Grain Handling

AVALANCHE® DOUBLE AUGER GRAIN CART MODEL 2096

Serial Number B40680100 & Higher

Part No. 294486

Foreword

This symbol identifies important safety messages. When you see it, read the message that follows and be alert to the possibility of personal injury.

Remember, safety instructions stated in this manual are for your protection. Read them carefully and follow them closely when working around or using this machine.

Read and study this manual completely before attempting to operate this implement. Take this manual to the field for handy reference when operating, adjusting, or servicing your machine.

When referenced, “Right-Hand” (RH) and “Left-Hand” (LH) side of the machine are determined by standing behind the machine and facing in the direction of travel.

Product Information

When ordering parts or when requesting further information or assistance, always give the following information:

- Machine name
- Model number
- Serial number

All products manufactured by Unverferth Mfg. Co., Inc. are warranted to be free from material and workmanship defects for one full year from time of consumer delivery. Your local dealer will gladly assist you with any warranty questions.

Please fill out and retain this portion for your records. The serial number decal is located at the left-front corner of your grain cart.

Purchase Date _____Model _____Serial No._____

Dealer _____ City _____

Dealer Contact _____ Phone _____

IMPORTANT

- *The information, specifications, and illustrations in the manual are based on information available at the time it was written. Due to continuing improvements in the design and manufacture of Unverferth products, all specifications and information contained herein are subject to change without notice.*

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Please visit www.unverferth.com/parts/ for the most current parts listing.

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Notes

Section I
Safety

General Hazard Information

No accident-prevention program can be successful without the wholehearted cooperation of the person who is directly responsible for the operation of the equipment.

A large number of accidents can be prevented only by the operator anticipating the result before the accident is caused and doing something about it. No power-driven equipment, whether it be transportation or processing, whether it be on the highway, in the field, or in the industrial plant, can be safer than the person who is at the controls. If accidents are to be prevented--and they can be prevented--it will be done by the operators who accept the full measure of their responsibility.

It is true that the designer, the manufacturer, and the safety engineer can help; and they will help, but their combined efforts can be wiped out by a single careless act of the operator.

It is said that, "the best kind of a safety device is a careful operator." We, at Unverferth Mfg. Co., Inc. ask that you be that kind of operator.

REMEMBER:

THINK SAFETY

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT!

SIGNAL WORDS

DANGER

INDICATES AN EXTREMELY HAZARDOUS SITUATION OR ACTION THAT WILL RESULT IN SERIOUS INJURY OR DEATH.

WARNING

INDICATES A HAZARDOUS SITUATION OR ACTION THAT COULD RESULT IN SERIOUS INJURY OR DEATH.

CAUTION

INDICATES AN UNSAFE SITUATION OR ACTION THAT MAY RESULT IN PERSONAL INJURY.

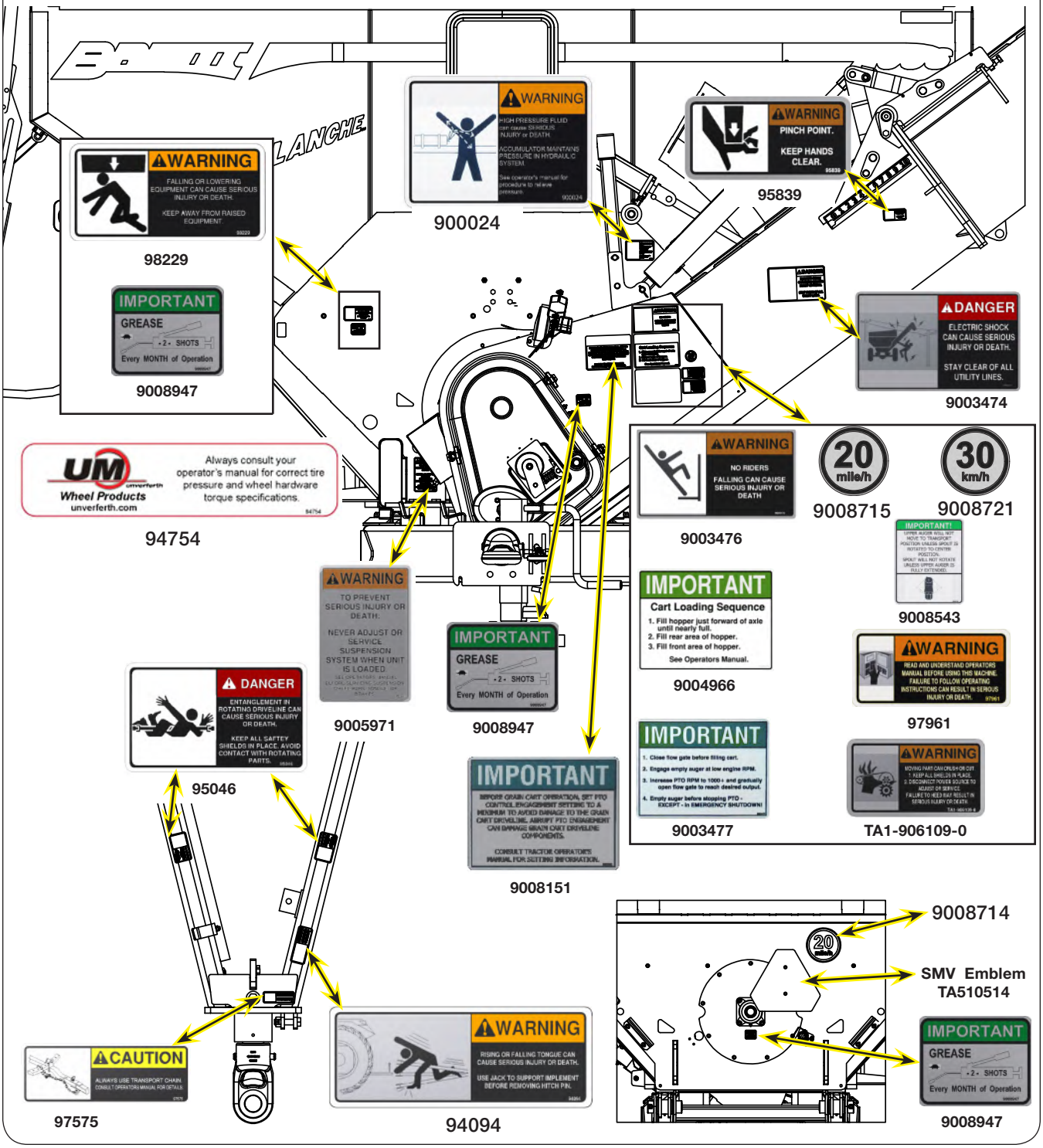
IMPORTANT

Is used for instruction on operating, adjusting, or servicing a machine.

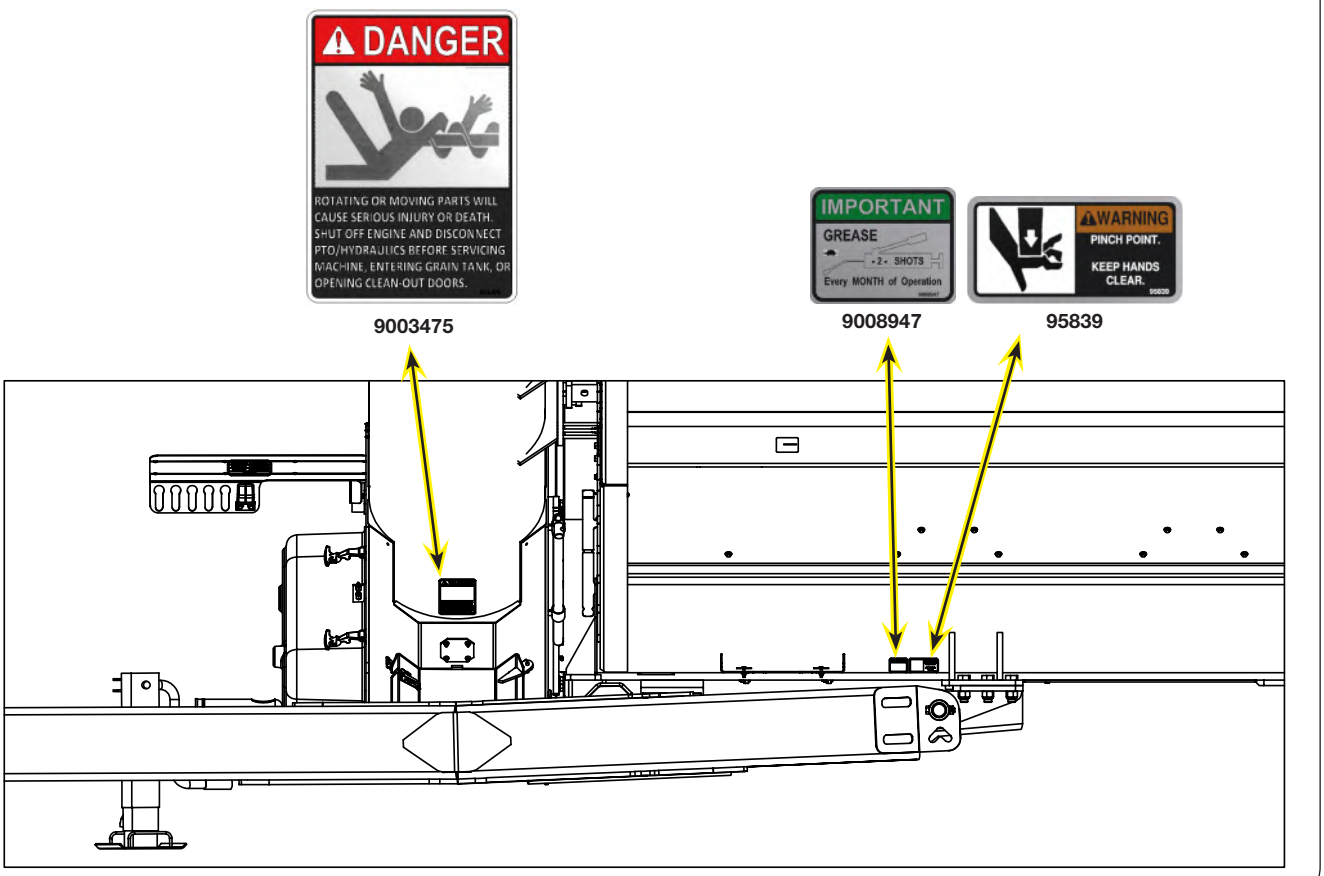
Safety Decals

⚠ WARNING

- **REPLACE LOST, DAMAGED, PAINTED, OR UNREADABLE DECALS IMMEDIATELY. IF PARTS THAT HAVE DECALS ARE REPLACED, ALSO MAKE SURE TO INSTALL NEW DECALS. THESE DECALS INFORM AND REMIND THE OPERATOR WITH OPERATIONAL INFORMATION AND SAFETY MESSAGES.**



Safety Decals (continued)



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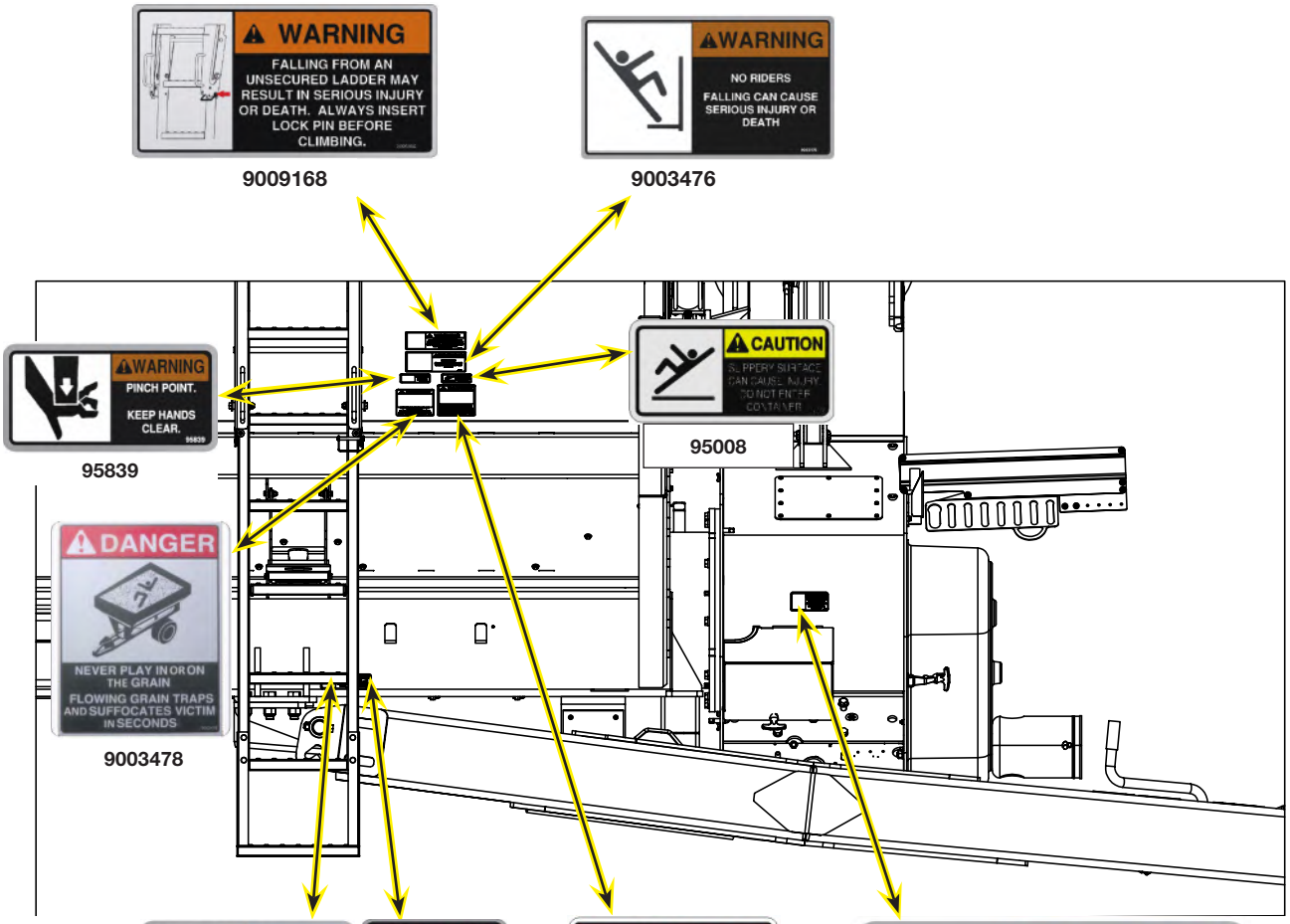
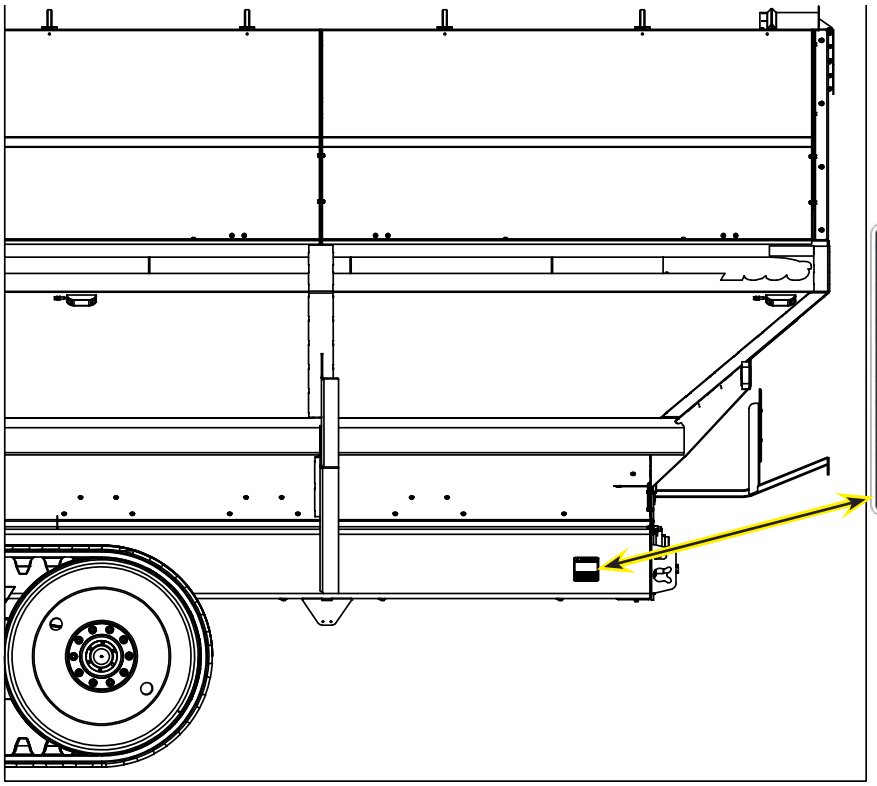


Safety Decals



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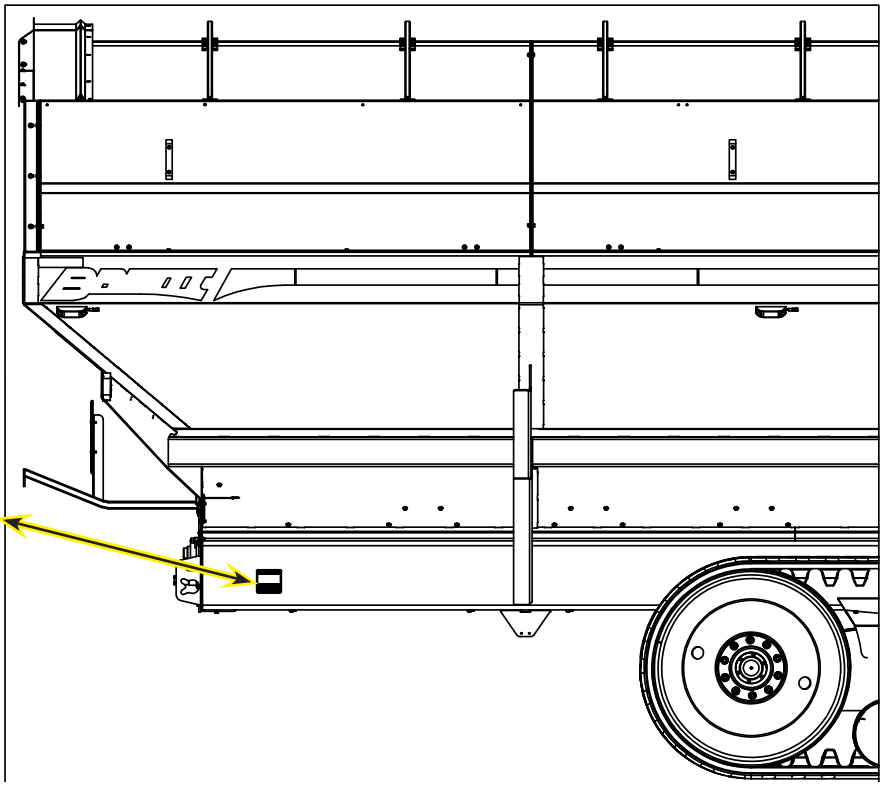

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Following Safety Instructions

- Read and understand this operator's manual before operating.

- All machinery should be operated only by trained and authorized personnel.
- To prevent machine damage, use only attachments and service parts approved by the manufacturer.
- Always shut tractor engine off and remove key before servicing.

- Avoid personal attire such as loose fitting clothing, shoestrings, drawstrings, pants cuffs, long hair, etc., that may become entangled in moving parts.
- Do not allow anyone to ride on the implement. Make sure everyone is clear before operating machine or towing vehicle.

- Never attempt to operate implement unless you are in the driver's seat.
- Never enter a cart containing grain. Flowing grain traps and suffocates victims in seconds.

- This unit may be equipped with a hydraulic brake system. Pull only with a power source equipped with an ISO:5676 compatible hydraulic brake coupler. Failure to use correct coupler may result in brake lockup. Damage due to brake lockup is not covered under warranty.

Before Operating

- Do not stand between towing vehicle and implement during hitching.

- Always make certain everyone and everything is clear of the machine before beginning operation.
- Verify that all safety shields are in place and properly secured.

- Ensure that all applicable safety decals are installed and legible.
- When working around the implement, be careful not to be cut by sharp edges.
- Secure drawbar pin with safety latch and lock tractor drawbar in fixed position.
- Add sufficient ballast to tractor to maintain steering and braking control at all times. Do not exceed tractor's lift capacity or ballast capacity.

Before Servicing

- Avoid working under an implement; however, if it becomes absolutely unavoidable, make sure the implement is safely blocked.

- Ensure that all applicable safety decals are installed and legible.
- When working around the implement, be careful not to be cut by sharp edges.
- To prevent personal injury or death, always ensure that there are people who remain outside the cart to assist the person working inside, and that all safe workplace practices are followed. There are restricted mobility and limited exit paths when working inside the implement.
- Secure drawbar pin with safety lock and lock tractor drawbar in fixed position.
- Explosive separation of a tire and rim can cause serious injury or death. Only properly trained personnel should attempt to service a tire and wheel assembly.

During Operation

- Regulate speed to field conditions. Maintain complete control at all times.
- Never service or lubricate equipment when in operation.
- Keep away from overhead power lines. Electrical shock can cause serious injury or death.

- Use extreme care when operating close to ditches, fences, or on hillsides.
- Do not leave towing vehicle unattended with engine running.

Before Transporting

- Secure transport chain to towing vehicle before transporting. DO NOT transport without chain.
- Check for proper function of all available transport lights. Make sure that all reflectors are clean and in place on machine. Make sure the SMV emblem and SIS decals are visible to approaching traffic.
- This implement may not be equipped with brakes. Ensure that the towing vehicle has adequate weight and braking capacity to tow this unit.

During Transport

- Comply with all laws governing highway safety when moving machinery.
- Use transport lights as required by all laws to adequately warn operators of other vehicles.
- Use good judgment when transporting equipment on highways. Regulate speed to road conditions and maintain complete control.
- Maximum transport speed of this implement should never exceed 20 m.p.h. as indicated on the machine. Maximum transport speed of any combination of implements must not exceed the lowest specified speed of the implements in combination. Do not exceed 10 m.p.h. during off-highway travel.
- Slow down before making sharp turns to avoid tipping. Drive slowly over rough ground and side slopes.
- Do not transport grain cart on roads while loaded.
- It is probable that this implement is taller, wider and longer than the towing vehicle. Become aware of and avoid all obstacles and hazards in the travel path of the equipment, such as power lines, ditches, etc.

Driveline Safety

- Do not allow children near equipment that is running or engaged.
- Do not exceed 1000 r.p.m. PTO speed.
- Disengage the PTO, stop the tractor engine, and remove key from ignition before making inspections, or performing maintenance and repairs.
- Inspect the driveline, quick disconnect, overload shear-bolt limiter or clutch, and shielding often. Repair immediately. Use replacement parts and attaching hardware equivalent to the original equipment. Only alterations described in this manual for overall length adjustment are allowed. Any other alteration is prohibited.
- Avoid excessively long hardware or exposed and protruding parts which can snag and cause entanglement.
- Lubricate the driveline as recommended in the MAINTENANCE section.
- Keep hoses, wiring, ropes, etc. from dangling too close to the driveline.
- Install driveline and shields according to recommended lengths and attaching methods with recommended hardware. The driveline shield should rotate independently a full rotation and telescope freely. The retaining chain must be secured to the implement safety shield.
- Adjust drawbar to height and length recommended in OPERATION section.
- Use caution when turning to avoid contact between tractor tires and driveline.
- Check the length of the telescoping members to insure the driveline will not bottom out or separate when turning and/or going over rough terrain.
- Proper extended and collapsed lengths of the telescoping PTO shaft must be verified before first operation with each and every tractor. If the extended length of the PTO shaft is insufficient, it may become uncoupled during operation and cause serious injury or death from contact with uncontrolled flailing of PTO shaft assembly components.

Pressurized Oil

- Relieve the hydraulic system of all pressure before adjusting or servicing. See hydraulic power unit manual for procedure to relieve pressure.

- High-pressure fluids can penetrate the skin and cause serious injury or death. Use cardboard or wood to detect leaks in the hydraulic system. Seek medical treatment immediately if injured by high-pressure fluids.

- Accumulators used in this hydraulic system can retain fluid under pressure even after tractor hydraulic valve is placed in FLOAT. See tractor operators manual for procedure to relieve pressure.

- Hydraulic system must be purged of air before operating to prevent serious injury or death.

- Do not bend or strike high-pressure lines. Do not install bent or damaged tubes or hoses.

- Repair all oil leaks. Leaks can cause fires, personal injury, and environmental damage.

- Route hoses and lines carefully to prevent premature failure due to kinking and rubbing against other parts. Make sure that all clamps, guards and shields are installed correctly.

- Check hydraulic hoses and tubes carefully. Replace components as necessary if any of the following conditions are found:
  - o End fittings damaged, displaced, or leaking.
  - o Outer covering chafed/cut or wire reinforcing exposed.
  - o Outer covering ballooning locally.
  - o Evidence of kinking or crushing of the flexible part of a hose.

Preparing for Emergencies

- Keep a first aid kit and properly rated fire extinguisher nearby.

- Keep emergency numbers for fire, rescue, and poison control personnel near the phone.

Wearing Protective Equipment

- Wear clothing and personal protective equipment appropriate for the job.

- Wear steel-toed shoes when operating.

- Wear hearing protection when exposed to loud noises.

- Do not wear additional hearing impairing devices such as radio headphones, etc.

Section II
Set Up

FOR SCALE INFORMATION, PLEASE REFER TO YOUR SCALE MANUAL.
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Set Up Checklist

After the cart has been completely assembled, use the following checklist and inspect the cart. Check off each item as it is found satisfactory or after proper adjustment is made.

- ☐ Set or Calibrate tractor PTO control engagement to MINIMUM setting. Refer to tractor operator's manual for setting information.
- ☐ Remove auger spout cylinder stop.
- ☐ Remove PTO brackets.
- ☐ Torque wheel nuts and check tire pressure as specified in MAINTENANCE section.
- ☐ Verify track has been aligned and is properly conditioned. (If applicable)
- ☐ Inflate tires to specified air pressure. (if applicable)
- ☐ Lubricate all grease fittings and check gearbox oil level.
- ☐ Inspect cleanout door assembly for play or movement, refer to "Vertical & Horizontal Clean-Out Door Operation" in the OPERATION section.
- ☐ Verify all safety decals are correctly located and legible. Replace if damaged.
- ☐ Verify all reflective decals are correctly located.
- ☐ Check SMV decal and SIS decals are in place, clean and visible.
- ☐ Verify transport lights are working properly.
- ☐ Verify PTO length, see "Verify Telescoping PTO Shaft Length" in MAINTENANCE section.
- ☐ Align and properly tension belts/chains. See "Belt Tightener Adjustment" and "V-Belt Alignment" in MAINTENANCE section.
- ☐ Ensure safety screens over horizontal auger are in place and properly secured.
- ☐ Install transport chains and torque hardware to specification. See "Transport Chain Connection" in OPERATION section.
- ☐ Paint all parts scratched in shipment.
- ☐ Test run the augers. See "Auger Operation" in OPERATION section.

Basic Cart Set Up

⚠ WARNING

- **TO PREVENT PERSONAL INJURY OR DEATH, ALWAYS ENSURE THAT THERE ARE PEOPLE WHO REMAIN OUTSIDE THE CART TO ASSIST THE PERSON WORKING INSIDE AND THAT ALL SAFE WORKPLACE PRACTICES ARE FOLLOWED. THERE IS RESTRICTED MOBILITY AND LIMITED EXIT PATHS WHEN WORKING INSIDE THE IMPLEMENT.**
- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**
- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.**
- **HYDRAULIC SYSTEM MUST BE PURGED OF AIR BEFORE OPERATING TO PREVENT SERIOUS INJURY OR DEATH.**
- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.**
- **UNHITCHING A LOADED CART CAN CAUSE SERIOUS INJURY OR DEATH DUE TO THE TONGUE RISING OR FALLING. ALWAYS HAVE A LOADED CART ATTACHED TO A TRACTOR. THE JACK IS INTENDED TO SUPPORT AN EMPTY CART ONLY.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 200 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

Basic Cart Set Up (continued)

Due to shipping requirements and various dealer-installed options, some initial cart setup will be required after it arrives from the factory. Use the following procedures as needed for initial cart setup.

Hydraulic System

Check all hoses and cylinders for signs of leakage. Hoses should not be kinked, twisted or rubbing against sharp edges. Re-route or repair hoses as necessary. Refer to SAFETY section for additional information on safe repair and inspection of hydraulic components.

Wheel/Tire Set Up

Tire Pressure

Tire pressure must be verified before first use and adjusted as necessary. Refer to MAINTENANCE section of this manual for information on tire pressure.

Wheel Nuts

⚠ CAUTION

- **IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. WHEEL NUTS/BOLTS MUST BE CHECKED REGULARLY. SEE TORQUE PAGE IN THE "MAINTENANCE" SECTION FOR PROPER WHEEL NUT/BOLT SPECIFICATIONS. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

IMPORTANT

- *Installing wheels without the proper inset/offset could result in hub or spindle failure. This will cause substantial damage to cart and is not covered by warranty. Inset/offset will vary depending on tire size. Consult dealer for proper inset/offset.*

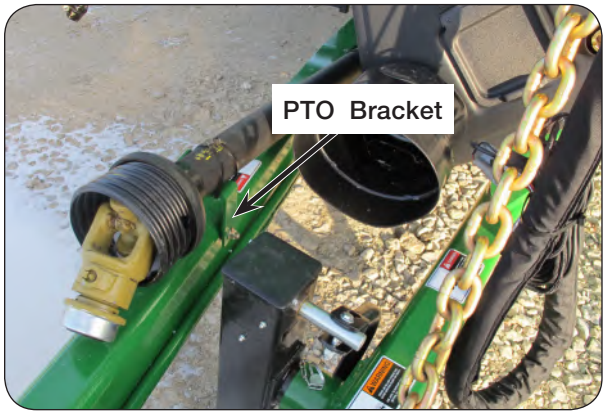
Basic Set Up (continued)

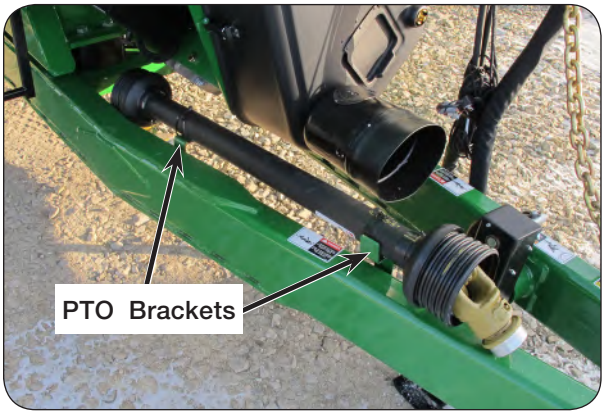
PTO Brackets Removal

Remove the PTO assembly and PTO brackets on the tongue, before operating the auger tilt or when connecting the driveline assembly to the tractor. Keep PTO brackets for seasonal storage. Refer to "Seasonal Storage" in MAINTENANCE section.

IMPORTANT

- *PTO assembly and PTO brackets must be removed before operating the auger tilt or when connecting the driveline assembly to the tractor. Failure to remove PTO assembly and PTO brackets will result in damage to the PTO assembly, tongue, auger and tractor.*

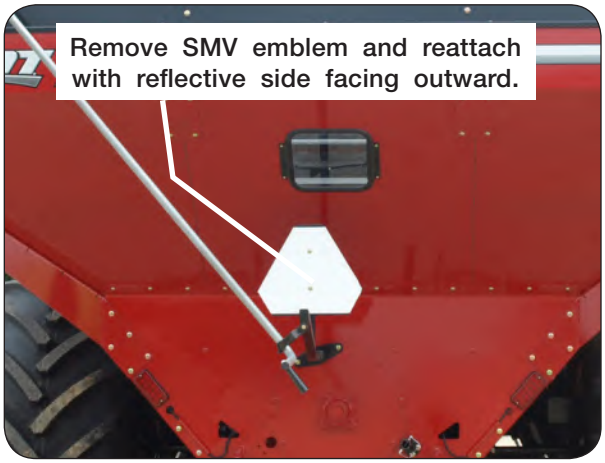




SMV Emblem & SIS Decal

The reflective surface of the SMV must face rearward. This may require removal of film protecting the reflective surface or removing and reinstallation of the SMV.

When reinstalling the SMV make sure that it is mounted with the wide part of the SMV at the bottom.



For the SIS decals (one on the front and one on the rear of the cart) make sure both decals are clean and visible.

Video System (Optional)

The video system includes its own installation instruction sheet. Reference the provided instruction sheet.

Basic Set Up (continued)

Driveline Set Up

Clean and grease the Implement Gearbox splined shaft. Gearbox shaft guard has access doors for installing and removing of driveline.

⚠ DANGER

- **ENTANGLEMENT WITH THE DRIVELINE WILL CAUSE SERIOUS INJURY OR DEATH. KEEP ALL GUARDS AND SHIELDS IN GOOD CONDITION AND PROPERLY INSTALLED AT ALL TIMES. AVOID PERSONAL ATTIRE SUCH AS LOOSE FITTING CLOTHING, SHOE STRINGS, DRAWSTRINGS, PANTS CUFFS, LONG HAIR, ETC. THAT CAN BECOME ENTANGLED IN A ROTATING DRIVELINE.**

Coupling The Cut-Out Clutch

Engage PTO drive shaft onto implement PTO shaft until retaining groove of implement PTO shaft aligns with clamping cone hole. Insert clamping cone into threaded hole, hand tighten. Torque cone to 75 ft.-lb. (Fig. 2-1)

NOTE: See MAINTENANCE section - PTO Quick Disconnect - for disassembly instructions.

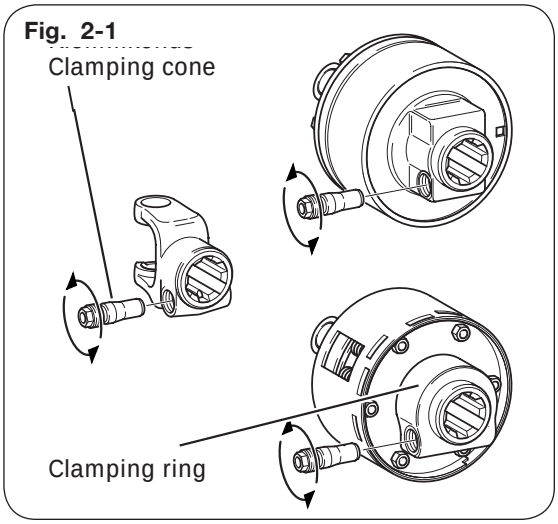


Fig. 2-1

Basic Cart Set Up (continued)

Upper Ladder Extension to Operating Position

⚠ WARNING

- **FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RAISING, OR LOWERING.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **DO NOT ALLOW ANYONE TO RIDE ON THE LADDER. MAKE SURE EVERYONE IS CLEAR BEFORE OPERATING MACHINE OR TOWING VEHICLE.**
- **TO PREVENT PERSONAL INJURY OR DEATH, ALWAYS ENSURE THAT THERE ARE PEOPLE WHO REMAIN OUTSIDE THE CART TO ASSIST THE PERSON WORKING INSIDE, AND THAT ALL SAFE WORKPLACE PRACTICES ARE FOLLOWED. THERE IS RESTRICTED MOBILITY AND LIMITED EXIT PATHS WHEN WORKING INSIDE THE IMPLEMENT.**
- **NEVER ENTER A CART CONTAINING GRAIN. FLOWING GRAIN TRAPS AND SUFFOCATES VICTIMS IN SECONDS.**

NOTE: Ensure ladder and steps are free from snow/debris before changing ladder positions and climbing.

NOTE: To change ladder assembly positions, refer to “Ladder Operation” in the OPERATION section.

1. Move the upper ladder extension (289707B) from shipping position by removing the 5/16”-18UNC x 3/4” carriage bolts (9388-024), 5/16” flat washers (9405-064) and 5/16”-18UNC lock nuts (9008441). Keep hardware for next step. (FIG. 2-2)

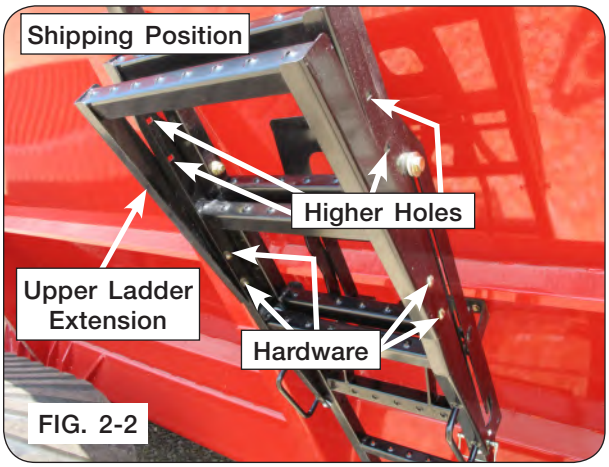


FIG. 2-2

2. Using hardware from step 1, attach upper ladder extension to the higher set of holes to be in operating position. (FIG. 2-2 & FIG. 2-3)
3. Torque hardware to 17 ft.-lbs.

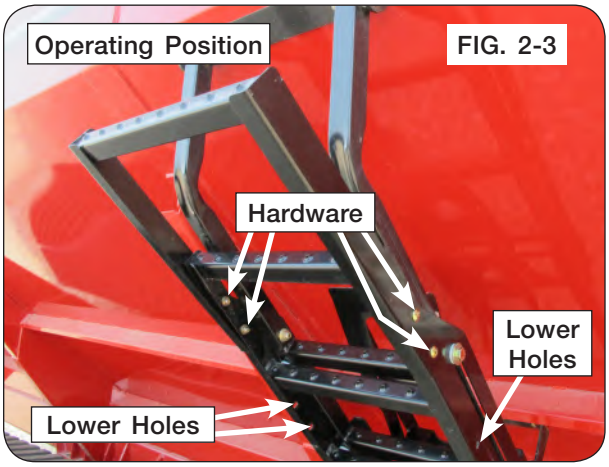


FIG. 2-3

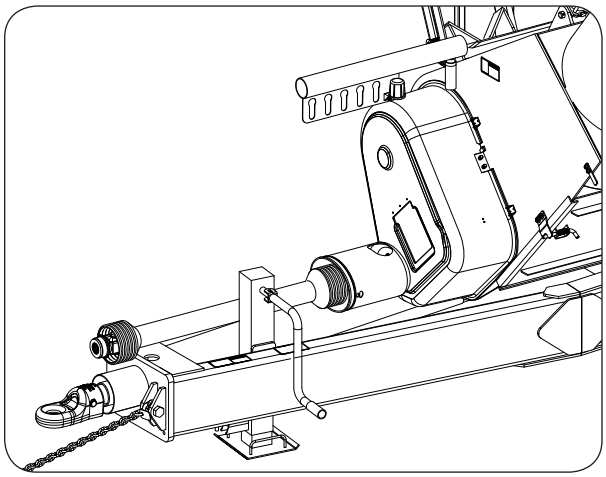
Basic Cart Set Up (continued)

Jack

WARNING

- **UNHITCHING A LOADED CART CAN CAUSE SERIOUS INJURY OR DEATH DUE TO TONGUE RISING OR FALLING. ALWAYS HAVE A LOADED CART ATTACHED TO A TRACTOR. THE JACK IS INTENDED TO SUPPORT AN EMPTY CART ONLY.**

Attach jack to left-inside frame using pin and hair pin. Pivot the jack 90 degrees and reinstall pin for field use.



Optional Hydraulic Jack

1. Assemble hoses (9006068) and fittings to cylinder (9006422) as shown in figure 2-4. The valve needs to be assembled to the hose on the base end of the cylinder. Assemble the fittings on the cylinder so they face each other, then store the hydraulic hoses on the hose caddy.

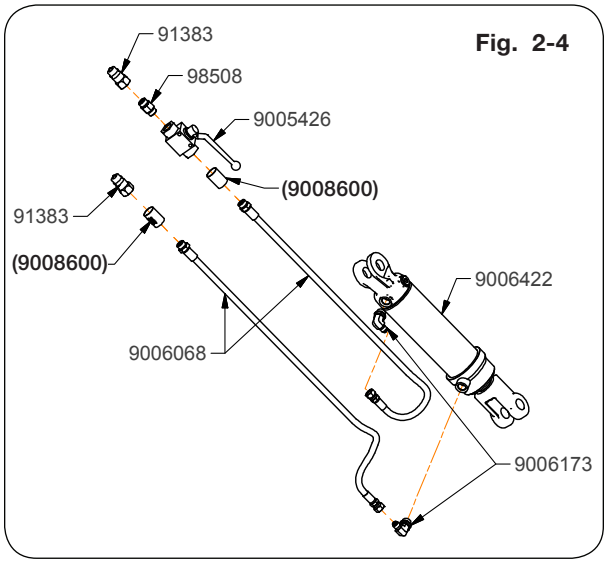


Fig. 2-4

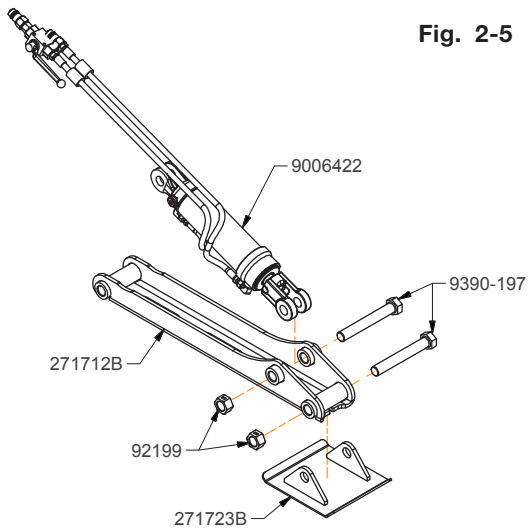
Basic Cart Set Up (continued)

Optional Hydraulic Jack (continued)

2. Assemble the cylinder (9006422) and jack foot (271723B) to the jack weldment (271712B) as shown in figure 2-5 using capscrew (9390-197) and locknut (92199).

3. Torque hardware to 25 ft.-lbs.

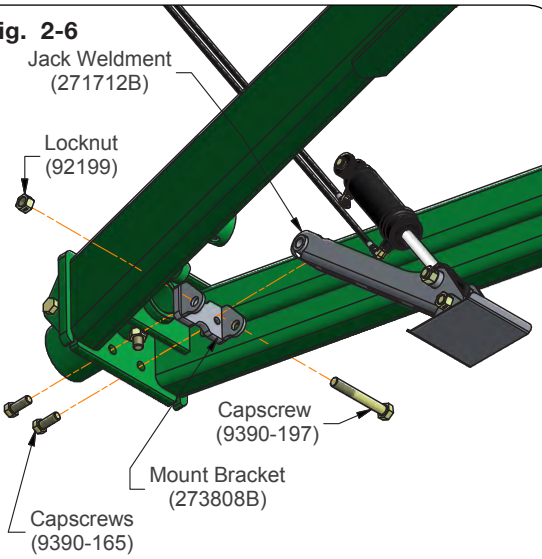
Fig. 2-5



4. Mounting bracket (273808B) must be attached to the jack weldment (271712B) using 1”-8UNC x 7” capscrew (9390-197) and 1”-8UNC locknut (92199), before mounting to the tongue of the cart. Then attach the mounting bracket (273808B) to the back side of the front hitch plate with two 7/8”-9UNC x 2 1/4” capscrews (9390-165). See figure 2-6.

5. Torque hardware to 25 ft.-lbs.

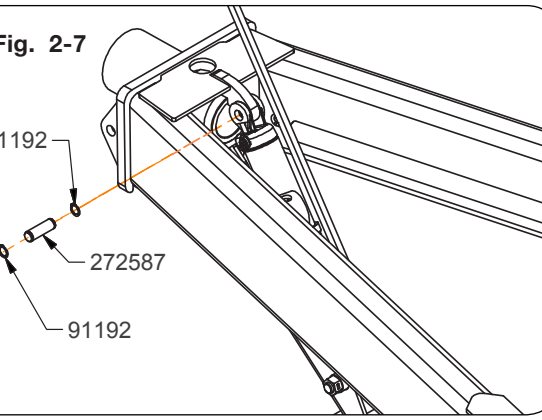
Fig. 2-6



6. Line up the base end of the cylinder with the lug on the top of the tongue and assemble the cylinder pin (272587) and snap rings (91192) shown in figure 2-7.

7. Cycle the hydraulic cylinder several times to ensure that the air is purged from the cylinder.

Fig. 2-7



Basic Cart Set Up (continued)

Horizontal Cleanout Door Inspection

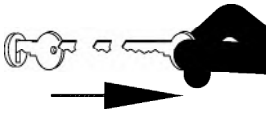
⚠ WARNING

- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEANOUT DOORS ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.**

NOTE: For cleanout door assembly operation, refer to "Vertical & Horizontal Cleanout Door Operation" in the OPERATION section.

NOTE: This procedure is a **two-person** process. One person operates the tensioner handle while the second person inspects the horizontal cleanout doors.

1. Park the unit on a firm, level surface. Block the wheels/tracks on the machine to keep the unit from moving. Set the vehicle parking brake, shut off the engine and remove the ignition key.



2. Use the tensioner handle, located on the left-hand side of the grain cart, behind the first panel to open and close the horizontal cleanout doors.

3. Insert tensioner handle into cleanout door receiver coupler on the rear panel, and remove lynch pin from rockshaft. Keep lynch pin.

4. Rotate tensioner handle clockwise to open the doors. (Fig. 2-8 & 2-9)

5. Clean the door area of debris that may prevent the door from shutting completely. (Fig. 2-8 & 2-9)

6. Inspect the cleanout door and rockshaft for loose hardware. Do not torque hardware. (Fig. 2-8 & 2-9)

(Continued on next page.)

Fig. 2-8 Horizontal Cleanout Doors Open

Fig. 2-9 Left-Hand View

Basic Cart Set Up (continued)

Horizontal Cleanout Door Inspection

7. If plate insert needs adjustment, loosen the two flat head machine screws holding the plate in position. (Fig. 2-10)

8. Ensure the plate inserts are aligned and fit into the belly pan cut-outs. (Fig. 2-10)

NOTE: As the tensioner handle is rotated counter-clockwise near the end of the close position, the coiled springs will extend to apply pressure to cleanout doors. If the doors do not close or visual door perimeter gaps are present, adjust the front to rear rockshaft starting at step 9. If doors close, go to step 13.

9. Loosen all the hardware in the slotted brackets connecting the cleanout door rockshaft to the grain cart tube. (Fig. 2-11)

10. Starting at the front of the cart, using a jack, push the rockshaft up and toward the runner tube. (Fig. 2-11)

NOTE: Ideal distance between the runner tube and rockshaft is 3 1/4".

11. When the rockshaft is in position, torque the hardware previously loosened to 28 ft.-lbs.

12. Continue repositioning the rockshaft moving toward the back of the cart.

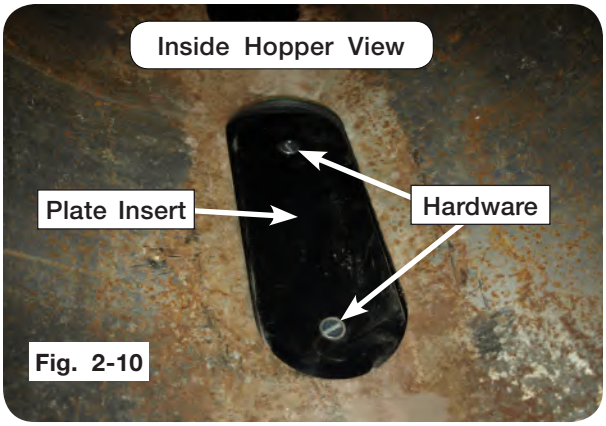


Fig. 2-10

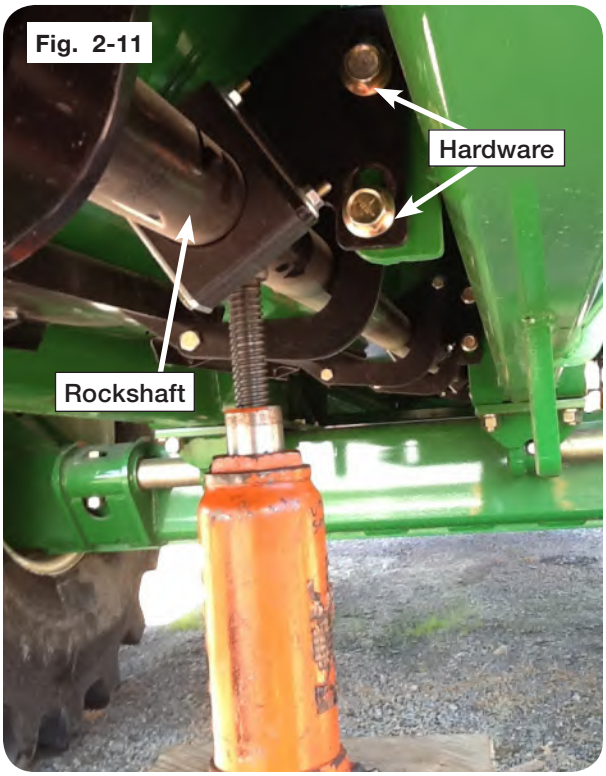


Fig. 2-11

Basic Cart Set Up (continued)

Horizontal Cleanout Door Inspection

13. Rotate the tensioner handle counter-clockwise to close the doors allowing the plate to fit and seal into the belly pan opening. (Fig. 2-12 & 2-13)

14. Open the doors and torque plate hardware to 17 ft.-lbs. (Fig. 2-13)

15. Close the doors and ensure all doors seal. (Fig. 2-13)

16. Insert lynch pin into rockshaft and return handle to storage location.

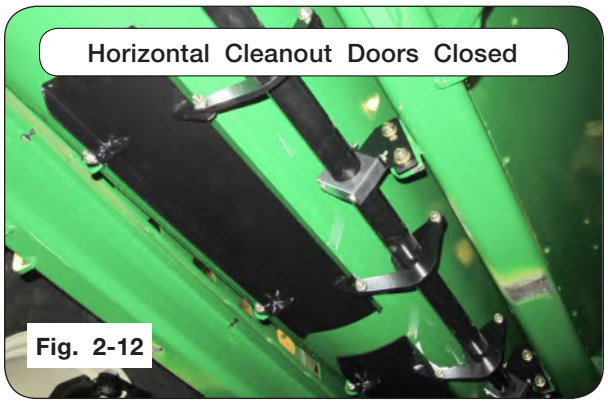


Fig. 2-12

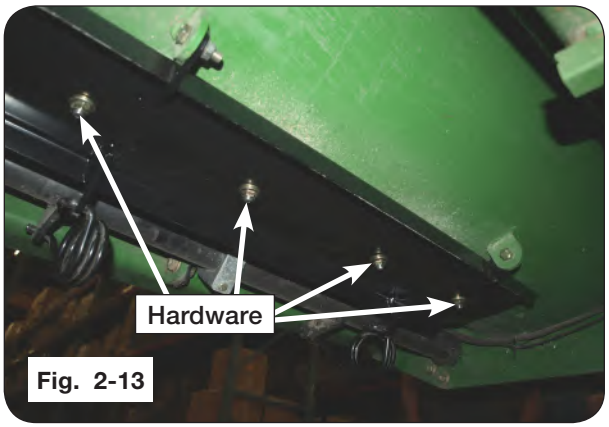


Fig. 2-13

Basic Set Up (continued)

Steering Tandem Switch Box Connection

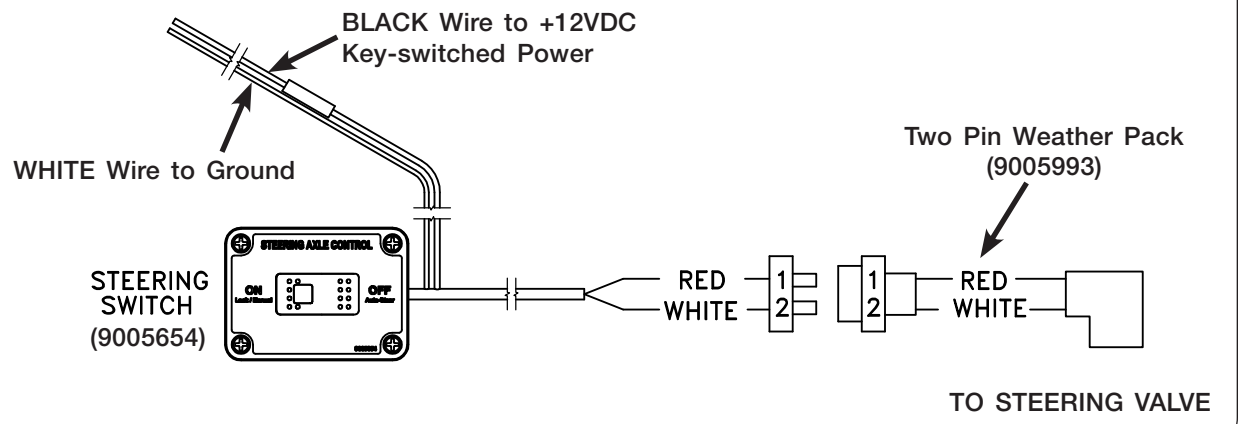
Connect the steering tandem "ON/OFF" switch box to the two pin weather pack connector located just behind grain cart 7-pin male receptacle. (Fig. 2-14)

NOTE: If a two pin extension is needed for the two pin weather pack, see "Electrical Components" in the PARTS section of manual.

Route switch and harness into tractor cab. From the switch box harness, connect the WHITE wire to ground and BLACK wire to +12VDC key-switched power source inside the tractor cab. Ensure "ON/OFF switch is "ON". (Fig. 2-14)

Fig. 2-14

NOTE: Consult the tractor's operators manual for proper connection to the auxiliary power outlet in the tractor cab.



Basic Cart Set Up (continued)

Steering Tandem Set Up

The unit may have been shipped with axle suspension lowered to decrease shipping height. The unit will need to have hydraulic fluid added to raise the unit to operating height. Measure suspension to set cart height. If using tractor for filling or removing fluid from the suspension, always monitor supply fluid level before, at intervals during and after the procedure. Only adjust or service suspension system with empty cart.

Axle Suspension System Set Up

IMPORTANT

- *The following procedure is only to be performed when the cart is empty.*

1. With cart on a level surface, secure tongue by hooking to tractor or by securing to the floor.
2. Make sure the auger is folded in the transport position and the grain cart is empty.
3. Attach the tensioner hose assembly to the tractor couplers. Next, attach the single end to the valve on top of the left hand front suspension cylinder. (Fig. 2-15)
4. Open valve atop of the front suspension cylinders. (Fig. 2-15)

NOTE: Handle 90° to valve is closed.

5. Use the tractor valve to raise the left front and left rear cylinders. Cycle through to remove air out of the system.
6. Adjust stroke until the average distance between the front and back cylinders is 7 9/16 inches. Measuring from gland of cylinder body to rod end plate edge. (Fig. 2-16)
7. Close valve on left, front cylinder by turning the handle 90° to the valve.
8. Move single end of hose assembly from left front cylinder valve to right front cylinder valve.
9. Repeat steps 4 through 7 for right side of axle suspension.

Fig. 2-15

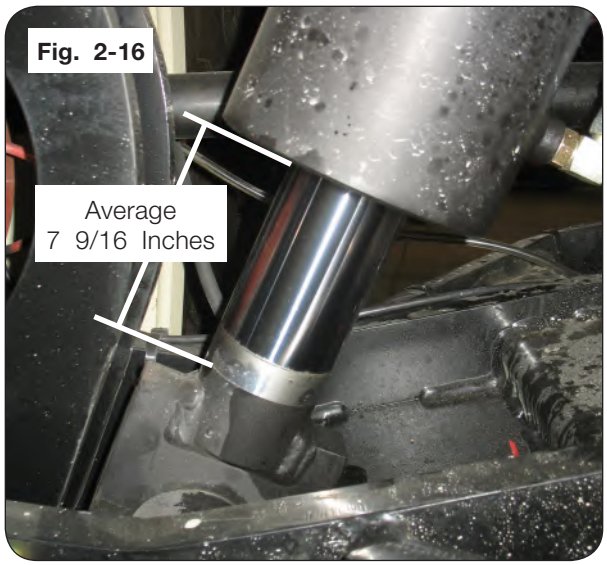


Fig. 2-16

Basic Cart Set Up (continued)

Belt Engagement

⚠ WARNING

- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOORS ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.**

The unit is shipped without the tension applied to the belts. To engage the tensioner, use the belt tensioner handle located on the left-hand side of the grain cart, behind the first panel. Verify the belts are correctly aligned and are seated in both sheaves. If belt hangs over edge of sheave, detention idler, adjust and retention idler. (Fig. 2-17 and 2-18)

NOTE: See MAINTENANCE section - V-Belt Alignment - for more details.

Fig. 2-17

Fig. 2-18

Basic Set Up (continued)

Operational Check

WARNING

- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.**

IMPORTANT

- Before running the auger pivot, the vertical auger clean-out door must be closed to prevent machine damage.

Once set-up has been completed, run the cart to check for operation and functionality:

1. Lights - Work, Turn, Brake
2. Flow Door
3. Flow Door Indicator
4. Auger Fold
5. Auger Pivot
6. Spout Rotate & Pivot (if applicable)
7. Auger Startup & Shut-down
8. Steering (if applicable)
9. Brakes (if applicable)

Fig. 2-19

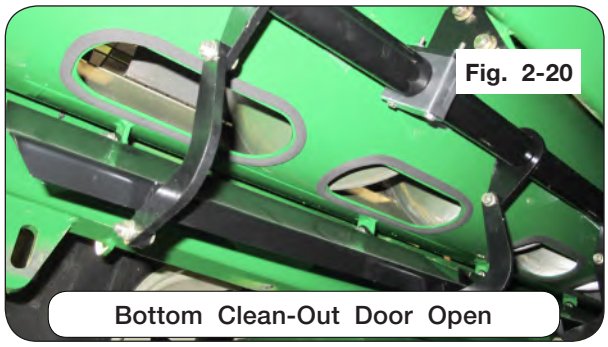


Fig. 2-20

Fig. 2-21

Section III
Operation

FOR SCALE INFORMATION, PLEASE REFER TO YOUR SCALE MANUAL.
FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.
FOR UHARVEST INFORMATION, PLEASE REFER TO YOUR UHARVEST MANUAL.
FOR ELECTRIC TARP INFORMATION, PLEASE REFER TO YOUR ELECTRIC TARP MANUAL.
FOR WATER DELIVERY SYSTEM INFORMATION, PLEASE REFER TO YOUR WATER DELIVERY SYSTEM MANUAL.

Operating Checklist

- ❑ Read and understand all safety precautions before operating cart.
- ❑ R.V. antifreeze needs to be completely flushed from the Water Delivery System and disposed of properly. Make certain the Water Delivery System only contains water before placing the Water Delivery System in service. (If applicable)
- ❑ Set or Calibrate tractor PTO control engagement to MINIMUM setting. Refer to tractor operator's manual for setting information.
- ❑ Torque wheel nuts and check tire pressure as specified in MAINTENANCE section.
- ❑ Verify track has been aligned and is properly conditioned. (If applicable)
- ❑ Inflate tires to specified air pressure. (if applicable)
- ❑ Lubricate all grease fittings and check gearbox oil level.
- ❑ Inspect cleanout door assembly for play or movement, refer to "Vertical & Horizontal Clean-Out Door Operation" in the OPERATION section.
- ❑ Test operation and functionality of flow door indicator, auger fold, auger pivot, spout rotate, and spout tilt.
- ❑ Verify all reflective decals are correctly located.
- ❑ Check SMV sign and SIS decals are clearly visible with the cart attached to the tractor.
- ❑ Verify transport lights are working properly. Check and follow all regulations before towing on a road or highway.
- ❑ Verify that hitch height and length when attached to the tractor are sufficient to prevent severe bends in PTO U-joint angles.
- ❑ Verify PTO length, see "Verify Telescoping PTO Shaft Length" in MAINTENANCE section.
- ❑ Align and properly tension belts/chains. See "Belt Tightener Adjustment" and "V-Belt Alignment" in MAINTENANCE section.
- ❑ Ensure safety screens over horizontal auger are in place and properly secured.
- ❑ Install transport chains and torque hardware to specification. See "Transport Chain Connection" in OPERATION section.
- ❑ Test run the augers. See "Auger Operation" in OPERATION section.

Preparing Tractor

Before operating cart, read the tractor Operator's Manual and gain an understanding of its safe methods of operation.

Check the tractor brakes and transport lights. Make sure they are in proper working order.

On carts equipped with optional hydraulic brake system, make sure the tractor is equipped with the components necessary for operating the cart's hydraulic brakes. Consult your tractors Operator's Manual or your tractor dealer for the appropriate brake control system.

Check if the tractor has multiple PTO engagement modulation settings and has the latest PTO engagement software from the OEM. If unsure, contact your local dealer for tractor capabilities and recommended setting for grain cart operation.

Check the tractor hydraulic oil reservoir and add oil if needed.

Verify that the tractor is adequately ballasted for drawbar operation at the anticipated draft load. See tractor manual for ballasting instructions.

If possible, adjust the tractor drawbar vertically so the topside of the drawbar is approximately 17-22 inches from the ground. Ensure that the drawbar is locked in the center position.

Preparing Tractor (continued)

NOTE: The grain cart hitch and tractor drawbar must be of the same Category. The cart comes standard with a Category 5 hitch. A Category 4 tongue is available. Contact your dealer for a CAT 4 tongue if required. Check that the drawbar is in the required 20" position and will adequately support loads.

⚠ CAUTION

- **USE OF NON-MATCHING CATEGORY HITCH AND TRACTOR DRAWBAR CONNECTION WILL RESULT IN POOR HITCH PERFORMANCE AS WELL AS DAMAGE TO TRACTOR, IMPLEMENT OR BOTH.**

Hitch pin sizes for each Category to help identify which Category drawbar you have.

Category 4 1-3/4" Dia. (50 mm)
Category 5 2-3/4 Dia. (70 mm)

On tractors equipped with a 3-point hitch, raise and secure the linkage to prevent interference with the cart tongue, hydraulic hoses and the hydraulic drive option during turning. It may be necessary to remove tractor 3-point quick attach to avoid damage during turning.

Preparing Cart

Perform the service checks below. Repair or replace any damaged or worn parts before operating.

Hardware

Check for loose bolts and nuts, and tighten as needed. Check again after the first half-day of operation.

Pivot Pins

Check that all pins are in place and in good condition. Replace any worn, damaged or missing pins.

Hitch

Check hitch wear plates for damage and wear. Be aware of the size of hitch adapter bushing that is being used. Select correct size for the hitch pin/draw bar you are using.

Auger

Inspect auger for damage and wear.

(Continued on next page)

Preparing Cart (continued)

Hydraulic System

Check all hoses and cylinders for signs of leakage. Hoses should not be kinked, twisted or rubbing against sharp edges. Re-route or repair hoses as necessary. Refer to SAFETY section for additional information on safe repair and inspection of hydraulic components.

Optional Hydraulic Brake System

On carts equipped with the optional hydraulic brake system, ensure hose is properly connected to the tractor's hydraulic trailer brake coupler. Consult your tractors Operator's Manual or your tractor dealer for more information.

Tires/Wheels

Check tire pressures and maintain at recommended values listed in the MAINTENANCE section of this manual.

⚠ CAUTION

- **IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. WHEEL NUTS/BOLTS MUST BE CHECKED REGULARLY. SEE TORQUE PAGE IN THE "MAINTENANCE" SECTION FOR PROPER WHEEL NUT/BOLT SPECIFICATIONS. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

IMPORTANT

- *Installing wheels without the proper inset/offset could result in hub or spindle failure. This will cause substantial damage to cart and is not covered by warranty. Inset/offset will vary depending on tire size. Consult dealer for proper inset/offset.*

For questions regarding new tire warranty, please contact your local original equipment tire dealer. **USED TIRES CARRY NO WARRANTY.** Tire manufacturers' phone numbers and web sites are listed in the MAINTENANCE section of this manual for your convenience.

Lubrication

Lubricate the cart as outlined in the MAINTENANCE section of this manual.

Video System (Optional)

IMPORTANT

- *Do not operate video system below 15°F. Damage to video system can occur.*

The video system includes its own operation instruction sheet.

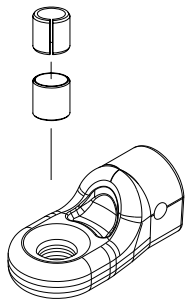
Hitching to Tractor

Drawbar Connection

This cart is intended to be hitched to a tractor drawbar. Do not attempt to hitch to any other location on the tractor other than the drawbar.

