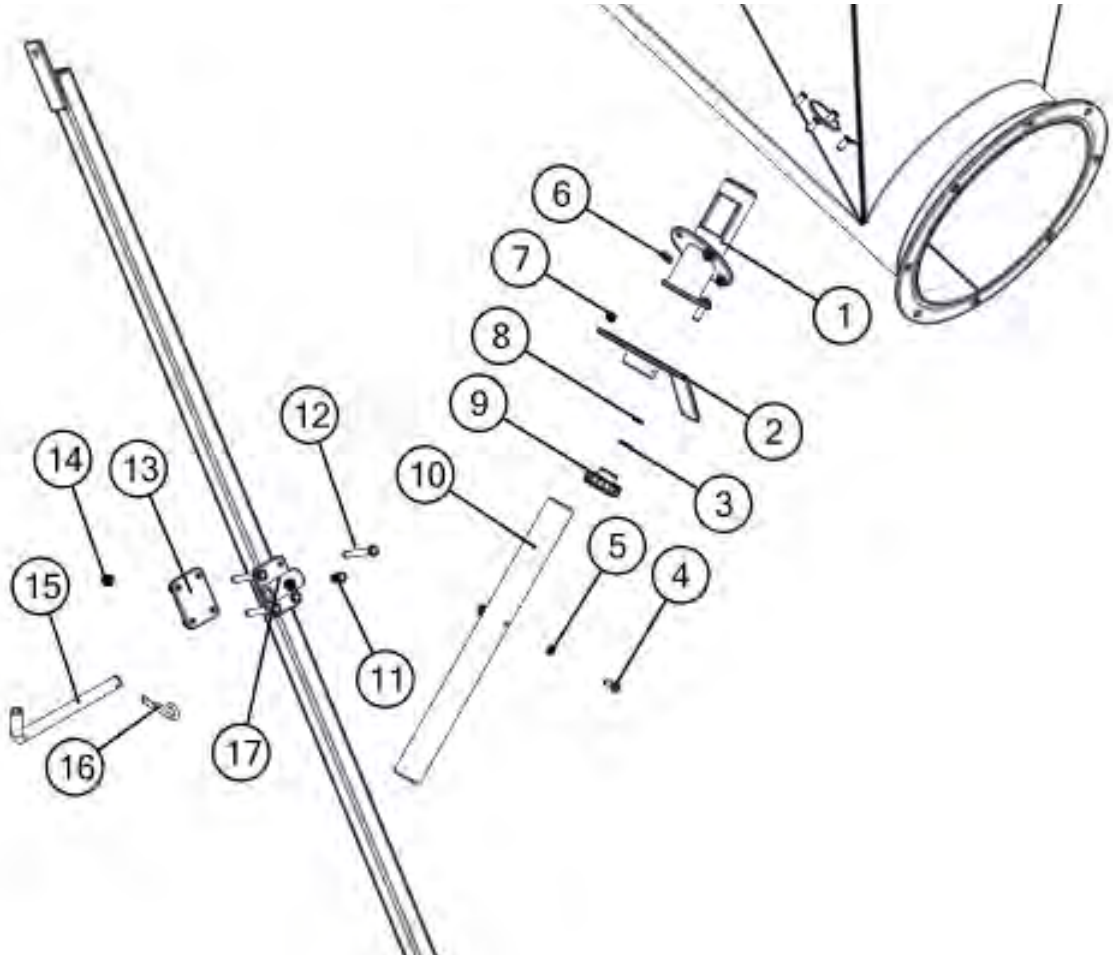
11 PARTS

11.13 Grain Sampler & Pail Hanger

REF #	PART #	DESCRIPTION	QTY
1	681000-0408.01	Collar Weldment - Grain Sampler	1
2	681000-0409.00	Handle Weldment - Grain sampler	1
3	168000-0049	Flat Washer - 3/8" USS PL	1
4	159300-0730	Hex Bolt - 5/16" NC x 3/4" Gr.5 PL	2
5	168600-0062	Lock Washer - 5/16" PL	2
6	168000-0040	Flat Washer - 5/16" USS PL	4
7	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	4
8	168000-0540	Flat Washer - 3/8" SAE	1
9	140000-0224	Lock Knob	1
10	481000-1310.02	1-1/2 ABS Plastic Pipe	1
11	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	1
12	159400-0005	Hex Bolt - 3/8" NC x 3" Gr.5 PL	4
13	481000-1335.00	Bolt Plate - Hanger	1
14	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	4
15	120000-0503	Pale Pin	1
16	161300-0776	Hairpin 3/16" x 3-3/4" #6	1
17	681000-0404.00	Pale Hanger - Weldment	1

11 PARTS

11.13 Grain Sampler & Pail Hanger



11 PARTS

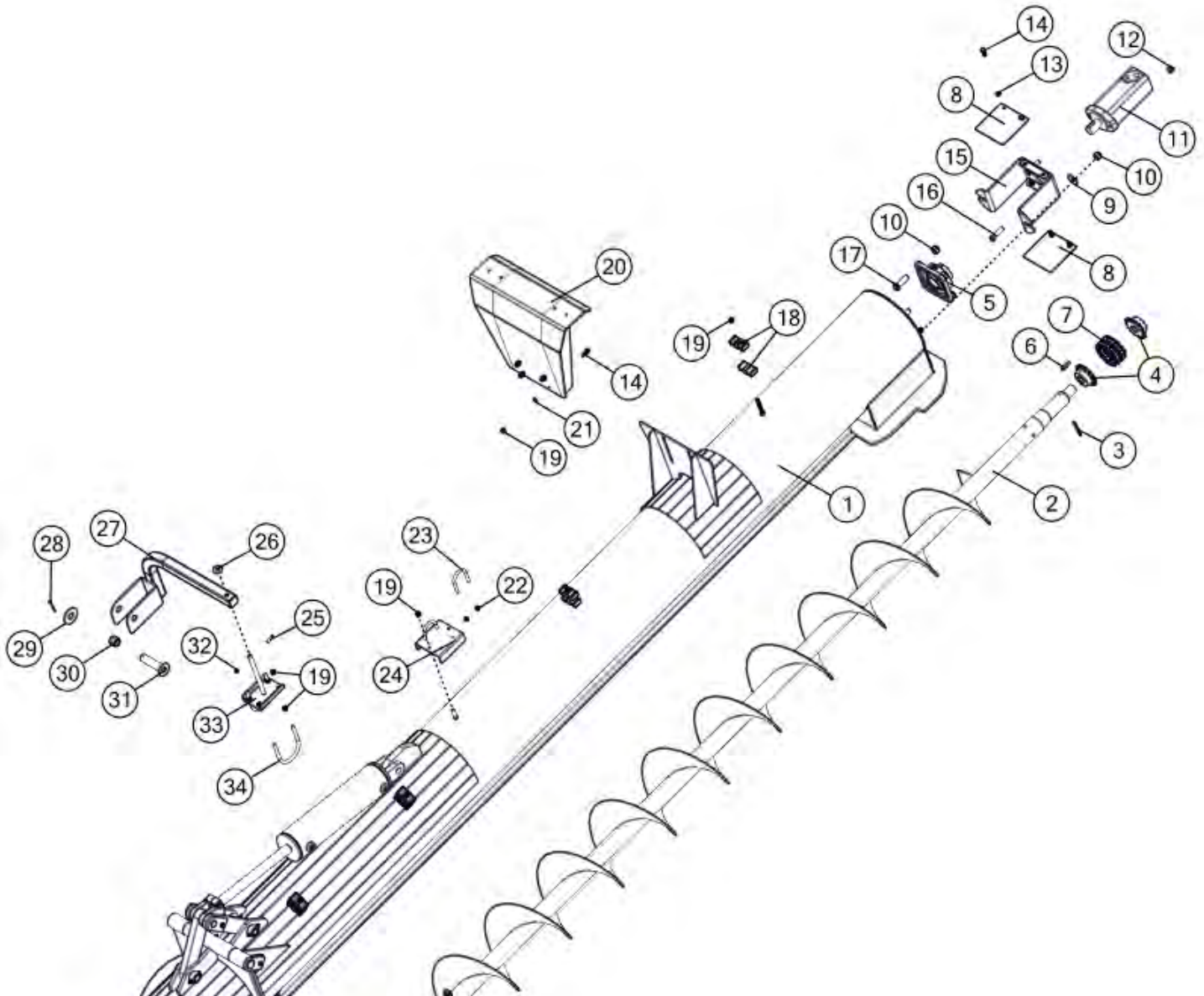
11.14 Transfer Auger

11.14.1 Transfer Auger - Upper Assembly

REF #	PART #	DESCRIPTION	QTY
1	671300-0632.02	Transfer Auger assembly - 1016T	1
2	671300-0442.01	Auger Weldment - Upper Section - 27 deg - SAC fold	1
3	172200-0790	Spring Pin - 5/16 x 2-1/2"	1
4	129000-0514	Sprocket - 14 Tooth #60 x 1-1/4"	2
5	114000-0019	1-15/16" - 4 Bolt Flange Bearing	1
6	414000-0583.00	5/16" Keystock x 1-1/2"	1
7	140100-0059	Chain - Double #60 - 14 pins, 14rollers, w/ connector	1
8	471300-0293.00	Shield - 2000 Series Motor	2
9	168000-0080	Flat Washer - 5/8" USS PL	2
10	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	6
11	111200-0031	Hydraulic Motor 7.9cu in.	1
12	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	2
13	168600-0071	Lock Washer - 3/8" PL	4
14	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	8
15	671300-0324.00	Hydraulic Motor Mount Weldment	1
16	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	2
17	159400-0628	Hex Bolt - 5/8" NC x 2" Gr.5	4
18	070000-0601	Hose Clamp Half	20
19	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	19
20	681000-0353.01	Auger Rest	1
21	168000-0540	Flat Washer - 3/8" SAE	4
22	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	4
23	159000-0403	5/16" x 2" x 2-1/2" U-BOLT	2
24	470000-0203.01	Bolt Plate - 3/4" 1/4 Turn Valve	1
25	159300-0544	Hex Bolt - 1/4" NC x 1" Gr.5 PL	1
26	168000-0065	Flat Washer - 1/2" USS PLTD	1
27	681000-0371.02	Hose Hanger - Weldment	1
28	170000-0200	Cotter Pin - 3/16" x 2"	1
29	168000-0139	Flat Washer - 1" USS PL	1

11 PARTS

11.14.1 Transfer Auger - Upper Assembly



30	113200-0030	Split Spring Bushing - 1" x 1"	1
31	120000-0520	Hose Clamp Hanger PIN	1
32	167200-0642	Nyloc Nut - 1/4" NC Gr.5 PL	1
33	681000-0374.00	Clamp Plate & Rod Weldment	1
34	159000-0412	U-Bolt 3/8" x 3-1/2"	2

