


BRENT Grain Handling

CORNER-AUGER GRAIN CART
MODELS V1300 / V1500

Serial Number B38540100 & Higher

Part Number 288928

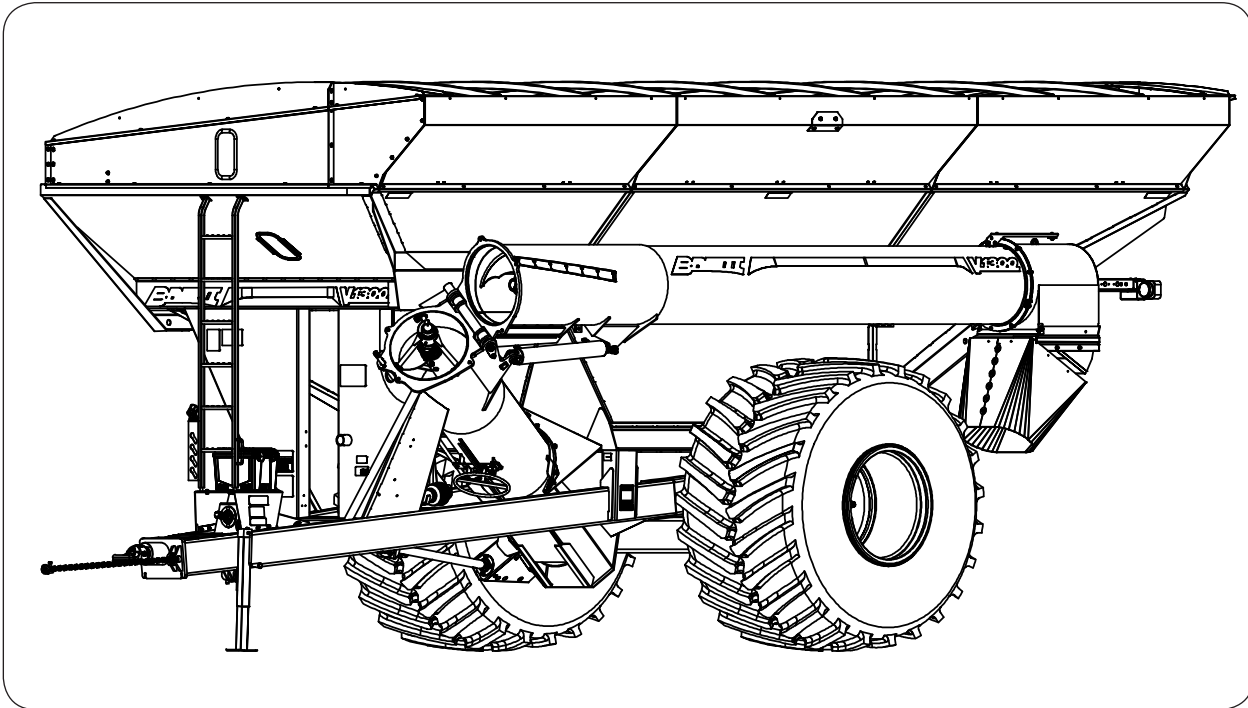
Foreword

 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
- Serial Number

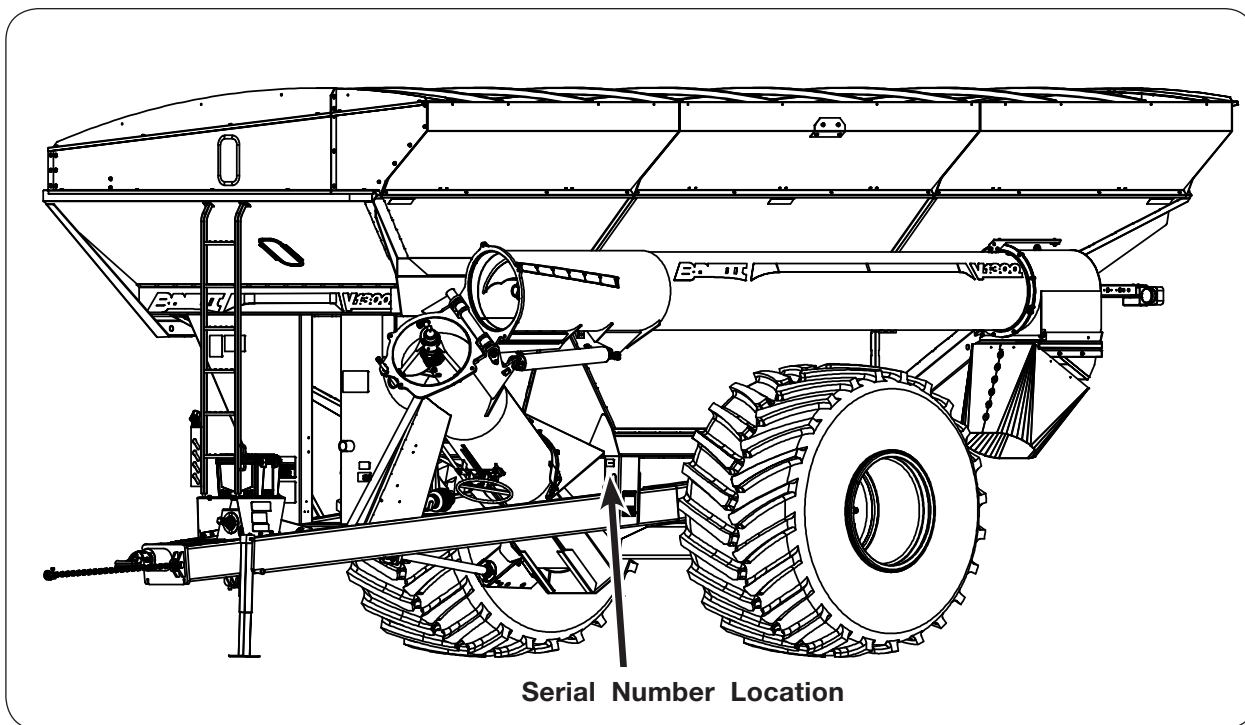
All products manufactured by Unverferth Mfg. Co., Inc. are warranted to be free from material and workmanship defects for one full year from time of consumer delivery. Your local dealer will gladly assist you with any warranty questions.

Please fill out and retain this portion for your records. The serial number plate is located on the frame as shown below.

Purchase Date _____ Model _____ Serial Number _____

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.*

Table of Contents

**Section I
Safety**

General Hazard Information	1-2
Safety Decals	1-3
Following Safety Instructions	1-5
Before Operating	1-5
Before Servicing	1-6
During Operation	1-6
Before Transporting	1-7
During Transport	1-7
Driveline Safety	1-8
Pressurized Oil	1-9
Preparing for Emergencies	1-10
Wearing Protective Equipment	1-10

Table of Contents

**Section II
Set Up**

Set Up Checklist.....	2-2
Set Up.....	2-3
SMV Emblem & SIS Decal.....	2-4
Auger Rest Retainer Removal.....	2-4
Optional Hydraulic Jack.....	2-5
Lamp Set Up.....	2-7
Driveline Storage.....	2-7
Wheel/Tire Set Up.....	2-8
Spindle Positioning.....	2-8
Sideboards and End Caps.....	2-9
Tarp Installation.....	2-17

FOR SCALE OR UHARVEST INFORMATION, PLEASE REFER TO YOUR APPROPRIATE MANUAL.
FOR HYDRAULIC DRIVE INFORMATION, PLEASE REFER TO YOUR HYDRAULIC DRIVE MANUAL.
FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.

Table of Contents

**Section III
Operation**

Operating Checklist..... 3-2
Preparing Tractor..... 3-2
Preparing Cart..... 3-3
 Hardware 3-3
 Pivot Pins 3-3
 Hitch 3-3
 Auger 3-3
 Auger Driveline Assembly..... 3-4
 Soft Start System..... 3-4
 Hydraulic System..... 3-4
 Tires/Wheels..... 3-4
Lubrication..... 3-4
Hitching to Tractor 3-5
 Drawbar Connection 3-5
 Jack Usage..... 3-6
 Option Hydraulic Jack Usage..... 3-7
 Transport Chain Connection..... 3-8
 Hydraulic Connections 3-8
 Hydraulic Connections for Hydraulic Drive..... 3-9
 Electrical Connections..... 3-10
Electric Over Hydraulic Operation - 4 Function (Optional)..... 3-11
Electric Over Hydraulic Manual Override Operation (Optional)..... 3-15
Towing..... 3-16
Auger Operation - PTO-Driven Auger..... 3-17
Troubleshooting..... 3-19
Hydraulic Drive (Optional)..... 3-21
Weather Guard Tarp..... 3-23

FOR SCALE OR UHARVEST INFORMATION, PLEASE REFER TO YOUR APPROPRIATE MANUAL.
FOR HYDRAULIC DRIVE INFORMATION, PLEASE REFER TO YOUR HYDRAULIC DRIVE MANUAL.
FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.

Table of Contents

**Section IV
Maintenance**

Lubrication..... 4-2

Gearbox Lubrication 4-4

Seasonal Storage 4-4

Hydraulic System 4-5

 Purging Hydraulic System 4-5

Auger Driveline..... 4-6

Auger System..... 4-12

 Lower Auger 4-13

 Lower Auger Removal 4-13

 Lower Auger Assembly..... 4-14

 Hanger Bearing Centering 4-15

 Lower Auger Timing 4-15

 U-Joint Spline Gap 4-16

 Upper Auger..... 4-17

 Upper Auger Removal..... 4-17

 Soft Start Replacement 4-18

 Upper Auger Timing 4-18

 Upper Auger Assembly 4-19

 Upper Auger Height..... 4-20

 Upper Auger Bearing Gap 4-21

 Auger Flow Door Cylinder Replacement 4-22

Adjusting Cleanout Door 4-25

Verify Telescoping PTO Shaft Length 4-27

PTO Shaft and Clutch..... 4-29

PTO Quick Disconnect 4-33

Tarp Troubleshooting Inspection & Maintenance 4-34

Electrical System Diagram..... 4-35

Hydraulic System Plumbing Diagram..... 4-44

Wheels, Hub and Disassembly and Assembly..... 4-45

Wheels and Tires - Wheel Nut Torque 4-47

Wheels and Tires - Tire Pressure..... 4-48

Wheels and Tires - Tire Warranty..... 4-50

Torque Chart - Hardware 4-51

Torque Chart - Hydraulic Fittings..... 4-53

FOR SCALE OR UHARVEST INFORMATION, PLEASE REFER TO YOUR APPROPRIATE MANUAL.
 FOR HYDRAULIC DRIVE INFORMATION, PLEASE REFER TO YOUR HYDRAULIC DRIVE MANUAL.
 FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.

Table of Contents

**Section V
Parts**

For the most current parts listing, please visit: www.unverferth.com/parts

Final Assembly	5-2
Single Wheel Axle for V1300	5-4
Single Wheel Axle for V1500	5-6
Track Axle for V1300 Only	5-8
Track Axle for V1500 Only	5-9
Wheel Well Cover Kit #288203G or #288203R - Model V1300	5-10
Wheel Well Cover Kit #294784G or #294784R - Model V1500	5-11
Single Wheels & Tires	5-12
Touch-Up Paint	5-12
Decals	5-14
Sideboards	5-16
EOH Valve Assembly Components 4 Spool (Optional)	5-18
EOH Tractor Circuit Hydraulic Components (Optional)	5-20
Electrical	5-22
Drive Components	5-24
Upper Auger Components	5-26
Lower Auger Components	5-28
Driveline U-Joint Assembly	5-30
Cleanout Door Assembly	5-31
Flow Door Seals	5-32
Cylinders	5-33
Hydraulics	5-34
Directional Spout	5-38
PTO Cut Out Clutch Components	5-41
PTO Components	5-42
45 Degree Gearbox Q135 Series Components - SN B40190100 & Higher	5-44
45 Degree Gearbox Q135 Series Components - SN B40190099 & Lower	5-46
Weather Guard Tarp	5-48
Video System Option	5-51
Hydraulic Jack (Optional) - Kit #294143B	5-52

FOR SCALE OR UHARVEST INFORMATION, PLEASE REFER TO YOUR APPROPRIATE MANUAL.
FOR HYDRAULIC DRIVE INFORMATION, PLEASE REFER TO YOUR HYDRAULIC DRIVE MANUAL.
FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.

Section I Safety

General Hazard Information	1-2
Safety Decals	1-3
Following Safety Instructions	1-5
Before Operating	1-5
Before Servicing	1-6
During Operation	1-6
Before Transporting	1-7
During Transport	1-7
Driveline Safety	1-8
Pressurized Oil	1-9
Preparing for Emergencies	1-10
Wearing Protective Equipment	1-10

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



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



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

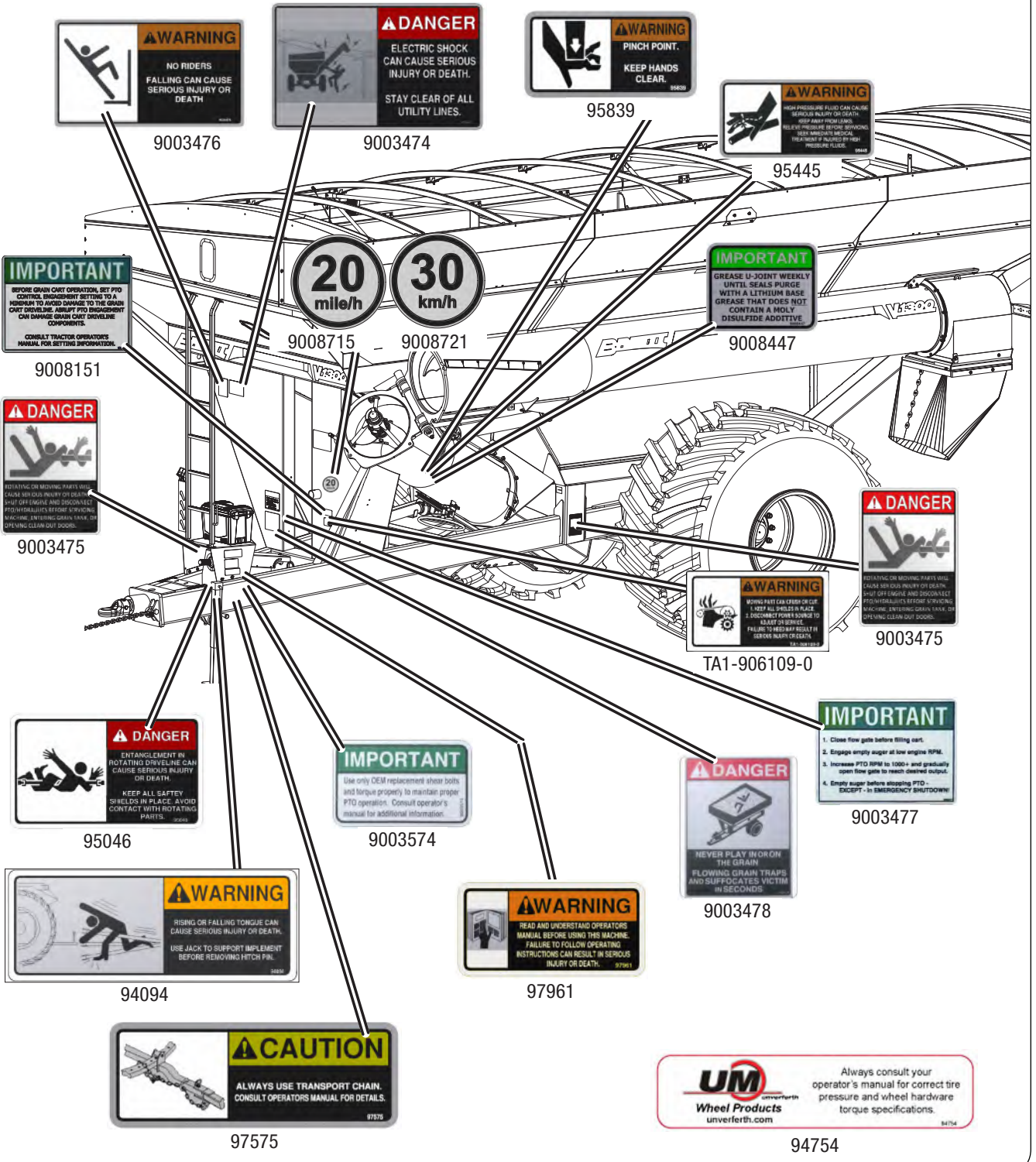


INDICATES AN UNSAFE SITUATION OR ACTION THAT MAY RESULT IN PERSONAL INJURY.



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

Safety Decals



WARNING
NO RIDERS
FALLING CAN CAUSE
SERIOUS INJURY OR
DEATH

9003476

DANGER
ELECTRIC SHOCK
CAN CAUSE SERIOUS
INJURY OR DEATH.
STAY CLEAR OF ALL
UTILITY LINES.

9003474

WARNING
PINCH POINT.
KEEP HANDS
CLEAR.

95839

WARNING
HIGH PRESSURE FLUID CAN CAUSE
SERIOUS INJURY OR DEATH.
KEEP AWAY FROM LINES.
RELEASE PRESSURE BEFORE SERVICE.
SEE IMMEDIATE MEDICAL
TREATMENT IF INJURED BY HIGH
PRESSURE FLUID.

95445

IMPORTANT
BEFORE GRAIN CHUTE OPERATION, SET PTO
CONTROL ENGAGEMENT SETTING TO A
NUMBER TO AVOID DAMAGE TO THE GRAIN
CHUTE DRIVELINE. ALWAYS PTO ENGAGEMENT
CAN DAMAGE GRAIN CHUTE DRIVELINE
COMPONENTS.
CONSULT TRACTOR OPERATOR'S
MANUAL FOR SETTING INFORMATION.

9008151

20
mile/h
30
km/h

9008715

9008721

IMPORTANT
GREASE U-JOINT WEEKLY
UNTIL SEALS PURGE
WITH A LITHIUM BASE
GREASE THAT DOES NOT
CONTAIN A MOLY
DISULFIDE ADDITIVE

9008447

DANGER
ROTATING OR MOVING PARTS WILL
CAUSE SERIOUS INJURY OR DEATH.
SHUT OFF ENGINE AND DISCONNECT
PTO/DRIVELINE BEFORE SERVICING
MACHINE. ENTERING GRAIN TANK OR
OPENING CLEAN OUT DOORS.

9003475

DANGER
ROTATING OR MOVING PARTS WILL
CAUSE SERIOUS INJURY OR DEATH.
SHUT OFF ENGINE AND DISCONNECT
PTO/DRIVELINE BEFORE SERVICING
MACHINE. ENTERING GRAIN TANK OR
OPENING CLEAN OUT DOORS.

9003475

WARNING
MOVING PART CAN CRUSH OR CUT
1. USE AS SPECIFIED RATES.
2. DISCONNECT POWER SOURCE TO
CLASH OR SERVICE.
FAILURE TO HEED MAY RESULT IN
SERIOUS INJURY OR DEATH.

TA1-906109-0

DANGER
ENTANGLEMENT IN
ROTATING DRIVELINE CAN
CAUSE SERIOUS INJURY OR DEATH.
KEEP ALL SAFETY
SHIELDS IN PLACE. AVOID
CONTACT WITH ROTATING
PARTS.

95046

IMPORTANT
Use only OEM replacement shear bolts
and torque properly to maintain proper
PTO operation. Consult operator's
manual for additional information.

9003574

IMPORTANT
1. Close flow gate before filling cart.
2. Engage empty auger at low engine RPM.
3. Increase PTO RPM to 1000+ and gradually
open flow gate to reach desired output.
4. Empty auger before disengaging PTO -
EXCEPT - IN EMERGENCY SHUTDOWN!

9003477

DANGER
NEVER PLAY IN OR ON
THE GRAIN
FLOWING GRAIN TRAPS
AND SUFFOCATES VICTIMS
IN SECONDS.

9003478

WARNING
RISING OR FALLING TONGUE CAN
CAUSE SERIOUS INJURY OR DEATH.
USE JACK TO SUPPORT IMPLEMENT
BEFORE REMOVING HITCH PIN.

94094

WARNING
READ AND UNDERSTAND OPERATOR'S
MANUAL BEFORE USING THIS MACHINE.
FAILURE TO FOLLOW OPERATING
INSTRUCTIONS CAN RESULT IN SERIOUS
INJURY OR DEATH.

97961

CAUTION
ALWAYS USE TRANSPORT CHAIN.
CONSULT OPERATOR'S MANUAL FOR DETAILS.

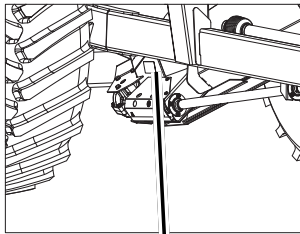
97575

UM
unverferth
Wheel Products
unverferth.com

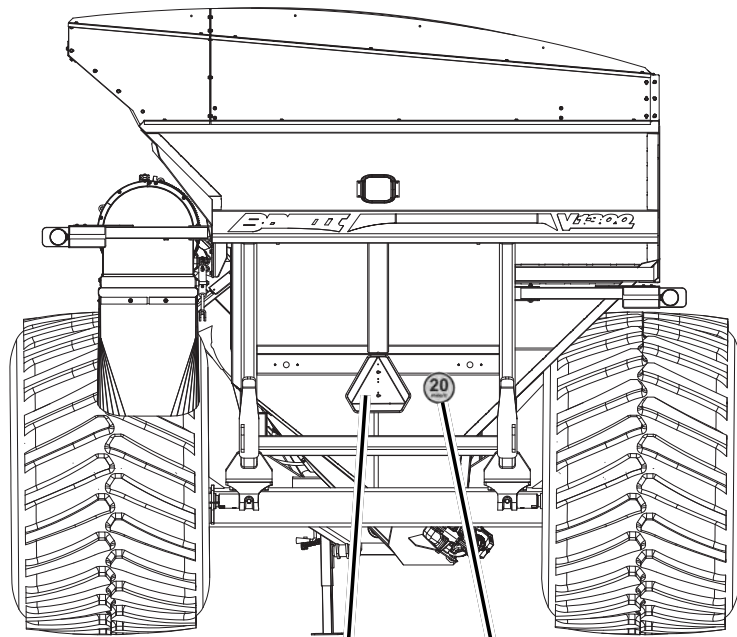
Always consult your
operator's manual for correct tire
pressure and wheel hardware
torque specifications.

94754

Safety Decals (continued)



95046



REFLECTORS
9003125 (Fluorescent)
9003126 (Red)
9003127 (Amber)

TA510514







9008714







9008720


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. 

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.

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 latch and lock tractor drawbar in fixed center 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.

- Add sufficient ballast to tractor to maintain steering and braking control at all times. Do not exceed tractor's lift capacity or ballast capacity.

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 chains to towing vehicle before transporting. **DO NOT** transport without chains.
- 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 rpm 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 recommended in tractor set up section.
- Use caution when turning to avoid contact between tractor tires and driveline.
- 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.
- 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 or bottom out when turning and/or going over rough terrain which will cause serious injury or death from contact with uncontrolled flailing of PTO shaft assembly components.

Pressurized Oil

- Relieve pressure before disconnecting hydraulic lines from tractor, loosening any hydraulic fittings or servicing hydraulic system. See hydraulic power unit manual for procedure to relieve pressure.

- Correct hydraulic leaks immediately.

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

- 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:
 - End fittings damaged, displaced, or leaking.
 - Outer covering chafed/cut or wire reinforcing exposed.
 - Outer covering ballooning locally.
 - 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

Set Up Checklist.....	2-2
Set Up.....	2-3
SMV Emblem.....	2-4
Auger Rest Retainer Removal.....	2-4
Optional Hydraulic Jack.....	2-5
Lamp Set Up.....	2-7
Driveline Storage.....	2-7
Wheel/Tire Set Up.....	2-8
Spindle Positioning.....	2-8
Sideboards and End Caps.....	2-9
Tarp Installation.....	2-17

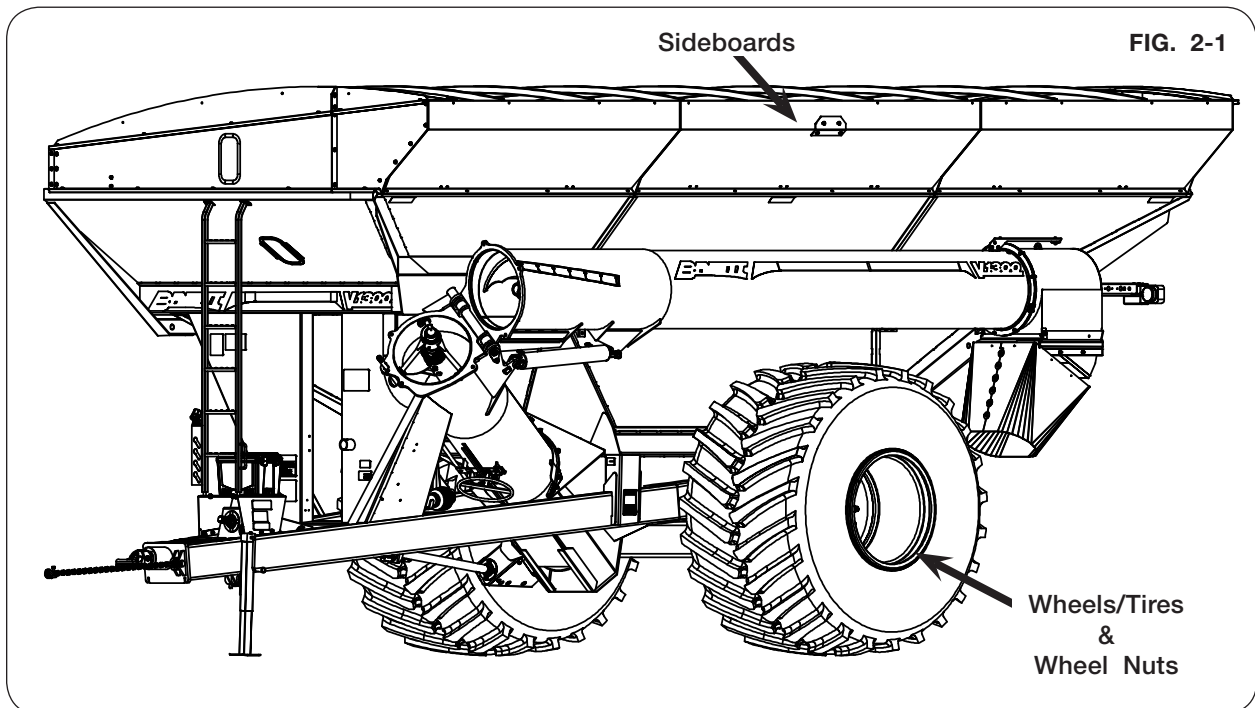
FOR SCALE OR UHARVEST INFORMATION, PLEASE REFER TO YOUR APPROPRIATE MANUAL.
FOR HYDRAULIC DRIVE INFORMATION, PLEASE REFER TO YOUR HYDRAULIC DRIVE MANUAL.
FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.

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.

- Complete sideboard and tarp set up. Remove tarp/sideboard shipping brackets.
- Set or Calibrate tractor PTO control engagement to MINIMUM setting. Refer to tractor operator's manual for setting information.
- Remove auger rest retainer.
- Reposition spindles from transport position to operating position. Refer to "Spindle Positioning".
- 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.
- Cleanout door assembly play or movement, refer to "Adjusting Cleanout Door" in the MAINTENANCE section.
- All safety decals are correctly located and legible. Replace if damaged.
- All reflective decals are correctly located.
- SMV decal and SIS decals are in place and, if necessary, remove shipping film.
- Transport lights are working properly.
- Driveline Assembly phasing, see "Auger Driveline Assembly" in OPERATION section.
- PTO length, see "Verify Telescoping PTO Shaft Length" in MAINTENANCE section.
- Safety screens over auger are in place and properly secured.
- Transport chains are properly installed and hardware is torqued 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.

Set Up



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

⚠ WARNING

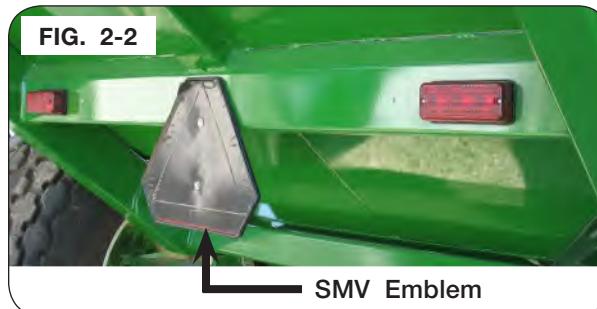
- TO PREVENT PERSONAL INJURY OR DEATH, ALWAYS ENSURE THAT THERE ARE PEOPLE WHO REMAIN OUTSIDE THE CART TO ASSIST THE PERSON WORKING INSIDE, AND THAT ALL SAFE WORKPLACE PRACTICES ARE FOLLOWED. THERE IS RESTRICTED MOBILITY AND LIMITED EXIT PATHS WHEN WORKING INSIDE THE IMPLEMENT.
- KEEP HANDS CLEAR OF 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 15,000 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.

Set Up (continued)

SMV Emblem & SIS Decal

Before the cart is used, 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, Figure 2-2.

Before the cart is used, ensure the front and rear SIS decals are clean and visible after shipping. Figure 2-3.

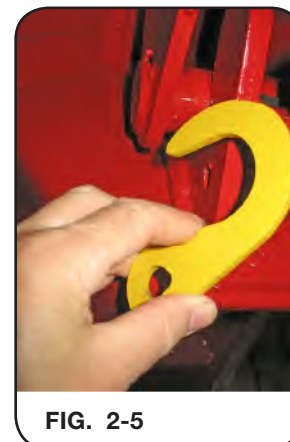
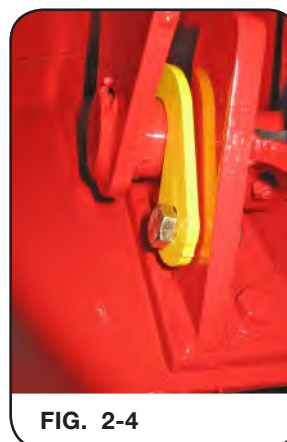


Auger Rest Retainer Removal

Remove and discard the retainer located on the upper auger rest at the back of the cart, before folding out the upper auger tube, Figures 2-4 and 2-5.

IMPORTANT

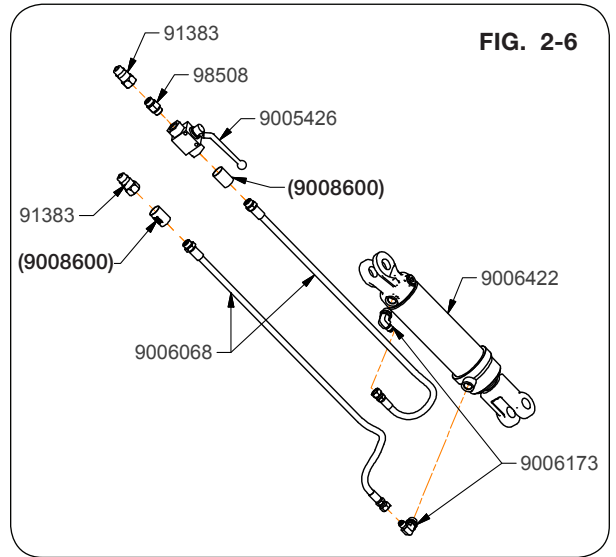
- *Upper auger retainer must be removed before operating upper auger tube. Failure to remove retainer will result in damage to the upper auger tube.*



Basic Cart Set Up (continued)

Optional Hydraulic Jack

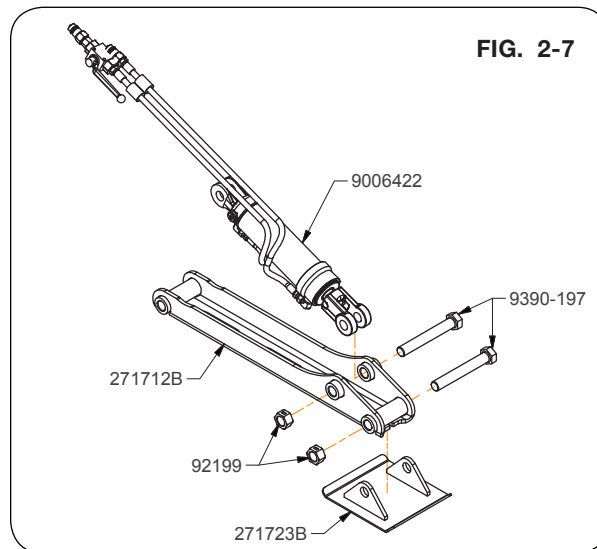
1. Assemble hoses (9006068) and fittings to cylinder (9006422) as shown in figure 2-6. The valve needs to be assembled to the hose on the base end of the cylinder. Assemble the fittings on the cylinder so they face each other, then bring the hydraulic hoses together in the middle and zip-tie together.



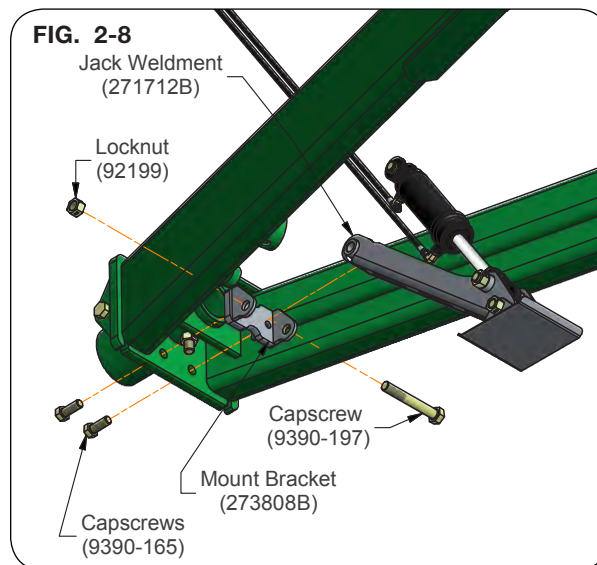
Basic Cart Set Up (continued)

Optional Hydraulic Jack (continued)

2. Assemble the cylinder (9006422) and jack foot (271723B) to the jack weldment (271712B) as shown in figure 2-7 using capscrew (9390-197) and locknut (92199).

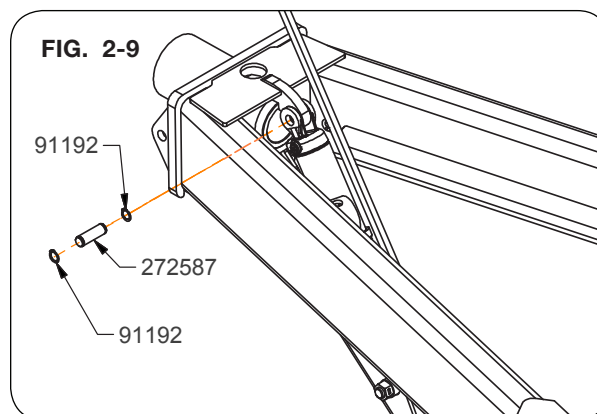


3. Mounting bracket (273808B) must be attached to the jack weldment (271712B) using 1"-8UNC x 7" capscrew (9390-197) and 1"-8UNC locknut (92199), before mounting to the tongue of the cart. Then attach the mounting bracket (273808B) to the back side of the front hitch plate with two 7/8"-9UNC x 2 1/4"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



4. 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 2-9.

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



Set Up (continued)

Lamp Set Up

Pivot lamp extension arms into position at sides of cart. The lamp bracket width is adjustable. Adjust lamp mount position to ensure that the reflectors are no more than 16" from the widest part of the tires, tracks, or grain cart body. Be sure that amber reflector is facing the front of the cart (some lights on certain cart models will be flipped down for shipping). See Figures 2-10 and 2-11.

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.

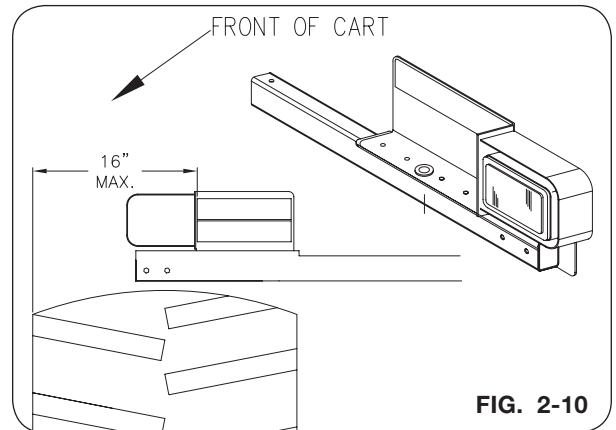


FIG. 2-10

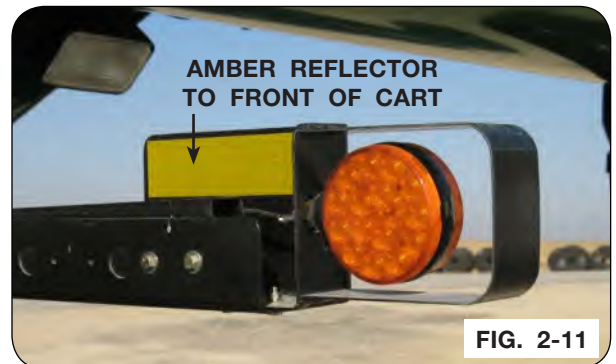


FIG. 2-11

Driveline Storage

Remove PTO shaft from storage brackets located on the right-hand side of the undercarriage. Attach to driveline. Figure 2-12.

IMPORTANT

- *Secure the complete PTO shaft to brackets for extended transport or storage and for all transport behind a delivery truck. Interference could occur when turning resulting in damage to PTO and cart.*



FIG. 2-12

PTO Storage Located
On The Right-Hand Side.

Set Up (continued)

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.

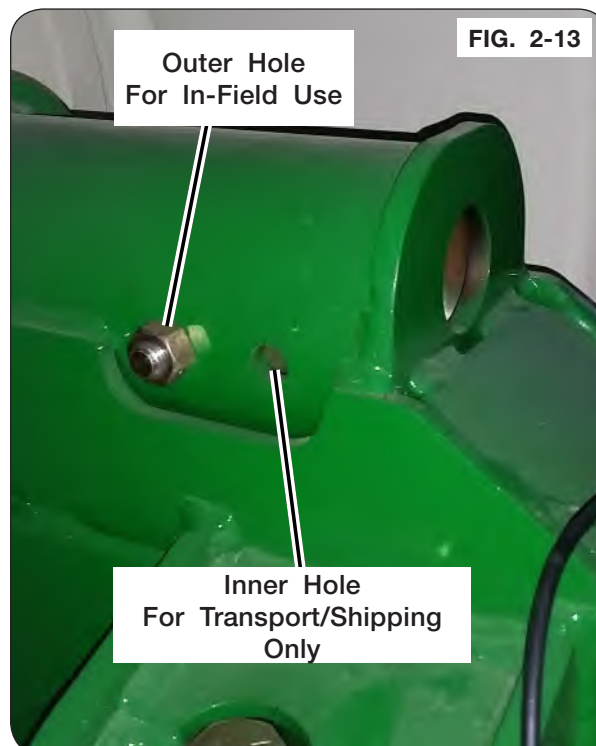
IMPORTANT

- *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.*
- *Single tire hubs and spindles are slid in for shipping and need to be slid out before attaching wheels/tires to provide adequate clearance between tires and wheel wells.*

Spindle Positioning

Spindles on carts with single wheels are moved inward for transportation. To achieve proper tire clearance during field operation, these spindles must be moved outward prior to cart use. See Figure 2-13.

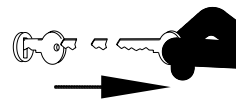
1. Hitch cart to tractor. Park the empty cart on a firm, level surface. Set tractor parking brake, shut off engine, and remove ignition key. Block the wheels or tracks on the cart to prevent movement.
2. Using a safe lifting device (or support) rated at minimum 15,000 lbs, jack one side of cart axle.
3. Remove 3/4" X 8" spindle retainer capscrew.
4. Using safe lifting device rated at a minimum 15,000 lbs, slide spindle in/out.
5. Reinstall capscrew and torque to specification.
6. Remove safe lifting device (or support) and repeat for other side.



Set Up (continued)

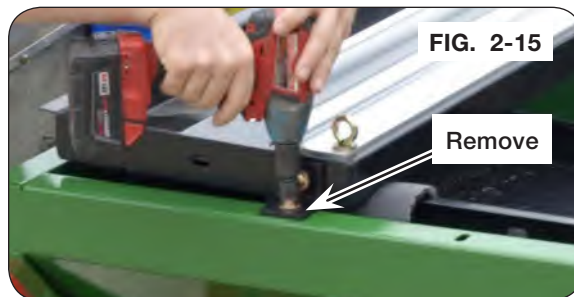
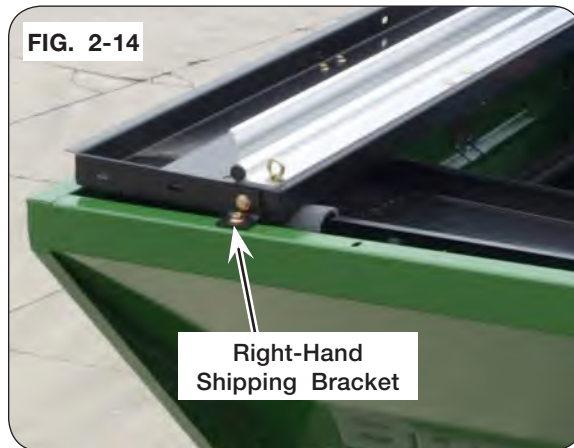
Sideboards and End Caps

1. Park the empty grain cart on a firm, level surface. Block the tires/tracks to keep the machine from moving. Remove keys from towing vehicle.

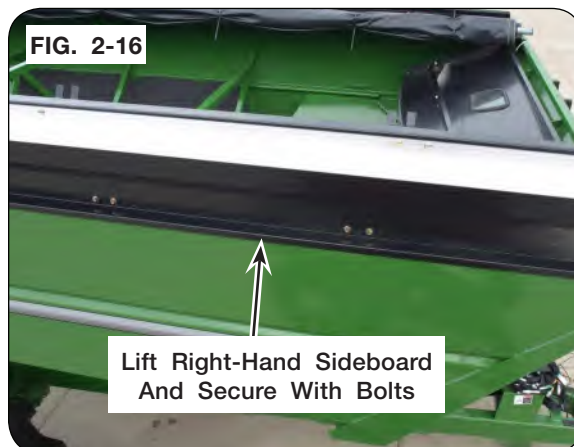


2. Remove the crank handle and the crank handle holder from inside the cart.

3. Remove and discard shipping bracket for right-hand sideboard, Figures 2-14 & 2-15.



4. Lift the right-hand sideboard up into position and loosely secure sideboard into place using 3/8" flange screws and flange nuts along sideboard bottom edge. See Figure 2-16.

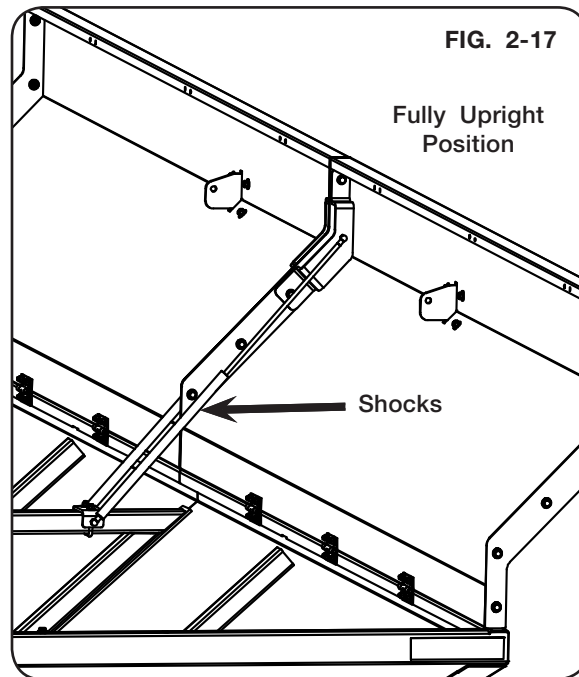


NOTE: Hinge brackets WILL support the sideboard.

Set Up (continued)

5. Lift the left-hand sideboard into position, Figure 2-17.

NOTE: Hinge brackets **WILL** support the sideboard and tarp.



6. Loosely secure left-hand sideboard with 3/8" flange screws and flange nuts along the bottom. See Figure 2-18.



Set Up (continued)

7. Install brace tubes.

ONE PIECE BRACE TUBE:

Install sideboard brace tubes on each cross tube weldment. Each weldment will have one left-hand and one right-hand sideboard brace tube. Loosely secure with 3/8" flange hardware. See Figure 2-19.

CROSS CART BRACE TUBES:

Install cross-cart, full-width brace tubes. Loosely affix with 3/8" flange hardware. See Figures 2-20 and 2-21.

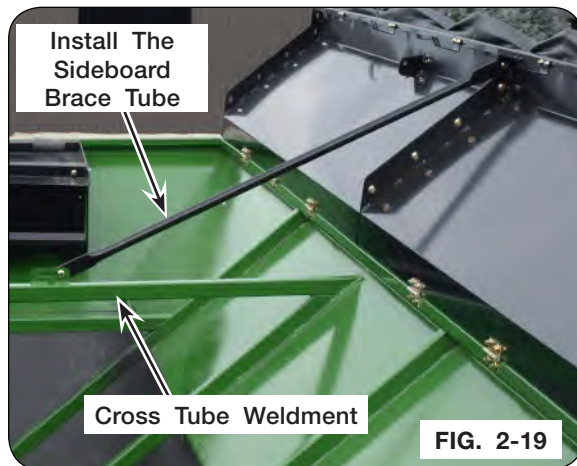


FIG. 2-19

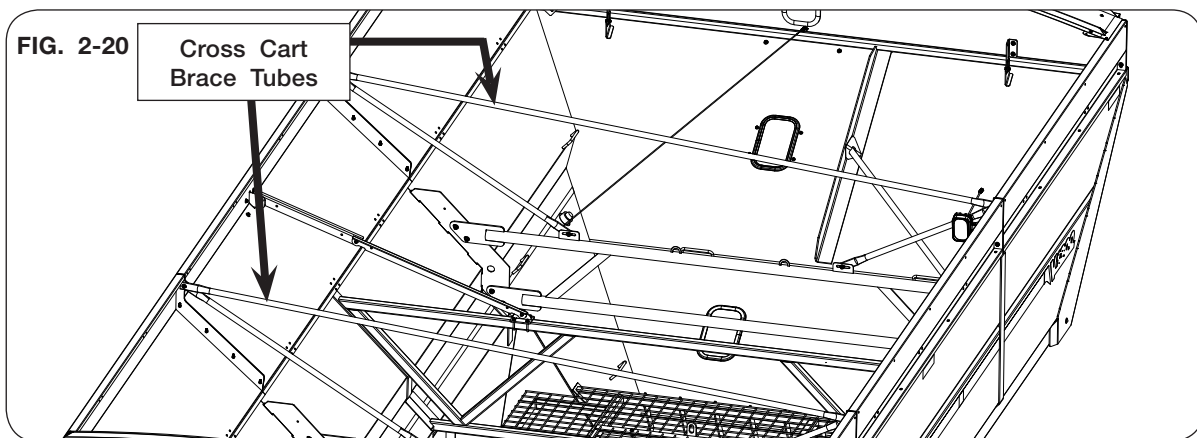


FIG. 2-20

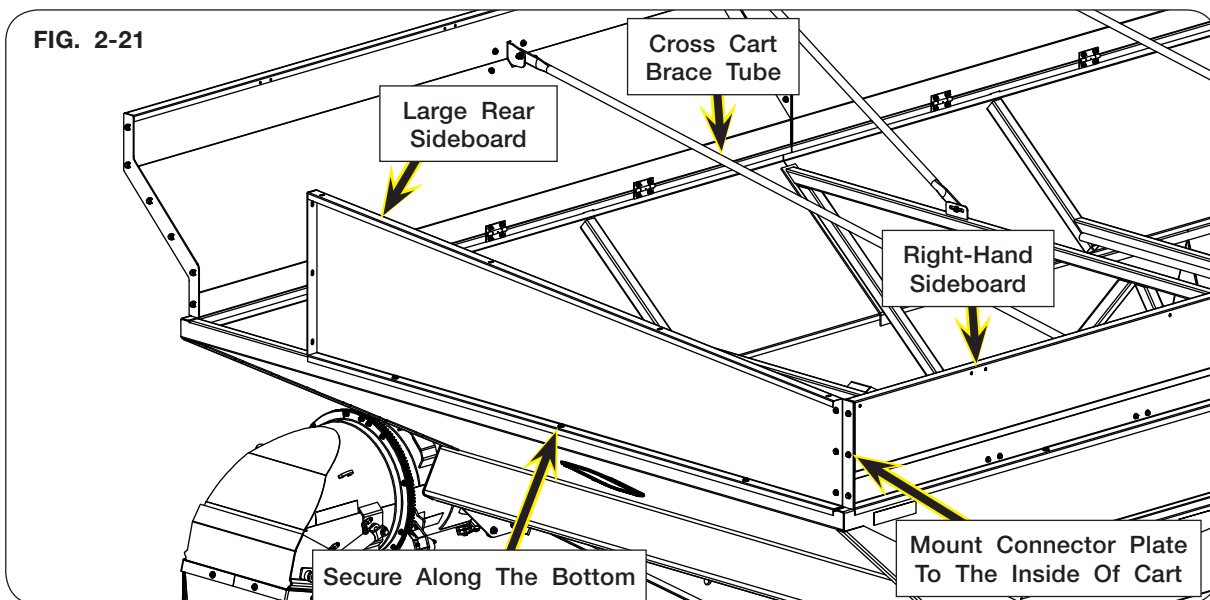
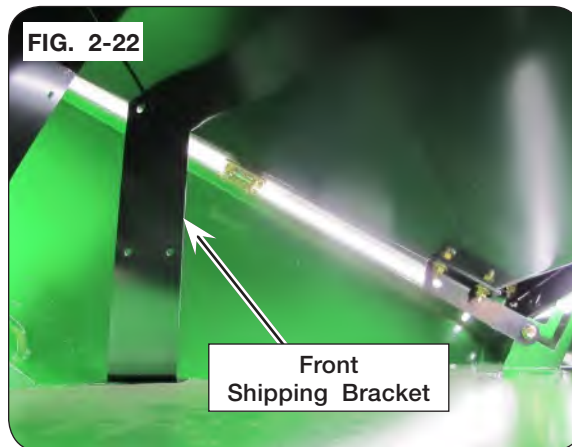


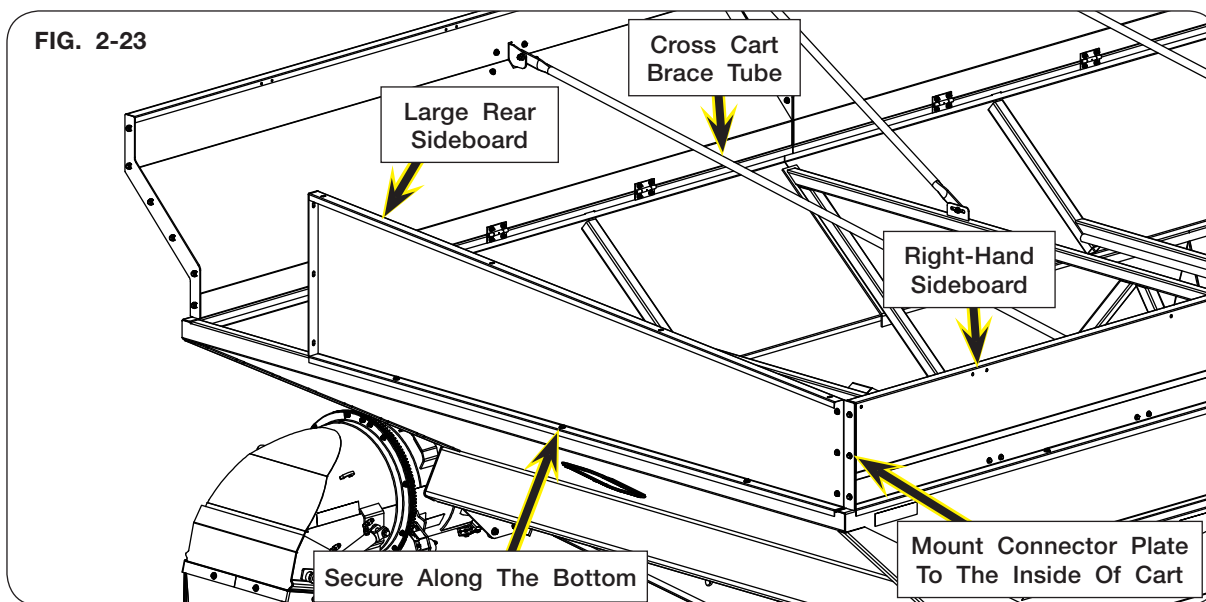
FIG. 2-21

Set Up (continued)

8. Remove and discard the shocks and associated brackets from the left-hand sideboard.
9. Remove and discard the shipping brackets from the rear and front sideboards. Front sideboard shown, Figure 2-22.

