




Grain Handling

KILLBROS DOUBLE-AUGER GRAIN CARTS MODELS 1113 & 1313

1113 = Serial Number B39680100 & Higher
1313 = Serial Number B39650100 & Higher

Part No. 276902

Foreword

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

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

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

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



Product Information

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

- Machine name
- Model number
- Serial number

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

Please fill out and retain this portion for your records.

Purchase Date _____ Model _____ Serial No. _____

Dealer _____ City _____

Dealer Contact _____ Phone _____

IMPORTANT

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

Table of Contents

Section I Safety

General Hazard Information	1-2
Safety Decals	1-3
Following Safety Instructions	1-5
Before Servicing or Operating	1-6
During Operation	1-7
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

Section II Set Up

Set Up Checklist	2-2
Driveline Install	2-3
PTO Brackets Removal	2-3
Driveline Set Up	2-4
Coupling Benzi and GKN Walterscheid Cut Out Clutch	2-5
Verify Telescoping PTO Shaft Length	2-6
PTO Shaft Length Adjustment	2-8
Auger Set Up	2-9
7-Pin Connection & Auger Pivot Slide Wood Removal	2-9
Auger Spout Tilt Cylinder Stop Removal	2-10
Jack & Optional Hydraulic Jack Set Up	2-11
Jack	2-11
Install Hydraulic Jack (Optional)	2-11
Upper Ladder Extension	2-13
Wheel & Tire Set Up	2-14
Tire Pressure	2-14
Wheel Nuts	2-14
SMV Emblem & SIS Decal	2-15
Video System (Optional)	2-15
Belt Engagement	2-16
Operational Check	2-17

FOR SCALE, TRACK, UHARVEST, ELECTRIC TARP, AND / OR WATER DELIVERY SYSTEM INFORMATION, PLEASE REFER TO THE INDIVIDUAL MANUALS.

Table of Contents

**Section III
Operation**

Operating Checklist..... 3-2

Preparing Tractor..... 3-2

Preparing Cart..... 3-3

Hitching to Tractor

 Drawbar Connection 3-5

 Jack Usage..... 3-6

 Optional Hydraulic Jack Usage 3-7

 Transport Chain Connection..... 3-8

 Hydraulic Connections 3-9

 Electrical Connections..... 3-11

 Towing 3-12

Auger Operation

 PTO-Driven Auger 3-13

 Vertical Auger Fold..... 3-15

 Auger Field Rest Position..... 3-16

 Auger Road Transport Position..... 3-17

 Upper Auger Rest Adjustments 3-18

 Auger Overload Procedure..... 3-19

 Electric Over Hydraulic Operation (Optional) 3-20

 Cart Loading Sequence..... 3-23

 Vertical & Horizontal Cleanout Door Operation 3-24

 Closing Vertical Cleanout Door..... 3-24

 Opening Vertical Cleanout Door 3-25

 Horizontal Cleanout Door..... 3-26

 Side Ladder Operation - For SN B40560100 & Higher..... 3-28

 Rear Ladder Operation - For SN B45190100 & Higher..... 3-32

 Rear Access Door Operation - For SN B40560100 & Higher 3-34

 Rear Drop Hitch Operation - For SN B40560100 & Higher 3-35

 Video System (Optional)..... 3-37

 Weather Guard Tarp..... 3-37

 Wireless Receiver and Control Box Location - For SN B43780100 & Higher..... 3-39

FOR SCALE, TRACK, UHARVEST, ELECTRIC TARP, AND / OR WATER DELIVERY SYSTEM INFORMATION, PLEASE REFER TO THE INDIVIDUAL MANUALS.

Table of Contents

**Section IV
Maintenance**

Lubrication - Cart 4-2

PTO Driveshaft Lubrication - Benzi PTO..... 4-5

PTO Driveshaft Lubrication - GKN Walterscheid PTO 4-6

Hydraulic System 4-7

 Purge Hydraulic System..... 4-7

 Relieving Hydraulic Pressure..... 4-8

Gearbox 4-9

Manual Override for Optional Electric Over Hydraulic System 4-10

Auger System

 Vertical Auger Height Check..... 4-12

 Vertical Auger Folding Linkage Adjustment..... 4-14

 Vertical Auger Timing..... 4-15

 Horizontal Auger..... 4-16

 Horizontal Auger Driveline Bearings 4-17

Belt Tightener Adjustment..... 4-18

V-Belt Alignment 4-20

 Split Tapered Bushings 4-21

Driveline Removal 4-22

Wheel, Hub and Spindle Disassembly and Assembly 4-23

Wheels & Tires

 Wheel Nut Torque Requirements 4-25

 Tire Pressure..... 4-26

 Tire Warranty 4-28

Walking Tandem Option 4-29

Baffle Adjustment..... 4-32

Horizontal Cleanout Door Adjustment 4-34

PTO Shaft & Clutch - Benzi PTO 4-36

PTO Shaft & Clutch - GKN Walterscheid PTO..... 4-38

Hydraulic Jack Cylinder Replacement..... 4-40

Horizontal Auger Removal and Replacement - For SN B40450100 & Higher..... 4-42

Horizontal Auger Removal and Replacement - For SN B40450099 & Lower 4-48

Seasonal Storage 4-53

Troubleshooting..... 4-54

 Auger Switch Troubleshooting..... 4-56

 Scale Troubleshooting..... 4-57

 Tarp Troubleshooting Inspection & Maintenance 4-58

Electrical System Diagram..... 4-59

Electrical Diagram..... 4-60

Electrical Over Hydraulic (EOH) System Schematic (Optional)..... 4-69

Optional Electric Over Hydraulic Valve Electric Schematic 5 Spool..... 4-70

Electrical System Schematic - Optional Wireless Electric Tarp - For SN B43780100 & Higher..... 4-71

Electrical System Schematic - Optional Electric Tarp - For SN B43780099 & Lower 4-72

Torque Chart - Hardware Grade 5..... 4-73

Torque Chart - Hardware Grade 8..... 4-74

Hydraulic Fittings - Torque and Installation..... 4-75

FOR SCALE, TRACK, UHARVEST, ELECTRIC TARP, VIDEO SYSTEM OR OTHER OPTIONS,
PLEASE REFER TO THE INDIVIDUAL MANUALS.

Table of Contents

**Section V
Parts**

Decals	5-2
Touch-Up Paint.....	5-3
Hitch & Ladder Components	5-4
Side Ladder Components - For SN B41030100 and Higher	5-6
Rear Ladder Components - For SN B45190100 and Higher	5-8
Rear Access Door - For SN B45190100 and Higher.....	5-9
Hopper Cross Braces and Cleanout Doors.....	5-10
Sideboards - Model 1113 - SN 44050100 and Higher.....	5-12
Sideboards - Model 1113 - SN 4405099 and Lower	5-13
Sideboards - Model 1313 - SN 44670100 and Higher.....	5-14
Sideboards - Model 1313 - SN 43780100-44670099	5-15
Sideboards - Model 1313 - SN 4378099 and Lower	5-16
Wheels & Tires	5-17
Walking Tandem Assembly Components.....	5-18
Walking Tandem Mounting Components.....	5-20
Axle and Hub Components 1113 - Single Wheel	5-22
Axle and Hub Components 1313 - Single Wheel	5-24
Track Axle Components - Model 1113 - 36"x131" & 36"x112" Standard Tracks	5-26
Track Axle Components - Model 1113 & 1313 W/ 36"x148" 42"x131" & 42"x148" Tracks.....	5-28
Hopper Flow Door Components.....	5-30
Front and Rear Flow Door Components	5-32
Flow Door Indicator Assembly Components.....	5-34
Vertical Auger Flighting Components.....	5-36
Horizontal Auger Components - SN B40450100 and Higher	5-38
Horizontal Auger Components - SN B40450099 and Lower.....	5-40
Auger Fold Linkage Components.....	5-42
Down Spout Components	5-46
Rotating Spout Components.....	5-48
Optional Spout Rotate Switch Assembly Components.....	5-50
Lower Auger Cleanout Door and Cover Components	5-52
Lower Auger Linkage Components.....	5-54
Lower Auger Idler Assembly Components.....	5-56
Lower Auger Retainer Components	5-58
Cut out Clutch PTO Assembly - Benzi	5-60
Cut out Clutch Components - Benzi.....	5-61
Cut out Clutch PTO Assembly - Walterscheid	5-62
Cut out Clutch Components - Walterscheid.....	5-63
Gearbox Components	5-64
EOH Valve Functions and Wire Locations 5 Spool (Optional).....	5-66
EOH Valve Assembly Components 5 Spool (Optional).....	5-68
EOH Tractor Circuit Components	5-70
EOH Spout Rotate Option and Tilt Hydraulic Components	5-72
Auger Pivot Hydraulic Components.....	5-74
Auger Fold Hydraulic Components.....	5-75
Flow Door Circuit Hydraulic Components and 5 Function Hydraulic Block	5-76
Cylinders.....	5-77
Hopper Rear Electrical Components	5-78
Electrical Components and 5 Function Control Grip.....	5-80
Weather Guard Tarp Components.....	5-82
Endcaps, Tarp Bows & Mounting Brackets.....	5-84
Hydraulic Jack - Kit #296289B (Optional).....	5-86
Rear Drop Hitch Components (Optional) SN B45190100 and Higher.....	5-87
Video System (Optional).....	5-89

Notes

Section I Safety

General Hazard Information	1-2
Safety Decals	1-3
Following Safety Instructions	1-5
Before Servicing or Operating	1-6
During Operation	1-7
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.

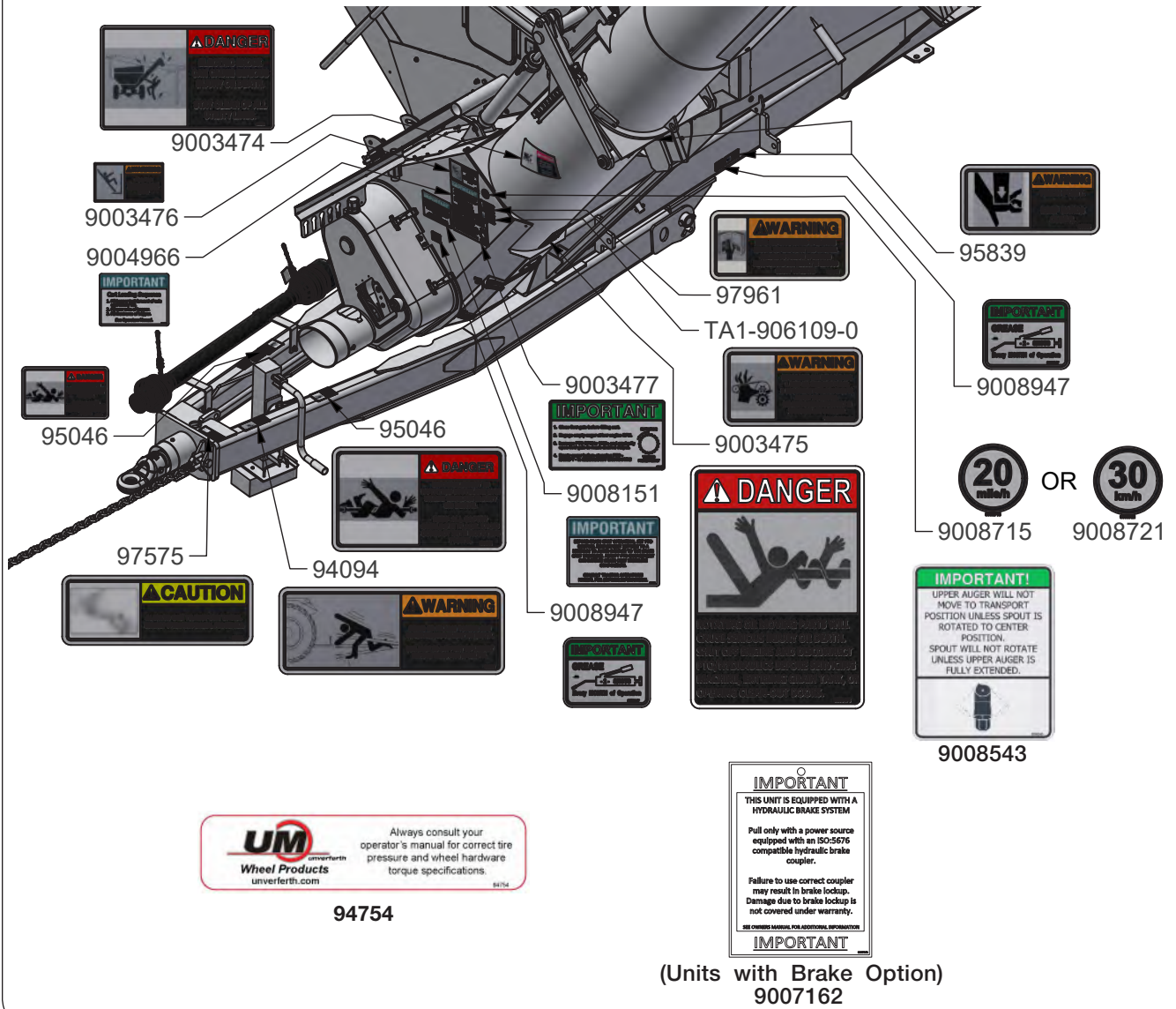


Is used for instruction on operating, adjusting, or servicing a machine.

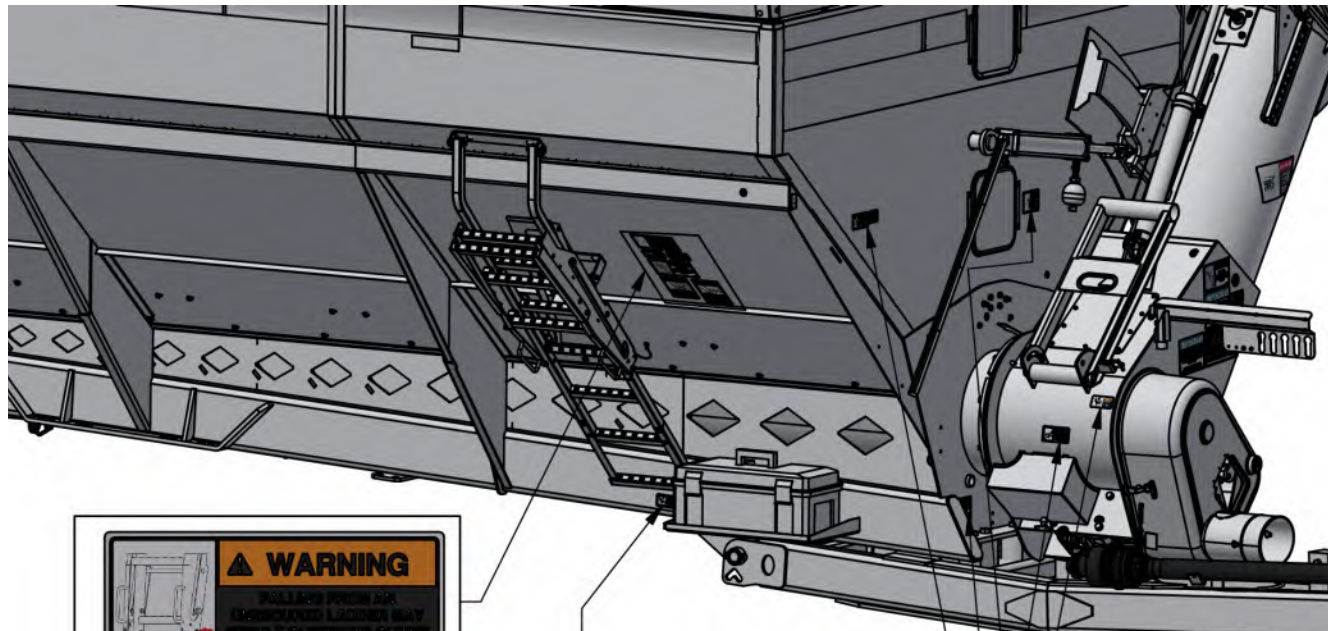
Safety Decals

⚠ WARNING

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



Safety Decals (continued)



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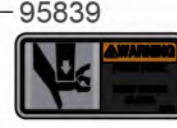
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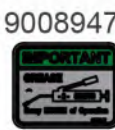
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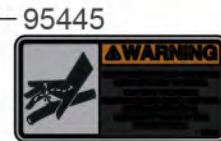
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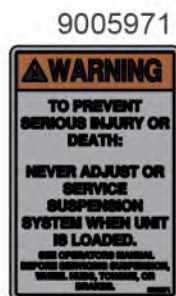
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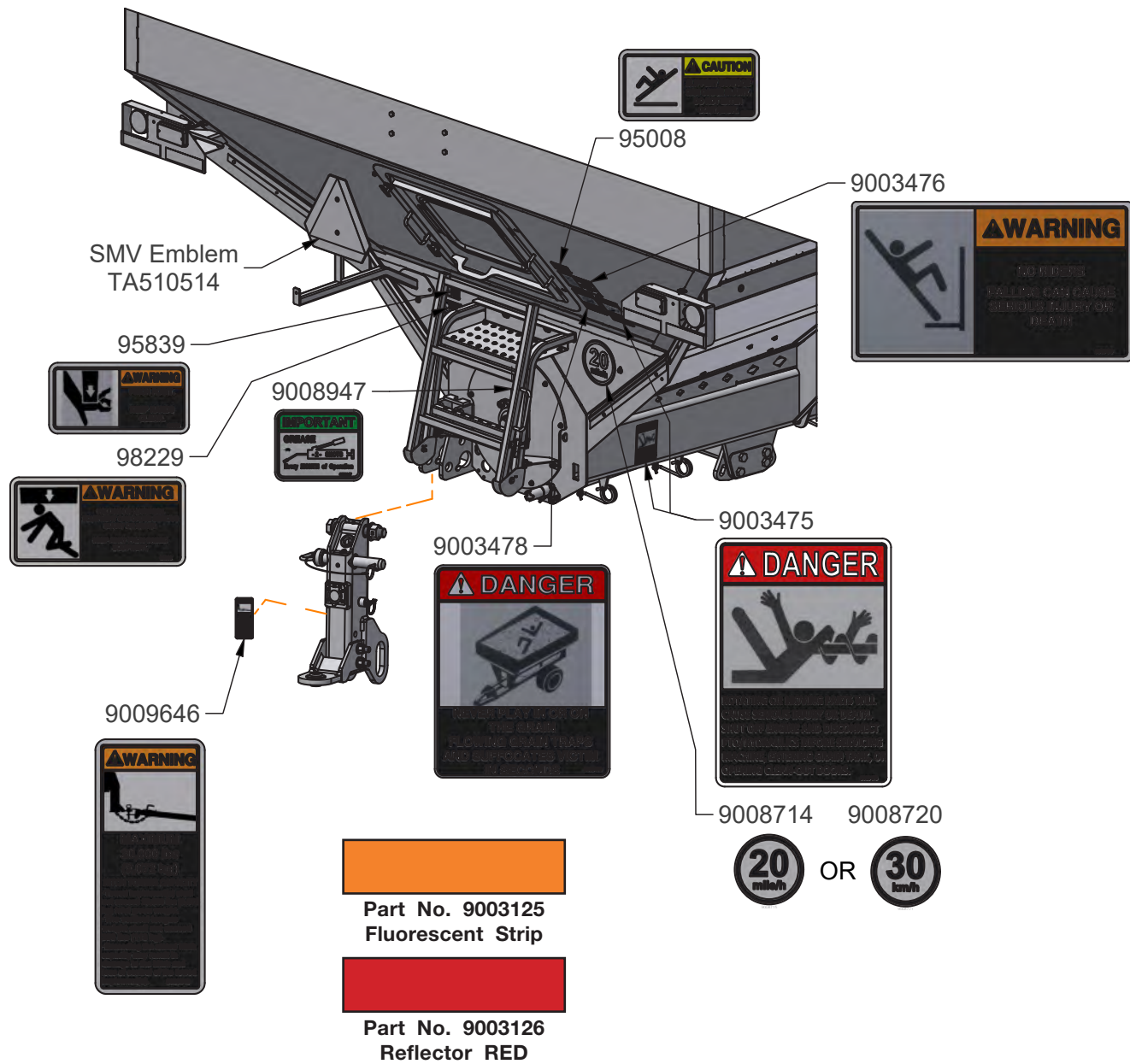


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Part No. 9003127
Reflector AMBER

Safety Decals (continued)



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 towing vehicle engine and hydraulic power unit engine off & remove key before servicing the implement.



- 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.




- 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 Servicing or Operating

- 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 while servicing, always ensure that there are people who remain outside the cart to assist the person working inside, and that all safe workplace practices are followed. There are restricted mobility and limited exit paths when working inside the implement.

- Secure drawbar pin with safety lock and lock tractor drawbar in fixed position.

- Explosive separation of a tire and rim can cause serious injury or death. Only properly trained personnel should attempt to service a tire and wheel assembly.

- Verify that all safety shields are in place and properly secured. 

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

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

- Always make certain everyone and everything is clear of the machine before beginning operation.

During Operation

- Regulate speed to working conditions. Maintain complete control at all times.
- Never service or lubricate equipment when in operation.
- Keep away from overhead power lines. Electrical shock can cause serious injury or death.
- Use extreme care when operating close to ditches, fences, or on hillsides.
- Do not leave towing vehicle unattended with engine running.



Before Transporting

- Secure transport chain to towing vehicle before transporting. DO NOT transport without chain.
- Check for proper function of all available transport lights. Make sure that all reflectors are clean and in place on machine. Make sure the SMV emblem and SIS decal are visible to approaching traffic.
- Make sure auger is folded and vertical auger assembly is positioned in its narrowest configuration.
- This cart is not 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.
- 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 the OPERATION section.
- Use caution when turning to avoid contact between tractor tires and driveline.
- Check the length of the telescoping members to insure the driveline will not bottom out or separate when turning and/or going over rough terrain.
- Proper extended and collapsed lengths of the telescoping PTO shaft must be verified before first operation with each and every tractor. If the extended length of the PTO shaft is insufficient, it may become uncoupled during operation and cause serious injury or death from contact with uncontrolled flailing of PTO shaft assembly components.

Pressurized Oil

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

- High-pressure fluids can penetrate the skin and cause serious injury or death. Leaks of high-pressure fluids may not be visible. Use cardboard or wood to detect leaks in the hydraulic system. Seek medical treatment immediately if injured by high-pressure fluids. 

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

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

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

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

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

- Check hydraulic hoses and tubes carefully. Replace components as necessary if any of the following conditions are found:
 - 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
Driveline Install	2-3
PTO Brackets Removal.....	2-3
Driveline Set Up.....	2-4
Coupling Benzi and GKN Walterscheid Cut Out Clutch.....	2-5
Verify Telescoping PTO Shaft Length	2-6
PTO Shaft Length Adjustment	2-8
Auger Set Up.....	2-9
7-Pin Connection & Auger Pivot Slide Wood Removal.....	2-9
Auger Spout Tilt Cylinder Stop Removal	2-10
Jack & Optional Hydraulic Jack Set Up.....	2-11
Jack.....	2-11
Install Hydraulic Jack (Optional).....	2-11
Upper Ladder Extension.....	2-13
Wheel & Tire Set Up.....	2-14
Tire Pressure	2-14
Wheel Nuts.....	2-14
SMV Emblem & SIS Decal.....	2-15
Video System (Optional).....	2-15
Belt Engagement.....	2-16
Operational Check.....	2-17

FOR SCALE, TRACK, UHARVEST, ELECTRIC TARP, AND / OR WATER DELIVERY SYSTEM INFORMATION, PLEASE REFER TO THE INDIVIDUAL MANUALS.

Set Up Checklist

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

- Set or Calibrate tractor PTO control engagement to MINIMUM setting. Refer to tractor operator's manual for setting information.
- Remove auger spout tilt cylinder stop.
- Remove PTO from shipping brackets, install onto gearbox input shaft and set in PTO holder. Remove PTO shipping brackets.
- Move upper ladder extension from shipping to operating position. See "Upper Side Ladder Extension" in this section.
- Torque wheel nuts as specified in MAINTENANCE section.
- Check tire pressure and inflate tires as needed to specified air pressure. See "Tire Pressure" in MAINTENANCE section. (If applicable)
- Verify track has been aligned and is properly conditioned. Refer to 50" / 42" Equalizer Track manual (267909), 36" x 148" / 36" x 131" Hydraulic Tension Track manual (267997) or small 36" x 112" Hydraulic Tension Track manual (267908) MAINTENANCE section for alignment information. (If applicable)
- Lubricate all grease fittings and check gearbox oil level.
- Inspect cleanout door assembly for play or movement, refer to "Vertical & Horizontal Clean-Out Door Operation" in the OPERATION section.
- Verify all safety decals are correctly located and legible. Replace if damaged.
- Verify all reflective decals are correctly located.
- Check SMV decal and SIS decals are in place, clean and visible.
- Verify transport lights are working properly.
- Verify PTO length, see "Verify Telescoping PTO Shaft Length" in MAINTENANCE section.
- Align and properly tension belts. See "Belt Tightener Adjustment" and "V-Belt Alignment" in MAINTENANCE section.
- Ensure screens over horizontal auger are in place and properly secured.
- Install transport chains and torque hardware to specification. See "Transport Chain Connection" in OPERATION section.
- Paint all parts scratched in shipment.
- Test run the augers. See "Auger Operation" in OPERATION section.
- Check hydraulics for leaks and check hose routing.

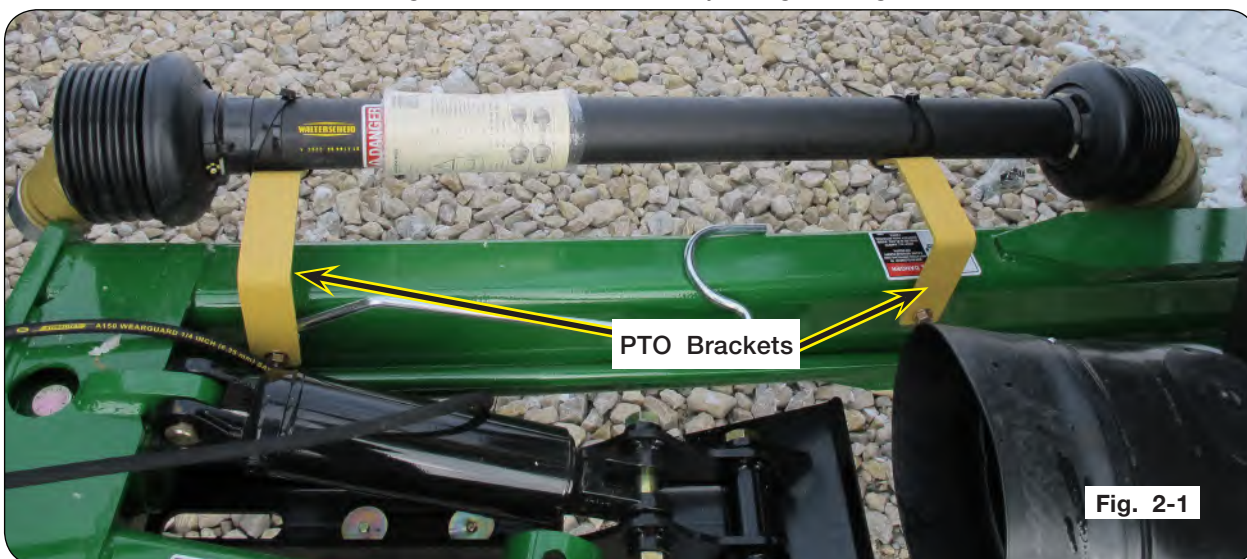
Driveline Install

PTO Brackets Removal

Remove the PTO assembly and PTO brackets on the tongue, before operating the auger pivot or connecting the driveline to the tractor. Keep PTO brackets for seasonal storage. Refer to “Seasonal Storage” in MAINTENANCE section. (Fig. 2-1)

IMPORTANT

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



Driveline Install (continued)

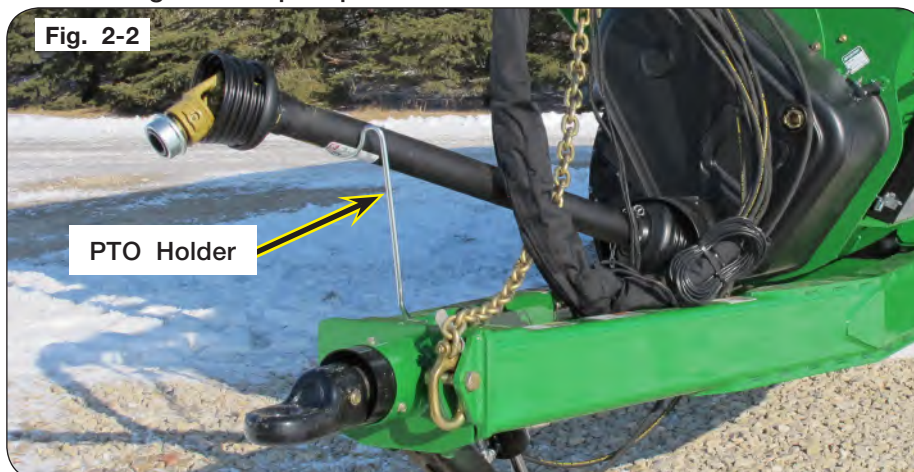
Driveline Set Up

DANGER

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

WARNING

- TO PREVENT PERSONAL INJURY OR DEATH WHILE SERVICING, 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.
 - TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.
 - EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.
 - KEEP HANDS CLEAR OF PINCH POINT AREAS.
 - FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 24,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.
1. Remove PTO assembly from the tongue. Remove clamp cone/retaining bolt from torque cut-out clutch.
 2. Clean and grease the Implement Gearbox splined shaft. Gearbox shaft guard has access doors for installing and removing driveline.
 3. Attach PTO onto the gearbox input splined shaft and use the PTO holder as shown below. (Fig. 2-2)



Driveline Install (continued)

Coupling Benzi and GKN Walterscheid Cut-Out Clutch

Align implement shaft retaining groove with retaining bolt/clamp cone hole. Insert retaining bolt/clamp cone. Torque to 75 ft.-lb. (Fig. 2-3 OR Fig. 2-4)

NOTE: See MAINTENANCE section - Driveline Removal - for disassembly instructions.

Fig. 2-3 Benzi Clutch

Retaining Bolt

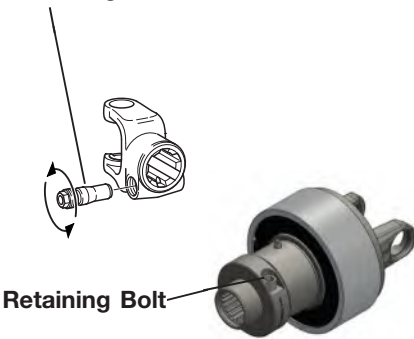
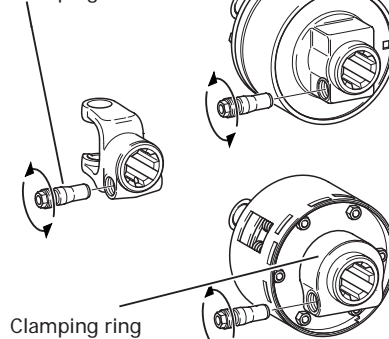
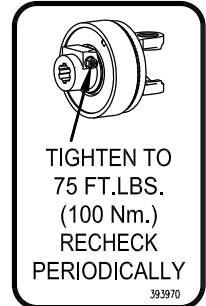


Fig. 2-4 GKN Walterscheid Clutch

Clamping cone



Clamping ring



Verify Telescoping PTO Shaft Length

⚠ WARNING

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

IMPORTANT

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

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

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

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

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

1. Fully collapse PTO shaft and measure length "L" (Fig. 4-39)

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

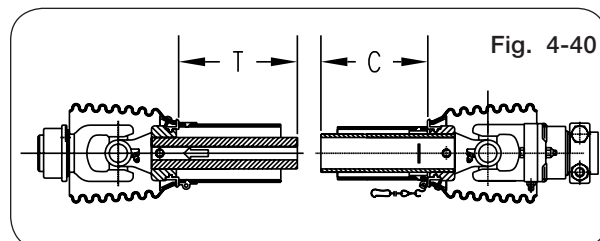
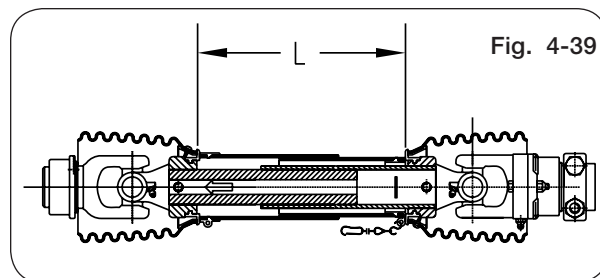
2. Pull apart PTO telescoping shaft ends and measure lengths "T" & "C" (Fig. 4-40)

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

3. Calculate maximum recommended extended length:

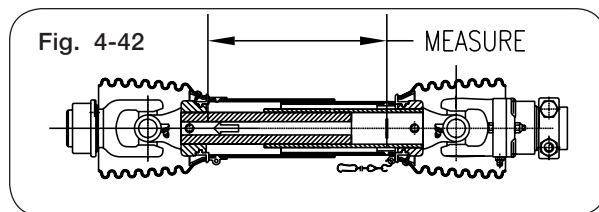
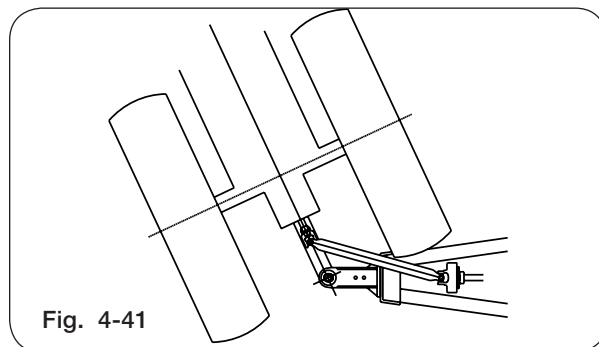
- a. Subtract line 1 from line 2
Enter here: _____ (a)
- b. Divide line (a) by 2
Enter here: _____ (b)
- c. Add line (b) to line 1.
Enter here: _____ (c)
- d. Subtract 3 inches from line (c)
Enter here: _____ (d)

This is the maximum recommended extended length.



Verify Telescoping PTO Shaft Length (continued)

4. Hitch tractor drawbar to cart, ensuring that tractor and cart are on level ground and coupled as straight as practical.
5. Connect PTO shaft to tractor, and measure length “L” from same points as used in step 1. Ensure that this measurement does not exceed the maximum recommended extended length calculated in step 3 above. If necessary, choose a shorter drawbar position, or obtain a longer PTO shaft assembly before operating cart.
6. Position the tractor to obtain the tightest turning angle, relative to the cart. (Fig. 4-41)
7. Measure the length “L” from the same points as used in step 1. **This distance must be at least 1.5 inches greater than the distance measured in step 1.** If necessary, adjust the length of the PTO shaft by cutting the inner and outer plastic guard tubes and inner and outer sliding profiles by the same length. Round off all sharp edges and remove burrs before greasing and reassembling shaft halves. (Fig. 4-42)



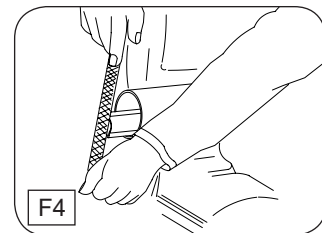
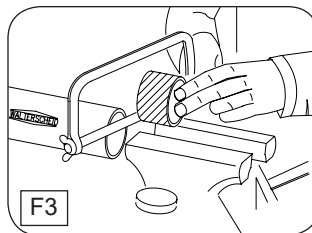
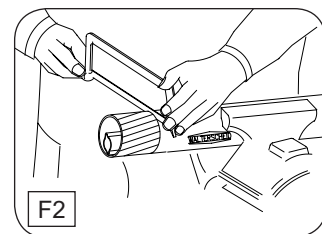
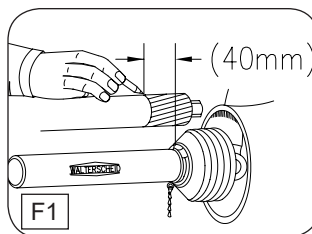
PTO Shaft Length Adjustment

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.

NOTE: Maximum operating length LB. (Refer to “Verify Telescoping PTO Shaft Length” in this section 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.



Auger 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

- HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.
- RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.
- HYDRAULIC SYSTEM MUST BE PURGED OF AIR BEFORE OPERATING TO PREVENT SERIOUS INJURY OR DEATH.
- FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RAISING, OR LOWERING.
- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.
- KEEP HANDS CLEAR OF PINCH POINT AREAS.

7-Pin Connection & Auger Pivot Slide Wood Removal

1. Hitch cart to tractor. Refer to "Hitching to Tractor" in the OPERATION section.
2. Park the empty cart on a firm, level surface. Block tractor and cart to prevent movement. Set the tractor's parking brake. Leave tractor on throughout procedure.
3. Close the vertical auger cleanout door.
4. Ensure PTO is properly attached. Refer to "Driveline Install" in this section.
5. Attach the 7-pin connector to tractor. (Fig. 2-5)

NOTE: Auger hydraulic functions will not operate without power and ground via 7-pin connector.

6. Use tractor SCV to pivot auger up.
7. Remove and discard the wood block from the auger pivot. (Fig. 2-6)
8. Cycle auger pivot all the way up and down to ensure movement is free.
9. 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 and inspection of hydraulic components.

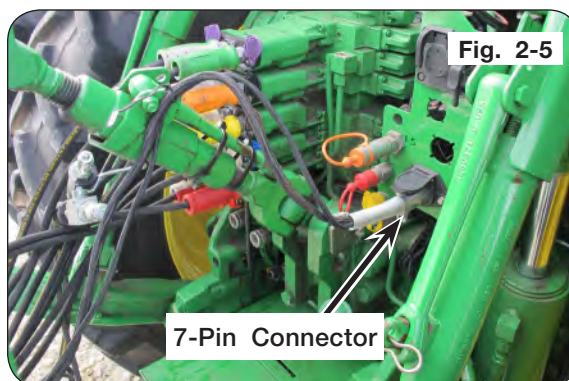


Fig. 2-5

7-Pin Connector

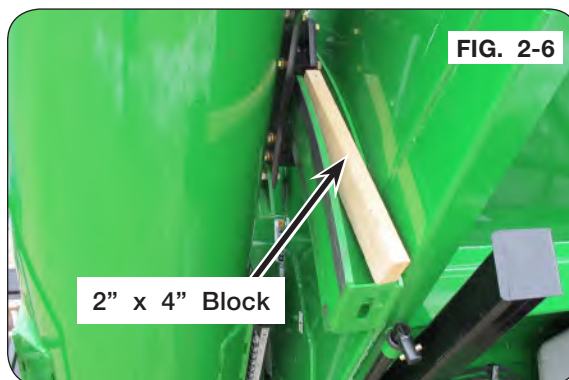


FIG. 2-6

2" x 4" Block

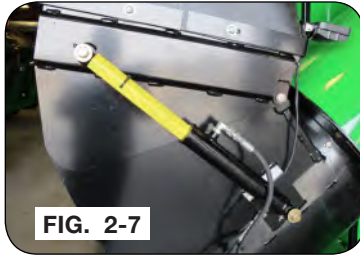
Auger Set Up (continued)

Auger Spout Tilt Cylinder Stop Removal

Remove the shipping stop from the spout tilt cylinder. (Figs. 2-7 and 2-8)

IMPORTANT

- *Cylinder stop must be removed before operating the auger spout. Failure to remove stop will result in damage to the cylinder and spout.*



Jack & Optional Hydraulic Jack Set Up

Jack

WARNING

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

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

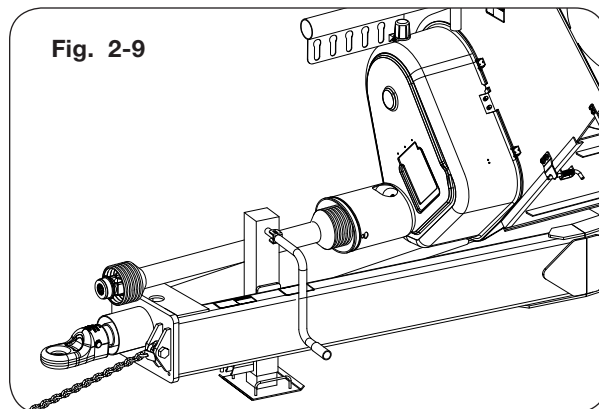


Fig. 2-9

Install Hydraulic Jack (Optional)

1. Assemble hoses (9006068) and fittings to cylinder (9009047) as shown in (Fig. 2-10). The valve needs to be attached to the hose on the base end of the cylinder. Assemble the fittings on the cylinder so they face each other, then store the hydraulic hoses on the hose caddy.

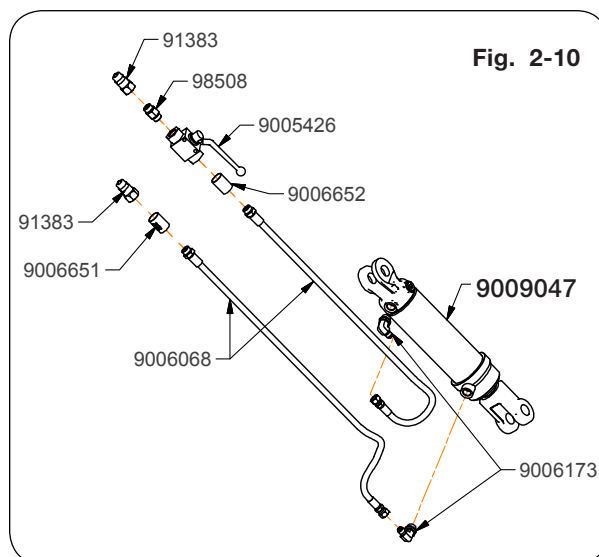


Fig. 2-10



Fig. 2-11

Jack & Optional Hydraulic Jack Set Up (continued)

Install Hydraulic Jack (Optional) (continued)

2. Assemble the cylinder (9009047) and jack foot (271723B) to the jack weldment (271712B) as shown in figure 2-12 using 1"-8UNC x 7" capscrews (9390-197) and 1"-8UNC locknuts (92199).

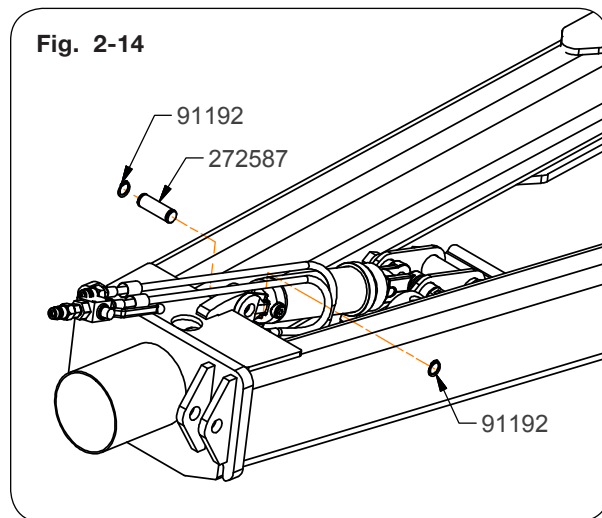
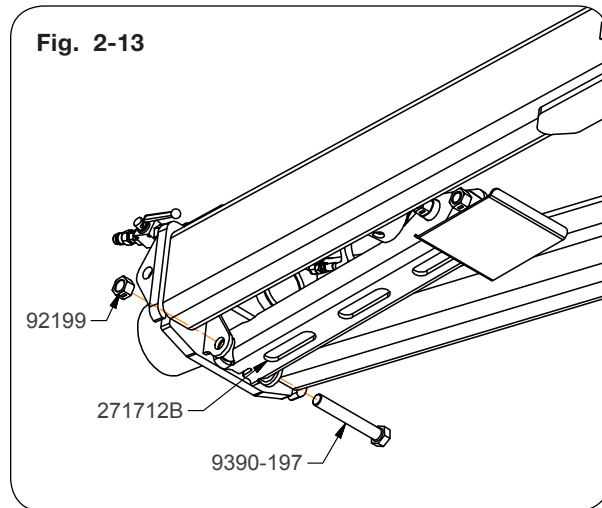
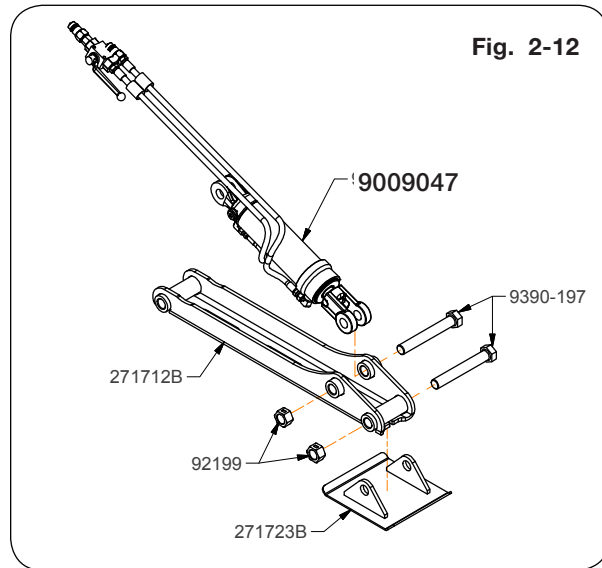
NOTE: Ensure all jack leg weldment (271712B) joints can pivot freely, especially jack foot (271723B).

3. Tighten 1" hardware to jack leg weldment and allow the cylinder and jack foot to freely pivot. (Fig. 2-12)

4. Attach the jack weldment (271712B) to the lower tabs behind the hitch plate on the tongue, shown in figure 2-13 using 1"-8UNC x 7" capscrews (9390-197) and 1"-8UNC locknuts (92199).

5. Tighten 1" hardware to jack leg weldment and allow the joint to pivot. (Fig. 2-13)

6. Align 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 2-14.



Upper Ladder Extension

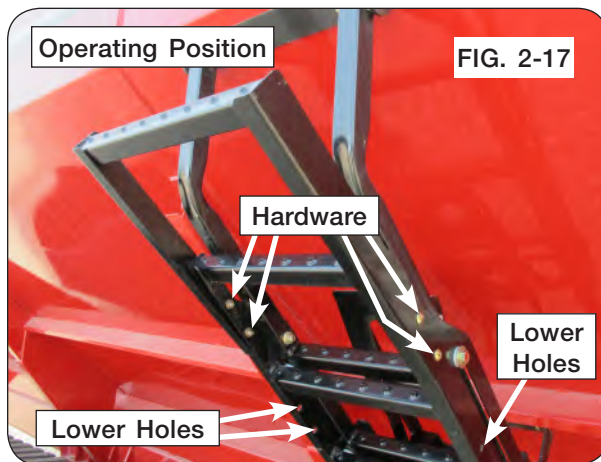
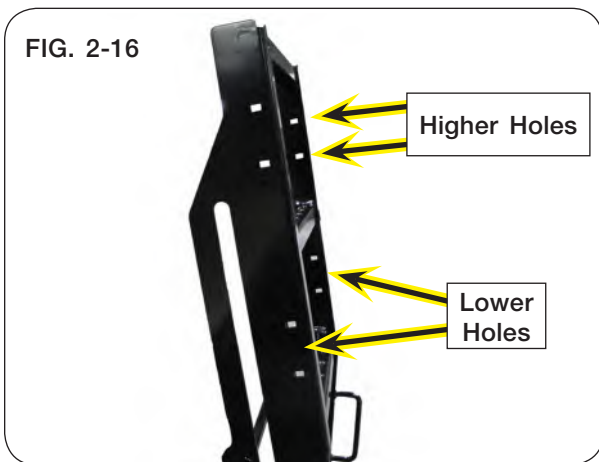
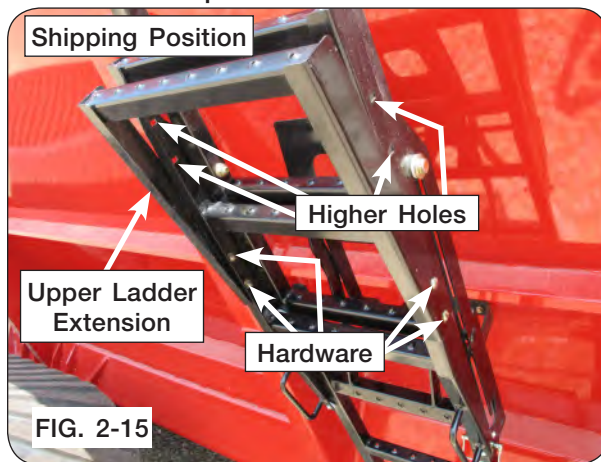
WARNING

- **FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RAISING, OR LOWERING.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **DO NOT ALLOW ANYONE TO RIDE ON THE LADDER. MAKE SURE EVERYONE IS CLEAR BEFORE OPERATING MACHINE OR TOWING VEHICLE.**
- **TO PREVENT PERSONAL INJURY OR DEATH WHILE SERVICING, 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.**
- **NEVER ENTER A CART CONTAINING GRAIN. FLOWING GRAIN TRAPS AND SUFFOCATES VICTIMS IN SECONDS.**

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

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

1. Move the upper ladder extension (289707B) from shipping position by removing the 5/16”-18UNC x 3/4” carriage bolts (9388-024), 5/16” flat washers (9405-064) and 5/16”-18UNC lock nuts (9008441). Keep hardware for next step. (Fig. 2-15)
2. Using hardware from step 1, attach upper ladder extension to the higher set of holes to be in operating position. (Figs. 2-15, 2-16 and 2-17)
3. Torque hardware to 17 ft.-lbs.



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

WARNING

- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 24,000 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.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.**

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

- *Install wheels with the tires in the narrowest position. 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.*

Wheel nuts must be torqued to specification. Refer to MAINTENANCE section for proper wheel nut torque.

The wheel dish will put the tires to the narrowest or widest position.

SMV Emblem & SIS Decals

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. (Fig. 2-18)

Install the SMV with the wide part at the bottom and reflective surface facing outward. (Fig. 2-18)

Ensure the front and rear SIS decals are clean and visible after shipping. (Fig. 2-19)

For 20 M.P.H. SIS decals, order 9008715 for the front & 9008714 for the rear.

For 30 K.P.H. SIS decals, order 9008721 for the front & 9008720 for the rear.

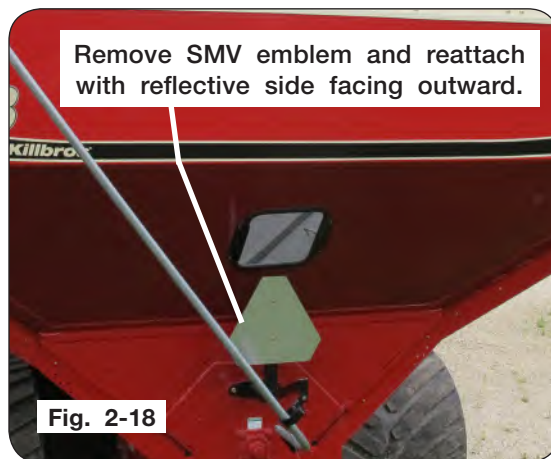


Fig. 2-18



Fig. 2-19

Video System (Optional)

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

Belt Engagement

WARNING

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

The unit is shipped without tension applied to the belts. To engage the tensioner use the belt tensioner handle, located on the front left-hand side of the grain cart, behind the first panel. Verify the belts are correctly aligned and are seated in both sheaves. If belt hangs over edge of sheave, detention idler, adjust and retention idler. (Fig. 2-20 and 2-21)

Rotate the handle downwards to engage tensioner. (Fig. 2-20)

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



Operational Check

WARNING

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

IMPORTANT

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

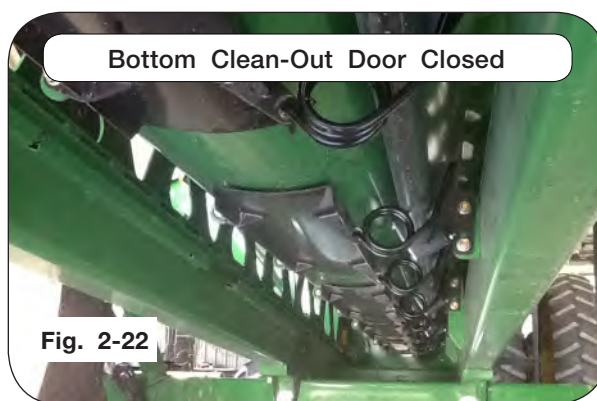
NOTE: 7-pin connector must be plugged into the tractor in order for the spout system to operate.

Perform the clean-out door steps to prepare the cart for operation:

1. Retrieve lynch pin from toolbox for the horizontal clean-out doors.
2. Close clean-out doors. Refer to “Vertical & Horizontal Clean-Out Door Operation” in the OPERATION section.

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

1. Lights - Work, Turn, Brake
2. Flow Door
3. Flow Door Indicator
4. Auger Fold
5. Auger Pivot
6. Spout Rotate (if applicable)
7. Spout Tilt
8. Auger Startup & Shut-down
9. Brakes (if applicable)
10. Tarp
11. Video System Camera
12. Scale (if applicable)



Section III Operation

Operating Checklist.....	3-2
Preparing Tractor.....	3-2
Preparing Cart.....	3-3
Hitching to Tractor	
Drawbar Connection	3-5
Jack Usage.....	3-6
Optional Hydraulic Jack Usage	3-7
Transport Chain Connection.....	3-8
Hydraulic Connections	3-9
Electrical Connections.....	3-11
Towing	3-12
Auger Operation	
PTO-Driven Auger	3-13
Vertical Auger Fold.....	3-15
Auger Field Rest Position.....	3-16
Auger Road Transport Position.....	3-17
Upper Auger Rest Adjustments	3-18
Auger Overload Procedure.....	3-19
Electric Over Hydraulic Operation (Optional)	3-20
Cart Loading Sequence.....	3-23
Vertical & Horizontal Cleanout Door Operation	3-24
Closing Vertical Cleanout Door.....	3-24
Opening Vertical Cleanout Door	3-25
Horizontal Cleanout Door.....	3-26
Side Ladder Operation - For SN B40560100 & Higher.....	3-28
Rear Ladder Operation - For SN B45190100 & Higher.....	3-32
Rear Access Door Operation - For SN B40560100 & Higher	3-34
Rear Drop Hitch Operation - For SN B40560100 & Higher	3-35
Video System (Optional).....	3-37
Weather Guard Tarp.....	3-37
Wireless Receiver and Control Box Location - For SN B43780100 & Higher.....	3-39

FOR SCALE, TRACK, UHARVEST, ELECTRIC TARP, AND / OR WATER DELIVERY SYSTEM INFORMATION, PLEASE REFER TO THE INDIVIDUAL MANUALS.

Operating Checklist

- Read and understand all safety precautions before operating cart.
- R.V. antifreeze needs to be completely flushed from the Water Delivery System and disposed of properly. Make certain the Water Delivery System only contains water before placing the Water Delivery System in service. (If applicable)
- Set or Calibrate tractor PTO control engagement to MINIMUM setting. Refer to tractor operator's manual for setting information.
- Torque wheel nuts and check tire pressure as specified in MAINTENANCE section.
- Verify track has been aligned and is properly conditioned. (If applicable)
- Verify track grease pump reservoir is full. Refer to track auto grease pump instruction sheet (282986) for setting information.
- Inflate tires to specified air pressure. (if applicable)
- Lubricate all grease fittings and check gearbox oil level.
- Inspect cleanout door assembly for play or movement, refer to "Vertical & Horizontal Clean-Out Door Operation" in the OPERATION section.
- Test operation and functionality of work lights, flow door, flow door indicator, auger fold, auger pivot, spout rotate, spout tilt, tarp, and if equipped, hydraulic jack stand, scale, joystick, scale remote display, video system, and water delivery system.
- Verify all reflective decals are correctly located.
- Check SMV sign and SIS decals are clearly visible with the cart attached to the tractor.
- Verify transport lights are working properly. Check and follow all regulations before towing on a road or highway.
- Verify tractor drawbar height and length. See "Preparing Tractor" in this section.
- Verify PTO length, see "Verify Telescoping PTO Shaft Length" in MAINTENANCE section.
- Align and properly tension belts. See "Belt Tightener Adjustment" and "V-Belt Alignment" in MAINTENANCE section.
- Ensure screens over horizontal auger are in place and properly secured.
- Ensure transport chains are installed and properly secured. See "Transport Chain Connection" in OPERATION section.
- Test run the augers. See "Auger Operation" in OPERATION section.

Preparing Tractor

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

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

If equipped, check the tractor and cart electric tarp connection. Refer to electric roll tarp manual (26487) for details.

Set tractor PTO modulation to MINIMUM. Check that your tractor 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.

Set tractor drawbar according to the tractor Operator's Manual.

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

Preparing Tractor (continued)

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

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

NOTE: The grain cart comes with a CAT 4 hitch utilizing a 2" diameter pin. For 1320 only, a CAT 5 hitch is available for a 2 3/4" diameter pin.

CAUTION

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

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

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

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

Preparing Cart

Perform the service checks 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.

Preparing Cart (continued)

Auger

Inspect auger for damage and wear.

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

- *Install wheels with tires in the narrowest position. 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.

Hitching to Tractor

Drawbar Connection

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

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

NOTE: For 1313 only, CAT 5 tongue is available for a 2 3/4" diameter pin. Contact your dealer for a CAT 5 tongue/hitch, if required.

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

NOTE: Bushings and o-rings to adapt the CAT 4 hitch are stored in the toolbox on the right-hand side of the cart.

Lock tractor drawbar in center position.

Read the tractor Operator's Manual for more information on tractor drawbar distance.

WARNING

- **DO NOT STAND BETWEEN THE CART AND TRACTOR WHEN HITCHING. ALWAYS ENGAGE PARKING BRAKE AND STOP ENGINE BEFORE INSERTING HITCH PIN OR SECURING LATCHES.**

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

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

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

FIG. 3-1

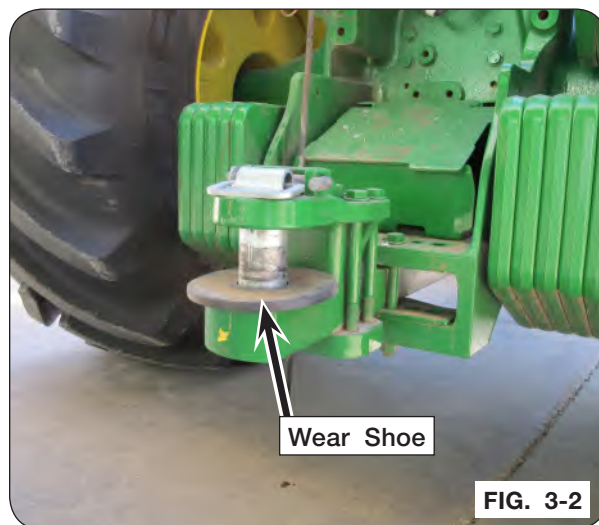
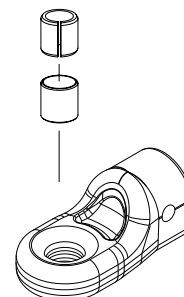


FIG. 3-2

**2 7/8" Higher Than
The Standard Position**

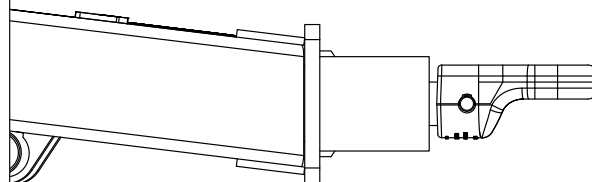


FIG. 3-3

Hitching to Tractor (continued)

WARNING

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

Jack Usage

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

IMPORTANT

- After cart is hitched to tractor, pivot jack to storage location shown in Fig. 3-5.

Fig. 3-4

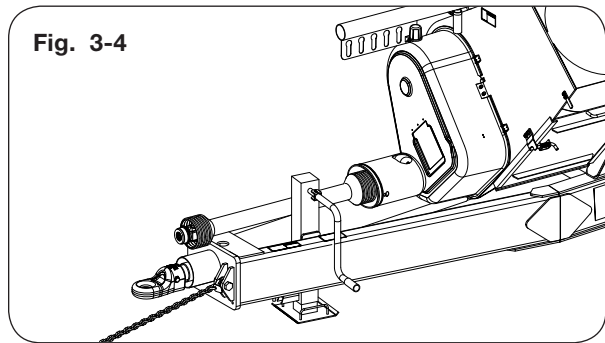


Fig. 3-5



Hitching to Tractor (continued)

Optional Hydraulic Jack Usage

WARNING

- HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.
- TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.
- OPENING OF HYDRAULIC VALVE CAN CAUSE SUDDEN MACHINE MOVEMENT. KEEP CLEAR OF MACHINE WHEN OPENING VALVE.

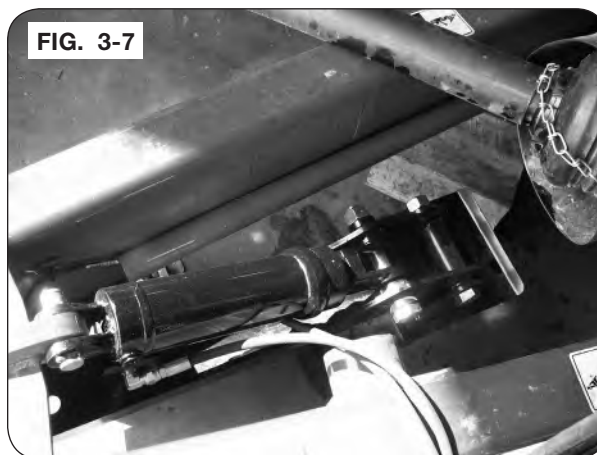
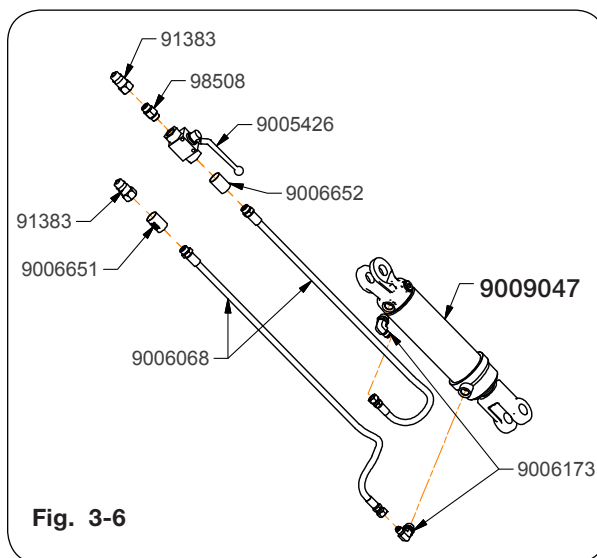
IMPORTANT

- After cart is hitched to tractor, attach hydraulic hoses to tractor and retract hydraulic cylinder to store hydraulic jack between the frame rails. (FIG. 3-7)

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

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

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



Hitching to Tractor (continued)

Transport Chain Connection



CAUTION

- ALWAYS USE TRANSPORT CHAIN WHEN TRANSPORTING IMPLEMENTS. FAILURE TO USE A TRANSPORT CHAIN COULD CAUSE PERSONAL INJURY IF CART BECOMES DISENGAGED.
- REPLACE TRANSPORT CHAIN IF ANY LINK OR END FITTING IS BROKEN, STRETCHED, DAMAGED OR NOT FUNCTIONING. DO NOT WELD TRANSPORT CHAIN.
- USE ONLY AN UNVERFERTH ASABE TRANSPORT CHAIN WITH A WEIGHT RATING EXCEEDING THE GROSS COMBINED WEIGHT OF ALL TOWED IMPLEMENTS. CONTACT YOUR UNVERFERTH DEALER FOR ADDITIONAL INFORMATION.

Always use intermediate chain support when connecting the grain cart directly to a tractor. DO NOT use the intermediate chain support as the chain attaching point. See tractor operator's manual for proper chain attachment. Fig. 3-8 shows how the transport chain must be installed between the tractor and grain cart.

The transport chain is rated for towing the grain cart empty on public roads. Never tow a loaded grain cart on public roads.



Fig. 3-8

Hitching to Tractor (continued)

Hydraulic Connections

Clean hydraulic hose couplers before connecting to the tractor. For convenience, this unit is equipped with color hose grips attached to the hydraulic hoses. This will help in identifying the hose function and correct hook up. (FIG. 3-9)

NOTE: Hydraulic sleeve color may not match the tractor SCV color.

Color	Function
Red	Flow Door Open / Close
Yellow	Spout Tilt In / Out
Green	Auger Fold / Unfold
Black	Jack Raise / Lower
Orange	Auger Pivot Up / Down
Optional (Red)	Hydraulic Pressure and Return Joystick / Spout Rotate

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

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

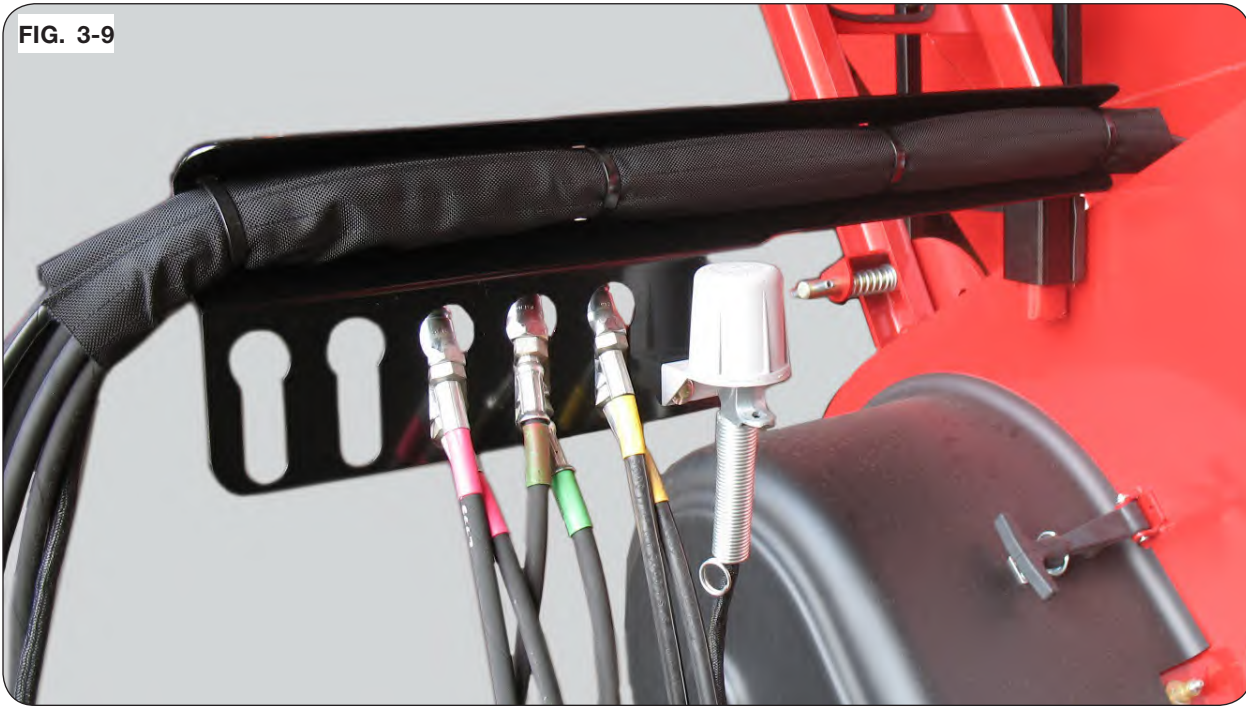
(Continued on next page)

Hitching to Tractor (continued)

Hydraulic Connections

Before disconnecting hoses from tractor, place tractor in Park and shut PTO off, operate auger fold and pivot to the lowest positions. Where possible, remove hydraulic pressure loads and avoid potential pressure buildup in the lines from long storage periods such as upper auger not in rest position. If equipped with hydraulic jack, extend jack to desired position, turn valve to closed position. See tractor operator's manual for proper procedure to relieve pressure from the lines. After SCV pressures have been relieved and tractor engine is off, disconnect hoses from tractor. Install couplers into storage slots provided. (Fig. 3-9)

FIG. 3-9



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 Killbros dealer (Part number 92824). (Fig. 3-10)

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

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

If equipped, check the tractor and cart electrical tarp connection. Refer to electric roll tarp manual (26487) for details.

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

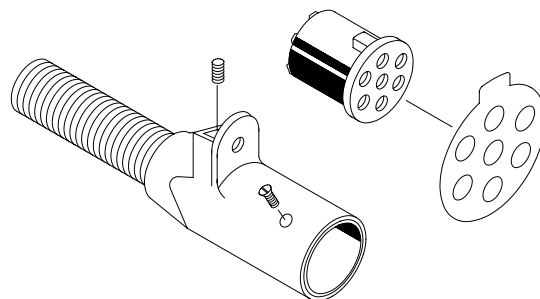
- When the tractor field lights switch is on; the Side Marker lights and the amber turn signal lights are on solid and will not flash.
- When the flashers and/or turn signal is on; the Side Marker lights flash in unison with their respective side's amber turn lamp.

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

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

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

Fig. 3-10



Hitching to Tractor (continued)

Towing

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

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

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

The PTO drive shaft must be properly attached to the tractor during transport. See “Coupling The Cut-Out Clutch” in SET UP section and “PTO Shaft and Clutch” in MAINTENANCE section before connecting the PTO drive shaft to the tractor.

Secure transport chain to tractor before towing. See “Transport Chain Connection” in this section for proper connection.



CAUTION

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

IMPORTANT

- Upper auger must be in Transport Position for public road travel.
- Position vertical auger with discharge hood within hopper width for public road travel.

Regulate speed to road conditions and maintain complete control.

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

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

Always have auger folded back into transport position when auger is not in use. (Fig. 3-11)



Auger Operation

PTO Driven Auger

DANGER

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



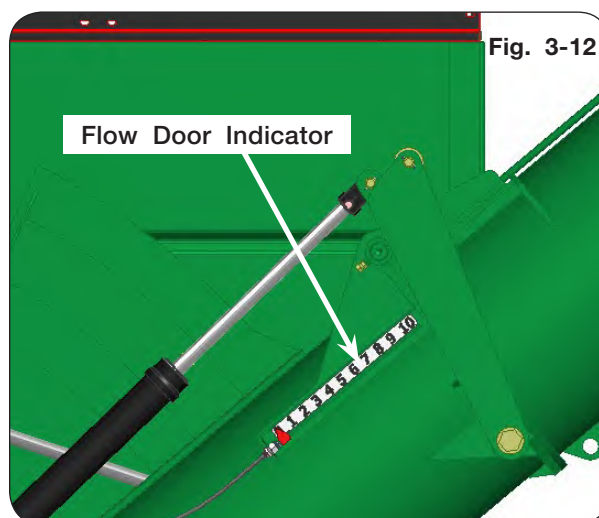
WARNING

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

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

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

2. Choose an area free from obstructions and unfold auger into unloading position. Allow sufficient time for the cylinder to fully engage the two augers and over-center latch to fully engage.
3. Engage PTO at low engine RPM, then increase engine RPM until 1000 PTO RPM is reached.



IMPORTANT

- Operating the PTO at less than 1000 RPM can result in damage to the PTO and driveline components in addition to excessive auger wear and cart vibration
4. Open flow control door to desired unloading rate. Numbers on the auger tube provide a point of reference for operator convenience. (Fig. 3-12)
 5. To slow or stop grain flow, close flow door, do not reduce tractor RPM. Close flow door fully when unloading is complete.

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

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

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

Auger Operation (continued)

6. When auger is empty, reduce PTO RPM to idle, and stop PTO.
7. After PTO has come to a complete stop, align the checkered flag decals to locate center as shown in Fig. 3-13.
8. Once spout is centered, fold auger to the road transport position or field rest position.

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



Auger Operation (continued)

Vertical Auger Fold

WARNING

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

Actuate hydraulic auger fold circuit to move vertical auger between transport and operating positions. When unfolding auger, allow sufficient time for cylinder to rotate the outside fold link into an over-center position. (Fig. 3-14)

NOTE: Auger spout will not rotate until auger is fully extended and auger will not fold until the spout is centered. It may be necessary to manually rotate auger spout in order to unfold the auger. See “Manual Override for Optional Electric Over Hydraulic System” in the MAINTENANCE section for details.

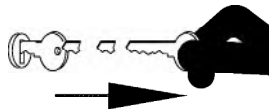


Auger Operation (continued)

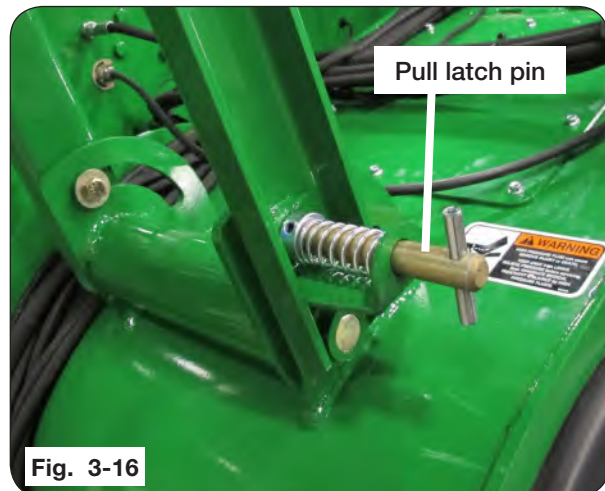
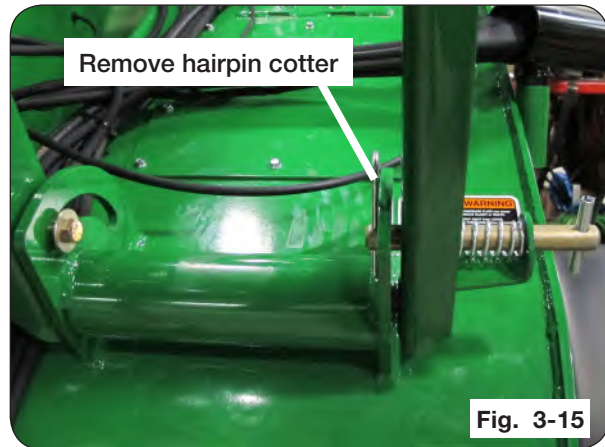
Auger Field Rest Position

IMPORTANT

- Auger field rest is *ONLY* for use in the field. Auger must be folded to road transport position during road transport.
1. Extend auger to the unload position. Shut-off tractor's engine and remove the ignition key.