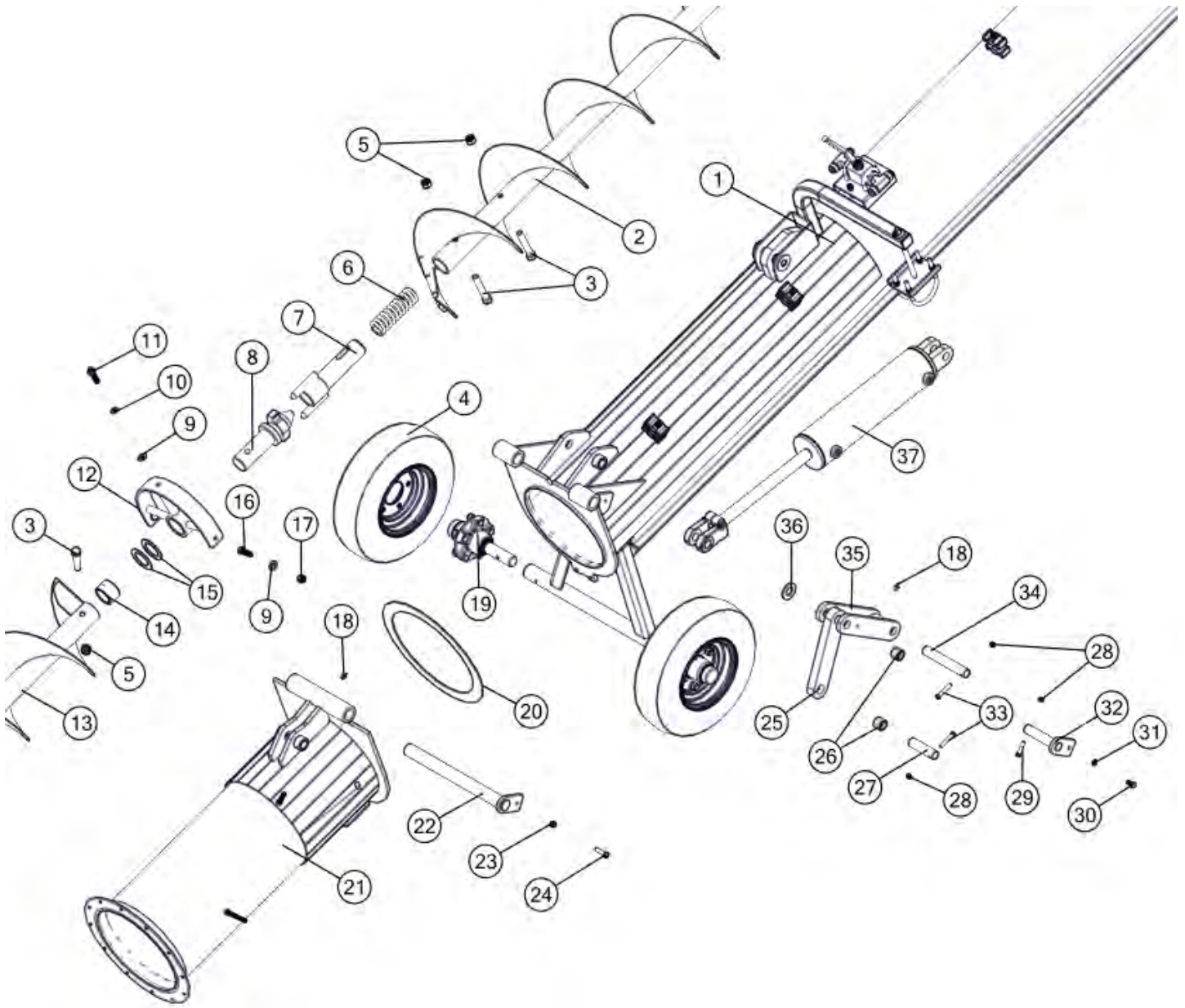
11 PARTS

11.14.2 Transfer Auger - Fold

REF #	PART #	DESCRIPTION	QTY
1	671300-0632.02	Transfer Auger assembly - 1016T	1
2	671300-0442.01	Auger Weldment - Upper Section - 27 deg - SAC fold	1
3	159400-0700	Hex Bolt - 5/8" NC x 3-1/2"	3
4	100100-0402	4.80-8 LBR Tire & Rim Assembly - 24" x 20ft Conveyor	2
5	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	3
6	303100-0207	Comp. Spring .25W x 1.938" OD x 1.438" ID x 6" Long	1
7	671300-0421.00	Flex drive - female	1
8	671300-0411.01	Pilot pin weldment	1
9	168000-0544	Flat Washer - 1/2" SAE PLTD	3
10	168600-0098	Lock Washer - 1/2" PL	1
11	781200-0538.00	Grease Port Bolt	1
12	671300-0412.00	Auger Support Assembly - Mid	1
13	681000-0336.01	Auger Weldment - Upper Section - SAC folding	1
14	480200-0792.00	Oilite Bushing - 1-15/16" x 2-5/16" x 1-1/2"	1
15	168000-0700	Thrust Washer - 2" I.D. x 3" O.D x .07" Thick	2
16	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	2
17	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	2
18	133200-0040	Grease Nipple - 1/8" NPT	2
19	480000-0265.00	Hub & Spindle Assembly - 5 Bolt, 2000lb	2
20	147800-0136	12.25 ID x 15 OD x .125 Gasket	1
21	671300-0633.01	Transfer Auger Tube - Bottom - SAC WF folding	1
22	120000-0525	Folding Transfer Auger Main Pin Weldment	1
23	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	1
24	159300-0988	Hex Bolt - 3/8" NC x 1-1/2 Gr.5 PL	1
25	471300-1711.00	Hinge Arm - Mid Push - LP Trans Auger	1
26	113200-0030	Split Spring Bushing - 1" x 1"	2
27	120000-0527	cross pin - 3.25"	1
28	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	3
29	159300-0737	Hex Bolt - 5/16" x 1-1/2" Gr.5 PL	1
30	159300-0944	Hex Bolt - 3/8" NC x 3/4" Gr.5 PL	1
31	168600-0071	Lock Washer - 3/8" PL	1
32	120000-0524	Transfer Augers Linkage/cylinder Pin Weldment	1

11 PARTS

11.14.2 Transfer Auger - Fold



33	159300-0792	Hex Bolt - 5/16" x 2" Gr5 PL	2
34	120000-0526	cross pin - 6"	1
35	613600-0592.00	Pivot wldmt	1
36	168000-0598	Flat Washer - 1" SAE PL	1
37	107200-0539	4 x 14Cylinder	1

11 PARTS

11.14.3 Transfer Auger - Hopper Body

REF #	PART #	DESCRIPTION	QTY
1	681000-0355.03	Hopper Body W/ Transition Weldment	1
2	171000-0090	Flat Washer - 3/16" x 1/2" OD	26
3	471300-1130.00	Belting Strap (Short)	2
4	171000-0074	Pop Rivet - 3/16" x 1/2" Grip	26
5	471300-1268.00	Belting Attach Strap (Long)	8
6	471300-1264.00	Perimeter Belt	1
7	471300-1129.00	Belting Attach Strap (Medium)	3
8	168600-0071	Lock Washer - 3/8" PL	2
9	167100-0979	Wing Nut - 3/8" NC PL	6
10	481000-1189.00	Rear Drive Shield	1
11	481000-1192.00	Axle Bushing	2
12	100100-0424	3.5" x 12.5" Caster - non-flat	2
13	161300-0778	PIN - HAIR 1/8" x 2-5/8" - #11	2
14	120000-0533	Axle Pin - Weldment	2
15	168000-0040	Flat Washer - 5/16" USS PL	6
16	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	6
17	681000-0422.00	4-Pc. Wire Mesh Cover	1
18	481000-1202.01	Cover Panel - Mesh	1
19	481000-1161.01	Inspection Door	1
20	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
21	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	12
22	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	12

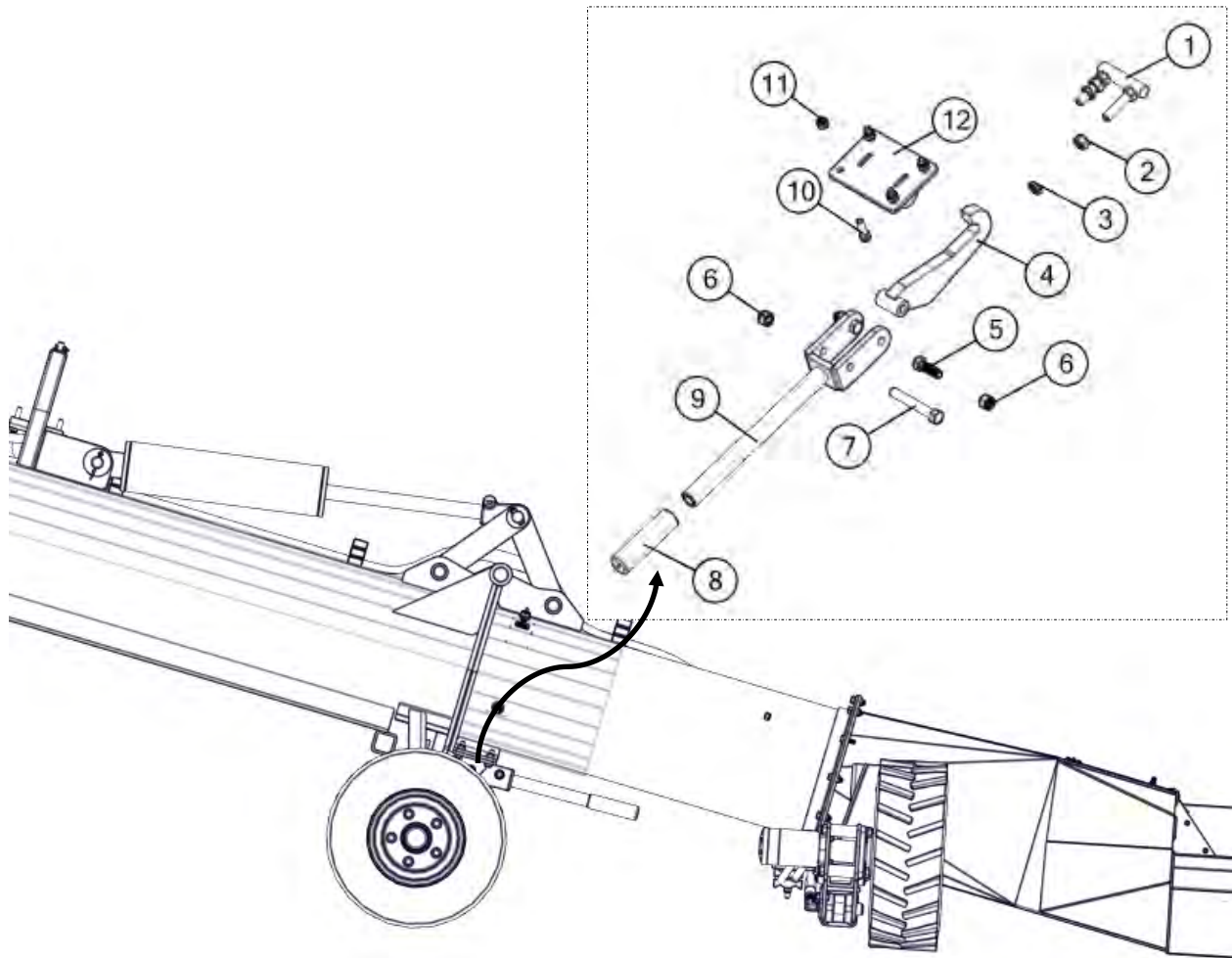
11 PARTS

11.14.4 Transfer Auger - Power Move

REF #	PART #	DESCRIPTION	QTY
1	340300-0010	Wheel Bolt 1/2"-20 UNF x 1-1/4"	10
2	100100-0429	RH 16 x 6.5-8NHS GROUND DRIVE TIRE/RIM	1
3	681000-0350.00	Hub Assy - 5 on 4.5 dia, 2.8 pilot	2
4	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	13
5	680000-0279.00	Shaft Weldment - Axle - Mover	2
6	480100-0249.00	Connector Shaft Keystock	4
7	159400-0004	Hex Bolt - 3/8" NC x 2-1/2" Gr.5 PL	2
8	159400-0500	Hex Bolt - 1/2" NC x 4-1/2" Gr.5	8
9	114000-0320	1-1/4" - 4-Bolt Flange Bearing	2
10	681000-0351.00	Forward Plate Weldment - R. S. Pivot	1
11	480000-0392.01	Spacer Pin - Pivot Assembly	8
12	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	18
13	168600-0071	Lock Washer - 3/8" PL	8
14	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	12
15	111100-0005	Hydraulic Motor - 11.3 cu.in.	2
16	120000-0528	Cross Pin Weldment	2
17	681000-0352.00	Rearward Plate Weldment - R. S. Pivot	1
18	481000-1166.00	Extension Member- Hyd Mover - Big Wheel	2
19	133200-0040	Grease Nipple - 1/8" NPT	4
20	159400-0488	Hex Bolt - 1/2" NC x 4" Gr.5 PL	4
21	681000-0347.00	Base Frame - Aux	1
22	159400-0005	Hex Bolt - 3/8" NC x 3" Gr.5 PL	1
23	070000-0601	Hose Clamp Half	2
24	681000-0349.00	Rearward Plate Weldment - L. S. Pivot	1
25	681000-0348.00	Forward Plate Weldment - L. S. Pivot	1
26	100100-0428	LH 16 x 6.5-8NHS GROUND DRIVE TIRE/RIM	1