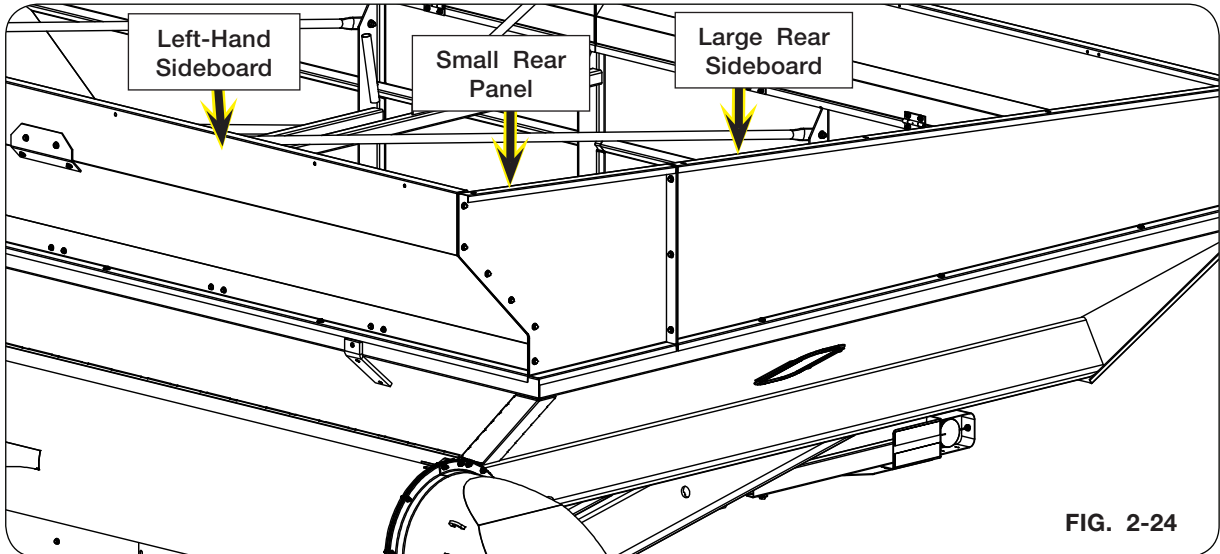


10. Lift the large rear sideboard up into position and loosely secure with 3/8" flange screws and flange nuts along the bottom. See Figure 2-23.
11. Connect large rear sideboard to the right-hand sideboard using the connector plate. Loosely secure using 3/8" hardware. See Figure 2-23.

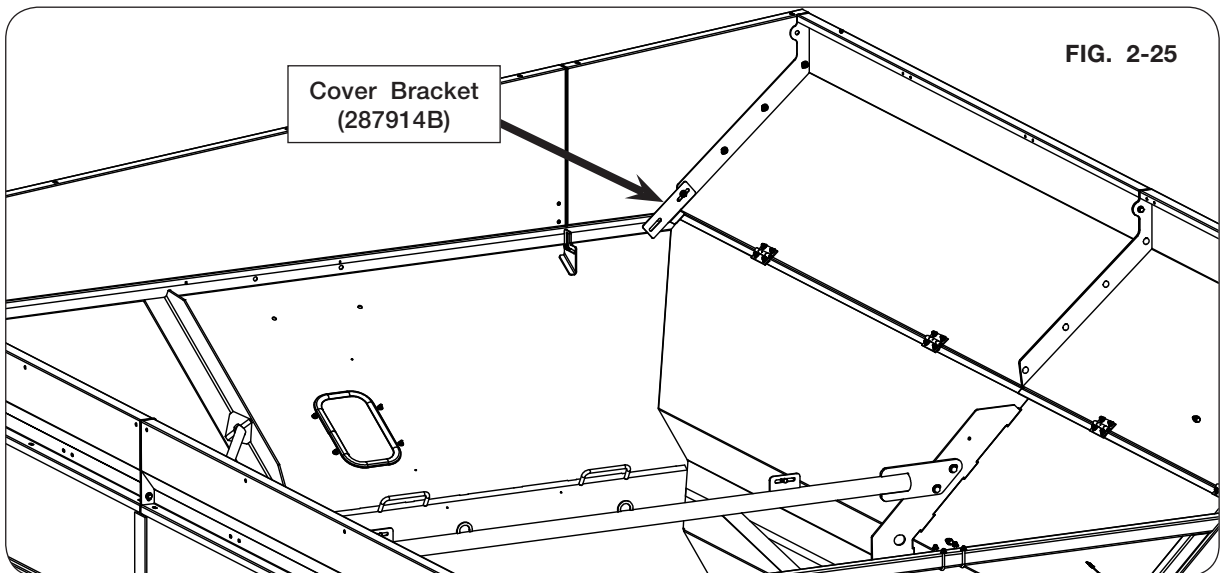


Set Up (continued)

12. Connect the large rear sideboard to the left-hand sideboard using the small rear panel. Loosely secure using 3/8" hardware. See Figure 2-24.



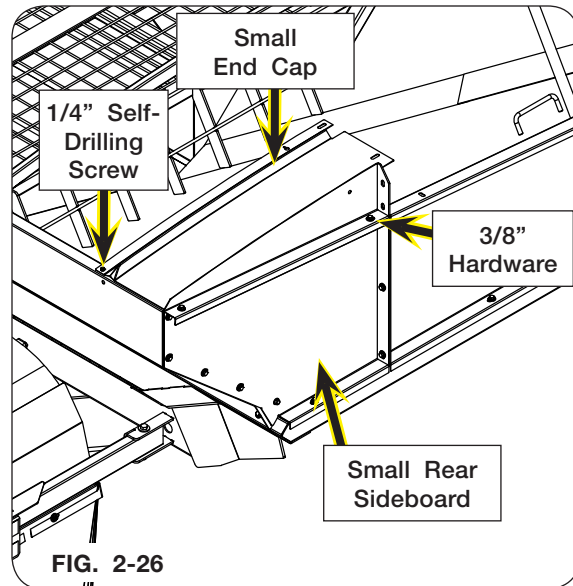
13. Attach cover bracket (287914B) to the rear corner of the left-hand sideboard. Loosely secure using 3/8" hardware. See Figure 2-25.



Set Up (continued)

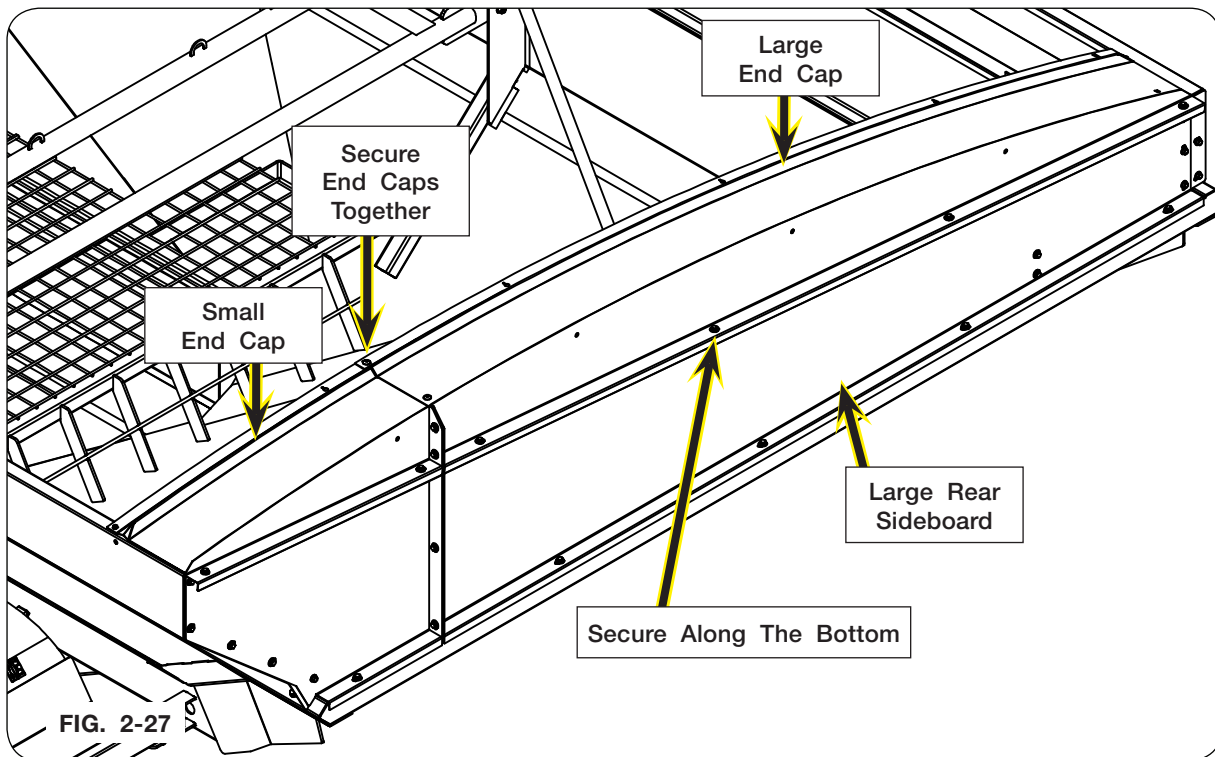
14. Attach smaller end cap on top of rear sideboards using 3/8" hardware and one 1/4" self-drilling screw. See Figure 2-26.

NOTE: The small end cap tab will fit underneath the large end cap.



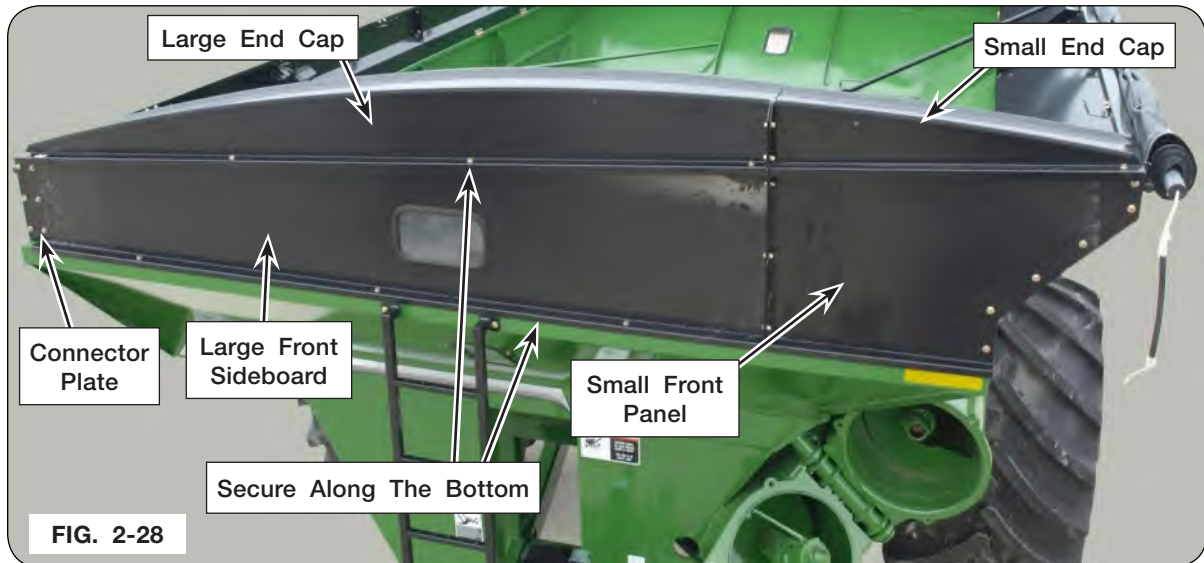
15. Attach larger end cap on top of rear sideboards using 3/8" hardware. See Figure 2-27.

NOTE: Tabs on smaller end cap go UNDER the larger end cap.



Set Up (continued)

16. Lift large front sideboard into position and loosely secure with 3/8" flange screws and flange nuts along the bottom. See Figure 2-28.



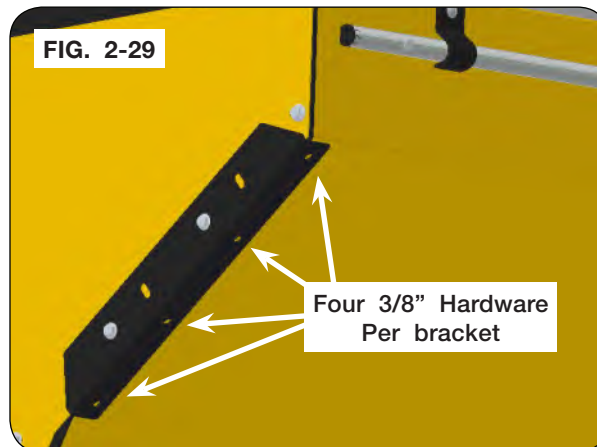
17. Connect large front sideboard to the right-hand sideboard using the connector plate. Loosely secure using 3/8" hardware. See Figure 2-28.
18. Connect large front sideboard to the left-hand sideboard using the small front panel. Loosely secure using 3/8" hardware. See Figure 2-28.
19. Attach cover bracket (287914B) to the front corner of the left-hand sideboard similar to step 17. Loosely secure using 3/8" hardware.
20. Attach smaller, end cap on top of front sideboards. See Figure 2-28.
NOTE: The small end cap tab will fit underneath the large end cap.
21. Attach larger end cap on top of front sideboards. See Figure 2-28.
NOTE: Tab on smaller end cap go UNDER the larger end cap.

NOTE: DO NOT tighten hardware at this time. Wait until tarp bows are in place before torquing hardware.

Set Up (continued)

22. At the front, left-hand corner of the sideboards, remove the front bolts connecting the side panel to the front panel. Retain the hardware. Attach 289783B bracket as shown in figure 2-29. Repeat this process for the rear left-hand corner. (FIG. 2-29)

23. Use the retained 3/8" hardware to attach the corner braces to the sideboard panel. The heads of the bolts should be to the exterior of the grain cart. Repeat this process for the rear left-hand corner. (FIG. 2-29)



NOTE: DO NOT tighten hardware at this time. Wait until tarp bows are in place before torquing hardware.

NOTE: For carts SN B40990099 & lower, skip to step 2 for “Tarp Installation” section.

Set Up (continued)

Tarp Installation

NOTE: Ensure RH and LH doublers are inside the sideboard lip. See Figure 2-30.

1. For carts SN B40990100 & higher, install eight long tarp bows (288339B for V1300; 288640B for V1500) across the top of the cart, using right-hand bracket (283425B), left-hand bracket (283427B), RH doubler (289986B), LH doubler (281936B), 3/8"-16UNC x 3" capscrew (902703-046), 3/8"-16UNC (91263) flange nut, 5/16"-18UNC x 3/4" flange screw (91256) and 5/16"-18UNC flange nut (91257). See Figure 2-30.

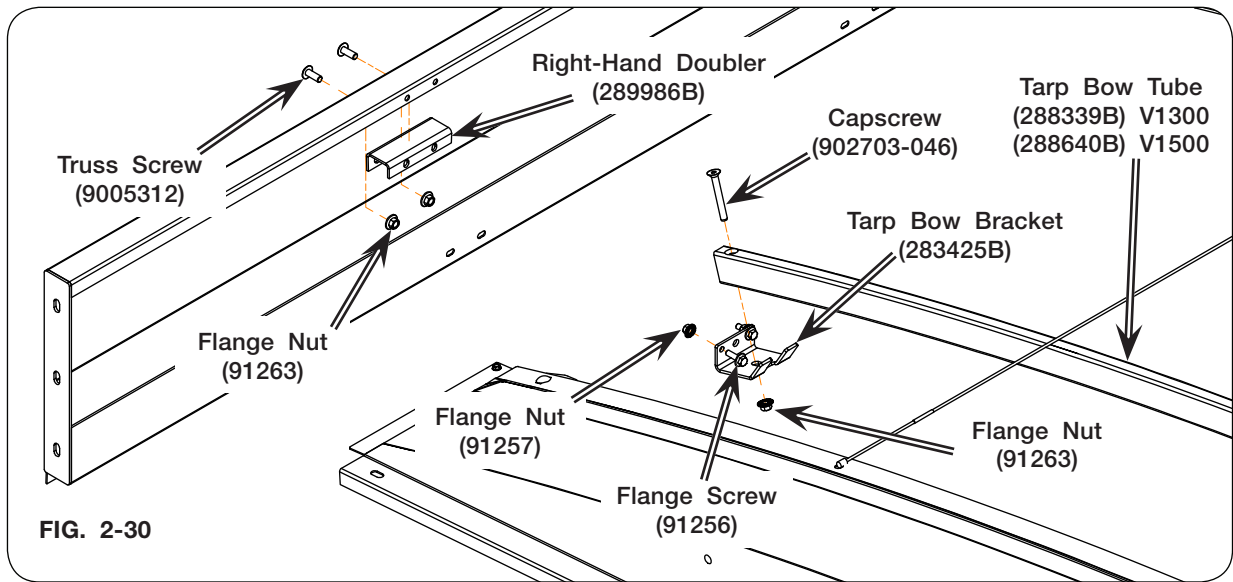


FIG. 2-30

Set Up (continued)

2. Install eight long tarp bows (288339B for V1300; 288640B for V1500) across the top of the cart, using right-hand bracket (283425B), left-hand bracket (283427B), 3/8"-16UNC x 3" capscrew (902703-046), 3/8"-16UNC (91263) flange nut, 5/16"-18UNC x 3/4" flange screw (91256) and 5/16"-18UNC flange nut (91257). See Figure 2-31.

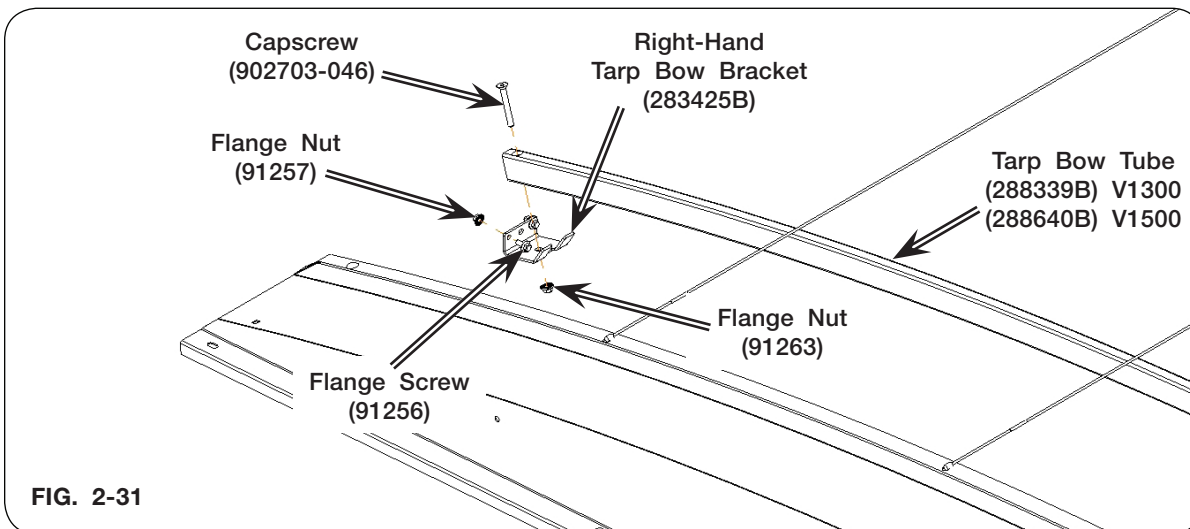


FIG. 2-31

NOTE: Ensure capscrew head (902703-046) is flush with the top of tarp bow tube (288339B for V1300; 288640B for V1500). See Figure 2-32.

3. Tighten ALL hardware.
Torque 3/8" hardware to 25-28 ft.-lbs.
Torque 5/16" hardware to 15-17 ft.-lbs.

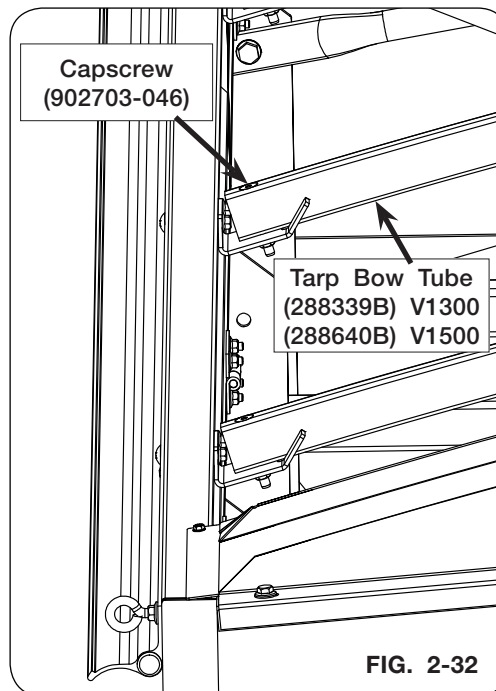
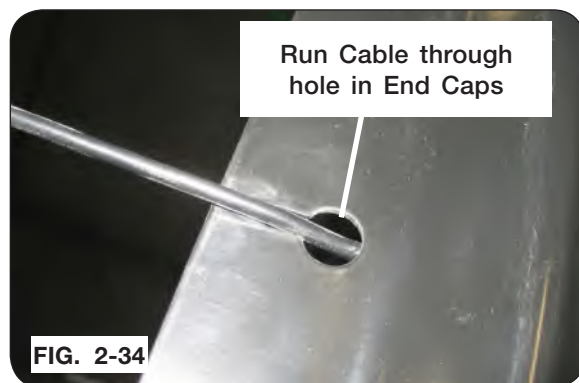
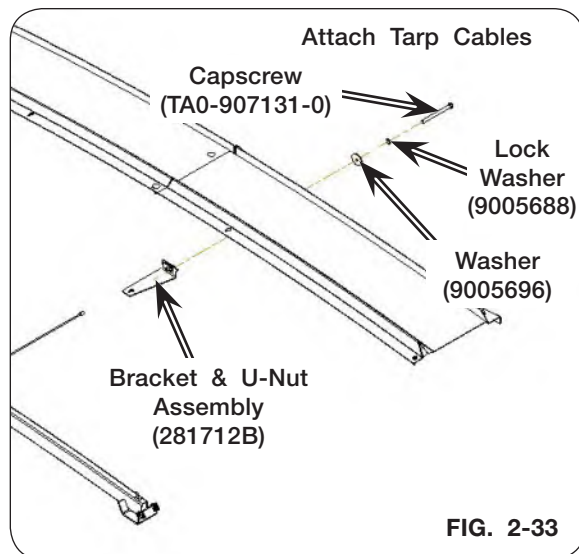


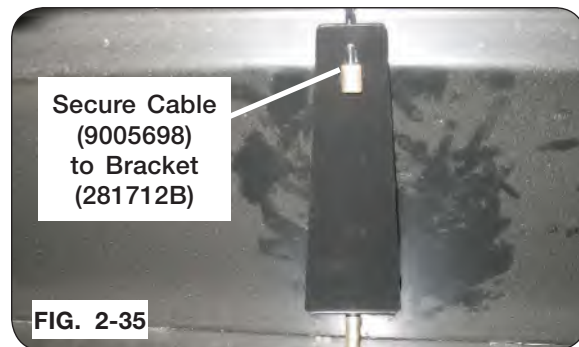
FIG. 2-32

Set Up (continued)

4. Install four cables across the top using 3/8"-16UNC x 4 1/2" capscrews (TA0-907131-0), 3/8" lock washers (9005688), 3/8" fender washers (9005696) and bracket & U-nut assemblies (281712B). See Figures 2-33 through 2-36.



5. Assemble nylon coated cable, through keyhole slot in front end cap and route over tarp bows. Assemble through keyhole slot in rear end cap and secure to adjusting bracket under end cap. See Figures 2-35 and 2-36.

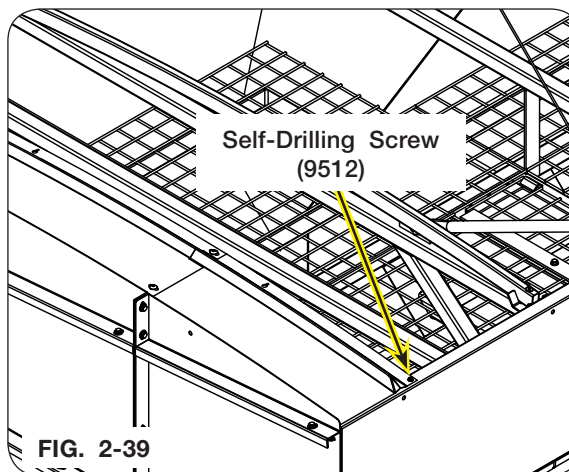
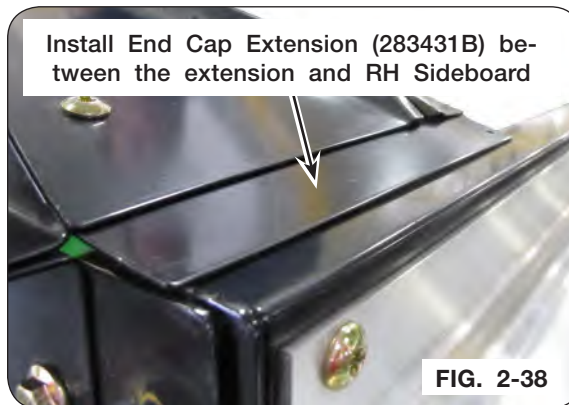


Set Up (continued)

6. Install end cap extension (283431B) between the end cap and right-hand sideboard on both the front and rear of cart. Retain in place using two 3/8"-16 x 1" carriage bolts (9388-051), two 3/8"-16 flange nuts (91263) and one 1/4"-14 x 1" self-drilling screw (9512) per end. See Figures 2-37 through 2-39.
7. Tighten cables until snug, without pulling front and rear board inward. Do not over-tighten.

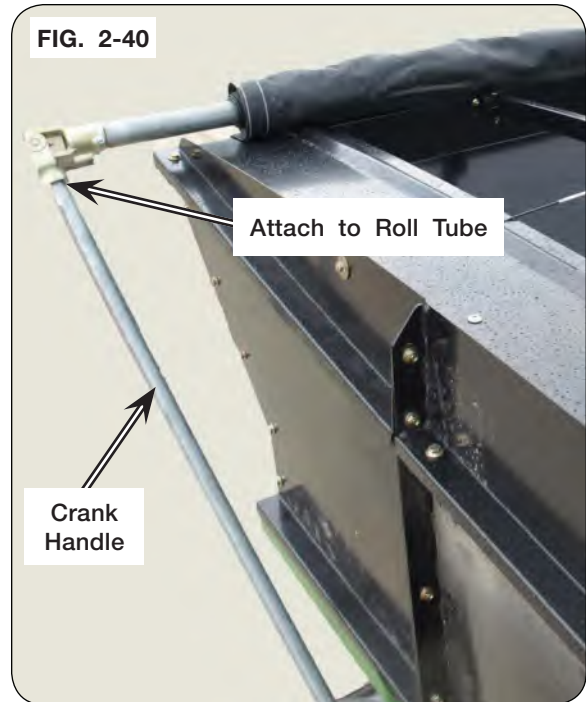


FIG. 2-37

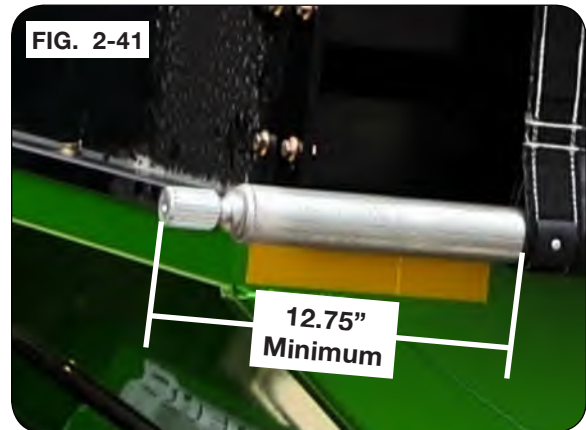


Set Up (continued)

8. Attach the crank handle to the tarp roll tube, Figure 2-40. Once secure, roll tarp across the cart to the closed position.

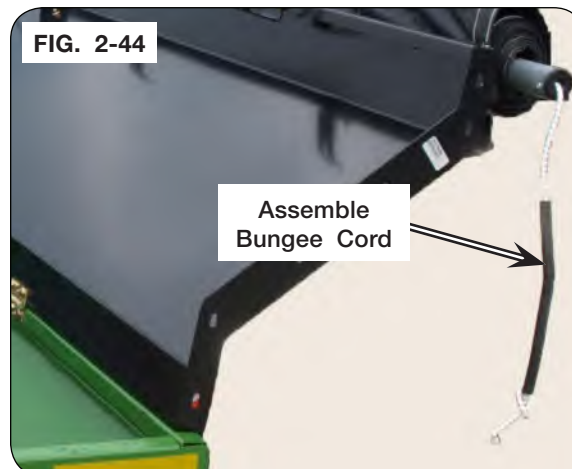
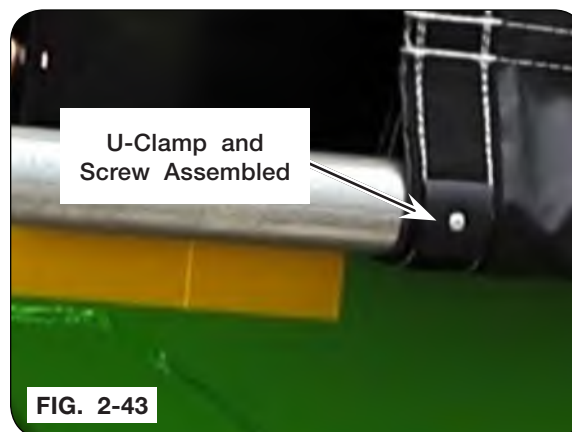
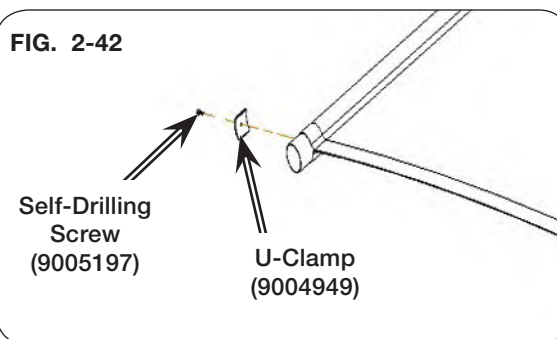


9. Confirm that the roll tube on the handle is at a minimum of 12.75" from the edge of tarp, Figure 2-41.
10. Remove crank handle before securing roll tube.



Set Up (continued)

11. Add #10-16 x 3/4" self-drilling screws (9005197) and U-clamps (9004949) to secure tarp in place on the roll tube side. Check that clips are located on the straps with an even height across, Figure 2-42 and 2-43.
12. With the tarp in the closed position and the roll tube hanging over the right-hand side of the cart, reattach the crank handle straight up and down.
13. If not already affixed, the crank handle holder attaches to brackets underneath on the rear of the cart.
14. With tarp rolled up under latch plate, assemble bungee cord end through the top of the eye bolt. Leave 2-3" of slack and knot off. Cut off excess a couple of inches from end. Sear end with lighter to keep from fraying, Figure 2-44.
15. Test tarp for proper working motion.



Section III Operation

Operating Checklist.....	3-2
Preparing Tractor.....	3-2
Preparing Cart.....	3-3
Hardware	3-3
Pivot Pins	3-3
Hitch	3-3
Auger	3-3
Auger Driveline Assembly.....	3-4
Soft Start System.....	3-4
Hydraulic System.....	3-4
Tires/Wheels.....	3-4
Lubrication.....	3-4
Hitching to Tractor	3-5
Drawbar Connection	3-5
Jack Usage.....	3-6
Option Hydraulic Jack Usage.....	3-7
Transport Chain Connection.....	3-8
Hydraulic Connections	3-8
Hydraulic Connections for Hydraulic Drive.....	3-9
Electrical Connections.....	3-10
Electric Over Hydraulic Operation - 4 Function (Optional)	3-11
Electric Over Hydraulic Manual Override Operation (Optional).....	3-15
Towing.....	3-16
Auger Operation - PTO-Driven Auger.....	3-17
Troubleshooting.....	3-19
Hydraulic Drive (Optional)	3-21
Weather Guard Tarp.....	3-23

FOR SCALE OR UHARVEST INFORMATION, PLEASE REFER TO YOUR APPROPRIATE MANUAL.
FOR HYDRAULIC DRIVE INFORMATION, PLEASE REFER TO YOUR HYDRAULIC DRIVE MANUAL.
FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.

Operating Checklist

- Read and understand all safety precautions before operating cart.
- Adjust spindles from shipping position to operating position.
- Reflective decals and the SMV sign and SIS decals are clearly visible with the cart attached to the tractor. Transport lights are in working condition. Follow all regulations before towing on a road or highway.
- Hitch height and length when attached to the tractor are sufficient to prevent severe bends in PTO U-joint angles.
- PTO is correct length for making turns and operating on uneven terrain. See “Verify Telescoping PTO Shaft Length” in MAINTENANCE section.
- Torque wheel nuts and check tire pressure as specified in MAINTENANCE section.
- Install transport chains properly and hardware is torqued to specification. See “Transport Chain Connection” in OPERATION section.
- All screens and safety shields are in place.
- Lubrication procedures are being followed.
- Operation and functionality of flow door, flow door indicator, setting flow door stop valve, auger fold, and chute rotate and tilt.
- Test run the augers. See “Auger Operation” in OPERATION section.
- Set tractor PTO control engagement setting to a minimum. Refer to tractor operators manual for setting information.

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.

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.

Ensure that PTO engagement setting is set to minimum (or softest) setting.

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.

Adjust the tractor drawbar vertically so the top of the drawbar is approximately 17-22 inches from the ground. Ensure that the drawbar is locked in the center position and drawbar length is set to 20” from end of PTO shaft to center of pinhole.

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

Preparing Cart

Perform the service checks as outlined 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.

Preparing Cart (continued)

Auger Driveline Assembly

Check all bearings, bearing mounts, lock collars, universal joint, cushioned driveshaft, front and rear driveshafts for wear or damage. Repair or replace all bearings, bearing mounts, lock collars, universal joint, cushioned driveshaft, front and rear driveshafts as necessary. Refer to MAINTENANCE section to verify universal joint and cushioned driveshaft phasing, and for additional information on safe repair and replacement of auger driveline components.

Soft Start System

Check for wear or damage.

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.

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.

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.

Set the tractor drawbar length to 20" from the end of the PTO to the center of the pinhole. Lock drawbar in center position. This ensures the driveline will not bottom out or separate when turning and/or going over rough terrain. Refer to "Verify Telescoping PTO Shaft Length" in the MAINTENANCE section for details.

The cart is equipped standard with a single-tang hitch and must be used with a clevis-type tractor drawbar. The cast hitch accommodates a 2" diameter CAT 4 drawbar pin. However, a 1 1/2" diameter CAT 3 drawbar pin may be used if bushings are inserted. Bushings and o-rings are provided.

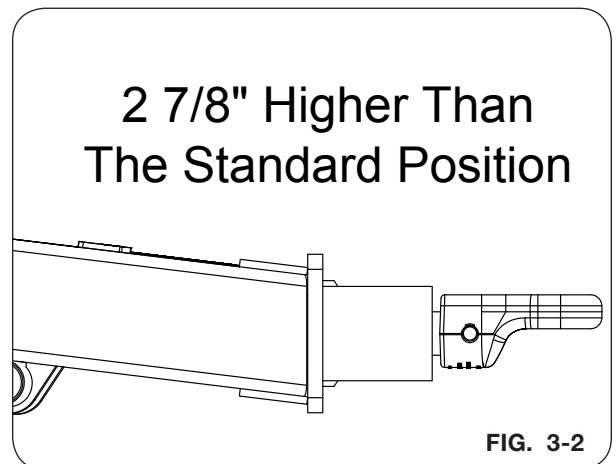
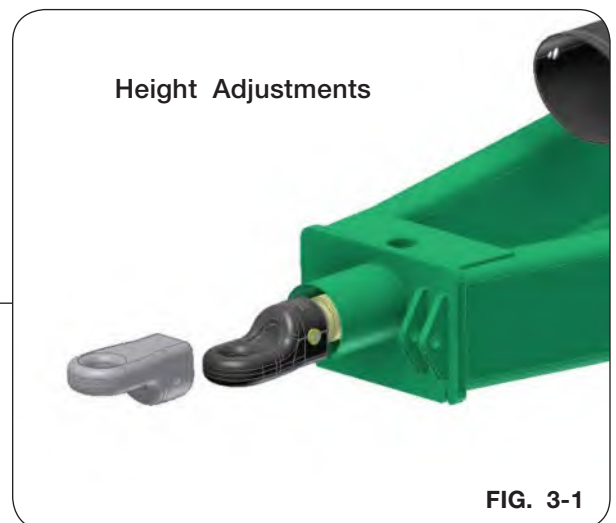
NOTE: The use of a smaller diameter hitch pin will result in additional clearance between the hitch and pin. This additional clearance may cause accelerated pin wear, tractor and cart hitch wear, along with more pronounced jolting from the cart during transport operation, and there are bushings for use with smaller drawbar pins.

WARNING

- **CRUSHING CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT STAND BETWEEN TOWING VEHICLE AND IMPLEMENT WHEN HITCHING. ALWAYS ENGAGE PARKING BRAKE AND STOP ENGINE BEFORE INSERTING HITCH PINS OR SECURING LATCHES.**

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

NOTE: Cast hitch can be flipped providing a drawbar connection height difference of 2 7/8" (FIG. 3-1 and 3-2). Position the cast hitch 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 cast hitch is flipped, the driveline clearances needs to be rechecked.



Hitching to Tractor (continued)

Jack Usage

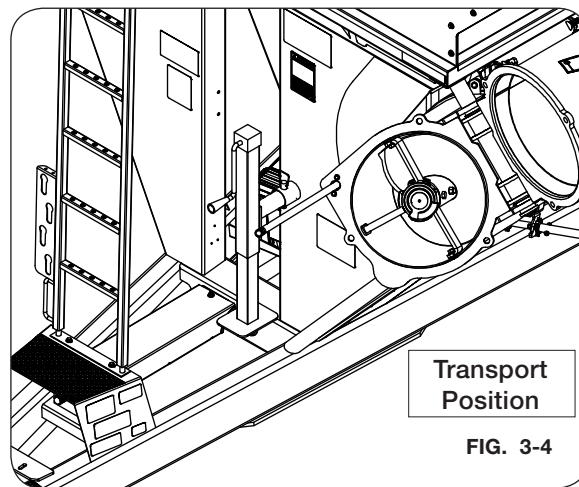
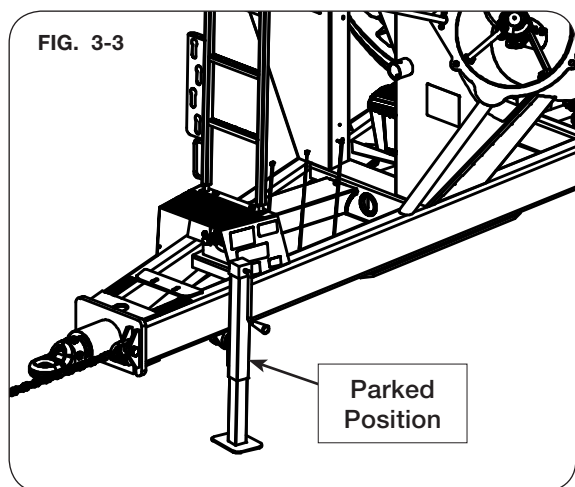
WARNING

- 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.

Mount jack in storage position once cart is hitched to tractor. (FIG. 3-3 and 3-4)

IMPORTANT

- Failure to store the jack in transport position could result in damage to the jack, cart, or tractor tire.



Hitching to Tractor (continued)

Optional Hydraulic Jack Usage

⚠ WARNING

- **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.**

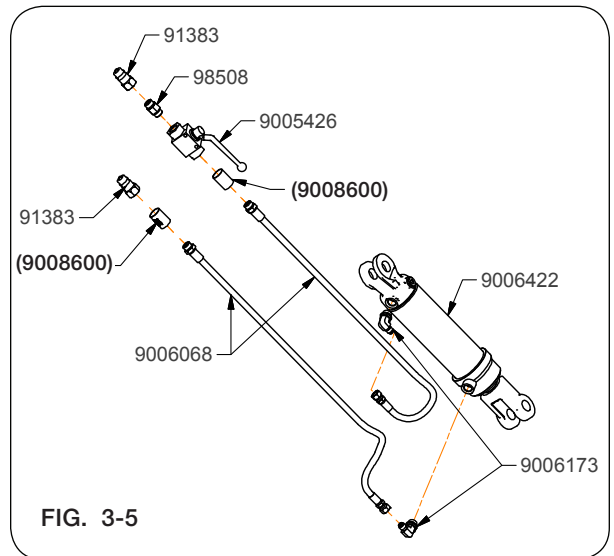
Use jack to support an empty grain cart, never a loaded grain cart. Always have a loaded grain cart hooked to tractor.

IMPORTANT

- *After cart is hitched to tractor, attach hydraulic hoses to tractor and fold hydraulic jack up between the frame rails.*

Always close the manual valve for the hydraulic jack for in field use and when unhitching from the tractor. (Fig. 3-5)

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. Retract cylinder to lower tongue and to raise jack into storage position.
5. Close valve and then disconnect hose couplers from tractor.
6. Place hose couplers into storage caddy. Be sure to route hoses to clear PTO driveline during operation.
7. 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.

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. 3-6 shows correctly installed transport chain between cart and tractor. Place wear shoe between tractor hitch and grain cart hitch. (FIG. 3-7)

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.

IMPORTANT

- Replace transport chain if any link or end fitting is broken, stretched, or damaged. DO NOT WELD TRANSPORT CHAIN.



FIG. 3-6



FIG. 3-7

Wear Shoe

Hydraulic Connections

Store and keep hydraulic hoses clean. FIG. 3-8

IMPORTANT

- When coupling hydraulic hoses to ports on the tractor, be sure that the coupler ends are clean of dust, dirt and debris. Failure to do so could contaminate hydraulic system resulting in excessive wear and possible failure.

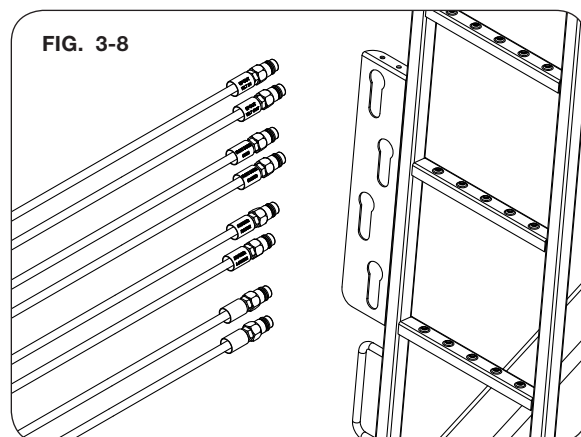


FIG. 3-8

Hitching to Tractor (continued)

Clean hydraulic hose couplers before connecting to the tractor. For convenience, it is recommended to connect the flow door circuit hoses to tractor implement coupler #1, auger spout circuit hoses to couplers #2 and #3, and attach auger fold circuit to coupler #4.

This unit is equipped with color bands attached to the hydraulic hoses. This will help in identifying the hose function and correct hook up.

Color	Hose Function
Black	Jack Raise and Lower
Red	Flow Door Open and Close
Yellow	Spout Left and Right
White	Spout In and Out
Green	Fold and Unfold Auger

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

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

Before disconnecting hoses from the tractor, relieve pressure in the system. See the tractor's Operator's Manual for the proper procedure. Shut off engine and apply parking brake before disconnecting hoses. Install couplers into storage slots provided. See Fig. 3-8.

Hydraulic Connections for Hydraulic Drive

Refer to grain cart's Hydraulic Drive Manual (282894) for installation, operation and parts of the Hydraulic Drive.