2. Remove hairpin cotter from latch pin (Fig. 3-15) and pull latch pin to disengage (Fig. 3-16). Raise auger rest stand up to field position and release latch pin. Make sure the pin is engaged in the field position hole and re-install hairpin removed earlier in this step.



3. Fold auger back to field rest position (Fig. 3-17), making sure upper auger rest engages the field rest tube and activates the auger switch.

NOTE: Upper auger rest is factory adjusted. Bolts can be used for re-alignment of upper auger rest. (Fig. 3-17)



Auger Operation (continued)

Auger Road Transport Position

1. Extend auger to the unload position. Shut-off tractor's engine and remove the ignition key.



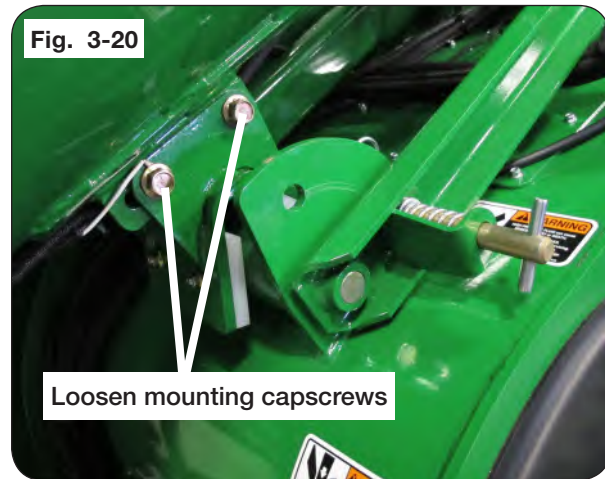
2. Remove hairpin and pull latch pin towards you to disengage. Lower field rest to the road transport position and release the latch pin (Fig. 3-18). Make sure the pin is engaged in the road transport position hole and re-install hairpin removed earlier in this step.
3. Fold auger down to road transport position. (Fig. 3-19)



Auger Operation (continued)

Upper Auger Rest Adjustments

1. Loosen mounting capscrews of upper auger rest. (Fig. 3-20)
2. Raise auger approximately 6" out of the lower rest and install cylinder stops on the fold cylinder to prevent the auger from lowering unexpectedly.
3. Position upper auger rest as needed so that it appears to be centered over the lower auger rest tube.
4. Hand tighten the mounting capscrews of the upper auger rest.
5. Remove the cylinder stops installed in step 2, and lower the auger down into the lower rest.
6. Ensure the upper auger rest contacts the lower tube evenly.
7. Torque mounting capscrews to 65 ft.-lbs.



Auger Operation (continued)

Auger Overload Procedure

IMPORTANT

- Extensive operation while the clutch is slipping may damage drive components.

NOTE: When over loading occurs, drivelines equipped with cut-out clutch will make a “clicking” noise when torque has been exceeded. Immediately shut off PTO and shut the flow door.

NOTE: Once PTO RPM has significantly decreased, cut-out clutch will automatically reset.

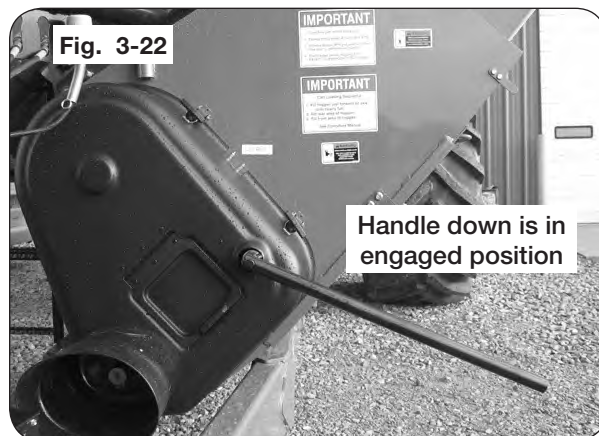
1. Close flow door.
2. With the PTO off and driveline stopped, disengage the belt tensioner using the belt tensioner handle, this disengages the horizontal auger from the drivetrain. (Fig. 3-21)
3. Restart and engage the tractor PTO at low engine RPM.
4. Increase engine RPM until 1,000 PTO RPM is reached to empty the vertical auger.

IMPORTANT

- Operating the PTO at less than 1000 RPM can result in damage to the PTO and driveline components in addition to excessive auger wear and cart vibration.

5. Once vertical auger is empty, stop PTO.
6. With the tractor PTO off and driveline stopped, reengage the belt tensioner using the belt tensioner handle. Return handle to storage. (Fig. 3-22)
7. Restart and engage the tractor PTO at low engine RPM.
8. Increase engine RPM until 1,000 PTO RPM is reached to empty the drag auger.

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



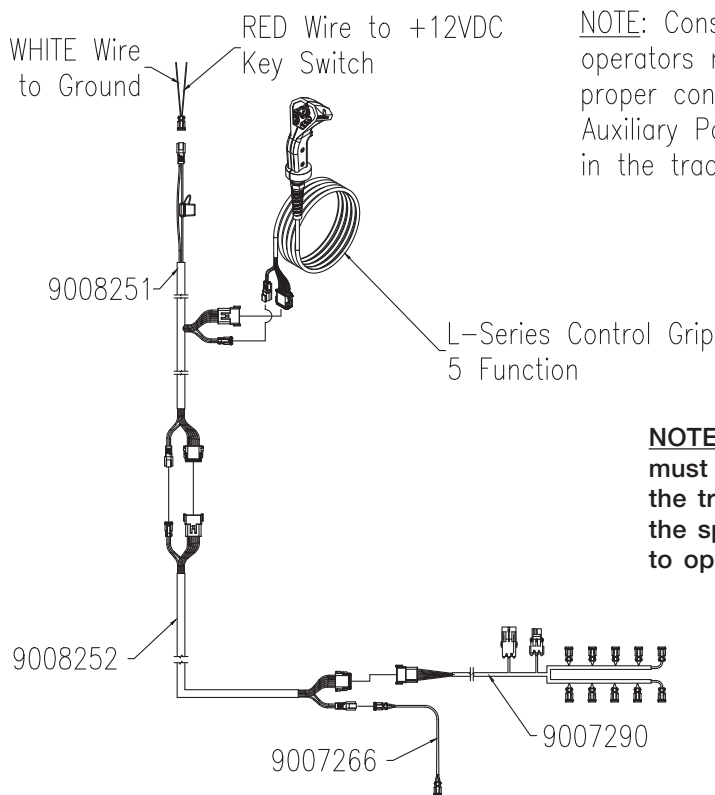
Electric Over Hydraulic Operation (Optional)

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.

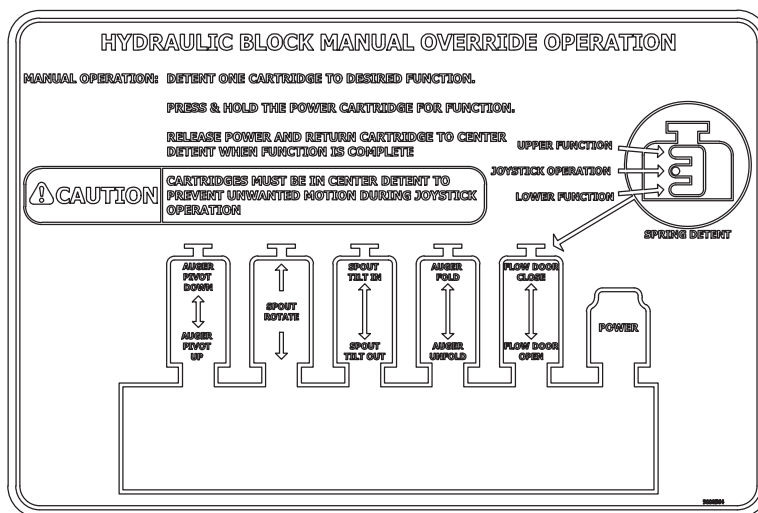
1. Connect the red wire from power harness (9008251) to a key switched +12VDC power supply. (Fig. 3-23)
2. Connect the white wire from power harness (9008251) to ground. (Fig. 3-23)

FIG. 3-23



NOTE: Consult the tractor's operators manual for proper connection to the Auxiliary Power Outlet in the tractor cab.

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

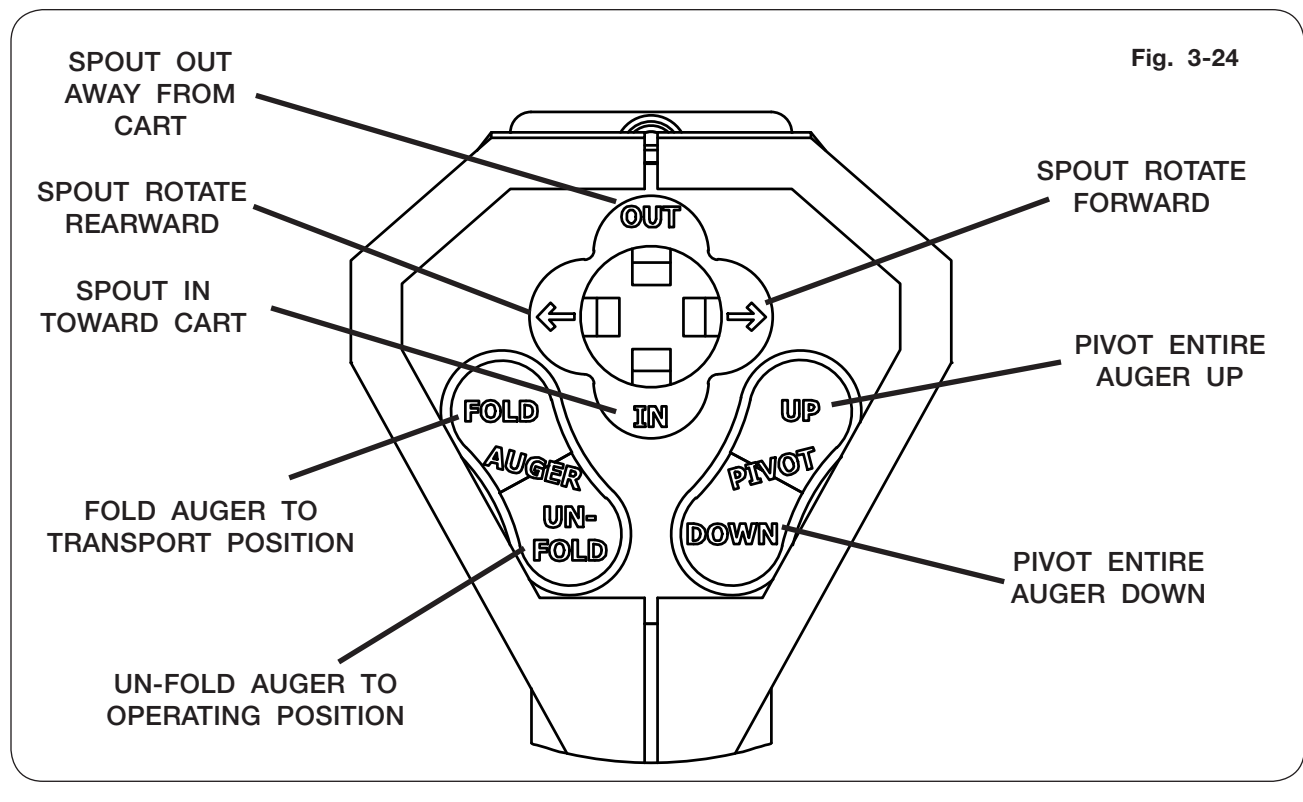


Electric Over Hydraulic Operation (Optional) (continued)

3. Connect the Hydraulic Pressure and Return hoses to the tractor SCV remote so that the Pressure line is able to be put in continuous detent.
4. Place the remote in continuous detent so that the Hydraulic Pressure hose is pressurized and set the hydraulic flow to a maximum 6 gal/min to minimum 4 gal/min.
5. To fold auger out from transport to operating position, push down the auger unfold button on joystick face until the upper and lower auger are engaged and fold linkage is over center. See Fig. 3-24.

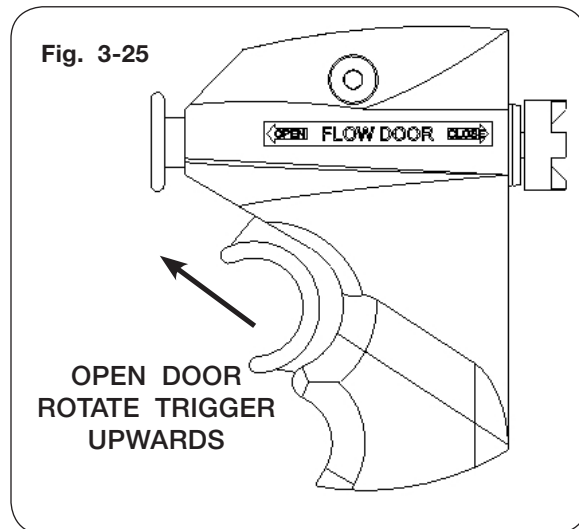
NOTE: Joystick has a double tap feature, which allows the operator to quickly double tap a function in order to operate it for a set time. If the auger fold or auger unfold buttons are double tapped, the function will stay on for 60 seconds to complete the full cycle without holding the buttons down.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

6. To pivot spout OUT away from cart, push hat switch toward OUT. Hold the switch until desired position is achieved. (Fig. 3-24)
7. To pivot spout IN toward cart, push hat switch toward IN. Hold the switch until desired position is achieved. (Fig. 3-24)
8. To pivot the entire auger UP, press and hold the auger pivot UP button until the desired height is achieved. (Fig. 3-24)
9. To pivot the entire auger DOWN, press and hold the auger pivot DOWN button until the desired height is achieved. (Fig. 3-24)

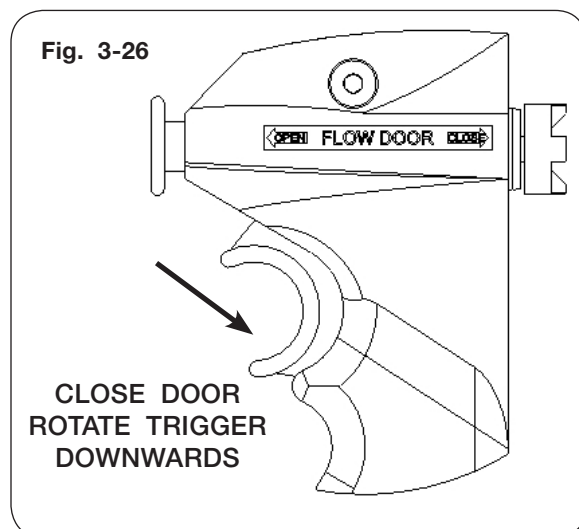


Electric Over Hydraulic Operation (Optional) (continued)

10. To open flow door, rotate the switch upwards. Observe flow door indicator to determine when to release trigger and stop flow door movement. (Fig. 3-25)

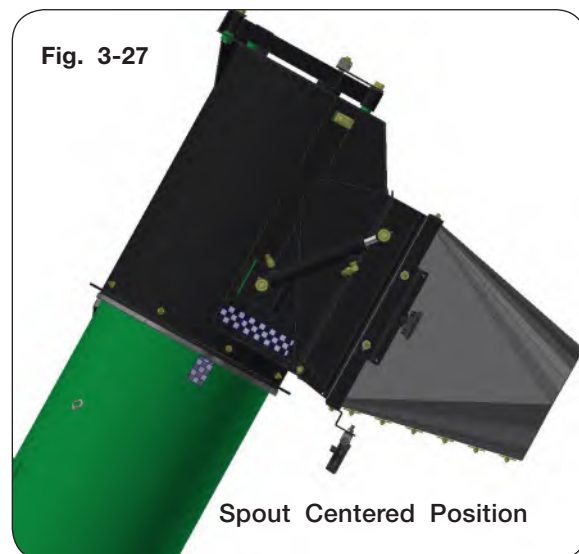


11. To close flow door, rotate the switch downwards. Observe the flow door indicator and release trigger when door is closed to desired position. (Fig. 3-26)



NOTE: Refer to “Troubleshooting” and “Auger Switch Troubleshooting” for EOH, vertical auger and/or rotating spout issues in the MAINTENANCE section.

12. To fold auger from operating position to transport position:
 - A. Rotate spout to centered position. Align the checkered flag decals to locate center as shown in Fig. 3-27.
 - B. Press auger FOLD button on joystick.
 - C. Double tap FOLD button until upper auger is on field rest or in transport position.
13. Once unloading is complete, stop hydraulic flow. **ALWAYS** stop continuous detent when auger functions are not required or active.



Cart Loading Sequence

WARNING

- **NEVER LOAD THE REAR OF A GRAIN CART FIRST. LOAD THE CART EVENLY TO MAINTAIN WEIGHT ON THE TRACTOR DRAWBAR. LOADING ONLY THE FRONT, OR ONLY THE REAR, CAN CAUSE A LOSS OF CONTROL.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.**
- **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.**
- **NEVER ENTER A CART CONTAINING GRAIN. FLOWING GRAIN TRAPS AND SUFFOCATES VICTIMS IN SECONDS.**

1. Ensure auger flow door is closed before loading cart.
2. Fill the cart starting just forward of the axle until nearly full.

NOTE: Overfilling the front or rear area of the hopper can result in reduced control of the cart when towing.

3. Fill the rear area of the hopper before topping off the front area. This maintains proper weight on the hitch of the tractor.

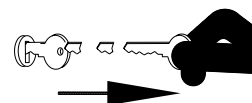
Vertical & Horizontal Cleanout Door Operation

WARNING

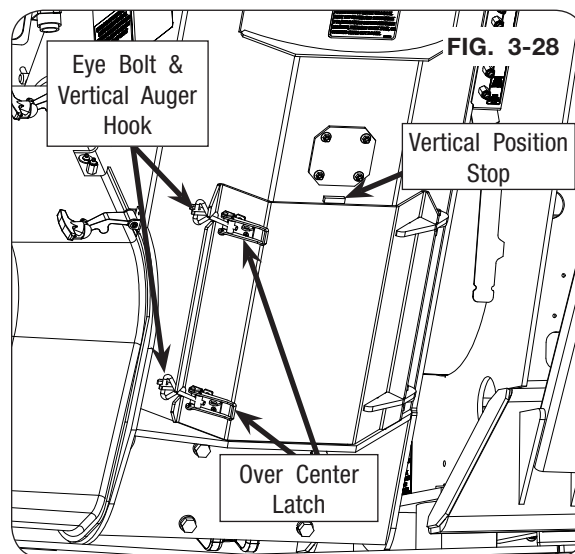
- MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEANOUT DOORS ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.
- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE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

Closing Vertical Cleanout Door

1. Raise the vertical auger to highest position.
2. Park the empty grain cart on a clean level surface. Block 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.



3. To completely close cleanout door, ensure the vertical auger cleanout door top edge clears the vertical position stop (key stop). (Fig. 3-28)
4. Attach eye bolt ends of over center latches to the hooks on the vertical auger. (Fig. 3-28)
5. Clasp the over center latch handles to lock the door in the closed position. (Fig. 3-28)
6. Inspect and verify cleanout door perimeter for gaps. Ensure all grain dust and filings are removed that may prevent the door from shutting completely.
7. If gaps are present, unclasp the over center latch and tighten eye bolt to improve door seal contact on the vertical auger.



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

NOTE: Repeat steps 4 - 8, as necessary.

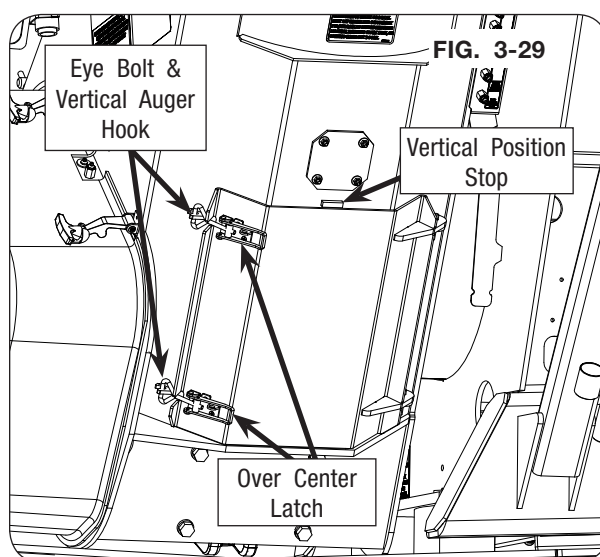
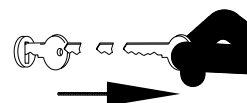
Vertical & Horizontal Cleanout Door Operation (continued)

Opening Vertical Cleanout Door

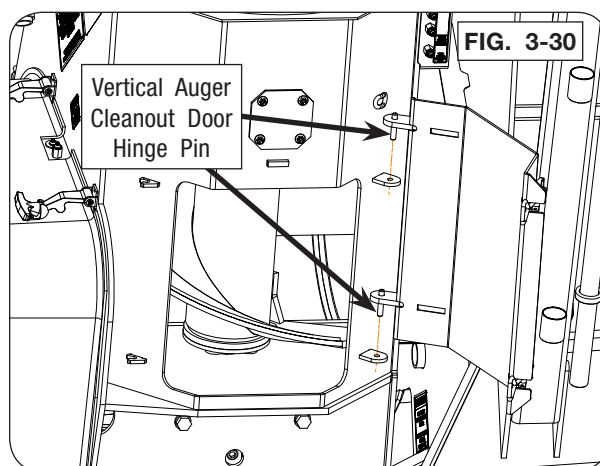
1. Raise the vertical auger to highest position.
2. Park the empty grain cart on a clean level surface. Block the machine to keep it from moving. Set the tractor's parking brake, shut-off the engine, remove the ignition key and disconnect the PTO shaft.

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

3. To open and remove the vertical auger cleanout door, unclasp the over center latch. (Fig. 3-29)
4. Unhook the eye bolt from the vertical auger and open the cleanout door. (Fig. 3-29)



5. The hinge on the vertical auger cleanout door is set on a pin. Lift and remove the cleanout door from the vertical auger. Keep vertical auger cleanout door. (Fig. 3-30)
6. Inspect and verify all debris is removed from inside the vertical auger housing.
7. Reattach the vertical cleanout door to the vertical auger.

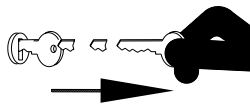


Vertical & Horizontal Cleanout Door Operation (continued)

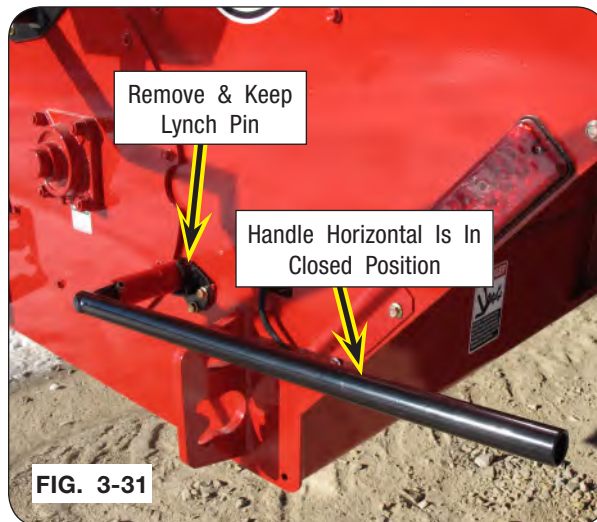
Horizontal Cleanout Door

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

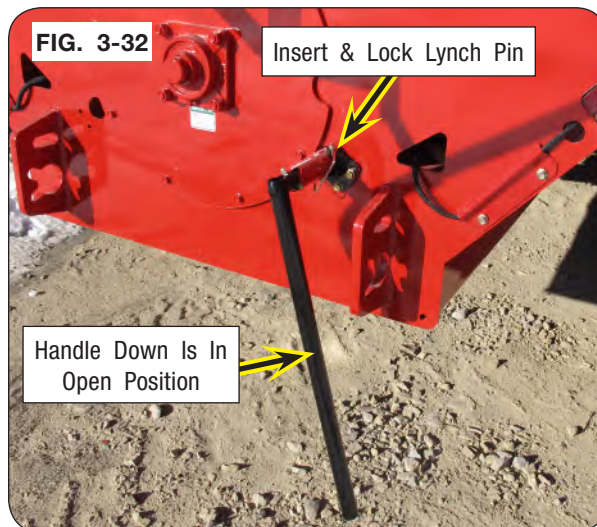
1. Park the empty grain cart on a clean level surface. Block the machine to keep it from moving. Set the tractor's parking brake, shut-off the engine, remove the ignition key and disconnect the PTO shaft.



2. Insert tensioner handle into the cleanout door receiver coupler on the rear panel, and remove lynch pin from rockshaft. Keep lynch pin. (Fig. 3-31)

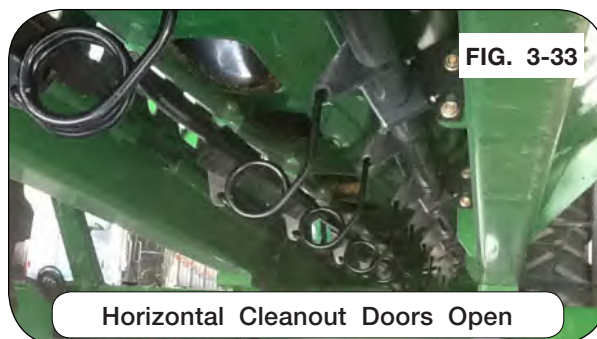


3. Rotate the tensioner handle clockwise to open the cleanout doors. (Fig. 3-32)



4. Insert and lock lynch pin into rockshaft. (Fig. 3-32)

5. Inspect and verify all debris is removed that may prevent the doors from shutting completely. (Fig. 3-33)



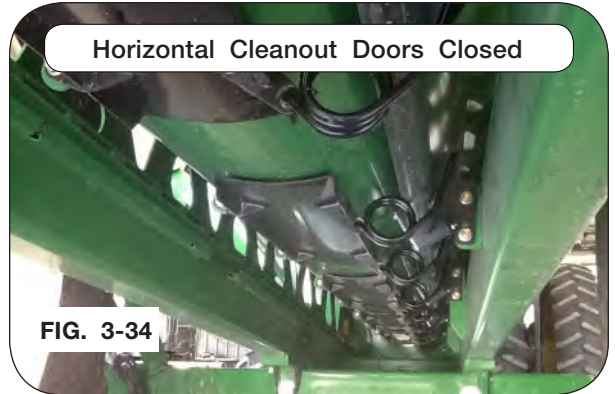
NOTE: As the tensioner handle is rotated counter-clockwise near the end of the close position, the coiled springs will extend to apply pressure to cleanout doors. If the doors do not close or visible door perimeter gaps are present, adjust the rockshaft. See "Horizontal Cleanout Door Adjustment" in the MAINTENANCE section.

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

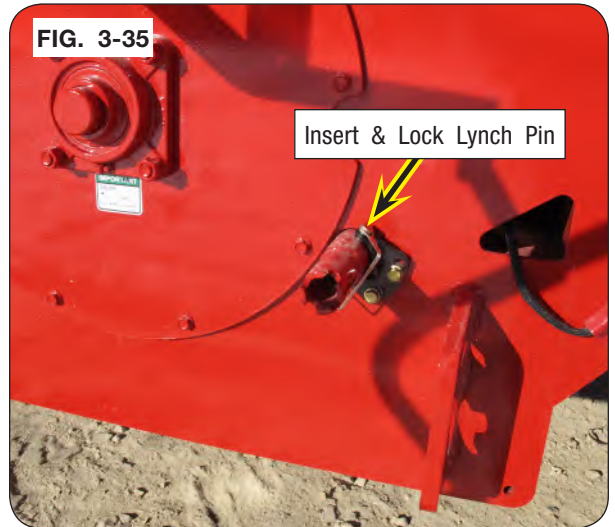
Vertical & Horizontal Cleanout Door Operation (continued)

Horizontal Cleanout Door

7. Rotate handle counter-clockwise to close doors and ensure all doors seal. (Fig. 3-34)



8. Insert and lock lynch pin into rockshaft and return handle to storage location. (Fig. 3-35)



Side Ladder Operation - For SN B40560100 & Higher

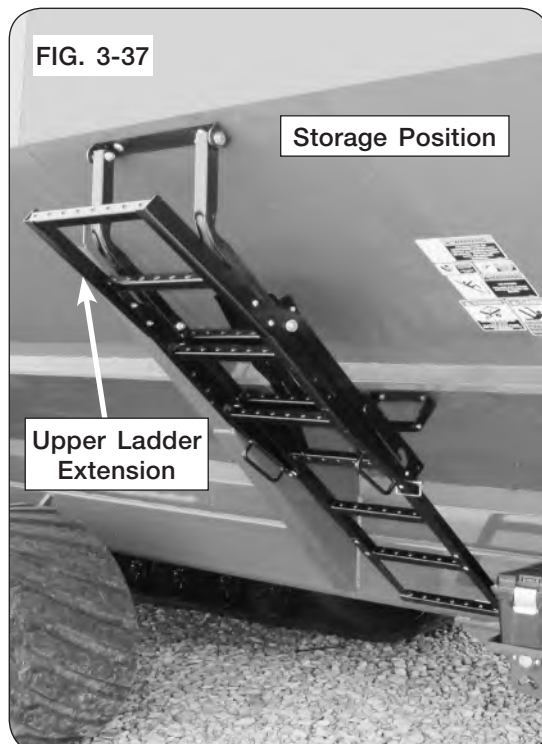
WARNING

- **FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RAISING, OR LOWERING.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **DO NOT ALLOW ANYONE TO RIDE ON THE LADDER. MAKE SURE EVERYONE IS CLEAR BEFORE OPERATING MACHINE OR TOWING VEHICLE.**
- **TO PREVENT PERSONAL INJURY OR DEATH WHILE SERVICING, 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.**
- **NEVER ENTER A CART CONTAINING GRAIN. FLOWING GRAIN TRAPS AND SUFFOCATES VICTIMS IN SECONDS.**

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

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

NOTE: Always use lock pin in the working and storage position to lock the ladder extension. The lock pin can be inserted in either left-hand or right-hand ladder hole. (Fig. 3-36 & 3-37)



Side Ladder Operation - For SN B40560100 & Higher (continued)

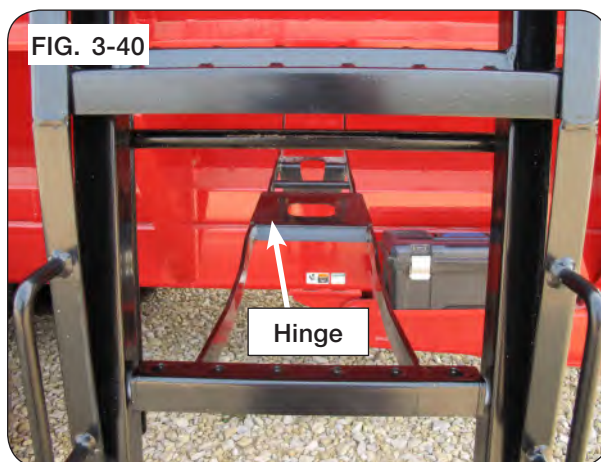
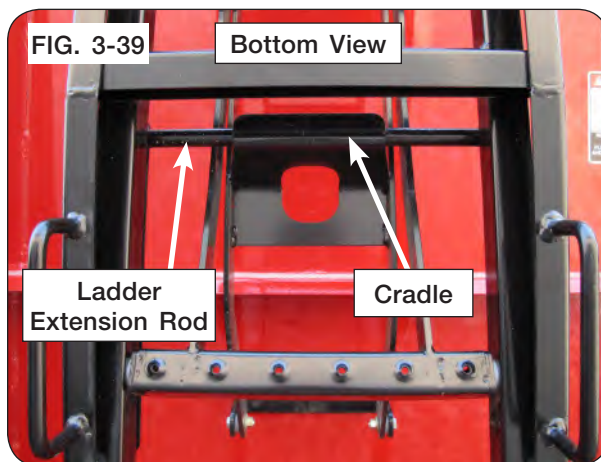
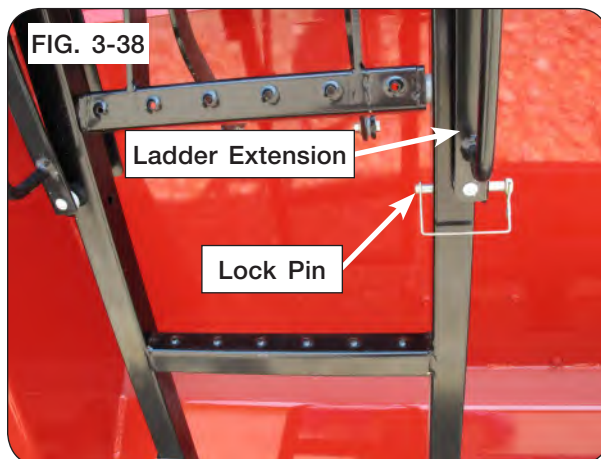
Storage to Working Position

1. Standing in front of ladder, place hands on outside ladder handles.
2. Keep one hand on ladder handle and with opposite hand, remove lock pin from ladder extension. Retain for future use. (Fig. 3-38)
3. With hands back on ladder handles, push ladder towards hopper bin and lift ladder extension to unseat ladder extension rod from the cradle. (Fig. 3-39)

CAUTION

- THE LADDER IS NOW FREE TO PIVOT.

4. Slowly swing ladder outward until hinge is fully extended and locks in the working position. (Fig. 3-40)



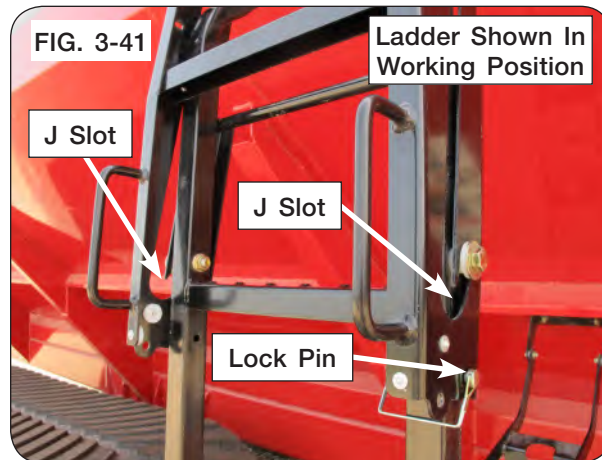
Side Ladder Operation - For SN B40560100 & Higher (continued)

Storage to Working Position

5. Lift and seat ladder extension into shorter leg of “J slot”. (Fig. 3-41)
6. Using lock pin from step 2, insert lock pin into ladder extension and ladder. (Fig. 3-41)

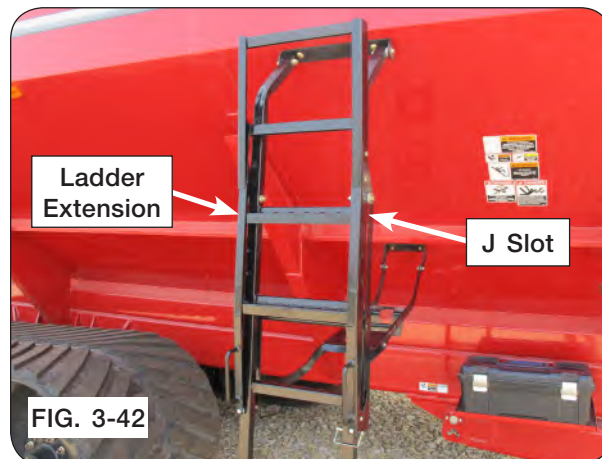
⚠ WARNING

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

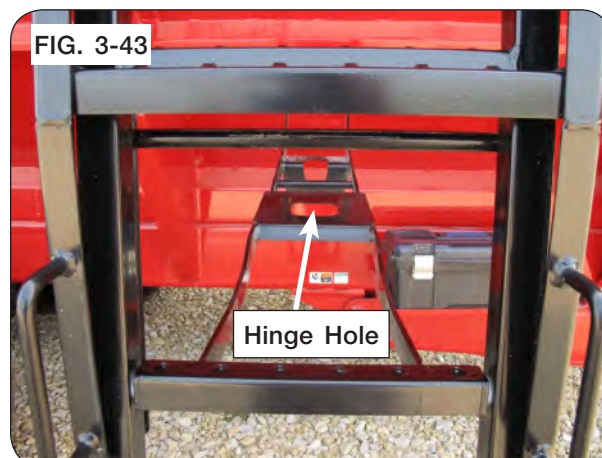


Working to Storage Position

7. Standing in front of ladder, place hands on outside ladder handles.
8. Keep one hand on ladder handle and with opposite hand, remove lock pin from ladder extension. Retain for future use. (Fig. 3-41)
9. With hands back on ladder handles, lift and unseat ladder extension from shorter leg of “J slot”. (Fig. 3-41)
10. Lower ladder extension until fully seated in longer leg of “J slot”. (Fig. 3-42)



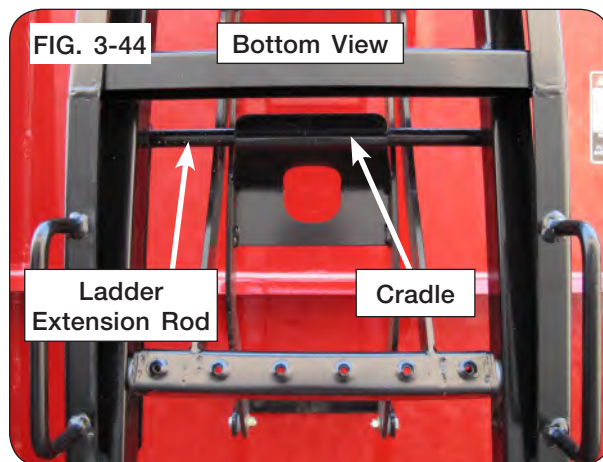
11. Keep one hand on ladder handle and with opposite hand, reach between ladder rungs and grab the ladder hinge hole. (Fig. 3-43)
12. Slowly lift ladder hinge until the ladder starts folding.
13. Remove hand from ladder hinge hole and place onto ladder handle.
14. Slowly push ladder towards hopper bin.



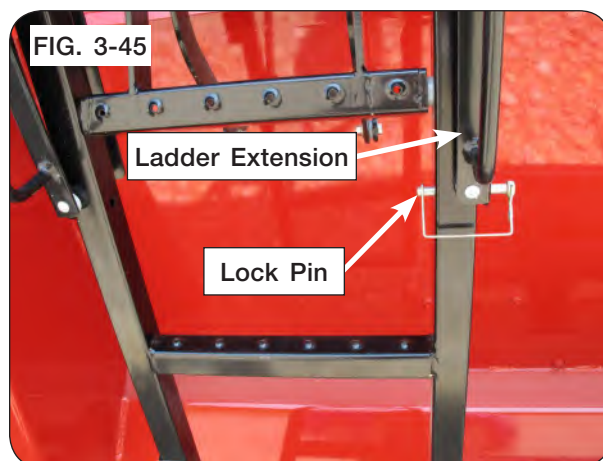
Side Ladder Operation - For SN B40560100 & Higher (continued)

Working to Storage Position

- 15. Lower ladder extension and seat ladder extension rod onto the cradle. (Fig. 3-44)



- 16. Using lock pin from step 8, insert lock pin into ladder extension and ladder. (Fig. 3-45)



Rear Ladder Operation - For SN B45190100 & Higher

WARNING

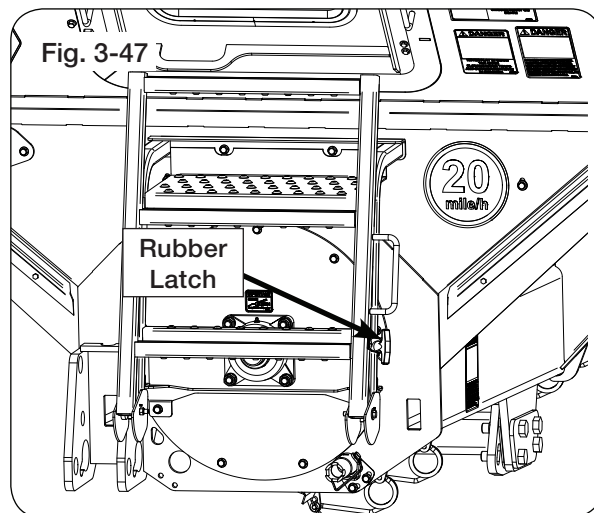
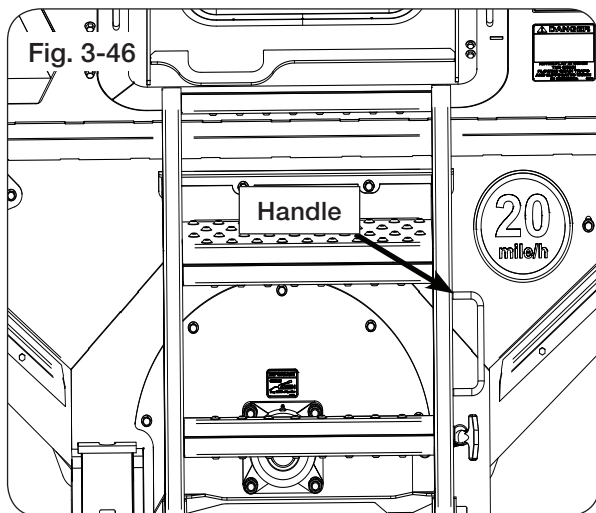
- FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RAISING, OR LOWERING.
- DO NOT ALLOW ANYONE TO RIDE ON THE LADDER. MAKE SURE EVERYONE IS CLEAR BEFORE OPERATING MACHINE OR TOWING VEHICLE.
- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- TO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

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

NOTE: The lower ladder section must be raised and locked in the storage position when not used.

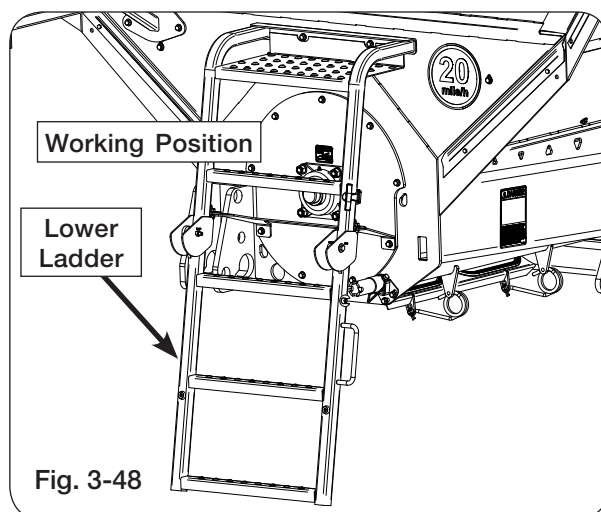
Storage to Working Position

1. Park the empty grain cart on a firm and level surface. Block 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. While holding ladder handle, remove rubber latch from holder. (Fig. 3-46 and 3-47)



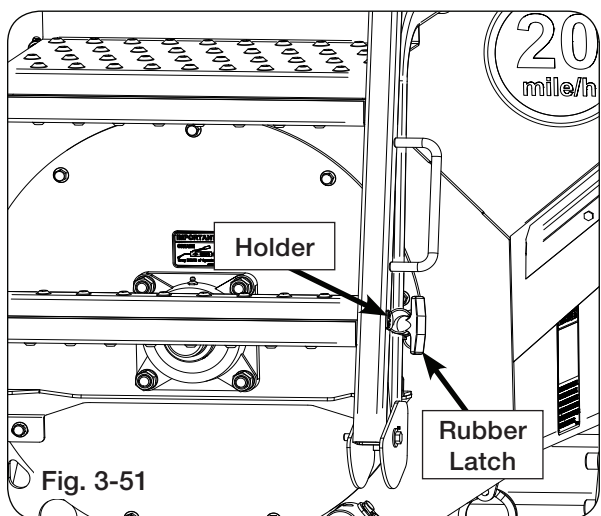
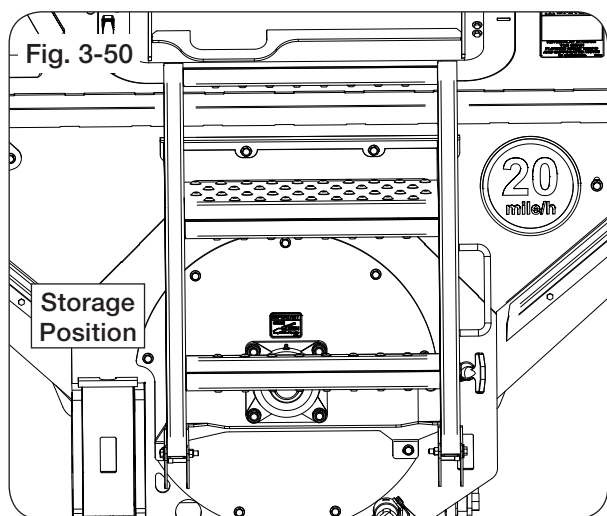
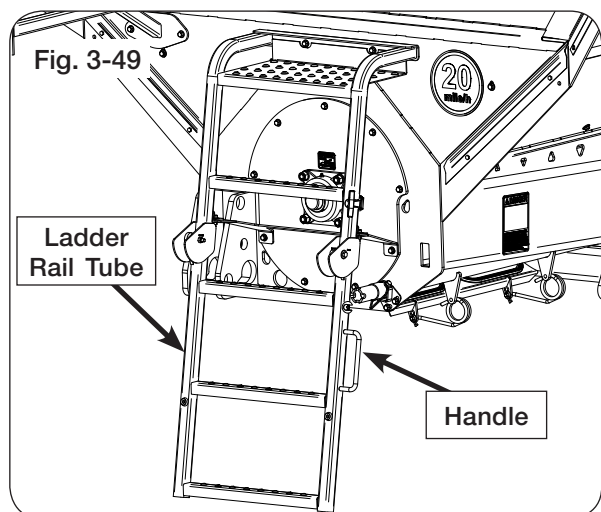
Rear Ladder Operation - For SN B45190100 & Higher (continued)

3. Slowly swing the lower ladder section completely down to working position. (Fig. 3-48)



Working to Storage Position

1. Slowly lift and swing the lower ladder section up to storage position. (Fig. 3-49)
2. Attach rubber latch to holder to lock ladder in storage position. (Fig. 3-50 and 3-51)

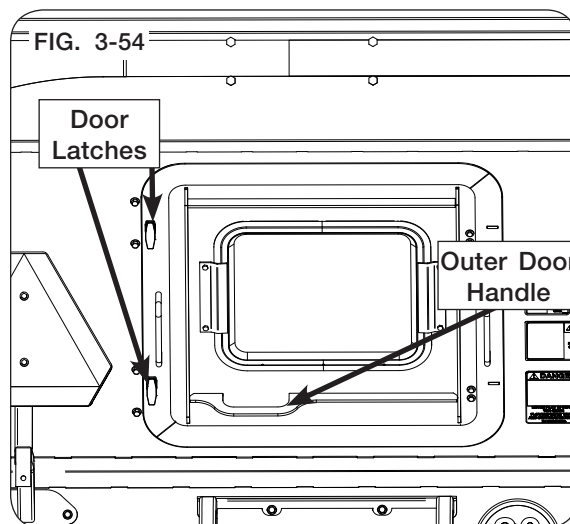
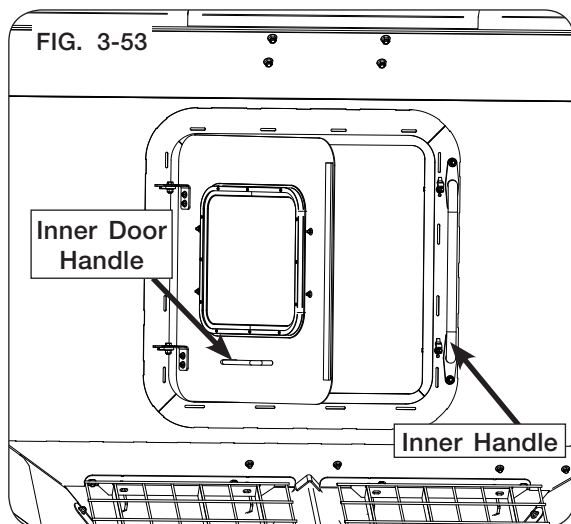
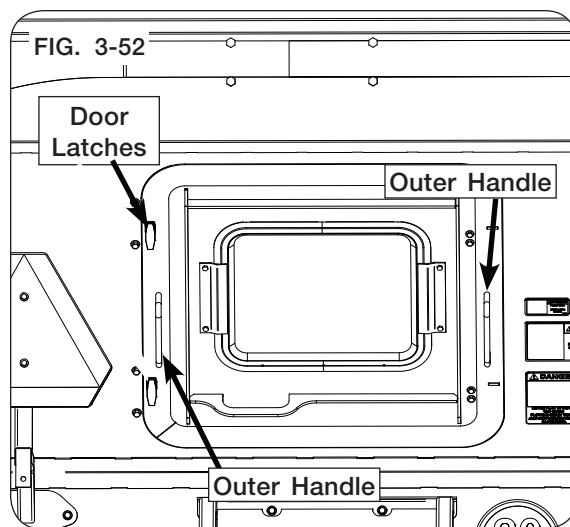


Rear Access Door Operation - For SN B45190100 and Higher

⚠ WARNING

- ENSURE SCREENS OVER HORIZONTAL AUGERS ARE IN PLACE AND PROPERLY SECURED.
- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.
- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.

1. Park the empty grain cart on a firm and level surface. Block the 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. Maintain contact with either left or right side Outer handles then turn both door latches 180 degrees counter clockwise. (Fig. 3-52)
3. Use bottom door handle to open door by pushing in. (Fig. 3-53)
4. Push rear access door inward until it stops. While maintaining contact with the outer handles, enter the grain cart.
5. To exit, use inner door handle to open the rear access door, place hand on inner handle and exit grain cart. (Fig. 3-53)
6. While maintaining contact with outer handles, use outer door handle to close the rear access door. (Fig. 3-54)
7. Turn both door latches 180 degrees to lock the rear access door. (Fig. 3-54)



Rear Drop Hitch Operation (Optional) For SN B45190100 and Higher

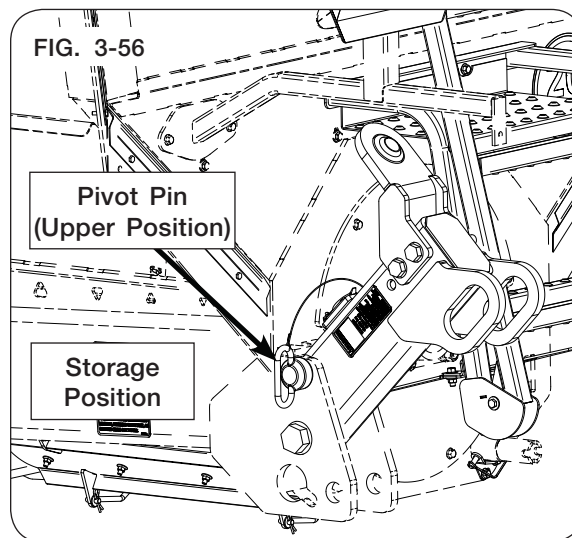
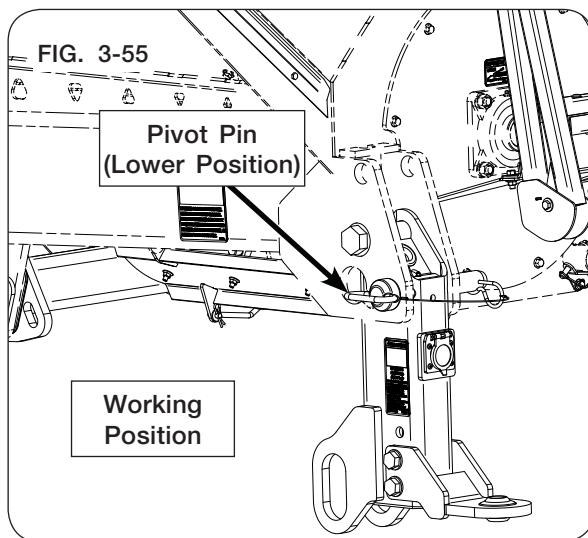
WARNING

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

Storage to Working Position

NOTE: Keep rear drop hitch in storage position when not in use.

1. Park the empty grain cart on a firm and level surface. Block the 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. Attach a safe lifting device rated for a minimum of 50lbs to the rear drop hitch.
3. Remove the keeper from the pivot pin, then remove the hitch pin from the rear drop hitch. (Fig. 3-55)
4. Slowly pivot rear drop hitch to desired position. (Fig. 3-56)
5. Reinstall pivot pin and keeper into rear drop hitch.. (Fig. 3-56)



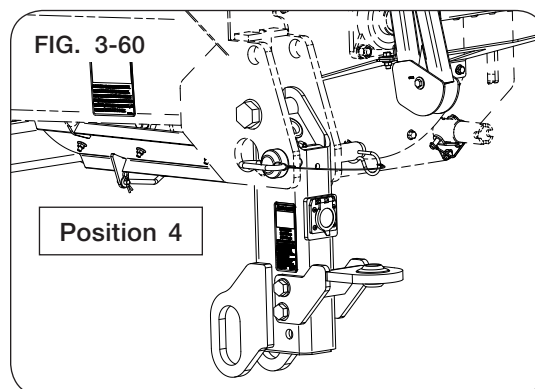
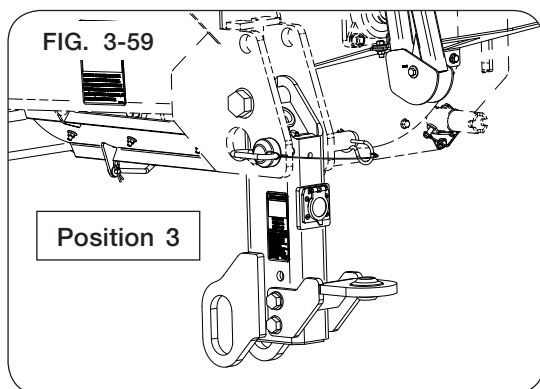
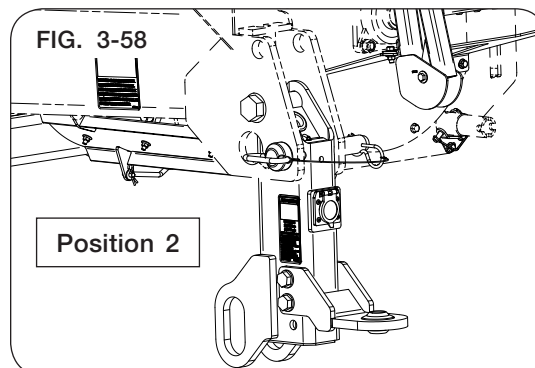
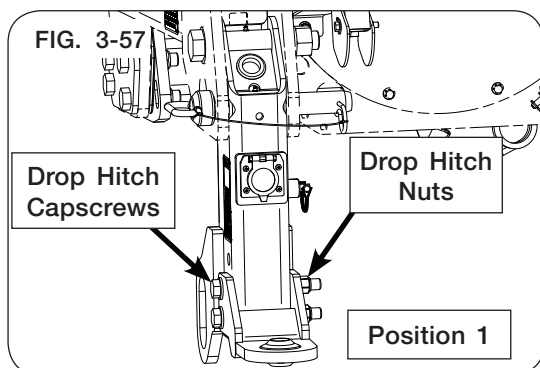
Rear Drop Hitch Operation (Optional) For SN B45190100 and Higher (continued)

⚠ WARNING

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

Rear Drop Hitch Adjustment

1. Park the empty grain cart on a firm and level surface. Block the 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. Remove the nuts, washers, and bolts from the rear drop hitch.
3. Remove hitch tang and re-install in one of the four positions depending on the height that is needed to maintain a level trailer tongue. There will be a difference of $6\frac{3}{4}$ " from position 1 to position 4. (Fig. 3-57 through 3-60)
4. Reinstall the nuts, washers, and bolts to the rear drop hitch and torque to specification.



Video System (Optional)

IMPORTANT

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

The video system includes its own operation instruction sheet.

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. Fully close tarp with tension on the latch plate to prevent water from pooling.*

Always use adequate caution when operating tarp.

If equipped, refer to electric roll tarp manual (26487) for operation details.

Open and close the tarp evenly.

Make sure tarp is open before loading.

Make sure all persons are clear of 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)

NOTE: If equipped with wireless electric roll tarp, skip to step 7 on next page. For weather guard tarp, continue to step 1.

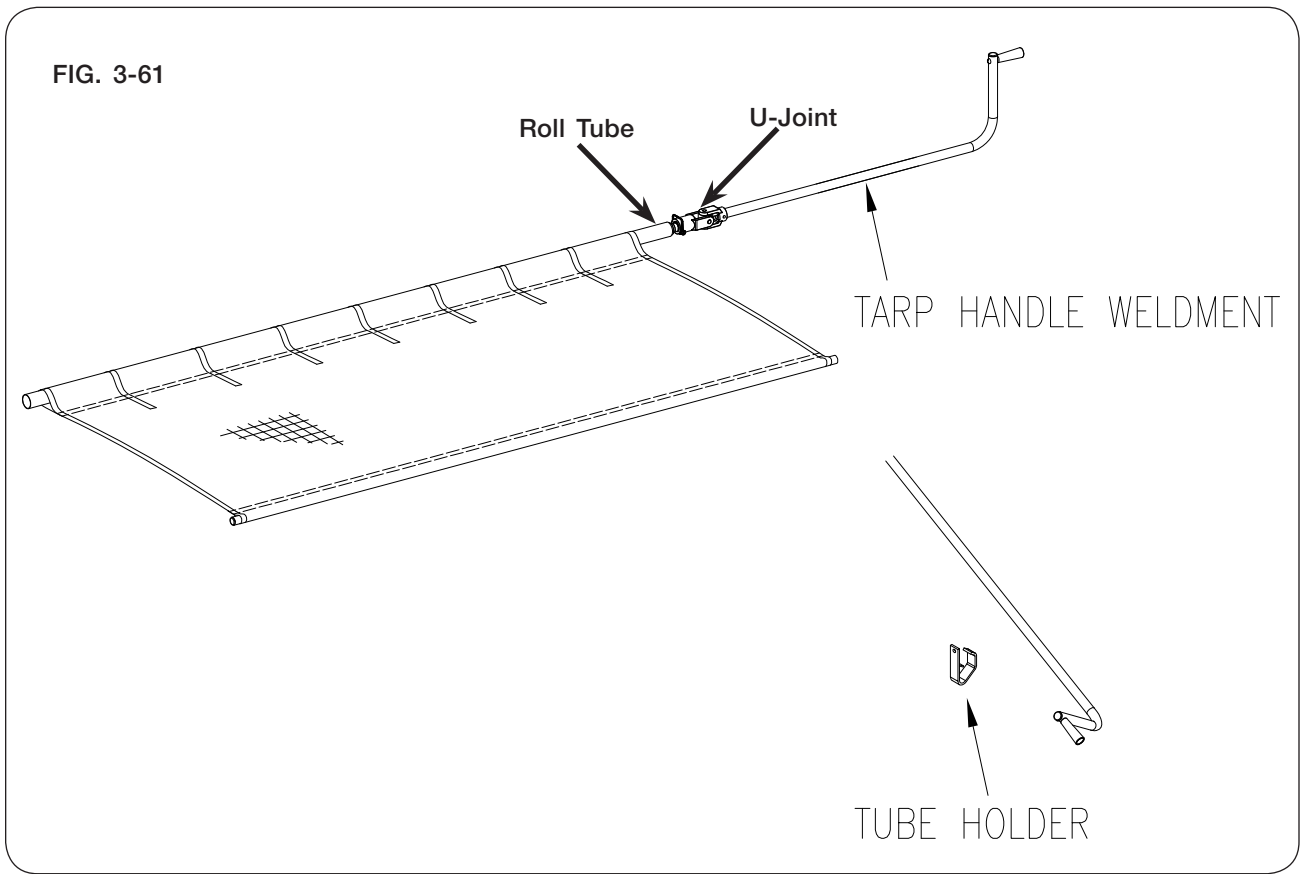
1. Using both hands, carefully remove tarp handle weldment from tube holder. (Fig. 3-61)
2. Roll tarp to the desired location, choosing either a fully open or fully closed position.
3. To close the tarp, rotate the roll tube clockwise up under the latch plate.
4. Make sure tarp is positioned evenly over latch plate length.

NOTE: Do not tighten if tarp overlaps end of the latch plate. Tearing of the tarp may occur. Reposition tarp, as necessary.

5. Bring the tarp handle weldment down perpendicular to the ground. Continue by lifting it up into the tube holder.

NOTE: Tarp handle weldment U-joint may need to be re-indexed on roll tube to achieve correct tension.

6. To open tarp, turn the roll tube counter clockwise until the tarp is fully open. Place tarp handle weldment in tube holder.

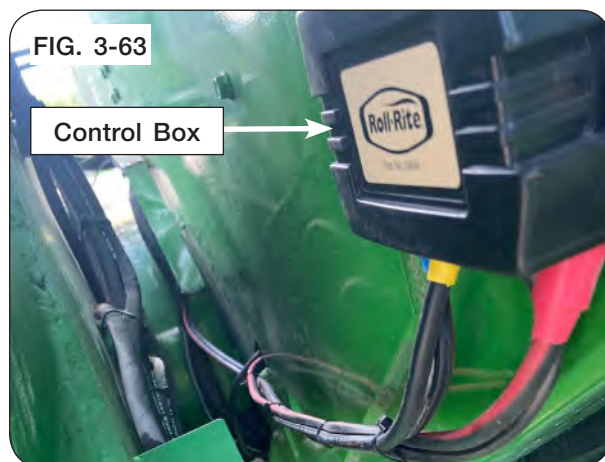
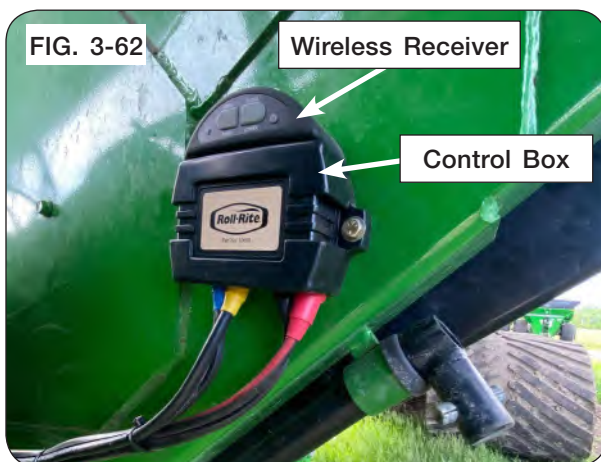


Weather Guard Tarp (continued)

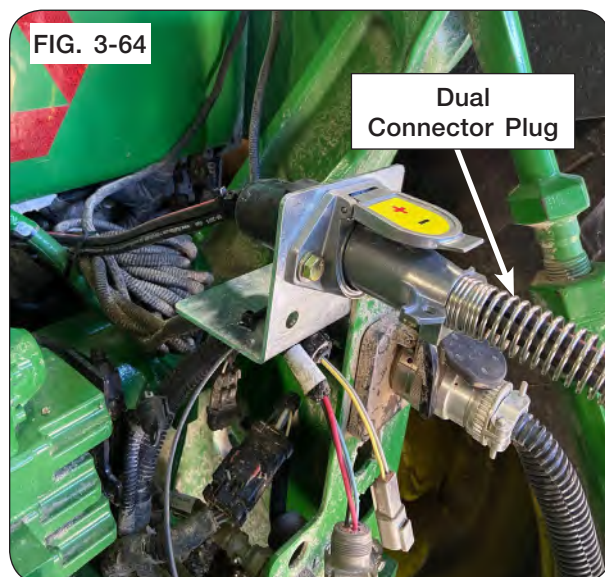
Wireless Receiver and Control Box Location - For SN B43780100 & Higher

NOTE: Refer to electric roll tarp manual (26487) for wireless operation details.

7. Wireless receiver (9009632) and control box (9005398) mount to the left-hand standard behind the vertical auger as shown. (Figs. 3-62 & 3-64)



8. Control box wires route along the front of the cart following the isobus harness.
9. Dual connector plug (9005327) attaches to the socket on the back of the tractor as shown. (Fig. 3-64)
10. When electric tarp is not in use, place connector plug into storage caddy. Be sure to route connector plug harness to clear PTO driveline during operation.



Section IV Maintenance

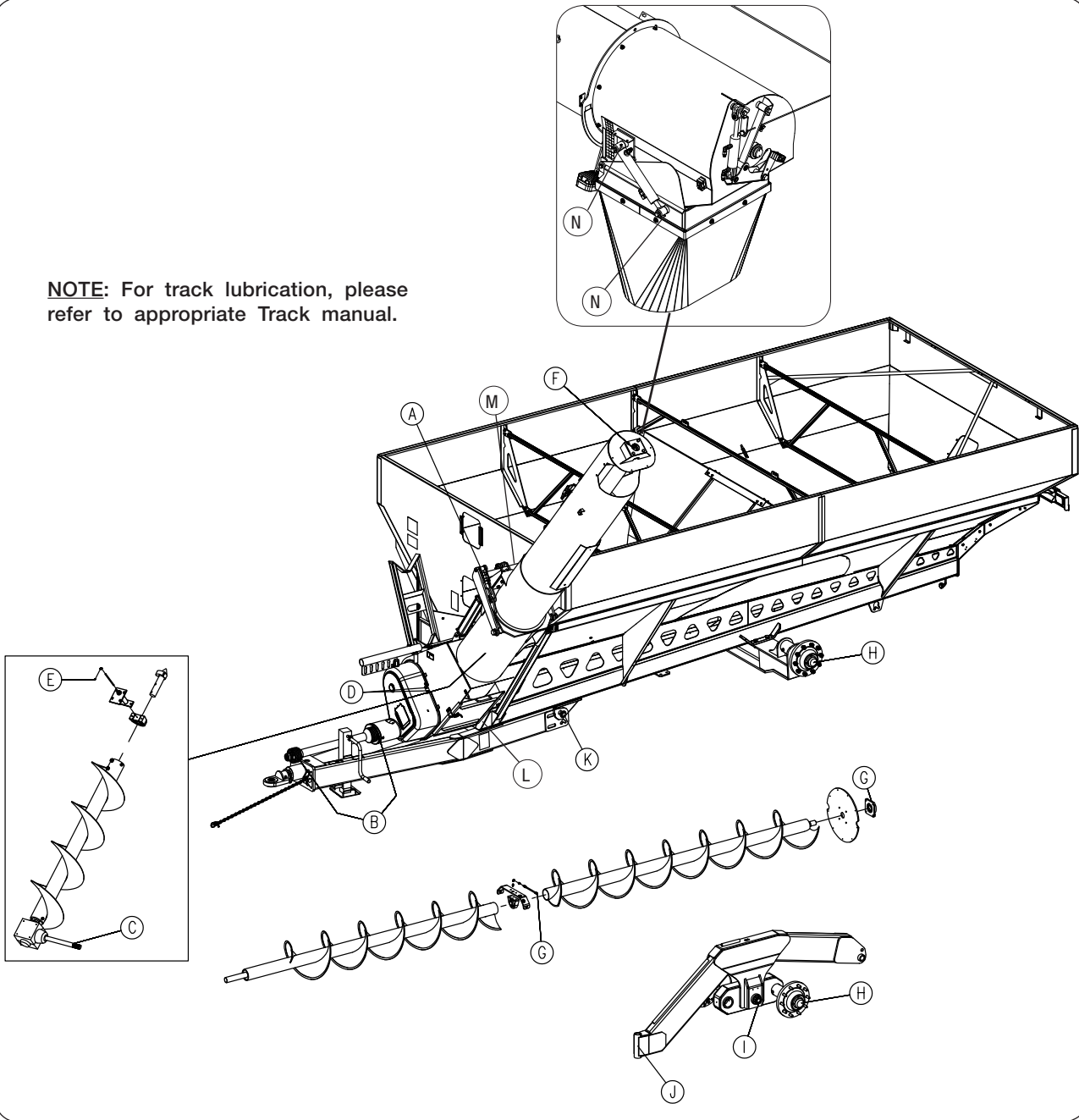
Lubrication - Cart	4-2
PTO Driveshaft Lubrication - Benzi PTO	4-5
PTO Driveshaft Lubrication - GKN Walterscheid PTO	4-6
Hydraulic System	4-7
Purge Hydraulic System	4-7
Relieving Hydraulic Pressure	4-8
Gearbox	4-9
Manual Override for Optional Electric Over Hydraulic System	4-10
Auger System	
Vertical Auger Height Check	4-12
Vertical Auger Folding Linkage Adjustment	4-14
Vertical Auger Timing	4-15
Horizontal Auger	4-16
Horizontal Auger Driveline Bearings	4-17
Belt Tightener Adjustment	4-18
V-Belt Alignment	4-20
Split Tapered Bushings	4-21
Driveline Removal	4-22
Wheel, Hub and Spindle Disassembly and Assembly	4-23
Wheels & Tires	
Wheel Nut Torque Requirements	4-25
Tire Pressure	4-26
Tire Warranty	4-28
Walking Tandem Option	4-29
Baffle Adjustment	4-32
Horizontal Cleanout Door Adjustment	4-34
PTO Shaft & Clutch - Benzi PTO	4-36
PTO Shaft & Clutch - GKN Walterscheid PTO	4-38
Hydraulic Jack Cylinder Replacement	4-40
Horizontal Auger Removal and Replacement - For SN B40450100 & Higher	4-42
Horizontal Auger Removal and Replacement - For SN B40450099 & Lower	4-48
Seasonal Storage	4-53
Troubleshooting	4-54
Auger Switch Troubleshooting	4-56
Scale Troubleshooting	4-57
Tarp Troubleshooting Inspection & Maintenance	4-58
Electrical System Diagram	4-59
Electrical Diagram	4-60
Electrical Over Hydraulic (EOH) System Schematic (Optional)	4-69
Optional Electric Over Hydraulic Valve Electric Schematic 5 Spool	4-70
Electrical System Schematic - Optional Wireless Electric Tarp - For SN B43780100 & Higher	4-71
Electrical System Schematic - Optional Electric Tarp - For SN B43780099 & Lower	4-72
Torque Chart - Hardware Grade 5	4-73
Torque Chart - Hardware Grade 8	4-74
Hydraulic Fittings - Torque and Installation	4-75

FOR SCALE, TRACK, UHARVEST, ELECTRIC TARP, AND / OR WATER DELIVERY SYSTEM INFORMATION, PLEASE REFER TO THE INDIVIDUAL MANUALS.

Lubrication

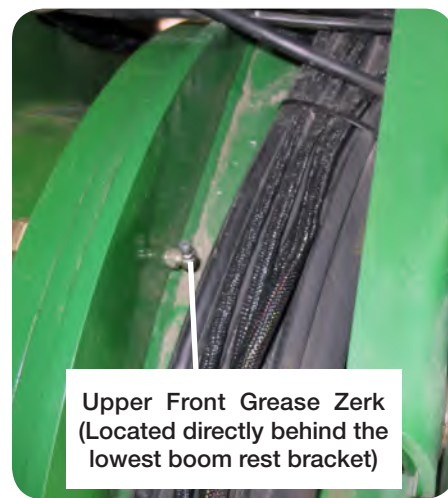
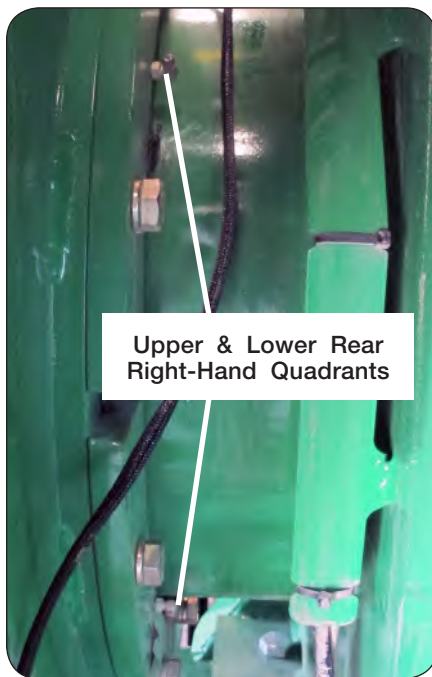
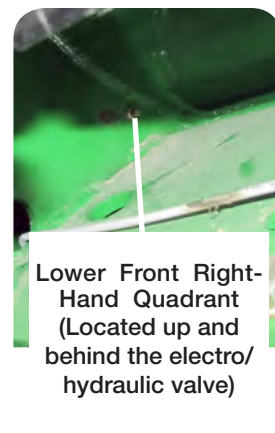
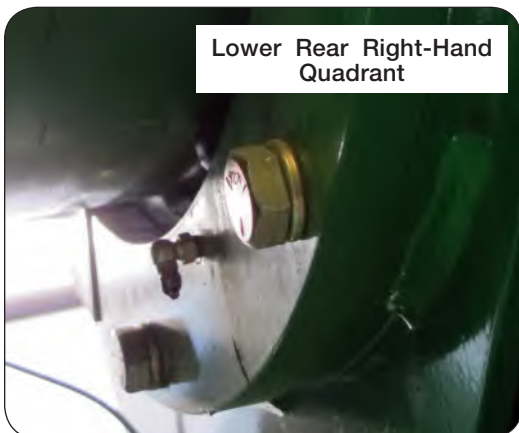
To keep your grain cart in top operating condition and to assure its proper performance and reliability for a long period of time, periodic inspection and lubrication is a must.

