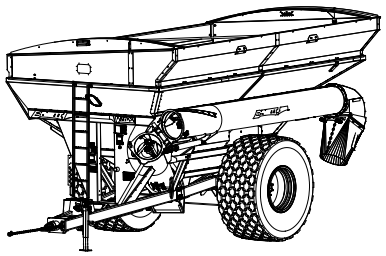


BRENT **Grain Handling**

CORNER-AUGER GRAIN CART
MODEL V1100

Serial Number B45710100 & Higher

Part Number 297935

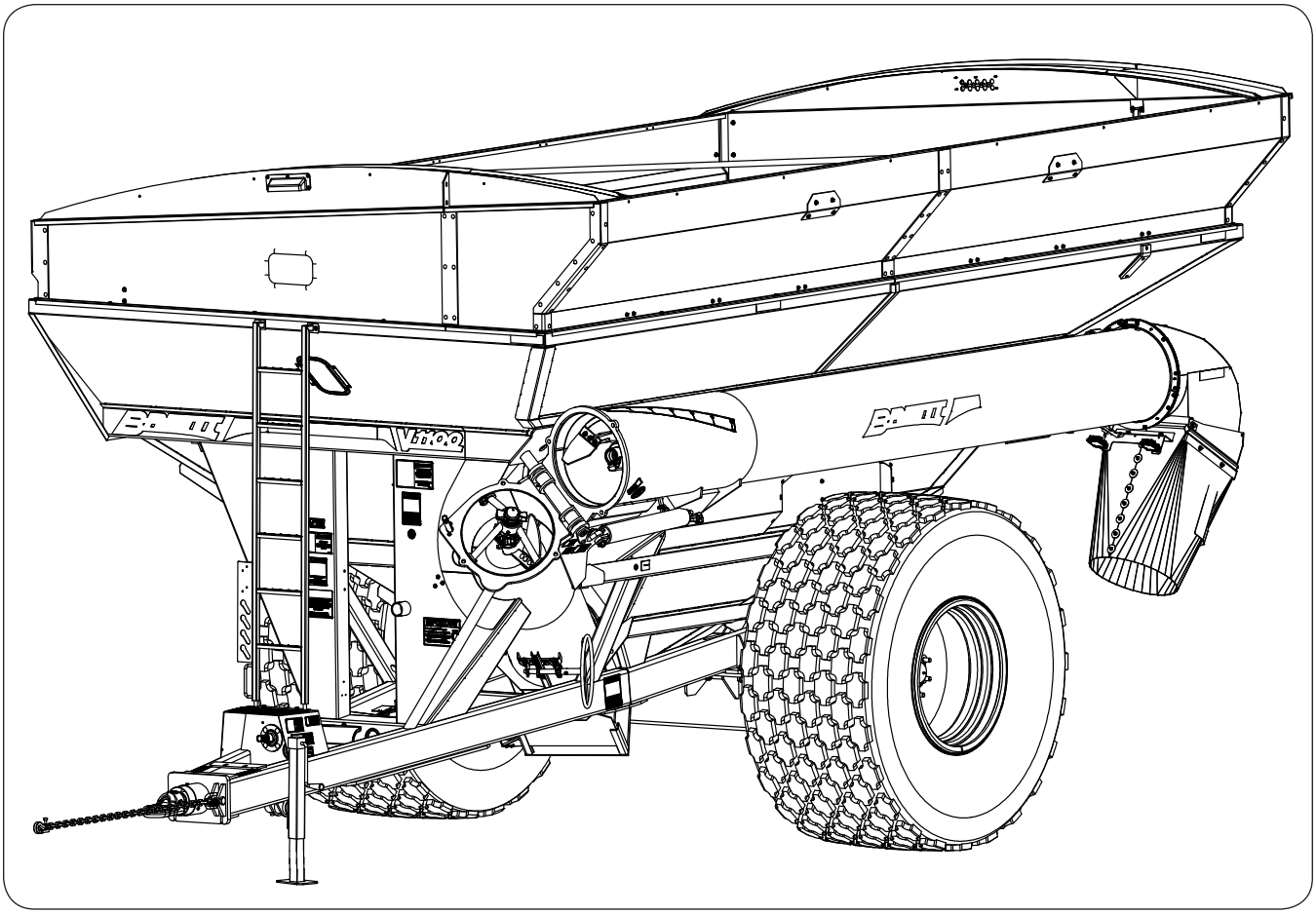
Foreword

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

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

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

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



Product Information

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

- Machine name
- Model
- Serial Number

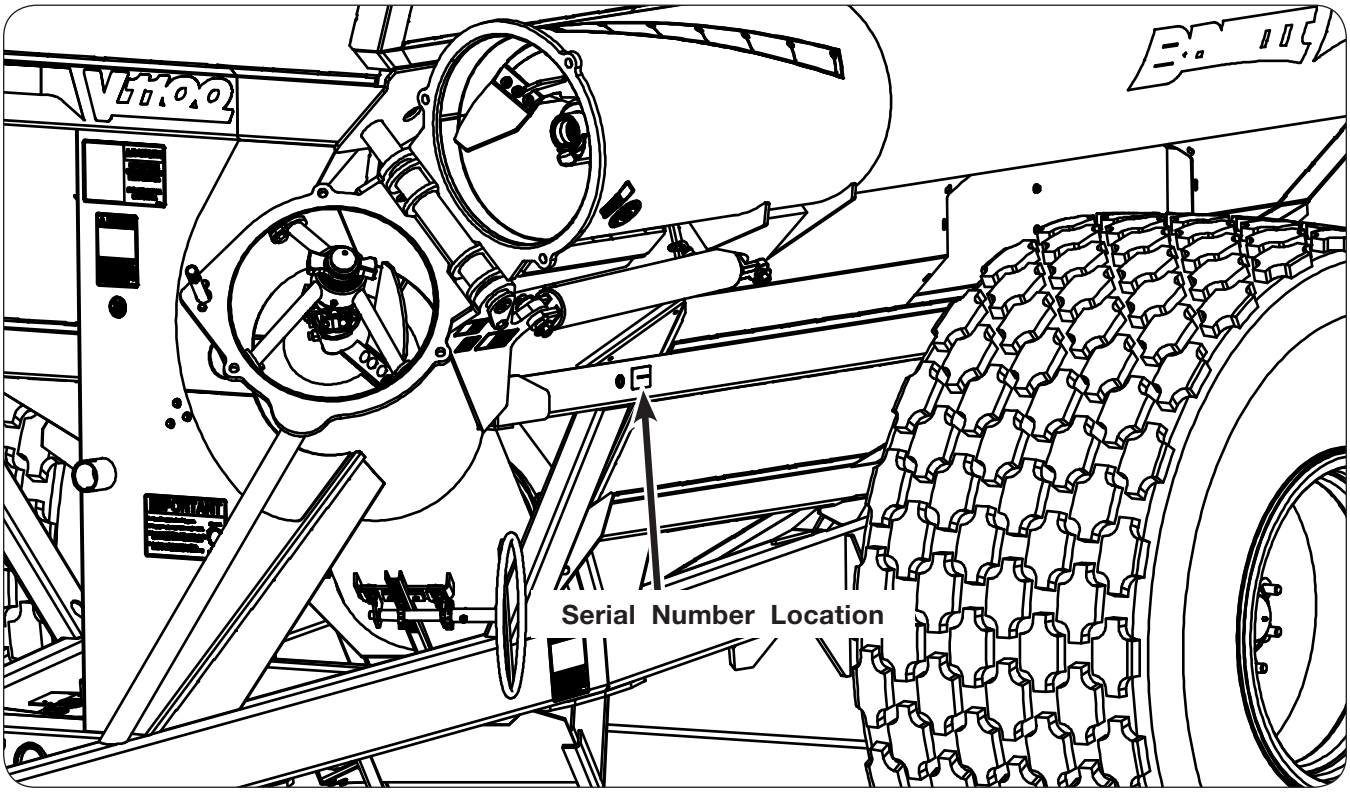
All products manufactured by Unverferth Mfg. Co., Inc. are warranted to be free from material and workmanship defects for one full year from time of consumer delivery. Your local dealer will gladly assist you with any warranty questions.

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

Purchase Date _____Model _____Serial Number_____

Dealer _____ City _____

Dealer Contact _____ Phone _____



IMPORTANT

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

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

FOR SCALE, TRACK, UHARVEST, HYDRAULIC DRIVE, ELECTRIC TARP, AND VIDEO SYSTEM OPTIONS, PLEASE REFER TO THE SPECIFIC MANUAL.

Section I
Safety

General Hazard Information

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

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

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

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

REMEMBER:

THINK SAFETY

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT!