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). (FIG. 3-9)

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

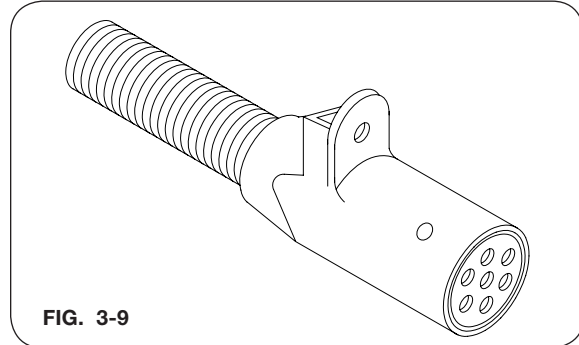


FIG. 3-9

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 Electric Over Hydraulic Operation Optional - 4 Function

Before operating cart, familiarize 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 (9008402) to a key switched +12VDC power supply. (FIG. 3-10)
2. Connect the white wire from power harness (9008402) to ground. (FIG. 3-10)

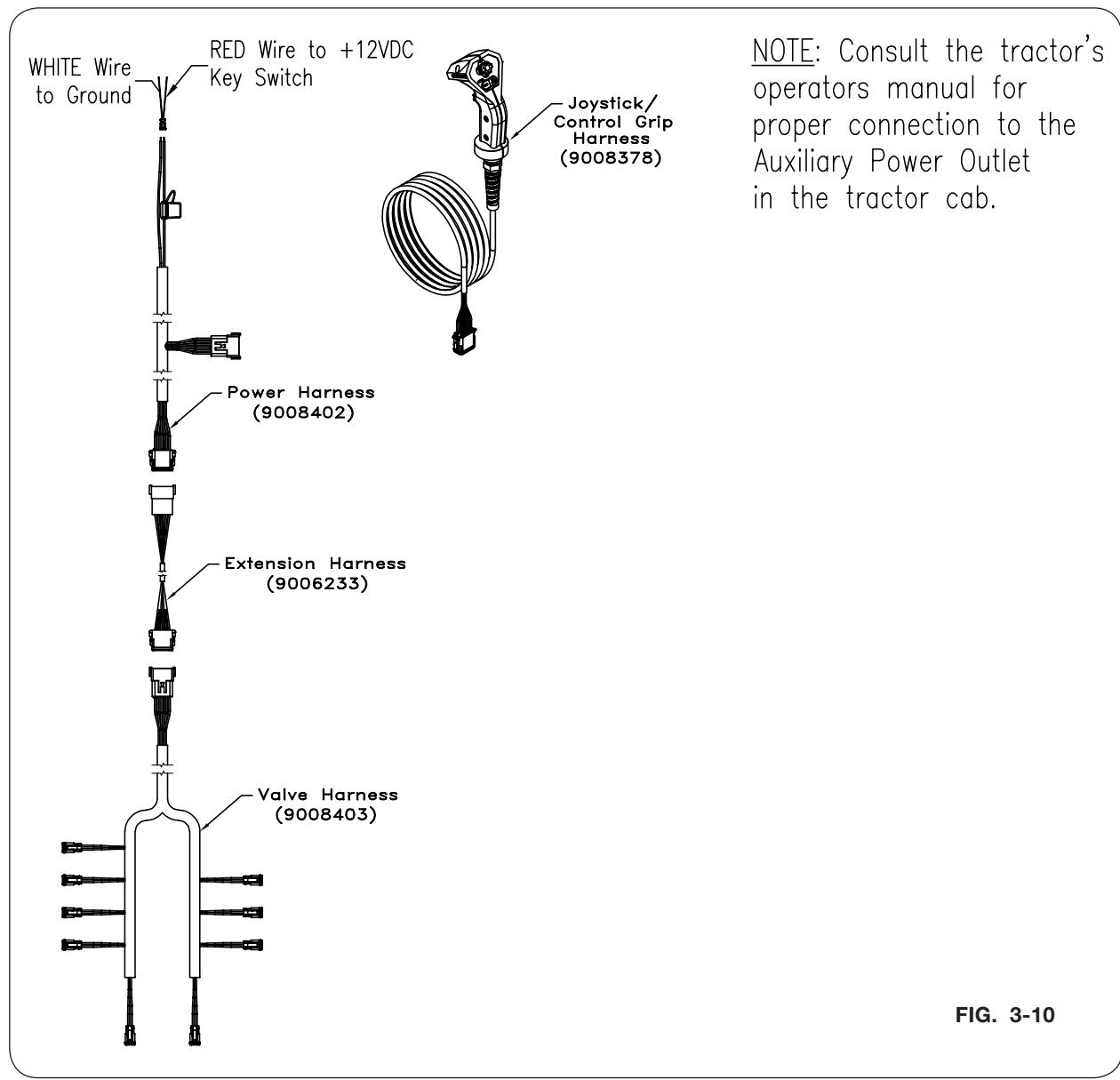


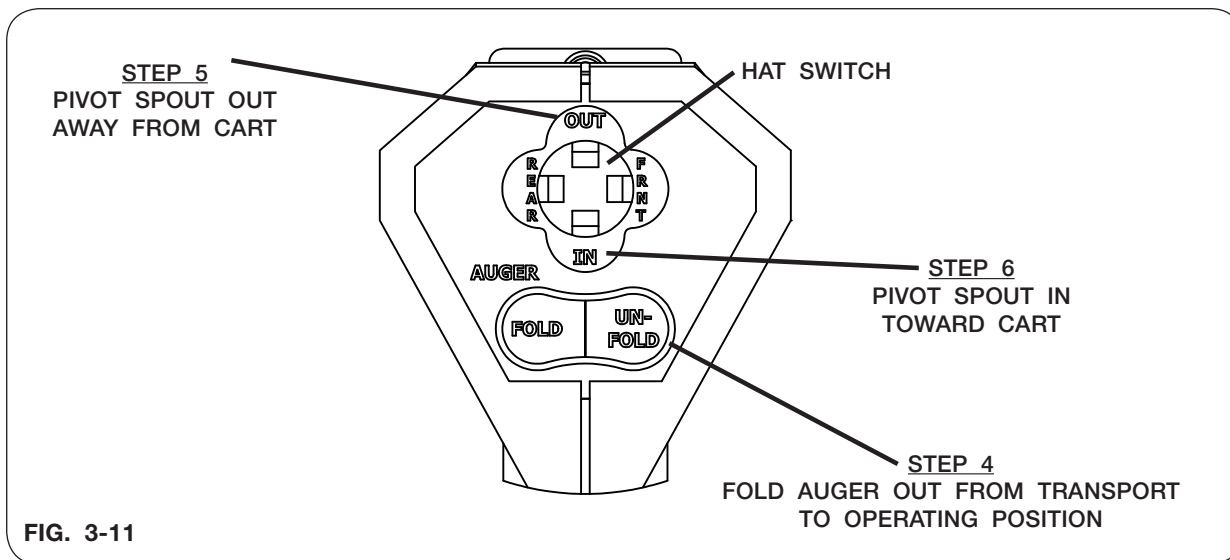
FIG. 3-10

Optional Electric Over Hydraulic Operation (continued)
Optional - 4 Function

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 of 8 gal/min.
5. To fold auger out from transport to operating position, push down the auger unfold button on joystick controller face. Hold the auger unfold button down until the upper and lower auger are engaged. See step 4 in FIG. 3-11.

NOTE: Joystick has a double tap feature, which allows the operator to quickly double tap the auger fold or unfold functions in order to operate it for a set time. If the auger fold button is 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.

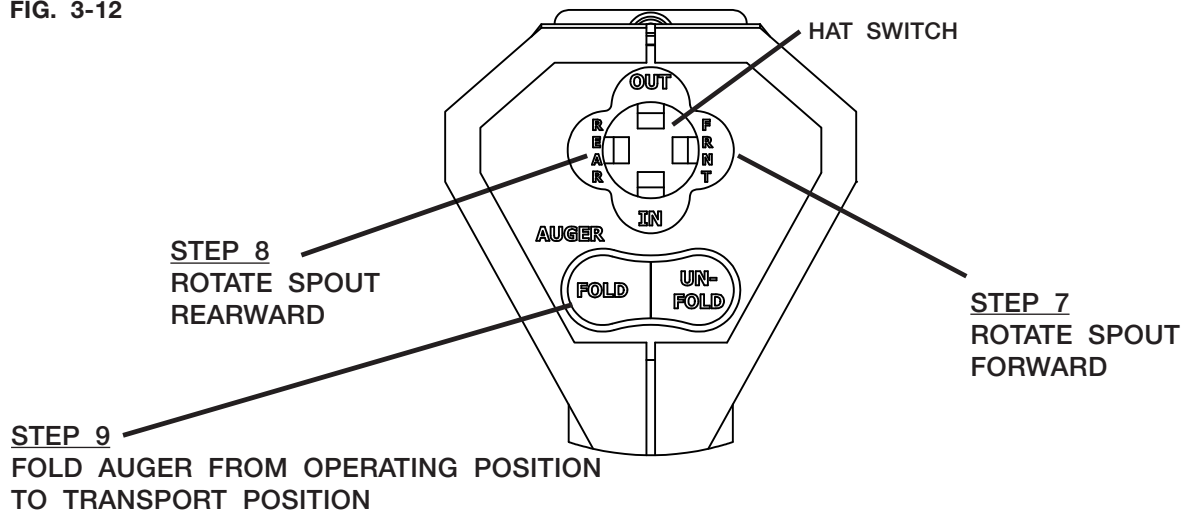
6. To pivot spout out away from cart, push and hold the hat switch UP until desired position is achieved. See step 5 in FIG. 3-11.
7. To pivot spout in toward cart, push and hold the hat switch DOWN until desired position is achieved. See step 6 in FIG. 3-11.



Optional Electric Over Hydraulic Operation (continued)
Optional - 4 Function

8. To rotate spout forward, push and hold the hat switch RIGHT, towards “FRNT” until desired position is achieved. See step 7 in FIG. 3-12.
9. To rotate spout rearward, push and hold the hat switch LEFT, towards “REAR” until desired position is achieved. See step 8 in FIG. 3-12.
10. To fold auger from operating position to transport position, press and hold or double tap the auger fold button on joystick. Hold the auger fold button down until the upper auger is seating in rest. See step 9 in FIG. 3-12.

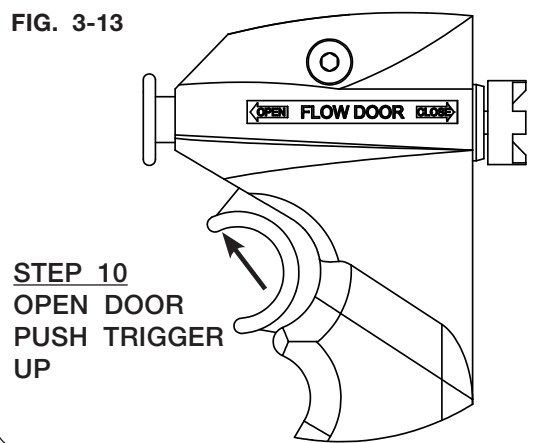
FIG. 3-12



Optional Electric Over Hydraulic Operation (continued)
Optional - 4 Function

11. To open flow door, push trigger up. Watch flow door indicator to determine when to release trigger and stop flow door movement. See step 10 in FIG 3-13.

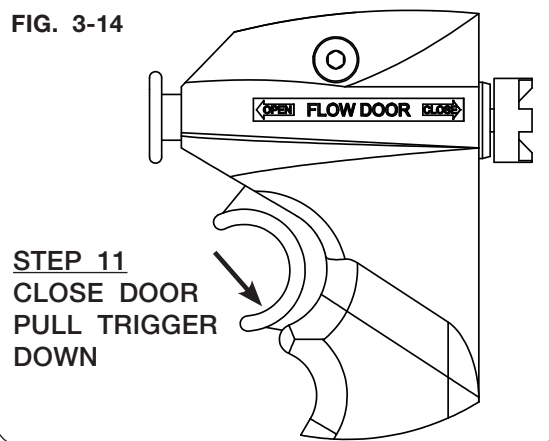
FIG. 3-13



STEP 10
OPEN DOOR
PUSH TRIGGER
UP

12. To close flow door, pull trigger down. Watch the flow door indicator and release trigger when door is closed to desired position. See step 11 in FIG. 3-14.

FIG. 3-14



STEP 11
CLOSE DOOR
PULL TRIGGER
DOWN

13. Turn off hydraulic circuit when done. ALWAYS turn circuit off when unloading is complete and auger has been returned to folded transport position.

Optional Electric Over Hydraulic Manual Override Operation

CAUTION

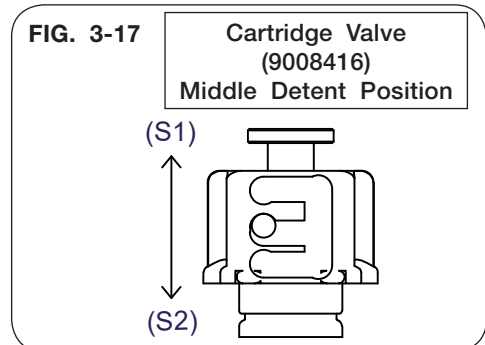
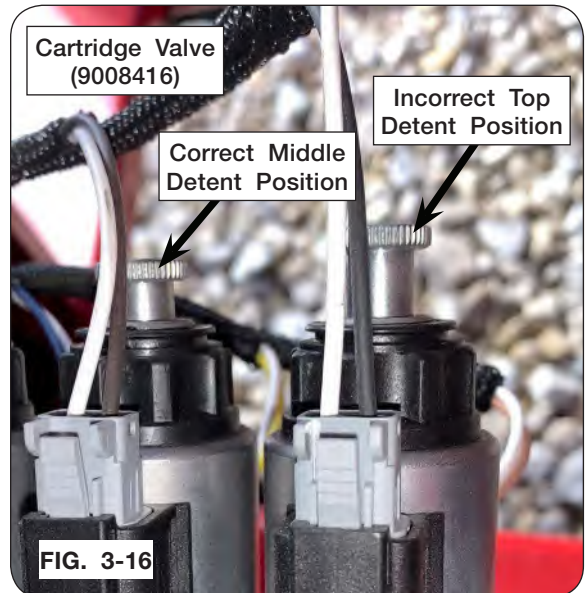
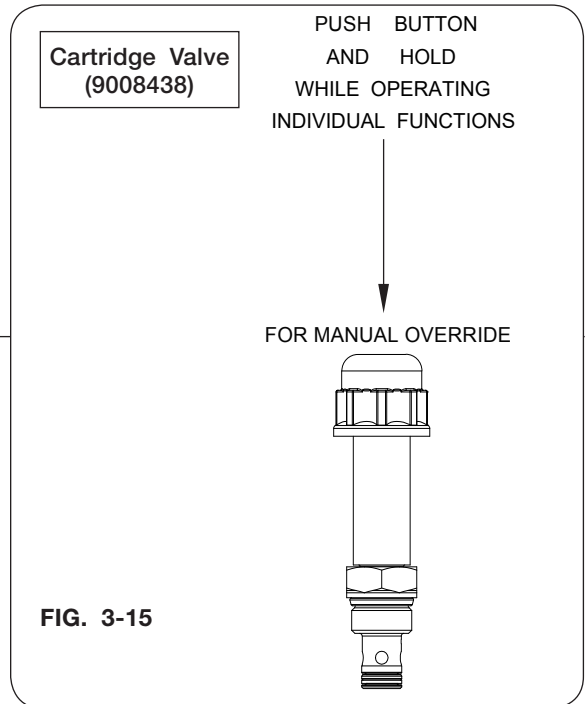
- MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR MACHINE DAMAGE. BEFORE OPERATING MANUAL OVERRIDE(S), ENSURE EVERYONE IS AWAY FROM THE SPOUT AND THAT THE SPOUT WILL NOT CONTACT ANY OTHER PARTS OF THE GRAIN CART.

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

1. 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.
2. To operate the manual override functions, place the tractor SCV remote in continuous detent so that the Hydraulic Pressure hose is pressurized.
3. Push and hold the manual override button on valve (9008438). (FIG. 3-15)
4. While holding the manual override button, operate the desired function on valve (9008416) by rotating the manual override knob from the locked neutral position. (FIG. 3-16 & 3-17)
5. Push or pull the knob to operate the valve function in the desired direction. (FIG. 3-17)
6. Once the desired position is reached, release manual override button on valve (9008438).

NOTE: Cartridge valve (9008416) must be detented in the middle position to function properly. (FIG 3-16 & 3-17)

7. Rotate and lock valve (9008416) back to the neutral or middle position. (FIG. 3-16 & 3-17)
8. Turn off hydraulic circuit when done. **ALWAYS** turn circuit off when unloading is complete and auger has been returned to folded transport position.



Towing

Ensure that the towing vehicle has adequate weight and braking capacity to tow this implement. See towing vehicle's operators manual for towing capacity. Never tow a loaded grain cart over public roads.

Do not exceed 10 m.p.h. during off-highway travel. Do not exceed 8 m.p.h. when cart is fully loaded. These speeds apply to both tires and tracks.

Secure drawbar pin with a retaining device and lock tractor drawbar in centered position. Connect the PTO driveshaft to the tractor.

Secure transport chain through the chain support and to the tractor frame before towing.

CAUTION

- **THE STANDARD TRANSPORT CHAIN IS DESIGNED TO SUPPORT AN EMPTY GRAIN CART DURING ROAD TRAVEL.**
-

Rotate the directional spout to the narrowest transport width position.

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.

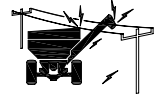
Always have the auger folded back into storage position when not in use.

To prevent damage during turning when using non-PTO equipped towing vehicles, store the PTO driveshaft in the brackets provided on the right-hand side frame rail.

Auger Operation - PTO Driven Auger



- **ELECTROCUTION WILL CAUSE SERIOUS INJURY OR DEATH. ELECTROCUTION CAN OCCUR WITHOUT DIRECT CONTACT. KEEP AWAY FROM ALL ELECTRICAL LINES AND DEVICES.**



- **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.**

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

NOTE: In order to increase grain flow to the maximum bushels per minute, cylinder stop (289737B) can be adjusted further down on the indicator rod. (FIG. 3-18)

3. Locate the cylinder stop on the flow door indicator rod. (FIG. 3-18)
4. Loosen the capscrew and jam nut retaining the cylinder stop.

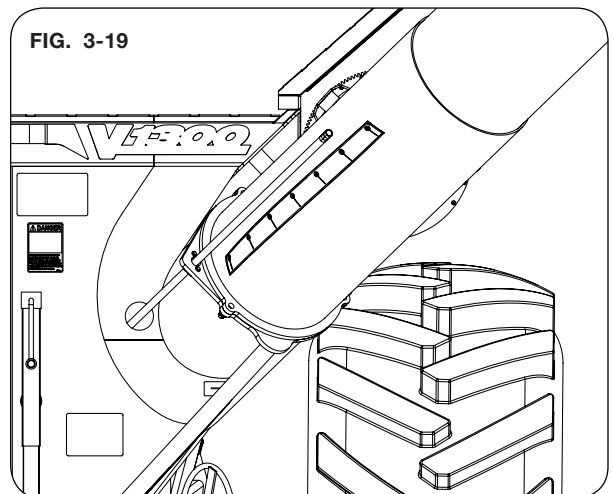
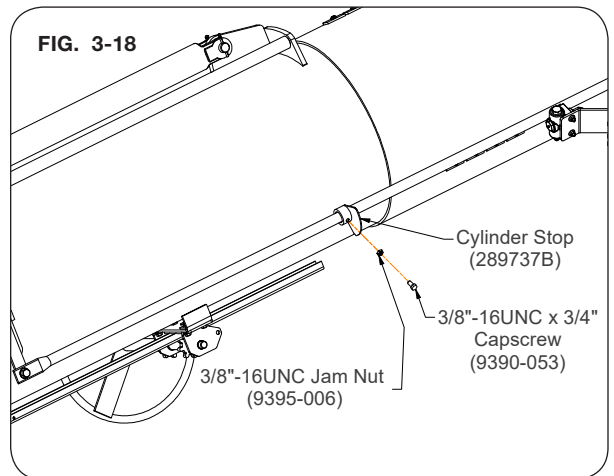
NOTE: Ensure the cylinder stop is centered on the flow control valve plunger and will not contact hoses during movement of the flow door.

5. Move the cylinder stop along the indicator rod to desired flow door opening setting, and tighten retaining screw and jam nut.

NOTE: Minimum of 1000 PTO RPM MUST be maintained when operating the flow door at the maximum setting.

6. Engage PTO at low RPM, then increase the PTO RPM to 1000 RPM.
7. Open flow control door to desired unloading rate. Numbers on the auger tube provide a point of reference for operator convenience. (FIG. 3-19)

NOTE: If an overload occurs, (excessive heat/smoke or a ratcheting or clicking noise from the cut-out clutch) shut off PTO immediately. Close flow control door and relieve auger grain pressure by opening cleanout door to remove some grain from auger before resuming. When resuming operation, allow clutch to cool, then engage PTO at low speed.



(Continued on next page)

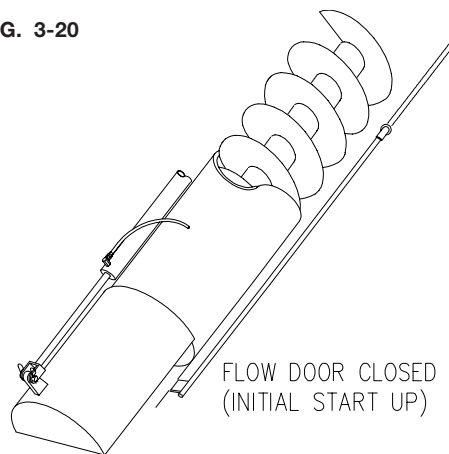
Auger Operation - PTO Driven Auger (continued)

8. To slow or stop grain flow, close flow door, DO NOT reduce tractor/PTO RPM as a means to control grain flow. Close flow door fully when unloading is complete. (FIG. 3-20)

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.

9. Reduce tractor RPM to idle, then stop PTO. After the PTO has come to a complete stop, fold auger to the transport position.

FIG. 3-20



Troubleshooting

Problem	Possible Cause	Corrective Action
No 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 folding position. Press and hold the manual override 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	Not getting 12 volt power to the electric over hydraulic valve on the ram end of the auger fold hydraulic cylinder.	Unplug the 2 pin Deutsch connector on the coil on the electric over hydraulic valve on the auger fold cylinder. Check for 12 volt power at this connection.
	Defective coil on the electric over hydraulic valve on the auger fold cylinder	Check for power in the 2 pin Deutsch connector. If there is power and the coil is not getting magnetized, replace coil.
	Debris in the EOH block on the auger fold cylinder	Remove the Coil and the cartridge valve on the EOH valve block. Remove any debris and reinstall cartridge and coil.
	Defective valve on the electric over hydraulic valve on the auger fold cylinder	Remove the coil and the cartridge valve on the EOH valve block on the auger fold cylinder. Replace the valve if it doesn't operate when the coil is magnetized.
	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 position.

Troubleshooting (continued)

Problem	Possible Cause	Corrective Action
Not getting 12 volt power at the coil of the electrical over hydraulic valve on the auger fold cylinder	Loose wire connections near the 3 spool EOH block on the lower auger.	Refer to the parts section of the manual for proper electrical connections
	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 Deutsch 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.
Rotating spout will not function For Serial Number B34060099 and Lower	Switch located at the hinge plate of the vertical auger is not getting depressed when the auger is unfolded	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, activate the hydraulic remote and test the spout rotate function. Be careful to not contact the front of the cart with the rotating spout. If the spout functions properly, the switch will need to be adjusted outward so that the switch is depressed 1/4" when the auger is unfolded.
	Switch located at the hinge plate of the vertical auger is defective	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, activate the hydraulic remote and test the spout rotate function. Be careful to not contact the front of the cart with the rotating spout. If the spout will not function, check for loose wires near the EOH block at the base of the vertical auger housing. Replace switch if necessary
Rotating spout will not function For Serial Number B34060100 & Higher	Proximity Switch 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.

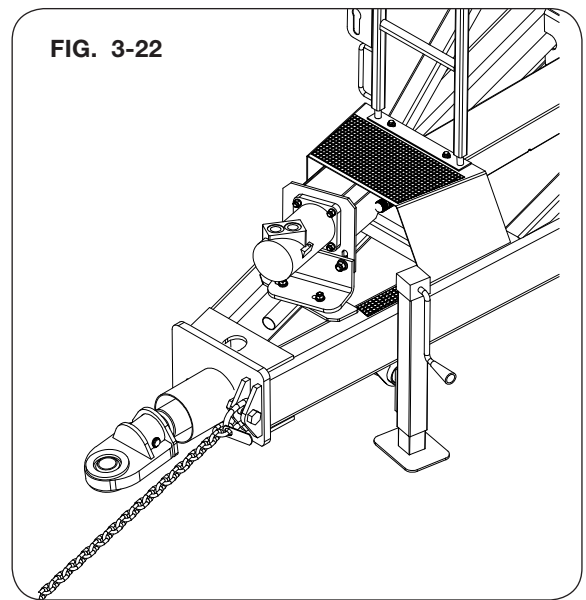
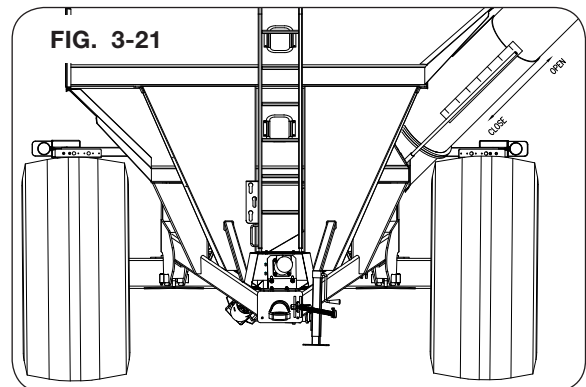
Hydraulic Drive (Optional)

The optional hydraulically-driven auger permits cart operation using tractors that are not equipped with a PTO. However, due to the power requirements of a grain cart, it should be expected that a hydraulically-driven grain cart will not unload as quickly as a PTO driven cart. (FIG. 3-21 and 3-22)

IMPORTANT

- Depending on the option chosen, the motor is rated for either 55 or 100 gpm hydraulic flow at 3000 psi. Sustained flow and pressure above these amounts will dramatically reduce motor life. Be aware of maximum tractor hydraulic flow and pressure before operating auger.

NOTE: A motor containing two pressure and two return lines is a 55 GPM motor. A motor containing three pressure and three return lines is a 100 GPM motor. If unsure of motor size, contact your dealer providing your cart's serial number.



Hydraulic Drive (Optional) (continued)

NOTE: For complete assembly and operation details for the Hydraulic Drive, please refer to the Hydraulic Drive manual (282894).

1. Before loading cart or operating auger, verify that the flow control door is closed.
2. Choose an area free from obstructions and fully unfold auger to the unloading position.
3. Connect hydraulic hoses to tractor hydraulic circuits. Attach pump pressure hoses to RETRACT ports on tractor.

Multiple connections help utilize the tractor's fully hydraulic power and flow. Use the tractor's flow controls to regulate total output. See hydraulic connections for hydraulic drive in previous OPERATIONS sections.

NOTE: The dual connections help utilize full tractor hydraulic power at the cart hydraulic motor. For tractors that have more than 55 GPM available pump output, use tractor flow controls to regulate total output to a maximum of 55 GPM.

4. Engage hydraulic drive circuits at low engine RPM one at a time, then increase engine to full throttle. See hydraulic connections for hydraulic drive in previous OPERATIONS sections for cold starts.
5. While watching hydraulic pressure gauge, begin slowly opening flow control door. Stop opening flow control door when pressure (on hydraulic gauge by pump) climbs to within 200 psi less than maximum tractor hydraulic pressure. Ideally, maintaining maximum PTO RPM will optimize unloading performance.

IMPORTANT

- *If auger stalls during unloading, **immediately** place tractor hydraulic controls for motor functions in **FLOAT** to stop auger. Close flow control door, then move all hydraulic controls to **HOLD**. Relieve auger grain pressure by opening auger cleanout door to remove some grain before attempting to restart auger.*
6. To slow or stop grain flow, close flow door rather than reducing tractor RPM. Close flow door fully when unloading is complete.
 7. Stop auger by placing both auger hydraulic circuits in FLOAT. This reduces strain on driveline components and prolongs hydraulic motor life. Move controls to HOLD after auger has come to a complete stop.
 8. Choose an area free from obstructions and fully fold auger to the transport position.

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 tarp crank handle position on roll tube, 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 no person or thing 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.

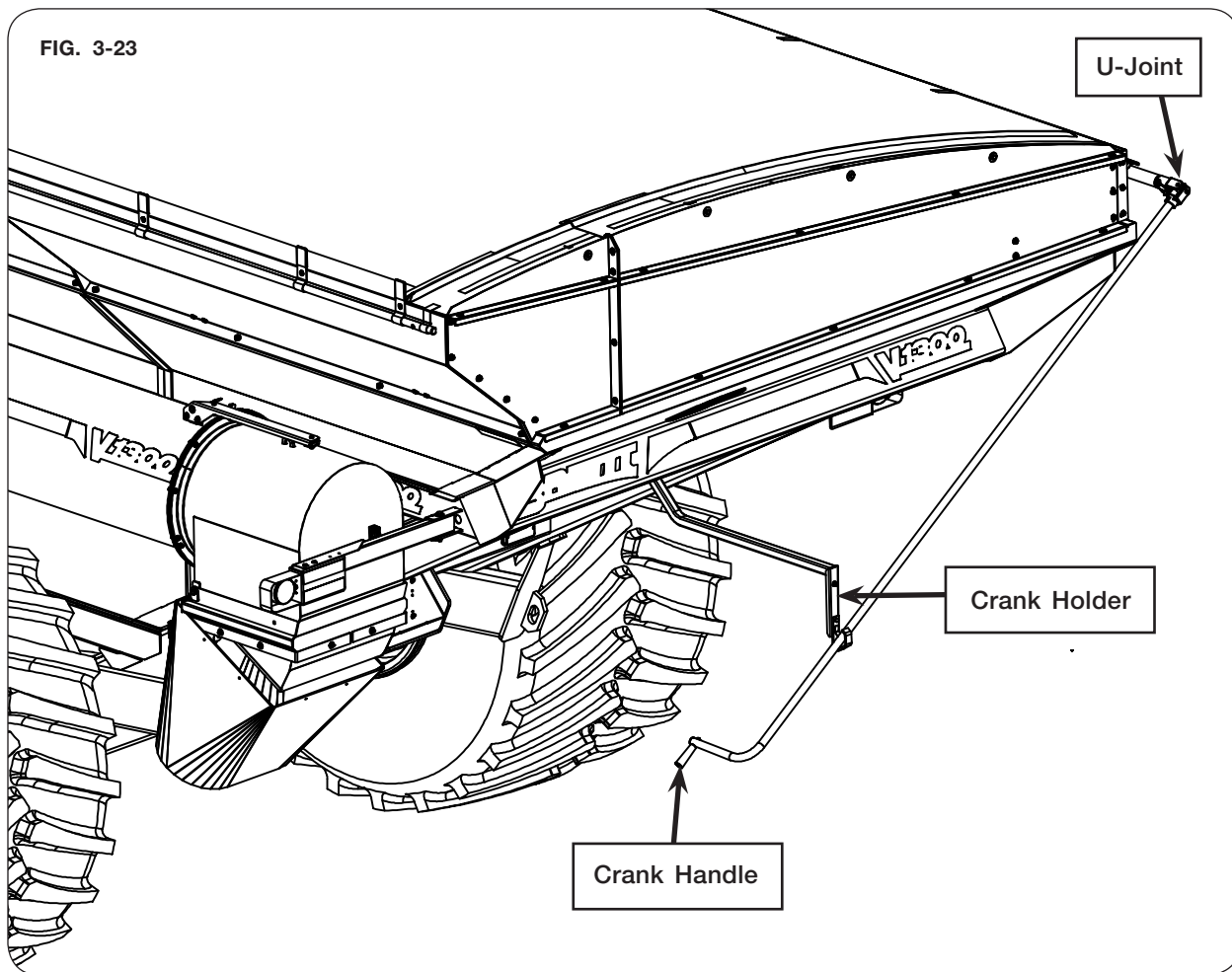
Weather Guard Tarp (continued)

Procedure

1. Using both hands, carefully remove crank handle from holder.
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 handle U-joint may need to be re-indexed on tarp tube to achieve correct tension.

4. Place crank handle in holder.
5. To open tarp, turn the main tarp tube counter clockwise until the tarp is fully open. Place crank handle in holder. (FIG. 3-23)



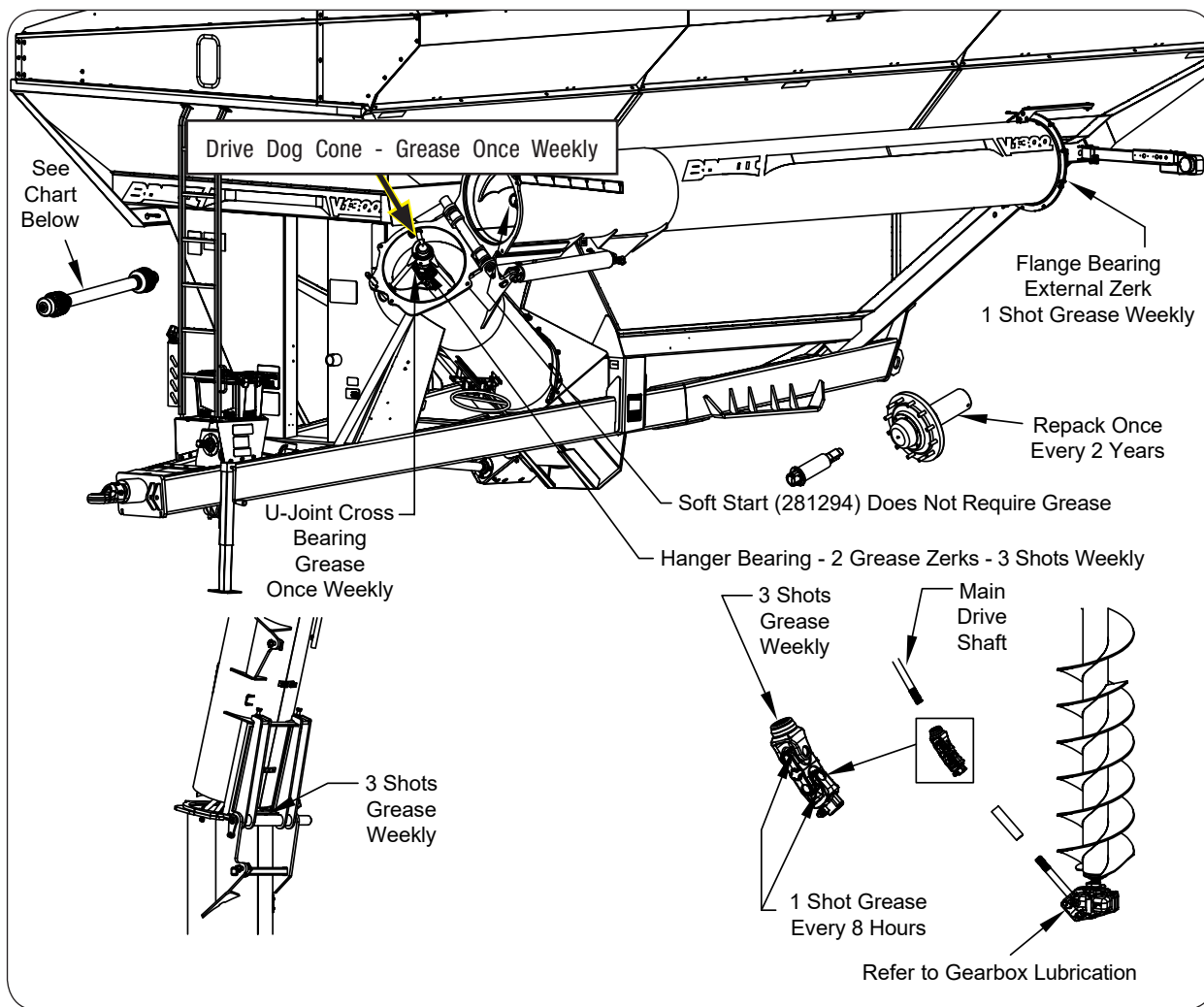
Section IV Maintenance

Lubrication.....	4-2
Gearbox Lubrication	4-4
Seasonal Storage	4-4
Hydraulic System	4-5
Purging Hydraulic System	4-5
Auger Driveline.....	4-6
Auger System.....	4-12
Lower Auger	4-13
Lower Auger Removal	4-13
Lower Auger Assembly.....	4-14
Hanger Bearing Centering	4-15
Lower Auger Timing	4-15
U-Joint Spline Gap.....	4-16
Upper Auger.....	4-17
Upper Auger Removal.....	4-17
Soft Start Replacement	4-18
Upper Auger Timing	4-18
Upper Auger Assembly	4-19
Upper Auger Height.....	4-20
Upper Auger Bearing Gap.....	4-21
Auger Flow Door Cylinder Replacement	4-22
Adjusting Cleanout Door	4-25
Verify Telescoping PTO Shaft Length	4-27
PTO Shaft and Clutch.....	4-29
PTO Quick Disconnect	4-33
Tarp Troubleshooting Inspection & Maintenance	4-34
Electrical System Diagram.....	4-35
Hydraulic System Plumbing Diagram.....	4-44
Wheels, Hub and Disassembly and Assembly.....	4-45
Wheels and Tires - Wheel Nut Torque	4-47
Wheels and Tires - Tire Pressure.....	4-48
Wheels and Tires - Tire Warranty.....	4-50
Torque Chart - Hardware	4-51
Torque Chart - Hydraulic Fittings.....	4-53

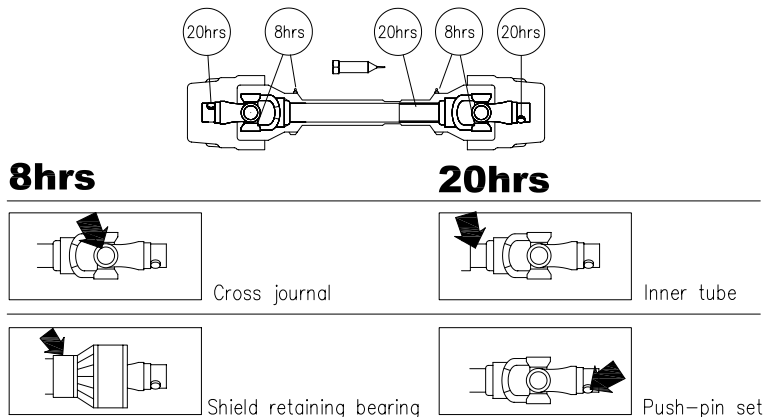
FOR SCALE OR UHARVEST INFORMATION, PLEASE REFER TO YOUR APPROPRIATE MANUAL.
 FOR HYDRAULIC DRIVE INFORMATION, PLEASE REFER TO YOUR HYDRAULIC DRIVE MANUAL.
 FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.

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. Make sure to use NLGI-2 high quality EP grease.



LUBRICATION INSTRUCTIONS FOR DRIVE LINE

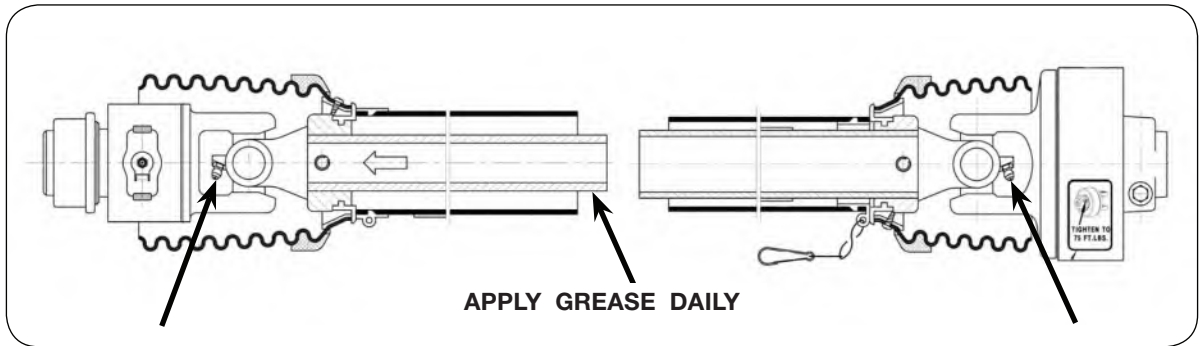


COAT INNER AND OUTER PROFILES AT BEGINNING AND END OF EACH SEASON

Lubrication (continued)

Lubricate with quality grease before starting work and every 8 operating hours. Clean and grease PTO drive shaft before each prolonged period of non-use. Molded nipples on the shield near each shield bearing are intended as grease fittings and should be lubricated every 8 hours of operation! Check and grease the guard tubes in winter to prevent freezing.

NOTE: Telescoping members must have lubrication to operate successfully regardless of whether a grease fitting is provided for that purpose! Telescoping members without fittings should be pulled apart and grease should be added manually.



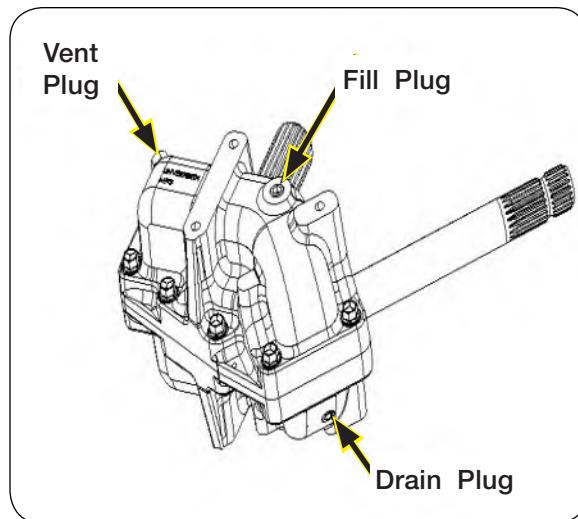
Gearbox Lubrication

Gearbox check/fill plug is located on the right hand front side of the housing. To check oil fluid level, place cart on a level surface with the tongue elevated to hitch height and remove the plug. Oil level should be at the bottom thread.

For Maximum gearbox life:

Check oil level every 2 weeks.

Replace oil every season with a minimum of 55 fl. oz. to 75 fl. oz. of 80W90 EP gear lubricant.

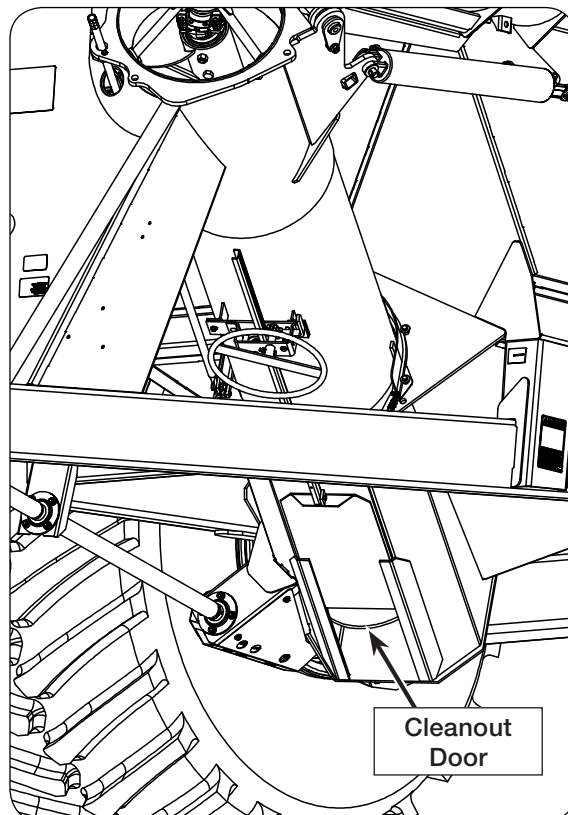


Seasonal Storage

Your cart is an important investment. Spend a little time to protect it from destructive rust and corrosion. You will be repaid in longer service life and better performance.

Do the following before placing the cart in storage:

1. Remove dirt and trash which could cause rusting.
2. Repaint any chipped or scraped areas.
3. Lubricate points as shown on previous page.
4. Inspect for damage or worn parts, replace before next season.
5. Store cart inside, away from livestock.
6. Replace all worn, torn or faded decals and reflectors.
7. Fully open flow door and auger cleanout door to remove any remaining grain and to allow moisture to drain.
8. Close the tarp to keep debris out of the hopper.



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.

Auger Driveline

WARNING

- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.   
- TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.
- KEEP HANDS CLEAR OF PINCH POINT AREAS. 
- 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. 

Auger Driveline

Disassembly

1. Park the empty unit on a firm, level surface. Block the tires or tracks to keep the machine from moving. Set the tractor parking brake, shut off the engine, and remove the ignition key from the tractor before disconnecting driveline assembly and bearing hardware. Completely disconnect the unit from the towing vehicle.

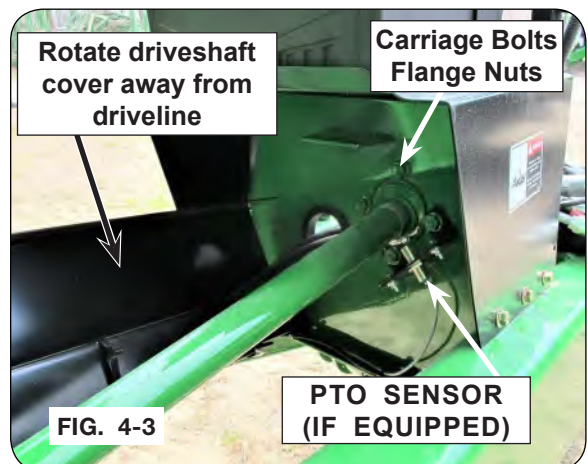
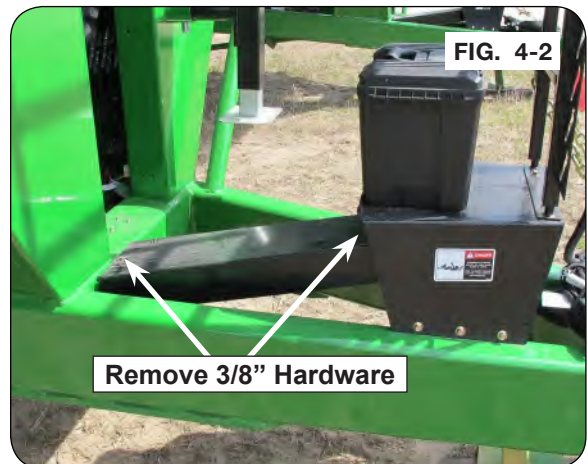
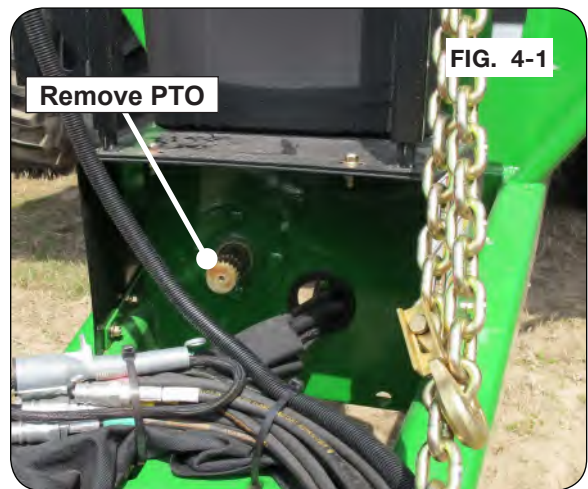
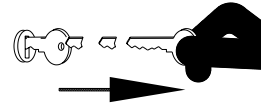
2. Remove the PTO from the driveshaft. (Fig. 4-1)

3. Remove 3/8" hardware from the hitch driveshaft cover. Rotate the hitch driveshaft cover, electrical routing and hydraulic lines away from the driveline. Keep the 3/8" hardware. (Fig. 4-2 & 4-3)

4. Loosen the 5/16" set screws from the 4 original flangette bearings (9005061).

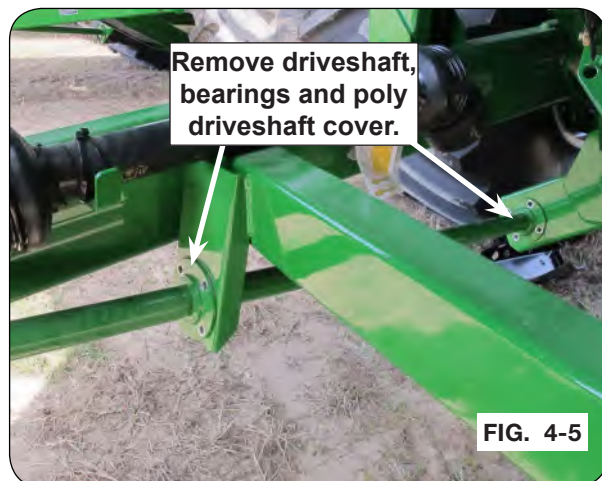
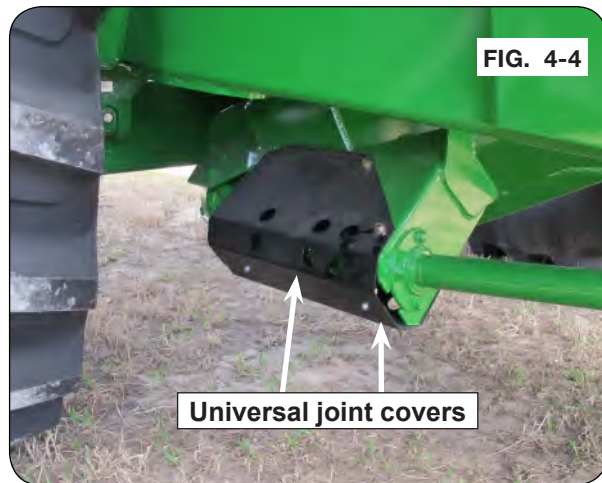
5. Remove the 1/2" carriage bolts and flange nuts retaining the front flangette bearing. Discard 1/2" hardware. (Fig. 4-3)

NOTE: If a PTO sensor is installed on this grain cart, remove it from the front flangette bearing.



Auger Driveline (continued)

6. Remove universal joint covers from the driveshaft. Keep hardware and universal joint covers. (Fig. 4-4)
7. Remove driveshaft lock collars (if lock collars are attached to driveshaft).
8. Remove paint on driveshaft to allow for easier movement.
9. Slide driveshaft forward until the rear spline is out of the universal joint connected to the gearbox. Discard rear poly driveshaft cover. (Fig. 4-5)
10. Remove the 3 rear original bearings and 1/2" carriage bolts and flange nuts retaining the 3 flangette bearings from the grain cart. Discard the 3 bearings and 1/2" hardware. (Fig. 4-5)
11. Drop the gearbox end of driveshaft down and slide driveshaft out of the flangette bearing on the hitch end of the driveshaft.

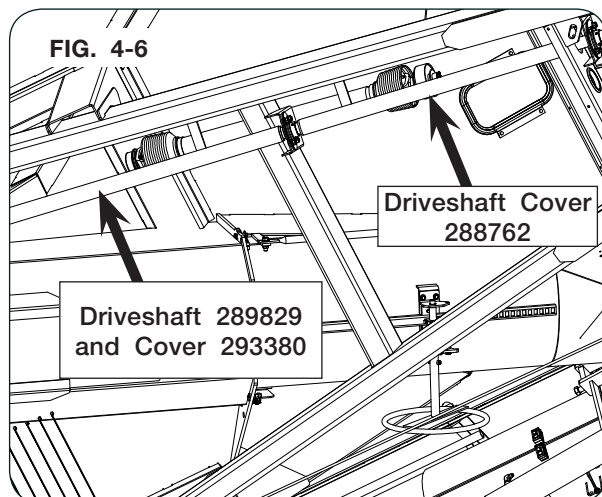


Reassembly

NOTE: Before reassembly, put a line on the dimples of the driveshaft to make dimples easier to locate when assembling.