The cart comes with a CAT 4 hitch for use with a 1 1/2" pin and designed for a clevis-type tractor drawbar. If a 1 1/2" or 1 3/4" diameter hitch pin is used, a corresponding bushing must be inserted into the hitch tang and held in place with o-rings. If a bushing is already in the hitch, use a punch and hammer to remove and replace with the correctly sized bushing. (Figure 3-1)

FIG. 3-1



NOTE: Use of the proper hitch pin/bushing will prevent excessive wear and tear on both the cart and tractor.

NOTE: Bushings and o-rings are stored in the toolbox on the right-hand side of the cart.

Lock tractor drawbar in center position.

Set tractor drawbar length to 20" from the end of the tractor PTO shaft to center of hitch tang pinhole.

⚠ WARNING

- **DO NOT STAND BETWEEN TOWING VEHICLE AND IMPLEMENT WHEN HITCHING. ALWAYS ENGAGE PARKING BRAKE AND STOP ENGINE BEFORE INSERTING HITCH PIN OR SECURING LATCHES.**

Place wear shoe (281663-CAT 3; 281898-CAT 4; 281899-CAT 5) between tractor hitch and grain cart hitch. (Figure 3-2)

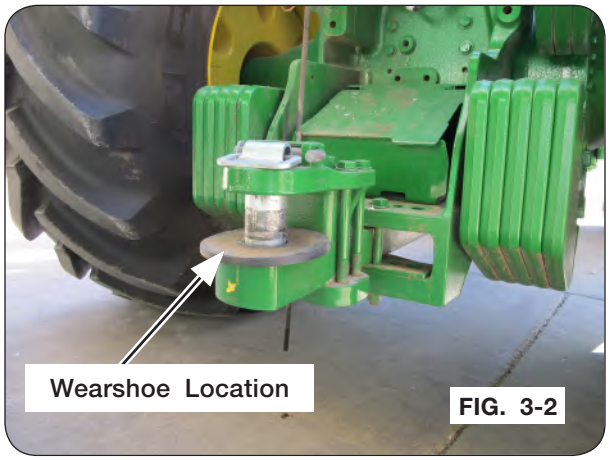


FIG. 3-2

After inserting drawbar pin, secure drawbar pin with a locking device to prevent uncoupling during use.

NOTE: Hitch tang can be flipped providing a drawbar connection height difference of 2 7/8" (Figure 3-3). Position the hitch tang to help assure a level cart when loaded, or the rear of the hopper slightly higher than the front, to maintain rear slope cleanout. Whenever the hitch tang is flipped, the driveline clearances need to be reviewed.

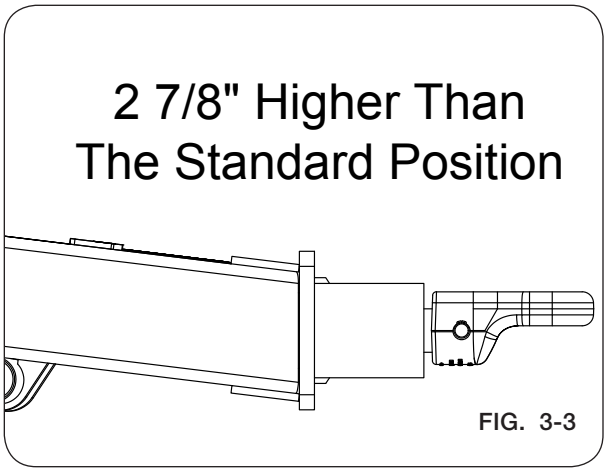


FIG. 3-3

Hitching to Tractor (continued)

WARNING

- **UNHITCHING A LOADED CART CAN CAUSE SERIOUS INJURY OR DEATH DUE TO TONGUE RISING OR FALLING. ALWAYS HAVE A LOADED CART ATTACHED TO A TRACTOR. THE JACK IS INTENDED TO SUPPORT AN EMPTY CART ONLY.**

Jack Usage

Use jack to support an empty grain cart, never a loaded grain cart. Always have a loaded grain cart hooked to tractor. Attach jack to left inside frame using pin and hair pin. Pivot the jack 90 degrees and reinstall pin for field use. (Fig. 3-4)

IMPORTANT

- *After cart is hitched to tractor, pivot jack to storage location. (Fig. 3-4 and 3-5)*

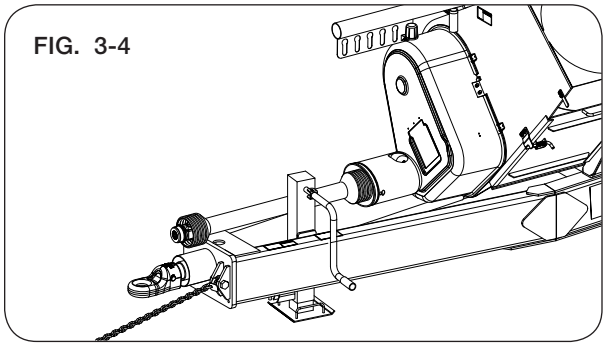


FIG. 3-4

FIG. 3-5

Hitching to Tractor (continued)

Optional Hydraulic Jack Usage

WARNING

- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**

IMPORTANT

- *After cart is hitched to tractor, attach hydraulic hoses to tractor and retract hydraulic cylinder to store hydraulic jack between the frame rails.*

Use hydraulic jack to support an empty grain cart, never a loaded grain cart. Always have a loaded grain cart hooked to tractor.

Always close the manual valve for the hydraulic jack for in-field use and when unhitched from the tractor.

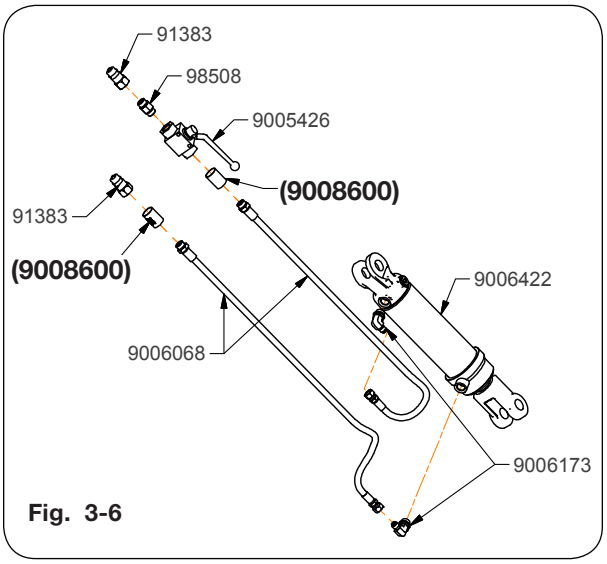


Fig. 3-6

1. Remove hoses from storage slots.
2. Attach jack cylinder hose couplers to tractor.
3. Open valve to allow hydraulic flow.
4. Use tractor hydraulic valve to extend cylinder and lift tongue.
5. Once attached to tractor drawbar, retract cylinder to lower tongue and to raise jack into storage position.
6. Close valve and then disconnect hose couplers from tractor.
7. Place hose couplers into storage caddy. Be sure to route hoses to clear PTO driveline during operation.
8. Check for leaks.

Hitching to Tractor (continued)

Transport Chain Connection

⚠ CAUTION

- **ALWAYS USE TRANSPORT CHAIN WHEN TRANSPORTING IMPLEMENTS. FAILURE TO USE A TRANSPORT CHAIN COULD CAUSE PERSONAL INJURY IF CART BECOMES DISENGAGED.**
- **REPLACE TRANSPORT CHAIN IF ANY LINK OR END FITTING IS BROKEN, STRETCHED OR DAMAGED. DO NOT WELD TRANSPORT CHAIN.**

Tractor must be equipped with a transport chain support. Always use intermediate support when connecting cart directly to a tractor. DO NOT use the intermediate chain support as the chain attaching point. Fig. 3-7 shows how the transport chain must be installed between cart and tractor.

The chain is rated for towing the grain cart empty on public roads. Never tow a loaded grain cart on public roads. Use only ASABE approved chains. Allow no more slack in chain than necessary to permit turning.

Fig. 3-7

Hitching to Tractor (continued)

Hydraulic Connections

Clean hydraulic hose couplers before connecting to the tractor. For convenience, this unit is equipped with color hose grips attached to the hydraulic hoses. This will help in identifying the hose function and correct hook up. (FIG. 3-8)

For steering tandem, attach hydraulic hoses labeled "TURN LEFT" and "TURN RIGHT" into tractor hydraulic remote. Connect hydraulic hose "TURN LEFT" to extend port, and "TURN RIGHT" to retract port.

Color	Function
Red	Flow Door Open and Close
Yellow	Spout Tilt In and Out
Tan	Joystick or Spout Rotate
Green	Auger Fold and Unfold
Blue	Auger Pivot Up and Down
Black	Jack Raise and Lower
Orange	Water Pump
Optional	Hydraulic Pressure and Return
Optional	Steering Tandem
Optional	Brakes

After initial set-up or replacement of any hydraulic component on the cart, air must be removed from the cart's hydraulic system. Reference "Hydraulic System - Purge Hydraulic System" section in the MAINTENANCE section.

Route hoses away from areas that may cause abrasion or kinking of hoses during operation.

(Continued on next page)

Hitching to Tractor (continued)

Hydraulic Connections

Before disconnecting hoses from tractor, place tractor in Park and shut PTO off, operate auger fold and tilt to the lowest positions. Where possible, remove hydraulic pressure loads and avoid potential pressure buildup in the lines from long storage periods such as upper auger not in rest position. If equipped with hydraulic jack, extend jack to desired position, turn valve to closed position. See tractor operator's manual for proper procedure to relieve pressure from the lines. After SCV pressures have been relieved and tractor engine is off, disconnect hoses from tractor. Install couplers into storage slots provided. (FIG. 3-8)

Fig. 3-8

Hitching to Tractor (continued)

Towing

Even if the cart is equipped with brakes, ensure that the towing vehicle has adequate weight and braking capacity to tow this implement. See the towing vehicle manual for towing capacity. Never tow a loaded grain cart over public roads.

IMPORTANT

- *To prevent damage to the cart brake system, manually release pressure from the cart hydraulic brakes if towing without a hydraulic brake equipped vehicle.*

Maximum speed of cart should never exceed 20 m.p.h. Do not exceed 10 m.p.h. during off-highway travel. Do not exceed 8 m.p.h. when cart is fully loaded.

Secure drawbar pin with a locking device and lock tractor drawbar in centered position.

The PTO drive shaft needs to be placed in the storage position on the tongue or properly attached to the tractor. See “Coupling The Cut-Out Clutch” in SET UP section and “PTO Shaft and Clutch” in MAINTENANCE section before connecting the PTO drive shaft to the tractor.

Secure transport chain to tractor chain support before towing.

Tractor is required to be equipped with rear port to connect the grain cart brake hose which allows the cart brakes to engage when tractor brake pedals are depressed. If tractor doesn’t have rear port, please contact your tractor dealer to purchase the OEM rear port option.

Verify brake operation/release before towing.

⚠ CAUTION

- **THE STANDARD TRANSPORT CHAIN PROVIDED IS FOR THE BASIC CART WHEN TOWED EMPTY FOR ROAD TRAVEL.**

Regulate speed to road conditions and maintain complete control.

It is probable that this cart is taller, wider and longer than the towing tractor. Become aware of and avoid all obstacles and hazards in the travel path of the equipment, such as power lines, ditches, etc.

Slow down before making sharp turns to avoid tipping. Drive slowly over rough ground and side slopes.

Always have auger folded back into storage position when auger is not in use. (Fig. 3-9)

FIG. 3-9 Transport Position Shown

Hitching to Tractor (continued)

Electrical Connections

This cart is equipped with a seven-pin SAE connector plug which will connect with the receptacle found on most newer tractors. If your tractor does not have this type of receptacle, an SAE J-560 seven-point socket can be purchased from your ~~Unverferth~~ dealer (Part number 92824).

NOTE: 7-pin connector must be plugged into the tractor in order for the spout system to operate.

The wiring schematic for this cart, shown in the MAINTENANCE section, complies with ASABE Standards. Always verify correct electrical function before using this cart.

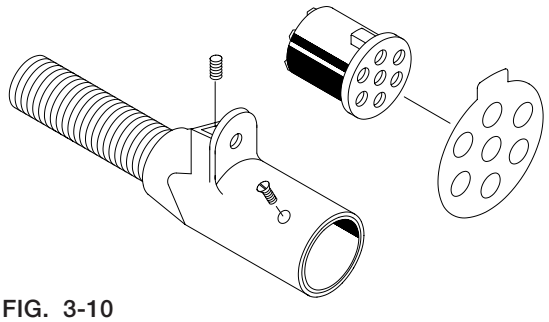


FIG. 3-10

This unit is equipped with Side Marker lights for enhanced visibility. These lights will have different functionality depending upon the tractor lighting selection.

If the tractor field lights switch is on; the Side Marker lights and the amber turn signal lights are on solid and will not flash.

If the flashers and/or turn signal is on; the Side Marker lights flash in unison with their respective side's amber turn lamp.

Compliance with all lighting and marking laws is the responsibility of the operator at the time of travel.

See federal regulation 49 CFR 562; available at www.govinfo.gov for US federal law requirements.

See your Unverferth dealer for additional brackets, reflectors, or lights to meet your requirements.

Optional Implement Brake Connection

Connector should comply with ISO:5676 standards. Brake hydraulic hose is designated with blue color band. See tractor's operators manual for connection location.

Optional Electric Over Hydraulic Operation 5 Function

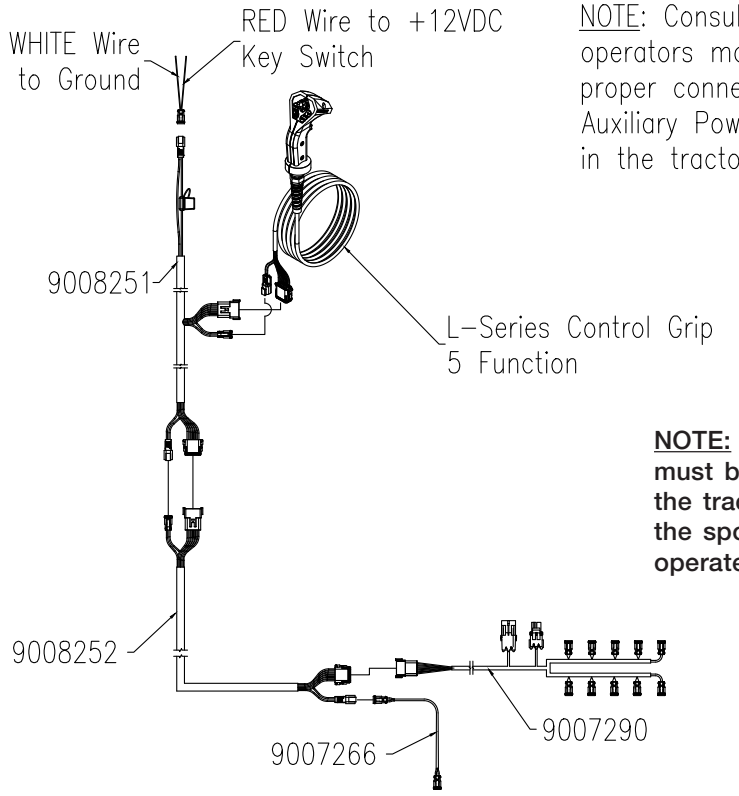
Before operating cart, familarize yourself with the functions associated with the joystick controller by operating with an empty cart.

The joystick comes with a mounting pin allowing storage inside the tractor cab when not in use.

1. Connect the red wire from power harness (9008251) to a key-switched +12VDC power supply. (Fig. 3-11)

2. Connect the white wire from power harness (9008251) to ground. (Fig. 3-11)

FIG. 3-11



Optional Electric Over Hydraulic Operation 5 Function (continued)

3. Connect the Hydraulic Pressure and Return hoses to the tractor SCV remote so that the Pressure line is able to be put in continuous detent.

4. Place the remote in continuous detent so that the Hydraulic Pressure hose is pressurized and set the hydraulic flow to a maximum 6 gal/min to minimum 4 gal/min.

5. To fold auger out from transport to operating position, push down the auger unfold button on joystick face until the upper and lower auger are engaged and fold linkage is over center. See Fig. 3-12.

NOTE: Joystick has a double tap feature, which allows the operator to quickly double tap a function in order to operate it for a set time. If the auger fold or auger unfold buttons are double tapped, the function will stay on for 60 seconds to complete the full cycle without holding the buttons down. Pressing either of those buttons during these timed cycles will CANCEL the cycle. This double tap feature only applies to auger fold and unfold functions.

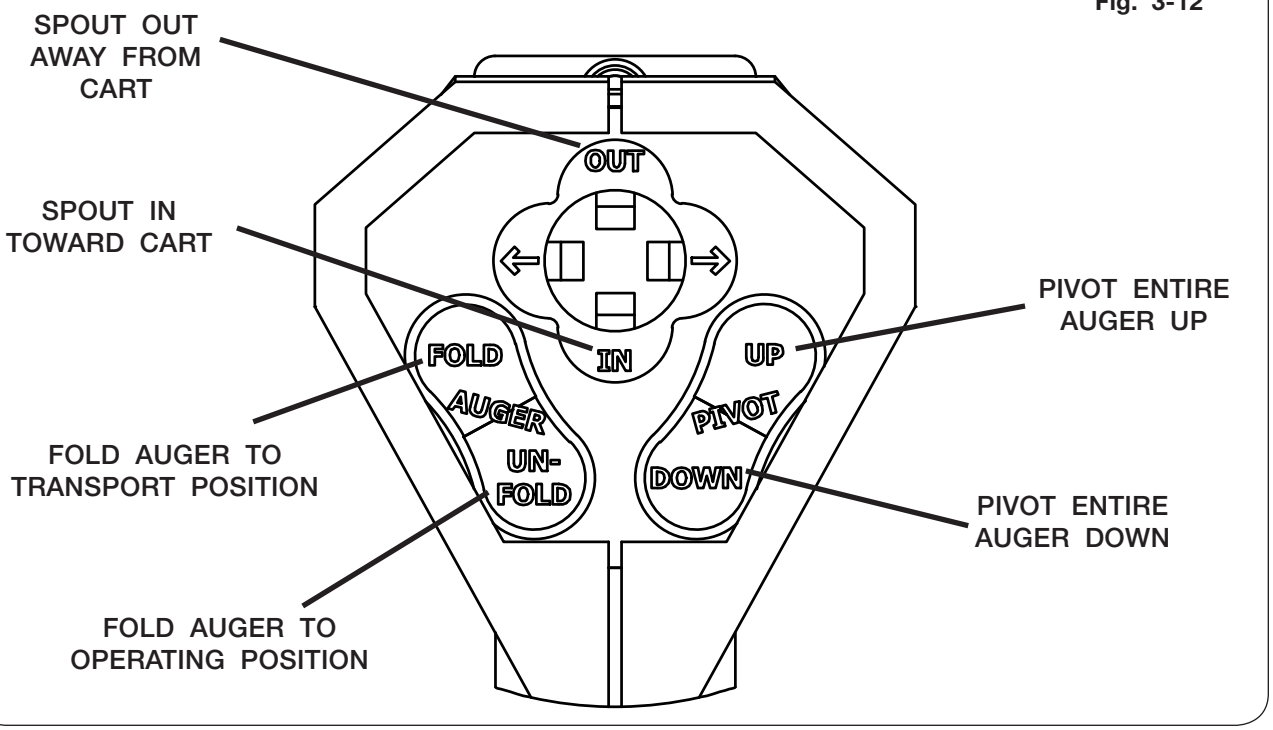
6. To pivot spout OUT away from cart, push hat switch toward OUT. Hold the switch until desired position is achieved. See Fig. 3-12.

7. To pivot spout IN toward cart, push hat switch toward IN. Hold the switch until desired position is achieved. See Fig. 3-12.

8. To pivot the entire auger UP, press and hold the auger pivot UP button until the desired height is achieved. See Fig. 3-12.

9. To pivot the entire auger DOWN, press and hold the auger pivot DOWN button until the desired height is achieved. See Fig. 3-12.

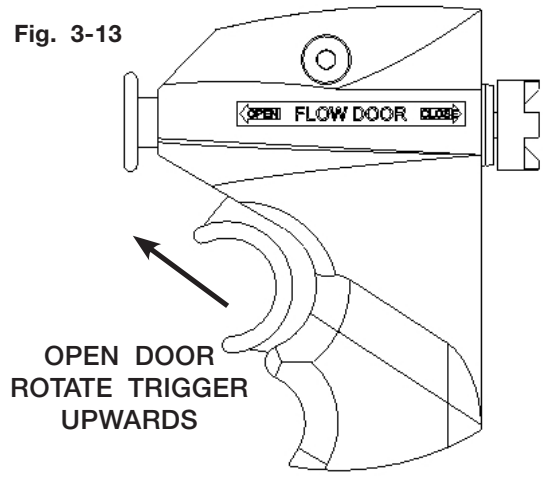
Fig. 3-12



Optional Electric Over Hydraulic Operation 5 Function (continued)

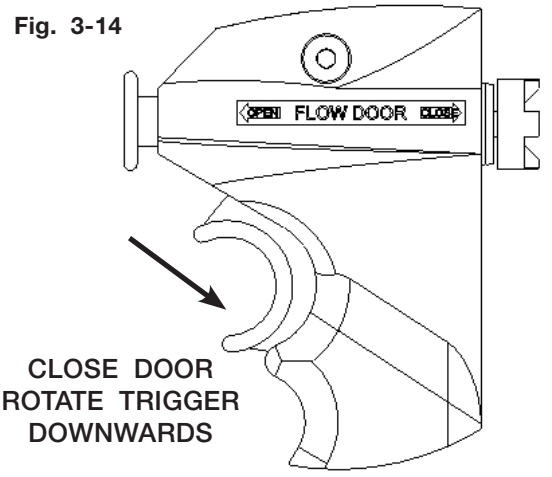
10. To open flow door, rotate the switch upwards. Observe flow door indicator to determine when to release trigger and stop flow door movement. See Fig. 3-13.

Fig. 3-13



11. To close flow door, rotate the switch downwards. Observe the flow door indicator and release trigger when door is closed to desired position. See Fig. 3-14.

Fig. 3-14



12. To fold auger from operating position to transport position:

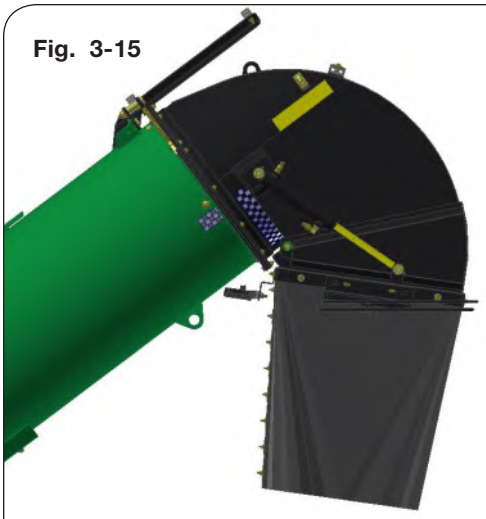
A. Rotate spout to centered position. Align the checker flag decals to locate center as shown in Fig. 3-15.

B. Press auger FOLD button on joystick.

C. Hold FOLD button until upper auger is on field rest or in transport position.

13. Once unloading is complete, stop hydraulic flow. **ALWAYS** stop continuous detent when auger functions are not required or active.

Fig. 3-15



Spout Centered Position

Manual Override for Optional Electric Over Hydraulic System

⚠ WARNING

- **MOVING OR ROTATING AUGER COMPONENTS CAN CAUSE SERIOUS INJURY OR MACHINE DAMAGE. BEFORE OPERATING MANUAL OVERRIDE(S), ENSURE EVERYONE IS AWAY FROM THE SPOUT AND THAT THE SPOUT WILL NOT CONTACT ANY OTHER PARTS OF THE GRAIN CART. ALL CONTROL SWITCHES ARE DEACTIVATED WHILE UTILIZING MANUAL OVERRIDE(S).**

- **MOVING OR ROTATING PTO COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT OPERATE PTO WHILE UTILIZING MANUAL OVERRIDE(S).**

NOTE: Manual override operation is intended for emergency use **ONLY** and is not intended for continuous operation.

NOTE: 7-pin connector must be plugged into the tractor in order for the spout system to operate.

1. Park the empty grain cart on a firm and level surface. Block the tires/tracks on the machine to keep it from moving. Set the tractor's parking brake.

2. Connect the Hydraulic Pressure and Return hoses to the tractor SCV remote so that the Pressure line is able to be put in continuous detent.

NOTE: Center rotating spout before activating auger fold.

3. To operate the manual override functions, place the tractor SCV remote in continuous detent so that the Hydraulic Pressure hose is pressurized.

4. Remove cover plate (272606B) from the bottom of the lower auger housing to access the EOH block assembly.

5. Push and hold the manual override button on valve (9008438). (FIG. 3-16)

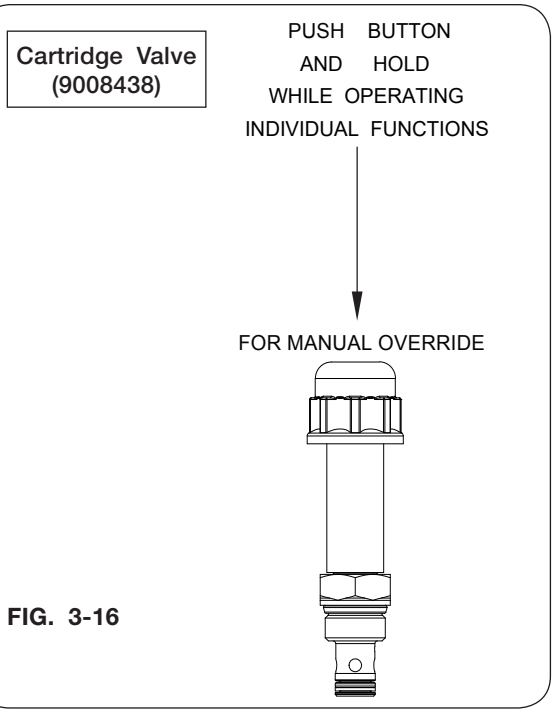


FIG. 3-16

Manual Override for Optional Electric Over Hydraulic System (continued)

6. While holding the manual override button, operate the desired function on valve (9008416) & (9008463) by rotating the manual override knurled knob from the locked neutral position. (FIG. 3-17 & 3-18)

7. Push or pull the knob to operate the valve function in the desired direction. (FIG. 3-18)

8. Once the desired position is reached, release manual override button on valve (9008438).

NOTE: Cartridge valve (9008416) & (9008463) must be locked in the middle detent position to function properly. (FIG 3-17 & 3-18)

9. Return knurled knob to center and lock valve (9008416) & (9008463) in position. (FIG. 3-17 & 3-18)

NOTE: Refer to "Troubleshooting" for EOH, vertical auger and/or rotating spout issues in the OPERATION section.

10. Turn off hydraulic circuit when done. Correct electric/hydraulic system before continued use. Consult your dealer for service and parts.

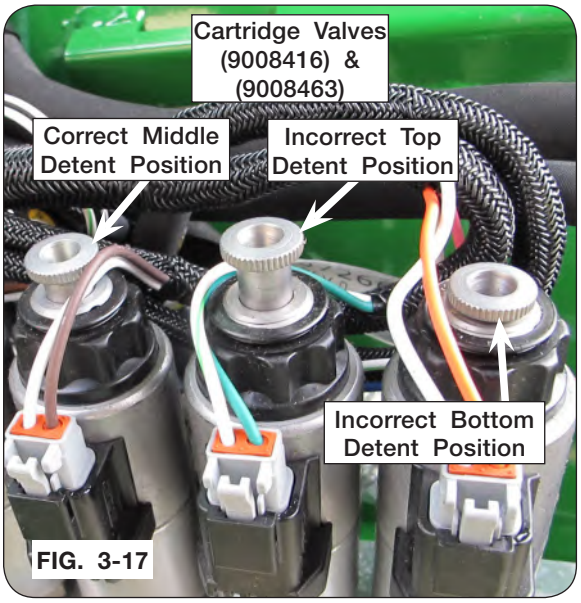


FIG. 3-17

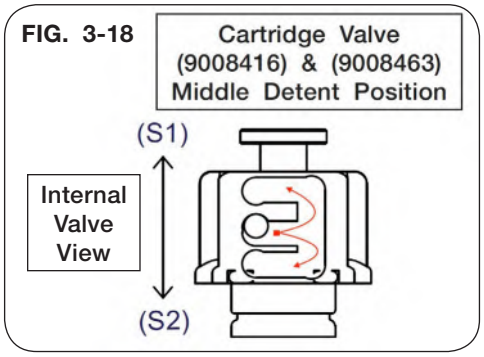


FIG. 3-18

Electric Over Hydraulic 5 Function Troubleshooting

Problem	Possible Cause	Corrective Action
No Electric Over Hydraulic (EOH) Functions work	Not getting 12 Volt power supply to the power harness in the tractor	Check the connections to the main power harness in the tractor cab, and check the 5 AMP fuse in the fuse holder of the main power harness. Replace fuse if necessary.
	Not getting good connection at Deutch connectors in the harnesses	Unplug the Deutsch connectors at the hitch point and in the extension harness (if used). Clean up the connectors with electrical contact cleaner. Make sure the connectors are aligned correctly and re-connect them.
	Not pressurizing the correct hydraulic hose	Make sure the quick couplers are properly connected to the tractor SCV and the Hydraulic Pressure line is being pressurized when engaging the tractor SCV.
Auger unfolds, but won't fold back in to transport position	Rotating Spout is not in the folding position	Rotate the spout so it is positioned straight down or forward in order to fold the auger into transport position.
	Rotating spout switch is faulty or out of adjustment	Make sure the spout is in the centered position. Press and hold the manual overide button on the electric over hydraulic (EOH) valve on the auger fold cylinder while someone operates the hydraulic remote to fold the auger back to the transport position. Inspect the switch assembly near the rotating spout cylinder. The clearance between the end of the proximity switch and the barrel of the rotating spout cylinder must not exceed 1/4".
Auger unfolds part way and stops	Debris in the EOH block on the auger fold cylinder	Fold auger, remove the Coil and the cartridge valve on the EOH valve block. Remove any debris and reinstall cartridge and coil.
	Rotating Spout switch is out of adjustment or has been activated.	With the auger folded in to the lower transport rest, have someone depress and hold the switch at the vertical auger hinge plate. Use any means necessary to depress the switch without placing your hands or other body parts near the pinch points. With the switch depressed, rotate the spout to the folding postion.

Electric Over Hydraulic 5 Function Troubleshooting (continued)

Problem	Possible Cause	Corrective Action
Spout rotate does not operate	7 pin connector is not plugged into tractor.	Plug in 7 pin connector to same power source as the 5 function controller.
	Proximity Switch at the auger hinge is not getting Power or Ground.	Check power and ground to the proximity switch harness on the vertical auger.
Rotating spout will not function	Proximity switch located at the hinge plate is not adjusted correctly.	This proximity switch has a 1/4" effective operating range. The upper auger hinge plate needs to be within that range when it is unfolded in to the operating position. Adjust the proximity switch in or out in order for the sensor to activate when it is in the operating position.
	Switch located at the hinge plate of the vertical auger is not getting power, ground or is defective	Check the ground wire on the top plate of the lower vertical auger and on the left hand standard just behind the front plate of the harness. Unplug the 3 pin connector on the hinge plate proximity switch. With a multi-meter or test light, confirm that the pin in socket B has +12V constant power and socket A has +12V when the sensor is activated.
One single function will not work	Defective coil on the EOH valve for that function	Loosen the cap for the coils associated with that function on the EOH valve. Depress the button on the remote, and determine if the coils are getting magnetized. Inspect the wiring connectors to these coils, and replace the coil if necessary.
	Defective valve on the EOH valve for that function	Remove the coil and the cartridge valve on the EOH valve block for that function. Replace the valve if it doesn't operate when the coil is magnetized.
	Debris in the EOH block at the base of the vertical auger	Remove the coil and the cartridge valve on the EOH valve block. Remove any debris and reinstall cartridge and coil.
Functions continue to operate after the button on the remote is released	Tractor hydraulic flow is set too high	Turn tractor hydraulic flow down so that flow doesn't exceed 6 gallons per minute.
	Defective valve on the EOH valve for that function	Remove the Coil and the cartridge valve on the EOH valve block for that function, and replace the cartridge.

Vertical & Horizontal Cleanout Door Operation

⚠ WARNING

- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEANOUT DOORS ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.**

Vertical Cleanout Door

1. Park the empty grain cart on a firm and level surface. Block the tires/tracks on the machine to keep it from moving. Set the tractor's parking brake, shut-off the engine, remove the ignition key and disconnect the PTO shaft.

2. To completely close cleanout door, ensure the vertical auger cleanout door top edge clears the vertical position stop (key stop). (FIG. 3-19)

3. Attach eye bolt ends of over center latches to the hooks on the vertical auger. (FIG. 3-19)

4. Clasp the over center latch handles to lock the door in the closed position. (FIG. 3-19)

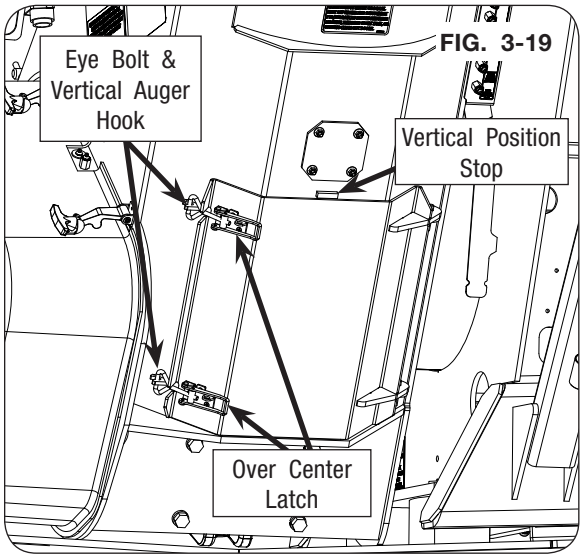


FIG. 3-19

5. Inspect and verify cleanout door perimeter for gaps. Ensure all grain dust and filings are removed that may prevent the door from shutting completely.

6. If gaps are present, unclasp the over center latch and tighten eye bolt to improve door seal contact on the vertical auger.

7. Rehook eye bolt to vertical auger and clasp the over center latch.

NOTE: Repeat closing the door and inspection, as necessary.

Vertical & Horizontal Cleanout Door Operation (continued)

Vertical Cleanout Door

NOTE: Remove the vertical auger cleanout door to improve vertical auger cleaning.

8. To open and remove the vertical auger cleanout door, unclasp the over center latch. (FIG. 3-20)

9. Unhook the eye bolt from the vertical auger and open the cleanout door. (FIG. 3-20)

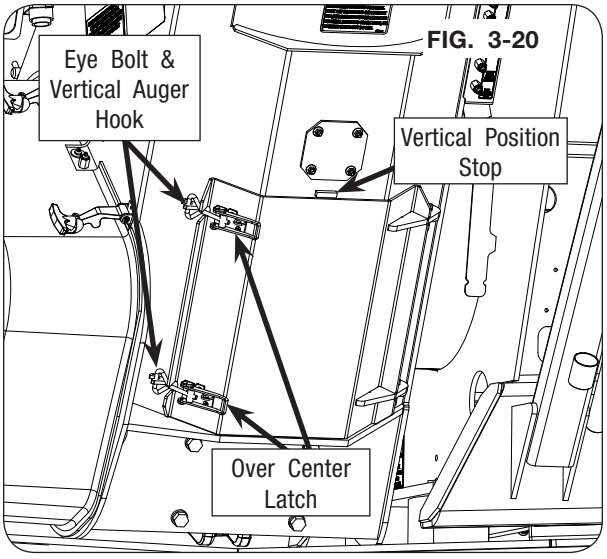


FIG. 3-20

10. The hinge on the vertical auger cleanout door is set on a pin. Lift and remove the cleanout door from the vertical auger. Keep vertical auger cleanout door. (FIG. 3-21)

11. Inspect and verify all debris is removed from inside the vertical auger housing.

12. Reattach the vertical cleanout door to the vertical auger.

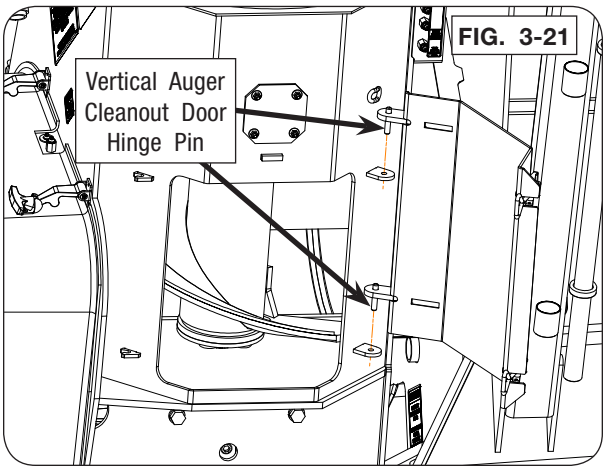


FIG. 3-21

Vertical & Horizontal Cleanout Door Operation (continued)

Horizontal Cleanout Door

Use the tensioner handle, located on the left-hand side of the grain cart, behind the first panel to open and close the horizontal cleanout doors.

1. Insert tensioner handle into the cleanout door receiver coupler on the rear panel, and remove lynch pin from rockshaft. Keep lynch pin. (FIG. 3-22)

FIG. 3-22

2. Rotate the tensioner handle clockwise to open the cleanout doors. (FIG. 3-23)

3. Insert and lock lynch pin into rockshaft. (FIG. 3-23)

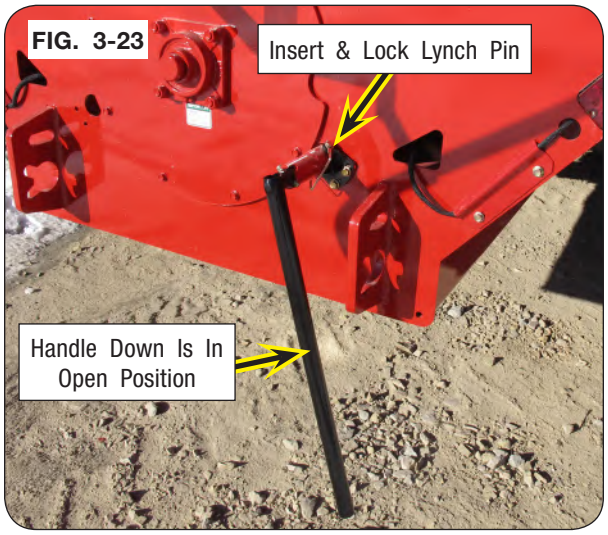


FIG. 3-23

4. Inspect and verify all debris is removed that may prevent the doors from shutting completely. (FIG. 3-24)

NOTE: If cleanout doors do not function properly, refer to “Horizontal Cleanout Door Inspection” in SET UP section for more information.

5. Remove lynch pin from rockshaft and rotate handle counter-clockwise and clockwise to check for smooth door operation.


FIG. 3-24

Horizontal Cleanout Doors Open

Vertical & Horizontal Cleanout Door Operation (continued)

Horizontal Cleanout Door

6. Rotate handle counter-clockwise to close doors and ensure all doors seal. (FIG. 3-25)

FIG. 3-25

7. Insert and lock lynch pin into rockshaft and return handle to storage location. (FIG. 3-26)

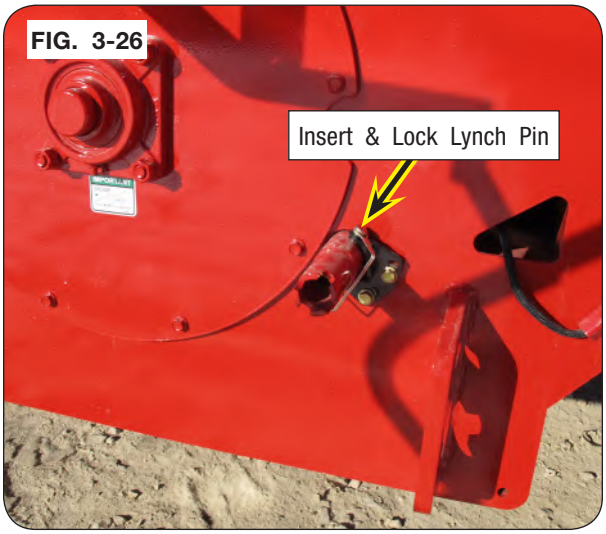
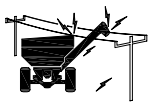


FIG. 3-26

Auger Operation

PTO Driven Auger

DANGER



- **ELECTROCUTION WILL CAUSE SERIOUS INJURY OR DEATH. THE GRAIN CART IS NOT INSULATED. KEEP AWAY FROM ALL ELECTRICAL LINES AND DEVICES. ELECTROCUTION CAN OCCUR WITHOUT DIRECT CONTACT.**

WARNING

- **NEVER ENTER CART WITH AUGER OR TRACTOR RUNNING. SERIOUS OR FATAL INJURY CAN OCCUR DUE TO ENTANGLEMENT WITH ROTATING COMPONENTS. ALWAYS STOP ENGINE AND REMOVE KEY BEFORE ENTERING CART.**
- **TO PREVENT PERSONAL INJURY OR DEATH ALWAYS ENSURE THAT THERE ARE PEOPLE WHO REMAIN OUTSIDE THE CART TO ASSIST THE PERSON WORKING INSIDE AND THAT ALL SAFE WORKPLACE PRACTICES ARE FOLLOWED. THERE IS LIMITED MOBILITY AND EXIT PATHS WHEN WORKING INSIDE THE IMPLEMENT.**

1. Before loading cart or operating auger, verify that the flow control door is closed.

NOTE: If spout rotate moves out of center, the auger will not unfold to unloading position. The spout must be manually rotated to center position. See “Manual Override for Optional Electric Over Hydraulic System” in the OPERATION section.

2. Choose an area free from obstructions and unfold auger into unloading position. Allow sufficient time for the cylinder to fully engage the two augers and over-center latch to fully engage.

3. Engage PTO at low engine RPM, then increase engine RPM until 1000 PTO RPM is reached.

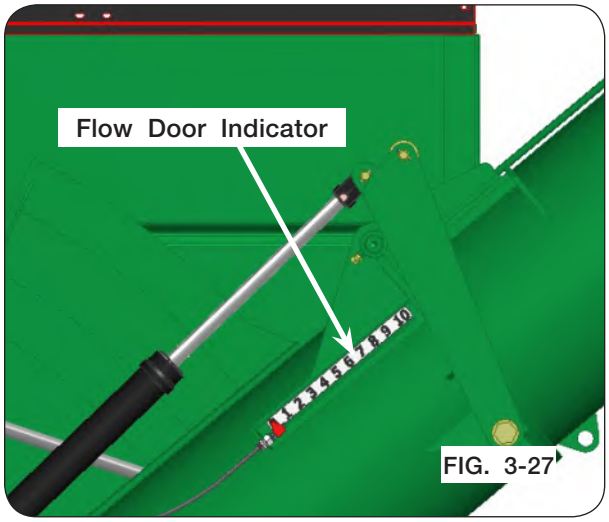


FIG. 3-27

4. Open flow control door to desired unloading rate. Numbers on the auger tube provide a point of reference for operator convenience. (Fig. 3-27)

5. To slow or stop grain flow, close flow door, rather than reducing tractor RPM. Close flow door fully when unloading is complete.

NOTE: If an overload occurs, see “Auger Overload Procedure.”

NOTE: It is not recommended to disengage auger with flow control door open. Auger system will require substantially more torque to start, placing extra stress on both cart and tractor driveline.

Cart is equipped with baffles that can be adjusted to accommodate the flow of different materials and/or the torque demands associated with different materials. See the SET UP section for the procedure.

Auger Operation (continued)

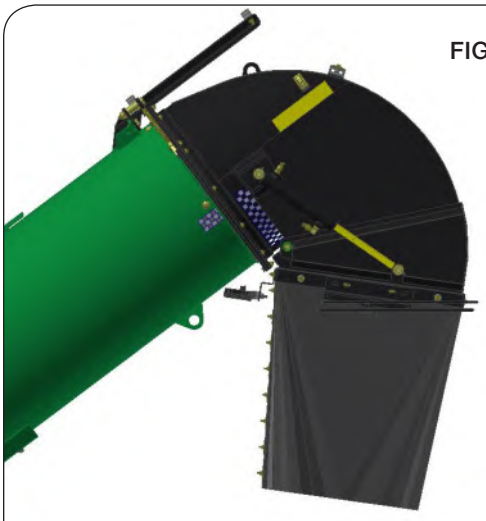
6. When auger is empty, reduce PTO rpm to idle, and stop PTO.

7. After PTO has come to a complete stop, align the checker flag decals to center spout as shown in FIG. 3-28.

8. Once spout is centered, fold auger to the transport position or field position.

NOTE: Spout can be TILTED to any position, but must be ROTATED to center for auger to fold.

FIG. 3-28



Spout Centered Position

Auger Overload Procedure

1. Close flow door.

2. With the PTO off and driveline stopped, disengage the belt tensioner using the belt tensioner handle, this disengages the horizontal auger from the drivetrain. (FIG. 3-29)

3. Restart the tractor PTO with the engine RPM set to produce 850 to 1,000 PTO RPM and engage the tractor PTO to empty the vertical auger.

4. Once vertical auger is empty, stop PTO.

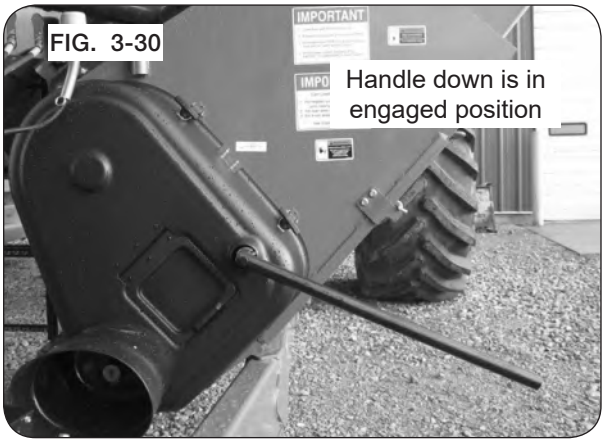
5. With the tractor PTO off and driveline stopped, reengage the belt tensioner using the belt tensioner handle. Return handle to storage. (FIG. 3-30)

6. Restart the tractor PTO with the engine RPM set to produce 850 to 1,000 PTO RPM and engage the tractor PTO to empty the drag auger.

NOTE: If the grain cannot be relieved by above method, open bottom clean out doors (see "Vertical & Horizontal Clean-Out Door Operation" in this section) to remove grain from auger before repeating these steps to clean out auger.

FIG. 3-29

FIG. 3-30



Auger Operation (continued)

Vertical Auger Fold

WARNING

- **DO NOT STAND ON LADDER OR FRAME UNLESS TRACTOR ENGINE IS TURNED OFF AND KEYS ARE REMOVED FROM THE IGNITION.**

Actuate hydraulic auger fold circuit to pivot vertical auger between transport and operating positions. When unfolding auger, allow sufficient time for cylinder to rotate the outside fold link into an over-center position. (Fig. 3-31)

NOTE: Auger spout will not rotate until auger is fully extended and auger will not fold until the spout is centered.

Transport Position Shown

FIG. 3-31

Steering Tandem

Steering Tandem Indicator

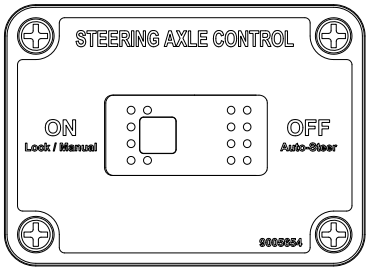
Steering Tandem Tire position can be determined by observing indicator arrow located on the lower right portion of front panel.

NOTE: Indicator is best observed when auger is in field transport position.

Steering Tandem Operation

The steerable tandem has three different settings: Auto-Steer, Lock and Manual.

The defaulted function of the steering tandem is **Auto-Steer**. **Auto-Steer** is achieved when switch is in "OFF" position. (Regardless of tractor hydraulic lever position) This function allows grain cart tires to steer freely and to trail tractor.



To lock current steering position of tandem:
Turn "ON/OFF" switch to "ON" and have tractor hydraulic remote lever in neutral position. This function may be used to hold steering position when moving back and forth along side of semi trailer.

To Manual steer tandem:
Turn "ON/OFF" switch to "ON" and move tractor hydraulic remote lever to extend or retract depending on steering direction and hydraulic connections noted earlier. This function may be used when backing unit into shed, or to make a reverse travel turn in opposite direction of forward turn.

NOTE: It is important to keep cylinders correctly phased. See "Steering Cylinder Rephasing" in the MAINTENANCE section.

NOTE: It is recommended to take scale readings with the wheels inline and vehicle stopped for maximum accuracy. See scale manual for more information.

Optional Implement Brake System for Steering Tandem

This system is for tractors with hydraulic trailer brake option. Once connected and properly bled, this system sends pressure to the implement's brakes when the brake pedal is used. After the brake pedal is released, pressure is removed from the implement calipers. Always check brake operation with an empty cart and familiarize the effectiveness as the load increases in the cart.

Ladder Operation

⚠ WARNING

- **FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RAISING, OR LOWERING.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **DO NOT ALLOW ANYONE TO RIDE ON THE LADDER. MAKE SURE EVERYONE IS CLEAR BEFORE OPERATING MACHINE OR TOWING VEHICLE.**
- **TO PREVENT PERSONAL INJURY OR DEATH, ALWAYS ENSURE THAT THERE ARE PEOPLE WHO REMAIN OUTSIDE THE CART TO ASSIST THE PERSON WORKING INSIDE, AND THAT ALL SAFE WORKPLACE PRACTICES ARE FOLLOWED. THERE IS RESTRICTED MOBILITY AND LIMITED EXIT PATHS WHEN WORKING INSIDE THE IMPLEMENT.**
- **NEVER ENTER A CART CONTAINING GRAIN. FLOWING GRAIN TRAPS AND SUFFOCATES VICTIMS IN SECONDS.**

NOTE: Ensure ladder and steps are free from snow/debris before changing ladder positions and climbing.

NOTE: Ensure upper ladder extension is attached to higher holes on the ladder. Reference "Upper Ladder Extension to Operating Position" section in the SET UP section.

NOTE: Always use lock pin in the working and storage position to lock the ladder extension. The lock pin can be inserted in either left-hand or right-hand ladder hole. (FIGS. 3-32 & 3-33)

FIG. 3-32

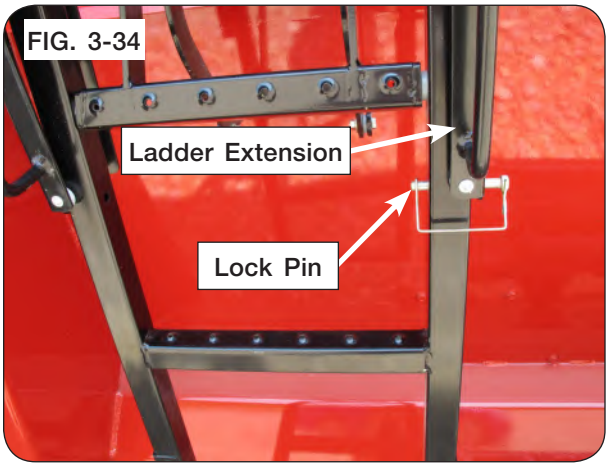
FIG. 3-33

Ladder Operation (continued)

Storage to Working Position

1. Standing in front of ladder, place hands on outside ladder handles.

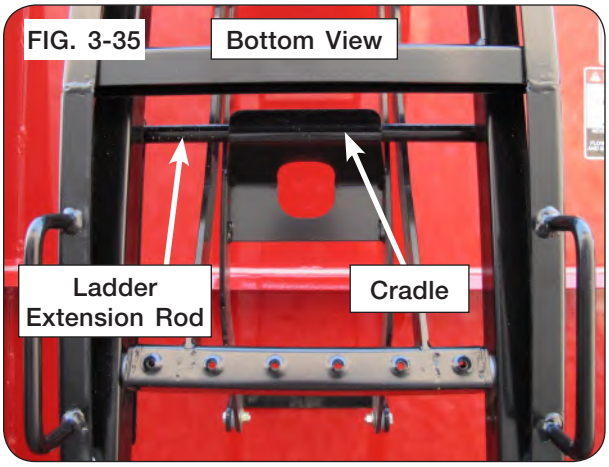
2. Keep one hand on ladder handle and with opposite hand, remove lock pin from ladder extension. Retain for future use. (FIG. 3-34)



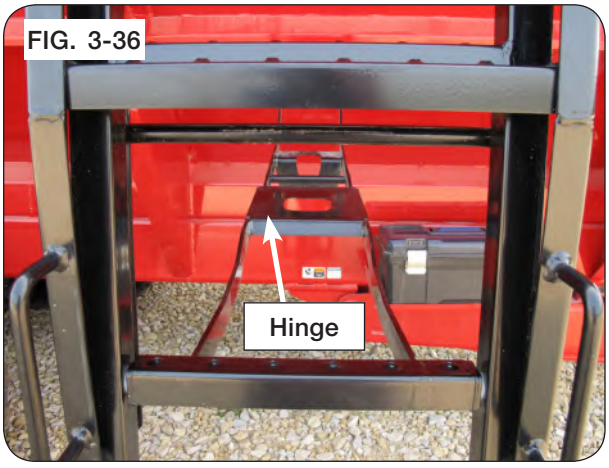
3. With hands back on ladder handles, push ladder towards hopper bin and lift ladder extension to unseat ladder extension rod from the cradle. (FIG. 3-35)

⚠ CAUTION

- **THE LADDER IS NOW FREE TO PIVOT.**



4. Slowly swing ladder outward until hinge is fully extended and locks in the working position. (FIG. 3-36)



Ladder Operation (continued)

Storage to Working Position

5. Lift and seat ladder extension into shorter leg of “J slot”. (FIG. 3-37)

6. Using lock pin from step 2, insert lock pin into ladder extension and ladder. (FIG. 3-37)

⚠ WARNING

- FALLING FROM AN UNSECURED LADDER MAY CAUSE SERIOUS INJURY OR DEATH. ALWAYS INSERT LOCK PIN BEFORE CLIMBING.

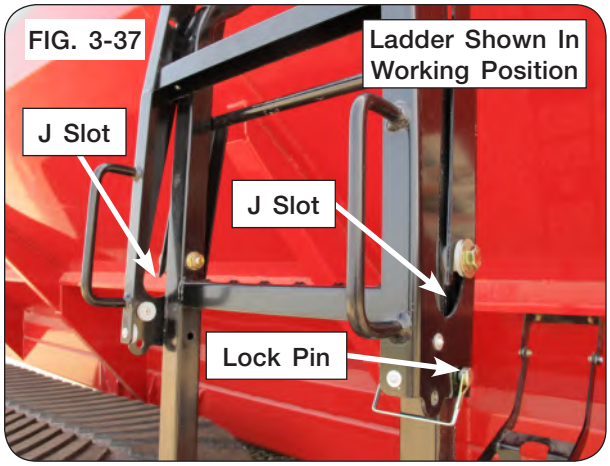


FIG. 3-37

Working to Storage Position

7. Standing in front of ladder, place hands on outside ladder handles.

8. Keep one hand on ladder handle and with opposite hand, remove lock pin from ladder extension. Retain for future use. (FIG. 3-38)

9. With hands back on ladder handles, lift and unseat ladder extension from shorter leg of “J slot”. (FIG. 3-37)

10. Lower ladder extension until fully seated in longer leg of “J slot”. (FIG. 3-38)

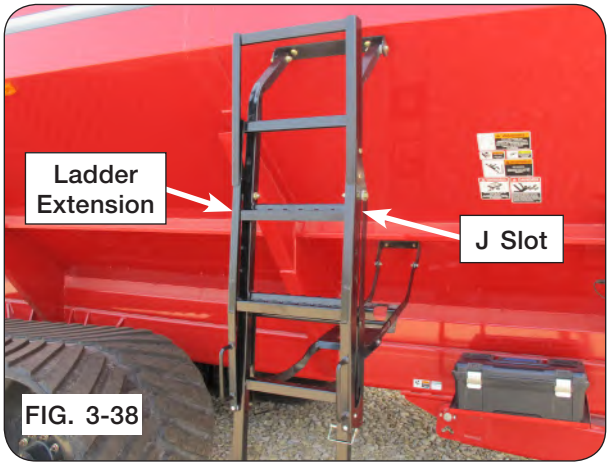


FIG. 3-38

11. Keep one hand on ladder handle and with opposite hand, reach between ladder rungs and grab the ladder hinge hole. (FIG. 3-39)

12. Slowly lift ladder hinge until the ladder starts folding.

13. Remove hand from ladder hinge hole and place onto ladder handle.

14. Slowly push ladder towards hopper bin.

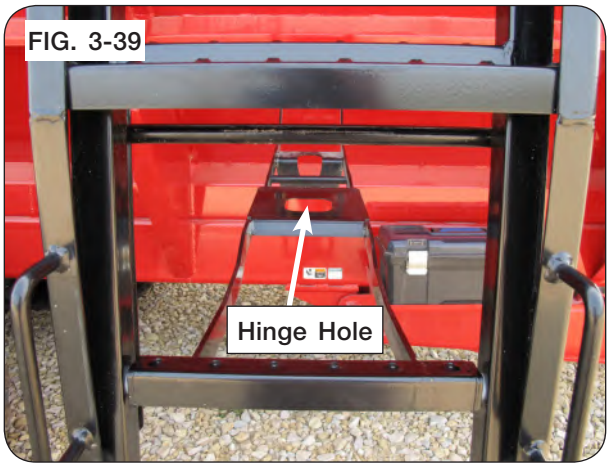
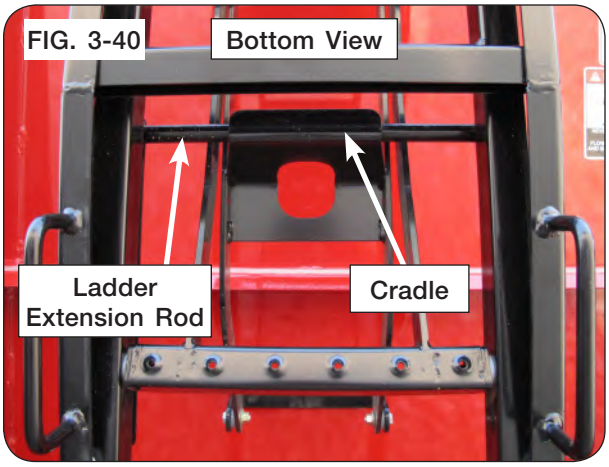


FIG. 3-39

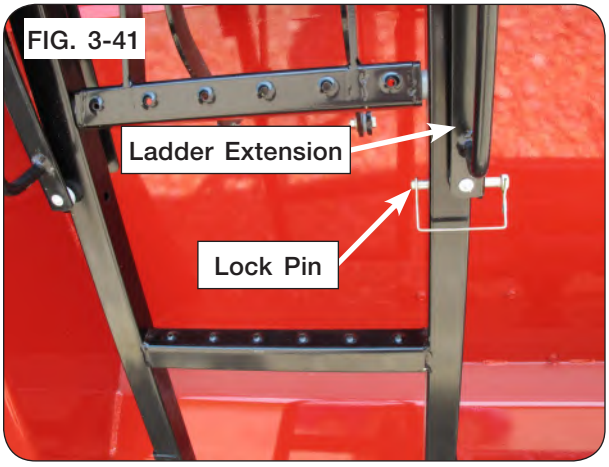
Ladder Operation (continued)

Working to Storage Position

15. Lower ladder extension and seat ladder extension rod onto the cradle. (FIG. 3-40)



16. Using lock pin from step 8, insert lock pin into ladder extension and ladder. (FIG. 3-41)



Weather Guard Tarp

⚠ WARNING

- **TO PREVENT PERSONAL INJURY OR DEATH, DO NOT ALLOW ANYONE ON A CLOSED TARP. TARP SYSTEM IS NOT DESIGNED TO SUPPORT A PERSON.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. REMOVE ACCUMULATED WATER/SNOW/ICE OR ANY OTHER OBJECTS FROM TARP BEFORE OPENING TARP.**

IMPORTANT

- *Do not open or close tarp while moving or in high wind conditions. Damage to the tarp may occur.*
- *Tarp should not be used if it is torn or the bungee cords are frayed or show damage. If water pools on the tarp, adjust tension of tarp cables and/or arm springs as required.*

Always use adequate caution when operating tarp.

Make sure tarp is open before unloading or loading.

Make sure nobody is near the tarp system before and during operating.

Do not operate tarp with cart hoisted in an elevated position.

If tarp is covered with snow, it is important to remove snow before operating.

End caps must be free from grain that may be piled on them. Grain should not be heaped higher than the end caps or tarp bows.

Tarp may be fully opened or completely closed while in transit. However, the closed position is recommended.

Ensure everyone who operates the tarp is familiar with the correct procedures outlined in this manual.

Weather Guard Tarp (continued)

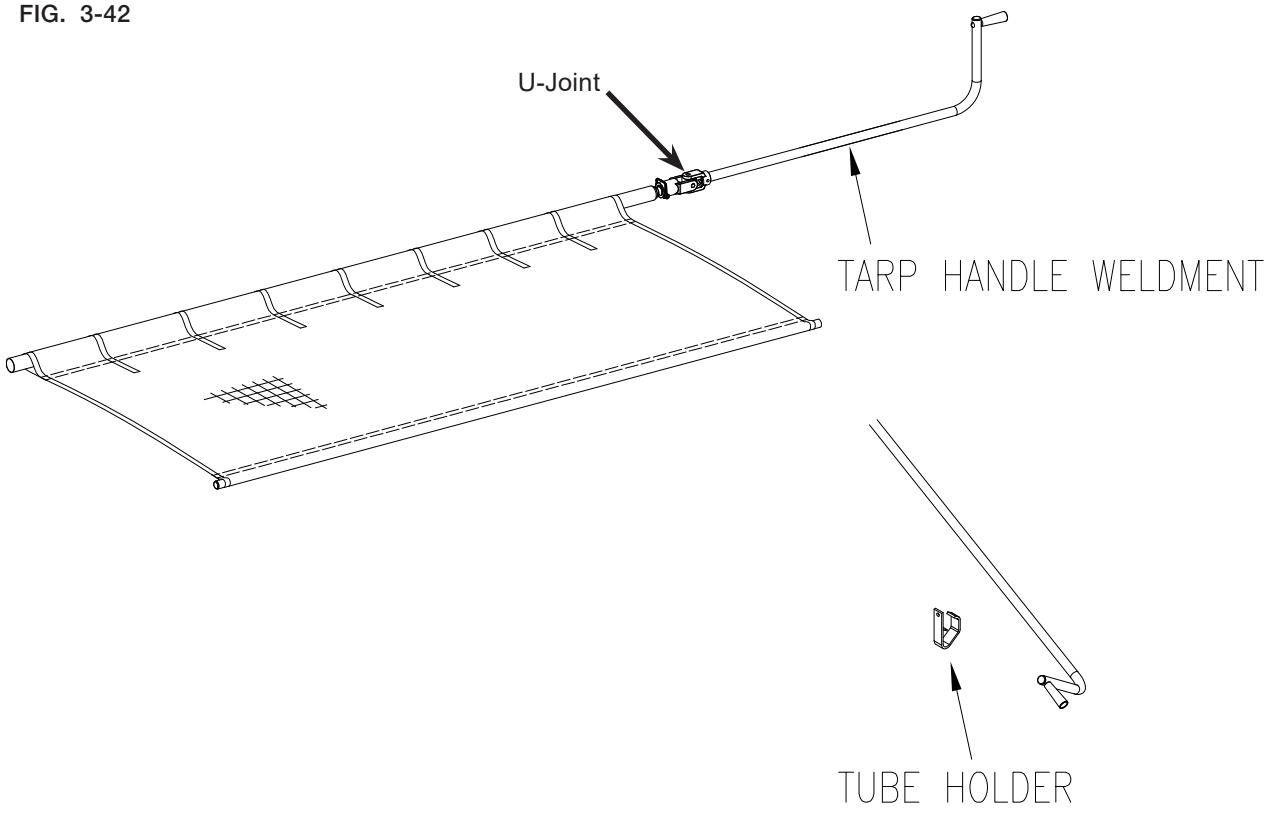
Procedure

1. Using both hands, carefully remove crank from holder. (Fig. 3-42)
2. Roll tarp to the desired location, choosing either a fully open or fully closed position.
3. To close the tarp, roll the main tarp tube clockwise up under the latch plate. Next, bring the crank handle down perpendicular to the ground. Continue by lifting it up into the crank retainer.

NOTE: Crank U-joint may need to be re-indexed on tarp tube to achieve correct tension.

4. Place crank in holder.
5. To open tarp, turn the main tarp tube counter clockwise until the tarp is fully open. Place crank in crank holder.