SIGNAL WORDS

DANGER

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

WARNING

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

CAUTION

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

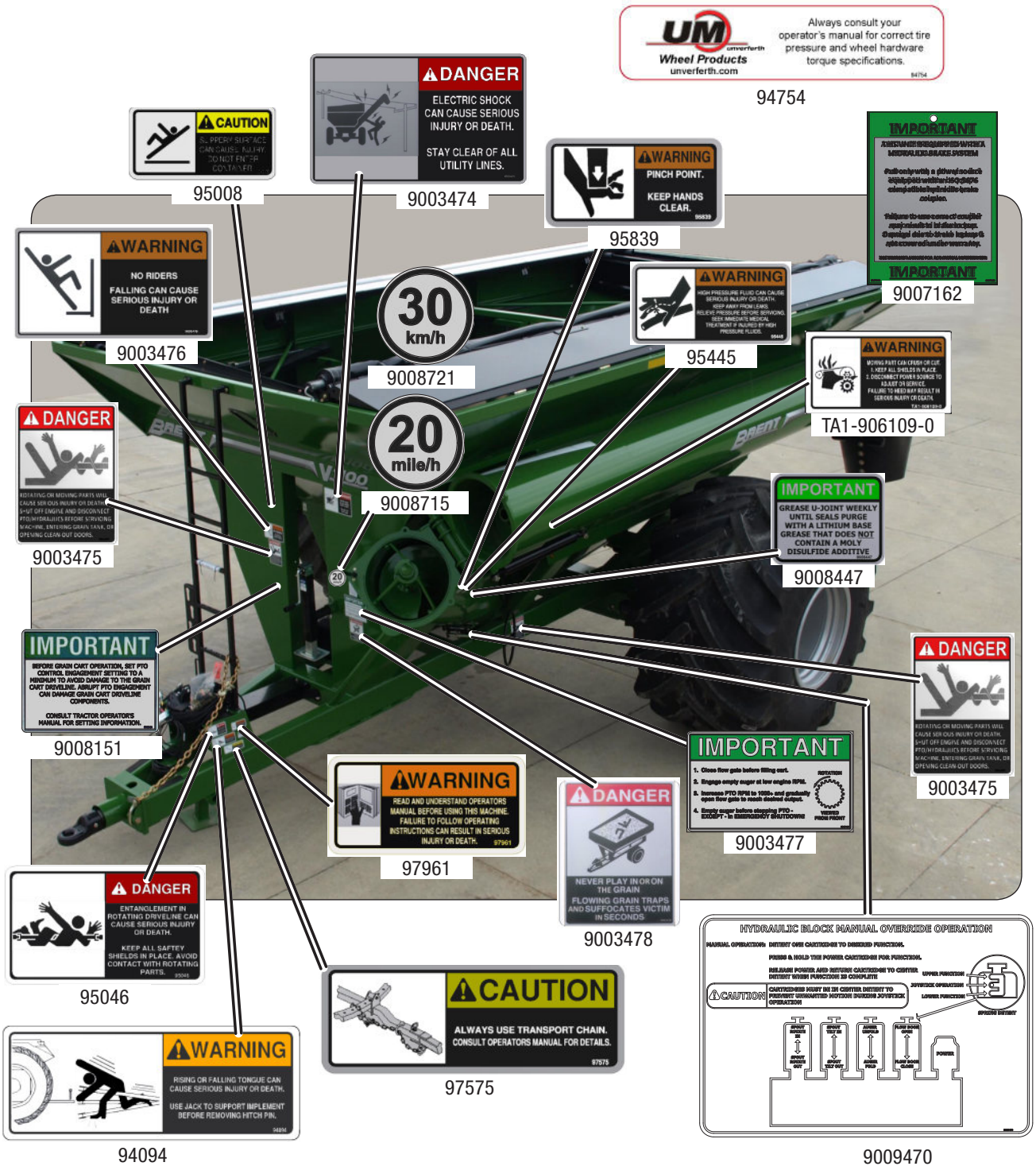
IMPORTANT

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

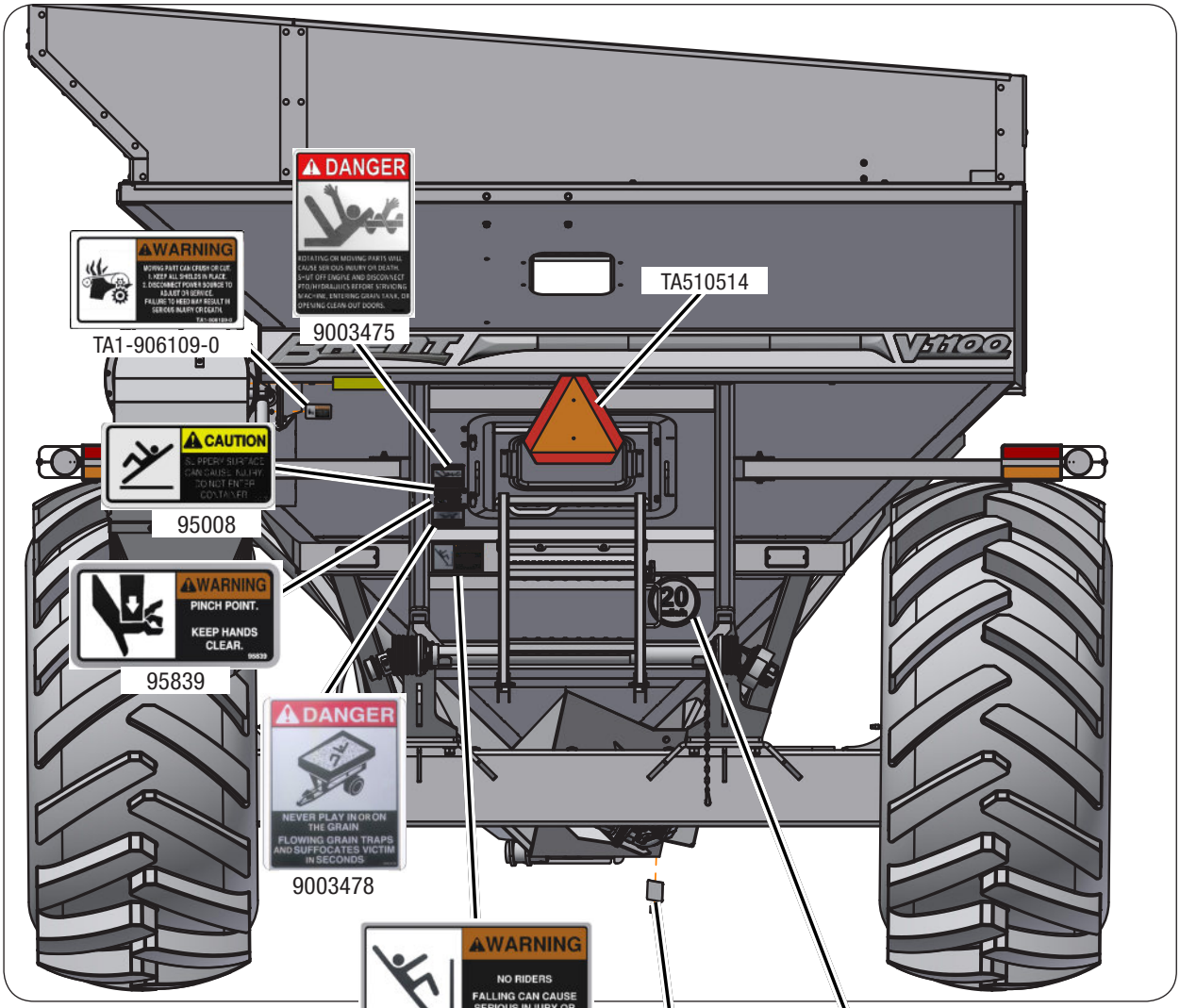
Safety Decals

⚠ WARNING

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



Safety Decals (continued)



PART NO. 9003125
FLUORESCENT STRIP

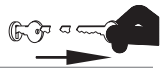
PART NO. 9003126
REFLECTOR RED

PART NO. 9003127
REFLECTOR AMBER

Following Safety Instructions

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

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



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

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

Before 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.
- To prevent personal injury or death, always ensure that there are people who remain outside the cart to assist the person working inside, and that all safe workplace practices are followed. There are restricted mobility and limited exit paths when working inside the implement.
- Secure drawbar pin with safety lock and lock tractor drawbar in fixed position.
- Explosive separation of a tire and rim can cause serious injury or death. Only properly trained personnel should attempt to service a tire and wheel assembly.
- 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.
- Verify that all safety shields are in place and properly secured.

- Ensure that all applicable safety decals are installed and legible.
- Sharp edges on the machine can cause injury. Be careful when working around the machine.

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

During Transport

- Comply with all laws governing highway safety when moving machinery.
- Use transport lights as required by all laws to adequately warn operators of other vehicles.
- 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 a loaded grain cart on public roads.
- 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 and length recommended in OPERATION section.
- Use caution when turning to avoid contact between tractor tires and driveline.
- Check the length of the telescoping members to insure the driveline will not bottom out or separate when turning and/or going over rough terrain.
- Proper extended and collapsed lengths of the telescoping PTO shaft must be verified before first operation with each and every tractor. If the extended length of the PTO shaft is insufficient, it may become uncoupled or bottom out when turning and/or going over rough terrain which will cause serious injury or death from contact with uncontrolled flailing of PTO shaft assembly components.

Pressurized Oil

- Relieve 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.

- 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

FOR SCALE, TRACK, UHARVEST, HYDRAULIC DRIVE, ELECTRIC TARP, AND VIDEO SYSTEM OPTIONS, PLEASE REFER TO THE SPECIFIC MANUAL.

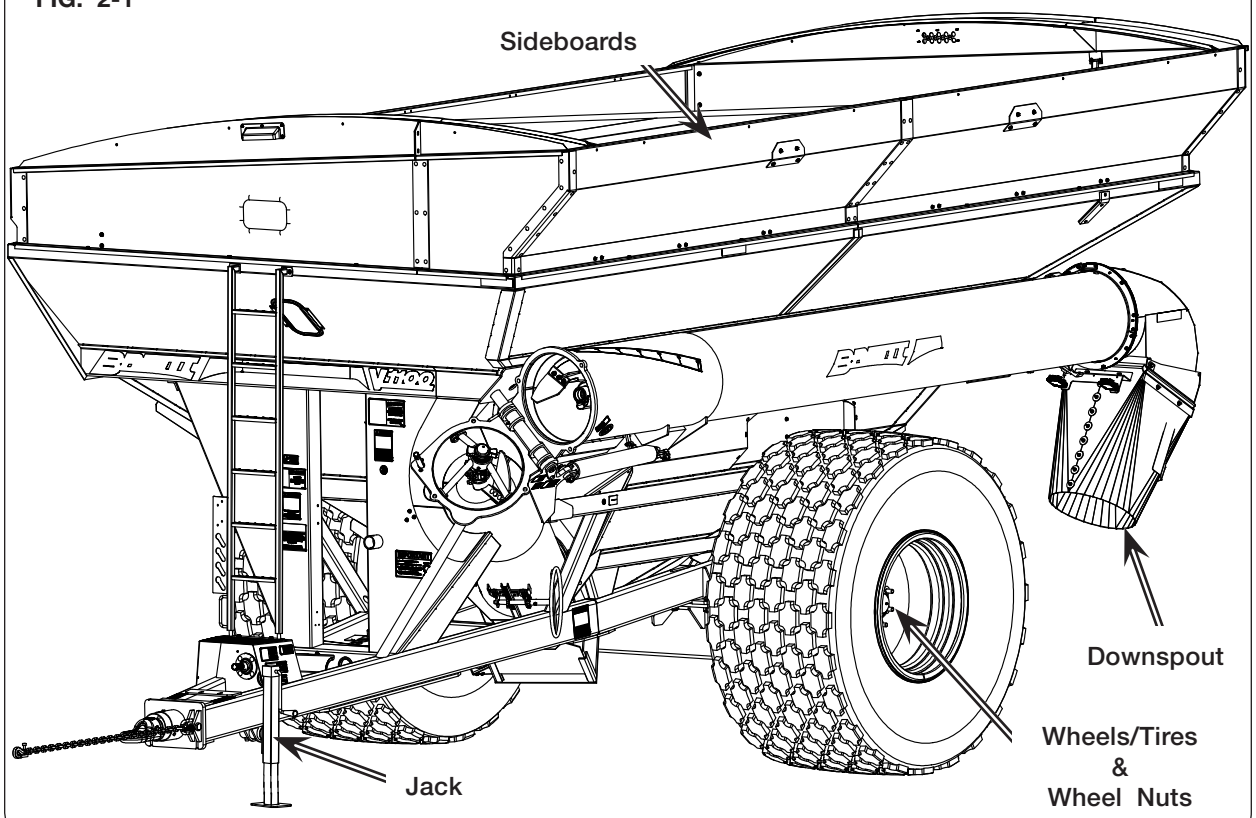
Set Up Checklist

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

- ❑ Wash the unit and remove road salt tag #255000 from ladder.
- ❑ Remove auger rest retainer.
- ❑ Complete sideboard and tarp set up. Remove tarp/sideboard shipping brackets.
- ❑ Set or Calibrate tractor PTO control engagement to MINIMUM setting. Refer to tractor operator's manual for setting information.
- ❑ Adjust axle from shipping position to desired operating position. (If applicable) Refer to "Adjusting Axle (Optional)".
- ❑ 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)
- ❑ Ensure optional hydraulic brakes are bled and function properly. (If applicable)
- ❑ Verify track has been aligned and is properly conditioned. (If applicable)
- ❑ Lubricate all grease fittings and check gearbox oil level.
- ❑ Inspect cleanout door assembly for play or movement, refer to "Adjusting Cleanout Door" in the MAINTENANCE 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.
- ❑ Check driveline assembly phasing. See "Auger Driveline Replacement" in MAINTENANCE section.
- ❑ Verify PTO length, see "Verify Telescoping PTO Shaft Length" in MAINTENANCE section.
- ❑ Ensure screens over auger are in place and properly secured.
- ❑ Ensure transport chains are properly installed and hardware is torqued to specification. See "Transport Chain Connection" in OPERATION section.
- ❑ Paint all parts scratched in shipment.
- ❑ Test run the augers. See "Auger Operation" in OPERATION section.
- ❑ Check hydraulics for leaks and check hose routing.

Initial Cart Set Up

FIG. 2-1



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. (FIG. 2-1)

⚠ WARNING

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

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

- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 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.**

Hydraulic System

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

Optional Hydraulic Brake System

Any cart with optional hydraulic brakes must have the brake system bled before operation. See “Bleeding Procedure For Braking System” in the MAINTENANCE section.

SMV Emblem & SIS Decals

Before the cart is used, the reflective surface of the SMV must face rearward. This may require removal of film protecting the reflective surface or removing and reinstallation of the SMV. When reinstalling the SMV make sure that it is mounted with the wide part of the SMV at the bottom. (Fig. 2-2)

Before the cart is used, ensure the front and rear SIS placards are clean and visible after shipping. (Fig. 2-3)

Remove rear SIS decal mounting bracket from shipping position (Fig. 2-4) and reinstall as shown. (Fig. 2-5)

Before the cart is used, ensure the front and rear SIS decals are clean and visible.

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. 2-2

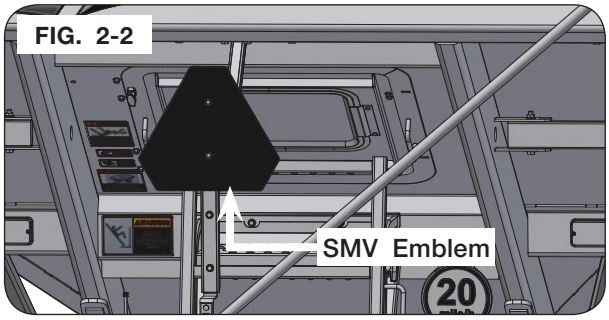
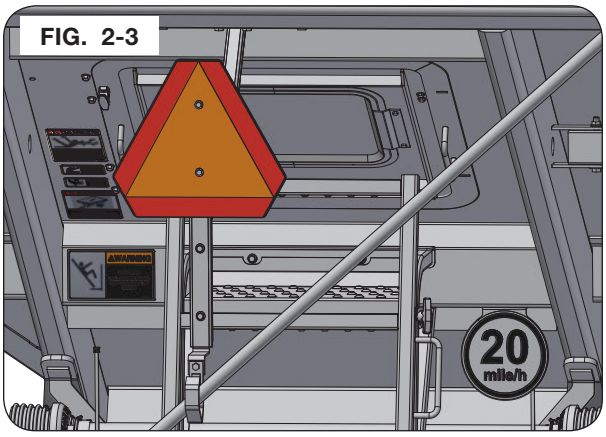


FIG. 2-3



Video System (Optional)

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

Auger Rest Retainer Removal

Remove and discard the retainer located on the upper auger rest at the back of the cart, before raising the upper auger tube. (Fig. 2-4 and 2-5)

IMPORTANT

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

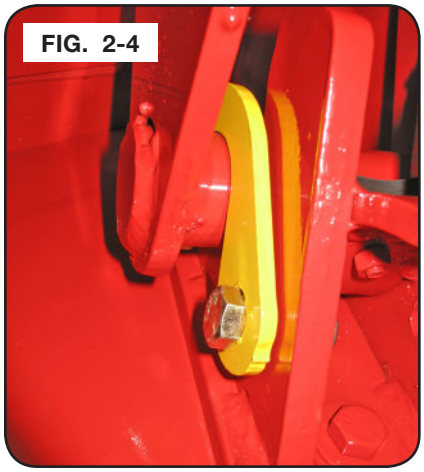


FIG. 2-4

FIG. 2-5

Jack Set Up

WARNING

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

Attach jack to left-outside frame using pin. Mount jack in storage position once cart is hitched to tractor. (FIG. 2-6 and 2-7)

IMPORTANT

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

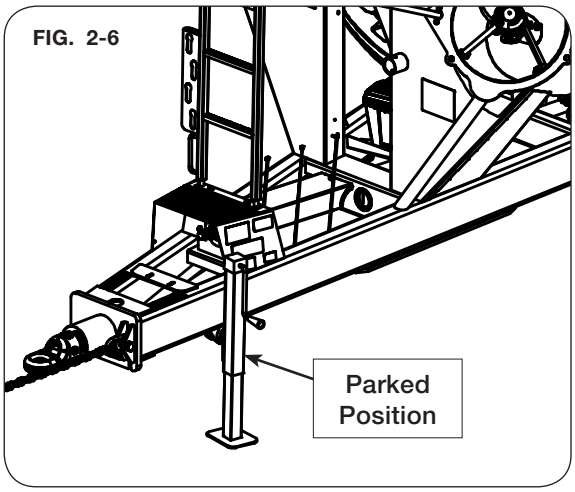


FIG. 2-6

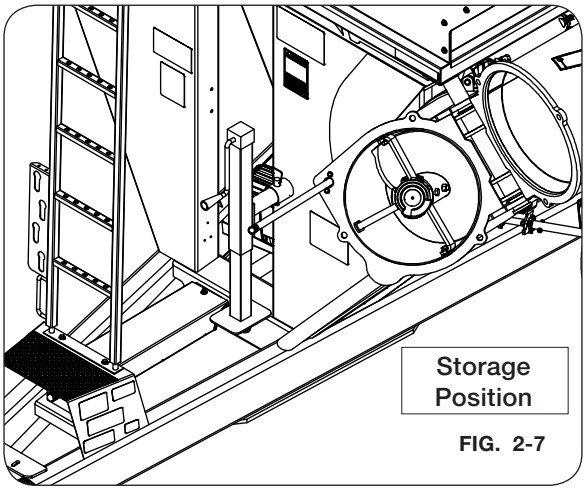


FIG. 2-7

Lamp Set Up

Pivot lamp extension arms into position at sides of cart. The lamp bracket width is adjustable. Ensure brackets are adjusted such that the reflectors are no more than 16" from outer edge of the tires. Ensure amber reflector is facing the front of the cart (some lights on certain cart models will be flipped down for shipping). (FIG. 2-8 and 2-9)

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

If the tractor field lights switch is on; the Side Marker lights and the amber turn signal lights are on solid and will not flash. Refer to tractor operator manual for details.