NOTE: For track lubrication, please refer to appropriate Track manual.



Lubrication

Lower Auger Pivot Housing Grease Points



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.

Unverferth Mfg. recommends use of NLGI #2 Extreme Pressure grease.

The lubrication locations and recommended schedule are as follows:

ITEM	DESCRIPTION	POINT	LUBRICANT	QTY.	HOURS
A	Auger Pivot Pin - Vertical Upper Auger	2	EP-2	1 Shot	Daily
B	PTO Driveshaft - Benzi or GKN Walterscheid	-	EP-2	1 Shot	See Next Pages
C	Gearbox - Check oil level every 2 weeks. Replace oil every season. Refer to Gearbox in "MAINTENANCE" section for instructions.	1	EP80W90	Approx 85 oz.	Once Every Season
D	Front Horizontal Auger Bearing & Gearbox Support Bearing	2	EP-2	1 Shot	Weekly
E*	Hanger Bearing - Vertical Lower Auger *See note below.	1	EP-2	2 Shots*	Monthly
F	Top Bearing - Vertical Upper Auger	1	EP-2	1 Shot	Each Season
G	Horizontal Auger End & Center Bearings	2	EP-2	2 Shots	Monthly
H	Hubs	2 / 4	EP-2	Repack	Annually
I	Walking Tandem Beam Pivot	2	EP-2	3 Shots	Weekly
J	Walking Tandem Main Frame Pivot	2	EP-2	2 Shots	Each Season
K	Tongue Bushing - 1 per side	2	EP-2	2 Shots	Daily
L	Auger Pivot Rings - Vertical Lower Auger See previous page for zerk locations.	8	EP-2	2 Shots	Daily
M	Grease Slide Plate	1	EP-2	1 Shot	Each Season
N	Spout Tilt Cylinder	2	EP-2	1 Shot	Each Season
O	Rear Drop Hitch Pivot Pin	2	EP-2	2 Shots	Monthly

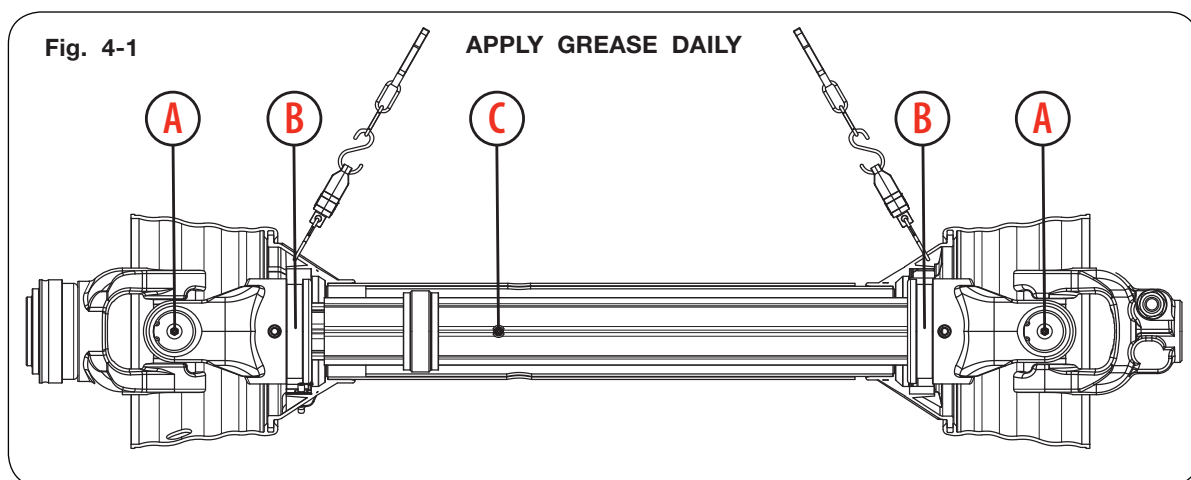
***NOTE:** Hanger bearing contains hydraulic shut-off grease zerk (9005240) with pressure relief to prevent over-greasing that could push bearing seals out. If grease is coming out of the relief on the zerk, this is normal and the bearing contains enough grease.

PTO Driveshaft Lubrication - Benzi PTO

Lubricate with NLGI grade 2 grease before starting work and every 8 operating hours. Clean and grease PTO driveshaft 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: Inner & outer profile tubes must have lubrication to operate successfully regardless of whether a grease fitting is provided for that purpose! Inner & outer profile tubes without fittings should be pulled apart and grease should be added manually.

- Grease the overrunning clutch on front half driveline assembly every 50 operating hours.
- The CAM Cut Out clutch on rear half driveline assembly is pre-greased for 500 operating hours. Contact your dealer for more greasing information.



ITEM	DESCRIPTION	POINT	LUBRICANT	QTY.	HOURS
A	U-Joint Cross Kit	1	EP-2	1 Shot	8 Hours
B	Inner & Outer Yoke Groove	1	EP-2	Add Manually	8 Hours
C	Inner & Outer Profile Tube	1	EP-2	Add Manually	Start and End of Each Season

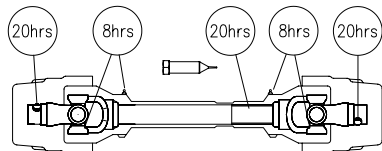
PTO Driveshaft Lubrication - GKN Walterscheid PTO

Lubricate with NLGI grade 2 grease before starting work and every 8 operating hours. Clean and grease PTO driveshaft 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: Inner & outer profile tubes must have lubrication to operate successfully regardless of whether a grease fitting is provided for that purpose! Inner & outer profile tubes without fittings should be pulled apart and grease should be added manually.

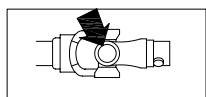
Fig. 4-2

LUBRICATION INSTRUCTIONS FOR DRIVE LINE

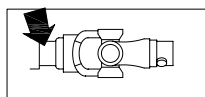


8hrs

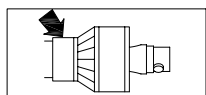
20hrs



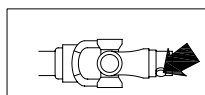
Cross journal



Inner tube



Shield retaining bearing



Push-pin set

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

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. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. 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. Clear all personnel and objects from the area, including where the machine will have full range of motion during the hydraulic movement. Remove transport locks from the machine.
- B. Pressurize the system and maintain system at full pressure for at least 5 seconds after cylinder rods stop moving, or hydraulic motors have completed the required movement. Check that all movements are fully completed.
- 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, or hydraulic motors have completed the required movement. Check that all movements are fully completed.
- E. Check for hydraulic leaks using cardboard or wood. Tighten connections according to directions in Torque Chart in this section.
- F. Repeat steps B, C, D, and E 10-12 times.

IMPORTANT

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

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

Hydraulic System (continued)

Relieving Hydraulic Pressure

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

Gearbox

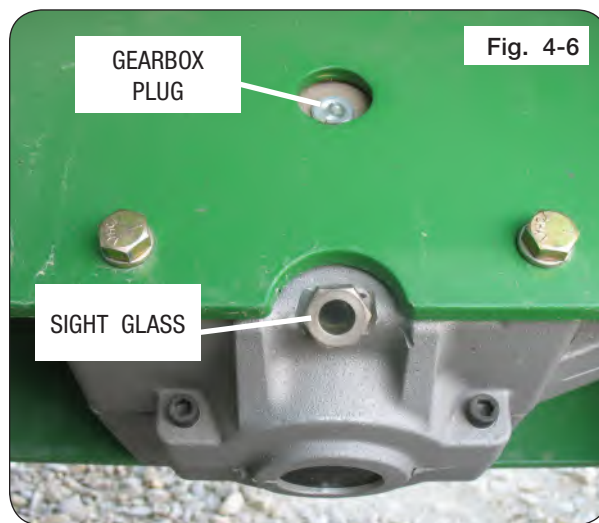
When checking the oil level of the gearbox, the vertical auger should be pivoted all the way down.

For adequate lubrication, the oil should be visible in the sight glass. Fill with oil to the sight glass only.

Maximum gearbox life:

Check oil level every 2 weeks.

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



Manual Override for Optional Electric Over Hydraulic System

⚠ WARNING

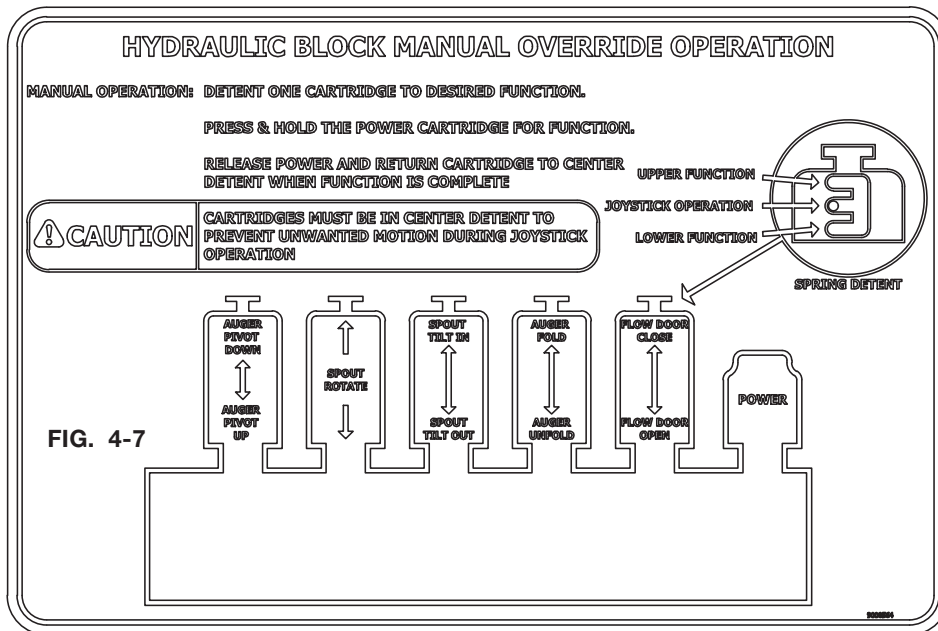
- MOVING OR ROTATING AUGER COMPONENTS CAN CAUSE SERIOUS INJURY OR MACHINE DAMAGE. BEFORE OPERATING MANUAL OVERRIDE(S), ENSURE EVERYONE IS AWAY FROM THE SPOUT AND THAT THE SPOUT WILL NOT CONTACT ANY OTHER PARTS OF THE GRAIN CART. ALL CONTROL SWITCHES ARE DEACTIVATED WHILE UTILIZING MANUAL OVERRIDE(S).
- MOVING OR ROTATING PTO COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT OPERATE PTO WHILE UTILIZING MANUAL OVERRIDE(S).
- FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RASING, OR LOWERING.

IMPORTANT

- Spout must be centered before operating the auger fold. Align checker flag decals to ensure spout rotate is centered.

NOTE: Manual override operation is intended for emergency use ONLY and is not intended for continuous operation. Spout may rotate into cart causing damage.

NOTE: Manual override operation allows the spout and auger to move regardless of location.



1. Park the grain cart on a firm and level surface. Block the machine to keep it from moving. Set the tractor's parking brake. Keep engine running.
2. Remove cover plate (295569B) from the bottom of the lower auger housing to access the EOH block assembly. Keep cover plate.
3. Connect the desired Hydraulic Pressure and Return hoses to the tractor SCV remote so that the Pressure line is able to be put in continuous detent.
4. To operate the manual override function, place the tractor SCV remote in continuous detent so that the Hydraulic Pressure hose is pressurized.

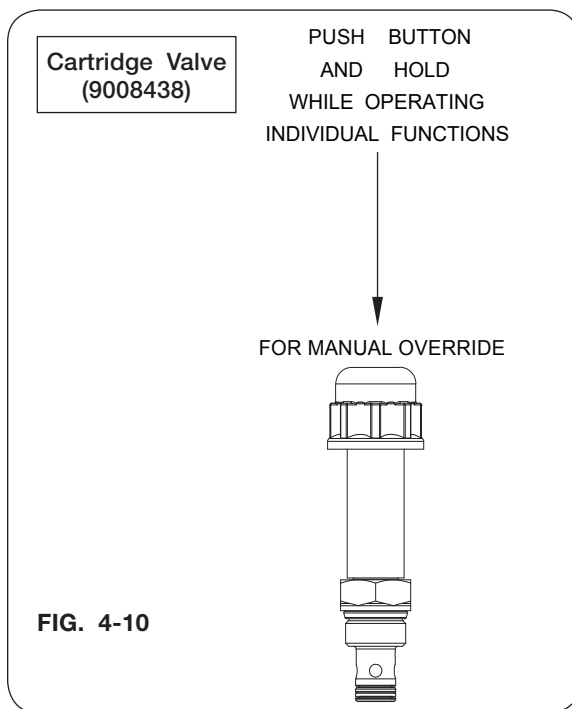
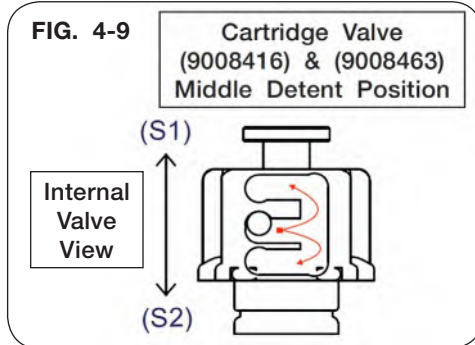
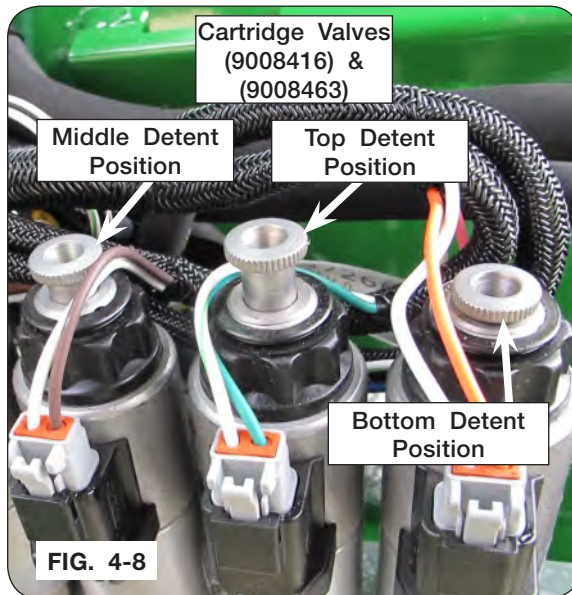
Manual Override for Optional Electric Over Hydraulic System
(continued)

NOTE: Only one cartridge valve (9008416 & 9008463) may be in the top or bottom detent position at a time to function properly. All other valves must be in the middle detent position. (Figs. 4-8 & 4-9)

5. Operate the desired function on valve (9008416 & 9008463) by rotating the manual override knurled knob from the locked neutral position. (Figs. 4-8 & 4-9)
6. Push and hold the manual override button on valve (9008438). (Fig. 4-10)
7. Once the desired position is reached, release manual override button on valve (9008438).
8. Return knurled knob to center and lock valve (9008416) & (9008463) in position. (Figs. 4-8 & 4-9)

NOTE: Refer to “Troubleshooting” and “Auger Switch Troubleshooting” for EOH, vertical auger and/or rotating spout issues in the MAINTENANCE section.

9. Turn off hydraulic circuit when done. Correct electric/hydraulic system before continued use. Consult your dealer for service and parts.
10. Replace cover plate (272606B) from step 2 to the bottom of the lower auger housing.



Auger System

WARNING

- TO PREVENT PERSONAL INJURY OR DEATH WHILE SERVICING, 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.
- 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 2,000 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.
- WHEN WORKING AROUND THE IMPLEMENT, BE CAREFUL NOT TO BE CUT BY SHARP EDGES.



Vertical Auger Height Check

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

Annually check all bolts, nuts, and set screws for tightness. Replace the vertical auger top bearing hardware, as necessary. (Fig. 4-11)

(Continued on next page)

Loosen Bearing Setscrews
To Change Upper Auger
Position In Tube. Retighten
Setscrews.

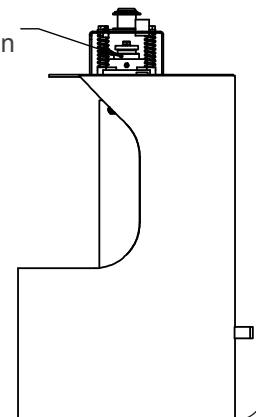


FIG. 4-11

Auger System (continued)

Vertical Auger Height Check (continued)

NOTE: The lower auger position is indexed from the drive dog / tube flange hinge surface as shown. (Figs. 4-12 & 4-14)

Fig. 4-14

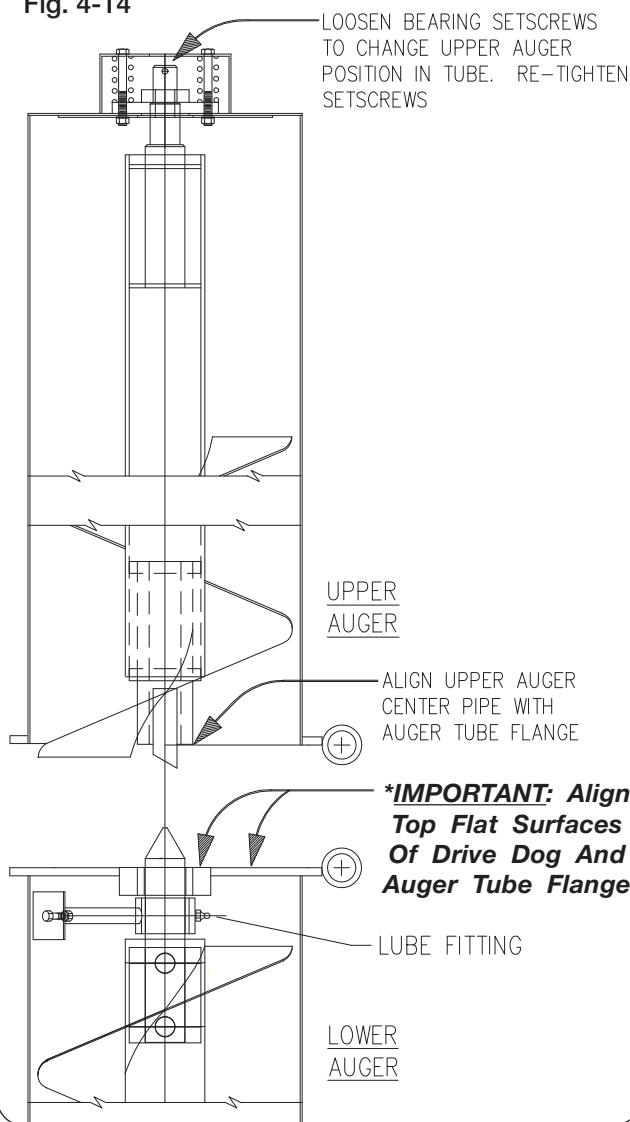


Fig. 4-12

Align Upper Auger Center Pipe With Auger Tube Flange

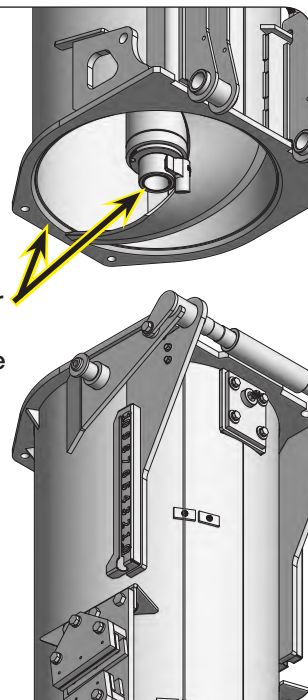
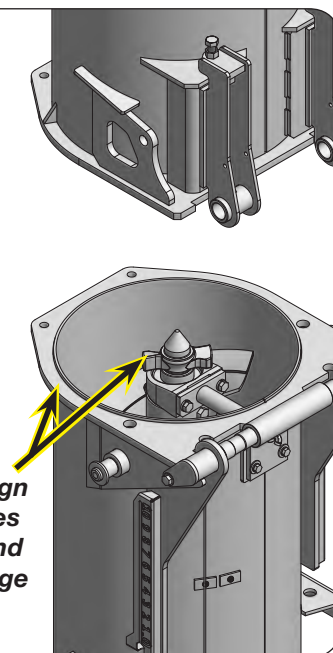


Fig. 4-13

***IMPORTANT: Align Top Flat Surfaces Of Drive Dog And Auger Tube Flange**

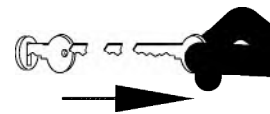


Auger System (continued)

Vertical Auger Folding Linkage Adjustment

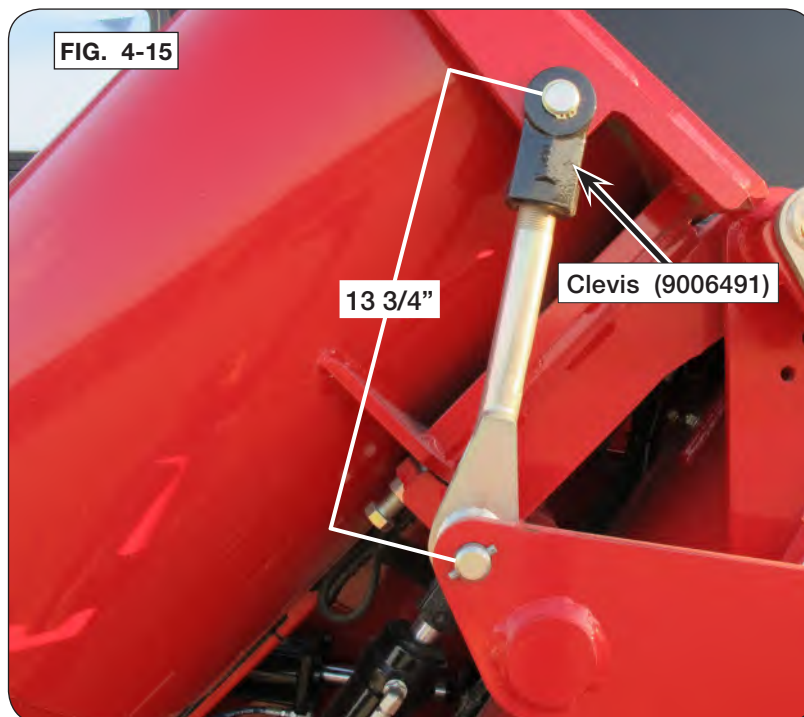
NOTE: To fold auger from operating position to transport position, refer to “Electric Over Hydraulic Operation (Optional)” in the OPERATION section.

1. Before adjusting the vertical auger folding linkage, park the unit on a firm, level surface. Block the wheels/tracks to keep the machine from moving. Set the tractor parking brake, turn off tractor engine, remove ignition key, and disconnect PTO shaft and hydraulic lines from tractor.



NOTE: The starting distance for the folding linkage pin center-to-center is 13 3/4". (Fig. 4-15)

2. At the FRONT of the auger, remove retaining rings (91192) from the pin (272587) on clevis (9006491). Keep retaining rings and pin. (Fig. 4-15)
3. Adjust the folding linkage until the center-of-pin to center-of-pin measurement is 13 3/4". (Fig. 4-15)
4. Reinsert pin into clevis and attach retaining rings to pin.
5. Repeat procedure for the folding linkage on the BACK of the auger.
6. Reattach PTO. Refer to “Driveline Install” in SET UP section.
7. Reconnect hydraulic lines to tractor. Refer to “Hitching to Tractor” in OPERATION section.
8. Choose an area free from obstructions and unfold auger to operating position. Allow sufficient time for the cylinder to fully engage the two augers and over-center latch to fully engage.
9. Verify the upper auger picture frame is flush against the lower auger picture frame.

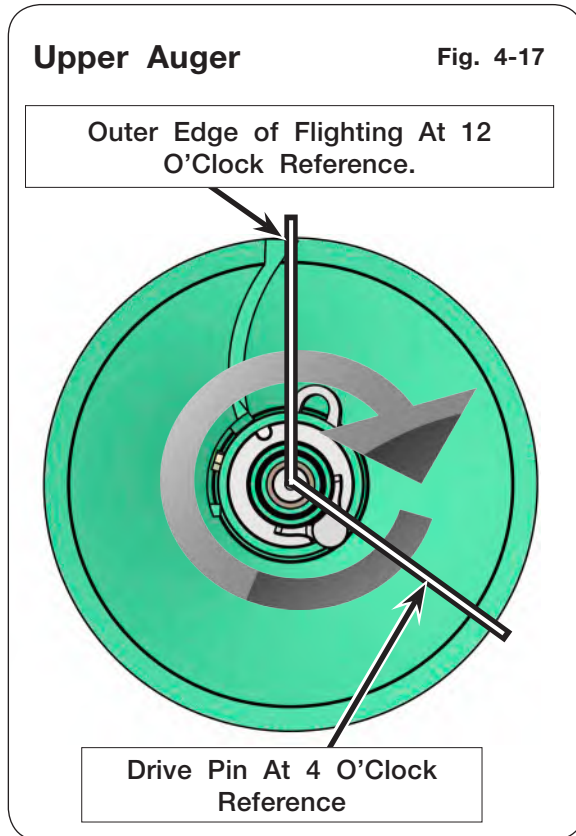
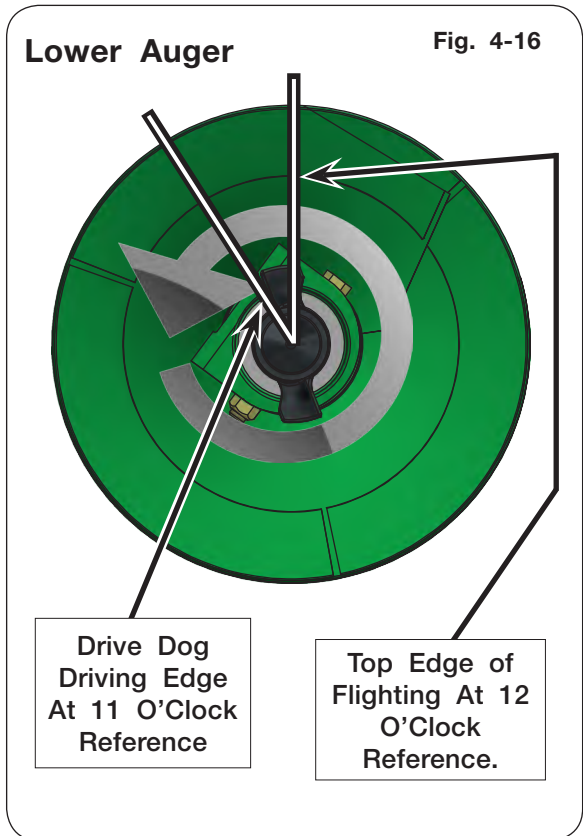


Auger System (continued)

Vertical Auger Timing

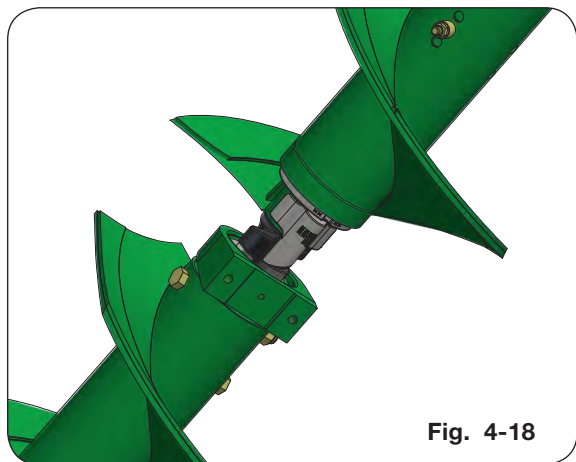
1. For the lower vertical auger, use the top edge of the flighting as a 12 o'clock reference. Position the drive dog so the driving edge is at the 11 o'clock position. (Fig. 4-16)

NOTE: Looking down at the lower flighting (Fig. 4-16) the auger rotation will be counter-clockwise. When looking up at the upper flighting (Fig. 4-17) the auger rotation will be clockwise.



2. For the upper auger, use the outer edge of the flighting as a 12 o'clock reference. Position the driven edge of the drive pin at the 4 o'clock position. (Fig. 4-17)
3. When engaged, the upper flighting should follow the lower flighting. (Fig. 4-18)

NOTE: Upper flighting should trail the lower flighting from minimum of 10 degrees to a maximum of 90 degrees.



Auger System (continued)

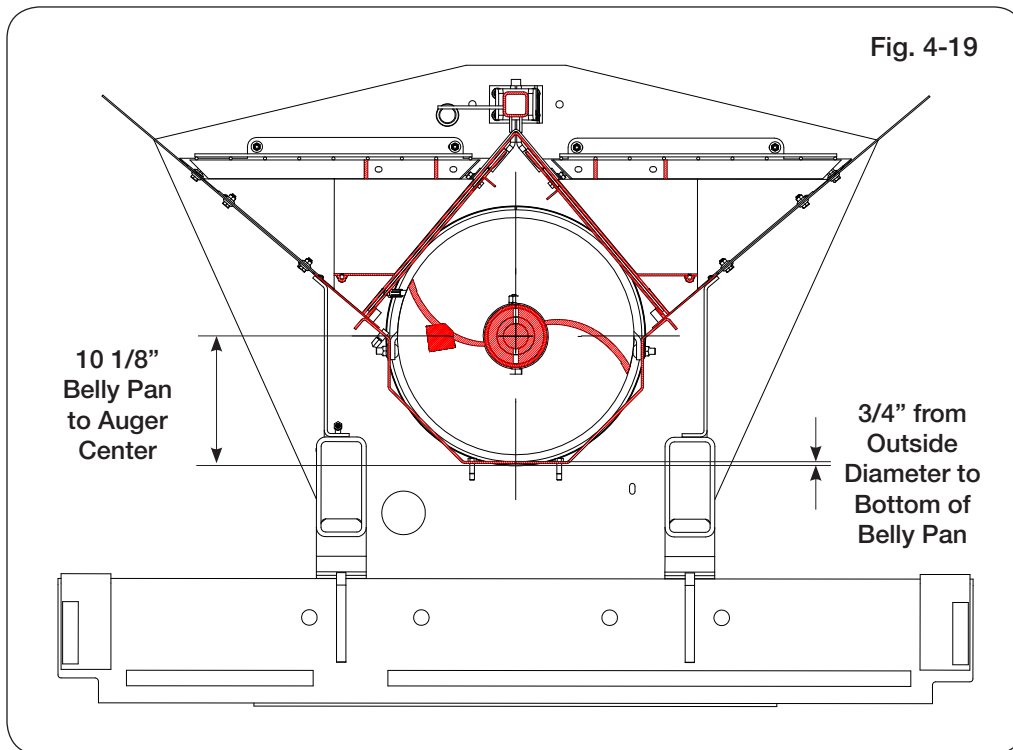
Horizontal Auger

Annually check all bolts, nuts, and set screws. Perform lubrication as specified in “Lubrication” section.

NOTE: With new flighting the outside diameter is about 3/4” from the bottom belly pan. Always set bearing height using the flighting centerline measurement. See Fig. 4-19.

NOTE: Shims are available from your Killbros dealer to achieve 10 1/8” measurement.

To adjust the bearing height down, shim with washers between the bearing and the hanger bracket. To adjust the bearing height up, shim with washers between the bearing bracket and the sides of the cart. When adjusting the height up, washers will need to be placed with one on each side so the bearing stays centered.

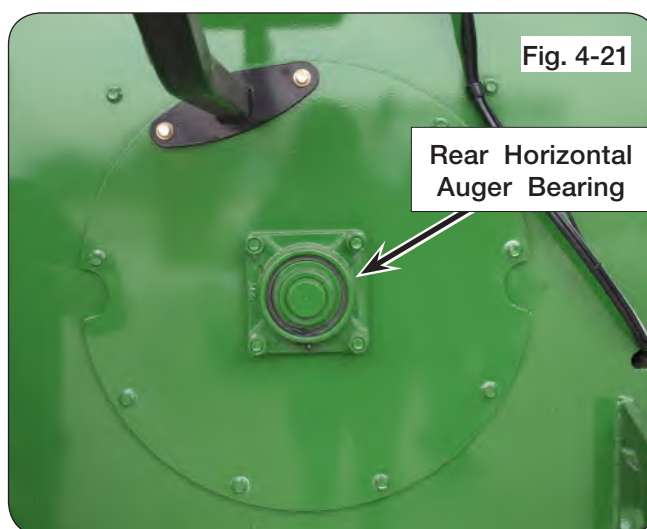


Auger System (continued)

Horizontal Auger Driveline Bearings

IMPORTANT

- Periodically check set screws in all bearings at either end of the driveline for tightness. (Fig. 4-20 & 4-21)



Belt Tightener Adjustment

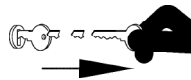
IMPORTANT

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

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

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

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



WARNING

- MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR(S) ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.
2. Remove PTO assembly from Gearbox input shaft.
 3. Detension the belt as outlined in OPERATION section. Remove belt tensioner handle.
 4. Remove cover and inspect belts for misalignment, loose parts and cracks. Replace if necessary with a matched set. (Fig. 4-24)



Belt Tightener Adjustment (continued)

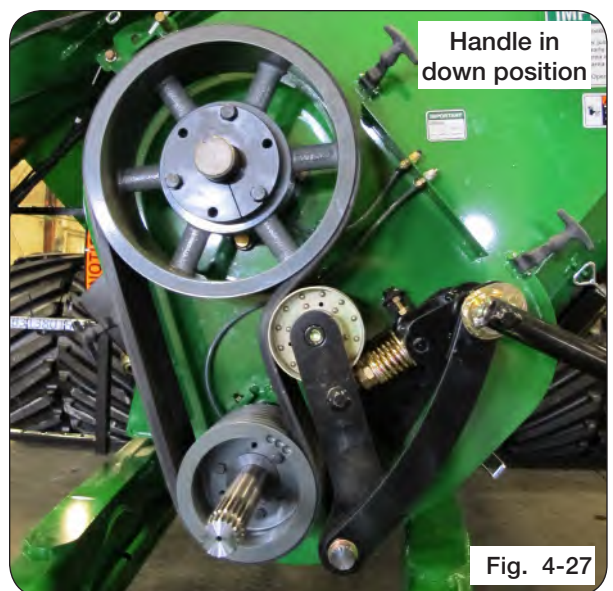
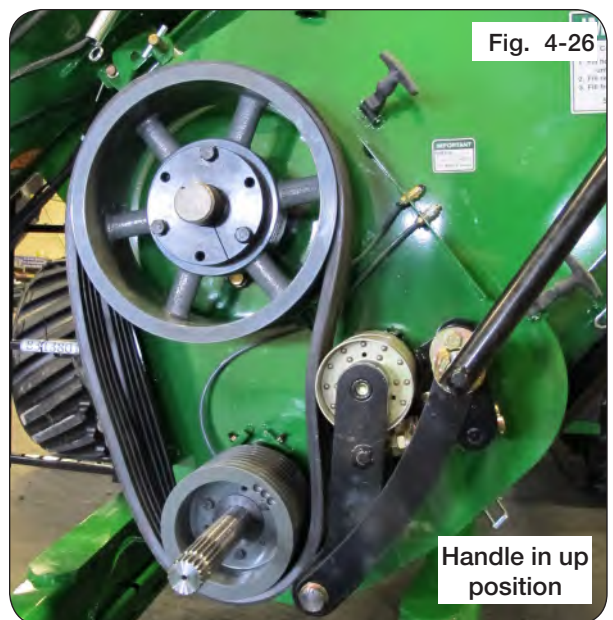
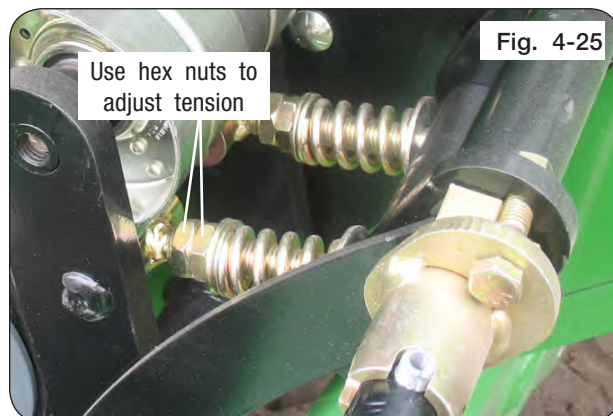
5. Belt tension is adjusted with hex nuts below the spring. All belt tension **MUST** be released from linkage. Loosen outer hex nut and adjust inner nut to establish a 3 1/16" pre-load dimension between the heavy washers. Tighten the outer hex nut against inner nut to lock position. (Fig. 4-25)
6. Check the lower belt pulley to ensure belt is aligned in their grooves and with the belt tensioner handle, engage the roller/idler linkage against the belt and over-center stop. The compressed spring should now be approximately 1 3/4" between the washers and generating a force of approximately 480 lbs. against the belt. (Fig. 4-26)
7. Release and tighten belt multiple times to confirm positions and final adjustments. (Fig. 4-26 and Fig. 4-27)
8. Tighten belt to retain them into the lower pulley for cover guard assembly. Reinstall the cover guard and the PTO shaft to the gearbox input shaft. Clear work area and test run drivetrain for 3 minutes at no greater than 1000 RPM.

⚠ WARNING

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

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

NOTE: Always replace belts in matched sets.

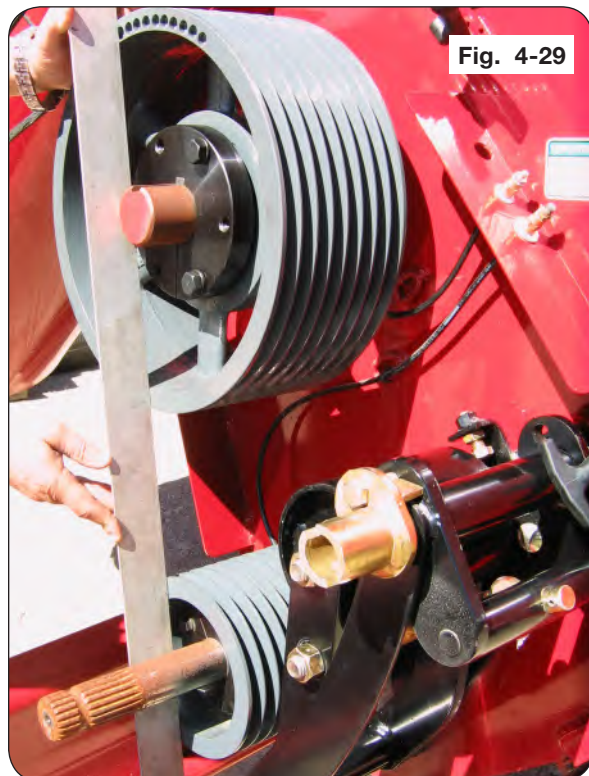


V-Belt Alignment

1. Pulleys must be aligned with the fixed idler. Belts should be centered on idler for longest belt life. (Fig. 4-28)



2. After tightening taper-lock bushing hardware, lay a straight edge across face of the drive and driven belt pulleys to ensure alignment between the grooves on the pulleys. (Fig. 4-29)



V-Belt Alignment (continued)

Split Tapered Bushings

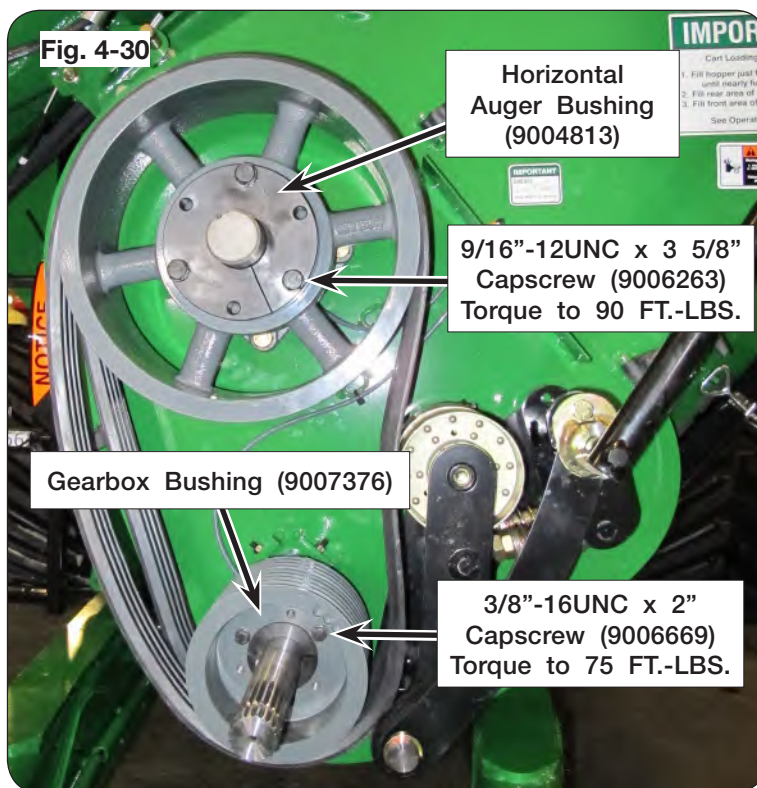
Check annually for tight engagement to driveshaft. Torque three bolts progressively to values shown in figure 4-30.

For the smaller gearbox bushing (9007376): 3/8"-16UNC hardware. Torque to 75 ft.-lbs.

For the larger horizontal auger bushing (9004813): 9/16"-12UNC hardware. Torque to 90 ft.-lbs.

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

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



Driveline Removal

DANGER

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

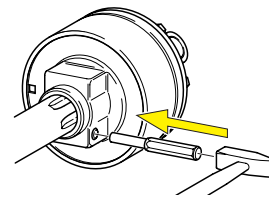
WARNING

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

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

1. Remove clamping cone/retaining bolt.
2. Use a hammer and punch, if needed, to moderately hit the end of clamping cone/retaining bolt, as shown. (Fig. 4-31)
3. Once clamping cone/retaining bolt is removed, slide torque limiter off gearbox splined input shaft.

Fig. 4-31



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 24,000 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 24,000 lbs. to support the weight of your grain cart. Place the safe lifting device under the axle closest to the tire.
 3. Use a 4,000 lbs. safe lifting device to support the wheel and tire during removal.

WARNING

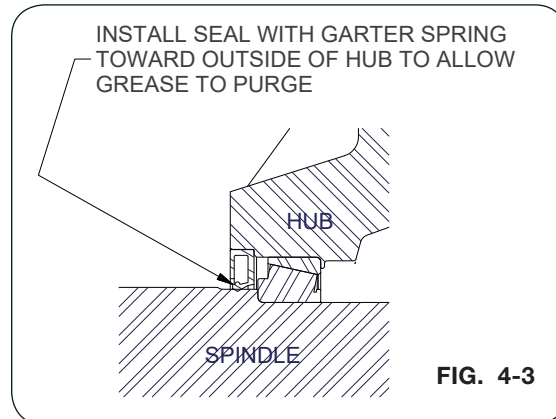
- FOR WALKING TANDEM DUAL WHEELS, INNER WHEEL AND TIRE MAY FALL FROM HUB CAUSING SERIOUS INJURY OR DEATH. ALWAYS SUPPORT INNER WHEEL WHEN REMOVING OUTER WHEEL.
4. If only changing wheel and tire, skip to Step 8; otherwise continue with Step 4.

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 200 lb. safe lifting device.
 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 200 lbs., replace the old spindle with a new spindle. Coat axle contact length of spindle shaft (scale or non-scale) with anti-seize lubricant prior to installation. If installing scale spindle, install with 'top' decal facing upwards. Reuse bolt and lock nut to retain spindle to axle. Tighten as outlined in MAINTENANCE section.

Wheel, Hub and Spindle Disassembly and Assembly (continued)

6. Remove seal and inspect bearings, spindle washer, castle nut and cotter pin. Replace if necessary. Pack both bearings with approved grease and reinstall inner bearing. Install new seal in hub with garter spring facing the outside of hub by tapping on flat plate that completely covers seal while driving it square to hub. (Fig. 4-3) Install until flush with back face of hub. 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 safe 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 Diagrams 1 & 2.

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

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

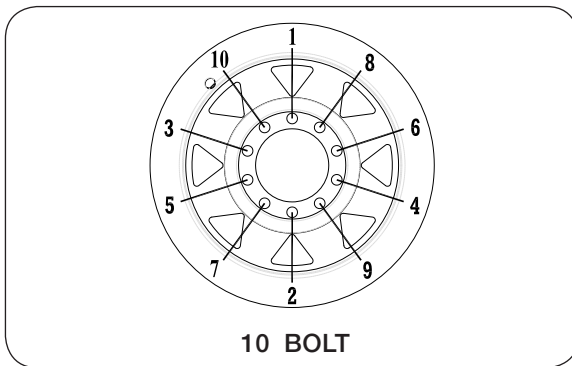


DIAGRAM 1

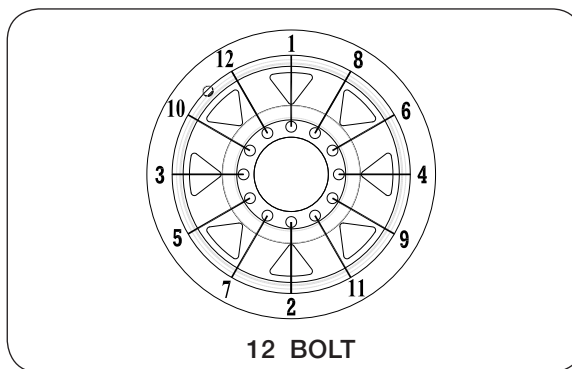


DIAGRAM 2

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 recommended by tire manufacturer. 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 max PSI to seat the beads, deflated to 5-10 PSI, then reinflated to recommended minimum pressure.

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
	76x50.00b32 HF-3	16	40
	76x50.00b32 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	169A8B	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	169A/B (5-Star)	48
	24.5x32 R-3	12	32
	24.5x32 R-1	12	32
	30.5x32 R-3	16	26
	30.5x32 R-3	14	22
	30.5x32 R-1	14	22
	480/80x42 R-1	166A8	23
1100/45R46 F-1W	195D	35	
Mitas	650/75R32 R-1W	172A8	58
	900/60x32 R-1W	176A8	41
	900/70R32 R-1W	188A8	53
	1050/50x32 R-1W	178A8	41
	1250/50R32 R-1W	188A8	41
	900/60x38 R-1W	181A8	44
	520/85x42 R-1W	162A8	44
	650/65x42 R-1W	168A8	44
Alliance	35.5LR32	193A8	44
	900/60R32 R-1W	192D	46
	1050/50R32 R-1W	185A8	63
	1250/50R32 R-1W	201B	46
Trelleborg	VF1050/50R32 R-1	198D	52
	900/50R32 R-1W	181A8	55
	900/60x32	176LJ	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

Walking Tandem Option

WARNING

- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 24,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **OUTER WHEEL AND TIRE MAY FALL FROM HUB CAUSING SERIOUS INJURY OR DEATH. ALWAYS SUPPORT OUTER WHEEL WHEN SERVICING INNER WHEEL.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**

CAUTION

- **WHEN CHANGING TIRES OR ROW SPACING, IT IS IMPORTANT TO FOLLOW THE STEPS BELOW TO MAINTAIN STABILITY OF THE CART. CHANGE ONE SIDE AT A TIME.**
- **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.**

Inner Dual Wheel Access

Use the following procedure to service the inside dual tires.

1. Park the empty cart on a firm, level surface. Block the tires 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 and hydraulics from the tractor and cart.
2. Using a safe lifting device rated for 24,000 lbs., raise one side of cart by lifting under the outer end of rear support tube.
3. Using a safe lifting device rated for 4,000 lbs., support the rear portion of the walking tandem assembly.
4. Remove rear retaining hardware, then pivot walking tandem assembly outward to access inner wheel.

Walking Tandem Option (continued)

Inner Dual Wheel Access (continued)

NOTE: Walking tandem assembly must be suitably supported during and after pivoting.

- Reverse steps 2 through 4 to reattach walking tandem assembly before attempting to service other side of cart.

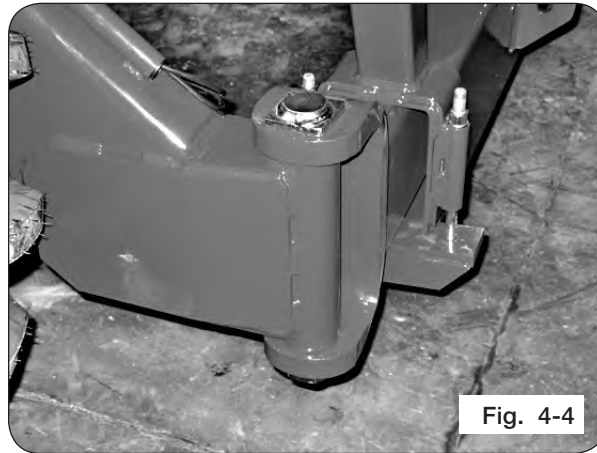


Fig. 4-4

Row Spacing Adjustment

From the factory, the machine will straddle 30". The following procedure will allow the machine to straddle 36" rows. This procedure involves switching inner and outer tire positions and moving the entire assembly out approximately 9". (Fig. 4-5)

- Park the empty cart on a firm, level surface. Block the tires 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 and hydraulics from the tractor and cart.
- Using a safe lifting device rated for 24,000 lbs., raise one side of cart by lifting under the outer end of rear support tube. Using a safe lifting device rated for 4,000 lbs., support the rear portion of the walking tandem assembly and raise one side of the cart.
- Remove the rear retaining hardware. Then pivot walking tandem assembly outward to access inner wheel.



OUTER HOLES FOR
36" ROW SPACING &
650/65R42 TIRE OPTION

Fig. 4-5

NOTE: Walking tandem assembly must be suitably supported during and after pivoting.

- Remove the 1 1/8" bolt and loosen front axle beam clamp bolts and extend front pivot beam out approximately 9 inches.
- Retain same original tread direction and reinstall the previous "Outer" side of tire to the inside hub and the previous "Inner" side of tire to the outer hub.
- Pivot walking tandem assembly in towards the cart and align bracket mounting holes with cross beam mounting plate outer holes.
- Reinstall 1 1/8" bolt and torque 640 ft.-lbs. Reinstall rear retaining hardware, tighten front beam clamp bolts and torque 260 ft.-lbs. Lower cart to the ground.

Use same procedures for the opposite side of cart.

Walking Tandem Option (continued)

Use the following procedures for extending the entire assembly only.

1. Using a safe lifting device rated for 24,000 lbs., raise one side of cart by lifting under the outer end of rear support tube. Using a lifting device rated for 4,000 lbs., to support weight of tires and walking beam assembly.
2. Loosen the front axle clamp hardware. Remove the 1 1/8" bolt located toward the center of the front axle. This bolt determines the row spacing as well as the extra set of holes on the rear cross axle. Remove the rear retaining hardware.
3. Slide axle extension on front of cart equally inward or outward as needed and reinstall bolts. Rear portion of the walking tandem assembly will also need adjusted outward to either the middle or outside set of holes on the rear cross tube mount plate depending on the location of the front axle extension. Lower to the ground.

Use same procedures to opposite side of cart.

Baffle Adjustment

WARNING

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

Refer to the following reasons for baffle adjustment:

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

1. If higher flow is desired and torque is not the limiting factor, raise each baffle to an incremental amount and rerun.
2. If more material remains at the back of the cart towards the end of the unloading cycle, the back baffles should be adjusted upward in incremental amounts and rerun.
3. If more material remains at the front of the cart towards the end of the unloading cycle, the back baffles should be adjusted downward in incremental amounts and rerun.
4. If the cart requires more torque than what is available at times during the unloading cycle, then all baffles should be adjusted downward in incremental amounts.

Baffle Adjustment (continued)

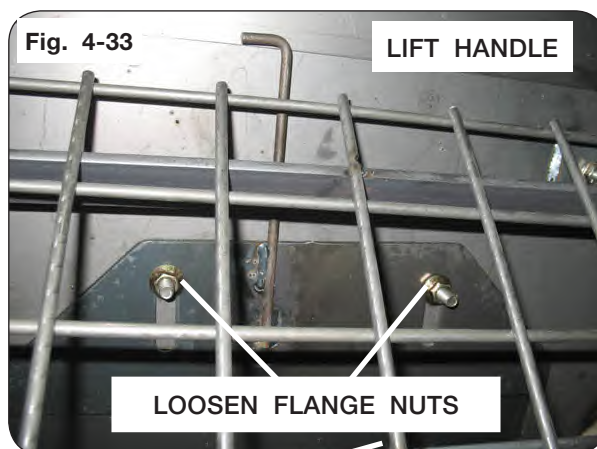
The horizontal auger baffles are factory-set at the lowest position. This position results in the lowest power requirements and longest flighting life. Once grain has been run through the unit, adjustments can be made to achieve the ideal unloading performance.

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

If a higher flow is desired and torque is not a factor, loosen the (2) flange nuts on each baffle, see figure 4-33. Use the lift handle to raise each baffle to the desired position, retighten both flange nuts. (Figs. 4-33 & 4-34)

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

NOTE: Screen removed in figure 4-34 for illustration only.

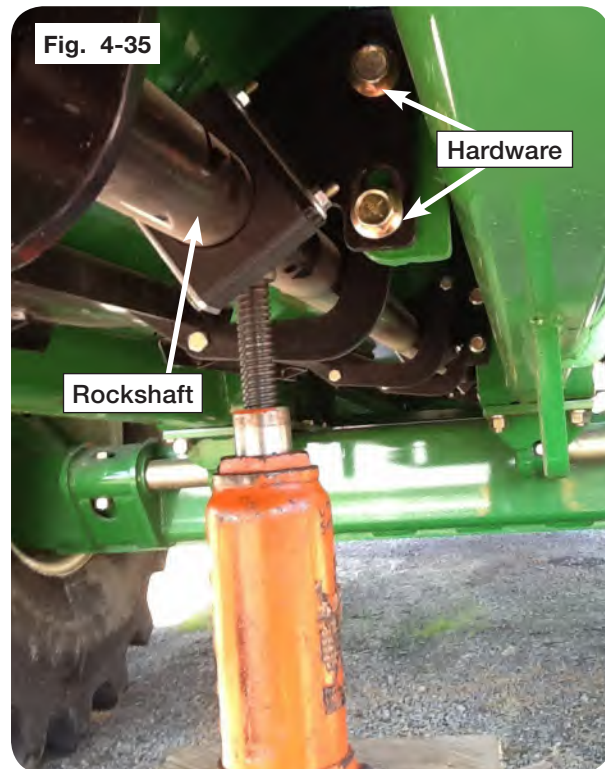


Horizontal Cleanout Door Adjustment

⚠ WARNING

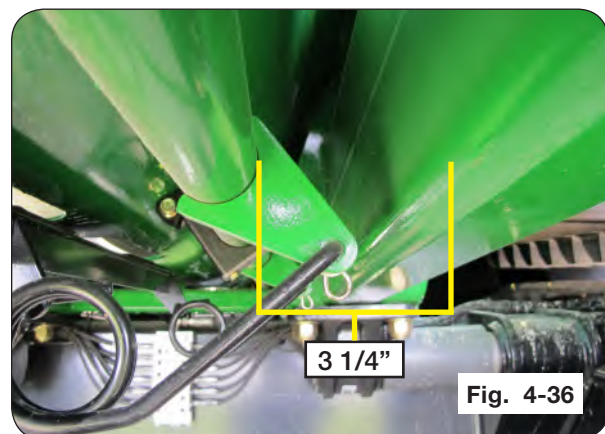
- MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEANOUT DOORS ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.
- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE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

1. Park the unit on a firm, level surface. Block the machine to keep it from moving. Set the tractor parking brake, turn off tractor engine, remove ignition key, and disconnect PTO shaft.
2. Inspect cleanout door gasket for damage, if damaged replace gasket and continue with cleanout door adjustment.
3. Loosen all the hardware in the slotted brackets connecting the cleanout door rockshaft to the grain cart tube. (Fig. 4-35)
4. Starting at the front of the cart, using a jack, push the rockshaft up and toward the runner tube. (Fig. 4-35)



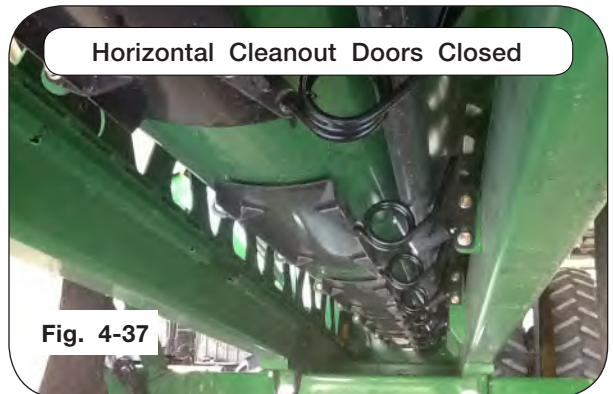
NOTE: Ideal distance between the runner tube and rockshaft is 3 1/4". (Fig. 4-36)

5. When the rockshaft is in position, torque the hardware previously loosened to 28 ft.-lbs.
6. Continue repositioning the rockshaft moving toward the back of the cart.

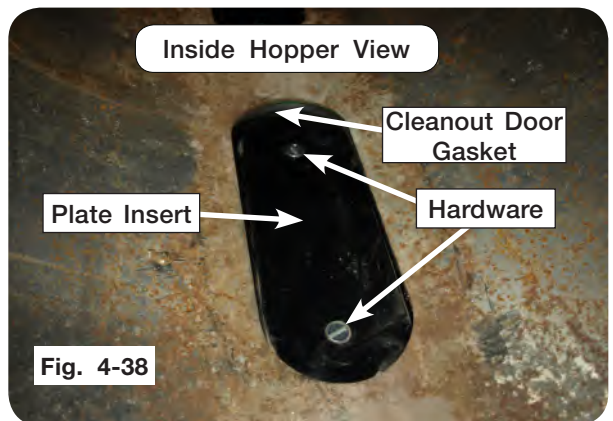


Horizontal Cleanout Door Adjustment (continued)

7. Rotate the tensioner handle counter-clockwise to close the doors allowing the plate to fit and seal into the belly pan opening. (Fig. 4-37)



8. If plate insert needs adjustment, loosen the two flat head machine screws holding the plate in position. (Fig. 4-38)
9. Ensure the plate inserts are aligned and fit into the belly pan cut-outs. (Fig. 4-38)
10. Close the doors and ensure all doors seal.
11. Insert lynch pin into rockshaft and return handle to storage location.



PTO Shaft and Clutch - Benzi PTO

To Dismantle Guard (Figs. J1 - J3)

1. Pull the guard tube backwards and, using a screwdriver, disengage the three bearing ring tabs by pushing them inward. (FIG. J1)



2. Remove half-guard. (FIG. J2)



3. Open the bearing ring and remove from the yoke groove. (FIG. J3)



PTO Shaft and Clutch - Benzi PTO (continued)

To Assemble Guard (Figs. K1 - K3)

1. Clean and grease the bearing ring, yoke groove and inner profile tube. (FIG. K1)



2. Fit bearing ring in groove with three bearing ring tabs positioned as shown. (FIG. K2)
3. Slip on half-guard by aligning the holes on the cone with three bearing ring tabs and the cone inner key with the cut of the bearing ring. (FIG. K2)



4. Push half-guard and yoke together causing the half-guard to engage. (FIG. K3)

NOTE: Ensure the three bearing ring tabs are positioned inside the grooves.

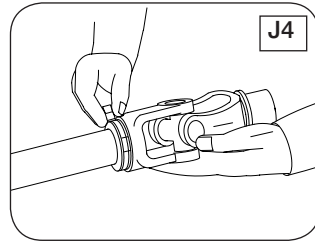
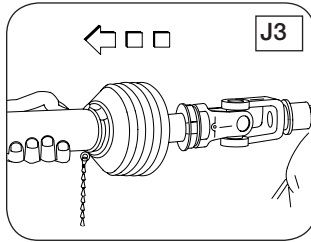
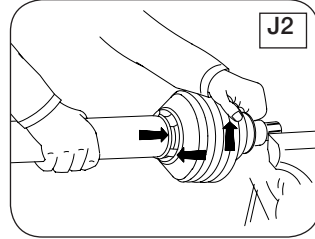
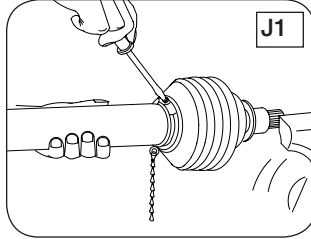
5. Confirm half-guard engagement by pulling backwards on the half-guard. (FIG. K3)



PTO Shaft and Clutch - GKN Walterscheid PTO

To Dismantle Guard (Figs. J1 - J4)

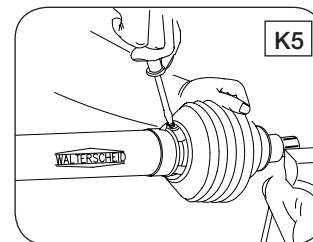
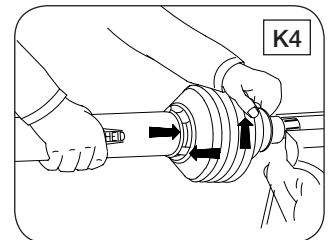
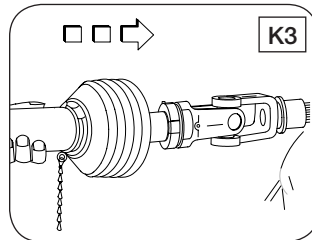
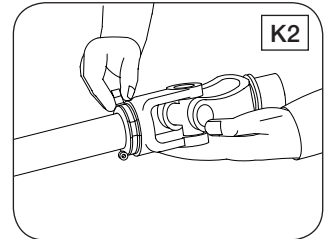
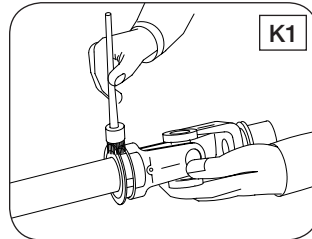
1. Remove locking screw.
2. Align bearing tabs with cone pockets.
3. Remove half-guard.
4. Remove bearing ring.



PTO Shaft and Clutch - GKN Walterscheid PTO (continued)

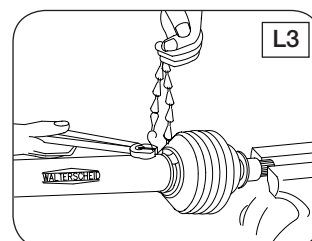
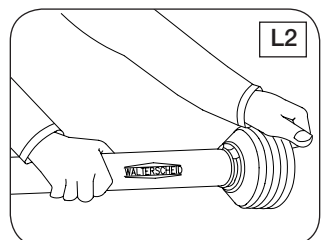
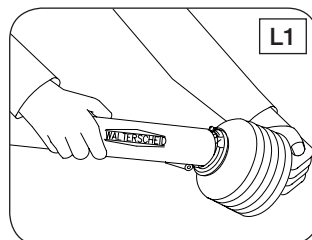
To Assemble Guard (Figs. K1 - K5)

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



To Assemble Cone (Figs. L1 - L3)

1. Dismantle guard (Figs. J1 - J3). Remove old cone (e.g. cut open with knife). Take off chain. Place neck of new cone in hot water (approx 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).



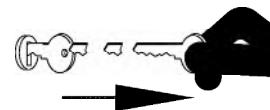
Hydraulic Jack Cylinder Replacement

WARNING

- HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.
- RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.
- HYDRAULIC SYSTEM MUST BE PURGED OF AIR BEFORE OPERATING TO PREVENT SERIOUS INJURY OR DEATH.
- MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.
- UNHITCHING A LOADED CART CAN CAUSE SERIOUS INJURY OR DEATH DUE TO TONGUE RISING OR FALLING. ALWAYS HAVE A LOADED CART ATTACHED TO A TRACTOR. THE JACK IS INTENDED TO SUPPORT AN EMPTY CART ONLY.
- FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 2,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.

1. Park the empty unit on a firm, level surface. Block tractor and machine to keep it from moving. Set the tractor parking brake, shut off the engine and remove the ignition key. Completely disconnect the PTO from the cart and tractor.

2. Attach hydraulic jack hoses to tractor SCV.



3. Open valve and lower jack leg to ground. DO NOT raise tongue.

4. Relieve pressure on hydraulic jack circuit. See tractor operator manual for procedure.

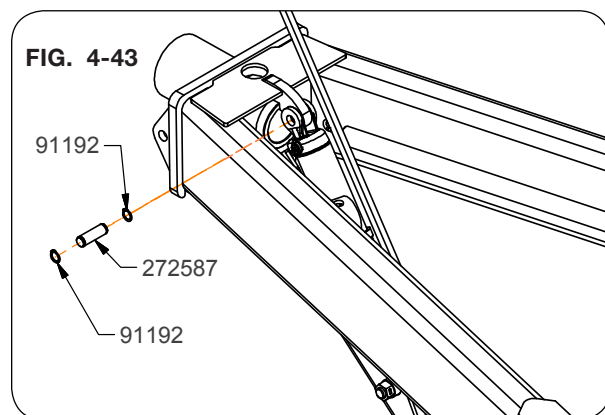
5. Close valve.

6. Support the hydraulic jack assembly with a safe lifting device rated for a minimum of 100 lbs.

7. Remove hydraulic jack hoses from tractor SCV.

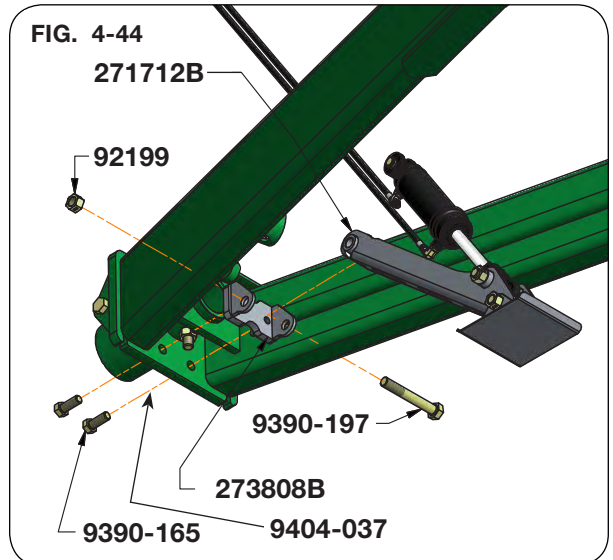
NOTE: Discard all hardware and parts from step 8 to step 10.

8. Remove cylinder pin (272587) and snap rings (91192) from the base end of the cylinder at the lug on top of the tongue. (Fig. 4-43)

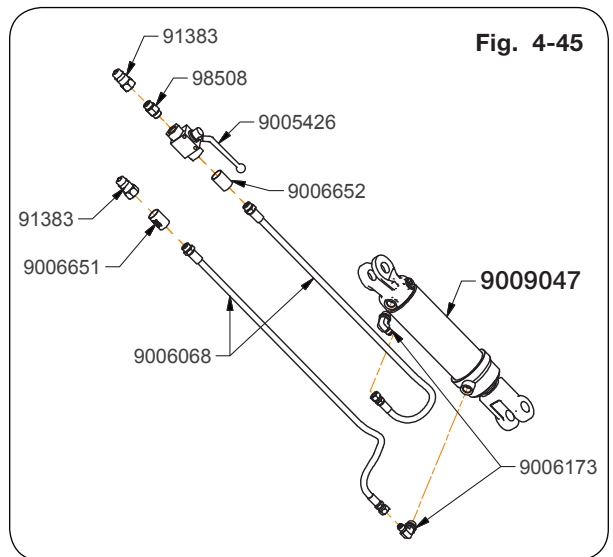


Hydraulic Jack Cylinder Replacement (continued)

9. Remove two 7/8"-9UNC x 2 1/4" capscrews (9390-165) and 7/8" lock washers (9404-037) from mounting bracket (273808B). (Fig. 4-44)
10. Remove hydraulic jack assembly from the tongue. (Fig. 4-44)



11. On new hydraulic assembly (273849B), attach hoses (9006068) and fittings to cylinder (9009047) as shown in FIG. 4-45. The valve needs to be assembled to the hose on the base end of the cylinder. Assemble the fittings on the cylinder so they face each other, then store the hydraulic hoses on the hose caddy.
12. To reassemble hydraulic jack, see "Install Hydraulic Jack (Optional)" in SET UP section.



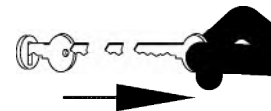
Horizontal Auger Removal and Replacement For SN B40450100 & Higher

WARNING

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

NOTE: Open the flow gates all the way.

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

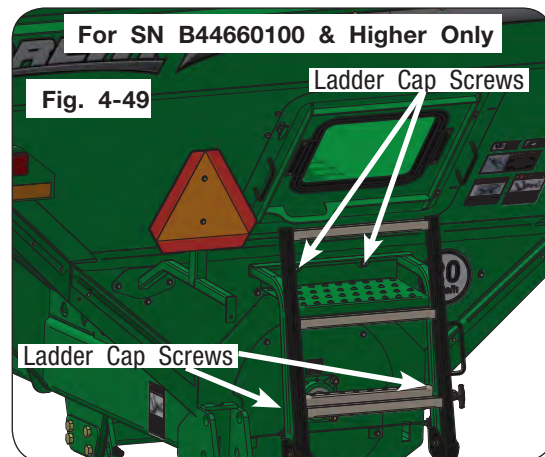


NOTE: For SN B44660099 & lower, skip to step 4.

2. Remove 4 rear ladder capscrews attached to the cart. Keep capscrews. (Fig. 4-49)
3. Remove rear ladder from the cart. (Fig. 4-49)

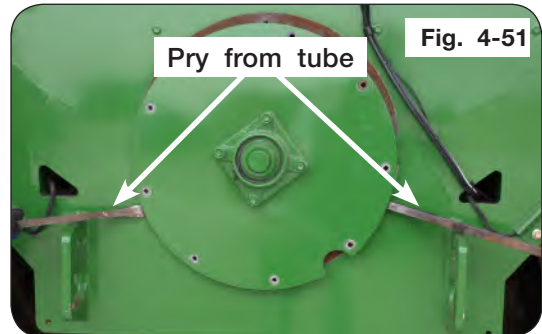
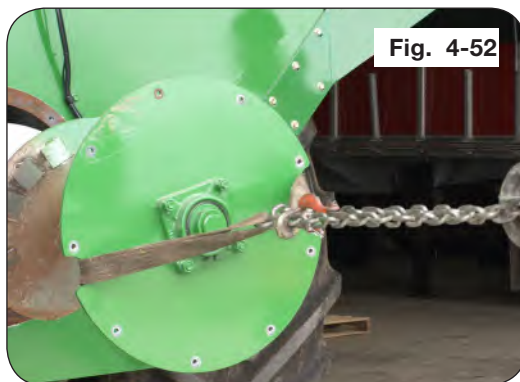
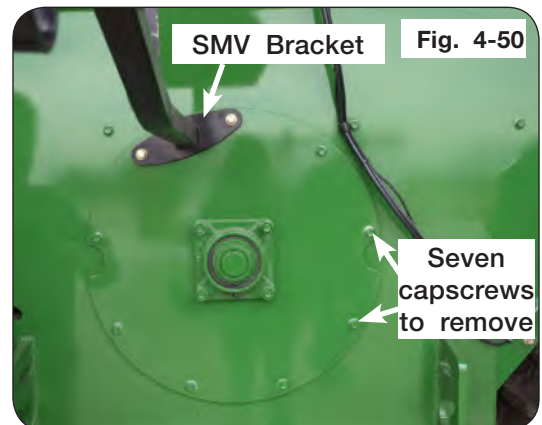
NOTE: For SN B44660100 & higher, skip to step 5.

NOTE: Keep all hardware for re-assembly.