FIG. 3-42



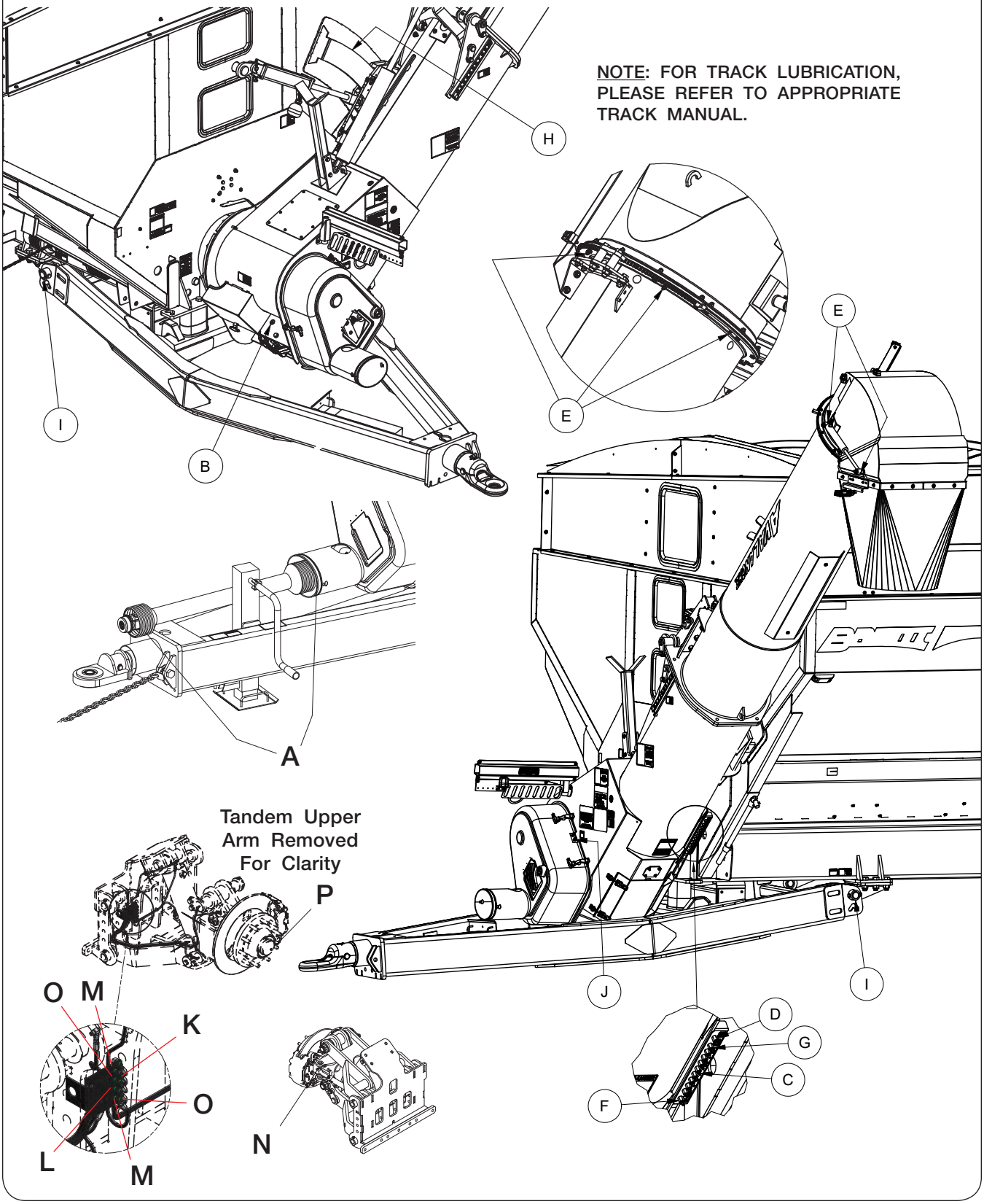
Notes

Section IV
Maintenance

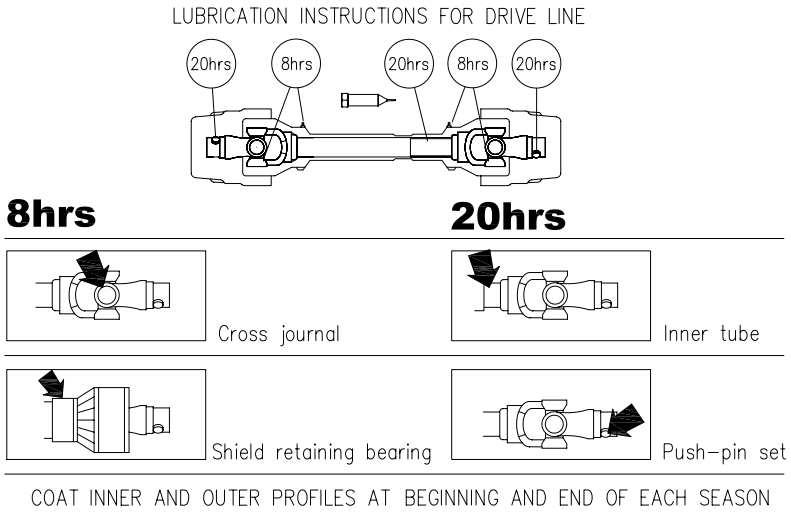
FOR SCALE INFORMATION, PLEASE REFER TO YOUR SCALE MANUAL.
FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.
FOR UHARVEST INFORMATION, PLEASE REFER TO YOUR UHARVEST MANUAL.
FOR ELECTRIC TARP INFORMATION, PLEASE REFER TO YOUR ELECTRIC TARP MANUAL.
FOR WATER DELIVERY SYSTEM INFORMATION, PLEASE REFER TO YOUR WATER DELIVERY SYSTEM MANUAL.

Lubrication

To keep your grain cart in top operating condition and to assure its proper performance and reliability for a long period of time, periodic inspection and lubrication is a must.



Lubrication (continued)



Lubrication

To keep your grain cart in top operating condition and to assure its proper performance and reliability for a long period of time, periodic inspection and lubrication is a must.

The lubrication locations and recommended schedule are as follows:

ITEM	DESCRIPTION	POINT	LUBRICANT	QTY.	HOURS
A	PTO Driveshaft	3	EP-2	1 Shot	See Previous Page
B	Gearbox -- Remove Cover - Check oil level every 2 weeks. Replace oil every season. Refer to Gearbox in MAINTENANCE section.	1	EP80W90	Approx 85 oz.	Once Every Season
C	Auger Pivot Rings - Front & Rear Auger Hinge	7	EP-2	2 Shots	Daily
D*	Hanger Bearing - Vertical Lower Auger *See note below.	1	EP-2	2 Shots*	Monthly
E	Top Bearing - Vertical Upper Auger	1	EP-2	1 Shot	Each Season
F	Horizontal Auger End & Center Bearings	2	EP-2	2 Shots	Monthly
G	Auger Pivot Pin - Vertical Upper Auger Hinge	2	EP-2	2 Shots	Daily
H	Grease Slide Plate	1	EP-2	1 Shot	Each Season
I	Tongue Pivot Bushing	2 (one per side)	EP-2	2 Shots	Daily
J	Front Horizontal Auger Bearing & Gearbox Support Bearing	2	EP-2	1 Shot	Weekly
K	Grease Bank for Parallel Linkage Pins	4 (per wheel)	EP-2	6 Shots	Daily
L	Grease Bank for Steering Kingpin	1 (per wheel)	EP-2	6 Shots	Daily
M	Grease Bank for Clevis Pivot Pins	2 (per wheel)	EP-2	6 Shots	Daily
N	Tie Rod End on Steering Linkage	4	EP-2	2 Shots	Every 40 hours of usage
O	Grease Bank for Suspension Cylinder Both Ends	2	EP-2	6 Shots	Daily
P	Hubs	4	EP-2	Repack	Annually

*NOTE: Hanger bearing contains hydraulic shut-off grease zerk (9005240) with pressure relief to prevent over-greasing and could push bearing seals out. If grease is coming out of the relief on the zerk this is normal and the bearing contains enough grease.

GREASE BANK HOSE #	SUSPENSION LINK FUNCTION
1	Upper Clevis Pin
2	Lower Cylinder Pin
3	-
4	King Pin
5	Lower Clevis Pin
6	Upper Cylinder Pin
7	Upper Link Arm Pin
8	Upper Link Arm Pin
9	Lower Link Arm Pin
10	Lower Link Arm Pin

Hydraulic System

Refer to parts section for hydraulic component detail listing.

When properly assembled and maintained, the hydraulic system of the grain cart requires little maintenance.

Replacing Hoses/Fittings/Cylinders:

1. Use replacement hoses, fittings, and cylinders from your Unverferth Manufacturing dealer which are rated for 3000 psi.
2. Do not use hoses, fittings and cylinders that have pipe threads.
3. Do not use Teflon tape or thread sealant on JIC or O-ring fittings. Tighten fittings according to "Torque Chart" in this section.
4. When replacing hoses, always allow sufficient slack to permit hoses to move through the full range of motion of the cylinders.
5. Always purge the hydraulic system after servicing.

Purge Hydraulic System

⚠ WARNING

- **HYDRAULIC SYSTEM MUST BE PURGED OF AIR BEFORE OPERATING TO PREVENT SERIOUS INJURY OR DEATH.**
- **RELIEVE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.**
- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**

- **KEEP CLEAR OF PINCH POINT AREAS.**

Purge air from system as follows:

A. Disconnect the rod end of all cylinders in a circuit and block up cylinders so the rod can completely extend and retract without contacting any other component.
B. Pressurize the system and maintain system at full pressure for at least 5 seconds after cylinder rods stop moving. Check that all cylinders have fully extended or retracted.
C. Check oil reservoir in hydraulic power source and refill as needed.
D. Pressurize system again to reverse the motion of step B. Maintain pressure on system for at least 5 seconds after cylinder rods stop moving. Check that cylinders have fully extended or retracted.
E. Check for hydraulic leaks using cardboard or wood. Tighten connections according to directions in Torque Chart.
F. Repeat steps B, C, D, and E 3-4 times.
G. Depressurize hydraulic system and connect cylinder rod clevises to their mating lugs.

IMPORTANT

- *Machine damage will occur if the cylinder is incorrectly installed.*

Check for and correct any leaks. Make sure hoses are not kinked, stretched, or twisted. Secure hoses to prevent cuts or chafing during operation.

Hydraulic System (continued)

Relieving Hydraulic Pressure

To relieve hydraulic pressure in the system, be sure hydraulic motor is disengaged and/or hydraulic cylinder is not exerting force on the system. Next, consult tractor operators manual for procedure to relieve pressure.

Bleeding Procedure For Braking System

⚠ WARNING

- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.**

- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**

- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**

NOTE: System is intended for tractors with hydraulic trailer brakes. If your tractor does not have hydraulic trailer brakes, contact your dealer for support.

NOTE: This procedure is a **two-person** process. One person operates the brake pedal while the second person loosens the bleeder screw on the brake caliper.

1. If using a tractor, set the tractor parking brake, but leave tractor engine on throughout the procedure. Attach hydraulic brake coupler on the cart to the implement brake port at the rear of the tractor.
2. Apply and hold pressure to brake pedal.
3. Attach 1/4" hose to fitting. Put hose in an approved container. Loosen the bleeder screw, at the top of the caliper, on the brake caliper of the closest wheel located in the hydraulic circuit. If necessary, pump the brake pedal to extract all air from the system. Once air bubbles are no longer present, tighten the bleeder screw. (Fig. 4-1)
4. Repeat steps 2 and 3 to the next closest brake caliper in the brake circuit. Repeat until all brakes are bled.
5. Check that all brakes actuate and release properly with tractor brake pedal.

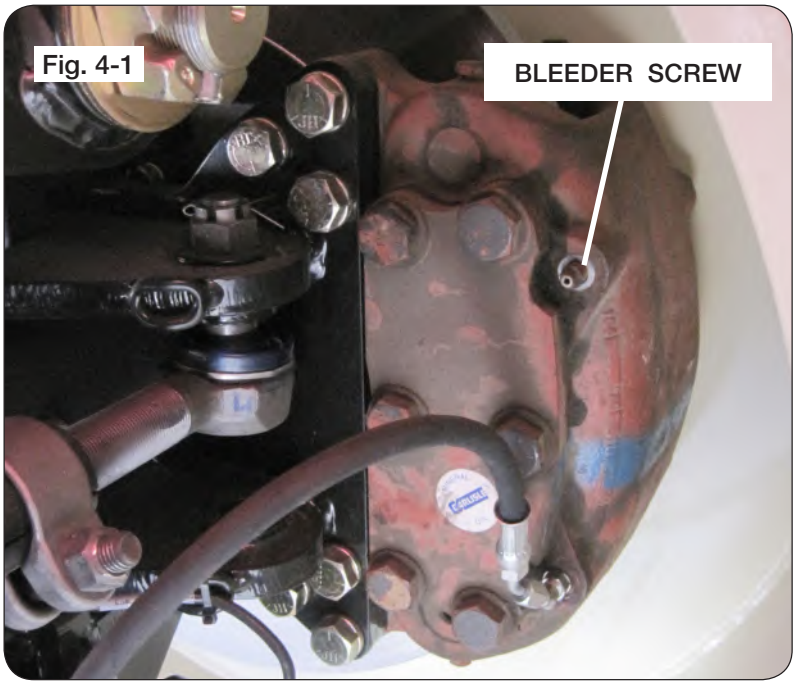


Fig. 4-1

Steering Tandem Maintenance

Periodically check tire alignment and linkages for damage. Remove trash and/or dirt that may have accumulated and possibly interfere with steering performance.

Alignment of tires can be changed by adjustment of linkage(s). See "Steering Tandem Linkage Adjustment Procedures".

Steering Tandem Troubleshooting

NOTE: Always perform the following steps with an empty cart.

Tire Misalignment:

1. Steer the left set of tires until all tire edges are inline and straight forward. Check the opposite side. If both tire edges are equally out of alignment, then the center linkage needs adjustment. See "Steering Tandem Center Linkage Adjustment Procedure" in this section.

2. If only one tire on the opposite side is not straight, then that tire linkage needs to be adjusted. See "Steering Tandem Side Linkage Adjustment Procedure" in this section.

Failure to Auto-Steer:

1. If grease zerks are present, heavily grease the 4 steering kingpins and 8 clevis pivot pins. For grease zerk locations, see “Lubrication” in this section. After long periods of inactivity, the pins can seize in the bushing. Once the pins are greased, manual steer the wheels in both directions. If wheel assemblies to not rotate freely, grease again and repeat manually steering the wheels.

2. Make sure the steering axle control switch is in the OFF/Auto-Steer position. (Fig. 4-2)

3. Check for debris that may be obstructing tie-rod movement.

(Continued on next page)

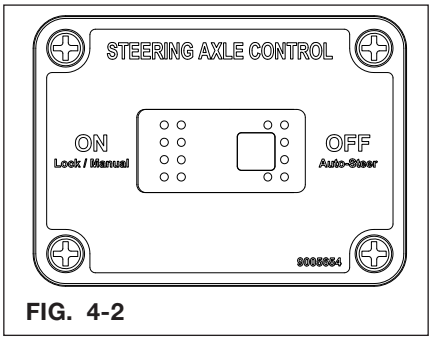


FIG. 4-2

Steering Tandem Maintenance (continued)

Steering Tandem Troubleshooting

NOTE: Always perform the below steps with an empty cart.

Failure to Manual-Steer:

1. Make sure the steering axle control switch is in the ON position. (Fig. 4-3)
2. Make sure the hydraulic hoses are attached properly.
3. Make sure hydraulic circuit is on.

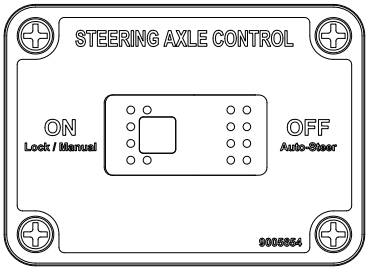
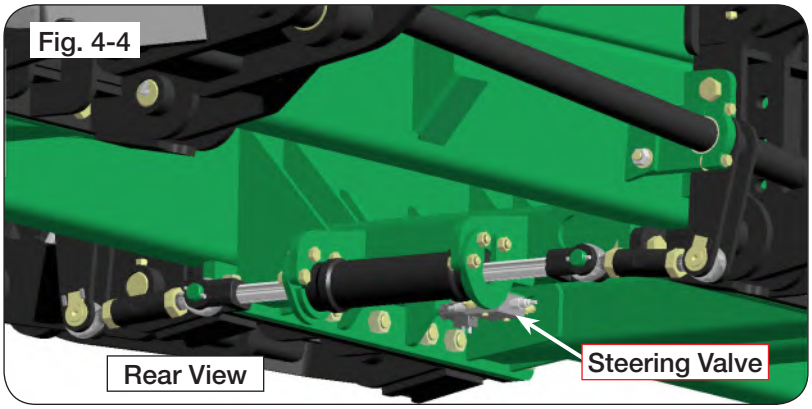


FIG. 4-3

4. Check the harness connection on the steering valve located on the cross axle, make sure there is 12-Volt to the solenoid on the valve attached to the cross axle. (Fig. 4-4)



Steering Indicator Misalignment:

1. Straighten the wheels, if the steering indicator is not centered, follow “Steering Indicator Adjustment Procedure” in this section.

Steering Tandem Linkage Adjustment Procedures

⚠ WARNING

- **UNEXPECTED IMPLEMENT MOVEMENT CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT SERVICE OR MAKE ADJUSTMENTS TO IMPLEMENT WHILE THE TOWING VEHICLE IS RUNNING.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 7,500 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**

NOTE: Do not block tires since they are being manually steered.

Center Linkage Adjustment:

Use this procedure if:
* Both tires on both sides are equally out of alignment.
* Or both tires on one side are out of alignment.

1. Park the empty unit on a firm, level surface. Set the towing vehicle's parking brake. Tractor hydraulics are required for some steps, shut off engine and remove ignition key when hydraulic functions are complete. Turn the Steering Tandem switch to the "ON" position, and ensure the hydraulic lever is in float.
2. Manually steer until equal stroke is measured on both ends of cylinder. Measuring from the center of the cylinder pin to the edge of the mount bracket, it should be around 8 3/4" on both sides. Check tire alignment. Verify suspension height is correct. (Fig. 4-5)

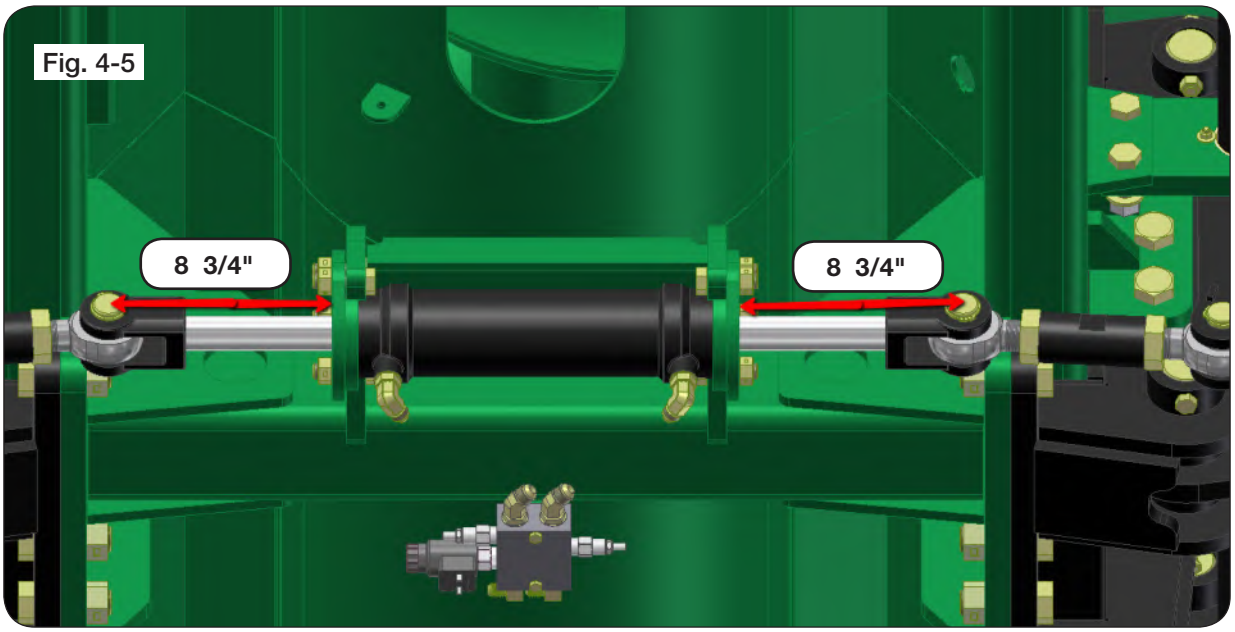


Fig. 4-5

Steering Tandem Linkage Adjustment Procedures (continued)

3. With the center of the cylinder pin to the edge of the mount bracket around 8 3/4", adjust the short tie-rod only on the side of the cylinder that needs adjustment. Loosen the jam nuts on each end of the short tie-rod. (Fig. 4-6)

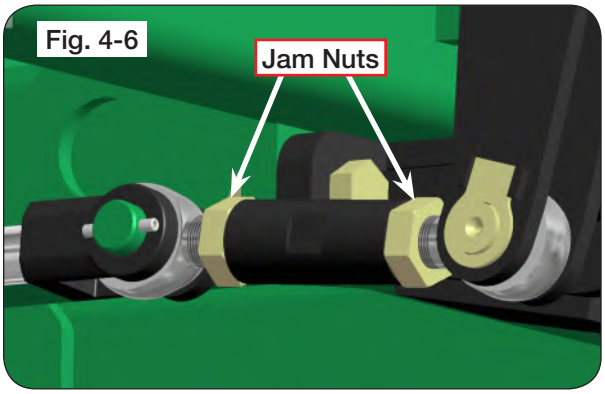
4. Extend or shorten tie-rod by turning jam nuts with 1/2" turn increments while checking wheel alignment between adjustments. Recenter the steering cylinder and check tire alignment. Continue to make adjustments until wheels are straight. (Fig. 4-6)

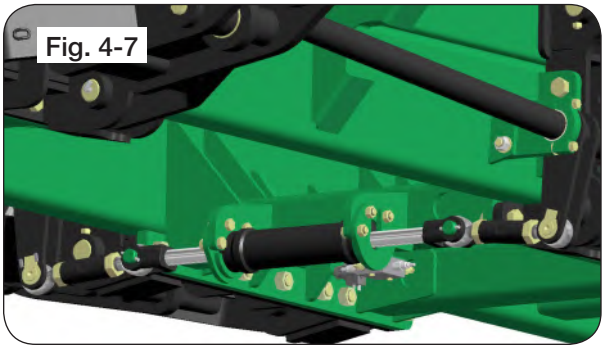
5. If the tires are removed, use the hub face to align.

6. If the tires are assembled, check alignment across the outside center of the tires. Due to variation in rubber tire profile, adjust the alignment until the front and rear of both tires are within 1/2” of being inline.

7. Once wheels are aligned, tighten jam nuts located on the ends of the tie-rod. (Fig. 4-7)

8. Check alignment of the indicator, if it is misaligned follow "Steering Indicator Adjustment Procedures" in this section.

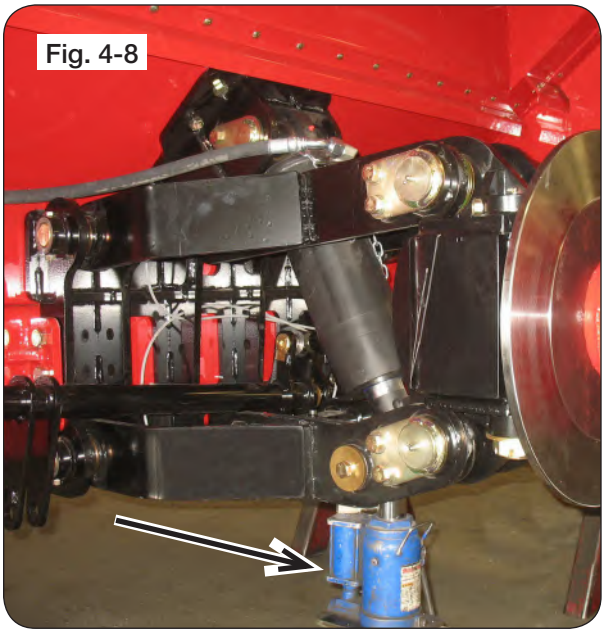




Side Linkage Adjustment:

Use this procedure if:
* One or both front tires are out of alignment.
* Or one or both back tires are out of alignment.

1. Remove the weight from the tire by using a safe lifting device rated for a minimum of 7,500 lbs., and support the lower para-link arm of the tandem. (Fig. 4-8)



Steering Tandem Linkage Adjustment Procedures (continued)

2. Loosen the jam nut on the rod end, and loosen the clamp and hardware on the tie-rod end. (Fig. 4-9 & 4-10)

3. Adjust rod end jam nut with 1/4” to 1/2” turn increments while checking wheel alignment between adjustments. (Fig. 4-9)

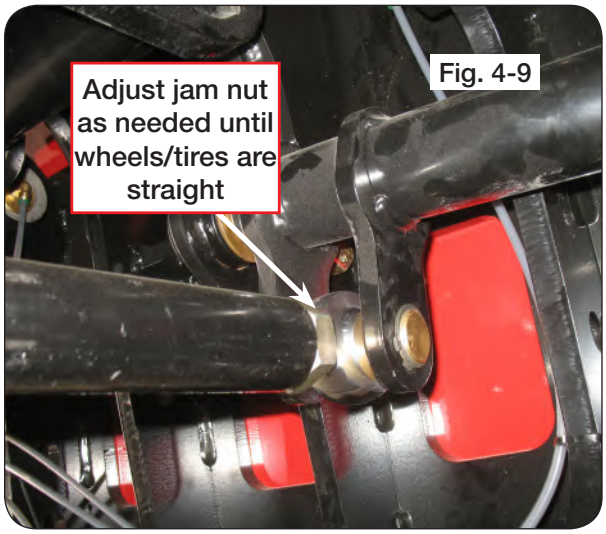


Fig. 4-9

NOTE: Make sure the capscrew on the clamp is facing away from the clevis and spindle to prevent interference when steering. (Fig. 4-10)

4. Once wheels are aligned, tighten the jam nut and the tie-rod clamp. (Fig. 4-9 & 4-10)

5. Lower tire to ground and check alignment.

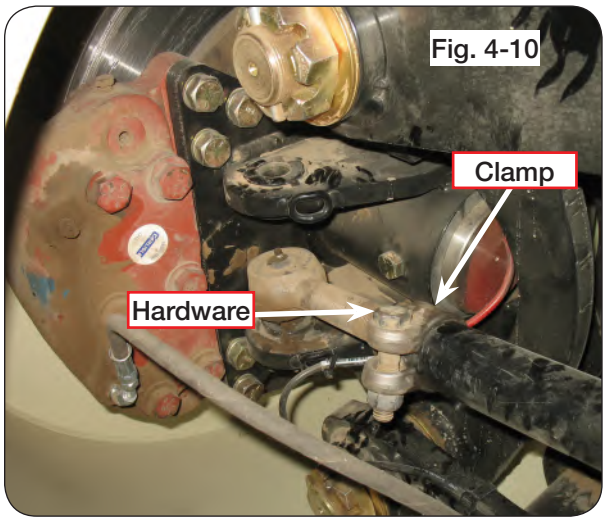


Fig. 4-10

Steering Indicator Adjustment Procedures

Use this procedure if:

* To center indicator when tires are straight forward.

1. Straighten the wheels, and loosen the hex nuts (97189) on the u-bolt (9001114). (Fig. 4-11)

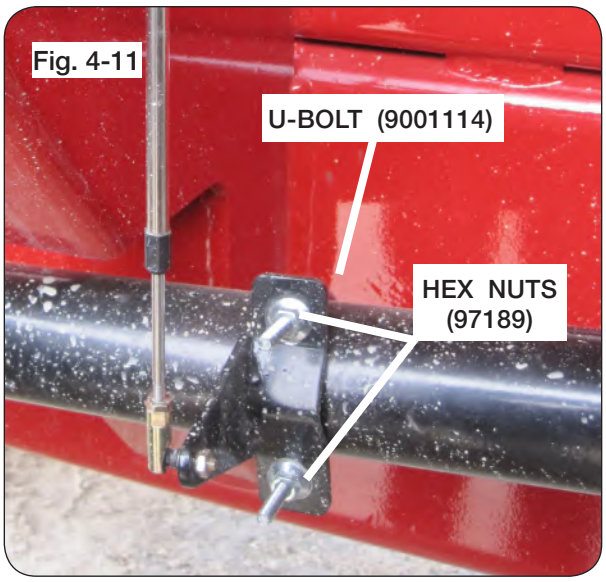


Fig. 4-11

2. Adjust the u-bolt (9001114) to center the red indicator (283749R) on the front of the cart, and retighten the hex nuts (97189). (Fig. 4-11 & 4-12)

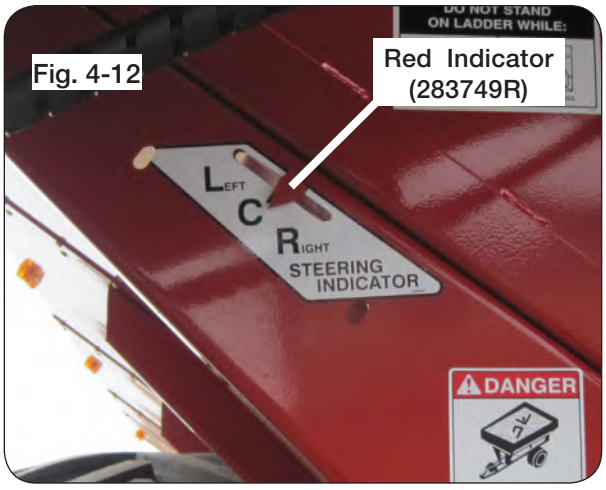


Fig. 4-12

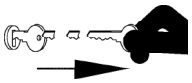
Steering Tandem Rockshaft Replacement

⚠ WARNING

- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 7,500 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**

NOTE: Removing and assembling rockshaft takes **two people:** one at the front and rear.

1. Park the empty grain cart on a firm, level surface. Block the tires to keep the machine from moving. Relieve hydraulic pressure, see tractor operator's manual. Set the tractor's parking brake, shut-off the engine, and remove the ignition key. Completely disconnect the tractor from the grain cart.



2. Remove the weight from the tire by using a safe lifting device rated for a minimum of 7,500 lbs., and support the lower para-link arm of the tandem. (Fig. 4-13)

FIG. 4-13

Steering Tandem Rockshaft Replacement (continued)

3. Disconnect the lower tie-rod only on the side of the cylinder that needs rockshaft replacement. (Fig. 4-14)

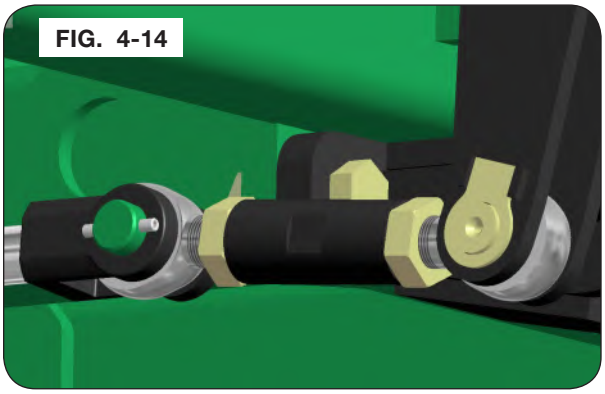


FIG. 4-14

4. Remove the pin on the end of the short tie-rod as shown. Keep pin. (Fig. 4-15)


FIG. 4-15

5. At the rear of the rockshaft, remove the retaining ring on the end of the pin. Keep retaining ring. (Fig. 4-16)

6. Slide the pin from the rockshaft, spacer bushings and tie-rod. Keep pin and spacer bushings. (Fig. 4-16).

7. Repeat steps 5 and 6 for the front of the rockshaft.

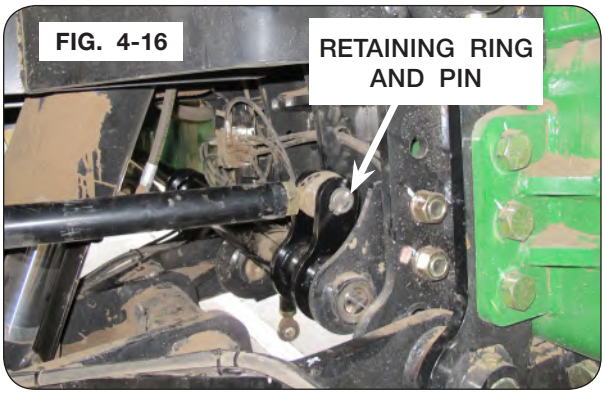


FIG. 4-16

8. Remove the 3/4" capscrews, 3/4" flat washers and 3/4" lock nuts (all hardware qty. 2) attached to the bearing retainer and grain cart as shown. Keep 3/4" hardware. (Fig. 4-17)

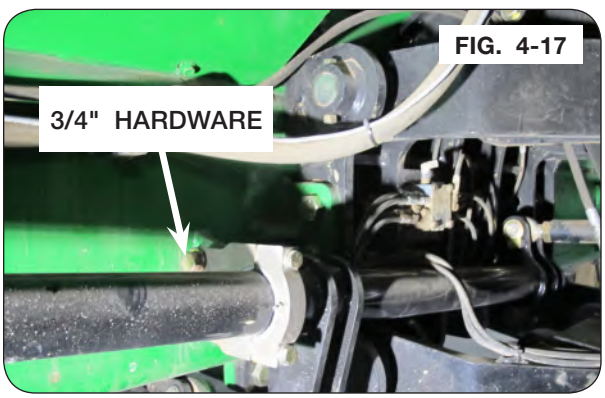


FIG. 4-17

Steering Tandem Rockshaft Replacement (continued)

NOTE: Removing and assembling rockshaft takes two people: one at the front and rear.

9. Slide the rockshaft forward to remove from the rear pivot bushing. (Fig. 4-18)

10. Slide the rockshaft rearward to remove from the front pivot bushing.

11. Lower the rear end of the rockshaft, and slide the rockshaft rearward to remove from grain cart. Discard rockshaft.

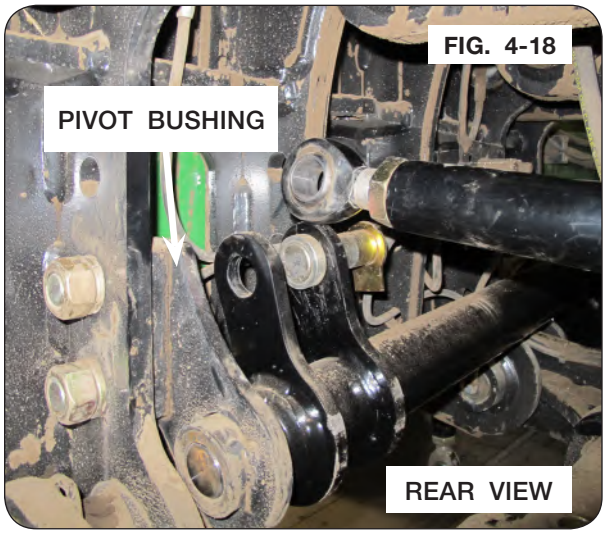


FIG. 4-18

12. Remove and discard self lubricating bushings and washers from the front and rear of the rockshaft. (Fig. 4-19)

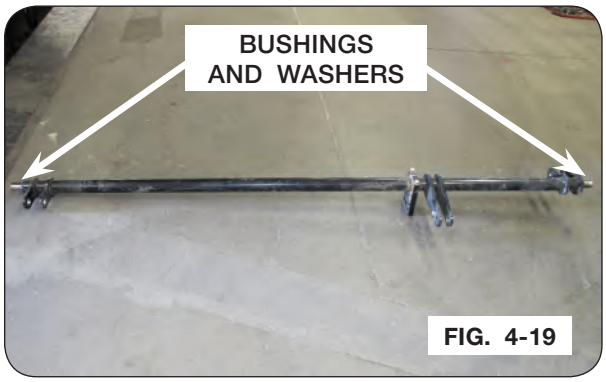


FIG. 4-19

13. Slide new washer and self lubricating bushing to the front end of the new rockshaft.

14. Assemble rockshaft by raising the front end and inserting into the front pivot bushing.

15. Slide new washer and self lubricating bushing to the rear end of the rockshaft.

16. Insert rockshaft into the rear pivot bushing.

17. Reusing 3/4" hardware from step 8, reattach the hardware to the bearing retainer and grain cart. Loosely tighten hardware. (FIG. 4-20)

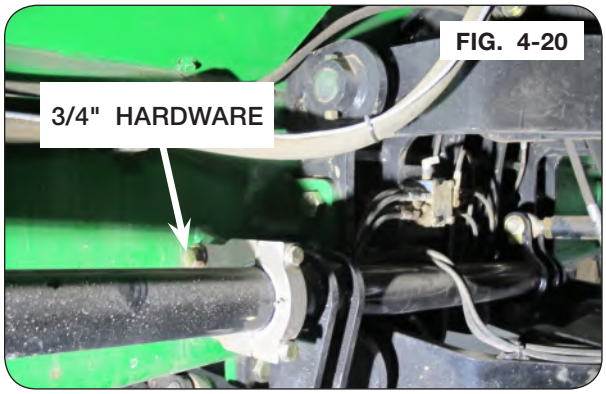


FIG. 4-20

Steering Tandem Rockshaft Replacement (continued)

18. At the rear of the rockshaft and using parts from step 6, insert the pin into the rockshaft, spacer bushings and tie-rod.

19. Reusing retaining ring, attach to the end of the pin.

20. Repeat steps 18 and 19 for the front of the rockshaft.

21. Reusing pin from step 4, attach to the end of the short tie-rod and rockshaft bracket.

22. Tighten all hardware.

23. Lower tire to ground, remove safe lifting devices and check alignment of the tires.

24. Tighten the jam nuts located on the ends of the short tie-rods. Check the alignment of the indicator, if it is misaligned "Steering Indicator Misalignment" in the previous section. (Fig. 4-21)

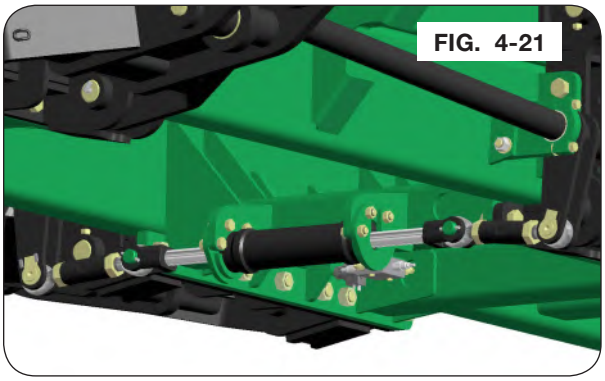


FIG. 4-21

Auger Driveline Bearings

IMPORTANT

- *Periodically check set screws in all bearings at either end of the driveline for tightness. (Fig. 4-22 & 4-23)*

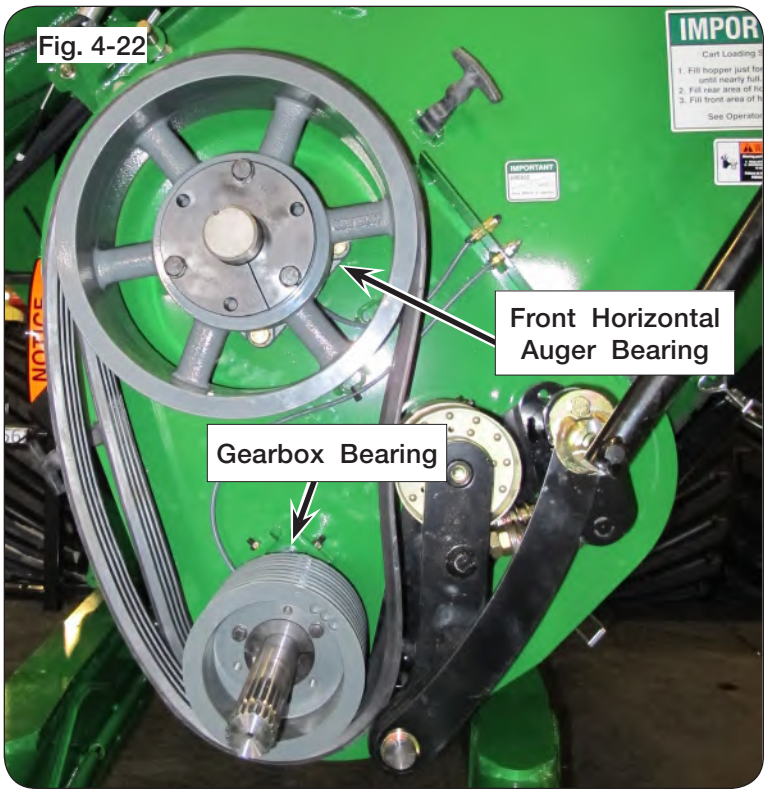


Fig. 4-22

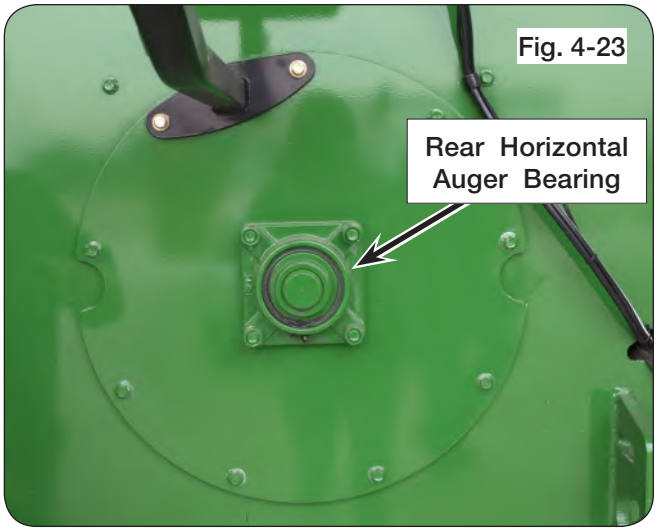


Fig. 4-23

Gearbox with Sight Glass

When checking the oil level of the gearbox, the vertical auger should be tilted all the way down.

For adequate lubrication, the oil should be visible in the sight glass. Fill with oil to the sight glass only. (Fig. 4-24)

Maximum gearbox life:
Check oil level every 2 weeks.

Replace oil every season with approximately 85 oz. 80W90 EP lubricant.

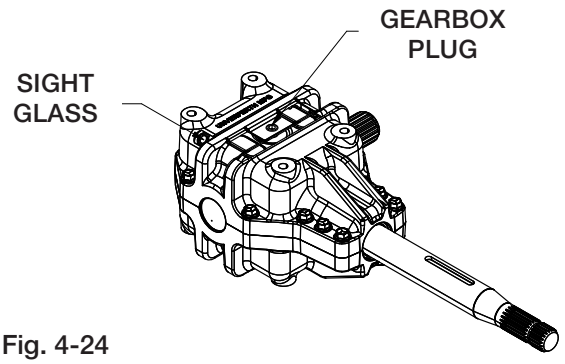


Fig. 4-24

Driveline Removal

⚠ WARNING

- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.**

Gearbox shaft guard has access doors for installing and removing of driveline.

Clamping Cone Assembly

Use a hammer and punch and moderately hit the end of clamping cone, as shown. Back off the clamping cone 1/2 turn. Continue alternating punch and unscrewing clamping cone until clamping cone can be removed by hand. (FIG. 4-25)

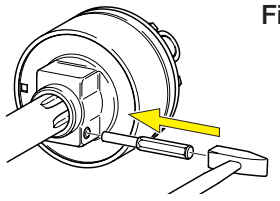


Fig. 4-25

Seasonal Storage

Always open flow door, horizontal and vertical auger cleanout doors to remove any remaining grain and to allow moisture to dry.

Wash machine inside and out before storing to remove dirt and debris that can draw and collect moisture. When using pressure washers maintain an adequate distance so not to force water into bearings.

Reattach PTO brackets (291974G or 291974R) to the inside right hand side of the tongue and place PTO assembly on brackets.

Lubricate machine at all points outlined.

Repaint all areas where paint has been removed to keep from rust developing. Rust will affect grain flow.

Coat exposed cylinder piston rods with rust preventative material if applicable.

Inspect machine for parts that may need to be replaced so they may be ordered in the off season.

Fig. 4-26

If unit is equipped with a scale indicator, electric hydraulic controls or steering controls, store these indoors in a dry location.

Close the tarp to keep debris out of the hopper.

Auger System

Vertical Auger

Annually check all bolts, nuts, and set screws. Perform lubrication as specified.

Before servicing the vertical auger, park the unit on a firm, level surface. Block the wheels/ tracks to keep the machine from moving. Raise vertical auger to discharge position and close horizontal auger flow door. Set the tractor parking brake, turn off tractor engine, remove ignition key, and disconnect PTO shaft and hydraulic lines from tractor.

NOTE: The lower auger position is indexed from the drive dog / tube flange hinge surface as shown. (Fig. 4-28)

NOTE: Hanger bearing contains zerk (9005240) with pressure relief to prevent over-greasing that could push bearing seals out. If grease comes out of the relief on the zerk, this is normal and the bearing has enough grease. (Fig. 4-29)

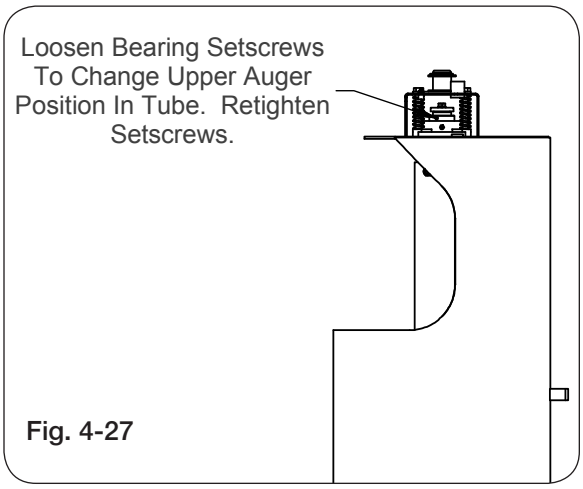


Fig. 4-27

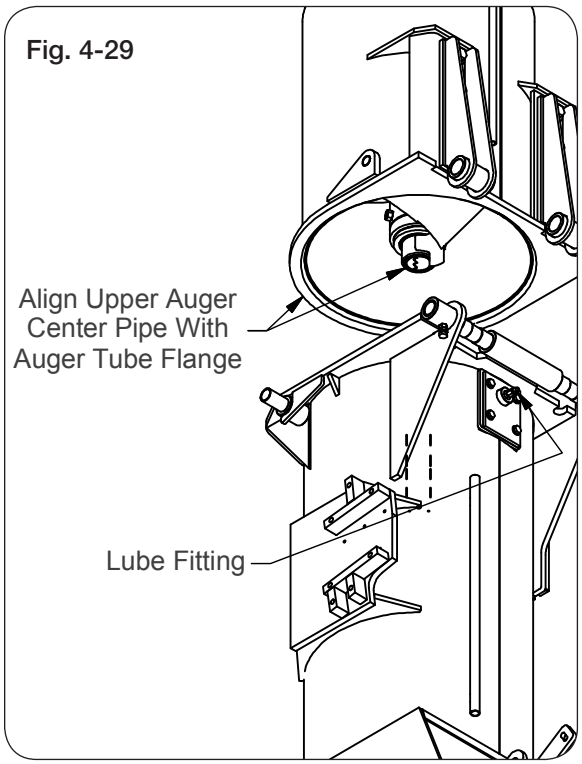


Fig. 4-29

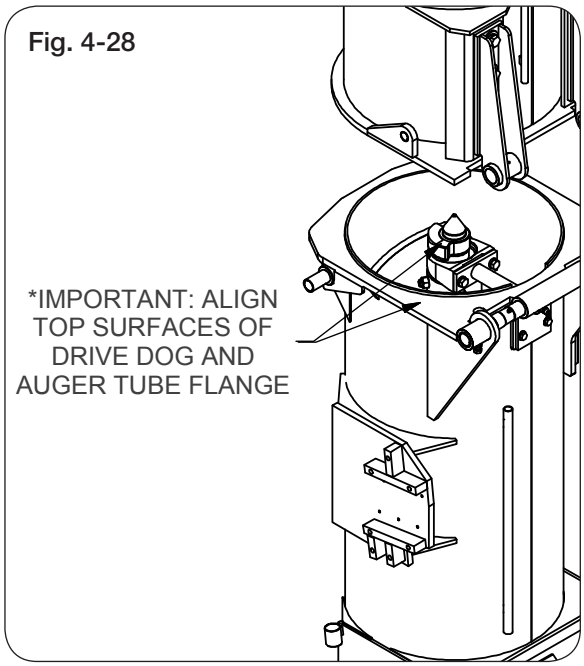


Fig. 4-28

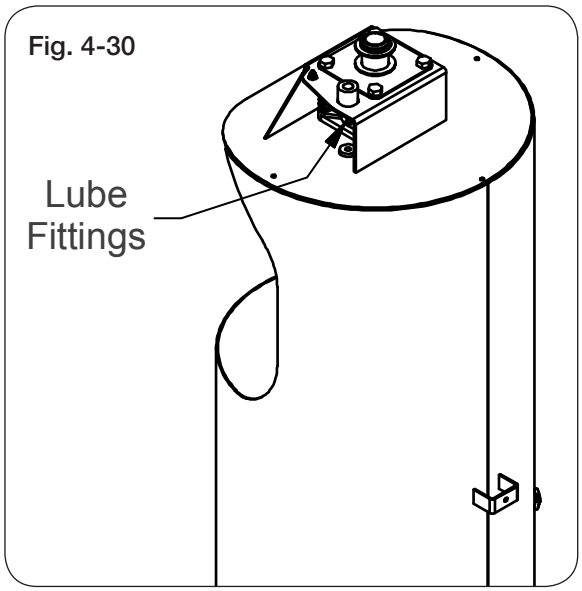


Fig. 4-30

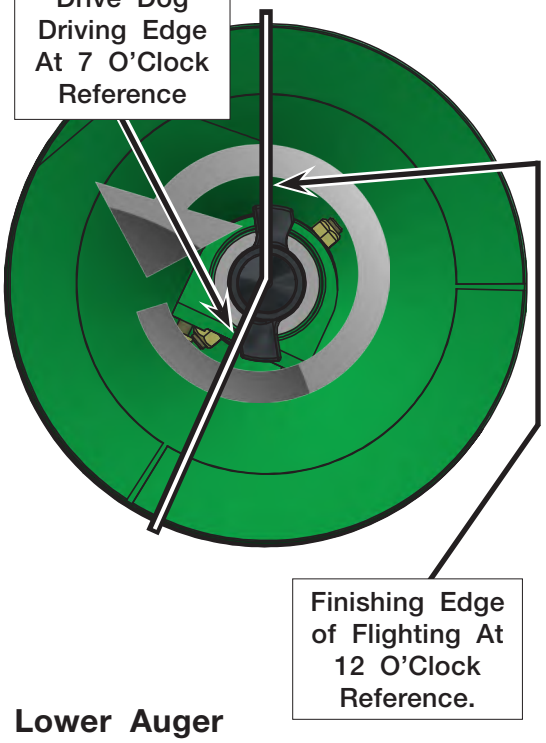
Auger System (continued)

Vertical Auger Timing

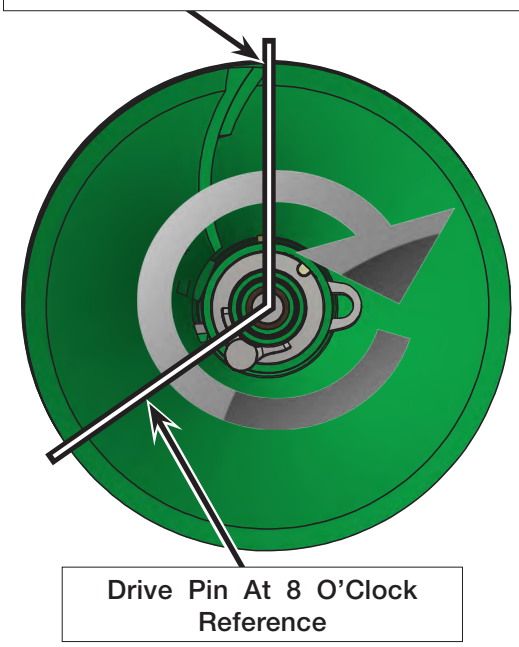
1. For the lower vertical auger, use the top edge of the flighting as a 12 o'clock reference. Position the drive dog so the driving edge is at the 7 o'clock position.

NOTE: Looking down at the lower flighting (FIG. 4-31) the auger rotation will be counter-clockwise. When looking up at the upper flighting (FIG. 4-32) the auger rotation will be clockwise.

FIG. 4-31



Upper Auger FIG. 4-32



2. For the upper auger, use the staring edge of the flighting as a 12 o'clock reference. Postion the driven edge of the drive pin at the 8 o'clock position. See Fig. 4-32.

3. When engaged, the upper flighting should immediately follow the lower flighting.

Auger System (continued)

Horizontal Auger

Annually check all bolts, nuts, and set screws. Perform lubrication as specified.

Horizontal Auger Height Measurement

4. Run a string from the front of the cart to the back, above the cleanout doors and linkages as shown in FIG. 4-33.

5. Attach the string to the bottom of the belly pan in the front side of the front opening. Place a 3/8”-1/2” spacer under the belly pan and clamp the string to the center of the opening as shown in FIG. 4-34.

6. Attach the opposite end of the string to the back side of the rear belly pan opening. Place the same thickness of spacer as was used on the front in between the string and the belly pan. Pull the string tight and clamp to the center of the opening. (FIG. 4-35)

7. Measure the distance from the string to the bottom of the flighting center pipe in between the flighting pitch. Take a measurement through the front opening and the rear opening. If the measurement in the front and rear is different, add a shim under the smaller dimensioned end between the string and the belly pan so the measurements are the same.

8. Measure the string to the auger tube either in front or behind the hanger bearing. If this dimension is 1/8” greater than the measurement taken in the front and rear, shims are required on top of the center hanger bearing. (FIG. 4-36)

NOTE: The shims are 1/8” thick each. Add as needed. Shims are available from your Brent dealer.

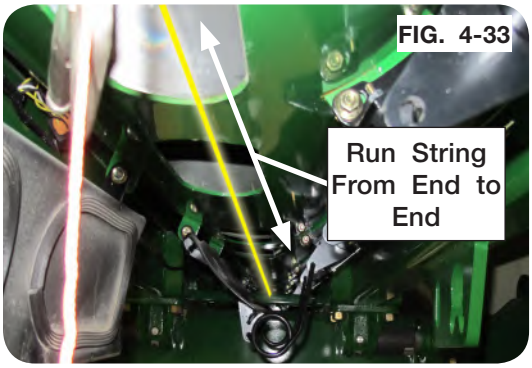


FIG. 4-33

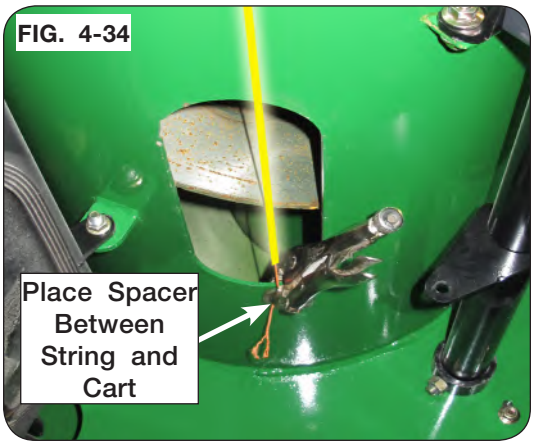


FIG. 4-34

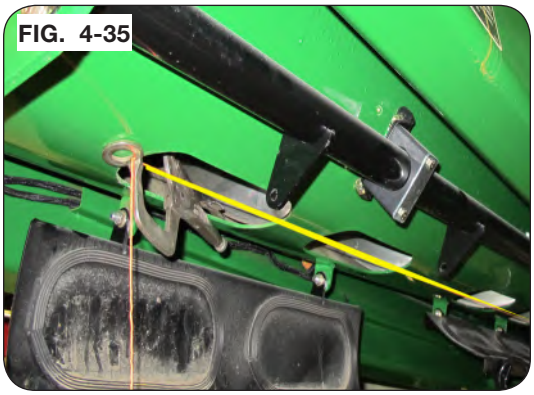


FIG. 4-35

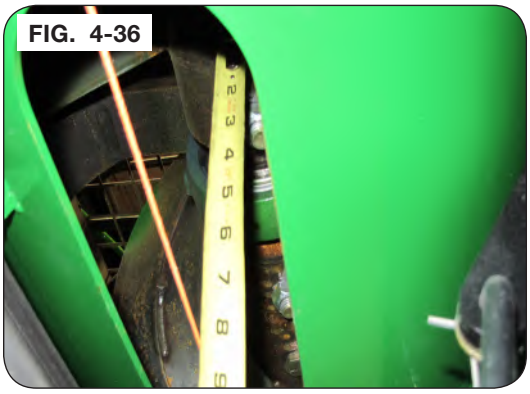


FIG. 4-36

Auger System (continued)

Hanger Bearing Height Adjustment

9. Remove the center screens inside the hopper by removing the 3/8” hardware holding them in place. (FIG. 4-37)

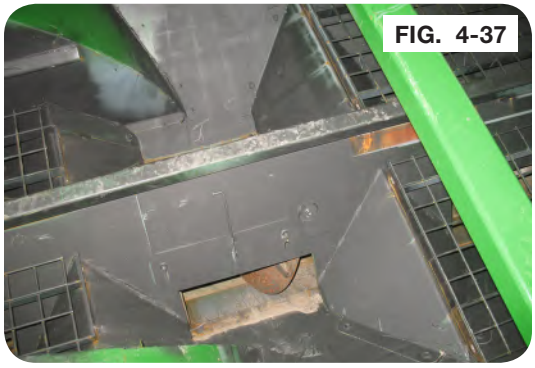


FIG. 4-37

10. Remove the restrictor weldment on the auger tent at the opening above the hanger bearing. (FIG. 4-38)

11. Loosen the two 5/8”x2” capscrews. It is not necessary to remove this hardware if two or fewer shims are being installed. Install the shims from the backside between the bearing and the bracket as shown in FIG. 4-38.

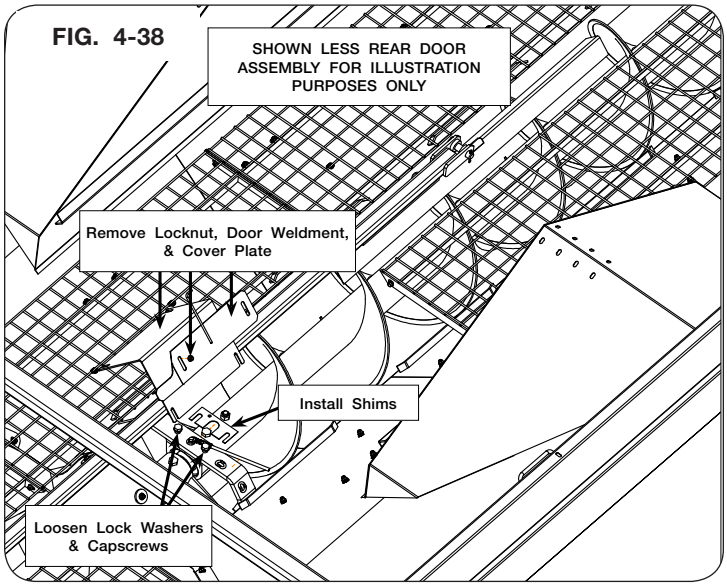


FIG. 4-38

12. If more than two shims are necessary to set the bearing height, replace the 5/8”x1 3/4” capscrews with the 5/8”x2” capscrews supplied in the kit.

13. Re-measure the distance from the flighting tube to the string making sure the string is pulled tight. If the measurements are all within 1/8”, the string can be removed.

14. Reassemble the restrictor weldment and screens on the inside of the cart.

15. Reassemble the cleanout door linkages on the front and rear doors.

16. Close cleanout doors and reassemble the cleanout door lock pin.

17. Ensure all personnel and tools are removed from the cart and reconnect the cart to the tractor.

18. Run the auger starting at a low RPM and increase speed to max RPM to make sure the auger flighting does not make contact with the belly pan or flow doors.

Baffle Adjustment

WARNING

- **TO PREVENT PERSONAL INJURY OR DEATH, ALWAYS ENSURE THAT THERE ARE PEOPLE WHO REMAIN OUTSIDE THE CART TO ASSIST THE PERSON WORKING INSIDE THE CART, AND THAT ALL SAFE WORKPLACE PRACTICES ARE FOLLOWED. THERE IS RESTRICTED MOBILITY AND LIMITED EXIT PATHS WHEN WORKING INSIDE THE CART.**

- **NEVER ENTER CART WITH AUGER OR TRACTOR RUNNING. SERIOUS OR FATAL INJURY CAN OCCUR DUE TO ENTANGLEMENT WITH ROTATING COMPONENTS. ALWAYS STOP ENGINE AND REMOVE KEY BEFORE ENTERING CART.**

Refer to the following reasons for baffle adjustment:

NOTE: To unload the cart evenly from front to back the openings should increase in height from back to front.

1. If higher flow is desired and torque is not the limiting factor, raise each baffle to an incremental amount and rerun.

2. If more material remains at the back of the cart towards the end of the unloading cycle, the back baffles should be adjusted upward in incremental amounts and rerun.

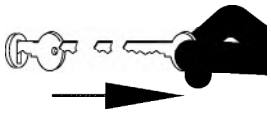
3. If more material remains at the front of the cart towards the end of the unloading cycle, the back baffles should be adjusted downward in incremental amounts and rerun.

4. If the cart requires more torque than what is available at times during the unloading cycle, then all baffles should be adjusted downward in incremental amounts.

Baffle Adjustment (continued)

The horizontal auger baffles are factory-set at the lowest position. This position results in the lowest power requirements and longest flighting life. Once grain has been run through the unit, adjustments can be made to achieve the ideal unloading performance.

Before making any baffle adjustments, close horizontal auger flow door. Securely block the grain cart, set the tractor parking brake, turn off tractor engine and remove ignition key.



If a higher flow is desired and torque is not a factor, loosen the (2) flange nuts on each baffle, see figure 4-39. Use the lift handle to raise each baffle to the desired position, retighten both flange nuts, see figures 4-39 & 4-40.

NOTE: DO NOT REMOVE ANY SCREEN PANELS. The flange nuts are best accessed using an extended socket wrench and 9/16" socket through the screen panel openings.

NOTE: Screen removed in figure 4-40 for illustration only.

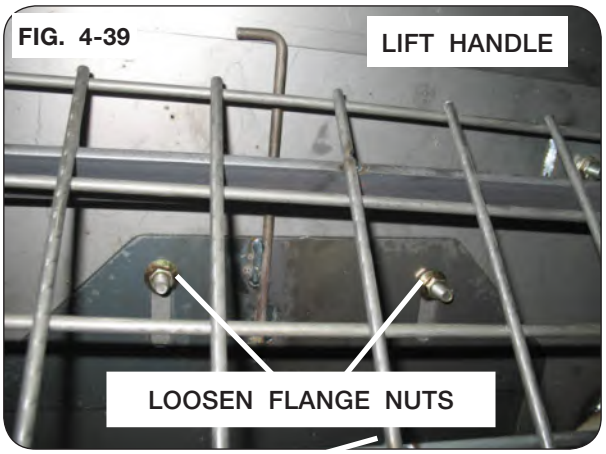


FIG. 4-39

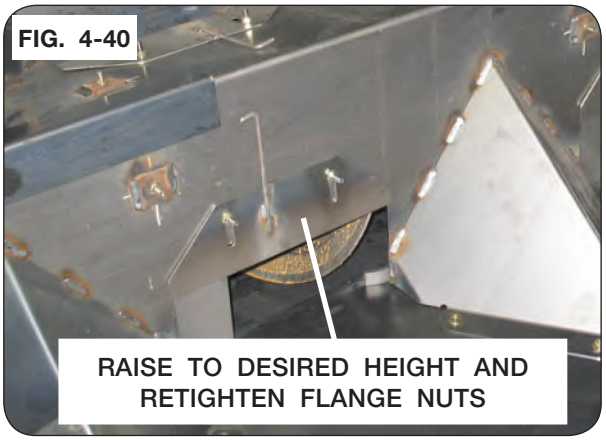


FIG. 4-40

5-Pin Driver Replacement

⚠ WARNING

- **TO PREVENT PERSONAL INJURY OR DEATH, ALWAYS ENSURE THAT THERE ARE PEOPLE WHO REMAIN OUTSIDE THE CART TO ASSIST THE PERSON WORKING INSIDE, AND THAT ALL SAFE WORKPLACE PRACTICES ARE FOLLOWED. THERE IS RESTRICTED MOBILITY AND LIMITED EXIT PATHS WHEN WORKING INSIDE THE IMPLEMENT.**
- **NEVER ENTER CART WITH AUGER OR TRACTOR RUNNING. SERIOUS OR FATAL INJURY CAN OCCUR DUE TO ENTANGLEMENT WITH ROTATING COMPONENTS. ALWAYS STOP ENGINE AND REMOVE KEY BEFORE ENTERING CART.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 1,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

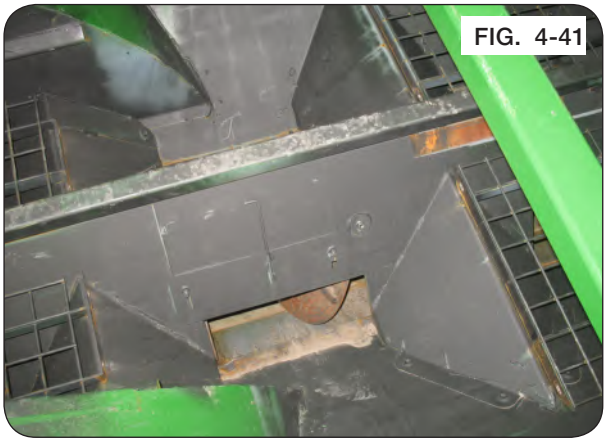
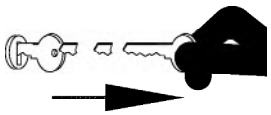


FIG. 4-41

NOTE: Open the flow gates all the way.