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

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

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

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

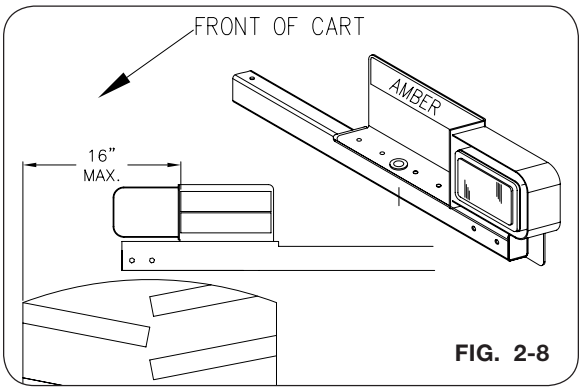


FIG. 2-8

FIG. 2-9

Driveline Installation

Driveline

Using a safe lifting device rated at 100 lbs., remove PTO shaft from storage brackets located on the rear of the frame rail. Secure the PTO shaft to these brackets for extended transporting or seasonal storage. (FIG. 2-10)

IMPORTANT

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

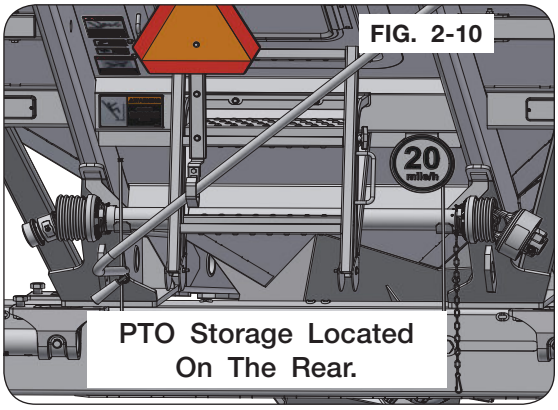


FIG. 2-10

PTO Storage Located On The Rear.

Driveline Set Up

Clean and grease the driveline splined shaft. Refer to "Auger Driveline Replacement" in MAINTENACE for installing and removing of driveline.

⚠ DANGER

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

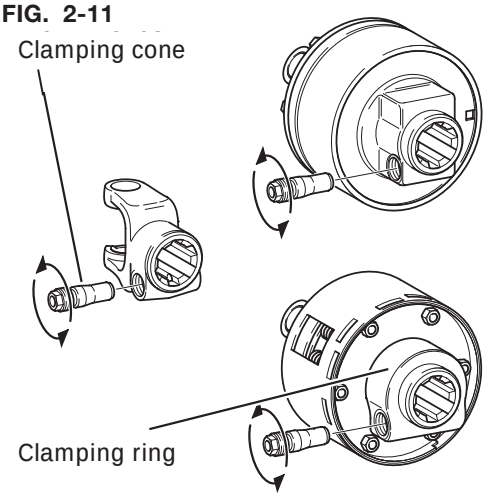
Coupling The Cut-Out Clutch

Engage PTO drive shaft onto implement PTO shaft until retaining groove of implement PTO shaft aligns with clamping cone hole. Insert clamping cone into threaded hole, hand tighten. Torque cone to 75 ft.-lb. (FIG. 2-11)

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

NOTE: See MAINTENANCE section - Verify Telescoping PTO Shaft Length.

FIG. 2-11



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.**

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

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

- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.**

⚠ 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 and 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.*

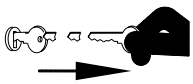
Wheel & Tire Set Up (continued)

Wheel Axle Spacing

Tire Size	Slide Out Distance (From end of the main axle tube to inside of the extension weldment end cap plate.)	Distance Hub Flange to Hub Flange	Distance from Center of Tire to Center of Tire
900/65R32	11 3/4”	132”	132”
900/70R32	12 3/4”	134”	132”
1050/50R32	13 3/4”	138”	139 1/2”
1100/45R46	20 3/4”	148”	146”
1250/50R32	20 3/4”	148”	146”

Adjustable Axle (Optional)

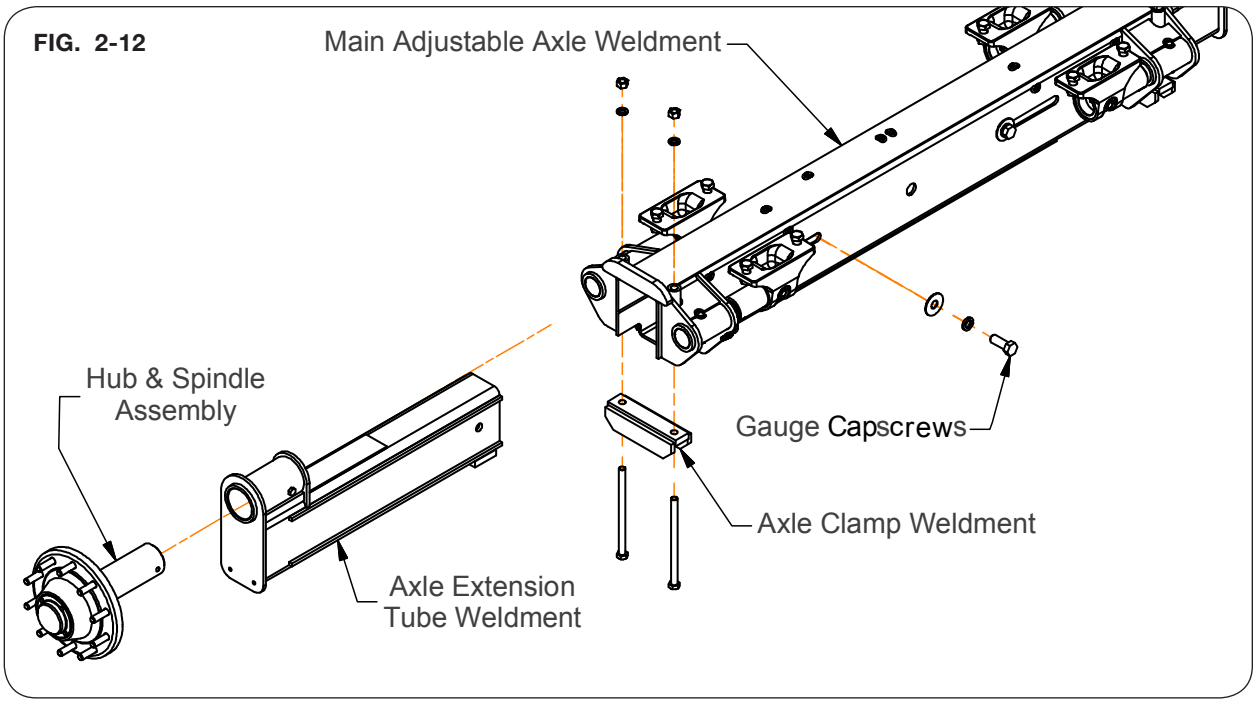
1. Hitch cart to tractor. Park the empty unit on a firm, level surface. Set the tractor’s parking brake, shut-off engine and remove the ignition key.



2. Using a safe lifting device and supports rated for a minimum of 24,000 lbs., raise the cart and place supports to each side under the axle near the axle clamps.

3. Loosen axle extension clamp and axle gauge capscrews. Do not remove. (FIG. 2-12)

FIG. 2-12



Wheel & Tire Set Up (continued)

Adjustable Axle (Optional)

4. Slide extensions to desired tire gauge spacing. Axle extensions should be extended equally. Refer to chart below and FIG. 2-13.

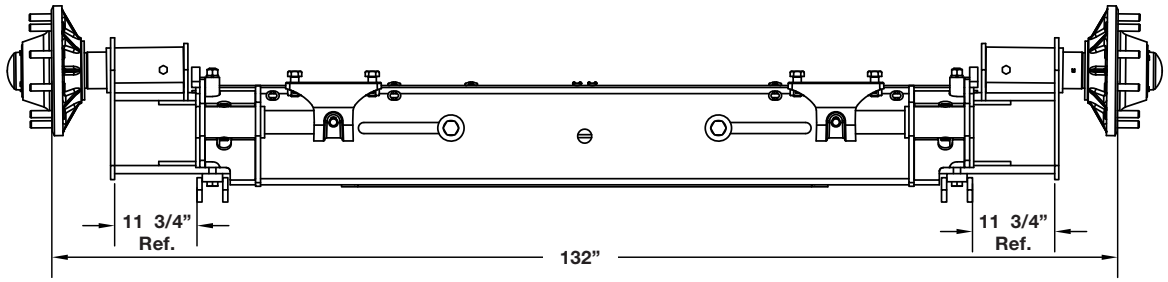
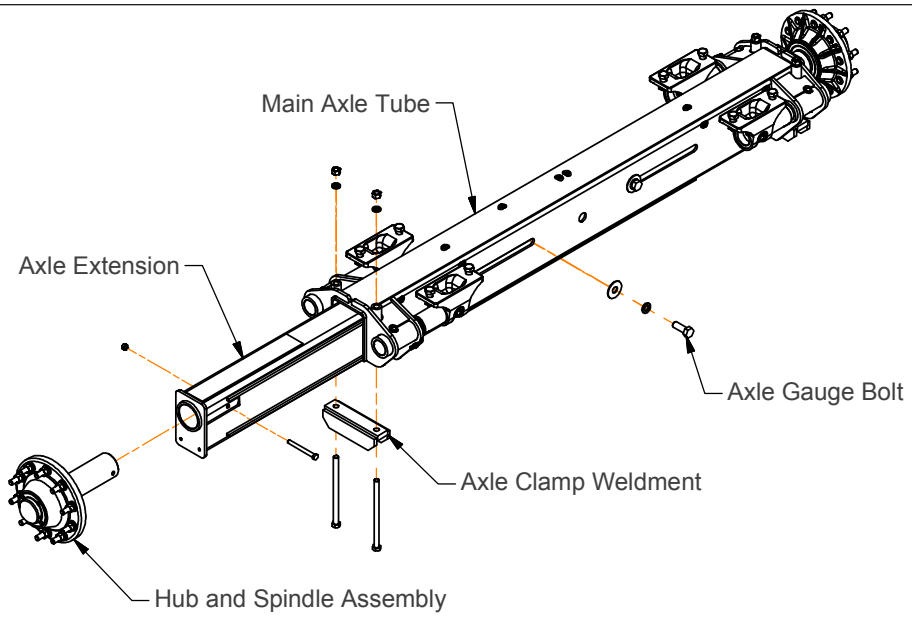


FIG. 2-13

5. Tighten axle gauge bolts followed by axle clamp bolts, refer to MAINTENANCE section for proper torque specifications. (FIG. 2-14)

FIG. 2-14



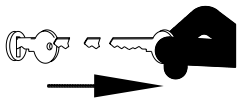
6. Remove supports and lower cart to ground.

7. If tires are positioned at a wider tread width, ensure lights are also moved out to within 16" of the outside of tires. Refer to page 2-8 for details.

8. Repeat procedure on opposite side.

Sideboards and End Caps Installation

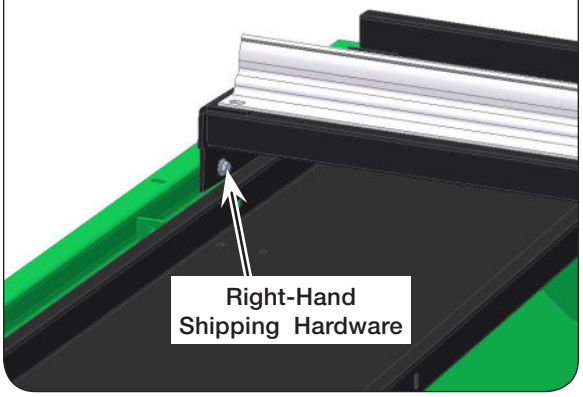
1. Park the empty grain cart on a firm, level surface. Block the machine to keep it from moving. Set the tractor's parking brake, shut-off the engine, remove the ignition key and disconnect the PTO shaft.



2. Remove the crank handle, crank handle holder, shipping bundle which includes small front and rear sideboards from inside the cart.