**Horizontal Auger Removal and Replacement
For SN B40450100 & Higher (continued)**

4. For SN B44660099 & lower, remove the SMV bracket located on the rear auger cover. (Fig. 4-50)
5. Remove the capscrews from the auger cover. (Fig. 4-50)
6. Pry the auger from the auger tube. (Fig. 4-51)
7. Using a safe lifting device rated for a minimum 1,000 lbs., pull the rear auger out of the cart. (Fig. 4-52)



Horizontal Auger Removal and Replacement For SN B40450100 & Higher (continued)

21. Install hanger bracket. Leave the capscrews loose attaching hanger bracket to the cart. Attach hanger bracket to the bearing. (Fig. 4-60)
22. Reattach grease line components. (Fig. 4-60)

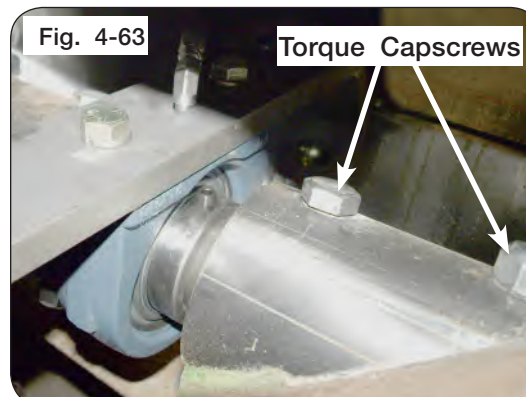
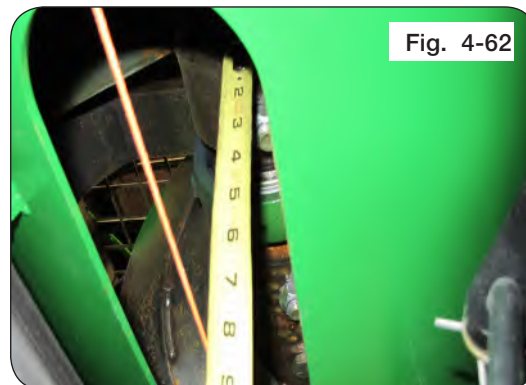
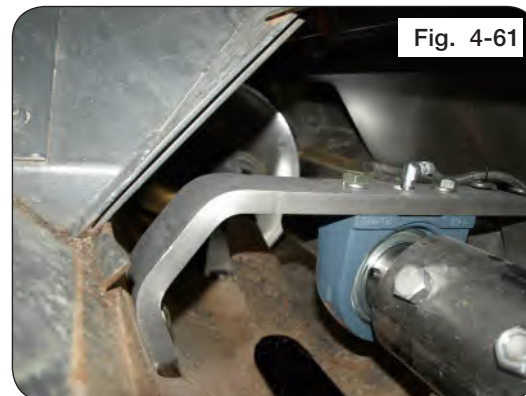
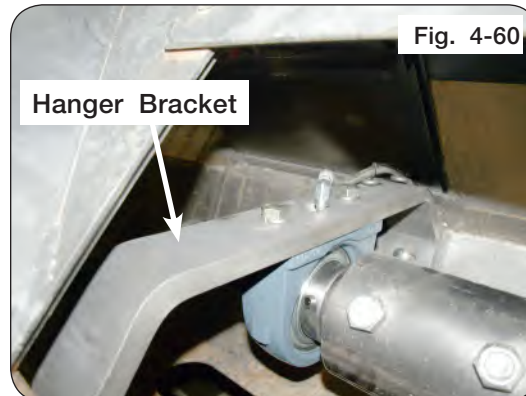
NOTE: Rear auger flighting should lead the front auger flighting.

23. Slide the rear auger forward. Align the pins and holes with the rear auger pipe. (Fig. 4-61)

24. Extend a string tightly from front to rear to check horizontal auger alignment. Measure the string to the auger tube either in front or behind the hanger bearing. If this dimension is 1/8" greater than the measurement taken in the front and rear, shims (8GA - 286419B or 12GA - 286424B) are required on top of the center hanger bearing. Ideally the center measurement should be equal to or 1/8" lower than the measurements on the ends of the augers. (Fig. 4-62)

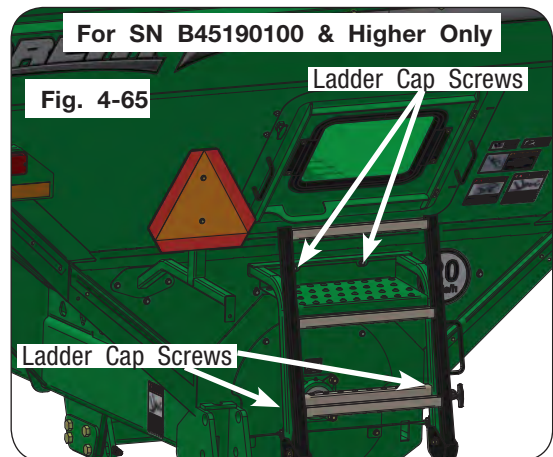
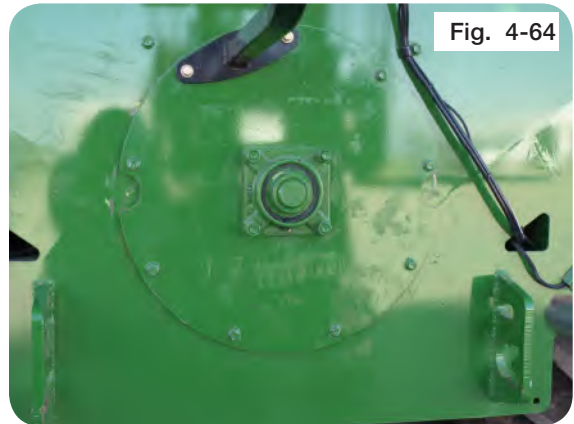
NOTE: The shims are 1/8" thick each. Add as needed. See "Auger System - Horizontal Auger" in MAINTENANCE section for more details.

25. Torque hanger bracket capscrews to 130 ft.-lbs. (Fig. 4-60)
26. Torque auger capscrews to 200 ft.-lbs. (Fig. 4-63)



**Horizontal Auger Removal and Replacement
For SN B40450100 & Higher (continued)**

- 27. Torque hardware for the rear auger cover. (Fig. 4-64)
- 28. For SN B45190100 & higher, torque hardware for the rear ladder. (Fig. 4-65)
- 29. For SN B45190099 & lower, torque SMV bracket back onto the cart. (Fig. 4-64)
- 30. Reinstall ALL the grates.



Horizontal Auger Removal and Replacement For SN B40450100 & Higher (continued)

21. Install hanger bracket. Leave the capscrews loose attaching hanger bracket to the cart. Attach hanger bracket to the bearing. (Fig. 4-60)
22. Reattach grease line components. (Fig. 4-60)

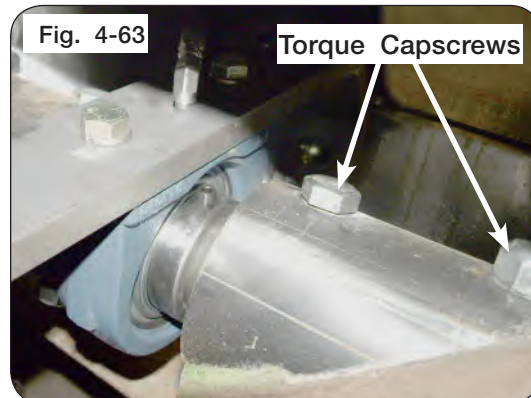
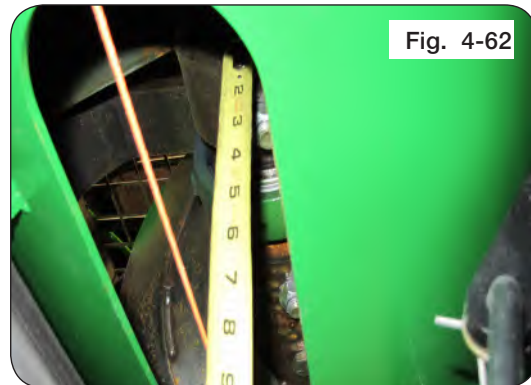
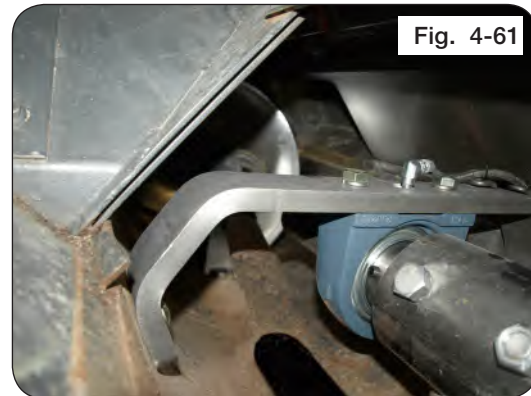
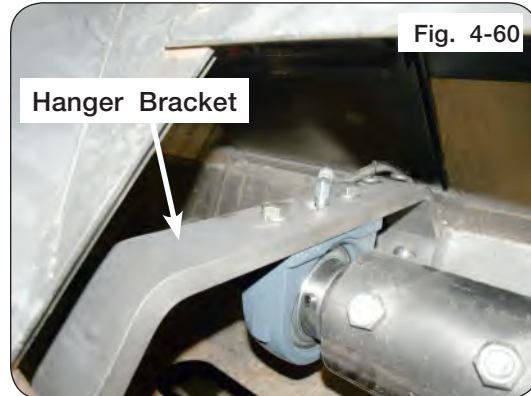
NOTE: Rear auger flighting should lead the front auger flighting.

23. Slide the rear auger forward. Align the pins and holes with the rear auger pipe. (Fig. 4-61)

24. Extend a string tightly from front to rear to check horizontal auger alignment. Measure the string to the auger tube either in front or behind the hanger bearing. If this dimension is 1/8" greater than the measurement taken in the front and rear, shims (8GA - 286419B or 12GA - 286424B) are required on top of the center hanger bearing. Ideally the center measurement should be equal to or 1/8" lower than the measurements on the ends of the augers. (Fig. 4-62)

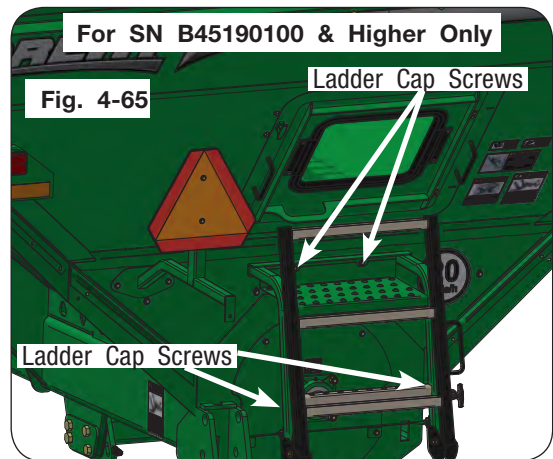
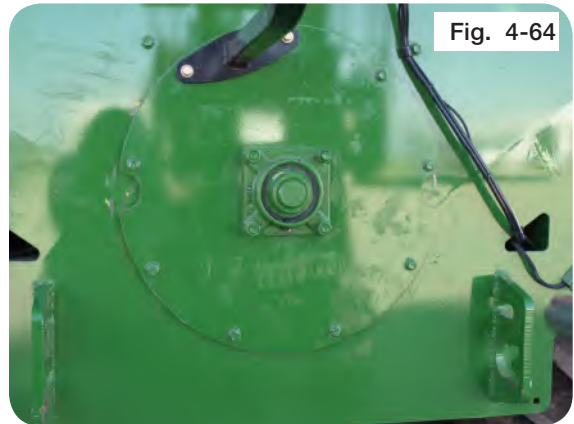
NOTE: The shims are 1/8" thick each. Add as needed. See "Auger System - Horizontal Auger" in MAINTENANCE section for more details.

25. Torque hanger bracket capscrews to 130 ft.-lbs. (Fig. 4-60)
26. Torque auger capscrews to 200 ft.-lbs. (Fig. 4-63)



**Horizontal Auger Removal and Replacement
For SN B40450100 & Higher (continued)**

- 27. Torque hardware for the rear auger cover. (Fig. 4-64)
- 28. For SN B45190100 & higher, torque hardware for the rear ladder. (Fig. 4-65)
- 29. For SN B45190099 & lower, torque SMV bracket back onto the cart. (Fig. 4-64)
- 30. Reinstall ALL the grates.



Horizontal Auger Removal and Replacement For SN B40450099 & Lower

⚠ WARNING

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

NOTE: Open the flow gates all the way.

1. Park the unit on a firm, level surface. Block the wheels to keep the machine from moving. Set the vehicle parking brake, shut off the engine and remove the ignition key and disconnect the PTO shaft from the tractor.
2. Remove the flange screws in both middle grates inside the cart. Remove the grates. (Fig. 4-66)

NOTE: Retain all hardware for reassembly.

3. Remove locknuts, baffle weldments and cover plates from the middle tent. (Fig. 4-67)
4. Remove grease line. (Fig. 4-67)

NOTE: For 1600 bushel carts and lower, the locknuts on bearing mount bar are located on the outside of the cart.

5. Remove the bearing mount bar bolts on each side of the auger.
6. Remove capscrews and lock washers holding bearing onto the bearing mount bar.

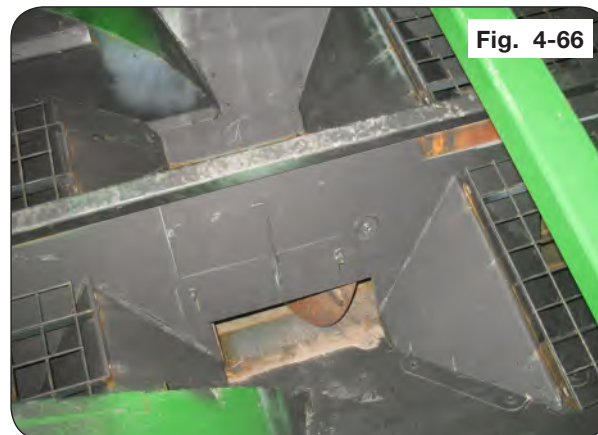


Fig. 4-66

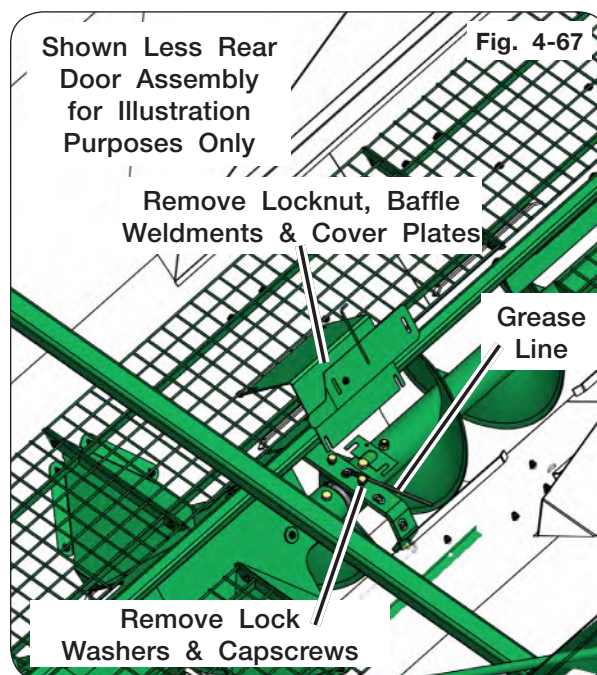
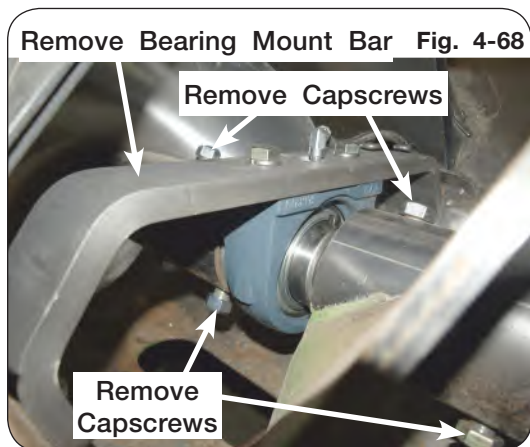


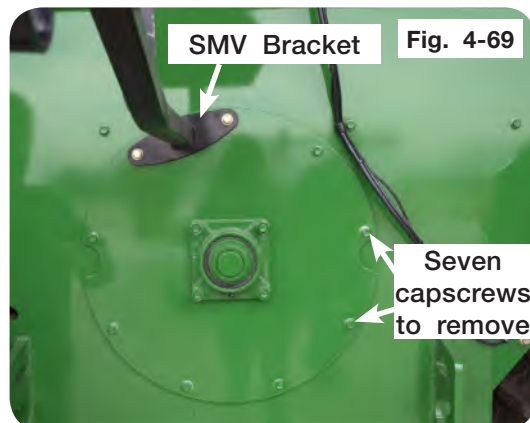
Fig. 4-67

**Horizontal Auger Removal and Replacement (continued)
For SN B40450099 & Lower**

7. Remove bearing mount bar to allow access to work on the bearing and shaft. Remove four center tube connecting capscrews, spacer bushings (283895B) and locknuts in the horizontal auger. (Fig. 4-68)

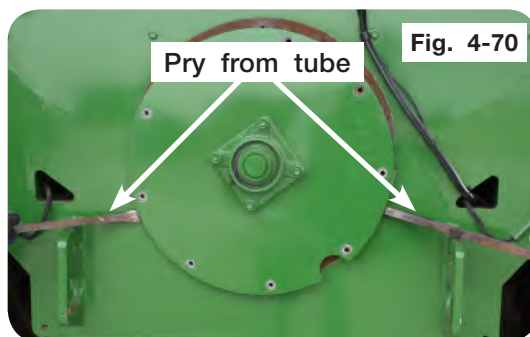


8. Remove the SMV bracket located on the rear auger cover. (Fig. 4-69)



9. Remove the capscrews from the auger cover. (Fig. 4-69)

10. Pry the auger from the auger tube. (Fig. 4-70)



11. Using a safe lifting device rated for a minimum 1,000 lbs., pull the rear auger out of the cart. (Fig. 4-71)



Horizontal Auger Removal and Replacement (continued)
For SN B40450099 & Lower

12. Remove the connecting shaft, bearing and the two bushing inserts. (Figs. 4-72 & 4-73)



Fig. 4-72

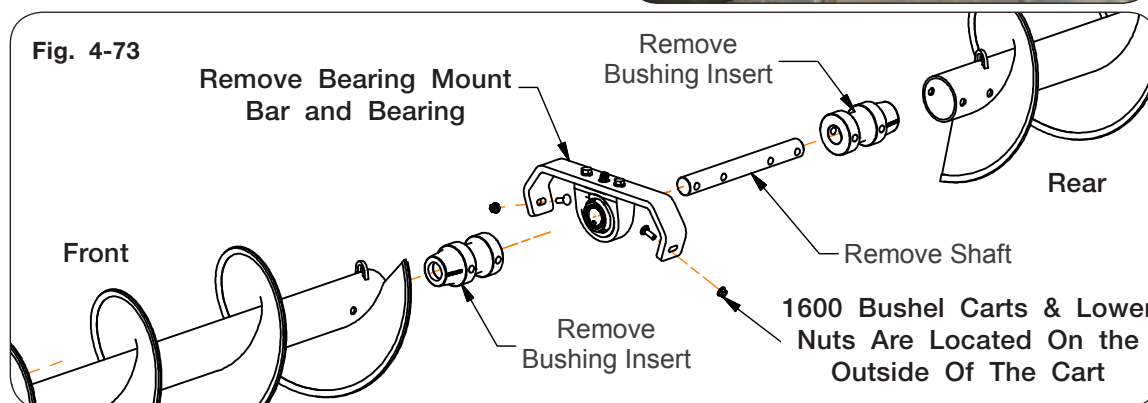


Fig. 4-73

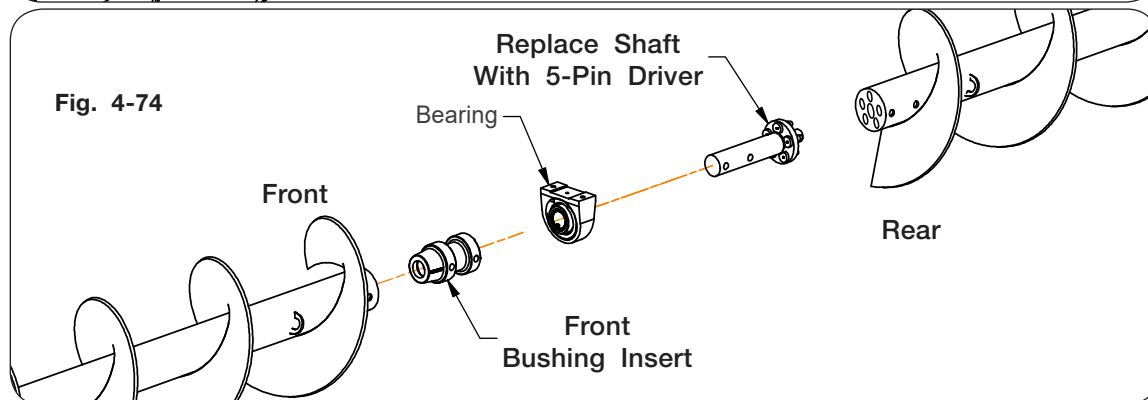


Fig. 4-74

13. Replace connecting shaft with 5-pin driver (293957). (Fig. 4-74)
14. Discard rear auger bushing insert only. (Fig. 4-75)
15. Substantially coat front bushing insert with anti-seize.
16. Slide bushing insert into front auger and ensure tube holes are aligned. (Figs. 4-74 & 4-75)



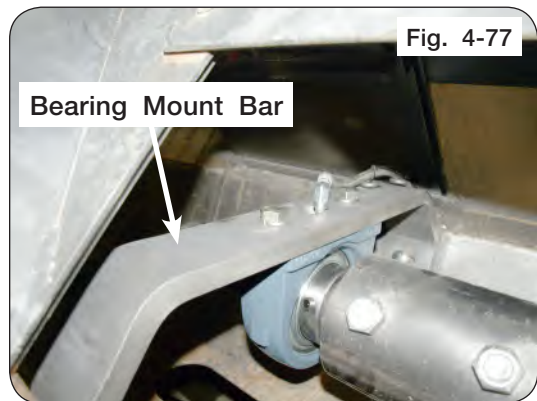
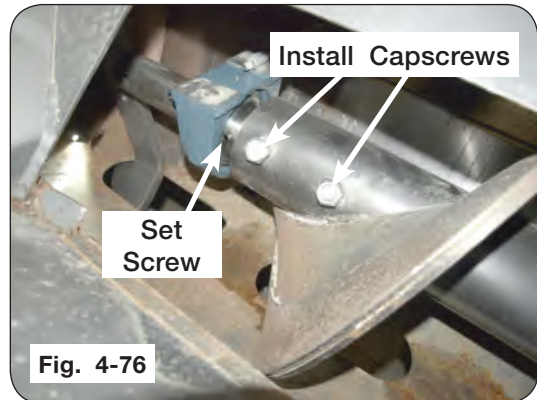
Fig. 4-75

NOTE: Use auger adapters provided with the auger flying service kit to assure best fitment.

**Horizontal Auger Removal and Replacement (continued)
For SN B40450099 & Lower**

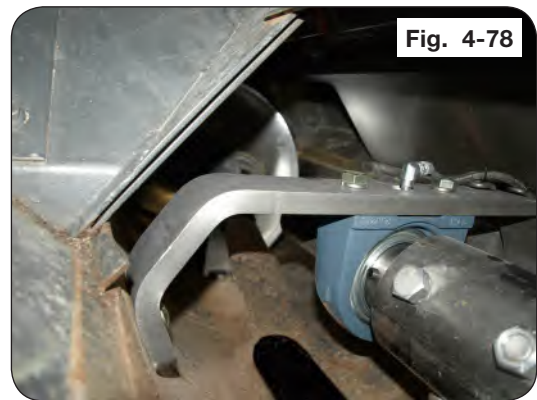
NOTE: Make sure the set screws on bearing are towards the front of the cart. (Fig. 4-76)

17. Slide bearing onto 5-pin driver. (Fig. 4-76)
18. Insert 5-pin driver into front auger and ensure tube holes are aligned.
19. Insert capscrews from opposite sides through auger, bushing and driver. Slide spacer bushings over threads and install locknuts. Hand tighten hardware at this time. (Fig. 4-76)
20. Install bearing mount bar. Leave the capscrews and lock washers loose attaching bearing mount bar to the cart. Attach bearing mount bar to the bearing. (Fig. 4-77)
21. Reattach grease line components. (Fig. 4-77)

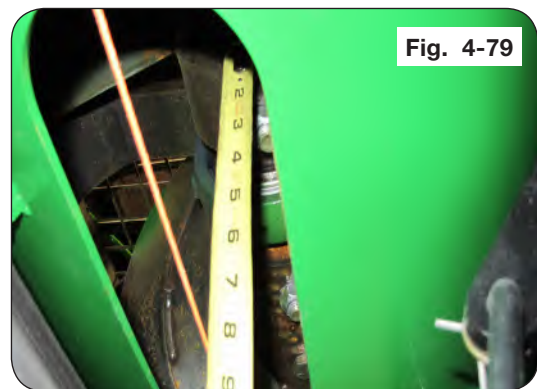


NOTE: Rear auger flighting should lead the front auger flighting.

22. Slide the rear auger forward. Align the pins and holes with the rear auger pipe. (Fig. 4-78)



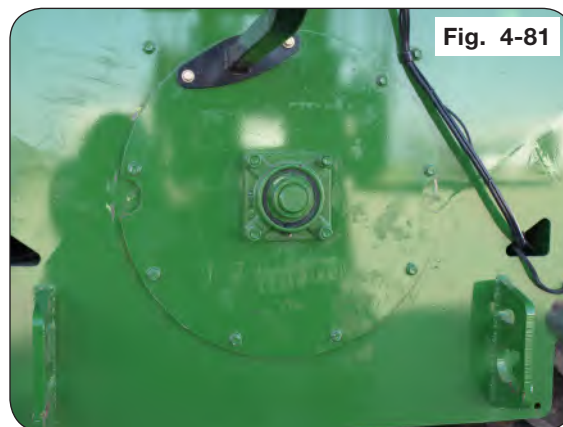
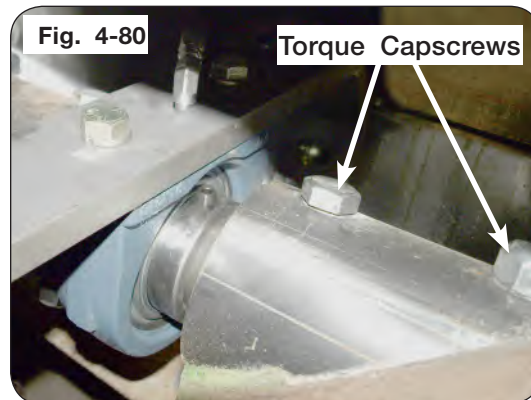
23. Extend a string tightly from front to rear to check horizontal auger alignment. Measure the string to the auger tube near the hanger bearing. If this dimension is greater than the measurement taken in the front and rear, shims (8GA - 286419B or 12GA - 286424B) are required on top of the center hanger bearing. Ideally the center measurement should be equal to or 1/8" lower than the measurements on the ends of the augers. (Fig. 4-79)



NOTE: Add shims as needed. See “Auger System - Horizontal Auger Height Measurement” in MAINTENANCE section for more details.

Horizontal Auger Removal and Replacement (continued)
For SN B40450099 & Lower

24. Torque bearing mount bar capscrews to 130 ft.-lbs. See Fig. 4-72 on previous page.
25. Torque front auger capscrews to 200 ft.-lbs. (Fig. 4-80)
26. Reattach the rear auger cover and SMV bracket back onto the cart. (Fig. 4-81)
27. Reinstall ALL cover plates, baffle weldments, locknuts, and grates.
28. Ensure all personnel and tools are removed from the cart and reconnect PTO shaft to the tractor.
29. Run the auger starting at a low RPM and increase speed to max RPM to ensure the auger flighting does not make contact with the belly pan or flow doors.



Seasonal Storage

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

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

Reattach PTO brackets (296155Y) to the inside right-hand side of the tongue and place PTO assembly on brackets.

Lubricate machine at all points outlined.

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

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

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

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

Close the tarp to keep debris out of the hopper.



FIG. 4-32

Troubleshooting

Problem	Possible Cause	Corrective Action
No Electric Over Hydraulic (EOH) Functions work	Not getting 12 volt power supply to the power harness in the tractor	Check the connections to the main power harness in the tractor cab, and check the 5 AMP fuse in the fuse holder of the main power harness. Replace fuse if necessary.
	Not getting good connection at Deutch connectors in the harnesses	Unplug the Deutsch connectors at the hitch point and in the extension harness (if used). Clean up the connectors with electrical contact cleaner. Make sure the connectors are aligned correctly and re-connect them.
	Not pressurizing the correct hydraulic hose	Make sure the quick couplers are properly connected to the tractor SCV and the Hydraulic Pressure line is being pressurized when engaging the tractor SCV.
Auger unfolds, but won't fold back in to transport position	Rotating Spout is not in the folding position	Rotate the spout so it is positioned straight down or forward in order to fold the auger into transport position.
	Rotating spout switch is faulty or out of adjustment	Make sure the spout is in the centered position. Press and hold the manual 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	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.
	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.

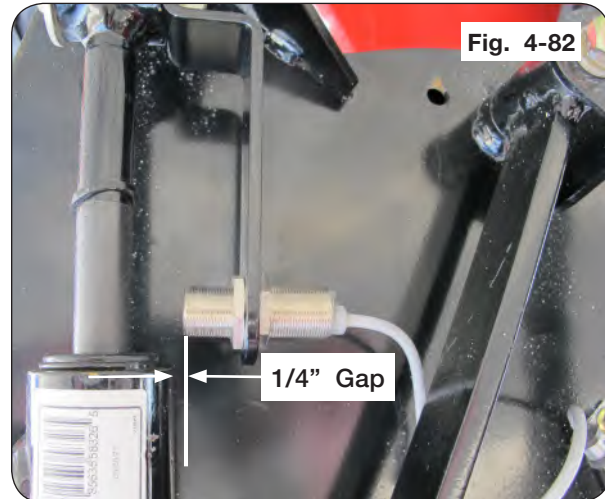
Troubleshooting (continued)

Problem	Possible Cause	Corrective Action
Spout rotate does not operate	7 pin connector is not plugged into tractor.	Plug in 7 pin connector to same power source as the 5 function controller.
	Proximity Switch at the auger hinge is not getting Power or Ground.	Check power and ground to the proximity switch harness on the vertical auger.
Rotating spout will not function	Proximity Switch 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.

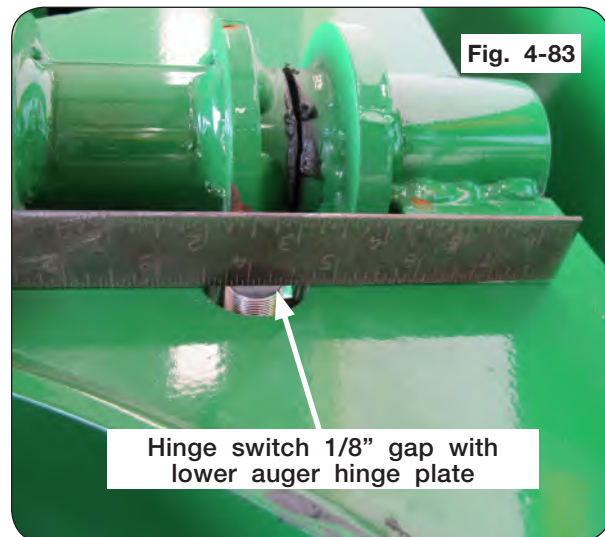
Auger Switch Troubleshooting

The switch on the front of the spout assembly controls the ground for both the spout rotate front and rear. The switch near the auger hinge pin controls the ground for both the auger fold and the auger unfold. Check continuity between the switch wires to determine if the switches were out of adjustment. Adjust accordingly if needed.

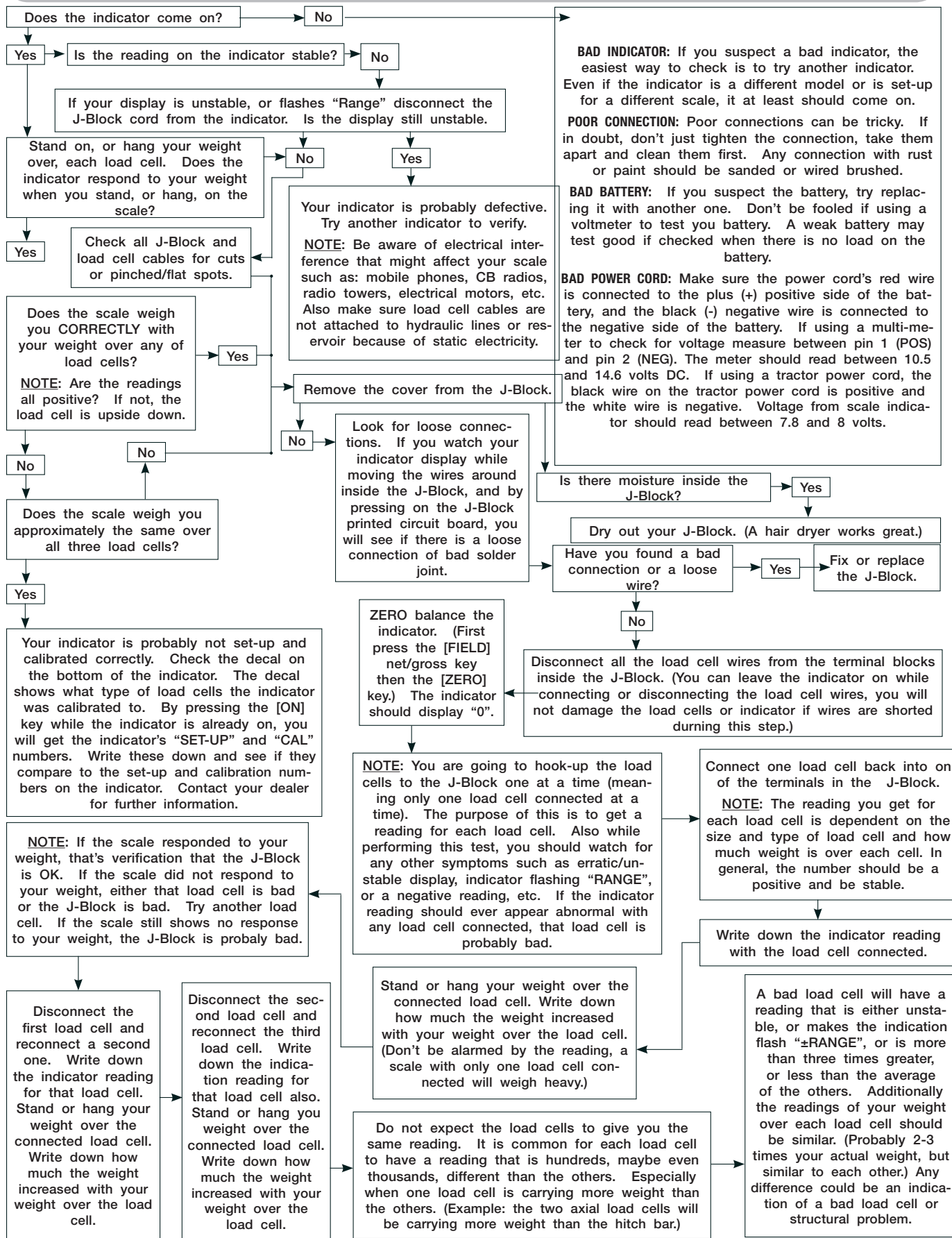
The switch at the spout must have no more than a 1/4" gap between the barrel of cylinder and the switch. Verify the gap if the auger fold stops functioning during the auger fold sequence or if the auger folds even if the spout is rotated back and allows the spout to hit the hopper while folding. (Fig. 4-82)



The switch at the hinge pin should be adjusted so there is 1/8" gap below the lower auger hinge plate. To maintain the 1/8" gap, adjust the hinges on the upper auger or by turning the switch in or out until the 1/8" gap is achieved. (Fig. 4-83)



Scale Troubleshooting



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 (9005581) 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. Fully close tarp with tension on the latch plate to prevent water from pooling.*

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

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

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

Electrical System Diagram - Plug #92450

GRAIN CART WIRES

- White -- Ground
- Green -- Right Amber Flashing Lamp
- Yellow -- Left Amber Flashing Lamp
- Brown -- Tail Light
- Black -- Work Lights
- Red -- Brake Lights
- Blue -- NOT USED

Black - Work Lights

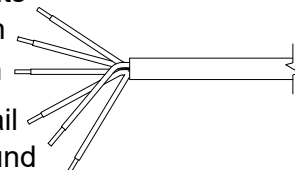
Green - RH Turn

Yellow - LH Turn

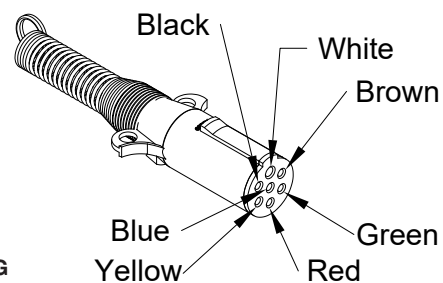
Brown - Tail

White - Ground

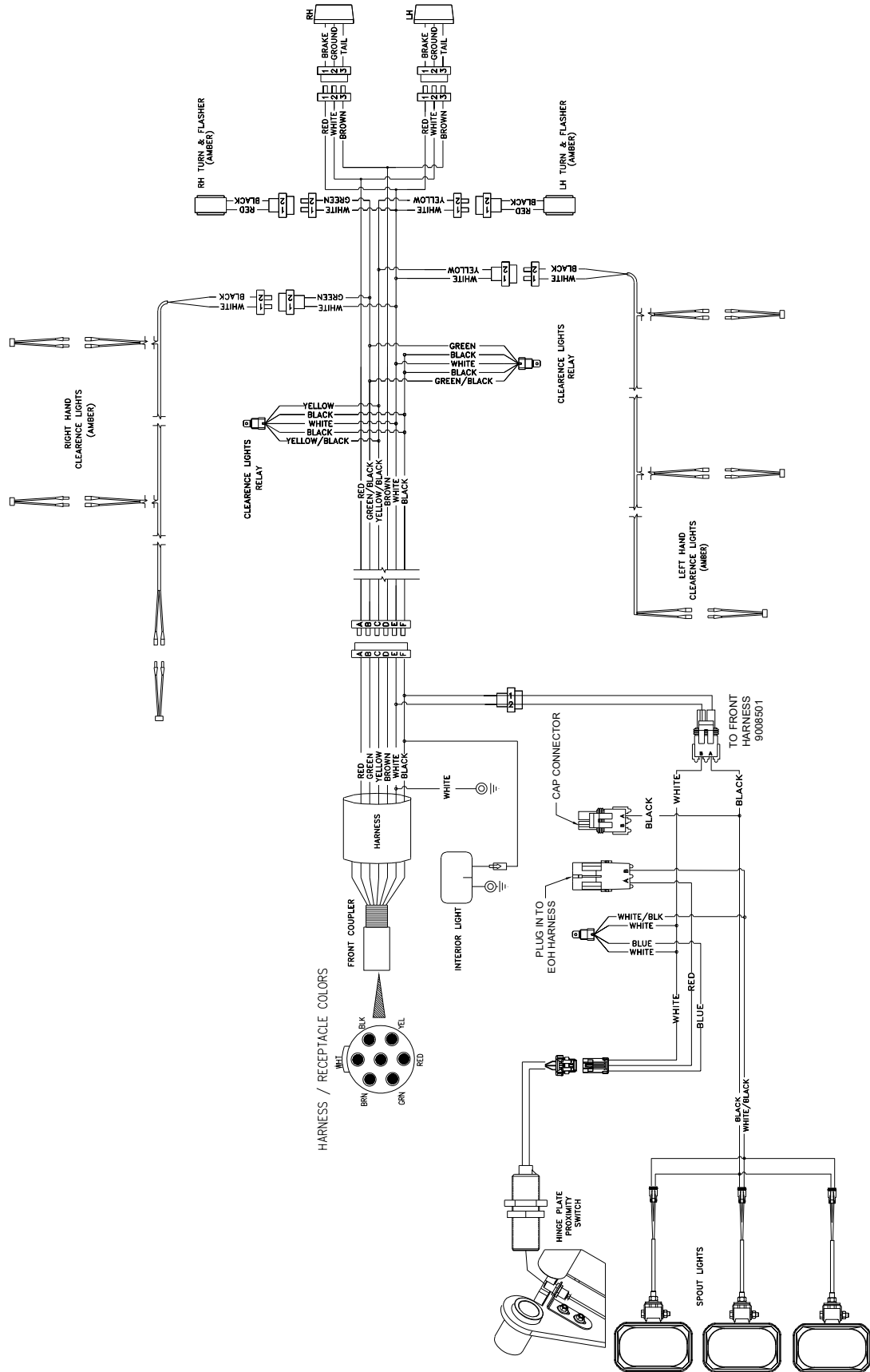
Red - Brake



**SAE SEVEN-POINT
CONNECTOR PLUG**



Electrical System Diagram



Electrical Diagram — Front Harness #9008501

- Black - Work Lights
- Green - Right Turn
- Yellow - Left Turn
- Brown - Tail Light
- White - Ground
- Red - Brake Light
- Blue - Not Used

2 Pin Shroud Weatherpack Connector
 Pin "A" - White - Ground
 Pin "B" - Black - 12V Power



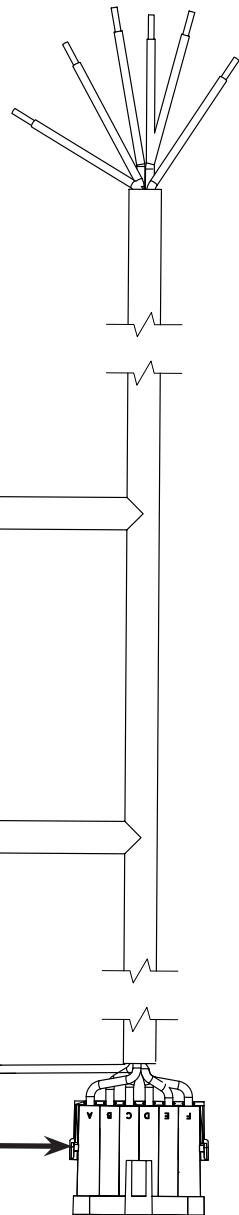
2 Pin Shroud Weatherpack Connector
 Pin "A" - White - Ground
 Pin "B" - Black - 12V Power



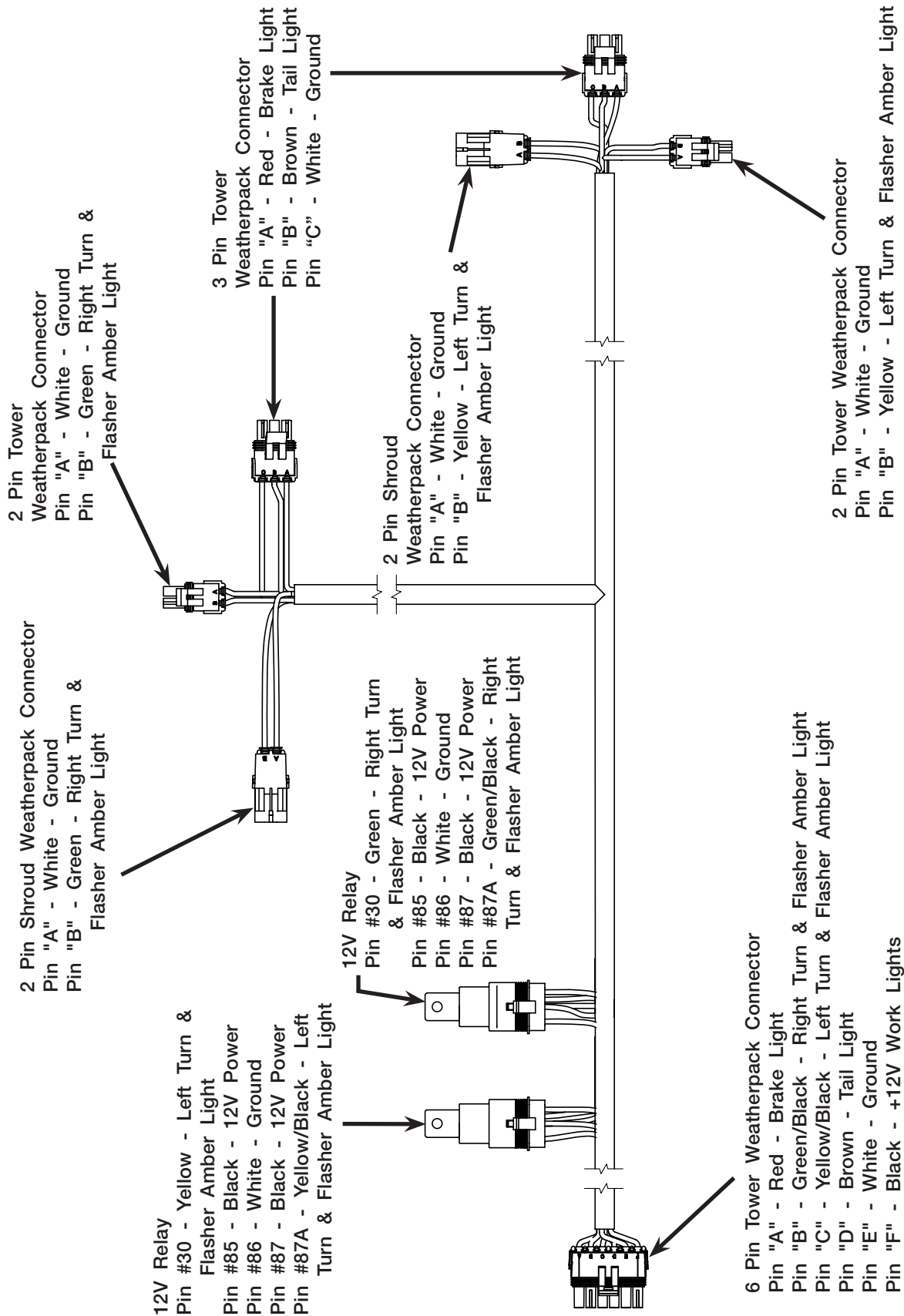
3/8" Eyelet - White - Ground



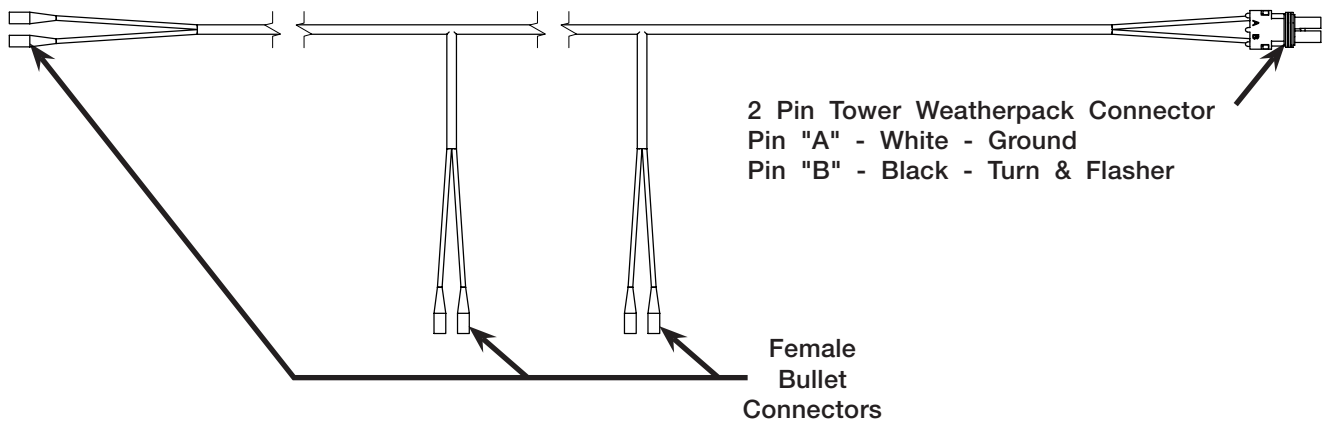
6 Pin Shroud Weatherpack Connector
 Pin "A" - Red - Brake Light
 Pin "B" - Green - Right Turn & Flasher Amber Light
 Pin "C" - Yellow - Left Turn & Flasher Amber Light
 Pin "D" - Brown - Tail Light
 Pin "E" - White - Ground
 Pin "F" - Black - +12V Work Lights



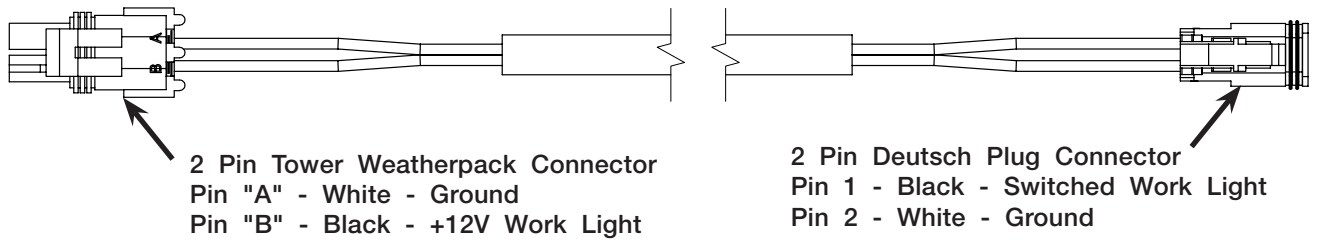
Electrical Diagram — Rear Wiring Harness #9009586



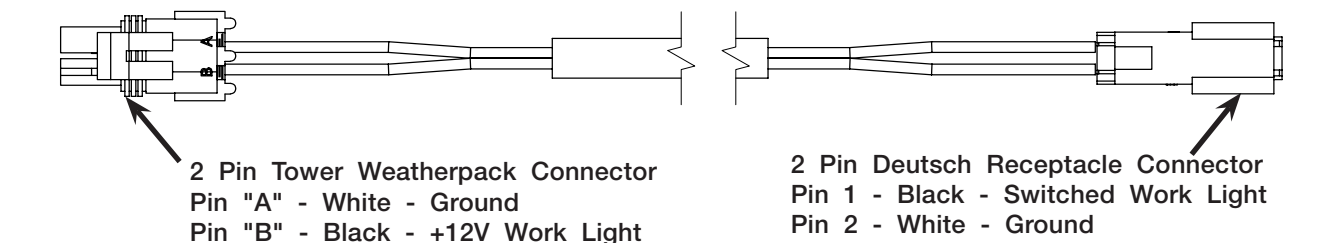
Electrical Diagram — Running Light/Clearance Wiring Harness #9006520



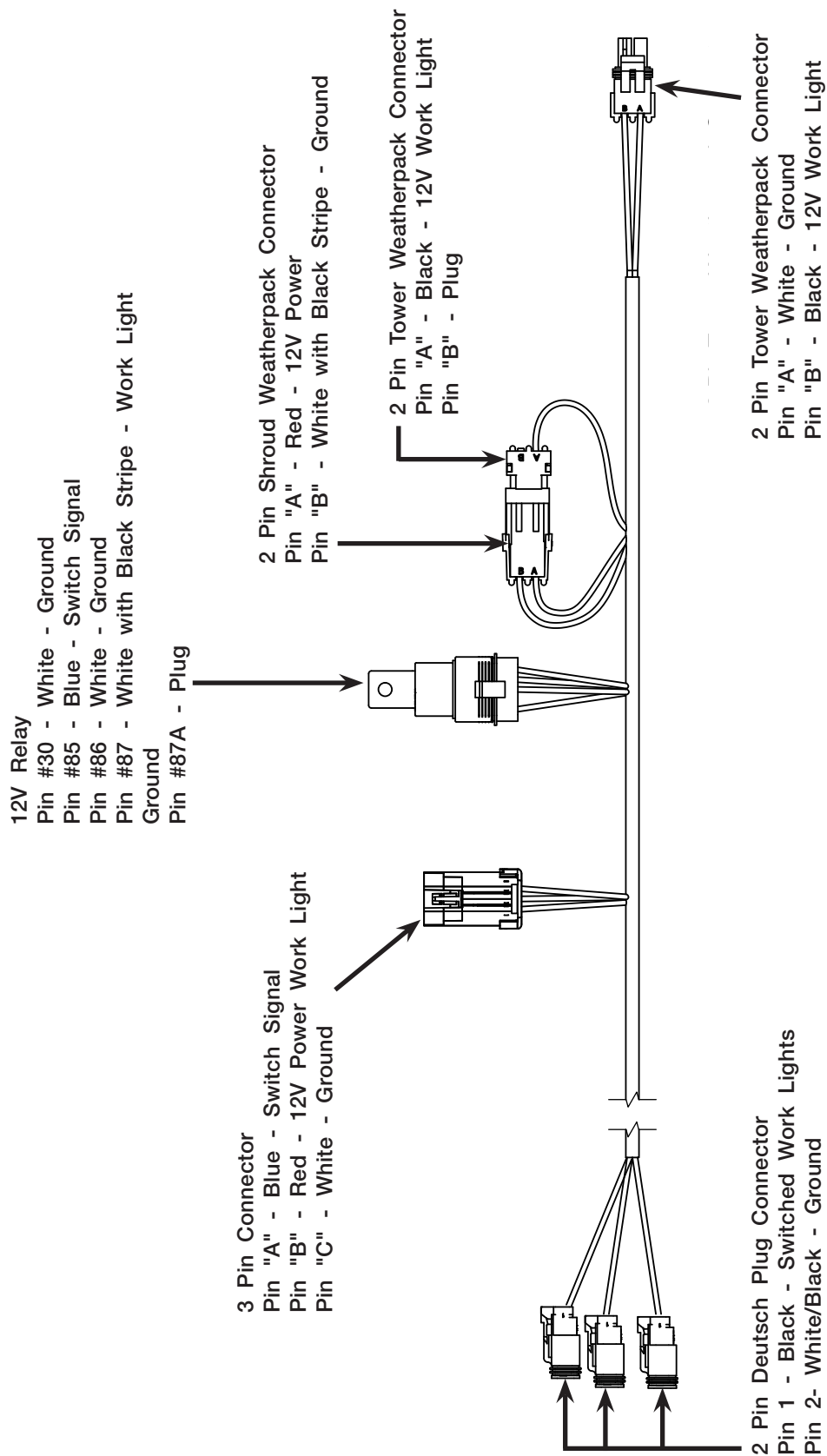
Electrical Diagram — Work Light Wiring Harness #9008969 For SN B40450100 & Higher



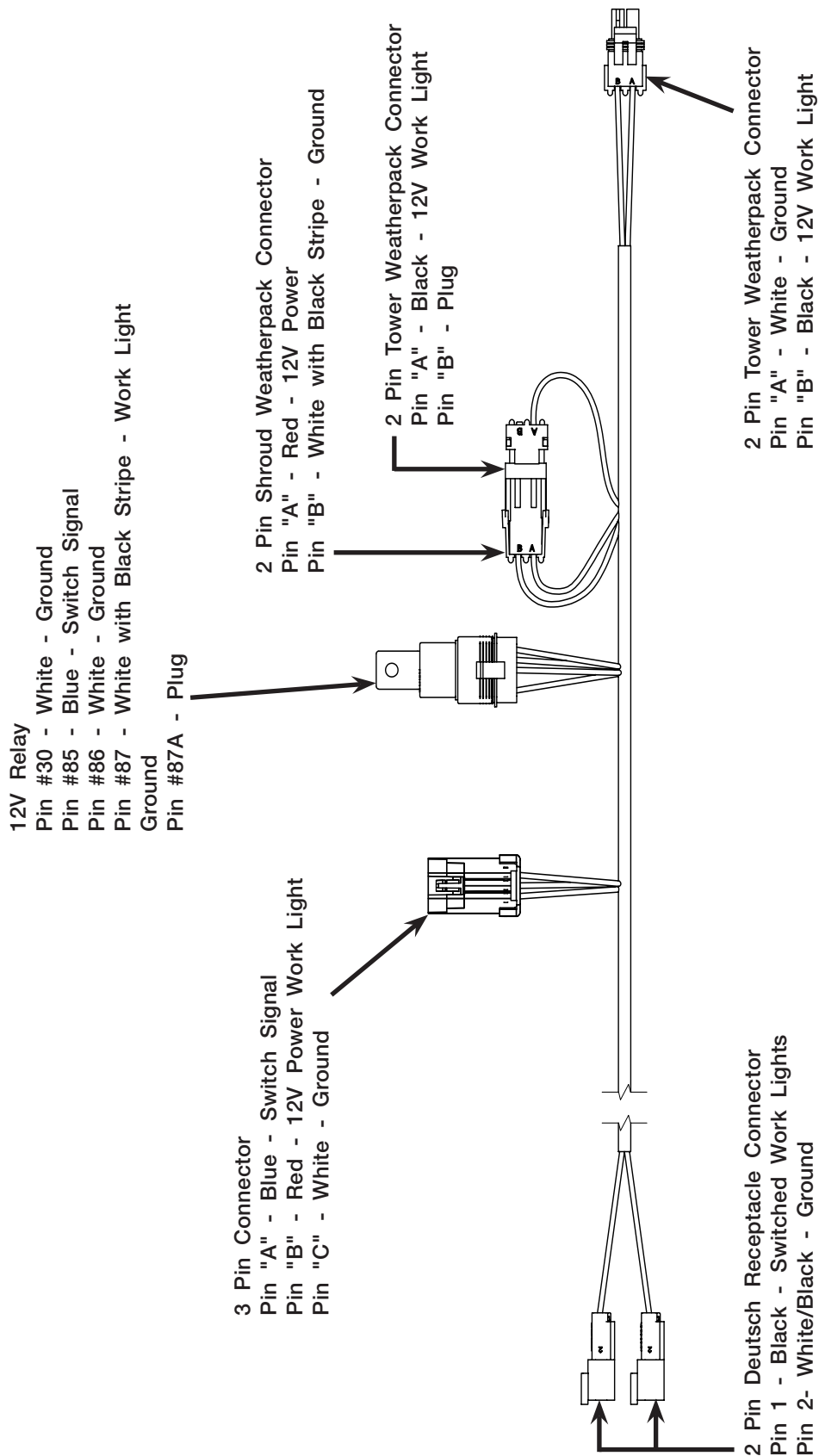
Electrical Diagram — Work Light Wiring Harness #9008502 For SN B40450099 & Lower



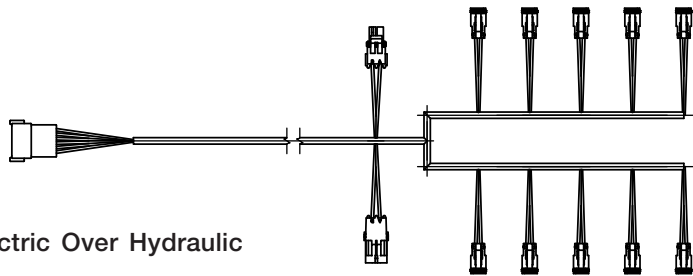
**Electrical Diagram — Auger Wiring Harness #9008956
For SN B40450100 & Higher**



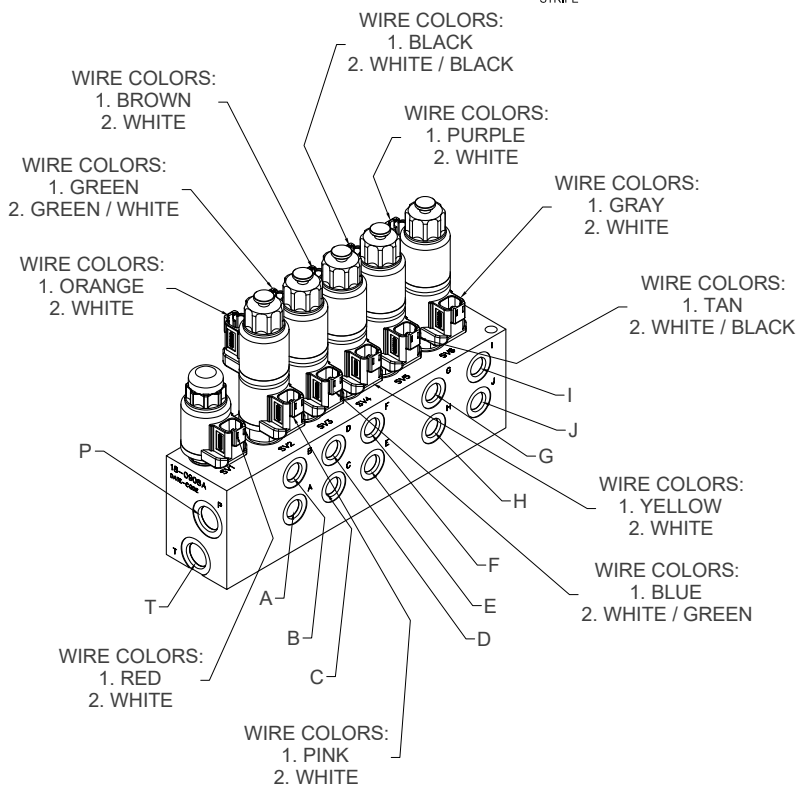
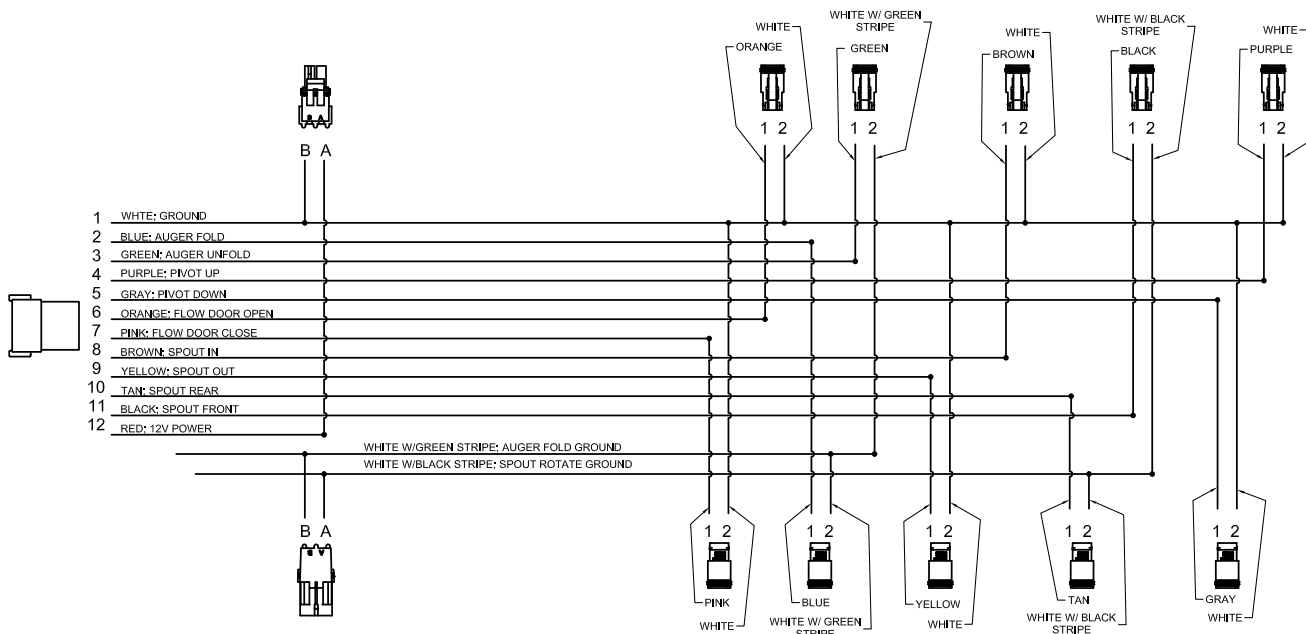
**Electrical Diagram — Auger Wiring Harness #9008107
For SN B40450099 & Lower**



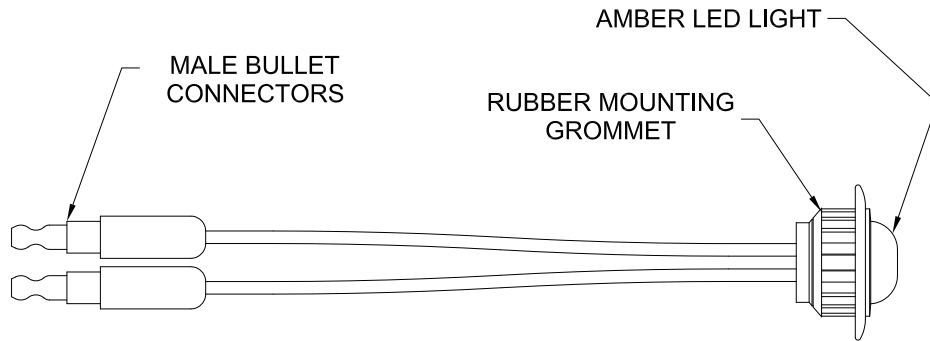
Electrical Diagram - Main Harness #9007290 (Opt.)



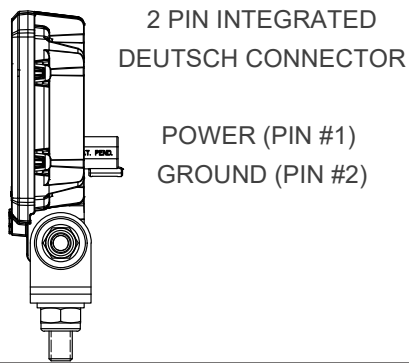
NOTE: For Optional Electric Over Hydraulic 5 Function Valve.