11 PARTS

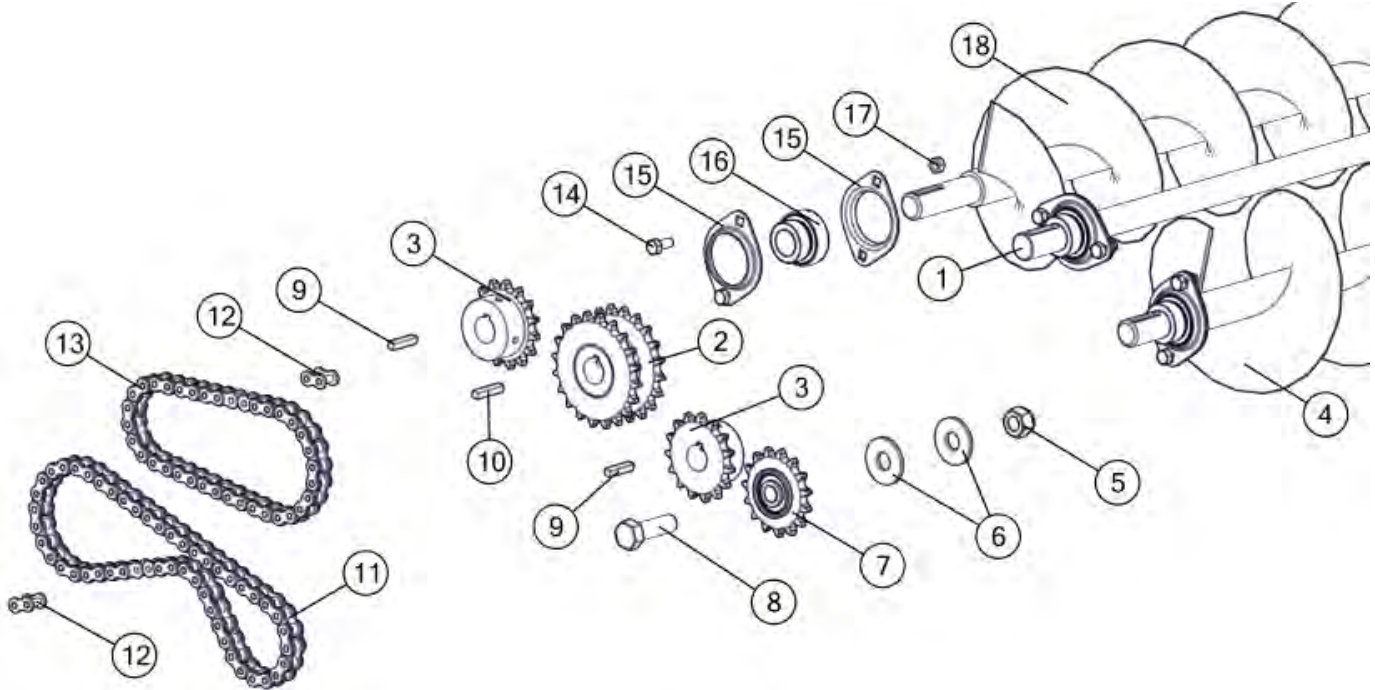
11.14.5 Transfer Auger - Over Center Latch



REF #	PART #	DESCRIPTION	QTY
1	681000-0401.01	Lock Bar Weldm't - O/Center Latch - Folding Auger Lock	1
2	167000-0809	Hex Nut - 1/2" NC Gr.5 PL	2
3	167000-0650	Jam Nut - 1/2" NC Gr.5 PL	2
4	681000-0399.00	Hook Weldm't - O/Center Latch - Folding Auger Lock	1
5	159400-0401	Hex Bolt - 1/2" NC x 1-1/2" Gr.5 PL	2
6	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	3
7	159400-0485	Hex Bolt - 1/2" NC x 3-1/2" Gr.5 PL	1
8	140000-0227	Round Black Vinyl Grip Handle - 1" ID	1
9	681000-0398.00	Lever - O/Center Latch - Folding Auger Lock	1
10	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	4
11	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	4
12	681000-0396.00	Pivot Weldm't - O/Center Latch - Folding Auger Lock	1

11 PARTS

11.14.6 Transfer Auger - Bottom End



REF #	PART #	DESCRIPTION	QTY
1	481000-1153.00	Hopper Drive Shaft	1
2	128800-0515	#50 x 20 Tooth x 1" Double Single Sprocket	1
3	129000-0510	Sprocket - 15 Tooth #50 x 1"	2
4	671300-0629.00	Hopper Auger 7 x 5 x 62" LH	1
5	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	1
6	168000-0080	Flat Washer - 5/8" USS PL	2
7	128000-0610	Sprocket - 5015 Idler	1
8	159400-0628	Hex Bolt - 5/8" NC x 2" Gr.5	1
9	481000-1220.00	1/4 - 1-1/4 KS	2
10	481000-1157.00	1/4 - 1-3/8 KS	1
11	471300-1249.01	Auger Chain - LH	1
12	140200-0050	Connector Link - 50 Chain	2
13	471300-1248.01	Auger Chain - RH	1
14	159300-0730	Hex Bolt - 5/16" NC x 3/4" Gr.5 PL	6
15	114000-0182	Flangette - 2 Bolt 52 mm	6
16	114000-0115	1" Bearing - 52mm Cylindrical OD, Ecc. Lock	3
17	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	6
18	671300-0628.00	Hopper Auger 7 x 5 x 62" RH	1

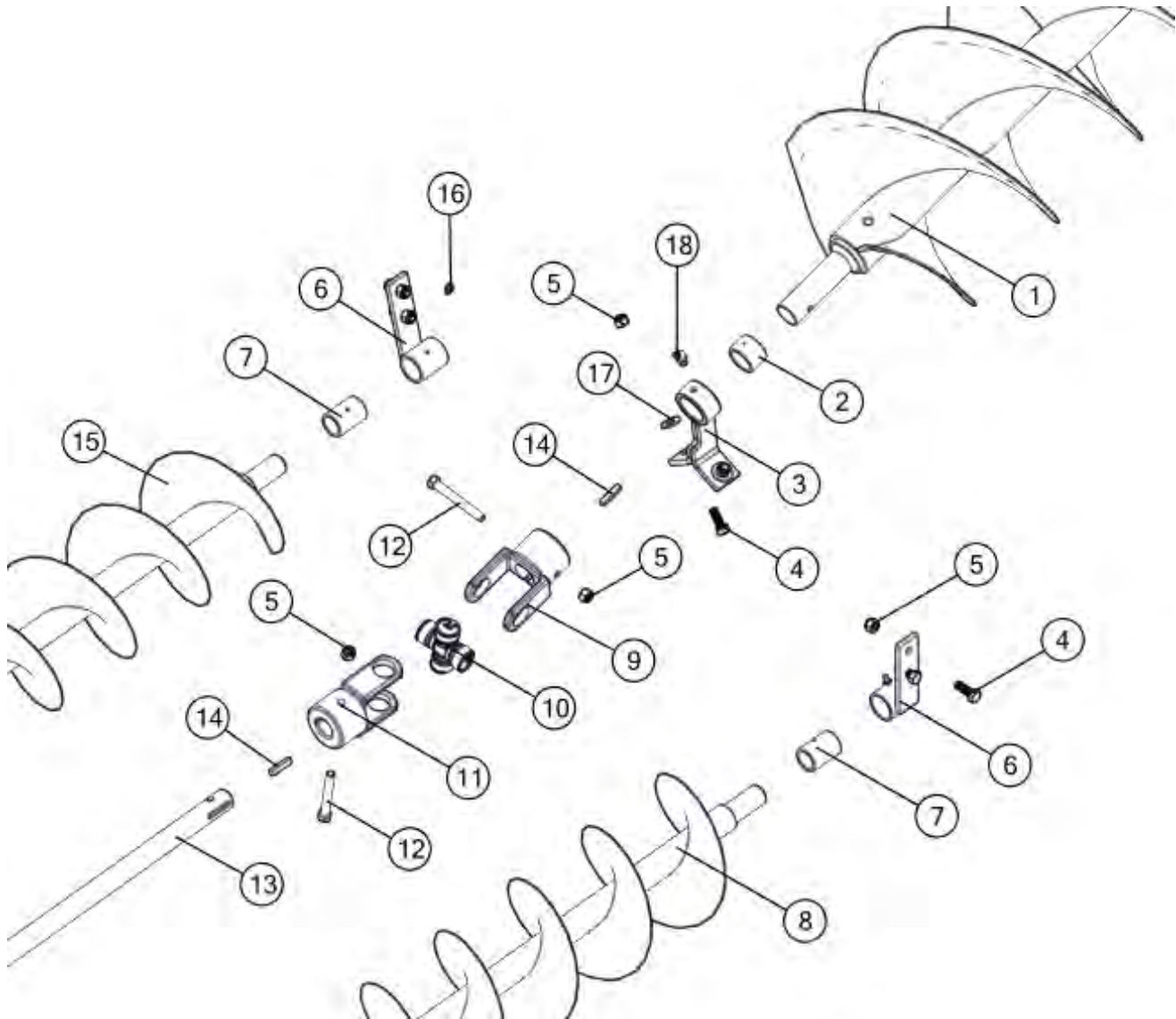
11 PARTS

11.14.7 Transfer Auger - Flighting Transition

REF #	PART #	DESCRIPTION	QTY
1	681000-0336.01	Auger Weldment - Upper Section - SAC folding	1
2	481000-1136.00	Oilite Bushing 1-1/2" x 1-1/4" x 1" - Rear Support w-hole	1
3	681000-0357.00	Bushing Tower - Bagger Hopper	1
4	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	6
5	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	8
6	671300-0497.00	Auger Hanger - Weldment	2
7	471300-1206.00	Oilite Hanger	2
8	671300-0629.00	Hopper Auger 7 x 5 x 62" LH	1
9	470000-0225.00	End Yoke Series 14 1-1/4" Bore w/ Cross Hole	1
10	380000-0014	Series 14 Cross Bearing Kit - Transfer Hopper	1
11	471300-1251.00	End Yoke Series 14 1" Bore w/ Cross Hole	1
12	159400-0005	Hex Bolt - 3/8" NC x 3" Gr.5 PL	2
13	481000-1153.00	Hopper Drive Shaft	1
14	481000-1220.00	1/4 - 1-1/4 KS	2
15	671300-0628.00	Hopper Auger 7 x 5 x 62" RH	1
16	133200-0031	Straight Grease Fitting - 1/4" 28UNF	2
17	168000-0049	Flat Washer - 3/8" USS PL	3
18	133200-0045	Grease Fitting - 1/8 NPT THR - 45deg	1