3. Remove and discard shipping hardware for right-hand sideboards. (FIG. 2-15)

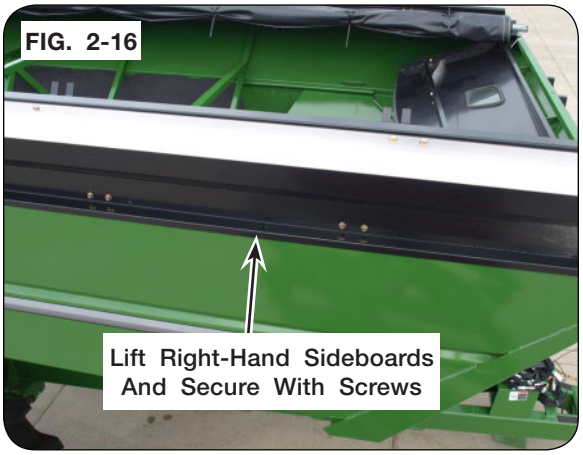
FIG. 2-15



4. Lift the right-hand sideboards into position and loosely secure sideboards into place using 3/8"-16UNC x 3/4" flange screws (95585) and 3/8"-16UNC flange nuts (91263) along sideboard bottom edge. (FIG. 2-16)

NOTE: Hinge brackets WILL support the sideboard. (FIG. 2-16 and 2-17)

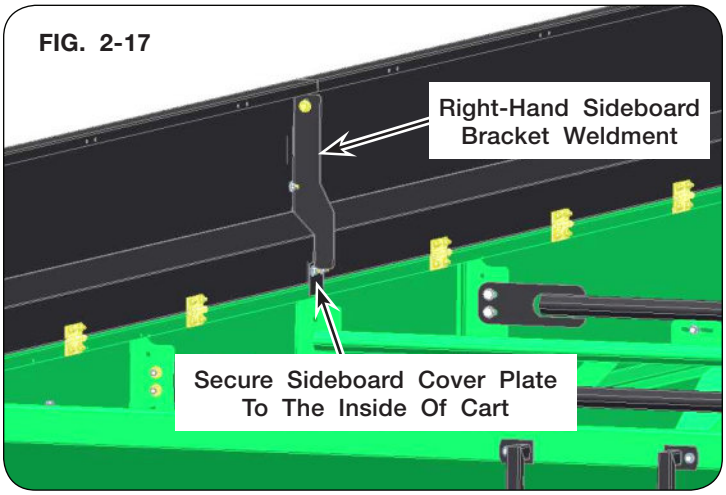
FIG. 2-16



NOTE: The right-hand sideboard bracket weldments (296226B) come from the factory attached between the right-hand sideboards. (FIG. 2-17)

5. Loosely secure sideboard cover plate (295691B) with 3/8"-16UNC x 1" carriage bolts (9388-051) and 3/8"-16UNC flange nuts (91263) to the inside bottom right-hand front and rear sideboards. (FIG. 2-17)

FIG. 2-17

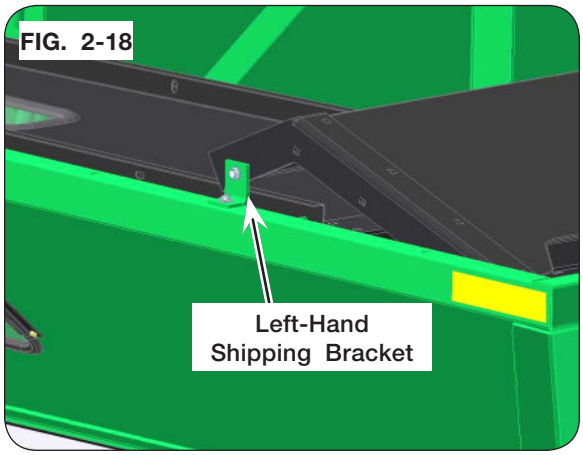


Sideboards and End Caps Installation (continued)

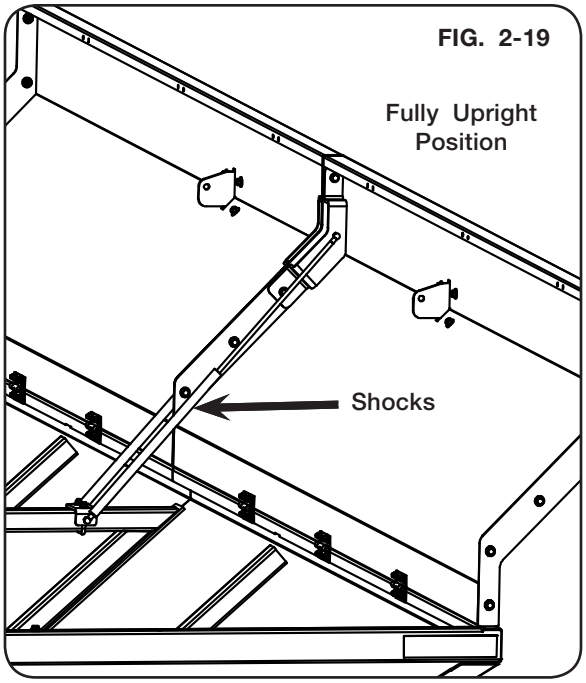
6. Remove and discard shipping bracket for left-hand sideboard. (FIG. 2-18)

7. Lift the left-hand sideboard into position.

NOTE: Hinge brackets WILL support the sideboard and tarp.



NOTE: Shocks are attached to the left-hand sideboard. (FIG. 2-19)



8. Loosely secure left-hand sideboard with 3/8”-16UNC x 3/4” flange screws (95585) and 3/8”-16UNC flange nuts (91263) along the bottom. (FIG. 2-20)

Sideboards and End Caps Installation (continued)

NOTE: The left-hand sideboard bracket weldments (296227B) come from the factory attached between the left-hand sideboards (FIG. 2-21)

9. Loosely secure sideboard cover plate (295691B) with 3/8”-16UNC x 1” carriage bolts (9388-051) and 3/8”-16UNC flange nuts (91263) to the inside bottom left-hand front and rear sideboards. (FIG. 2-21)

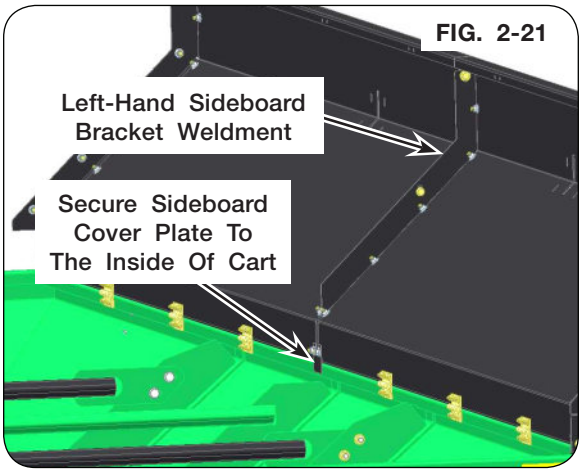


FIG. 2-21

10. ONE PIECE BRACE TUBES:
Install sideboard brace tubes to the center cross tube weldment. The center cross tube weldment will have one left-hand (287524B) and one right-hand sideboard brace tube (220032B). (FIG. 2-22)

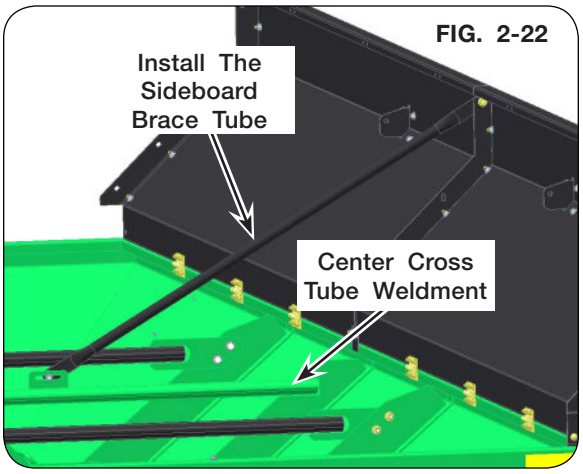


FIG. 2-22

11. CROSS CART BRACE TUBES:
Install cross-cart, full-width brace tubes (289981B). Loosely affix with 3/8”-16UNC x 1 1/2” flange screws (95785), 3/8” flat washers (9405-076), and 3/8”-16UNC flange nuts (91263). (FIG. 2-23 & 2-25)

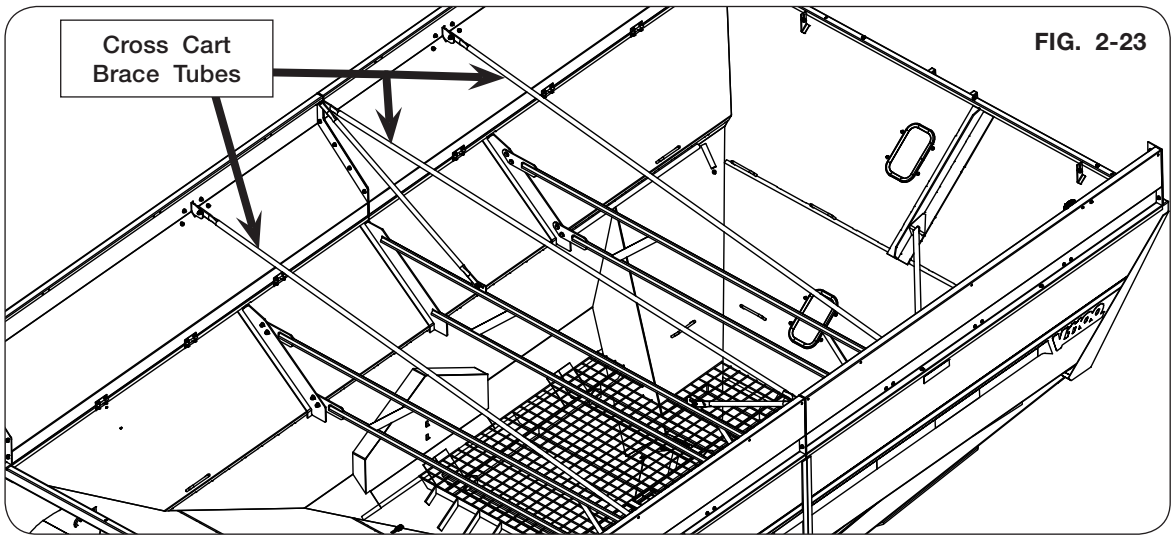


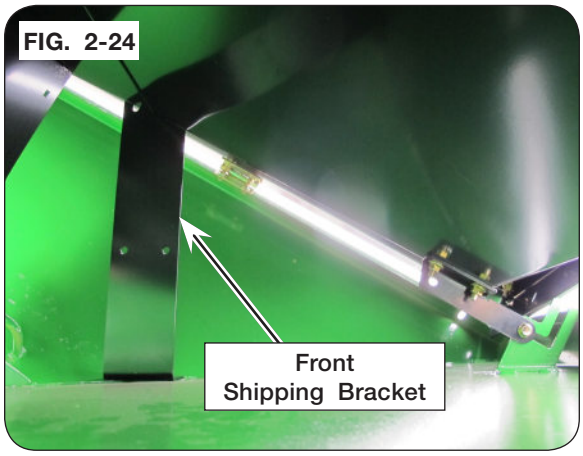
FIG. 2-23

Sideboards and End Caps Installation (continued)

12. Remove and discard the shocks and associated brackets from the left-hand sideboard.

13. Remove and discard the shipping brackets from the rear and front sideboards. Front sideboard shown. (FIG. 2-24)

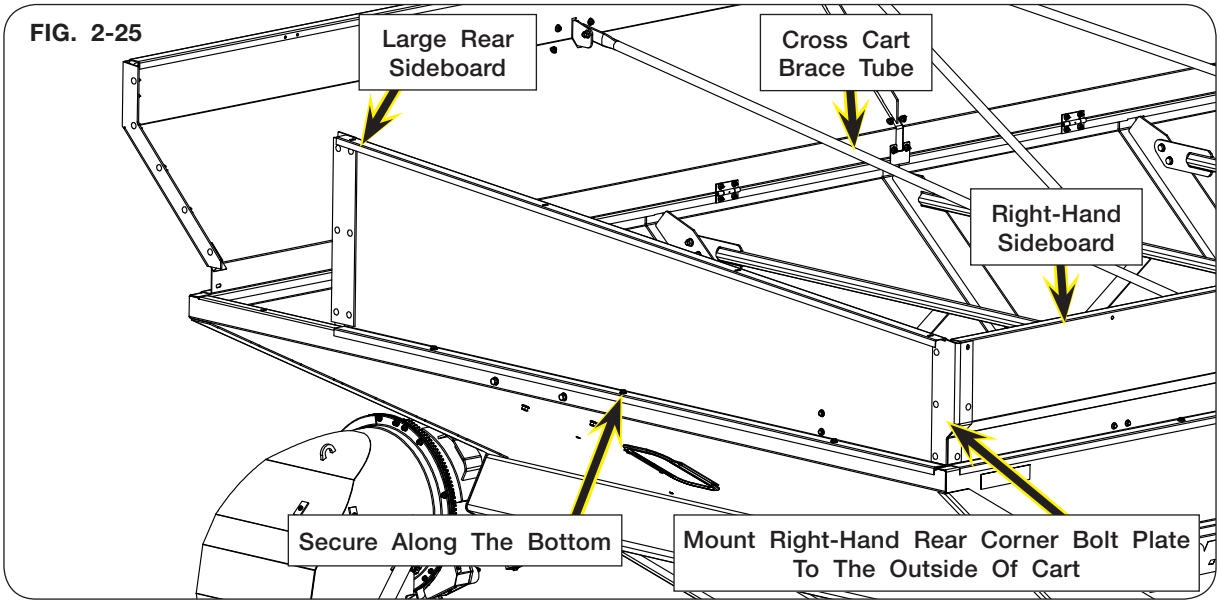
FIG. 2-24



14. Lift the large rear sideboard (296216B) up into position and loosely secure with flange screws (95585) and flange nuts (91263) along the bottom. (FIG. 2-25)