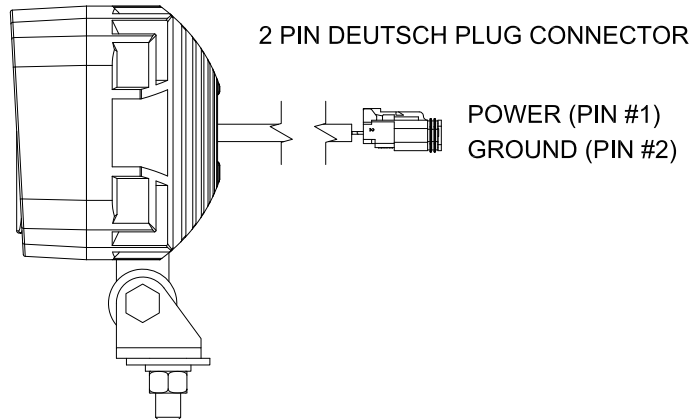
Electrical Diagram — Amber Light - Round Side Marker #9006107



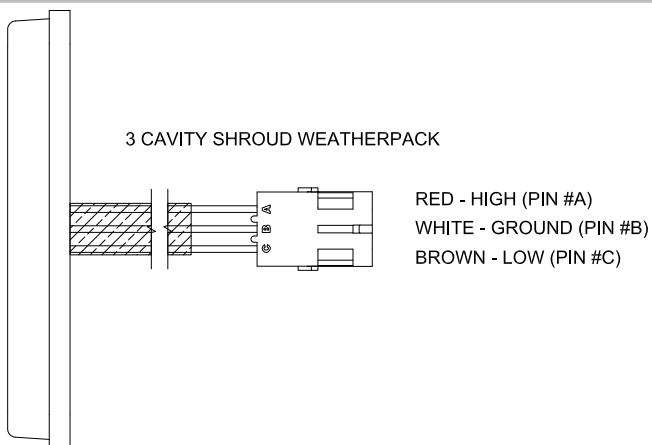
Electrical Diagram - Work Flood Lamp #9008957 For SN B40550100 & Higher



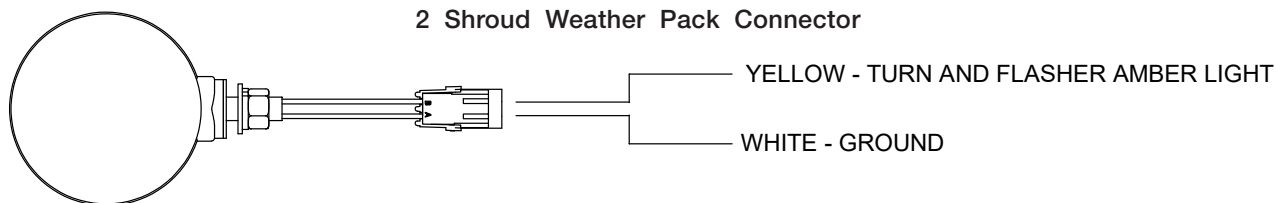
Electrical Diagram — Work Flood Lamp #9007186 For SN B40550099 & Lower



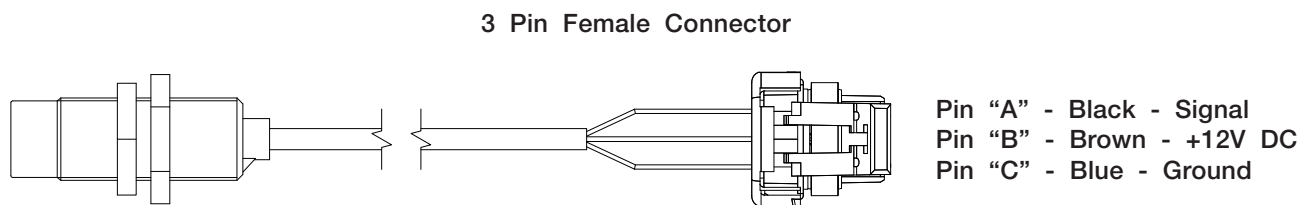
Electrical Diagram — Red Lamp # 9006282



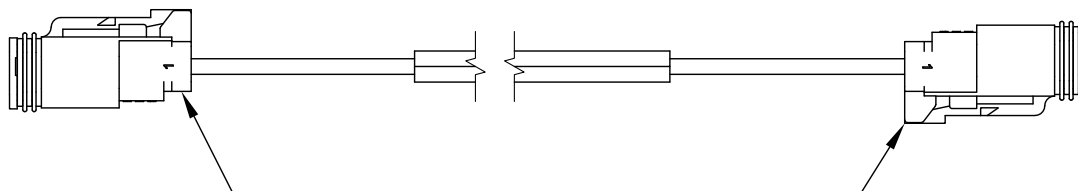
Electrical Diagram - Amber Lamp Double Face # 9005142



Electrical Diagram - Proximity Switch # 9007223



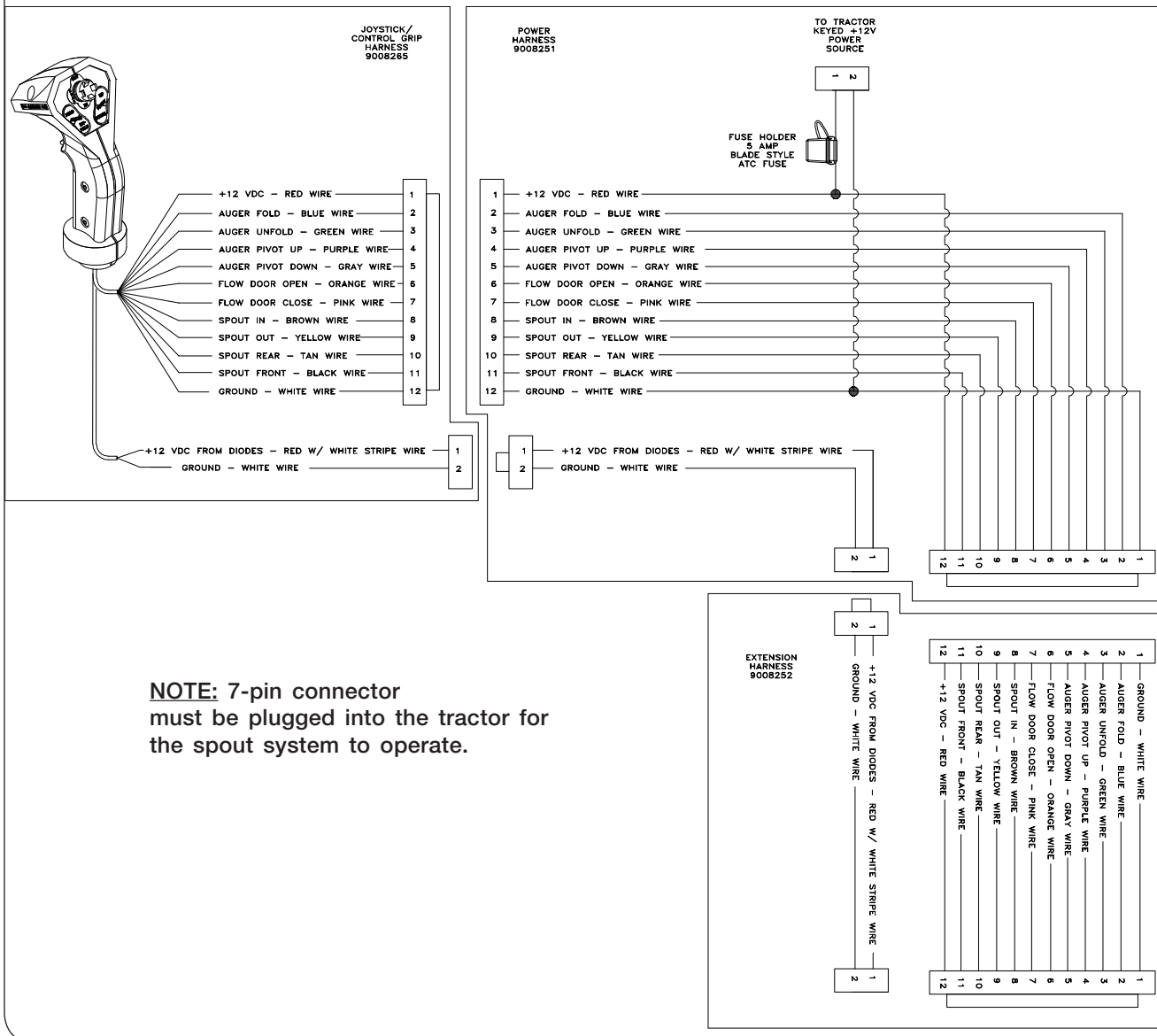
Electrical Diagram - Diverter Harness # 9007266



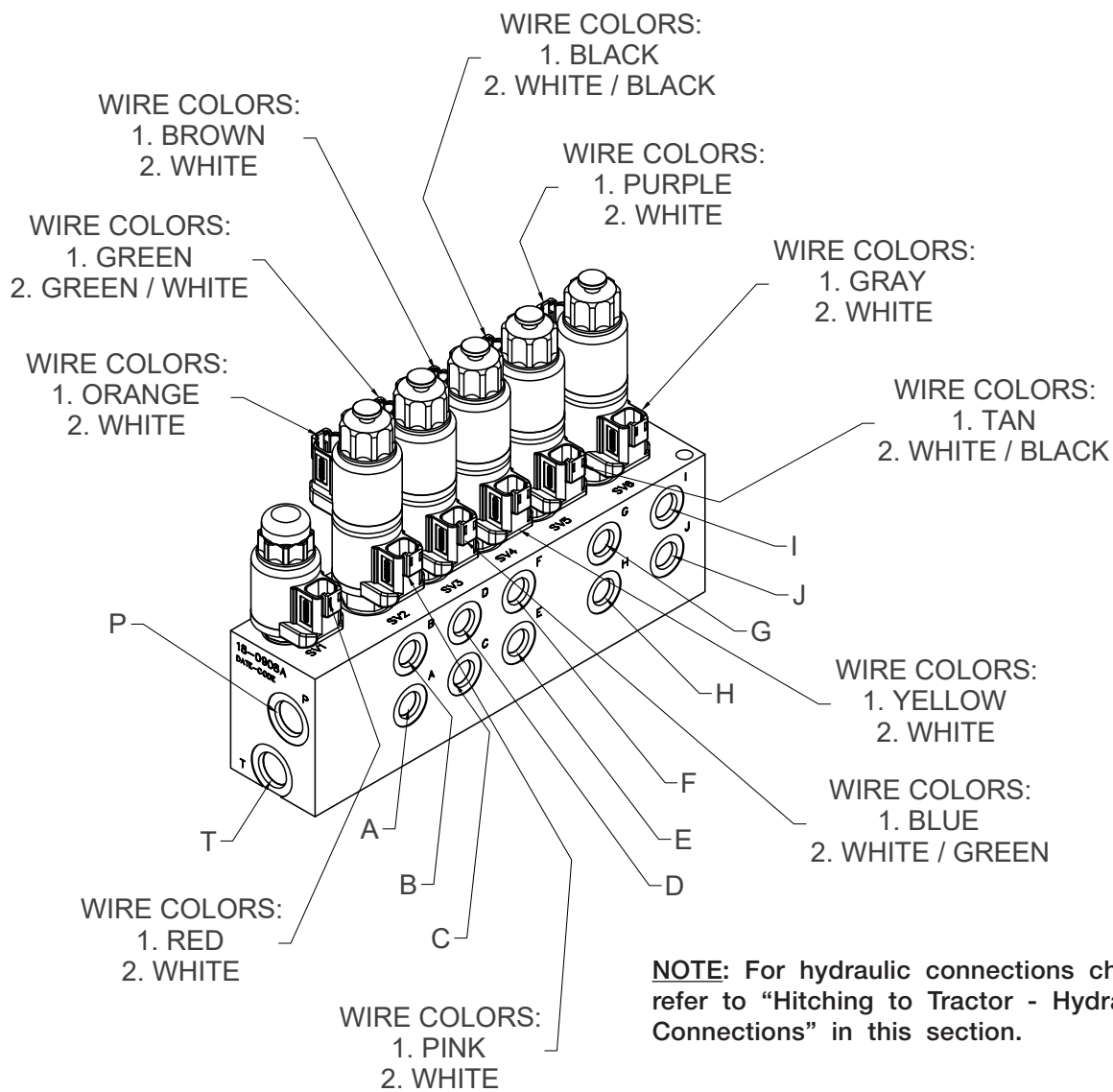
CONNECTOR TYPE: 2 PIN DEUTSCH PLUG

PIN #	WIRE COLOR	FUNCTION
1	RED	+12V POWER
2	WHITE	GROUND

Electrical Over Hydraulic (EOH) System Schematic 5 Function Optional

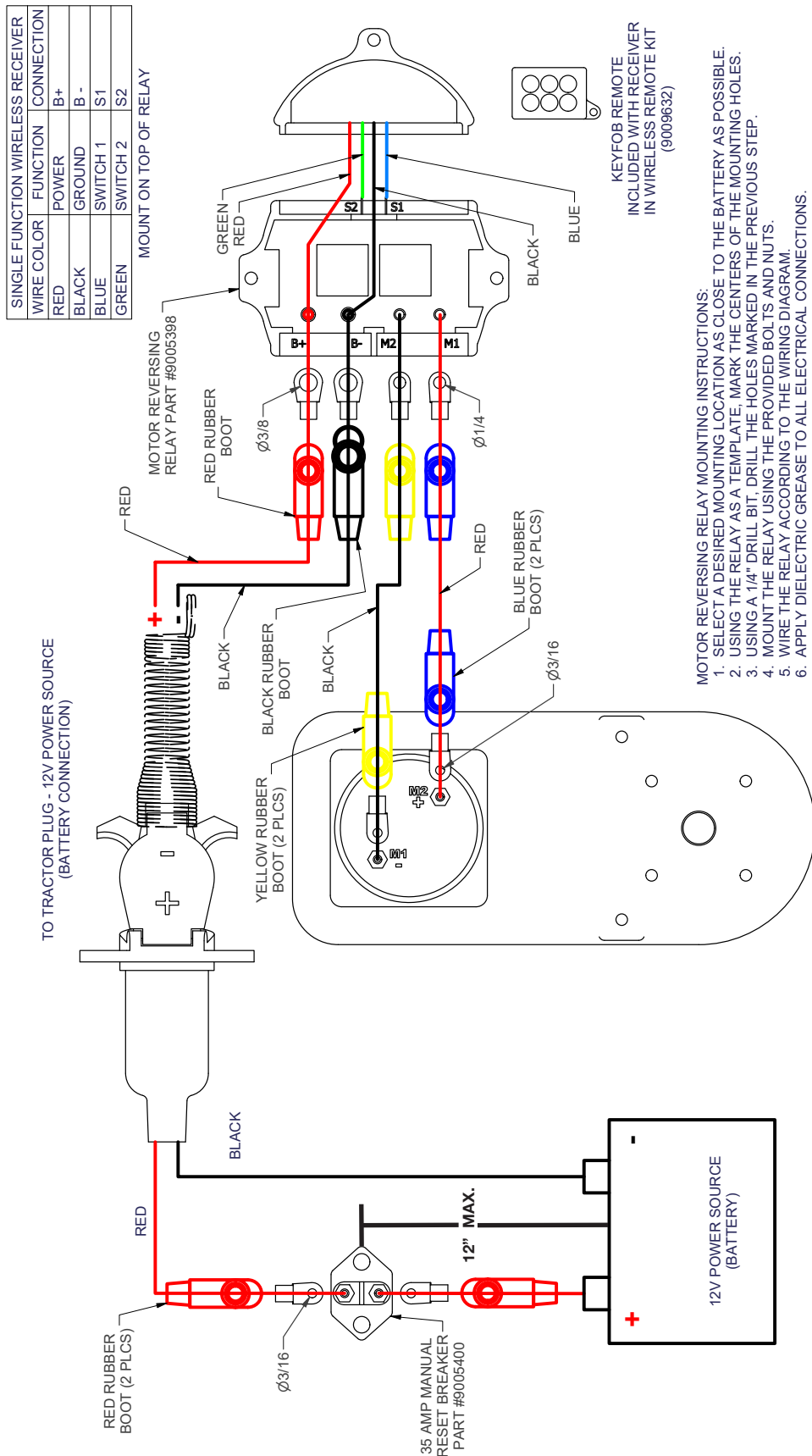


**Optional Electric Over Hydraulic Valve Electric Schematic
5 Spool**



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

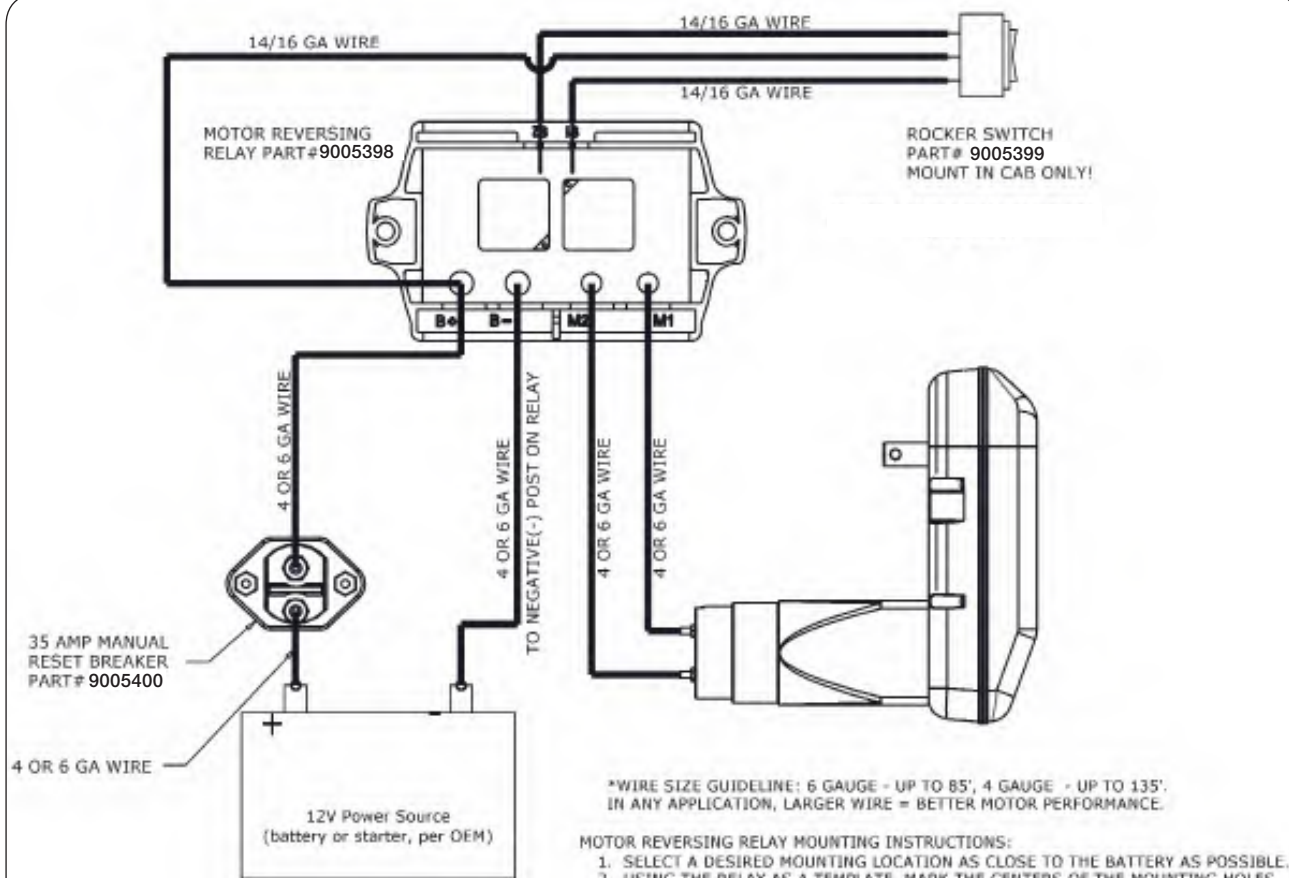
Electrical System Schematic - Optional Wireless Electric Tarp For SN B43780100 & Higher



NOTE: See separate electric tarp manual for additional information.

WIRELESS ELECTRIC TARP

**Electrical System Schematic - Optional Wireless Electric Tarp
For SN B43780099 & Lower**



*WIRE SIZE GUIDELINE: 6 GAUGE - UP TO 85', 4 GAUGE - UP TO 135'.
IN ANY APPLICATION, LARGER WIRE = BETTER MOTOR PERFORMANCE.

MOTOR REVERSING RELAY MOUNTING INSTRUCTIONS:

1. SELECT A DESIRED MOUNTING LOCATION AS CLOSE TO THE BATTERY AS POSSIBLE.
2. USING THE RELAY AS A TEMPLATE, MARK THE CENTERS OF THE MOUNTING HOLES.
3. USING A 1/4" DRILL BIT, DRILL THE HOLES MARKED IN THE PREVIOUS STEP.
4. MOUNT THE RELAY USING THE PROVIDED BOLTS AND NUTS.
5. WIRE THE RELAY ACCORDING TO THE WIRING DIAGRAM.
6. APPLY DIELECTRIC GREASE TO ALL ELECTRICAL CONNECTIONS.

NOTE: See separate electric tarp manual for additional information.

Complete Torque Chart

Capscrews - Grade 5

NOTE:

- Grade 5 capscrews can be identified by three radial dashes on the head.
- For wheel torque requirements, refer to Wheels and Tires.
- Tighten U-bolts evenly and equally to have the same number of threads exposed on each end.



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

IMPORTANT

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

Complete Torque Chart

Capscrews - Grade 8

NOTE:

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



SIZE	FOOT POUNDS	NEWTON METERS
5/16-18	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.*

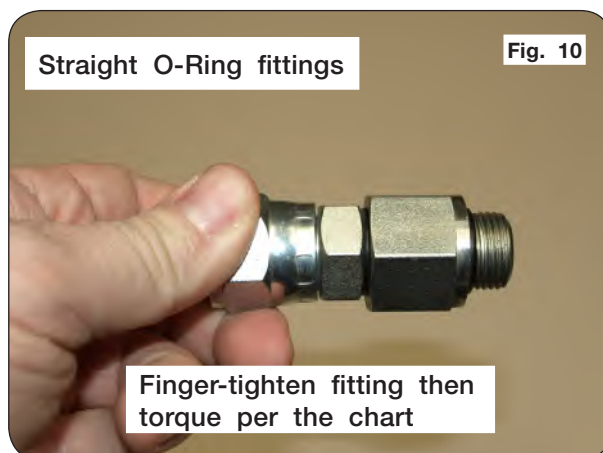
Hydraulic Fittings - Torque and Installation

Tightening O-Ring Fittings

1. Inspect components for damage or contamination. Do not connect any other type of fitting to an O-ring fitting.
2. For adjustable fittings, insure the jam nut and washer are fully backed up.
3. Lubricate the O-ring and threads on the fitting.
4. Turn the fitting into the port until it is finger tight.
5. For adjustable fittings, set in the desired position.
6. Using a wrench, torque the fitting to the value in the below table. For adjustable fittings the jam nut will be tightened.

Note: Never use a power tool to install a fitting.

Dash Size	Thread Size	Straight Stud Torque (Ft-Lbs)	Adjustable Stud Torque (Ft-Lbs)
-5	1/2-20	14-19	10-14
-6	9/16-18	18-24	12-16
-8	3/4-16	27-43	20-30
-10	7/8-14	36-48	30-36
-12	1-1/16-12	65-75	44-54
-14	1-3/16-12	75-99	53-70
-16	1-5/16-12	85-123	59-80
-20	1-5/8"-12	115-161	75-100
-24	1-7/8"-12	125-170	105-125

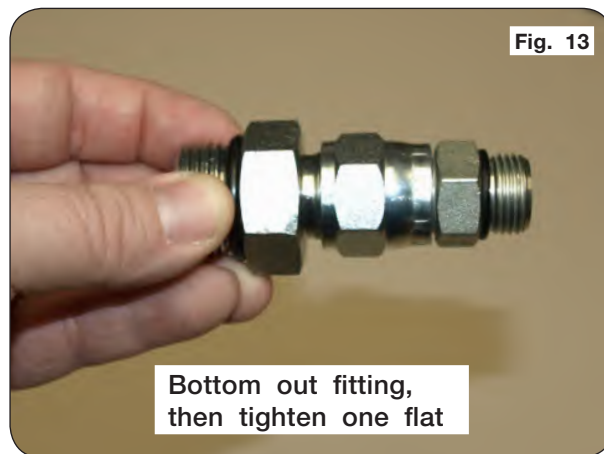
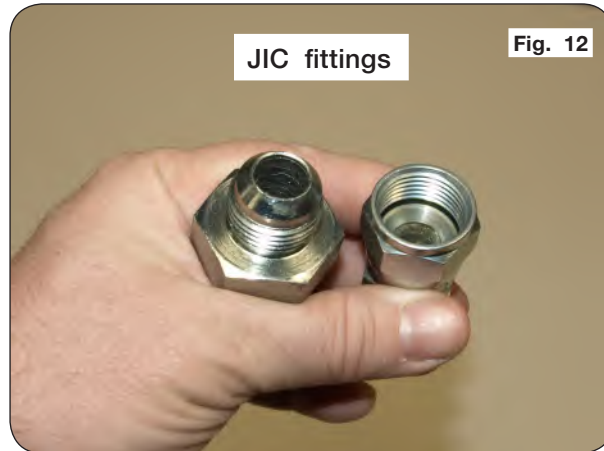


Hydraulic Fittings - Torque and Installation

Tightening JIC Fittings

1. Inspect all components for damage or contamination. Do not connect any other type of fitting to a JIC fitting.
2. Lubricate the threads.
3. Turn the fitting into the port until it bottoms out.
4. Use one wrench on the fixed hex on the hose to prevent twisting and a second on the swivel. Tighten the fitting another 60 degrees (or one flat)

Note: Never use a power tool to install a fitting



Notes

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

Section V Parts

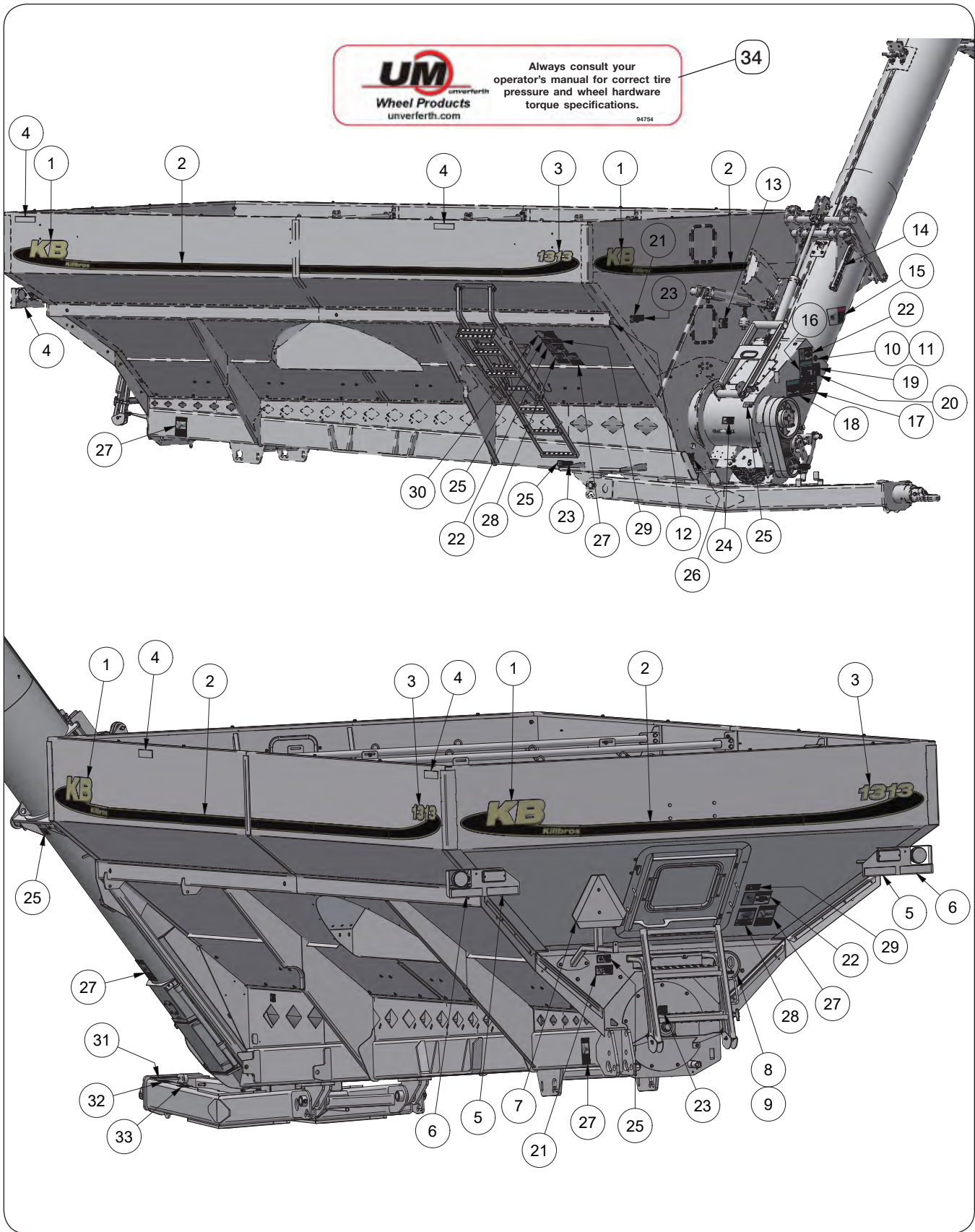
Please visit www.unverferth.com/parts/ for the most current parts listing.

Decals	5-2
Touch-Up Paint.....	5-3
Hitch & Ladder Components	5-4
Side Ladder Components - For SN B41030100 and Higher	5-6
Rear Ladder Components - For SN B45190100 and Higher	5-8
Rear Access Door - For SN B45190100 and Higher.....	5-9
Hopper Cross Braces and Cleanout Doors.....	5-10
Sideboards - Model 1113 - SN 44050100 and Higher.....	5-12
Sideboards - Model 1113 - SN 4405099 and Lower	5-13
Sideboards - Model 1313 - SN 44670100 and Higher	5-14
Sideboards - Model 1313 - SN 43780100-44670099	5-15
Sideboards - Model 1313 - SN 4378099 and Lower	5-16
Wheels & Tires	5-17
Walking Tandem Assembly Components.....	5-18
Walking Tandem Mounting Components.....	5-20
Axle and Hub Components 1113 - Single Wheel	5-22
Axle and Hub Components 1313 - Single Wheel	5-24
Track Axle Components - Model 1113 - 36"x131" & 36"x112" Standard Tracks	5-26
Track Axle Components - Model 1113 & 1313 W/ 36"x148" 42"x131" & 42"x148" Tracks.....	5-28
Hopper Flow Door Components.....	5-30
Front and Rear Flow Door Components	5-32
Flow Door Indicator Assembly Components.....	5-34
Vertical Auger Flighting Components.....	5-36
Horizontal Auger Components - SN B40450100 and Higher	5-38
Horizontal Auger Components - SN B40450099 and Lower.....	5-40
Auger Fold Linkage Components.....	5-42
Down Spout Components	5-46
Rotating Spout Components.....	5-48
Optional Spout Rotate Switch Assembly Components.....	5-50
Lower Auger Cleanout Door and Cover Components	5-52
Lower Auger Linkage Components.....	5-54
Lower Auger Idler Assembly Components.....	5-56
Lower Auger Retainer Components	5-58
Cut out Clutch PTO Assembly - Benzi.....	5-60
Cut out Clutch Components - Benzi.....	5-61
Cut out Clutch PTO Assembly - Walterscheid	5-62
Cut out Clutch Components - Walterscheid.....	5-63
Gearbox Components	5-64
EOH Valve Functions and Wire Locations 5 Spool (Optional).....	5-66
EOH Valve Assembly Components 5 Spool (Optional).....	5-68
EOH Tractor Circuit Components	5-70
EOH Spout Rotate Option and Tilt Hydraulic Components	5-72
Auger Pivot Hydraulic Components.....	5-74
Auger Fold Hydraulic Components.....	5-75
Flow Door Circuit Hydraulic Components and 5 Function Hydraulic Block	5-76
Cylinders.....	5-77
Hopper Rear Electrical Components.....	5-78
Electrical Components and 5 Function Control Grip.....	5-80
Weather Guard Tarp Components.....	5-82
Endcaps, Tarp Bows & Mounting Brackets.....	5-84
Hydraulic Jack - Kit #296289B (Optional).....	5-86
Rear Drop Hitch Components (Optional) SN B45190100 and Higher.....	5-87
Video System (Optional).....	5-89

FOR SCALE, TRACK, UHARVEST, ELECTRIC TARP, AND / OR WATER DELIVERY SYSTEM
INFORMATION, PLEASE REFER TO THE INDIVIDUAL MANUALS.

Decals

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



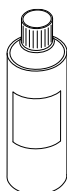
Killbros 1113/1313 — Parts

Decals (continued)

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9005266	Decal, Killbros Logo	4	
2	9005267	Decal, Stripe	12	
3	9008495	Decal, 1313	3	
	9008494	Decal, 1113		
4	9003127	Reflector 2" x 9" =AMBER=	6	
5	9003125	Reflector 2" x 9" =FLUORESCENT=	2	
6	9003126	Reflector 2" x 9" =RED=	2	
7	TA510514	SMV Emblem	1	
8	9008714	Decal, Rear SIS 20 MPH	1	
9	9008720	Decal, Rear SIS 30 KPH	1	
10	9008715	Decal, Front SIS 20 MPH	1	
11	9008721	Decal, Front SIS 30 KPH	1	
12	91605	Decal, FEMA	1	
13	900024	Decal, WARNING (High Pressure Oil)	1	
14	9006601	Decal, Flow Control Indicator	1	
15	9003474	Decal, DANGER (Electrical Lines)	1	
16	9004966	Decal, IMPORTANT (Cart Loading)	1	
17	9003477	Decal, IMPORTANT (Operation)	1	
18	9008151	Decal, IMPORTANT "PTO Engagement"	1	
19	97961	Decal, WARNING (Read Manual)	1	
20	TA1-906109-0	Decal, WARNING (Moving Parts Crush/Cut)	1	
21	98229	Decal, WARNING (Falling Equipment)	1	For SN B45190100 and Above
22	9003476	Decal, WARNING (No Riders)	1	
23	9008947	Decal, Grease	3	
24	95445	Decal, DANGER (Do Not Use Hands)	1	
25	95839	Decal, WARNING (Pinch Point)	4	For SN B45190100 and Above
			3	For SN B45190099 and Below
26	9005971	Decal, WARNING (Never Adjust/Service Suspension...)	1	
27	9003475	Decal, DANGER (Cut & Crush)	3	
28	9003478	Decal, DANGER Never Play	1	
29	95008	Decal, CAUTION (Slippery Surface)	1	
30	9009168	Decal, WARNING (Ladder Lock Pin)	1	
31	97575	Decal, CAUTION (Transport Chain)	1	
32	94094	Decal, WARNING (Tongue Rise)	2	
33	95046	Decal, DANGER (Entanglement)	2	
34	94754	Decal, Wheel Products	2	
35	93705	Caulk, for seams (Clear)	1	Not Shown
36	9008543	Decal, IMPORTANT (Spout Rotate)	1	(Optional) Not Shown

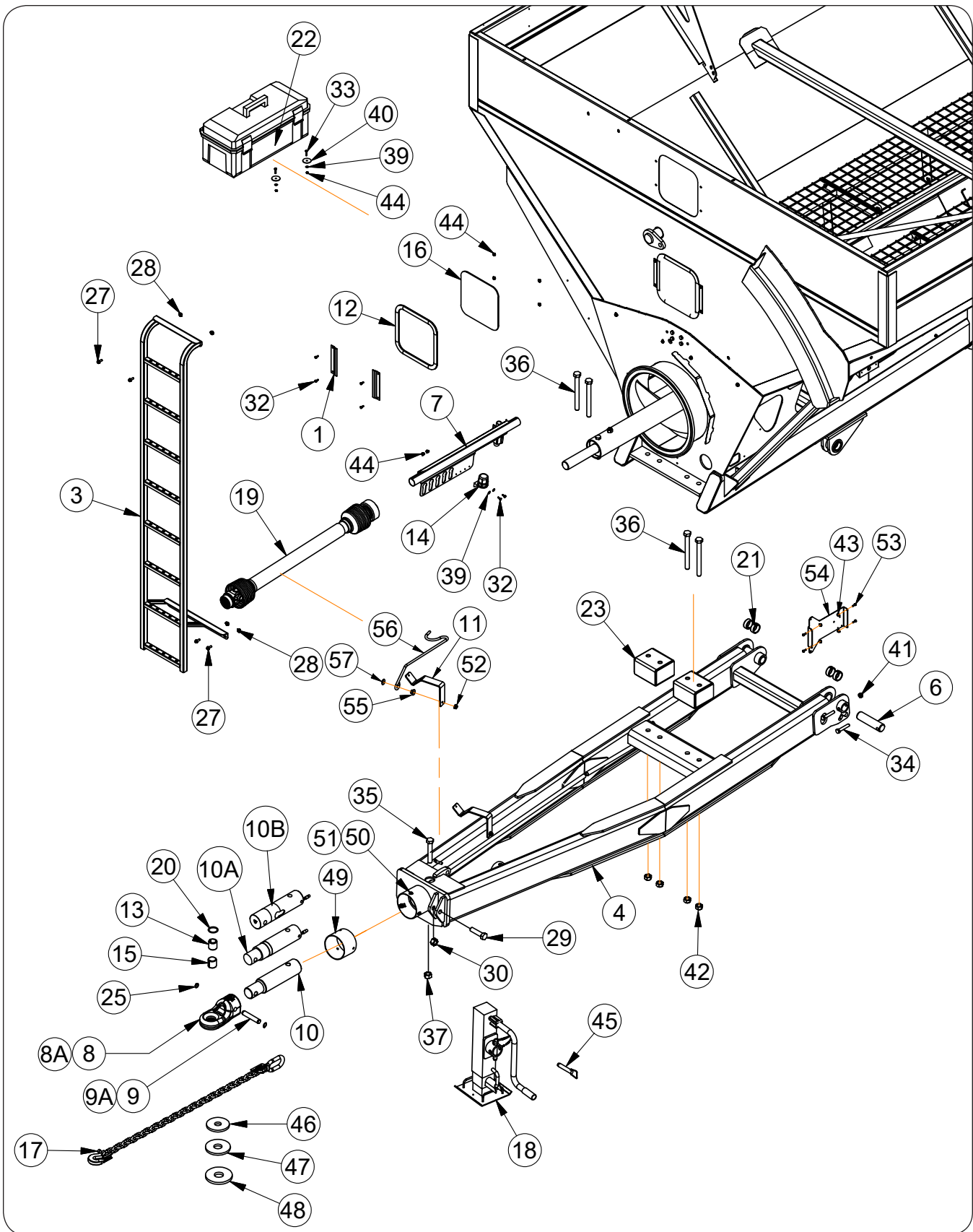
Touch-Up Paint



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

Hitch & Ladder Components

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



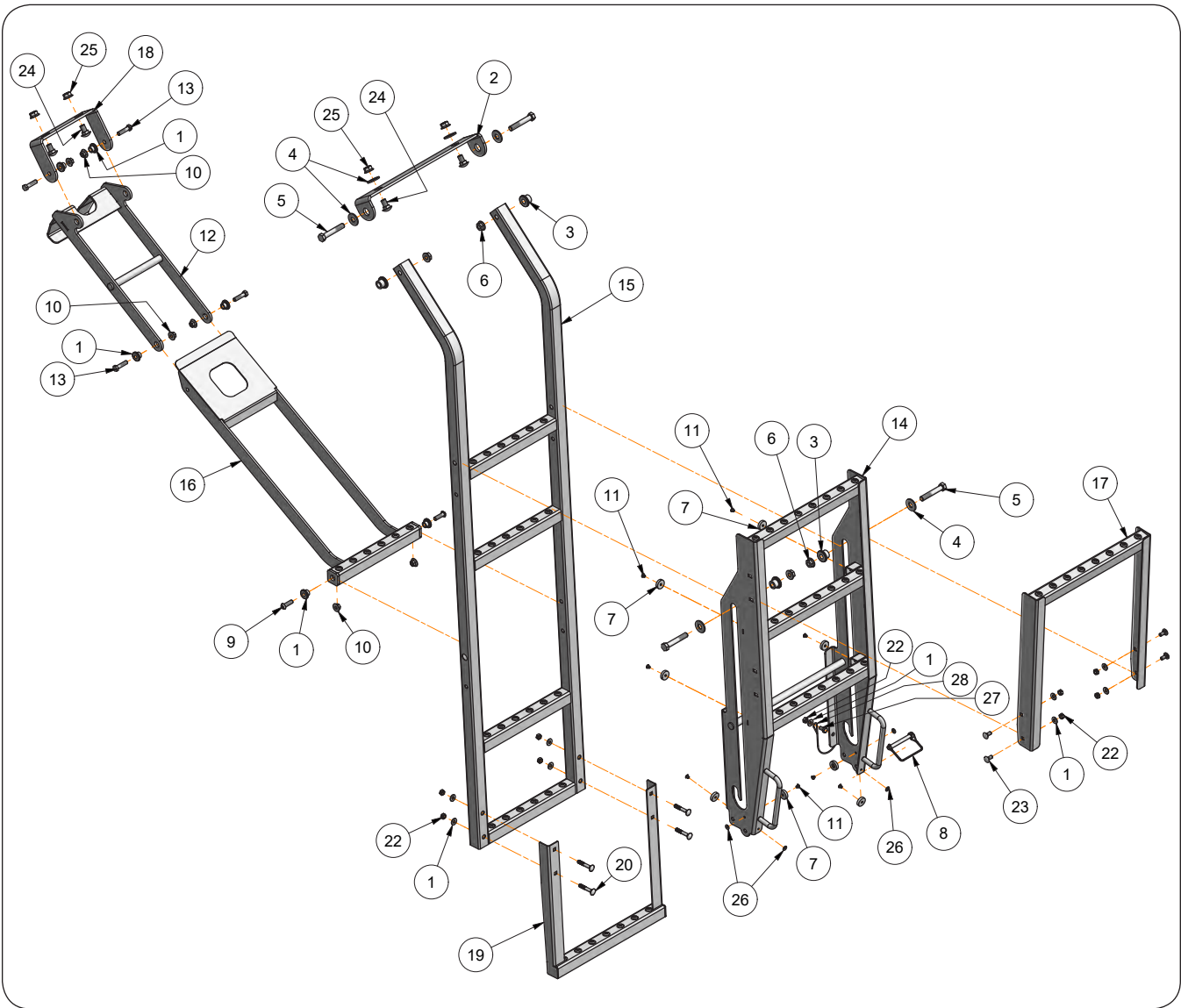
Hitch & Ladder Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	250461B	Window Bracket =Black=	6	
3	293257B	Front Mount Ladder Weldment =Black=	1	For SN B40450100 - B41030099
	282300B		1	For SN B40450099 & Lower
4	276815G	Tongue Weldment =Green=	1	
	276815R	Tongue Weldment =Red=		
6	273368	Pin, 2 Dia. x 7 3/4	2	
7	272639B	Hose Caddy Replacement Kit	1	
8	282875B	CAT 4 Hitch =Black=	1	Standard
8A	282329B	CAT 5 Hitch =Black=	1	1313 Optional
9	282876	CAT 4 Hitch Pin, 1" Dia. x 5 1/2"	1	Standard
9A	281691	CAT 5 Hitch Pin, 1" Dia. x 7 3/8"	1	1313 Optional
10	284780	Hitch Bar 3 3/4" Dia. x 16 3/8" CAT 4	1	Standard
	271894	Hitch Bar 3 3/4" Dia. x 14 5/8" CAT 5	1	1313 Optional
10A	9004910	Scale Hitch Bar 3 3/4" Dia. with 16 ft. Cable CAT 4	1	Standard
10B	9008119	Scale Hitch Bar 3 3/4" Dia. with 16 ft. Cable CAT 5	1	1313 Optional
11	296155Y	PTO Bracket =Yellow=	2	
12	271952	Window Moulding	3	
13	9001917	Tension Bushing 2" OD x 1 1/2" ID x 2"	1	
14	9001968	Trailer Connector Holder	1	
15	9002130	Split Tension Bushing, 2" OD x 1 3/4" ID x 2"	1	
16	9002544	Window	3	
	9004898	Transport Chain 41,000#		
17	PF1238-19	Transport Chain 61,000# (Optional)	1	
	9005011	Jack		
19	9008527	PTO Assembly Complete (Benzi)	1	U-Joint Color is Gray
	9005230	PTO Assembly Complete (Walterscheid)		U-Joint Color is Yellow
20	9005259	O-Ring	4	
21	9005473	Split Tension Bushing, 2 3/8" Dia.	4	
22	9008634	Box Storage	1	
23	273976G	Spacer Weldment =Green=	2	
	273976R	Spacer Weldment =Red=		
25	91192	Retaining Ring, 1"	2	
27	91262	Large Flange Screw, 3/8"-16UNC x 1" Grade 5	4	
28	91263	Large Flange Nut, 3/8"-16 UNC Grade 5	6	
29	91299-191	Capscrew, 1"-8UNC x 4" Grade 8	1	
30	92199	Center Locknut, 1"-8UNC	1	
32	9390-003	Capscrew, 1/4"-20UNC x 3/4" Grade 5	14	
33	9390-006	Capscrew, 1/4"-20UNC x 1 1/4" Grade 5	2	
34	9390-130	Capscrew, 5/8"-11UNC x 3 1/2" Grade 5	2	
35	91299-195	Capscrew, 1"-8UNC x 6" Grade 8	1	
36	9390-197	Capscrew, 1-8UNC x 7" Grade 5	4	
37	92199	Locknut 1"-8UNC	1	
39	9405-064	Flat Washer, 1/4"	4	
40	94763	Fender Washer, 2" Dia.	2	
41	95905	Center Locknut, 5/8"-11UNC	2	
42	9663	Locknut, 1"-8UNC Grade 5	4	
43	97189	Large Flange Hex Nut, 1/4"-20UNC Grade 5	2	
44	9936	Locknut, 1/4"-20UNC Grade 5	8	
45	9007632	Jack Pin, 7/8" Dia. x 4 7/8" with Chain	1	
46	281663	Poly Wear Shoe For CAT 3	1	Optional
47	281898	Poly Wear Shoe For CAT 4	1	Standard
48	281899	Poly Wear Shoe For CAT 5	1	1313 Optional
49	271891B	Shield Tube =Black=	1	
50	9005376	U-Nut 3/8"-16UNC	3	
51	9390-053	Capscrew, 3/8"-16UNC x 3/4" Grade 5	3	
52	91267	Flange Nut, 1/2"-13UNC Grade 5	2	
53	97420	Flange Screw 1/4"-20UNC x 3/4" Grade 5	4	
54	296421B	GCM Mount Bracket =Black=	1	
55	296156	PTO Holder Bushing 1 3/8" ID	1	
56	295840	Driveline Storage Rod	1	
57	9405-088	Flat Washer 1/2"	1	

Side Ladder Components - For SN B41030100 & Higher

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



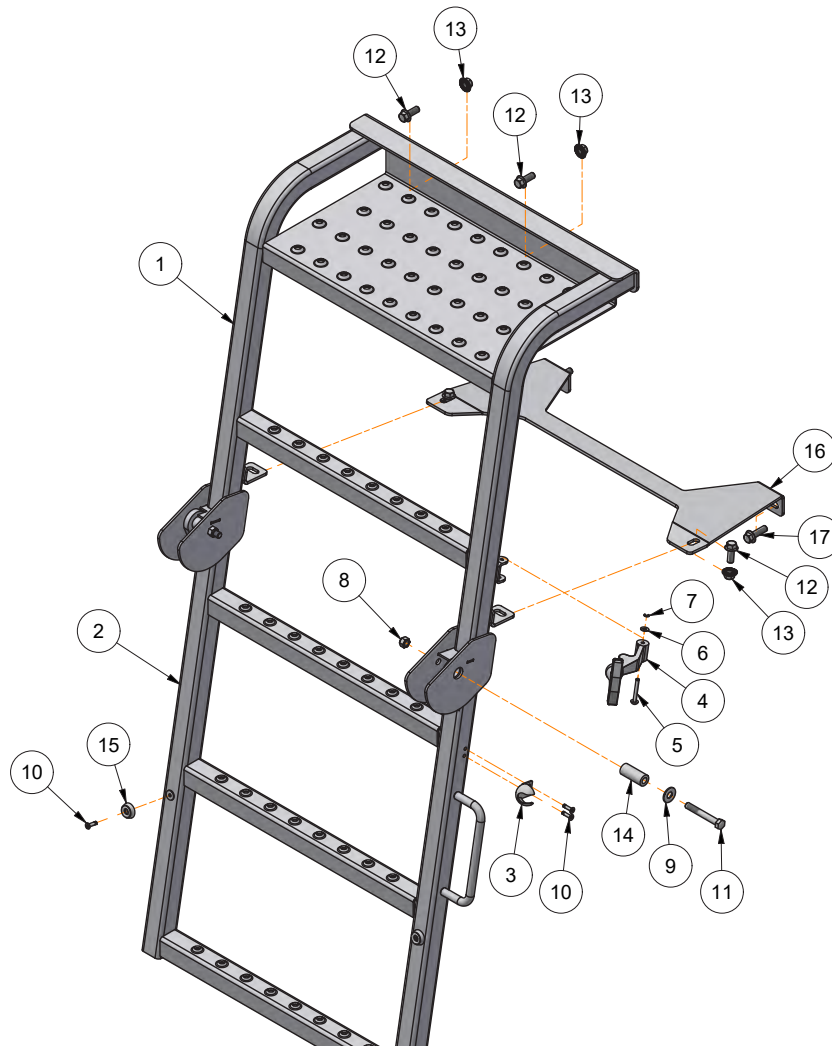
Side Ladder Components - For SN B41030100 & Higher

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	2003029	Nylon Bushing, .625" OD x .406" ID x .380"	6	
2	289294B	Plate-Bracket, Ladder =Black=	1	
3	2003030	Nylon Bushing, .875" OD x .531" ID x .563"	4	
4	9405-088	Flat Washer, 1/2" USS	6	
5	9390-107	Capscrew, 1/2"-13UNC x 3" Grade 5	4	
6	9003397	Lock Nut/Top, 1/2"-13UNC	4	
7	TA620384	Plastic Stop, 1" Dia. x .250"	8	
8	9005305	Lynch Pin 3/8" Dia. x 3"	1	
9	99985	Button Head Socket, 3/8"-16UNC x 1 1/4"	2	
10	9008159	Lock Nut/Top, 3/8"-16UNC	6	
11	9003503	Rivet 3/16"X 1/4"	8	
12	289284B	Ladder Link Weldment =Black=	1	
13	9390-057	Capscrew, 3/8"-16UNC x 1 1/2" Grade 5	4	
14	289328B	Ladder Extension Weldment =Black=	1	
15	289326B	Ladder Weldment =Black=	1	
16	289715B	Step Weldment =Black=	1	
17	289707B	Ladder Extension Weldment =Black=	1	
18	289840B	Ladder Bracket =Black=	1	
19	289844B	Ladder Weldment =Black=	1	
20	9388-029	Carriage Bolt, 5/16"-18UNC x 2" Grade 5	4	
21	9405-064	Flat Washer, 5/16" ID USS	9	
22	901527	Lock Nut/Center, 5/16"-18UNC	9	
23	9388-024	Carriage Bolt, 5/16"-18UNC x 3/4" Grade 5	4	
24	9388-102	Carriage Bolt, 1/2"-13UNC x 1" Grade 5	4	
25	91267	Flange Nut 1/2-13 UNC G5	4	
26	9004998	Rivet Burr, 3/16"	4	
27	9390-027	Capscrew, 5/16"-18UNC x 5/8" Grade 5	1	
28	97879	Nylon Lanyard	1	

Rear Ladder Components For SN B45190100 and Higher

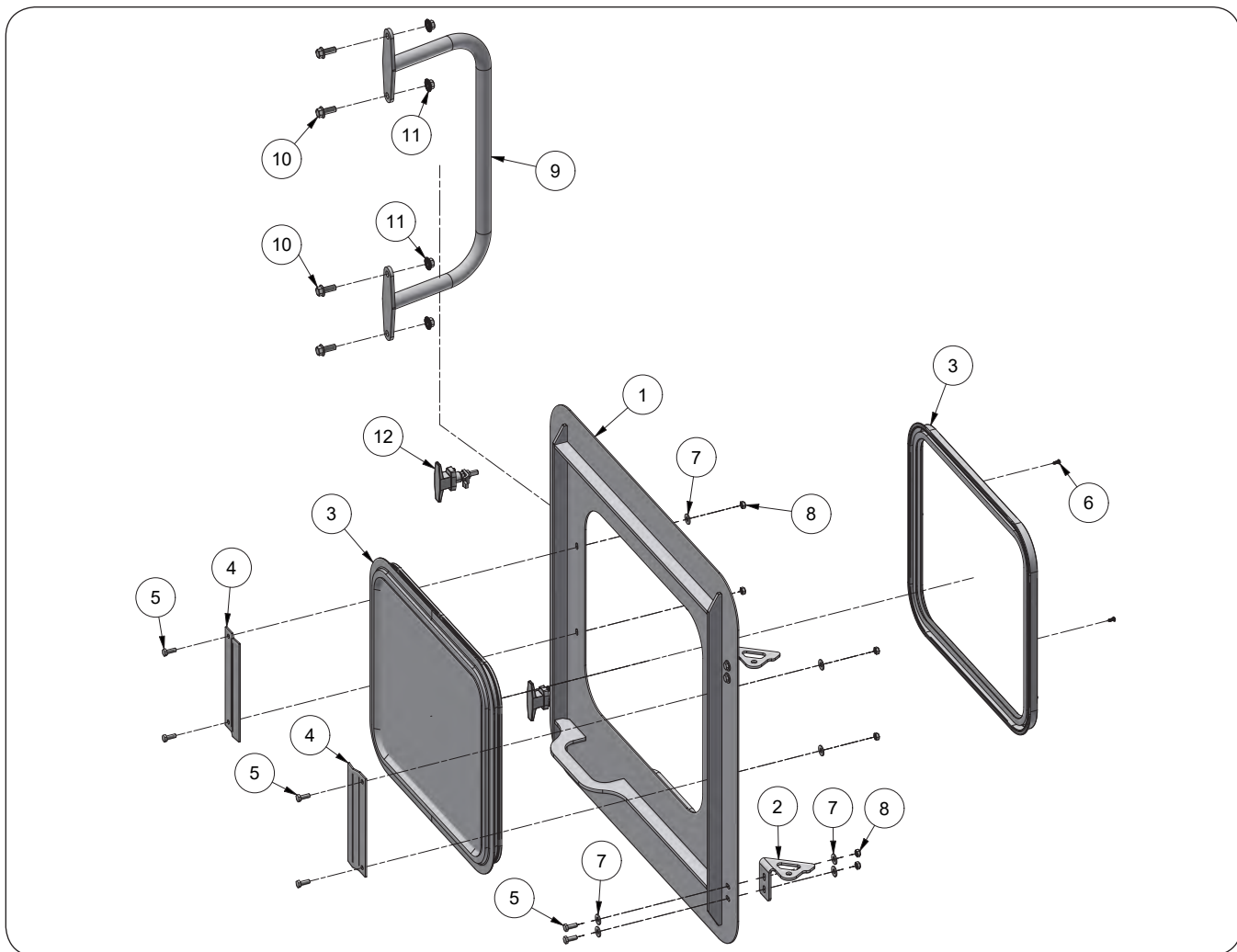
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	296417B	Upper Ladder Weldment =Black=	1	
2	296429B	Lower Ladder Weldment =Black=	1	
3	900059	Draw Latch Keeper	1	
4	900060	Draw Latch Handle	1	
5	900066	Pin 3/16" x 1 1/2"	1	
6	900067	Washer 1/2"	1	
7	900068	E-Ring	1	
8	9928	Lock Nut 3/8"-16UNC"	2	
9	9405-076	Flat Washer 3/8" USS	2	
10	TA0-908386-0	3/16" Stainless Rivet	4	
11	9390-062	Capscrew 3/8"-16UNC x 2 3/4" Grade 5	2	
12	91262	Flange Screw 3/8"-16UNC x 1" Grade 5	4	
13	91263	Flange Nut 3/8"-16UNC	4	
14	295137	Pivot Bushing	2	
15	9003850	Bumper	2	
16	296585B	Ladder Bolt Plate =Black=	1	
17	9003259	Flange Screw 3/8"-16UNC x 1 1/4" Grade 5	2	

Rear Access Door Components For SN B45190100 and Higher

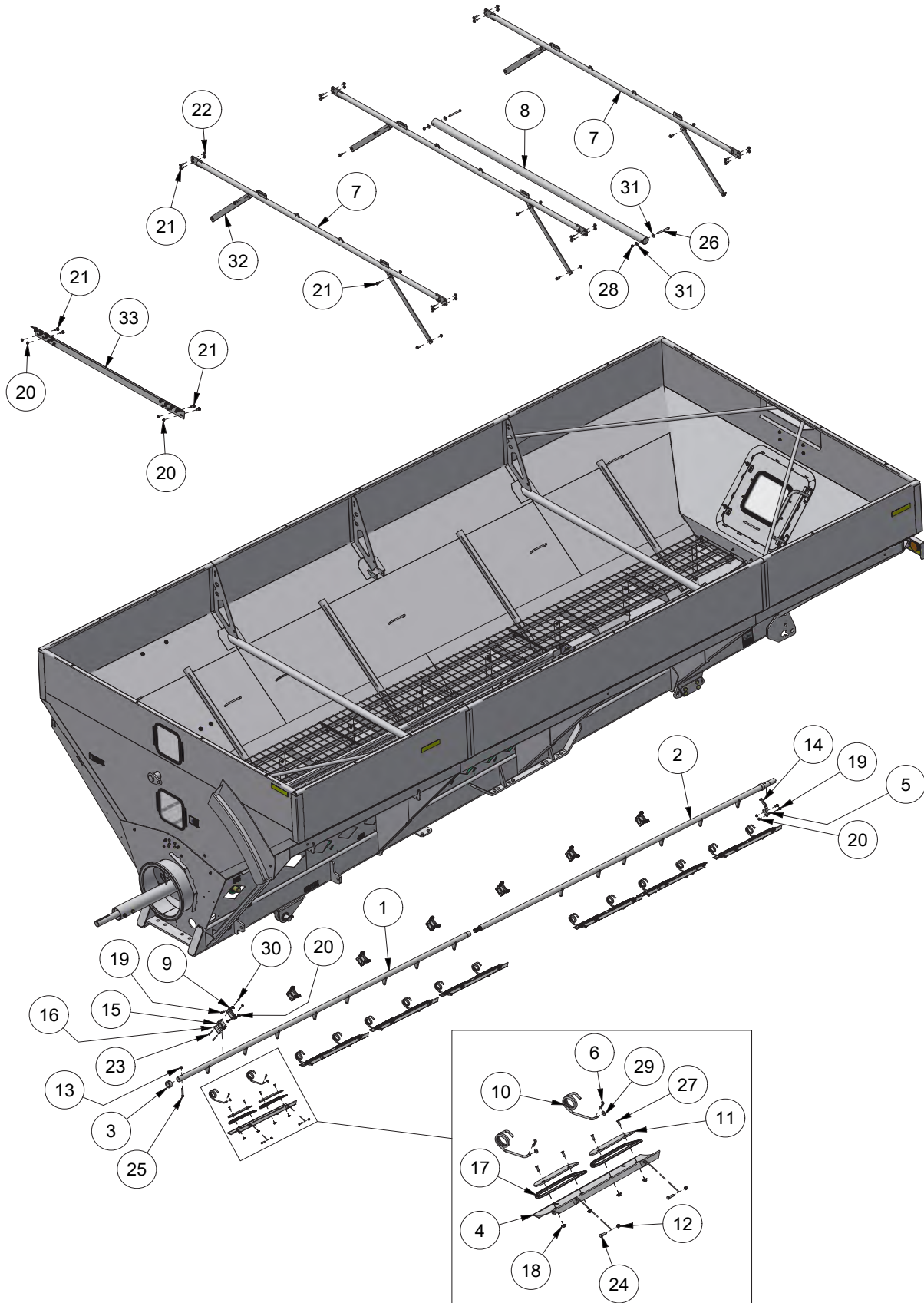
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	256527R	Rear Access Door Weldment =Red=	1	
	256527G	Rear Access Door Weldment =Green=		
2	256670	Rear Access Door Hinge	2	
3	9008680	Window and Trim Assembly	1	
4	294121B	Window Bracket =Black=	2	
5	9390-003	Capscrew 1/4"-20UNC x 3/4" Grade 5	8	
6	9008933	Phillips Head Screw #8-18 x 1/2"	10	
7	9405-064	Flat Washer 1/4"USS	8	
8	9936	Locknut 1/4"-20UNC	8	
9	296534B	Access Door Handle Weldment =Black=	1	
10	91262	Flange Screw 3/8"-16UNC x 1" Grade 5	4	
11	91263	Flange Nut 3/8"-16UNC	4	
12	9009768	Compression Draw Latch	2	

Hopper Cross Brace & Cleanout Door Components

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



Killbros 1113/1313 — Parts

Hopper Cross Brace & Cleanout Door Components

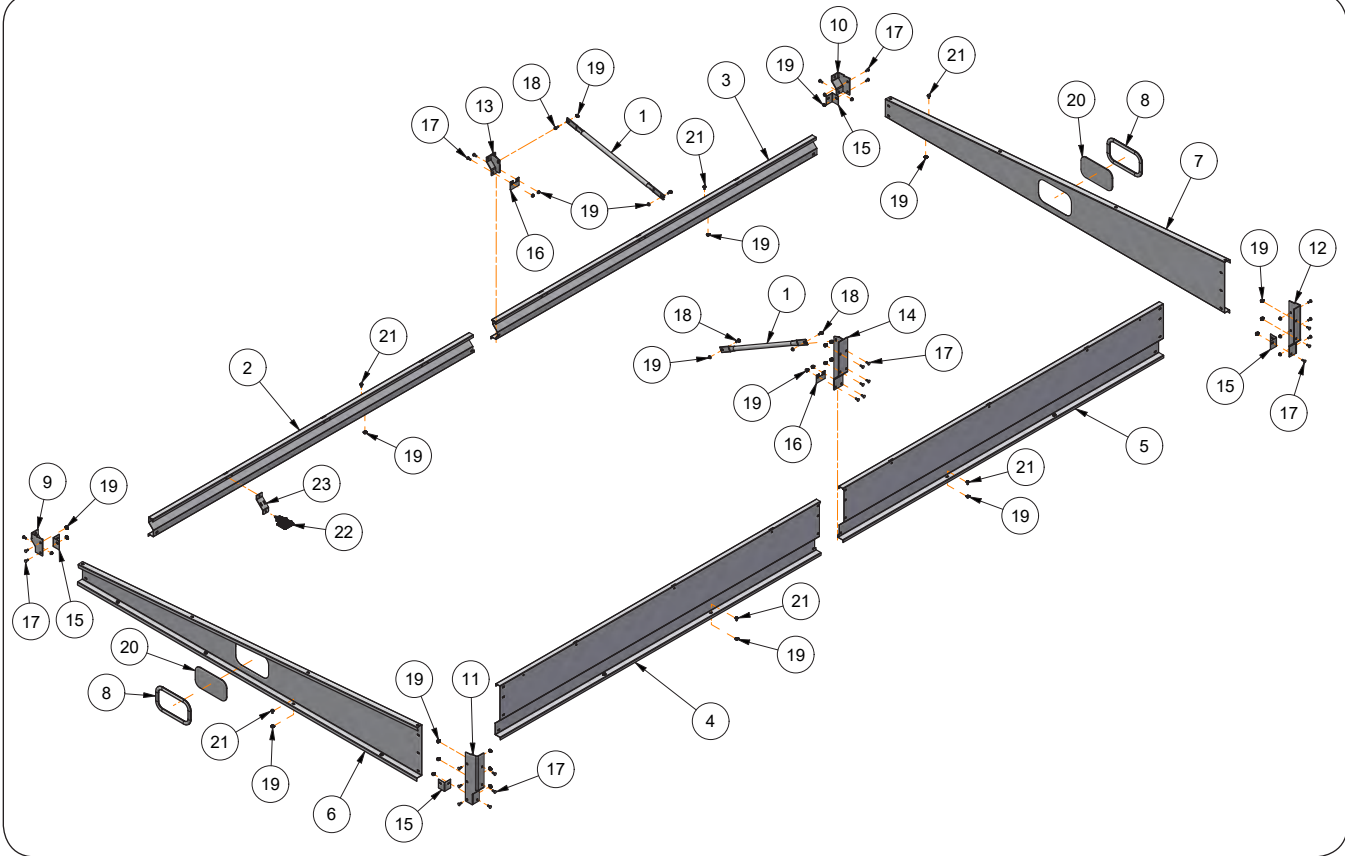
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	271700B	Front Link Arm Weldment =Black=	1	
2	271568B	Rear Link Arm Weldment =Black=	1	(Walking Tandem)
	271702B		1	(Single Axle)
3	271566B	Stop Bushing =Black=	1	
4	271664B	Cleanout Door Weldment =Black=	6	(Walking Tandem)
			5	(Single Axle & Tracks)
5	273753B	Door Latch Weldment =Black=	1	
6	TA8B95	Cotter Pin, 1/8" Dia. x 1 15/16"	10	(Single Axle, Tracks)
			12	(Walking Tandem)
7	296630B	Cross Tube Weldment =Black=	1	For SN B44050100 & Higher (Model 1113)
	296638B	Cross Tube Weldment =Black=	1	For SN B44670100 & Higher (Model 1313)
	284435B	Cross Tube Weldment =Black=	1	For SN B44050099 & Lower (Model 1113)
	284392B	Cross Tube Weldment =Black=	1	For SN B44670099 & Lower (Model 1313)
8	296826B	Cross Tube Weldment =Black=	1	For SN B44050100 & Higher (Tracks Only)
	281796B			For SN B44050099 & Lower (Tracks Only)
9	286414B	Pivot Door =Black=	6	
10	286417	Door Link Spring =Black=	12	(Walking Tandem)
			10	(Single Axle & Tracks)
11	286418B	Cleanout Door Doubler Plate =Black=	10	(Single Axle, Tracks)
			12	(Walking Tandem)
12	9928	Lock Nut/Top, 3/8"-16UNC Grade 5	14	
13	9003397	Locking Flange Nut, 1/2"-13UNC Grade 5	1	
14	9005305	Lynch Pin, 3/8" Dia. x 3"	1	
15	9006351	Clamp	6	
16	9006352	Top Plate	6	
17	9007108	Gasket	26 Ft.	(Single Axle, Tracks)
			32 Ft.	(Walking Tandem)
18	91257	Large Flange Hex Nut, 5/16"-18 UNC	20	(Single Axle, Tracks)
			24	(Walking Tandem)
19	91262	Large Flange Screw, 3/8"-16UNC x 1" Grade 5	30	
20	91263	Large Flange Nut, 3/8"-16UNC Grade 5	30	
21	91266	Flange Screw, 1/2"-13UNC x 1 1/4" Grade5	36	For SN B44050100 & Higher
			24	For SN B44050099 & Lower
22	9002058	Center Lock Flange Nut, 1/2"-13UNC Grade 5	36	For SN B44050100 & Higher
			24	For SN B44050099 & Lower
23	9390-015	Capscrew, 1/4"-20UNC x 3 1/2" Grade 5	12	
24	9390-056	Capscrew, 3/8"-16UNC x 1 1/4" Grade 5	10	
25	9390-108	Capscrew, 1/2"-13UNC x 3 1/4" Grade 5	1	
26	9390-113	Capscrew, 1/2"-13UNC x 5" Grade 5	6	For SN B42340100 & Higher (Tracks Only)
	9390-114	Capscrew, 1/2"-13UNC x 5 1/2" Grade 5	2	For SN B42340099 & Lower (Tracks Only)
27	903171-660	Flat Head Phillips Screw, 5/16"-18UNC x 1"	20	(Single Axle, Tracks)
			24	(Walking Tandem)
28	9800	Locknut, 1/2"-13UNC	6	
29	9405-070	Flat Washer, 5/16" USS	20	(Single Axle, Tracks)
			24	(Walking Tandem)
30	97189	Large Flange Hex Nut, 1/4"-20UNC Grade 5	12	
31	9405-088	Flat Washer 1/2" USS	4	
32	296665B	Brace Bar =Black=	6	For SN B44050100 & Higher
33	284401B	Top Wheel Well Brace Plate =Black=	1	(Walking Tandem) Not Used on Tracks
	283444B	Top Wheel Well Brace Plate =Black=	1	(Single Axle)
	271765B	Wheel Well Brace Plate =Black=	2	(Single Axle Only)

Killbros 1113/1313 — Parts

Sideboards - Model 1113 - For SN B44050100 & Higher

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

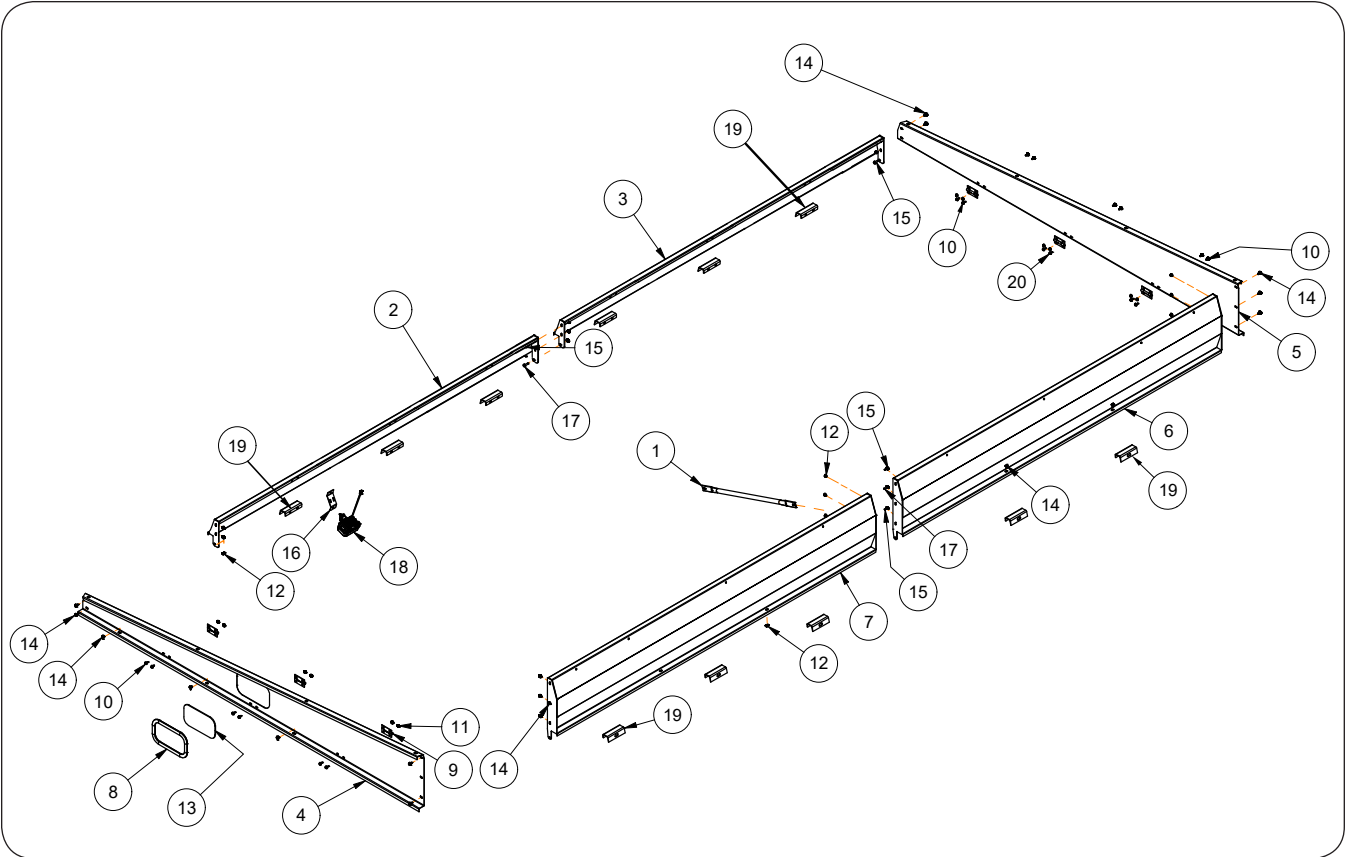


ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	220032B	Angle Brace Tube =Black=	2	
2	295755W	Board Weldment Front, Right-Hand =Off White=	1	
3	295756W	Board Weldment Rear, Right-Hand =Off White=	1	
4	295757W	Board Weldment Front, Left-Hand =Off White=	1	
5	295758W	Board Weldment Rear, Left-Hand =Off White=	1	
6	295941W	Front Board Replacement Kit =Off White=	1	Includes Front Board, Items 8 & 20
7	295942W	Rear Board Replacement Kit =Off White=	1	Includes Rear Board, Items 8 & 20
8	250431	Window Moulding	2	
9	295761W	RH Front Sideboard Corner Plate =Off White=	1	
10	295762W	RH Rear Sideboard Corner Plate =Off White=	1	
11	295759W	LH Front Sideboard Corner Plate =Off White=	1	
12	295760W	LH Rear Sideboard Corner Plate =Off White=	1	
13	295763W	RH Sideboard Bracket =Off White=	1	
14	295764W	LH Sideboard Bracket =Off White=	1	
15	295667W	Sideboard Cover Bracket =Off White=	4	
16	295691W	Sideboard Cover Plate =Off White=	2	
17	9388-051	Carriage Bolt 3/8"-16UNC x 1" Grade 5	26	
18	91262	Screw/Large Flange 3/8"-16UNC x 1"	4	
19	91263	Hex Nut/Large Flange 3/8"-16UNC Grade 5	45	
20	92403	Window (Clear Tempered)	2	
21	95585	Capscrew/Large Flange 3/8"-16UNC x 3/4" Grade 5	16	
22	9008957	LED Work Light	1	
23	271574B	Lamp Mount Bracket =Black=	1	

Killbros 1113/1313 — Parts

Sideboards - Model 1113 - For SN B44050099 & Lower

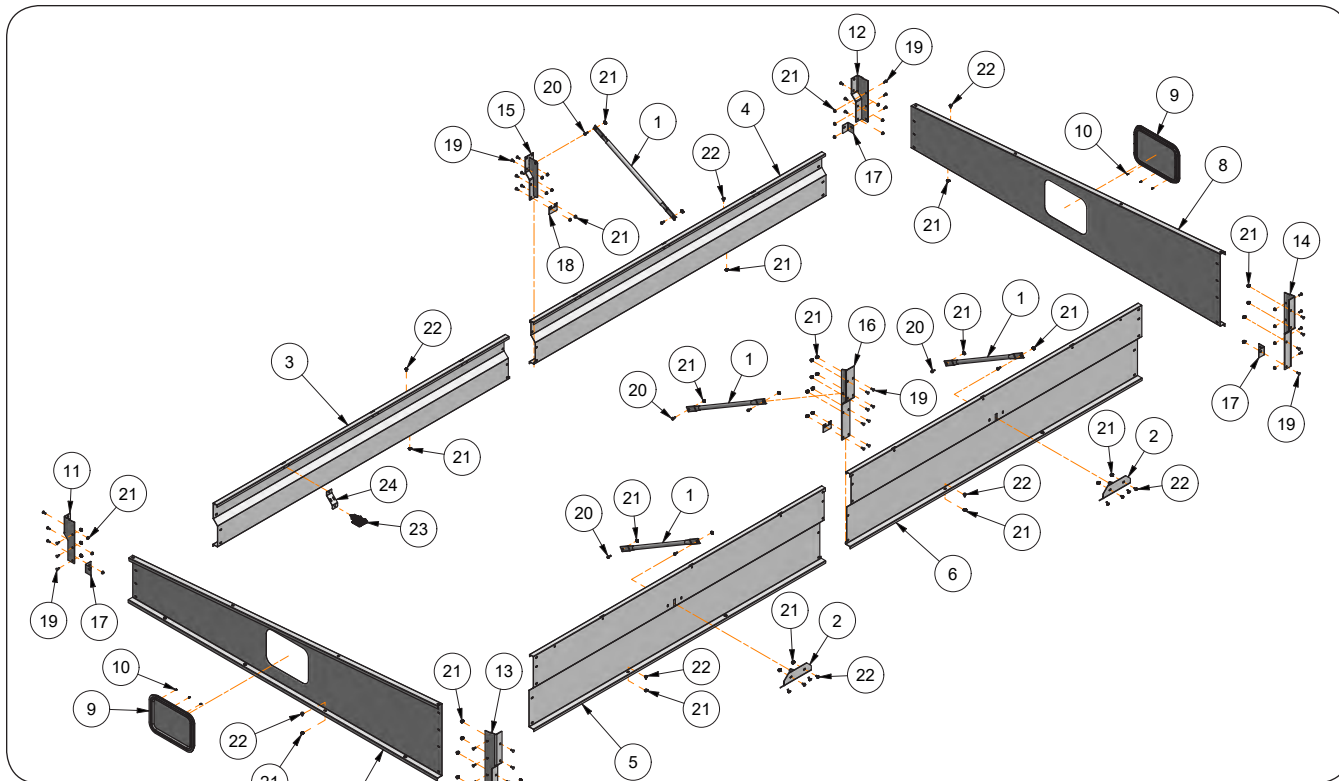
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	220032B	Angle Brace Tube =Black=	1	
2	283550W	Board Weldment Front, Right-Hand =Off White=	1	
3	283551W	Board Weldment Rear, Right-Hand =Off White=	1	
4	283554W	Board Front =Off White=	1	
5	283555W	Board Rear =Off White=	1	
6	283553W	Board Weldment Rear, Left-Hand =Off White=	1	
7	283552W	Board Weldment Front, Left-Hand =Off White=	1	
8	250431	Window Moulding	1	
9	9004626	Hinge	6	
10	91256	Screw/Large Flange 5/16"-18UNC x 3/4" Grade 5	16	For SN B41030100 & Higher
			36	For SN B41030099 & Lower
11	91257	Hex Nut/Large Flange 5/16"-18UNC Grade 5	12	
12	91263	Hex Nut/Large Flange 3/8"-16UNC Grade 5	30	
13	92403	Window (Clear Tempered)	1	
14	95585	Capscrew/Large Flange 3/8"-16UNC x 3/4" Grade 5	24	
15	91262	Screw/Large Flange 3/8"-16UNC x 1"	6	
16	271574B	Lamp Mount =Black=	1	
17	9003259	Flange Screw 3/8"-16UNC x 1 1/4" Grade 5	2	
18	9008957	Work Light LED	1	For SN B40450100 & Higher
	9007186			For SN B40450099 & Lower
19	294660B	Doublers Plate =Black=	12	For SN B41030100 & Higher
20	97064	Screw/Large Flange 5/16"-18UNC x 1"	2	

Sideboards - Model 1313 - For SN B44670100 & Higher

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

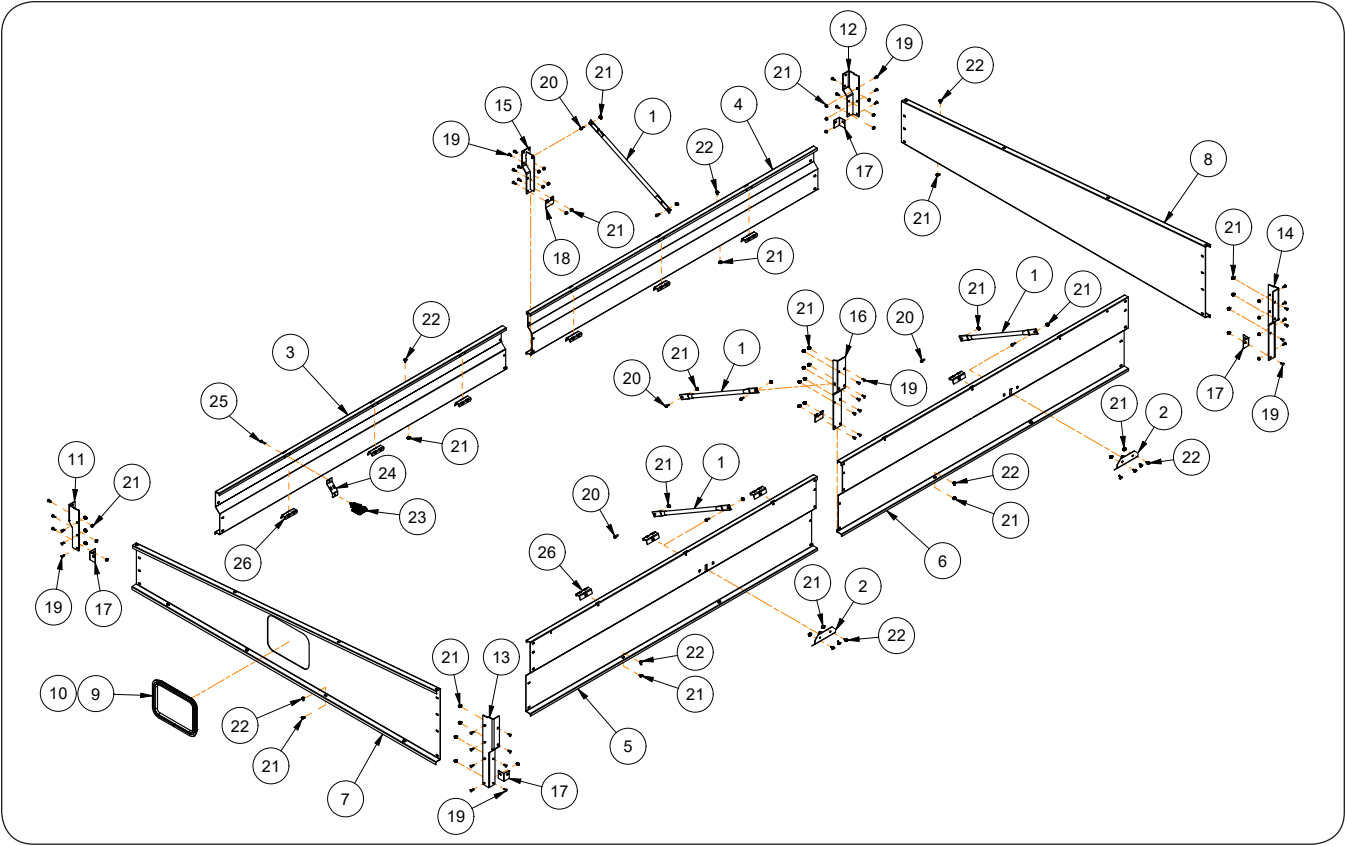


ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	220032B	Angle Brace Tube =Black=	4	
2	296676W	Brace Bracket Weldment =Off White=	2	
3	295653W	Board Weldment Front RH =Off White=	1	
4	295654W	Board Weldment Rear RH =Off White=	1	
5	296674W	Board Weldment Front LH =Off White=	1	
6	296675W	Board Weldment Rear LH =Off White=	1	
7	295945W	Front Board Replacement Kit =Off White=	1	Includes Front Board, Items 9 & 10
8	295944W	Rear Board Replacement Kit =Off White=	1	Includes Rear Board, Items 9 & 10
9	9008857	Window & Trim Assembly	2	
10	9008933	Pan Head Screw #8-18UNC x 1/2"	24	
11	295659W	RH Front Sideboard Corner Plate =Off White=	1	
12	295660W	RH Rear Sideboard Corner Plate =Off White=	1	
13	295657W	LH Front Sideboard Corner Plate =Off White=	1	
14	295658W	LH Rear Sideboard Corner Plate =Off White=	1	
15	295661W	RH Sideboard Bracket =Off White=	1	
16	295662W	LH Sideboard Bracket =Off White=	1	
17	295667W	Sideboard Cover Bracket =Off White=	4	
18	295691W	Sideboard Cover Plate =Off White=	2	
19	9388-051	Carriage Bolt 3/8"-16UNC x 1" Grade 5	42	
20	91262	Screw/Large Flange, 3/8"-16UNC x 1"	8	
21	91263	Hex Nut/Large Flange, 3/8"-16UNC Grade 5	73	
22	95585	Capscrew/Large Flange, 3/8"-16UNC x 3/4" Grade 5	41	
23	9008957	LED Work Light	1	
24	271574B	Lamp Mount Bracket =Black=	1	