1. Park the unit on a firm, level surface. Block the wheels to keep the machine from moving. Set the vehicle parking brake, shut off the engine and remove the ignition key and disconnect the PTO shaft or hydraulic drivelines from the tractor.



2. Remove the bolts in both middle grates inside the cart. Remove the grates. (Figure 4-41)

NOTE: Retain all hardware for reassembly.

3. Disconnect grease line. (Figure 4-42)
4. Remove the hanger bearing bolts on each side of the auger.
5. Remove capscrews and lock washers holding bearing onto the hanger bearing plate.

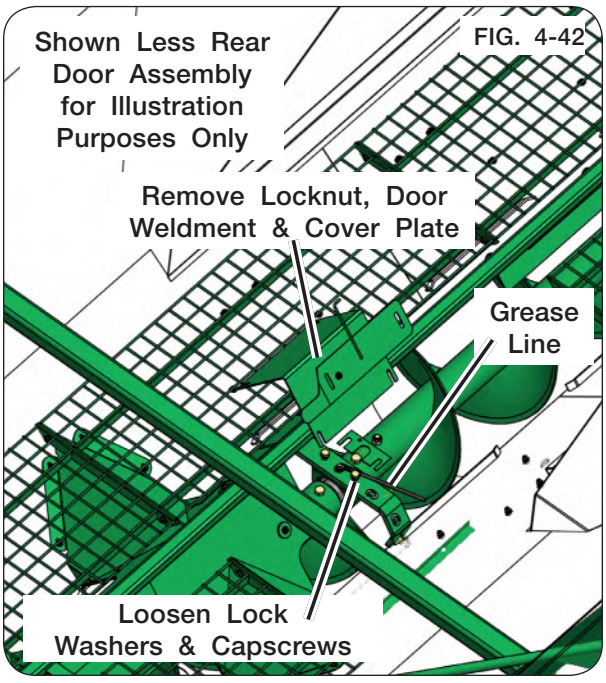
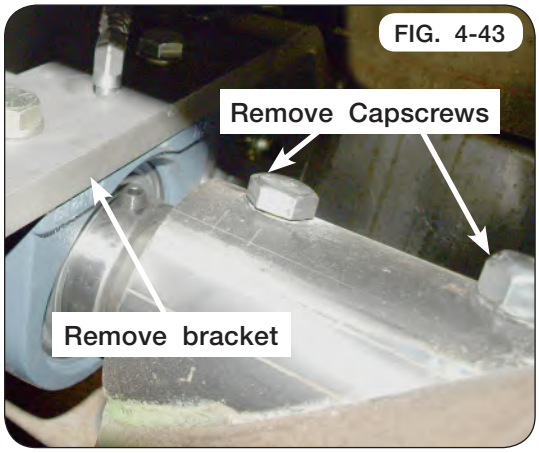


FIG. 4-42

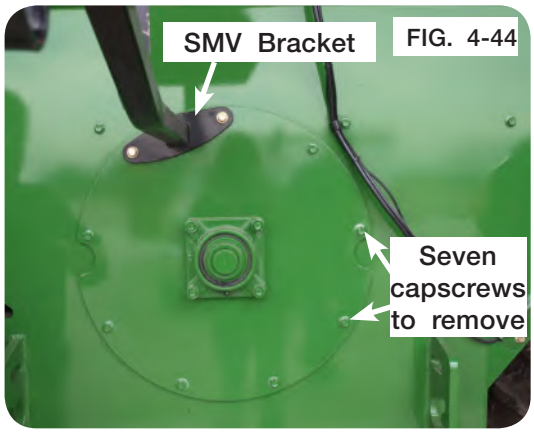
5-Pin Driver Replacement (continued)

6. Remove the hanger bearing bracket to allow access to work on the bearing and shaft. Remove two center tube connecting capscrews in the horizontal auger. (Figure 4-43)

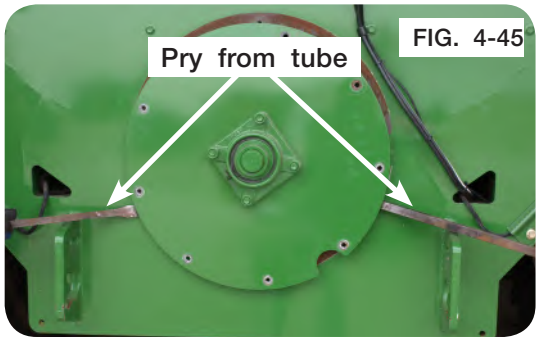


7. Remove the SMV bracket located on the rear auger cover. (Figure 4-44)

8. Remove the capscrews from the auger cover. (Figure 4-44)



9. Pry the auger from the auger tube. (Figure 4-45)



10. Using a safe lifting device rated for a minimum 1,000 lbs., pull the rear auger out 3 feet using a strap. (Figure 4-46)

5-Pin Driver Replacement (continued)

11. Remove the original 5-pin driver, bearing and the bushing insert. (Figure 4-47 & Figure 4-48)

12. Discard 5-pin driver.

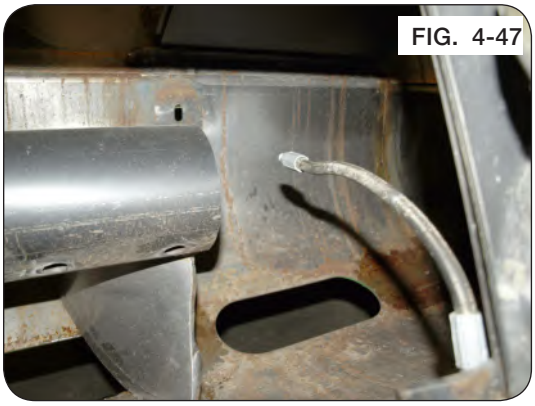
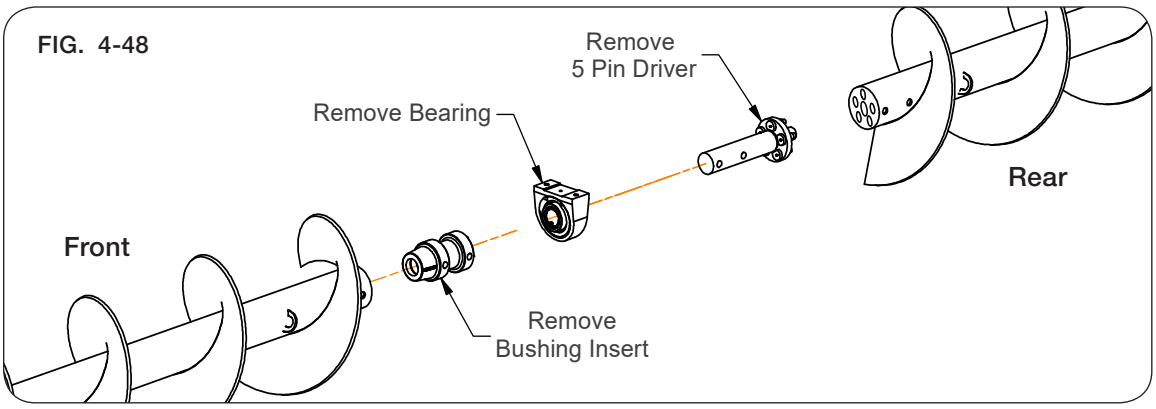


FIG. 4-47

FIG. 4-48



13. Substantially coat bushing insert with anti-seize.

14. Slide bushing insert into front auger and ensure tube holes are aligned. (Figure 4-48 & Figure 4-49)

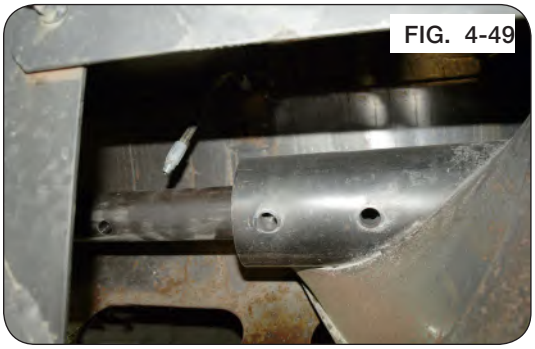


FIG. 4-49

NOTE: Make sure the set screws on bearing are towards the front of the cart. (Figure 4-50)

15. Slide bearing onto 5-pin driver. (Figure 4-50)

16. Insert new 5-pin driver into front auger and ensure tube holes are aligned.

17. Install front capscrews, spacer bushings and locknuts 180 degrees from each other and assemble spacer bushings on threaded side of capscrews. Hand tighten hardware. (Figure 4-50)

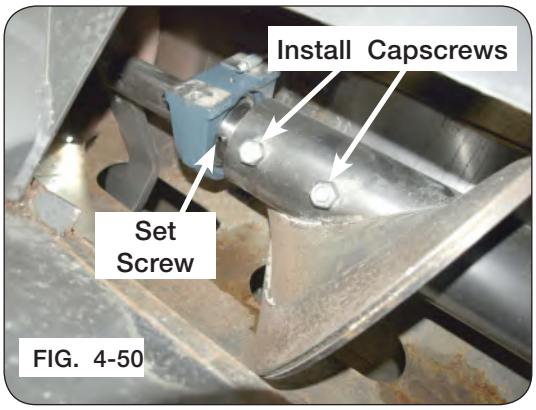


FIG. 4-50

5-Pin Driver Replacement (continued)

18. Install hanger bracket. Leave the capscrews loose attaching hanger bracket to the cart. Attach hanger bracket to the bearing. (Figure 4-51)

19. Reattach grease line components. (Figure 4-51)

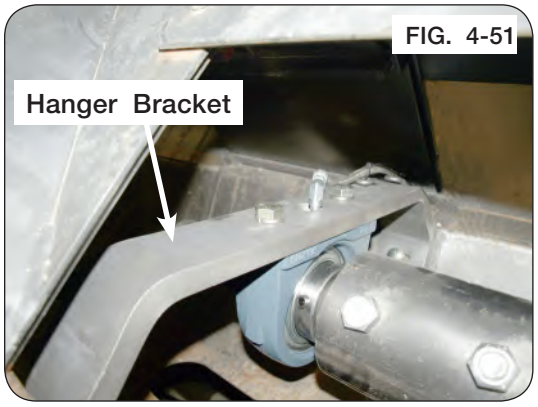


FIG. 4-51

NOTE: Rear auger flighting should lead the front auger flighting.

20. Slide the rear auger forward. Align the pins and holes with the rear auger pipe. (Figure 4-52)

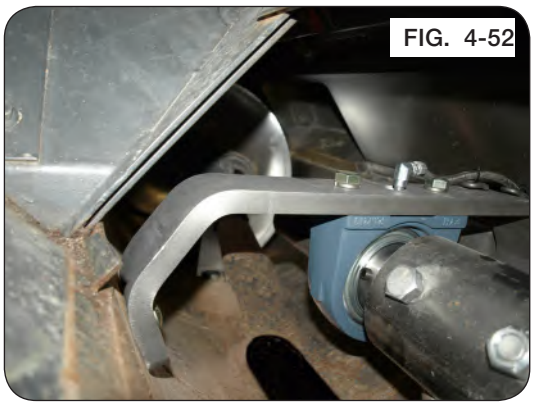


FIG. 4-52

21. Extend a string tightly from front to rear to check horizontal auger alignment. Measure the string to the auger tube either in front or behind the hanger bearing. If this dimension is 1/8" greater than the measurement taken in the front and rear, shims (8GA - 286419B or 12GA - 286424B) are required on top of the center hanger bearing. Ideally the center measurement should be equal to or 1/8" lower than the measurements on the ends of the augers. (Figure 4-53)

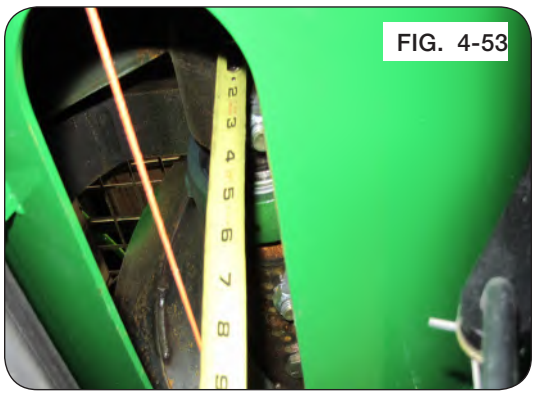


FIG. 4-53

NOTE: The shims are 1/8" thick each. Add as needed. See "Auger System - Horizontal Auger Height Measurement" in MAINTENANCE section for more details.

22. Torque hanger bracket capscrews to 130 ft.-lbs. See Figure 4-51.

23. Torque front auger capscrews to 200 ft.-lbs. (Figure 4-54)

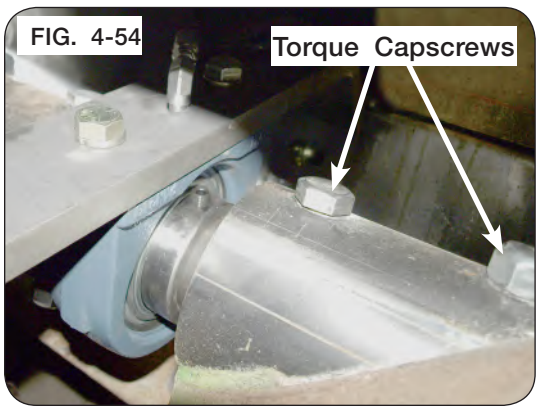


FIG. 4-54

5-Pin Driver Replacement (continued)

24. Reattach the rear auger cover and SMV bracket back onto the cart. (Figure 4-55)

25. Reinstall ALL the grates.

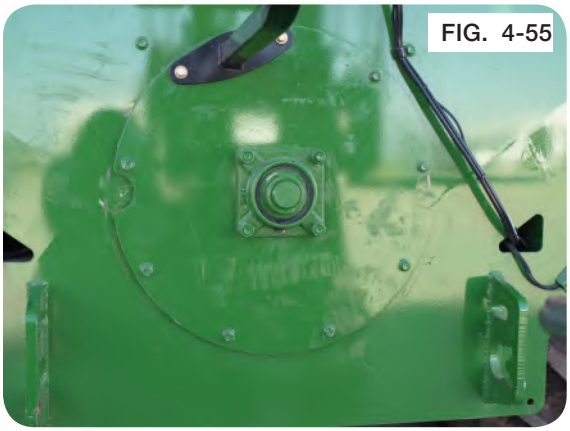


FIG. 4-55

Belt Tightener Adjustment

IMPORTANT

- *Do not use belt dressing.*
- *Keep grease and oil off of belt and pulleys.*

NOTE: Pulleys do not need to be removed to remove/replace belt.

Due to prolonged use, belt wear may be evident causing slack. To correct this, follow these steps.

1. Park the unit on firm, level surface. Block the wheels to keep the machine from moving. Set the vehicle parking brake, shut-off the engine, and remove the ignition key from the towing vehicle.

⚠ WARNING

- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR(S) ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING MACHINE.**

2. Remove PTO assembly from gearbox input shaft.

3. Detension the belt as outlined in OPERATION section. Open the cover guard access door and check if the belt tensioner handle is engaged or disengaged. If required, engage belt tensioner handle to seat belt into the pulleys.

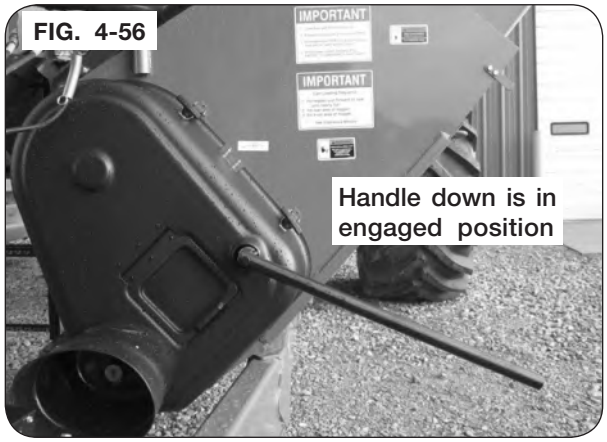


FIG. 4-56

FIG. 4-57

Belt Tightener Adjustment (continued)

4. Remove cover, disengage belt tensioner handle and inspect belts for misalignment, loose parts and cracks. Replace if necessary with a matched set. (Fig. 4-26)

FIG. 4-58

Belt Tightener Adjustment (continued)

5. Belt tension is adjusted with hex nuts below the spring. All belt tension MUST be released from linkage. Loosen outer hex nut and adjust inner nut to establish a 3 1/16" pre-load dimension between the heavy washers. Tighten the outer hex nut against inner nut to lock position. (Fig. 4-59)

6. Check the lower belt pulley to ensure belt is aligned in their grooves and with the belt tensioner handle, engage the roller/idler linkage against the belt and over-center stop. The compressed spring should now be approximately 1 3/4" between the washers and generating a force of approximately 480 lbs. against the belt. (Fig. 4-60)

7. Release and tighten belt multiple times to confirm positions and final adjustments. See Fig. 4-60 and Fig. 4-61.

8. Tighten belt to retain them into the lower pulley for cover guard assembly. Reinstall the cover guard and the PTO shaft to the gearbox input shaft. Clear work area and test run drivetrain for 3 minutes at no greater than 1000 RPM.

⚠ WARNING

- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.**

9. Disengage PTO and turn off tractor. Through the cover access door, check the compressed spring length is approximately 1 3/4" between the washers and check each belt for uniform tension. If more adjustment is needed, refer to Steps 5 through 7. If no additional spring adjustment is available, then both belts must be replaced with a new matched set.

NOTE: Always replace belts in matched sets.

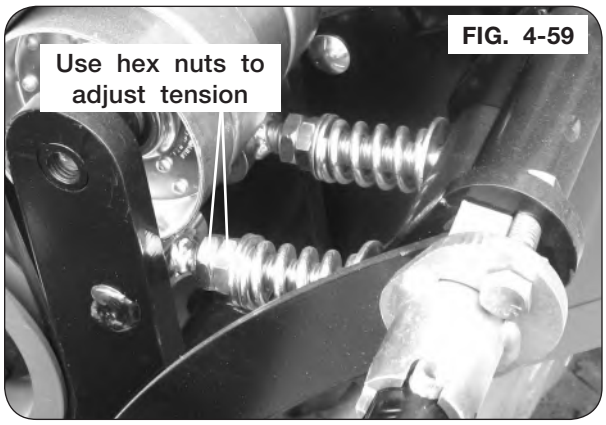


FIG. 4-59

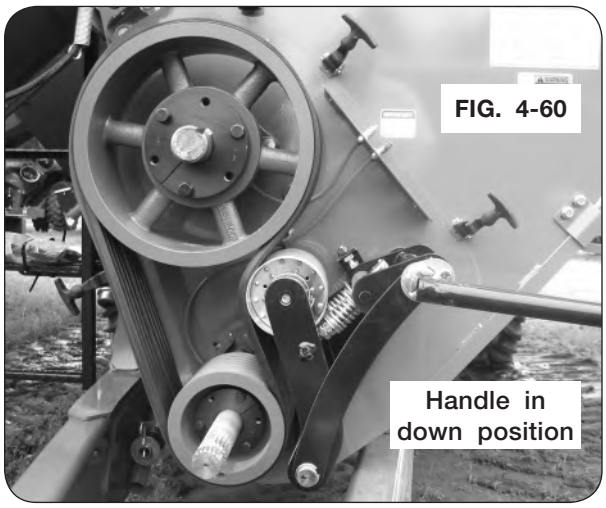


FIG. 4-60

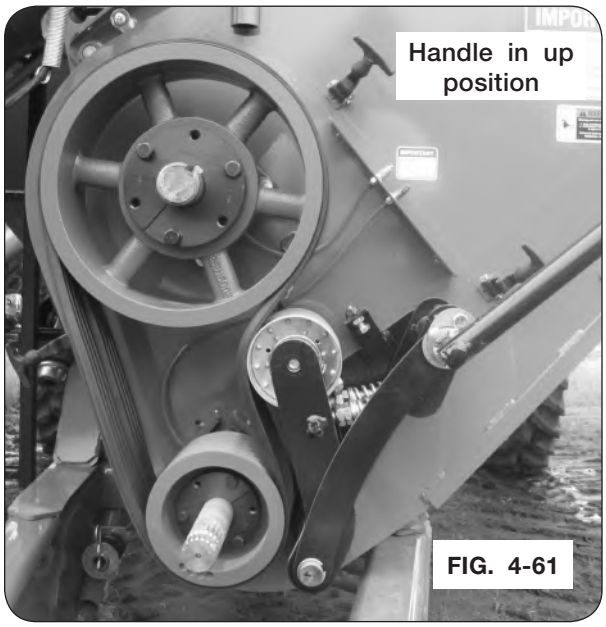


FIG. 4-61

V-Belt Alignment

1. Pulleys must be aligned with the fixed idler. Belts should be centered on idler for longest belt life. (Fig. 4-62)

2. After tightening taper-lock bushing hardware, lay a straight edge across face of the drive and driven belt pulleys to ensure alignment between the grooves on the pulleys.

FIG. 4-62

Split Tapered Bushings

Check annually for tight engagement to drive-shaft. Torque three bolts progressively to values shown:

1 3/4” Bore (Gearbox) - 30 ft-lbs.
2 1/4” Bore (Horizontal Auger) - 75 ft.-lbs.

Some gap must remain between flange & hub when bushing is properly tightened.

To remove from shaft, remove capscrews and insert them in tapped holes in bushing flange. Tighten progressively until bushing disengages.

Verify Telescoping PTO Shaft Length

⚠ WARNING

- **PROPER EXTENDED AND COLLAPSED LENGTHS OF THE TELESCOPING PTO SHAFT MUST BE VERIFIED BEFORE FIRST OPERATION WITH EACH AND EVERY TRACTOR. IF THE EXTENDED LENGTH OF THE PTO SHAFT IS NOT SUFFICIENT, IT MAY BECOME UNCOUPLED IN OPERATION AND CAUSE SERIOUS INJURY OR DEATH FROM CONTACT WITH UNCONTROLLED FLAILING OF PTO SHAFT ASSEMBLY COMPONENTS.**

IMPORTANT

- *Check the length of the telescoping members to insure the driveline will not bottom out or separate when turning and/or going over rough terrain.*

Consult your OEM dealer for recommended drawbar and PTO set up.

An excessive collapsed length can result in damage to the PTO driveline and attached components. This is most likely to occur during extreme turning angles and/or travel over rough terrain. Conditions are amplified on tractors with tracks operating in uneven terrain, particularly rice levies. Damaged driveline components can result in unsafe operation and severely reduced driveline component life.

Check the length of the telescoping members to ensure the driveline will not bottom out or separate when turning and/or going over rough terrain.

NOTE: Do not exceed 10 degrees beyond a straight pull line while operating the PTO.
To verify proper extended and collapsed lengths, use the following procedure:

1. Fully collapse PTO shaft and measure length "L" (Fig. 4-63).

   Enter here:_____(1)
   (Verify that outer tube does not bottom out on surrounding plastic shield components).

2. Pull apart PTO telescoping shaft ends and measure lengths "T" & "C" (Fig. 4-64)

   Add "T" + "C" measurments together
   Enter total here:_____(2)

3. Calculate maximum recommended extended length:

   a. Subtract line 1 from line 2
      Enter here:_____(a)
   b. Divide line (a) by 2
      Enter here:_____(b)
   c. Add line (b) to line 1.
      Enter here:_____(c)
   d. Subtract 3 inches from line (c)
      Enter here:_____(d)

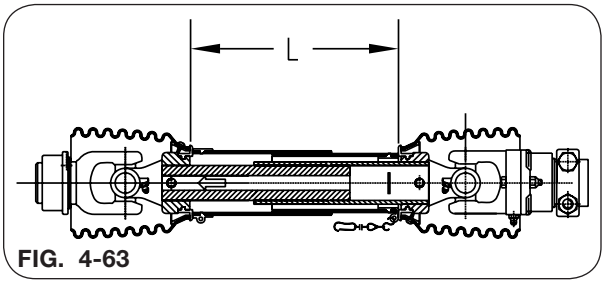


FIG. 4-63

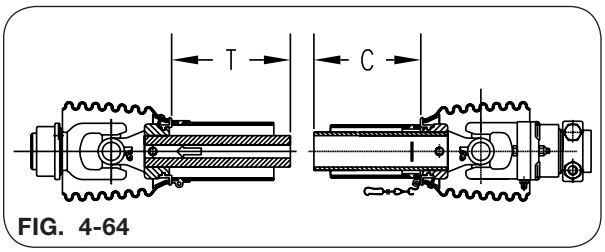


FIG. 4-64

This is the maximum recommended extended length.

Verify Telescoping PTO Shaft Length (continued)

4. Hitch tractor drawbar to cart, ensuring that tractor and cart are on level ground and coupled as straight as practical.

5. Connect PTO shaft to tractor, and measure length "L" from same points as used in step 1. Ensure that this measurement does not exceed the maximum recommended extended length calculated in step 3 above. If necessary, choose a shorter drawbar position, or obtain a longer PTO shaft assembly before operating cart.

6. Position the tractor to obtain the tightest turning angle, relative to the cart. (Fig. 4-65)

7. Measure the length "L" from the same points as used in step 1. **This distance must be at least 1.5 inches greater than the distance measured in step 1.** If necessary, adjust the length of the PTO shaft by cutting the inner and outer plastic guard tubes and inner and outer sliding profiles by the same length. Round off all sharp edges and remove burrs before greasing and reassembling shaft halves. (Fig. 4-66)

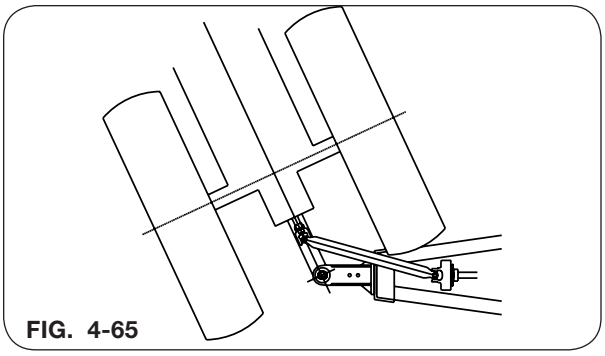


FIG. 4-65

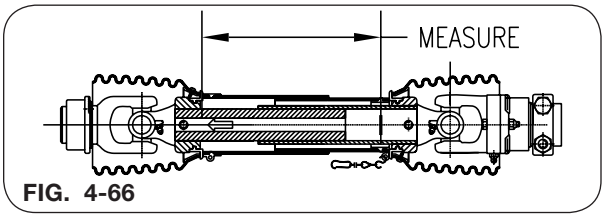


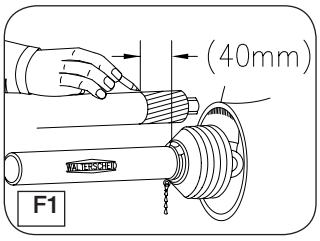
FIG. 4-66

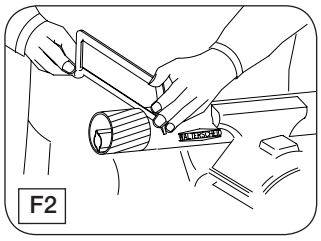
PTO Shaft and Clutch

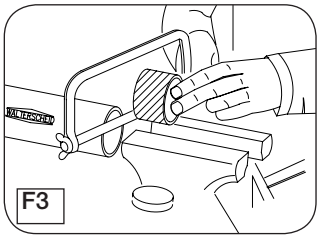
Length Adjustment (Figs. F1 - F4)

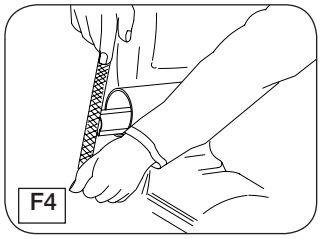
NOTE: Maximum operating length, see step 3d on page 4-36.

1. To adjust length, hold the half-shafts next to each other in the shortest working position and mark them.
2. Shorten inner and outer guard tubes equally.
3. Shorten inner and outer sliding profiles by the same length as the guard tubes.
4. Round off all sharp edges and remove burrs. Grease sliding profiles.







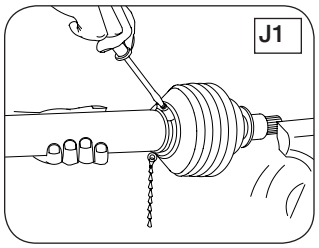


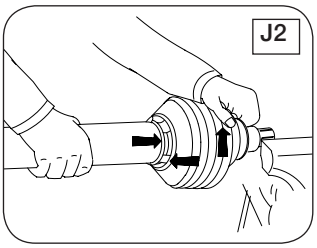
⚠ WARNING

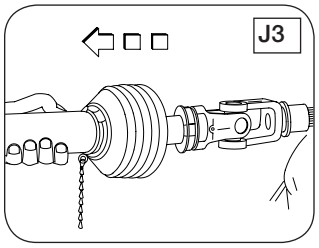
- **CHECK THE LENGTH OF THE TELESCOPING MEMBERS TO INSURE THE DRIVELINE WILL NOT BOTTOM OUT OR SEPARATE WHEN TURNING AND/OR GOING OVER ROUGH TERRAIN.**

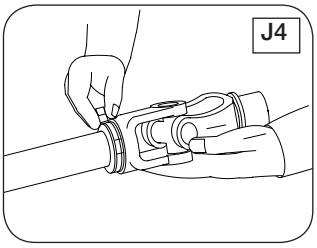
To Dismantle Guard (Figs. J1 - J4)

1. Remove locking screw.
2. Align bearing tabs with cone pockets.
3. Remove half-guard.
4. Remove bearing ring.





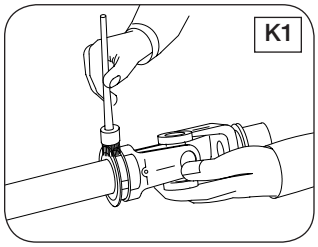


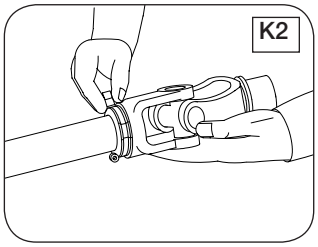


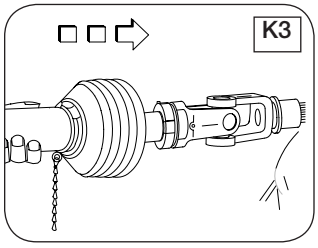
PTO Shaft and Clutch (continued)

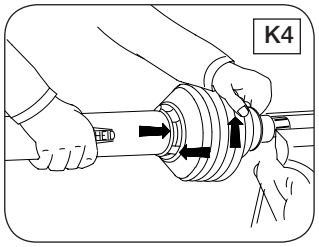
To Assemble Guard (Figs. K1 - K5)

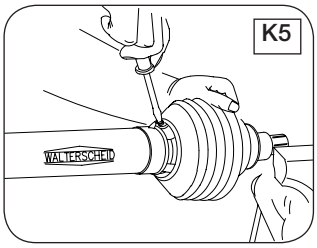
1. Grease yoke groove and inner profile tube.
2. Fit bearing ring in groove with recesses facing profile tube.
3. Slip on half-guard.
4. Turn cone until it engages correctly.
5. Install locking screw.





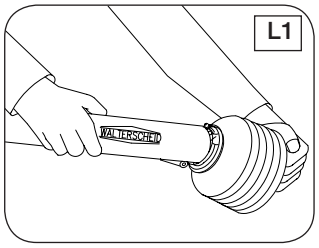


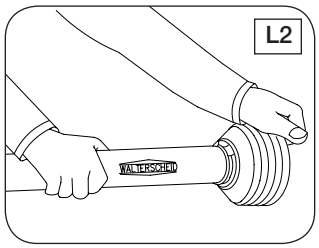


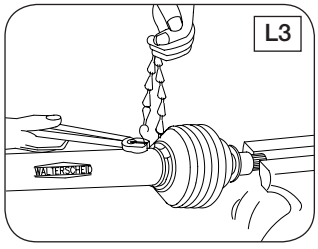


To Assemble Cone (Figs. L1 - L3)

1. Dismantle guard (Figs. J1 - J3). Remove old cone (e.g. cut open with knife). Take off chain. Place neck of new cone in hot water (approx 80o C / 180o F) and pull onto bearing housing (Fig. L1).
2. Turn guard cone into assembly position (Fig. L2). Further assembly instructions for guard (Figs. K1 - K5).
3. Reconnect chain if required (Fig. L3).





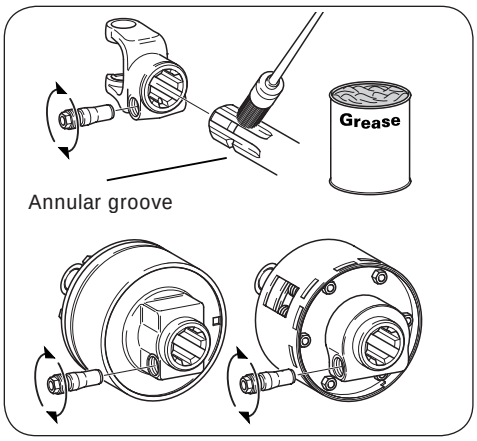


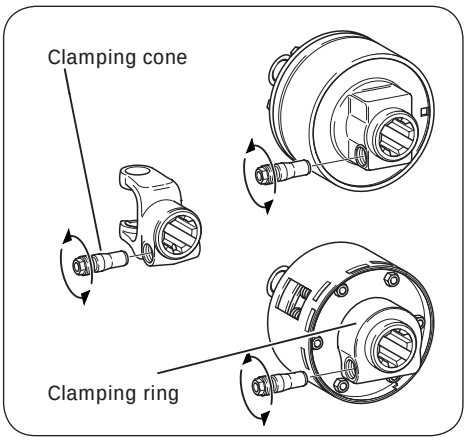
PTO Quick Disconnect

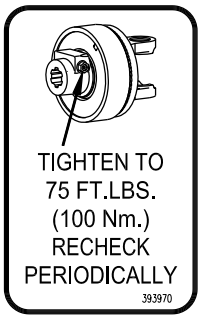
Coupling

Slide clamp yoke or cut-out clutch onto connecting shaft. Make sure the location hole for the clamping cone is positioned above the annular groove of the connecting shaft. Screw appropriate clamping cone into the location hole. Slightly moving the clamp yoke or clutch to and from in the axial direction will help drive in the clamping cone. Check the clamp yoke or clutch for a tight and safe fit and continue to check at regular intervals. Retighten the clamping cone as necessary. Torque clamping cone to 75 ft.-lbs.

When over loading occurs, the clutch disengages and will repeatedly attempt to reset. The clutch will create a repeated “clicking” noise when resetting. Torque demand must decrease for clutch to reset.

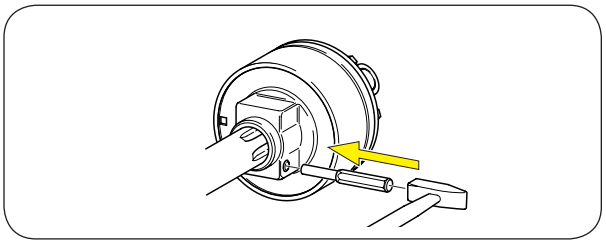






Uncoupling

First dislodge the clamping cone with a punch and hammer from its current position. Unscrew the clamping cone a partial turn. Use the punch and hammer again to help alleviate the torque resistance on the wrench, if necessary. After a few cycles, the clamping cone will move freely with low torque resistance for the removal process.



Tarp Troubleshooting Inspection & Maintenance

PROBLEM	SOLUTION
TARP SAGS IN MIDDLE AREAS	1. BOWS MAY BE BENT OR ADJUSTED TOO LOW 2. MISSING OR LOOSE RIDGE STRAP REPLACE OR RETIGHTEN 3. TENSION MAY BE TOO LOOSE. U-JOINT MAY NEED TO BE ADJUSTED ON SPLINED SHAFT TO PROVIDE MORE TENSION
HOLES OR TEARS IN TARP	1. CONSULT YOUR LOCAL DEALER FOR REPAIRS 2. ORDER TARP REPAIR KIT FROM DEALER 3. WHEN NEW TARP OR PARTS ARE NEEDED ALWAYS REPLACE WITH ORIGINAL PARTS

Inspection and Maintenance

⚠ WARNING

- **TO PREVENT PERSONAL INJURY OR DEATH, DO NOT ALLOW ANYONE ON A CLOSED TARP. TARP SYSTEM IS NOT DESIGNED TO SUPPORT A PERSON.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. REMOVE ACCUMULATED WATER/SNOW/ICE OR ANY OTHER OBJECTS FROM TARP BEFORE OPENING TARP.**

IMPORTANT

- *Do not open or close tarp while moving or in high wind conditions. Damage to the tarp may occur.*
- *Tarp should not be used if it is torn or the bungee cords are frayed or show damage. If water pools on the tarp adjust tension of tarp cables and/or arm springs as required.*

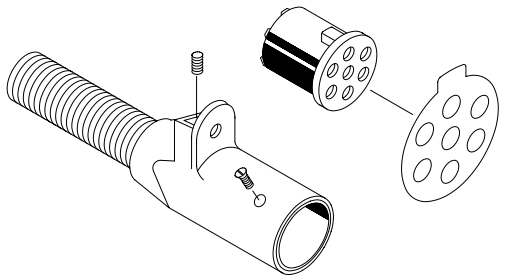
Periodic preventive maintenance should be practiced. Inspect tarp and hardware often for abrasions or loosened bolts that may need adjustment and/or repair. Check bungee cords for wear and adjust tension at the beginning of the season and again half way through the season.

Tears in tarp should addressed before further tarp operation. If water pools on tarp, adjust tension of tarp cables and/or arm springs.

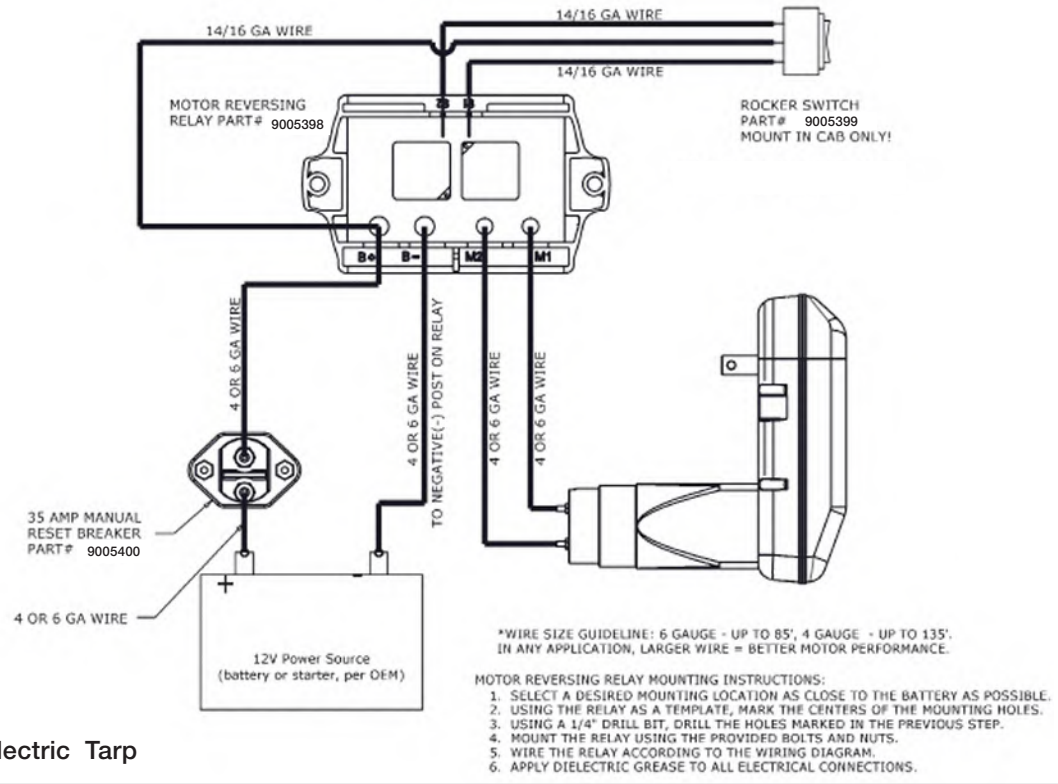
If installed correctly, tarp should always operate as well as when first installed. If tarp does not pass this simple inspection, make all appropriate repairs or adjustments immediately before serious damage occurs.

Electrical System Schematic

GRAIN CART WIRES
White -- Ground
Green -- Right Amber Flashing Lamp
Yellow -- Left Amber Flashing Lamp
Brown -- Amber Clearance and
Red Tail Lights (Low Filament)
Red -- Red Brake Lights (High Filament)
Black -- Work Lights
Blue -- **NOT USED**

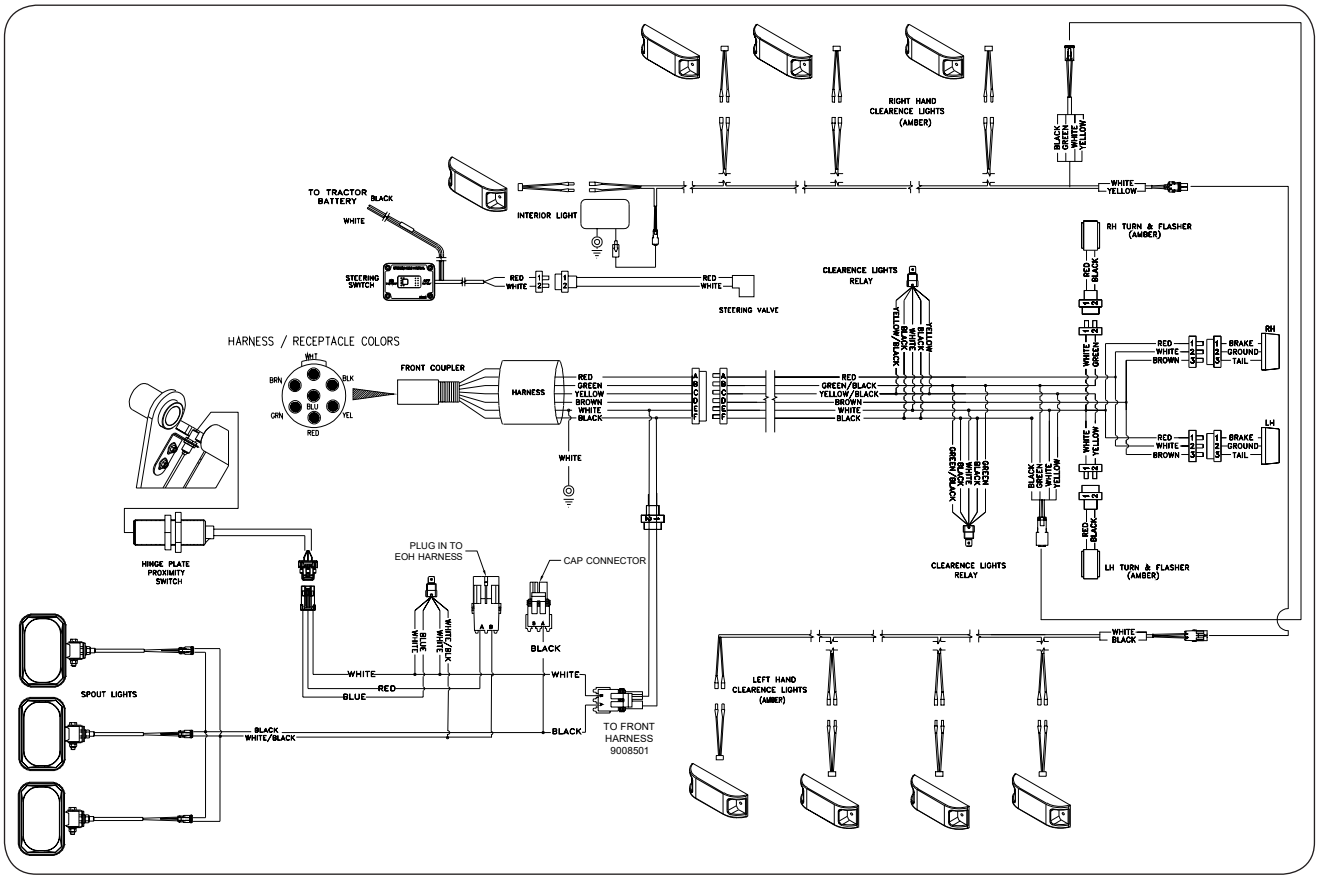


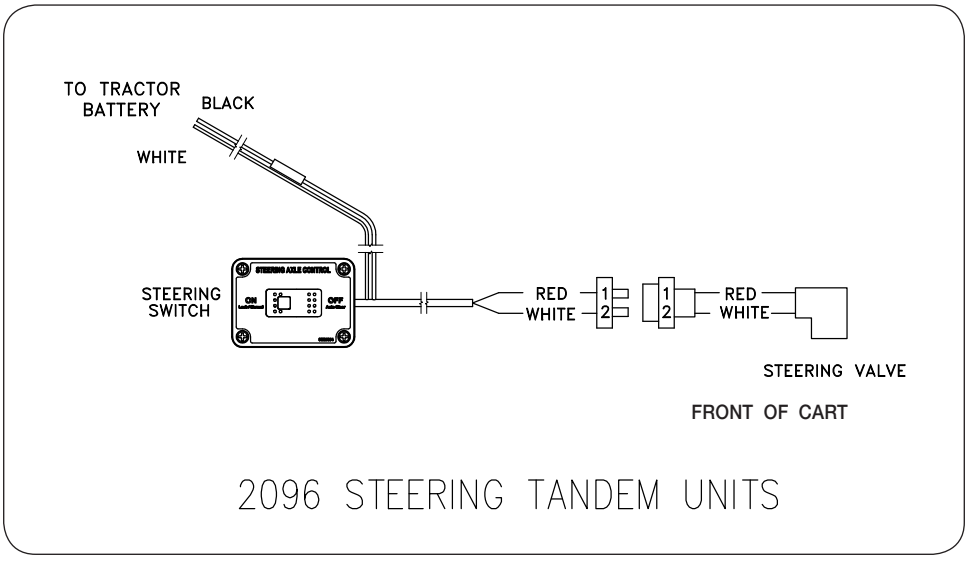
SAE SEVEN-POINT CONNECTOR PLUG **220912**



2096 Electric Tarp

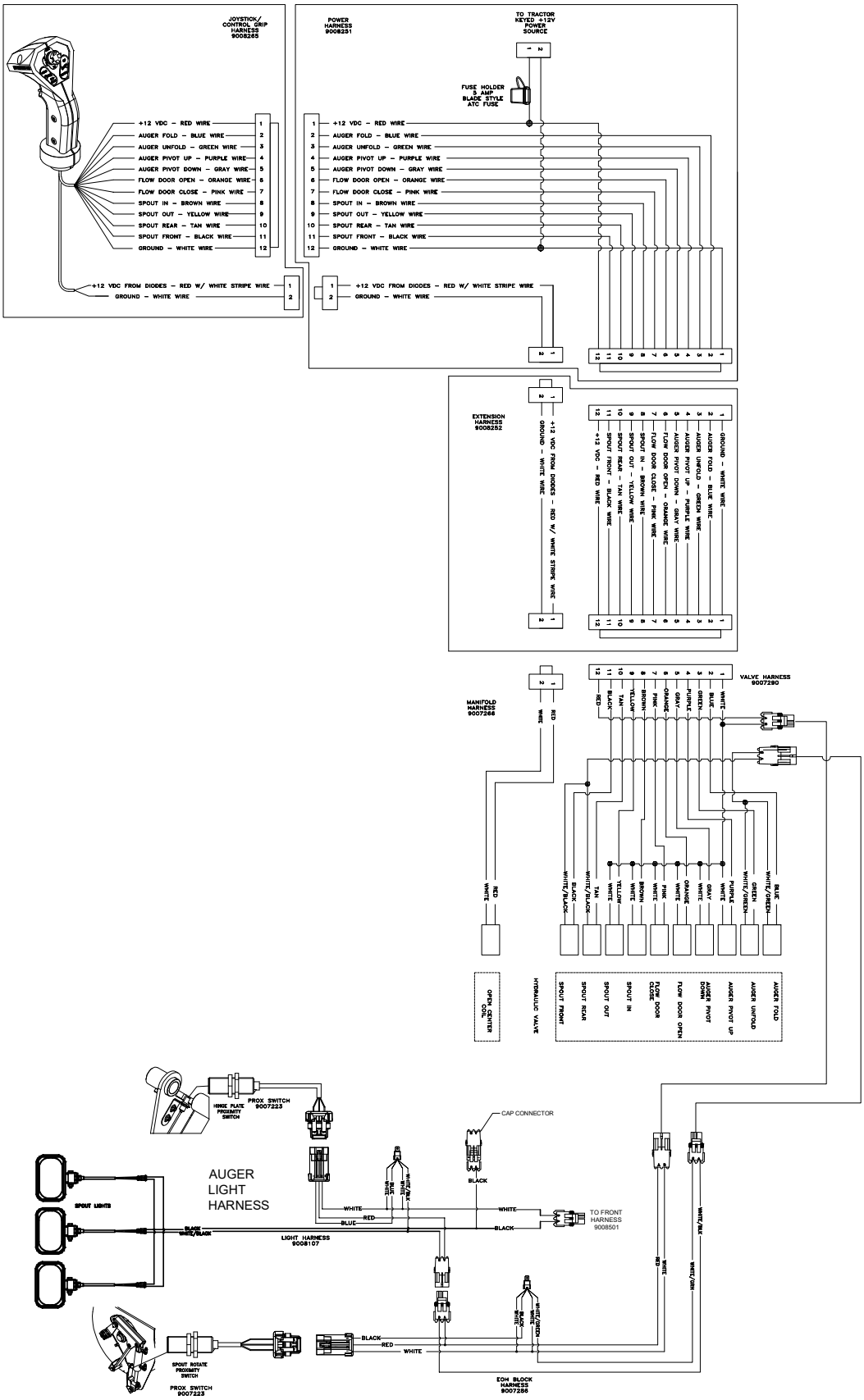
Electrical System Schematic



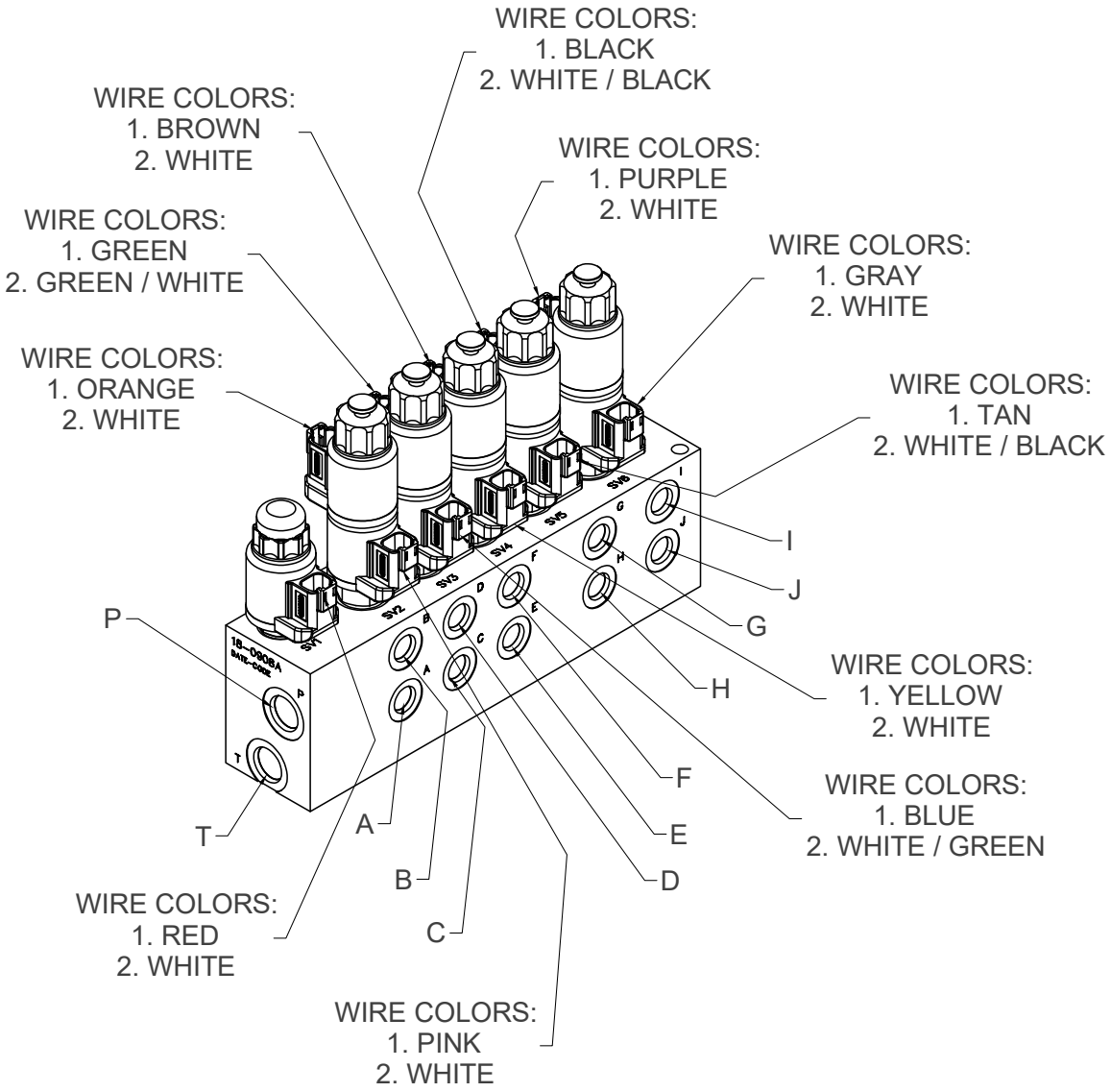


2096 STEERING TANDEM UNITS

Electrical Over Hydraulic (EOH) System Schematic 5 Function Optional

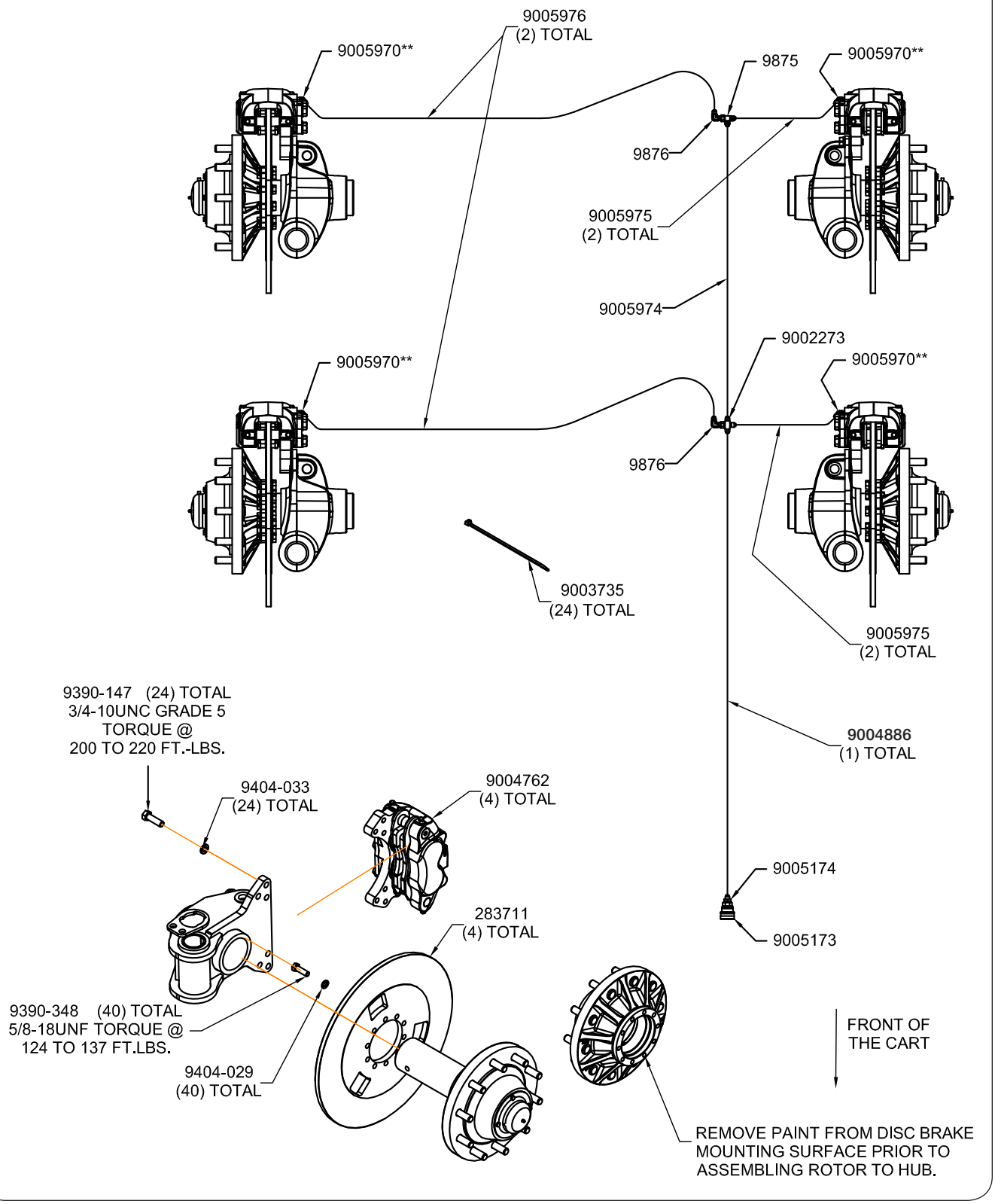


Optional Electric Over Hydraulic Valve Electric Schematic 5 Spool



PORT	END OF CYLINDER	FUNCTION
A	BUTT END	FLOW DOOR
B	RAM END	FLOW DOOR
C	RAM END	AUGER FOLD
D	BUTT END	AUGER FOLD
E	RAM END	SPOUT TILT
F	BUTT END	SPOUT TILT
G	RAM END	SPOUT ROTATE
H	BUTT END	SPOUT ROTATE
I	BUTT END	AUGER TILT
J	RAM END	AUGER TILT
P		TRACTOR PRESSURE
T		TRACTOR RETURN

Braking System Schematic



**LOCATE/REPLACE IN LOWEST BLEEDER PORT OF EACH CALIPER.

Wheels and Tires

Wheel Nut Torque Requirements

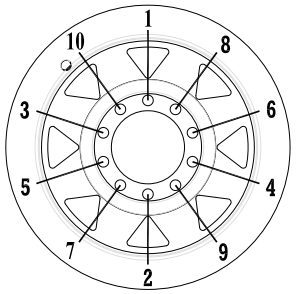
⚠ CAUTION

- **IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. TORQUE WHEEL NUTS/BOLTS TO VALUES IN TABLE. CHECK TORQUE BEFORE USE, AFTER ONE HOUR OF UNLOADED USE OR AFTER FIRST LOAD, AND EACH LOAD UNTIL WHEEL NUTS/BOLTS MAINTAIN TORQUE VALUE. CHECK TORQUE EVERY 10 HOURS OF USE THERE-AFTER. AFTER EACH WHEEL REMOVAL START TORQUE PROCESS FROM BEGINNING. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

Failure to check torque before first load may damage wheel nut/bolt seats. Once seats are damaged, it will become impossible to keep nuts/bolts tight. Tighten nuts/bolts to applicable torque value shown in table. Start all nuts/bolts by hand to prevent cross threading. Torque nuts/bolts in the recommended sequence as shown in Diagram 1.

NOTE: Do not use anti-seize on wheel hardware.

WHEEL HARDWARE	
SIZE	FOOT-POUNDS
7/8-14 (UNF)	440 ft.-lbs.
M22x1.5	475 ft.-lbs.



10 BOLT

DIAGRAM 1

Wheels and Tires (continued)

Tire Pressure

The following is to be used as a general guide for tire inflation and figures can vary depending on specific brand of tire used. **It is important that tires are inspected after unit is loaded.** Start with minimum pressure. The tire should stand up with no side-wall buckling or distress as tire rolls. Record the pressure needed to support the full load and maintain this pressure to achieve proper tire life. **Do not exceed maximum recommended tire pressure.** Each tire must be inflated to 35 PSI max to seat the beads, deflated to 5-10 PSI, then reinflated to the tire's max PSI when mounting.

Tire Pressure for Grain Carts

Tire Make	Tire Size	Load Index / Ply Rating	Max. PSI
Firestone	23.1x26 R-3	12	32
	23.1x26 R-1	12	32
	28Lx26 R-3	12	26
	24.5x32 R-3	12	32
	24.5x32 R-1	12	32
	30.5x32 R-1	14	28
	30.5x32 R-3	14	28
	30.5x32 R-3	16	34
	30.5x32 R-1	16	26
	35.5x32 R-3	20	36
	76x50.00x32 HF-3	16	40
	76x50.00x32 HF-3	20	50
	800/65R32 R-1W	172A8	44
	800/60R32 R-3	181B	46
	900/65R32 R-3	191B	46
	900/60R32 R-1	176A8	44
	1250/50R32F IF/CFO R-1WNP	201D	46
	1250/50R32F IF/CFO R-1W	188B	30
	520/85R38 R-1	155A8	29
	520/85R38 R-1	173A8	64
	480/80R42 R-1	151A8	36
	520/85R42 R-1	157A8	29
	520/85R42 R-1	165A8	51
	520/85R42 IF/CFO R-1	169A8/B	35
	520/85R42 R-1W	169B	35
	420/80R46 R-1	151A8	44
	480/80R46 R-1	158A8	44
	380/90R46 R-1	152B	51

Wheels and Tires (continued)

Tire Pressure (continued)

Tire Make	Tire Size	Load Index / Ply Rating	Max. PSI
Titan/Goodyear	23.1x26 R-3	10	26
	23.1x26 R-1	10	26
	24.5R32 R-1	169A8/B (5-Star)	48
	24.5x32 R-3	12	32
	24.5x32 R-1	12	32
	30.5x32 R-3	16	26
	30.5x32 R-3	14	22
	30.5x32 R-1	14	22
	480/80x42 R-1	166A8	23
	1100/45R46 F-1W	195D	35
Mitas	650/75R32 R-1W	172A8	58
	900/60x32 R-1W	176A8	41
	900/70R32 R-1W	188A8	53
	1050/50x32 R-1W	178A8	41
	1250/50R32 R-1W	188A8	41
	900/60x38 R-1W	181A8	44
	520/85x42 R-1W	162A8	44
	650/65x42 R-1W	168A8	44
Alliance	35.5LR32	193A8	44
	900/60R32 R-1W	192D	46
	1050/50R32 R-1W	185A8	63
	1250/50R32 R-1W	201B	46
Trelleborg	VF1050/50R32 R-1	198D	52
	900/50R32 R-1W	181A8	55
	900/60x32	176LI	44
	850/55R42 R-1W	161A8	32

Wheels and Tires (continued)

Tire Warranty

For questions regarding new tire warranty, please contact your local original equipment tire dealer. **USED TIRES CARRY NO WARRANTY.** Following are phone numbers and Websites for your convenience:

Firestone	www.firestoneag.com Phone 800-847-3364
Titan or Goodyear	www.titan-intl.com Phone 800-USA-BEAR Fax 515-265-9301
Trelleborg	www.trelleborg.com Phone 866-633-8473
Continental/Mitas	www.mitas-tires.com Phone 704-542-3422 Fax 704-542-3474
Alliance	www.atgtire.com Phone 781-325-3801

Complete Torque Chart

Capscrews - Grade 5

NOTE:

- Grade 5 capscrews can be identified by three radial dashes on the head.