NOTE: Ends of the driveshaft are symmetrical.

12. Attach new 1 3/4" dia. two-piece lock collars (9008674) to both sides of new bearing (9005061) closest to the U-Joint, when installing bearing onto new 144 5/8" driveshaft (289819).
13. When installing 3 new bearings (9005061) onto new driveshaft (289819), assemble 52" PVC driveshaft cover (293380) between bearings near the gearbox, and 41 1/2" PVC driveshaft cover (288762) between bearings behind the hitch driveline cover. Install flange bearings (9005061) on the driveshaft with the lock collars forward.
14. Slide the hitch end of the driveshaft, bearing and hitch driveline cover into the bearing near hitch of the cart. Attach the flangette bearing using new 1/2" carriage bolts (9388-104) and new flange nuts (91267) into the bracket mount. Loosely tighten the hardware on the bearing. (Fig. 4-6)



Auger Driveline (continued)

15. Install the driveshaft into the rear mounting bracket. Attach the rear flange bearing to the rear mounting bracket using new 1/2" hardware. Tighten both flange bearing's hardware, but do not tighten lock collars at this time. (Fig. 4-6 & 4-7)

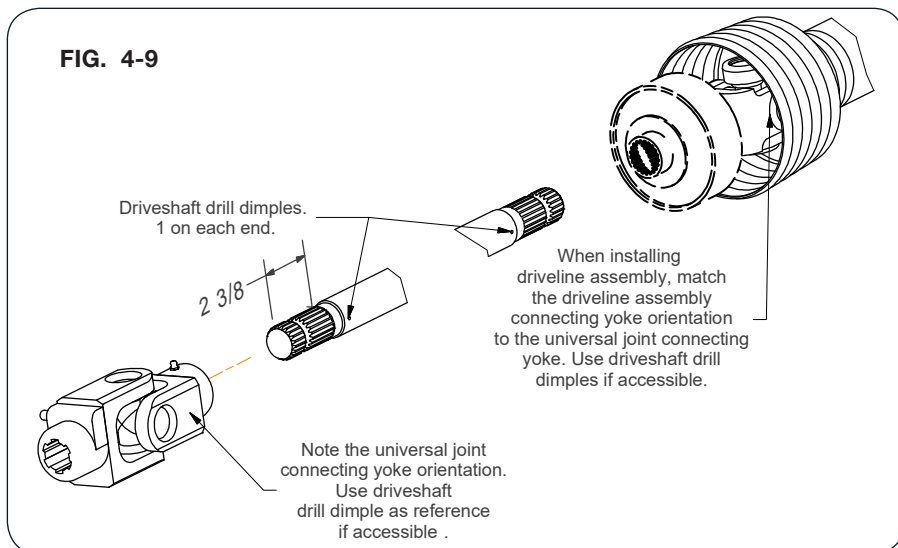
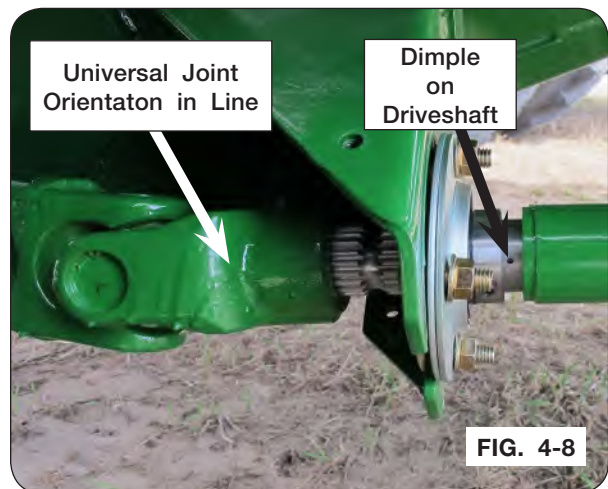
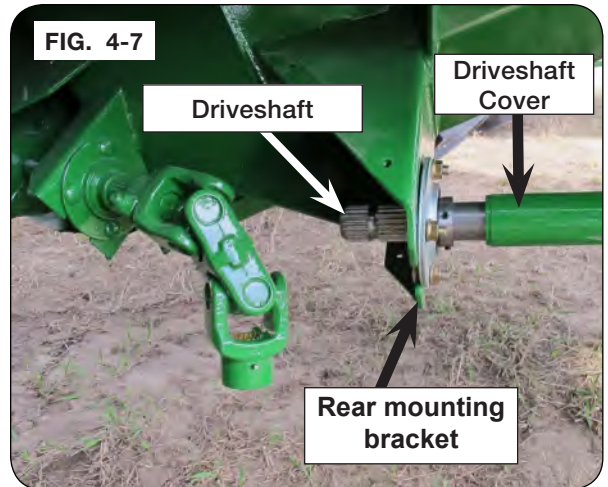
16. For alignment of the yoke, the orientation of the universal joint at the gearbox must be in line with the driveshaft dimple when the driveshaft assembly is attached. (Fig. 4-8)

17. Slide the driveshaft into the universal joint until the end of the shaft extends into the universal joint about 2 3/8". Ensure universal joint and driveshaft splines completely engage. Verify the hitch end for adequate length for driveline assembly to connect. (Fig. 4-8 & 4-9)

18. Remove the 5/16" setscrews from the lock collars on the bearings. Drill one setscrew recess on both ends of the driveshaft by going through the setscrew threaded hole and recess the driveshaft being careful to not damage threads. Drill the recess to a depth that setscrews are flush with the bearing. (Fig. 4-8)

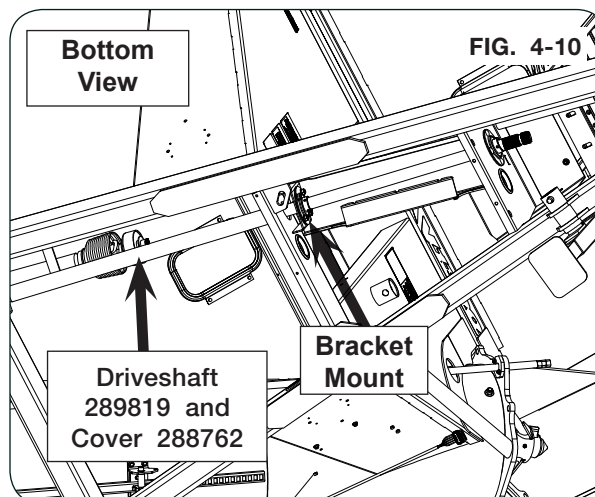
19. Apply thread locker on bearing setscrews. Reinstall setscrews to lock collars on bearings and tighten.

20. Torque lock collars to 325 inch-lbs., if lock collars are attached to driveshaft.



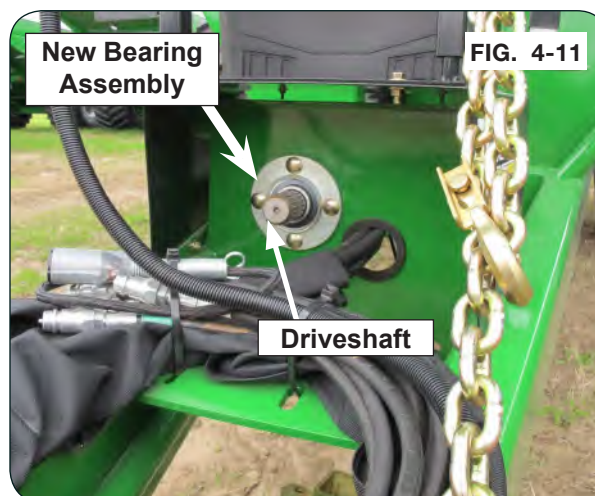
Auger Driveline (continued)

21. Install new flange bearing (9005061) onto the front bracket mount under the right-hand standard with the lock collar on the front side of the bracket mount toward the PTO. Insert four new 1/2" carriage bolts (9388-104) and (91267) flange nuts into the bracket mount. Loosely tighten the hardware on the bearing. (Fig. 4-10)



22. Remove existing front flange bearing and install new flange bearing (9005061) onto the front support under the ladder with the lock collar toward the PTO. Insert four new 1/2" carriage bolts (9388-104) and four new flange nuts (91267) into the bearing. Loosely tighten the hardware on the bearing. (Fig. 4-11)

NOTE: If a PTO sensor is installed on this grain cart, install it onto the front flange bearing.



23. Torque the 1/2" hardware on the 4 new bearings to 62-68 ft. lbs.

24. Remove the 5/16" setscrews from the lock collars on the front bearings. Drill one setscrew recess on both ends of the front driveshaft by going through the setscrew threaded hole and recess the driveshaft being careful to not damage threads. Drill the recess to a depth that setscrews are flush with the bearing.

25. Apply thread locker on bearing setscrews. Reinstall setscrews to the lock collars and tighten.

26. Torque lock collars to 325 inch-lbs., if lock collars are attached to driveshaft.

NOTE: It is important to periodically check setscrews in all bearings of the driveline for tightness.

Auger Driveline (continued)

27. For alignment of the yoke, the orientation of the universal joint at the gearbox must be in line with the driveshaft drill dimple when the driveline assembly is attached. Use the driveshaft dimple for reference, if accessible, as shown in Fig. 4-12.

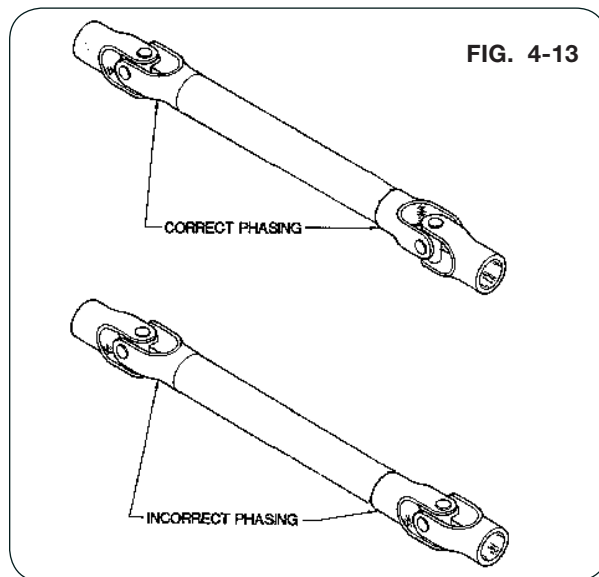
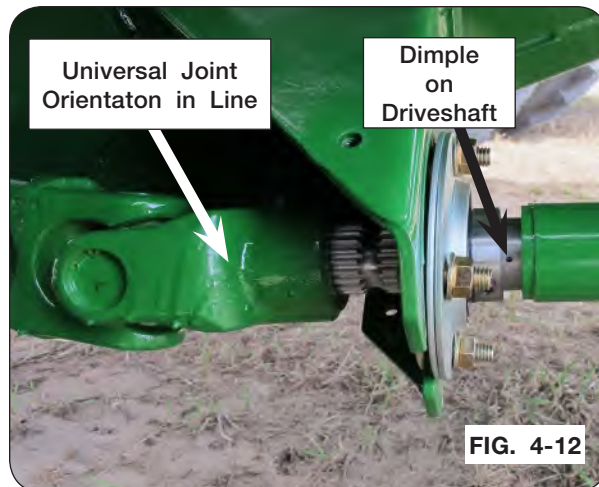
28. Align the PTO yoke with the front drive-shaft dimple and install the PTO into the driveshaft. (Fig. 4-13)

NOTE: Check/fill gearbox oil and grease universal joints before installing universal joint covers.

29. Reattach original universal joint covers using original hardware from Step 6.

30. Reattach hitch driveshaft cover, located behind the ladder, using original hardware from Step 3.

31. Test run driveline. Check for smooth drive-line operation.



Auger System

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.

- KEEP HANDS CLEAR OF PINCH POINT AREAS.

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

- 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.

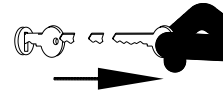
- MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR(S) ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING MACHINE.



Auger System (continued)

Lower Auger

1. Hitch cart to tractor, connect hoses for flow door and upper auger hydraulic cylinders and fully open flow door. Keep upper auger in the folded position. Park the empty grain cart on a firm, level surface. Set the tractor's parking brake, shut-off the engine and remove the ignition key. Block the tires on the machine to keep it from moving.



Lower Auger Removal

2. Remove the three 5/8"-11UNC x 2" capscrews (9390-124), 5/8" flat washers (9405-098), 5/8"-11UNC lock nuts (9003398) and shims that secure the hanger bearing bracket to the auger tube. (FIG. 4-14)

NOTE: When replacing any hanger bearing hardware, replace with 5/8"-11UNC x 2" capscrews (9390-124), 5/8" flat washers (9405-098) and 5/8"-11UNC lock nuts (9003398).

3. Using a safe lifting device rated at a minimum of 1000 lbs., support the lower auger. Remove the hanger bearing assembly. Then remove the lower auger through the auger hinge opening.

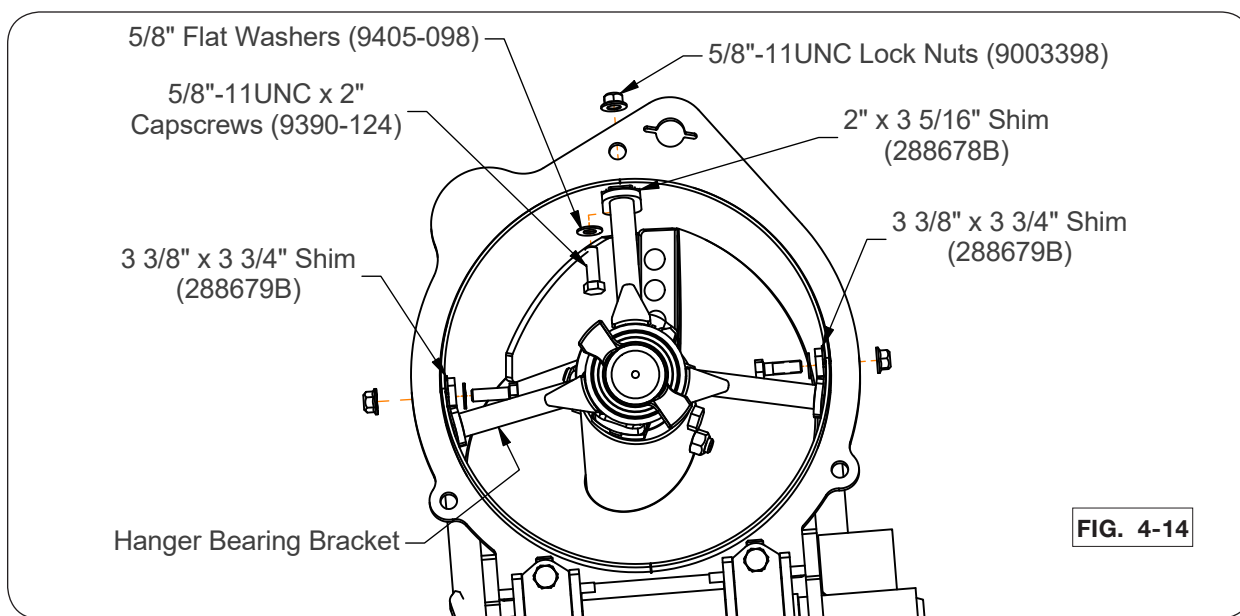


FIG. 4-14

Auger System (continued)

Lower Auger Assembly

- The replacement auger is factory balanced. Remove entire auger from shipping crate and secure from rolling. The lower auger assembly is pictured in FIG. 4-15 for reference.

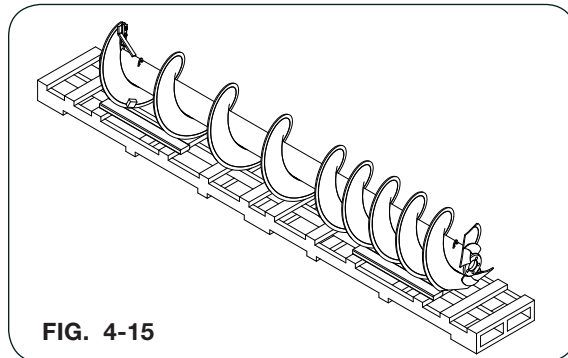


FIG. 4-15

- Attach the u-joint assembly to the lower auger flighting by placing 3/4"-10UNC x 7" capscrews (9390-159) and 3/4"-10UNC lock nuts (9802) into the auger from opposite directions as shown in FIG. 4-16

NOTE: If removing flighting extension hardware, replace with new hardware. Do not reuse old flighting extension hardware.

Capscrews & Lock Nuts

Direction of hardware is important.

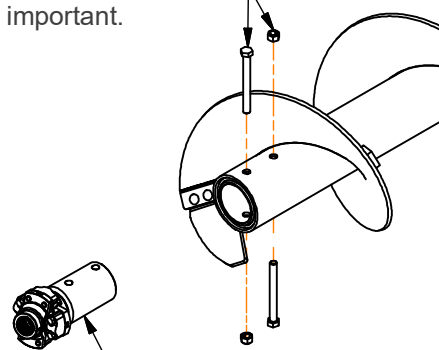


FIG. 4-16

- Using a safe lifting device rated at a minimum of 1000 lbs., lift the auger and assembly. Slowly lower the auger down through the auger plate opening to intersect with the drive bushing.
- Align auger end with the five pin drive bushing and securely engage together, see FIG. 4-17.

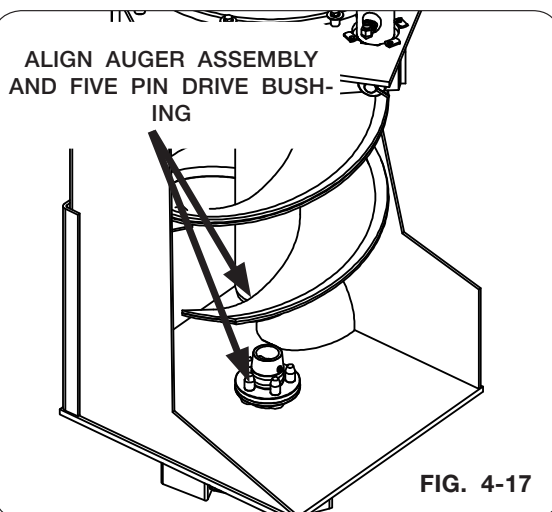
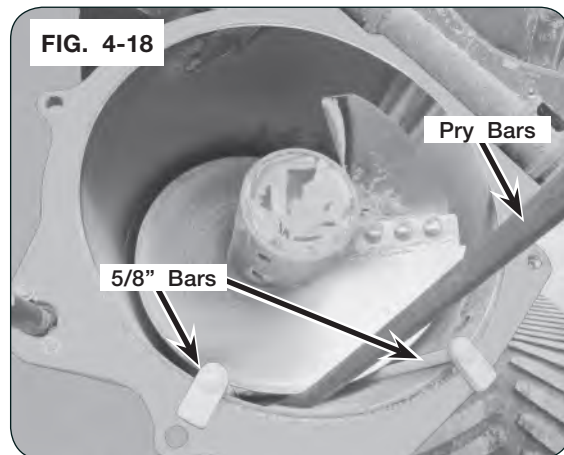


FIG. 4-17

Auger System (continued)

Hanger Bearing Centering

8. Once the lower auger is inserted into the auger tube, center the lower auger in the tube and support with two 5/8" thick bars/wedges near the auger hinge plate. (FIG 4-18)

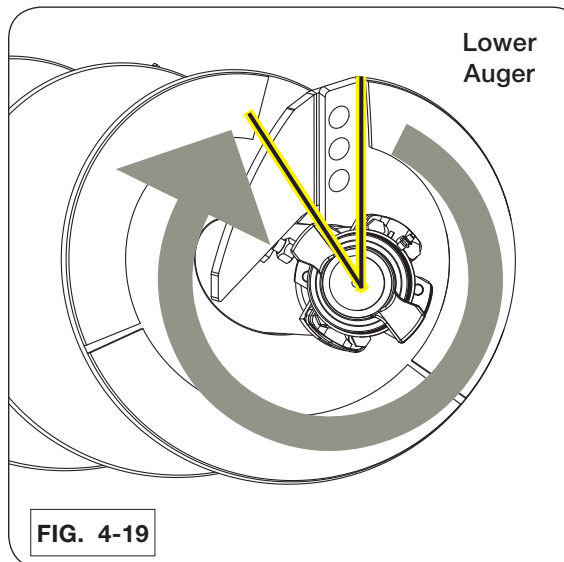


Lower Auger Timing

9. Apply anti-seize to the splines before sliding the drive dog into the u-joint. Time the drive dog (as in FIG. 4-19) with the finished edge of the flighting at 12:00 o'clock. Position the drive dog at 11:00 o'clock.

NOTE: When looking down at the lower flighting (FIG. 4-19) the auger rotation will be clockwise.

NOTE: For additional auger timing assistance, refer to your dealer for a timing fixture kit (288932Y).



Auger System (continued)

- Loosely secure the hanger bearing using one 3" x 3 9/16" left-hand shim (291342B), one 3" x 3 9/16" right-hand shim (291343B), three 5/8"-11UNC x 2" capscrews (9390-124), three 5/8" flat washers (9405-098), and three 5/8"-11UNC lock nuts (9003398) as shown in FIG. 4-20.

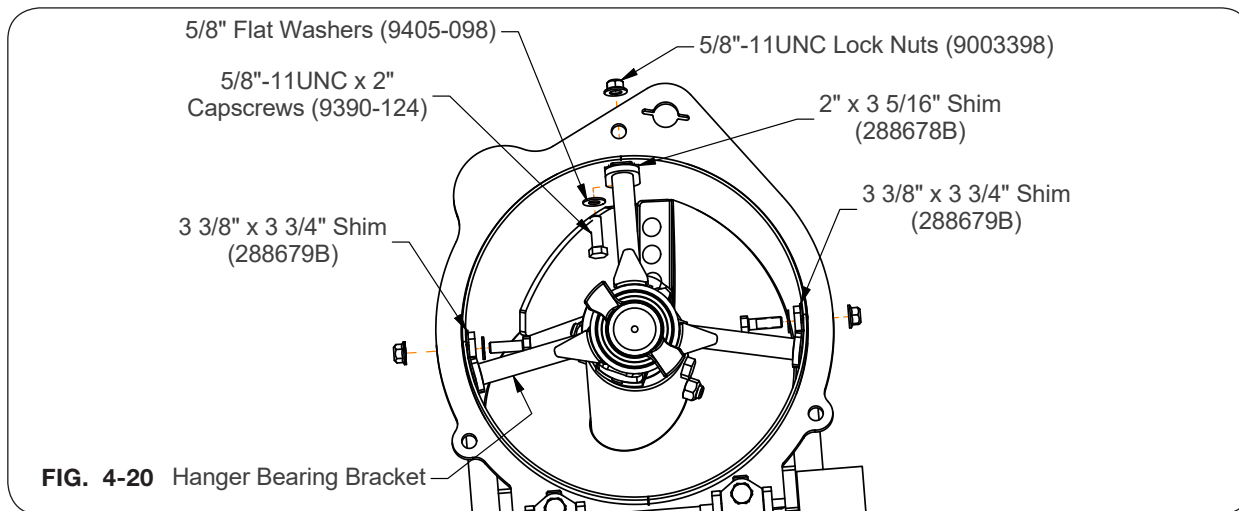


FIG. 4-20 Hanger Bearing Bracket

U-Joint Spline Gap

- Verify spline gap before tightening hanger bearing hardware. Spline gap should be a minimum of 3/16". Using a lifting device rated for 250 pounds, raise the hanger bearing in the holes so the proper minimum spline gap is achieved. (FIG. 4-21)

NOTE: When auger components have been replaced or serviced, proper spline gap **MUST** be verified. It may be necessary to loosen the hanger bearing hardware and use the lifting device to achieve the proper spline gap.

- Tighten the retaining hardware to the appropriate torque values listed in the grain cart operator's manual.

- Grease the spline grease zerk. (FIG. 4-21)

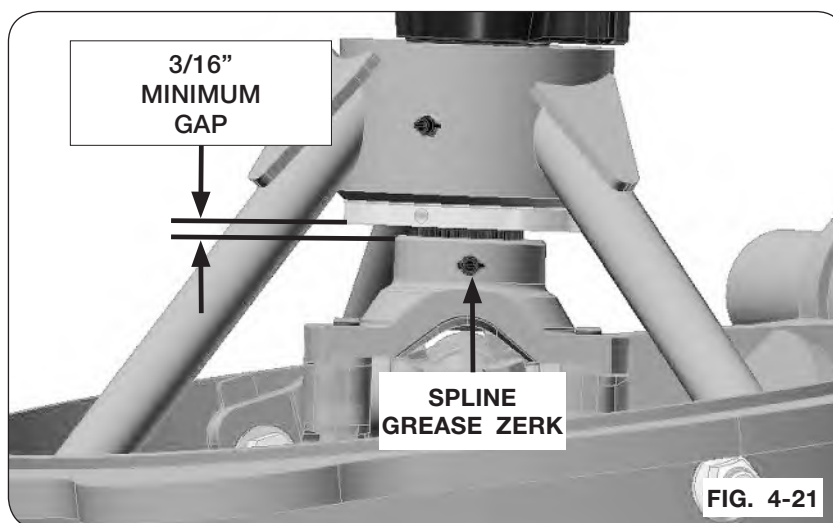
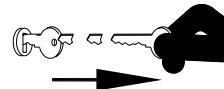


FIG. 4-21

Auger System (continued)

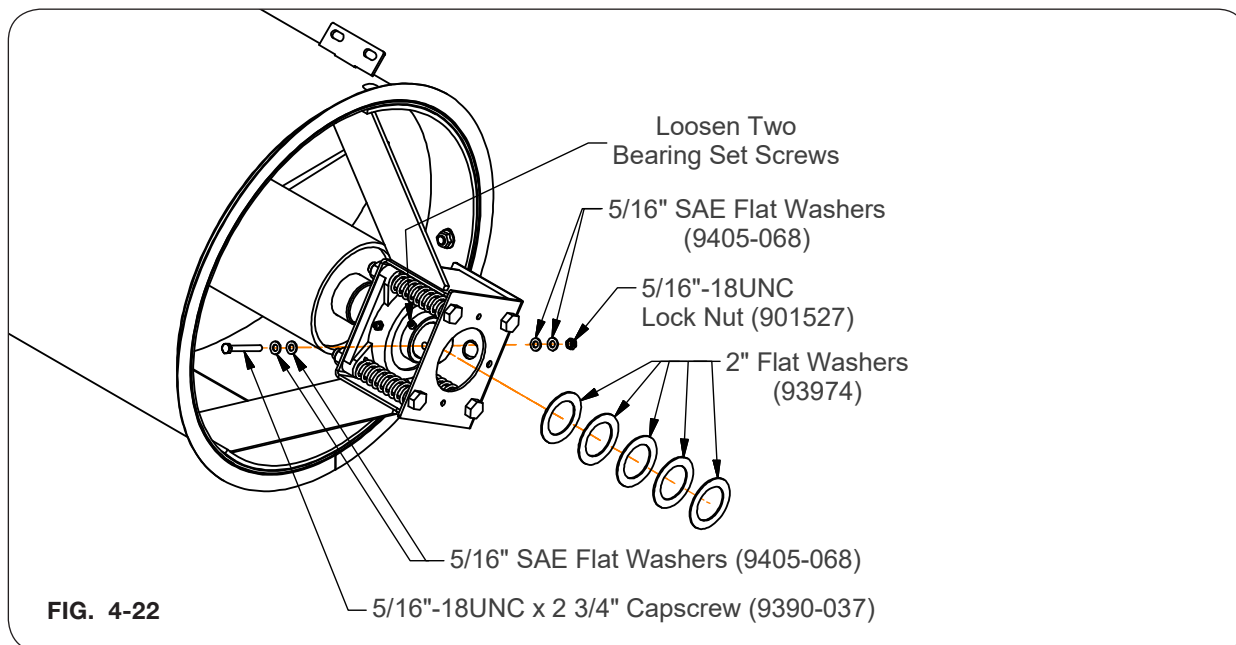
Upper Auger

1. Hitch cart to tractor, connect hoses for flow door and upper auger hydraulic cylinders and fully open flow door. Keep upper auger in the transport position. Park the empty grain cart on a firm, level surface. Set the tractor's parking brake, shut-off the engine and remove the ignition key. Block the tires to keep the machine from moving.



Upper Auger Removal

2. Loosen the two bearing set screws. Remove and save the 5/16"-18UNC x 2 3/4" cap-screw (9390-037), four 5/16" SAE flat washers (9405-068) 5/16"-18UNC lock nut (901527) and 2" flat washers (93974). (FIG. 4-22)



Auger System (continued)

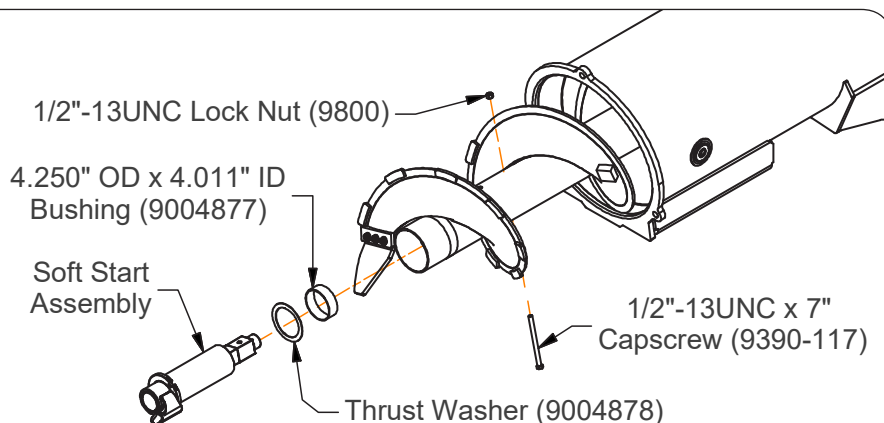
Soft Start Replacement

- Use a safe lifting device rated at a minimum of 2,000 lbs. to support the upper auger, remove auger from tube.
- Remove the 1/2"-13UNC capscrew, 1/2"-13UNC lock nut (9800), soft start assembly, thrust washer (9004878), and bushing (9004877). Only discard 1/2-13UNC x 7" capscrew (9390-117). (FIG. 4-23)

NOTE: If removing flighting extension hardware, replace with new hardware. Do not reuse old flighting extension hardware.

- Insert the bushing (9004877) into the end of the upper auger. Attach the thrust washer (9004878) and apply anti-seize to the soft start and insert into the auger tube. (FIG. 4-23)

FIG. 4-23



Upper Auger Timing

- Time the drive pin (as in FIG. 4-24) with the finished edge of the flighting at 12:00. Position the drive pin at 7:00.

NOTE: Looking up at the upper flighting (FIG. 18) the auger rotation will be counter clockwise.

NOTE: Grain leaving the lower auger flighting should be captured by the upper auger flighting within 1/2 revolution of the augers.

NOTE: There is only one way the soft-start will go in.

NOTE: For additional auger timing assistance, refer to your dealer for a timing fixture.

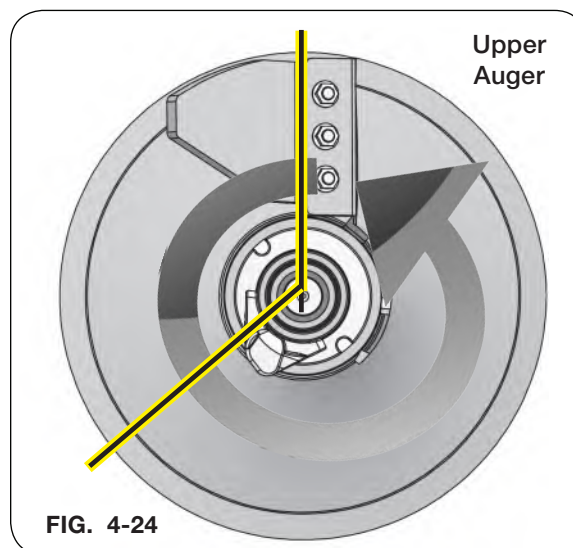


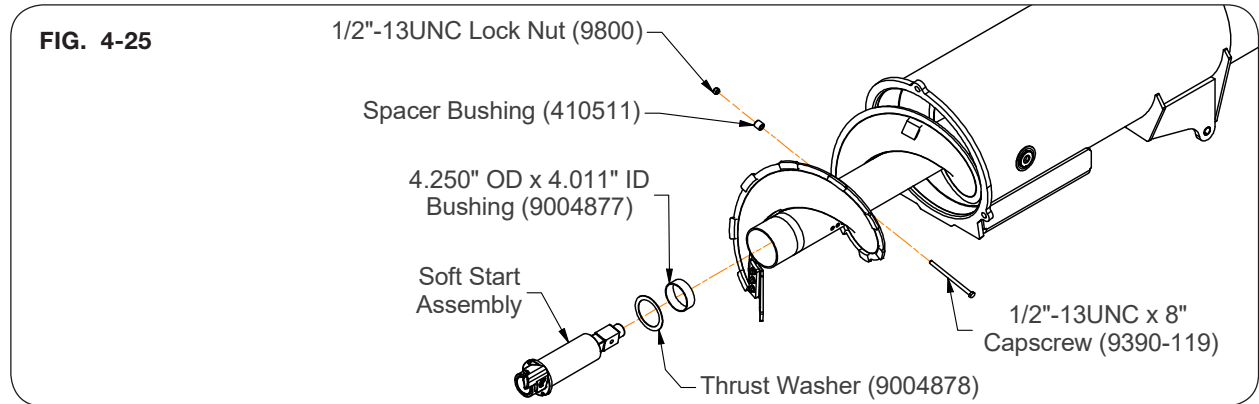
FIG. 4-24

Auger System (continued)

Soft Start Replacement (continued)

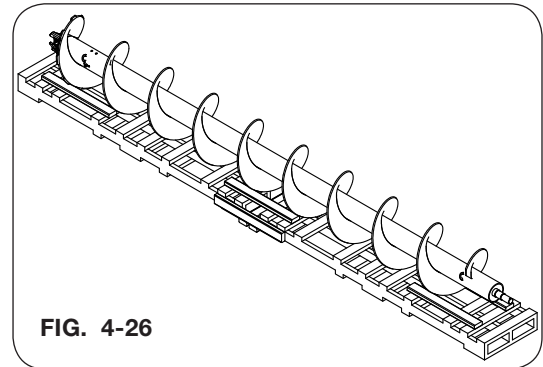
NOTE: Before soft start reassembly, ensure the spacer bushing (410511) is on the same side as lock nut (9800).

7. Retain the soft start into position with the 1/2"-13UNC x 8" capscrew (9390-119), spacer bushing (410511), and 1/2"-13UNC lock nut (9800). (FIG. 4-25)



Upper Auger Assembly

8. The replacement auger is factory balanced. Remove entire auger from shipping crate and secure from rolling. The upper auger assembly is pictured in FIG. 4-26 for reference.

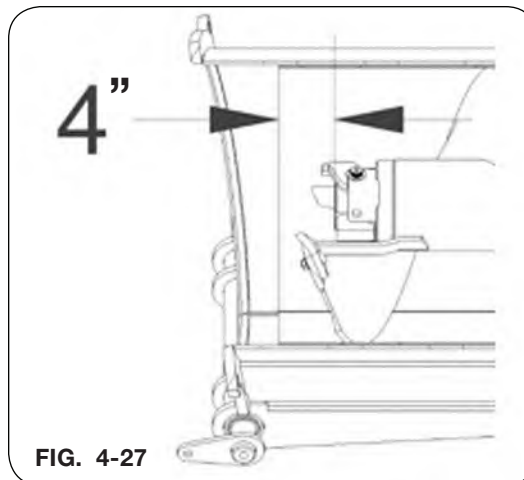


9. Using an adequate hoist and slings with a minimum capacity of 2,000 lbs. to support the upper auger, install upper auger into the tube.

Auger System (continued)

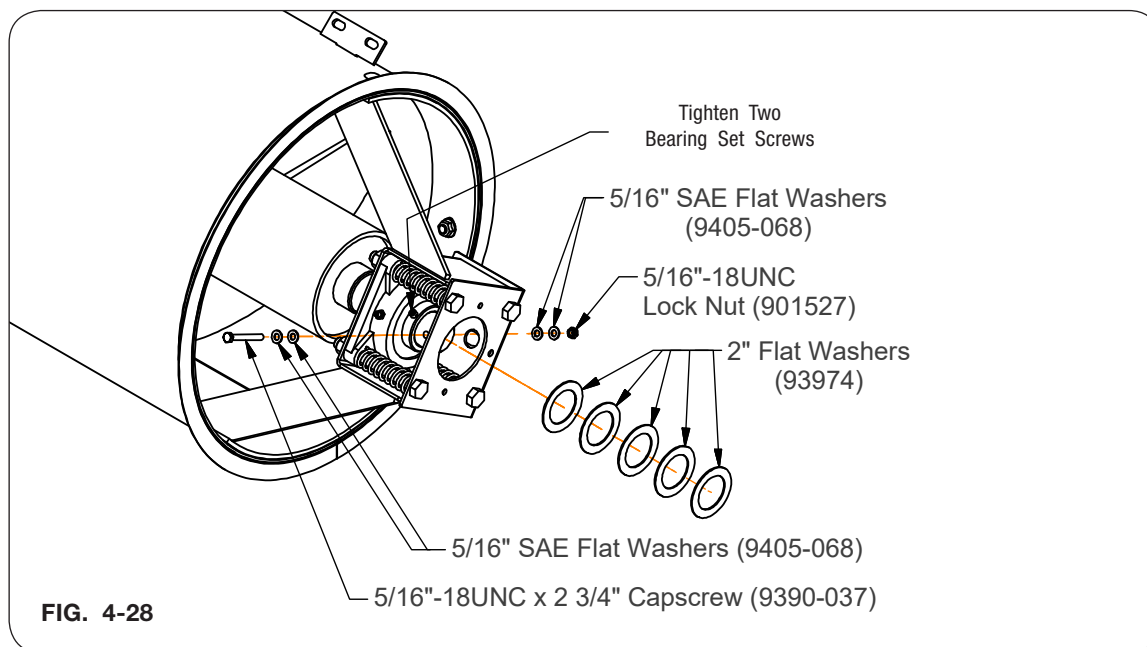
Upper Auger Height

- Set upper auger in-set of 4". With the upper auger in the folded/transport, ensure the height of the upper auger is set correctly. The face of the soft start bushing that sits on the top of the drive dog should be 4" back from the square cut face of the auger housing tube. (FIG. 4-27)



Upper Auger Assembly (continued)

- Make sure the 4 bolt flange bearing is sitting tightly against the mounting plate and then tighten the two bearing set screws. Attach the upper auger with the 5/16"-18UNC x 2 3/4" capscrew (9390-037), four 5/16" SAE flat washers (9405-068) 5/16"-18UNC lock nut (901527) and as many 2" flat washers (93974) as required to fill the gap between the bearing and the cross bolt. (FIG. 4-28)



Auger System (continued)

Upper Auger Bearing Gap

1. Park the empty unit on a firm, level surface. Place auger in unfolded/operating position. Block the tires or tracks on the machine to keep it from moving.

2. Verify the upper auger bearing height by inspecting the upper auger bearing in operating position. There should be minimum 1/16" to 1/8" gap between the bearing and mount plate with the upper auger in operating position and the drive dog completely engaged. (FIG. 4-29) If gap is present, no action is needed, go to step 3. If no gap or gap is too large, Re-adjust the upper auger placement to achieve a 1/16-1/8" gap. If there is no gap, the upper auger will need to be moved ahead. If there is too large of a gap, move it backwards in the upper auger housing. The number of washers (93974) will also need to be adjusted to eliminate any gap between the bearing and the cross bolt. (FIG. 4-30)

3. Place upper auger in the folded/transport position.

4. Once the upper auger height has been verified, remove the upper bearing set screws one at a time, and dimple the stud shaft with a 1/4" diameter drill bit. Apply TL-42 blue thread locker to the set screws, and reinstall the set screws into the flange bearing and into the dimples on the stud shaft. Tighten set screws. Tighten all hardware.

5. Test run auger driveline. Check for noise and/or vibration and address immediately.

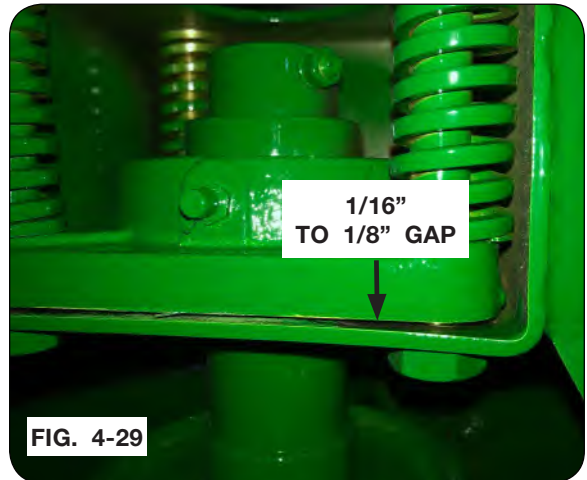


FIG. 4-29



FIG. 4-30

Auger System (continued)


Auger Flow Door Cylinder 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. 

- RELIEVE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE TRACTOR 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. 

- HYDRAULIC SYSTEM MUST BE PURGED OF AIR BEFORE OPERATING TO PREVENT SERIOUS INJURY OR DEATH.

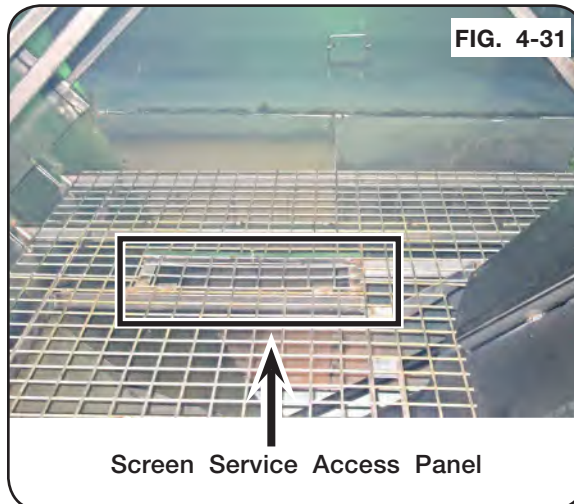
1. Park the empty grain cart on a firm, level surface and extend auger. Block the tires to keep the machine from moving. Unfold upper auger to make the flow door cylinder easier to access. If possible, close the flow door at least 8" from the fully open position. Relieve hydraulic pressure, see tractor operator's manual. Set the tractor's parking brake, shut-off the engine, remove the ignition key and disconnect the PTO shaft.



Auger System (continued)

Auger Flow Door Cylinder Replacement (continued)

2. On the inside of the cart, open the screen service access panel shown in Fig. 4-31.



3. Remove the cotter pins from the lower cylinder pin then remove the pin. Then remove the four 3/8"-16UNC x 1" flange bolts holding on the gasket and gasket plate, shown in Fig. 4-32.



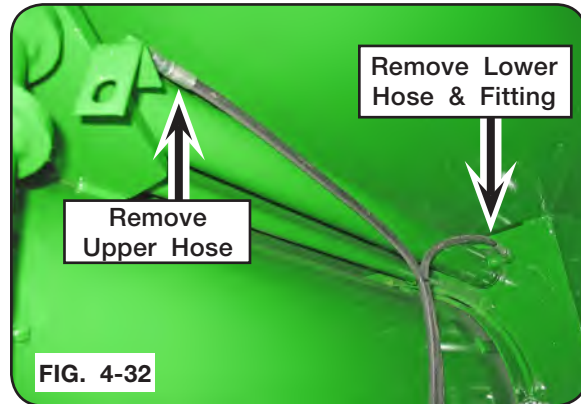
4. Remove all tools and extra hardware from the grain cart. Make sure all personnel are outside of the hopper. Then, retract the cylinder so that there is about 8" of clearance between the cylinder clevis and the lug.
5. Relieve hydraulic pressure, shut off the engine, remove the ignition key, and disconnect the hydraulic hoses from the tractor and cart.



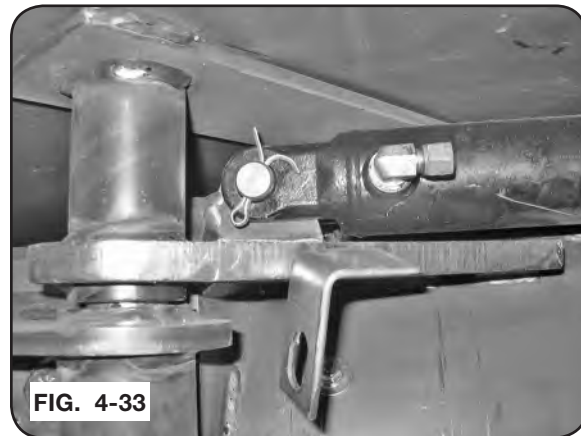
Auger System (continued)

Auger Flow Door Cylinder Replacement (continued)

6. Label the hydraulic hoses to indicate upper and lower. Disconnect them from the cylinder, along with the lower hydraulic fitting (Fig. 4-32).



7. Remove the cotter pins from the upper cylinder pin and remove pin (Fig. 4-33).



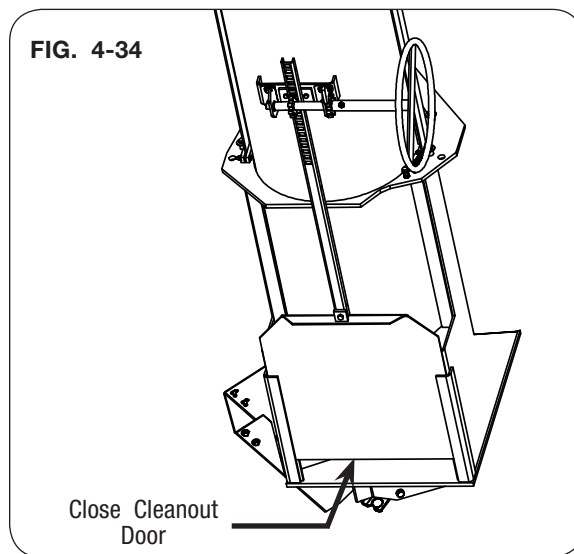
8. Slide the flow door cylinder through the hole in the junction box until the upper cylinder clevis clears the lug, then raise the top of the cylinder above the auger fold bushing and remove the cylinder.
9. Replace with the new cylinder and insert the upper cylinder pin. Remove the cylinder port plugs. Manually extend the cylinder until the lower clevis lines up with the door lug and assemble the pin and cotter pins. Assemble hydraulic fittings and attach hoses.
10. Replace rubber gasket and gasket plate with 3/8"-16UNC x 1" flange screws, shut and secure the screen service access panel.
11. Remove all tools and extra hardware from the grain cart. Make sure all personnel are outside of the hopper. After the hydraulic components have been tightened, purge air from system as follows:
 - A. 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.
 - B. Check oil reservoir in hydraulic power source and re-fill as needed.
 - C. Pressurize system again to reverse the motion of step A. Maintain pressure on system for at least 5 seconds after cylinder rods stop moving. Check that cylinders have fully extended or retracted.
 - D. Check for hydraulic leaks using cardboard or wood. Tighten connections according to directions in the Torque Specifications in your Operator's Manual.
 - E. Repeat steps A, B, C and D four times.

Adjusting Cleanout Door

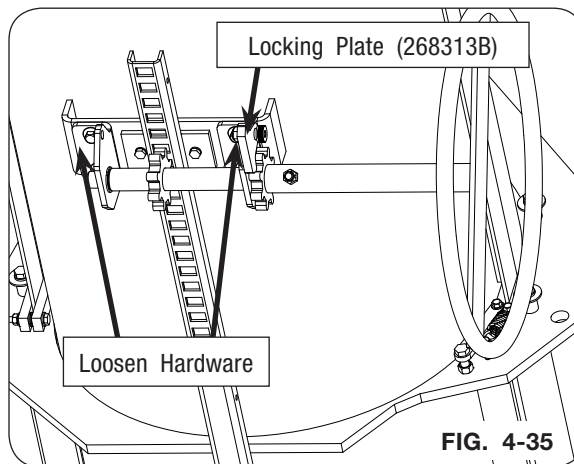
WARNING

- MOVING PARTS CAN CRUSH AND CUT. KEEP AWAY FROM MOVING PARTS.
- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.