Killbros 1113/1313 — Parts

Sideboards - Model 1313 For SN B43780100-B44670099

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

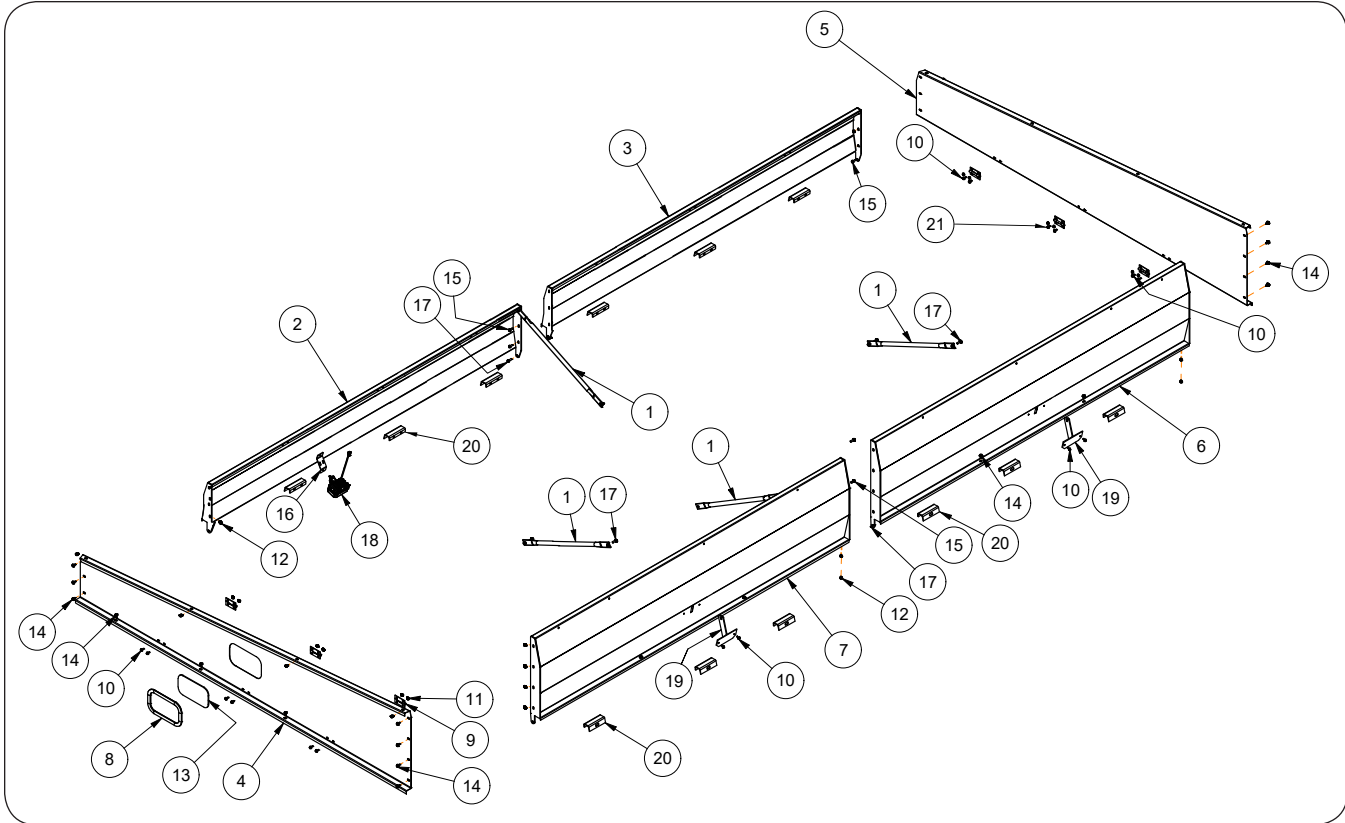


ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	220032B	Angle Brace Tube =Black=	4	
2	282319W	Brace Bracket Weldment =Off White=	2	
3	295653W	Board Front RH =Off White=	1	
4	295654W	Board Rear RH =Off White=	1	
5	295655W	Board Front LH =Off White=	1	
6	295656W	Board Rear LH =Off White=	1	
7	295945W	Front Board Replacement Kit (Off White)	1	Includes Front Board, Items 9 & 10
8	295877W	Board Rear =Off White=	1	
9	250431	Window Moulding	1	
10	92403	Window (Clear Tempered)	1	
11	295659W	RH Front Sideboard Corner Plate =Off White=	1	
12	295660W	RH Rear Sideboard Corner Plate =Off White=	1	
13	295657W	LH Front Sideboard Corner Plate =Off White=	1	
14	295658W	LH Rear Sideboard Corner Plate =Off White=	1	
15	295661W	RH Sideboard Bracket =Off White=	1	
16	295662W	LH Sideboard Bracket =Off White=	1	
17	295667W	Sideboard Cover Bracket =Off White=	4	
18	295691W	Sideboard Cover Plate =Off White=	2	
19	9388-051	Carriage Bolt 3/8"-16UNC x 1" Grade 5	42	
20	91262	Screw/Large Flange, 3/8"-16UNC x 1"	8	
21	91263	Hex Nut/Large Flange, 3/8"-16UNC Grade 5	73	
22	95585	Capscrew/Large Flange, 3/8"-16UNC x 3/4" Grade 5	41	
23	9008957	LED Work Light	1	
24	271574B	Lamp Mount Bracket =Black=	1	
25	9009729	Torx Head Screw 3/8"-16UNC x 1 1/2"	1	
26	294660B	Doublers Plate =Black=	12	

Killbros 1113/1313 — Parts

Sideboards - Model 1313 - For SN B43780099 & Lower

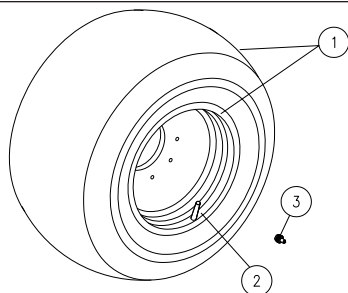
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	220032B	Angle Brace Tube	4	
2	284361W	Board Weldment Front, Right-Hand =Off White=	1	
3	284362W	Board Weldment Rear, Right-Hand =Off White=	1	
4	284394W	Board Front =Off White=	1	
5	284395W	Board Rear =Off White=	1	
6	283322W	Board Weldment Rear, Left-Hand =Off White=	1	
7	283324W	Board Weldment Front, Left-Hand =Off White=	1	
8	250431	Window Moulding	1	
9	9004626	Hinge	6	
10	91256	Screw/Large Flange 5/16"-18UNC x 3/4" Grade 5	14	For SN B41030100 & Higher
			40	For SN B41030099 & Lower
11	91257	Hex Nut/Large Flange 5/16"-18UNC Grade 5	20	
12	91263	Hex Nut/Large Flange 3/8"-16UNC Grade 5	38	
13	92403	Window (Clear Tempered) Grade 5	1	
14	95585	Capscrew/Large Flange 3/8"-16UNC x 3/4" Grade 5	32	
15	91262	Screw/Large Flange 3/8"-16UNC x 1"	6	
16	271574B	Lamp Mount	1	
17	9003259	Flange Screw 3/8"-16UNC x 1 1/4" Grade 5	6	
18	9008957	Work Light LED	1	For SN B40450100 & Higher
	9007186			For SN B40450099 & Lower
19	282319W	Brace Plate Weldment =Off White=	2	
20	294660B	Doubler Plate =Black=	12	For SN B41030100 & Higher
21	97064	Screw/Large Flange 5/16"-18UNC x 1"	2	For SN B41030100 & Higher

Wheels & Tires

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



TIRES

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	110825WO/99478	Wheel & Tire Assembly (10 Bolt)	2	36 x 32 / 1050/50R32 R-1W
	110825WO	Wheel Only	2	36 x 32
2	93300	Valve Stem	2	
	95365	Plug	2	
1	16768	Wheel & Tire Assembly (10 Bolt)	2	44 x 32/76x50-32 HF-3 (16-Ply)
	110151	Wheel & Tire Assembly (12 Bolt)	2	Model 1313 Only 44 x 32/76x50-32 HF-3 (16-Ply)
	17844	Wheel & Tire Assembly (10 Bolt)	2	44 x 32/76x50-32 HF-3 (20-Ply)
	12870	Wheel Only (10 Bolt)	2	RDT4432
	110150WO	Wheel Only (12 Bolt)	2	Model 1313 Only RDT4432
2	95854WO	Side Flange	2	
	96727	Valve Stem	2	
	92315WO	Lock Ring	2	
	92316	O-Ring	2	
	901207	Valve Stem Adapter	-	
1	17939WO/9500848	Wheel & Tire Assembly (10 Bolt)	2	30 x 32 / 35.5LR32 R-3
	110803WO/9500992	Wheel & Tire Assembly (10 Bolt)	2	44 x 32 / 1250/50R32 R-1W
	110803WO/9500943	Wheel & Tire Assembly (10 Bolt)	2	44 x 32 / 1250/50R32
	110598WO/9500943	Wheel & Tire Assembly (12 Bolt)	2	Model 1313 Only 44 x 32/1250/50R32 R-1W
1	110803WO	Wheel Only	2	44 x 32
1	17939WO	Wheel Only	2	30 x 32
1	110598WO	Wheel Only (12 Bolt)	2	Model 1313 Only 44 x 32

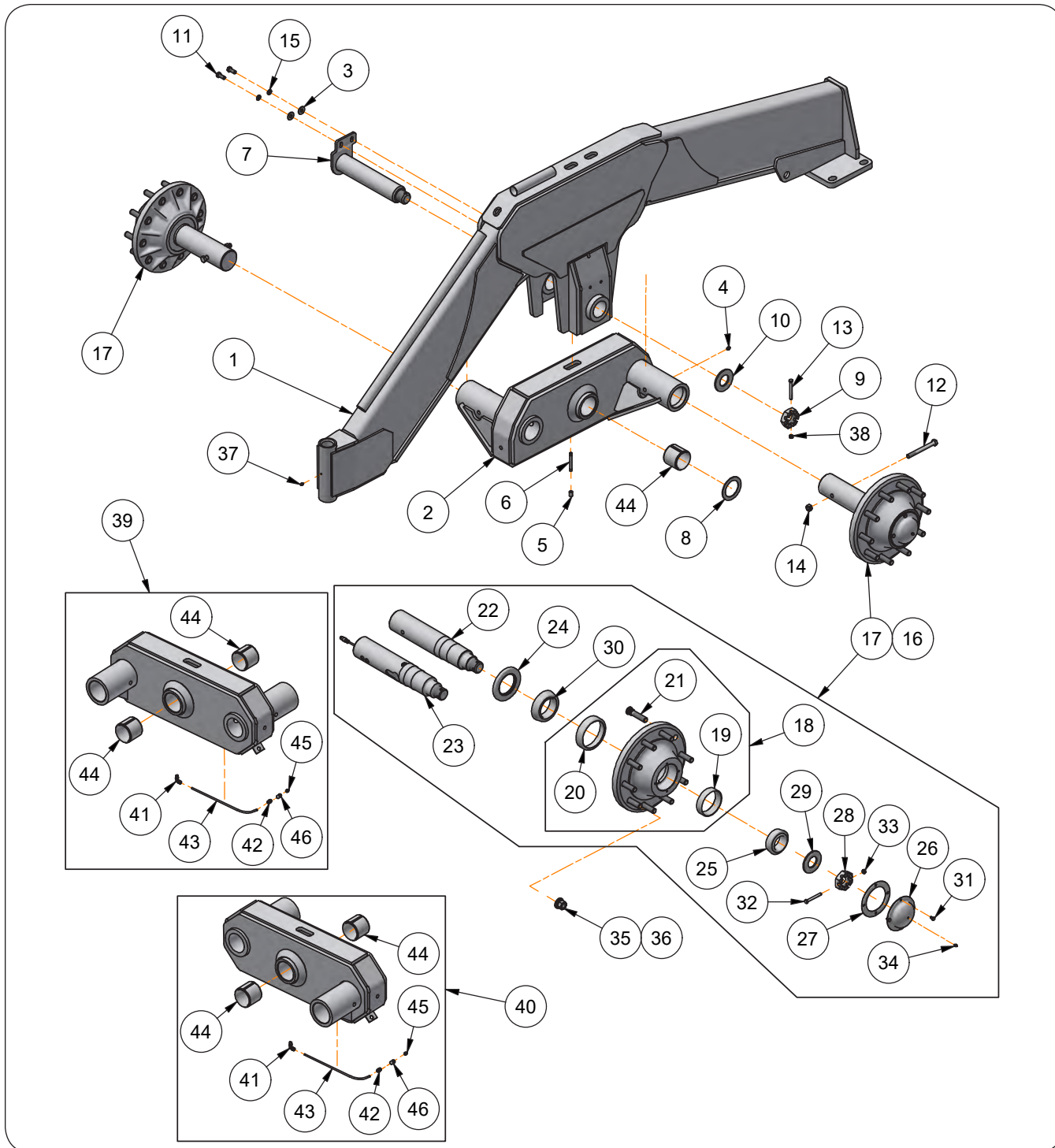
Dual Wheels & Tires

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	14680	Wheel & Tire Assembly - 1/2" Inset	4	18 x 38 / 520/85x38 R-1
	17418	Wheel & Tire Assembly - 1/2" Inset =Off White=	4	18 x 38 / 520/85x38 R-1
1	18739	Wheel & Tire Assembly - 1/2" Inset =Off White=	4	18 x 42 / TL520/85R42F R-1
1	18051	Wheel & Tire Assembly =Off White=	4	20 x 42 / 650/65R42 R1W
2	93300	Valve Stem	4	
	901207	Valve Stem Adapter	-	

Walking Tandem Assembly Components

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



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	282882G	Walking Tandem Weldment =Green=	2	
	282882R	Walking Tandem Weldment =Red=		
2	285682B	Tandem Axle Weldment RH =Black= (Shown)	1	For 650/65R42 WH/TI
	282794B	Tandem Axle Weldment RH =Black=		For All WH/TI except 650/65R42
	285683B	Tandem Axle Weldment LH =Black=	1	For 650/65R42 WH/TI
	282793B	Tandem Axle Weldment LH =Black=		For All WH/TI except 650/65R42

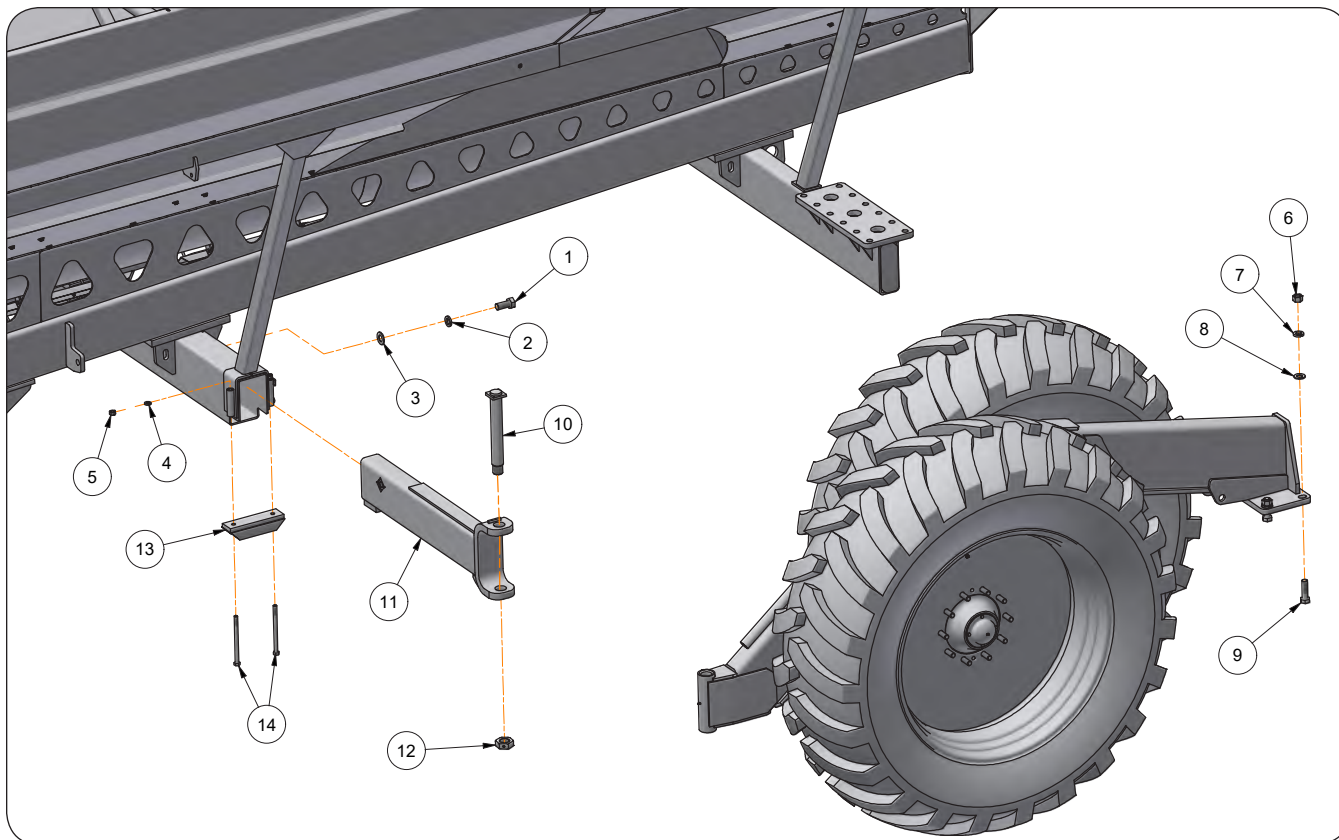
Walking Tandem Assembly Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
3	9405-088	Flat Washer 1/2"	v	
4	93426	Grease Zerk	2	
5	9002538	Coupling-Pipe 1/8" NPT	2	
6	9005475	Pipe Nipple 1/8"-27NPT x 3 1/2" Threaded Ends	2	
7	282842	Axle Pin Weldment	2	
8	9001297	Flat Washer, 3"	4	
9	92470	Castle Nut, 2"-12UNF Grade 5	2	
10	92472	Spindle Washer	2	
11	9390-100	Capscrew, 1/2"-13UNC x 1 1/4" Grade 5	4	
12	9390-136	Capscrew, 5/8"-11UNC x 6" Grade 5	4	
13	9390-065	Capscrew, 3/8"-16UNC x 3 1/2" Grade 5	2	
14	95905	LockNut, 5/8"-11UNC	4	
15	9404-025	Lock Washer, 1/2"	4	
16	267276B	Hub & Spindle Kit Non-Scale =Black=	1	
17	267203B	Hub & Spindle Assembly With Scale =Black=	4	Includes Items 18-21, 23-34
	266520B	Hub & Spindle Assembly Non-Scale =Black=		
18	265390G	Hub Sub-Assembly =Green=	2	Includes Items 20-22
	265390R	Hub Sub-Assembly =Red=		
19	92462	Outer Bearing Cup	2	
20	92476	Inner Bearing Cup	2	
21	9007001	Stud Bolt, M22 x 1.5 x 4	20	
22	266521	Non-Scale Complete Spindle Asy, 3 3/4" Dia.	2	Includes Items 28, 29, 32, 33
23	9006347	Scale Spindle, 3 3/4" Dia.		
24	92565	Seal	2	
25	92464	Outer Bearing Cone	2	
26	286171B	Hub Cap "Bolt-On Type" =Black=	2	For SN B40450100 & Higher
27	284230	Gasket	2	
28	92470	Slotted Hex Nut, 2-12UNF Grade 5	2	
29	92472	Spindle Washer, Hardened	2	
30	92545	Inner Bearing Cone	2	
31	9390-026	Capscrew, 5/16-18UNC x 1/2 Grade 5	8	
32	9390-064	Capscrew, 3/8-16UNC x 3 1/4 Grade 5	2	
33	902875	Locknut, 3/8-16UNC	2	
34	91160	Grease Zerk	2	
35	267500	Wheel Nut Kit, M22 x 1.5 Threaded	1	
36	97319	Flanged Cap Nut, M22 x 1.5 Grade 10	10	
37	91160	Grease Zerk	2	For SN B40450100 & Higher
38	9928	Locknut 3/8-16UNC Grade 5	2	
39	282784B	Axle Assembly, Left-Hand For 650/65R42 WH/TI	1	Includes: Tandem Axle, 41 thru 46
	282788B	Axle Assembly, Left-Hand For All WH/TI except 650/65R42		
40	282785B	Axle Assembly, Right-Hand For 650/65R42 WH/TI	1	Includes: Tandem Axle, 41 thru 46
	282789B	Axle Assembly, Right-Hand For All WH/TI except 650/65R42		
41	9005072	Quicklinc Fitting, 90° Swivel	1	
42	9005073	Quicklinc Fitting, Straight	1	
43	9005074	Tube	1	
44	9005474	Tension Bushing	2	
45	93426	Grease Zerk	1	
46	9002538	Coupling-Pipe 1/8" NPT	1	

Walking Tandem Mounting Components

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



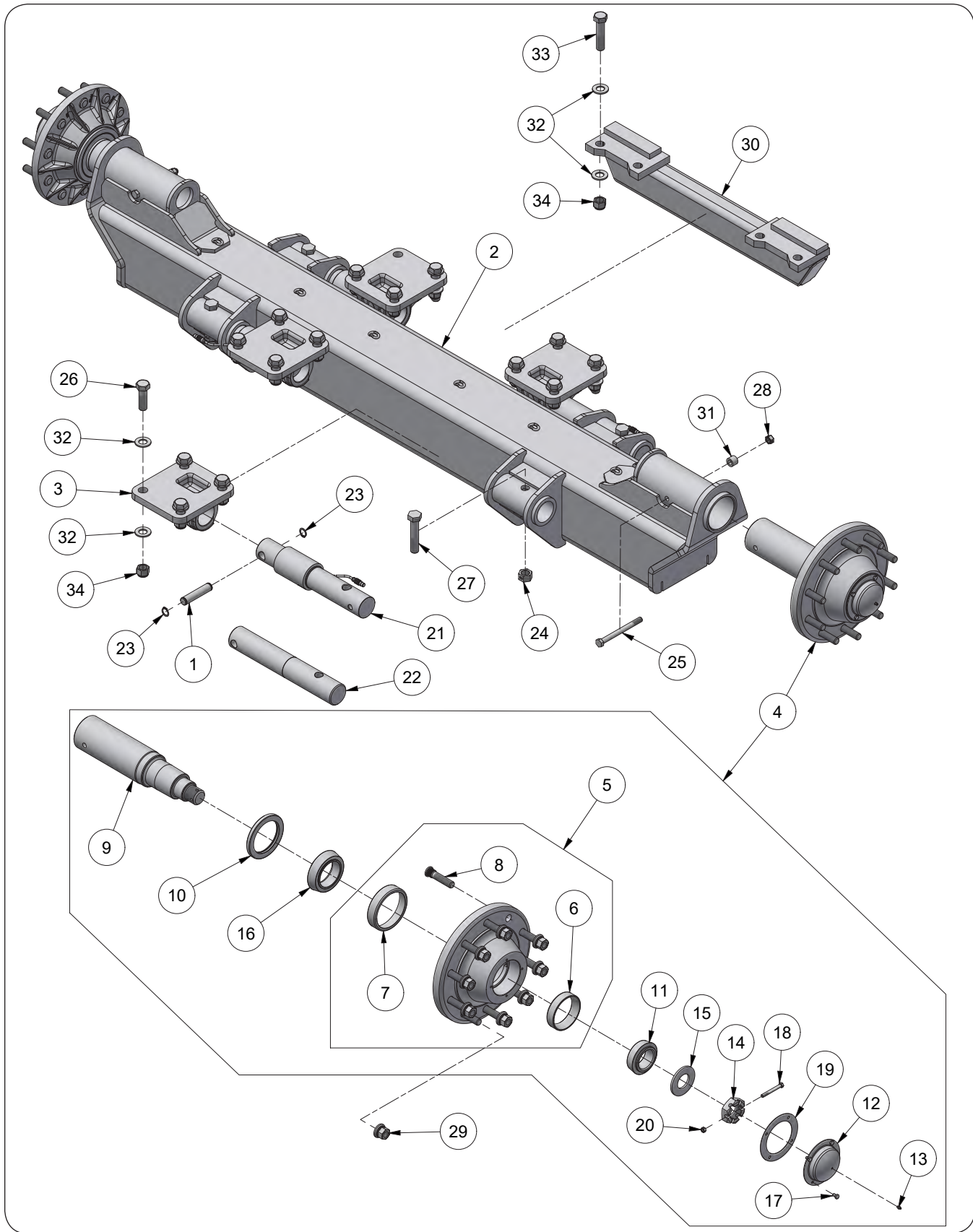
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9390-422	Capscrew 1 1/8"-7UNC x 2 1/2" Grade 5	2	
2	9404-045	Lock Washer 1 1/8"	2	
3	9405-122	Flat Washer 1 1/8" SAE	2	
4	9404-030	Lock Washer 5/8"	4	
5	9394-014	Hex Nut 5/8"-11UNC Grade 5	4	
6	9394-020	Hex Nut 1"-8UNC Grade 5	8	
7	9404-042	Lock Washer 1"	8	
8	804685	Flat Washer Hardened 2" OD x 1 1/16" ID	8	
9	9390-189	Capscrew 1"-8UNC x 3 1/2" Grade 5	8	
10	268521	Axle Pivot Pin Weldment	2	
11	282815G	Axle Extension Weldment =Green=	2	
	282815R	Axle Extension Weldment =Red=		
12	9005290	Jam Nut 1 3/4"-5UNC W/Set Screw Grade 5	2	
13	284185G	Clamp Weldment =Green=	2	
	284185R	Clamp Weldment =Red=		
14	9390-442	Capscrew 5/8"-11UNC x 9" Grade 5	4	

Notes

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

Axle & Hub Components - Model 1113 Single Wheels

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



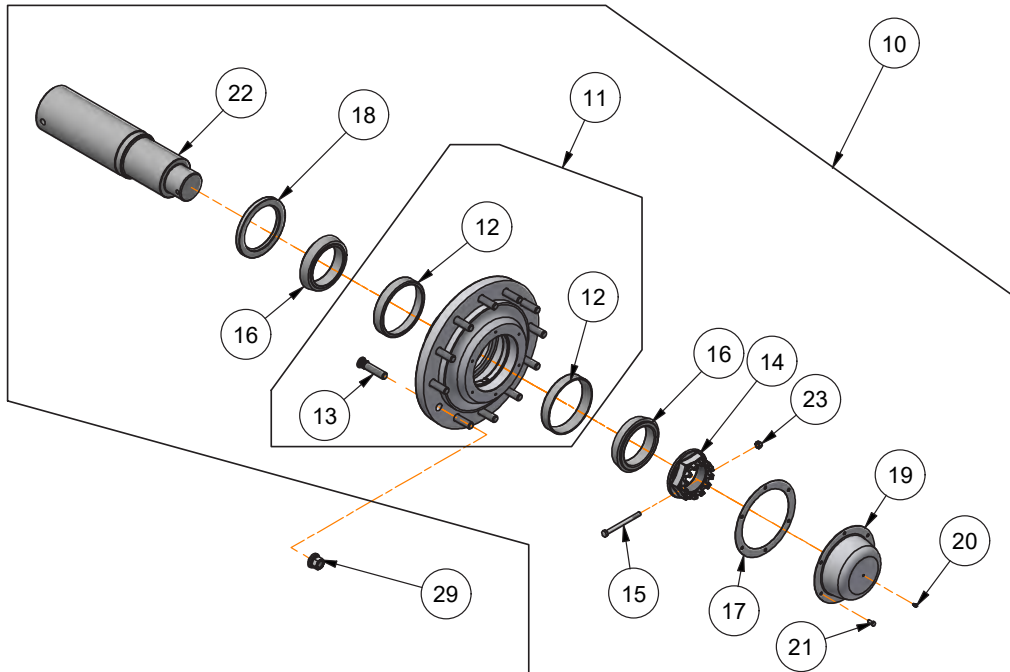
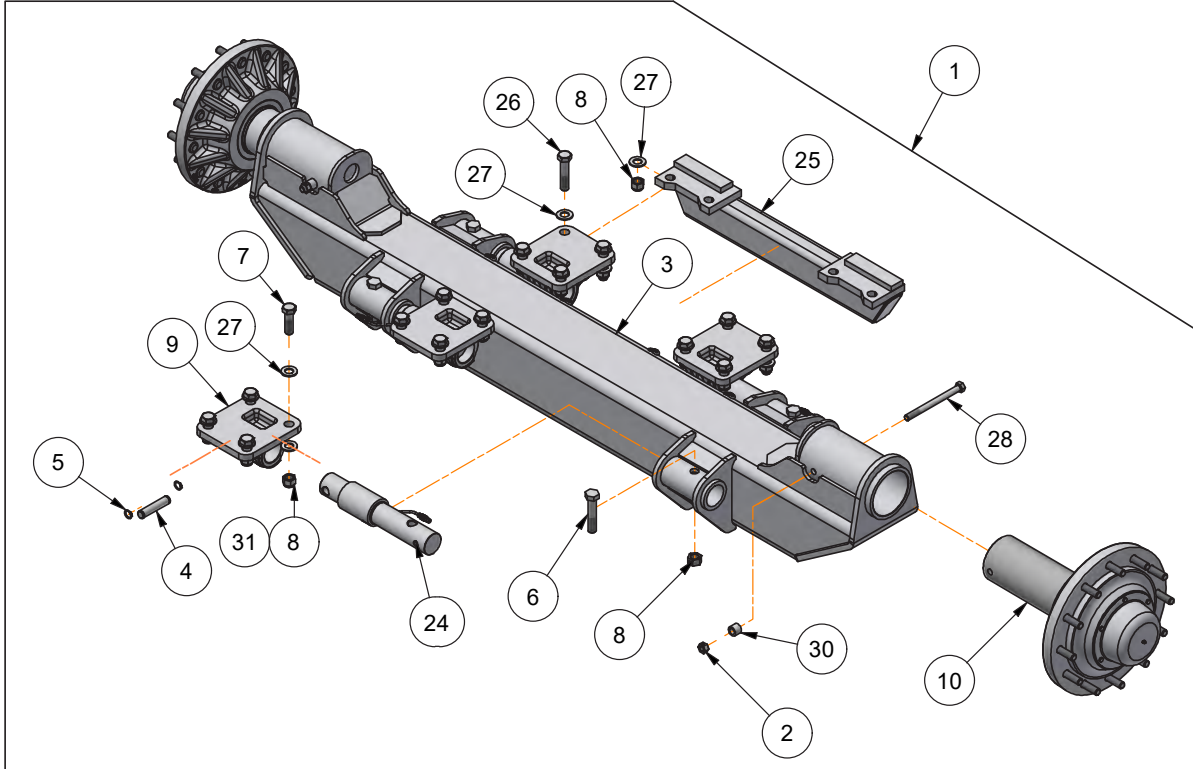
Axle & Hub Components - Model 1113 Single Wheels

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	250843	Scale Hitch Pin, 1" Dia x 4 9/16"	4	
2	252398B	Axle Weldment - 120 1/2" =Black=	1	All Service Parts Are Black 4 1/2" Spindle
3	268341B	Axle Mount Weldment =Black=	4	All Service Parts Are Black
4	267284B	Hub & Spindle Assembly =Black=	2	
5	265390B	Hub Sub-Assembly =Black=	2	All Service Parts Are Black Model 881 Hub
6	92462	Outer Bearing Cup	2	Ref #HM212011
7	92476	Inner Bearing Cup	2	Ref #HM218210
8	9007001	Stud Bolt, M22 x 1.5 x 4	20	
9	280240	Spindle 4 1/2" Dia. x 19 7/8"	2	2"-12UNF Threaded End
10	92455	Seal	2	Ref #43605SA
11	92464	Outer Bearing Cone	2	Ref #HM212049
12	286171B	Hub Cap =Black=	2	
13	91160	Grease Zerk	2	
14	92470	Castle Nut 2"-12 UNF Grade 5	2	
15	92472	Spindle Washer	2	
16	92545	Bearing Cone	2	
17	9390-026	Capscrew 5/16"-18UNC x 1/2" Grade 5	10	
18	9390-064	Capscrew 3/8"-16UNC x 3 1/4" Grade 5	2	
19	284230	Hub Cap Gasket	2	
20	902875	Locknut 3/8"-16UNC	2	
21	9004903	Loadbar for Units W/ Scales	4	
22	268289	Loadbar for Units W/O Scales	4	
23	91192	Retaining Ring 1"	8	
24	92199	Locknut 1"-8UNC	4	
25	91299-138	Capscrew 5/8"-11UNC x 7" Grade 8	2	
26	91299-1457	Capscrew 1"-14UNS x 3 1/4" Grade 8	16	
27	9390-139	Capscrew 5/8"-11UNC x 7 1/2" Grade 5	4	
28	9008440	Locknut 5/8"-11UNC Grade 8	2	
29	97319	M22 x 1.5 Flaned Cap Nut Grade 10	20	
30	272754B	Runner Support Weldment	1	
31	288789	Spacer Bushing	2	
32	804685	Flat Washer 2"OD x 1 1/16"ID	32	
33	91299-1461	Capscrew 1"-14UNS x 4 1/2" Grade 8	4	
34	9008441	Locknut 1" UNS Grade 8	4	

Axle & Hub Components - Model 1313 Single Wheels

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



Axle & Hub Components - Model 1313 Single Wheels

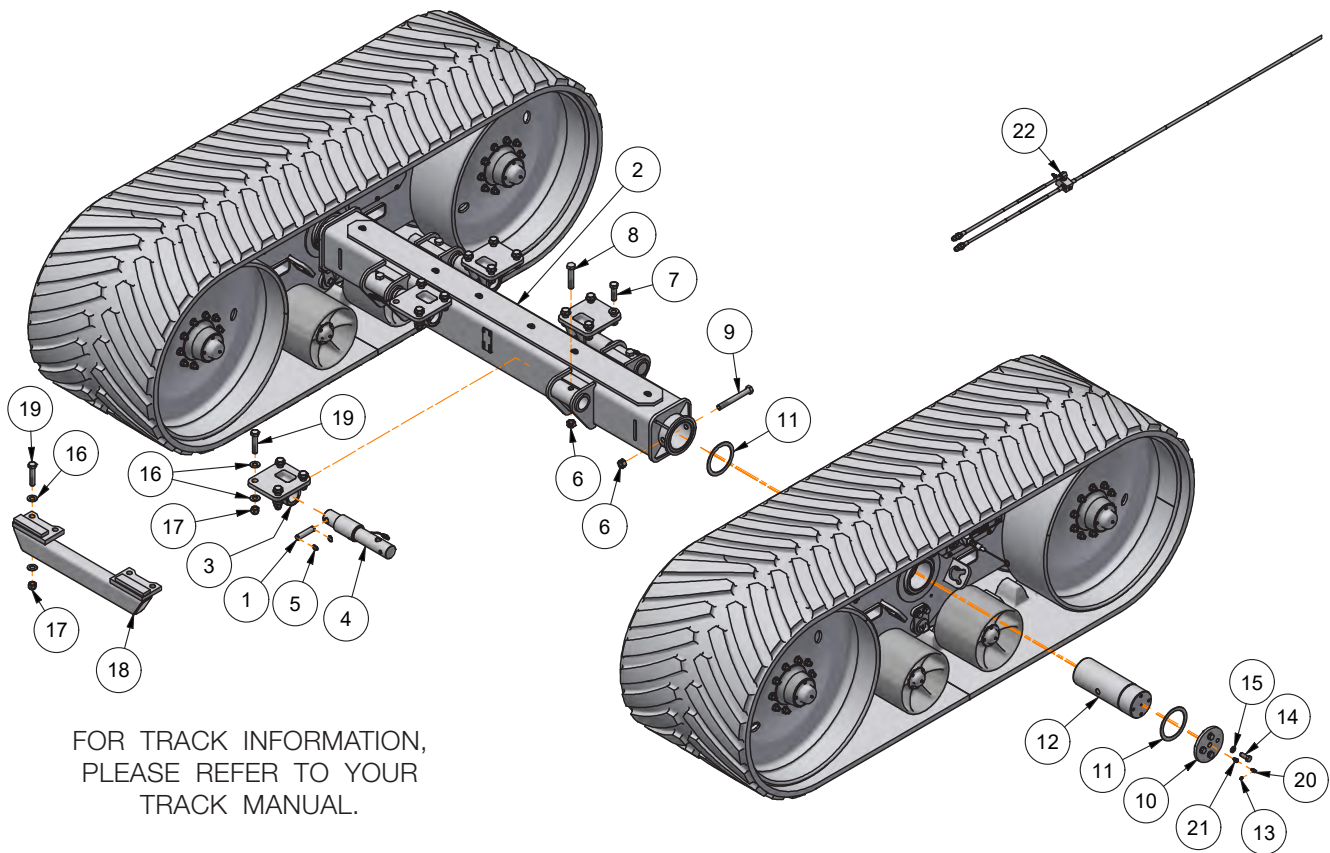
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	271630B	Axle Bundle 119" =Black=	1	For Scale Units Only Includes Items: 2-31
2	9008442	Center Locknut, 3/4"-10UNC Grade 8	2	
3	271628B	Axle Weldment =Black=	1	For 6" Spindle
4	250843	Scale Hitch Pin, 1" Dia x 4 9/16"	4	
5	91192	Retaining Ring 1"	8	
6	9390-193	Capscrew, 1"-8UNC x 5" Grade 5	4	
7	91299-1457	Capscrew, 1"-14UNS x 3 1/4" Grade 8	12	
8	92199	Center Locknut, 1"-8UNC	4	
9	268836B	Axle Mount Weldment =Black=	4	
10	282310B	Hub & Spindle Assembly (Black)	2	Includes Items: 11-23
	272926G	12 Bolt Hub Assembly Less Spindle =Green=		Includes Items: 11-21, 23
	272926R	12 Bolt Hub Assembly Less Spindle =Red=		
11	282312G	12 Bolt Hub Sub-Assembly =Green=	2	Model 881 Hub Includes Items: 12 & 13
	282312R	12 Bolt Hub Sub-Assembly =Red=		
12	9006996	Bearing Cup 7.5" DIA. x 1.3125"	4	Ref #48320
13	9007001	Stud, M22x1.5 x 4	24	
14	282316	Spindle Nut	2	
15	9007854	Capscrew, 1/2"-13UNC x 5 3/4" Grade 5	2	
16	9007007	Bearing Cone	2	Ref #48385
17	282315	Gasket	2	
18	9007010	Seal	2	
19	282314G	Hub Cap "Bolt-On Type" =Green=	2	
	282314R	Hub Cap "Bolt-On Type" =Red=		
20	91160	Grease Zerk	4	
21	9390-028	Capscrew 5/16"-18UNC x 3/4" Grade 5	12	
22	282311	Spindle 6" Dia. x 23 3/4"	2	
23	94981	Locknut, 1/2"-13UNC	2	
24	9004903	Load Bar - Scale 2.875" Dia.	4	
	268289	Bar- Non Scale 2 7/8" Dia x 18"	4	
25	272754B	Runner Support Weldment =Black=	1	
26	91299-1461	Capscrew, 1"-14UNS x 4 1/2" Grade 8	4	
27	804685	Washer 2"	32	
28	91299-256	Capscrew 3/4"-10UNC x 9" Grade 8	2	
29	97319	Flange Nut, M22x1.5	24	
30	283895B	Spacer Bushing	2	
31	9008441	Elastic Locknut, 1"-14UNS Grade 8	16	

Track Axle Components

Model 1113 with 36"x131" & 36"x112" Standard Tracks

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

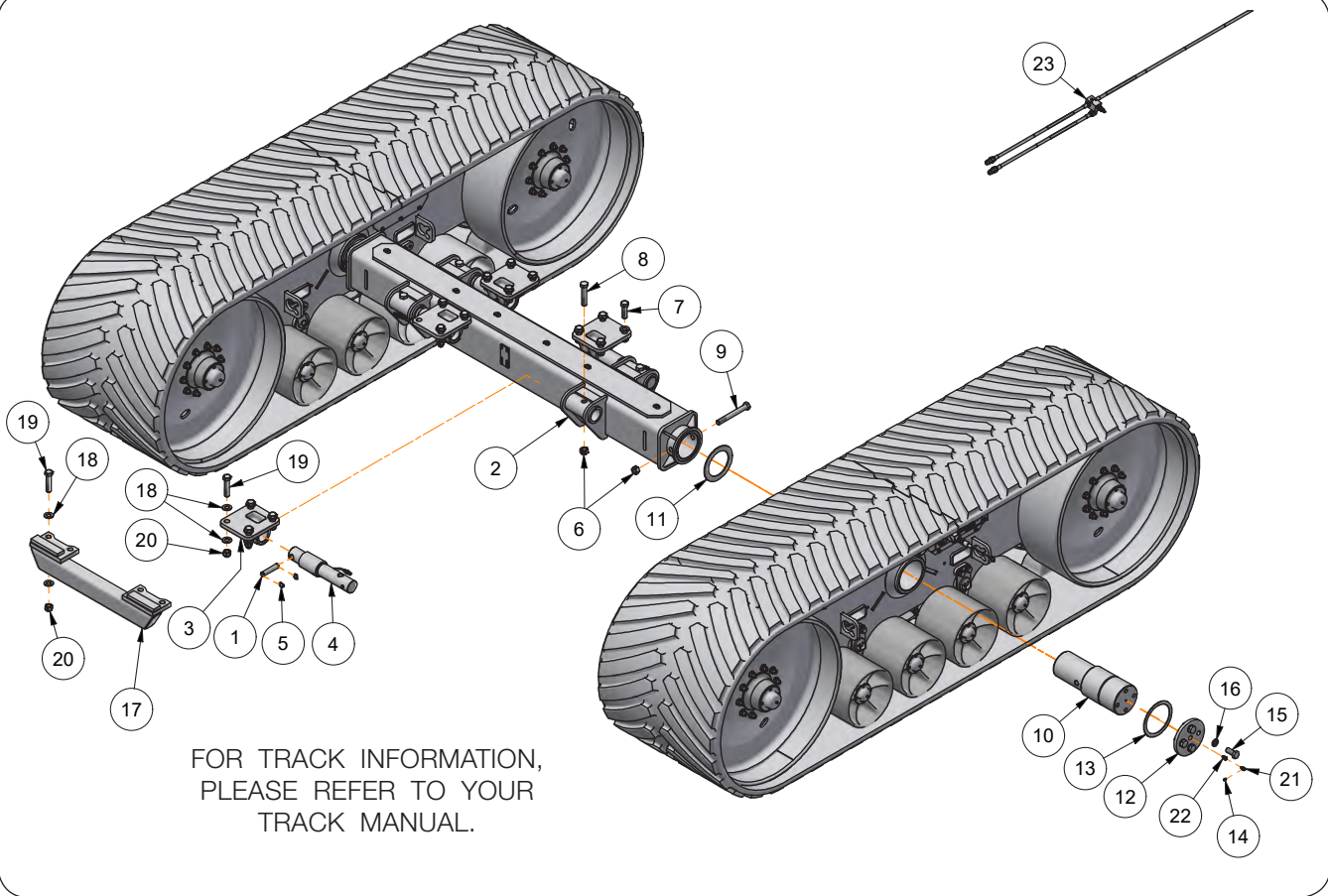


ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	250843	Pin 1" Dia. x 4 9/16"	4	
2	268764B	Axle Weldment =Black=	1	
3	268836B	Axle Mount Weldment =Black=	4	
4	9004903	Load Bar, 2.875" Dia.	4	With Scales
	268289	Hitch Bar, 2.875" Dia.		Without Scales
5	91192	Retaining Ring 1"	8	
6	92199	Locknut, 1"-8UNC	6	
7	91299-1457	Capscrew 1"-14UNS x 3 1/4" Grade 8	12	
8	9390-193	Capscrew 1"-8UNC x 5" Grade 5	4	
9	9390-462	Capscrew 1"-8UNC x 8 1/2" Grade 5	2	
10	268121B	Cover Plate =Black=	2	
11	268619	Washer 7 1/2" OD	4	
	268640	Track Pivot Shaft 6" Dia. x 16 5/8"		36" x 131"
12	267124	Track Pivot Shaft 6" Dia. x 18 3/8"	2	36" x 112"
	93426	Grease Zerk		2
13	9390-145	Capscrew 3/4"-10UNC x 2" Grade 5	8	
14	9404-033	Lockwasher 3/4"	8	
15	804685	Washer 2" OD	32	
16	9008441	Elastic Locknut, 1"-14UNS Grade 8	16	
17	272754B	Runner Support Weldment =Black=	1	
18	91299-1461	Capscrew 1"-14UNS x 4 1/2" Grade 8	4	
19	9006785	90° Adapter 1/8"NPT	1	
20	9006816	Adapter 1/8"NPT	1	
21	268063	Tensioner Hose Assembly	1	
22				

Notes

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

**Track Axle Components -
Models 1113 & 1313 with 36x148, 42x131, & 42x148 Tracks**
Please visit www.unverferth.com/parts/ for the most current parts listing.



Killbros 1113/1313 — Parts

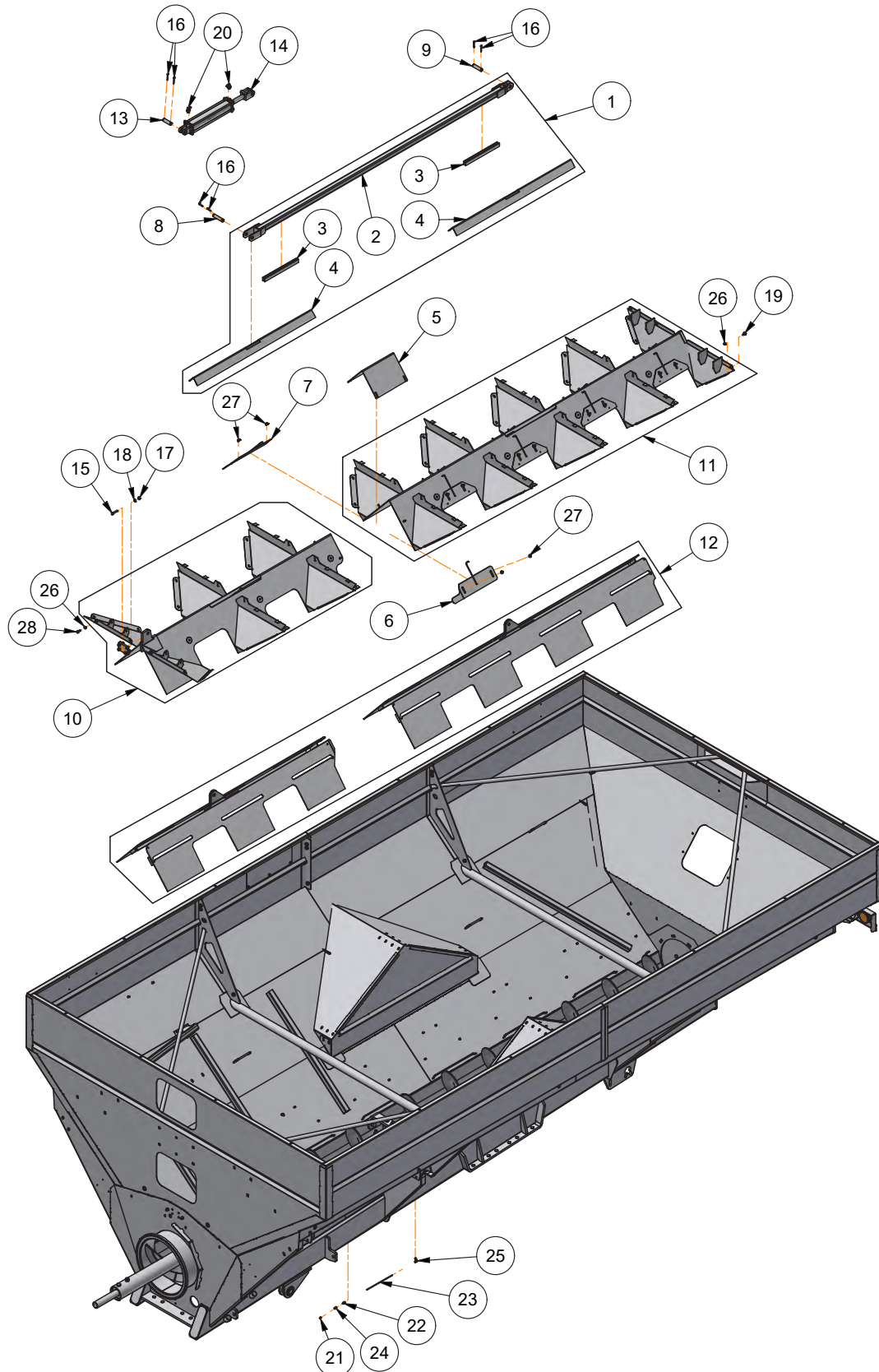
Track Axle Components - Models 1113 & 1313 with 36x148, 42x131, & 42x148 Tracks

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	250843	Pin 1" Dia. x 4 9/16"	4	
2	268764B	Axle Weldment =Black=	1	(Standard Tracks 36"x148" & Equalizer Tracks 50"x148") (Long Axle Option for Equalizer Tracks 42"x131" & 42"x148")
	282054B	Axle Weldment =Black=	1	Short Axle Option for Equalizer Tracks 42"x131" & 42"x148"
3	268836B	Axle Mount Weldment =Black=	4	
4	9004903	Load Bar, 2.875" Dia.	4	With Scales
	268289	Hitch Bar, 2.875" Dia.		Without Scales
5	91192	Retaining Ring 1"	8	
6	92199	Locknut, 1"-8UNC	6	
7	91299-1457	Capscrew 1"-14UNS x 3 1/4" Grade 8	12	
8	9390-193	Capscrew 1"-8UNC x 5" Grade 5	4	
9	9390-462	Capscrew 1"-8UNC x 8 1/2" Grade 5	2	
10	282395	Track Pivot Shaft 7" Dia. x 19 3/16"	2	Standard Tracks Only
	282026	Track Pivot Shaft 7" Dia. x 19 1/8"		Equalizer Tracks Only
	282397	Washer 8 1/2" OD x 6 1/16" ID	2	
12	282689B	Cover Plate =Black=	2	
13	282690	Washer, 8 1/2" OD x 7 1/16" ID	2	
14	93426	Grease Zerk	2	
15	9390-184	Capscrew 1"-8UNC x 2 1/4" Grade 5	8	
16	9404-041	Lockwasher 1"	8	
17	272754B	Runner Support Weldment =Black=	1	
18	804685	Washer 2"	32	
19	91299-1461	Capscrew 1"-14UNS x 4 1/2" Grade 8	4	
20	9008441	Elastic Locknut, 1"-14UNS Grade 8	16	
21	9006785	90° Adapter 1/8"NPT	1	
22	9006816	Adapter 1/8"NPT	1	
23	268063	Tensioner Hose Assembly	1	

Hopper Flow Door Components

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



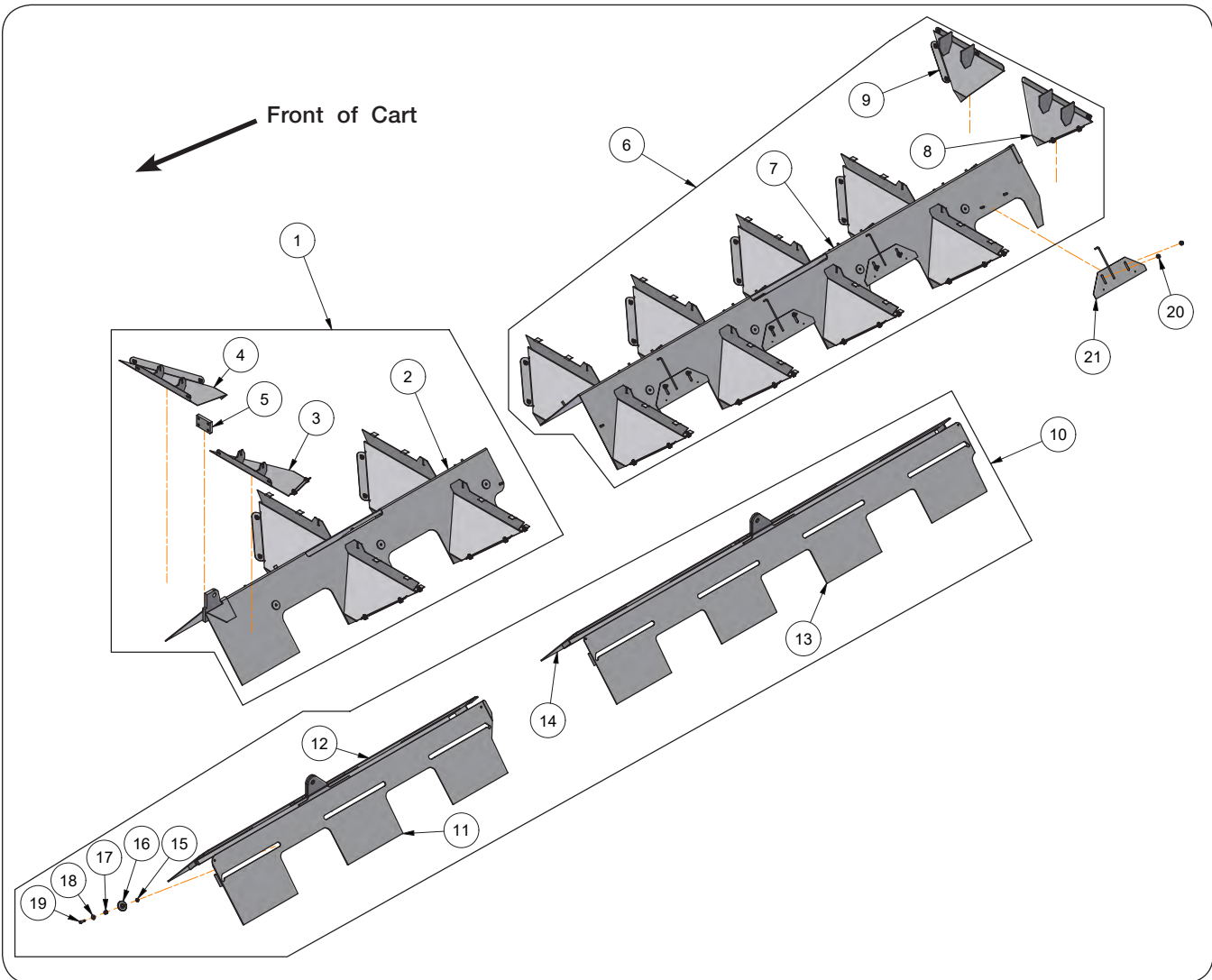
Hopper Flow Door Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES	
1	294155B	Flow Door Linkage Replacement Kit =Black=	1	Includes Items 2 - 4	
	2	294153B	Flow Door Linkage Weldment =Black=	1	
	3	271331*	Seal Plate	4	*Not for individual sale, see Item 1
	4	282187B	Tent Hole Cover Plate =Black=	2	
5	284187B	Cover Plate =Black=	1		
6	284723B	Center Door Weldment Left-Hand =Black=	1		
7	284724B	Center Door Weldment Right-Hand =Black=	1		
8	266285	Idler Pin 1" Dia. x 4 1/2"	1		
9	271112	Idler Pin 1" Dia. x 4"	1		
10	294080B	Front Tent Weldment (Service Kit)	1	For SN B40450100 & Higher	
	284823B			For SN B40450099 & Lower	
11	294081B	Rear Tent Weldment (Service Kit)	1	For SN B40450100 & Higher Models with Single Axle	
	284099B	Rear Tent Weldment (Service Kit)		For SN B40450099 & Lower Models with Single Axle	
	294082B	Rear Tent Weldment (Service Kit)		For SN B40450100 & Higher Models with Walking Tandem	
	284824B	Rear Tent Weldment (Service Kit)		For SN B40450099 & Lower Models with Walking Tandem	
12	284887B	Flow Door (Service Kit)	1	Refer to "Front and Rear Flow Door Components" for parts list.	
13	804572	Pin 1" Dia. x 3 1/2"	1		
14	9002575	Hydraulic Cylinder 3" x 16"	1		
15	9390-103	Capscrew 1/2"-13UNC x 2" Grade 5	4		
16	9391-046	Cotter Pin 3/16" Dia. x 2"	6		
17	9394-010	Hex Nut 1/2"-13UNC Grade 5	4		
18	9404-025	Lock Washer 1/2"	4		
19	95585	Capscrew/Large Flange 3/8"-16UNC x 3/4" Gr.5	60		
20	9874	90° Elbow 9/16"-18 JICM x 3/4"-16 Adj ORMB	2		
21	93426	Grease Zerk	1		
22	9005073	Quicklinc Fitting 1/4 Tube x 1/8 NPT Straight	1	For SN B40450100 & Higher	
	9005072	Quicklinc Fitting 1/4 Tube x 1/8 NPT Elbow		For SN B40450099 & Lower	
23	9005074	Tube, Nylon 1/4" OD	3	Specify in Feet	
24	9002538	Coupling-Pipe 1/8" NPT	1		
25	9005072	Quicklinc Fitting 1/4" Tube x 1/8" NPT Elbow	1		
26	9008159	Large Flange Locknut 3/8"-16UNC	64		
27	91263	Locknut 3/8"-16UNC	20		
28	91262	Nut/Large Flange 3/8"-16UNC x 1" Grade 5	4		

Front and Rear Flow Door Components

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



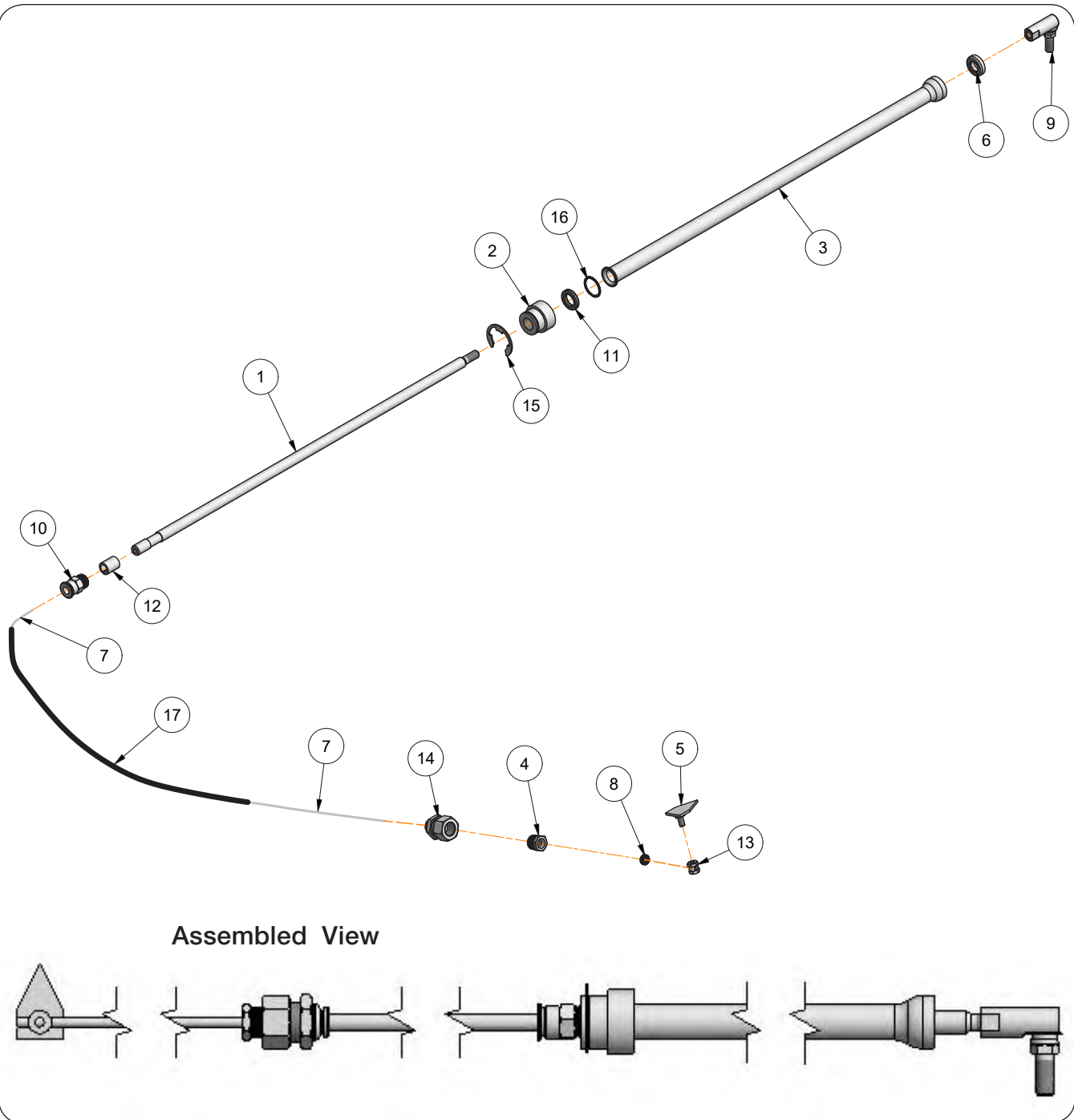
Front and Rear Flow Door Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES	
1	294080B	Front Tent Service Kit =Black=	1	Includes Items 2-5	
	2	294076B	Front Tent Weldment =Black=	1	
	3	283135B	Front LH Baffle =Black=	1	
	4	283136B	Front RH Baffle =Black=	1	
	5	271054*	Cylinder Mount Plate	-	*Not for individual sale, see Item 1
6	294081B	Rear Tent Service Kit =Black= (Shown)	1	For Single Axle & Tracks Includes Items 7-9	
	294082B	Rear Tent Service Kit =Black=	1	For Walking Tandem Includes Items 7-9	
	7	294077B	Rear Tent Weldment =Black= (Shown)	1	For Single Axle
		294079B	Rear Tent Weldment =Black=	1	For Walking Tandem
	8	282139B	Rear LH Baffle =Black=	1	
	9	283138B	Rear RH Baffle =Black=	1	
10	284887B	Flow Door Service Kit (Black)	1	Includes Items 11-19	
11	284848B	Front Door Weldment Left-Hand =Black=	1		
12	284847B	Front Door Weldment Right-Hand =Black=	1		
13	284850B	Rear Door Weldment Left-Hand =Black=	1		
14	284849B	Rear Door Weldment Right-Hand =Black=	1		
15	9003396	Locknut 3/8"-16UNC	14		
16	284168	Spacer Bushing, 2 1/4" OD x 1/2"	14		
17	284169	Roller Bushing, 1/4" OD x 7/16" ID	14		
18	9005471	Flat Washer, 3/8"	14		
19	91299-057	Capscrew, 3/8"-16UNC x 1 1/2"	14		
20	91263	Locknut, 3/8"-16UNC Grade 5	16		
21	284721B	Baffle Weldment =Black=	8		

Flow Door Indicator Assembly

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

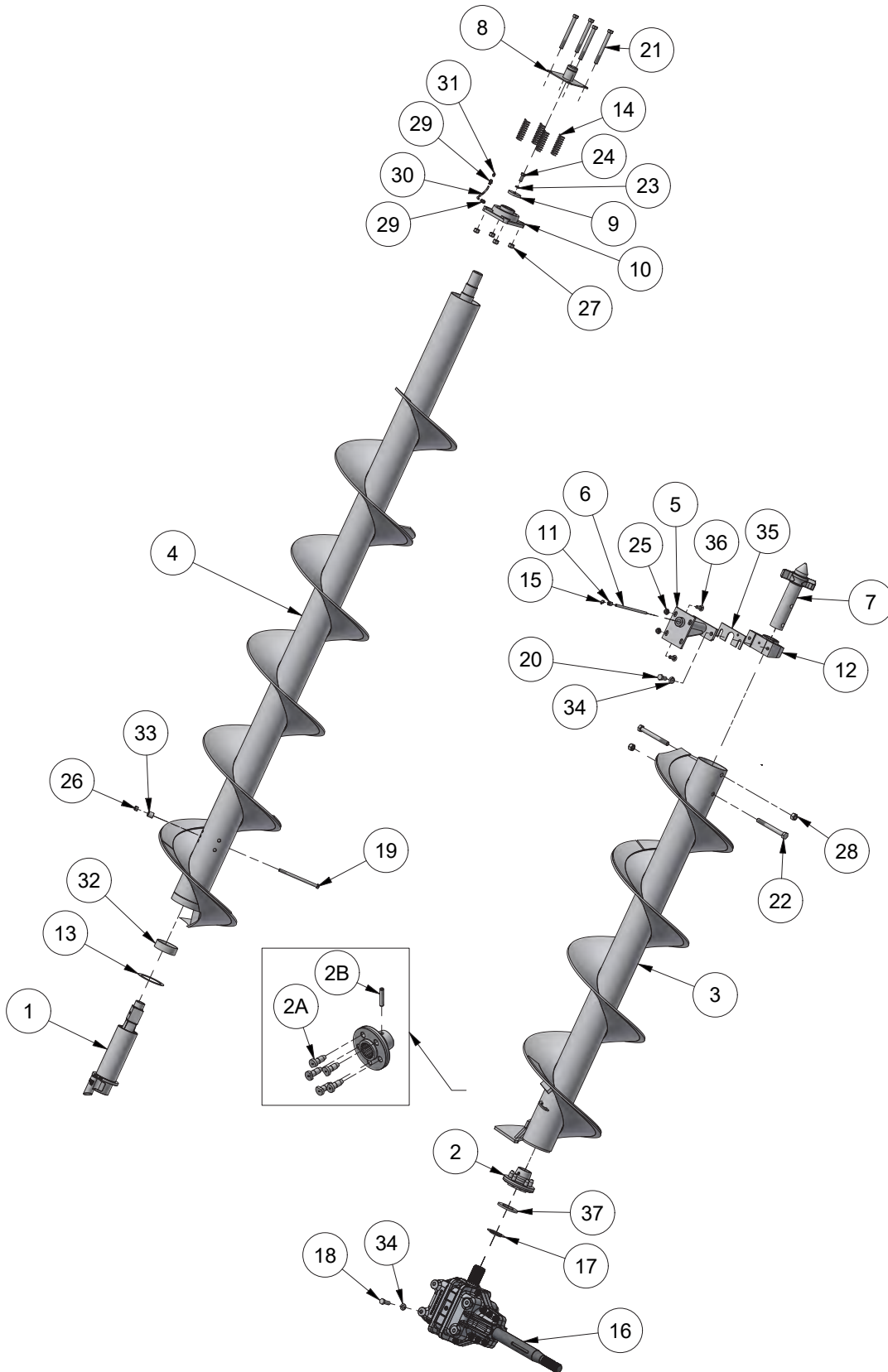


Flow Door Indicator Assembly**Please visit www.unverferth.com/parts/ for the most current parts listing.**

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

Vertical Auger Fighting Components

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



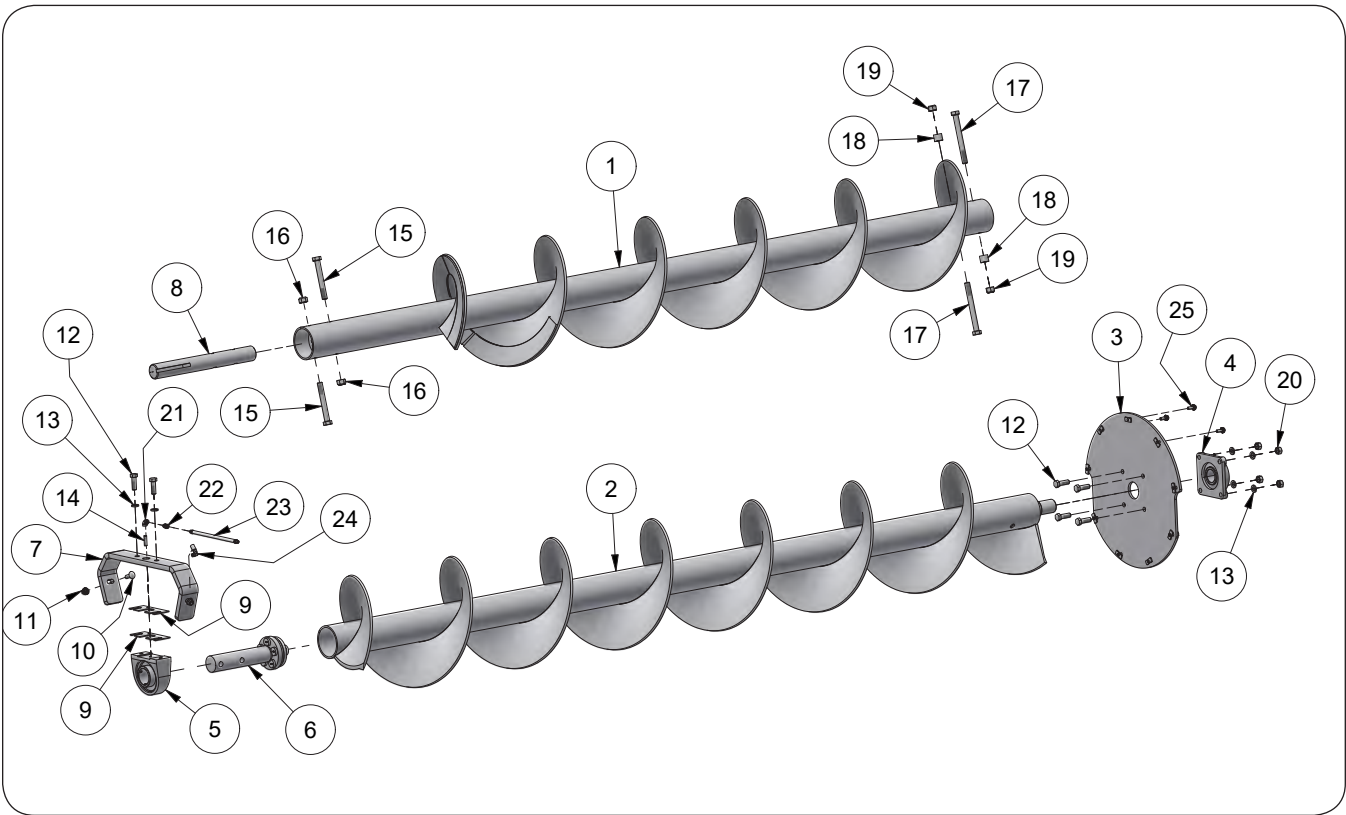
Vertical Auger Fighting Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	281283	Soft Start Assembly	1	
2	287802	Auger Drive Plate Assembly - 5 Pin	1	Includes Items 3A & 3B
	2A	9007000	Drive Head Pin	5
	2B	902614-238	Spiral Pin, 1/2" Dia. x 2 3/4"	1
3	294131B	Lower Auger Replacement Kit =Black=	1	For SN B40450100 & Higher Includes Items 3 and 4
	287891B			For SN B40450099 & Lower Includes Items 3 and 4
4	296588B	Upper Auger Replacement Kit =Black=	1	Includes Items 5, 10, 24 and 25
5	293420B	Bearing Bracket Weldment =Black=	1	
6	284636	Grease Pipe	1	
7	288813	Drive Dog, Machined	1	
8	284986	Hood Pivot Pin Weldment	1	
9	407699	Washer Plate, 2 1/2" Dia.	1	
10	9002492	Bearing 2" Dia. Flanged	1	
11	9003949	Pipe Coupling, 1/8" NPT Female	2	
12	9004731	Pillow Block Bearing, 2 1/2" Bore	1	
13	9004878	Self Lubricating Washer	1	
14	9004899	Spring - 10 Coils	4	
15	9000875	Grease Zerk	1	
16	9007366	Gearbox Assembly, 800 Series	1	
17	9007377B	Dust Cover =Black=	1	
18	9390-124	Capscrew, 5/8"-11UNC x 2" Grade 5	8	
19	9390-119	Capscrew, 1/2"-13UNC x 8" Grade 5	1	
20	9390-122	Capscrew, 5/8"-11UNC x 1 1/2" Grade 5	12	
21	9390-137	Capscrew, 5/8"-11UNC x 6 1/2" Grade 5	4	
22	9390-159	Capscrew, 3/4"-10UNC x 7" Grade 5	2	
23	9404-025	Lock Washer, 1/2" Grade 5	6	
24	9390-100	Capscrew, 1/2"-13UNC x 1 1/4" Grade 5	5	
25	9003397	Flange Locknut, 1/2"-13UNC	4	
26	9800	Locknut, 1/2"-13UNC Grade 5	1	
27	9801	Locknut, 5/8"-11UNC Grade 5	4	
28	9802	Locknut, 3/4"-10UNC Grade 5	2	
29	9005073	Quickline Fitting 1/4" Tube x 1/8" NPT	2	
30	9005074	Tube 1/4" OD	1	
31	93426	Grease Zerk	1	
32	9004877	Self Lubricating Bushing 4.252"OD x 4.011"ID	1	
33	410511	Spacer Bushing	1	
34	9404-030	Lock Washer, 5/8" Extra	8	
35	286419B	Bearing Shim Plate =Black=	1	
36	9388-104	Carriage Bolt, 1/2"-13UNC x 1 1/2" Grade 5	4	
37	297008	Washer 4" OD x 2.265" ID x 5/16"	1	