- For wheel torque requirements, refer to Wheels and Tires.
- Tighten U-bolts evenly and equally to have the same number of threads exposed on each end.

SIZE	FOOT POUNDS	NEWTON METERS
1/4-20 1/4-28	8-10 9-11	11-13 12-15
5/16-18 5/16-24	15-17 17-19	20-23 23-26
3/8-16 3/8-24	25-28 28-31	34-38 38-42
7/16-14 7/16-20	40-45 45-50	54-61 61-68
1/2-13 1/2-20	62-68 68-75	84-92 92-102
9/16-12 9/16-18	90-98 100-110	122-133 134-148
5/8-11 5/8-18	120-135 124-137	162-183 168-186
3/4-10 3/4-16	200-220 210-230	270-300 285-310
7/8-9 7/8-14	330-350 360-380	425-475 460-515
1-8 1-14	500-525 540-560	675-710 730-760
1 1/8-7 1 1/8-12	600-635 665-700	815-860 920-950
1 1/4-7 1 1/4-12	850-895 940-990	1150-1215 1275-1340
1 3/8-6 1 3/8-12	1125-1175 1280-1335	1525-1590 1735-1810
1 1/2-6 1 1/2-12	1500-1560 1685-1755	2035-2115 2285-2380

IMPORTANT

- *Follow these torque recommendations except when specified in text.*

Complete Torque Chart

Capscrews - Grade 8

NOTE:

- Grade 8 capscrews can be identified by six radial dashes on the head.
- For wheel torque requirements, refer to Wheels and Tires.
- Tighten U-bolts evenly and equally to have the same number of threads exposed on each end.

SIZE	FOOT POUNDS	NEWTON METERS
5/16-18 5/16-24	20-22 21-23	27-30 28-31
3/8-16 3/8-24	35-39 36-41	47-53 49-55
7/16-14 7/16-20	54-58 55-60	73-78 75-80
1/2-13 1/2-20	82-88 94-99	110-120 125-135
9/16-12 9/16-18	127-134 147-155	170-180 199-210
5/8-11 5/8-18	160-170 165-175	215-230 225-235
3/4-10 3/4-16	280-295 330-365	380-400 445-495
7/8-9 7/8-14	410-430 420-440	555-580 570-595
1-8 1-14	630-650 680-700	850-880 920-950
1 1/8-7 1 1/8-12	900-930 930-950	1220-1260 1260-1290
1 1/4-7 1 1/4-12	1250-1300 1280-1320	1695-1760 1735-1790

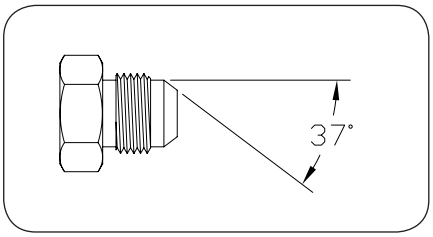
IMPORTANT

- *Follow these torque recommendations except when specified in text.*

Hydraulic Fittings – Torque and Installation

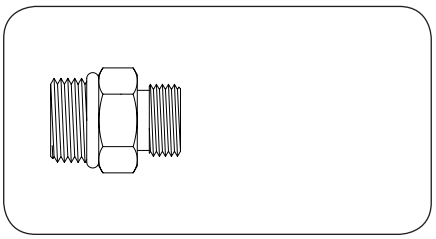
SAE Flare Connection (J. I. C.)

1. Tighten nut with finger until it bottoms the seat.
2. Using a wrench, rotate nut to tighten. Turn nut 1/3 turn to apply proper torque.



SAE Straight Thread O-Ring Seal

1. Insure jam nut and washer are backed up to the back side of smooth portion of elbow adapter.
2. Lubricate o-ring.
3. Thread into port until washer bottoms onto spot face.
4. Position elbows by backing up adapter.
5. Tighten jam nut.



Notes

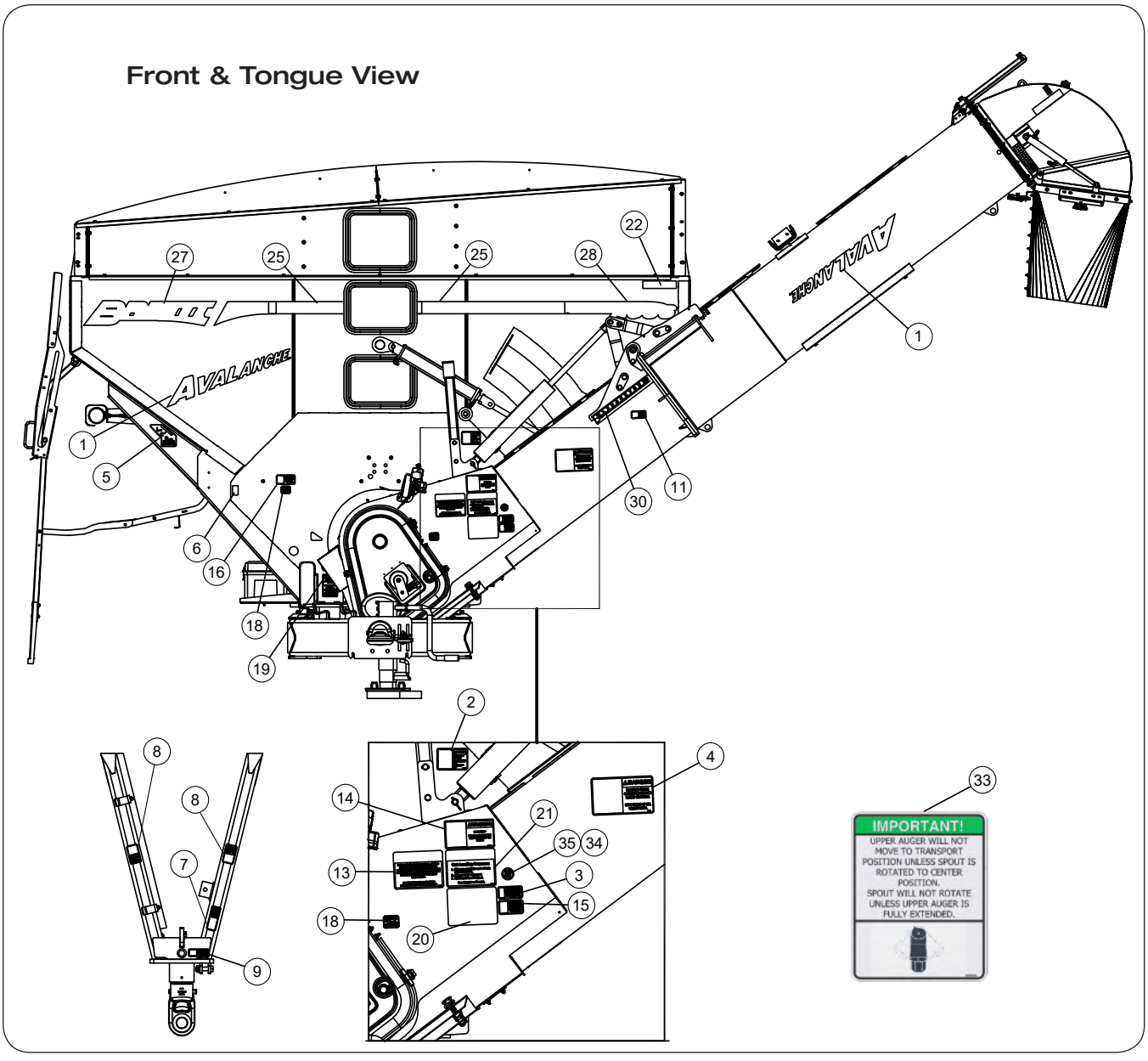
Section V
Parts

Please visit www.unverferth.com/parts/ for the most current parts listing.

FOR SCALE INFORMATION, PLEASE REFER TO YOUR SCALE MANUAL.
FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.
FOR UHARVEST INFORMATION, PLEASE REFER TO YOUR UHARVEST MANUAL.
FOR ELECTRIC TARP INFORMATION, PLEASE REFER TO YOUR ELECTRIC TARP MANUAL.
FOR WATER DELIVERY SYSTEM INFORMATION, PLEASE REFER TO YOUR WATER DELIVERY SYSTEM MANUAL.

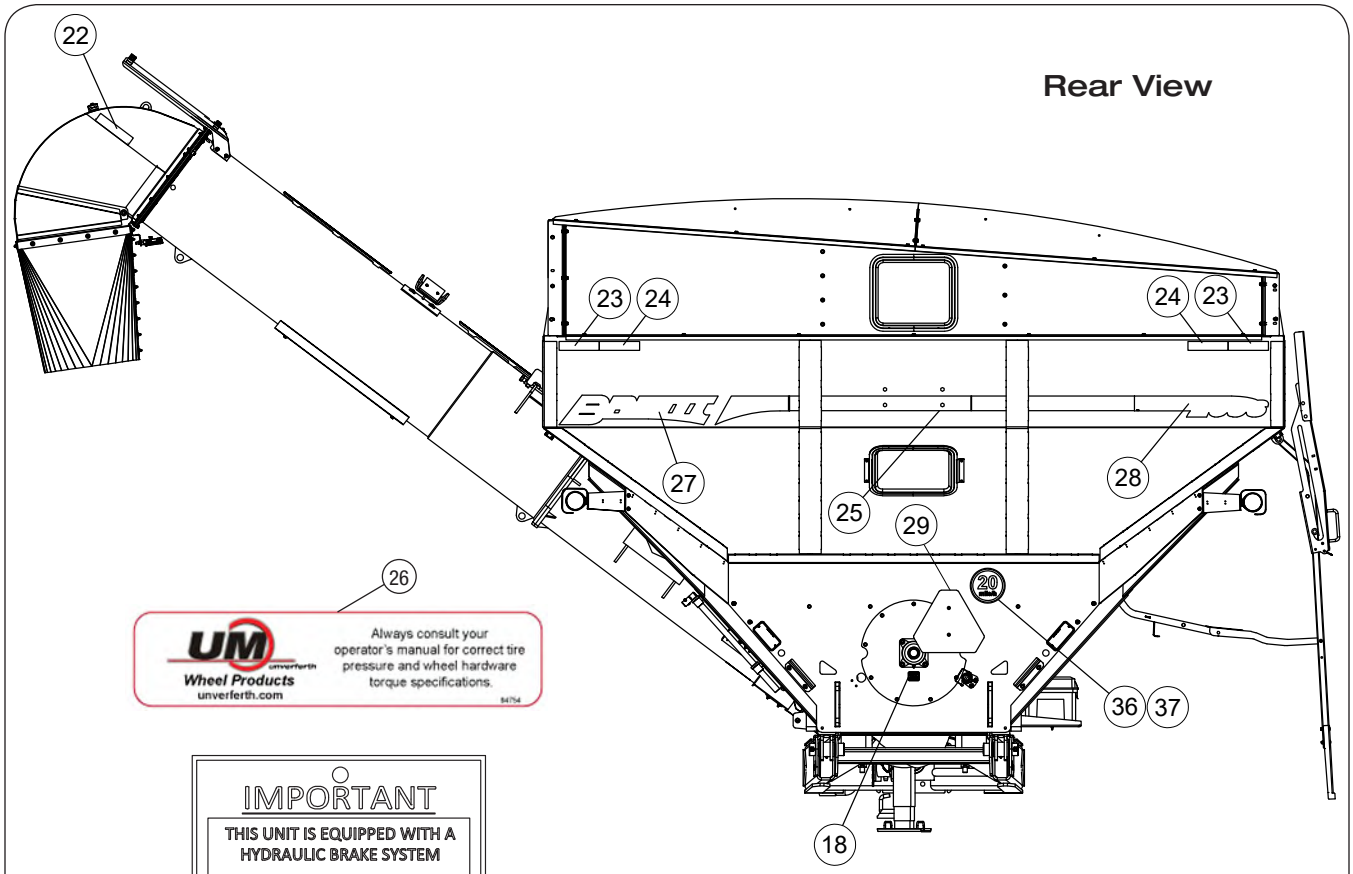
Decals

Please visit www.unverferth.com/parts/ for the most current parts listing.



Decals (continued)

Please visit www.unverferth.com/parts/ for the most current parts listing.

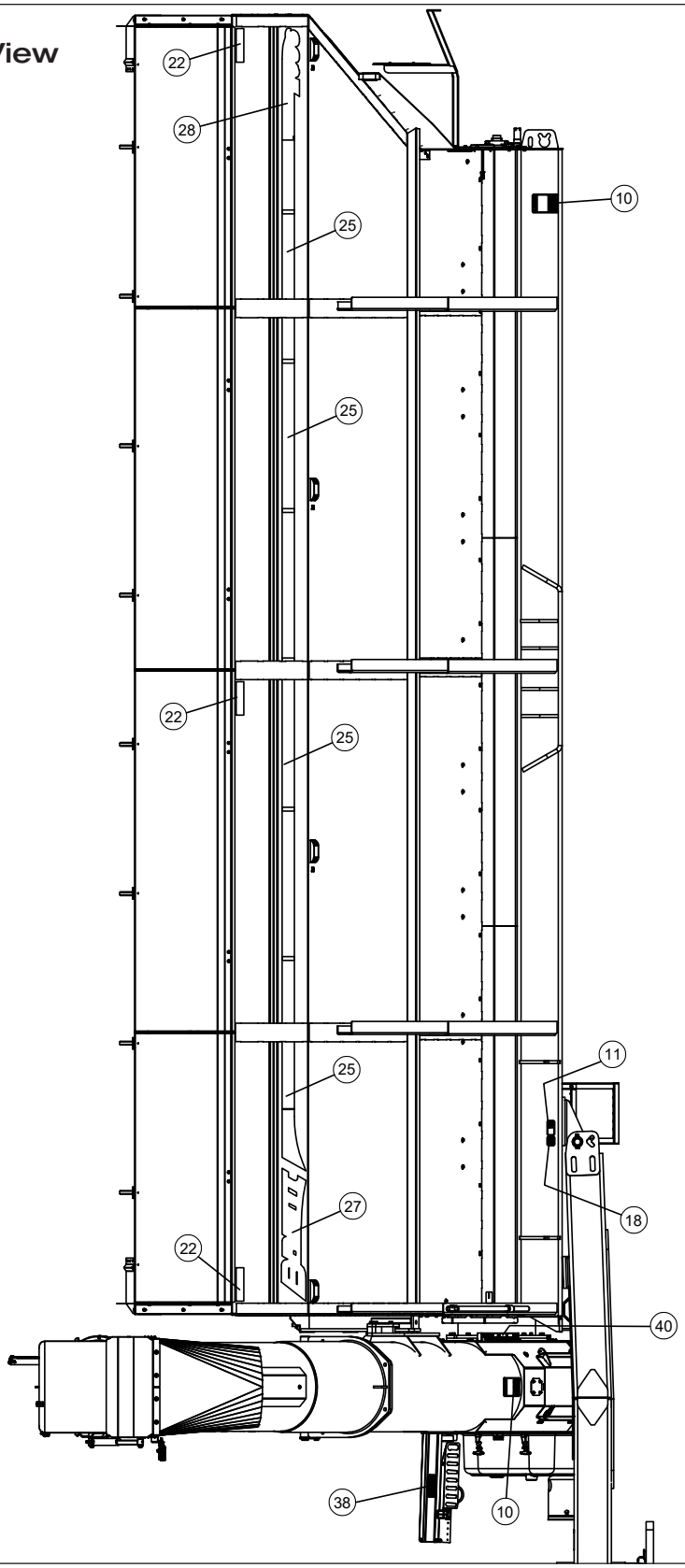


(Units with Brake Option)

Decals (continued)

Please visit www.unverferth.com/parts/ for the most current parts listing.

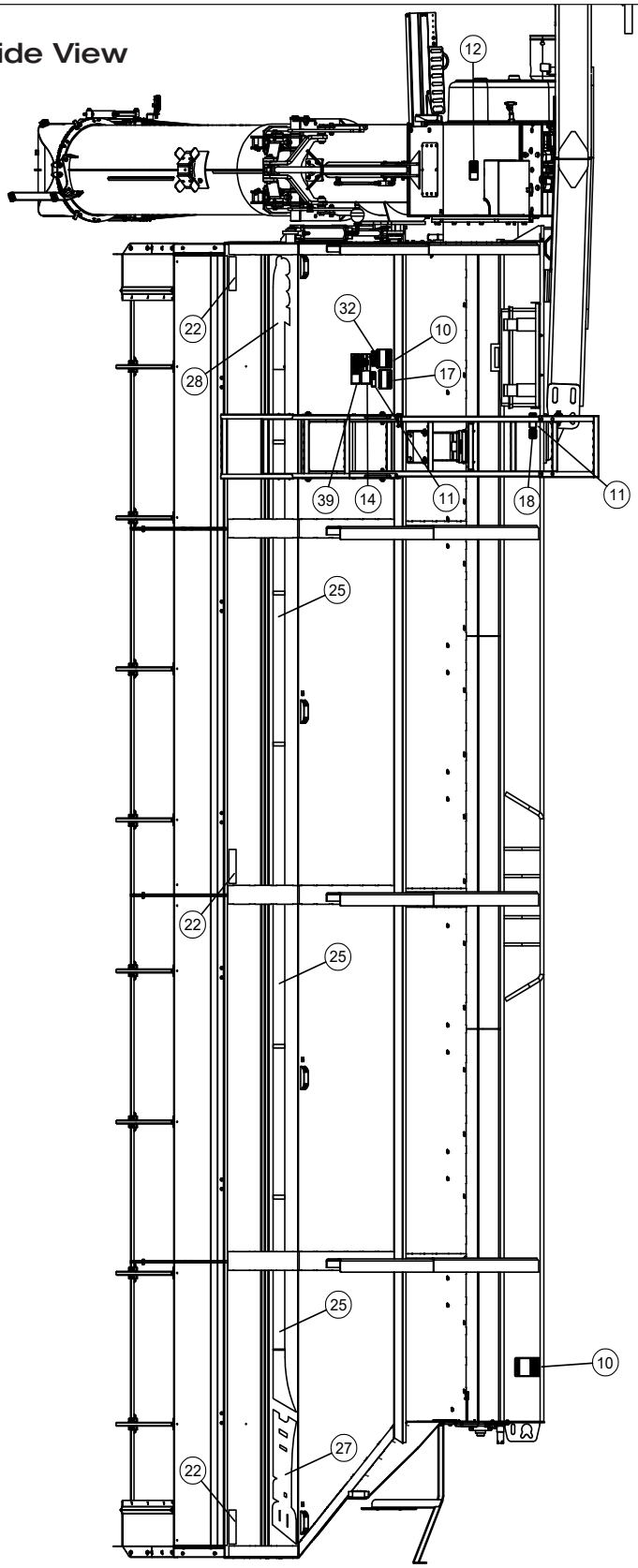
Left-Hand Side View



Decals (continued)

Please visit www.unverferth.com/parts/ for the most current parts listing.

Right-Hand Side View



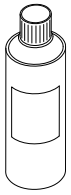
Decals (continued)

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9004271	Decal, Avalanche	2	
2	900024	Decal, WARNING (High Pressure Oil)	1	
3	97961	Decal, WARNING (Read Manual)	1	
4	9003474	Decal, DANGER (Electrical Lines)	1	
5	9004864	Decal, Steering Indicator	1	
6	91605	Decal, FEMA	1	
7	94094	Decal, WARNING (Tongue Rise)	1	
8	95046	Decal, DANGER (Entanglement)	2	
9	97575	Decal, CAUTION (Transport Chains)	1	
10	9003475	Decal, WARNING (Cut & Crush)	4	
11	95839	Decal, WARNING (Pinch Point)	4	
12	95445	Decal, DANGER (High Pressure Fluid)	1	
13	9008151	Decal, IMPORTANT (PTO Engagement)	1	
14	9003476	Decal, WARNING (No Riders)	2	
15	TA1-906109-0	Decal, WARNING (Moving Parts Crush/Cut)	1	
16	98229	Decal, WARNING (Falling Equipment)	1	
17	9003478	Decal, DANGER (Never Play)	1	
18	9008947	Decal, Grease	5	
19	9005971	Decal, WARNING (Suspension)	1	
20	9003477	Decal, IMPORTANT (Operation)	1	
21	9004966	Decal, IMPORTANT (Cart Loading)	1	
22	9003127	Reflector 2x9 =AMBER=	7	
23	9003126	Reflector 2x9 =RED=	2	
24	9003125	Reflector 2x9 =FLUORESCENT=	2	
25	9006589	Decal, Stripe	18	
26	94754	Decal, UM Wheel Systems	1	
27	9006588	Decal, Brent Logo	4	
28	9006788	Decal, 2096	4	
29	TA510514	SMV Emblem	1	
30	9006601	Decal, Flow Control Indicator	1	
31	9007162	Information Tag Brakes Option	1	
32	95008	Decal, CAUTION (Slippery Surface)	1	
33	9008543	Decal, IMPORTANT (Spout Rotate)	1	
34	9008715	Decal, Front SIS 20 MPH	1	
35	9008721	Decal, Front SIS 30 KPH	1	
36	9008714	Decal, Rear SIS 20 MPH	1	
37	9008720	Decal, Rear SIS 30 KPH	1	
38	9008594	Decal, Hose Legend	1	
39	9009168	Decal, WARNING (Ladder Lock Pin)	1	
40	9008925	Decal, Grease Bank	1	

Touch-Up Paint

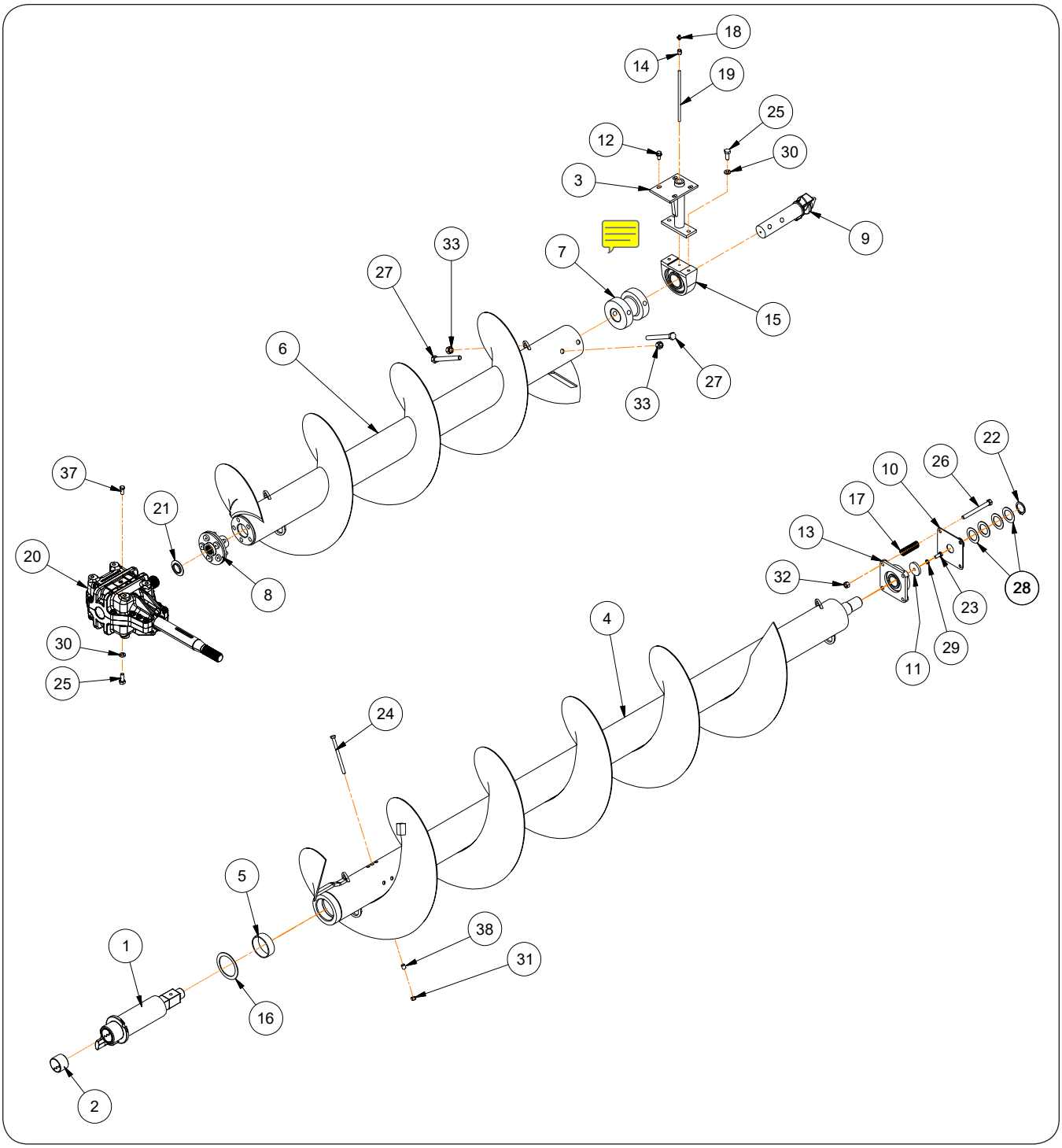
Please visit www.unverferth.com/parts/ for the most current parts listing.



PAINT	SPRAY
Black	97013
Green	97015
Red	97301
Primer, Gray	9500082
Off White	97016
Silver Mist	97012

Vertical Auger Flighting Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



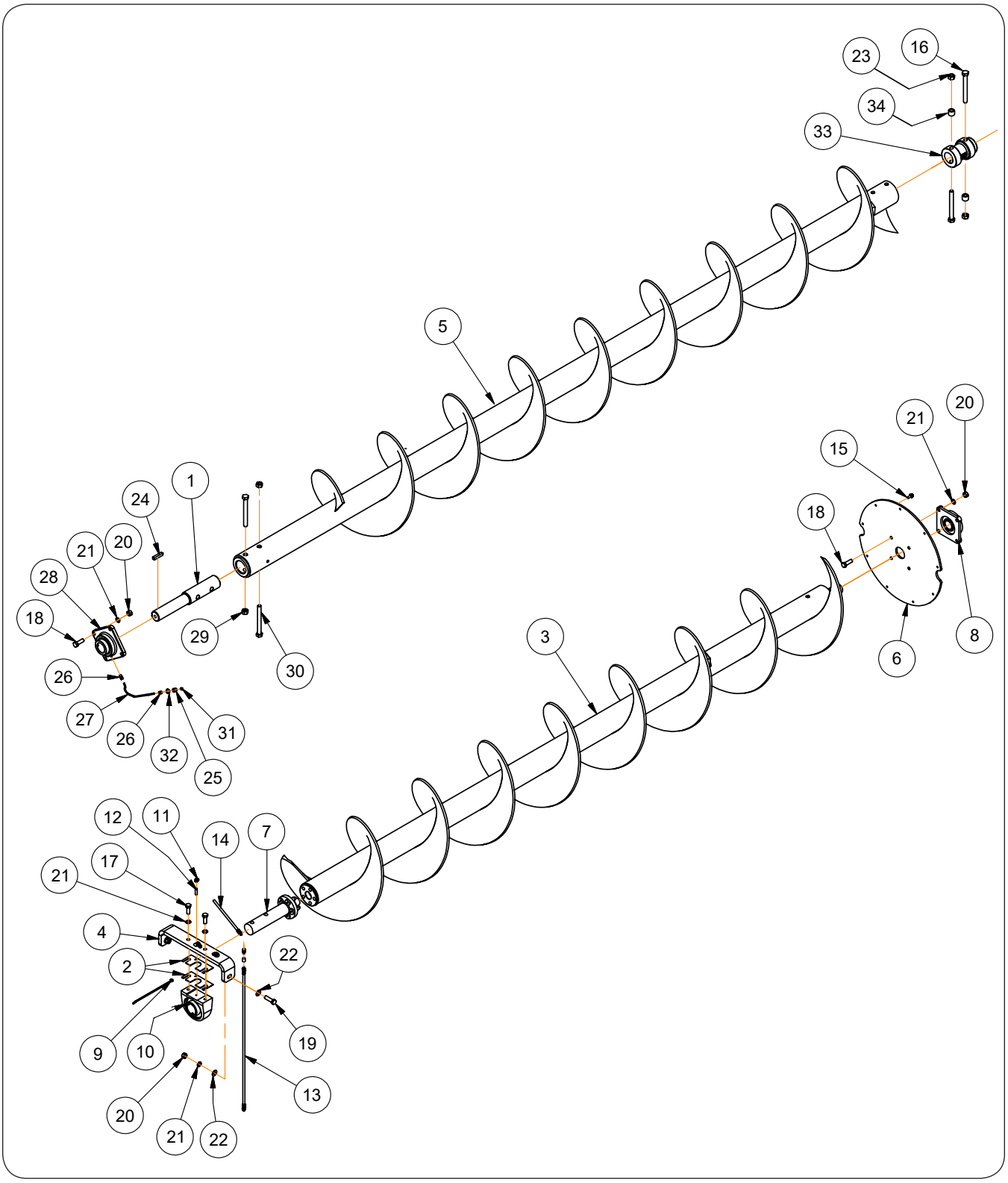
Vertical Auger Flighting Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	281283	Soft Start Assembly	1	
2	9003230	Split Bushing 2 3/4 OD x 2 1/2 ID x 2	1	
3	289932B	Bearing Bracket Weldment =Black=	1	
4	276548B	Upper Auger Weldment =Black=	1	
5	9004877	Split Bushing 4.25 OD x 4.011 ID	1	
6	287826B	Lower Auger Replacement Kit =Black=	1	Fits 2 1/4"-20 Spline Gearbox Shaft
7	283515	Auger Tube Adapter	1	
8	287802	Drive Plate Assembly (5-Pin)	1	
9	288813	Drive Dog Casting	1	
10	284986	Hood Pivot Pin Weldment	1	
11	407699	Washer Plate, 2 1/2" Dia.	1	
12	9001529	Flange Screws 1/2-13UNC x 1	4	
13	9002492	Bearing 2" Dia. Flanged	1	
14	9003949	Pipe Coupling, 1/8 NPT Female	2	
15	9004731	Pillow Block Bearing, 2 1/2" Bore	1	
16	9004878	Self Lubricating Washer	1	
17	9004899	Spring - 10 Coils	4	
18	9000875	Grease Zerk	1	
19	9005793	Grease Pipe	1	
20	9007366	Gearbox 1 3/4-20 Spline Input Shaft 2 1/4-17 Spline Output Shaft	1	See "Gearbox" in this section for parts.
21	9007377B	Dust Cover =Black=	1	
22	91178	Retaining Ring	1	
23	9390-100	Capscrew, 1/2-13UNC x 1 1/4 Grade 5	5	
24	9390-119	Capscrew, 1/2-13UNC x 8 Grade 5	1	
25	9390-122	Capscrew, 5/8-11UNC x 1 1/2 Grade 5	20	
26	9390-135	Capscrew, 5/8-11UNC x 5 1/2 Grade 5	4	
27	9390-159	Capscrew, 3/4-10UNC x 7 Grade 5	2	
28	93974	Flat Washer 2"		
29	9404-025	Lock Washer, 1/2 Grade 5	5	
30	9404-030	Lock Washer, 5/8"	10	
31	9800	Locknut, 1/2-13UNC Grade 5	1	
32	9801	Locknut, 5/8-11UNC Grade 5	4	
33	9802	Locknut, 3/4-10UNC Grade 5	2	
37	903161-063	Flange Screw, 5/8-11 x 1 1/4 Grade 5	2	
38	410511	Spacer Bushing	1	

Horizontal Auger Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



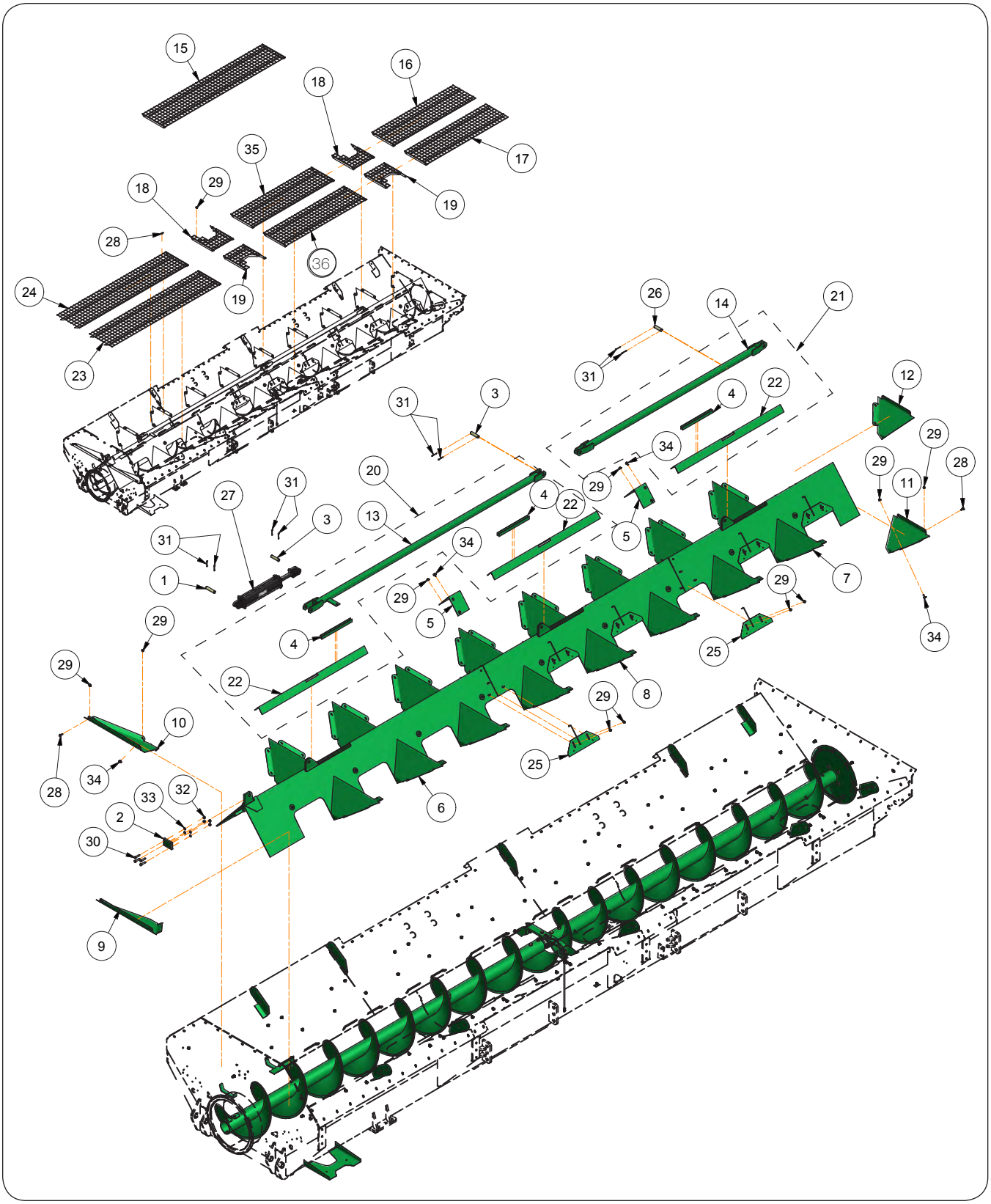
Horizontal Auger Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	273779	Auger Shaft 2 1/2 Dia. x 18	1	
2	286424	Bearing Shim Plate	A/R	
3	294631B	Rear Drag Auger Weldment =Black=	1	
4	286382B	Bearing Mount Bar =Black=	1	
5	295033B	Front Drag Auger Replacement Kit (Black)	1	
6	283097G	Cover Plate =Green=	1	
	283097R	Cover Plate =Red=		
7	293957	Auger Coupler Shaft Weldment	1	
8	9002492	Bearing 2" Dia. Flanged	1	
9	9003735	Cable Tie 11" Long	1	
10	9004731	Bearing - Pillow Block	1	
11	9004764	90° Elbow Pipe	1	
12	9006964	Hex Pipe Nipple	1	
13	9004932	Grease Hose 1/8 x 36	1	For Track Models
	9003830	Grease Hose 24"	1	For Steerable Tandem Models
14	9006965	Grease Hose 1/8 x 15 (3000 PSI)	1	
15	91262	Large Flange Screw 3/8-16UNC x 1	9	Grade 5
16	91299-161	Capscrew, 3/4-10UNC x 8	2	Grade 8
17	9390-123	Capscrew 5/8-11UNC x 1 3/4	2	Grade 5
18	9390-124	Capscrew 5/8-11UNC x 2	8	Grade 5
19	9390-125	Capscrew 5/8-11UNC x 2 1/4	2	Grade 5
20	9394-014	Hex Nut, 5/8-11UNC	10	Grade 5
21	9404-029	Lock Washer 5/8"	12	
22	9405-098	Flat Washer 5/8" SAE	4	
23	9802	Lock Nut/Top, 3/4-10UNC	2	Grade B
24	9002562	Key 1/2 x 1/2 x 2 1/2	1	
25	9003949	Pipe Coupling	1	
26	9005073	Quicklinc Fitting 1/4" Tube x 1/8NPT Straight	2	
27	9005074	Nylon Tube 1/4" OD	1	
28	9005565	Flange Bearing 4-Bolt, 2 1/4" ID	1	
29	91141	Locknut 7/8-9UNC	2	
30	91299-178	Capscrew 7/8-9UNC x 7	2	Grade 8
31	93426	Grease Zerk	1	
32	9405-076	Flat Washer 3/8" USS	1	
33	286283	Auger Tube Adapter 4 3/4" Dia. x 6 5/8	1	
34	283895B	Spacer Bushing	2	

Hopper Flow Door Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



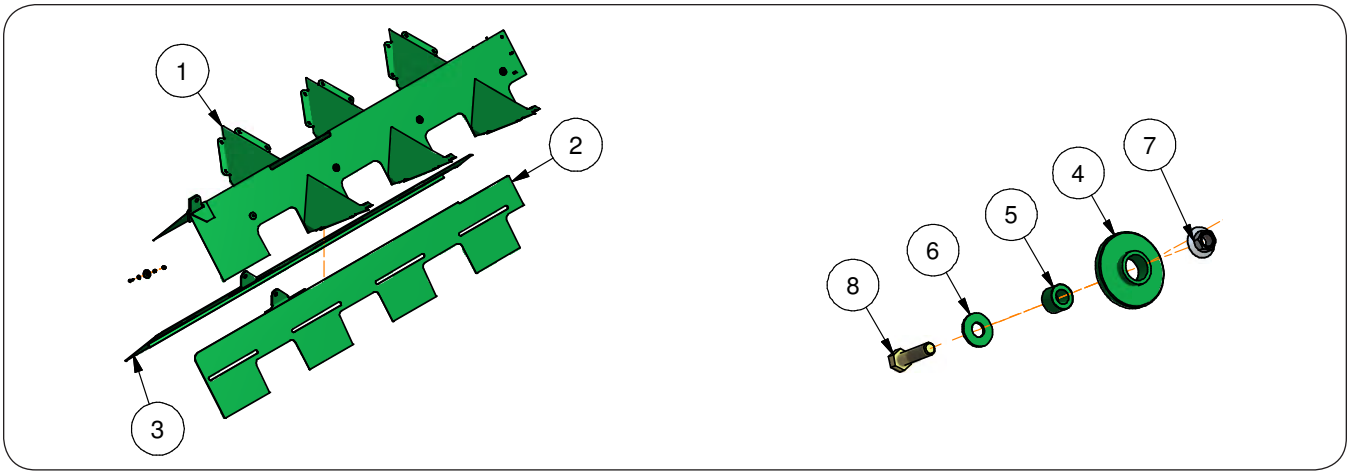
Hopper Flow Door Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	266285	Idler Pin 1 x 4 1/2	1	
2	271054*	Cylinder Mount Plate	-	*Not for individual sale, see Item 6
3	250104	Idler Pin 1 Dia. x 4	2	
4	271331B*	Seal Plate =Black=	-	*Not for individual sale, see Items 20, 21
5	272141B	Cover Plate =Black=	2	
6	294483B	Front Tent Service Kit =Black=	1	Includes Items 2, 9, 10
7	294484B	Rear Tent Service Kit =Black=	1	Includes Items 11, 12
8	294485B	Middle Tent Service Kit =Black=	1	Includes Items 5
9	273259B	Front LH Baffle =Black=	1	
10	273260B	Front RH Baffle =Black=	1	
11	273261B	Rear LH Baffle =Black=	1	
12	273262B	Rear RH Baffle =Black=	1	
13	294240B	Front Flow Door Linkage Weld't =Black=	1	
14	273314B	Rear Flow Door Linkage Weld't =Black=	1	
15	294286B	Screen Weldment =Black=	6	For All Track Screens
16	294449B	Rear RH Screen Weldment =Black=	1	For Steerable Tandem
17	294448B	Rear LH Screen Weldment =Black=	1	For Steerable Tandem
18	273718B	Middle RH Screen Weldment =Black=	2	For Steerable Tandem
19	273717B	Middle LH Screen Weldment =Black=	2	For Steerable Tandem
20	273510B	Front Flow Door Linkage Kit =Black=	1	Includes Items 4, 13, 22
21	273511B	Rear Flow Door Linkage Kit =Black=	1	Includes Items 4, 14, 22
22	282187B	Tent Hole Cover Plate =Black=	3	
23	294286B	Front LH Screen Weldment =Black=	1	For Steerable Tandem
24	294286B	Front RH Screen Weldement =Black=	1	For Steerable Tandem
25	284721B	Restrictor Weldment =Black=	12	
26	804572	Axle Lift Pin 1" Dia. x 3 1/2	1	
27	9002575	Hydraulic Cylinder 3 x 16 (3000PSI)	1	3/4-16 SAE O-Ring Ports
28	91262	Large Flange Screw 3/8-16 UNC x 1	16	Grade 5
29	91263	Locknut, 3/8-16UNC	56	Grade 5
30	9390-103	Capscrew 1/2-13 UNC x 2	4	Grade 5
31	9391-046	Cotter Pin 3/16 Dia. x 2	6	
32	9394-010	Hex Nut 1/2-13 UNC	4	Grade 5
33	9404-025	Lock Washer 1/2	4	
34	95585	Large Flange Screw 3/8-16 UNC x 3/4	12	Grade 5
35	294449B	Center RH Screen Weldment =Black=	1	For Steerable Tandem
36	294448B	Center LH Screen Weldment =Black=	1	For Steerable Tandem

Flow Door Components — Front Flow Door

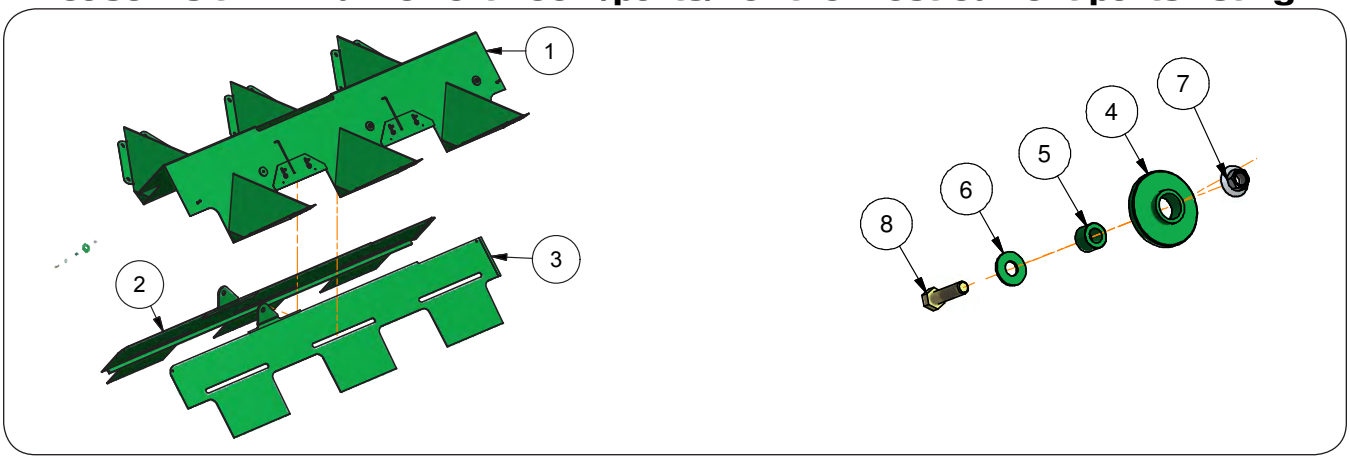
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY
1	294283B	Front Tent Weldment	1
2	273157B	Front LH Door Weldment	1
3	273158B	Front RH Door Weldment	1
4	284168	Bushing 2 1/4 OD x 49/64 ID x 0.500	8
5	284169	Bushing 3/4 OD x 7/16 ID x 0.531	8
6	9005471	Flat Washer 3/8 (Hardened)	8
7	9003396	Flange Lock Nut 3/8-16 UNC Gr.5	8
8	91299-057	Capscrew 3/8-16UNC x 1 1/2 Gr.8	8

Flow Door Components — Middle Flow Door

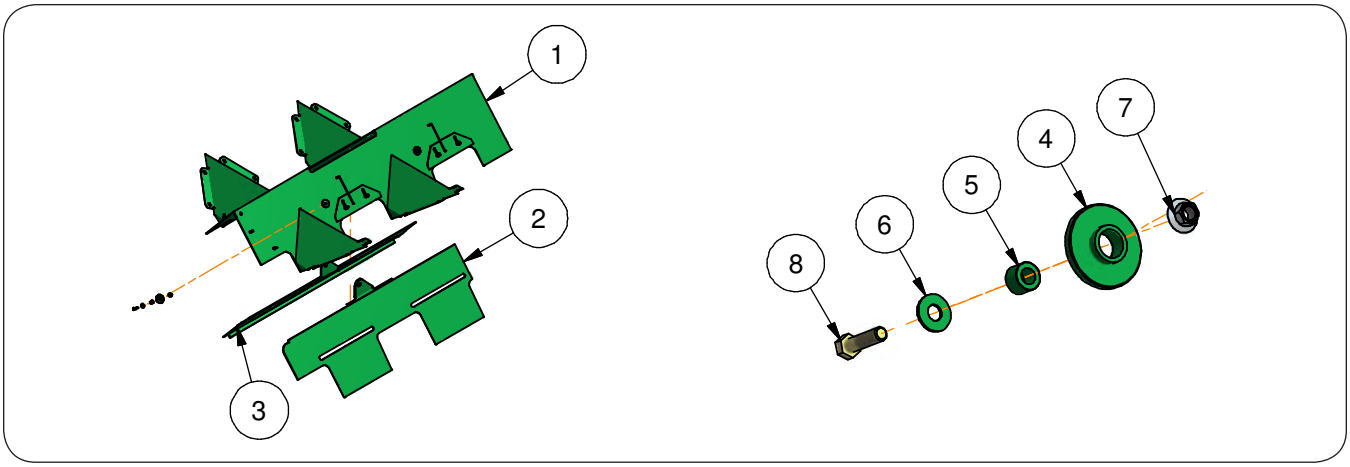
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY
1	294284B	Middle Tent Weldment	1
2	273246B	Middle RH Door Weldment	1
3	273247B	Middle LH Door Weldment	1
4	284168	Bushing 2 1/4 OD x 49/64 ID x 0.500	6
5	284169	Bushing 3/4 OD x 7/16 ID x 0.531	6
6	9005471	Flat Washer 3/8 (Hardened)	6
7	9003396	Flange Lock Nut 3/8-16 UNC Gr.5	6
8	91299-057	Capscrew 3/8-16UNC x 1 1/2 Gr.8	6

Flow Door Components — Rear Flow Door

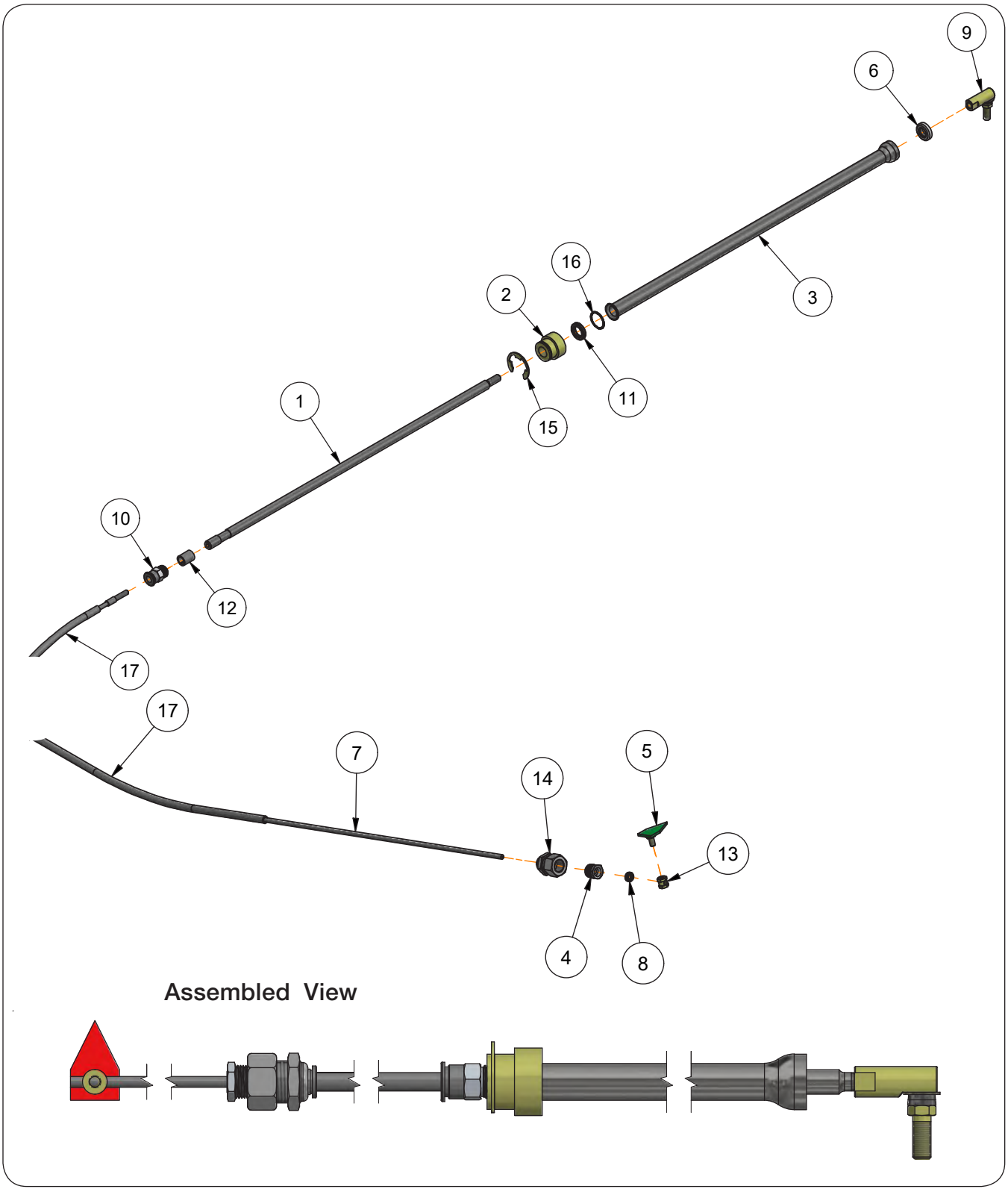
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY
1	294285B	Rear Tent Weldment	1
2	273165B	Rear LH Door Weldment	1
3	273166B	Rear RH Door Weldment	1
4	284168	Bushing 2 1/4 OD x 49/64 ID x 0.500	4
5	284169	Bushing 3/4 OD x 7/16 ID x 0.531	4
6	9005471	Flat Washer 3/8 (Hardened)	4
7	9003396	Flange Lock Nut 3/8-16 UNC Gr.5	4
8	91299-057	Capscrew 3/8-16UNC x 1 1/2 G8	4

Indicator Assembly

Please visit www.unverferth.com/parts/ for the most current parts listing.



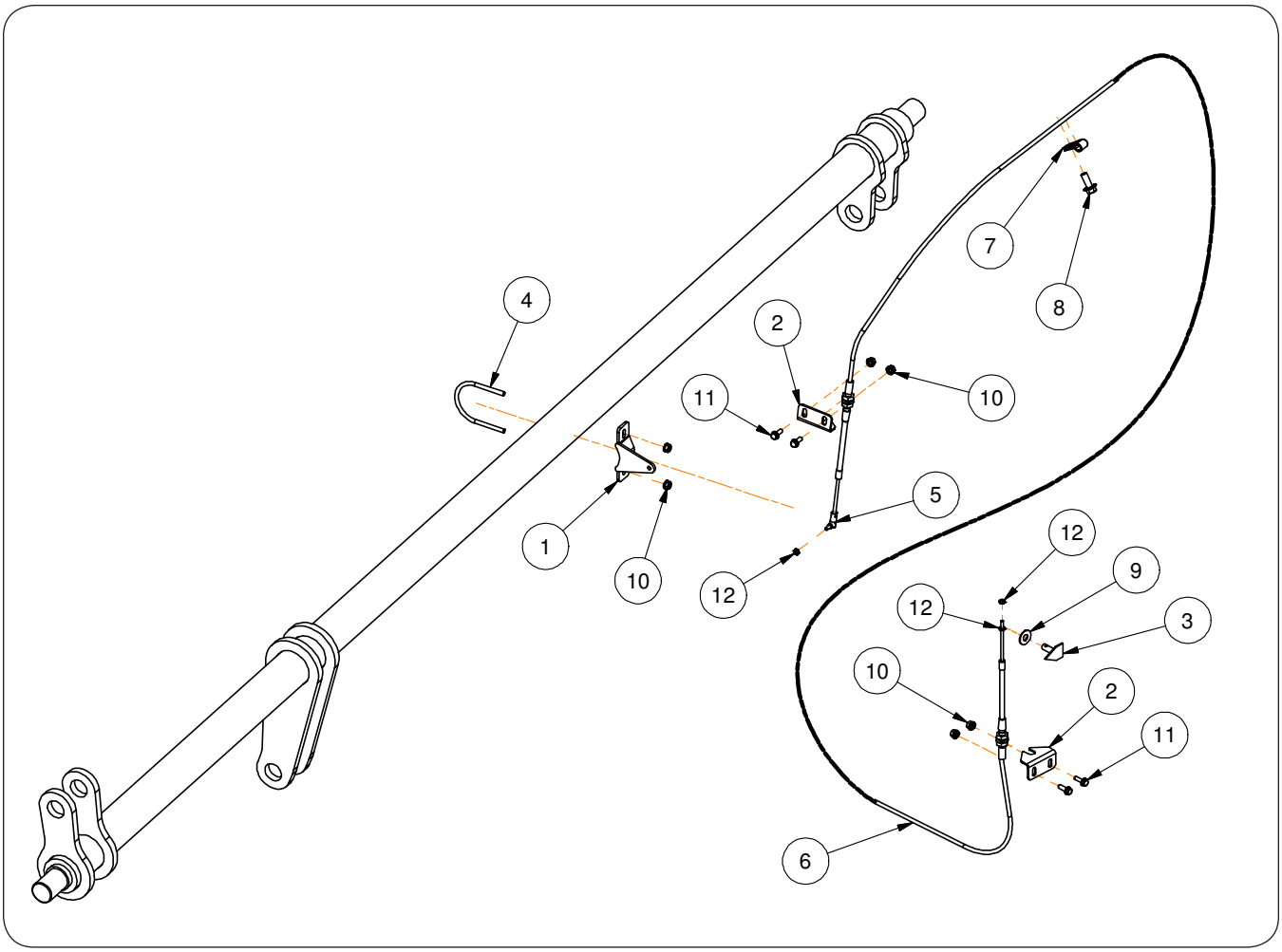
Indicator Assembly

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	271584	Complete Indicator Assembly	1	Includes Items 1 through 17
1	271582	Push Rod Indicator	1	
2	271585	Bushing - Coupler	1	
3	271589	Cable Tube (Push Rod)	1	
4	271593	Reducer Bushing	1	
5	271595R	Flow Door Indicator =Red=	1	
6	9006610	Seal (Wiper)	1	
7	9006611	Inner Cable (Conduit) - 3/16	1	
8	9008612	Seal (Shaft)	1	
9	9006630	Rod End, 3/8”	1	
10	9006634	Connector Fitting	1	
11	9006635	Quad Ring	1	
12	9006636	Wear Ring	1	
13	271597	Wire Stop	1	
14	9006640	Hose Fitting	1	
15	9006641	Snap Ring	1	
16	9006644	Retaining Ring - Internal	1	
17	271586	Plastic Tubing - 81”	1	

Steering Tandem Indicator Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



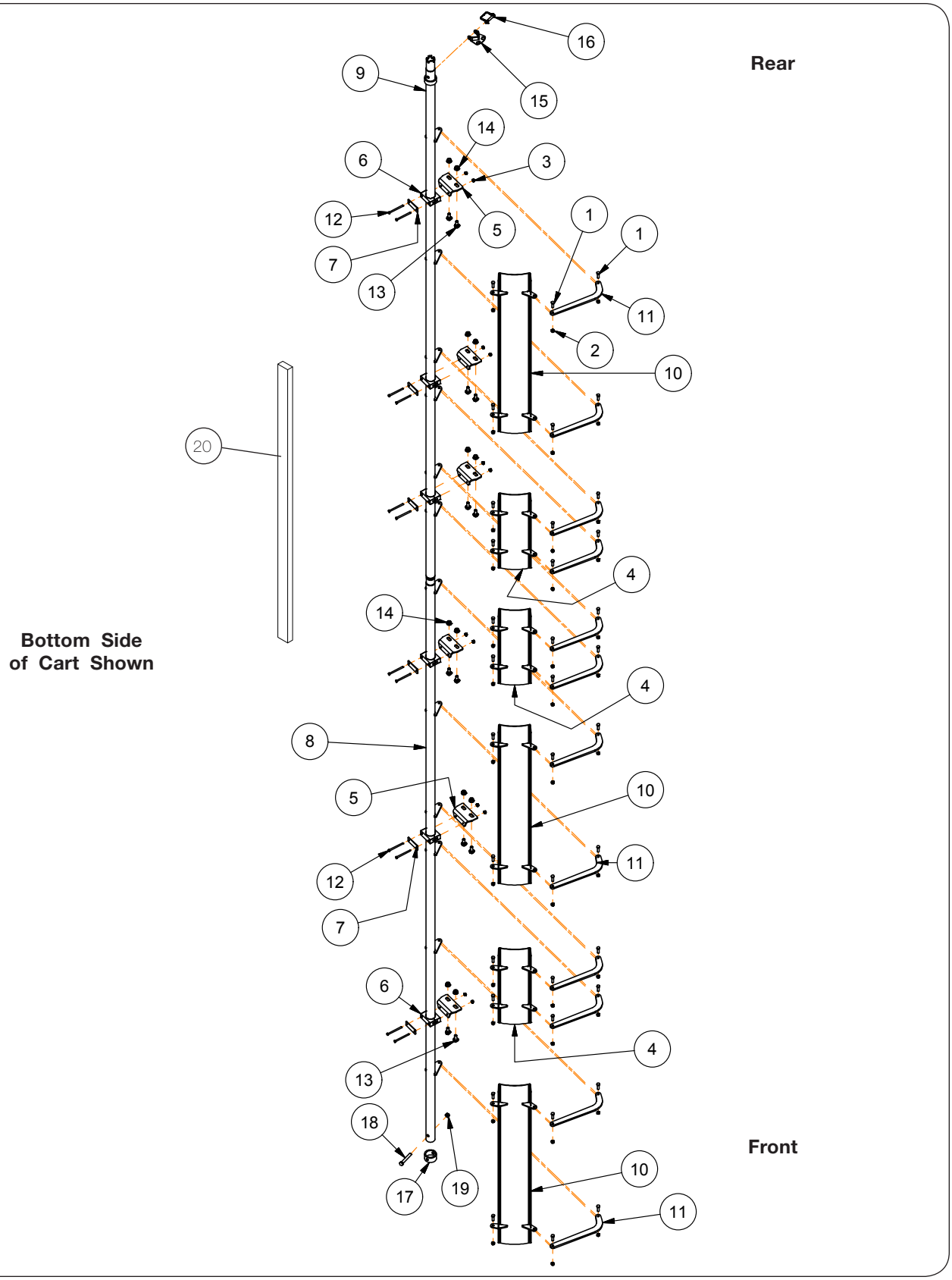
Steering Tandem Indicator Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	273524B	Indicator Clamp Weldment =Black=	1	
2	273525B	Indicator Bolt =Black=	2	
3	283749R	Indicator Weldment =Red=	1	
4	9001114	U-Bolt 1/4-20 UNC	1	
5	9005109	Rod End #10-32	1	
6	9005127	Push/Pull Cable 204" with Rod Ends	1	Includes Item #5
7	9006037	Cable Clamp 3/8"	1	
8	91262	Flange Screw/Lrg 3/8-16 UNC x 1	1	Grade 5
9	9405-076	Flat Washer 3/8 USS	1	
10	97189	Hex Nut/Large Flange 1/4-20 UNC	6	Grade 5
11	97420	Flange Screw 1/4-20 UNC x 3/4	6	Grade 5
12	9830-016	Hex Nut #10-32	3	Grade 2

Clean Out Door Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



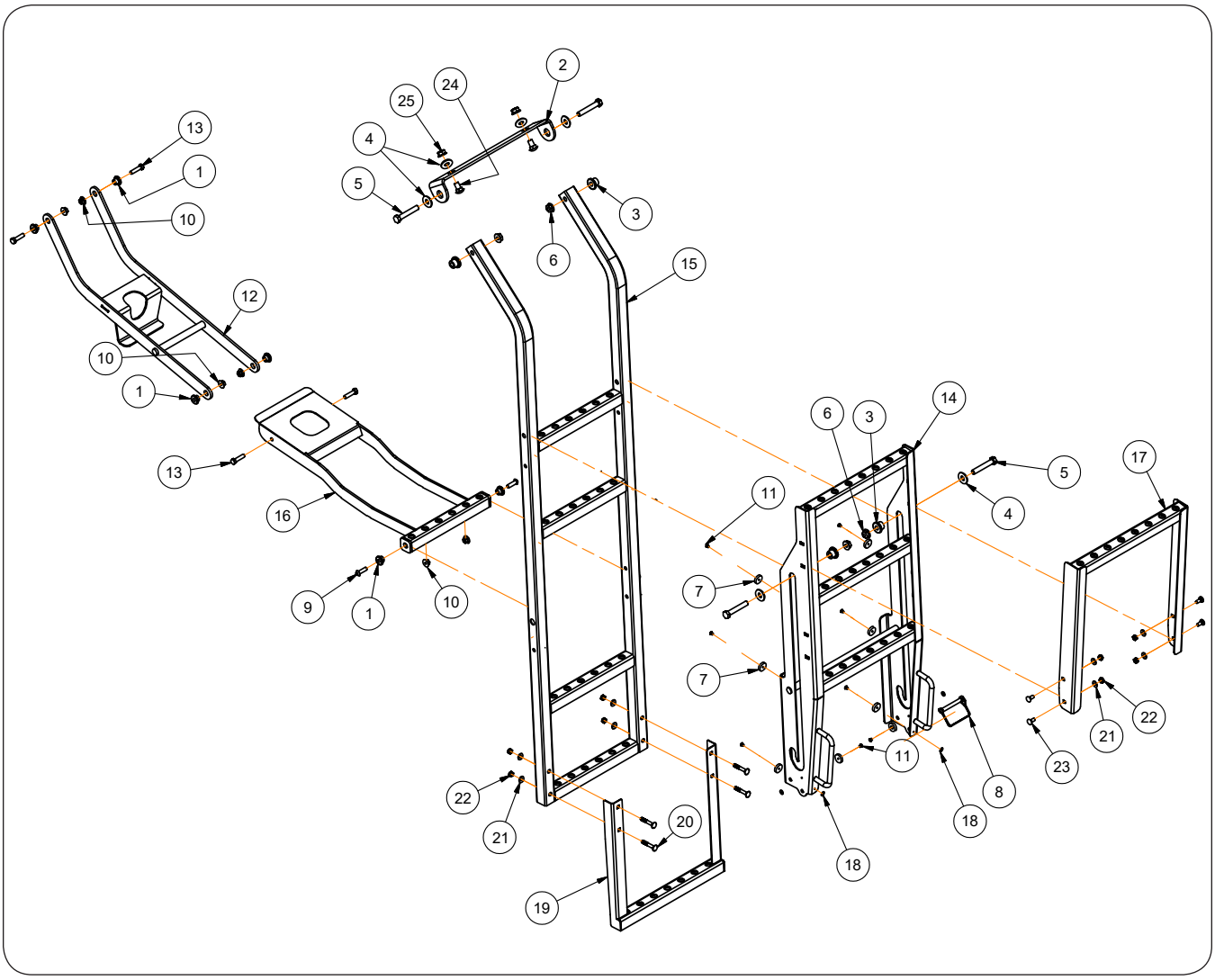
Clean Out Door Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9390-056	Capscrew 3/8-16UNC x 1 1/4	24	Grade 5
2	9928	Locknut 3/8-16UNC	24	
3	97189	Large Flange Hex Nut 1/4-20UNC	12	
4	273748B	Cleanout Door Weldment =Black=	3	
5	273741B	Door Pivot Plate =Black=	6	
6	9006351	Clamp Pair	6	
7	9006352	Top Plate	6	
8	273739B	Front Link Arm Weldment =Black=	1	For Tracks
	273827B	Front Link Arm Weldment =Black=	1	For Steerable Tandem
9	273743B	Rear Link Arm Weldment =Black=	1	For Tracks
	273828B	Rear Link Arm Weldment =Black=	1	For Steerable Tandem
10	273730B	Cleanout Door Weldment =Black=	3	
11	273734B	Door Linkage =Black=	12	
12	9390-015	Capscrew 1/4-20UNC x 3 1/2	12	Grade 5
13	91266	Flange Screw 1/2-13UNC x 1 1/4	12	Grade 5
14	91267	Flange Nut 1/2-13UNC	12	
15	273753B	Door Latch Weldment =Black=	1	
16	9000938	Lynch Pin 3/8" Dia. x 2 1/4	1	
17	271566B	Stop Bushing =Black=	1	
18	9390-108	Capscrew 1/2-13UNC x 3 1/4	1	Grade 5
19	94981	Locknut 1/2-13UNC	1	
20	9007108	Gasket w/Adhesive Backing for Clean-Out Door	AR	Specify in Feet