11 PARTS

11.14.7 Transfer Auger - Flighting Transition



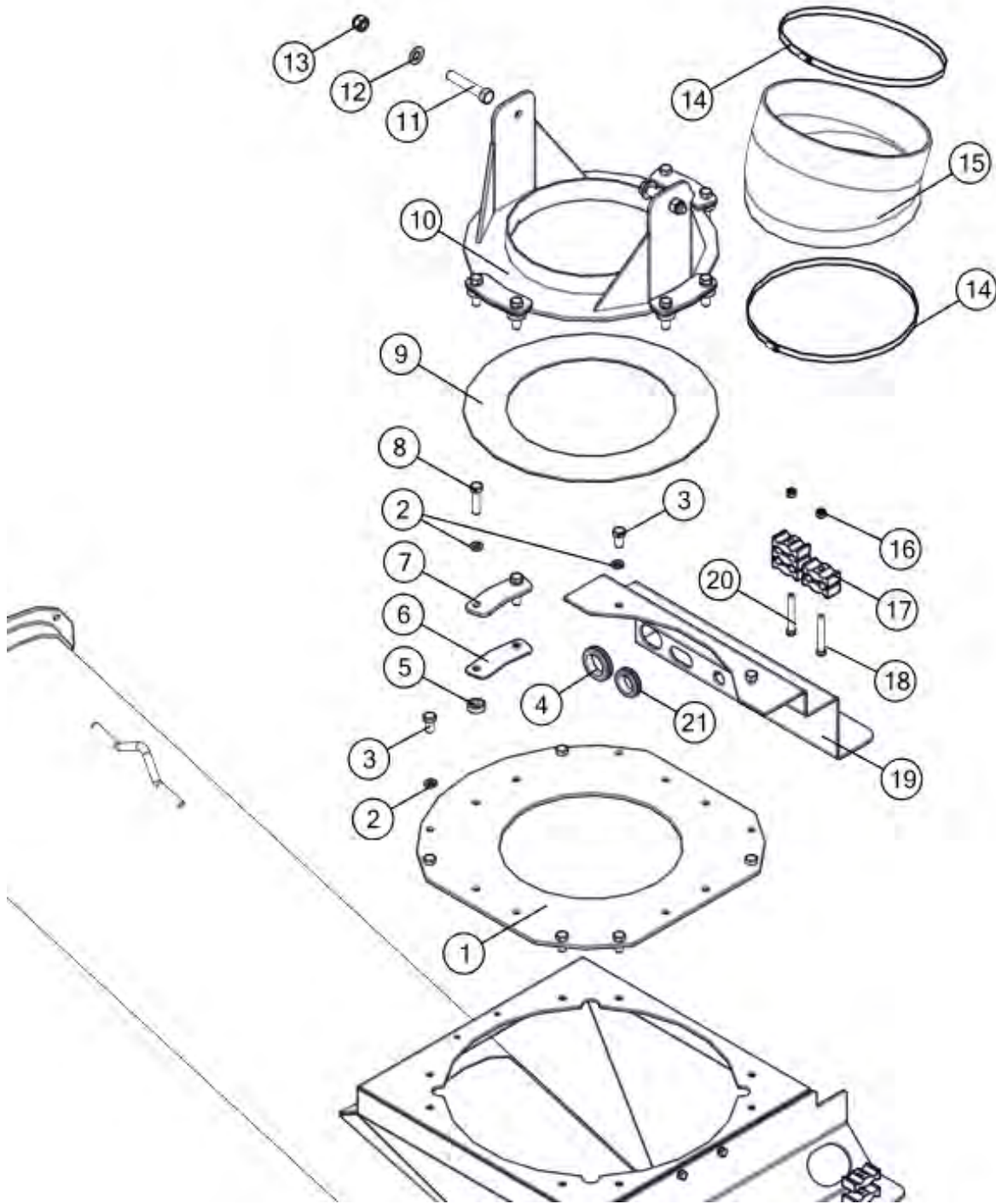
11 PARTS

11.15 Pivot Bracket Assembly

REF #	PART #	DESCRIPTION	QTY
1	681000-0424.00	Hopper Cover Plate - Weldment	1
2	168600-0098	Lock Washer - 1/2" PL	16
3	159400-0390	Hex Bolt - 1/2" NC x 1" Gr.5 PL	8
4	147100-0422	1-3/4" x 1/4" Rubber Grommet	1
5	781000-0165.00	ROTATING BUSH	8
6	147100-0309	UHMW - Hopper Lock Plate	4
7	481000-0967.00	Hopper Lock Plate	4
8	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	8
9	147100-0308	Pivot plate Slide Ring	1
10	681000-0337.01	Pivot Bracket - Folding Auger	1
11	159400-0700	Hex Bolt - 5/8" NC x 3-1/2"	2
12	168000-0580	Flat Washer - 5/8" SAE PL	2
13	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	2
14	155000-0066	HOSE CLAMP - 12'	2
15	481000-1180.00	Flex Hose	1
16	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	2
17	070000-0601	Hose Clamp Half	5
18	159400-0005	Hex Bolt - 3/8" NC x 3" Gr.5 PL	1
19	481000-1094.03	Hose Guide plate	1
20	159400-0007	Hex Bolt - 3/8" NC x 3-1/2" NC Gr.5 PL	1
21	147100-0421	1-1/2" x 1/4" Rubber Grommet	1

11 PARTS

11.15 Pivot Bracket Assembly



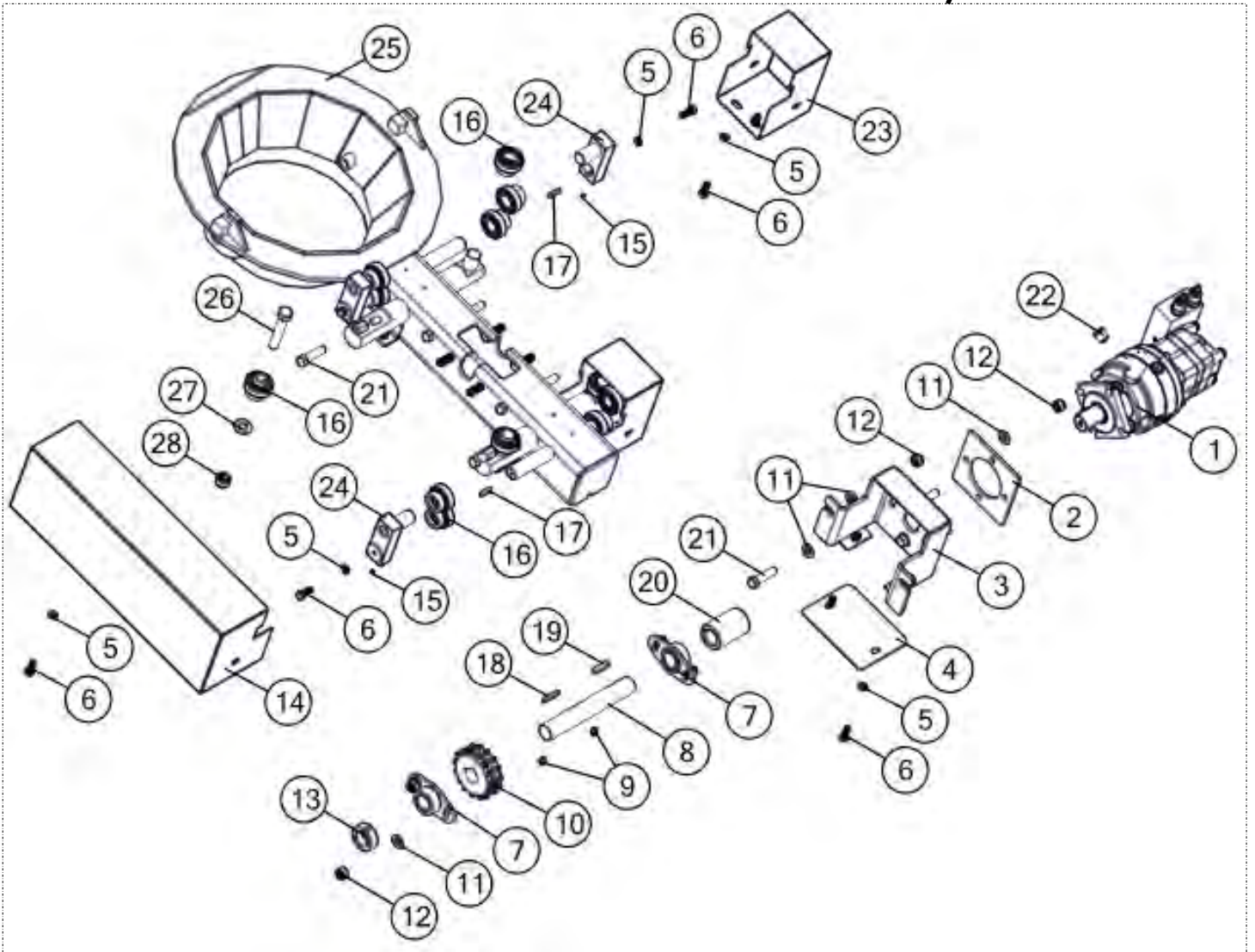
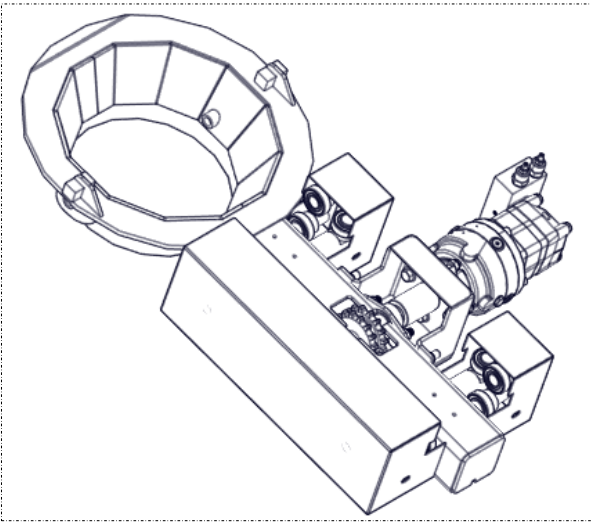
11 PARTS

11.16 Auger Trolley Drive

REF #	PART #	DESCRIPTION	QTY
1	111200-0033	1-1/4" SHAFT ORBIT MOTOR WITH BRAKING SYSTEM	1
2	481000-1247.00	Motor Brake Plate	1
3	681000-0376.02	Motor Mount - Weldment	1
4	481000-1014.00	Cover Panel - Motor Mount	1
5	168600-0071	Lock Washer - 3/8" PL	12
6	159300-0961	Hex Bolt - 3/8" NC x 1" Gr.5 PL	12
7	681000-0298.01	Shaft holder - Weldment	2
8	481000-0900.00	Trolley - Sprocket Shaft.	1
9	133200-0040	Grease Nipple - 1/8" NPT	2
10	129000-0216	DOUBLE SPROCKET #6015 x 1-1/4" bore	1
11	168000-0544	Flat Washer - 1/2" SAE PLTD	14
12	167200-0688	Nyloc Nut - 1/2" NC Gr.5 PL	10
13	280000-0020	1-1/4" set collar	1
14	481000-1374.01	Large Shield	1
15	160200-0499	Socket Set Screw - 1/4" x 1/4" NC	4
16	114100-0016	1" Bearing - 52mm Cylindrical OD	12
17	481000-1376.00	KS 1/4" x 1" - Bearing shaft key	4
18	480700-0076.00	KS 1/4" x 1 1/2" - Cross Shaft - Drive - Lateral Adjust	1
19	414000-0583.00	5/16" Keystock x 1-1/2"	1
20	481000-1015.00	1-1/4" Plain Bore Coupler - 1/4" Keyway	1
21	159400-0427	Hex Bolt - 1/2" NC x 2" Gr.5 PL	6
22	081100-0006	Plug #6 ORB	1
23	481000-1375.01	Small Sheild	2
24	681000-0362.00	Bearing Block Weldment	4
25	681000-0395.01	Trolley Funnel & Body - Weldment	1
26	159400-0700	Hex Bolt - 5/8" NC x 3-1/2"	2
27	168000-0580	Flat Washer - 5/8" SAE PL	2
28	167200-0690	Nyloc Nut - 5/8" NC Gr.5 PL	2