Horizontal Auger Components - SN B40450100 and Higher

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



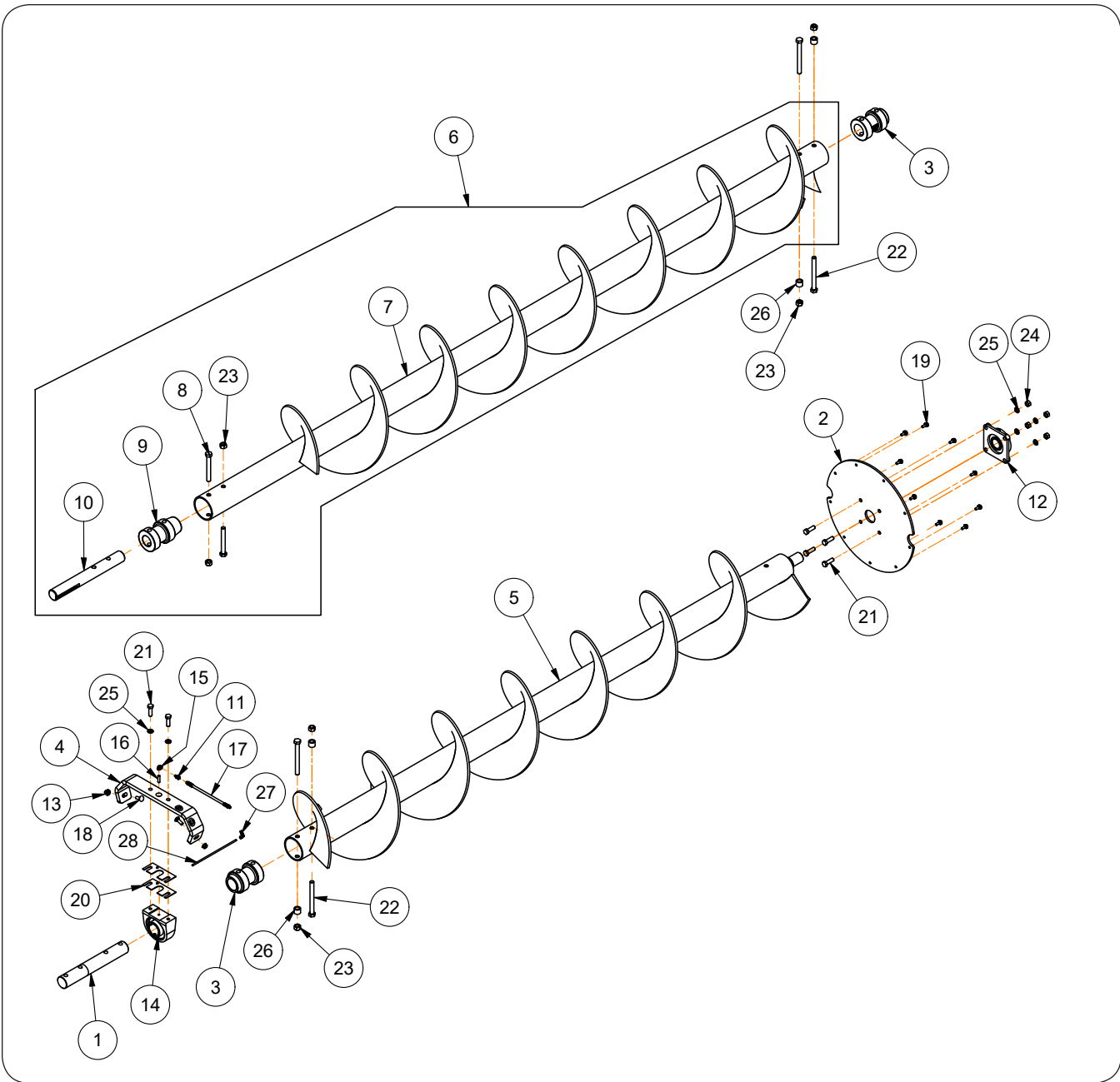
Horizontal Auger Components - SN B40450100 and Higher

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	294137B	Front Auger Weldment =Black=	1	Front Auger Replacement Kit (294138B) Includes Items 6, 7, 8, 9, & 27
2	293954B	Rear Auger Weldment =Black=	1	Rear Auger Replacement Kit (295739B) Includes Items 10, 11, 23, & 26
3	283097G	Cover Plate =Green=	1	
	283097R	Cover Plate =Red=		
4	9002492	Bearing/Flanged 2" Dia.	1	
5	9004731	Pillow Block Bearing with 2 1/2" Bore	1	
6	293957	Auger Coupler Shaft Weldment	1	
7	286381B	Bearing Mounting Bar =Black=	1	
8	283537	Auger Shaft 2.25" Dia.	1	
9	286424	Bearing Shim Plate	2	
10	9388-104	Carriage Bolt, 1/2"-13UNC x 1 1/2" Grade 5	2	
11	91267	Lock Nut, 1/2"-13UNC	2	
12	9390-124	Capscrew, 5/8"-11UNC x 2" Grade 5	4	
13	9404-029	Lock Washer, 5/8"	6	
14	9006964	Nipple 1/8" NPT Male x 1/8" NPT Male	1	
15	91299-157	Capscrew, 3/4"-10UNC x 6" Grade 8	2	
16	9802	Lock Nut, 3/4"-10UNC	2	
17	9390-160	Capscrew, 3/4"-10UNC x 7 1/2" Grade 5	2	
18	283895	Spacer Bushing, 1 1/4" OD x 11/16" ID x 1 1/8"	2	
19	9802	Lock Nut, 3/4"-10UNC	2	
20	9394-014	Hex Nut, 5/8"-11UNC Grade 5	4	
21	9004764	90° Elbow 1/8" Female NPTF x 1/8" Female NPTF	1	
22	9002479	Adapter 1/8"-27 NPTF Male x 1/8"-27 NPSM Female Swivel Nut	1	
23	9002689	Hose 1/8" x 12", 3000 PSI	1	
24	9005072	90° Elbow 1/4" Tube x 1/8"-27 NPTF Swivel Nut	1	
25	91262	Capscrew, 3/8"-16UNC x 1" Grade 5	21	

Horizontal Auger Components - SN B40450099 and Lower

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



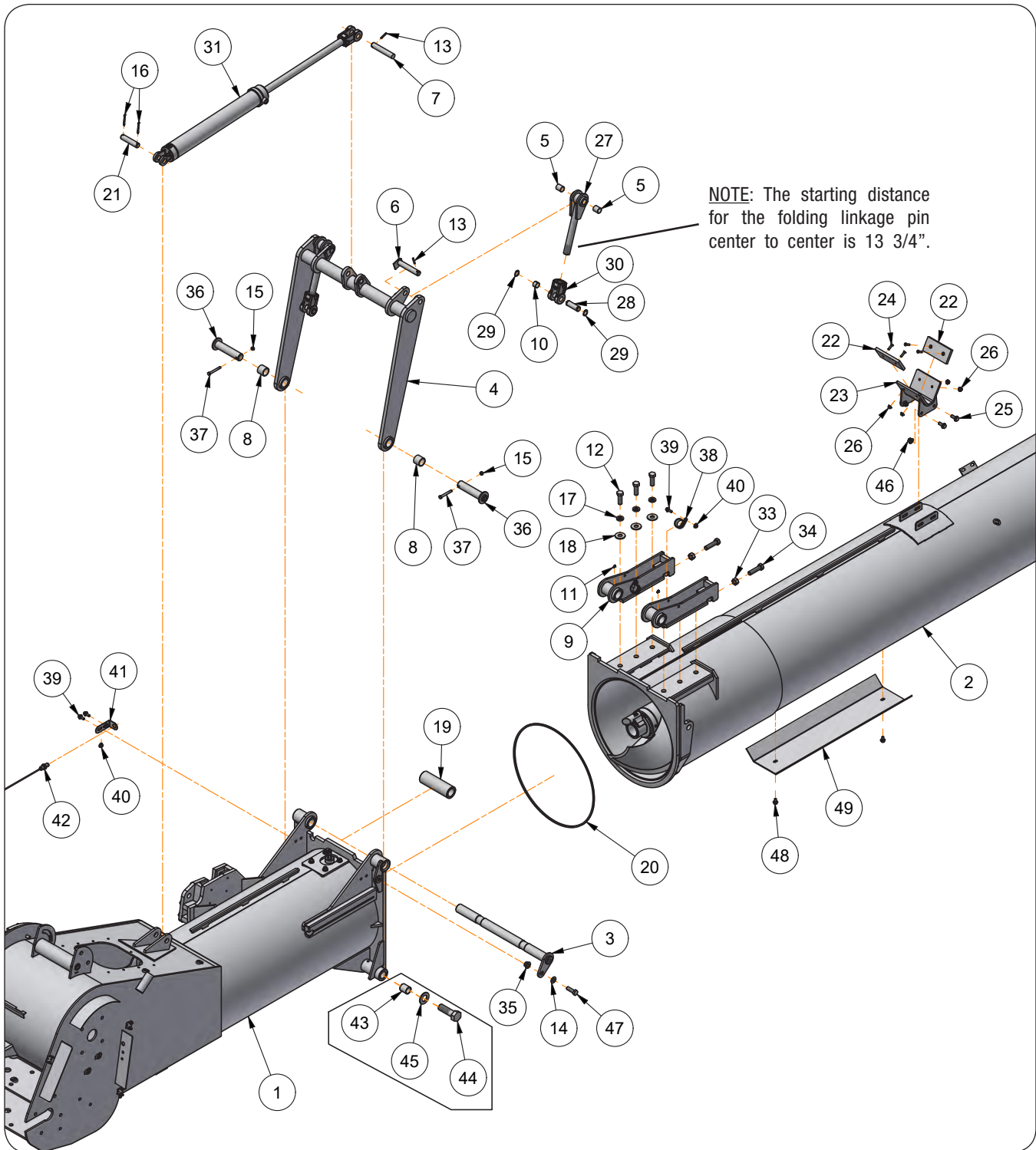
Horizontal Auger Components - SN B40450099 and Lower

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	286379	Auger Driveshaft 2 1/2" Dia.	1	
2	283097G	Cover Plate =Green=	1	
	283097R	Cover Plate =Red=		
3	286282	Adapter/Shaft Bushing Weldment =Primed=	4	
4	286381B	Bearing Mounting Bar =Black=	1	
5	295739B	Rear Lower Auger Replacement Kit =Black=	1	
6	294138B	Front Horizontal Auger Kit =Black=	1	Includes Items: 7, 8, 9, 10, 23
7	294137B	Front Lower Auger Weldment =Black=	1	
8	91299-157	Capscrew, 3/4"-10UNC x 6" Grade 8	2	
9	283535	Auger Tube Adapter	1	
10	283537	Auger Shaft 2.25" Dia.	1	
11	9002479	Adapter 1/8"-27 NPTF Male x 1/8"-27 NPSM Female Swivel Nut	1	
12	9002492	Bearing/Flanged 2" Dia.	1	
13	91267	Locknut 1/2"-13UNC	2	
14	9004731	Pillow Block Bearing with 2 1/2" Bore	1	
15	9004764	90° Elbow 1/8" Female NPTF x 1/8" Female NPTF	1	
16	9006964	Nipple 1/8" NPT Male x 1/8" NPT Male	1	
17	9002689	Hose 1/8" x 12", 3000 PSI	1	
18	9388-104	Carriage Bolt 1/2"-13UNC x 1 1/2" Grade 5	2	
19	91262	Flange Screw 3/8"-16UNC x 1" Grade 5	9	
20	286424B	Bearing Shim Plate =Black=	2	
21	9390-124	Capscrew 5/8"-11UNC x 2" Grade 5	6	
22	9390-160	Capscrew, 3/4"-10UNC x 7 1/2" Grade 5	4	
23	9802	Lock Nut, 3/4"-10UNC	6	
24	9394-014	Hex Nut, 5/8"-11UNC Grade 5	4	
25	9404-029	Lock Washer 5/8"	6	
26	283895	Spacer Bushing, 1 1/4" OD x 0.813" ID x 1 1/8"	4	
27	9005072	90° Elbow 1/4" Tube x 1/8"-27 NPTF Swivel Nut	1	
28	9005074	Nylon Tube 1/4" OD	AR	

Auger Fold Linkage Components

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



Auger Fold Linkage Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	294225G	Lower Auger Housing Replacement Kit =Green=	1	For SN B40450100 & Higher
	294225R	Lower Auger Housing Replacement Kit =Red=		
	287893G	Lower Auger Housing Replacement Kit =Green=		For SN B40450099 & Lower
	287893R	Lower Auger Housing Replacement Kit =Red=		
2	284438G	Upper Auger Housing Replacement Kit =Green=	1	
	284438R	Upper Auger Housing Replacement Kit =Red=		
3	289842	Auger Pivot Pin Weldment	1	For SN B40450100 & Higher
	284485	Auger Hinge Pin		For SN B40450099 & Lower
4	293960G	Auger Fold Linkage Weldment =Green=	1	For SN B40450100 & Higher
	293960R	Auger Fold Linkage Weldment =Red=		
	284510G	Over Center Latch Weldment =Green=		For SN B40450099 & Lower
	284510R	Over Center Latch Weldment =Red=		
5	9003440	Self Lube Bushing, 1.127" OD x 1" ID x 1.25"	4	
6	284555	Pin Weldment, 1" Dia. x 5 1/8"	2	
7	284557	Pin Weldment, 1" Dia. x 4 7/8"	1	
8	9004741	Self Lube Bushing, 1.75" OD x 1.50" ID x 1.50"	2	
9	286515G	Auger Hinge Weldment =Green=	2	
	286515R	Auger Hinge Weldment =Red=		
10	9003636	Self Lube Bushing, 1 1/8" OD x 1" ID x 3/4"	2	
11	91160	Grease Zerk	10	
12	91299-146	Capscrew, 3/4"-10UNC x 2 1/4" Grade 8	8	
13	9392-136	Roll Pin, 1/4" Dia. x 1 1/2"	3	
14	9405-098	Flat Washer, 5/8"	1	For SN B40450100 & Higher
	9395-010	Hex Jam Nut, 1/2"-13UNC Grade 5	2	For SN B40450099 & Lower
15	902875	Center Lock Nut, 3/8"-16UNC	2	For SN B40450100 & Higher
	9399-106	Set Screw, 1/2"-13UNC x 1/2" (Cup Point/Hex Socket)		For SN B40450099 & Lower
16	9391-046	Cotter Pin, 3/16" Dia. x 2"	2	
17	9404-034	Lock Washer, 3/4"	8	
18	9234PL	Flat Washer, 13/16" (Hardened)	8	
19	284493G	Middle Pivot Tube, 2 1/2" OD x 7 5/8" =Green=	1	
	284493R	Middle Pivot Tube, 2 1/2" OD x 7 5/8" =Red=		
20	296290	Lower Auger Seal	1	
21	266285	Cylinder Pin, 1" Dia. x 4 1/2"	1	
22	272574	Pad, 1/2" x 3" x 6 1/2"	2	
23	272553G	Auger Rest Weldment =Green=	1	
	272553R	Auger Rest Weldment =Red=		

(Continued on next page)

Auger Fold Linkage Components (continued)

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

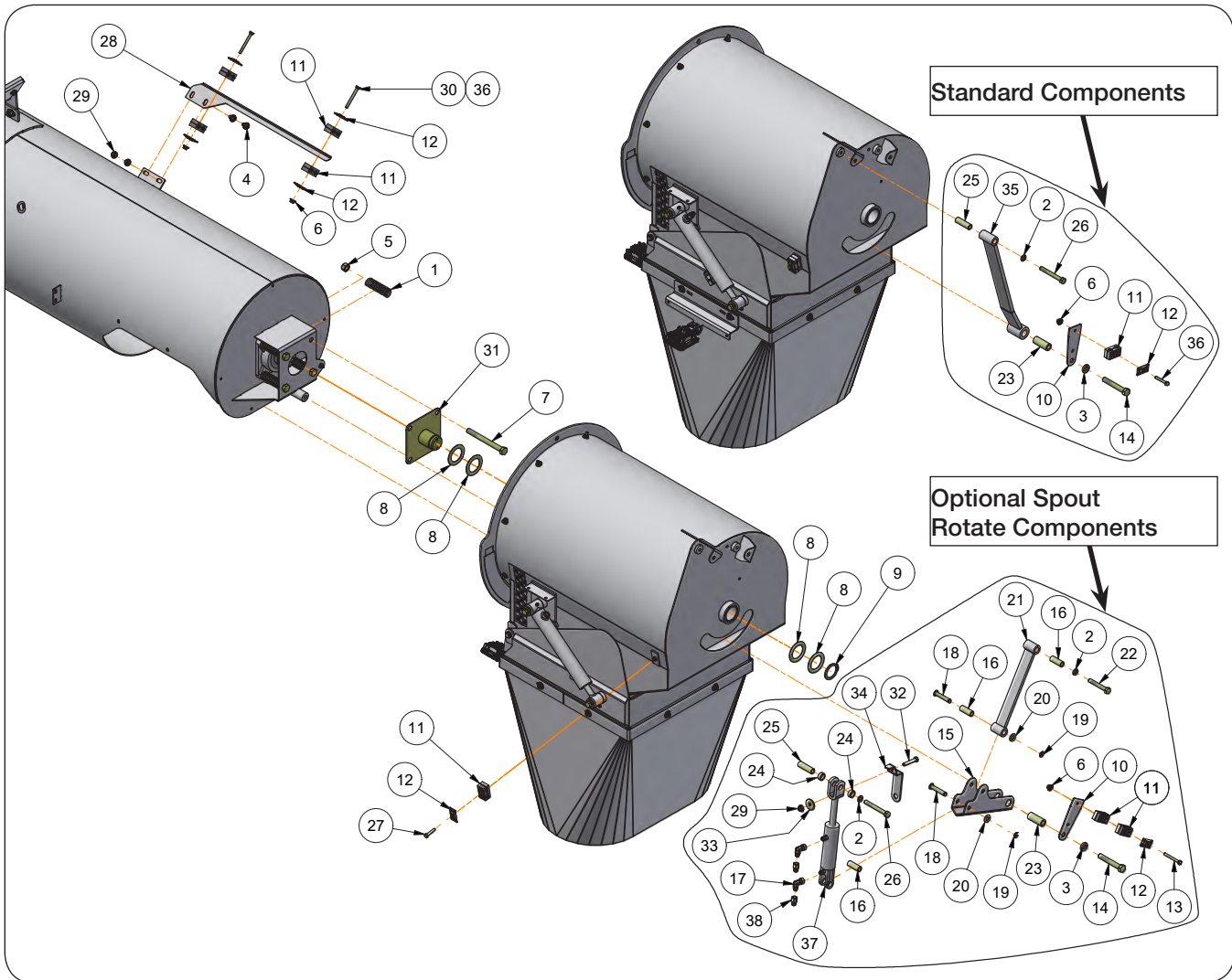
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
24	903171-662	Flat Head Machine Screw, 5/16"-18UNC x 1 1/4"	4	
25	91266	Flange Screw, 1/2"-13UNC x 1 1/4" Grade 5	4	
26	91257	Large Hex Flange Nut, 5/16"-18UNC Grade 5	4	
27	284687	Fold Linkage Weldment	2	
28	272587	Pin, 1" Dia. x 3 1/8"	2	
29	91192	Retaining Ring, 1"	4	
30	9006491	Clevis	2	
31	9004730	Hydraulic Cylinder, 3" x 22" - 3000 PSI	1	
	9003772	Seal Kit	-	
32	92424	Hairpin Cotter	1	
33	9394-016	Hex Nut 3/4"-10UNC	2	
34	94733	Capscrew 3/4-10UNC x 3" Full Threaded	2	
35	9003398	Locknut 5/8"-11UNC	1	For SN B40450100 & Higher
36	293385	Auger Linkage Pin Weldment	2	For SN B40450100 & Higher
37	9390-063	Capscrew, 3/8"-16UNC x 3" Grade 5	2	For SN B40450100 & Higher
38	9008559	Cable Clamp, 1 1/2" Dia. x 3/4" (SS)	2	
39	91262	Flange Screw, 3/8"-16UNC x 1" Grade 5	4	
40	91263	Flange Nut, 3/8"-16UNC	4	
41	272645B	Switch Bracket =Black=	1	
42	9007223	Proximity Sensor	1	
43	284640	Pivot Bushing, 1.5" OD x 1.281" ID x 1.6875"	2	For SN B40450099 & Lower
44	9390-217	Capscrew, 1 1/4"-7UNC x 4" Grade 5	2	For SN B40450099 & Lower
45	9405-128	Flat Washer, 1 1/4"	2	For SN B40450099 & Lower
46	91267	Flange Nut, 1/2"-13UNC Grade 5		
47	9390-124	Capscrew, 5/8"-11UNC x 2" Grade 5	2	For SN B40450100 & Higher
	9390-102	Capscrew, 1/2"-13UNC x 1 3/4" Grade 5		For SN B40450099 & Lower
48	95585	Capscrew, 3/8"-16UNC x 3/4" Grade 5	2	
49	284141G	Strike Plate =Green=	1	
	284141R	Strike Plate =Red=		

Notes

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

Downspout Components

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



Downspout Components

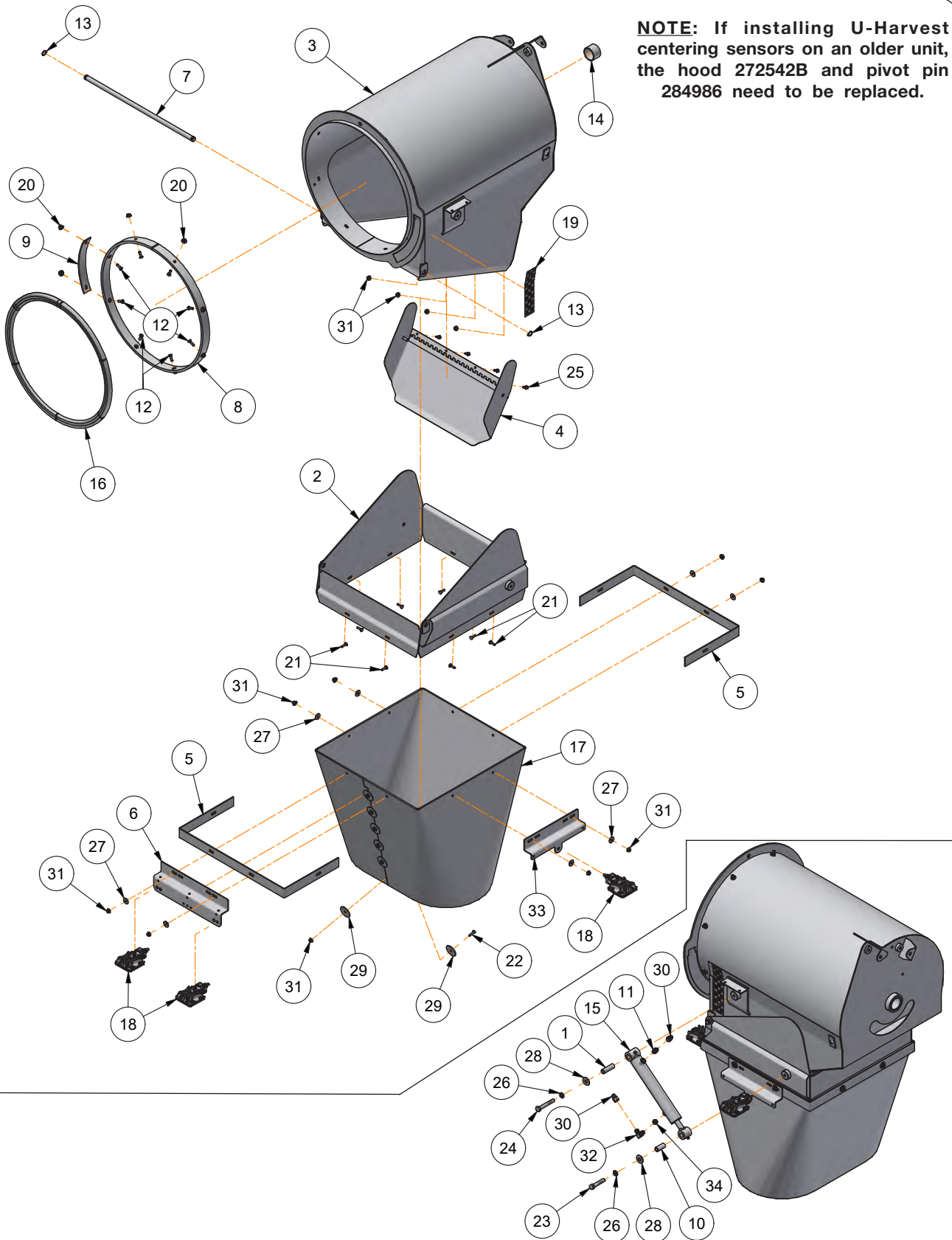
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9004899	Spring-Compression	4	
2	9404-025	Lock Washer, 1/2"	2	
3	9404-030	Lock Washer, 5/8" EXTRA	1	
4	95585	Capscrew/Lrg Flg, 3/8"-16UNC x 3/4" Grade 5	2	
5	9801	Locknut/Top, 5/8"-11UNC	4	
6	91257	Flange Nut, 5/16"-18UNC	3	
7	9390-137	Capscrew, 5/8"-11UNC x 6 1/2" Grade 5	4	
8	93974	Washer, 3" x 2"	4	
9	91178	Retaining Ring	1	
10	272620B	Plate-Hose Bracket =Black=	1	
11	9003816	Poly Clamp Pair (0.54")	4	Standard
			6	Optional Rotating Spout
12	9003814	Top Plate	4	Standard
			6	Optional Rotating Spout
13	9390-037	Capscrew, 5/16"-18UNC x 2 3/4" Grade 5	1	
14	9390-132	Capscrew, 5/8"-11UNC x 4" Grade 5	1	
15	284691B	Bracket-Linkage =Black=	1	
16	285290	Bushing-Sleeve 3/4" OD x .532" ID x 15/16"	3	
17	9876	90° Elbow, 9/16"-18 JIC M/F	2	
18	285219	Pin Weldment	2	
19	9005687	Snap Ring, 1/2"	2	
20	9405-086	Flat Washer, 1/2" SAE	2	
21	284699B	Linkage Weldment =Black=	1	
22	9390-108	Capscrew, 1/2"-13UNC x 3 1/4" Grade 5	1	
23	272619	Bushing-Sleeve 1" OD x .64" ID x 7/16" =Black=	1	
24	268905	Bushing Spacer 1" OD x 1/4" ID x 3/8"	2	
25	272571	Bushing-Sleeve 3/4" OD x .532" ID x 2 7/16"	1	
26	9390-111	Capscrew, 1/2"-13UNC x 4" Gr.5	1	
27	9390-032	Capscrew, 5/16"-18UNC x 1 1/2" Grade 5	1	
28	272570B	Plate-Hose Bracket =Black=	1	
29	91263	Large Flange Nut, 3/8"-16UNC	2	Standard
			3	Optional Rotating Spout
30	9390-038	Capscrew, 5/16"-18UNC x 2" Grade 5	2	Optional Rotating Spout
31	284986	Pin Weldment-Pivot, Hood	1	
32	9390-060	Capscrew, 3/8"-16UNC x 3" Grade 5	1	
33	9005696	Washer-Fender, 3/8"	1	
34	273876B	Plate-Switch Bracket =Black=	1	
35	271338B	Linkage Weldment =Black=	1	
36	9390-034	Capscrew, 5/16"-18UNC x 2" Grade 5	3	Standard
37	9007124	1 1/2" x 3" Hydraulic Cylinder	1	
	9005419	Seal Kit	-	
38	95193	Adapter 9/16"-18 JICF x 9/16"-18 JICM	2	0.030" Red Restrictor

Rotating Spout Components

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

NOTE: If installing U-Harvest centering sensors on an older unit, the hood 272542B and pivot pin 284986 need to be replaced.



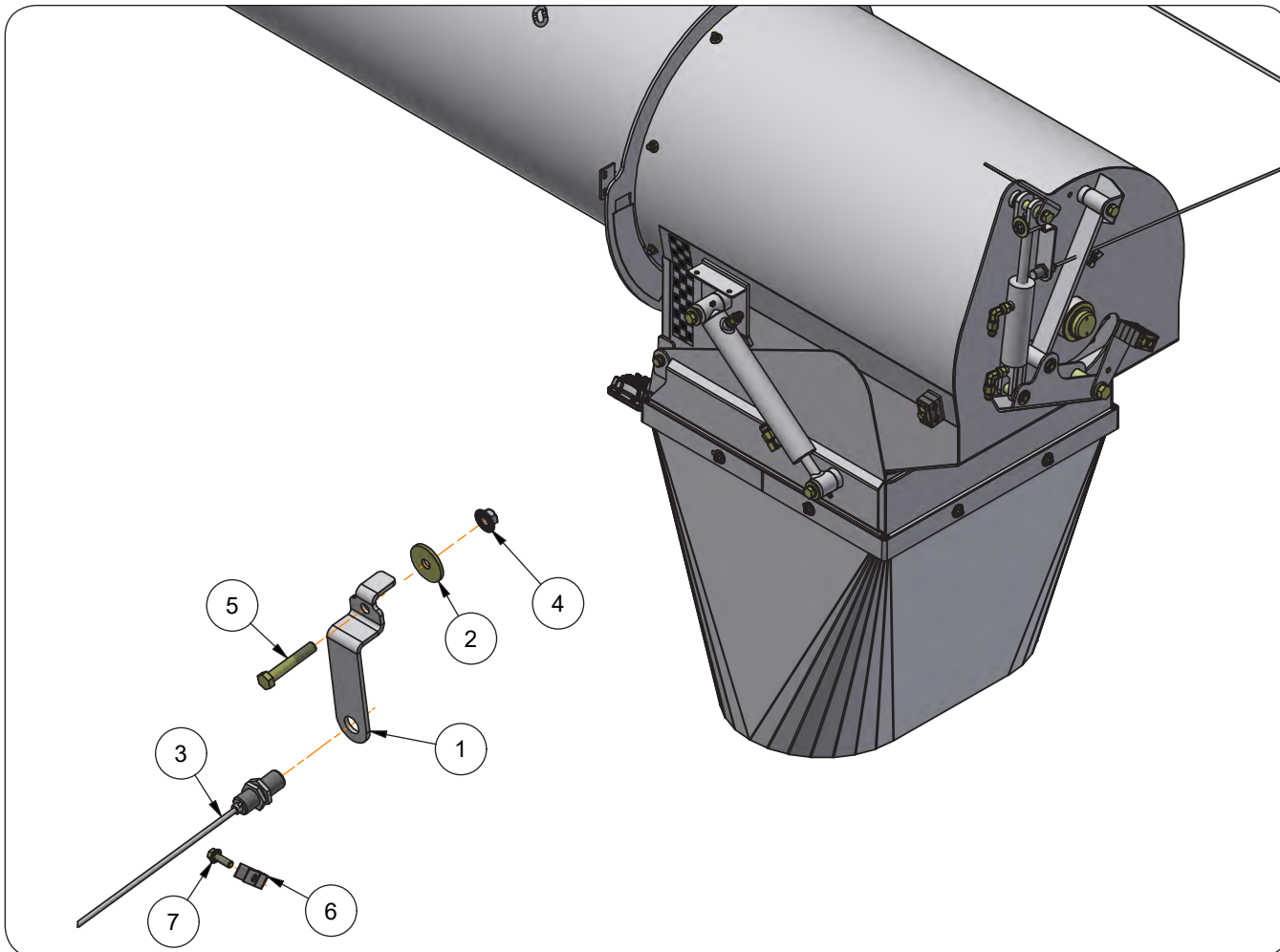
Rotating Spout Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	289863B	Rotating Spout Assembly Less Rotating Cylinder =Black=	-	Includes Items 1 through 34
1	268571	Sleeve Bushing 3/4" Dia. x 0.532" Dia. x 2 3/8"	1	
2	272535B	Spout Weldment =Black=	1	
3	272542B	Hood Weldment =Black=	1	
4	272562B	Deflector Weldment =Black=	1	
5	272565B	Strap Chute Plate =Black=	2	
6	272646B	Light Bracket =Black=	1	
7	272596	Pivot Shaft	1	
8	272599	Wear Ring	1	
9	272600B	Hood Shim Plate =Black=	1	
10	273656	Sleeve Bushing 3/4" Dia. x 0.532" Dia. x 1 11/16"	1	
11	9001495	Adapter 9/16"-18 JIC Male x 9/16"-18 OR Male	1	
12	903171-660	Flat Countersunk Head Machine Screw 5/16"-18UNC x 1"	8	
13	9003810	External Retaining Ring 3/4"	2	
14	9005085	Self Lubricating Bushing 2 1/4" OD x 2" ID x 1 1/2"	1	
15	9005135	Cylinder 1 1/2" x 8"	1	
	9005419	Seal Kit	1	
16	9008122	Trim Seal	7	
17	9006421	Auger Hood 22"	1	
18	9008957	Work Light LED	3	
19	265384	Checker Decal	2	
20	91257	Hex Flange Nut 5/16"-18UNC Grade 5	8	
21	9388-003	Carriage Bolt 1/4"-20UNC x 1" Grade 5	8	
22	9390-005	Capscrew 1/4"-20UNC x 1" Grade 5	6	
23	9390-105	Capscrew 1/2"-13UNC x 2 1/2" Grade 5	1	
24	9390-108	Capscrew 1/2"-13UNC x 3 1/4" Grade 5	1	
25	97420	Flange Screw, 1/4"-20UNC x 3/4" Grade 5	4	
26	9404-025	Split Lock Washer, 1/2"	2	
27	9405-066	Fender Washer 1/4"	8	
28	9405-088	Flat Washer 1/2" USS	2	
29	94763	Fender Washer, 2" OD x 5/16" ID	12	
30	95193	Adapter 9/16"-18 JIC Female x 9/16"-18 JIC Male	2	
31	97189	Large Hex Flange Nut 1/4"-20UNC Grade 5	18	
32	97445	Elbow 90° 9/16"-18 JIC Male x 9/16"-18 OR ADJ Male	1	
33	272841B	Light Bracket =Black=	1	
34	9395-031	Hex Jam Nut 3/8"-16UNC Grade 5	1	

Optional Spout Rotate Switch Assembly Components

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



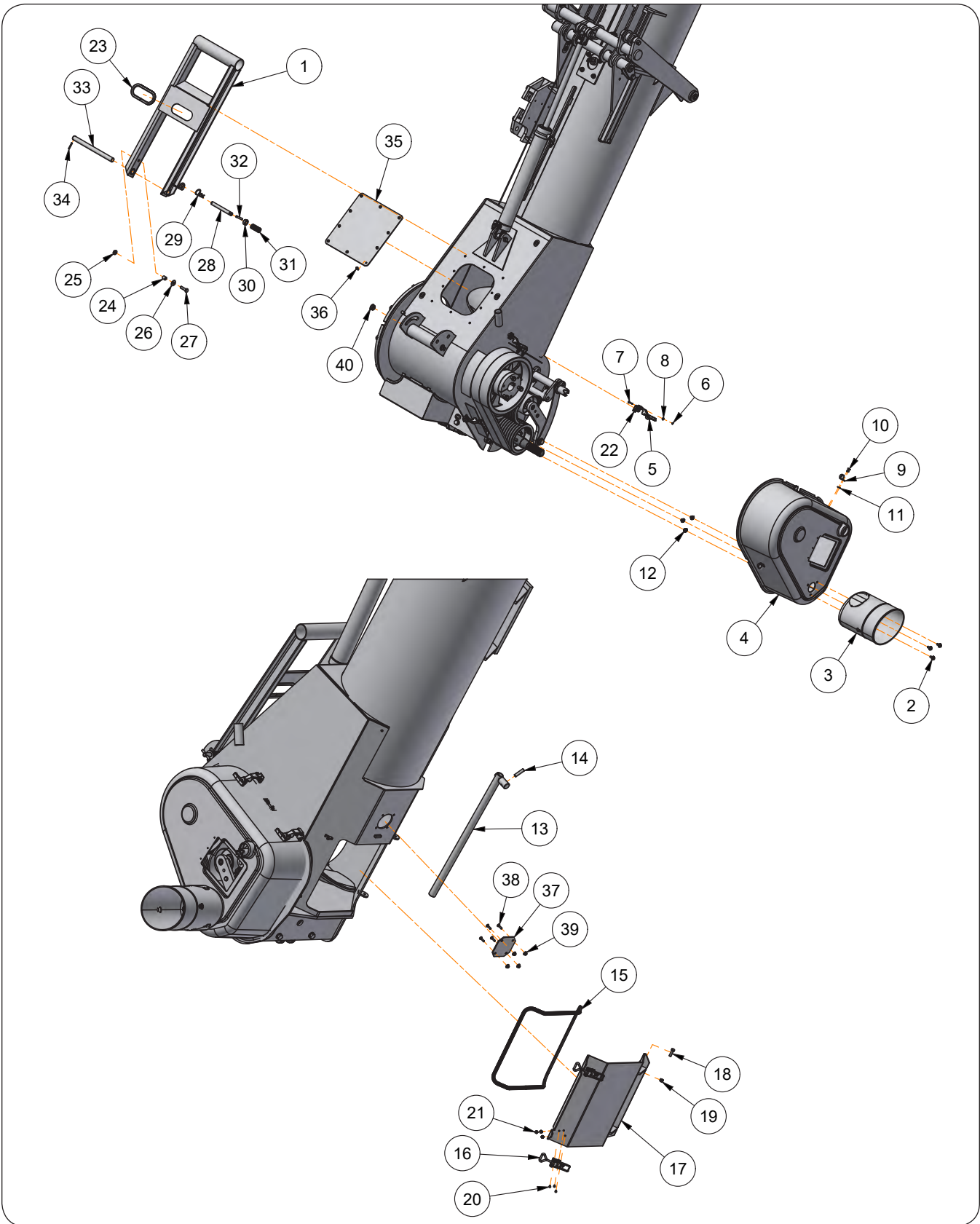
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	273876B	Switch Plate Bracket =Black=	1	
2	9005696	Fender Washer, 3/8"	1	
3	9007223	Proximity Sensor with Connector	1	
4	91263	Large Flange Nut, 3/8"-16UNC Grade 5	1	
5	9390-060	Capscrew, 3/8"-16UNC x 2 1/4" Grade 5	1	
6	96728	Brake Line Clip	1	
7	97420	Flange Screw, 1/4"-20UNC x 3/4" Grade 5	1	

Notes

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

Lower Auger Cleanout Door & Cover Components

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



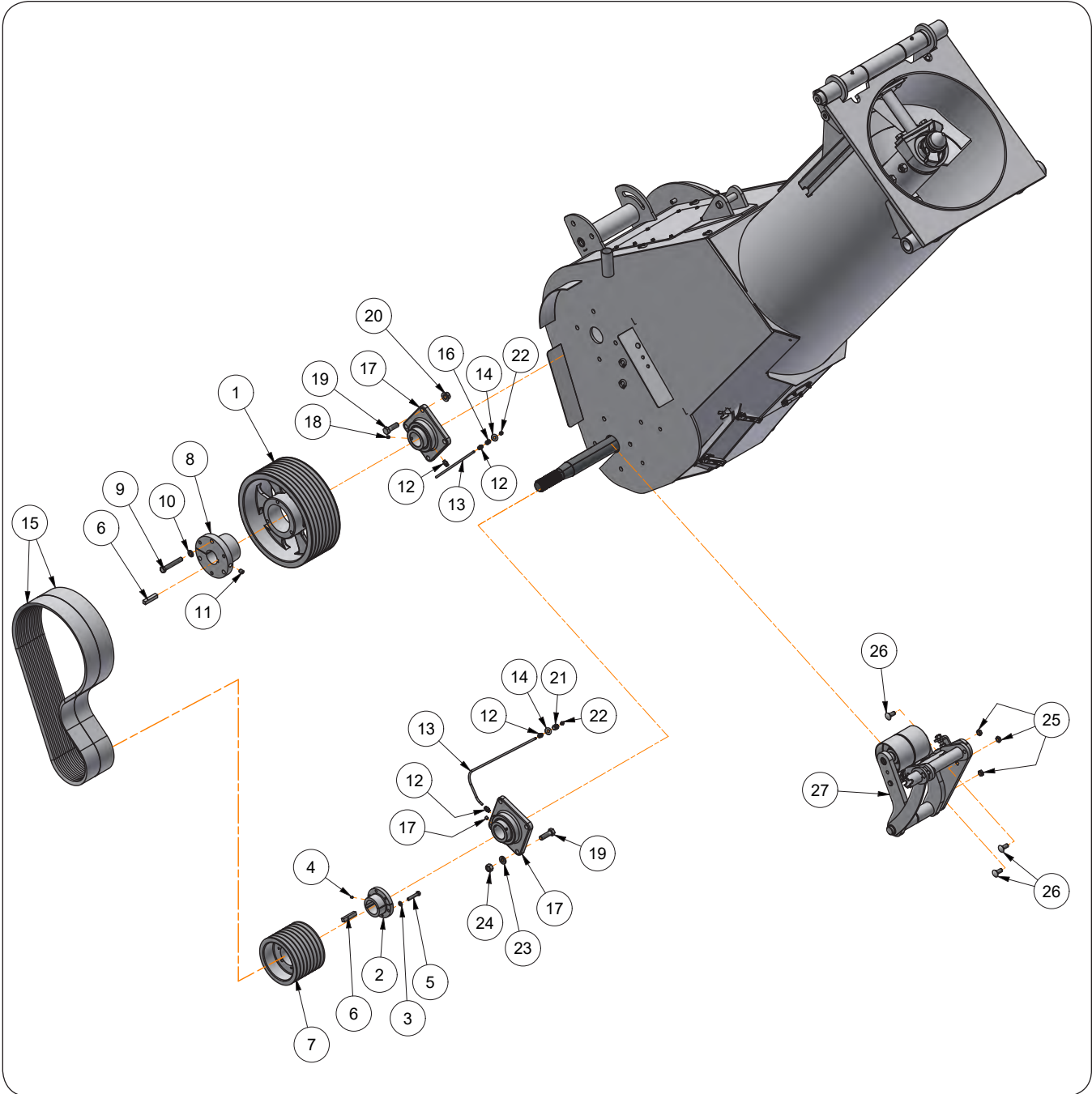
Lower Auger Cleanout Door & Cover Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	272579G	Auger Rest Weldment =Green=	1	
	272579R	Auger Rest Weldment =Red=		
2	95585	Capscrew/Large Flange 3/8"-16UNC x 3/4" Grade 5	3	
3	9004918	PTO Bell Cover	1	
4	9004729	Belt Cover/Shield	1	
5	900060	Handle for Draw Latch	3	
6	900068	"E" Retainer for Draw Latch	3	
7	900066	Stud Pin for Draw Latch	3	
8	900067	Washer for Draw Latch	3	
9	900059	Flexible Draw Latch Asy w/Style R Keeper	3	
10	9004940	Pop Rivet	6	
11	9004998	Rivet Washer/Burr 3/16"	6	
12	91263	Large Flange Nut 3/8"-16UNC Grade 5	3	
13	284714B	Belt Tensioner Handle With Roll Pin =Black=	1	
14	9392-208	Roll Pin 1/2" Dia. x 2"	1	
15	9007108	Gasket w/Adhesive Backing for Cleanout Door	A/R	Specify in Feet
16	9006497	Plate - Latch	2	
17	289854B	Cleanout Door Weldment =Black=	1	For SN B40450100 & Higher
	272595B			For SN B40450099 & Lower
18	9390-056	Capscrew 3/8-16UNC x 1 1/4" Grade 5	2	
19	9928	Locknut 3/8"-16UNC Grade 5	2	
20	903171-574	Flat Countersunk Screw #10-24UNC x 1/2"	6	
21	902331	Flange Hex Nut #10-24 (Serrated)	6	
22	900058	Draw Latch Base	3	
23	9000787	Trim Lock	1.25	Specify in Feet
24	272583	Stop Bushing, 3/4" Dia. x 7/8"	1	
25	9003397	Locking Flange Nut, 1/2"-13UNC Grade 5	1	
26	9405-088	Flat Washer, 1/2" USS	1	
27	9390-124	Capscrew, 5/8"-11UNC x 2" Grade 5	2	For SN B40450100 & Higher
	9390-102	Capscrew, 1/2"-13UNC x 1 3/4" Grade 5		For SN B40450099 & Lower
28	272376	Lock Pin, 3/4" Dia. x 6 3/4"	1	
29	92424	Hairpin Cotter	1	
30	9001868	Locking Collar, 3/4"	1	
31	9004772	Spring	1	
32	9392-182	Roll Pin, 3/8" Dia. x 2 1/2"	1	
33	284549	Pivot Pin, 1" Dia. x 13 1/16"	1	
34	9392-136	Roll Pin, 1/4" Dia. x 1 1/2"	1	
35	283518G	Cover Plate, 14 1/4" x 15" =Green=	1	
	283518R	Cover Plate, 14 1/4" x 15" =Red=	1	
36	97420	Flange Screw, 1/4"-20UNC x 3/4" Grade 5	10	
37	2001446B	Cover Plate, 4 1/2" x 4 1/2" =Black=	1	
38	9388-003	Carriage Bolt, 1/4"-20UNC x 1" Grade 5	4	
39	97189	Hex Nut/Large Flange, 1/4"-20UNC	4	
40	9003412	Split Output Bushing 1" ID	2	

Lower Auger Linkage Components

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



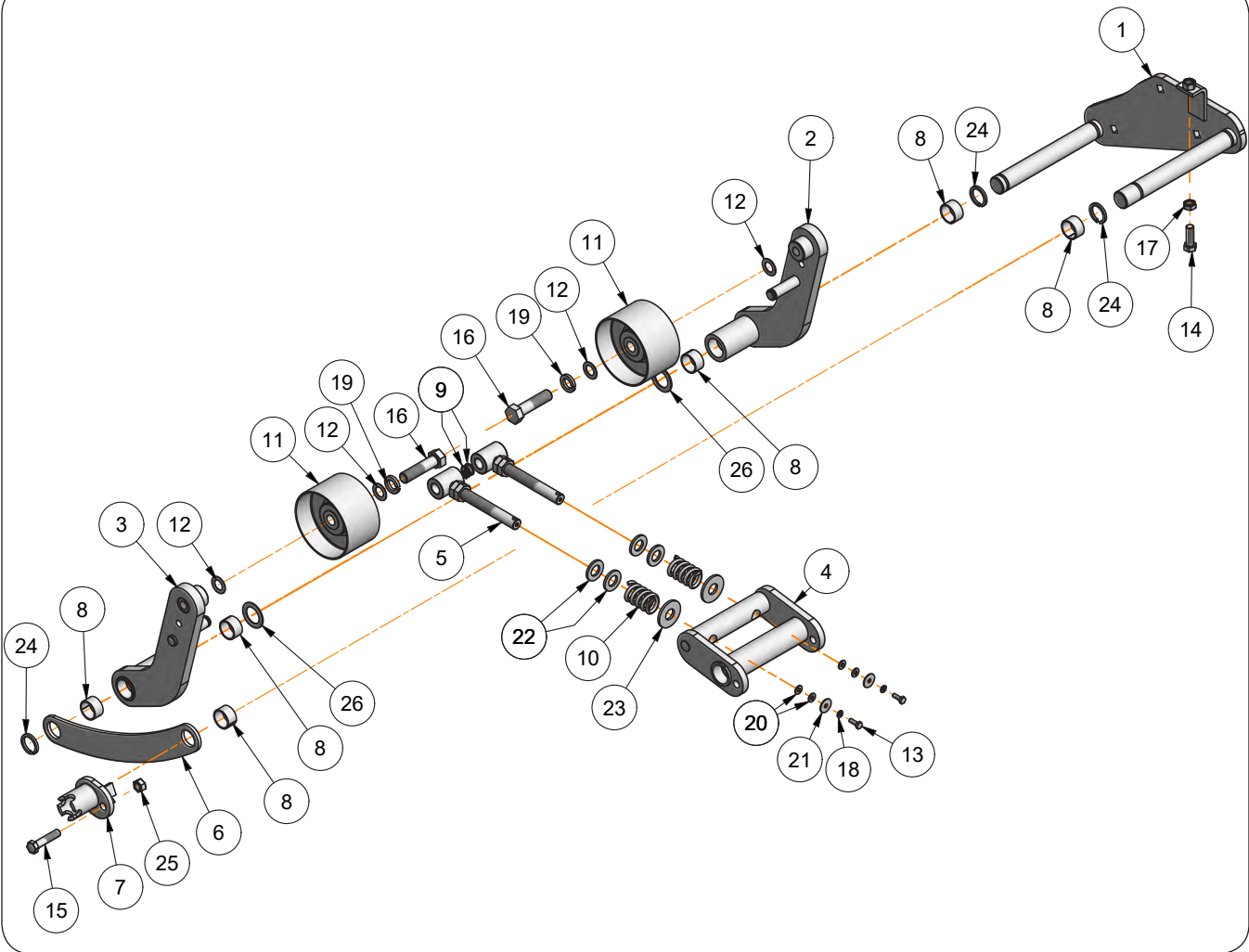
Lower Auger Linkage Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9004590	Pulley, 15" Dia. x 5 13/16"	1	
2	9007376	Bushing, 4 5/8" OD x 2 1/4" ID x 2 1/16" With 1/2 Keyway & Includes Capscrews	1	Includes Items 3, 4, 5
3	9404-021	Lock Washer, 3/8"	3	
4	9399-059	Set Screw, 1/4"-20UNC x 3/8"	1	
5	284262	Split Bushing Hardware Kit	1	Includes Capscrews & Items 3 & 4
6	9002562	Keystock, 1/2" x 1/2" x 2 1/2"	2	
7	9004591	Pulley, 7 1/2" Dia. x 5 13/16"	1	
8	9004813	Bushing, 6 5/8" OD x 2 1/4" ID x 3 3/4" With 1/2" Keyway & Includes Capscrews	1	Includes Items 9, 10, 11
9	9006263	Bolt, 9/16"-12UNC x 3 5/8" Grade 5	3	
10	9404-027	Lock Washer, 9/16"	3	
11	9399-107	Set Screw, 1/2"-13UNC x 5/8"	1	
12	9005073	Quickline Fitting	4	
13	9005074	Grease Hose, 1/4" OD	2	(Specify in Feet)
14	9405-076	Flat Washer, 3/8"	2	
15	281675	Drive Belt Set, 4 Strand (5V750)	1	Included As Matched Pair
16	9003690	Hex Pipe Coupling	1	
17	9005565	Flange Bearing 2 1/4" ID - 4 Bolt	2	
18	9399-084	Set Screw 3/8"-16UNC x 3/8"	4	
19	9390-124	Capscrew, 5/8"-11UNC x 2" Grade 5	8	
20	9003398	Lock Nut/Top, 5/8"-11UNC	4	
21	9003949	Hex Pipe Coupling 1/8" NPTF	1	
22	93426	Grease Zerk, 1/8" NPT	2	
23	9404-030	Lock Washer, 5/8"	4	
24	9394-014	Hex Nut, 5/8"-11UNC Grade 5	4	
25	9008466	Lock Nut/Center Jam, 1/2"-13UNC	3	
26	9388-103	Carriage Bolt, 1/2"-13UNC x 1 1/4" Grade 5	3	
27	283600B	Idler Assembly (Black)	1	Refer to "Lower Auger Idler Assembly Components" for parts list

Lower Auger Idler Assembly Components

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



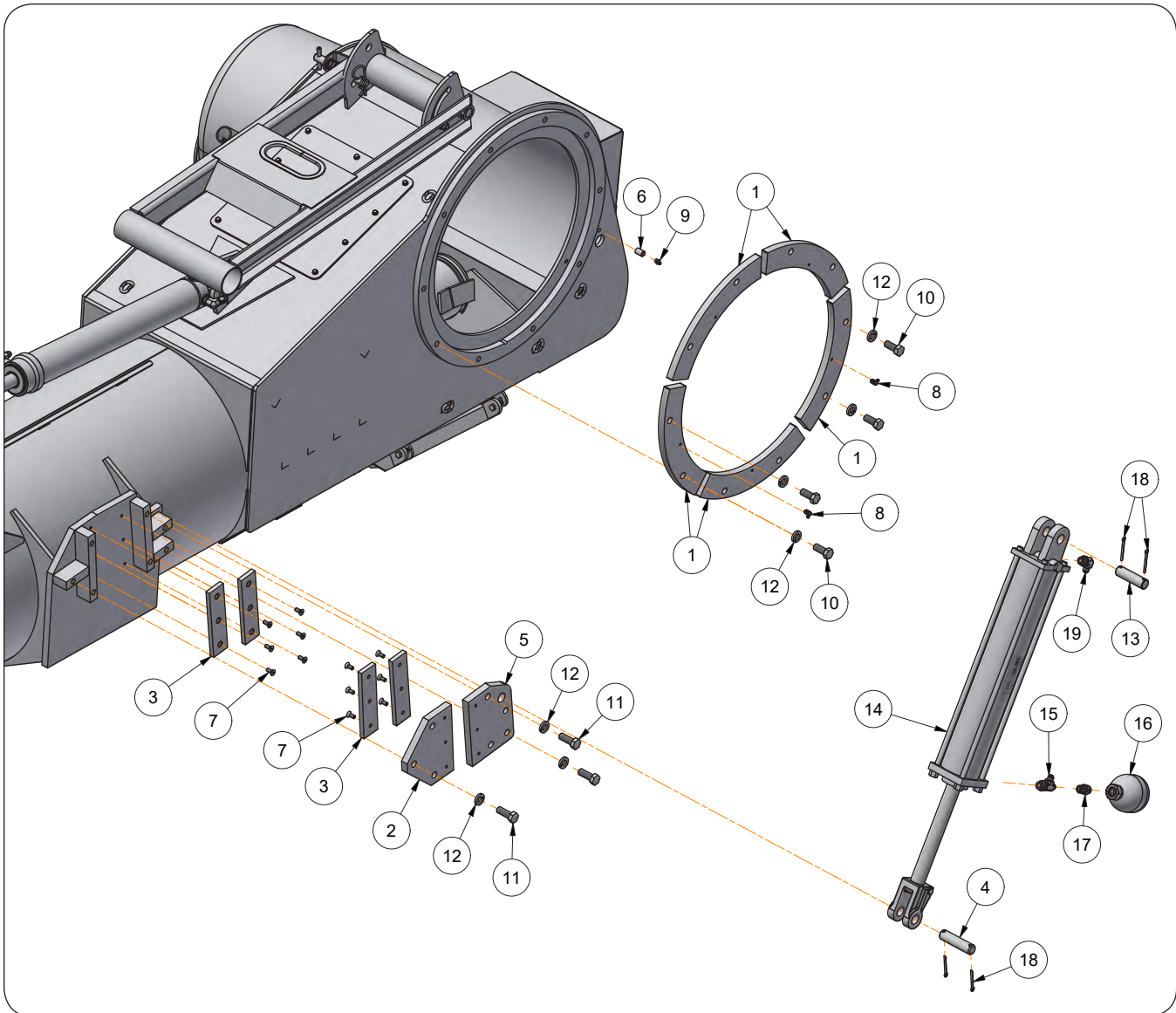
Lower Auger Idler Assembly Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	283600B	Idler Assembly (Black)	1	Includes items 1-26
1	283601B	Idler Mount Weldment =Black=	1	
2	283602B	Inner Idler Arm Weldment =Black=	1	
3	283603B	Outer Idler Arm Weldment =Black=	1	
4	283604B	Tensioner Weldment =Black=	1	
5	283605	Tensioner Rod Weldment	2	
6	283619B	Idler Brace Plate =Black=	1	
7	284703	Tensioner Bushing Weldment	1	
8	9003635	Self-Lubricating Bushing, 1.4" OD x 1.25" ID x 3/4"	6	
9	9003810	Snap Ring	2	
10	9005447	Compression Spring, 1.415" OD x 2 1/2"	2	
11	9005684	Idler Pulley	2	Single Piece Item
	296744B	Idler Pulley Assembly =Black=		Includes Ball Bearing W/Retaining Ring 2"
12	9005685	Machine Washer, 3/4"	4	
13	9390-003	Capscrew, 1/4"-20UNC x 3/4" Grade 5	2	
14	9390-101	Capscrew, 1/2"-13UNC x 1 1/2" Grade 5	1	
15	9390-104	Capscrew, 1/2"-13UNC x 2 1/4" Grade 5	1	
16	9390-149	Capscrew, 3/4"-10UNC x 3" Grade 5	2	
17	9395-010	Hex Jam Nut, 1/2"-13UNC	1	
18	9404-017	Lock Washer, 1/4"	2	
19	9404-033	Lock Washer, 3/4"	2	
20	9405-062	Flat Washer, 1/4" SAE	4	
21	9405-066	Flat Washer, 1/4"	2	
22	9405-104	Flat Washer, 3/4" SAE	4	
23	9405-106	Flat Washer, 3/4" USS	2	
24	94144	Retaining Ring, 1 1/4"	4	
25	94981	Locknut, 1/2"-13UNC	1	
26	TA500397	Bushing, 1.875" Dia. x .074"	2	

Lower Auger Retainer Components

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



Lower Auger Retainer Components

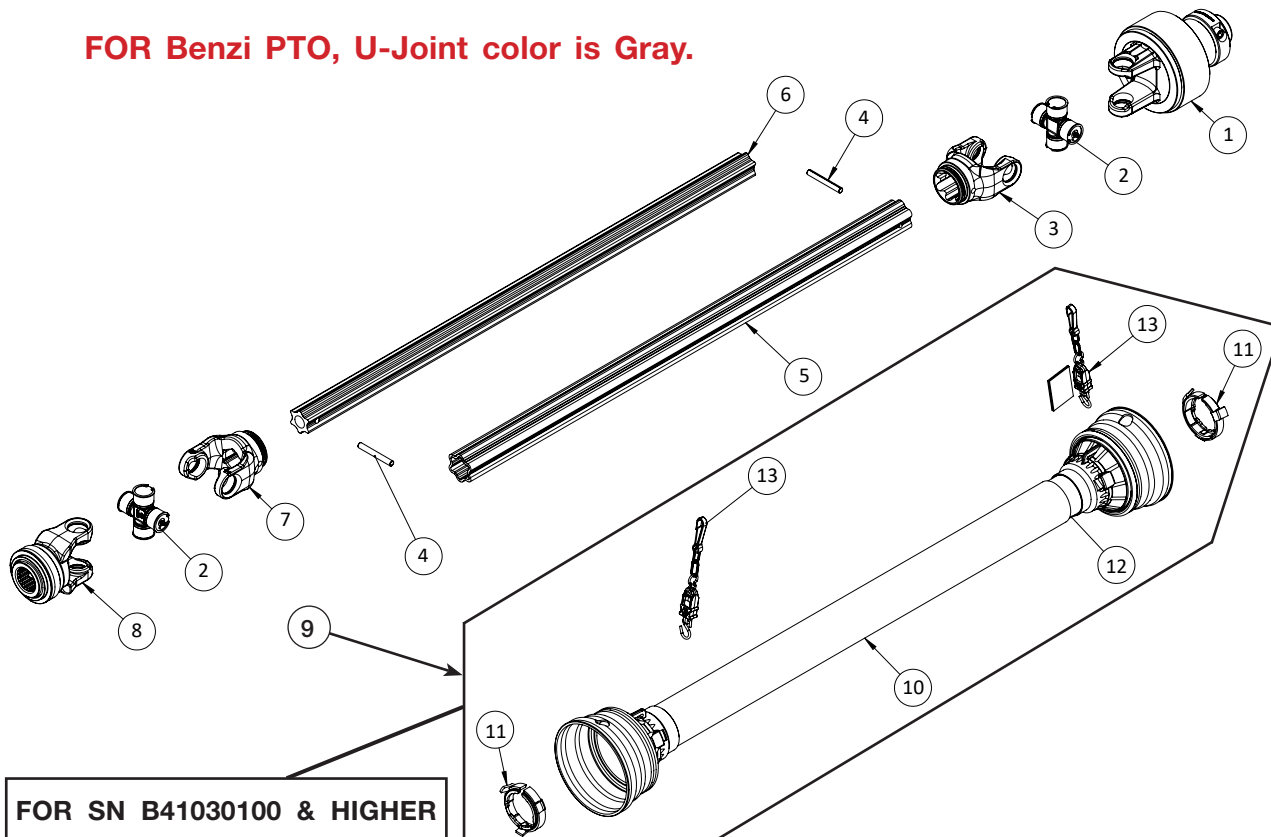
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	284464B	Pivot Retainer Plate, 4 3/8" x 15 1/16" =Black=	5	
2	271119B	Fold Plate, 6 1/2" x 8" =Black=	1	
3	271124	Nylon Fold Slide, 2" x 8"	4	
4	250104	Pin, 1" Dia. x 4"	1	
5	284518B	Fold Plate, 6" x 8" =Black=	1	
6	9002538	Pipe Coupling, 1/8" NPT	1	
7	9001688	Flat Head Hex Socket Capscrew, 5/16"-18UNC x 3/4"	12	
8	93415	90° Grease Zerk, 1/4"-28 NPT	5	
9	93426	Grease Zerk, 1/8"-27 NPT	1	
10	9390-122	Capscrew, 5/8"-11UNC x 1 1/2" Grade 5	10	
11	9390-123	Capscrew, 5/8"-11UNC x 1 3/4" Grade 5	7	
12	9404-030	Lock Washer, 5/8"	17	
13	804572	Pin, 1" Dia. x 3 1/2"	1	
14	9000933	Hydraulic Cylinder, 3 1/2" x 20"	1	
	9001081	Seal Kit	-	
15	9002155	Tee, 9/16"-18 JICM x 3/4"-16 O-RM x 9/16"-18 JICM	1	
16	9002719	Accumulator, 1800 PSI - Precharge Temp Range 14-176 Deg.	1	
17	9002720	Adapter, 3/4"-16 O-Ring Male x 9/16"-18 JIC Female Swivel Nut	1	
18	9391-046	Cotter Pin, 3/16" Dia. x 2"	4	
19	9874	90° Elbow, 9/16"-18 JICM x 3/4"-16 O-RM	1	

Cut Out Clutch PTO Assembly - Benzi

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

FOR Benzi PTO, U-Joint color is Gray.

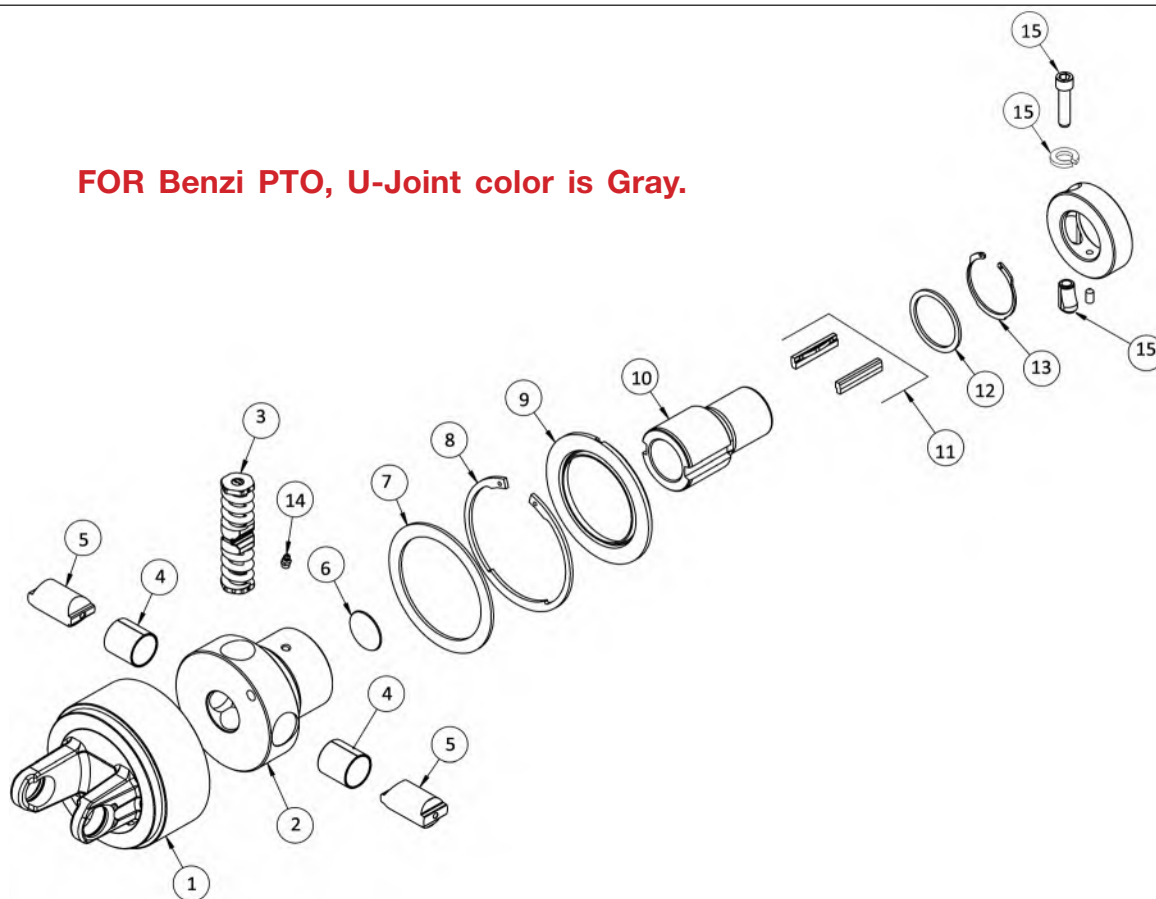


ITEM	PART NO.	DESCRIPTION	QTY	NOTES	
	9008527	Complete Driveline Assembly 1 3/4"-20 Spline	1	Includes Items 1-9	
	9009250	Front Half Driveline Assembly 1 3/4"-20 Spline w/Overrunning Clutch	1	Includes Items 2, 4, & 6-9	
	9009251	Rear Half Driveline Assembly 1 3/4"-20 Spline w/CAM Cut Out Clutch	1	Includes items 1-5 & 9	
1	9008791	Clutch Assembly (3200 N-m Setting)	1	1 3/4"-20 Spline 1000RPM	
2	9008792	U-Joint Assembly	2		
3	9008793	Outer Yoke	1		
4	9008794	Tension Pin	2		
5	9008795	Outer Profile Tube w/ Cap	1		
6	9008796	Inner Profile Tube w/ Cap	1		
7	9008797	Inner Yoke	1		
8	9008798	Yoke Assembly	1		
9	9009188	Safety Guard Assembly	1	For SN B41030100 & Higher Includes Items 10 - 13	
	10	N/A	Outer Guard Half	1	Not For Individual Sale. See Item 9
	11	9008801	Guarding Cone Retainer Clip Package	1	Package of 2
	12	N/A	Inner Guard Half	1	Not For Individual Sale. See Item 9
	13	9008804	Chain	2	

Cut Out Clutch Components - Benzi

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

FOR Benzi PTO, U-Joint color is Gray.



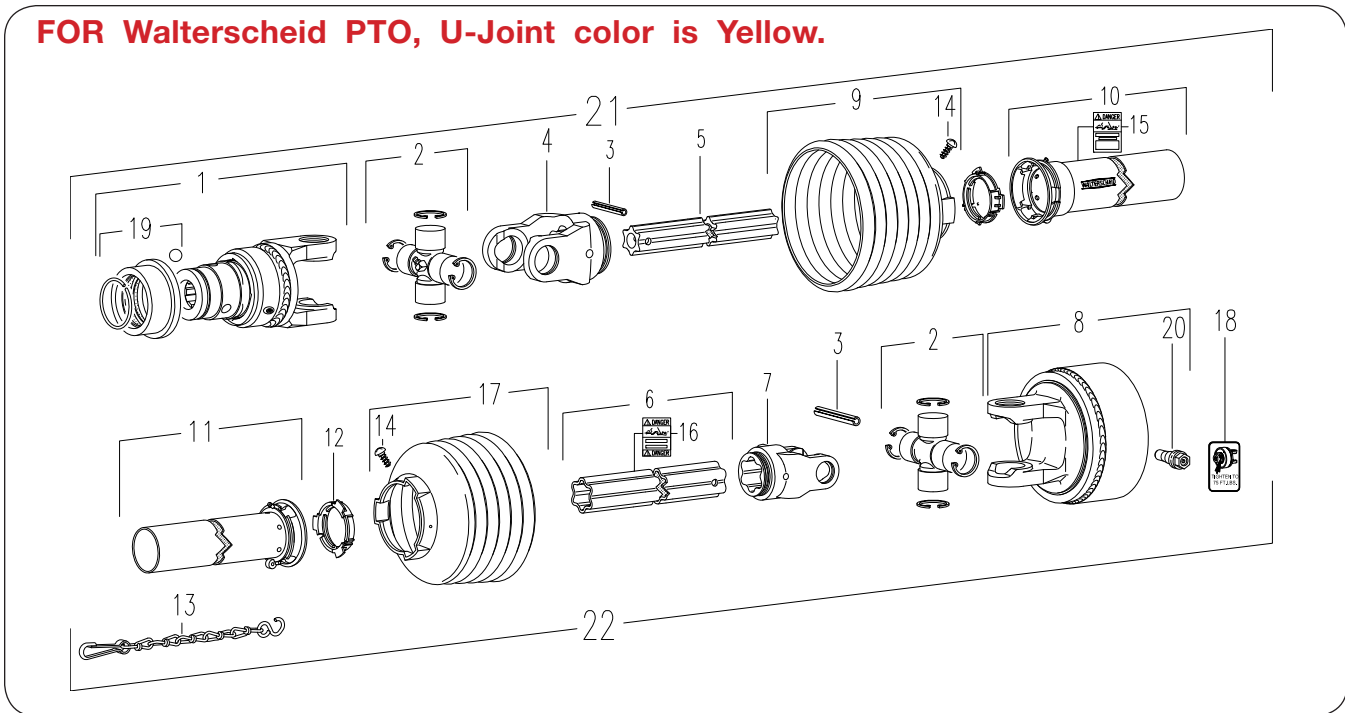
NOTE: Clutch Assembly (9008791) must be used with the Complete PTO Assembly (9008527).

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9008791	Cut Out Clutch (3200 N*m Setting)		Includes Items 1-15
1	9008775	Housing Weld	1	
2	9008776	Cam Clutch Hub 1 3/4"-20 Spline	1	
3	9008777	Automatic Cam Clutch	1	
4	9008778	Bushing	2	
5	9008779	Pusher Rod	2	
6	9008780	Closer Ring	1	
7	9008781	Washer 6 5/8" Dia.	1	
8	9008782	Circlip 6 5/8" Dia.	1	
9	9008783	Seal Ring	1	
10	9008784	Overrunning Clutch Hub	1	
11	9008785	Spring Pack	1	
12	9008786	Washer	1	
13	9008787	Circlip	1	
14	9008788	Grease Zerk (M8)	1	
15	9008789	Conic Bolt Set	1	

Cut Out Clutch PTO Assembly - Walterscheid

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

FOR Walterscheid PTO, U-Joint color is Yellow.

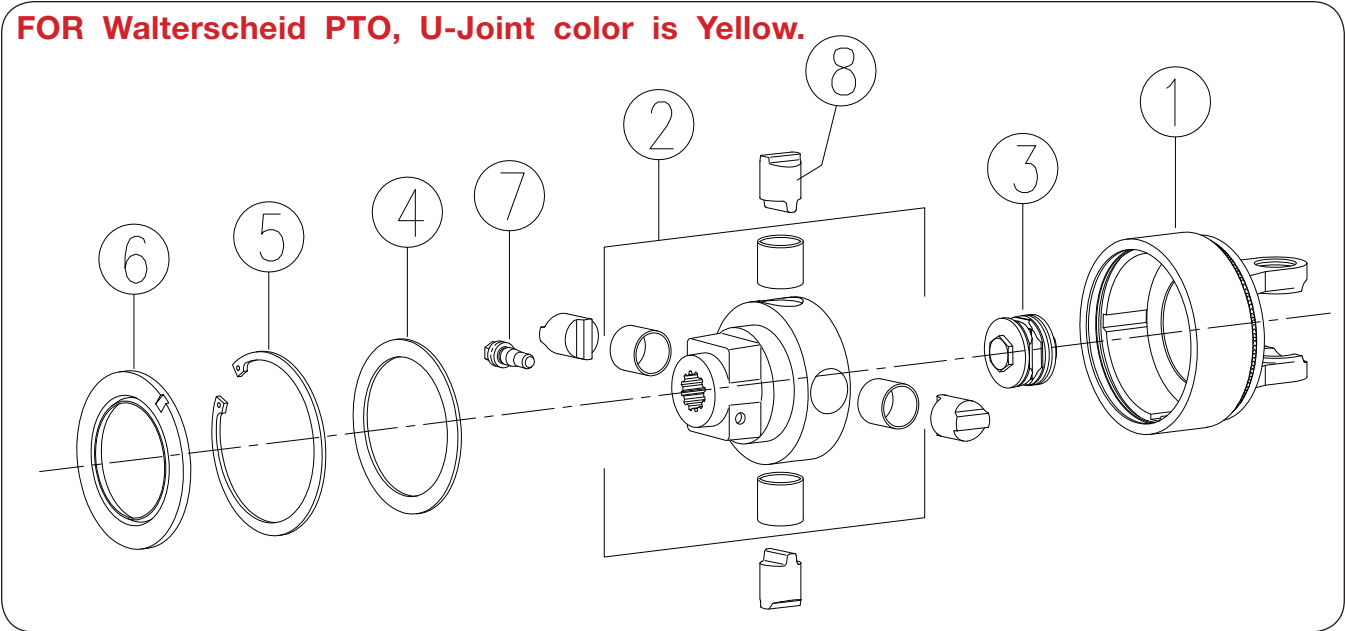


ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9005230	PTO Assembly Complete		Includes Items 19 & 20
1	9005234	Over-Running PTO Clutch Assembly	1	
2	92529	Cross & Bearing Kit	2	
3	9002609	Spring Pin 10x90	2	
4	9002610	Inboard Yoke S4	1	
5	9004840	Inner Profile	1	
6	9004841	Outer Profile	1	
7	9002613	Inboard Yoke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

Cut Out Clutch Components - Walterscheid

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

FOR Walterscheid PTO, U-Joint color is Yellow.