Ladder Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



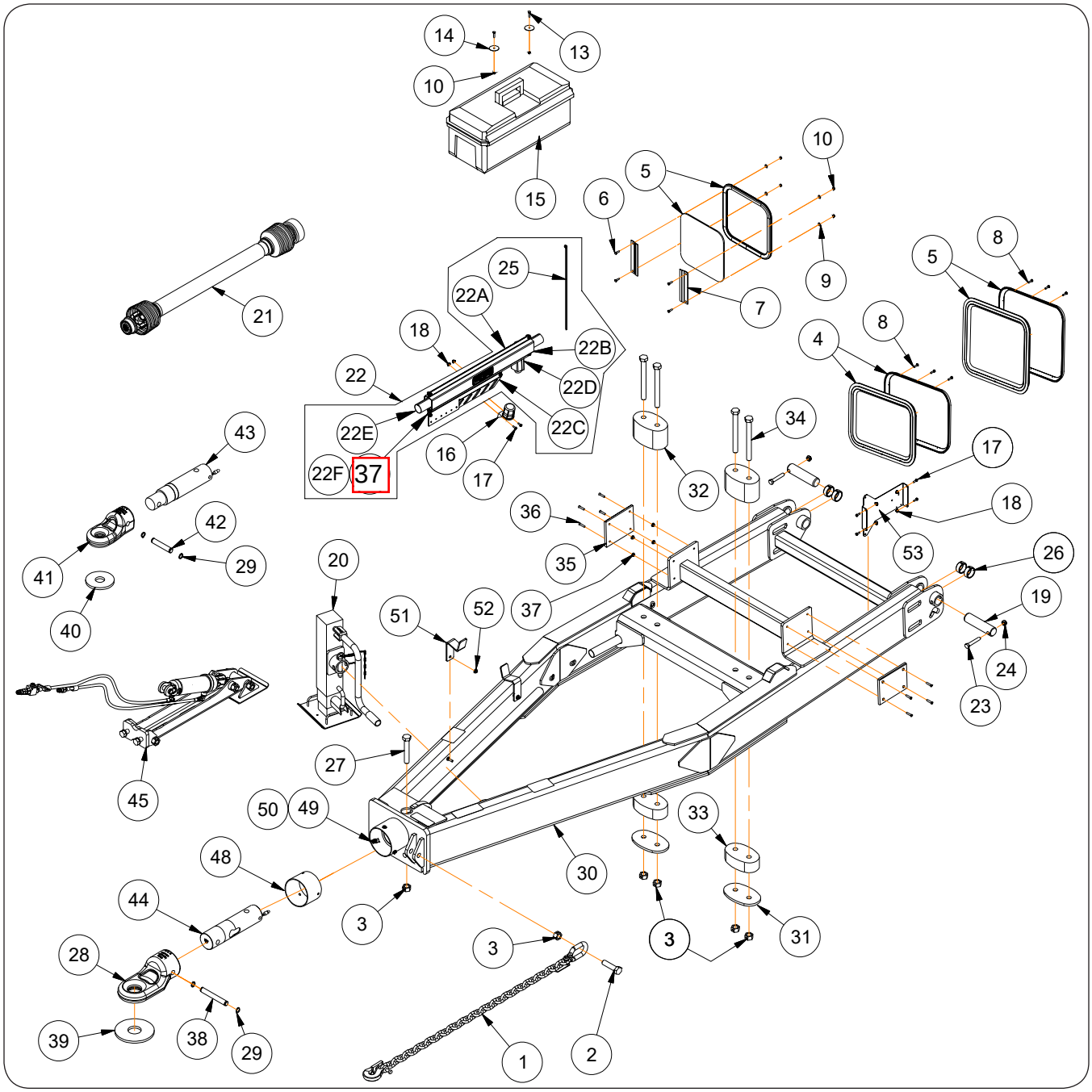
Ladder Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	2003029	Nylon Bushing, .625" OD x .406" ID x .380"	6	
2	289294B	Plate-Bracket, Ladder	1	
3	2003030	Nylon Bushing, .875" OD x .531" ID x .563"	4	
4	9405-088	Flat Washer, 1/2" USS	6	
5	9390-107	Capscrew, 1/2"-13UNC x 3" G5	4	
6	9003397	Lock Nut/Top, 1/2"-13UNC	4	
7	TA620384	Plastic Stop, 1" Dia. x .250"	8	
8	9005305	Lynch Pin 3/8" Dia. x 3"	1	
9	99985	Button Head Socket, 3/8"-16UNC x 1 1/4"	2	
10	9008159	Lock Nut/Top, 3/8"-16UNC	6	
11	9003503	Rivet 3/16 X 1/4	8	
12	289717B	Ladder Link Weldment	1	
13	9390-057	Capscrew, 3/8"-16UNC x 1 1/2" G5	4	
14	289328B	Ladder Extension Weldment	1	
15	289326B	Ladder Weldment	1	
16	289280B	Step Weldment	1	
17	289707B	Ladder Extension Weldment	1	
18	9004998	Rivet Burr 3/16”	4	
19	289844B	Ladder Weldment	1	
20	9388-029	Carriage Bolt, 5/16"-18UNC x 2" G5	4	
21	9405-064	Flat Washer, 5/16” ID (1/4” Nominal) USS	8	
22	901527	Lock Nut/Center, 5/16"-18UNC	8	
23	9388-024	Carriage Bolt, 5/16"-18UNC x 3/4" G5	4	
24	9388-102	Carriage Bolt, 1/2”-13UNC x 1”	2	
25	91267	Flange Nut, 1/2”-13UNC	2	

Hitch & Tongue Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9004898	Transport Chain 41,000#	1	
2	91299-191	Capscrew 1-8UNC x 4	1	Grade 8
3	92199	Locknut 1-8UNC	2	
4	9008857	Front Window & Trim Assembly 14 15/32" x 19 21/32"	1	
5	9008680	Rear Window & Trim Assembly 17 7/32" x 19 21/32"	2	
6	9390-005	Capscrew 1/4-20UNC x 1	4	Grade 5
7	294121B	Window Bracket	2	(Rear Slope Only)
8	9008933	Pan Head Screw 8-18UNC x 1/2	36	
9	9405-064	Flat Washer 1/4"	4	

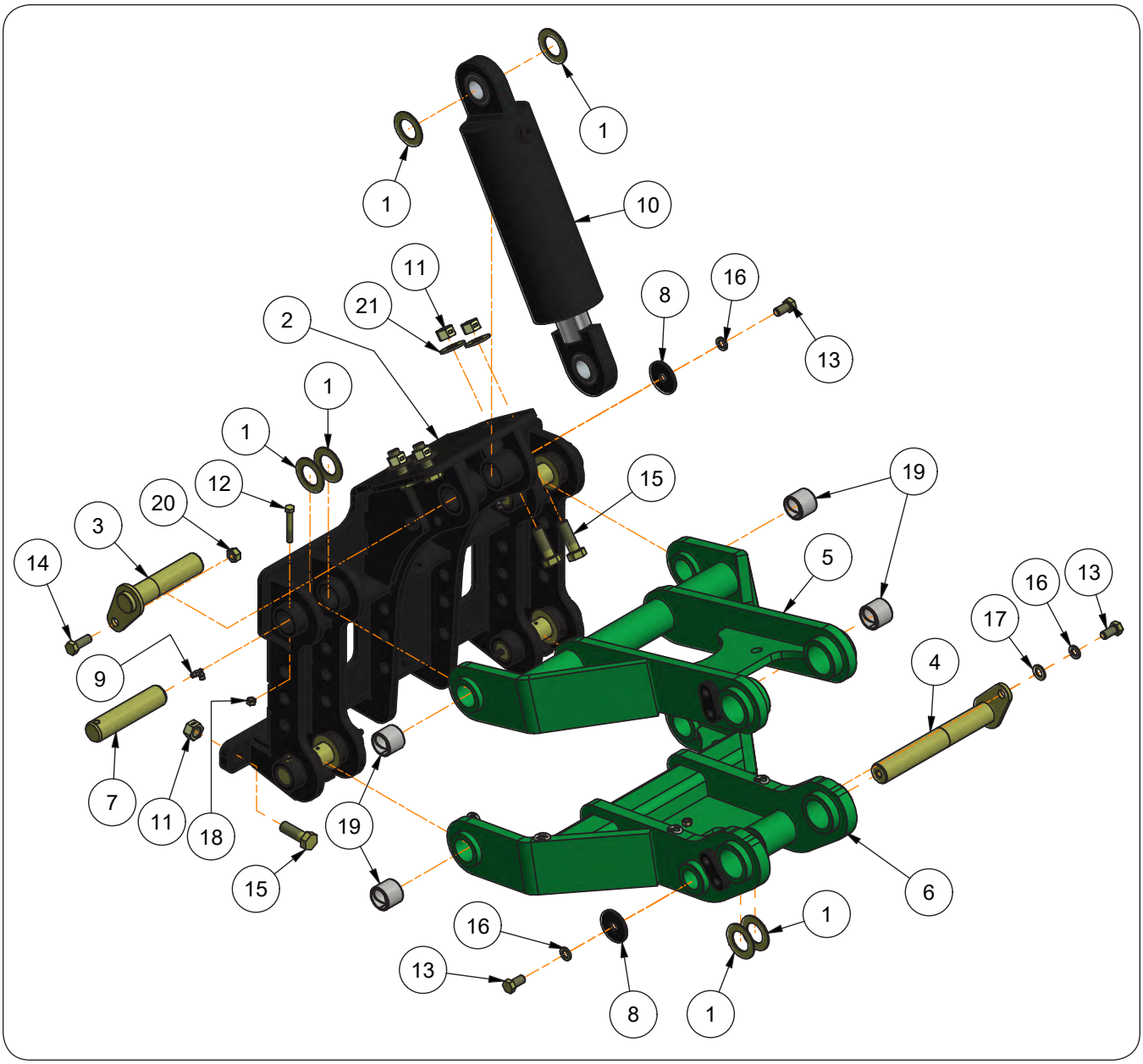
Hitch & Tongue Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
10	9936	Locknut 1/4-20UNC	6	
13	9390-006	Capscrew 1/4-20UNC x 1 1/4	2	Grade 5
14	94763	Fender Washer	2	
15	9008634	Toolbox	1	
16	9001968	Trailer Connector Holder	1	
17	97420	Flange Screw 1/4-20UNC x 3/4	6	Grade 5
18	97189	Large Flange Hex Nut 1/4-20UNC	6	
19	273368	Tongue Pin 2 Dia. x 7 3/4	2	
20	9005011	Jack 7,000# Capacity with Pin	1	
	9007632	Jack Pin, 7/8 Dia. w/Chain	1	NOT SHOWN
21	9005230	PTO Assembly Complete	1	1 3/4-20 Spline, W2500
22	294128B	Hose Caddy Replacement Kit =Black=	1	Includes Items 22A - 22F, 25 and 52
22A	294083B	Hose Caddy Weldment =Black=	1	
22B	294085B	Hose Caddy Cover =Black=	1	
22C	294086	Hose Retainer	1	
22D	9000787	Trim - Edge	1/2	Specify in Feet
22E	9003848	Hose Wrap	3	Specify in Feet
22F	91256	Large Flange Capscrew 5/16-18UNC x 3/4 Grade 5	6	
23	9390-130	Capscrew 5/8-11UNC x 3 1/2	2	Grade 5
24	95905	Lock Nut/Ctr 5/8-11UNC	2	
25	9000104	Cable Tie, 21 1/2" Lg	2	
26	9005473	Split Tension Bushing 2 3/8 OD x 2 ID x 1	4	
27	91299-195	Capscrew 1-8UNC x 6	1	Grade 8
28	282329B	Cast Hitch 3.75" Load Bar =Black= CAT 5	1	Standard
29	91192	Retaining Ring 1"	2	
30	273780G	Tongue Weldment =Green=	1	
	273780R	Tongue Weldment =Red=	1	
31	271687B	Spring Retainer Plate	2	
32	9006456	Polyurethane Spring 4 3/4" Thick	2	
33	9006457	Polyurethane Spring 2 1/2" Thick	2	
34	9390-464	Capscrew 1-8UNC x 10	4	Grade 5
35	273237	Nylon Wear Pad	2	
36	903171-663	Screw Flat Countersunk Head Phillips 5/16"-18UNC x 1 1/2"	8	
37	91257	Flange Nut 5/16"-18UNC	14	
38	281691	Hitch Pin 1 Dia. x 7 3/8" CAT 5	1	
39	281899	Wearshoe - Hitch, CAT 5	1	
40	281898	Wearshoe - Hitch, CAT 4	1	
41	282875B	Cast Hitch 3.75" Load Bar =Black= CAT 4	1	Optional
42	282876	Hitch Pin 1" Dia. x 5 1/2" CAT 4	1	
43	9004913	Load Bar 3 3/4" Dia. with 16 ft. Cable CAT 4	1	For Steer Axle
	9004910		1	For Tracks
44	9008135	Load Bar 3 3/4" Dia. with 16 ft. Cable CAT 5	1	For Steer Axle
	9008119		1	For Tracks
45	294143B	Optional Hydraulic Jack Kit	1	
48	271891B	Shield Tube =Black=	1	
49	9005376	U-Nut	3	
50	9390-053	Capscrew, 3/8-16UNC x 3/4 Grade 5	3	
51	291974G	PTO Bracket =Green=	1	
	291974R	PTO Bracket =Red=	1	
52	91267	Flange Nut, 1/2-13UNC Grade 5	8	
53	289382B	GCM Mounting Bracket =Black=	1	

Suspension Link Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



Suspension Link Components

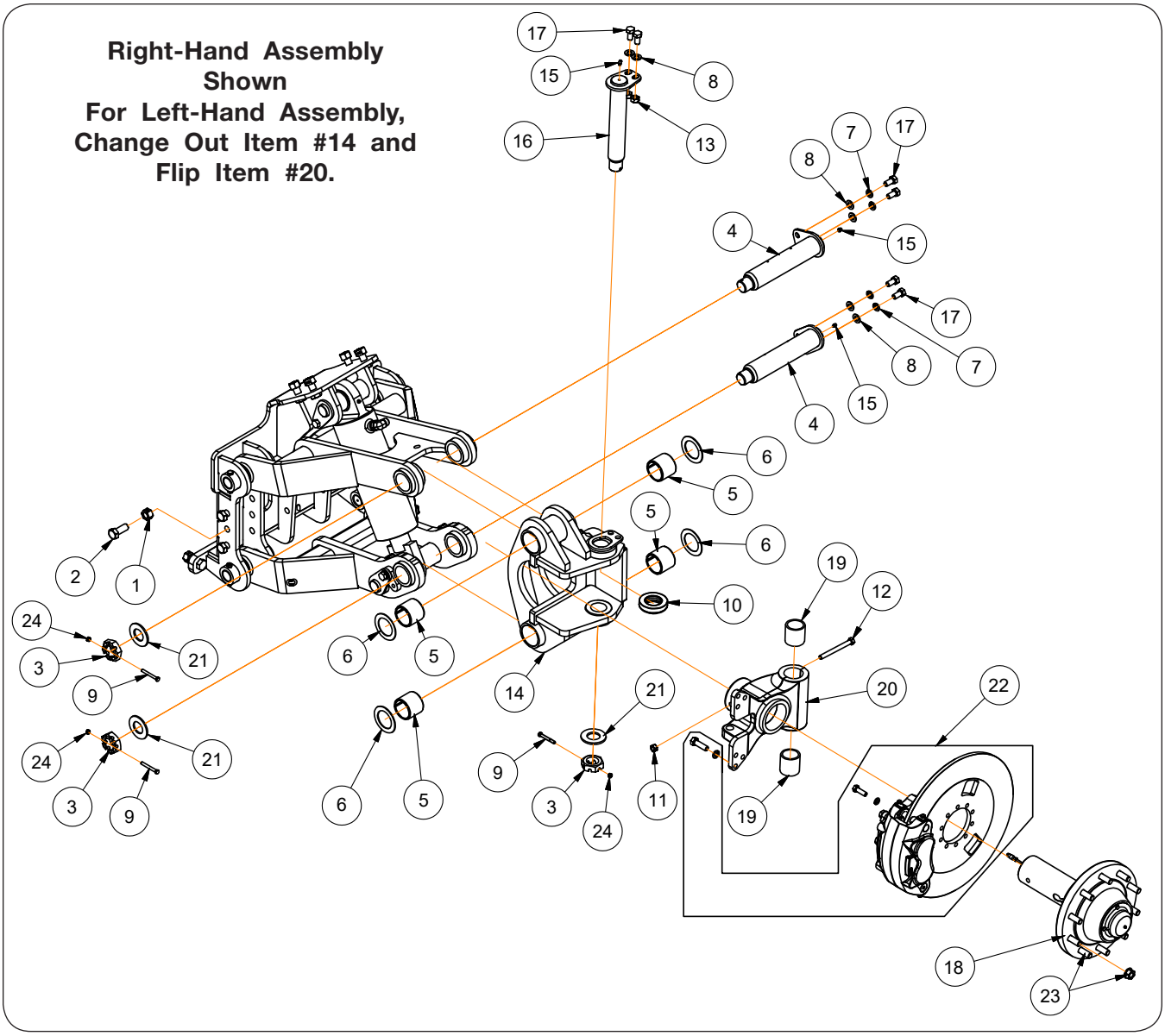
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	268542	Flat Washer 2" (3 1/2 OD)	12	
2	273407B	Suspension Frame Weld =Black=	1	
3	286103	Pin Weldment	1	
4	286139	Pin Weldment	1	
5	286140B	Upper Arm Weldment =Black=	1	
6	286148B	Lower Arm Weldment =Black=	1	
7	286167	Pin 2 x 8 3/4	4	
8	286168B	Flat Washer 3/4" (3 1/4 OD) =Black=	2	
9	9006785	Adapter, 90 Degree 1/8 NPTM x 1/8 NPTF	4	
10	~~9005886~~ △	Cylinder 6 x 12 (3000 PSI)	1	3/4-16 & 1 1/16-12 Ports
11	92199	Locknut/Ctr 1-8 UNC	11	
12	9390-109	Capscrew 1/2-13 UNC x 3 1/2	4	Grade 5
13	9390-143	Capscrew 3/4-10 UNC x 1 1/2	3	Grade 5
14	9390-145	Capscrew 3/4-10 UNC x 2	1	Grade 5
15	9390-187	Capscrew 1-8 UNC x 3	11	Grade 5
16	9404-033	Lock Washer 3/4 #10	3	
17	9405-104	Flat Washer 3/4	1	
18	94981	Locknut/Ctr 1/2-13 UNC	4	
19	95123	Tension Bushing 2 3/8 OD x 2 ID x 2 Lg.	4	
20	96732	Locknut/Ctr 3/4-10 UNC	1	
21	9405-118	Flat Washer 1" (2 1/2 OD) USS	4	

Suspension Link To Hub Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

Right-Hand Assembly Shown
For Left-Hand Assembly, Change Out Item #14 and Flip Item #20.



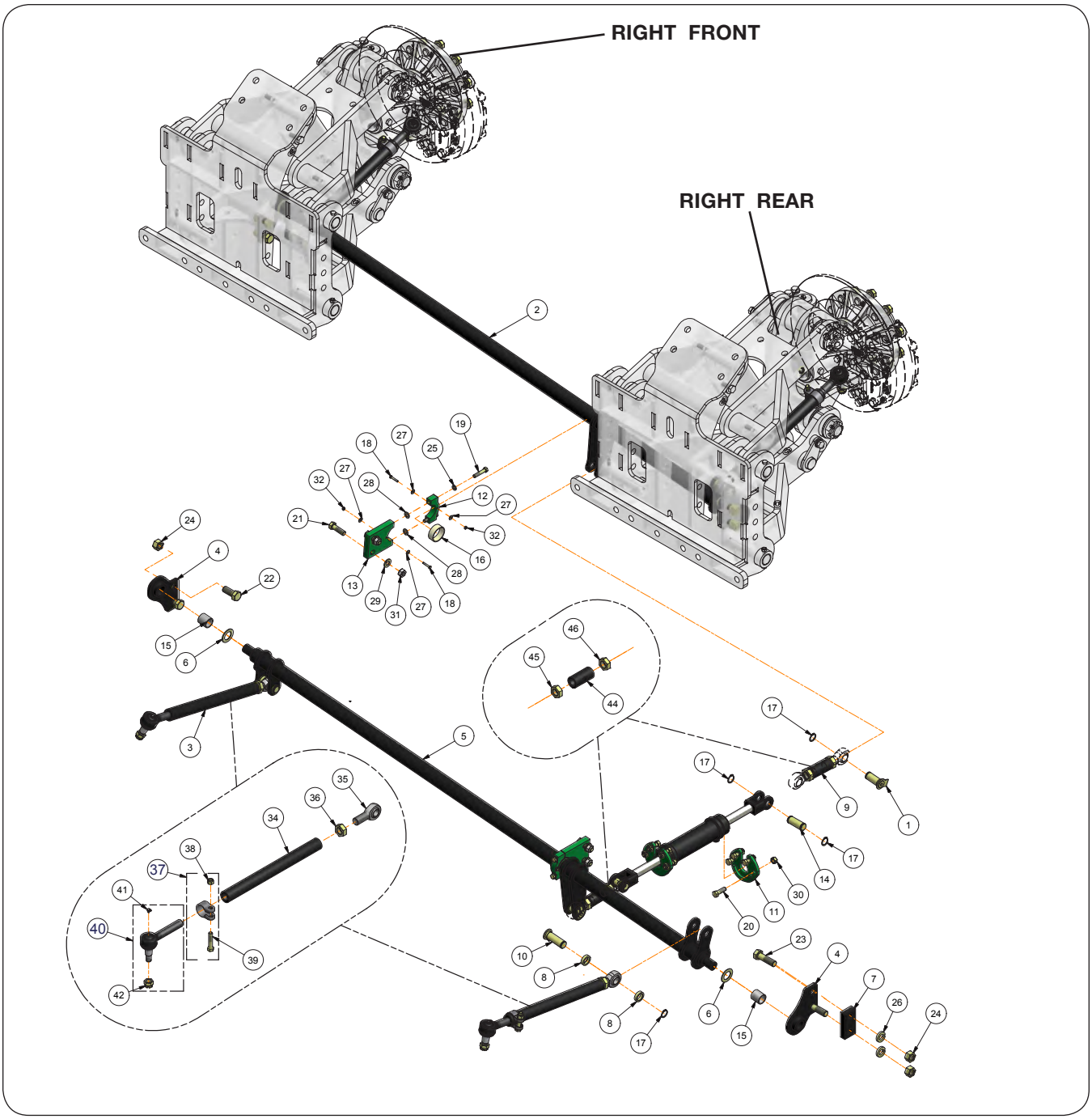
Suspension Link To Hub Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	92199	Locknut/Ctr 1-8 UNC	6	
2	9390-187	Capscrew 1-8 UNC x 3	6	Grade 5
3	92470	Castle Nut 2-12 UNF	3	Grade 5
4	286120	Suspension Pin Weldment 3" OD	2	
5	9005474	Tension Bushing 3 1/2 OD x 3 ID x 3 Lg.	4	
6	282377	Flat Washer 3" (4 1/2" OD)	4	
7	9404-033	Lock Washer 3/4	4	
8	9405-104	Flat Washer 3/4	6	
9	9390-065	Capscrew, 3/8-16UNC x 3 1/2	3	Grade 5
10	9005934	Tapered Thrust Bearing 2.51 OD x 4.375 ID x 1.063 Lg.	1	
11	95905	Locknut/Ctr 5/8-11 UNC	1	Grade 5
12	9390-137	Capscrew 5/8-11 UNC x 6 1/2	1	Grade 5
13	96732	Locknut 3/4-10UNC	2	Grade 5
14	286109B	Clevis Weldment-RH =Black=	1	
	286115B	Clevis Weldment-LH =Black=	1	
15	9006785	Adapter, 90 Degree 1/8 NPTM x 1/8 NPTF	3	
16	286216	King Pin Weldment 2 1/2" OD	1	
17	9390-143	Capscrew 3/4-10 UNC x 1 1/2	6	Grade 5
18	267283G	Hub & Spindle Assembly Replacement Kit - M22 Hardware =Green=	1	Refer to "Steering Tandem Hub Components" Section
	267283R	Hub & Spindle Assembly Replacement Kit - M22 Hardware =Red=		
19	9006046	Self Lube Bushing 3 OD x 2 1/2 ID x 3 Lg.	2	
20	286194B	Spindle Retainer Casting =Black=	1	
21	286233B	Washer 3 7/8" OD x 2.060" ID =Black=	3	
22	286100	Brake Kit	1	Refer to "Optional Brake Components" Section
23	267288	Stud & Nut Kit M22 x 1.5	1	Refer to "Steering Tandem Hub Components" Section
	9007001	Stud Bolt, M22 x 1.5 x 4	10	
	97319	Flanged Cap Nut, M22 x 1.5	10	
24	902875	Locknut, 3/8-16UNC	3	

Suspension Linkage Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	283725	Pin Weldment	2	
2	286131B	Link - Rocker, RH Painted	1	
3	286150B	Tie - Rod Assembly	4	
4	286174B	Pivot Bushing, LH	2	
	286175B	Pivot Bushing, RH	2	

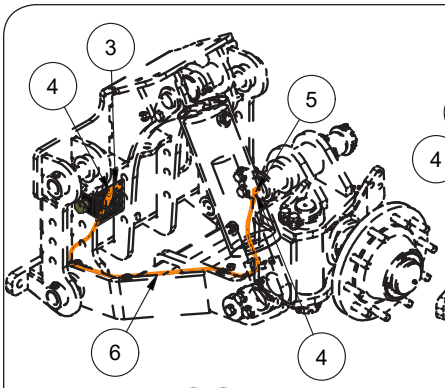
Suspension Linkage Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

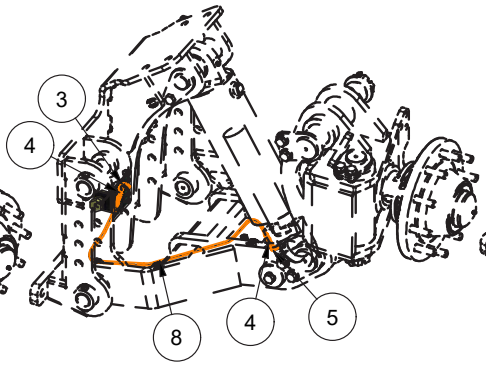
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
5	286181B	Link Weldment, Rocker	1	
6	286182	Washer	4	
7	286183B	Bar - Spacer	2	
8	286185	Bushing - Spacer	8	
9	286204B	Tie - Rod, Steering Link	2	Includes Items 44, 45, 46
10	286238	Pin Replacement Kit	4	
11	286223B	Cylinder Clamp	2	
12	286228B	Bearing Retainer	2	
13	286229B	Bearing Retainer	2	
14	286235	Pin - Cylinder	2	
15	9004613	Bushing - Self Lubricating	4	
16	9006055	Bushing - Self Lubricating	2	
17	91177	Retaining Ring	10	
18	9390-007	HCS 1/4 x 1 1/2 UNC	16	Grade 5
19	9390-105	HCS 1/2 x 2 /12 UNC	4	Grade 5
20	9390-124	HCS 5/8 x 2 UNC	8	Grade 5
21	9390-147	HCS 3/4 x 2 1/2 UNC	4	Grade 5
22	9390-185	HCS 1 x 2 1/2 UNC	44	Grade 5
23	9390-189	HCS 1 x 3 1/2 UNC	4	Grade 5
24	9394-020	Hex Nut 1-8 UNC	8	Grade 5
25	9404-025	Lock Washer 1/2	4	
26	9404-042	Lock Washer 1 EXTRA	8	
27	9405-064	Flat Washer 1/4 USS	8	
28	9405-086	Flat Washer 1/2 SAE	4	
29	9405-104	Flat Washer 3/4 SAE	4	
30	95905	Locknut/CTR 5/8-11 UNC	8	
31	96732	Locknut/CTR 3/4-10	4	
32	9936	Locknut 1/4-20	4	
34	286152B	Tube - Tie Rod	1	
35	9004744	Male Rod End, 1 1/4-12 LH	1	
36	9004827	Hex Jam Nut 1 1/2-12 LH	1	
37	9004928	Tie Rod Clamp - 2”	1	Includes Items 38 & 39
38	9801	Locknut/Top 5/8-11 UNC	1	
39	9390-128	HCS 5/8 x 3 UNC	1	Grade 5
40	9005945	RH Thread Tie Rod End	1	Includes Items 41 & 42
41	9000875	Zerk 90°	1	
42	9393-018	Slotted Nut 7/8 UNF G2	1	
44	286203B	Tie Rod Tube	1	
45	9004827	Hex Jam Nut 1 1/2-12 LH	1	
46	9395-023	Hex Jam Nut 1 1/4 UNF G5	1	

Suspension Link Grease Bank Components

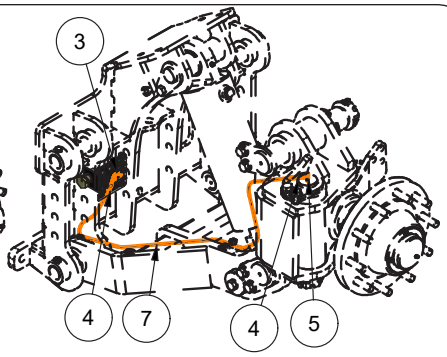
Please visit www.unverferth.com/parts/ for the most current parts listing.



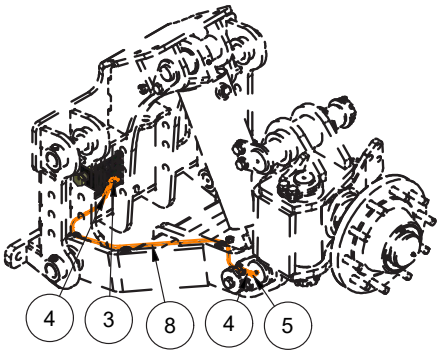
HOSE 1



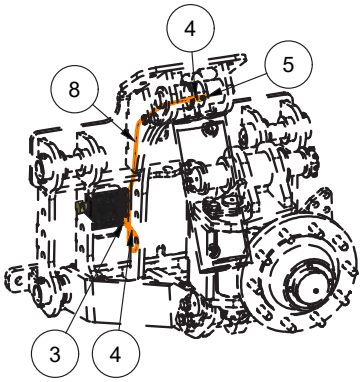
HOSE 2



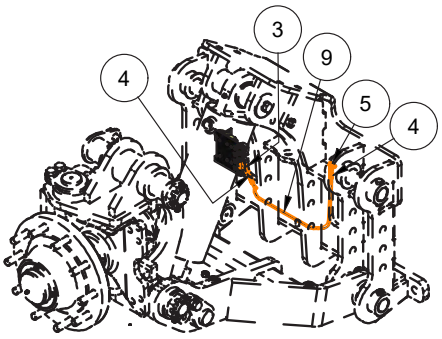
HOSE 4



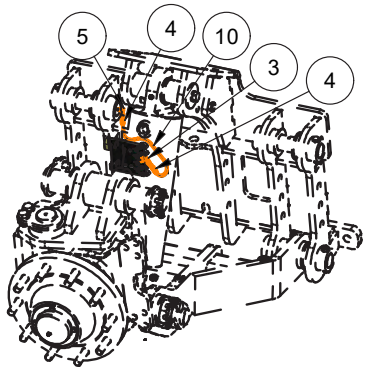
HOSE 5



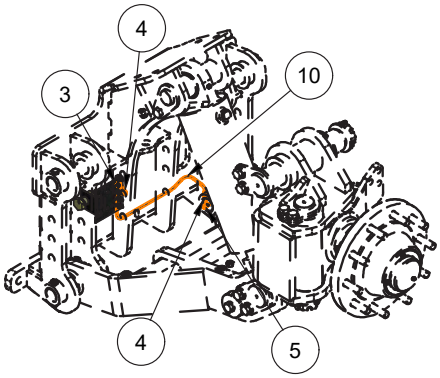
HOSE 6



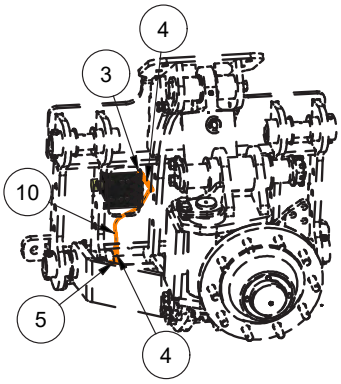
HOSE 7



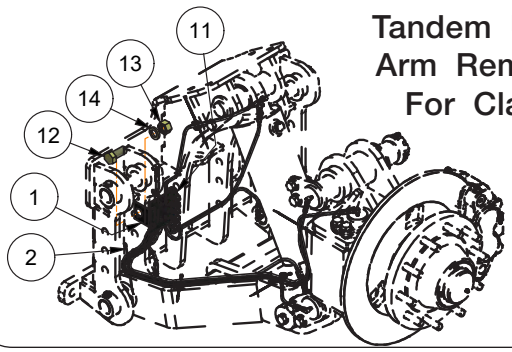
HOSE 8



HOSE 9



HOSE 10



Tandem Upper Arm Removed For Clarity

HOSE #	SUSPENSION LINK FUNCTION
1	Upper Clevis Pin
2	Lower Cylinder Pin
3	-
4	King Pin
5	Lower Clevis Pin
6	Upper Cylinder Pin
7	Upper Link Arm Pin
8	Upper Link Arm Pin
9	Lower Link Arm Pin
10	Lower Link Arm Pin

Suspension Link Grease Bank Components

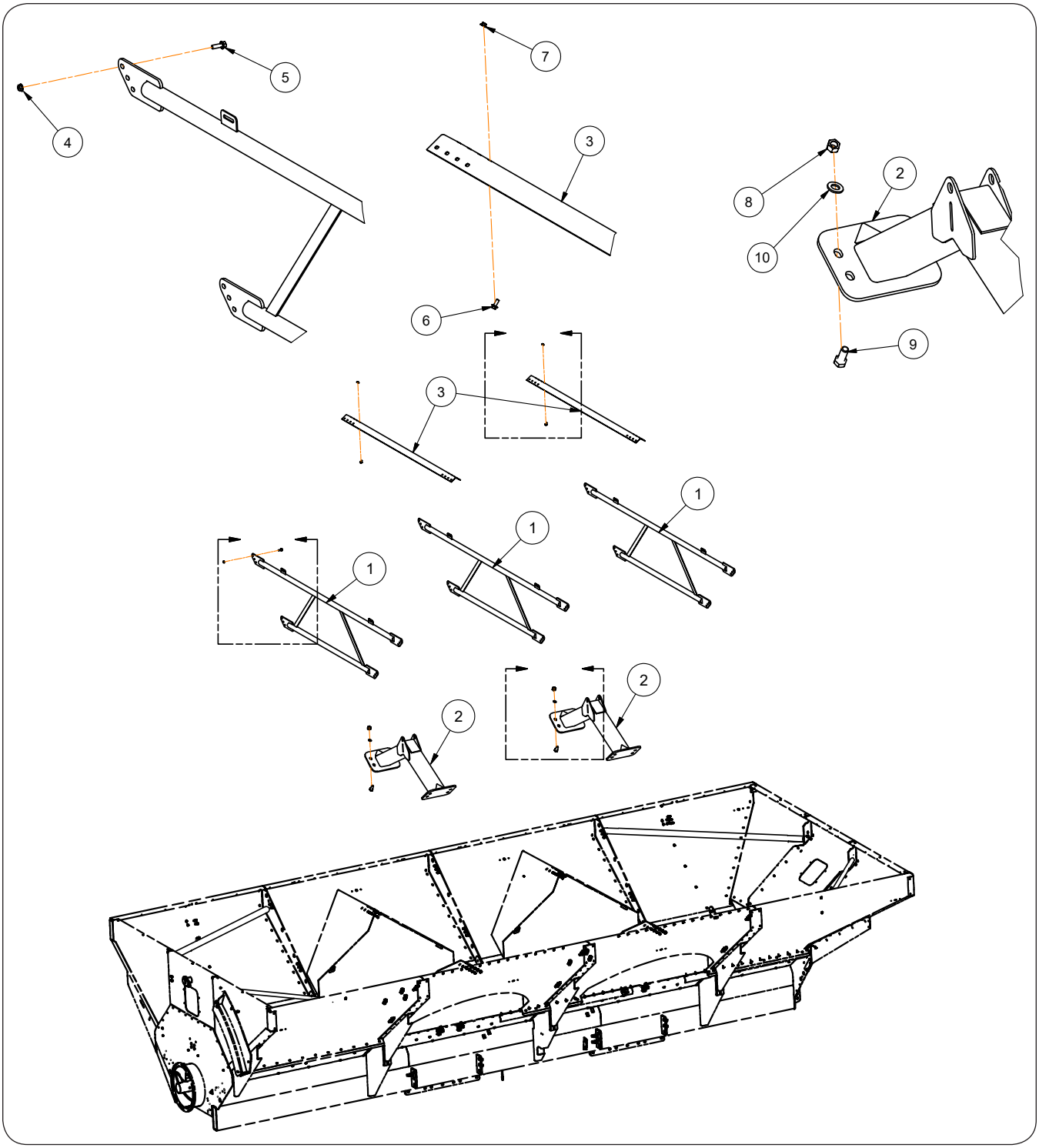
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	282696B	GREASE HOSE BRACKET =Black=	1	
2	9000106	CABLE TIE 7 1/2	6	
3	9004764	ELBOW 90 DEG 1/8 NPTF x 1/8 NPTF	9	
4	9006753	HOSE COUPLING 1/8 NPTM SWIVEL (2 PIECE)	18	
5	9006785	ADAPTER-90 DEG 1/8 NPTM X 1/8 NPTF	9	
6	9006876	HIGH PRESSURE GREASE HOSE 61”	1	Upper Clevis Pin
7	9006877	HIGH PRESSURE GREASE HOSE 68”	1	King Pin
8	9006878	HIGH PRESSURE GREASE HOSE 46”	3	Lower Cylinder Pin Lower Clevis Pin Upper Cylinder Pin
9	9006879	HIGH PRESSURE GREASE HOSE 36”	1	Upper Link Arm Pin
10	9006880	HIGH PRESSURE GREASE HOSE 26”	3	Upper Link Arm Pin (2 Places) Lower Link Arm Pin
11	93426	GREASE ZERK	9	
12	9390-184	CAPSCREW 1-8UNC X 2 1/4 GR5	1	
13	9394-020	HEX NUT 1-8UNC GR5	1	
14	9404-041	LOCK WASHER 1	1	

NOTE: For more suspension link grease bank details, refer to “Lubrication” in the MAINTENANCE section.

Steering Tandem Internal Bracing Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



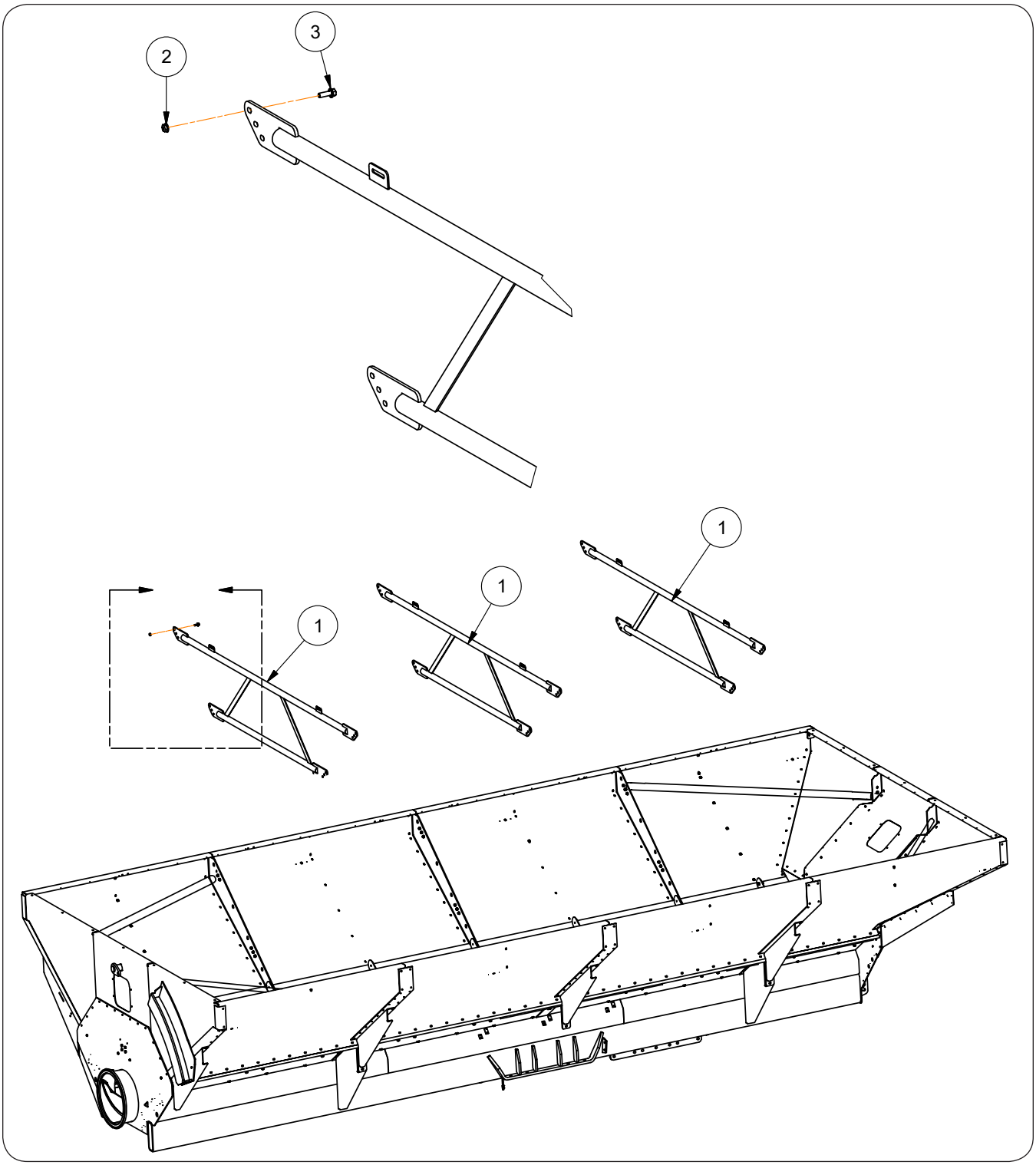
Steering Tandem Internal Bracing Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	294409B	Cross Tube Weldment =Black=	3	
2	273415B	Axle Truss Weldment =Black=	2	
3	273491B	Wheel Well Brace =Black=	2	
4	91267	Locking Flange Nut 1/2-13UNC	36	Grade 5
5	9005705	Flange Screw 1/2-13UNC x 1 1/2	36	Grade 5
6	91262	Screw/Large Flange 3/8-16UNC x 1	32	Grade 5
7	91263	Nut/Large Flange 3/8-16UNC	32	Grade 5
8	92199	Locknut 1-8UNC	16	Grade 5
9	9390-185	Capscrew 1-8UNC x 3	16	Grade 5
10	9405-118	Flat Washer 1" USS	16	

Track Internal Bracing Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



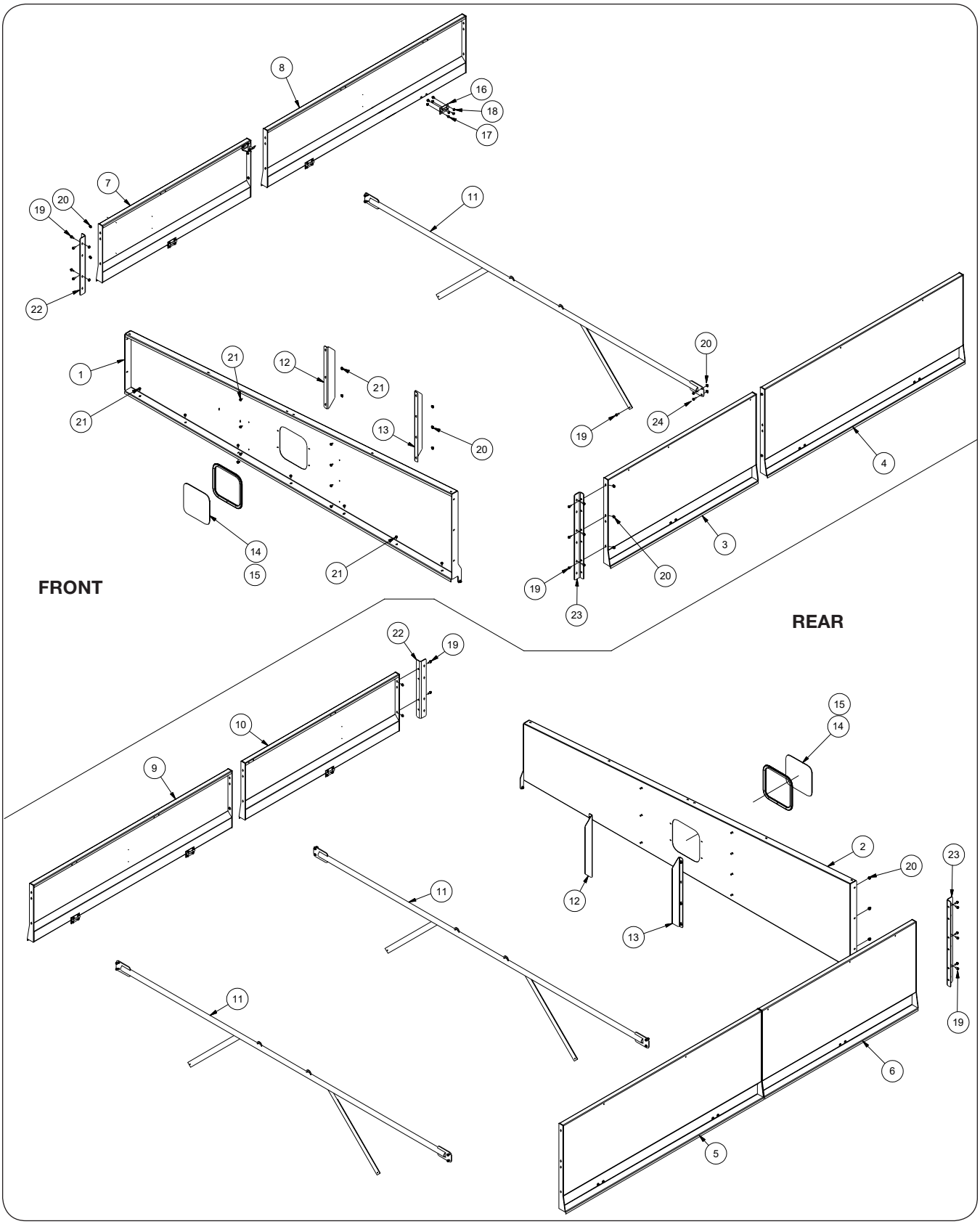
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	294409B	Cross Tube Weldment =Black=	3	
2	91267	Flange Nut 1/2-13UNC	36	Grade 5
3	9005705	Flange Screw 1/2-13UNC x 1 1/2	36	Grade 5

Notes

Please visit www.unverferth.com/parts/ for the most current parts listing.

Sideboard Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



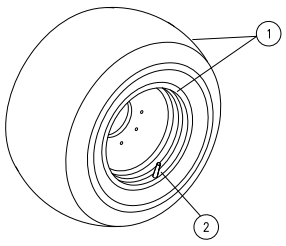
Sideboard Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	294429B	Front Board Weldment =Black=	1	
2	294434B	Rear Board Weldment =Black=	1	
3	294419B	Front LH Board Weldment =Black= SHOWN	1	
4	294421B	2nd LH Board Weldment =Black=	1	
5	294423B	3rd LH Board Weldment =Black=	1	
6	294425B	Rear LH Board Weldment =Black= SHOWN	1	
7	294411B	Front RH Board Weldment =Black= SHOWN	1	
8	294413B	2nd RH Board Weldment =Black=	1	
9	294415B	3rd RH Board Weldment =Black=	1	
10	294417B	Rear RH Board Weldment =Black= SHOWN	1	
11	294441B	Sideboard Brace Weldment =Black=	3	
12	294439B	Plate - Side Board Brace =Black=	2	
13	294440B	Plate - Side Board Brace =Black=	2	
14	9008680	Window and Trim Assembly	2	
15	9008933	Pan Head Phillips Screw 8-18UNC x 1/2"	24	
16	9004626	Hinge	12	
17	91256	Screw/Large Flange, 5/16-18 UNC x 3/4	48	Grade 5
18	91257	Hex Nut/Large Flange, 5/16-18 UNC	48	Grade 5
19	91262	Screw/Large Flange, 3/8-16 UNC x 1	38	Grade 5
20	91263	Hex Nut/Large Flange, 3/8-16 UNC	63	Grade 5
21	95585	Capscrew/Large Flange 3/8-16 UNC x 3/4	14	Grade 5
22	294437B	Plate - Sideboard Corner =Black=	2	
23	294438B	Plate - Sideboard Corner =Black=	2	
24	9003259	Flange Screw 3/8"-16UNC x 1 1/4"	11	Grade 5

Steering Tandem Wheels & Tires

Please visit www.unverferth.com/parts/ for the most current parts listing.



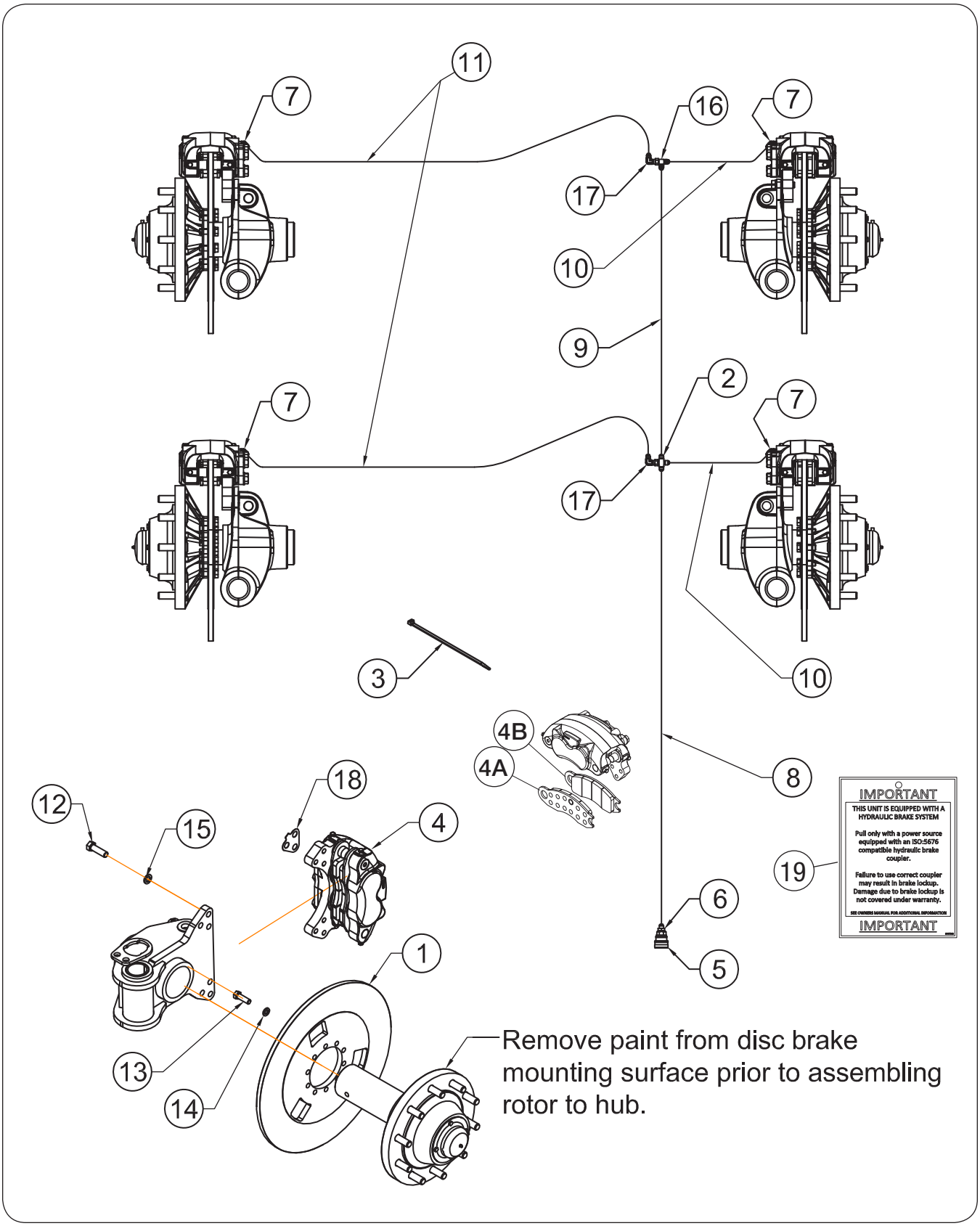
TIRES

For questions regarding new tire warranty, please contact your local original equipment tire dealer. Used tires carry no warranty. Tire manufacturers' phone numbers and websites are listed in the Maintenance Section for your convenience.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	18009	Wheel & Tire Assembly	4	30 x 38 / 900/60R38 R1W (Off-White)
	18009SM		4	30 x 38 / 900/60R38 R1W (Silver Mist)
	9500845	Wheel Only	4	30 x 38 (Off-White)
	9500845SM		4	30 x 38 (Silver Mist)
	99497	Tire Only	4	TL900/60R38C R-1W
2	93300	Valve Stem	4	
	95365	Plug	4	

Optional Brake Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



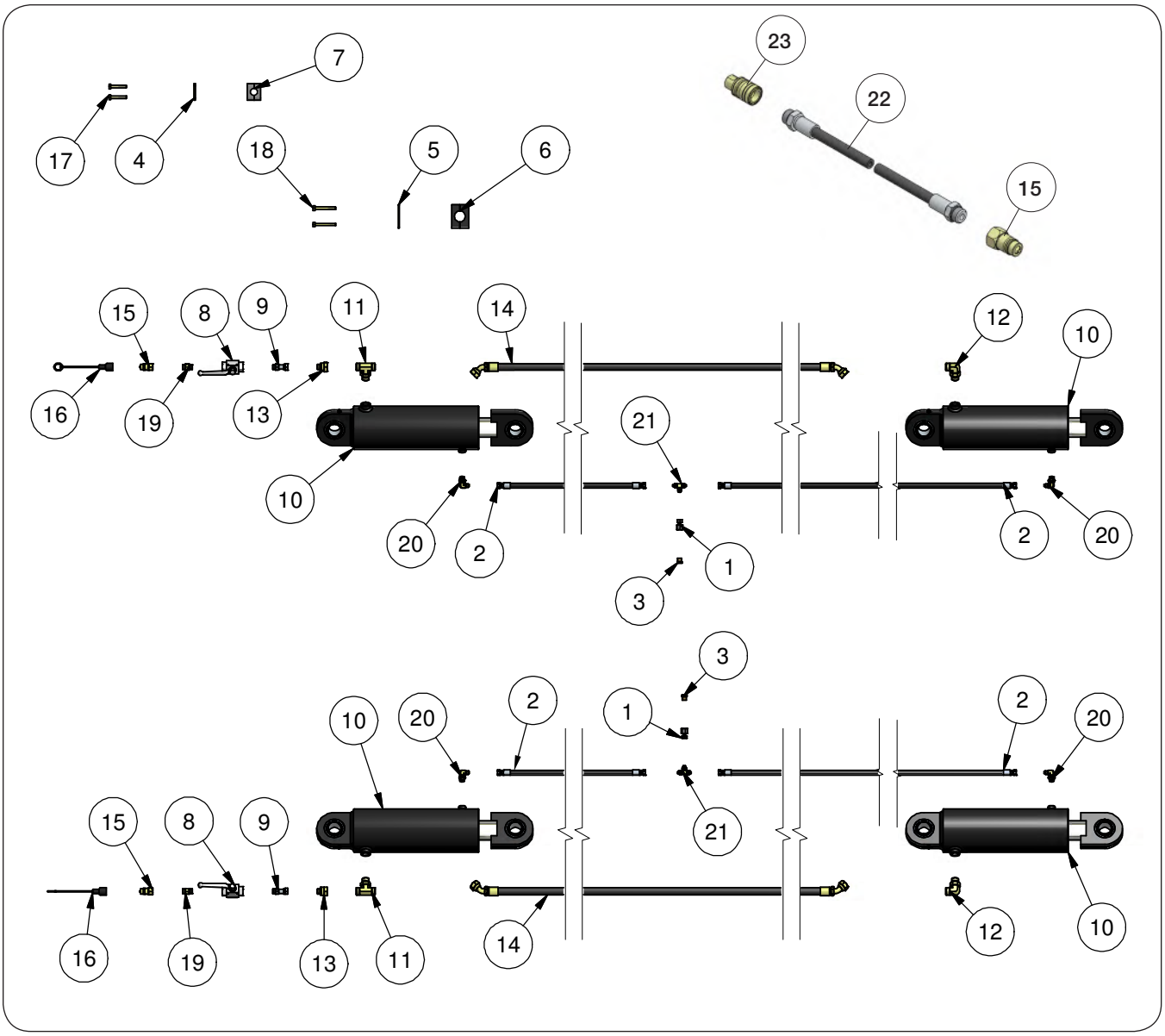
Optional Brake Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	283711	Brake Rotor Plate	4	
2	9002273	Cross, 9/16-18 JIC M	1	
3	9003735	Cable Tie, 11" Long	24	
4	9004762	Brake Assembly	1	Includes Items 4A, 4B, 4C
4A	9007135	Brake Pad - Outer	1	
4B	9007136	Brake Pad - Inner	1	
4C	9007137	Brake Assembly Seal Kit	1	Not Shown
5	9005173	Quick Coupler	1	
6	9006005	Adapter, 9/16-18 JIC M to M18x1.5	1	
7	9005970	Hydraulic Fitting, 7/16-20 UNF ORB x 45° 9/16 UNF JIC	4	Locate/Replace in lowest bleeder port of each caliper.
8	9004886	Hose, 1/4 x 408 (3000 PSI)	1	
9	9005974	Hose, 1/4 x 97 (3000 PSI)	1	
10	9005975	Hose, 1/4 x 70 (3000 PSI)	2	
11	9005976	Hose, 1/4 x 99 (3000 PSI)	2	
12	9390-147	Capscrew, 3/4-10 UNC x 2 1/2	24	Grade 5 - Torque @ 200 to 220 Ft.-Lbs.
13	9390-348	Capscrew, 5/8-18 UNF x 2	40	Grade 5 - Torque @ 124 to 137 Ft.-Lbs.
14	9404-029	Lock Washer, 5/8	40	
15	9404-033	Lock Washer, 3/4	24	
16	9875	Tee, 9/16-18 JIC M	1	
17	9876	Elbow, 90° 9/16-18 JIC M x 9/16-18 JIC FM	2	
18	286237	Shim - Brake Caliper	16	Use As Needed
19	9007162	Brakes Information Tag	1	

Steering Tandem Hydraulic Suspension Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



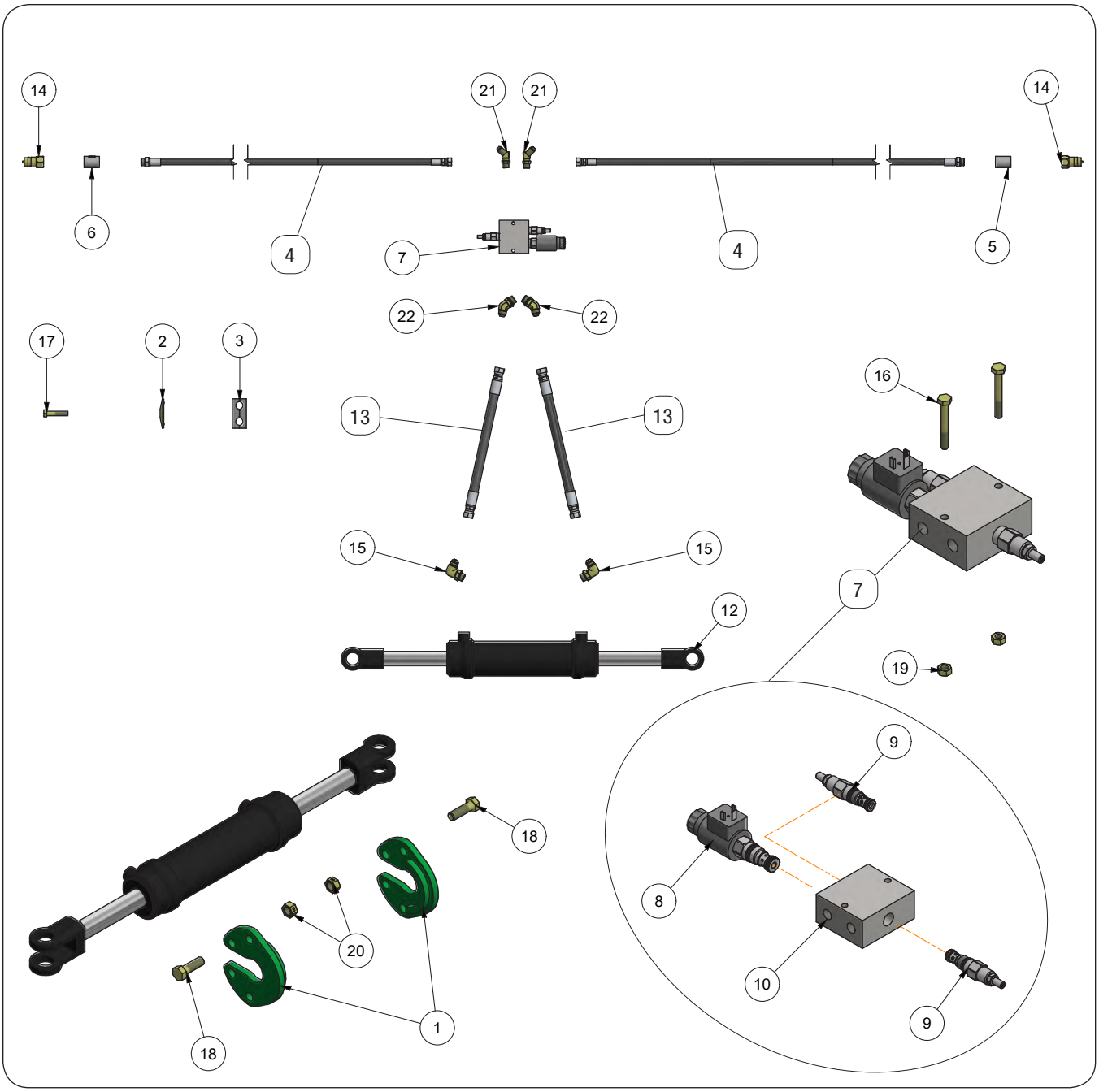
Steering Tandem Hydraulic Suspension Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9000299	Hydraulic Adapter Fitting	2	9/16-18 JIC Female Swivel Nut x 3/8-18 NPTF Female
2	9501684	Hydraulic Hose 3/8 x 68	4	(3000 PSI) 9/16-18 JIC Female Swivel Nut Both Ends
3	9003736	Breather 3/8 NPT	2	
4	9003813	Top Plate	6	
5	9003818	Top Plate	6	
6	9003819	Single Clamp Pair (1.05)	6	
7	9004652	Single Clamp Pair (0.67)	6	
8	9005426	Ball Valve (7250 PSI)	2	3/4-16 O-R Female Ports
9	9005428	Hydraulic Fitting	2	3/4-16 Male ORB x 13/16-16 Female ORFS
10	9005886	Hydraulic Cylinder 6 x 12	4	(3000 PSI) 3/4-16 and 1 1/16-12 Ports
11	9005947	Hyd. Fitting - Branch Tee	2	1 3/16-12 ORFS x 1 3/16-12 ORFS Run x 1 1/16-12 ORB
12	9005948	Hyd. Fitting - 90deg Elbow	2	1 1/16-12 ORB x 1 3/16-12 ORFS
13	9005949	Hydraulic Fitting	2	1 3/16-12 ORFS Female x 13/16-16 ORFS Male
14	9005987	Hydraulic Hose 3/4 x 116	2	(3000 PSI) 1 3/16-12 Swivel 45deg Fml ORFS Both Ends
15	91383	Male Tip Coupling	3	3/4-16 Female O-Ring (3000PSI)
16	91511	Dust Cap/Iso Coupler	2	
17	9390-007	Hex Capscrew	12	1/4-20 UNC x 1 1/2 Grade 5
18	9390-009	Hex Capscrew	12	1/4-20 UNC x 2 Grade 5
19	98508	Hydraulic Fitting - Union	2	3/4-16 O-R Male x 3/4-16 O-R Male
20	9874	Hyd. Fitting - 90deg Elbow	4	9/16-18 JIC Male x 3/4-16 O-R Male
21	9875	Hydraulic Tee Fitting	2	9/16-18 JIC Male All 3 Branches
22	9005564	Hydraulic Hose 1/4 x 305 - Suspension Charge	1	(3000 PSI) 3/4-16 UNF-1A x O-R Male Solid Straight Both Ends
23	97286	Pioneer Coupler	1	SAE 3/4-16 O-R Female 2-Way Sleeve