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. Completely close cleanout door. Inspect and verify that all the grain dust and filings are removed that may prevent the door from shutting completely. (FIG. 4-34)

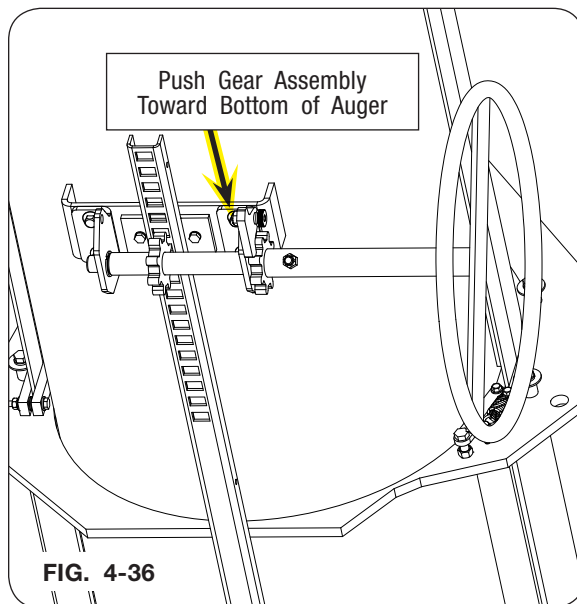


3. Engage the locking plate (268313B). (FIG. 4-35)
4. Loosen mounting hardware. (FIG. 4-35)

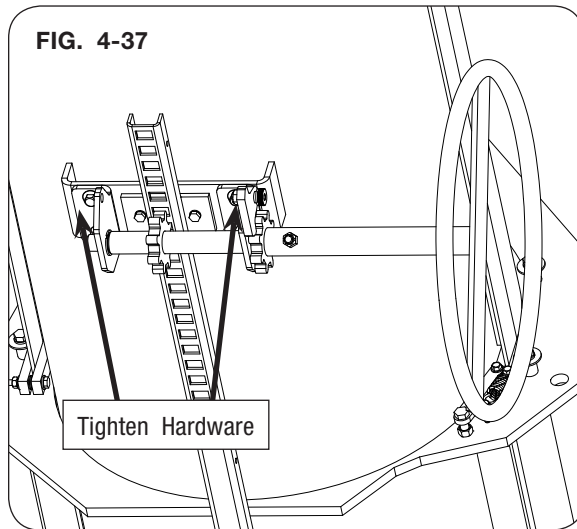


Adjusting Cleanout Door (continued)

5. Push the gear assembly toward bottom of auger to remove excess movement and prevent the door from moving upward when unloading the cart. (FIG. 4-36)



5. Tighten hardware loosened in step 4. (FIG. 4-37)
6. Check door operation. Lock the handle weldment into position. (FIG. 4-37)



Verify Telescoping PTO Shaft Length

⚠ WARNING

- PROPERLY EXTENDED AND COLLAPSED LENGTHS OF THE TELESCOPING PTO SHAFT MUST BE VERIFIED BEFORE FIRST OPERATION WITH EACH AND EVERY DIFFERENT 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.

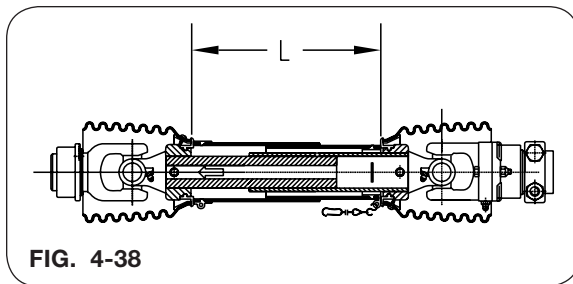
An excessive collapsed length can result in damage to the PTO driveline and attached components. This is most likely to occur during extreme turning angles and/or travel over rough terrain. Conditions are amplified on tractors with tracks operating in uneven terrain, particularly rice levies. Damaged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

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:

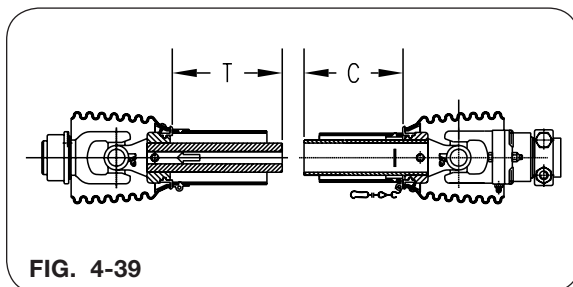
1. Fully collapse PTO shaft and measure length "L" (Fig. 4-38).

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. 4-39).

Add "T" & "C" measurements together
 Enter total here: _____ (2)



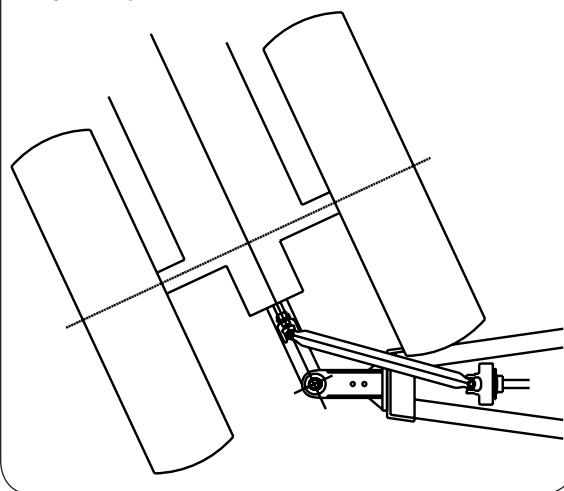
3. Calculate maximum recommended extended length:
 - a. Subtract line 1 from line 2. Enter here: _____ (a)
 - b. Divide line (a) by 2. Enter here: _____ (b)
 - c. Add line (b) to line 1. Enter here: _____ (c)
 - d. Subtract 3 inches from line (c). Enter here: _____ (d)

This is the maximum recommended extended length (LB).

Verify Telescoping PTO Shaft Length (continued)

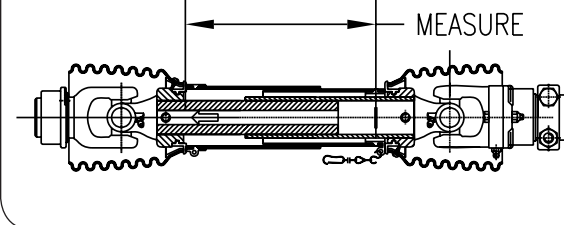
4. Hitch tractor drawbar to cart, ensuring that tractor and cart are on level ground and coupled as straight as practical.
5. Connect PTO shaft to tractor, and measure length “L” from same points as used in step 1. **Ensure that this measurement does not exceed the maximum recommended extended length calculated in step 3 above.** If necessary, choose a shorter drawbar position, or obtain a longer PTO shaft assembly or drawbar before operating cart.
6. Disconnect PTO shaft from tractor. Position the tractor to obtain tightest turning angle, relative to the cart. (Fig. 4-40)

FIG. 4-40



7. Measure length “L” from 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 length of PTO shaft by cutting 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. 4-41)

FIG. 4-41

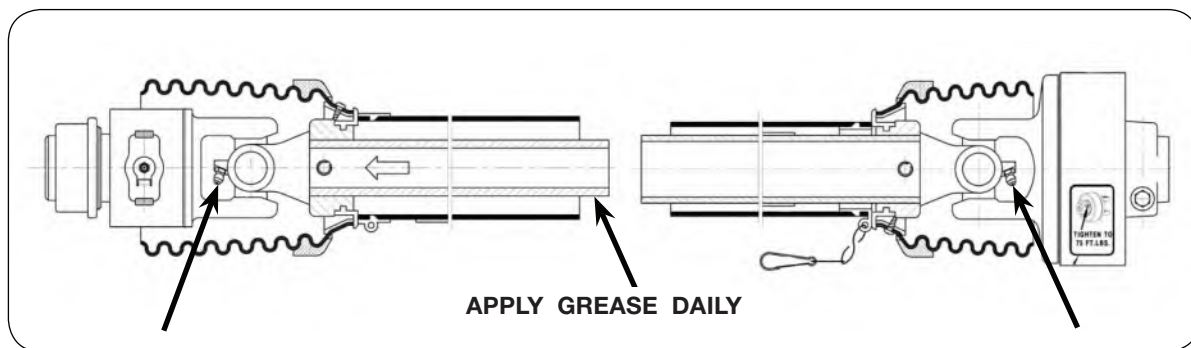


PTO Shaft and Clutch

Lubrication

Lubricate with quality grease before starting work and every 8 operating hours. Clean and grease PTO drive shaft before each prolonged period of non-use. Molded nipples on the shield near each shield bearing are intended as grease fittings and should be lubricated every 8 hours of operation! Check and grease the guard tubes in winter to prevent freezing.

NOTE: Telescoping members must have lubrication to operate successfully regardless of whether a grease fitting is provided for that purpose! Telescoping members without fittings should be pulled apart and grease should be added manually.



PTO Shaft and Clutch (continued)

Coupling the PTO driveshaft (Figs. E1 - E2)

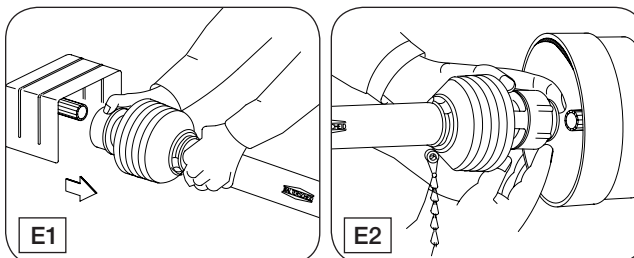
Clean and grease the PTO and implement input connection (IIC)

AS-Lock

1. Pull locking collar and simultaneously push PTO driveshaft onto PTO shaft until the locking device engages.

Push-Pull Lock

2. Pull locking collar and simultaneously push PTO driveshaft onto PTO shaft until the locking device engages.



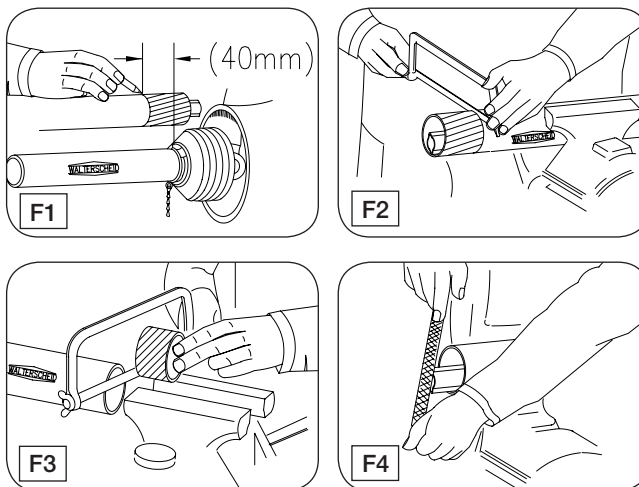
⚠ WARNING

- CHECK TO ENSURE ALL THE LOCKS ARE SECURELY ENGAGED BEFORE STARTING WORK WITH THE PTO DRIVESHAFT.

Length Adjustment (Figs. F1 - F4)

NOTE: Maximum operating length LB. (Refer to “Verify Telescoping PTO Shaft Length” for LB length.)

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.



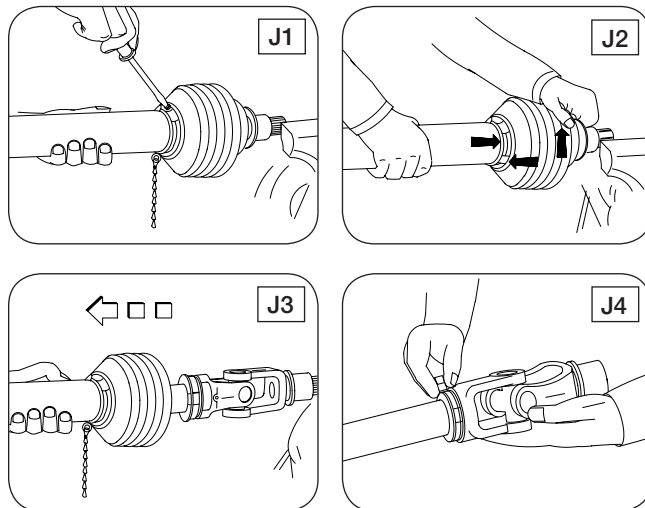
⚠ WARNING

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

PTO Shaft and Clutch (continued)

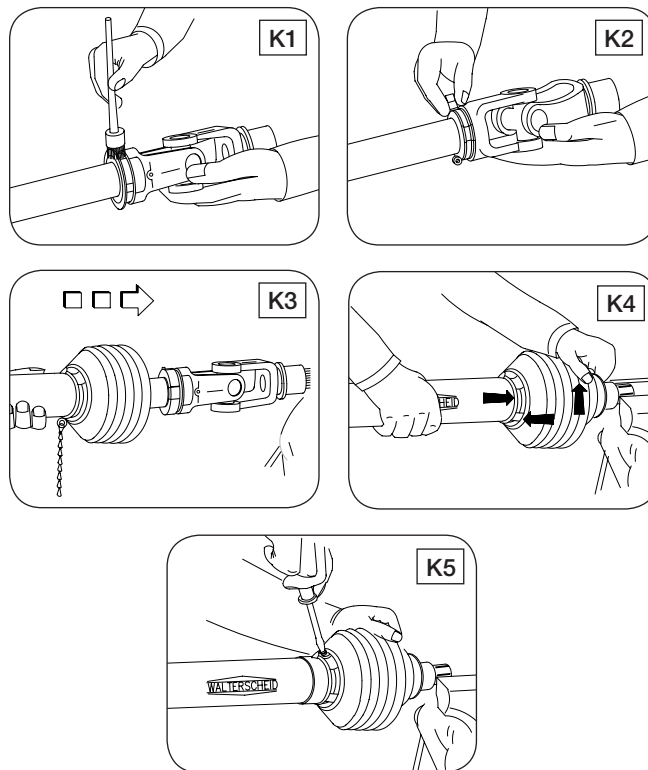
To Dismantle Guard (Figs. J1 - J4)

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



To Assemble Guard (Figs. K1 - K5)

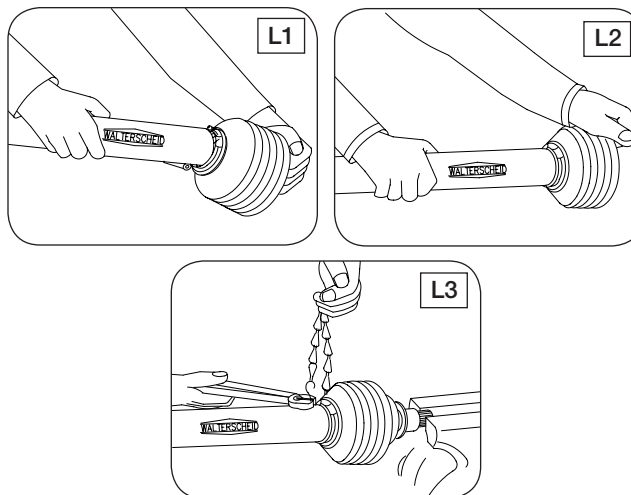
1. Grease yoke groove and inner profile tube.
2. Fit bearing ring in groove with recesses facing profile tube.
3. Slip on half-guard.
4. Turn cone until it engages correctly.
5. Install locking screw.



PTO Shaft and Clutch (continued)

To Assemble Cone (Figs. L1 - L3)

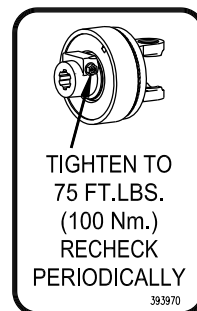
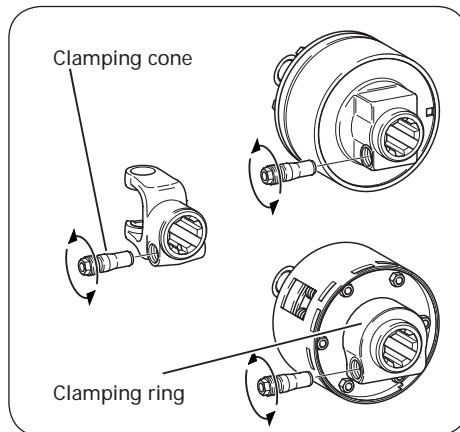
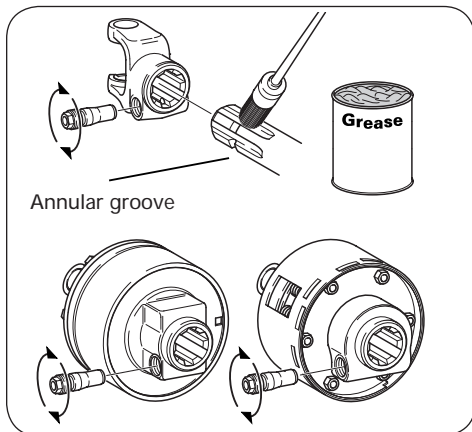
1. Dismantle guard (Figs. J1 - J3). Remove old cone (e.g. cut open with knife). Take off chain. Place neck of new cone in hot water (approx 80°C / 180°F) and pull onto bearing housing (Fig. L1).
2. Turn guard cone into assembly position (Fig. L2). Further assembly instructions for guard (Figs. K1 - K5).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



PTO Quick Disconnect

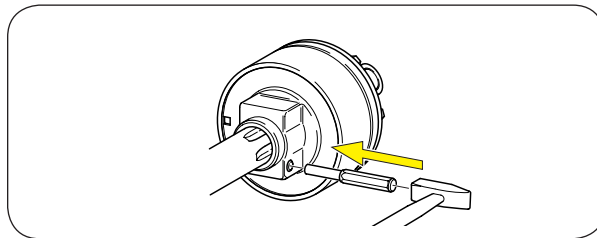
Coupling

Slide clamp yoke or 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/pin as necessary. Torque pin down to 75 ft.-lbs.



Uncoupling

Unscrew the pin a partial turn. Use the punch and hammer to help alleviate the torque resistance on the wrench if necessary. After a few cycles the pin will move freely with low torque resistance for the removal process.



Tarp Troubleshooting Inspection & Maintenance

PROBLEM	SOLUTION
TARP SAGS IN MIDDLE AREAS	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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

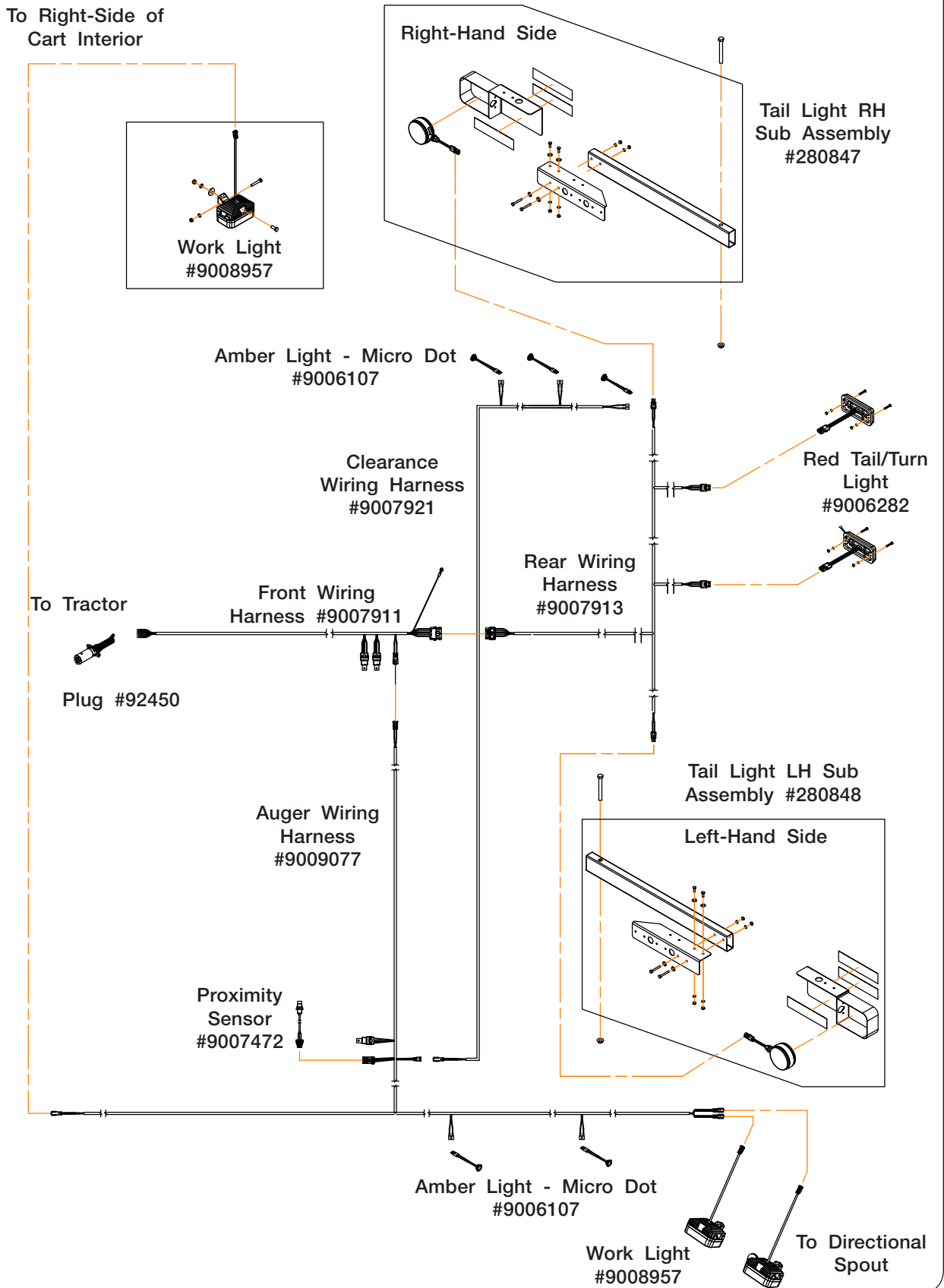
- *Do not open or close tarp while moving or in high wind conditions. Damage to the tarp may occur.*
- *Tarp should not be used if it is torn or the bungee cords are frayed or show damage. If water pools on the tarp adjust tension of tarp cables and/or arm springs as required.*

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.

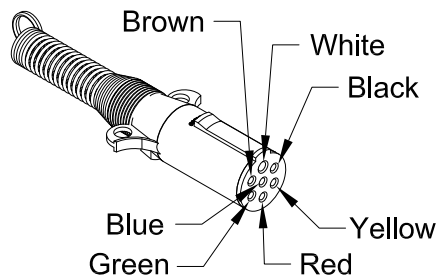
Tears in tarp should be addressed before further tarp operation. If water pools on tarp, adjust tension of tarp cables and/or arm springs.

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 Diagram



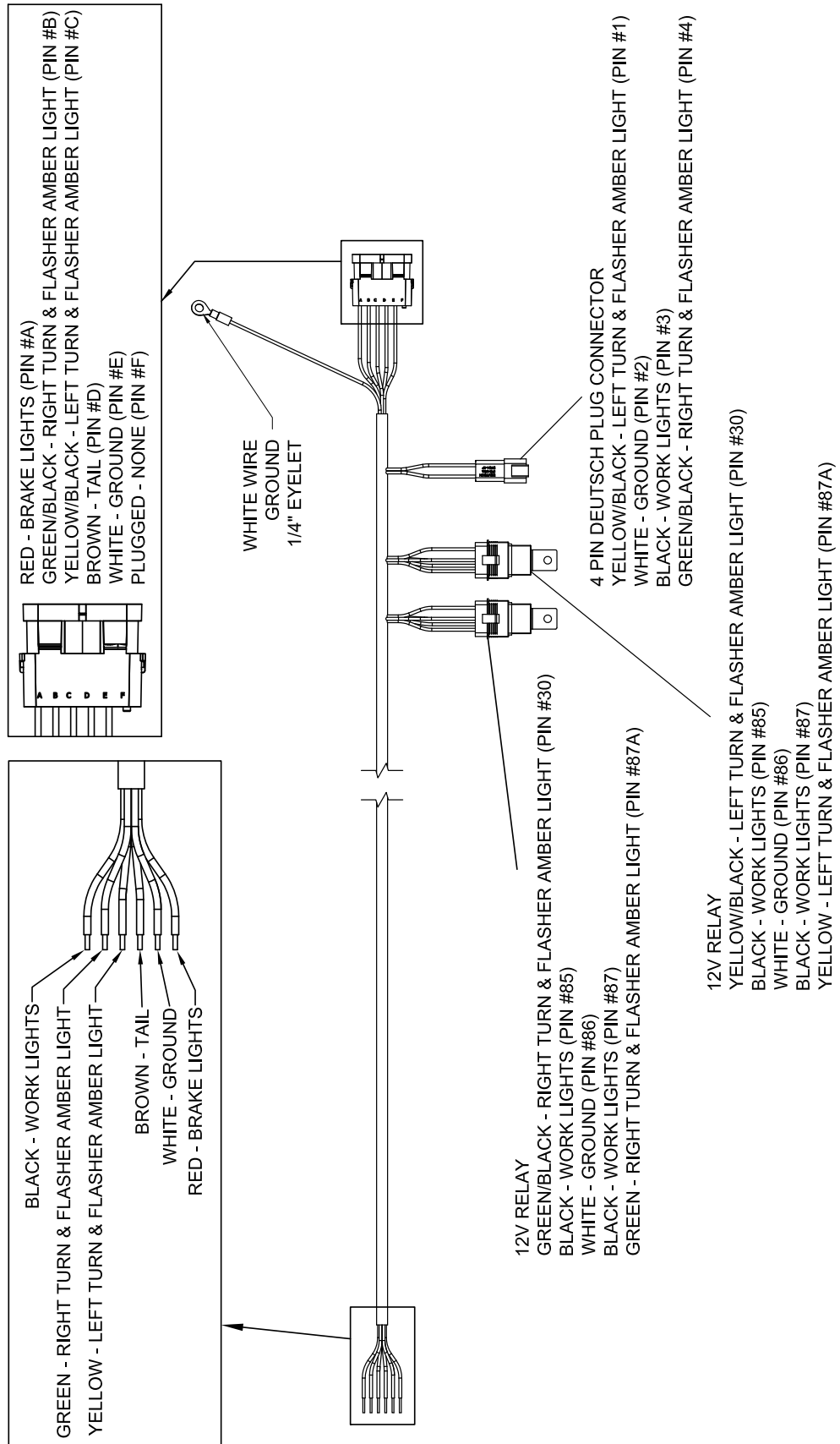
Electrical System Diagram — Plug #92450



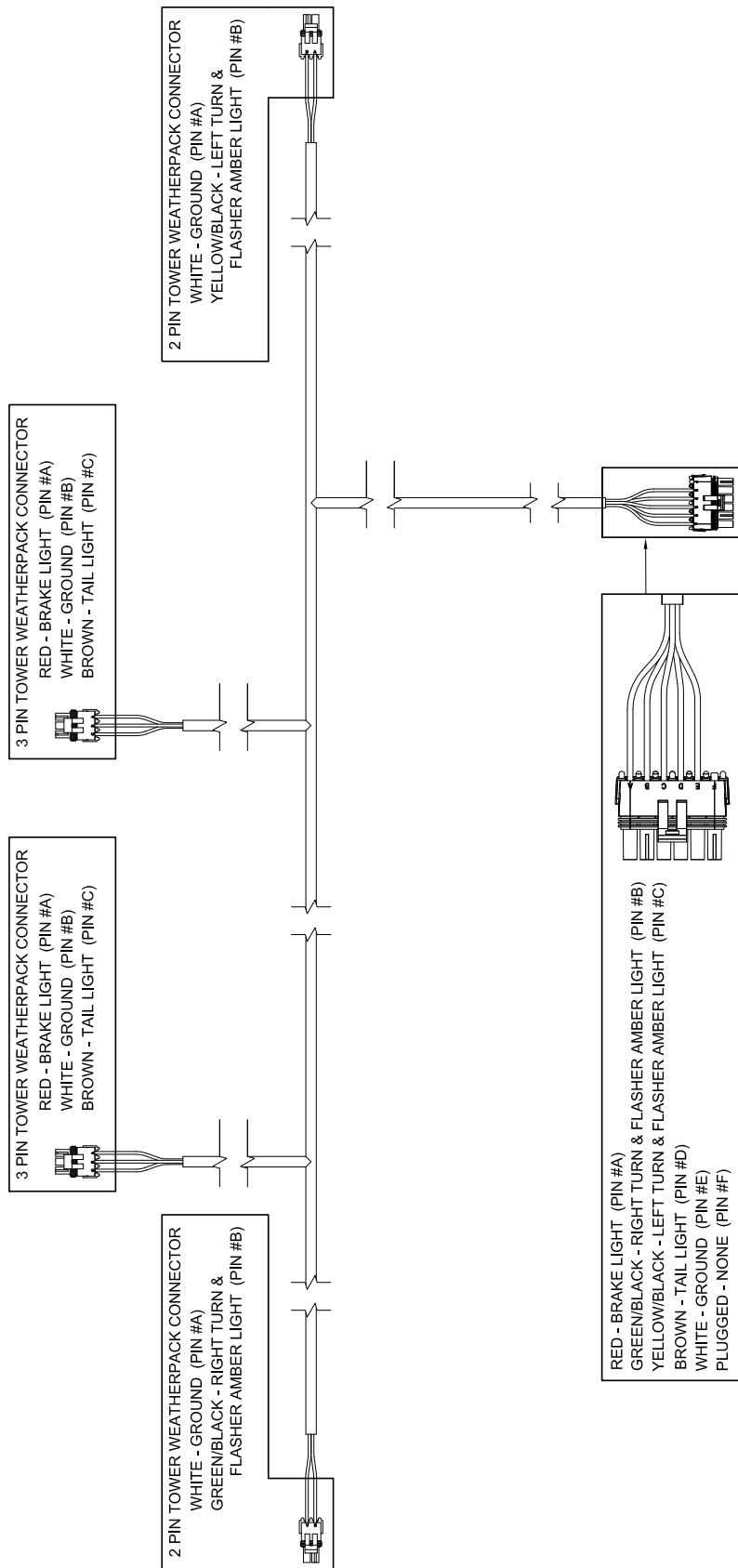
GRAIN CART WIRES

- White - Ground
- Green - Right amber flashing lamp
- Yellow - Left amber flashing lamp
- Brown - Tail light
- Black - Interior & Auger Lights
- Red - Brake Lights
- Blue - (Not Used)

Electrical Diagram — Front Wiring Harness #9007911



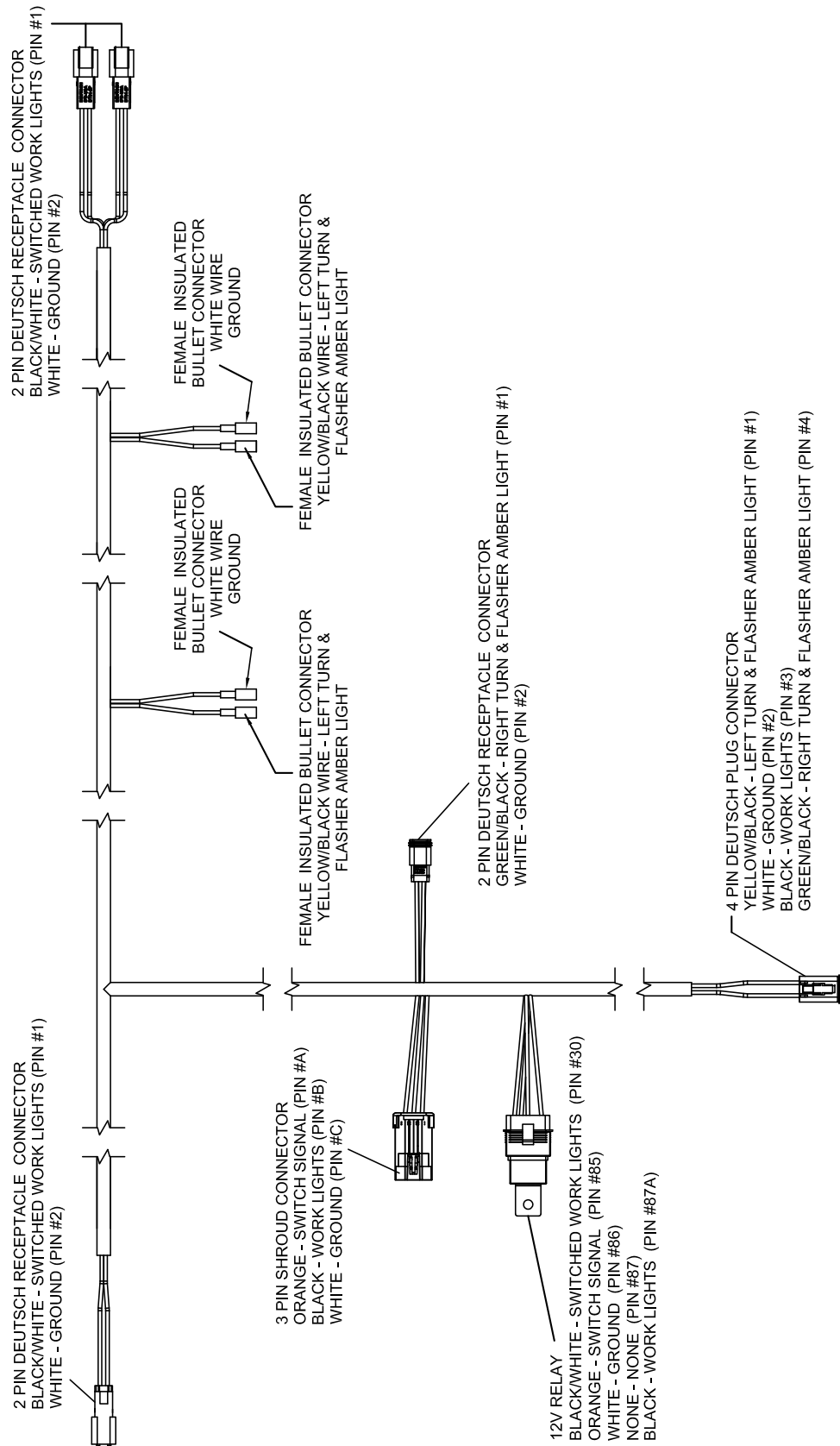
Electrical Diagram — Rear Wiring Harness #9007913



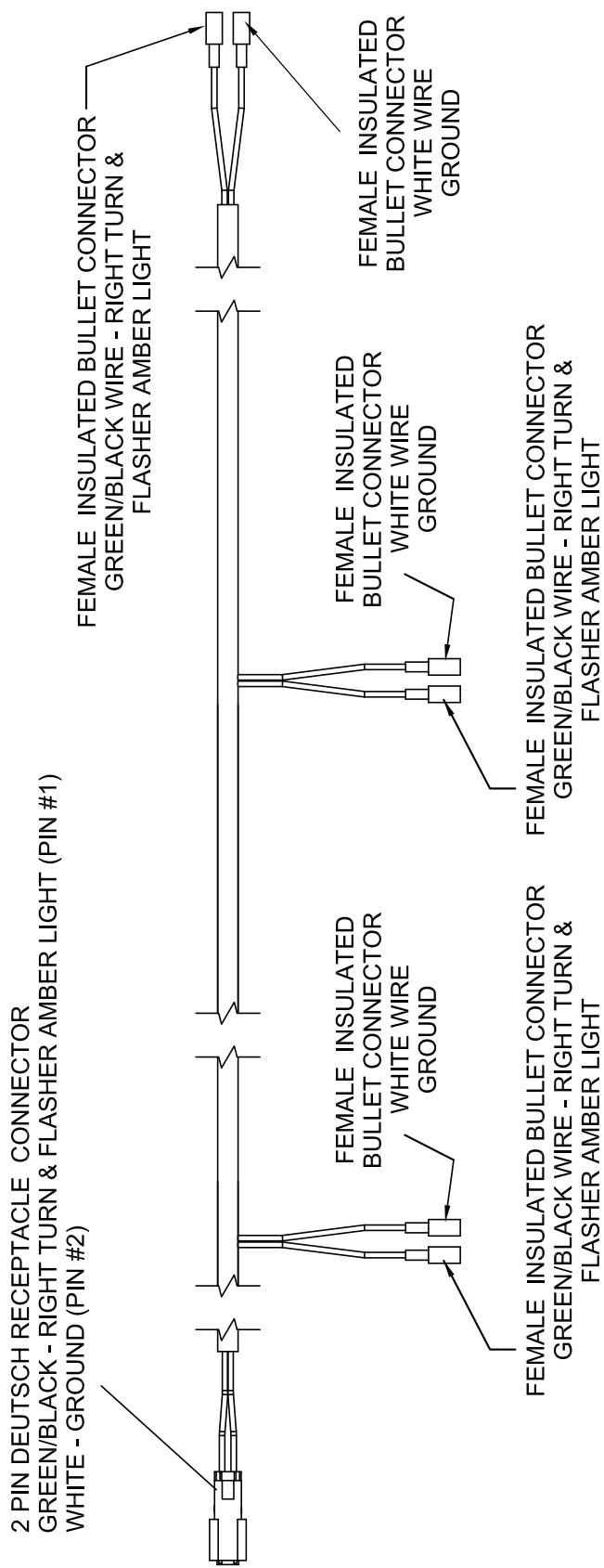
Electrical Diagram — Auger Wiring Harness

9009077 - For SN41320100 & Higher

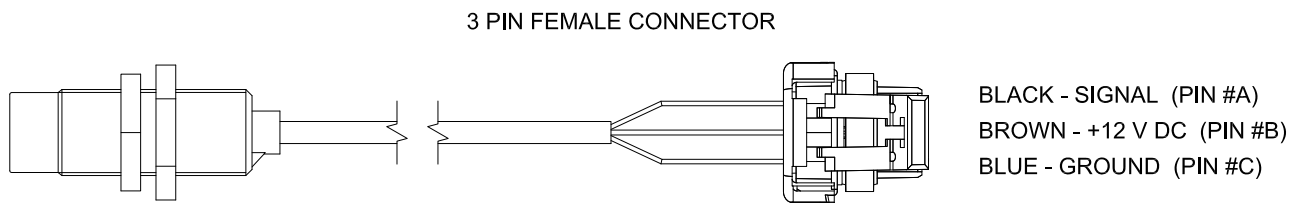
9007914 - For SN41320099 & Lower



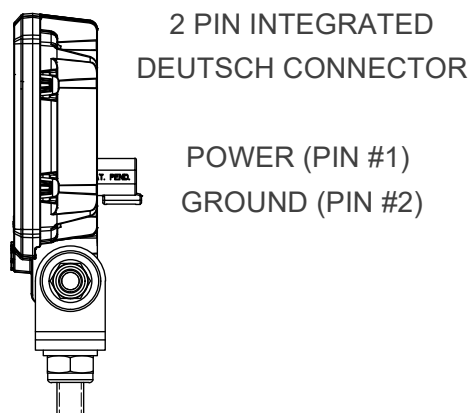
Electrical Diagram — Clearance Wiring Harness #9007921



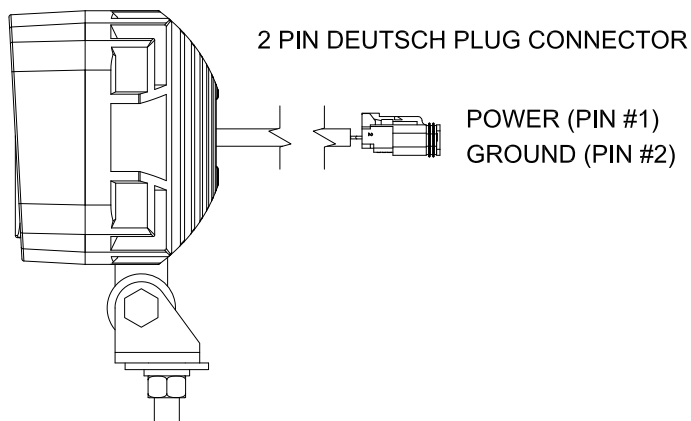
Electrical Diagram — Proximity Sensor #9007472



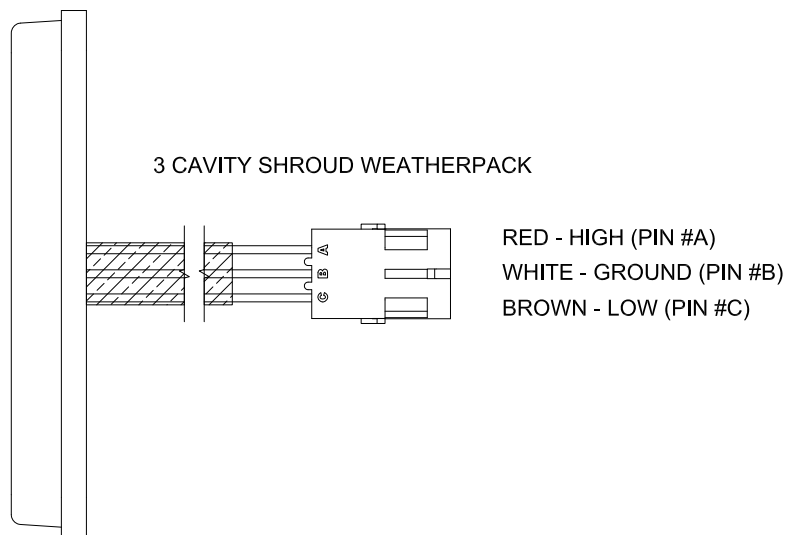
**Electrical Schematic — Work Light #9008957
For SN B41320100 & Higher**



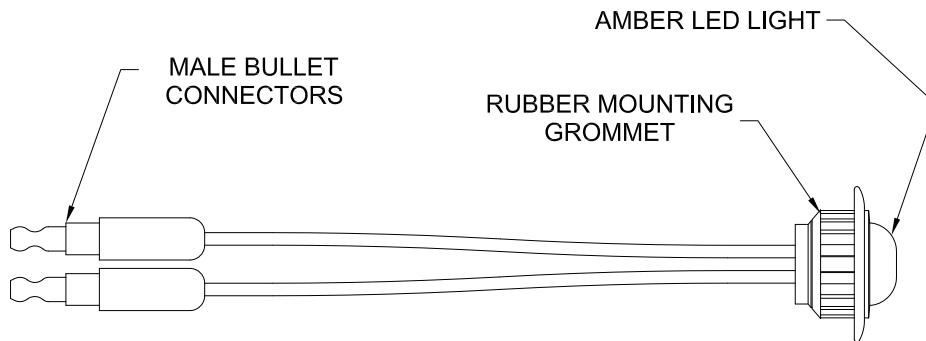
**Electrical Schematic — Work Light #9007186
For SN B41320099 & Lower**



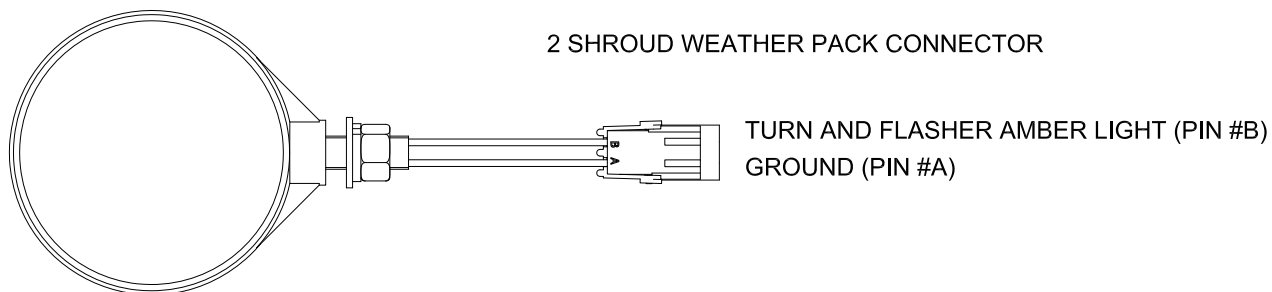
Electrical Diagram — Red Tail/Turn Light #9006282



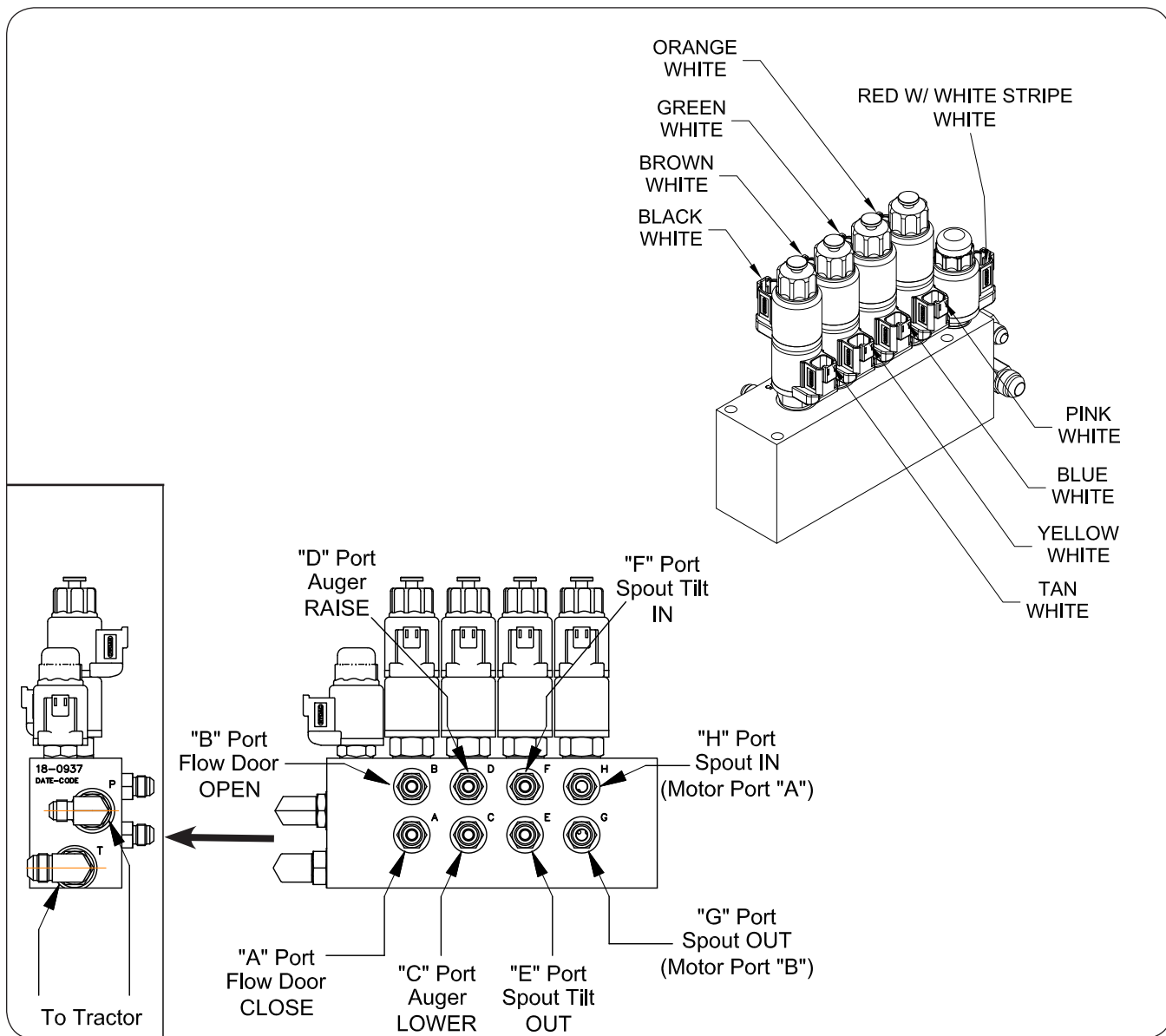
Electrical Diagram — Amber Light - Round Side Marker #9006107



Electrical Diagram — Amber Lamp Double Face #9005142

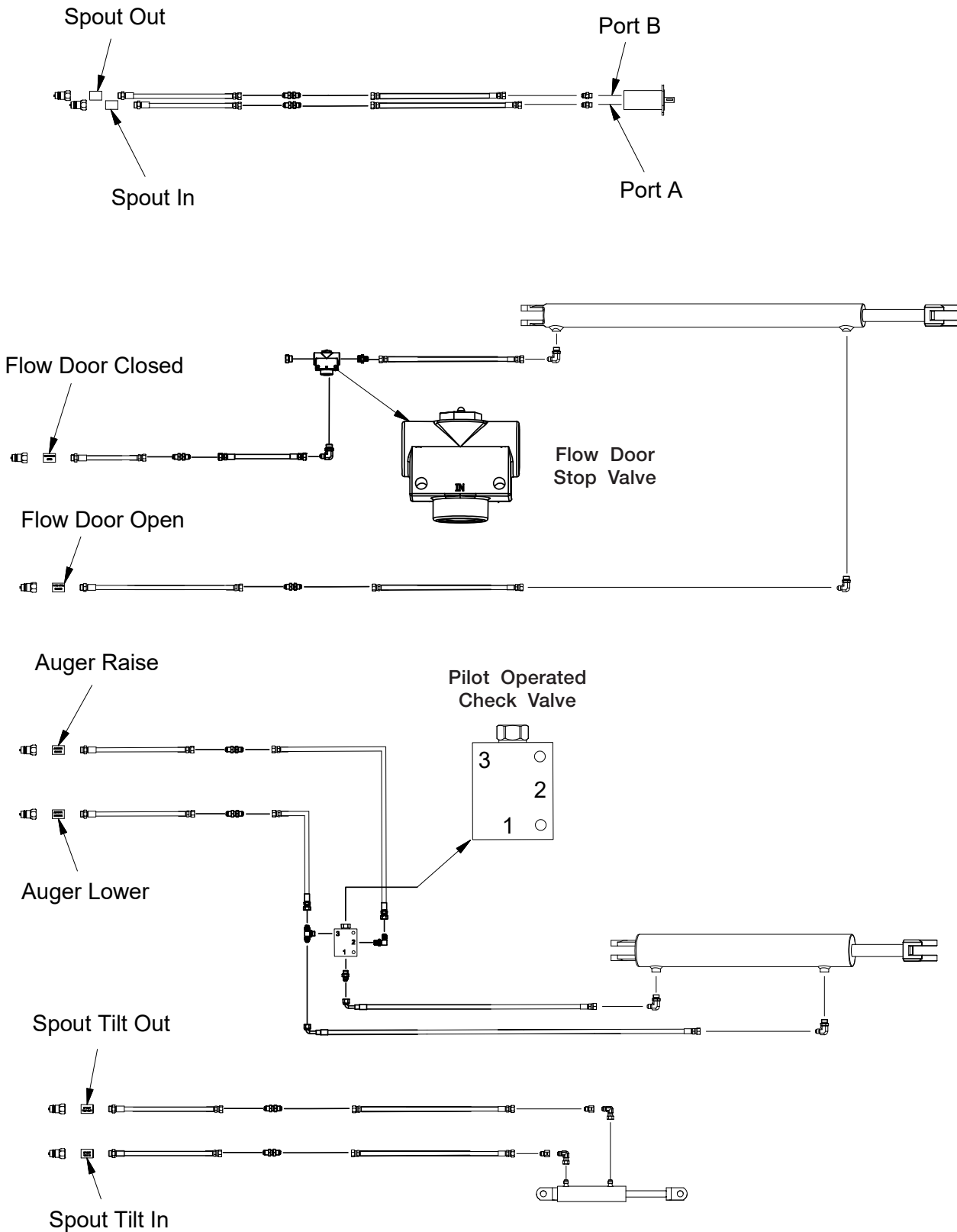


EOH Valve Functions and Wire Locations 4 Spool (Optional)



PORT	END OF CYLINDER	FUNCTION
A	BUTT END	Flow Door CLOSE
B	RAM END	Flow Door OPEN
C	RAM END	Auger Fold LOWER
D	BUTT END	Auger Fold RAISE
E	RAM END	Spout Tilt OUT
F	BUTT END	Spout Tilt IN
G	RAM END	Spout OUT
H	BUTT END	Spout IN
P		Tractor Pressure
T		Tractor Return

Hydraulic System Plumbing Diagram



Wheel, Hub and Spindle Disassembly and Assembly

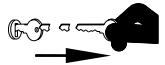
WARNING

- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.**
- **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 20,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

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.**

IMPORTANT

- *Remove only one wheel and tire from a side at any given time in the following procedure.*
1. Hitch cart to tractor. Park the empty cart on a firm, level surface. Set the tractor's parking brake, shut off engine and remove key. 
 2. With cart empty, use safe lifting and load holding devices rated at 20,000 lbs. to support the weight of your grain cart. Place the safe lifting device under the axle closest to the tire.
 3. Use a 3,000 lbs. safe lifting device to support the wheel and tire during removal.