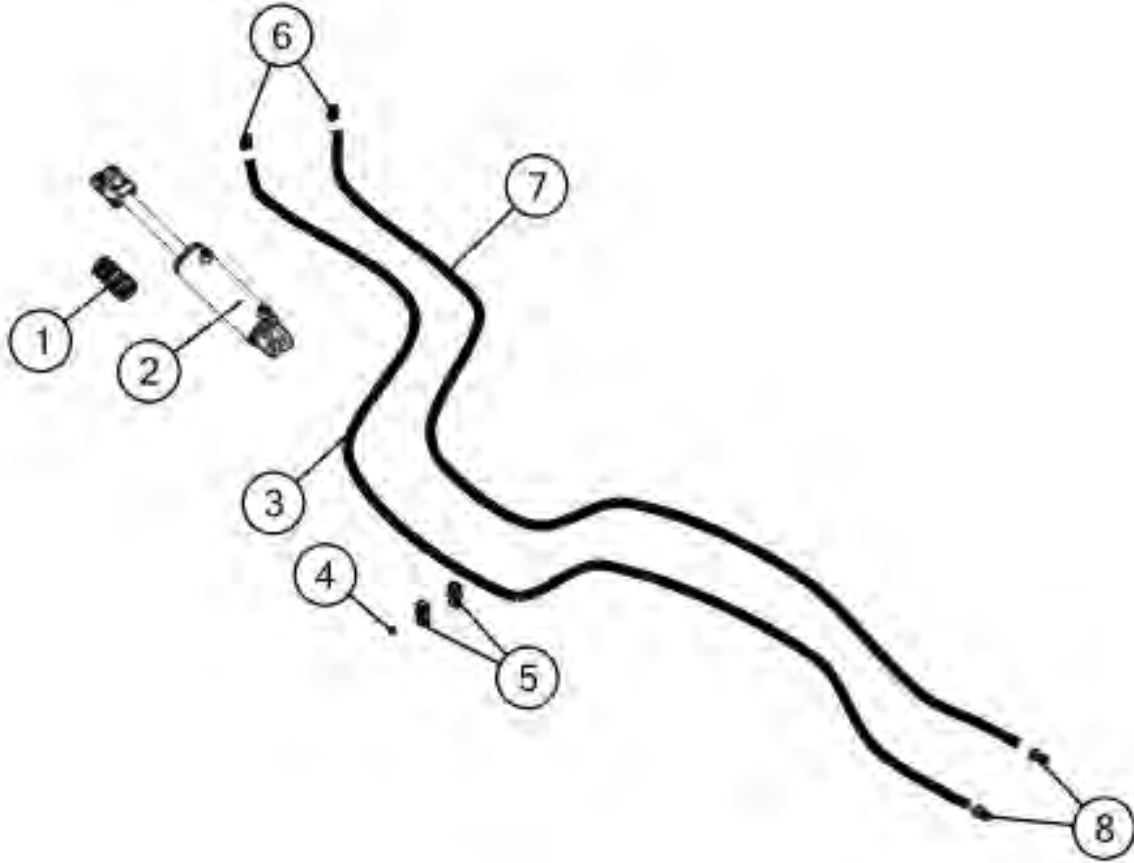
11 PARTS

11.16 Auger Trolley Drive



11 PARTS

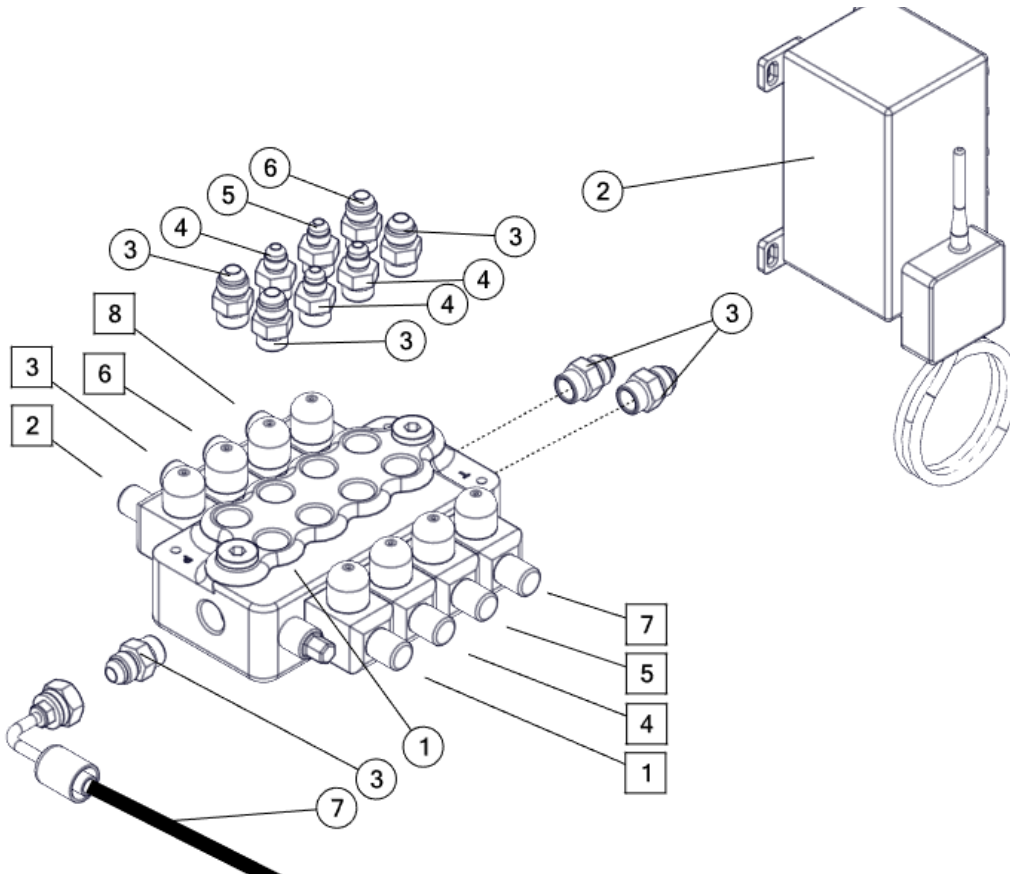
11.17 Axle Raise Hydraulics



REF #	PART #	DESCRIPTION	QTY
1	107200-0900	Aluminum Cylinder Stop Kit	1
2	107700-0002	3-1/2" Bore x 8" Stroke Hyd Cylinder	1
3	393000-0151	Hydraulic Hose - 1/2" x 151" x #8 JICF x 1/2" MPT	1
4	167200-0652	Nyloc Nut 3/8" NC Gr.5 PL	1
5	070000-0601	Hose Clamp Half	2
6	086800-0808	90° Elbow - #8 ORB x #8 JICM-sw	2
7	393000-0137	HYD HOSE 2WB THIN COVER 1/2" X 137"	1
5	104000-0610	Hydraulic - Q/C Male Poppet 1/2" FNPT	2

11 PARTS

11.18 Electro Hydraulic Valve Assembly



Square boxes indicate control wiring positions.

REF #	PART #	DESCRIPTION	QTY
	110100-0435	Wireless Remote & Four Spool Valve Assembly	1
1	110100-0510	WALVOIL SD5/4-P Valve c/w Power Beyond	1
2	110100-0509	HYD Control Box Includes : Receiver & Sequencer	1
*	110100-0511	* Hand Held Remote	1
*	110100-0512	* Remote Charger	1
3	086400-0808	Hex Nipple #8 JICM x #8 ORBM	6
4	086400-0608	Hex Nipple #6 JICM x #8 ORBM	3
5	081000-0106	Orifice Adpt- #8 ORBM to #6 JICMx.062"	1
6	081000-0108	Orifice Adpt- #8 ORBM to #8 JICMx.062"	1
7	393000-0019	1/2" 2w x 20" x #8JICF x #8 JICF 90 deg	1

* — Item not shown in illustration

11 PARTS

11.19 Transfer Auger Drive Hydraulics

REF #	PART #	DESCRIPTION	QTY
1	111200-0031	Hydraulic Motor 7.9cu in.	1
2	086400-0820	Hex Nipple - #10 ORBM x #12 JICM	2
3	393200-0100	3/4" 2w x 100" x #12 JICF x #12 JICF 90DEG	2
4	393200-0120	3/4" 2w x 118" x #12 JICF x 1/2" MPT	1
5	104000-0610	Hydraulic - Q/C Male Poppet 1/2" FNPT	4
6	393200-0082	3/4" 2w x 82" x #12 JICF x 1/2" MPT	1
7	082400-0820	Hex Nipple 3/4" MPT x #12 JICM	1
8	110200-0498	High Pressure Ball Valve - 3/4" FNPT	1
9	085100-0824	Tee - #12 JICM x #12 JICM x 3/4" MNPT	2
10	393200-0106	3/4" 2w 106" x #12 JICF x #12 JICF 90de	2
11	081200-0103	#12 JICM Bulk Head Nipple	2
12	085100-0912	Tee #12 JICM x #12 JIC fsw x #12 JICM	1
13	111000-0205	Check Valve 3/4" NPTF	1
14	086500-0910	Adaptor - 3/4" MNPT x #12 JICF-sw	1
15	086800-0920	90° Elbow - #12 JICM x #12 JICF-sw	2
16	393200-0037	3/4" 2w x 37" x #12 JICF x #12 JICF	1
17	086400-0821	Hex Nipple - #12 ORB x #12 JICM	2
18	110100-0102	Priority Splitter Control Valve 3/8" AT 13.2 gpm	1
19	084900-0100	Tee Port Adaptor #12 JICM x #12 JICF x 1/4" FPT	1
20	110300-0023	Pressure Gauge - Less Flange	1

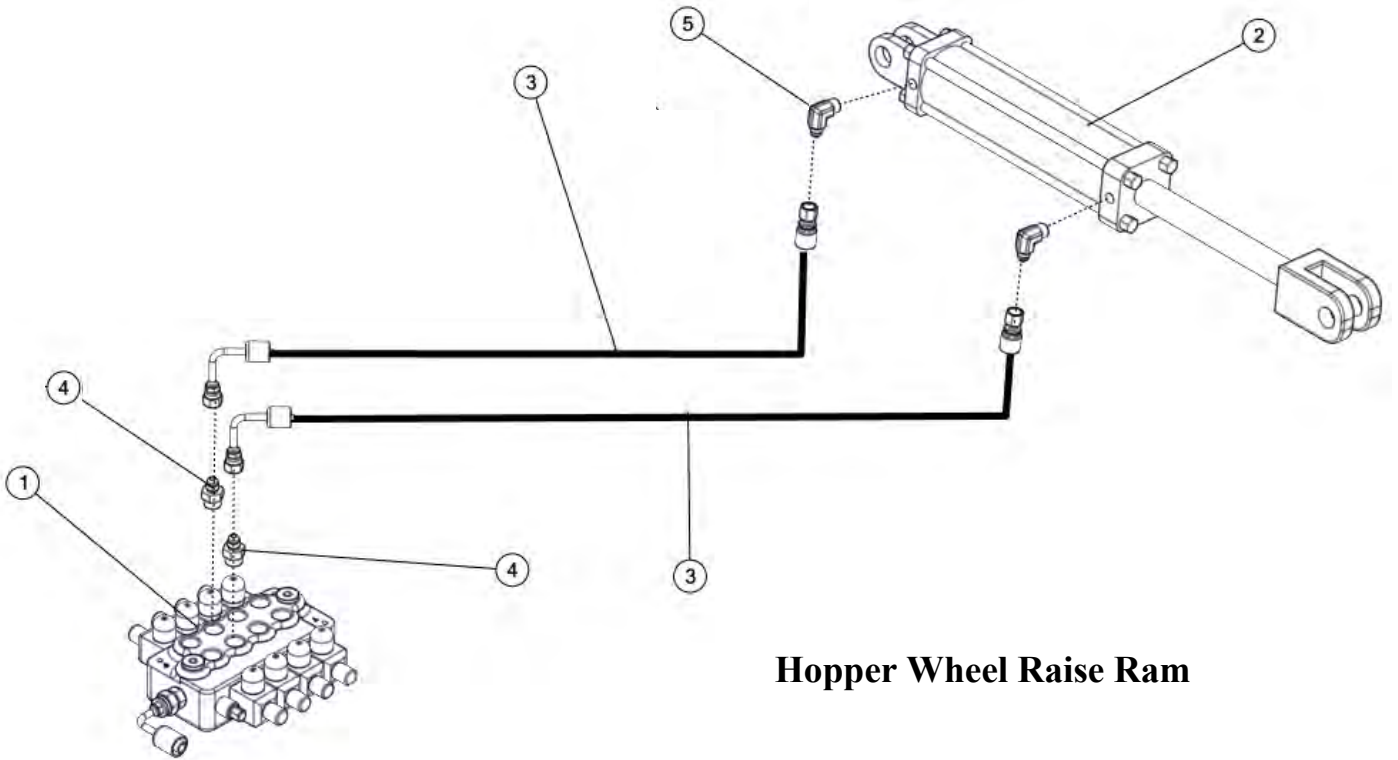
11 PARTS

11.20 Hopper Raise and Move Hydraulics

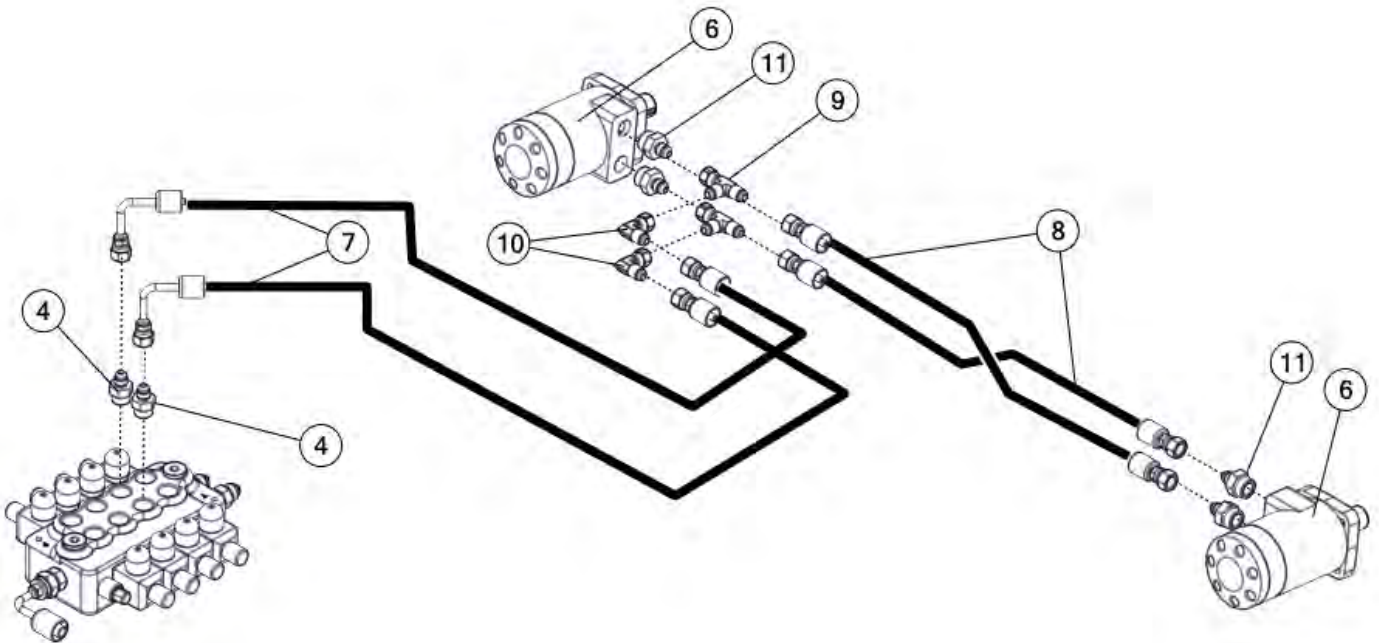
REF #	PART #	DESCRIPTION	QTY
1	110100-0435	WALVOIL SD5/4-P Valve c/w Power Beyond	1
2	107200-0010	2-1/2 x 8 cyl body - AG Braber	1
3	393200-0250	1/4" 2w x 250" x #6 JICF x #6 JICF 90de	2
4	086400-0608	Hex Nipple #6 JICM x #8 ORBM	4
5	082500-0606	90deg Elbow 3/8" MPT x #6 JICM	2
6	111100-0005	Orbit Motor 11.3 cu.in.	2
7	392300-0255	1/4" 2w x 255" x #6 JICF x #6 JICF 90de	2
8	392300-0037	1/4" 2w x 37" x #6 JICF x #6 JICF	2
9	085000-0607	Tee #6 MJIC x #6 FJIC sw x #6 MJIC Drop	2
10	087000-0606	90Elbow #6 MJIC x #6 FJIC sw	2
11	086400-0810	Hex Nipple #6 JICM x #10 ORBM	4