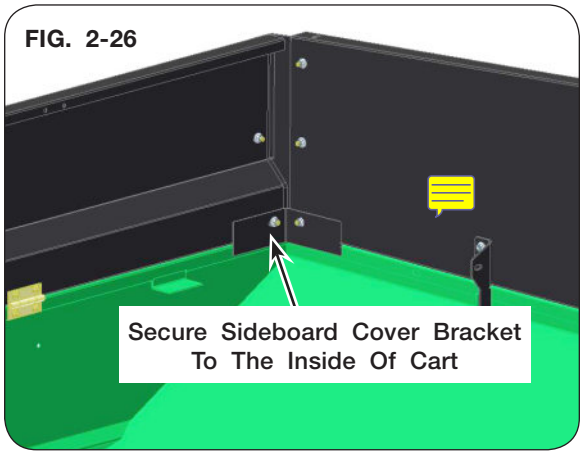
15. Connect large rear sideboard to the right-hand sideboard using the right-hand rear corner sideboard bolt plate (296225B). Loosely secure using (9388-051) and (91263) hardware. (FIG. 2-25)

FIG. 2-25



16. Loosely secure sideboard cover bracket (295667B) with (9388-051) and (91263) hardware to the inside right-hand bottom corner of large rear sideboard and the right-hand sideboard. (FIG. 2-26)

FIG. 2-26



Sideboards and End Caps Installation (continued)

17. Loosely connect the small rear sideboard (296271B) to the large rear sideboard using the sideboard bracket weldment (296232B) with (9388-051) and (91263) hardware. Also, loosely install flange screws (95585) and flange nuts (91263) along the bottom. (FIG. 2-27)

18. Loosely attach small rear sideboard to the left-hand sideboard using the left-hand rear sideboard corner bolt plate (296223B) and corner sideboard bracket (296199B) on the outside of the sideboards with (9388-051) and (91263) hardware. (FIG. 2-27)

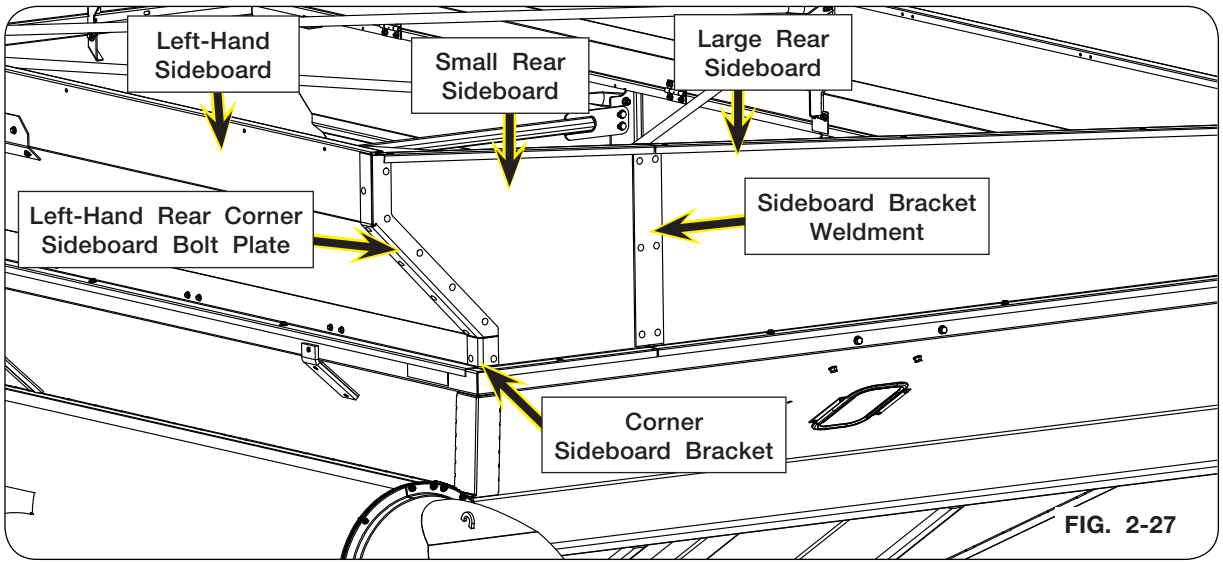


FIG. 2-27

19. Loosely secure two sideboard cover brackets (295667B) with (9388-051) and (91263) hardware to the inside left-hand bottom corner of small rear sideboard and the left-hand sideboard. (FIG. 2-28)

20. Loosely affix two sideboard cover plates (295691B) with (9388-051) and (91263) hardware to the inside top and bottom rear sideboards and the rear sideboard bracket weldment. (FIG. 2-28)

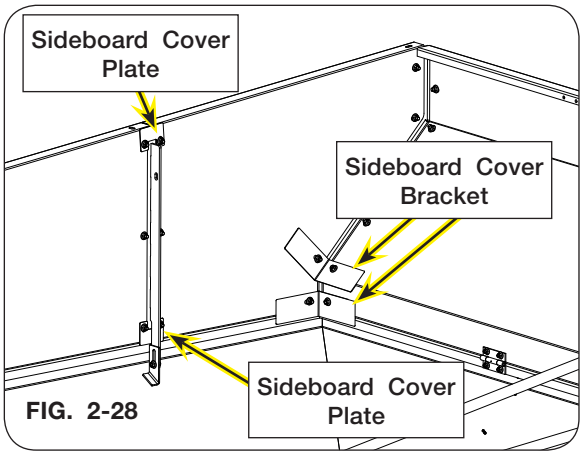


FIG. 2-28

Sideboards and End Caps Installation (continued)

21. Attach small rear end cap (287356B) on top of rear sideboards. Loosely secure using flange screws (95585) and flange nuts (91263) hardware. (FIG. 2-29)

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

22. Install left-hand end cap plate (295668B) between the end cap, small rear sideboard, and left-hand sideboard. (FIG. 2-29 and 2-30)

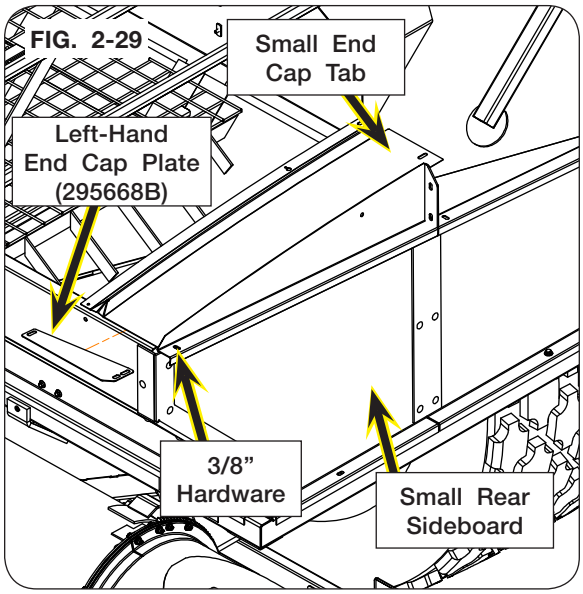


FIG. 2-29

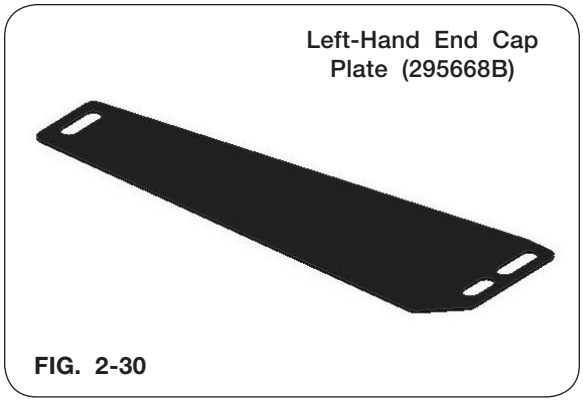


FIG. 2-30

Sideboards and End Caps Installation (continued)

23. Attach large rear end cap (296125B) on top of rear sideboard using screws (95585) and flange nuts (91263) along the bottom. (FIG. 2-31)

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

24. Loosely secure large rear end cap to small rear end cap using two 3/8"-16 x 1" truss head screws (9005312) and two 3/8"-16 flange nuts (91263). (FIG. 2-31)

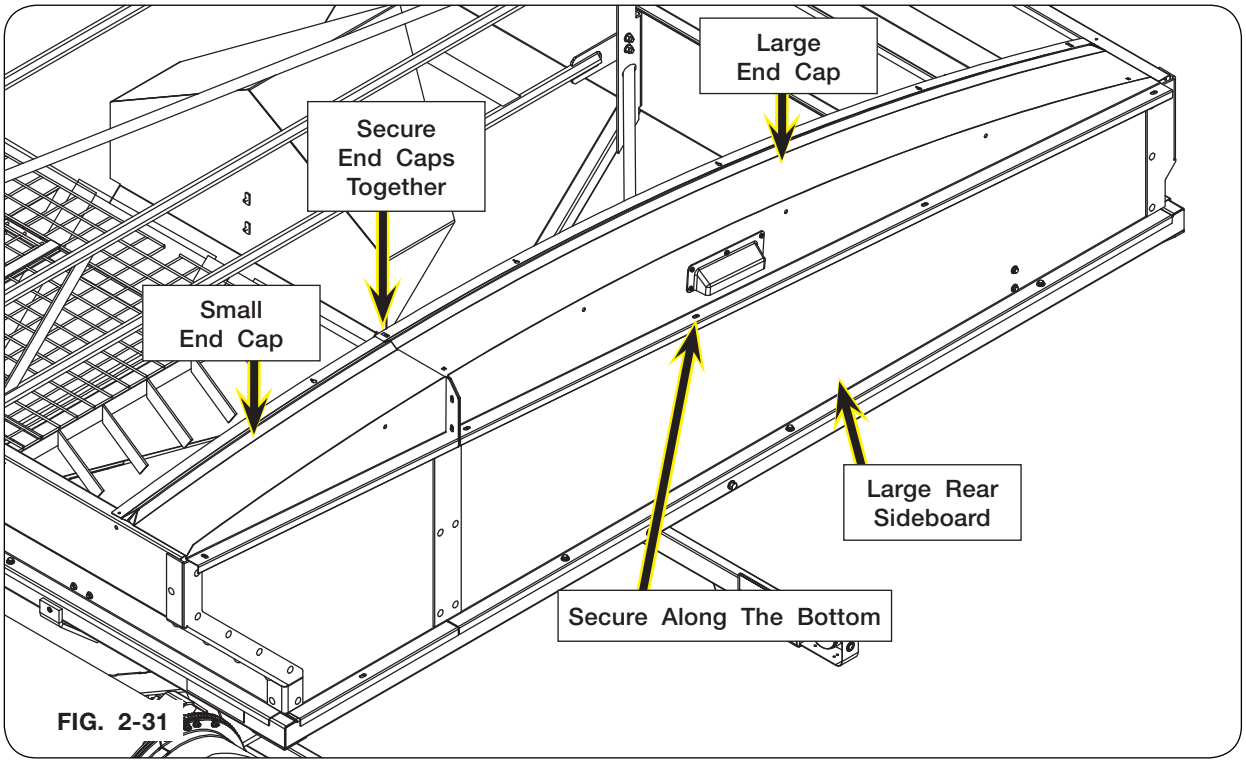
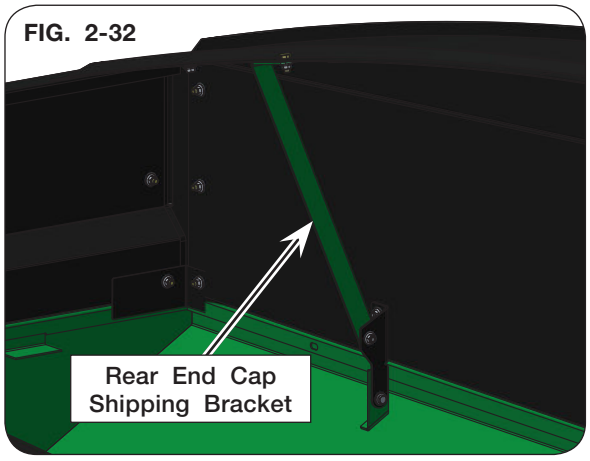


FIG. 2-31

25. Remove and discard the shipping bracket from the rear end cap. (FIG. 2-32)

FIG. 2-32



Sideboards and End Caps Installation (continued)

26. Install right-hand end cap plate (283431B) between the end cap and right-hand sideboard. (FIG. 2-33 through 2-35)

27. Loosely retain by using two 3/8”-16 x 1” carriage bolts (9388-051), two 3/8”-16 flange nuts (91263). (FIG. 2-33 through 2-35)

NOTE: Right-hand end cap plates must be installed at least 1/4” from the outside edge of the sideboard to prevent tearing the tarp.