WARNING

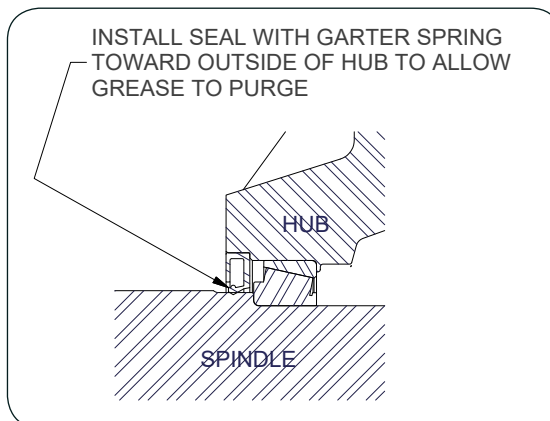
- **FOR DUAL WHEELS, INNER WHEEL AND TIRE MAY FALL FROM HUB CAUSING SERIOUS INJURY OR DEATH. ALWAYS SUPPORT INNER WHEEL WHEN REMOVING OUTER WHEEL.**
4. If only changing wheel and tire, skip to Step 8; otherwise continue with Step 4.
Remove the hardware retaining the hubcap. Next, remove the hubcap, gasket, cotter pin, castle nut and spindle washer. Remove hub with bearings from old spindle using a safe lifting device rated for at least 200 lbs.

Wheel, Hub and Spindle Disassembly and Assembly (continued)

5. Inspect the spindle and replace if necessary. If spindle does not need to be replaced, skip to Step 6; otherwise continue with Step 5.

Remove the bolt and lock nut that retains the spindle to the axle. Using a safe lifting device rated for 150 lbs., replace the old spindle with a new spindle. Coat spindle shaft with anti-seize lubricant prior to installation. Reuse bolt and lock nut to retain spindle to axle. Tighten as outlined in Maintenance Section.

6. Remove seal and inspect bearings, spindle washer, castle nut and cotter pin. Replace if necessary. Pack both bearings with NLGI#2 EP approved grease and reinstall inner bearing. Install new seal with garter spring toward the outside of the hub to allow grease to purge. Using a safe lifting device rated for 200 lbs., install hub assembly onto spindle. Install outer bearing, spindle washer and castle nut.



7. Slowly tighten castle nut while spinning the hub until drag causes the hub to stop freely spinning. Do not use an impact! Turn castle nut counterclockwise until the hole in the spindle aligns with the next notch in castle nut. Hub should spin smoothly with little drag and no end play. If play exists, tighten to next notch of castle nut. If drag exists, then back castle nut to next notch of castle nut. Spin and check again. Install cotter pin. Clean face for hub cap gasket and install gasket, grease filled hub cap and retain hubcap with hardware removed. Tighten hubcap hardware in alternating pattern.
8. Attach the wheel(s) and tire(s) to the hub using the same rated lifting device for removal. Tighten wheel nuts to appropriate requirements and recheck as outlined in the Wheel and Tire section of this manual.
9. Raise cart, remove safe load holding devices and lower tire to the ground.

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.

WHEEL HARDWARE	
SIZE	TORQUE
M22x1.5	475 ft.-lbs.

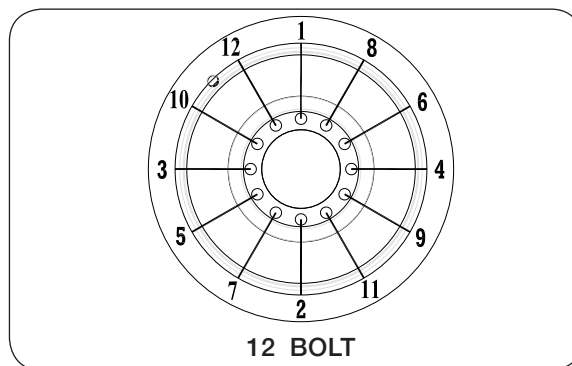


DIAGRAM 1

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 indicated. 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
Trelleborg	900/60x32 R-1	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	8-10	11-13
1/4-28	9-11	12-15
5/16-18	15-17	20-23
5/16-24	17-19	23-26
3/8-16	25-28	34-38
3/8-24	28-31	38-42
7/16-14	40-45	54-61
7/16-20	45-50	61-68
1/2-13	62-68	84-92
1/2-20	68-75	92-102
9/16-12	90-98	122-133
9/16-18	100-110	134-148
5/8-11	120-135	162-183
5/8-18	124-137	168-186
3/4-10	200-220	270-300
3/4-16	210-230	285-310
7/8-9	330-350	425-475
7/8-14	360-380	460-515
1-8	500-525	675-710
1-14	540-560	730-760
1 1/8-7	600-635	815-860
1 1/8-12	665-700	920-950
1 1/4-7	850-895	1150-1215
1 1/4-12	940-990	1275-1340
1 3/8-6	1125-1175	1525-1590
1 3/8-12	1280-1335	1735-1810
1 1/2-6	1500-1560	2035-2115
1 1/2-12	1685-1755	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	20-22	27-30
5/16-24	21-23	28-31
3/8-16	35-39	47-53
3/8-24	36-41	49-55
7/16-14	54-58	73-78
7/16-20	55-60	75-80
1/2-13	82-88	110-120
1/2-20	94-99	125-135
9/16-12	127-134	170-180
9/16-18	147-155	199-210
5/8-11	160-170	215-230
5/8-18	165-175	225-235
3/4-10	280-295	380-400
3/4-16	330-365	445-495
7/8-9	410-430	555-580
7/8-14	420-440	570-595
1-8	630-650	850-880
1-14	680-700	920-950
1 1/8-7	900-930	1220-1260
1 1/8-12	930-950	1260-1290
1 1/4-7	1250-1300	1695-1760
1 1/4-12	1280-1320	1735-1790

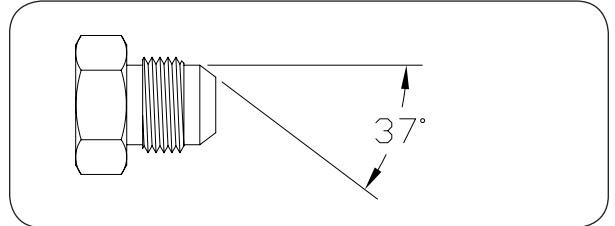
IMPORTANT

- Follow these torque recommendations except when specified in text.

Hydraulic Fittings - Torque and Installation

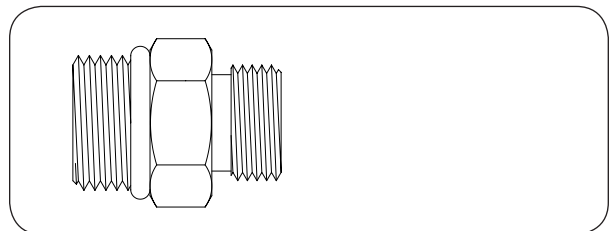
SAE Flare Connection (J. I. C.)

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. Ensure 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

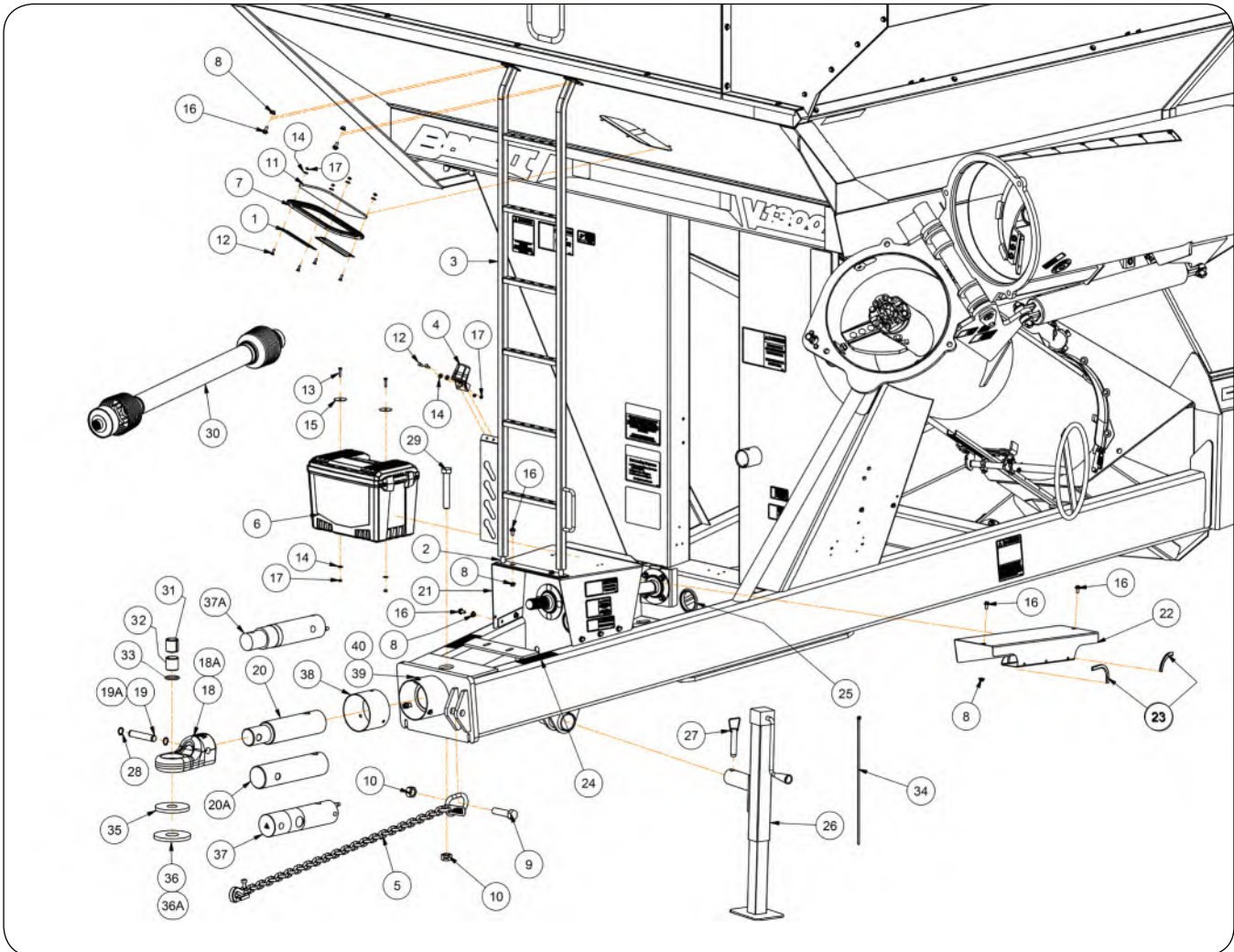
Please visit www.unverferth.com/parts/ for the most current parts listing.

Final Assembly	5-2
Single Wheel Axle for V1300	5-4
Single Wheel Axle for V1500	5-6
Track Axle for V1300 Only	5-8
Track Axle for V1500 Only	5-9
Wheel Well Cover Kit #288203G or #288203R - Model V1300	5-10
Wheel Well Cover Kit #294784G or #294784R - Model V1500	5-11
Single Wheels & Tires	5-12
Touch-Up Paint	5-12
Decals	5-14
Sideboards	5-16
EOH Valve Assembly Components 4 Spool (Optional)	5-18
EOH Tractor Circuit Hydraulic Components (Optional)	5-20
Electrical	5-22
Drive Components	5-24
Upper Auger Components	5-26
Lower Auger Components	5-28
Driveline U-Joint Assembly	5-30
Cleanout Door Assembly	5-31
Flow Door Seals	5-32
Cylinders	5-33
Hydraulics	5-34
Directional Spout	5-38
PTO Cut Out Clutch Components	5-41
PTO Components	5-42
45 Degree Gearbox Q135 Series Components - SN B40190100 & Higher	5-44
45 Degree Gearbox Q135 Series Components - SN B40190099 & Lower	5-46
Weather Guard Tarp	5-48
Video System Option	5-51
Hydraulic Jack (Optional) - Kit #294143B	5-52

FOR SCALE INFORMATION, PLEASE REFER TO YOUR SCALE MANUAL.
FOR HYDRAULIC DRIVE INFORMATION, PLEASE REFER TO YOUR HYDRAULIC DRIVE MANUAL.
FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.

Final Assembly

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



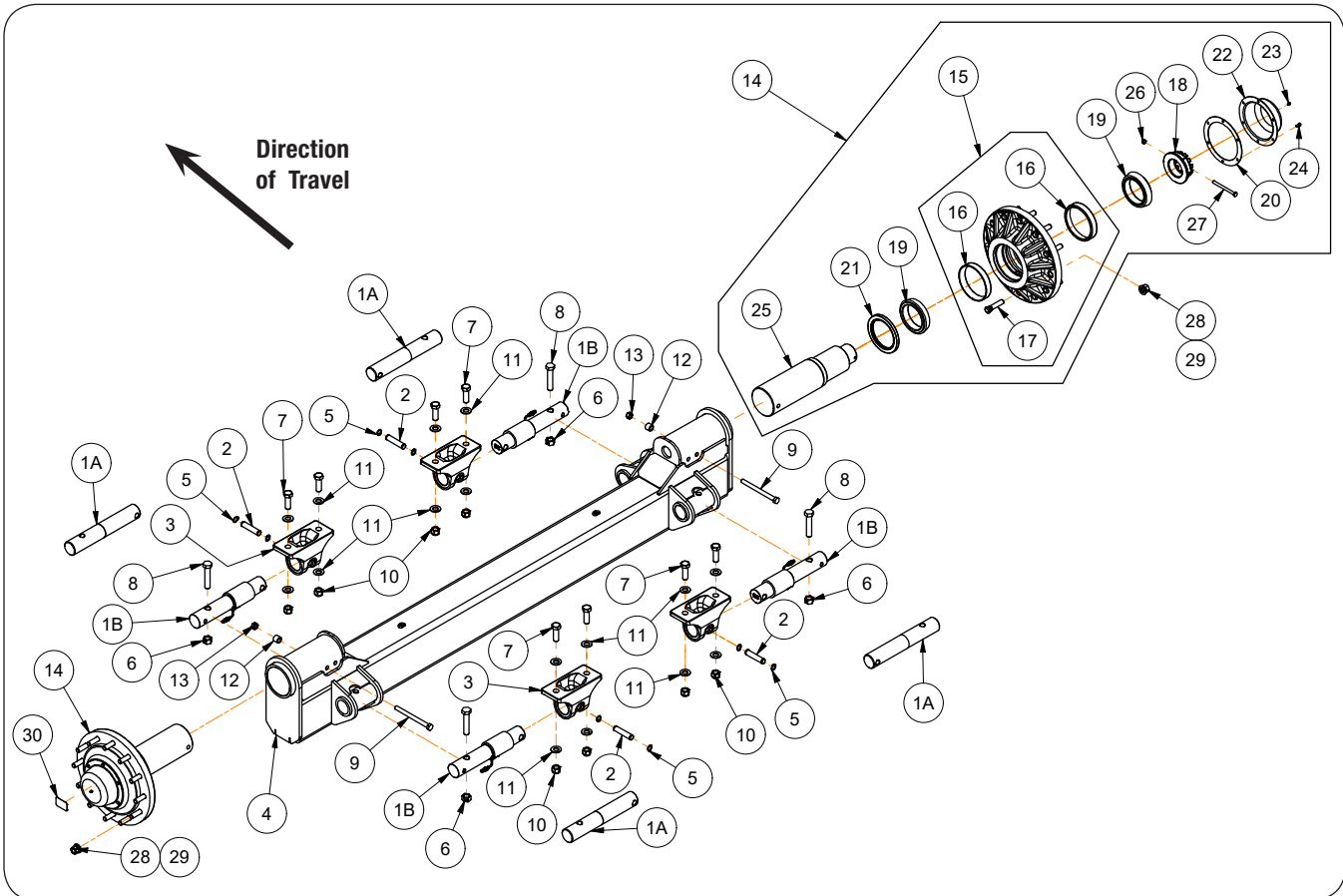
Final Assembly

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

ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
	CAT 5 Hitch Conversion Kit w/Scales	271887B	1	Includes items: 18A, 19A, 28, 36A, 37
	CAT 5 Hitch Conversion Kit w/out Scales	271893B	1	Includes items: 18A, 19A, 20A, 28, 36A
1	Bracket, Window Retainer	250461B	4	
2	Ladder Bracket Weldment	280603B	1	
3	Ladder Weldment	288378B	1	
4	Connector Holder	9001968	1	
5	Transport Chain	9003278	1	
6	Storage Box	9005850	1	
7	Window Molding	271951	2	
8	Nut/Large Flange 3/8-16UNC	91263	10	Grade 5
9	Capscrew 1-8UNC x 4	91299-191	1	Grade 8
10	Locknut 1-8UNC	92199	2	
11	Window	92403	2	
12	Capscrew 1/4-20UNC x 3/4	9390-003	14	Grade 5
13	Capscrew 1/4-20UNC x 1 1/4	9390-006	2	Grade 5
14	Flat Washer 1/4"	9405-064	6	
15	Fender Washer	94763	2	
16	Capscrew/Large Flange 3/8-16UNC x 3/4	95585	10	Grade 5
17	Locknut 1/4-20UNC	9936	10	
18	Hitch, Single Tang - CAT 4	282875B	1	
18A	Cast Hitch - CAT 5, 3.75" Load Bar (Black)	282329B	1	
19	Pin 1" Dia. x 5 1/2 CAT 4	282876	1	
19A	Pin 1" Dia. x 7 3/8 CAT 5	281691	1	
20	Hitch Bar 3 3/4" Dia. CAT 4 w/out Scales	284780	1	
20A	Hitch Bar 3 3/4" Dia. CAT 5 w/out Scales	271894	1	
21	Ladder Support	288368B	1	
22	Driveshaft Cover	288381B	1	
23	Trim Lock	9000787	A/R	Specify in Feet
24	Runner Pad	9001498	2	
25	Rubber Grommet, 1/4 W x 3 1/2 D Groove	9006780	2	
26	Jack Assembly w/Pin	9004156	1	Includes Item #27
27	Pin	9004171	1	
28	Retaining Ring 1"	91192	2	
29	Capscrew 1-8UNC x 6	91299-195	1	Grade 8
30	Complete PTO Assembly	9007952	1	
31	Tension Bushing 2 OD x 1.516 ID x 2	9001917	1	
32	Split Tension Bushing 2 OD x 1 3/4 ID x 2	9002130	1	
33	O-Ring	9005259	4	
34	Cable Tie 21 1/2"	9000104	5	
35	Wear Shoe Hitch CAT 3	281663	1	
36	Wear Shoe Hitch CAT 4	281898	1	
36A	Wear Shoe Hitch CAT 5	281899	1	
37	Hitch Bar 3 3/4" Dia. CAT 5 w/Scales	9008119	1	
37A	Hitch Bar 3 3/4" Dia. CAT 4 w/Scales	9004910	1	
38	Shield Tube	271891B	1	
39	Serrated Flange Bolt	95585	3	
40	U-Nut	9005376	3	

Single Wheel Axle — For V1300 Only

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



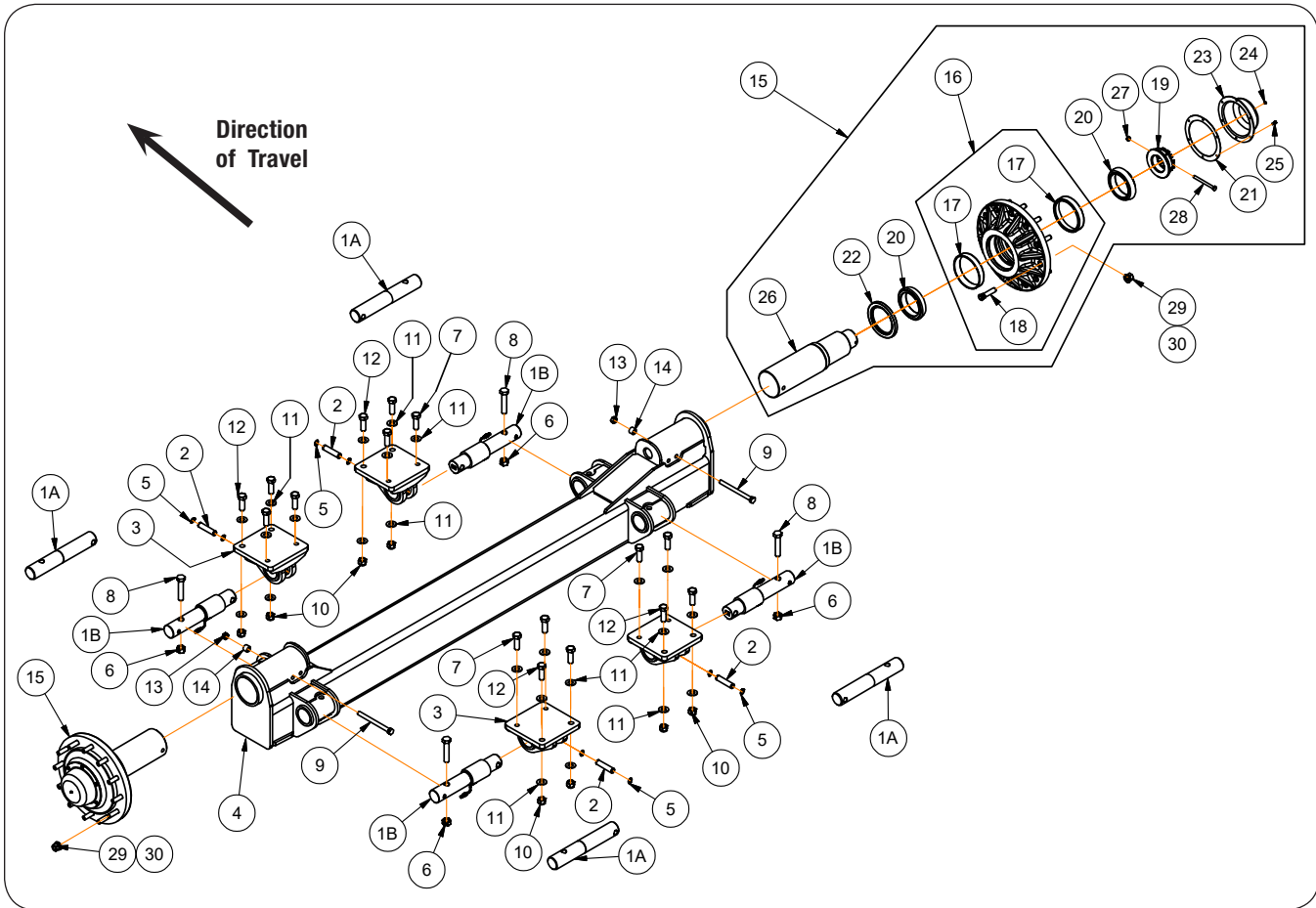
Single Wheel Axle — For V1300 Only

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

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
	Rigid Axle Assembly w/out Scales (Green)	288191G	1	Includes Items 1A, 2 through 13 & 30
	Rigid Axle Assembly w/out Scales (Red)	288191R		
	Rigid Axle Assembly w/Scales (Green)	288190G		Includes Items 1B, 2 through 13 & 30
	Rigid Axle Assembly w/Scales (Red)	288190R		
1A	Non-Weigh Bar For Units w/out Scales	268289	4	
1B	Weigh Bar For Units w/Scales	9004903		
2	Hitch Pin 1" Dia. x 4 9/16"	250843	4	
3	Axle Mount Casting (Green)	283854G	4	
	Axle Mount Casting (Red)	283854R		
4	Axle Weldment (Green)	288223G	1	
	Axle Weldment (Red)	288223R		
5	Retaining Ring 1"	91192	8	Grade 5
6	Locknut/Center 1"-8UNC	92199	4	
7	Capscrew 1"-14UNS x 3" Gr. 8	91299-1456	8	
8	Capscrew 1"-8UNC x 5"	9390-193	4	Grade 5
9	Capscrew 3/4"-10UNC x 9" Gr. 8	91299-256	2	
10	Locknut 1"-14UNS Gr. 8	9008441	8	
11	Depth Washer 1 1/16"	804685	16	
12	Spacer Bushing =Black=	283895B	2	
13	Locknut/Center 3/4"-10UNC Gr. 8	9008442	2	
14	Hub & Spindle Assembly (Green)	282310G	2	Includes Items 15 through 27
	Hub & Spindle Assembly (Red)	282310R		
15	Hub Assembly (Green)	282312G	1	Includes Items 16 & 17
	Hub Assembly (Red)	282312R		
16	Bearing Cup 7.5" OD x 1.3125	9006996	2	
17	Stud Bolt M22 x 1.5 x 4	9007001	12	
18	Spindle Nut	282316	1	
19	Bearing Cone 5.25" ID x 1.5625	9007007	2	
20	Gasket	282315	1	
21	Seal 7 7/8" OD	9007010	1	
22	Hub Cap (Green)	282314G	1	
	Hub Cap (Red)	282314R		
23	Grease Zerk	91160	1	
24	Capscrew 5/16"-18UNC x 3/4" Gr.5	9390-028	6	
25	Spindle 6" Dia. x 23 3/4"	282311	1	
26	Locknut/Center 1/2"-13UNC	94981	1	
27	Capscrew 1/2"-13UNC x 5 3/4" Gr.5	9007854	1	
28	Wheel Nut Kit	271414	1	Includes Item 29
29	Flanged Cap Nut M22 x 1.5	97319	24	
30	Decal, IMPORTANT (Spindle Shipping Position)	9008141	2	

Single Wheel Axle — For V1500 Only

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



Single Wheel Axle — For V1500 Only

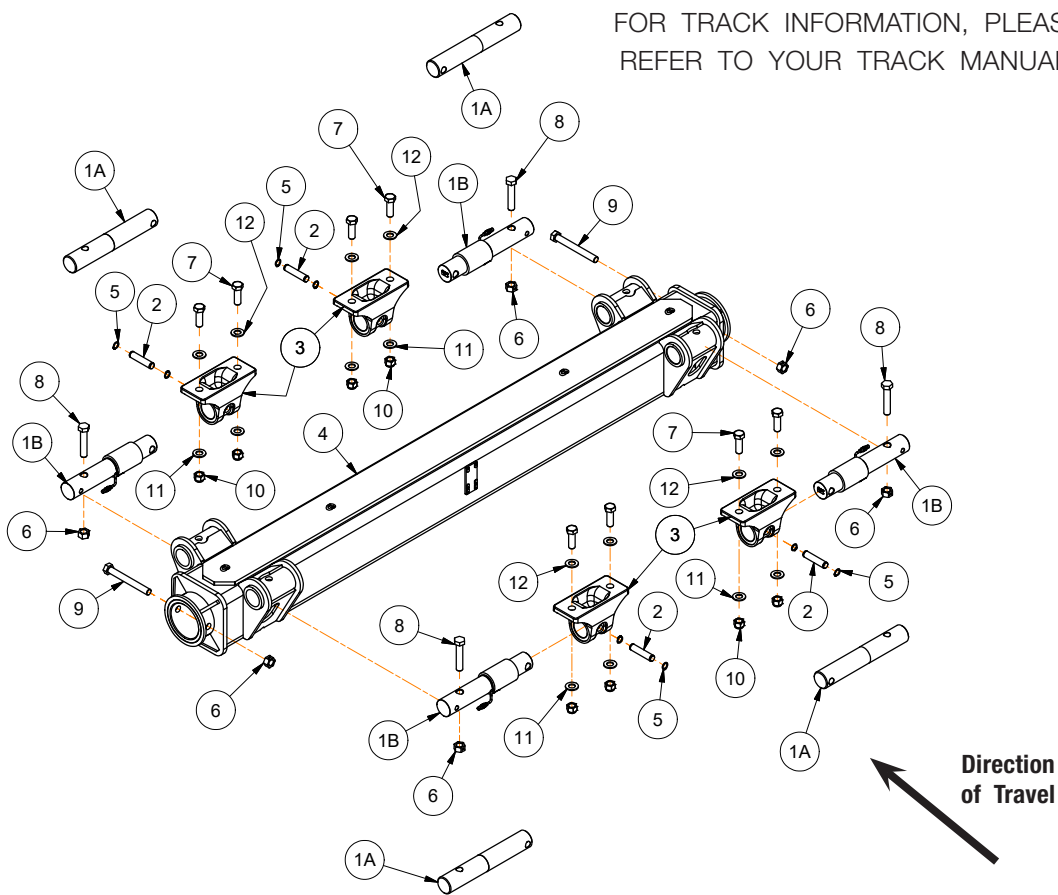
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
	Rigid Axle Assembly w/out Scales (Green)	294593G	1	Includes Items 1A, 2 through 14
	Rigid Axle Assembly w/out Scales (Red)	294593R		
	Rigid Axle Assembly w/Scales (Green)	294592G		Includes Items 1B, 2 through 14
	Rigid Axle Assembly w/Scales (Red)	294592R		
1A	Non-Weigh Bar For Units w/out Scales	282745	4	
1B	Weigh Bar For Units w/Scales	9005811		
2	Hitch Pin 1" Dia. x 5 1/2"	282876	4	
3	Axle Mount Casting (Green)	288596G	4	
	Axle Mount Casting (Red)	288596R		
4	Axle Weldment (Green)	294594G	1	
	Axle Weldment (Red)	294594R		
5	Retaining Ring 1"	91192	8	Grade 5
6	Locknut/Center 1"-8UNC	92199	4	
7	Capscrew 1"-14UNS x 2 1/2 Gr. 8	9008339	8	
8	Capscrew 1"-8UNC x 5 1/2"	9390-194	4	Grade 5
9	Capscrew 3/4"-10UNC x 9"	91299-256	2	Grade 5
10	Locknut 1"-14UNS Gr. 8	9008441	8	
11	Depth Washer 1 1/16"	804685	24	
12	Capscrew 1"-14UNS x 3 1/2" Gr. 8	91299-1458	8	
13	Locknut/Center 3/4"-10UNC Gr. 8	9008442	2	
14	Spacer Bushing =Black=	283895B	2	
15	Hub & Spindle Assembly (Green)	282310G	2	Includes Items 16 through 28
	Hub & Spindle Assembly (Red)	282310R		
16	Hub Assembly (Green)	282312G	1	Includes Items 17 & 18
	Hub Assembly (Red)	282312R		
17	Bearing Cup 7.5" OD x 1.3125	9006996	2	
18	Stud Bolt M22 x 1.5 x 4	9007001	12	
19	Spindle Nut	282316	1	
20	Bearing Cone 5.25" ID x 1.5625	9007007	2	
21	Gasket	282315	1	
22	Seal 7 7/8" OD	9007010	1	
23	Hub Cap (Green)	282314G	1	
	Hub Cap (Red)	282314R		
24	Grease Zerk	91160	1	
25	Capscrew 5/16"-18UNC x 3/4" Gr.5	9390-028	6	
26	Spindle 6" Dia. x 23 3/4"	282311	1	
27	Locknut/Center 1/2"-13UNC	94981	1	
28	Capscrew 1/2"-13UNC x 5 3/4" Gr.5	9007854	1	
29	Wheel Nut Kit	271414	1	Includes Item 30
30	Flanged Cap Nut M22 x 1.5	97319	24	

Track Axle — For V1300 Only

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

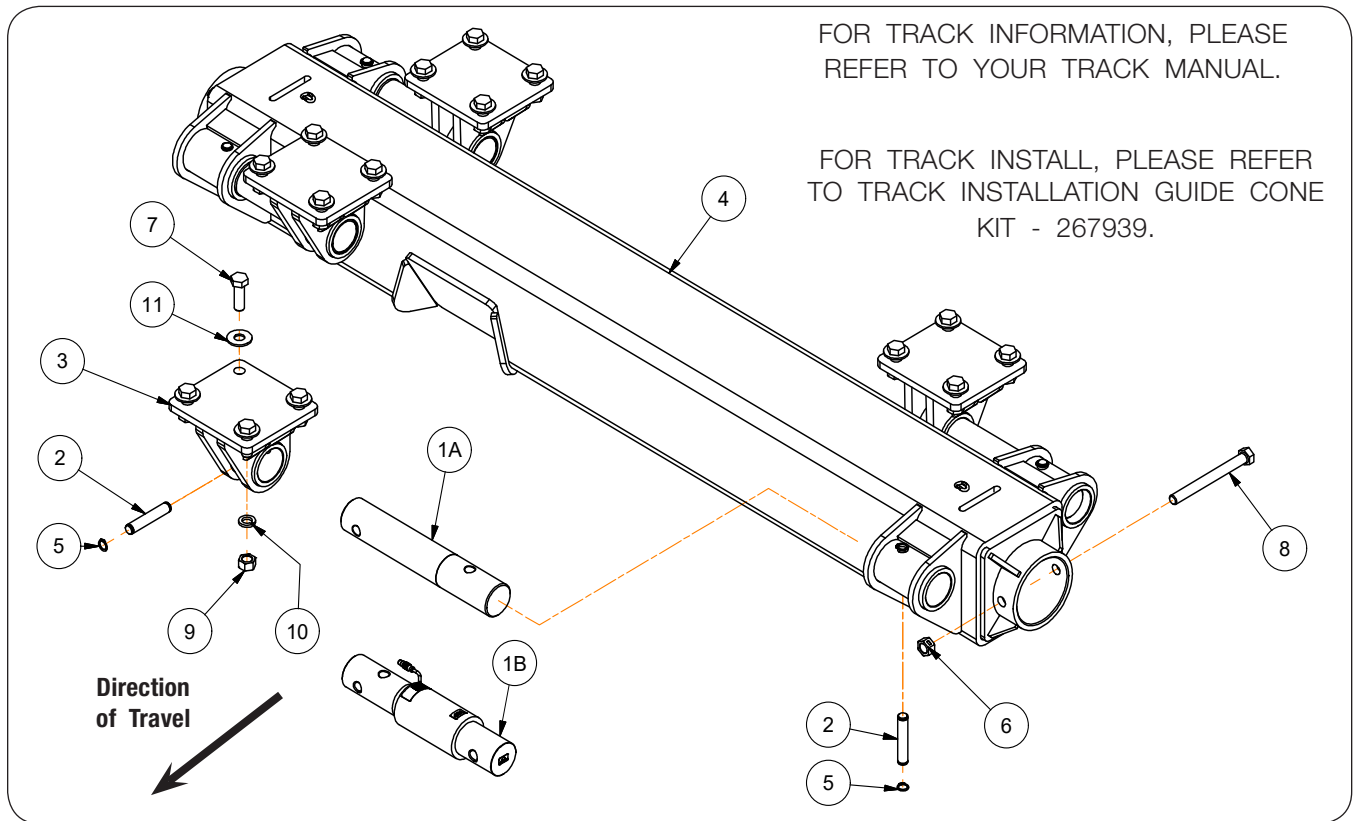
FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.



ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
	Track Axle Assembly w/out Scales (Black)	288193B	1	Includes Items 1A, 2 through 12
	Track Axle Assembly w/Scales (Black)	288192B		
1A	Hitch Bar For Units w/out Scales	268289	4	
1B	Hitch Bar For Units w/Scales	9004903		
2	Hitch Pin 1" Dia. x 4 9/16"	250843	8	
3	Axle Mount Casting (Green)	283854G	4	
	Axle Mount Casting (Red)	283854R		
4	Track Axle Weldment (Black)	288224B	1	
5	Retaining Ring 1"	91192	16	Grade 5
6	Locknut/Center 1"-8UNC	92199	8	
7	Capscrew 1"-14UNS x 2 1/2 Gr. 8	9008339	3	
8	Capscrew 1"-8UNC x 5"	9390-193	4	Grade 5
9	Capscrew 1"-8UNC x 8 1/2"	9390-462	2	Grade 5
10	Hex Nut 1"-14UNS Gr. 8	9008338	8	
11	Lock Washer 1"	9404-041	8	
12	Flat Washer 1" USS	9405-118	8	

Track Axle — For V1500 Only

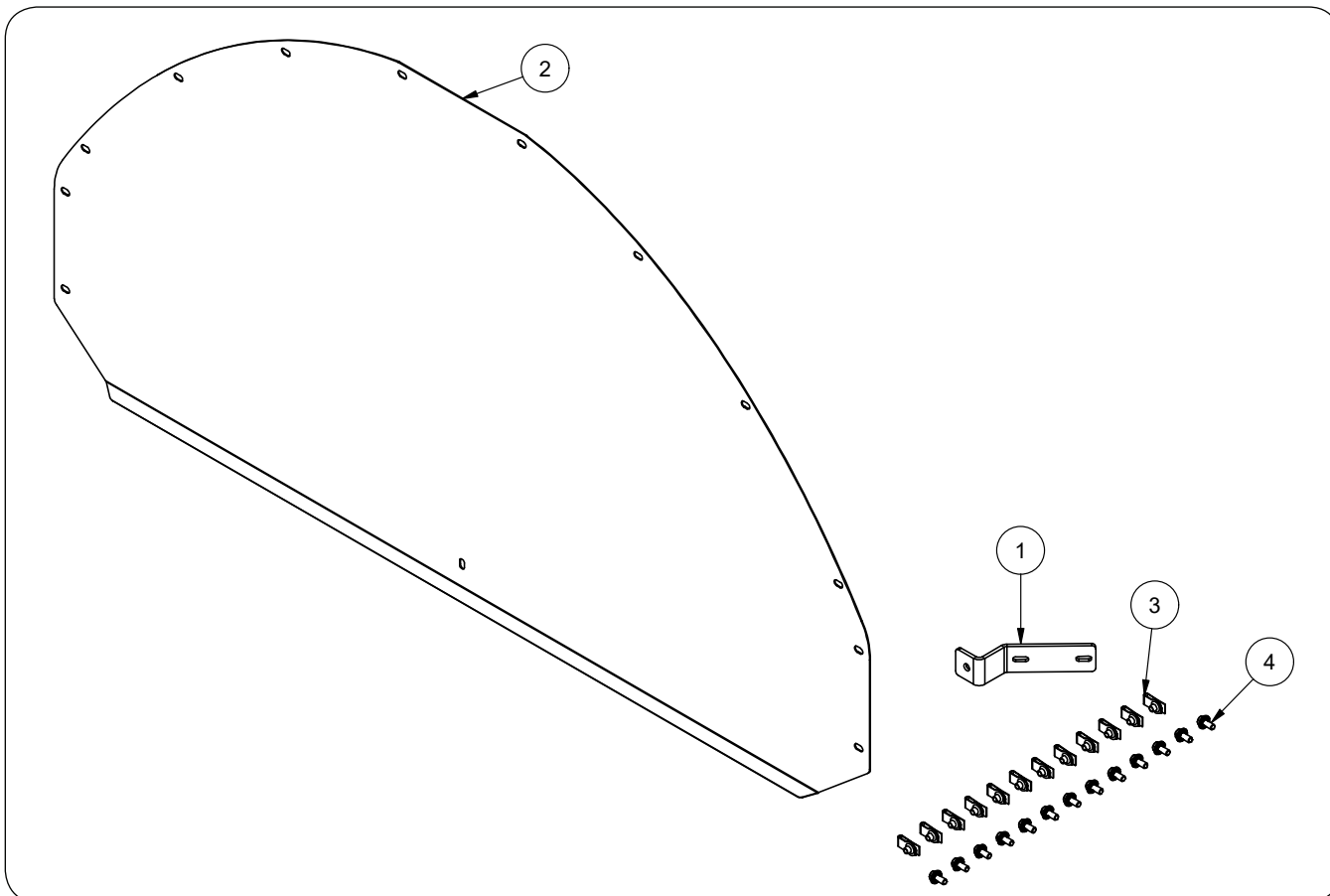
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
	Track Axle Assembly w/out Scales (Black)	288197B	1	Includes Items 1A, 2 through 11
	Track Axle Assembly w/Scales (Black)	288196B		
1A	Hitch Bar For Units w/out Scales	282745	4	
1B	Hitch Bar For Units w/Scales	9005811		
2	Hitch Pin 1" Dia. x 5 1/2"	282876	8	
3	Axle Mount Casting (Green)	288437G	4	
	Axle Mount Casting (Red)	288437R		
	Axle Mount Casting (Black)	288437B		
4	Track Axle Weldment (Green)	288225G	1	
	Track Axle Weldment (Red)	288225R		
	Track Axle Weldment (Black)	288225B		
5	Retaining Ring 1"	91192	16	Grade 5
6	Locknut/Center 1"-8UNC	92199	2	
7	Capscrew 1"-8UNC x 3"	9390-187	16	Grade 5
8	Capscrew 1"-8UNC x 8 1/2"	9390-464	2	Grade 5
9	Hex Nut 1"-8UNC	9394-020	16	
10	Lock Washer 1"	9404-041	16	
11	Flat Washer 1" USS	9405-118	16	

Wheel Well Cover Kit #288203G or #288203R - Model V1300

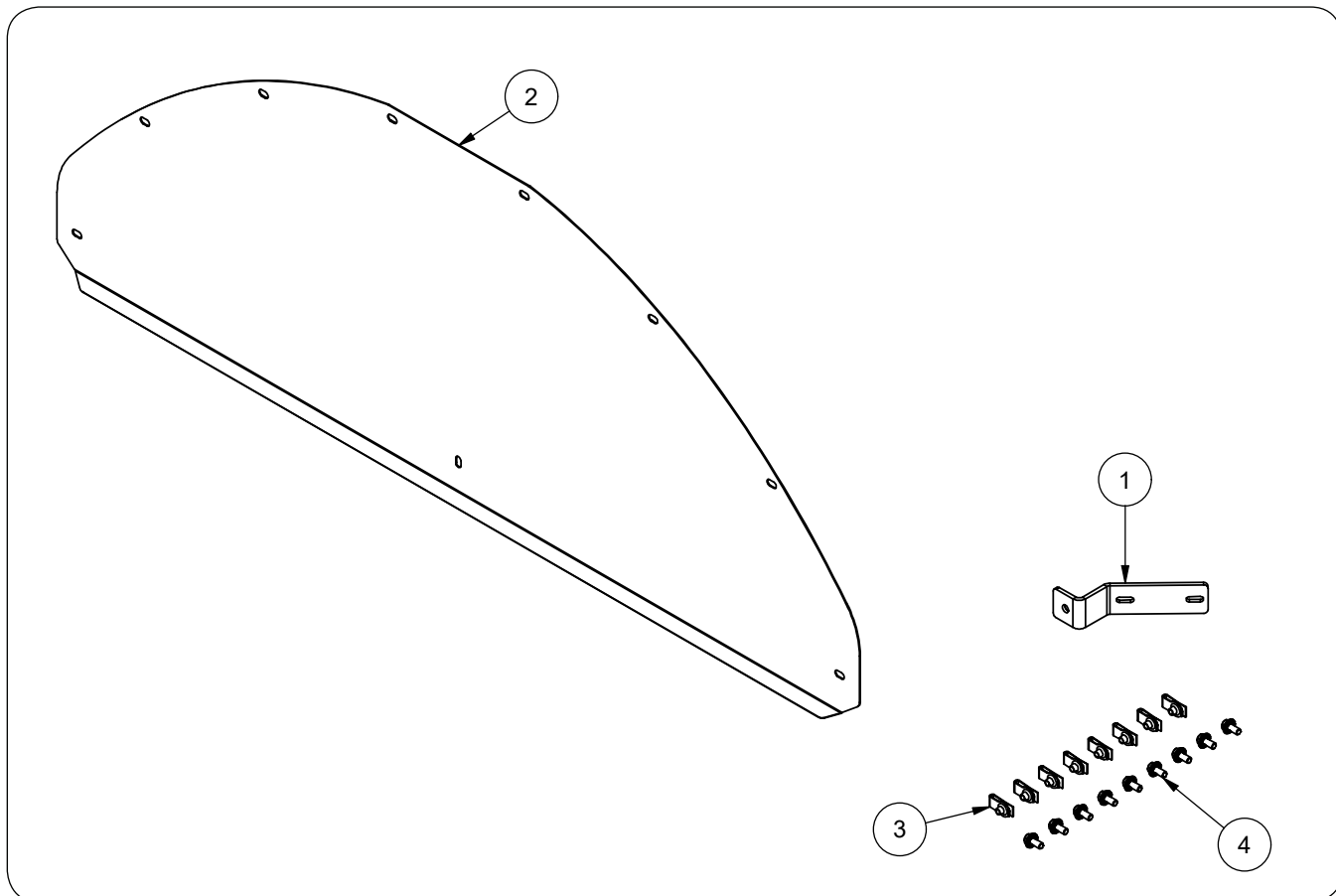
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	DESCRIPTION	PART NO.	QTY	NOTES
	Wheel Well Cover Kit (Green)	288203G	1	Includes Items 1 - 4
	Wheel Well Cover Kit (Red)	288203R		
1	Plate Weldment =Black=	287691B	1	
2	Cover Panel =Green=	288128G	1	
	Cover Panel =Red=	288128R		
3	U-Nut 3/8"-16UNC	9005376	12	
4	Large Flange Capscrew 3/8"-16UNC x 3/4" G5	95585	13	

Wheel Well Cover Kit #294784G or #294784R - Model V1500

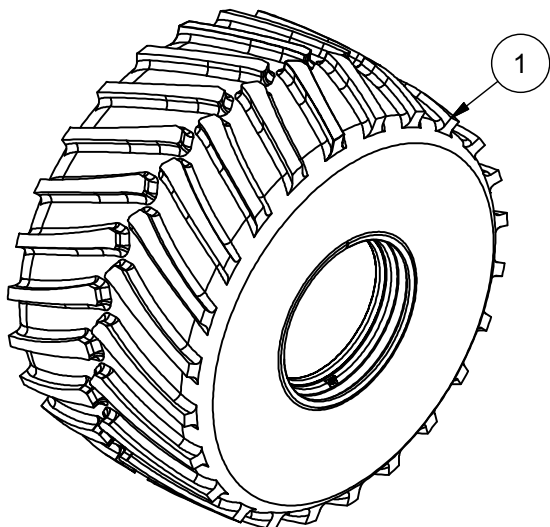
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	DESCRIPTION	PART NO.	QTY	NOTES
	Wheel Well Cover Kit (Green)	294784G	1	Includes Items 1 - 4
	Wheel Well Cover Kit (Red)	294784R		
1	Plate Weldment =Black=	287691B	1	
2	Cover Panel =Green=	294785G	1	
	Cover Panel =Red=	294785R		
3	U-Nut 3/8"-16UNC	9005376	8	
4	Large Flange Capscrew 3/8"-16UNC x 3/4" G5	95585	9	

Single Wheels & Tires

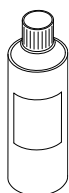
Please visit www.unverferth.com/parts/ for the most current parts listing.



TIRES
 For questions regarding new tire warranty, please contact your local original equipment tire dealer. Used tires carry no warranty.

ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
1	Wheel & Tire Assembly	110598SM/9500943	2	44 x 32 / TLIF1250/50R32F R-1W (201D) (V1300)
	Valve Stem	93300	2	
	Wheel Only	110598SM	2	44 x 32 (V1300)
1	Wheel & Tire Assembly	111499SM	2	44 x 32 / TLIF1250/50R32AL R-1W (201B) (V1500)
	Valve Stem	93300	2	
	Wheel Only	110566SM	2	44 x 32 (V1500)

Touch-Up Paint



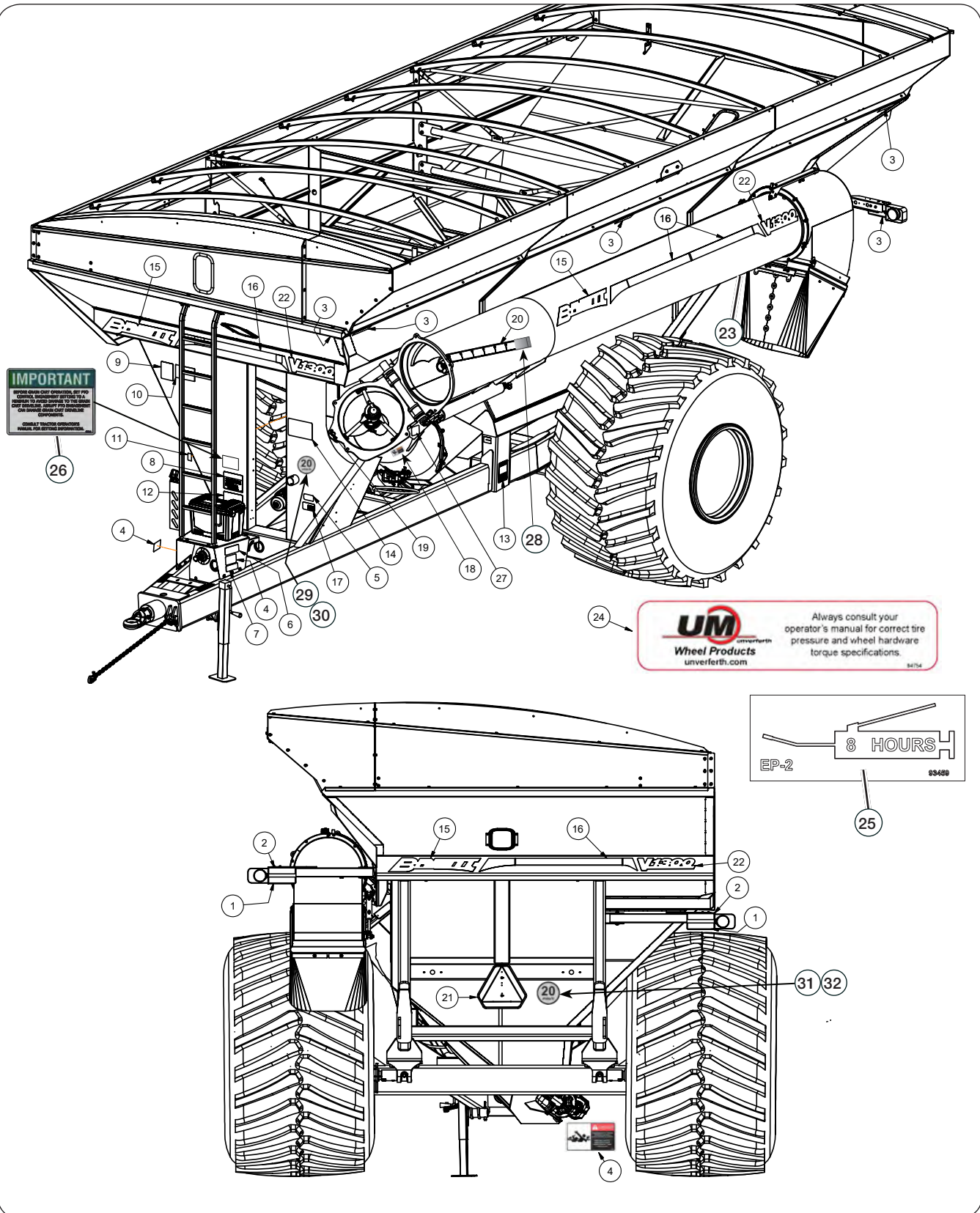
PAINT	SPRAY
Black	97013
Green	97015
Red	97301
Off White	97016
Sliver Mist	97012

Notes

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

Decals

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



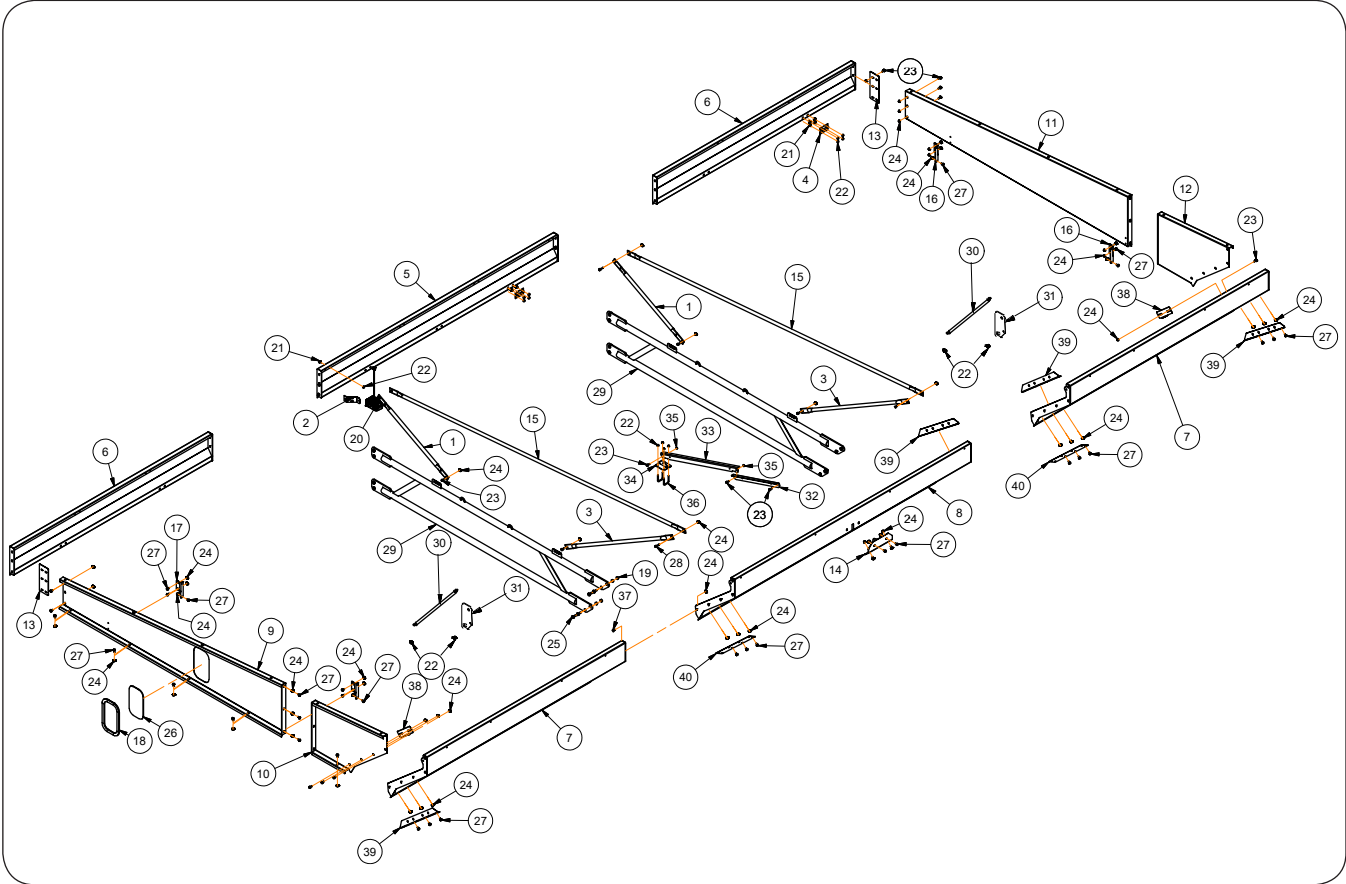
Decals

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

ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
1	Fluorescent Strip	9003125	3	2 x 9"
2	Red Reflector	9003126	3	2 x 9"
3	Amber Reflector	9003127	8	2 x 9"
4	Decal, DANGER "Drive Shaft Entanglement"	95046	3	
5	Decal, WARNING "Read & Understand"	97961	1	
6	Decal, WARNING "Tongue Drop"	94094	1	
7	Decal, CAUTION "Transport Chain"	97575	1	
8	Decal, Cart Loading Sequence	9004966	1	
9	Decal, DANGER "Just For Kids"	9003478	1	
10	Decal, WARNING "No Riders"	9003476	1	
11	Decal, FEMA	91605	1	
12	Decal, IMPORTANT "Flow Control Gate"	9003477	1	
13	Decal, WARNING "PTO Cut & Crush"	9003475	2	
14	Decal, DANGER "Electrical Lines"	9003474	1	
15	Decal, Brent Logo - 5.5 x 43	9006360	5	
16	Decal, Stripe - 2.73 x 36.50	9006361	13	
17	Decal, WARNING "High-Pressure"	95445	1	
18	Decal, WARNING "Pinch Point"	95839	1	
19	Decal, Reflective Checker Tape	265384	1	
20	Decal, Flow Control 3" x 38"	92563	1	
21	SMV Sign	TA510514	1	Use Items 35, 36, 37 and 38
22	Decal, V1300	9007877	5	
	Decal, V1500	9007878		
23	Decal, WARNING "Moving Parts"	TA1-906109-0	1	
24	Decal, UM Wheel Systems	94754	1	
25	Decal, Grease Every 8 Hours	93459	1	
26	Decal, IMPORTANT "PTO Engagement"	9008151	1	
27	Decal, IMPORTANT "Grease U-Joint Bearing"	9008447	1	
28	Decal, Max Flow	9008908	1	
29	Decal, Front SIS 20 MPH	9008715	1	
30	Decal, Front SIS 30 KPH	9008721	1	
31	Decal, Rear SIS 20 MPH	9008714	1	Use Items 33, 34 and 35
32	Decal, Rear SIS 30 KPH	9008720	1	
33	SIS Decal Mounting Bracket =Black=	276987B	1	Not Shown
34	Flange Screw 1/4"-20UNC x 3/4" G5	97420	2	
35	Hex Nut 1/4"-20UNC	97189	6	
36	Capscrew 1/4"-20UNC x 1" G5	9390-005	4	
37	Flat Washer 1/4"	9405-064	2	
38	SMV Bracket =Black=	408485B	1	Not Shown For SN B41870100 & Higher

Sideboards

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



Sideboards

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

ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
1	Tube, Angle Brace/Sideboard Support 39 7/8"	220032B	2	
2	Plate, Lamp Mount	271574B	1	
3	Tube, Board Brace	287692B	3	For V1300
		288653B		For V1500
4	Hinge	9004626	14	
5	Sideboard, Center RH	288314B	1	
6	Sideboard, Front & Rear RH	288315B	2	
7	Sideboard, Front & Rear LH	288320B	2	For V1300
		288633B		For V1500
8	Sideboard, Center LH	288321B	1	For V1300
		288635B		For V1500
9	Large Sideboard Front	288327B	1	For V1300
		288632B		For V1500
10	Small Sideboard, Front	288328B	1	For V1300
		288630B		For V1500
11	Large Sideboard Rear	288329B	1	
12	Small Sideboard, Rear	288330B	1	For V1300
		288631B		For V1500
13	Bolt Plate	288337B	2	
14	Brace Weldment	288354B	1	
15	Brace Tube 149 7/8"	288377B	2	For V1300
	Brace Tube 167 1/2"	288641B		For V1500
16	Rear Hinge Plate	288427B	2	
17	Rear Hinge Plate	288428B	2	
18	Window Molding	250431	1	
19	Flange Nut 1/2"-13UNC	9002058	16	
20	Work Light, LED	9008957	1	For SN B41320100 & Higher
		9007186		For SN B41320099 & Lower
21	Flange Bolt 5/16-18UNC x 3/4	91256	48	
22	Flange Nut 5/16-18UNC	91257	52	
23	Screw/Large Flange 3/8-16UNC x 1	91262	14	
24	Nut/Large Flange 3/8-16UNC	91263	106	
25	Flange Screw 1/2"-13UNC x 1 1/4"	91266	4	
26	Window, 1/4 x 7 1/16 x 12 5/8	92403	1	
27	Capscrew/Large Flange 3/8-16UNC x 3/4	95585	91	
28	Flange Screw 3/8"-16UNC x 1 1/2 Gr.5	95785	3	
29	Cross Tube Weldment	288258B	2	For V1300
		288580B		For V1500
30	Gas Spring	9008198	2	
31	Plate - Board	288690B	2	
32	Brace Sideboard 24 1/4"	288693B	1	
33	Brace Sideboard 40 7/8"	288694B	1	
34	Brace Mount Weldment	288698B	1	
35	Locknut, 3/8-16UNC (Grade F)	9003396	3	
36	U-Bolt 5/16-18UNC x 2 3/4" (Grade 5)	9002713	2	
37	Carriage Bolt 3/8-16UNC x 1" Gr. 5	9388-051	10	
38	Cover Bracket	287914B	2	
39	Sideboard Brace Plate	289783B	6	
40	Sideboard Doubler Plate	289784B	2	

EOH Valve Assembly Components 4 Spool (Optional)

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

Cartridge Valve (9008416)

Correct Middle Detent Position

Incorrect Top Detent Position

Cartridge Valve (9008416)
Middle Detent Position

(S1)

(S2)

PUSH BUTTON AND HOLD WHILE OPERATING INDIVIDUAL FUNCTIONS

Cartridge Valve (9008438)

FOR MANUAL OVERRIDE

NOTE: Refer to “Electric Over Hydraulic Manual Override Operation (Optional)”

7

HYDRAULIC BLOCK MANUAL OVERRIDE OPERATION

MANUAL OPERATIONS: DETENT ONE CARTRIDGE TO DESIRED FUNCTION.

PRESS & HOLD THE POWER CARTRIDGE FOR FUNCTION.

RELEASE POWER AND RETURN CARTRIDGE TO CENTER DETENT WHEN FUNCTION IS COMPLETE

UPPER FUNCTION JOYSTICK OPERATION

LOWER FUNCTION JOYSTICK OPERATION

CAUTION CARTRIDGES MUST BE IN CENTER DETENT TO PREVENT UNDESIRABLE ACTIONS DURING JOYSTICK OPERATIONS

SPOT WIPER IN / SPOT WIPER OFF

SPOT TEST IN / SPOT TEST OFF

ARMER UP/OLD / ARMER FOLD

FLOW DOOR OPEN / FLOW DOOR CLOSE

POWER

HYDRAULIC BLOCK

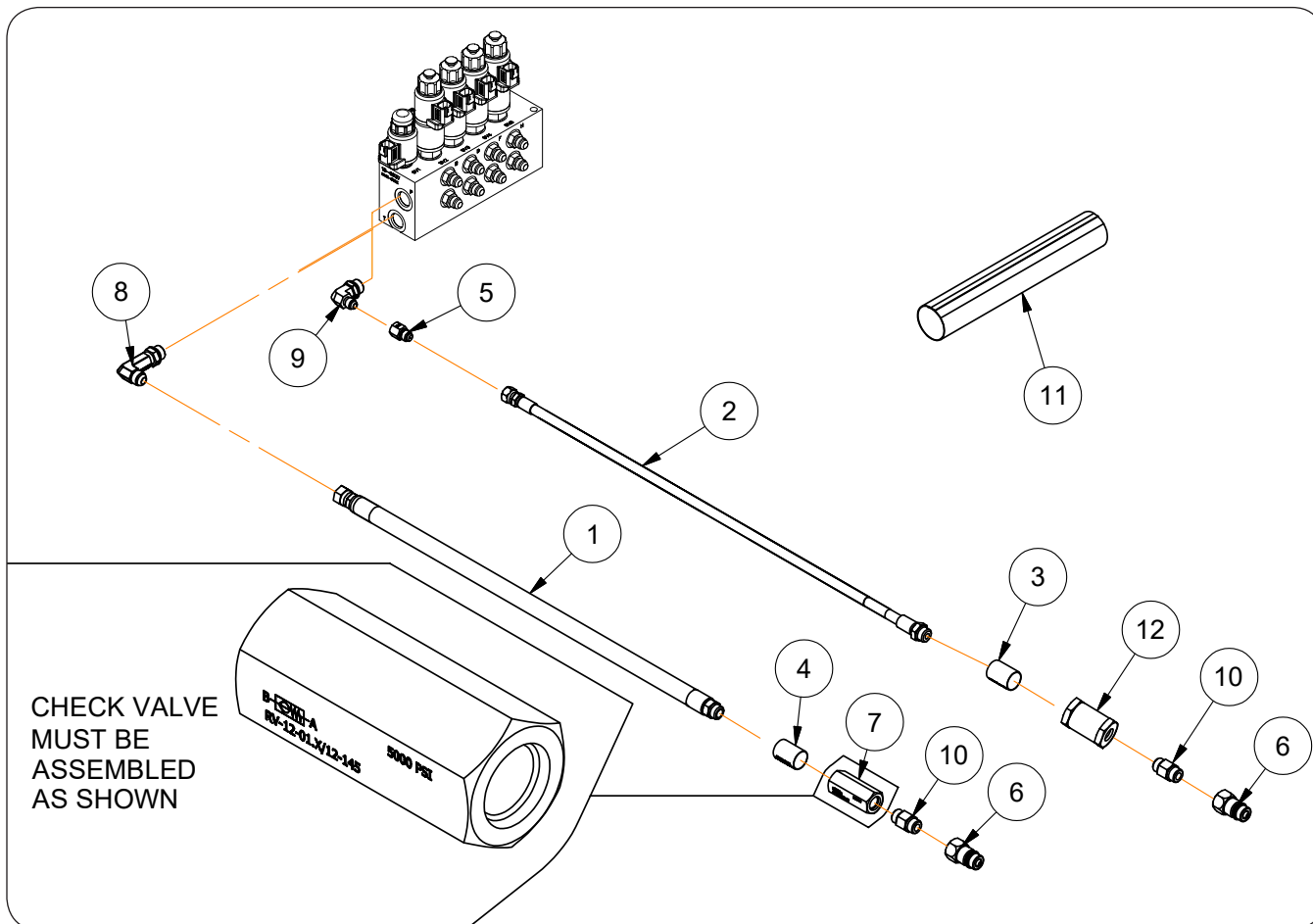
EOH Valve Assembly Components 4 Spool (Optional)

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9008416	Cartridge Valve - 4 Way, 3 Position - Closed Center w/Detented Manual Override	4	
	9003906	Seal Kit	-	
2	9008438	Cartridge Valve - 2 Way, 2 Position w/Push Type Manual Override	1	
	9003904	Seal Kit	-	
3	9001495	Adapter 9/16-18 JIC Male x 9/16-18 O-Ring Male	8	
4	9005769	Coil - 12 VDC DN-40	9	
5	9008374	4 Spool Hydraulic Block Assembly	1	
6	9008366	Manifold Block - 4 Spool	1	
7	9009470	Decal, Valve Block Caution	1	

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	9002283	Hydraulic Hose, 1/2 x 194" - 3000 PSI	1	
2	9007842	Hydraulic Hose, 1/4 x 196" - 3000 PSI	1	
3	9005982	Hydraulic Pressure Hose Marker	1	
4	9005983	Hydraulic Return Hose Marker	1	
5	9006527	JIC Tube Reducer, 9/16-18 UNF Male x 9/16-18 UNF Female	1	
6	91383	Male Tip Coupling, 3/4-16	2	
7	9006994	Check Line Valve 145 PSI	1	
8	901568	90° Elbow 3/4-16 JIC Male x 3/4-16 O-Ring ADJ Male	1	
9	9874	90° Elbow 9/16-18 JIC Male x 3/4-16 O-Ring ADJ Male	1	
10	98508	Adapter 3/4-16 O-Ring Male x 3/4-16 O-Ring Male	2	
11	9003848	Velcro Hose Wrap, 2" I.D. x 127" Lg.	1	
12	9005403	120 Micron Hydraulic Filter	1	

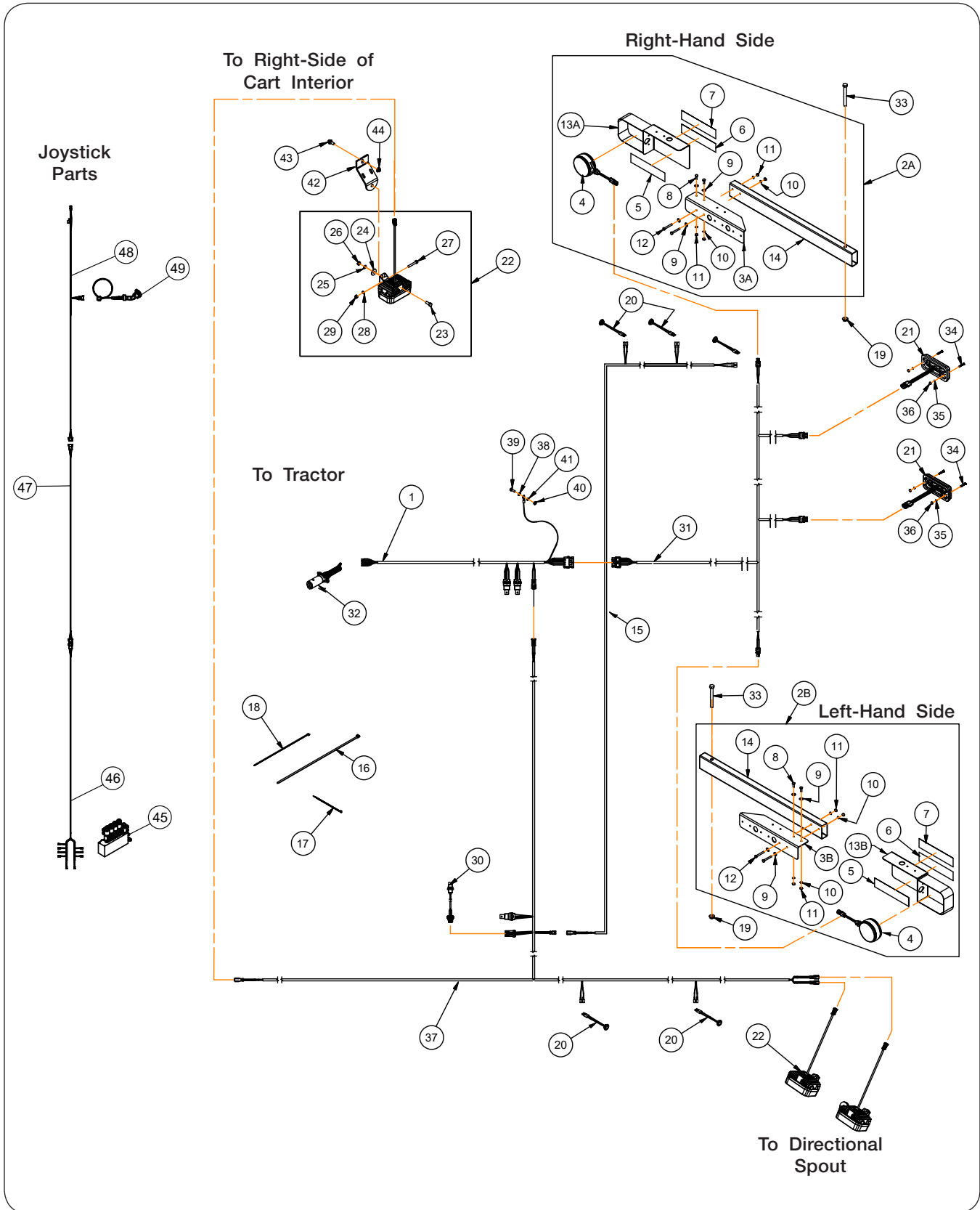
Notes

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

Empty rounded rectangular box for notes.

Electrical

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



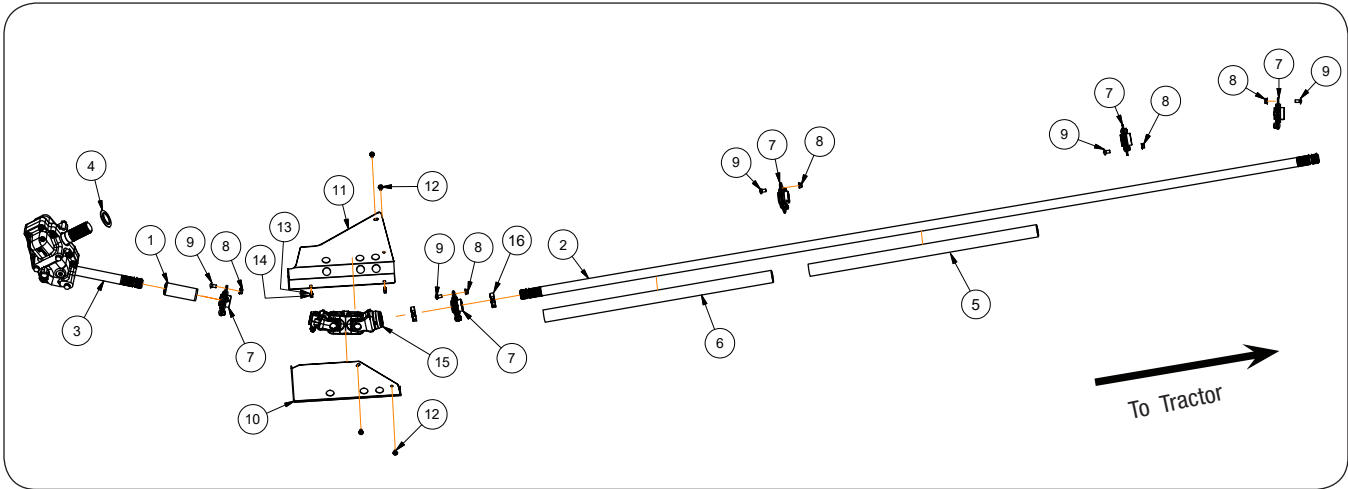
Electrical

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

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	Wiring Harness, Front	9007911	1	
2A	Tail Light RH Sub Assembly	280847	1	Includes Items 3A, 4 through 12, 13A, 14
2B	Tail Light LH Sub Assembly	280848	1	Includes Items 3B, 4 through 12, 13B, 14
3A	RH Plate	251406B	1	
3B	LH Plate	251407B	1	
4	LED Light, Amber - Double Face	9005142	2	
	LED Lens Only	9005095	-	
5	Amber Reflector	9003127	7	2 x 9"
6	Red Reflector	9003126	2	2 x 9"
7	Fluorescent Strip, Red-Orange	9003125	2	2 x 9"
8	Capscrew, 1/4-20UNC x 3/4	9390-003	4	
9	Flat Washer, 1/4	9405-064	8	
10	Lock Washer, 1/2	9404-017	8	
11	Hex Nut, 1/4-20UNC	9394-002	8	
12	Capscrew, 1/4-20 UNC x 2	9390-009	4	
13A	RH Light Bracket Weldment	292719B	1	
13B	LH Light Bracket Weldment	292718B	1	
14	Tube, Light	280370B	2	
15	Clearance Wiring Harness	9007921	1	
16	Cable Tie, 21 1/2"	9000104	2	
17	Cable Tie, 7 1/2"	9000106	9	
18	Cable Tie, 14 1/2"	9000107	2	
19	Locking Flange Nut 1/2-13UNC	9003397	2	
20	Micro Dot Amber Light (LED)	9006107	2	
21	Red Light- Tail/Turn (LED)	9006282	2	
22	Work Light (LED)	9008957	3	For SN B41320100 & Higher Includes Items 23 through 29
		9007186		For SN B41320099 & Lower Includes Items 23 through 29
23	Capscrew 3/8-16UNC x 1	9390-055	1	
24	Flat Washer 3/8"	9405-078	1	
25	Lock Washer 3/8"	9404-021	1	
26	Hex Nut 3/8-16UNC	9394-006	1	
27	Capscrew 5/16-18UNC x 2	9390-034	1	
28	Lock Washer 5/16"	9404-019	1	
29	Hex Nut 5/16-18UNC	9394-004	1	
30	Proximity Switch	9007472	1	
31	Wiring Harness, Rear	9007913	1	
32	Electrical Coupler	92450	1	
33	Capscrew 1/2-13UNC x 4 1/2	9390-112	2	
34	Pan Head Machine Screw, #10-32UNF x 1 1/4	903172-350	4	
35	Split Lock Washer, #10	9404-013	4	
36	Hex Nut #10-32 Grade 2	9830-016	4	
37	Wiring Harness - Auger Light 579 15/16"	9009077	1	For SN B41320100 & Higher For SN B41320099 & Lower
	Wiring Harness - Auger Light 538 7/8"	9007914		
38	Lock Washer - External Tooth	9004981	1	
39	Capscrew 1/4-20UNC x 3/4	9390-003	1	
40	Hex Nut 1/4-20UNC	9394-002	1	
41	Lock Washer 1/4"	9404-017	1	
42	Light Bracket	271574B	1	
43	Truss Head Machine Screw 3/8-16UNC x 1	9005312	1	
44	Nut/Large Flange 3/8-16UNC	91263	1	
45	Hydraulic Block Assembly 4 Spool	291585	1	
46	Harness - Main	9008403	1	
47	Harness - Extension	9006233	1	
48	Harness - Power	9008402	1	
49	L-Series Control Grip - 4 Function	9008378	1	

Drive Components

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



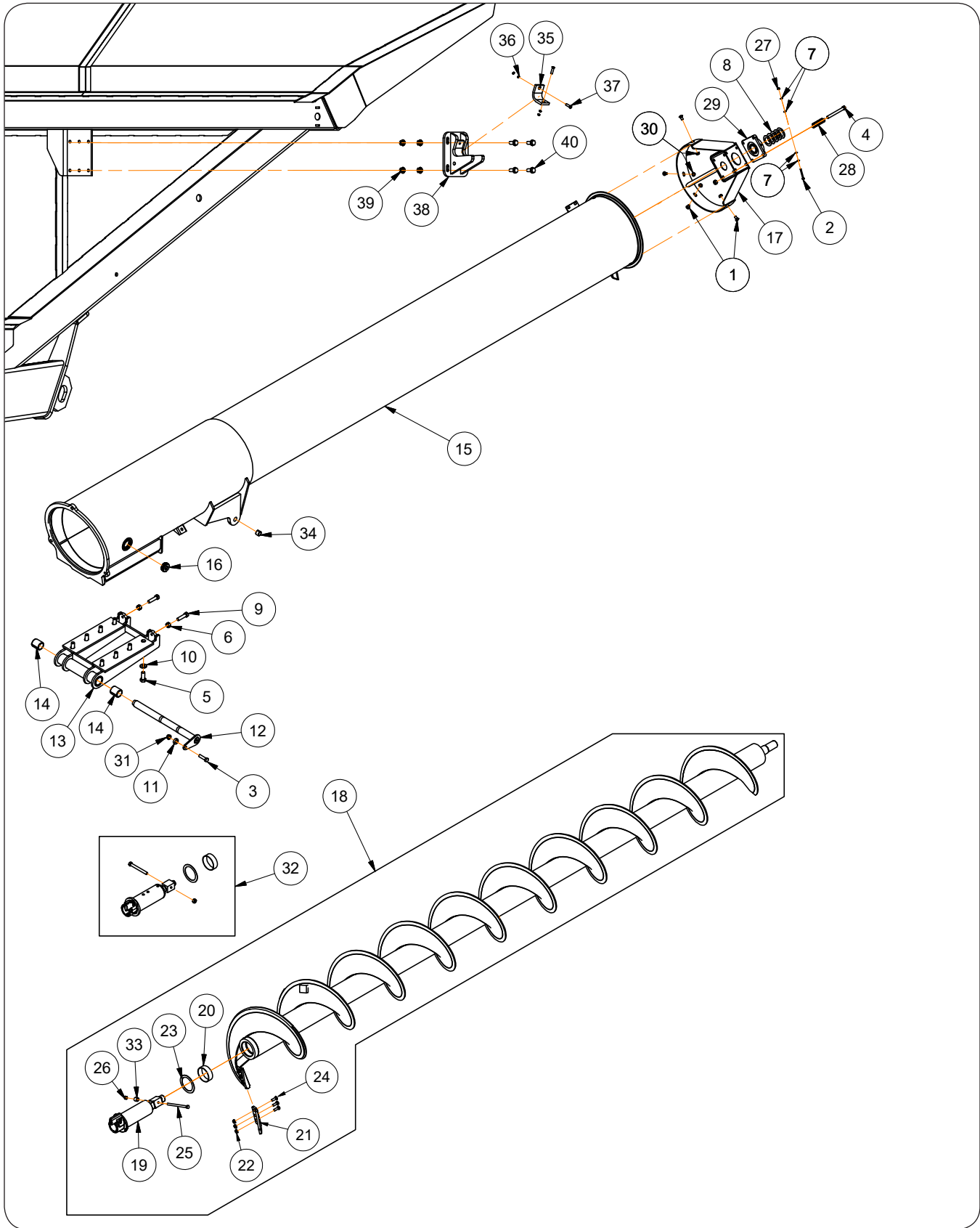
Drive Components

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

ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
1	Tube Cover	288764	1	For SN B40190099 & Lower
2	Drive Shaft 1 3/4" Dia. x 144 5/8"	289819	1	For SN B40190100 & Higher
	Drive Shaft 1 3/4" Dia. x 136 3/4"	288170		For SN B40190099 & Lower
3	45 Degree Gearbox	9008711	1	For SN B40190100 & Higher
		9007419		For SN B40190099 & Lower
4	Dust Cover	9007377	1	
5	Tube Cover 41 1/2" Long	288762	1	
6	Tube Cover 52" Long	293380	1	For SN B40190100 & Higher
	Tube Cover 45 1/8" Long	288763		For SN B40190099 & Lower
7	Flangette Bearing 1 3/4"	9005061	4	For SN B40190100 & Higher
			5	For SN B40190099 & Lower
8	Flange Nut 1/2"-13UNC	91267	16	For SN B40190100 & Higher
			20	For SN B40190099 & Lower
9	Carriage Bolt 1/2"-13UNC x 1" Gr.5	9388-102	16	For SN B40190100 & Higher
			20	For SN B40190099 & Lower
10	Outside Panel Cover U-Joint =Black=	289833B	1	For SN B40190100 & Higher
		288424B		For SN B40190099 & Lower
11	Inside Panel Cover U-Joint =Black=	289834B	1	For SN B40190100 & Higher
		288425B		For SN B40190099 & Lower
12	Screw/Large Flange 3/8"-16UNC x 3/4"	95585	16	
13	Flange Screw 1/4"-20UNC x 3/4" Gr.5	97420	3	
14	Cage Nut Clip-On	TA500592	2	
15	Complete U-Joint Assembly	9007886	1	See Driveline U-Joint Assembly Section
16	Lock Collar 1 3/4" Dia.	9008674	2	

Upper Auger Components

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



Upper Auger Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	9388-102	Carriage Bolt 1/2"-13UNC x 1" G5	4	
2	9390-037	Capscrew 5/16"-18UNC x 2 3/4" Gr.5	1	
3	9390-126	Capscrew 5/8"-11UNC x 2 1/2" Gr.5	1	
4	9390-136	Capscrew 5/8"-11UNC x 6" Gr.5	6	
5	9390-165	Capscrew 7/8"-9UNC x 2 1/4" Gr.5	8	
6	9394-016	Hex Nut 3/4"-10UNC	2	
7	9405-068	Flat Washers 5/16" SAE	4	
8	93974	Flat Washers 2"	AR	
9	94733	Capscrew 3/4"-10UNC x 3" Gr. 5 (Full Threaded)	2	
10	97041	Flat Washer 7/8" Nom.	8	
11	268896	Spacer Bushing 1 1/2" OD	1	
12	268946	Pivot Shaft Weldment	1	
13	286984G	Upper Auger Pivot Weldment =Green=	1	
	286984R	Upper Auger Pivot Weldment =Red=		
14	9004980	Split Tension Bushing	2	
15	288899G	Upper Auger Housing Replacement Kit =Green=	1	
	288899R	Upper Auger Housing Replacement Kit =Red=		
16	9008430	Hex Socket Plug	1	
17	290990B	Hanger Bearing Weldment =BLACK=	1	
18	291667B	Upper Auger Weldment =Black=	1	
19	281682	Soft Start Kit	1	Includes Items 20, 23, 25, 26
20	9004877	Bushing 4.25" OD x 4.011" ID x 1.375"	1	
21	293466B	Extension Plate =BLACK=	1	
22	9003397	Locking Flange Nut 1/2"-13UNC	3	
23	9004878	Self Lubricating Thrust Washer 4.063" ID x 5.25" OD x 0.078"	1	
24	9388-104	Carriage Bolt 1/2"-13UNC x 1 1/2" G5	3	
25	9390-119	Capscrew 1/2"-13UNC x 8" G5	1	Replacement Kit 293428 Items 25, 26, & 33
26	9800	Locknut/Top 1/2"-13UNC	1	
27	901527	Locknut/Center 5/16"-18UNC	1	
28	9001812	Compression Spring	4	
29	9002492	Flanged Bearing 2" Dia.	1	
30	9003397	Locking Flange Nut 1/2"-13UNC	3	
31	9003398	Locknut/Top 5/8"-11UNC	4	
32	281682	Soft Start Kit	1	
33	410511	Spacer Bushing	1	
34	91268	Split Tension Bushing	1	
35	9004263	Stop Pad (2" x 4 3/8")	1	
36	9394-004	Hex Nut 5/16"-18UNC G5	4	
37	903171-662	Flat Head 5/16"-18UNC x 1 1/4" Phillips Machine Screw G5	2	
38	288494G	Rest Weldment =Green=	1	
	288494R	Rest Weldment =Red=		
39	91267	Flange Nut, 1/2"-13UNC G5	6	
40	9005705	Flange Screw, 1/2"-13UNC x 1 1/2" G5	6	

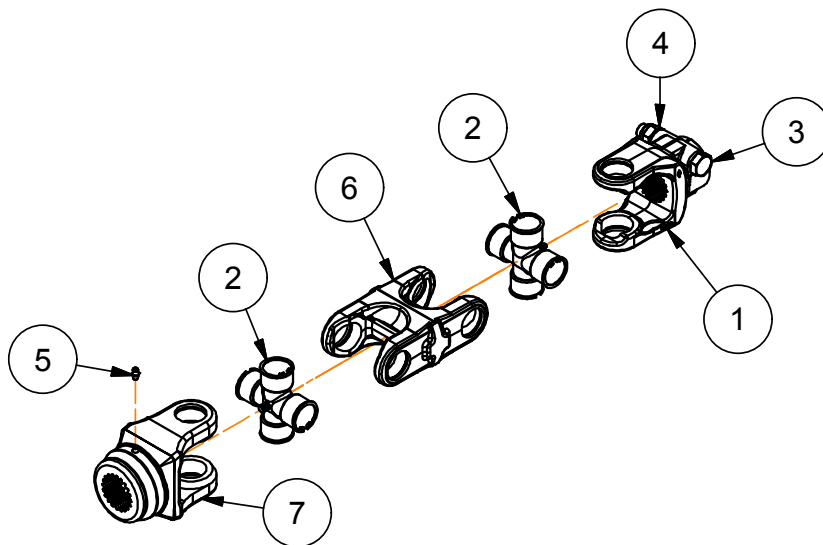
Lower Auger Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	9388-102	Carriage Bolt 1/2"-13UNC x 1" G5	4	For SN B40190100 & Higher
			8	For SN B40190099 & Lower
2	9390-123	Capscrew 5/8"-11UNC x 1 3/4" G5	6	
3	9390-124	Capscrew 5/8"-11UNC x 2" G5	3	
4	9390-126	Capscrew 5/8"-11UNC x 2 1/2" G5	1	
5	9390-159	Capscrew 3/4"-10UNC x 7" G5	2	
6	9391-046	Cotter Pin 3/16" Dia. x 2"	4	
7	9404-029	Lock Washer 5/8"	6	
8	9405-098	Flat Washer 5/8" SAE	3	
9	9405-116	Flat Washer 1" SAE	4	
10	9802	Locknut/TOP 3/4"-10UNC	2	
11	9874	90° Elbow 9/16"-18 JIC Male x 3/4"-16 O-Ring Male	2	
12	91262	Flange Screw 3/8"-16UNC x 1" G5	4	
13	91267	Flange Nut 1/2"-13UNC	4	For SN B40190099 & Lower
14	268217	Rubber Gasket (4" x 4")	1	
15	268218	Cover Plate	1	
16	268896	Spacer Bushing	1	
17	268946	Pivot Shaft Weldment	1	
18	283452	U-Joint Assembly	1	Includes Items 19-23
19	280065	Yoke-Spline, 31 Tooth	1	
20	288453	Adapter Tube Yoke Assembly	1	
21	9008432	Capscrew 1/2"-20UNF x 2" Gr.8	8	
22	9008443	Wing Bearing Assembly	1	
23	91160	Grease Zerk	1	
24	287802	Auger Drive Plate Assembly 5-Pin	1	Includes Items 25-27
25	287801	Auger Drive Plate	1	
26	9007000	Headed Drive Pin	5	
27	902614-238	Spiral Pin 1/2" Dia. x 2 3/4"	1	
28	288678B	Shim 12GA x 2 x 3 5/16	1	
29	288679B	Shim 12GA x 3 3/8 x 3 3/4	2	
30	288764	Driveshaft Cover	1	For SN B40190099 & Lower
31	291825B	Lower Auger Replacement =BLACK=	1	Includes Items 32-34
32	293465B	Lower Extension Plate =BLACK=	1	
33	9003397	Locknut/Top 1/2"-13UNC	3	
34	9388-104	Carriage Bolt 1/2"-13UNC x 1 1/2" G5	3	
35	293454B	Hanger Bearing Replacement Kit =Black=	1	
36	804572	Axle Lift Pin 1" Dia. x 3 1/2"	2	
37	9003398	Flange Locknut/TOP 5/8"-11UNC	4	
38	9005061	Flangette Bearing - 1 3/4"	1	For SN B40190099 & Lower
39	9005363	Hydraulic Welded Cylinder 2 1/2" x 36" 3000PSI	1	
40	9007377B	Dust Cover =BLACK=	1	
41	9008711	Gearbox 45°	1	For SN B40190100 & Higher
	9007419			For SN B40190099 & Lower

Driveline U-Joint Assembly

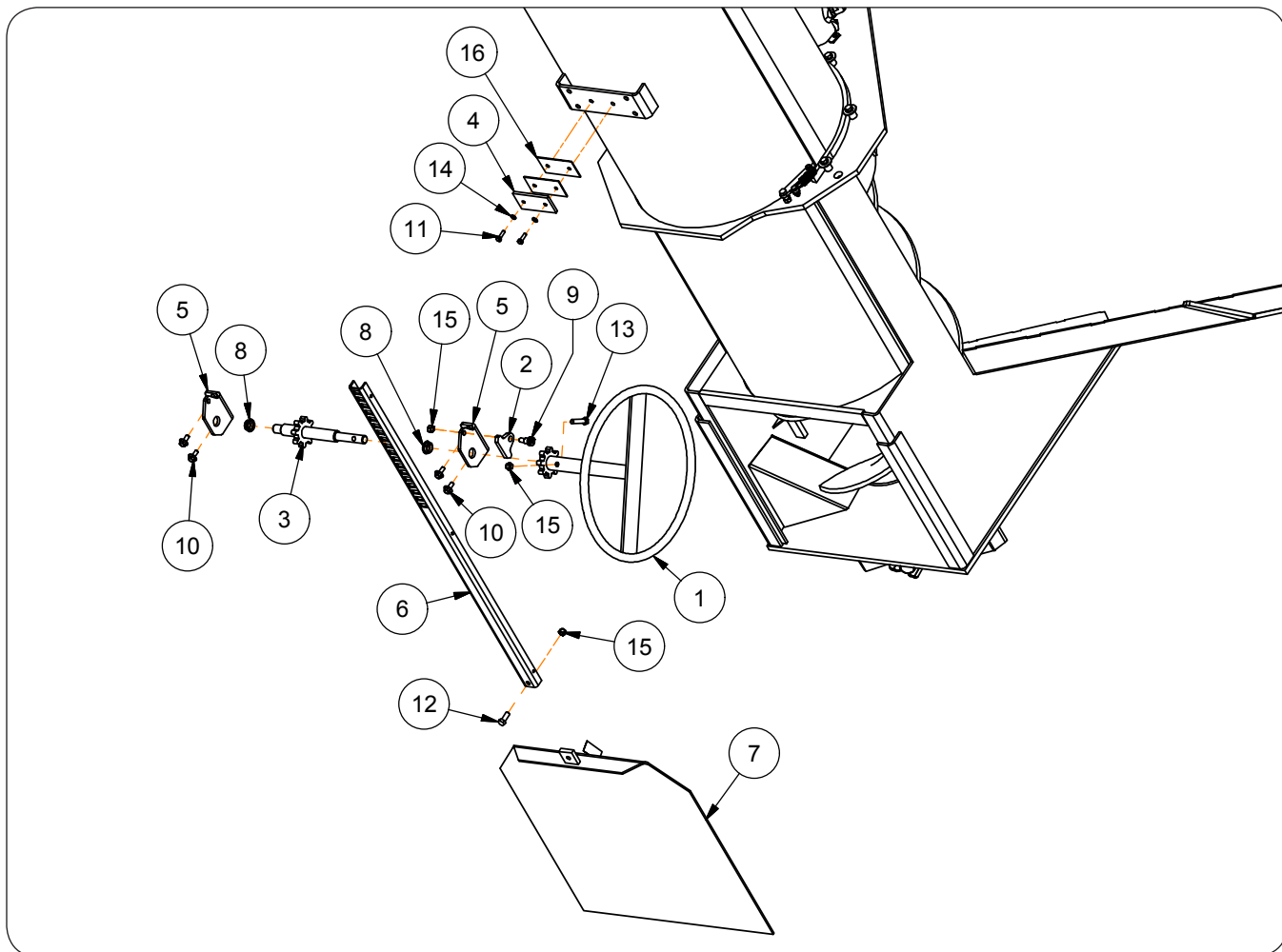
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	DESCRIPTION	PART NO.	QTY.	NOTES
	Complete U-Joint Assembly	9007886	1	
1	Yoke 1 3/4-20 Spline with Interference Clamp Connection	9007829	1	
2	Cross Bearing Kit	92529	2	
3	Capscrew M16 x 90 Class 8.8	94916-127	1	
4	Lock Nut M16	9002785	1	
5	Grease Zerk	91160	1	
6	Yoke/Center	92533	1	
7	Yoke 1 3/4-20 Spline	9005318	1	

Cleanout Door Assembly

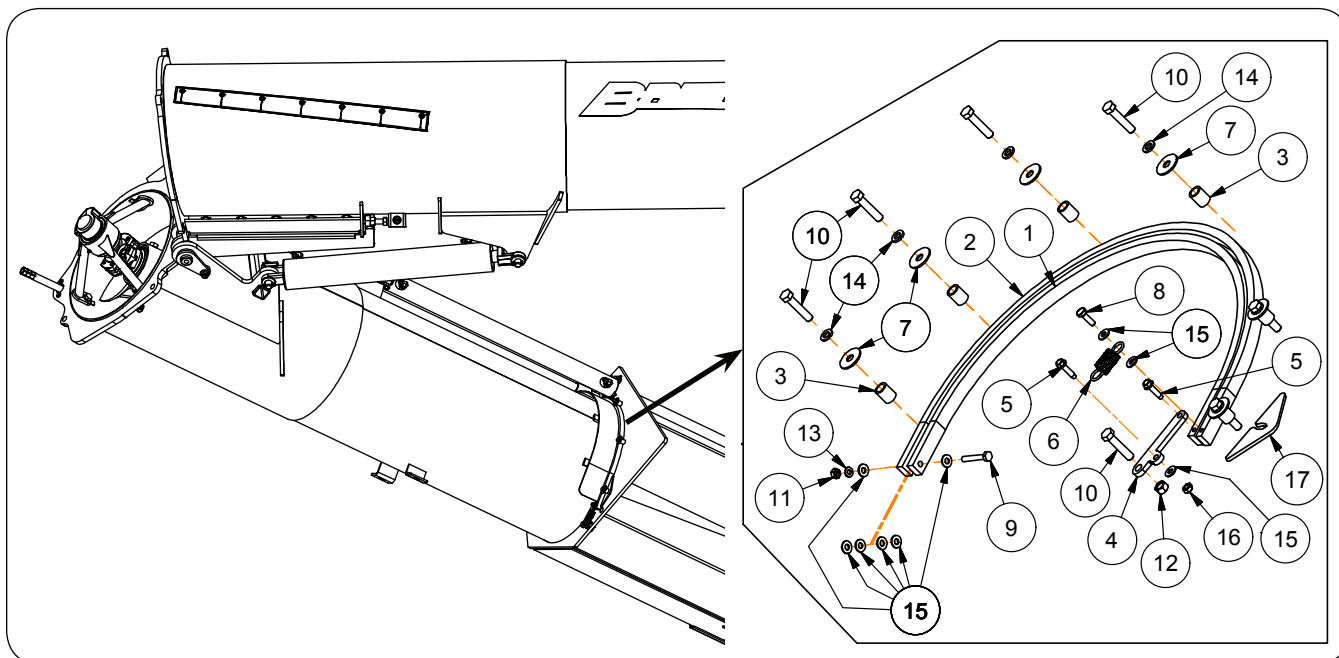
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
1	Door Lift/Wheel Weldment =BLACK=	268312B	1	
2	Plate - Lock =BLACK=	268313B	1	
3	Door Lift/Shaft Weldment	268901	1	
4	Pad - Wear	286801	1	
5	Plate - Door Lift =BLACK=	286802B	2	
6	Plate - Door Rack =BLACK=	288296B	1	
7	Door Weldment =BLACK=	288714B	1	
8	Bushing-Split	9003411	2	
9	Shoulder Bolt-1/2" Dia. x 1/2"	9006181	1	
10	Flange Screw 5/16"-18UNC x 3/4"	91256	4	
11	Capscrew 1/4"-20UNC x 7/8"	9390-004	2	
12	Capscrew 3/8"-16UNC x 1"	9390-055	1	
13	Capscrew 3/8"-16UNC x 1 3/4"	9390-058	1	
14	Lock Washer 1/4"	9404-017	2	
15	Top Locknut 3/8"-16UNC	9928	2	
16	Shim	291087B	2	