11 PARTS

11.20 Hopper Raise and Move Hydraulics



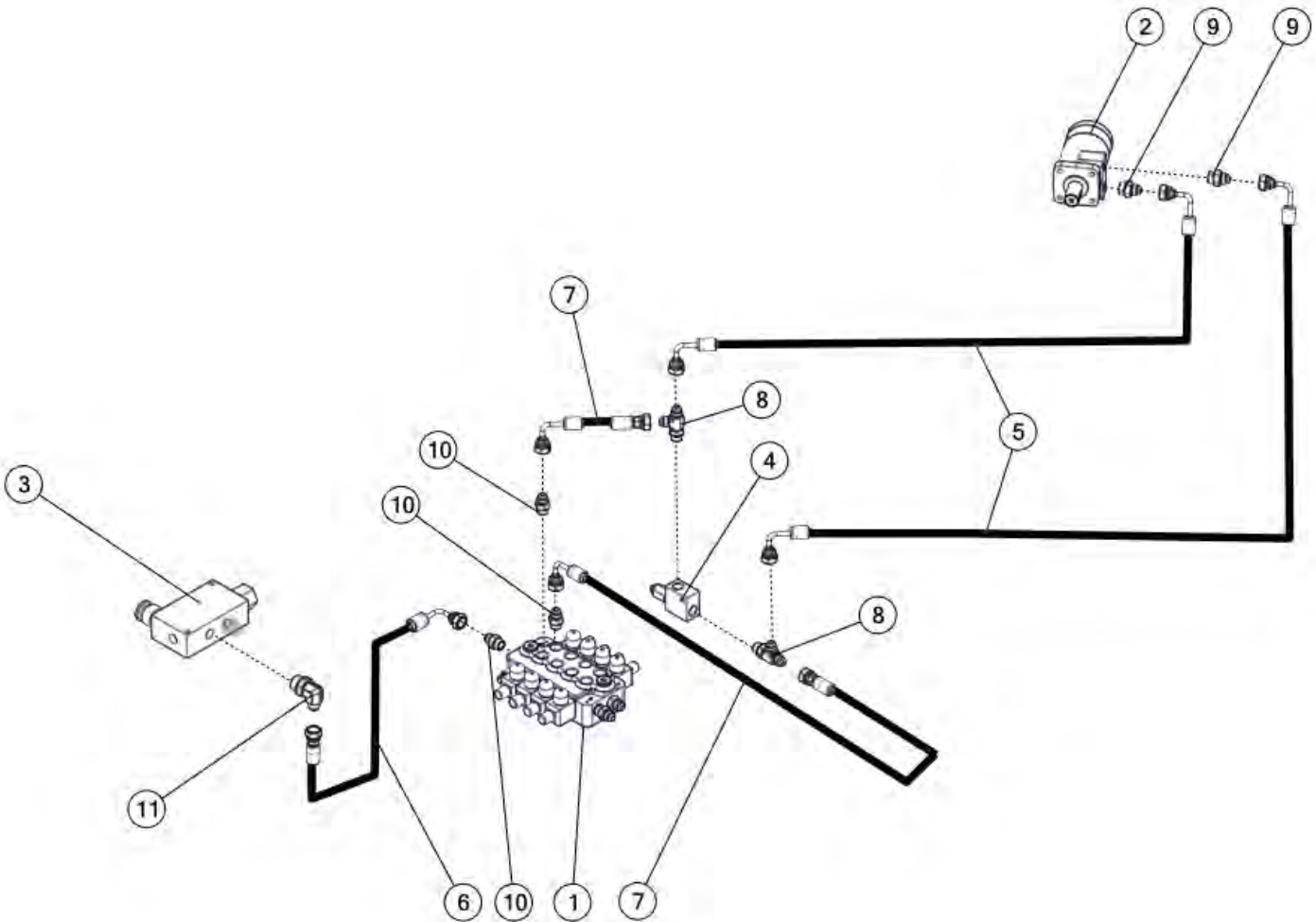
Hopper Wheel Raise Ram



Hopper Wheel Drive

11 PARTS

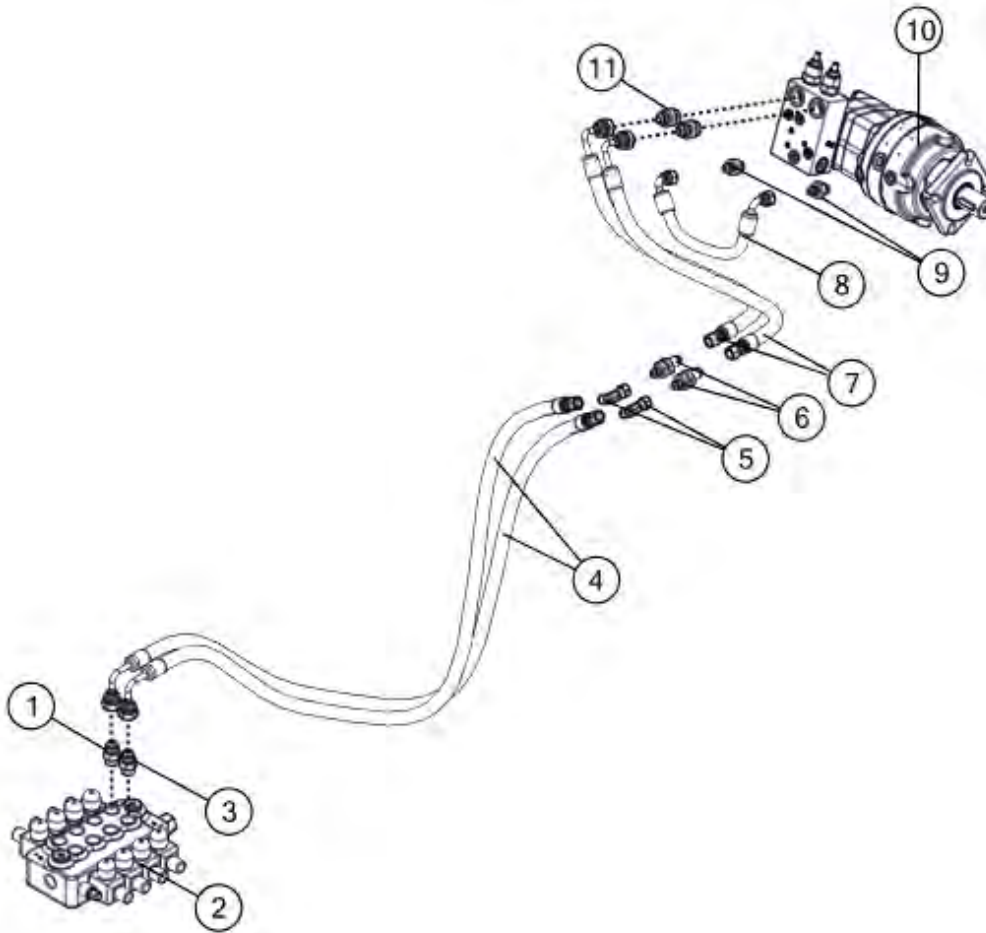
11.21 Bag Lift Hydraulics



REF #	PART #	DESCRIPTION	QTY
1	110100-0435	Wireless Remote & 4 Spool Valve- c/w Power Beyond	1
2	111100-0101	Hydraulic Motor - 4.5 cu.in.	1
3	110100-0102	Priority Splitter Control Valve 3/8" AT 13.2 gpm	1
4	110100-0399	Pressure Relief Valve	1
5	393400-0310	3/8" 2w x 310" x #8 JICF 90de x #8 JICF 90de	2
6	393000-0019	1/2" 2w x 20" x #8 JICF x #8 JICF 90de	1
7	393400-0022	3/8" 2w x 21" x #8 JICF x #8 JICF 90de	2
8	085100-0908	Tee - #8 ORBM x #8 JICM x #8 JICM	2
9	086400-0812	Hex Nipple - #8 JICM x #10 ORBM	2
10	086400-0808	Hex Nipple - #8 JICM x #8 ORBM	3
11	086800-0912	Elbow 90° - #12 ORBM x #8 JICM	1

11 PARTS

11.22 Trolley Drive Hydraulics



REF #	PART #	DESCRIPTION	QTY
1	081000-0108	Orifice Adapter - #8 ORBM x #8 JICM x .062"	1
2	110100-0435	Wireless Remote & 4 Spool Valve- c/w Power Beyond	1
3	086400-0808	Hex Nipple - #8 JICM x #8 ORBM	1
4	392600-0040	3/8" 2w x 40" x #8 JICF 90de x # 6 JICF	2
5	087000-0606	90Elbow #6 MJIC x #6 FJIC sw	2
6	081200-0100	#6 JICM BULK HEAD NIPPLE	2
7	392600-0029	3/8" 2w x 28" x #8 JICF 90de x #6 JICF	2
8	392300-0009	Hyd Hose 2WB Thin Cover 1/4" - 10-1/2 Cent - Cent 20deg	1
9	086400-0604	Hex Nipple #6 JICM x #4 ORBM	2
10	111200-0033	1-1/4" SHAFT ORBIT MOTOR WITH BRAKING SYSTEM	1
11	086400-0812	Hex Nipple - #8 JICM x #10 ORBM	2