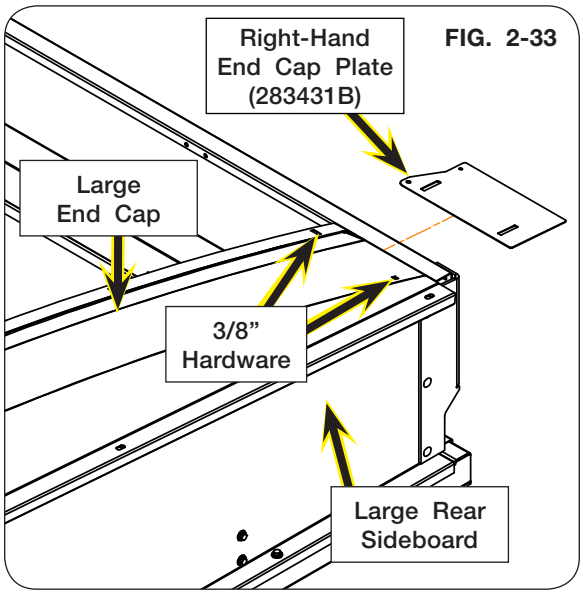


FIG. 2-33

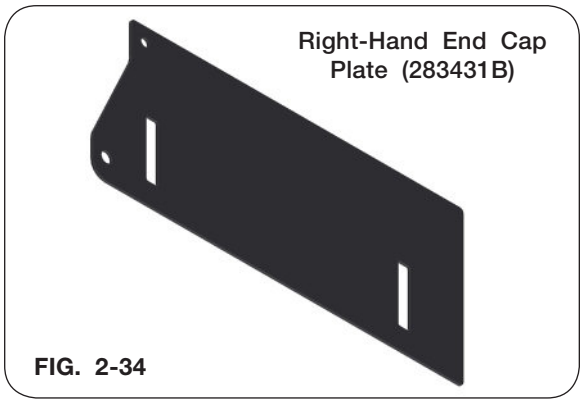


FIG. 2-34

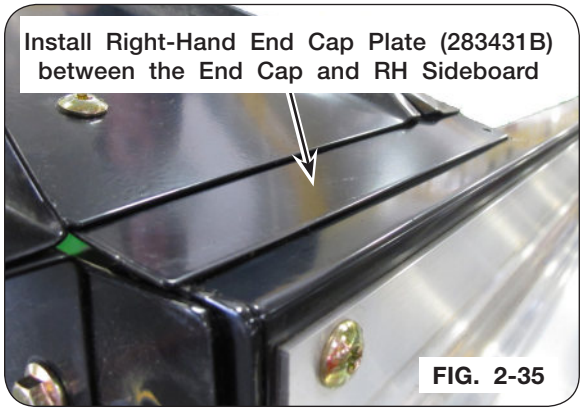


FIG. 2-35

Sideboards and End Caps Installation (continued)

28. Lift large front sideboard (297600B) into position. (Fig. 2-36)

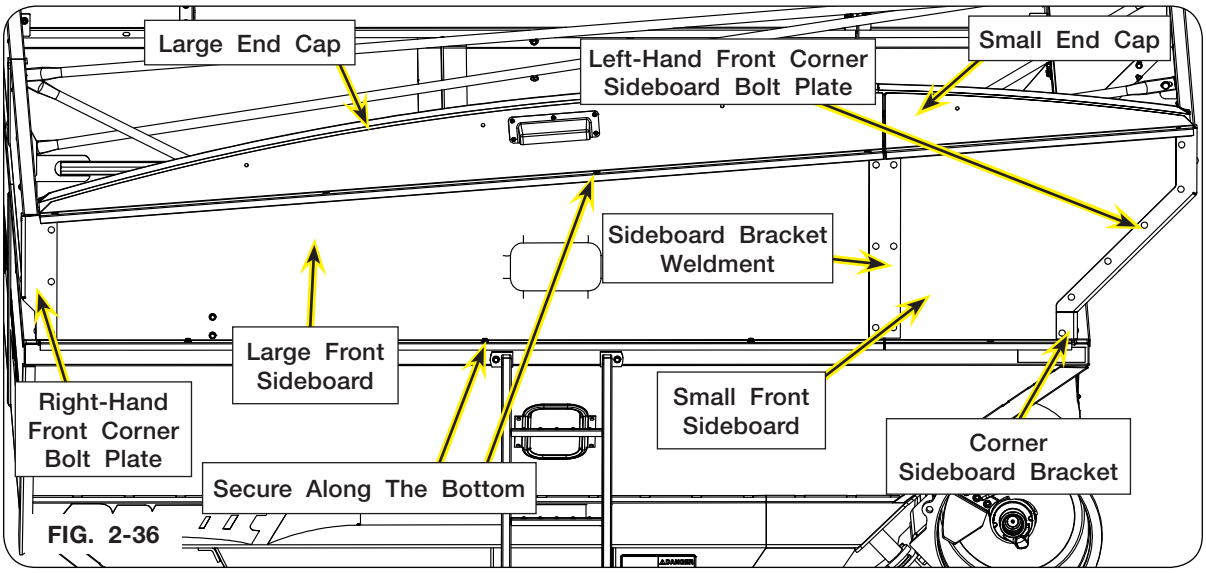


FIG. 2-36

29. Connect large front sideboard to the right-hand sideboard using the right-hand front corner sideboard bolt plate (296224B). Loosely secure using (9388-051) and (91263) hardware. (FIG. 2-36)

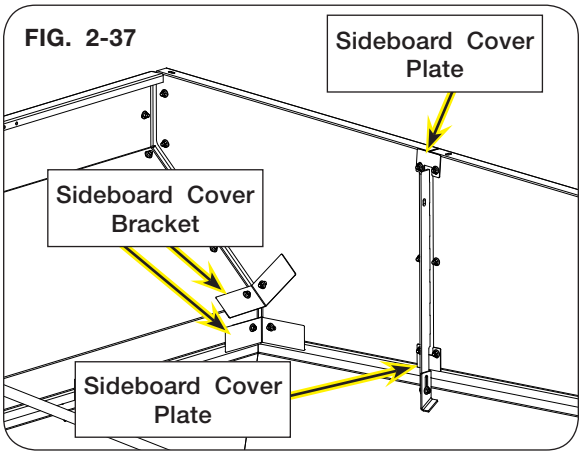
30. Loosely connect the small front sideboard (296215B) to large front sideboard using the sideboard bracket weldment (296232B) and (9388-051) and (91263) hardware. (FIG. 2-36)

31. Loosely install flange screws (95585) and flange nuts (91263) along the bottom perimeter. (FIG. 2-36)

32. Loosely attach small front sideboard to the left-hand sideboard using the left-hand front corner sideboard bolt plate (296222B), and corner sideboard bracket (296199B) on the outside of the sideboards with (9388-051) and (91263) hardware. (FIG. 2-36)

33. Loosely secure sideboard cover brackets (295667B) and plates (295691B) with (9388-051) and (91263) hardware to the inside left-hand bottom sideboard corners and front sideboards. (FIG. 2-37)

FIG. 2-37



Sideboards and End Caps Installation (continued)

32. Attach small front end cap (287357B) on top of front sideboards. Loosely secure using flange screws (95585) and flange nuts (91263) hardware along the bottom. (FIG. 2-38)

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

33. Install left-hand end cap plate (295668B) between the end cap, small rear sideboard, and left-hand sideboard. (FIG. 2-38 and 2-39)

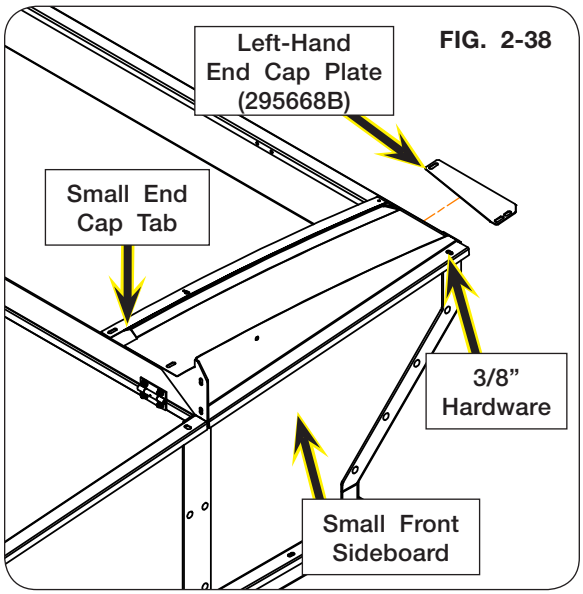


FIG. 2-38

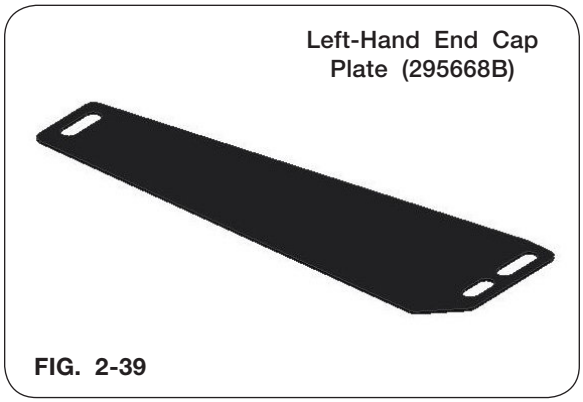


FIG. 2-39

Sideboards and End Caps Installation (continued)

34. Attach large front end cap (296121B) on top of front sideboards using flange screws (95585) and flange nuts (91263) hardware along the bottom. (FIG. 2-40)

NOTE: Large front end cap goes over the tabs on the small end cap previously installed.

35. Loosely retain by using two 3/8”-16 x 1” carriage bolts (9388-051), two 3/8”-16 flange nuts (91263). (FIG. 2-40)

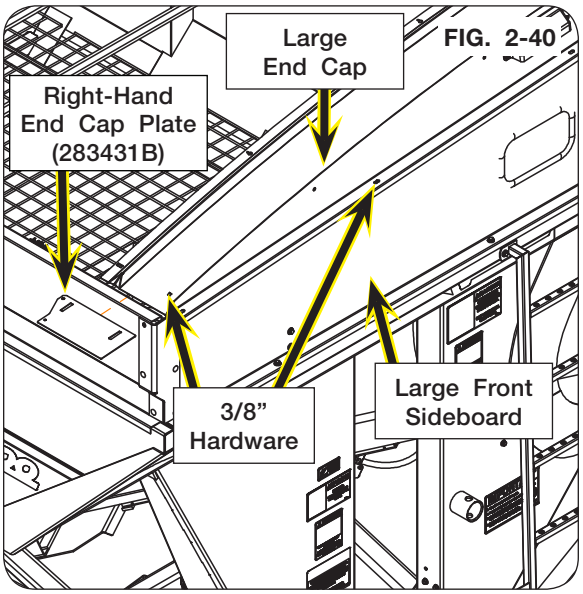


FIG. 2-40

36. Remove and discard the shipping bracket from the front end cap. (FIG. 2-41)

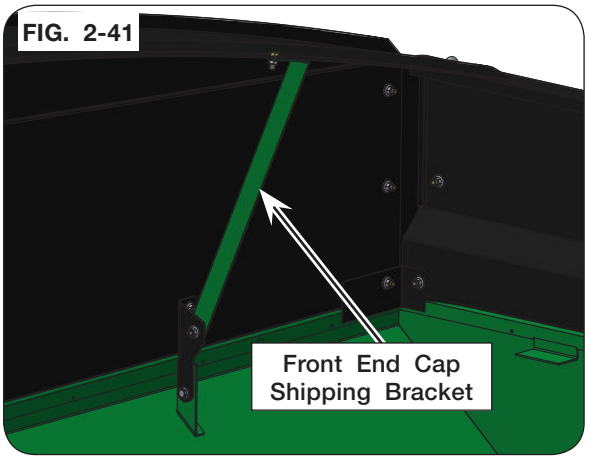


FIG. 2-41

37. Install right-hand end cap plate (283431B) between the end cap and right-hand sideboard. (FIG. 2-40 and 2-42)

NOTE: Right-hand end cap plates must be installed at least 1/4” from the outside edge of the sideboard to prevent tearing the tarp.