Flow Door Seals

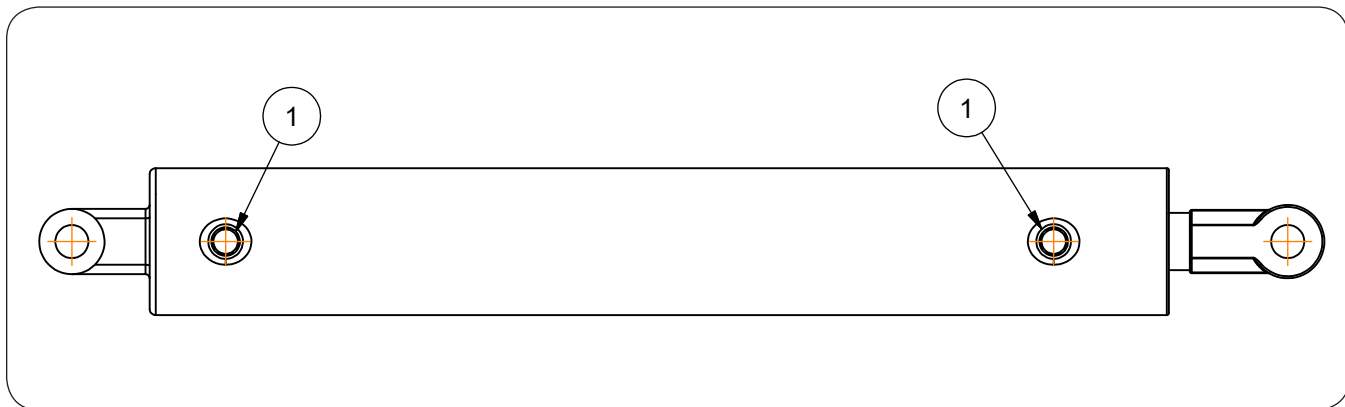
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
1	Seal - Poly	292294	1	
2	Seal - Poly	287073	1	
3	Spacer Bushing =Green=	281257G	6	
	Spacer Bushing =Red=	281257R		
4	Spring Bracket =Black=	288606B	1	
5	Screw, 1/4-20UNC x 1 (Self-Threading)	9004355	2	
6	Spring	9004375	1	
7	Fender Washer, 3/8	9004537	6	
8	Capscrew, 1/4-20UNC x 7/8 G5	9390-004	1	
9	Capscrew, 1/4-20UNC x 1 3/4 G5	9390-008	1	
10	Capscrew, 3/8-16UNC x 1 3/4 G5	9390-058	7	
11	Hex Nut, 1/4-20UNC G5	9394-002	1	
12	Hex Nut, 3/8-16UNC G5	9394-006	1	
13	Lock Washer, 1/4	9404-017	1	
14	Lock Washer, 3/8	9404-021	6	
15	Flat Washer 1/4	9405-062	7	
16	Lock Nut, 1/4-20UNC	9936	1	
17	Pusher Plate	288113B	1	

Cylinders — 4" x 24" (Auger Fold)

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

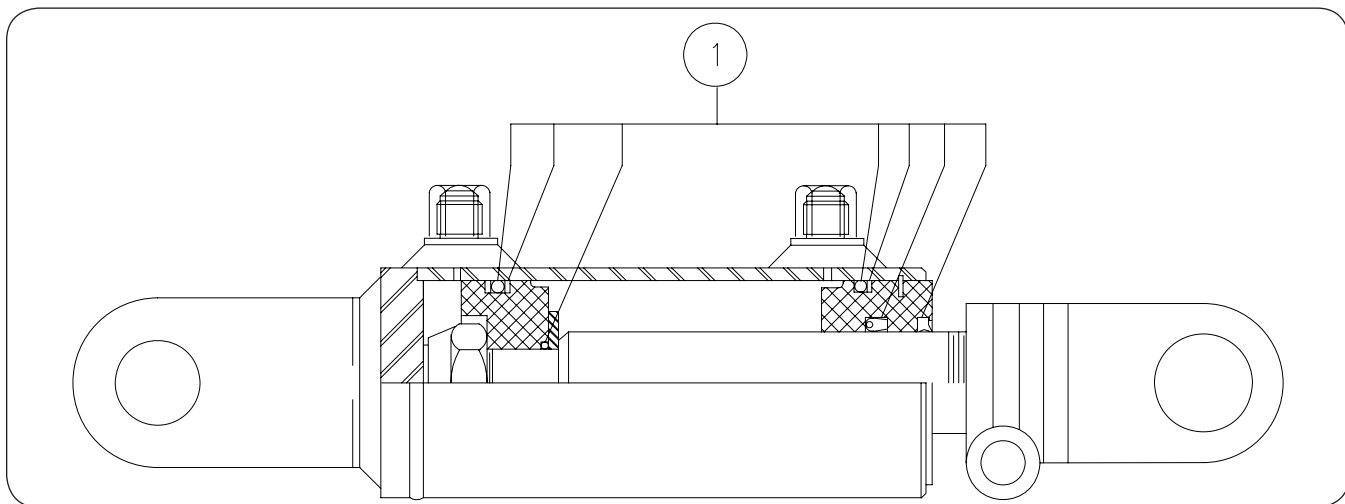


ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
	Welded Cylinder, Complete	9007786	1	
1	Seal Kit	9008025	1	

Cylinders — 2 1/2" x 36" (Flow Door)

ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
	Welded Cylinder, Complete	9005363	1	
1	Seal Kit	9005409	1	

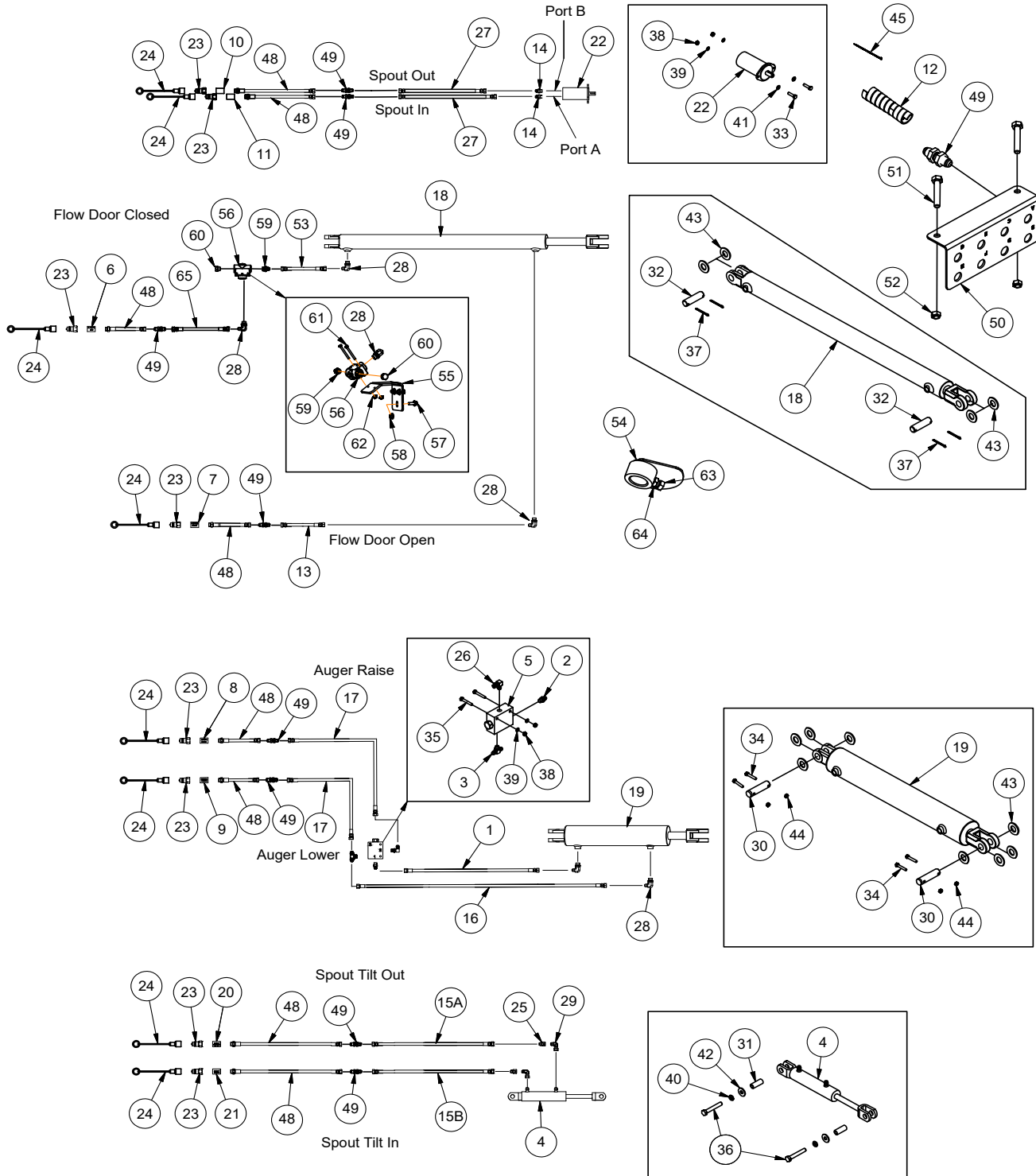
Cylinders — 1 1/2" x 4" (Discharge Spout)



ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
	Welded Cylinder, Complete	9003789	1	
1	Seal Kit	9005419	1	

Hydraulics

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



Hydraulics

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

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	Hose 1/4 x 74 (9/16-18 JIC Female x 9/16-18 JIC Female)	97405	1	
2	Adapter (9/16-18 JIC Male x 9/16-18 O-Ring Male)	9001495	1	
3	Tee (9/16-18 JIC Male x 9/16-18 O-Ring Male x 9/16-18 JIC Male)	9001710	1	
4	Hydraulic Cylinder 1 1/2 x 4	9003789	1	
	Seal Kit	9005419	-	
5	Pilot Operated Check Valve Block	9003990	1	
6	Sleeve, Hose Marker (RED, Flow Door Open)	9003995	1	
7	Sleeve, Hose Marker (RED, Flow Door Close)	9003996	1	
8	Sleeve, Hose Marker (GREEN, Auger Raise)	9003997	1	
9	Sleeve, Hose Marker (GREEN, Auger Lower)	9003998	1	
10	Sleeve, Hose Marker (YELLOW, Spout Out)	9003999	1	
11	Sleeve, Hose Marker (YELLOW, Spout In)	9004000	1	
12	Spiral Hose Wrap	9004075	4	
13	Hose 1/4 x 117 (9/16-18 JIC Female x 9/16-18 JIC Female)	9003211	1	
14	Adapter	9004393	2	
15A	Hose 1/4 x 394 (9/16-18 JIC Female x 9/16-18 JIC Female)	9008411	1	
15B	Hose 1/4 x 390 (9/16-18 JIC Female x 9/16-18 JIC Female)	9004886	1	
16	Hose 1/4 x 97 (9/16-18 JIC Female x 9/16-18 JIC Female)	9005974	1	
17	Hose 1/4 x 18 (90° Elbow 9/16-18 JIC Female x 9/16-18 JIC Female)	94727	2	
18	Flow Door Cylinder 2 1/2 x 36	9005363	1	
	Seal Kit	9005409	-	
19	Hydraulic Cylinder, 4 x 24 - 3000 PSI	9007786	1	
	Seal Kit	9008025	-	
20	Sleeve, Hose Marker (WHITE, Spout Tilt Out)	9007260	1	
21	Sleeve, Hose Marker (WHITE, Spout Tilt In)	9007261	1	
22	Spout Hydraulic Motor	9007626	1	
	Seal Kit	9008974	-	
23	Male Coupler 3/4-16 Female O-Ring	91383	8	
24	Dust Cap	91511	8	
25	Adapter (9/16-18 JIC Female x 9/16-18 JIC Male)	95193	2	w/.030 Restrictor
26	90° Elbow (9/16-18 JIC Male x 9/16-18 O-Ring Male)	97445	1	
27	Hose 1/4 x 295 1/2 (9/16-18 JIC Female x 9/16-18 JIC Female)	9003110	2	For Spout Hydraulic Motor
28	90° Elbow (9/16-18 JIC Female x 3/4-16 O-Ring Male)	9874	5	
29	90° Elbow (9/16-18 JIC Female x 9/16-18 JIC Male)	9876	2	
30	Pin	291988	2	
31	Sleeve/Bushing	285290	2	
32	Pin 1" Dia. x 3 1/2 (For Auger & Door Cylinders)	804572	2	
33	Capscrew 5/16-18UNC x 1 1/4	9390-031	2	Grade 5
34	Capscrew 5/16-18UNC x 1 1/2	9390-032	4	Grade 5
35	Capscrew 5/16-18UNC x 2	9390-034	2	Grade 5
36	Capscrew 1/2-13UNC x 3 1/4	9390-108	2	Grade 5
37	Cotter Pin 3/16" Dia. x 2	9391-046	4	
38	Hex Nut 5/16-18UNC	9394-004	2	
39	Lock Washer 5/16"	9404-019	2	
40	Lock Washer 1/2"	9404-025	2	
41	Flat Washer 5/16" SAE	9405-068	2	
42	Flat Washer 1/2" USS	9405-088	2	
43	Flat Washer 1" SAE	9405-116	12	
44	Locknut 5/16-18UNC	9807	4	

(Continued on next page)

Hydraulics (continued)

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

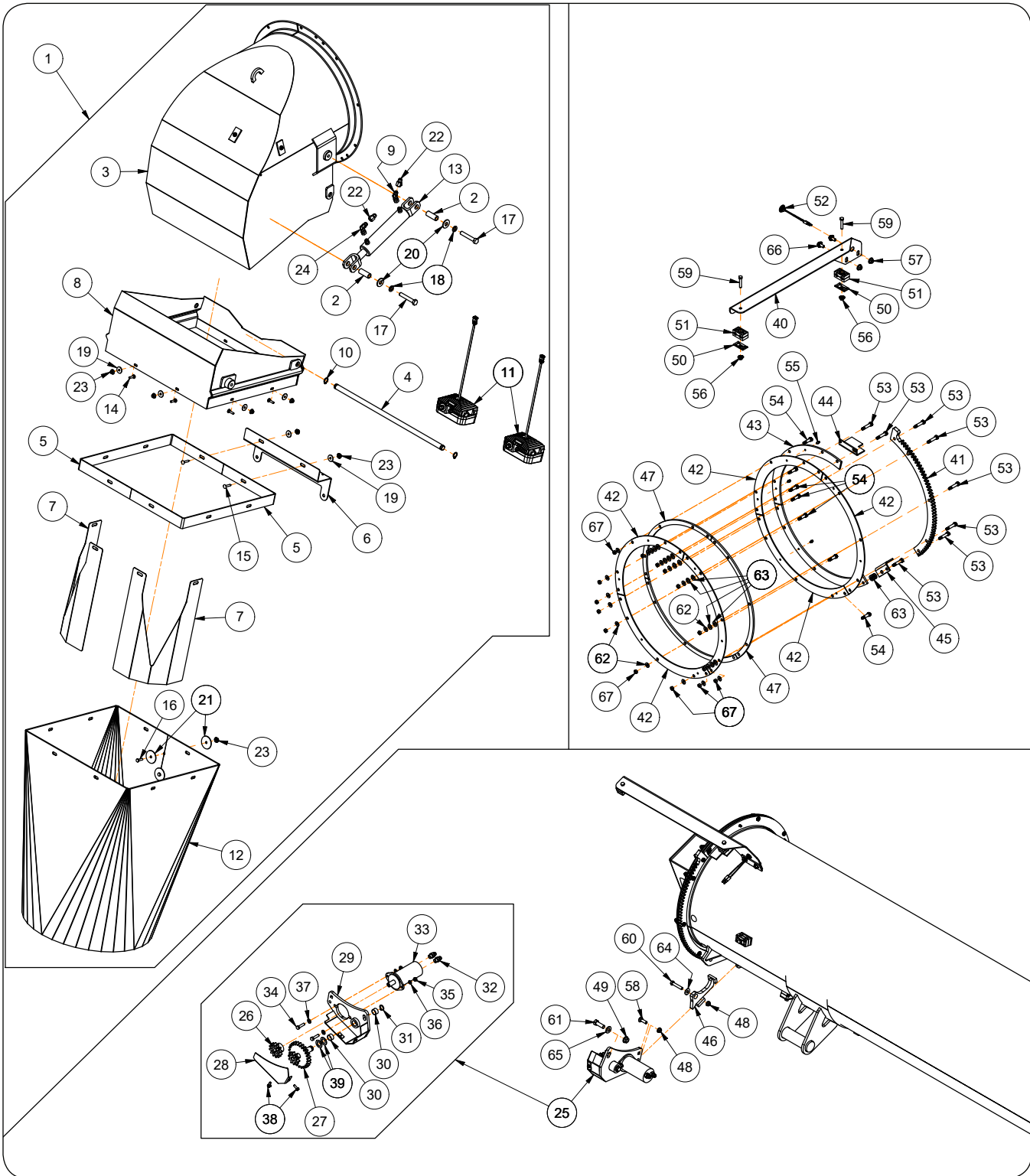
ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
45	Cable Tie 21 1/2"	9000104	4	
	Cable Tie 7 1/2"	9000106	22	
	Cable Tie 14 1/2"	9000107	8	
46	Top Plate	9003814	6	(NOT SHOWN)
47	Clamp Pair	9003816	6	(NOT SHOWN)
48	Hose 1/4 x 196 (9/16-18 JIC Female x 3/4-16 O-Ring Male)	9007842	8	
49	Bulkhead Adapter (9/16-18 JIC Male x 9/16-18 JIC Male)	95192	8	
50	Hydraulic Hose Plate =Black=	288749B	1	
51	Flange Screw 5/16"-18UNC x 3/4" Gr. 5	91256	2	
52	Hex Nut 5/16"-18UNC Gr. 5	91257	2	
53	Hose 1/4 x 80 (9/16-18 JIC Female x 9/16-18 JIC Female)	9005299	1	
54	Cylinder Stop Weldment =Black=	289737B	1	
55	Valve Mount Plate =Black=	289752B	1	
56	Flow Door Control Valve	9002151	1	
57	Flange Screw 3/8"-16UNC x 1" Gr. 5	91262	3	
58	Large Flange Nut 3/8"-16UNC	91263	3	
59	Adapter (9/16-18 JIC Male x 3/4-16 O-Ring Male)	92927	1	
60	Plug (3/4-16 O-Ring Male)	93657	1	
61	Capscrew 1/4"-20UNC x 2 1/2" Gr. 5	9390-011	2	
62	Hex Nut 1/4"-20UNC	97189	2	
63	Capscrew 3/8"-16UNC x 3/4" Gr. 5	9390-053	1	
64	Hex Jam Nut 3/8"-16UNC	9395-006	1	
65	Hose 1/4 x 34 (9/16-18 JIC Female Swivel)	97401	1	

Notes

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

Directional Spout

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



(Continued on next page)

Directional Spout

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

ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
1	Spout Assembly =BLACK=	288946B	1	Includes Items 2-24
2	Bushing-Sleeve 2.0625" Long	285290	2	
3	Spout Weldment =BLACK=	288947B	1	
4	Shaft-Pivot 3/4" Dia. x 25 5/16"	290993	1	
5	Plate-Chute Strap =BLACK=	292197B	2	
6	Bracket-Light =BLACK=	292198B	1	
7	Plate, Chute Support	292292B	2	
8	Spout Weldment =BLACK=	292352B	1	
9	45° Elbow 9/16-18 JIC Female x 9/16-18 JIC Male	9001041	1	
10	Snap Ring 3/4"	9003810	2	
11	Light-Work, LED	9008957	2	For SN B41320100 & Higher
		9007186		For SN B41320099 & Lower
12	Rubber Hood	9008139	1	
13	Hydraulic Welded Cylinder 1 1/2 x 6	9008152	1	
14	Carriage Bolt 1/4"-20UNC x 1"	9388-003	6	
15	Carriage Bolt 1/4"-20UNC x 1 1/4"	9388-004	2	
16	Capscrew 1/4"-20UNC x 1"	9390-005	8	
17	Capscrew 1/2"-13UNC x 3 Gr. 5	9390-107	2	
18	Lock Washer 1/2"	9404-025	2	
19	Flat Washer 1/4" (Fender Washer)	9405-066	8	
20	Flat Washer 1/2" USS	9405-088	2	
21	Fender Washer 5/16" ID	94763	16	
22	Adapter 9/16-18 JIC Female x 9/16-18 JIC Male w/Restrictor	95193	2	
23	Hex Nut/Large Flange 1/4"-20UNC	97189	16	
24	90° Elbow 9/16-18 JIC Female x 9/16-18 JIC Male	9876	1	
25	Spout Motor Assembly =BLACK=	288188B	1	Includes Items 26 - 39
26	Gear Weldment	272840	1	
27	Gear & Shaft Weldment	272844	1	
28	Panel-Cover =BLACK=	288384B	1	
29	Spur Gear Mount Weldment =BLACK=	288385B	1	
30	Self-Lubricating Bushing	9003809	2	
31	Snap Ring 3/4"	9003810	1	
32	Adapter 9/16-18 JIC Female x 9/16-18 JIC Male w/Restrictor	9004393	2	
33	Motor-Hydraulic 3.07 CID, 5.28 GPM, 2 Bolt Flange Mount	9007626	1	
34	Capscrew 5/16"-18UNC x 1 1/4"	9390-031	17	
35	Hex Nut 5/16"-18UNC	9394-004	6	
36	Lock Washer 5/16"	9404-019	6	
37	Flat Washer 5/16" SAE	9405-068	2	
38	Flange Screw 1/4"-20UNC x 3/4" Gr.5	97420	2	

(Continued on next page)

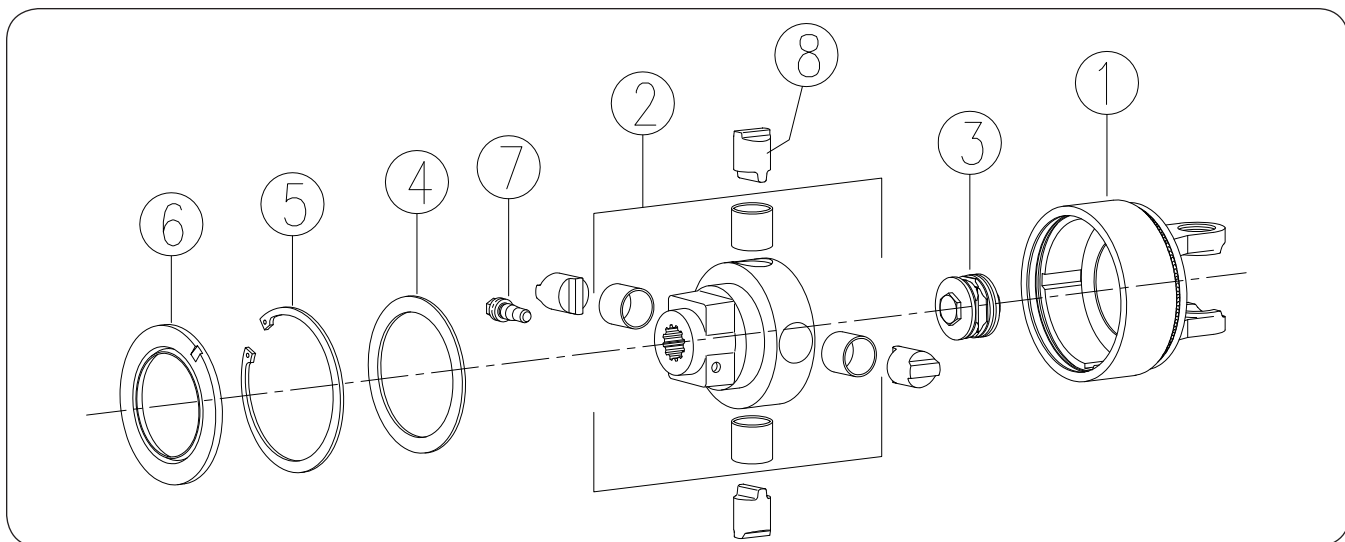
Directional Spout (continued)

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

ITEM	DESCRIPTION	PART NUMBER	QTY.	NOTES
39	Washer/Bushing 1 1/4" OD x 3/4" ID	TA500309	2	
40	Hose Bracket Plate =BLACK=	288383B	1	
41	Gear Rack	272719	1	
42	Pad-Pivot, 22 7/8" ID x 1/8"	272748	6	
43	Plate-Pivot, Spout =BLACK=	272842B	2	
44	Stop Plate	272855B	1	
45	Stop Plate	290884B	1	
46	Stop Weldment =BLACK=	291327B	1	
47	Plate-Pivot, Spacer 24 3/16" ID x 1/4"	291344B	3	
48	Locknut/Top 3/8"-16UNC (Automation Locknut)	9003396	2	
49	Locking Flange Nut 1/2"-13UNC	9003397	1	
50	Clamp Top Plate	9003814	12	
51	Poly Clamp Pair (0.55)	9003816	16	
52	Amber Light Led 3/4" Dia.	9006107	2	
53	Shoulder Bolt 3/8" Dia. x 1 1/4", Socket Head, 5/16"-18UNC	9007837	8	
54	Shoulder Bolt 3/8" Dia. x 7/8", Socket Head, 5/16"-18UNC	9007838	7	
55	Grease Zerk	91160	4	
56	Hex Nut/Large Flange 5/16"-18UNC	91257	4	
57	Hex Nut/Large Flange 3/8"-16UNC	91263	2	
58	Carriage Bolt 3/8"-16UNC x 1 1/4" Gr.5	9388-052	1	
59	Capscrew 5/16"-18UNC x 1 3/4" Gr.5	9390-033	2	
60	Capscrew 3/8"-16UNC x 2"	9390-059	1	
61	Capscrew 1/2"-13UNC x 1 1/2" Gr.5	9390-101	1	
62	Flat Washer 1/4" USS	9405-064	17	
63	Flat Washer 3/8" SAE	9405-074	18	
64	Flat Washer 3/8" USS	9405-076	1	
65	Flat Washer 1/2" SAE	9405-086	1	
66	Capscrew/Large Flange 3/8"-16UNC x 3/4" Gr.5	95585	7	
67	Locknut 5/16"-18UNC	9807	19	

PTO Cut Out Clutch Components

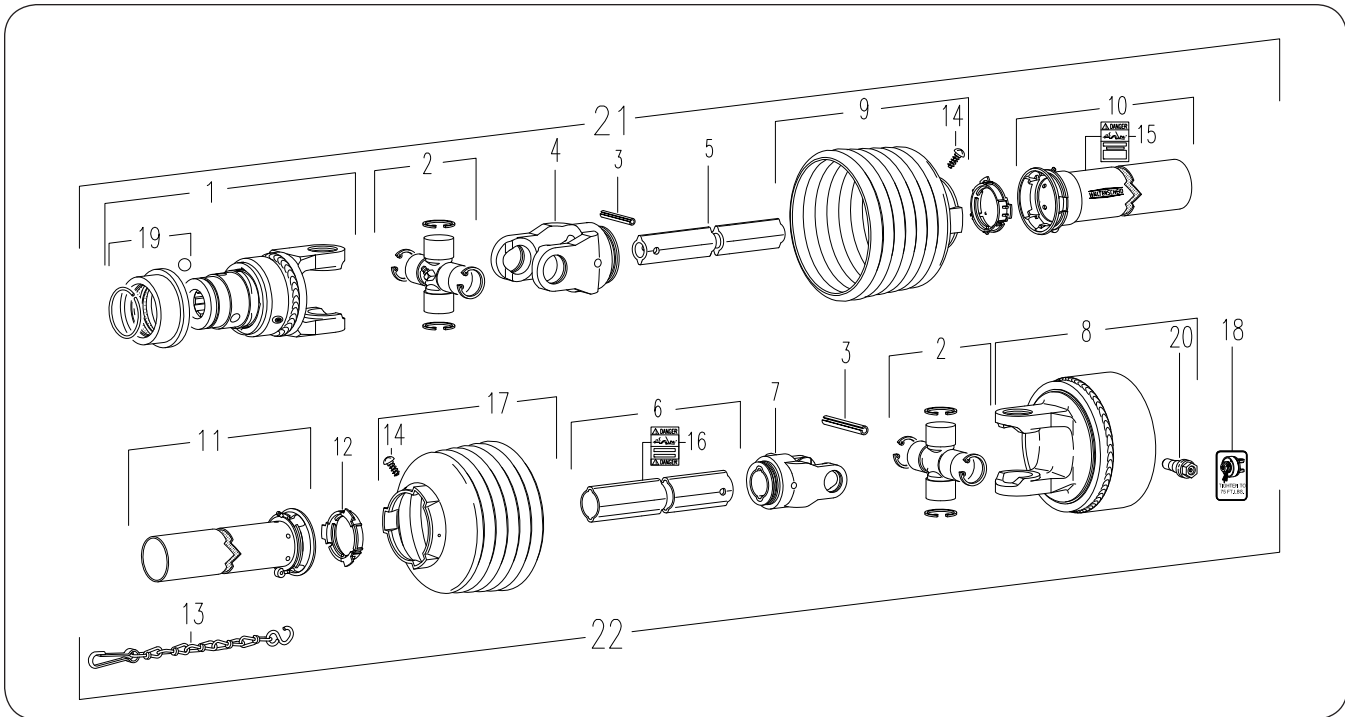
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9008428	Cut Out Clutch (2500 N*m Setting)		Includes Items 1-8
1	9005679	Clutch Housing	1	
2	9005678	Clutch Hub 1 3/4-20 Spline	1	
3	9005421	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	2	

PTO Components

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



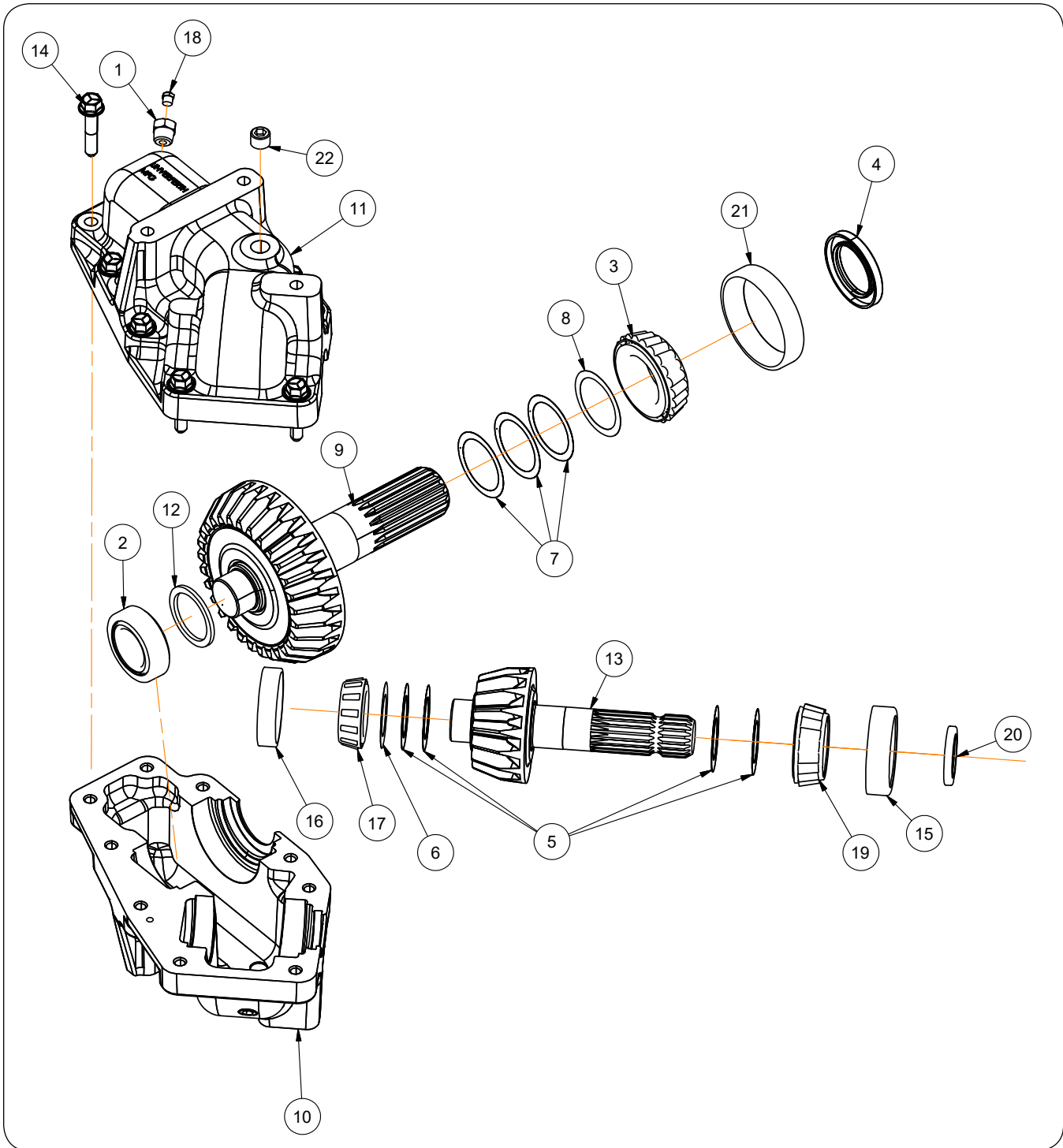
PTO Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9007952	PTO Assembly Complete		Includes Items 21 & 22
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	9007955	Inner Profile (S4LGA)	1	
6	9007956	Outer Profile (S5G)	1	
7	9002613	Inboard Yoke (S5)	1	
8	9008428	Cut Out Clutch (2500 N-m Setting)	1	1 3/4-20 Spline 1000RPM
9	9002615	Shield Cone 7 Rib	1	
10	9007957	Outer Shield Tube Oval	1	
11	9007958	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	95046	Decal, DANGER (Entanglement in Driveline)	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	9007953	PTO Front Half Assembly 1 3/4-20 Spline	1	
22	9007954	PTO Rear Half Assembly 1 3/4-20 Spline	1	

**45 Degree Gearbox Q135 Series Components
SN B40190100 & Higher**

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



**45 Degree Gearbox Q135 Series Components
SN B40190100 & Higher**

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

ITEM	DESCRIPTION	PART NO.	QTY.	NOTES
	Gearbox 45° Q135 Series, Complete	9008711	1	Includes Items 1 through 17
1	Bushing Reducer	9003453	1	
2	Bearing Cup & Cone Set	9007488	1	
3	Bearing Cone, 2 1/4" ID x 1 1/4"	9007507	1	
4	Seal	9007508	1	
5	Steel Shim, 2.75 x 1.75 x .005	9007509	4	
6	Steel Shim, 2.75 x 1.75 x .003	9007510	1	
7	Steel Shim, 3.00 x 2.36 x .005	9007511	3	
8	Steel Shim, 3.00 x 2.36 x .003	9007512	1	
9	Gear Shaft Assembly, 29 Tooth, 2 1/4-17 Spline	9007516	1	
10	Gearbox Housing Q135 w/Tapped Holes	9008509	1	
11	Gearbox Housing Q135 w/Thru Holes	9008510	1	
12	Spacer	9008511	1	
13	Gear Shaft Assembly, 16 Tooth, 1 3/4-20 Spline	9008790	1	
14	Flange Screw, 1/2"-13UNC x 2 1/2" G5	903161-060	9	
15	Bearing Cup, #3720	91151	1	Large
16	Bearing Cup, 3.265"D x 0.75"	91812	1	
17	Bearing Cone, 1.75" ID	91822	1	
18	Pressure Relief, 5-PSI	92352	1	
19	Bearing Cone, 1.750" ID x 1 1/4"	92697	1	Large
20	Seal	92702	1	Large
21	Bearing Cup, 4 7/16" OD x 15/16" LG	93819	1	
22	Pipe Plug, 1/2" NPT	95283	3	

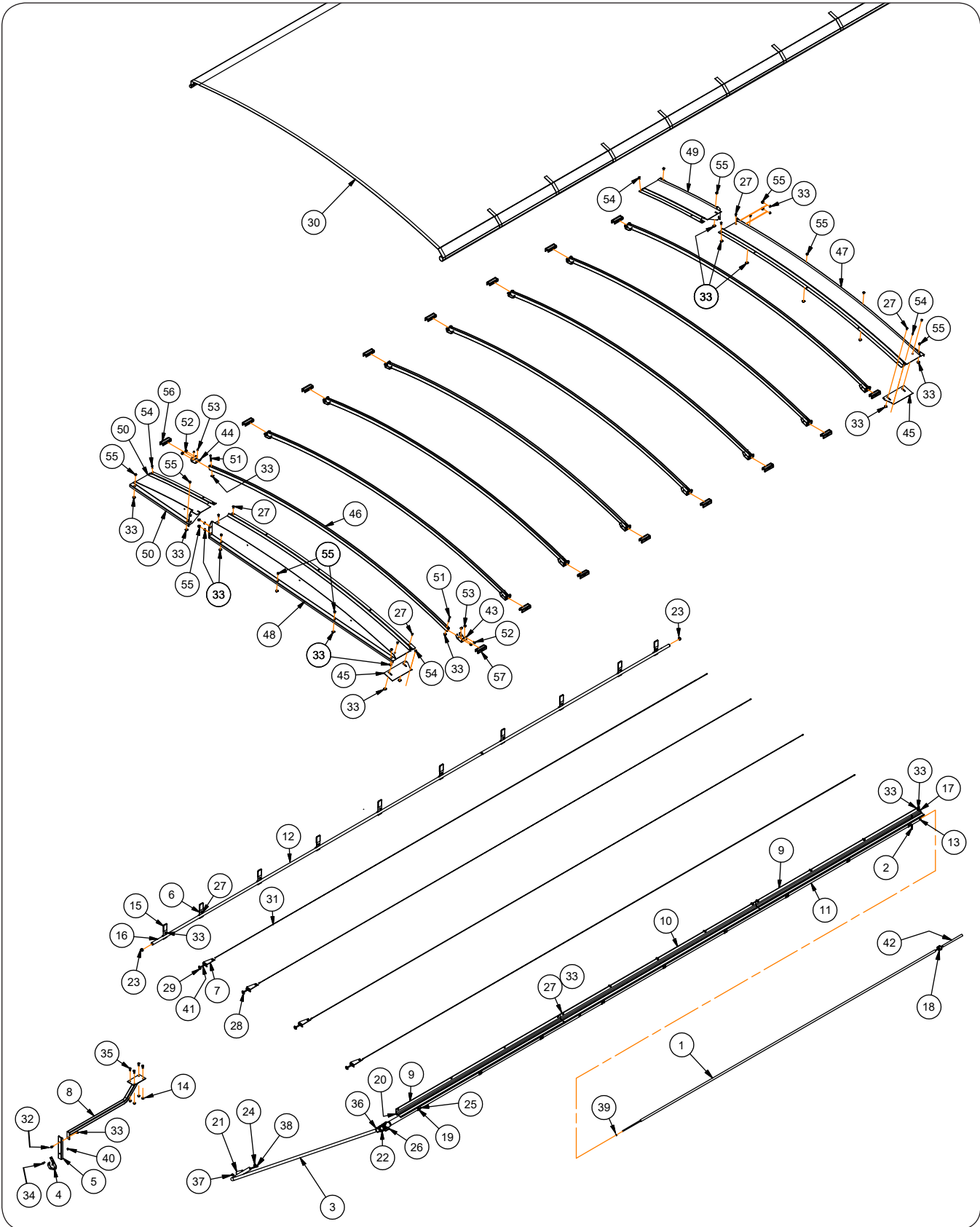
**45 Degree Gearbox Q135 Series Components
SN B40190099 & Lower**

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

ITEM	DESCRIPTION	PART NO.	QTY.	NOTES
	Gearbox 45° Q135 Series, Complete	9007419	1	Includes Items 1 through 17
1	Bushing Reducer	9003453	1	
2	Bearing Cup & Cone Set	9007488	1	
3	Bearing Cone, 2 1/4" ID x 1 1/4"	9007507	1	
4	Seal	9007508	1	
5	Steel Shim, 2.75 x 1.75 x .005	9007509	4	
6	Steel Shim, 2.75 x 1.75 x .003	9007510	1	
7	Steel Shim, 3.00 x 2.36 x .005	9007511	3	
8	Steel Shim, 3.00 x 2.36 x .003	9007512	1	
9	Gear Shaft Assembly, 16 Tooth, 1 3/4-20 Spline	9007515	1	
10	Gear Shaft Assembly, 29 Tooth, 2 1/4-17 Spline	9007516	1	
11	Gearbox Housing Q135 w/Tapped Holes	9008509	1	
12	Gearbox Housing Q135 w/Thru Holes	9008510	1	
13	Spacer	9008511	1	
14	Flange Screw, 1/2"-13UNC x 2 1/2" G5	903161-060	9	
15	Bearing Cup, #3720	91151	1	Large
16	Bearing Cup, 3.265"D x 0.75"	91812	1	
17	Bearing Cone, 1.75" ID	91822	1	
18	Pressure Relief, 5-PSI	92352	1	
19	Bearing Cone, 1.750" ID x 1 1/4"	92697	1	Large
20	Seal	92702	1	Large
21	Bearing Cup, 4 7/16" OD x 15/16" LG	93819	1	
22	Pipe Plug, 1/2" NPT	95283	3	

Weather Guard Tarp

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



Weather Guard Tarp

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	221668	PVC Pipe	1	
2	221722	Cord - Bungee 3/8" Dia. x 204	1	
3	287944	Tarp Handle Weldment	1	
4	221770B	Handle Retainer Weldment =Black=	1	
5	265743B	Crank Holder - Channel Extension =Black=	1	
6	266689B	Stop - Tarp Short =Black=	10	
7	281712B	Bracket & U-Nut Assembly =Black=	4	
8	287394B	Tarp Crank Holder Weldment =Black=	1	
9	288338	Latch Plate - Front & Rear 100 3/16"	2	
10	288359	Latch Plate - Middle 119 1/2"	1	
11	288360	Roll Tube Weldment	1	
12	288362	Fixed Tube Weldment	1	
13	9001396	Self Drilling Screw #10-16 x 1/2"	1	
14	9002058	Flange Nut 1/2-13UNC	4	
15	9003078	Plastic Cap	10	
16	9003378	Rivet 3/16"	2	
17	9004548	Eye Bolt 3/8-16UNC x 1 3/4	1	
18	9004947	Tube End Plug 2"	1	
19	9004949	U-Clamp	9	
20	9004968	Plug 1"	2	
21	9004969	Handle	1	
22	9004977	U-Joint 1 3/8-21 Spline	1	
23	9005088	Plastic Plug 1.125"	2	
24	9005089	Plug 1 1/4"	1	
25	9005197	Self Drilling Screw #10-16 x 3/4"	8	
26	9005305	Lynch Pin 3/8" Dia. x 3	1	
27	9005312	Truss Head Machine Screw 3/8-16UNC x 1 (Grade 5)	26	
28	9005688	Lock Washer/External Tooth 3/8"	4	
29	9005696	Fender Washer 3/8"	4	
30	9007865	Tarp 176 x 314	1	For V1300
	9008103	Tarp 194 x 314	1	For V1500
	9005581	Tarp Repair Kit	-	
31	9007866	Cable Assembly 301"	4	
32	91262	Flange Screw 3/8-16UNC x 1 (Grade 5)	10	
33	91263	Nut/Large Flange 3/8-16UNC	56	
34	9390-055	Capscrew 3/8-16UNC x 1 (Grade 5)	1	
35	9390-099	Capscrew 1/2-13UNC x 1 (Grade 5)	4	
36	9392-180	Roll Pin 3/8" Dia x 2	1	
37	9398-012	Elastic Locknut 3/8-16UNC	1	

(Continued on next page)

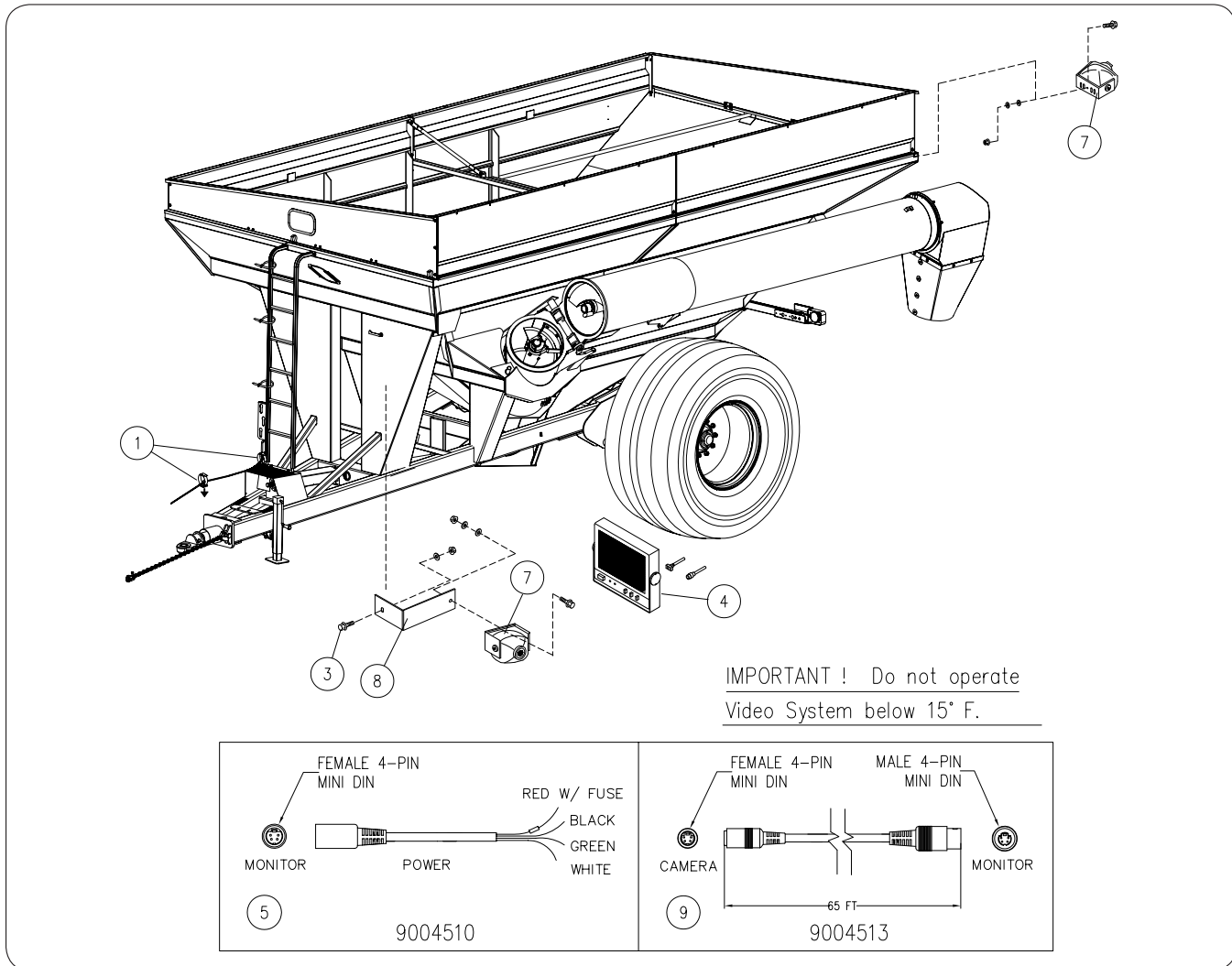
Weather Guard Tarp (continued)

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
38	903172-450	Pan Head Phillips Machine Screw 3/8-16UNC x 4 1/2	1	
39	9405-074	Flat Washer 3/8" SAE	1	
40	9928	Locknut 3/8-16UNC	1	
41	TA0-907131-0	Capscrew 3/8-16UNC x 4 1/2 (Grade 5) Full Threaded	4	
42	TA806225	Hose 1/2" EPDM	1	
43	283425B	Tarp Bow Bracket =Black=	8	
44	283427B	Tarp Bow Bracket =Black=	8	
45	283431B	End Cap Plate =Black=	2	
46	288339B	Tarp Bow Tube =Black=	8	For V1300
	288640B			For V1500
47	288340B	End Cap Weldment - Front - Long =Black=	1	For V1300
	288637B			For V1500
48	288342B	End Cap Weldment - Rear - Long =Black=	1	For V1300
	288638B			For V1500
49	288341B	End Cap Weldment - Front - Short =Black=	1	For V1300
	288646B			For V1500
50	288343B	End Cap Weldment - Rear - Short =Black=	1	For V1300
	288647B			For V1500
51	902703-046	Flat Socket Countersunk Capscrew 3/8-16UNC x 3 (RH Thread)	20	
52	97604	Flange Screw 5/16-18UNC x 1 (Grade 5)	32	For SN B40990100-Higher
	91256	Flange Screw 5/16-18UNC x 3/4 (Grade 5)		For SN B40990099-Lower
53	91257	Hex Nut/Large Flange 5/16-18UNC	32	
54	9512	Self Drilling Screw 1/4-14 x 1	4	
55	95585	Capscrew/Large Flange 3/8-16UNC x 3/4 (Grade 5)	14	
56	281936B	Doubler Plate Left-Hand =Black=	8	For SN B40990100-Higher
57	289986B	Doubler Plate Right-Hand =Black=	8	For SN B40990100-Higher

Video System Option

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



ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
	265770	Video System Kit for Front View	1	Includes Items 1,3,4,5,6,7,8
	9004506	Additional Camera for Rear View	1	Includes Items 6 & 7
1	TAAU14007	Snap Clip, Adhesive	10	
3	9512	Self-Drilling Screw 1/4-14 x 1	10	
4	9006273	Monitor, 7" LCD/LED	1	
5	9004510	Cable w/Fuse	1	
7	9006274	Camera	1	
8	265771B	Bracket	1	
9	9004513	Cable, 65'	1	
10	9000106	Cable Tie	AR	
11	9004506	Camera Kit for Rear View with 65' Cable	1	Not Shown
12	9007174	Camera Cable, 16 ft.	1	Not Shown

Hydraulic Jack - Kit #294143B (Optional)
(Compatible with Carts B40240100 and Up)

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	