Steering Hydraulic Plumbing Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



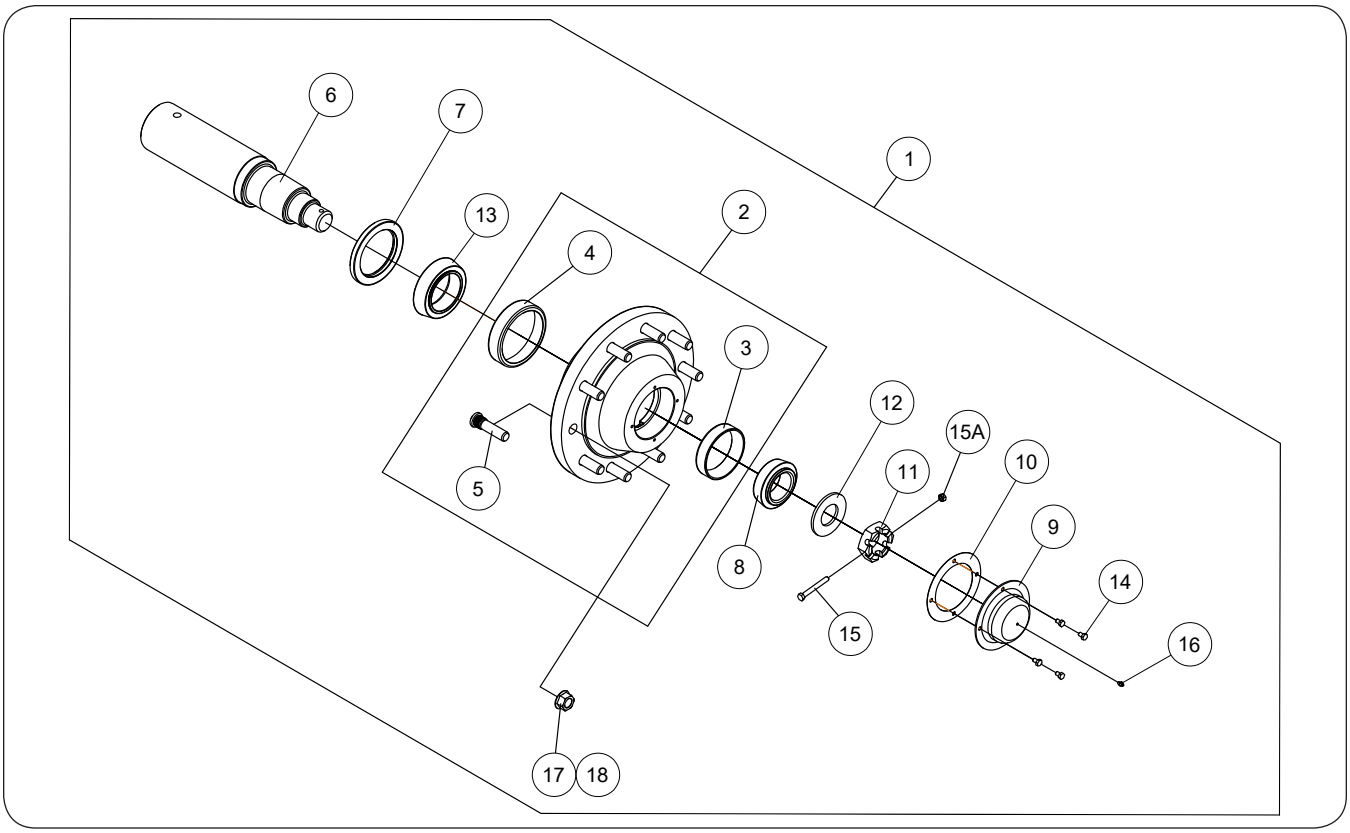
Steering Hydraulic Plumbing Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	286223B	Cylinder Clamp =Black=	2	
2	9003814	Top Plate	6	
3	9003816	Poly Clamp Pair (0.54)	6	
4	9004637	Hydraulic Hose 1/4 x 430	2	(3000 PSI) 9/16-18 JIC Female Swivel x 3/4-16 Male O-R
5	9004831	Hose Marker Sleeve	1	1"Dia. x 1 1/2 (Turn Left)
6	9004832	Hose Marker Sleeve	1	1"Dia. x 1 1/2 (Turn Right)
7	9008730	Steering Valve - Directional	1	2800 PSI Relief Setting
8	9008731	Solenoid Valve Cartridge	1	2 Position, 2 Way w/ Coil
9	9005664	Valve - Directional	2	3/4 Dia. x 3 11/32 (2800 PSI), 12 GPM
10	9005665	Valve Block	1	
12	9005991	Cylinder-Welded, Dbl Ended	1	3 x 10 w/ 3/4 ORB Ports (3000 PSI)
13	9005992	Hydraulic Hose 1/2 x 15	2	(3000 PSI) 3/4-16 JIC Swivel Female Both Ends
14	91383	Male Tip Coupling	2	3/4-16 Female O-Ring (3000PSI)
15	9863	Hyd. Fitting - 90° Elbow	2	3/4-16 JIC Male x 3/4-16 ORB Male
16	9390-009	Hex Capscrew	2	1/4-20 UNC x 2 Grade 5
17	9390-032	Hex Capscrew	6	5/16-18 UNC x 1 1/2 Grade 5
18	9390-124	Hex Capscrew	8	5/8-11 UNC x 2 Grade 5
19	9936	Locknut/Ctr 1/4-20 UNC	2	
20	95905	Locknut/Ctr 5/8-11 UNC	8	
21	96842	Hyd. Fitting - 45° Elbow	2	9/16-18 JIC Male x 9/16-18 ORB Male
22	93586	Hydraulic Fitting - 45° Elbow	2	3/4-16 JIC Male x 3/4-16 ORB Male

Steering Tandem Hub Components

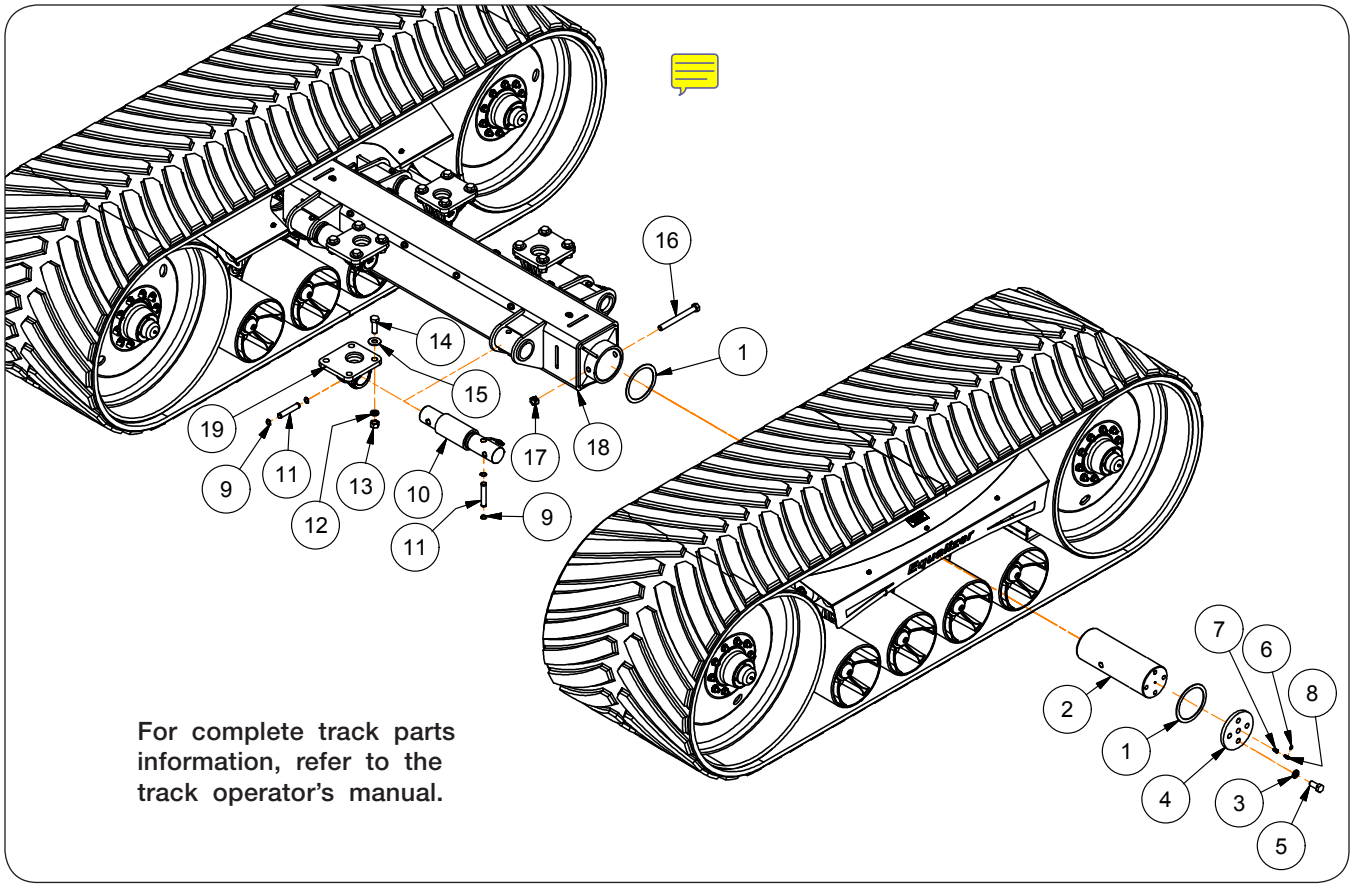
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	267283G	Hub & Spindle Assembly with M22 x 1.5 Hdw =Green=	1	
	267283R	Hub & Spindle Assembly with M22 x 1.5 Hdw =Red=		
2	283739G	Hub Sub-Asy with M22 x 1.5 Hdw =Green=	1	
	283739R	Hub Sub-Asy with M22 x 1.5 Hdw =Red=		
3	92462	Outer Bearing Cup	1	
4	92476	Inner Bearing Cup	1	
5	9007001	Stud Bolt, M22 x 1.5 x 4	10	
6	9006348	Scale Spindle 4 1/2" Dia. with 21 Ft. Cable	1	With Scales
7	92455	Seal	1	
8	92464	Outer Bearing Cone	1	
9	286171G	Hub Cap "Bolt-On Type" =Green=	1	
	286171R	Hub Cap "Bolt-On Type" =Red=		
10	284230	Gasket	1	
11	92470	Castle Nut, 2-12UNF	1	Grade 5
12	92472	Spindle Washer (Hardened)	1	
13	92545	Inner Bearing Cone	1	
14	9390-026	Capscrew, 5/16-18UNC x 1/2	4	Grade 5
15	9390-064	Capscrew, 3/8-16UNC x 3 1/4	1	Grade 5
15A	902875	Locknut, 3/8-16UNC	1	
16	91160	Grease Zerk	1	
17	267275	Wheel Nut Kit	1	Use with Item 5
18	97319	Flanged Cap Nut, M22 x 1.5	10	

Track Axle Mounting Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

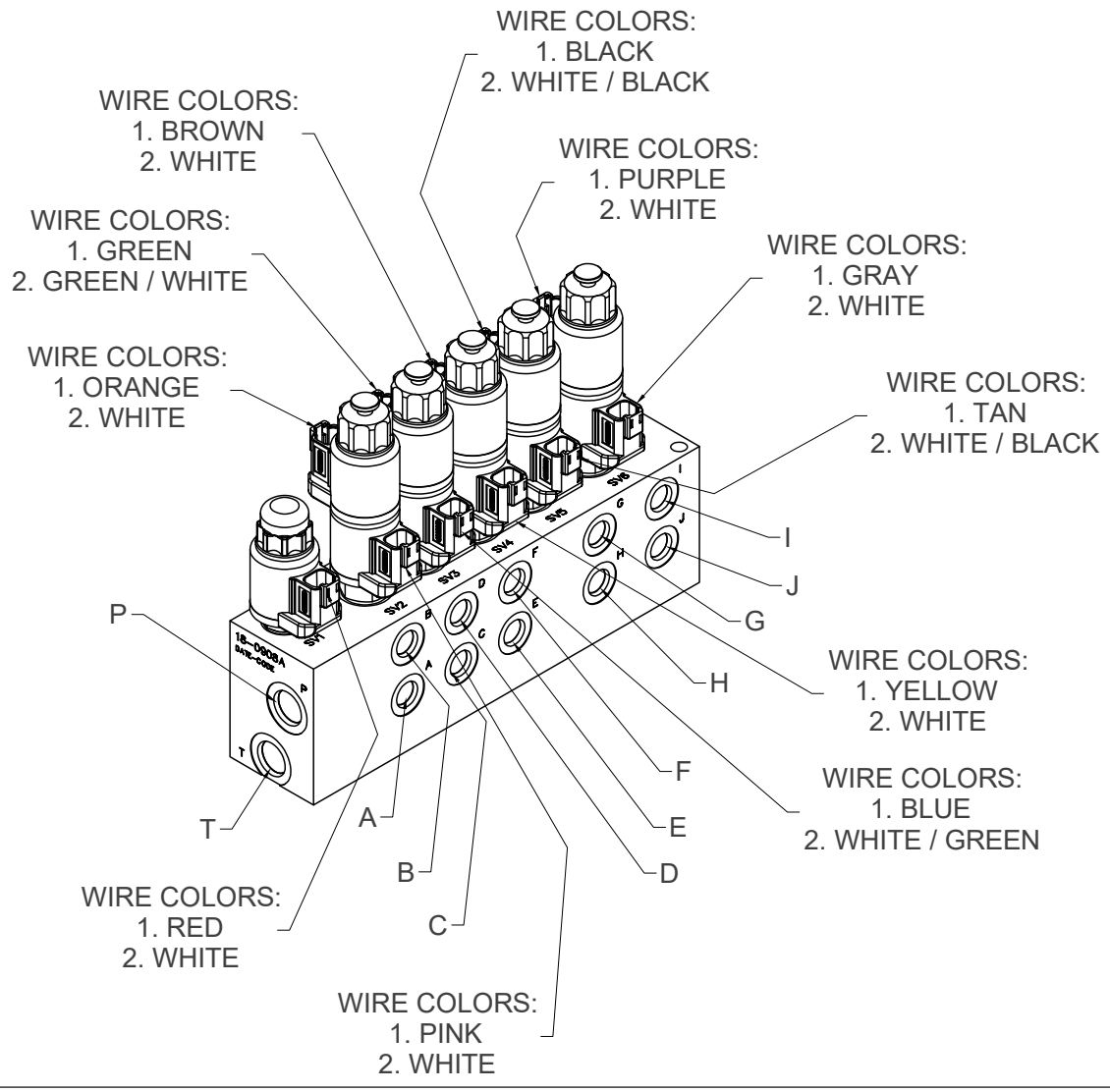


For complete track parts information, refer to the track operator's manual.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	282690	Washer 8 1/2" OD	4	
2	282102	Track Pivot Shaft 7" Dia.	2	
3	9404-041	Lock Washer 1"	8	
4	282689B	Cover Plate	2	
5	9390-184	Capscrew 1"-8UNC x 2 1/4"	8	Grade 5
6	93426	Grease Zerk	2	
7	9006816	Adapter 1/8"NPT	2	
8	9006785	90° Adapter	2	
9	91192	Retaining Ring 1"	8	
10	9005811	Load Bar 3 1/2" Dia. w/ 30 Ft. Cable	4	
11	282876	Pin 1" Dia. x 5 1/2"	4	
12	804685	Flat Washer 2"	16	
13	9008441	Elastic Locknut 1"-14UNS Grade 8	16	
14	91299-1458	Capscrew 1"-14UNS x 3 1/2" Grade 8	16	
15	804685	Flat Washer 2"	16	
16	9390-464	Capscrew 1"-8UNC x 10"	2	Grade 5
17	92199	Lock Nut 1-8UNC	2	
18	282069B	Axle Weldment =Black=	1	Standard Axle
	267797B			50" Axle
19	268838B	Axle Mount Casting =Black=	4	

Electric Over Hydraulic (EOH) Valve Functions and Wire Locations 5 Spool (Optional)

Please visit www.unverferth.com/parts/ for the most current parts listing.



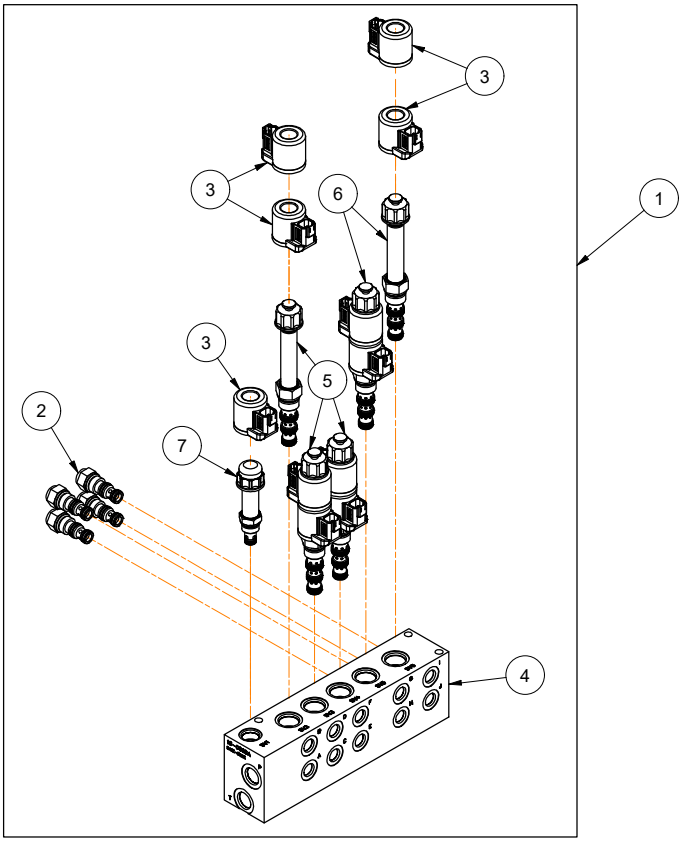
PORT	END OF CYLINDER	FUNCTION
A	BUTT END	Flow Door
B	RAM END	Flow Door
C	RAM END	Auger Fold
D	BUTT END	Auger Fold
E	RAM END	Spout Tilt Out
F	BUTT END	Spout Tilt In
G	RAM END	Spout Rotate Back
H	BUTT END	Spout Rotate Front
I	BUTT END	Auger Tilt Down
J	RAM END	Auger Tilt Up
P		Tractor Pressure
T		Tractor Return

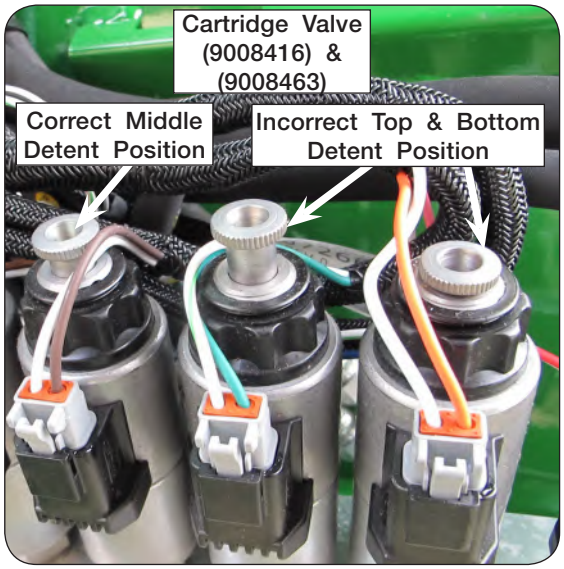
Notes

Please visit www.unverferth.com/parts/ for the most current parts listing.

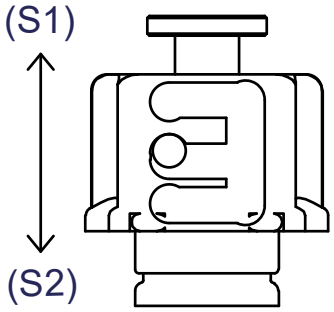
Electric Over Hydraulic (EOH) Valve Assembly Components 5 Spool (Optional)

Please visit www.unverferth.com/parts/ for the most current parts listing.





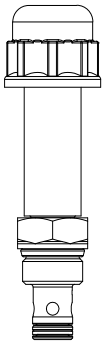
Cartridge Valve (9008416) & (9008463) Middle Detent Position



PUSH BUTTON AND HOLD WHILE OPERATING INDIVIDUAL FUNCTIONS

Cartridge Valve (9008438)

FOR MANUAL OVERRIDE



NOTE: Refer to "Manual Override for Optional Electric Over Hydraulic System" in OPERATION section.

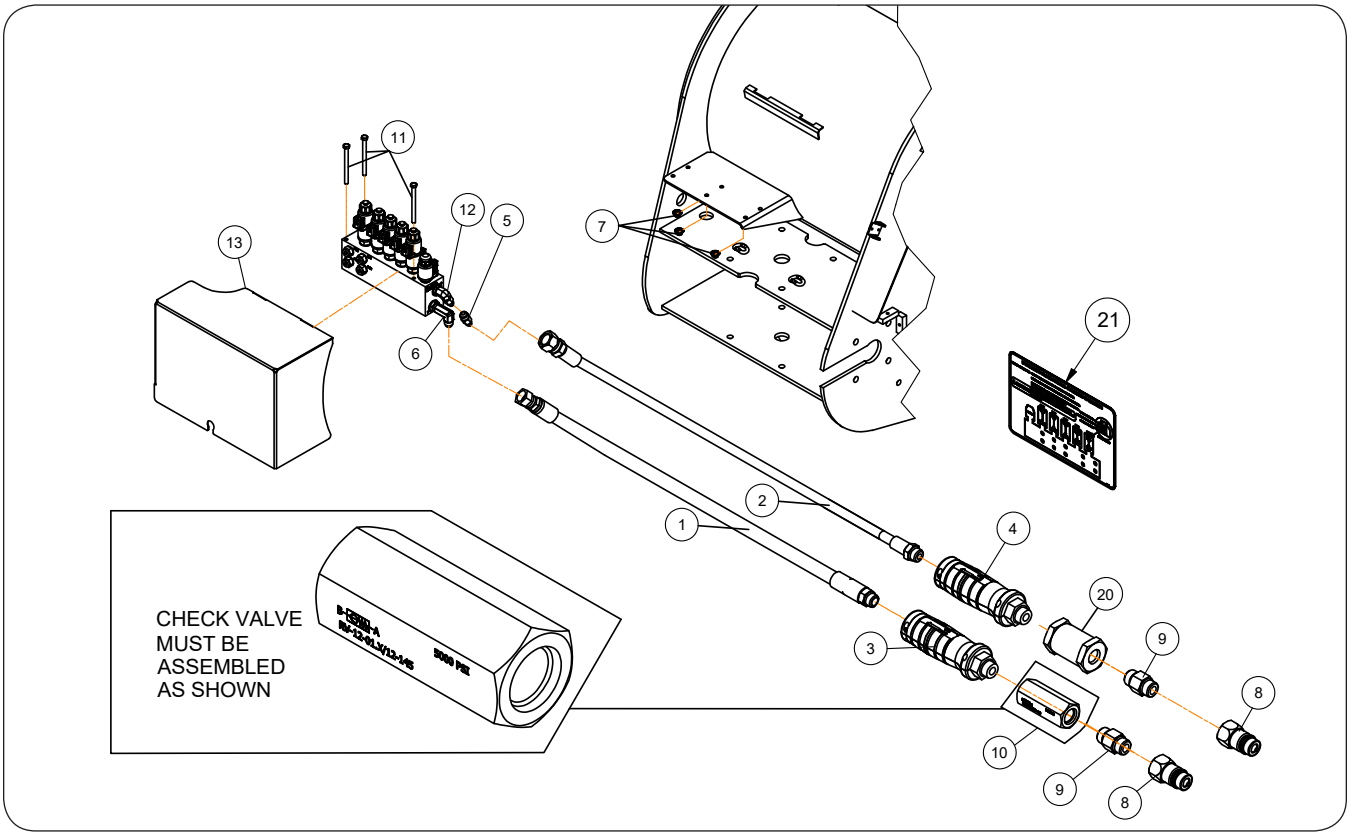
Electric Over Hydraulic (EOH) Valve Assembly Components 5 Spool (Optional)

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	293416	EOH Block Assembly - 5 Spool Replacement Kit	1	Includes Items 2-7 and Instruction Sheet
2	9003856	Pilot Check Valve	4	
3	9005769	Coil - 12 VDC DN-40	11	
4	9008667	Manifold Block - 5 Spool	1	
5	9008416	Cartridge Valve - 4 Way, 3 Position - Closed Center w/Detented Manual Override	3	Includes Retaining Cap
	9003906	Seal Kit	-	
6	9008463	Cartridge Valve - 4 Way, 3 Position - Open Center w/Detented Manual Override	2	Includes Retaining Cap
	9003906	Seal Kit	-	
7	9008438	Cartridge Valve - 2 Way, 2 Position w/Push Type Manual Overide	1	
	9003904	Seal Kit	-	

EOH Tractor Circuit Hydraulic Components (Optional)

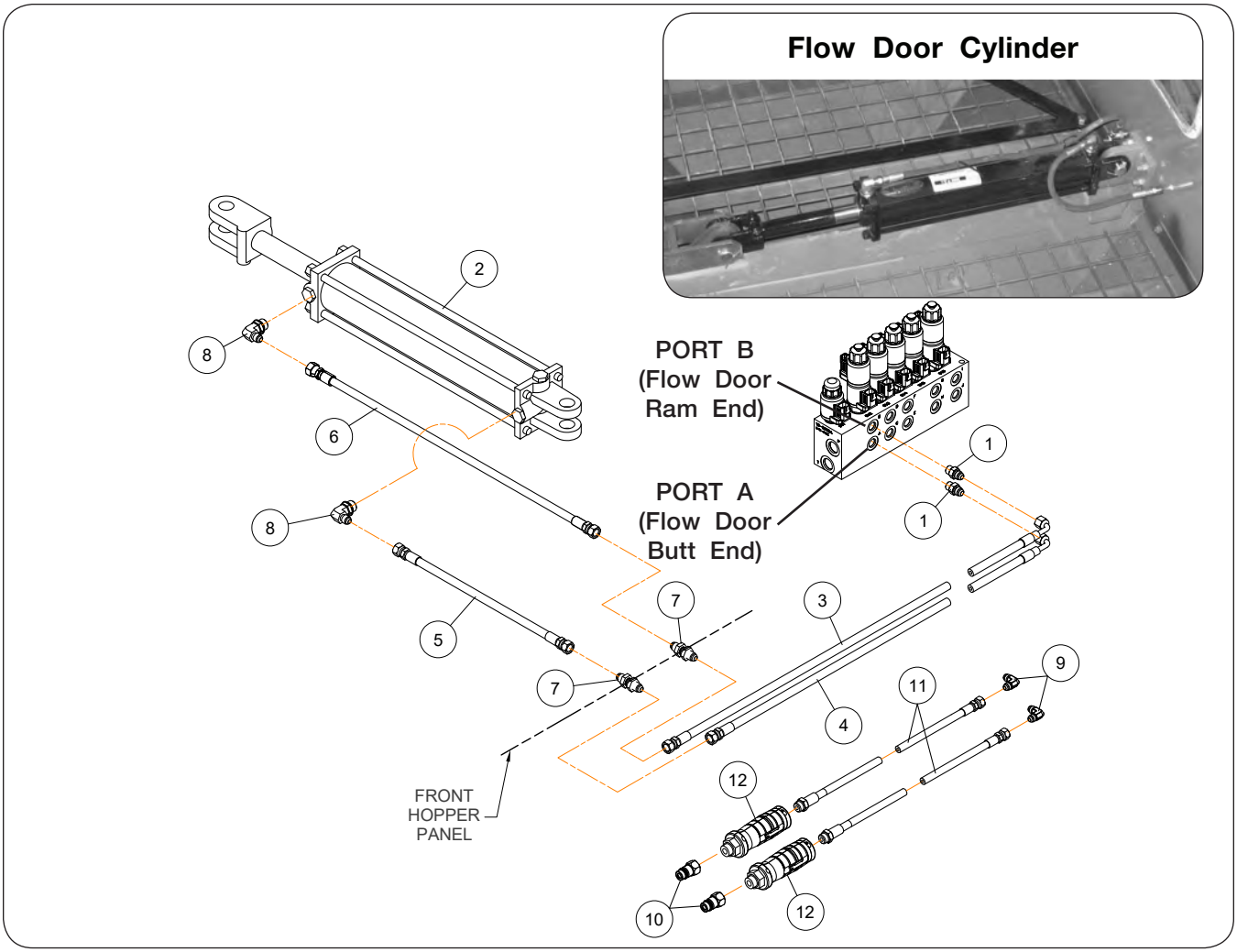
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	95802	Hydraulic Hose, 1/2 x 205" - 3000 PSI	1	
2	9005574	Hydraulic Hose, 1/4 x 208" - 3000 PSI	1	
3	9008601	Hose Grips - Tan (Pair) - Hydraulic Pressure	1	Solid Tan - Cylinder Extended
4	9008601	Hose Grips - Tan (Pair) - Hydraulic Return	1	Half Tan/Half Gray - Cylinder Retracted
5	9006527	JIC Tube Reducer 9/16-18 UNF Male x 9/16-UNF Female	1	
6	901568	Elbow, 90° Extra Long 3/4-16 JIC x 3/4-16 Male O-Ring	1	
7	91257	Large Flange Hex Nut, 5/16-18UNC Gr.5	3	
8	91383	Male Tip Coupling, 3/4-16	2	
9	98508	Adapter 3/4-16 O-Ring Male x 3/4-16 O-Ring Male	1	
10	9006994	Check Line Valve 145 PSI	1	
11	9390-042	Capscrew, 5/16-18UNC x 4 Gr.5	3	
12	9874	Elbow, 90° 9/16-18 JIC Male x 3/4-16 OR ADJ Male	1	
13	272606B	Valve Cover Plate	1	Also Order Item #21
20	9005403	120 Micron Hydraulic Filter	1	
21	9008564	Decal, CAUTION (Valve Block)	1	Add To Inside Cover Plate #13

Flow Door Circuit Hydraulic Components

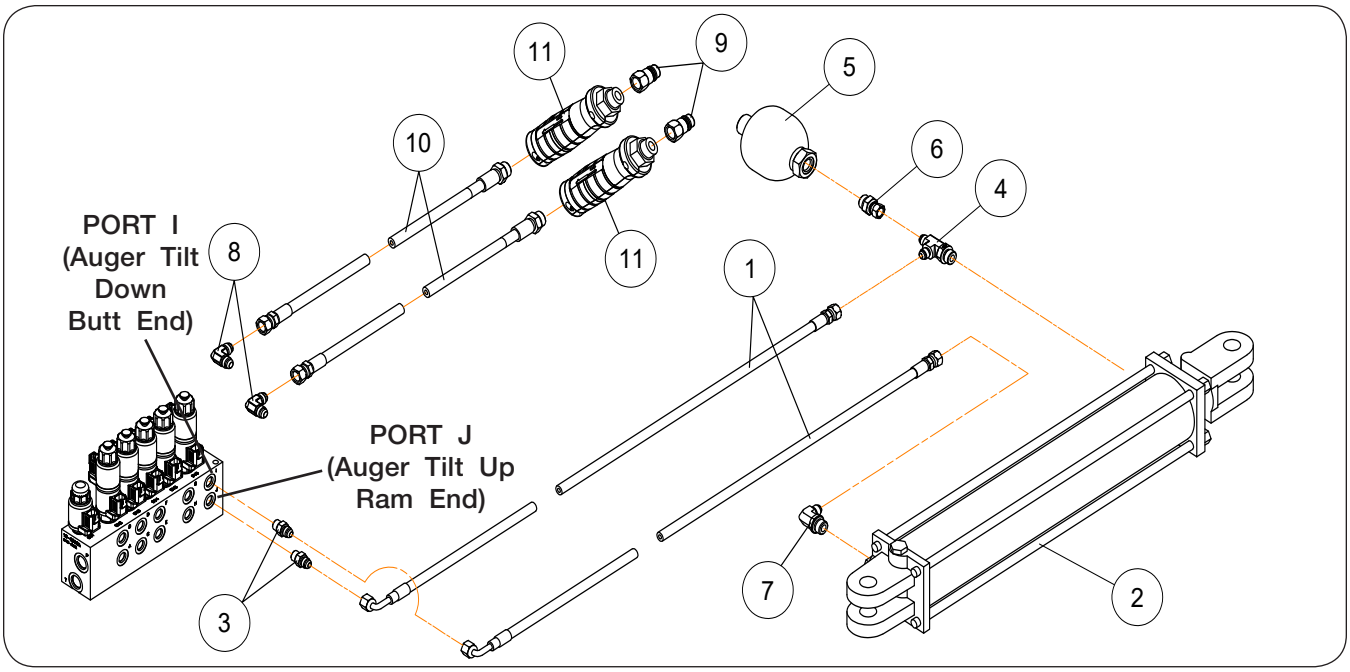
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9001495	Adapter, 9/16-18 JIC Male x 9/16-18 OR Male	2	Optional
2	9002575	Hydraulic Cylinder, 3 x 16" - 3000 PSI	1	
3	9004442	Hydraulic Hose, 1/4 x 54" - 3000 PSI	1	
4	9006607	Hydraulic Hose, 1/4 x 50" - 3000 PSI	1	
5	93472	Hydraulic Hose, 1/4 x 16" - 3000 PSI	1	
6	9002888	Hydraulic Hose, 1/4 x 27" - 3000 PSI	1	
7	95192	Bulkhead Union, 9/16-18 JIC Male x 9/16-18 JIC Male	2	
8	9874	Elbow, 90° 9/16-18 JIC Male x 3/4-16 OR ADJ Male	6	
9	9897	Elbow, 90° 9/16-18 JIC Male x 9/16-18 JIC Male	2	
10	91383	Male Tip Coupling, 3/4-16	2	
11	9005574	Hydraulic Hose, 1/4 x 208" - 3000 PSI	2	
12	9008596	Hose Grips - Red (Pair) - Flow Door Open	1	Solid Red - Cylinder Extended
	9008596	Hose Grips - Red (Pair) - Flow Door Close	1	Half Red/Half Gray - Cylinder Retracted

Auger Tilt Hydraulic Components

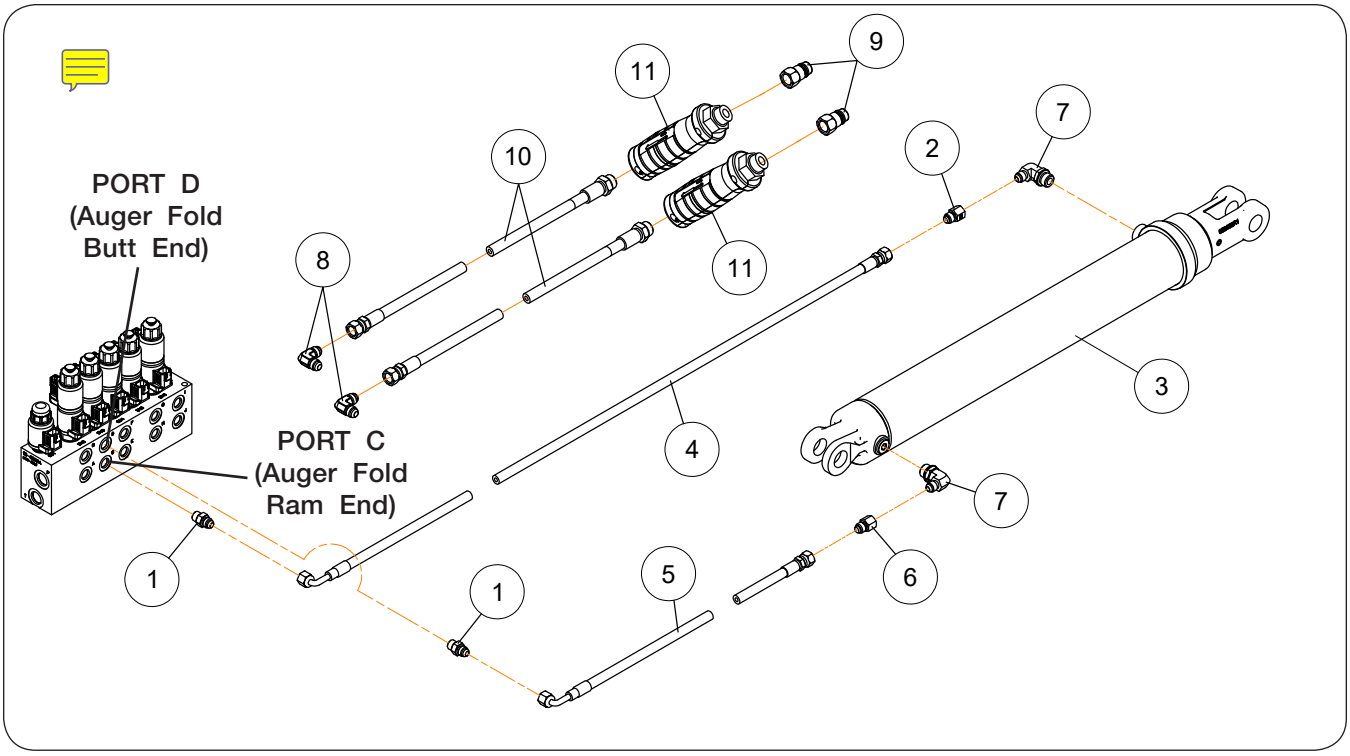
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9000925	Hydraulic Hose, 1/4 x 78” - 3000 PSI	2	
2	9000933	Hydraulic Cylinder, 3 1/2 x 20 - 3000 PSI	1	
3	9001495	Adapter, 9/16-18 JIC Male x 9/16-18 OR Male	9	Optional
4	9002155	Tee, 9/16-18 JIC Male x 3/4-16 OR ADJ Male	1	
5	9002719	Accumulator - 1800 PSI	1	
6	9002720	Adapter, 3/4-16 OR Male x 9/16-18 JIC Female	1	
7	9874	Elbow, 90° 9/16-18 JIC Male x 3/4-16 OR ADJ Male	6	
8	9897	Elbow, 90° 9/16-18 JIC Male x 9/16-18 JIC Male	2	
9	91383	Male Tip Coupling, 3/4-16	2	
10	9005574	Hydraulic Hose, 1/4 x 208” - 3000 PSI	2	
11	9008599	Brent Hose Grips (Blue Pair) - Auger Pivot Up	1	Solid Blue - Cylinder Extended
	9008599	Brent Hose Grips (Blue Pair) - Auger Pivot Down	1	Half Blue/Half Gray - Cylinder Retracted

Auger Fold Hydraulic Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

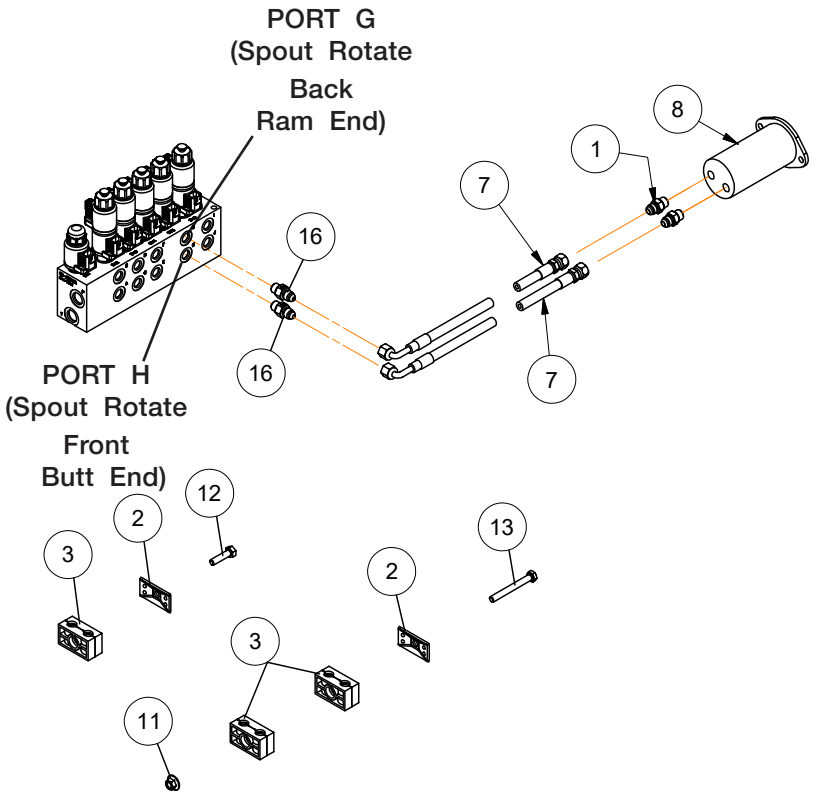


ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9001495	Adapter, 9/16-18 JIC Male x 9/16-18 OR Male	9	Optional
2	9002199	Reducer, 9/16-18 JIC Female x 9/16-18 JIC Male	1	
3	9004730	Hydraulic Cylinder, 3 x 22” - 3000 PSI	1	
4	9006608	Hydraulic Hose, 1/4 x 84” - 3000 PSI	1	
5	93594	Hydraulic Hose, 1/4 x 59” - 3000 PSI	1	
6	95193	Adapter, 9/16-18 JIC Female x 9/16-18 JIC Male	5	
7	9874	Elbow, 90° 9/16-18 JIC Male x 3/4-16 OR ADJ Male	6	
8	9897	Elbow, 90° 9/16-18 JIC Male x 9/16-18 JIC Male	2	
9	91383	Male Tip Coupling, 3/4-16	2	
10	9005574	Hydraulic Hose, 1/4 x 208” - 3000 PSI	2	
11	9008597	Brent Hose Grips (Green Pair) - Auger Raise	1	Solid Green - Cylinder Extended
	9008597	Brent Hose Grips (Green Pair) - Auger Lower	1	Half Green/Half Gray - Cylinder Retracted

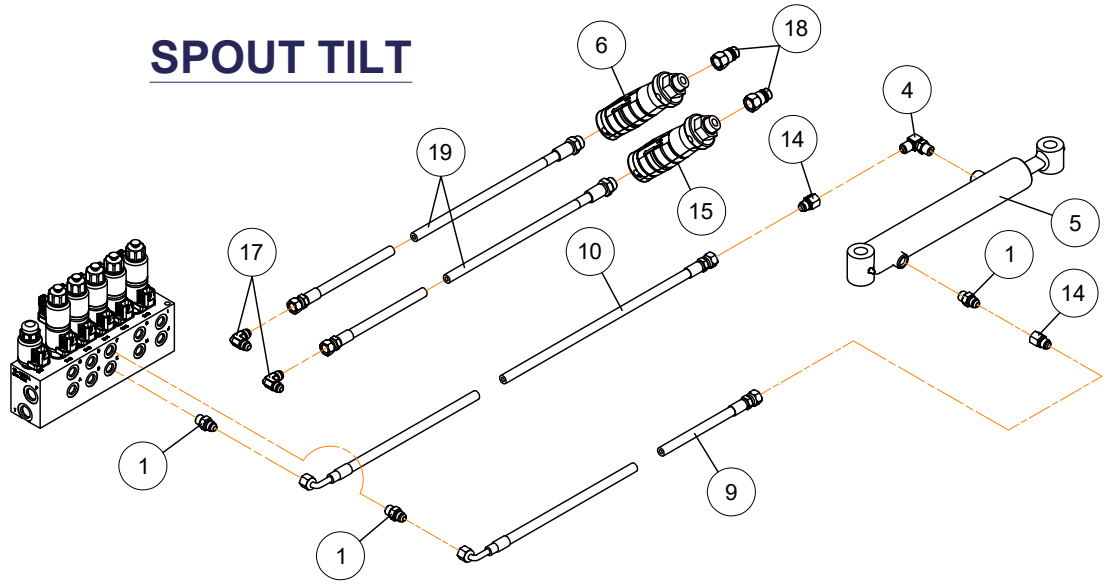
EOH Spout Rotate & Tilt Hydraulic Components (Optional)

Please visit www.unverferth.com/parts/ for the most current parts listing.

OPTIONAL SPOUT ROTATE



SPOUT TILT



EOH Spout Rotate & Tilt Hydraulic Components (Optional)

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9001495	Adapter, 9/16-18 JIC Male x 9/16-18 OR Male	5	
2	9003814	Clamp Top Plate, 1/4 x 1 1/8 x 2 1/16	4	
3	9003816	Clamp, Polypropylene	4	
4	97445	Elbow, 90° 9/16-18 JIC Male x 9/16-18 O-Ring ADJ Male	1	
5	9005135	Hydraulic Cylinder, 1 1/2 x 8 - 3000 PSI	1	
6	9008598	Hose Grips - Yellow (Pair) - Spout Out	1	Solid Yellow - Cylinder Extended
7	9003347	Hydraulic Hose, 1/4 x 224" - 3000 PSI	2	
8	9007626	Hydraulic Motor	1	
9	9006694	Hydraulic Hose, 1/4 x 314" - 3000 PSI	1	
10	9006695	Hydraulic Hose, 1/4 x 324 1/2" - 3000 PSI	1	
11	91257	Large Flange Hex Nut, 5/16-18UNC Grade 5	2	
12	9390-031	Capscrew, 5/16"-18UNC x 1 1/4" G5	2	
13	9390-034	Capscrew, 5/16"-18UNC x 2" G5	2	
14	95193	Adapter, 9/16-18 JIC Female x 9/16-18 JIC Male	2	
15	9008598	Hose Grips - Yellow (Pair) - Spout In	1	Half Yellow/Half Gray - Cylinder Retracted
16	98435	Adapter, 9/16-18 JIC Male x 9/16-18 O-Ring Male	2	
17	9897	Elbow, 90° 9/16-18 JIC Male x 9/16-18 JIC Male	2	
18	91383	Male Tip Coupling, 3/4-16	2	
19	9005574	Hydraulic Hose, 1/4 x 208" - 3000 PSI	2	

Cylinders

Please visit www.unverferth.com/parts/ for the most current parts listing.

Auger Flow Door Cylinder

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9002575	Cylinder 3 x 16	1	3/4-16 O-Ring Ports (3000 PSI)
1	9003772	Seal Kit	1	

Auger Fold Cylinder

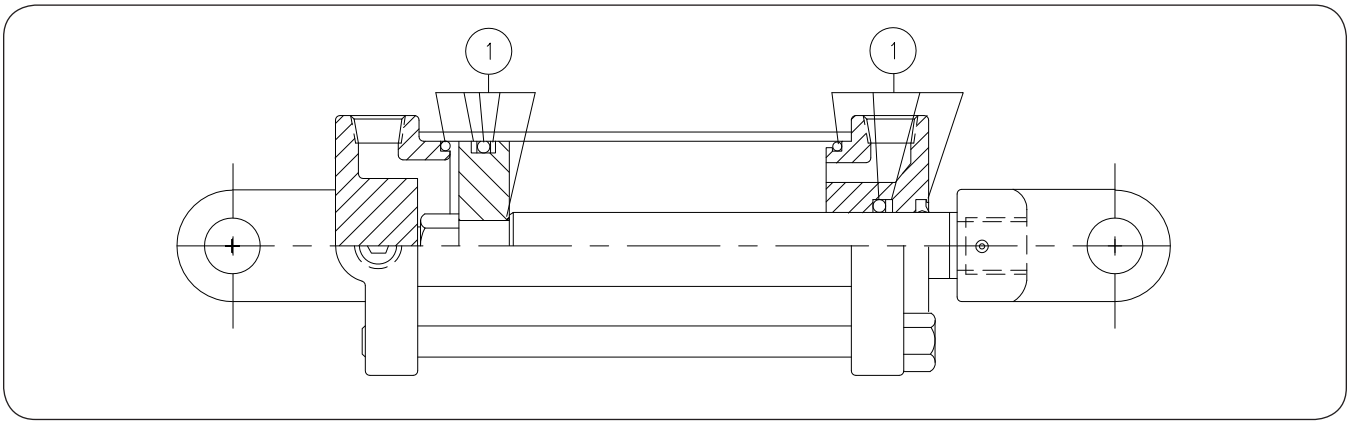
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9004730	Cylinder 3 x 22	1	3/4-16 O-Ring Ports (3000 PSI)
1	9003772	Seal Kit	1	

Auger Tilt Cylinder

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9000933	Cylinder 3 1/2 x 20	1	3/4-16 O-Ring Ports (3000 PSI)
1	9001081	Seal Kit	1	

Steering Cylinder

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9005991	Cylinder 3 x 10, Welded-Dbl Ended	1	3/4-16 O-Ring Ports (3000 PSI)
1	9006027	Seal Kit	1	



Cylinders

Please visit www.unverferth.com/parts/ for the most current parts listing.

Suspension Cylinder

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9005886	Cylinder 6 x 12 (3000 PSI)	4	3/4-16 & 1 1/16-12 O-Ring Ports
1	9006026	Seal Kit	1	

Optional Spout Rotate Cylinder - 1 1/2" x 8"

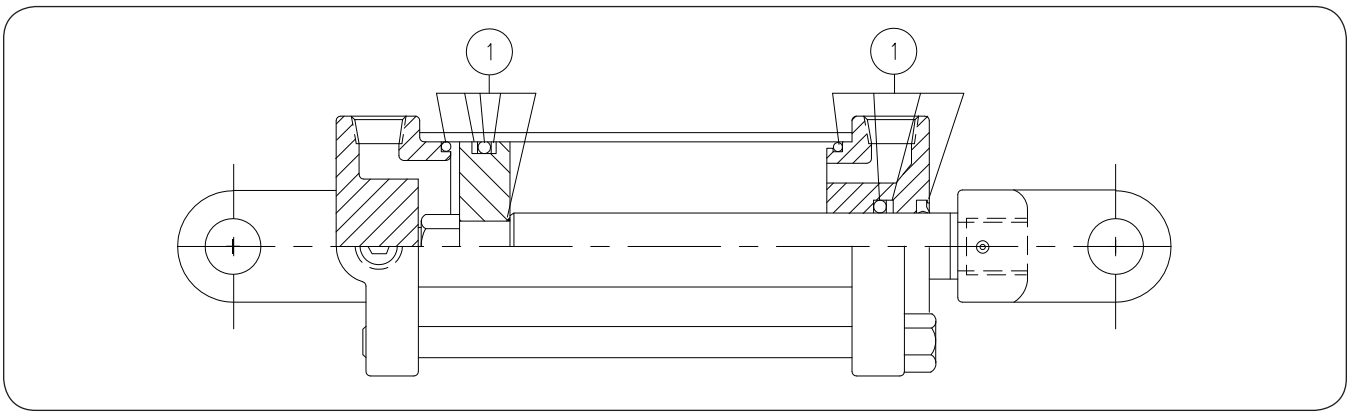
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9005135	Cylinder 1 1/2 x 8	1	#6 9/16-18 O-Ring Ports (3000 PSI)
1	9005419	Seal Kit	1	

Auger Spout Tilt Cylinder

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9005135	Cylinder 1 1/2 x 8	1	#6 9/16-18 O-Ring Ports (3000 PSI)
1	9005419	Seal Kit	1	

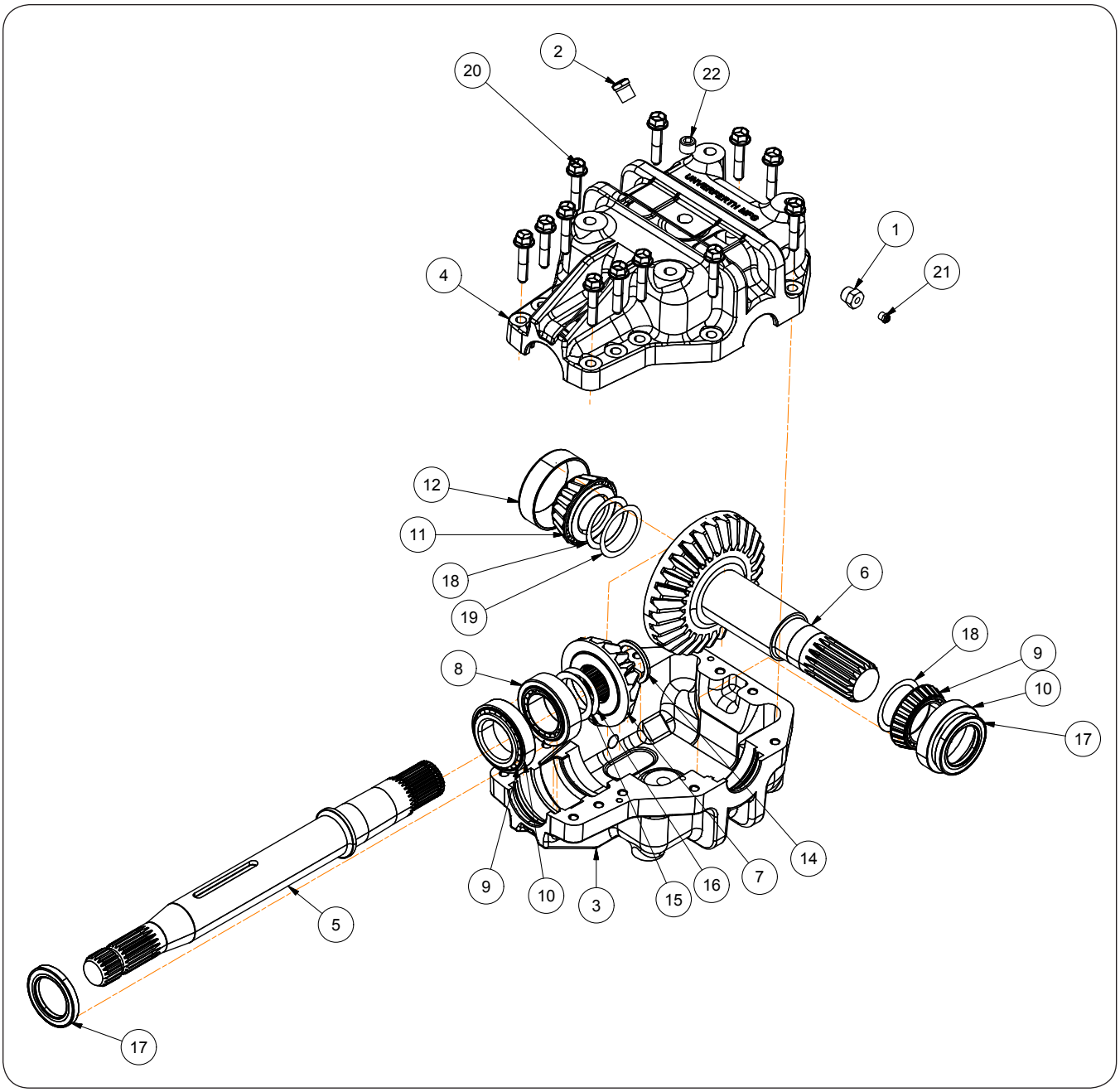
Optional Jack Cylinder - 3" x 8"

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9006422	Cylinder, Complete	1	
1	9007138	Seal Kit	1	



Gearbox Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



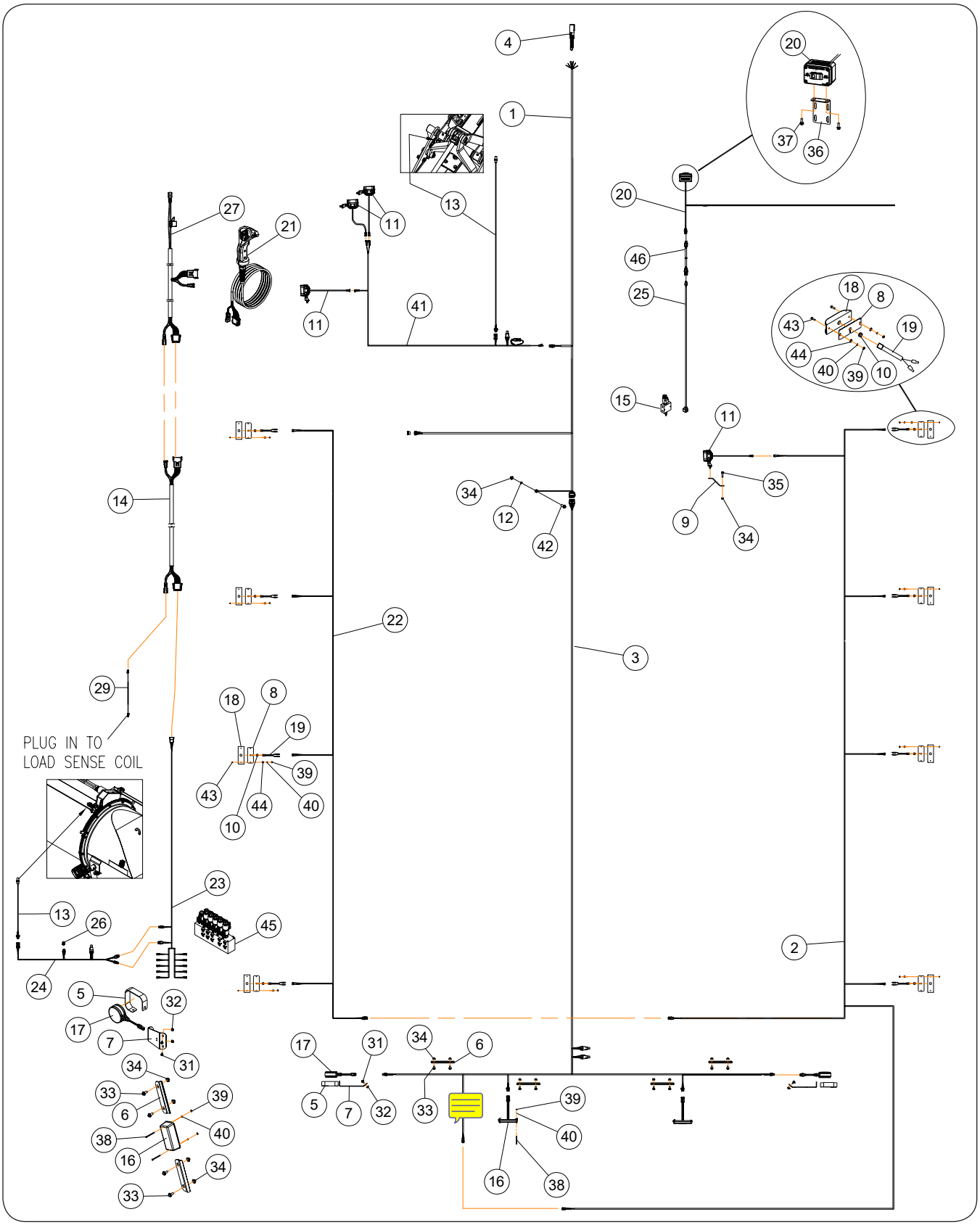
Gearbox Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9007366	Gearbox Complete	1	Includes Items 1 through 22
1	9003453	Reducer Bushing, 1/2-14 NPTF M x 1/8-27 NPTF F	1	
2	9006381	Glass Sight Plug	1	
3	9007492	Gearbox Housing Q800 w/Tapped Holes	1	
4	9007493	Gearbox Housing Q800 w/Through Holes	1	
5	9007494	Gearbox Shaft 2 1/4" Dia.	1	
6	9007495	Gear Shaft Assembly 29 Tooth, 2 1/4-17 Spline	1	
7	9007496	Gear 16 Tooth Splined	1	
8	9007497	Bearing Cup & Cone Set, 3.740 OD x 1 1/4	1	
9	9007498	Bearing Cone 2 1/4 ID x 1	2	
10	9007499	Bearing Cup 3.8437 OD x 0.7812	2	
11	9007500	Bearing Cone 2 ID x 1.5312	1	
12	9007501	Bearing Cup 4.125 OD	1	
13	9007502	End Cap	1	
14	9007503	Retaining Ring - External 2" Nominal Shaft Dia.	1	
15	9007504	Shim - 0.025	1	
16	9007505	Shim - 0.030	1	
17	9007508	Shaft Seal	2	
18	9007511	Shim - 0.005	2	
19	9007512	Shim - 0.003	1	
20	903161-060	Flange Screw 1/2-13UNC x 2 1/2	12	
21	92352	Pressure Relief	1	
22	95283	Plug	3	

Electrical Components - 5 Function Control Grip

Please visit www.unverferth.com/parts/ for the most current parts listing.