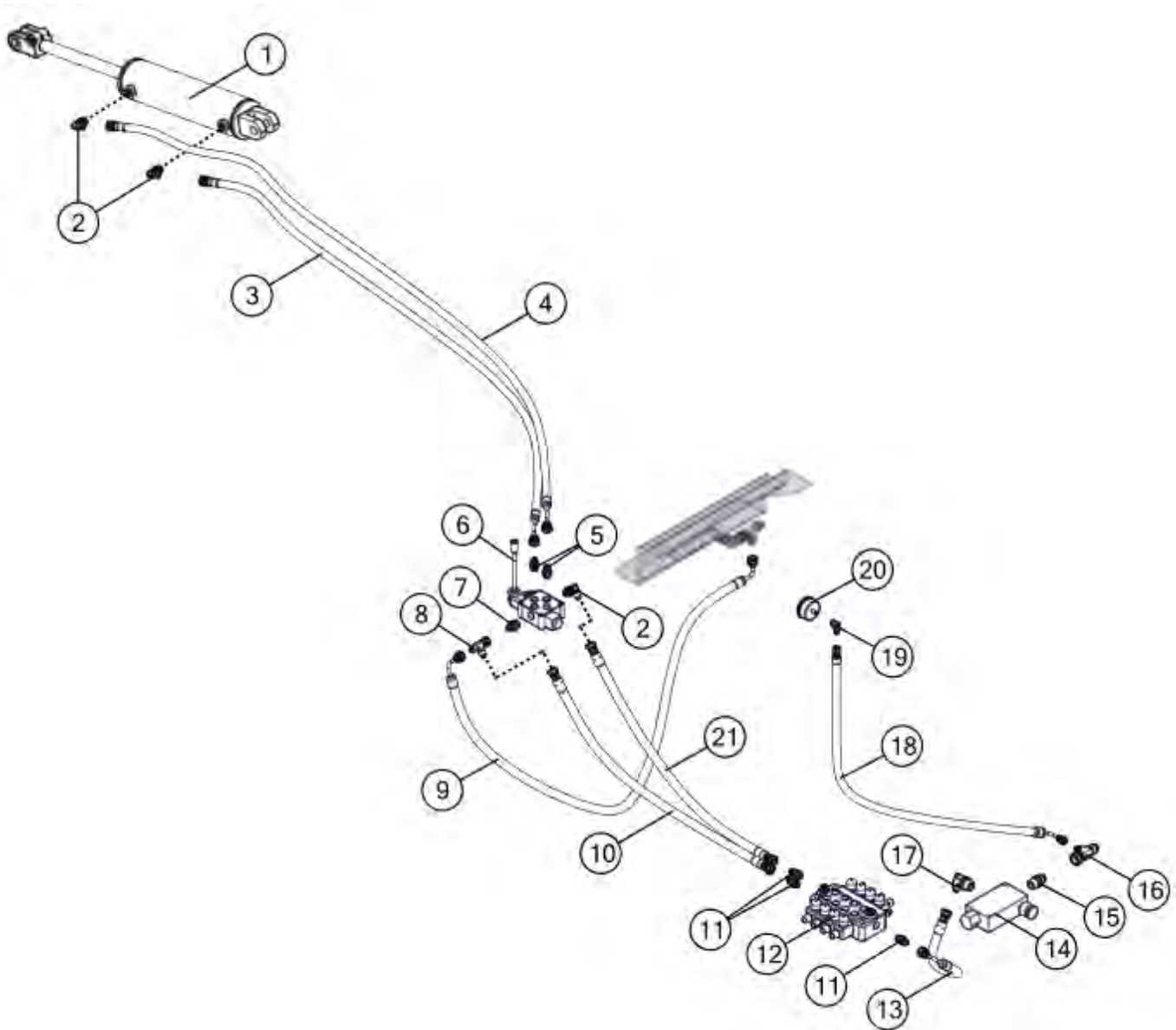
11 PARTS

11.23 Transfer Auger Fold Hydraulics

REF #	PART #	DESCRIPTION	QTY
1	107200-0539	4 x 14Cylinder	1
2	086800-0808	90° Elbow - #8 ORB x #8 JICM-sw	3
3	393400-0173	3/8" 2w x 173" x #8 JICF x #8 JICF 90de	1
4	393400-0187	3/8" 2w x 187" x #8 JICF x #8 JICF 90de	1
5	081000-0107	Orifice Adapter - #8 ORBM x #8 JICM x .031"	2
6	110100-0428	Single Bank Spool Valve - Q45	1
7	086400-0812	Hex Nipple - #8 JICM x #10 ORBM	1
8	085000-0309	Tee - #8JICM x #8JICF-sw x #8JICM Drop	1
9	393000-0058	1/2" 2w x 58" x #12 JICF 90de x #8 JICF 90de	1
10	393000-0037	1/2" 2w x 37" x #8 JICF x # 8 JICF	1
11	086400-0808	Hex Nipple - #8 JICM x #8 ORBM	3
12	110100-0435	Wireless Remote & 4 Spool Valve- c/w Power Beyond	1
13	393000-0019	1/2" 2w x 20" x #8 JICF x #8 JICF 90de	1
14	110100-0102	Priority Splitter Control Valve 3/8" AT 13.2 gpm	1
15	086400-0821	Hex Nipple - #12 ORB x #12 JICM	1
16	084900-0100	Tee Port Adaptor #12 JICM x #12 JICF x 1/4" FPT	1
17	086800-0912	Elbow 90° - #12 ORBM x #8 JICM	1
18	393400-0046	HYD HOSE 2WB THIN COVER 3/8" X 46"	1
19	082500-0603	90° Elbow - #6 JICM x 1/4" FNPT	1
20	110300-0023	Pressure Gauge - Less Flange	1
21	393000-0033	HYD HOSE 2WB THIN COVER 1/2" x 33"	1

11 PARTS

11.23 Transfer Auger Fold Hydraulics



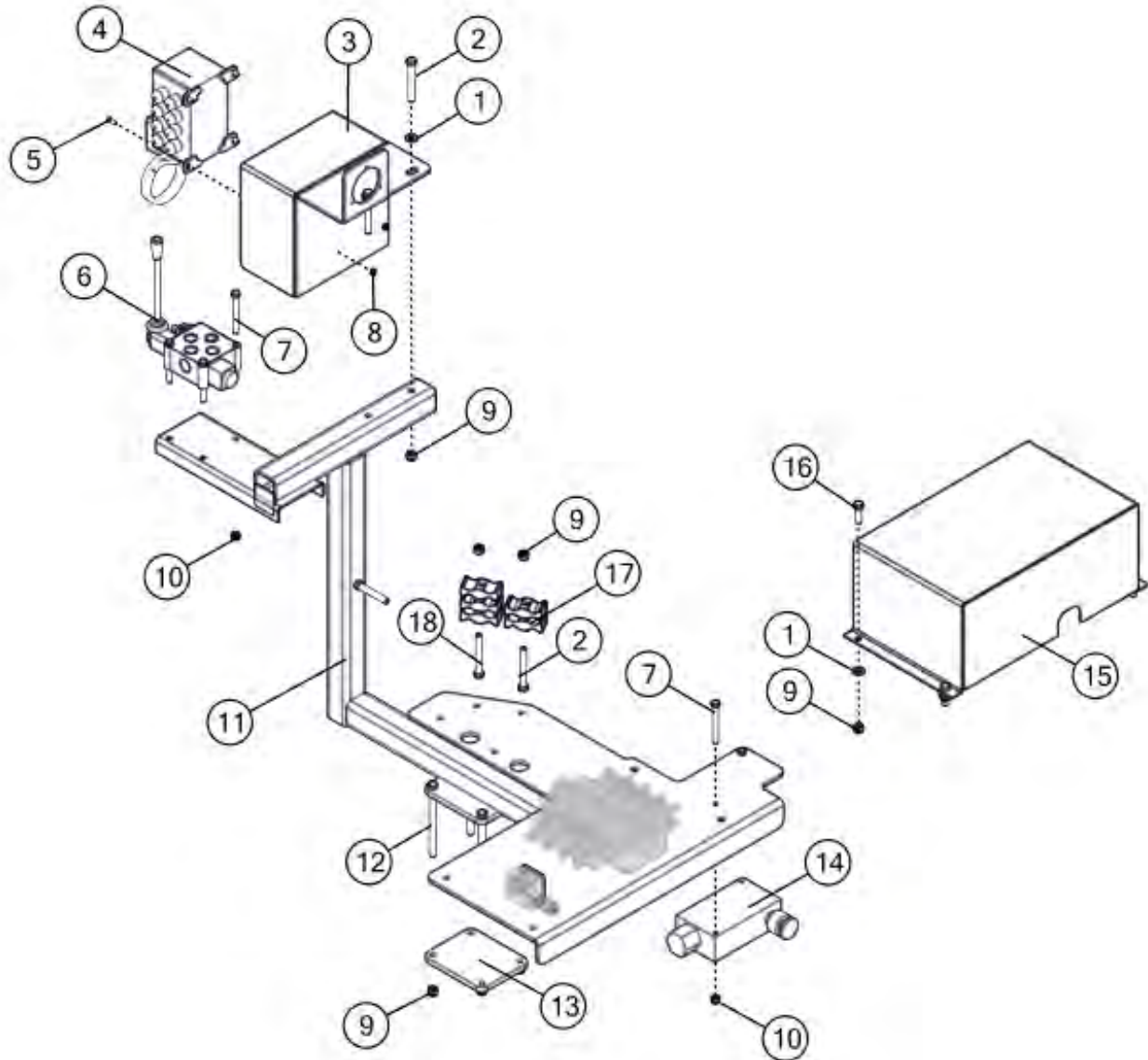
11 PARTS

11.24 Hydraulic Mount Tree Assembly

REF #	PART #	DESCRIPTION	QTY
1	168000-0540	Flat Washer - 3/8" SAE	6
2	159400-0005	Hex Bolt - 3/8" NC x 3" Gr.5 PL	3
3	681000-0397.00	Control Box	1
4	110100-0435	Wireless Remote & 4 Spool Valve- c/w Power Beyond	1
5	159300-0521	10-24 x 5/8" Stove Bolt	4
6	110100-0428	Single Bank Spool Valve - Q45	1
7	159300-0805	Hex Bolt - 5/16" NC x 3" Gr.5 PL	5
8	167000-0520	Hex Nut - #10-24 PL	4
9	167200-0652	Nyloc Nut - 3/8" NC Gr.5 PL	12
10	167200-0648	Nyloc Nut - 5/16" NC Gr.5 PL	5
11	681000-0400.00	Hyd mount tree	1
12	159400-0018	Hex Bolt - 3/8" NC x 5-1/2" Gr.5 PL	4
13	481000-1012.00	Hyd Tree mnt plate	1
14	110100-0102	Priority Splitter Control Valve 3/8" AT 13.2 gpm	1
15	681000-0335.00	Cover - Hyd Valve	1
16	159300-0979	Hex Bolt - 3/8" NC x 1-1/4" Gr.5 PL	4
17	070000-0601	Hose Clamp Half	5
18	159400-0007	Hex Bolt - 3/8" NC x 3-1/2" NC Gr.5 PL	1

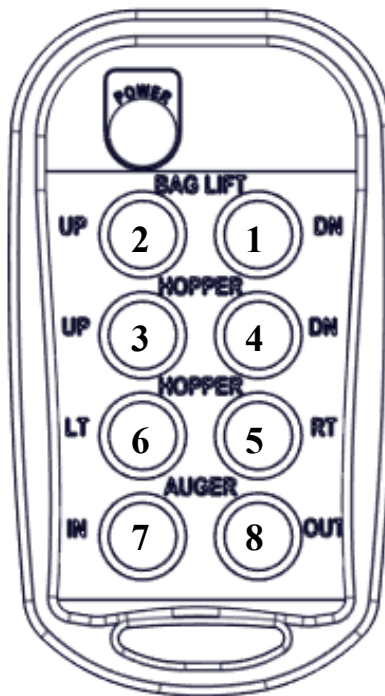
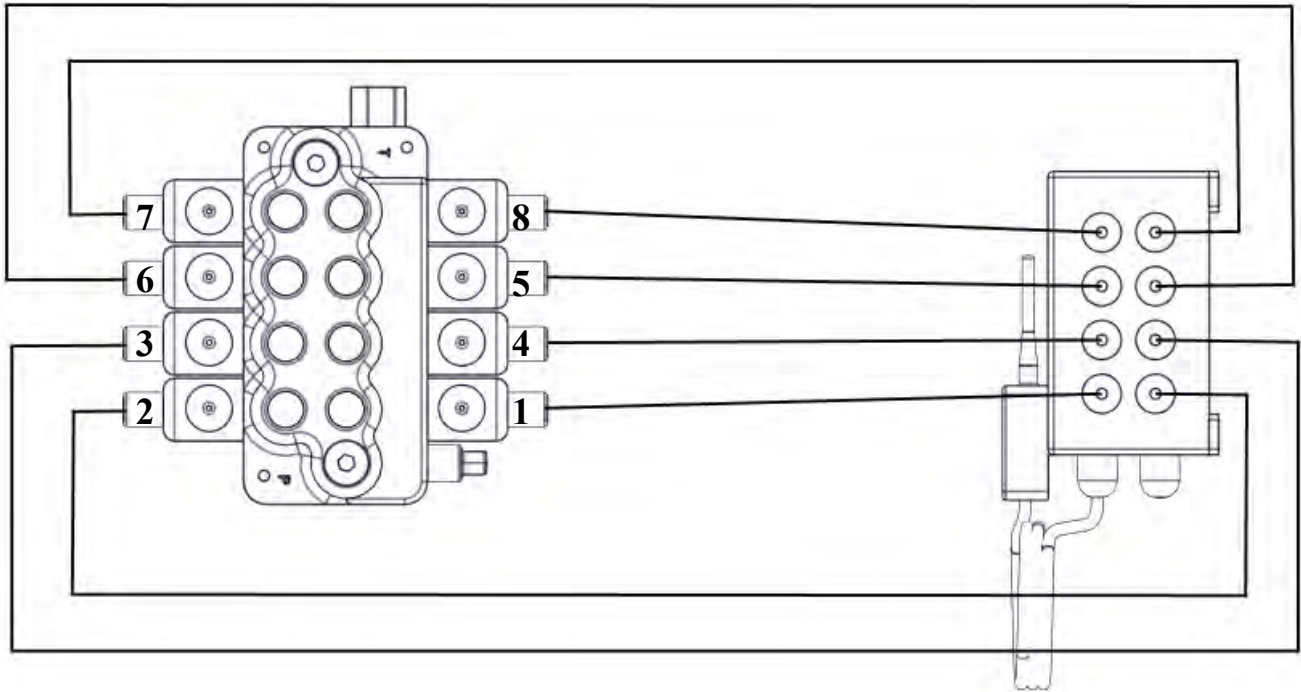
11 PARTS

11.24 Hydraulic Mount Tree Assembly



11 PARTS

11.25 Electrical Control Diagram



Appendix A: Kar-Tech - 8 Button MACRO Transmitter

OPERATION

- Press and hold the POWER button for at least 2 seconds and release.
- The transmitter is designed with a power saving feature which turns the transmitter off after 15 minutes if no buttons are pressed.
- There are red and green LEDs both on the keypad of the transmitter and inside the receiver case. The green LED will blink 2 times per second when the transmitter and receiver are communicating. It will blink 1 time per second if there is no communication (i.e. – no power to the receiver).
- The red LED on the transmitter and in the receiver will blink if there is a shorted or open output. Refer to the ERROR CODE CHART tables and count the number of blinks to determine the output with the fault.
- The transmitter's red LED blinks 1 time per second if the batteries are low and need to be recharged. To confirm, turn the receiver off and leave the transmitter on. If the transmitter red LED continues to blink, the battery is low and requires recharging. If the red LED blinks only when the receiver is on, there is a fault with one or more outputs, as stated above.
- The red LED will stay on while charging and when the charge is completed the green LED will stay on.
- It will take longer to charge if the transmitter is on during charging.