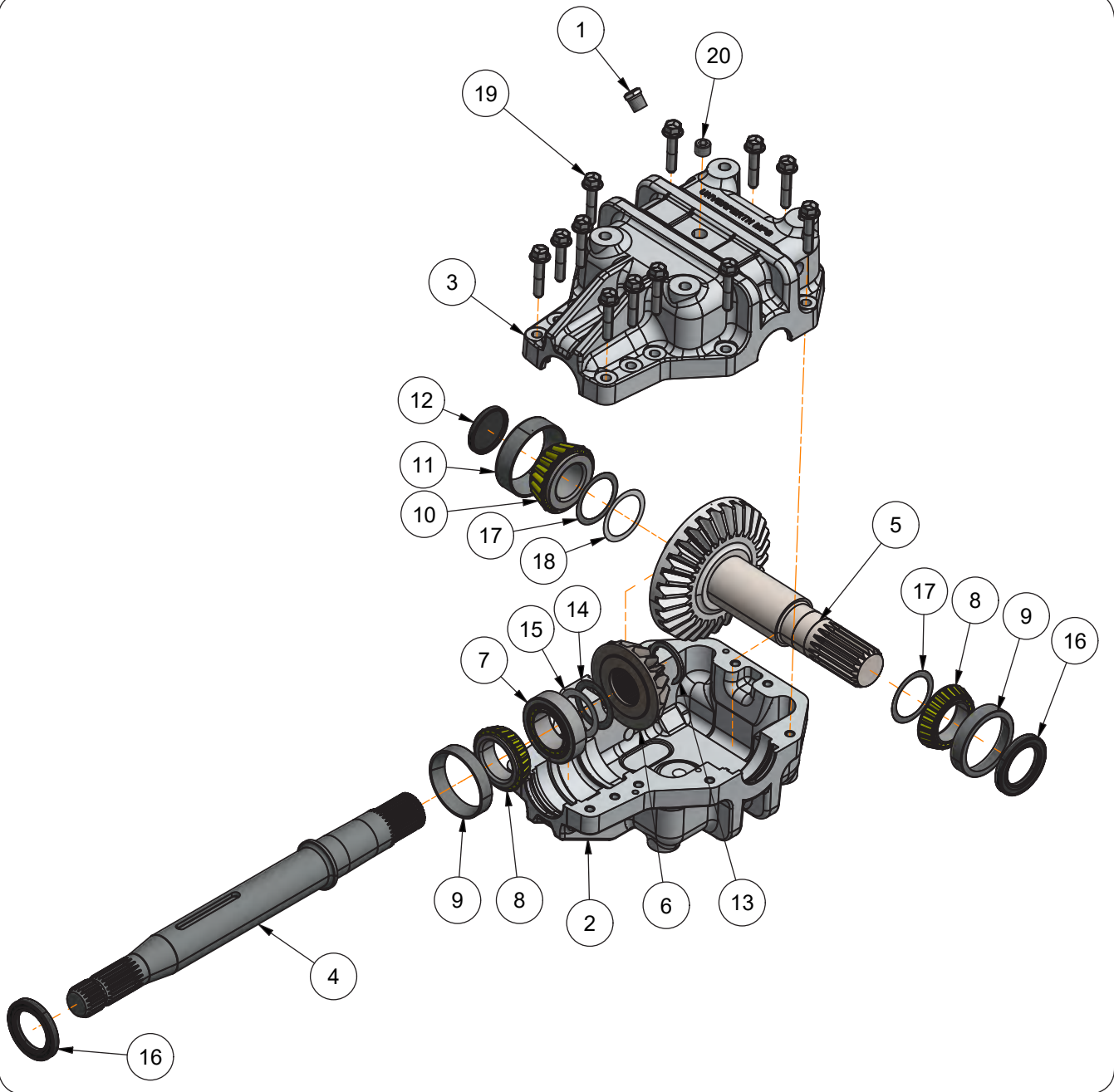


NOTE: Cut Out Clutch (9005235) must be used with the Complete PTO Assembly (9005230). This will not work with the Friction Clutch PTO Assembly (9005245).

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9005235	Cut Out Clutch (3200 N*m Setting)		Includes Items 1-8
1	9005247	Clutch Housing	1	
2	9005248	Clutch Hub 1 3/4"-20 Spline	1	
3	9005249	Spring Pack	1	
4	9005250	Washer	1	
5	9005251	Retaining Ring	1	
6	9005252	Sealing Ring	1	
7	9005253	Clutch Clamp Cone Assembly	1	
8	9005254	Clutch Cam	4	

Gearbox Components

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



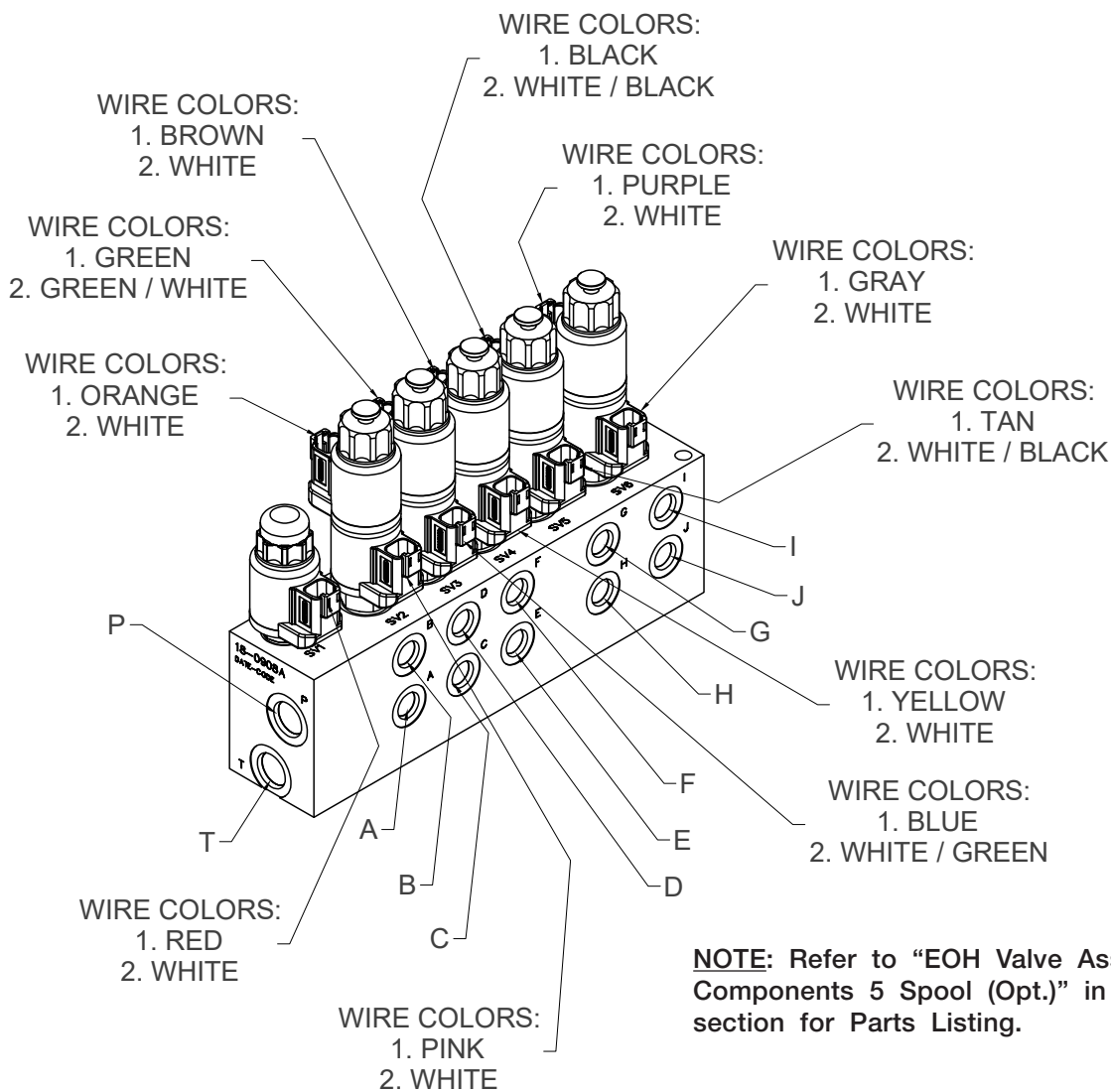
Gearbox Components

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

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

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

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



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

Notes

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

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

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

Cartridge Valve (9008416) & (9008463)

Correct Middle Detent Position

Incorrect Top & Bottom Detent Position

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

(S1)

(S2)

PUSH BUTTON AND HOLD WHILE OPERATING INDIVIDUAL FUNCTIONS

Cartridge Valve (9008438)

FOR MANUAL OVERRIDE

NOTE: Refer to “Manual Override for Optional Electric Over Hydraulic System” in MAINTENANCE section.

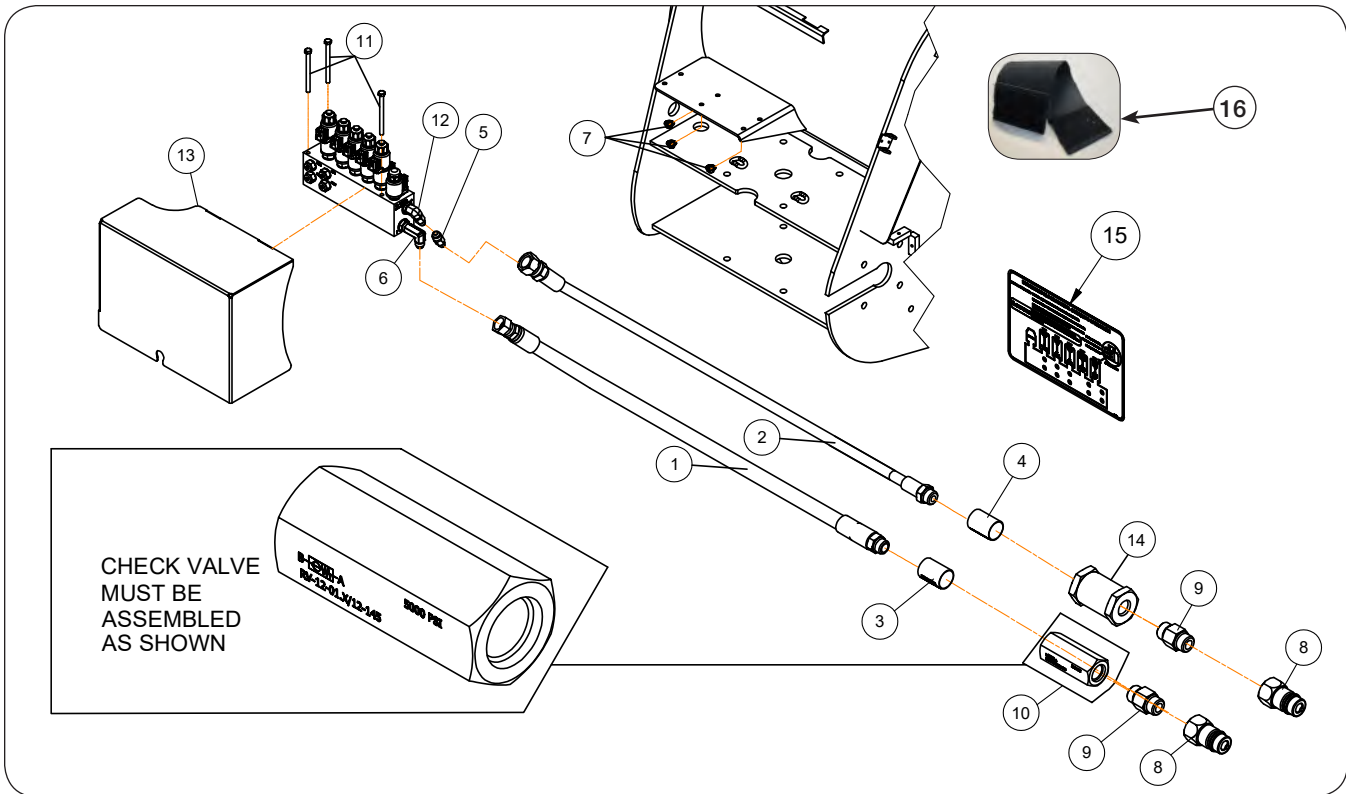
**Electric Over Hydraulic (EOH) Valve Assembly Components
5 Spool (Optional)**

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

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

EOH Tractor Circuit Hydraulic Components - Optional

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



EOH Tractor Circuit Hydraulic Components - Optional

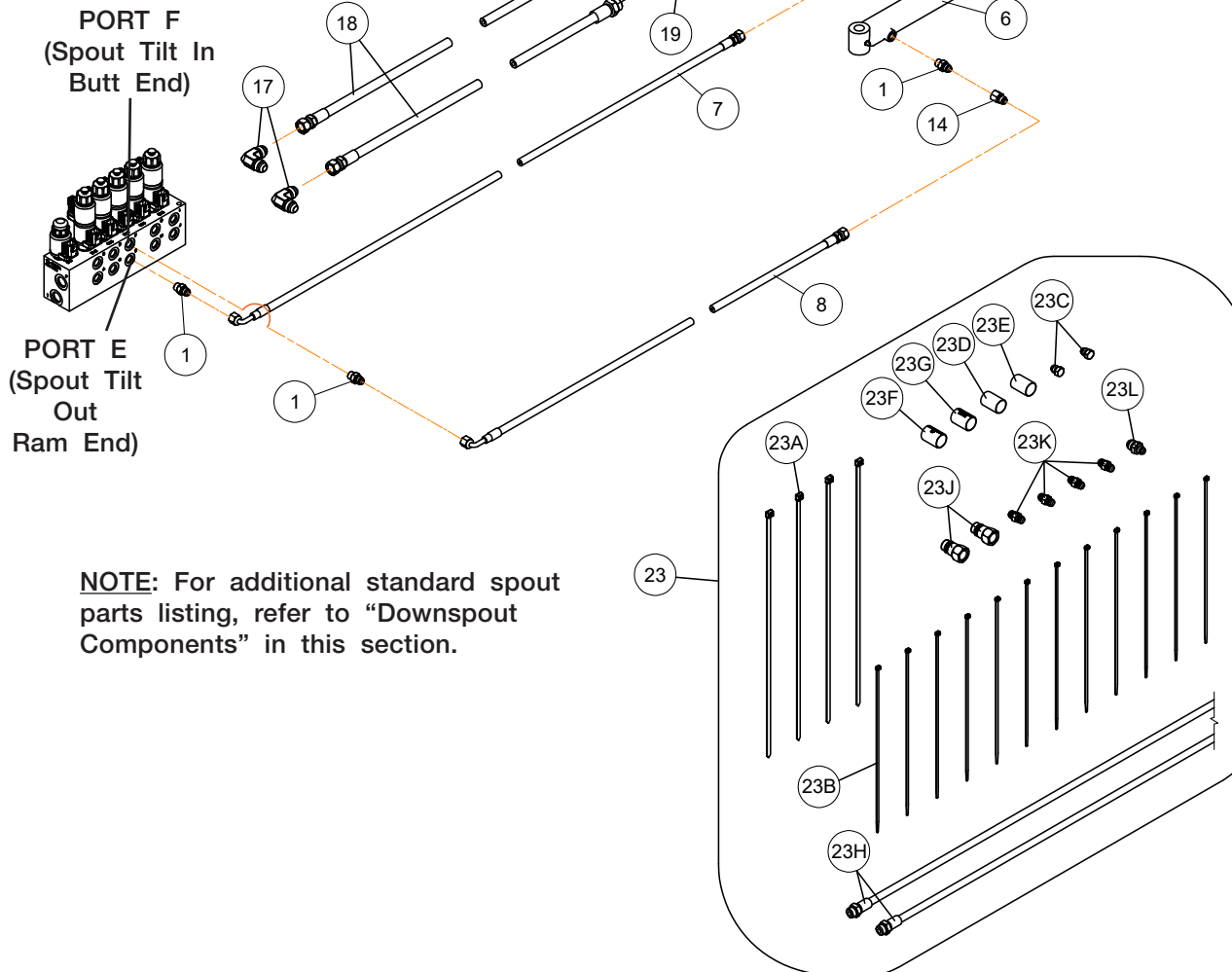
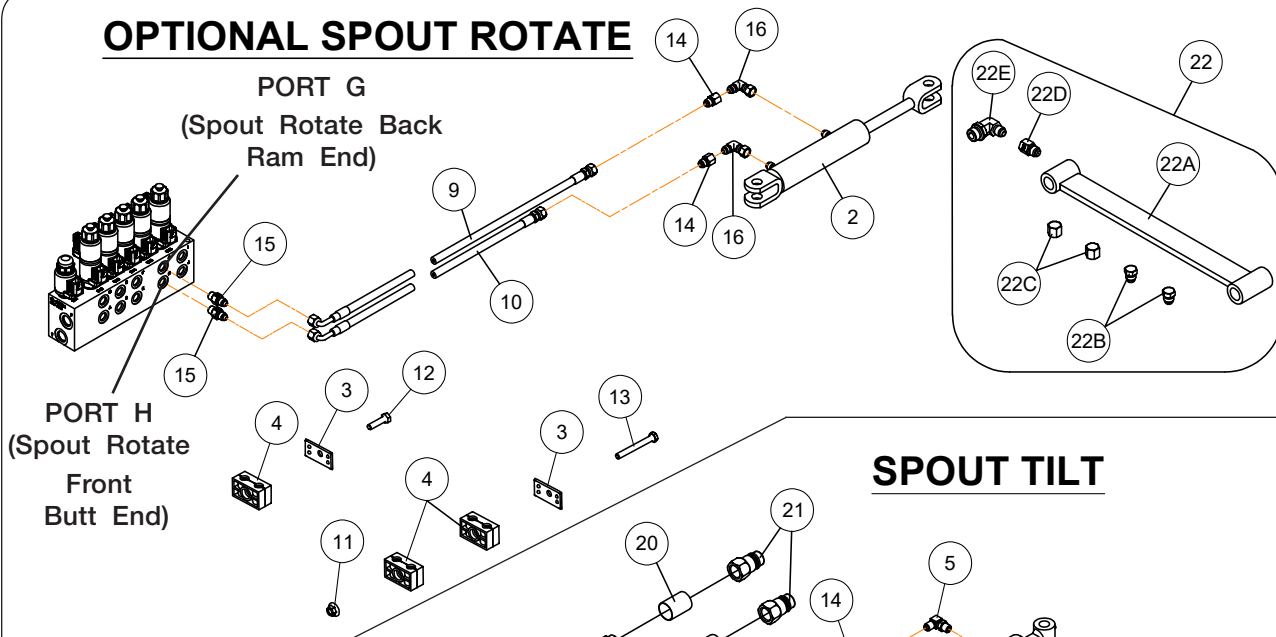
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	95802	Hydraulic Hose, 1/2" x 205" - 3000 PSI	1	
2	9005574	Hydraulic Hose, 1/4" x 208" - 3000 PSI	1	
3	9005983	Hose Marker Sleeve - Hydraulic Return (Red)	1	Joystick / Spout Rotate Front
4	9005982	Hose Marker Sleeve - Hydraulic Pressure (Red)	1	Joystick / Spout Rotate Back
5	9006527	JIC Tube Reducer 9/16"-18 UNF M x 9/16"-UNF F	1	
6	901568	Elbow, 90° Extra Long 3/4"-16 JIC x 3/4"-16 O-Ring M	1	
7	91257	Large Flange Hex Nut, 5/16"-18UNC Gr.5	3	
8	91383	Male Tip Coupling, 3/4"-16	2	
9	98508	Adapter 3/4"-16 O-Ring M x 3/4"-16 O-Ring M	2	
10	9006994	Check Line Valve 145 PSI	1	
11	9390-042	Capscrew, 5/16"-18UNC x 4" Gr.5	3	
12	9874	Elbow, 90° 9/16"-18 JIC M x 3/4"-16 OR ADJ M	1	
13	272606B	Valve Cover Plate	1	Also Order Item #15
14	9005403	120 Micron Hydraulic Filter	1	
15	9008564	Decal, CAUTION (Valve Block)	1	Located Inside Cover Plate #13
16	9003848	Velcro Hose Wrap, 2" I.D. x 127"	1	

EOH Spout Rotate Option and Tilt Hydraulic Components

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

OPTIONAL SPOUT ROTATE



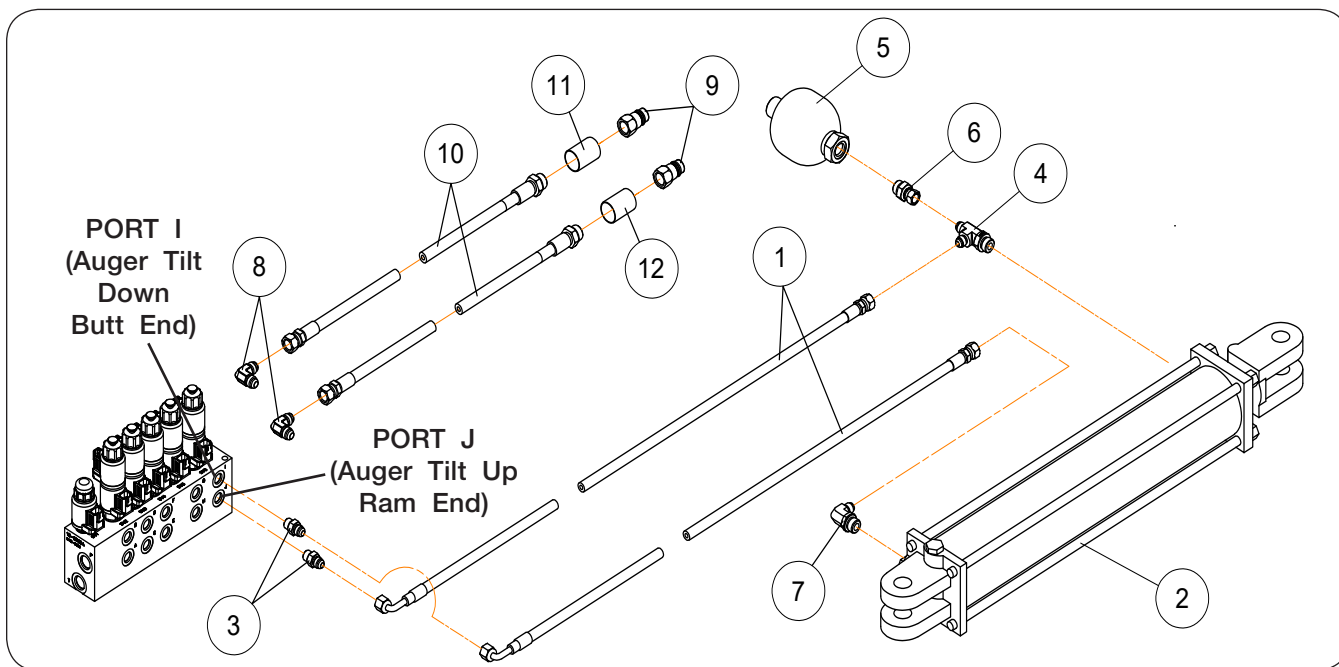
EOH Spout Rotate Option and Tilt Hydraulic Components

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9001495	Adapter, 9/16"-18 JIC M x 9/16"-18 OR M	3	Optional EOH Spout Tilt
			1	Standard Spout Tilt
2	9007124	Hydraulic Cylinder, 1 1/2" x 3" - 3000 PSI	1	Optional EOH Spout Rotate
	9005419	Seal Kit	-	
3	9003814	Clamp Top Plate, 1/4" x 1 1/8" x 2 1/16"	4	
4	9003816	Clamp, Polypropylene	4	
5	9004379	Elbow, 90° 9/16"-18 JIC M x 9/16"-18 OR ADJ M	1	
6	9005135	Hydraulic Cylinder, 1 1/2" x 8" - 3000 PSI	1	
7	9006579	Hydraulic Hose, 1/4" x 321" - 3000 PSI	1	
8	9006580	Hydraulic Hose, 1/4" x 312" - 3000 PSI	1	
9	9006581	Hydraulic Hose, 1/4" x 295" - 3000 PSI	1	Optional EOH Spout Rotate
10	9006582	Hydraulic Hose, 1/4" x 290" - 3000 PSI	1	
11	91257	Large Flange Hex Nut, 5/16"-18UNC Grade 5	1	
12	9390-031	Capscrew, 5/16"-18UNC x 1 1/4" Grade 5	1	
13	9390-037	Capscrew, 5/16"-18UNC x 2 3/4" Grade 5	3	
14	95193	Adapter, 9/16"-18 JIC F x 9/16"-18 JIC M	5	
15	98435	Adapter, 9/16"-18 JIC M x 9/16"-18 OR M	4	Optional EOH Spout Rotate (Includes 0.030" Red Restrictor)
16	9876	Elbow, 90° 9/16"-18 JIC M x 9/16"-18 JIC F	2	Optional EOH Spout Rotate
17	9897	Elbow, 90° 9/16"-18 JIC M x 9/16"-18 JIC M	2	
18	9005574	Hydraulic Hose, 1/4" x 208" - 3000 PSI	2	
19	9003999	Hose Marker Sleeve - Spout Out (Yellow)	1	
20	9004000	Hose Marker Sleeve - Spout In (Yellow)	1	
21	91383	Male Tip Coupling, 3/4"-16	2	
22	286910	Spout Rotate Lock Out Kit	1	When Optional Electric-Over-Hydraulic Items are Installed, Remove Items 22A through 22E
22A	286914B	15" Link Weldment, Spout Lockout =Black=	1	
22B	9001825	Plug, 9/16"-18 JIC M	2	
22C	9001850	Cap Nut, 9/16"-18 JIC F	2	
22D	9002199	Reducer, 9/16"-18 JIC F x 9/16"-18 JIC M	1	
22E	9874	Elbow, 90° 9/16"-18 JIC M x 3/4"-16 OR Adj M	1	
23	286920	Hydraulic Conversion Kit (EOH TO SCV)	1	
23A	9000104	Cable Tie, 5/16" x 21 1/2"	4	
23B	9000107	Cable Tie, 14 1/2" x 0.19"	12	
23C	9001825	Plug, 9/16"-18 JIC M	2	
23D	9003999	Sleeve-Hose Marker, Spout Out (Yellow)	1	
23E	9004000	Sleeve-Hose Marker, Spout In (Yellow)	1	
23F	9004001	Sleeve-Hose Marker, Auger Pivot Up (Orange)	1	
23G	9004002	Sleeve-Hose Marker, Auger Pivot Down (Orange)	1	
23H	9005574	Hydraulic Hose, 1/4" x 208" - 3000 PSI	2	
23J	91383	Male Tip Coupling, 3/4"-16	2	
23K	92295	Adapter, 9/16"-18 JIC M x 9/16"-18 JIC M	4	
23L	95975	Adapter, 3/4"-16 JIC M x 9/16"-18 JIC M	1	

Auger Pivot Hydraulic Components

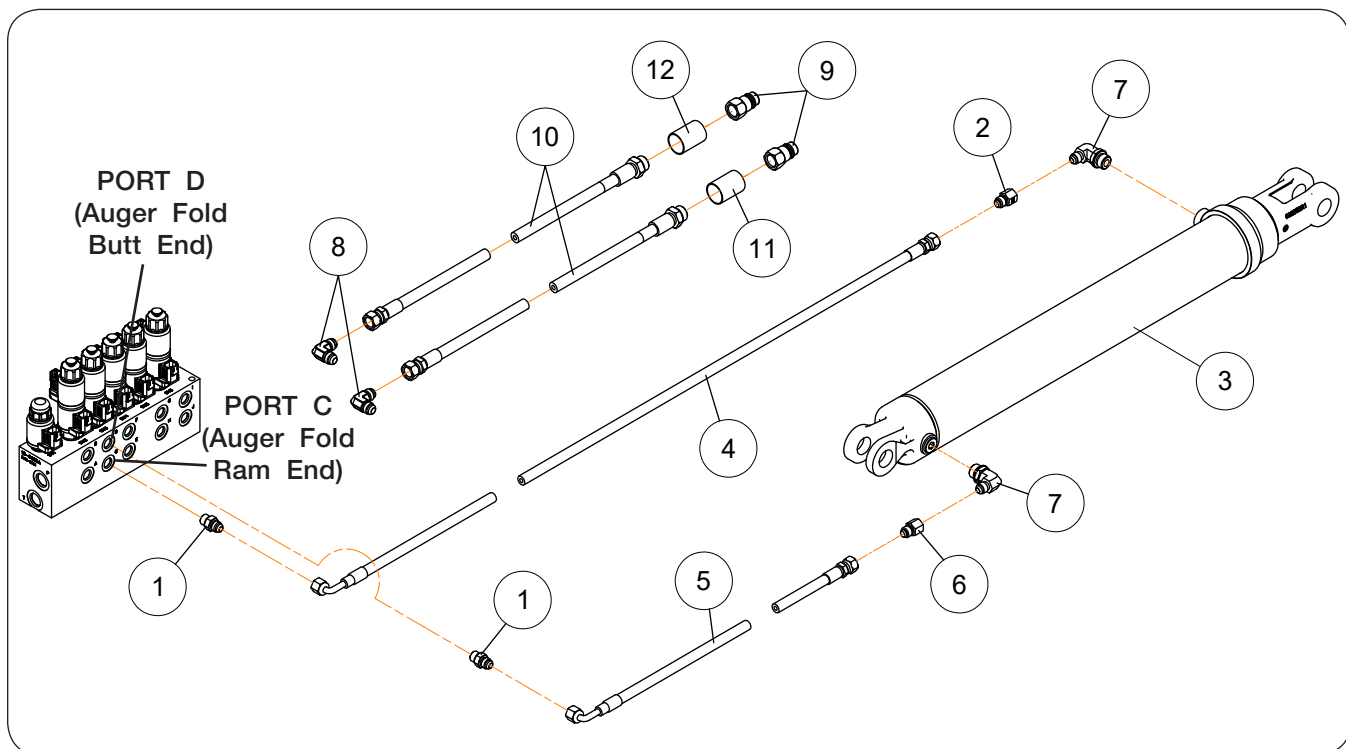
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9000925	Hydraulic Hose, 1/4" x 78" - 3000 PSI	2	
2	9000933	Hydraulic Cylinder, 3 1/2" x 20" - 3000 PSI	1	
	9001081	Seal Kit	-	
3	9001495	Adapter, 9/16"-18 JIC M x 9/16"-18 OR M	2	Optional EOH (Includes 0.030" Red Restrictor)
4	9002155	Tee, 9/16"-18 JIC M x 3/4"-16 OR ADJ M	1	
5	9002719	Accumulator - 1800 PSI	1	
6	9002720	Adapter, 3/4"-16 OR M x 9/16"-18 JIC F	1	
7	9874	Elbow, 90° 9/16"-18 JIC M x 3/4"-16 OR ADJ M	1	
8	9897	Elbow, 90° 9/16"-18 JIC M x 9/16"-18 JIC M	2	
9	91383	Male Tip Coupling, 3/4"-16	2	
10	9005574	Hydraulic Hose, 1/4" x 208" - 3000 PSI	2	
11	9004001	Hose Marker Sleeve - Auger Pivot Up (Orange)	1	
12	9004002	Hose Marker Sleeve - Auger Pivot Down (Orange)	1	

Auger Fold Hydraulic Components

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

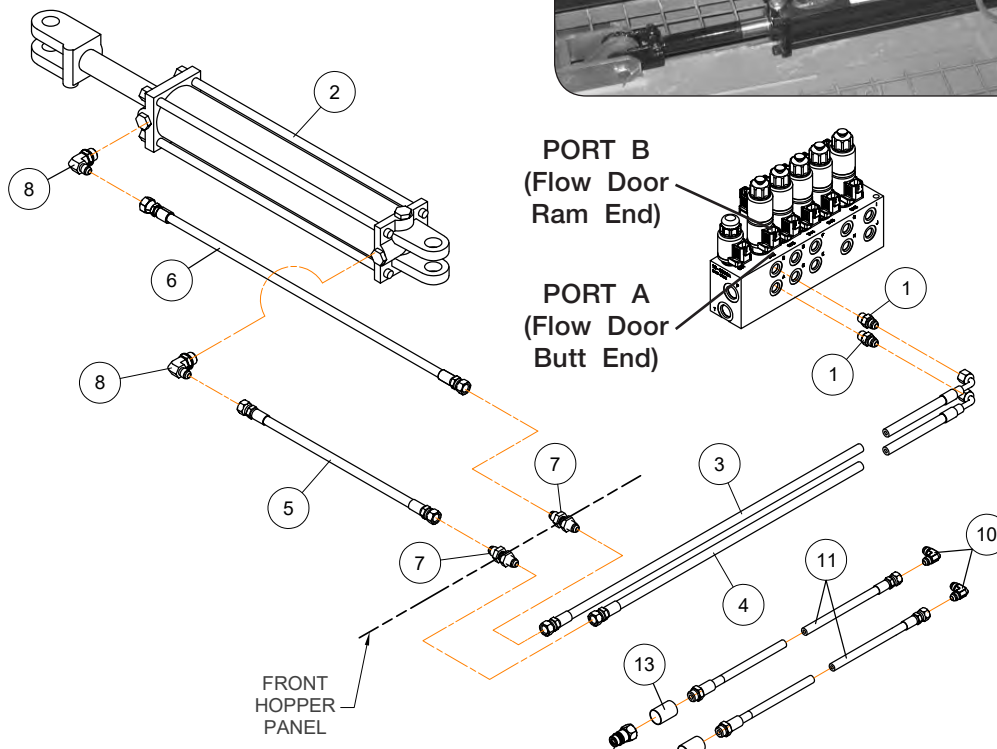


ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9001495	Adapter, 9/16"-18 JIC Male x 9/16"-18 OR Male	2	Optional EOH (Includes 0.030" Red Restrictor)
2	9002199	Reducer, 9/16"-18 JIC Female x 9/16"-18 JIC Male	1	0.060" Yellow Restrictor
3	9004730	Hydraulic Cylinder, 3" x 22" - 3000 PSI	1	
	9003772	Seal Kit	-	
4	9006608	Hydraulic Hose, 1/4" x 84" - 3000 PSI	1	
5	93594	Hydraulic Hose, 1/4" x 59" - 3000 PSI	1	
6	9003303	Adapter, 9/16"-18 JIC Female x 9/16"-18 JIC Male	1	0.045" Blue Restrictor
7	9874	Elbow, 90° 9/16"-18 JIC Male x 3/4"-16 OR ADJ Male	2	
8	9897	Elbow, 90° 9/16"-18 JIC Male x 9/16"-18 JIC Male	2	
9	91383	Male Tip Coupling, 3/4"-16	2	
10	9005574	Hydraulic Hose, 1/4" x 208" - 3000 PSI	2	
11	9003997	Hose Marker Sleeve - Auger Raise (Green)	1	
12	9003998	Hose Marker Sleeve - Auger Lower (Green)	1	

**Flow Door Circuit Hydraulic Components
5 Function Hydraulic Block**

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

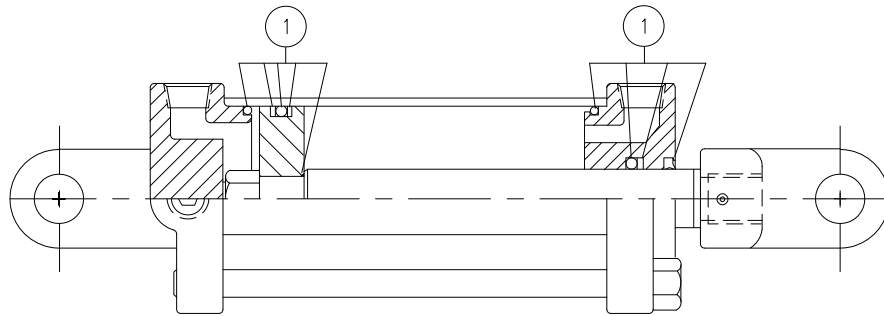
Flow Door Cylinder



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9001495	Adapter, 9/16"-18 JIC Male x 9/16"-18 OR Male	2	Optional EOH (Includes 0.030" Red Restrictor)
2	9002575	Hydraulic Cylinder, 3" x 16" - 3000 PSI	1	
	9003772	Seal Kit	-	
3	9004442	Hydraulic Hose, 1/4" x 54" - 3000 PSI	1	
4	9006607	Hydraulic Hose, 1/4" x 50" - 3000 PSI	1	
5	93472	Hydraulic Hose, 1/4" x 16" - 3000 PSI	1	
6	9002888	Hydraulic Hose, 1/4" x 27" - 3000 PSI	1	
7	95192	Bulkhead Union, 9/16"-18 JIC Male x 9/16"-18 JIC Male	2	
8	9874	Elbow, 90° 9/16"-18 JIC Male x 3/4"-16 OR ADJ Male	2	
9	91383	Male Tip Coupling, 3/4"-16	2	
10	9897	Elbow, 90° 9/16"-18 JIC Male x 9/16"-18 JIC Male	2	
11	9005574	Hydraulic Hose, 1/4" x 208" - 3000 PSI	2	
12	9003995	Hose Marker Sleeve - Flow Door Open (Red)	1	
13	9003996	Hose Marker Sleeve - Flow Door Close (Red)	1	

Cylinders

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



Auger Fold Cylinder - 3" x 22"

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
	9004730	Cylinder, Complete	1	
1	9003772	Seal Kit	1	

Auger Flow Door Cylinder - 3" x 16"

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
	9002575	Cylinder, Complete	1	
1	9003772	Seal Kit	1	

Auger Pivot Cylinder - 3 1/2" x 20"

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
	9000933	Cylinder, Complete	1	
1	9001081	Seal Kit	1	

Auger Spout Tilt Cylinder - 1 1/2" x 8"

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

Optional Spout Rotate Cylinder - 1 1/2" x 3"

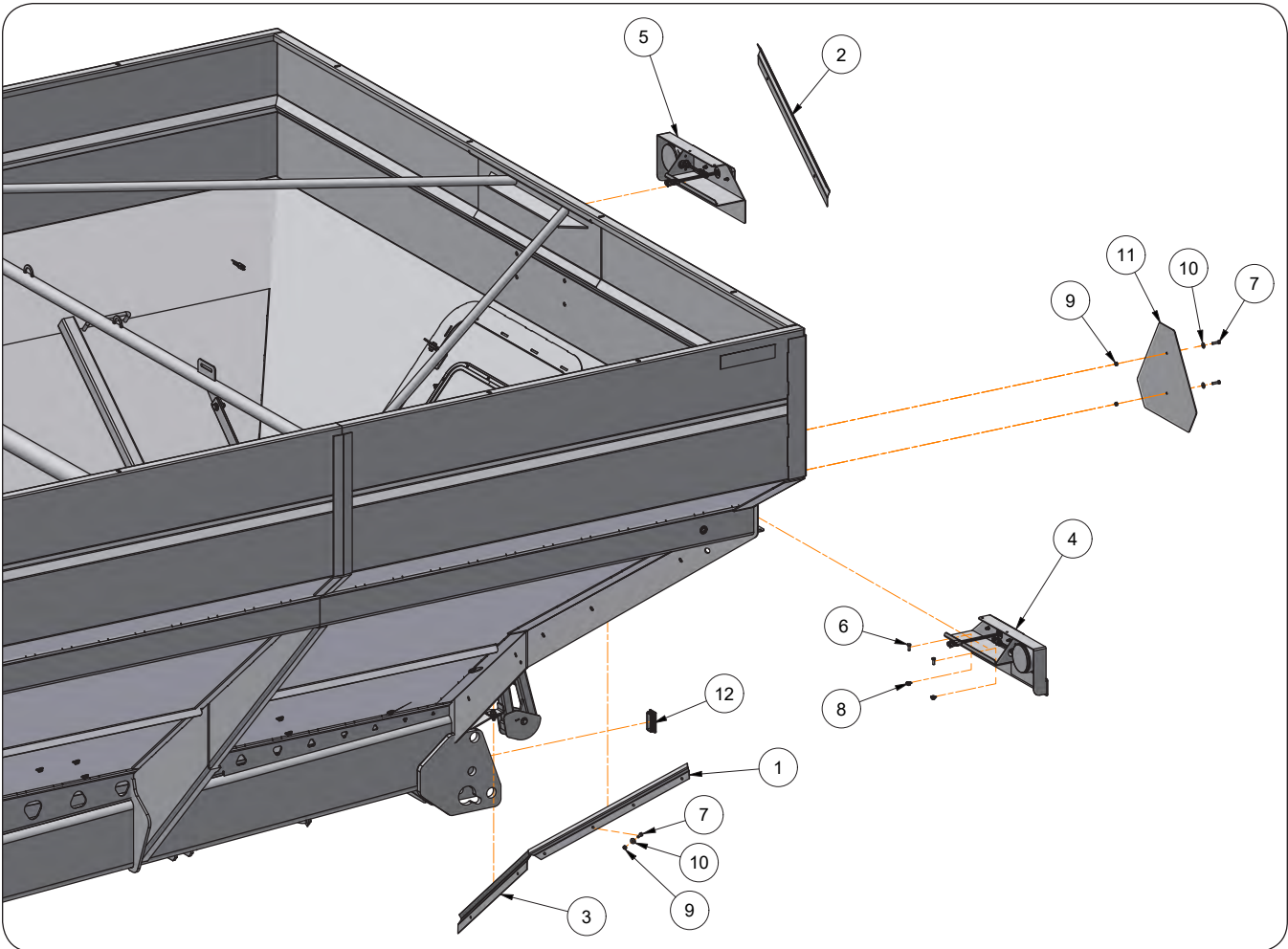
ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
	9007124	Cylinder, Complete	2	
1	9005419	Seal Kit	2	

Optional Jack Cylinder - 3 1/2" x 8"

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
	9009047	Cylinder, Complete	1	
1	9007880	Seal Kit	1	

Hopper Rear Electrical Components

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



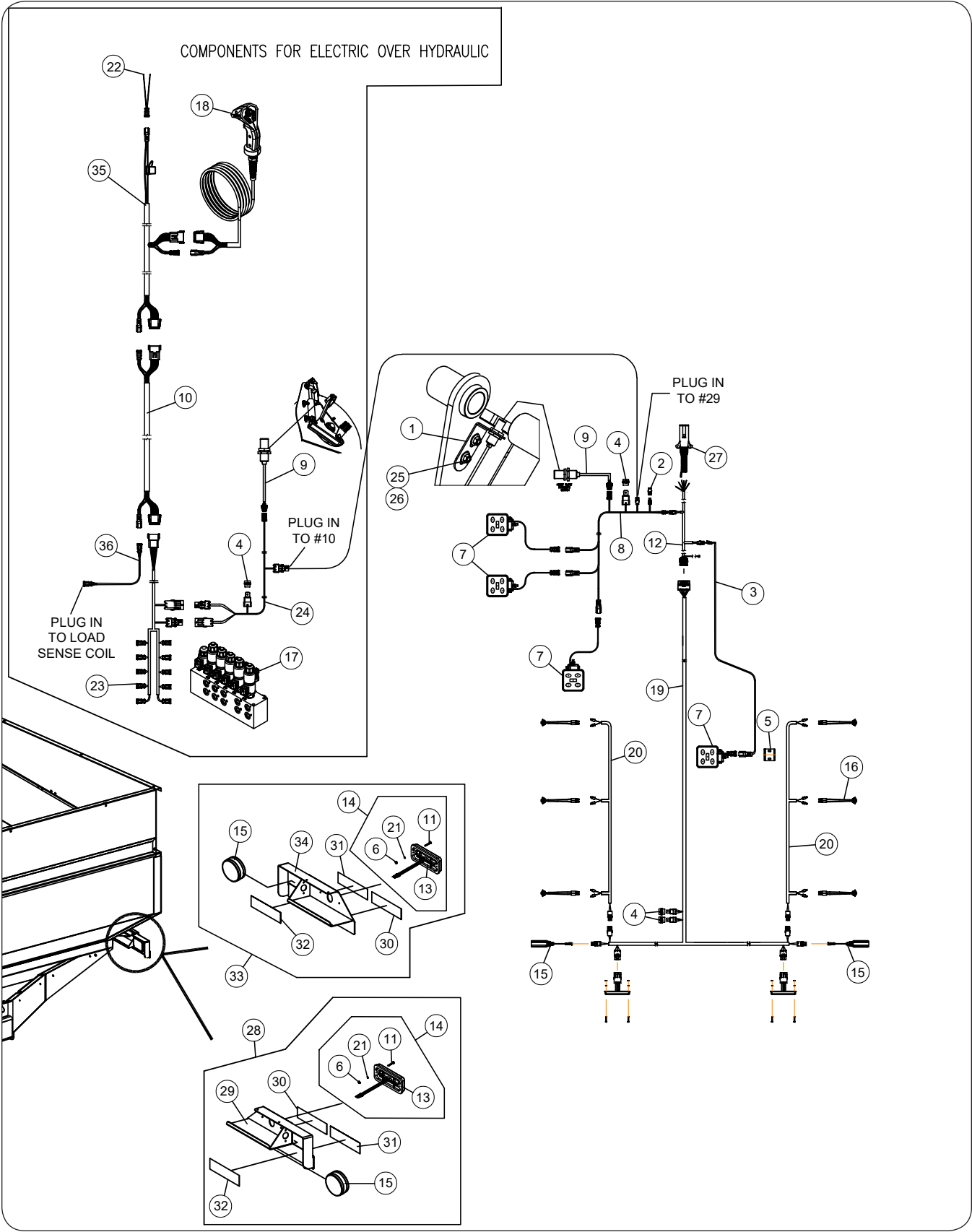
Hopper Rear Electrical Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	282305G	Upper Harness Cover =Green=	2	
	282305R	Upper Harness Cover =Red=		
2	282308G	Harness Cover Plate RH =Green=	1	
	282308R	Harness Cover Plate RH =Red=		
3	282309G	Harness Cover Plate LH =Green=	1	
	282309R	Harness Cover Plate LH =Red=		
4	284358B	Lamp Assembly LH =Black=	1	
5	284359B	Lamp Assembly RH =Black=	1	
6	9390-003	Capscrew 1/4"-20UNC x 3/4" Grade 5	4	
7	9390-005	Capscrew 1/4"-20UNC x 1" Grade 5	10	
8	97189	Large Flange Hex Nut 1/4"-20UNC Grade 5	4	
9	9936	Locknut 1/4"-20UNC	10	
10	9405-064	Flat Washer 1/4"	10	
11	TA510514	SMV Emblem	1	
12	9009931	Plug, 1 1/2" x 3"	2	

Electrical Components & 5 Function Control Grip

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



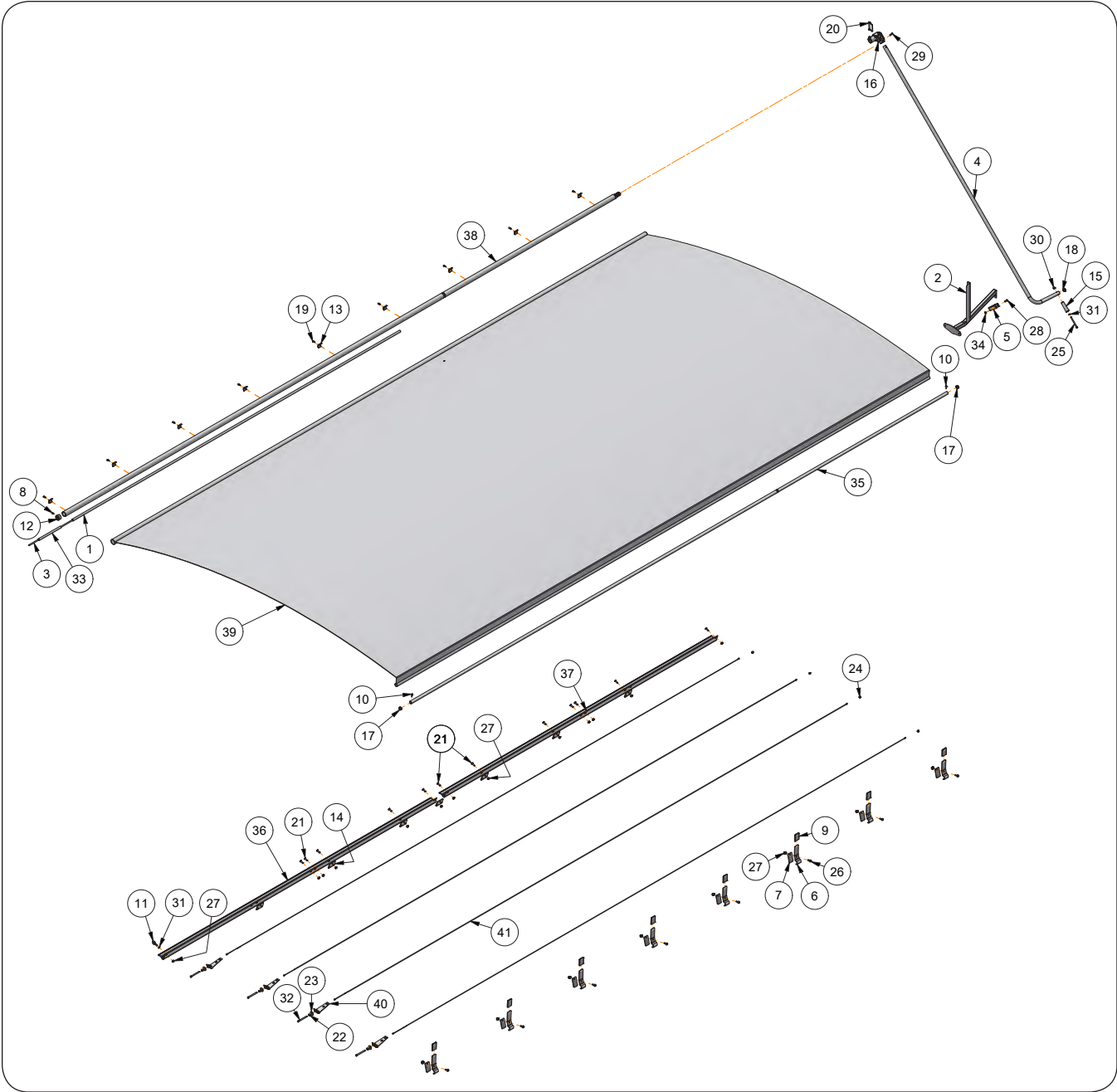
Electrical Components & 5 Function Control Grip

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	272645B	Switch Plate Bracket =Black=	1	
2	252386	Plug Assembly, 2 Pin Shroud	1	
3	9008969	Wiring Harness - 226" (w/2-Pin Connectors)	1	For SN B40450100 & Higher
	9008502		1	For SN B40450099 & Lower
4	9005618	Relay - 12VDC	4	
5	271574B	Lamp Mount Plate =Black=	1	
6	9830-016	Hex Nut, #10-32 Grade 2	4	
7	9008957	Work Light (LED) (w/2-Pin Connector)	4	For SN B40450100 & Higher
	9007186		3	For SN B40450099 & Lower
8	9008956	Switch Wiring Harness (w/2-Pin Connector Ends)	1	For SN B40450100 & Higher
	9008107		1	For SN B40450099 & Lower
9	9007223	Proximity Switch	2	
10	9008252	Joystick Controller Extension Harness	1	
11	903172-350	Phillips Pan Head Screw, #10-32UNF x 1-1/4"	4	
12	9008501	Front Harness - 296"	1	
13	9006282	LED Lamp - Red	2	
14	232170	LED Lamp - Red - Replacement Kit	2	Includes Lamp, & Items 6, 11, 13 & 21
15	9005142	LED Lamp - Amber	2	
16	9006107	Micro Dot, LED Amber Light	6	
17	293416	EOH Block Assembly - 5 Spool Replacement Kit	1	
18	9008265	L-Series Control Grip - 5 Function	1	
19	9006480	Rear Harness	1	
20	9006520	Clearance Harness	2	
21	9404-013	Lock Washer, #10	4	
22	9006907	Power Harness, 2-Pin	1	
23	9007290	"T" Main Wiring Harness - 189"	1	
24	9007286	Wiring Harness - 205" EOH for Proximity Switch	1	
25	91262	Large Flange Screw, 3/8"-16UNC x 1" Grade 5	2	
26	91263	Large Flange Nut, 3/8"-16UNC Grade 5	2	
27	92450	7-Way Plug	1	
28	284358B	Lamp Assembly Left-Hand =Black=	1	
29	284370B	Lamp Mount Weldment Left-Hand =Black=	1	
30	9003125	Reflector 2 x 9 =Fluorescent=	2	
31	9003126	Reflector 2 x 9 =Red=	2	
32	9003127	Reflector 2 x 9 =Amber=	2	
33	284359B	Lamp Assembly Right-Hand =Black=	1	
34	284371B	Lamp Mount Weldment Right-Hand =Black=	1	
35	9008251	Harness - Joystick Power	1	
36	9007266	Wire Harness, 218 5/16" (2 Pin Diverter)	1	

Weather Guard Tarp

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



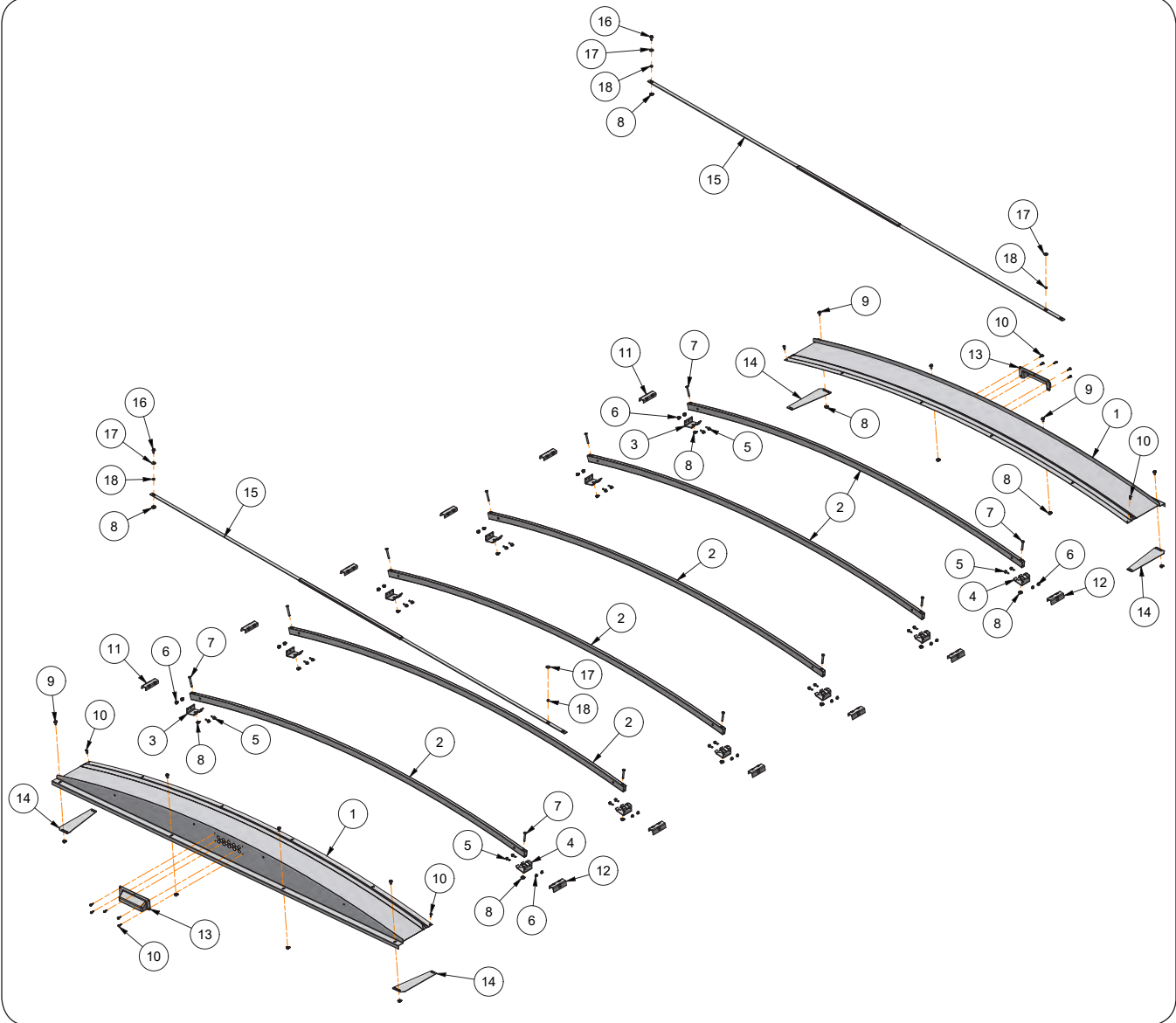
Weather Guard Tarp

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	221668	Pipe - 180"	1	
2	296423B	Handle Bracket Weldment =Black=	1	For SN B45190100 & Higher
	221696B			For SN B44620099 & Lower
3	221722	Bungee 3/8" Dia. x 204"	1	
4	221749	Tarp Handle Weldment	1	
5	221770B	Handle Retainer Weldment =Black=	1	
6	291661B	Tarp Stop Plate =Black=	8	
7	295183B	Tarp Stop Spacer Plate =Black=	8	
8	9001396	Pan Head Screw #10-16 x 1/2"	1	
9	9003078	Cap - Plastic (2" x 3")	8	
10	9003378	Rivet/Pop 3/16"	2	
11	9004548	Eye Bolt 3/8"-16UNC x 1 3/4"	1	
12	9004947	Plug 2"	1	
13	9004949	U-Clamp	9	
14	295259B	Tarp Spacer Plate =Black=	7	
15	9004969	Handle	1	
16	9004977	U-Joint w/ 1 3/8"-21 Spline	1	
17	9005088	Plug 1 1/8"	2	
18	9005089	Plug 1 1/4"	1	
19	9005197	Screw/Self Drilling #10-16 x 3/4" Pan Head	9	
20	9005305	Lynch Pin 3/8" x 3"	1	
21	9009089	Torx Head Machine Screw 3/8-16UNC x 1 1/4 Grade 5	12	
22	9005688	Star Washer	4	
23	9005696	Fender Washer	4	
24	9005727	Plug 7/16"	4	
25	903172-450	Phillips Pan Head Screw 3/8"-16UNC x 4 1/2"	1	
26	9003259	Flange Screw 3/8"-16UNC x 1 1/4" Grade 5	8	
27	91263	Nut/Large Flange 3/8"-16UNC Grade 5	21	
28	9390-055	Capscrew 3/8"-16UNC x 1" Grade 5	1	
29	9392-180	Roll Pin 3/8" Dia. x 2"	1	
30	9398-012	Elastic Stop Nut 3/8"-16UNC	1	
31	9405-074	Flat Washer 3/8"	3	
32	TA0-907131-0	Capscrew 3/8"-16UNC x 4 1/2" (Full Threaded)	4	
33	TA806225	Hose 1/2" EPDM	1	
34	9928	Locknut 3/8-16UNC	1	
35	221614	Fixed Tube Weldment	1	
36	296832	Plate - Latch 129 1/2" (Front)	1	
37	296833	Plate - Latch 129 1/2" (Rear)	1	
38	221788	Roll Tube Weldment	1	
39	9005045	Tarp 166" x 253"	1	
	9005581	Tarp Patch Kit	-	
40	281712B	Bracket & U-Nut Assembly =Black=	4	
41	9005676	Cable Assembly 242"	4	

End Caps, Tarp Bows & Mounting Brackets

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



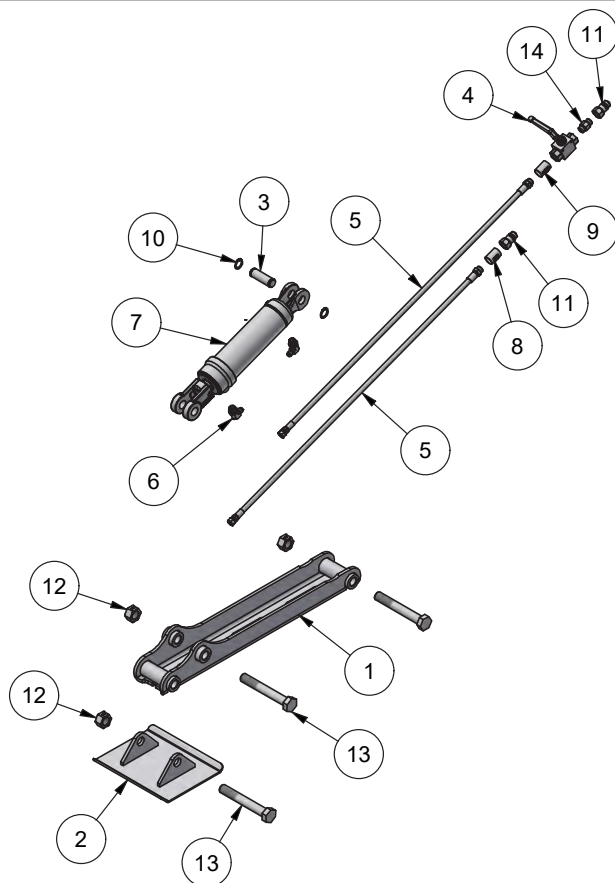
End Caps, Tarp Bows & Mounting Brackets

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	297995B	End Cap Weldment =Black=	2	296753B End Cap Service Kit Includes Items 1, 10, 13
2	283992B	Tarp Bow Weldment =Black=	6	
3	283425B	Tarp Bow Bracket =Black= (Right-Hand Side)	6	
4	283427B	Tarp Bow Bracket =Black= (Left-Hand Side)	6	
5	97604	Screw/Large Flange 5/16"-18UNC x 1"	24	
6	91257	Flange Nut 5/16"-18UNC	24	
7	902703-046	Socket Flat Countersunk Capscrew, 3/8"-16UNC x 3"	12	
8	91263	Nut/Large Flange 3/8"-16UNC Grade 5	22	
9	95585	Capscrew/Large Flange 3/8"-16UNC x 3/4" Grade 5	8	
10	9512	Screw/Self Drilling 1/4"-14 x 1"	14	
11	294670B	Doubler Plate Right-Hand =Black=	6	
12	294671B	Doubler Plate Left-Hand =Black=	6	
13	9009504	Endcap Vent Cover	2	
14	295668B	Sideboard Cover Plate =Black=	4	
15	9008948	Hurricane Strap For 12 FT Wide Hopper	2	
16	96972	Screw/Self Tapping 3/8"-16UNC x 1"	2	
17	9008972	Flat Washer, 3/8" Aluminum	4	
18	9008949	Tarp Strap Spacer Bushing	4	

Hydraulic Jack - Kit #296289B (Optional)

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

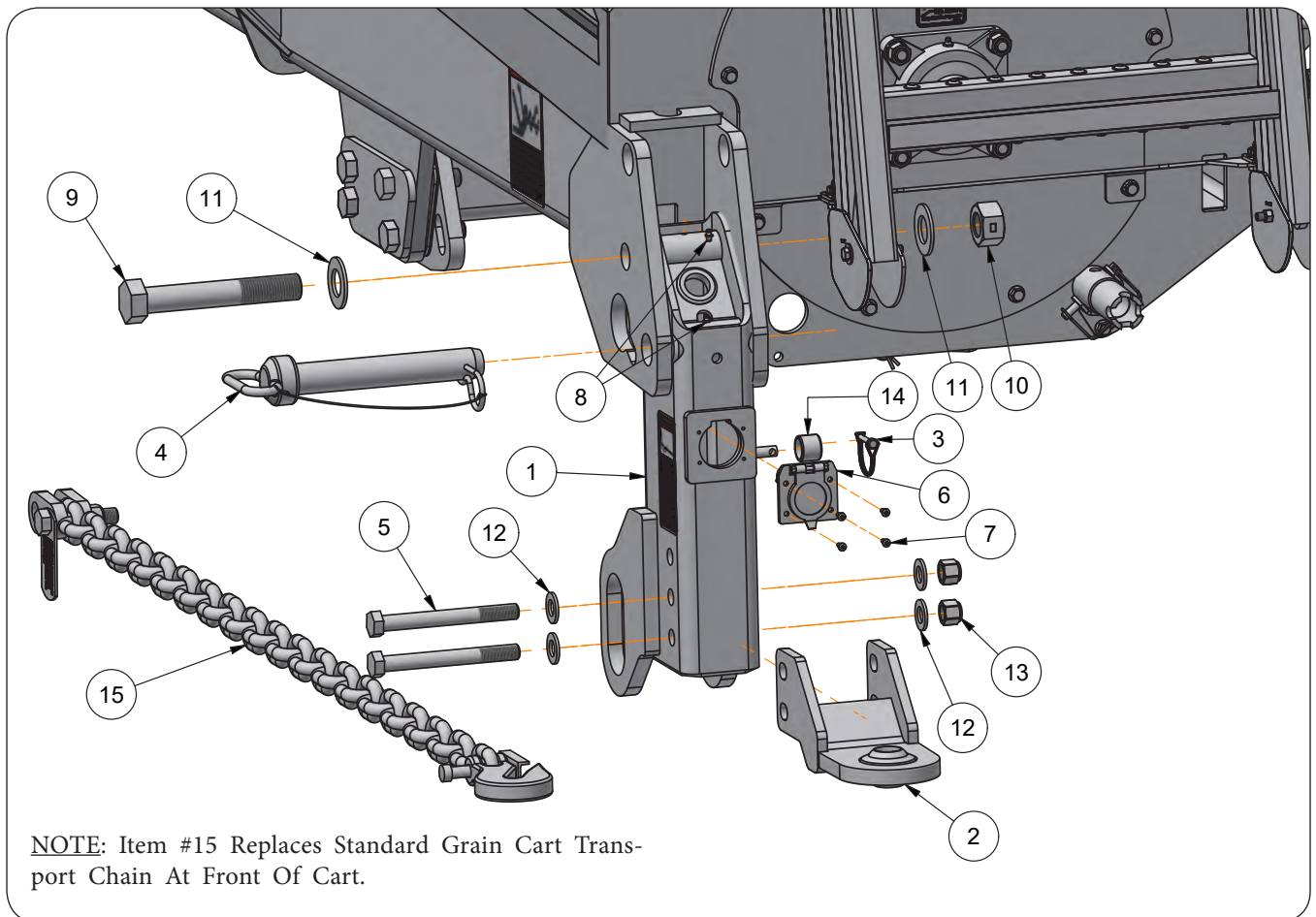


ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	271712B	Jack Weldment =Black=	1	
2	271723B	Jack Foot Weldment =Black=	1	
3	272587	Pin, 1" Dia. x 3 1/8"	1	
4	9005426	High Pressure Ball Valve	1	
5	9006068	Hydraulic Hose, 1/4" x 92" - 3000 PSI	2	
6	9006173	Elbow, 90°	2	
7	9009047	Hydraulic Cylinder, 3 1/2" x 8" - 3000 PSI	1	
8	9006651	Sleeve Hose Marker - Raise Jack	1	
9	9006652	Sleeve Hose Marker - Lower Jack	1	
10	91192	Retaining Ring, 1"	2	
11	91383	Male Tip Coupling	2	
12	92199	Center Locknut, 1"-8UNC	3	
13	9390-197	Capscrew, 1"-8UNC x 7" Grade 5	3	
14	98508	Adapter, 3/4"-16 OR Male x 3/4"-16 OR Male	1	

Rear Drop Hitch Components (Optional)

For SN B45190100 and Higher

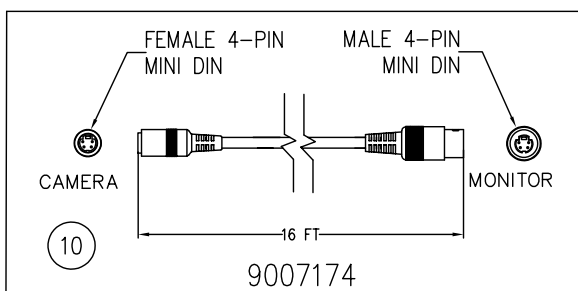
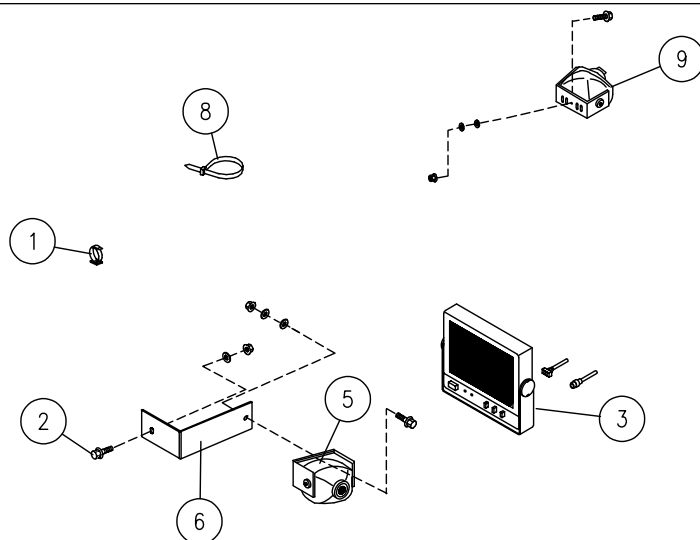
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	296960B	Rear Drop Hitch Kit =Black=	-	Includes Items 1-15. See "Front End Components" For Additional Details.
1	297128B	Rear Drop Hitch Assembly =Black=	1	Includes Decal, WARNING (Towing Capacity) 9009646
2	295978B	Rear Hitch Weldment =Black=	1	
3	9000936	Lynch Pin	1	
4	9009656	Pivot Pin	1	
5	9390-159	Capscrew 3/4"-10UNC x 7" Grade 5	2	
6	9009843	7-Blade Connector	1	
7	903172-133	Phillips Head Screw #10-24 x 1/2"	4	
8	91160	Grease Zerk	2	
9	9390-225	Capscrew 1 1/4"-7UNC x 8" Grade 5	1	
10	93476	Lock Nut 1 1/4"-7UNC Grade 5	1	
11	9405-128	Flat Washer 1 1/4" SAE	2	
12	9405-104	Flat Washer 3/4" SAE	4	
13	9398-021	Lock Nut 3/4"-10UNC	2	
14	91268	Tension Bushing	1	
15	PF1238-19	Transport Chain #61,000	1	Replaces Standard Grain Cart Transport Chain If Equipped With Optional Rear Hitch

Video System (Optional)

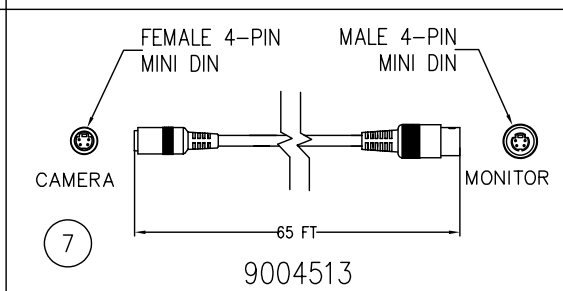
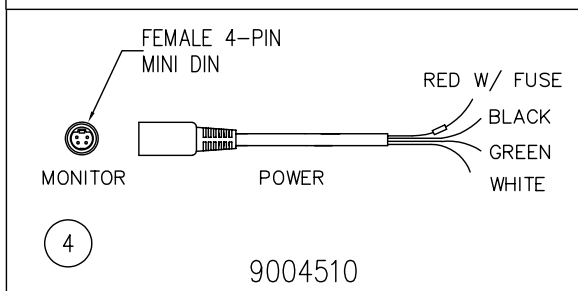
Please visit www.unverferth.com/parts/ for the most current parts listing.



9004510 CABLE W/FUSE WIRES

- Red -- Key Switched Power
- Black -- Ground
- Green -- NOT USED
- White -- NOT USED

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



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	265770	Video System Kit with Single Camera	1	Includes Items 1 - 8 and own Instruction Sheet
	9004506	Additional Video System Kit	1	Includes Items 6 & 7
1	TAAU14007	Snap Clip, Adhesive	10	
2	9512	Self-Drilling Screw 1/4"-14 x 1"	10	
3	9006273	Monitor, 7" LCD/LED	1	
4	9004510	Cable w/Fuse	1	
5	9006274	Camera	1	
6	265771B	Bracket	1	
7	9004513	Cable, 65'	1	
8	9000106	Cable Tie	AR	
9	9004506	Camera Kit for Rear View with 65' Cable	1	
10	9007174	Extension Cable 16 ft. For CH Series Camera	1	



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