38. Loosely retain end cap plate by using two 3/8”-16 x 1” carriage bolts (9388-051), two 3/8”-16 flange nuts (91263). (FIG. 2-40 and 2-42)

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

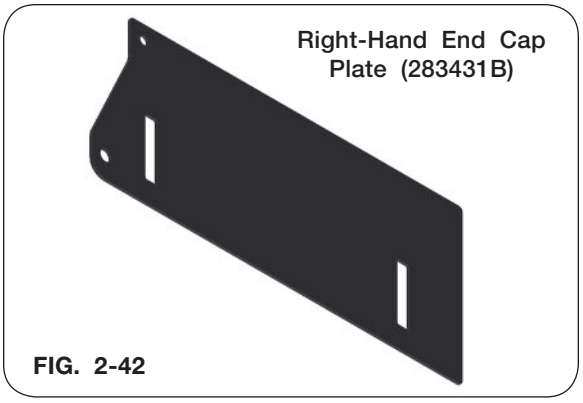


FIG. 2-42

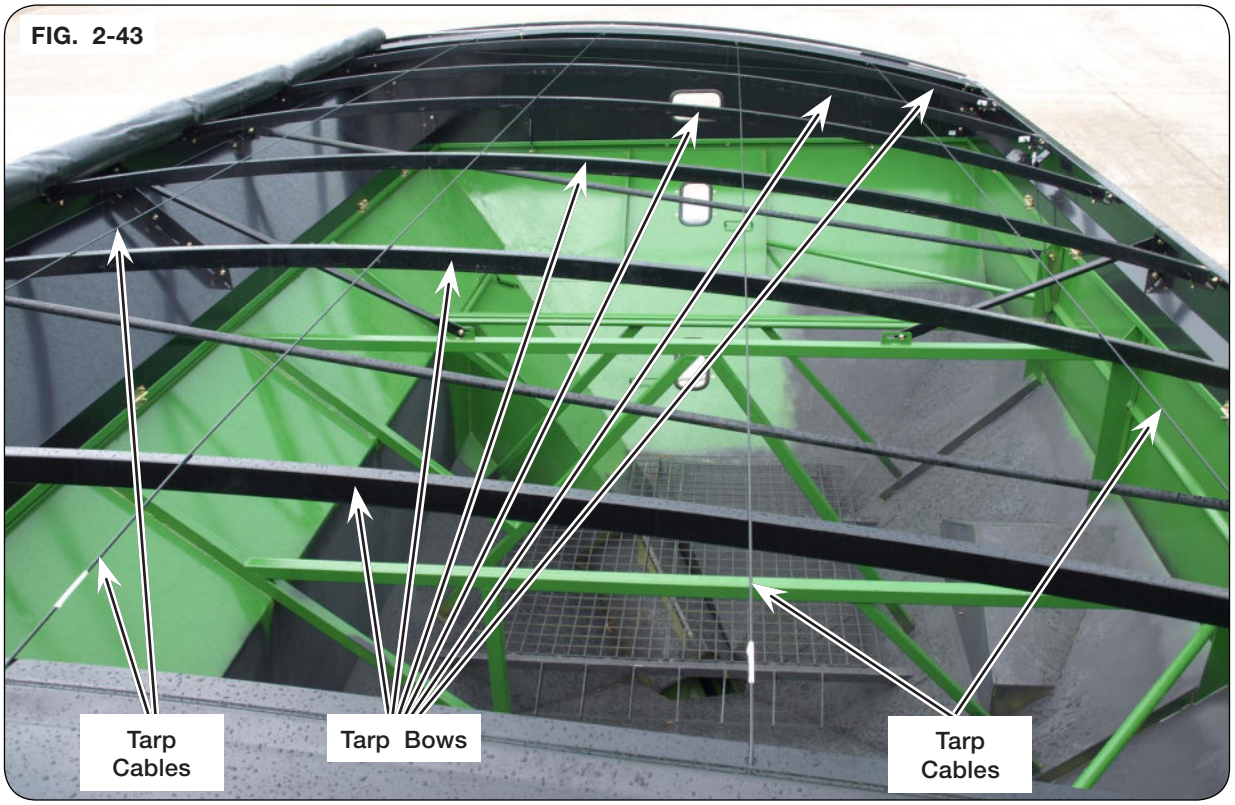
Tarp Installation

NOTE: Ensure RH and LH doublers are inside the sideboard lip. (FIG. 2-44)

NOTE: For each of the six tarp bows, complete the following steps:

1. Attach RH doubler (289986B) and LH doubler (281936B) to inside sideboard lip using 3/8" flange nut (91263) and 3/8" truss screw (9009089). (FIG. 2-44)
2. Attach bow bracket (283425B) to doubler using 5/16" flange screw (91256) and 5/16" flange nut (91257).
3. Install six long tarp bows (287400B) across top of the cart using 3/8" socket capscrew (902703-046) and 3/8" flange nut (91263). (FIG. 2-43 and 2-44)

FIG. 2-43



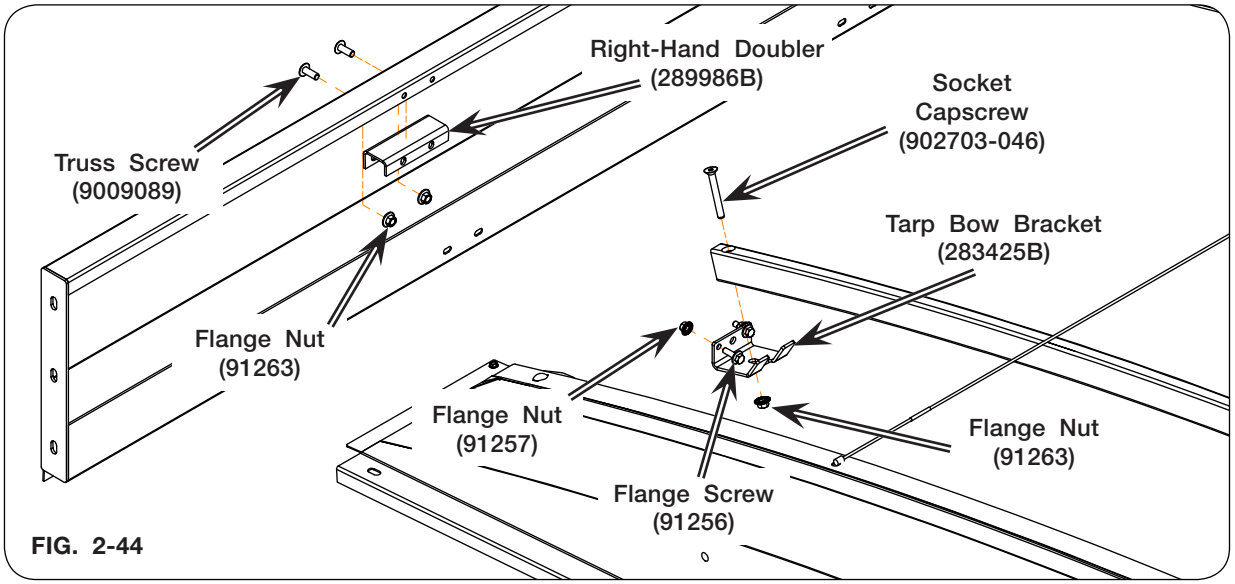


FIG. 2-44

Tarp Installation (continued)

NOTE: Right-hand sideboard may need to be pulled inwards to align holes and attach tarp bows. (FIG. 2-45)

NOTE: Ensure capscrew head (902703-046) is flush with the top of bow weldment (287400B). (FIG. 2-45)

4. With the sideboards aligned and straight, tighten all hardware on sideboards, end caps, cross-cart brace tubes, cross-cart brackets, and tarp bows.
   Torque 3/8" hardware to 25–28 ft.-lbs.

5. Retain right-hand end cap plates to right-hand sideboards by using one 1/4"-14 x 1" self-drilling screw (9512) for the front and rear of the cart. (FIG. 2-45)

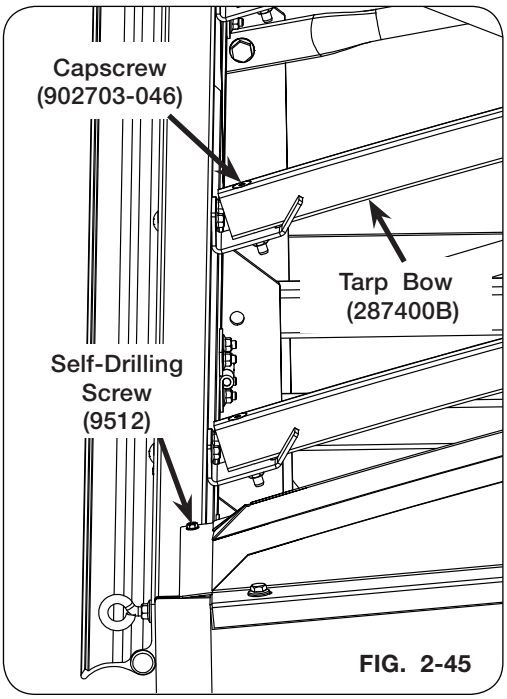


FIG. 2-45

6. Retain small end caps and left-hand end cap plates by using one 1/4"-14 x 1" self-drilling screw (9512) for the front and rear of the cart. (FIG 2-46)

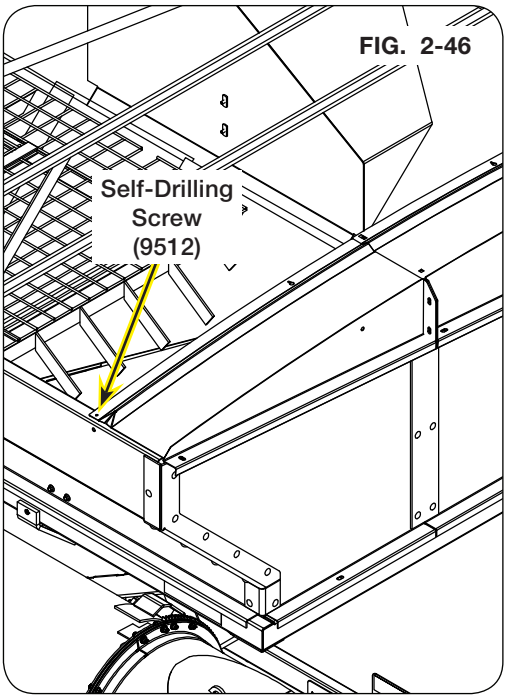


FIG. 2-46

Tarp Installation (continued)

7. Install four bracket & U-nut assemblies (281712B) using 3/8”-16UNC x 4 1/2” capscrews (TA0-907131-0), 3/8” lock washers (9005688), and 3/8” fender washers (9005696). (FIG. 2-47)

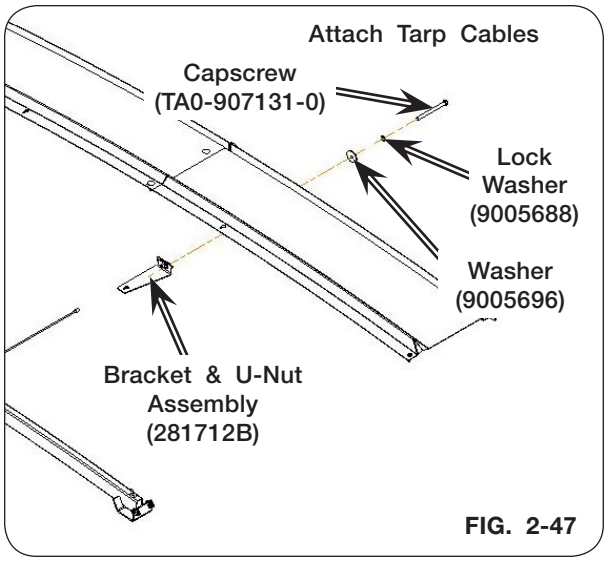


FIG. 2-47

8. Insert nylon coated cable, through hole in front end cap and route over tarp bows. Insert through hole in rear end cap and secure to keyhole slot in adjusting bracket under end cap. (FIG. 2-48 and 2-50)

9. Tighten cables until snug, without pulling front and rear board inward. Do not overtighten.

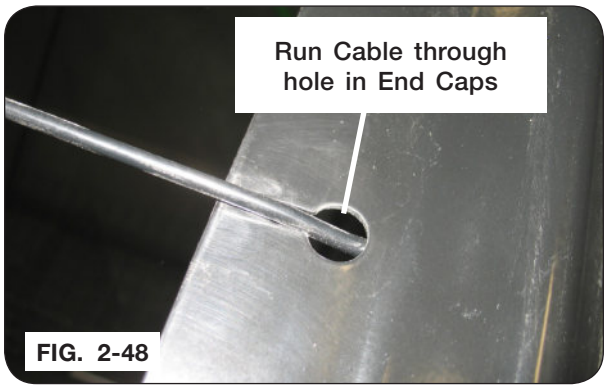


FIG. 2-48

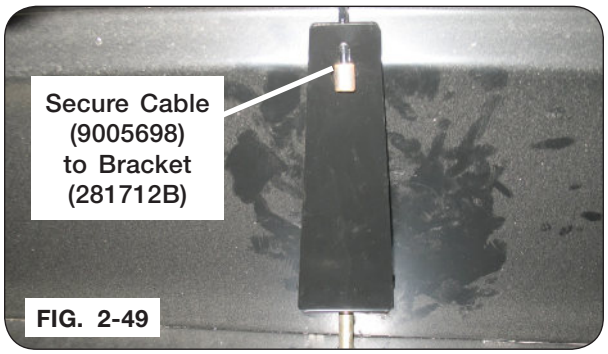


FIG. 2-49

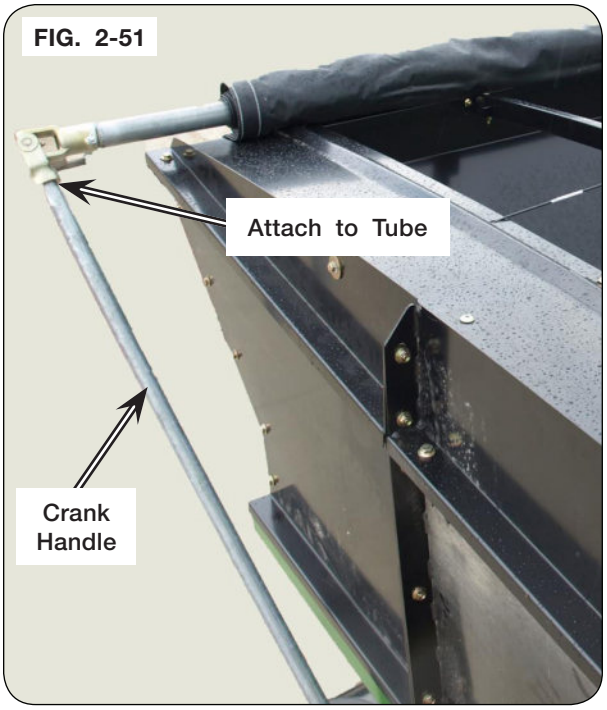
FIG. 2-50

Tarp Installation (continued)

10. Attach the crank handle (287944) to the tarp roll tube (221604) and secure with roll pin (9092-180). Roll tarp across the cart to the closed position. (FIG. 2-51)

NOTE: Remove cable ties holding tarp roll. Take care not to damage tarp.