SYNCHRONIZING TRANSMITTER AND RECEIVER

There are over 64,000 different addresses (ID codes) available for each transmitter and receiver pair. Each transmitter and receiver pair is synchronized together at the factory. If a new transmitter is needed, synchronizing is required, so use the following procedure:

1. Turn both the transmitter and receiver off.
2. With the transmitter off, press and hold the POWER button for more than 10 seconds. LEDs will start blinking.
3. Turn on the receiver.
4. Synchronization complete.

TRANSMITTER SLEEP TIME PROGRAMING

The transmitter is factory set to tum off (sleep) after 15 minutes. To change the time the transmitter waits before going to sleep, use the following procedure:

1. Press and hold buttons 3, 4, 8 and POWER simultaneously.
2. Release the buttons. At this point, both lights will blink once per second.
3. Next, press one of the following buttons to adjust the sleep time:
Button 1 =15 min
Button 2 =30 min
Button 3 = 1 hr
Button 4 = 2 hr
Button 8 = sleep disabled (continuous on, use power switch to turn off)
4. Sleep time programming complete.

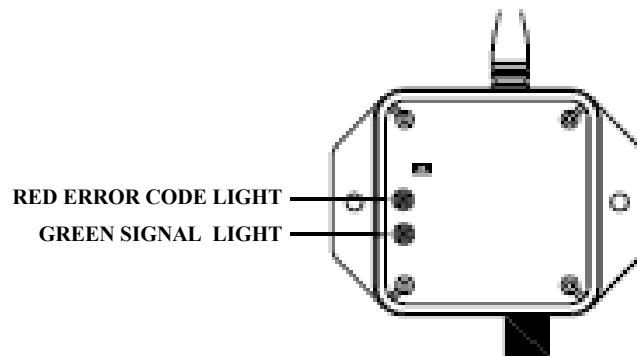
Only use approved chargers: Micro wall charger (110-240VAC (B20172A) | Micro car charger 12-24VDC (B20173A)

Appendix A: Kar-Tech - 8 Button MACRO Transmitter

RECEIVER ERROR CODE CHART	
CODE	PROBABLE CAUSE
1	RF COMMUNICATION PROBLEM
2	FAULTY CIRCUIT TO OUPUT 1
3	FAULTY CIRCUIT TO OUPUT 2
4	FAULTY CIRCUIT TO OUPUT 3
5	FAULTY CIRCUIT TO OUPUT 4
6	FAULTY CIRCUIT TO OUPUT 5
7	FAULTY CIRCUIT TO OUPUT 6
8	FAULTY CIRCUIT TO OUPUT 7
9	FAULTY CIRCUIT TO OUPUT 8

TRANSMITTER ERROR CODE CHART	
CODE	PROBABLE CAUSE
1	LOW BATTERY
2	FAULTY CIRCUIT TO OUPUT 1
3	FAULTY CIRCUIT TO OUPUT 2
4	FAULTY CIRCUIT TO OUPUT 3
5	FAULTY CIRCUIT TO OUPUT 4
6	FAULTY CIRCUIT TO OUPUT 5
7	FAULTY CIRCUIT TO OUPUT 6
8	FAULTY CIRCUIT TO OUPUT 7
9	FAULTY CIRCUIT TO OUPUT 8

ERROR CODE IS THE NUMBER OF RED LIGHT BLINKS BETWEEN EVERY PAUSE

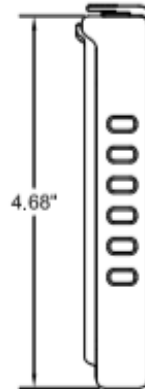
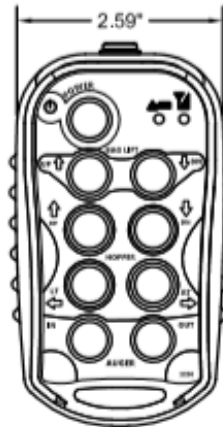


RECEIVER WITH COVER REMOVED

Only use approved chargers
 MICRO WALL CHARGER/ 110-240VAC (B20172A)
 MICRO CAR CHARGER/ 12-24VDC (B20173B)



Micro USB charger port.
 Check orientation before inserting
 Micro USB charger plug. Do not insert
 with more than 5 lb. of force.



ERROR CODES

RECEIVER ERROR CODE CHART

ERROR CODE	PROBABLE CAUSE
1	RF COMMUNICATION PROBLEM
2	BAG LIFT DN OUTPUT ERROR
3	BAG LIFT UP OUTPUT ERROR
4	HOPPER DN OUTPUT ERROR
5	HOPPER UP OUTPUT ERROR
6	HOPPER RT OUTPUT ERROR
7	HOPPER LT OUTPUT ERROR
8	AUGER OUT OUTPUT ERROR
9	AUGER IN OUTPUT ERROR

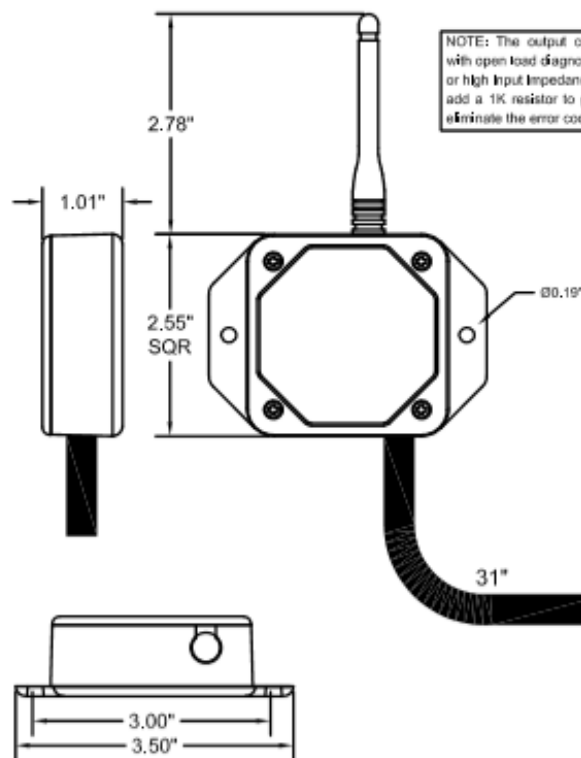
TRANSMITTER ERROR CODE CHART

ERROR CODE	PROBABLE CAUSE
1	LOW BATTERY

ERROR CODE NUMBER IS THE NUMBER OF RED LIGHT BLINKS BETWEEN EVERY PAUSE.

ERROR CODE NUMBER IS THE NUMBER OF RED LIGHT BLINKS BETWEEN EVERY PAUSE.

P/N: 3A5212A
 TRANSMITTER, MACRO, 9 BUTTON

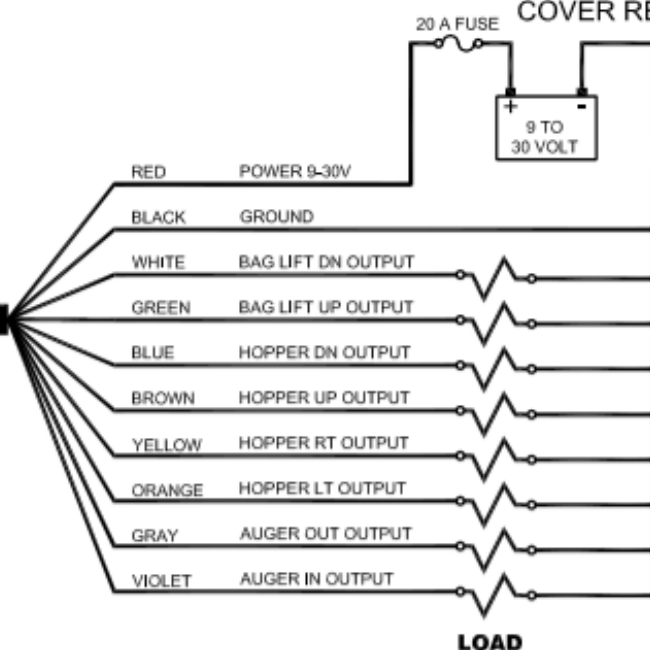


NOTE: The output control circuit is designed with open load diagnostics. For unused outputs or high input impedance applications like a PLC, add a 1K resistor to ground for each. This will eliminate the error code and leakage voltage.

RED ERROR CODE LIGHT
 GREEN SIGNAL LIGHT

FIG. 1: RECEIVER WITH COVER REMOVED

P/N: 3A5213A
 RECEIVER, 8 OUTPUTS



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by Kar-Tech will void the user's authority to operate the equipment.

OPERATION

- To turn on the transmitter, Press and hold the POWER button for at least 2 seconds until both red and green LEDs turn on then release.
- The transmitter is designed with a power saving feature which turns the transmitter off after 15 minutes if no buttons are pressed.
- There are red and green LEDs both on the keypad of the transmitter and inside the receiver case. The green LED will blink 2 times per second when the transmitter and receiver are communicating. It will blink 1 time per second if there is no communication (i.e. - no power to the receiver)
- The red LED in the receiver will blink if there is a shorted or open output. Refer to the ERROR CODE CHART tables and count the number of blinks to determine the output with the fault
- The transmitter's red LED blinks 1 time per second if the battery is low and needs to be charged
- The red LED will stay on while charging and when the charge is completed the green LED will stay on.
- It will take longer to charge if the transmitter is on during charging.

SYNCHRONIZING TRANSMITTER AND RECEIVER

Each transmitter and receiver pair is synchronized together at the factory. If a new transmitter is needed, synchronizing is required. Use the following procedure:

1. Turn both transmitter and receiver off
2. With the transmitter off, press and hold the POWER button for more than 10 seconds. LEDs start blinking.
3. Turn on the receiver
4. Wait for a few seconds until just the green LED begins to blink rapidly on the transmitter
5. Teach complete

SLEEP TIME

All transmitters have the ability to change the sleep time from the default to user's preference. The transmitter is factory set to turn off (sleep) after 15 minutes irrespective of receiver status. To change the time the transmitter waits before going to sleep, use the following procedure:

1. With the transmitter off, press and hold buttons HOPPER UP, HOPPER DN, and POWER.
2. Release the buttons. At this point, both lights will blink once per second
3. On the transmitter, press one of the following buttons to adjust the sleep time:
 - a. BAG LIFT DOWN = 15 minutes
 - b. BAG LIFT UP = 30 minutes
 - c. HOPPER DN = 60 minutes
 - d. HOPPER UP = 120 minutes
 - e. AUGER IN = sleep disabled
4. Sleep time programming complete

CLONING TRANSMITTERS

WARNING! - ONLY ONE TRANSMITTER CAN BE ON AT A TIME, THEY CANNOT BE USED SIMULTANEOUSLY - use with CAUTION!

Occasionally, it is desirable to have more than one transmitter work with a single receiver. This is accomplished by a process called cloning. Cloning allows an additional transmitter (B) to have the same ID code as the original transmitter (A). If this feature is desired, use the following procedure:

1. Make sure both transmitters and the receiver are off
2. On Transmitter A, press and hold the POWER button for 10 seconds until LEDs blink, then release. Green and red LEDs will blink together at this point
3. On Transmitter B, press and hold buttons AUGER IN, AUGER OUT, and POWER simultaneously until both LEDs start to blink
4. Wait for few seconds until the green LED starts to blink on transmitter A and transmitter B.
5. Turn both of the transmitters off
6. Synchronize one of the transmitters to the receiver using SYNCHRONIZING TRANSMITTER AND RECEIVER instructions above

If the cloning feature has been invoked and is no longer desired, the ID code of one of the transmitters needs to be changed. This will unclone the transmitters. If this is desired, use the following procedure:

1. Make sure the receiver and transmitter are OFF
2. Press and hold buttons BAG LIFT UP, BAG LIFT DN, and POWER buttons simultaneously until both LEDs start toggling then release
3. Press any button again to select a new ID
4. Uncloning complete
5. Follow the SYNCHRONIZING TRANSMITTER AND RECEIVER procedure above to link the uncloned transmitter to a new receiver

SPECIFICATIONS

- RF: 902-928MHz FHSS 10mW
- Temperature: Receiver: -40 to +85°C Transmitter: -20 to 60°C
- Output Rating: 5A each (sourcing) 20A system maximum
- Encapsulated electronics inside receiver
- Power transmitter: 3.7V LiPo rechargeable battery
- Battery life: 30-40 hours continuous



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