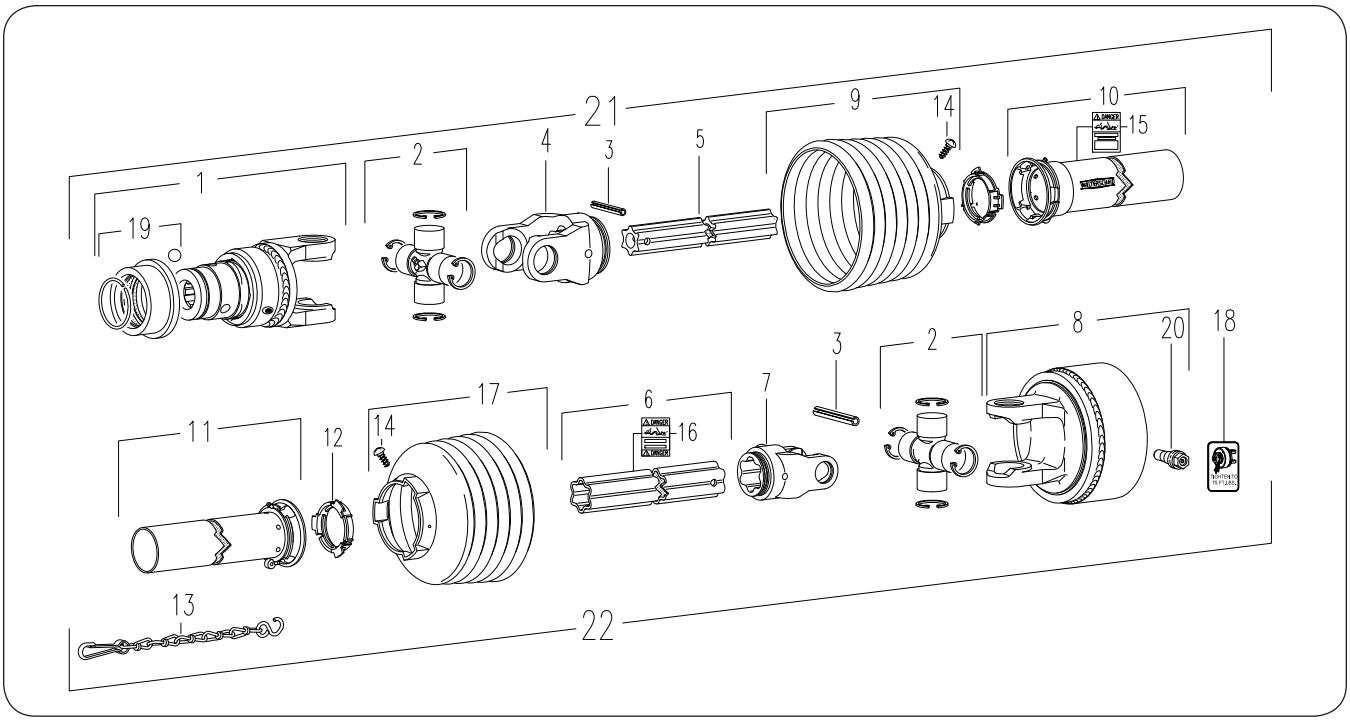
Electrical Components - 5 Function Control Grip

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9008106	Front Harness - 260”	1	
2	9009030	Clearance Harness	1	
3	9008100	Rear Harness	1	
4	92450	7-Way Plug	1	
5	268678B	Light Guard Plate =Black=	2	
6	273371G	Harness Cover =Green=	4	
	273371R	Harness Cover =Red=		
7	273894B	Light Bracket =Black=	2	
8	273531B	Light Cover =Black=	8	
9	271574B	Lamp Mount Plate =Black=	1	
10	9001005	Rubber Grommet	9	
11	9008957	Work Flood Lamp (LED)	4	
12	9005688	External Tooth Lock Washer	1	NOT SHOWN
13	9007223	Proximity Switch	1	
14	9008252	Joystick Controller Extension Harness	1	
15	9008730	Steering Valve	1	
16	9006345	LED Lamp - Red	2	
	232169	LED Lamp - Red - Replacement Kit		Includes Lamp, & Items 14, 37, & 41
17	9005142	LED Lamp - Amber	2	
18	9005529	Amber Light	8	
19	9005542	Light Harness - 2 Wire	8	
20	9005654	Rocker Switch Assembly	1	
21	9008265	L-Series Control Grip - 5 Function	1	
22	9009069	Clearance Harness	1	
23	9007290	“T” Main Wiring Harness - 189”	1	
24	9007286	Wiring Harness - 205” EOH for Proximity Switch	1	
25	9005993	Wiring Harness - 588”	1	
26	252386	Plug Assembly, 2 Pin Shroud	1	
27	9008251	Harness - Joystick Power	1	
29	9007266	Wire Harness, 218 5/16” (2 Pin Diverter)	1	
31	91256	Large Flange Screw 5/16”-18UNC x 3/4”	4	
32	91257	Flange Nut 5/16”-18UNC	4	
33	95585	Large flange Screw 3/8”-16UNC x 3/4” G5	8	
34	91263	Large Flange Nut, 3/8-16UNC	10	Grade 5
35	95785	Flange Screw 3/8”-16UNC x 1 1/2”	1	
36	283788B	Mounting Bracket =Black=	1	
37	97420	Flange Screw, 1/4-20 x 3/4	2	Grade 5
38	903172-350	Pan Head Phillips Screw, #10-32UNF x 1 1/4”	4	
39	9830-016	Hex Nut, #10-32	20	Grade 2
40	9404-013	Lock Washer, #10	20	
41	9008956	Switch Harness	1	
42	91262	Large Flange Screw, 3/8-16 x 1	1	Grade 5
43	903172-346	Pan Head Phillips Screw, #10-32UNF x 3/4”	16	
44	9405-052	Flat Washer, 3/16	16	
45	293416	EOH Block Assembly - 5 Spool Replacement Kit	1	
46	86700	Wiring Extension 120” (2 Pin)	1	

Cut Out Clutch PTO Assembly

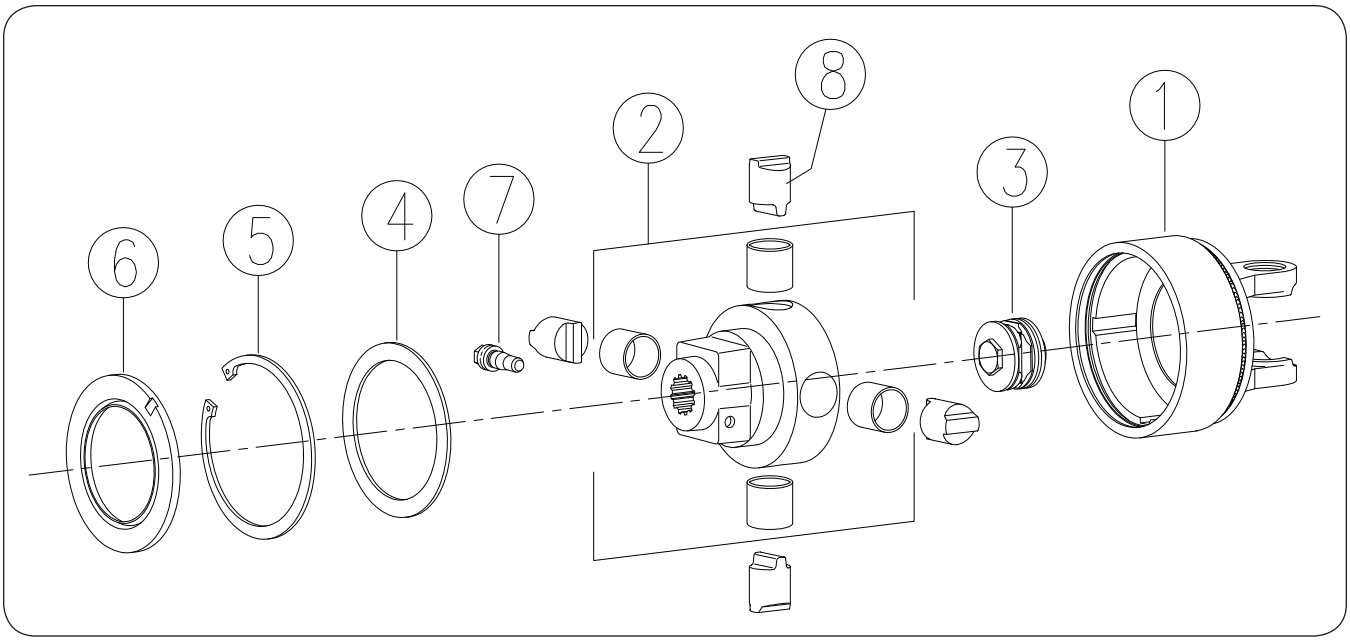
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9005230	PTO Assembly Complete		Includes Items 19 & 20
1	9005234	Over-Running PTO Clutch Assembly	1	
2	92529	Cross & Bearing Kit	2	
3	9002609	Spring Pin 10x90	2	
4	9002610	Inboard Yoke S4	1	
5	9004840	Inner Profile	1	
6	9004841	Outer Profile	1	
7	9002613	Inboard Yoke S5	1	
8	9005235	Cut Out Clutch (3200 N-m Setting)	1	1 3/4-20 Spline 1000RPM
9	9002615	Shield Cone 7 Rib	1	
10	9004843	Outer Shield Tube Oval	1	
11	9004844	Inner Shield Tube Oval	1	
12	92373	Bearing Ring	2	
13	92374	Safety Chain	1	
14	92372	Screw	2	
15	92377	Decal Out	1	
16	92378	Decal In	1	
17	93866	Shield Cone 6 Rib	1	
18	9005233	Decal K64	1	“Tighten to 75 Ft.-Lbs.”
19	93856	Quick-Disconnect Kit	1	1 3/4-20 Spline w/Metal Collar
20	9005253	Cut Out Clutch Lock Assembly	1	
21	9005231	PTO Front Half Assembly 1 3/4-20 Spline	1	
22	9005232	PTO Rear Half Assembly 1 3/4-20 Spline	1	
23	9002513	Reinforcing Collar	1	NOT SHOWN

Cut Out Clutch PTO Assembly

Please visit www.unverferth.com/parts/ for the most current parts listing.

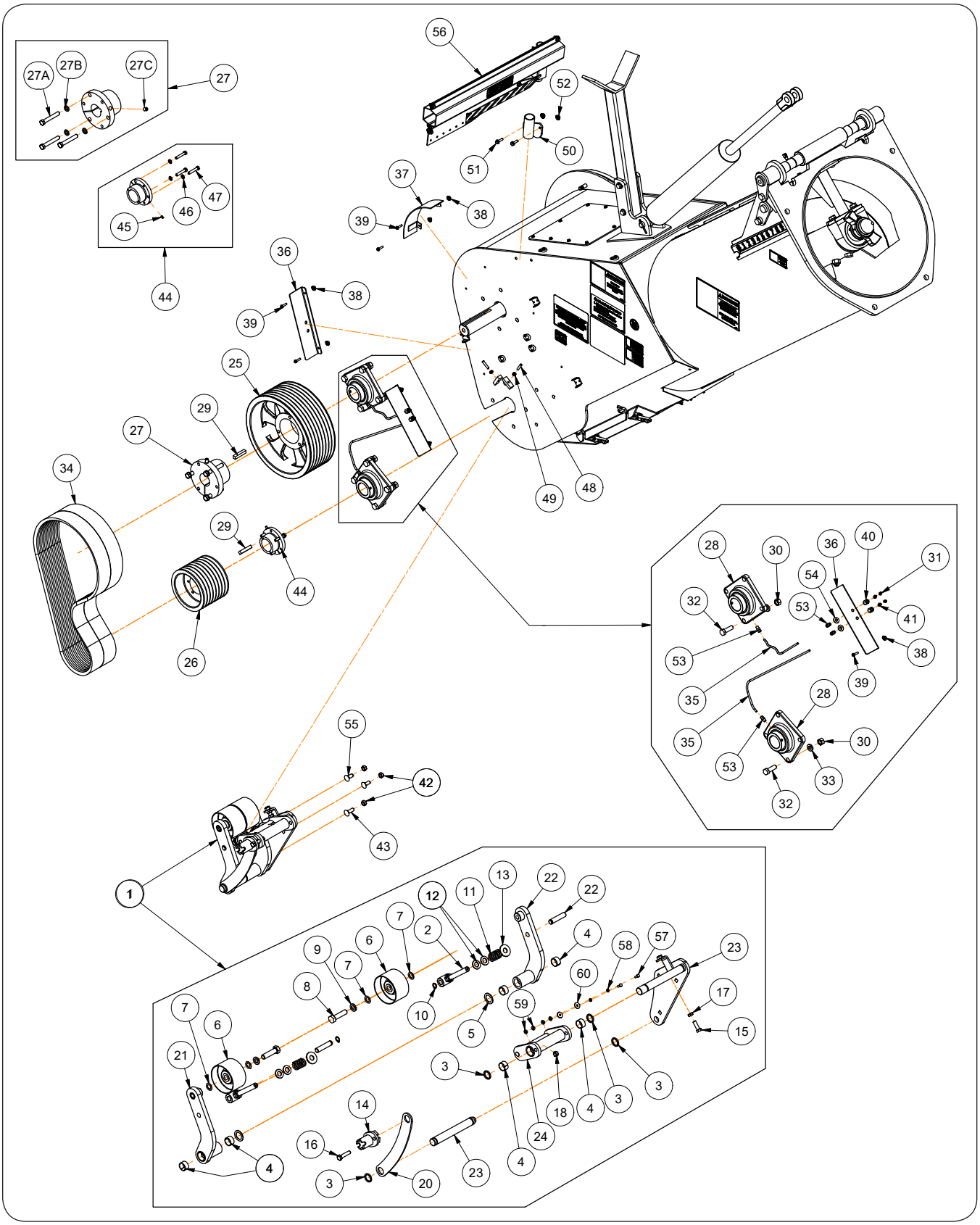


NOTE: Cut Out Clutch (9005235) must be used with the Complete PTO Assembly (9005230). This will not work with the Standard PTO Assembly (9005245).

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9005235	Cut Out Clutch (3500 N*m Setting)		Includes Items 1-8
1	9005247	Clutch Housing	1	
2	9005248	Clutch Hub 1 3/4-20 Spline	1	
3	9005249	Spring Pack	1	
4	9005250	Washer	1	
5	9005251	Retaining Ring	1	
6	9005252	Sealing Ring	1	
7	9005253	Clutch Clamp Cone Assembly	1	
8	9005254	Clutch Cam	4	

Lower Auger Linkage Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



Lower Auger Linkage Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	283600B	Idler Assembly =Black=	1	
2	283605	Tensioner Rod Weldment	2	
3	94144	Retaining Ring 1 1/4	4	
4	9003635	Self-Lubricating Bushing, 1.4 OD x 1.25 ID x 3/4	6	
5	TA500397	Bushing, 1.875D x .074	2	
6	9005684	Idler Sub Assembly	2	
7	9005685	Machine Washer, 3/4	4	
8	9390-149	Capscrew, 3/4-10UNC x 3	2	Grade 5
9	9404-033	Lock Washer 3/4	2	
10	9003810	Snap Ring	2	
11	9005447	Compression Spring, 1.415 OD x 2 1/2	2	
12	9405-104	Flat Washer 3/4 SAE	4	
13	9405-106	Flat Washer 3/4 USS	2	
14	284703	Tensioner Bushing Weldment	1	
15	9390-101	Capscrew, 1/2-13UNC x 1 1/2	1	Grade 5
16	9390-104	Capscrew, 1/2-13UNC x 2 1/4	1	Grade 5
17	9395-010	Hex Jam Nut 1/2-13UNC	1	
18	94981	Locknut 1/2-13UNC	4	
20	283619B	Idler Brace Plate =Black=	1	
21	283603B	Idler Arm Weldment =Black=	1	
22	283602B	Idler Arm Weldment =Black=	1	
23	283601B	Idler Mount Weldment =Black=	1	
24	283604B	Tensioner Weldment =Black=	1	
25	9004590	Pulley, 15" Dia. x 5 13/16	1	
26	9004591	Pulley, 7 1/2" Dia. x 5 13/16	1	
27	9004813	Split Bushing Hardware Kit	1	Includes Items: 27A, 27B & 27C
27A	9006263	Bolt, 9/16-12UNC x 3 5/8	3	Grade 5
27B	9404-027	Lock Washer, 9/16	3	
27C	9399-086	Set Screw, 3/8-16UNC x 1/2	1	
28	9005565	Flanged Bearing 2 1/4 ID	2	Includes Set Screw & Zerk
	93426	Grease Zerk	1	
	9399-223	Set Screw 3/8-24UNF x 3/8	2	
29	9002562	Keystock 1/2 x 1/2 x 2 1/2	2	
30	9394-014	Hex Nut 5/8-11UNC	8	
31	9006849	Grease Zerk Cap	4	
32	9390-124	Capscrew, 5/8-11UNC x 2	8	Grade 5
33	9404-030	Split Lock Washer, 5/8	8	
34	281675	Drive Belt Set, 4 Strand (5V750)	2	

(Continued on next page)

Lower Auger Linkage Components (continued)

Please visit www.unverferth.com/parts/ for the most current parts listing.

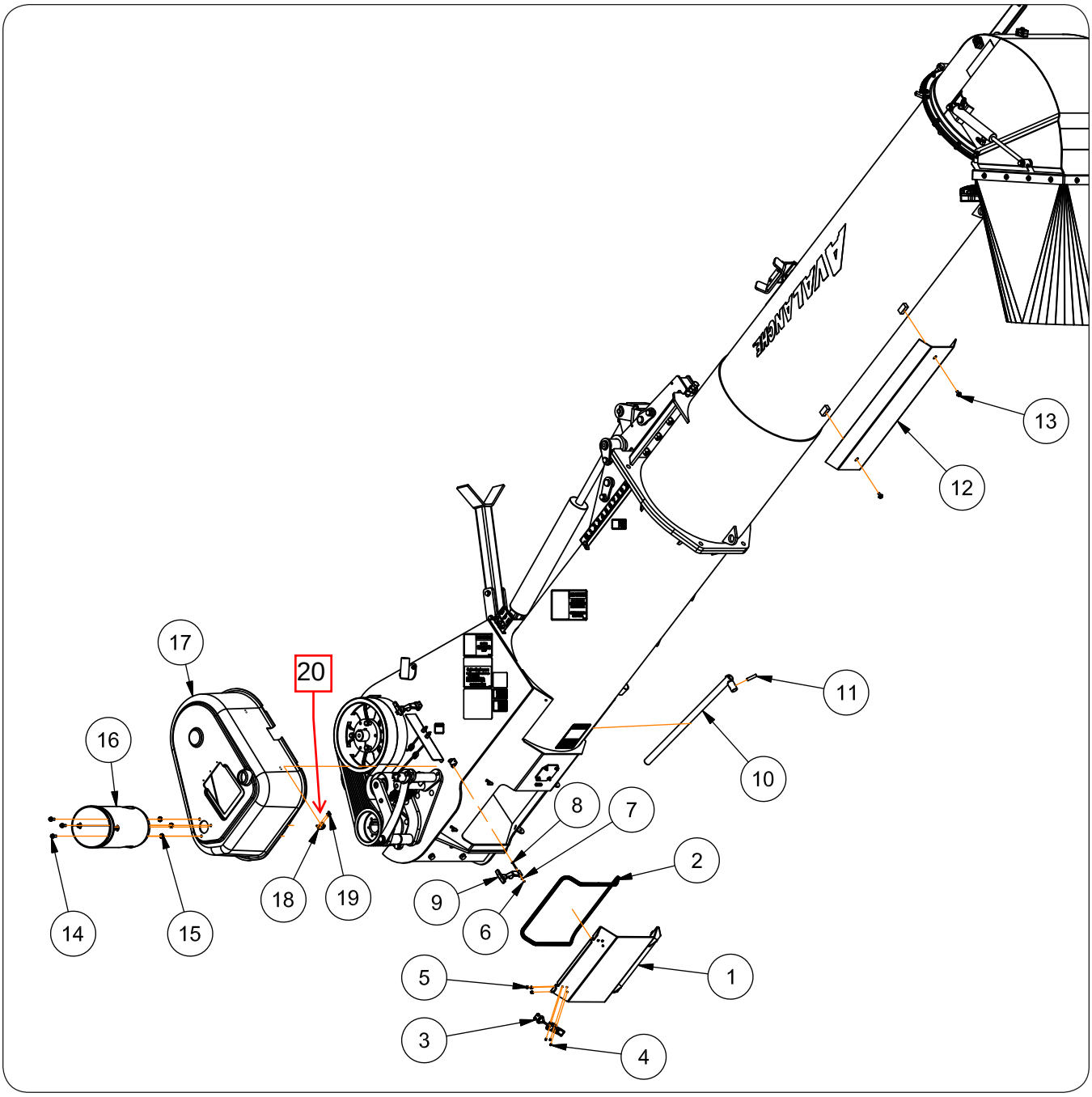
35	9005074	Hose/Type Nylon, 1/4" OD	2.5	Specify in Feet
36	273118B	Shield Plate =Black=	2	
37	273119B	Shield Weldment =Black=	1	
38	97189	Large Flange Hex Nut 1/4-20UNC	6	
39	901101	Flange Screw 1/4-20 UNC x 1	6	Grade 5
40	9003949	Hex Pipe Coupling	2	
41	93426	Grease Zerk 1/8 NPT	2	
42	94981	Locknut 1/2"-13UNC	3	
43	9388-104	Carriage Bolt, 1/2-13UNC x 1 1/2	1	Grade 5
44	9007376	Bushing, 4 5/8 OD x 2 1/4 ID x 2 1/16 w/ 1/2 Keyway & Capscrews	1	
45	9399-059	Set Screw, 1/4-20UNC x 3/8	1	
46	9404-021	Lockwasher, 3/8	3	
47	284262	Split Bushing Hardware Kit	1	Grade 5
48	9399-079	Set Screw 5/16-18UNC x 1 1/2 Cup Point/Hex Socket	2	
49	9394-004	Hex Nut 5/16-18UNC	2	
50	273121B	Bushing Weldment	1	
51	901044	Serrated Flange Bolt, 5/16-18UNC x 1	2	
52	91257	Large Flange Hex Nut, 5/16-18UNC	2	
53	9005073	Quicklinc Fitting	4	
54	9405-076	Flat Washer 3/8 USS	2	
55	9388-103	Carriage Bolt, 1/2"-13UNC x 1 1/4"	2	
56	294128B	Hose Caddy Replacement Kit =Black=	1	Refer to "Hitch & Tongue Components" Section
57	9390-003	Capscrew, 1/4-20UNC x 3/4	2	Grade 5
58	9404-017	Lock Washer, 1/4"	2	
59	9405-062	Flat Washer, 1/4" SAE	4	
60	9405-066	Flat Fender Washer, 1/4"	2	

Notes

Please visit www.unverferth.com/parts/ for the most current parts listing.

Lower Auger Door & Cover Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



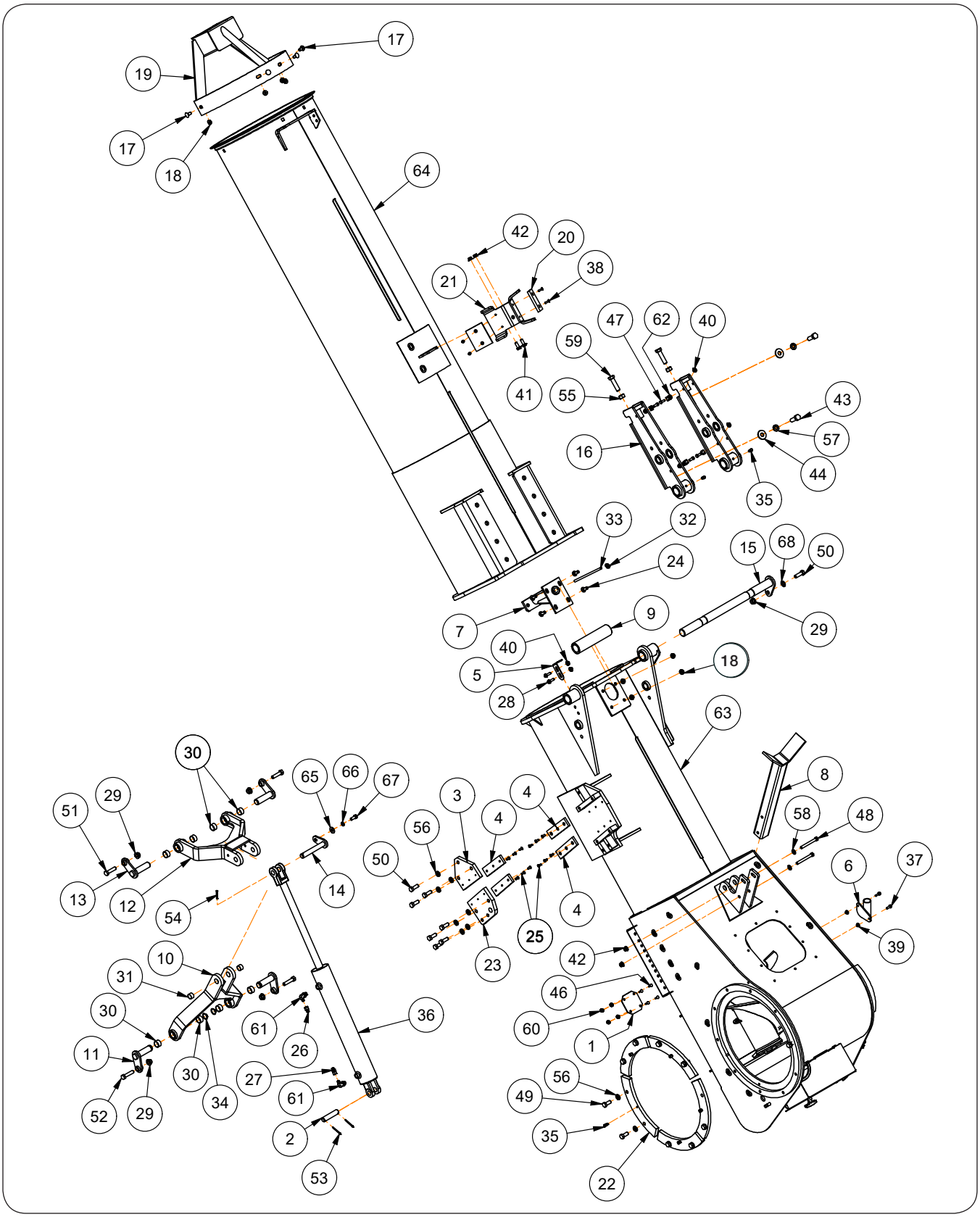
Lower Auger Door & Cover Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	276557B	Cleanout Door Weldment =Black=	1	
2	9007108	Gasket w/Adhesive Backing for Clean-Out Door	A/R	Specify in Feet
3	9006497	Draw Latch	2	
4	903171-574	Flat Countersunk Screw #10-24UNC Phillips Machine Screw	6	
5	902331	Serrated Flange Hex Nut #10-24UNC	6	
6	900068	Retainer for Draw Latch	3	
7	900067	Washer	3	
8	900066	Stud Pin	3	
9	900060	Handle for Draw Latch	3	
10	284714B	Locking Pipe Weldment with Roll Pin =Black=	1	
11	9392-208	Roll Pin 1/2" Dia. x 2	1	
12	284141G	Strike Plate =Green=	1	
	284141R	Strike Plate =Red=		
13	95585	Capscrew/Large Flange 3/8"-16UNC x 3/4" G5	2	
14	91262	Flange Screw 3/8"-16UNC x 1" G5	3	
15	91263	Nut/Large Flange 3/8-16UNC G5	3	
16	9004918	PTO Bell Cover	1	
17	9004729	Belt Cover/Shield	1	
18	900059	Flexible Draw Latch Asy w/Style R Keeper	3	
19	9004940	Pop Rivet	6	

Auger Tube Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



Auger Tube Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	2001446B	Cover Plate =Black=	1	
2	266285	Cylinder Pin 1" Dia. x 4 1/2	1	
3	271119B	Fold Plate 6 1/2 x 8 =Black=	1	
4	271124	Nylon Fold Slide 2 x 8	4	
5	272645B	Switch Bracket =Black=	1	
6	273121B	Bushing Weldment =Black=	1	
7	293422B	Bearing Bracket Weldment =Black=	1	
8	273255G	Auger Rest Weld't =Green=	1	
	273255R	Auger Rest Weld't =Red=		
9	273374G	Spacer/Bushing 2.5" OD x 1.75" ID x 9.9375" =Green=	1	
	273374R	Spacer/Bushing 2.5" OD x 1.75" ID x 9.9375" =Red=		
10	276479G	Fold Linkage Weldment =Green=	1	
	276479R	Fold Linkage Weldment =Red=		
11	276483	Pin Weldment	2	
12	276940G	Fold Linkage Weldment =Green=	1	
	276940R	Fold Linkage Weldment =Red=		
13	276493	Pin Weldment	2	
14	276941	Linkage Pin Weldment	1	
15	276561	Pivot Pin Weldment	1	
16	276593G	Auger Hinge Weldment =Green=	2	
	276593R	Auger Hinge Weldment =Red=		
17	9388-102	Carriage Bolt, 1/2"-13UNC x 1" G5	4	
18	9003397	Locking Flange Nut 1/2"-13UNC	8	
19	276507B	Hanger Bearing Weldment =Black=	1	
20	283335	Poly Auger Stop Pad	2	
21	283340G	Auger Rest Weldment =Green=	1	
	283340R	Auger Rest Weldment =Red=		
22	289852B	Pivot Flange, Retainer Plate =Black=	5	
23	284518B	Fold Plate =Black=	1	
24	9388-104	Carriage Bolt 1/2"-13UNC x 1 1/2" G5	4	
25	9001688	Capscrew/Flat Head, 5/16-18UNC x 3/4	12	
26	9002199	Reducer w/.060 Restrictor	1	
27	9002446	Adapter 9/16-18 O-Ring Male x 9/16-18 JIC Female	1	
28	9003259	Flange Screw 3/8"-16UNC x 1 1/4" G5	2	
29	9003398	Lock Nut/Top 5/8"-11UNC	5	
30	9004396	Self Lube Bushing, 1.414" OD x 1.258" ID x 3/4"	8	

(Continued on next page)

Auger Tube Components (continued)

Please visit www.unverferth.com/parts/ for the most current parts listing.

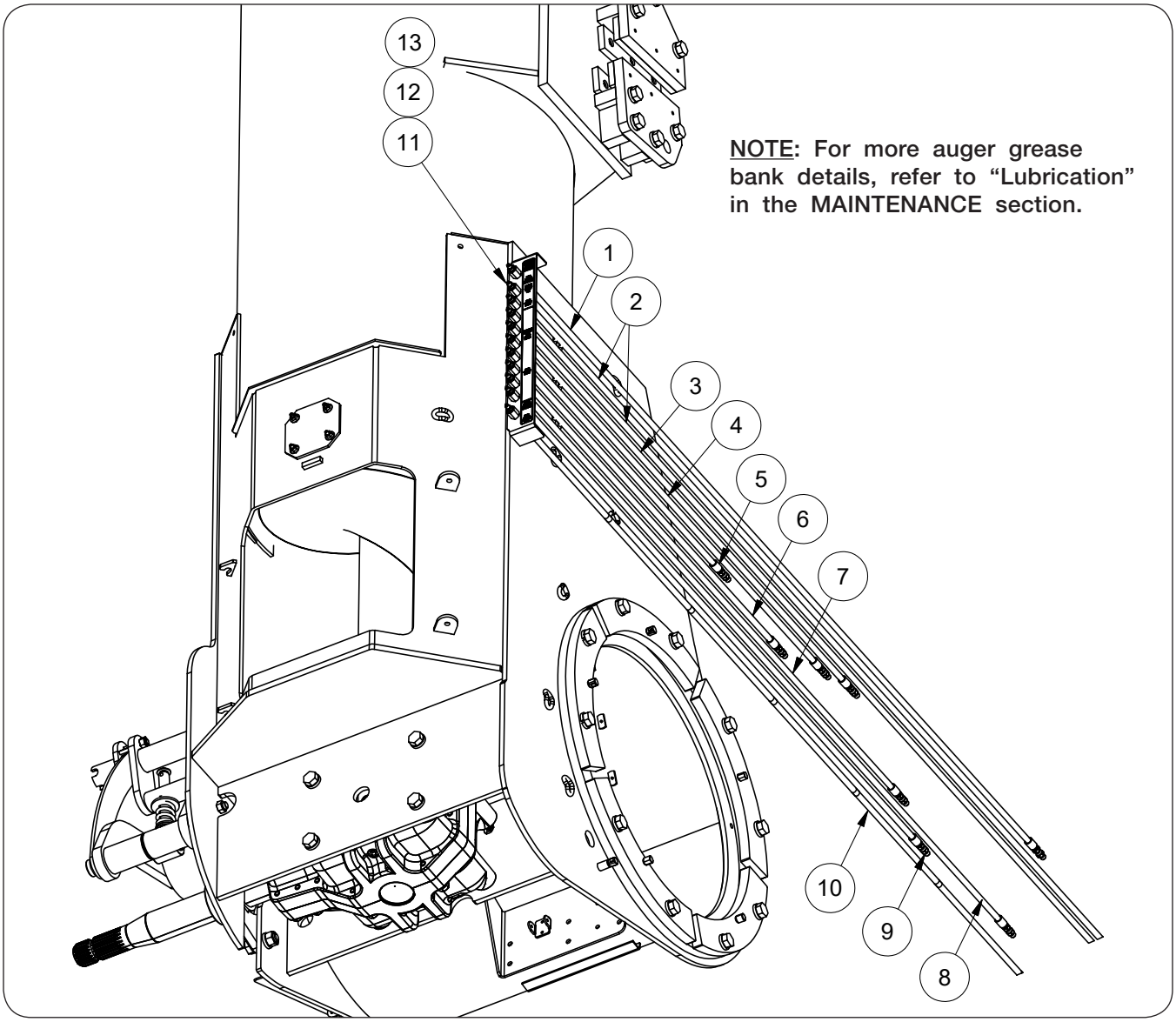
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
31	9004397	Self-Lubricating Bushing 1.131" OD x 1.008" ID x .75"	2	
32	9004764	90° Elbow 1/8" NPTF Female	1	
33	9005793	Grease Pipe 1/8" SCH40 x 11"	1	
34	9006084	Retaining Ring 1 1/4"	2	
35	9006785	90° Adapter 1/8" NPT	7	
36	9007639	Hydraulic Cylinder 3 1/2 x 20 (3000 PSI)	1	
37	901044	Flange Screw 5/16"-18UNC x 1" G5	2	
38	903171-660	Flat Countersunk Head/Machine Screw, 5/16"-18UNC x 1"	4	
39	91257	Large Flange Hex Nut, 5/16"-18UNC	2	
40	91263	Nut/Large Flange 3/8"-16UNC	6	
41	91266	Flange Capscrew, 1/2"-13UNC x 1 1/4"	2	
42	91267	Nut / Flange, 1/2-13UNC	4	
43	91299-146	Capscrew, 3/4"-10UNC x 2 1/4"	2	
44	9234PL	Flat Washer, 13/16 (Hardened)	2	
46	9388-003	Carriage Bolt, 1/4"-20UNC x 1" G5	4	
47	9390-055	Capscrew, 3/8"-16UNC x 1" G5	4	
48	9390-112	Capscrew, 1/2"-13 UNC x 4 1/2" G5	2	
49	9390-122	Capscrew, 5/8"-11UNC x 1 1/2" G5	10	
50	9390-124	Capscrew, 5/8"-11UNC x 2" G5	1	
51	9390-126	Capscrew, 5/8"-11UNC x 2 1/2" G5	2	
52	9390-127	Capscrew, 5/8"-11UNC x 2 3/4" G5	2	
53	9391-046	Cotter Pin, 3/16" Dia. x 2"	2	
54	9392-140	Roll Pin, 1/4" Dia. x 2"	1	
55	9394-016	Hex Nut, 3/4-10UNC G5	2	
56	9404-030	Lock Washer, 5/8"	17	
57	9404-034	Lock Washer, 3/4	2	
58	9405-086	Flat Washer 1/2" SAE	2	
59	94733	Capscrew, 3/4"-10UNC x 3" G5 Full Threaded	2	
60	97189	Hex Nut/Large Flange 1/4"-20UNC	4	
61	9874	90° Elbow 9/16-18 JIC Male x 3/4-16 O-Ring Male	2	
62	TA0-903850-0	Cable Clamp (1/2" OD)	4	
63	276684G	Lower Auger Housing Weldment =Green=	1	
	276684R	Lower Auger Housing Weldment =Red=		
64	276501G	Upper Auger Housing Weldment =Green=	1	
	276501R	Upper Auger Housing Weldment =Red=		
65	9405-088	Flat Washer 1/2"	1	
66	9404-025	Lock Washer 1/2"	1	
67	9390-100	Capscrew 1/2"-13UNC x 1 1/4"	1	
68	9405-098	Flat Washer 5/8" SAE	1	

Notes

Please visit www.unverferth.com/parts/ for the most current parts listing.

Auger Grease Bank Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

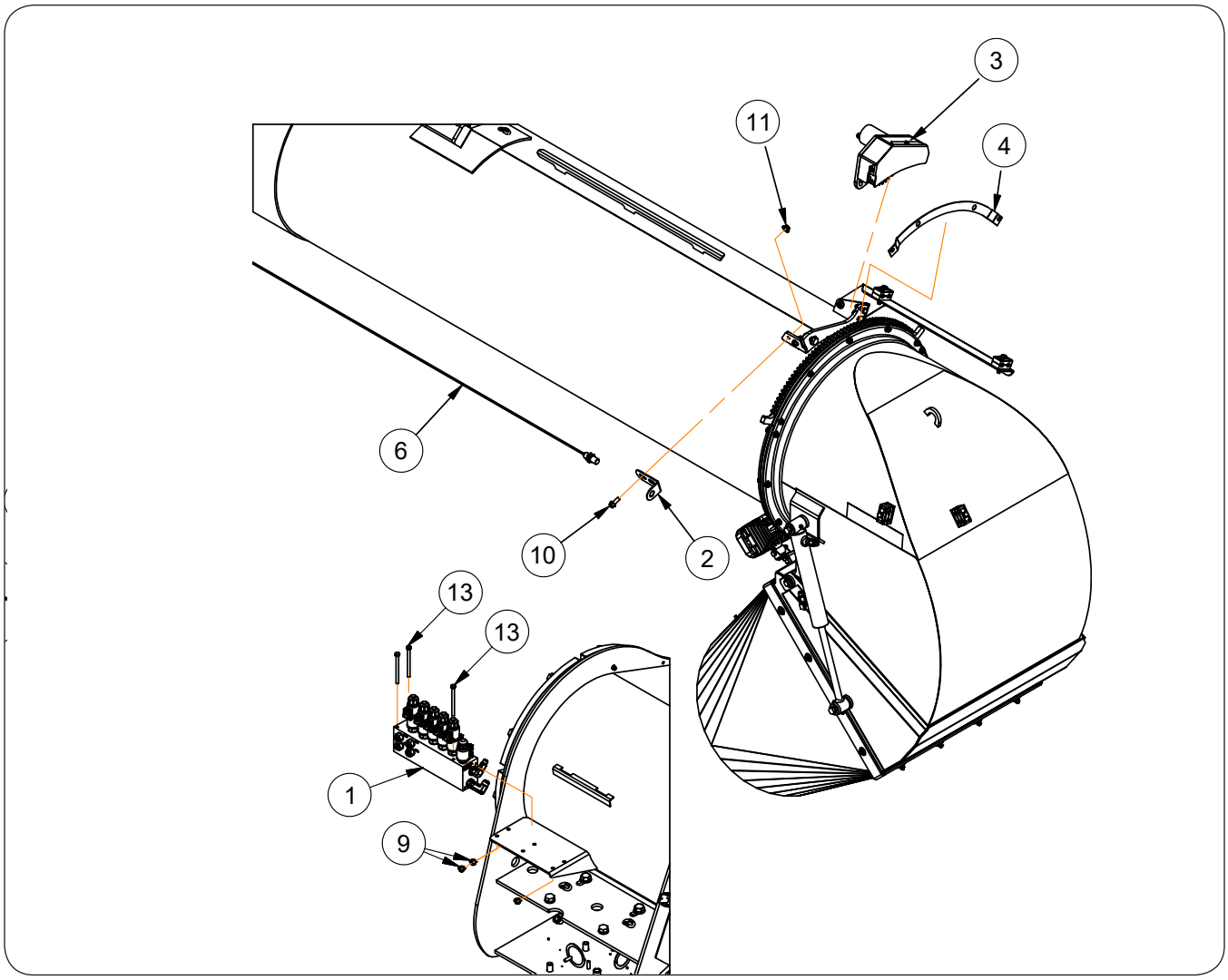


NOTE: For more auger grease bank details, refer to "Lubrication" in the MAINTENANCE section.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9008965	Grease Hose 3/16" x 74" (1/8" NPT)	1	Lower Vertical Auger Hanger Bearing
2	9008967	Grease Hose 3/16" x 126" (1/8" NPT)	2	Upper Auger Pivot Pin
3	9008961	Grease Hose 3/16" x 48" (1/8" NPT)	1	Vertical Auger Tilt Pivot Rings
4	9008960	Grease Hose 3/16" x 44" (1/8" NPT)	1	
5	9008958	Grease Hose 3/16" x 30" (1/8" NPT)	1	
6	9008959	Grease Hose 3/16" x 38" (1/8" NPT)	1	
7	9008962	Grease Hose 3/16" x 55" (1/8" NPT)	1	
8	9008964	Grease Hose 3/16" x 70" (1/8" NPT)	1	
9	9008963	Grease Hose 3/16" x 58" (1/8" NPT)	1	
10	9009052	Grease Hose 3/16" x 200" (1/8" NPT)	1	Drag Auger Center Bearing
11	9003949	Coupler 1/8" NPT	11	
12	93426	Grease Zerk	11	
13	9006849	Grease Zerk Cap	11	

Switch Assembly Components for Rotating Spout Option

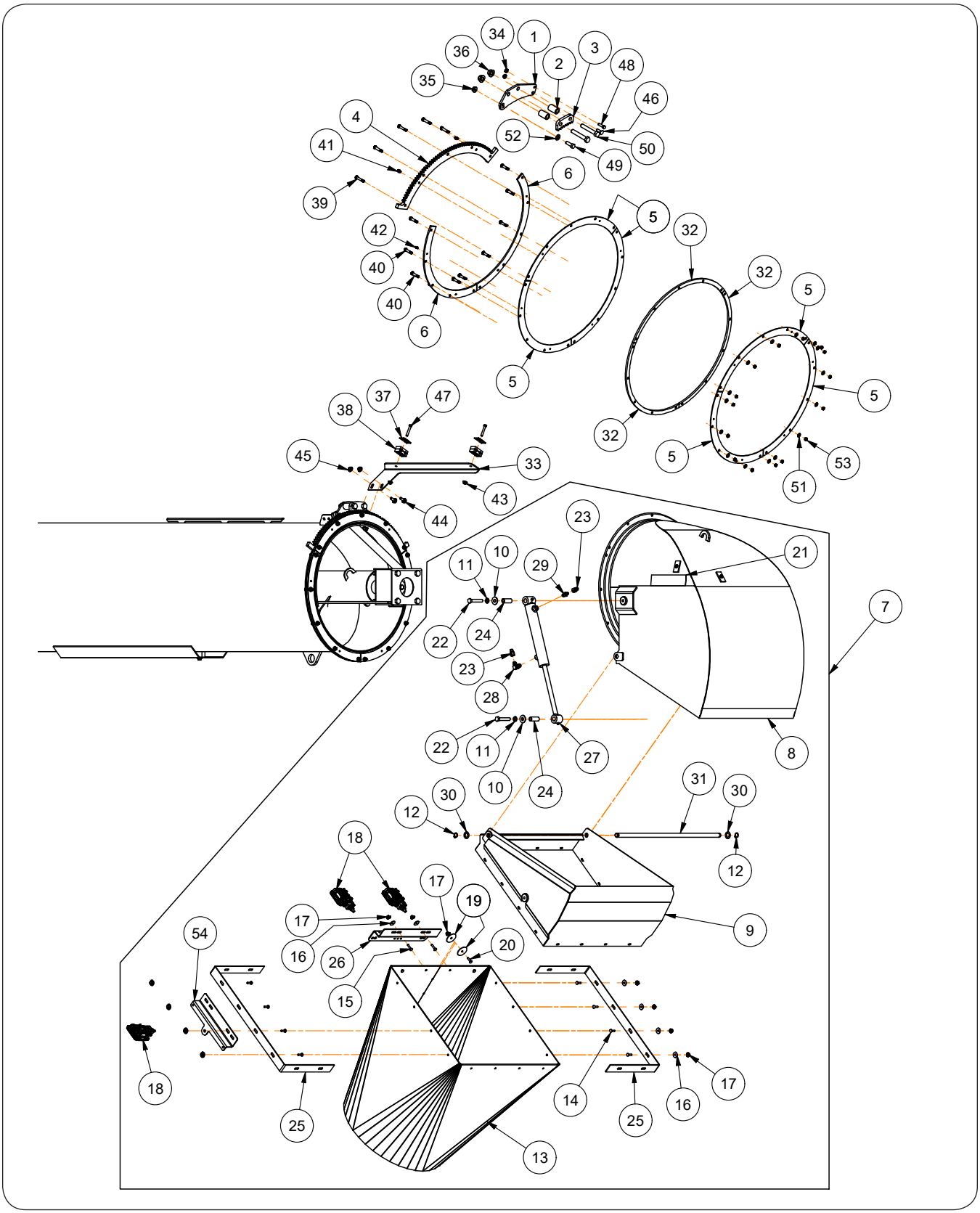
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	272618	Hydraulic Valve Assembly	1	
2	272645B	Switch Bracket	1	
3	276457B	Spout Motor Assembly	1	
4	276556B	Sensor Plate	1	
6	9007223	Proximity Sensor with Connector	1	
9	91257	Hex Nut/Large Flange 5/16”-18UNC	3	
10	91262	Flange Screw 3/8”-16UNC x 1” G5	2	
11	91263	Nut/Large Flange 3/8”-16UNC	2	
13	9390-042	Capscrew, 5/16”-18UNC x 5” G5	3	

Downspout Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



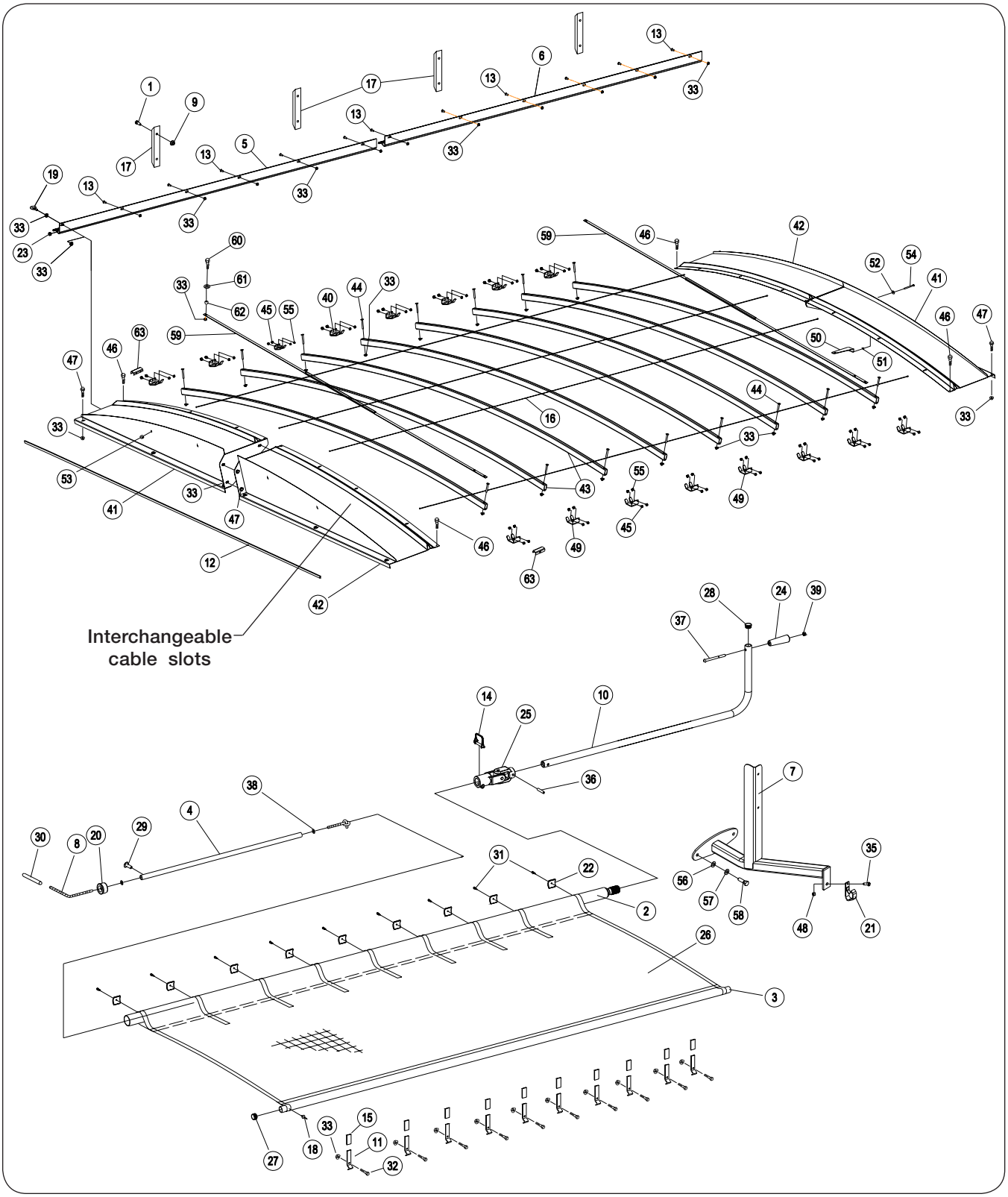
Downspout Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	276496B	Mount Lock Plate	1	
2	276497	Spacer/Bushing	2	
3	276498B	Lock plate	1	
4	276511	Rack Plate	1	
5	276512	Pivot Pad	6	
6	276513B	Spout Pivot Plate	2	
7	276999B	Spout Assembly	1	
8	276515B	Spout Weldment	1	
9	276526B	Spout Weldment	1	
10	9405-088	Flat Washer 1/2" USS	2	
11	9404-025	Lock Washer 1/2"	2	
12	9003810	Snap Ring 3/4"	2	
13	9008318	Rubber Chute	1	
14	9388-003	Carriage Bolt 1/4"-20UNC x 1" G5	14	
15	9388-004	Carriage Bolt 1/4"-20UNC x 1 1/4" G5	2	
16	9405-066	Flat Washer 1/4"	16	
17	97189	Hex Nut/Large Flange 1/4"-20UNC	24	
18	9008957	LED Work Light	3	
19	94763	Fender Washer	16	
20	9390-005	Capscrew 1/4"-20UNC x 1" G5	8	
21	9003127	Reflector 2 x 9 =AMBER=	2	
22	9390-107	Capscrew 1/2"-13UNC x 3" G5	2	
23	95193	Adapter with 0.030 Restrictor	2	
24	285290	Sleeve Bushing .75" OD x .532" ID x 1.938	2	
25	276531B	Chute Strap	2	
26	272646B	Light Bracket	1	
27	9005135	Cylinder 1 1/2 x 8	1	
28	97445	Elbow, 90° 9/16-18 JIC Male x 9/16-18 O-Ring ADJ Male	1	
29	9001495	Adapter 9/16-18 JIC Male x 9/16-18 O-Ring	1	
30	9005685	Washer 3/4" Dia.	2	
31	276530	Pivot Shaft 3/4" Dia. x 27	1	
32	276550B	Spacer Plate	3	
33	276577B	Hose Bracket	1	
34	9003396	Lock Nut/Top 3/8"-16UNC	2	
35	9003397	Lock Nut/Top 1/2"-13UNC	1	
36	9003398	Lock Nut/Top 5/8"-11UNC	7	
37	9003814	Clamp Top Plate	4	
38	9003816	Double Hose Clamp (Pair)	4	
39	9007837	Shoulder Bolt 3/8" Dia. Socket Head, 5/16"-18UNC x 1 1/4"	5	
40	9007843	Sholder Bolt 3/8" Dia. Socket Head, 5/16"-18UNC x 1"	10	
41	9008110	Zerk 1/8-27 with Cap	4	
42	91160	Zerk 1/4-28 STT	4	
43	91257	Hex Nut/Large Flange 5/16"-18UNC	4	
44	91262	Flange Screw 3/8"-16UNC x 1"	2	
45	91263	Nut/Large Flange 3/8"-16UNC	8	
46	9388-052	Carriage Bolt 3/8"-16UNC x 1 1/4"	1	
47	9390-034	Capscrew 5/16"-18UNC x 2" G5	2	
48	9390-056	Capscrew 3/8"-16UNC x 1 1/4" G5	1	
49	9390-101	Capscrew 1/2"-13UNC x 1 1/2" G5	1	
50	9390-131	Capscrew 5/8"-11UNC x 3 3/4" G5	2	
51	9405-064	Flat Washer 1/4" USS	15	
52	9405-086	Flat Washer 1/2" SAE	3	
53	9807	Lock Nut/Top 5/16"-18UNC	15	
54	272841B	Light Bracket	1	

Weather Guard Tarp Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



Weather Guard Tarp Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	273518	Tarp Kit with Split Arched End Caps	-	Not Included: Bows, End Caps and Items 59 through 62
1	9004355	Screw 1/4-20UNC x 1 Self-Threading	8	
2	273381	Roll Tube Weldment	1	
3	273382	Fixed Tube Weldment	1	
4	221668	Pipe - 180"	1	
5	273364	Plate - Latch 171 1/4" (Front)	1	
6	273365	Plate - Latch 171 1/4" (Rear)	1	
7	273501B	Handle Bracket Weldment	1	
8	221722	Bungee 3/8" Dia. x 204"	1	
9	97189	Hex Nut/Large Flange 1/4-20UNC	8	
10	221749	Tarp Handle Weldment	1	
11	266689B	Tarp Short Stop Plate	10	
12	9000787	Trim-lok	A/R	14 feet
13	9005312	Torx Head Machine Screw 3/8-16UNC x 1	11	Grade 5
14	9005305	Lynch Pin 3/8" x 3"	1	
15	9003078	Cap - Plastic (2 x 3)	10	
16	9005990	Cable Assembly 324"	4	Holds up to 6
17	9008111	Poly Deflector 8"	4	
18	9003378	Rivet/Pop 3/16"	2	
19	9004548	Eye Bolt 3/8"-16UNC x 1 3/4"	1	
20	9004947	Plug 2"	1	
21	221770B	Handle Retainer Weldment	1	
22	9004949	U-Clamp	9	
23	9004968	Plug 1"	2	
24	9004969	Handle	1	
25	9004977	U-Joint w/ 1 3/8-21 Spline	1	
26	9005856	Tarp 188 x 337	1	
	9005581	Tarp Repair Kit	-	
27	9005088	Plug 1 1/8	2	
28	9005089	Plug 1 1/4	1	
29	9001396	Pan Head Screw #10-16 x 1/2"	1	
30	TA806225	Hose 1/2 EPDM	1	
31	9005197	Screw/Self Drilling #10-16 x 3/4 Pan Head	9	
32	91262	Screw/Large Flange 3/8-16UNC x 1	10	Grade 5
33	91263	Nut/Large Flange 3/8-16UNC	71	Grade 5
35	9390-055	Capscrew 3/8-16UNC x 1	1	Grade 5
36	9392-180	Roll Pin 3/8" Dia. x 2"	1	
37	903172-450	Pan Head 3/8"-16UNC x 4 1/2" Phillips	1	
38	9405-074	Flat Washer 3/8	2	

(Continued on next page)

Weather Guard Tarp Components (continued)

Please visit www.unverferth.com/parts/ for the most current parts listing.

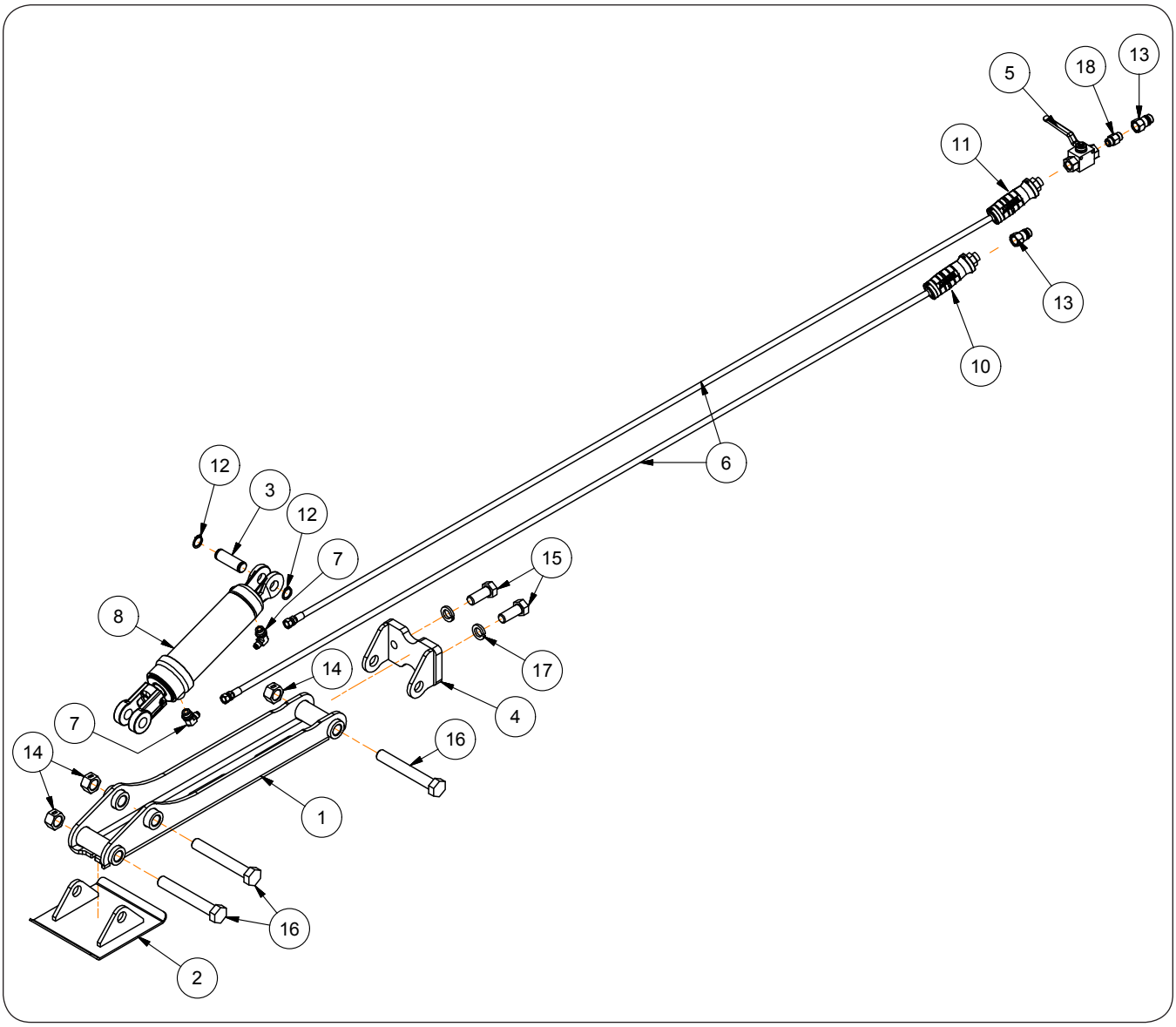
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
39	9398-012	Elastic Stop Nut 3/8-16UNC	1	
40	283425B	RH Bracket For Side Boards/Tarp Bow Weldment	8	
41	276756B	RH-End Cap Weldment	2	
42	276755B	LH-End Cap Weldment	2	
43	291289B	Tarp Bow Weldment	8	
44	902703-046	Flat Socket Capscrew 3/8"-16UNC x 3"	16	
45	97604	Screw/Large Flange, 5/16-18 UNC x 1	32	For SN B41110100 & Higher
	91256	Screw/Large Flange, 5/16-18 UNC x 3/4		For SN B41110099 & Lower
46	9512	Screw/Self Drilling 1/4-14 x 1	4	
47	95585	Capscrew/Large Flange 3/8-16UNC x 3/4	20	Grade 5
48	9928	Locknut 3/8-16UNC	1	
49	283427B	LH Bracket For Side Boards/Tarp Bow Weldment	8	
50	281712B	Bracket Assembly	4	
51	9005688	Star Washer	4	
52	9005696	Fender Washer	4	
53	9005727	Plug	4	
54	TA0-907131-0	Capscrew 3/8-16UNC x 4 1/2 (Full Threaded)	4	
55	91257	Hex Nut/Large Flange, 5/16-18 UNC	32	
56	9405-074	Flat Washer 3/8"	2	
57	9404-021	Lock Washer 3/8"	2	
58	9390-056	Capscrew 3/8-16UNC x 1 1/4	2	Grade 5
59	9008952	Hurricane Strap For 14 FT Wide Hopper	2	
60	96972	Screw/Self Tapping 3/8"-16UNC x 1"	2	
61	9008972	Flat Washer, 3/8" Aluminum	4	
62	9008949	Tarp Strap Spacer Bushing	4	
63	294678B	Sideboard Doubler =Black=	16	For SN B41110100 & Higher

Notes

Please visit www.unverferth.com/parts/ for the most current parts listing.

Hydraulic Jack - Kit #294143B (Optional)

Please visit www.unverferth.com/parts/ for the most current parts listing.



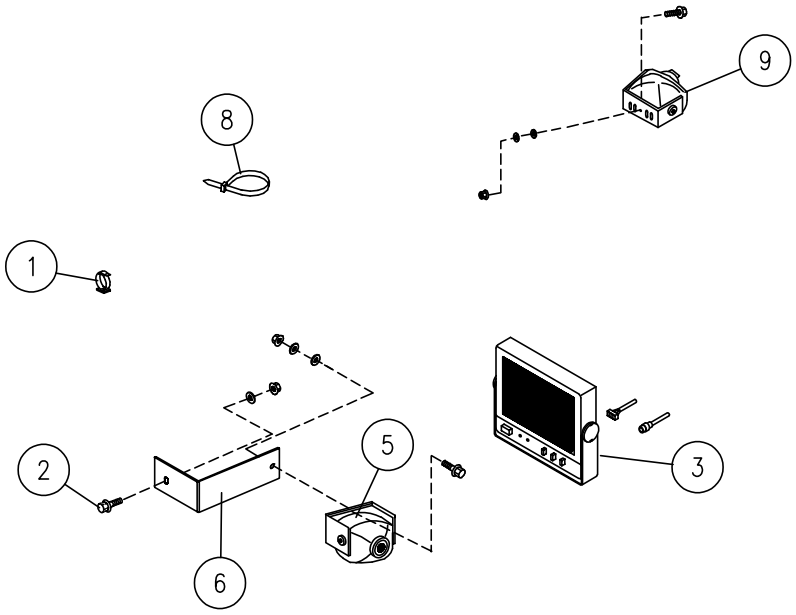
Hydraulic Jack - Kit #294143B (Optional)

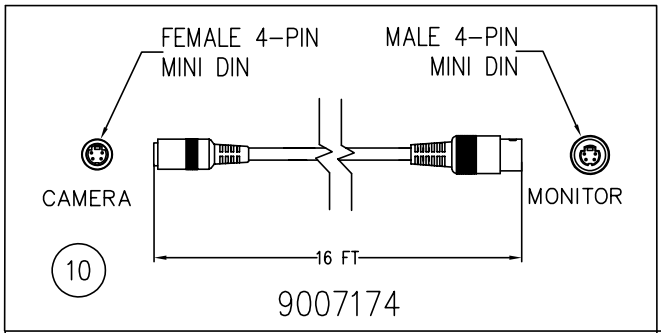
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	271712B	Jack Weldment =Black=	1	
2	271723B	Jack Foot Weldment =Black=	1	
3	272587	Pin, 1" Dia. x 3 1/8	1	
4	273808B	Jack Mount Weldment =Black=	1	
5	9005426	High Pressure Ball Valve	1	
6	9006068	Hydraulic Hose, 1/4 x 92" - 3000 PSI	2	
7	9006173	Elbow, 90°	2	
8	9009047	Hydraulic Cylinder, 3 1/2 x 8 - 3000 PSI	1	
10	9008600	Hose Grips - Black (Pair) - Raise Jack	1	Solid Black - Cylinder Extended
11	9008600	Hose Grips - Black (Pair) - Lower Jack	1	Half Black/Half Gray - Cylinder Retracted
12	91192	Retaining Ring, 1"	2	
13	91383	Male Tip Coupling	2	
14	92199	Center Locknut, 1-8UNC	3	
15	9390-165	Capscrew, 7/8-9UNC x 2 1/4 Grade 5	2	
16	9390-197	Capscrew, 1-8UNC x 7 Grade 5	3	
17	9404-037	Split Lock Washer, 7/8	2	
18	98508	Adapter, 3/4-16 OR Male x 3/4-16 OR Male	1	

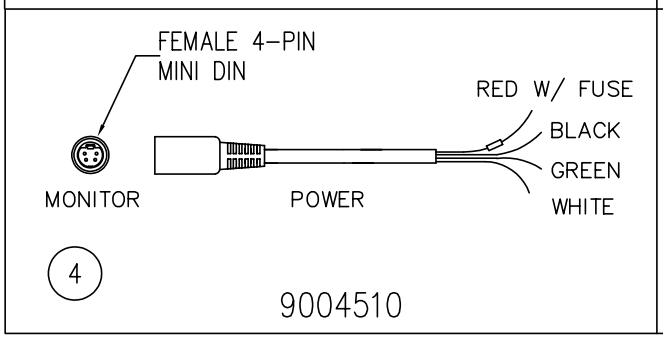
Video System (Optional)

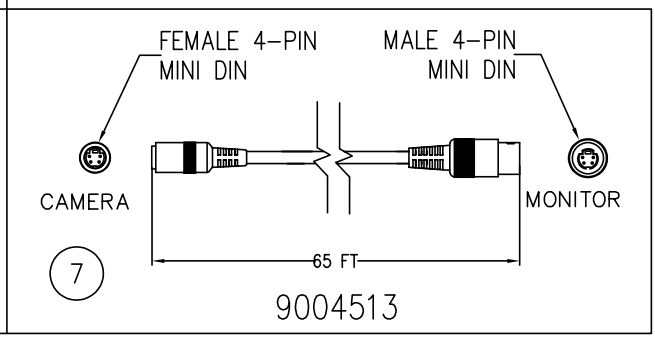
Please visit www.unverferth.com/parts/ for the most current parts listing.





IMPORTANT ! Do not operate Video System below 15° F.





Video System (Optional)

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	265770	Video System Kit for Front View	1	Includes Items 1,3,4,5,6,7,8 and own Instruction Sheet
	9004506	Additional Camera for Rear View	1	Includes Items 6 & 7
1	TAAU14007	Snap Clip, Adhesive	10	
2	9512	Self-Drilling Screw 1/4-14 x 1	10	
3	9006273	Monitor, 7" LCD/LED	1	
4	9004510	Cable w/Fuse	1	
5	9006274	Camera	1	
6	265771B	Bracket	1	
7	9004513	Cable, 65'	1	
8	9000107	Cable Tie	AR	
9	9004506	Camera Kit for Rear View with 65' Cable	1	
10	9007174	Camera Cable, 16 ft.	1	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