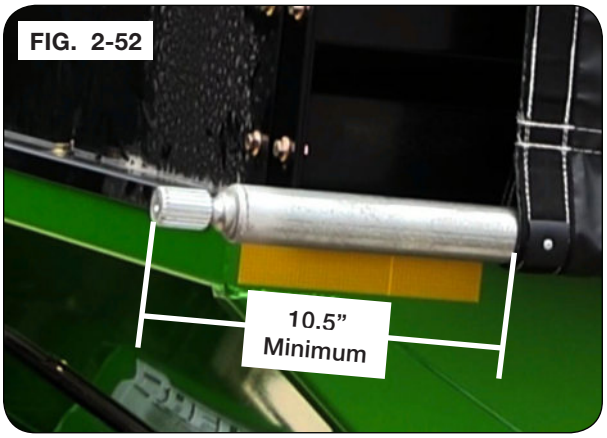
FIG. 2-51



11. Remove crank handle from roll tube.

12. Confirm that the roll tube protrudes at a minimum of 10.5 inches from the edge of tarp. (FIG. 2-52)

FIG. 2-52



Tarp Installation (continued)

NOTE: The #10-16 x 3/4" self-drilling screws (9005197) and U-clamps (9004949) come from the factory assembled to the roll tube. Check that U-clamps are located on reinforcement straps. (FIG. 2-53)

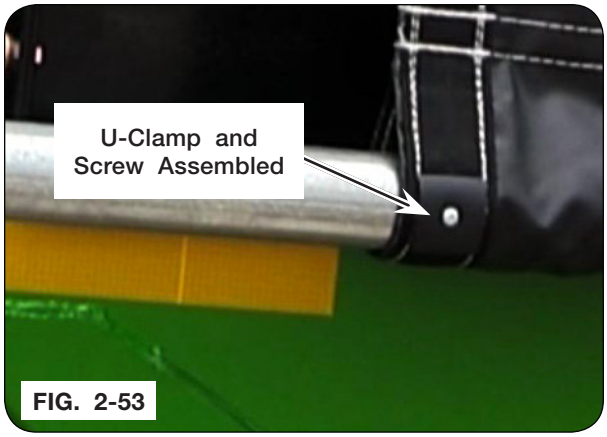
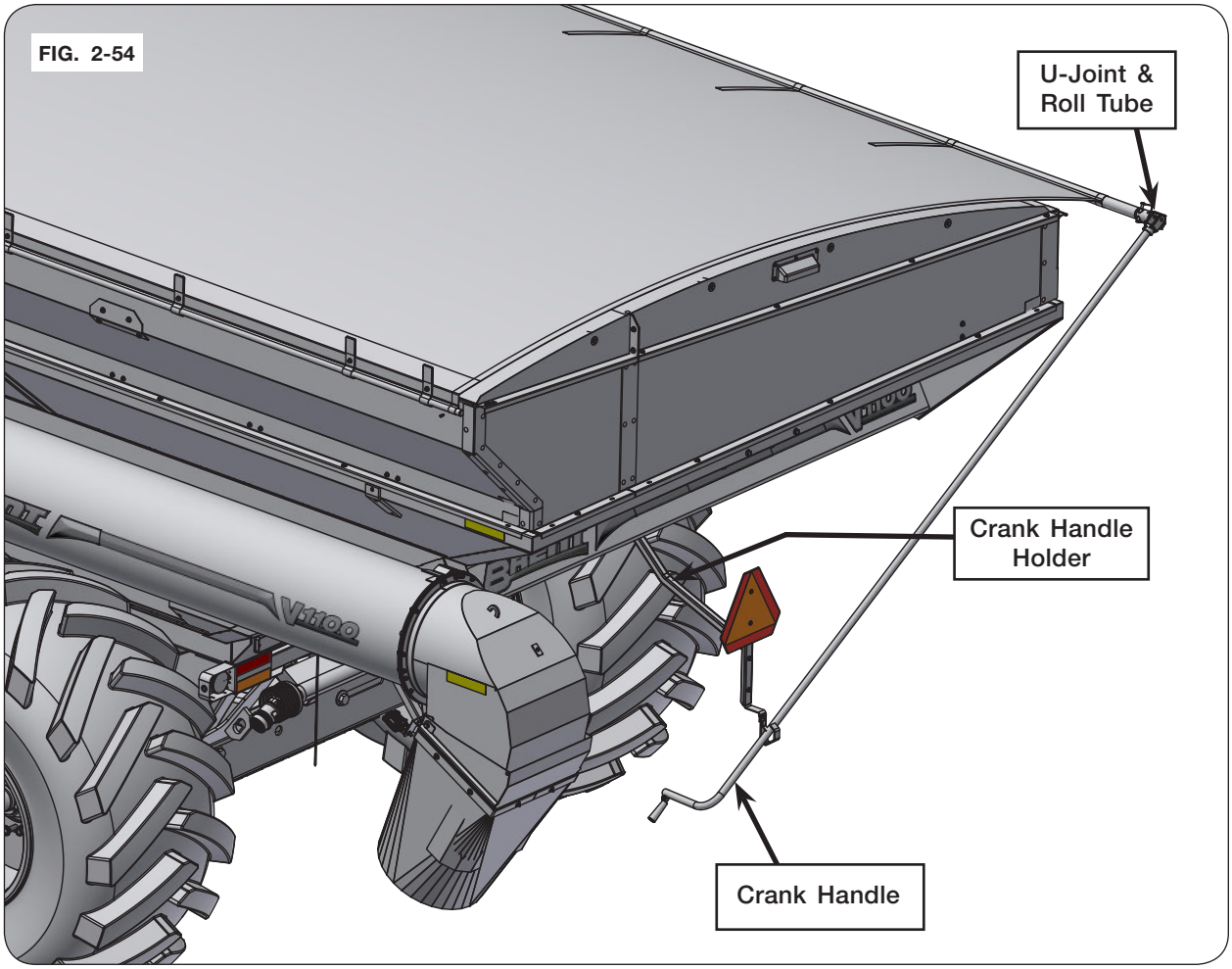


FIG. 2-53

13. If not already affixed, attach crank handle holder (265706B) to the brackets underneath on the rear of the cart using 1/2"-13-UNC x 1" capscrews (9390-099) and 1/2"-13UNC flange nuts (9002058). (FIG. 2-54)

14. With the tarp in closed position and roll tube hanging over side of the cart, reattach crank handle to the roll tube with the lynch pin keeper (9005305) around the u-joint and roll tube. (FIG. 2-54)

FIG. 2-54



Tarp Installation (continued)

15. Turn the crank handle clockwise with tarp rolled up under latch plate (296830 - front; 296831 - rear), thread the bungee cord end through the top of the eye bolt. Leave 2-3 inches of slack and knot off. Cut off excess 2-3 inches past knot. Sear end with lighter to keep from fraying. (FIG. 2-55)

16. Align hurricane strap (9008952) along the first tarp bow on the front of the cart. On right-hand outside hole of the hopper, use 3/8”-16UNC x 1” self-tapping screw (96972), 3/8” flat washer (9008972), tarp strap spacer bushing (9008949), and 3/8”-16UNC flange nut to secure to hopper. Extend hurricane strap across the cart to the left-hand side of the tarp bow.

17. Remove and keep 3/8”-16UNC x 1 1/4” flange screw (9003259) and 3/8”-16UNC flange nut (91263) from the tarp stop (266689B) and sideboard.

18. Assemble hurricane strap between tarp stop spacer plate (295183B) and sideboard using 3/8” flat washer, tarp strap spacer bushing, and reusing 3/8” hardware.

19. Repeat steps 16–18 for the rear of the cart.

20. Test tarp for proper working motion. (FIG. 2-56)

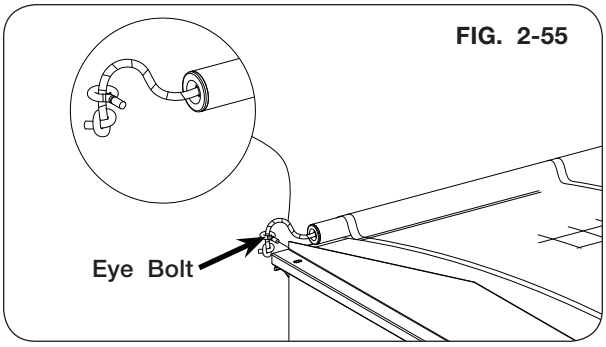


FIG. 2-55

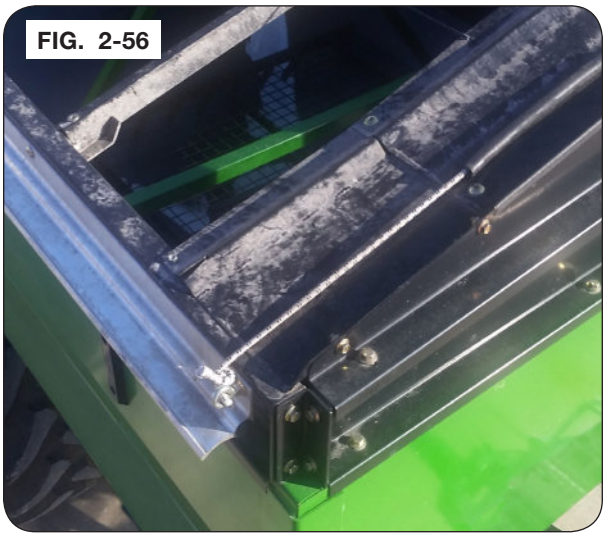


FIG. 2-56

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, inspect and verify all grain dust and filings are removed from inside the lower auger to prevent machine damage and the cleanout door is completely closed.*

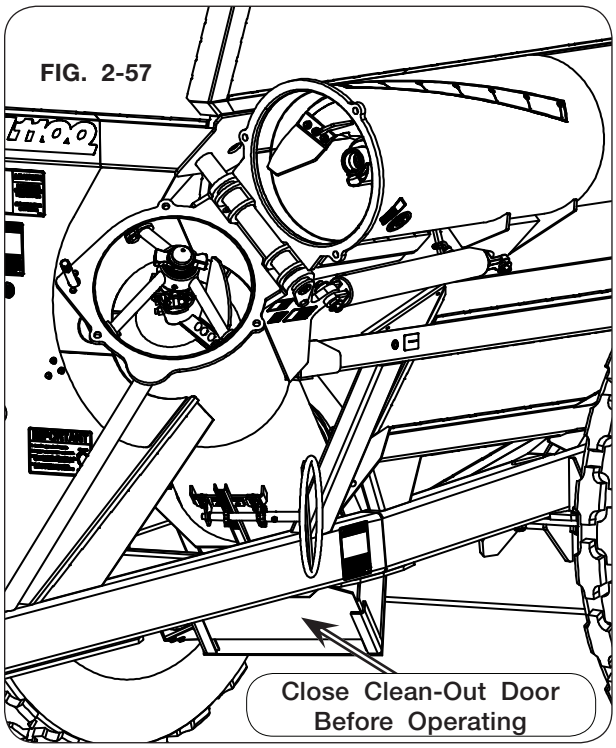
NOTE: For cleanout door assembly adjustment, refer to "Adjusting Cleanout Door" in the MAINTENANCE section.

NOTE: It is recommended the joystick and 7-pin connector be plugged into the same power source.

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

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

FIG. 2-57



Section III
Operation

FOR SCALE, TRACK, UHARVEST, HYDRAULIC DRIVE, ELECTRIC TARP, AND VIDEO SYSTEM OPTIONS, PLEASE REFER TO THE SPECIFIC MANUAL.

Operating Checklist

- ❑ Read and understand all safety precautions before operating cart.
- ❑ Test operation and functionality of flow door stop valve (9002151). See "Auger System - Auger Flow Door Cylinder Stop" in MAINTENANCE.
- ❑ Test operation and functionality of flow door indicator, auger fold, spout rotate, spout tilt, tarp, and if equipped, scale, joystick, scale remote display, and video system.
- ❑ 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 hitch height and length as outlined in OPERATION section.
- ❑ Ensure lower auger cleanout door is closed.
- ❑ Install transport chain and torque hardware to specification. See “Transport Chain Connection” in OPERATION section.
- ❑ Test run the augers. See “Auger Operation” in OPERATION section.

Preparing Tractor

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

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

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

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

If equipped, check the tractor and cart electric tarp connection. Refer to electric roll tarp manual (291206) for details.

Check if the tractor has multiple PTO engagement modulation settings the latest PTO engagement software from the OEM. If unsure, contact your local dealer for tractor capabilities and set to lowest engagement modulation for smoothest operation.

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

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.

Refer to the tractor Operator's Manual for information on tractor drawbar length.

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

Preparing Cart

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

Hardware

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

Pivot Pins

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

Hitch

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

Auger

Inspect auger for damage and wear.

Auger Driveline Assembly

Inspect auger driveline for damage and wear. Check for correct driveline phasing. Refer to MAINTENANCE section for additional information on safe driveline phasing, replacement and assembly.

Preparing Cart (continued)

Hydraulic System

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

Optional Hydraulic Brake System

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

Ensure brakes are bled before use. See "Bleeding Procedure For Braking System (Optional)" in the MAINTENANCE section for additional information.

The optional hydraulic brake system is designed to comply with ISO:5676 compatible hydraulic brake coupler.

IMPORTANT

- *Failure to use correct coupler or incorrect plumbing may result in brake lockup. Damage due to brake lockup is not covered under warranty.*

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 and 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 location on the tractor other than the drawbar.

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

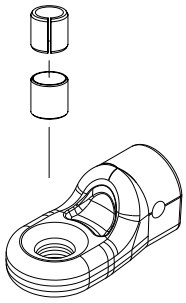
NOTE: Use of the proper hitch pin/bushing will prevent excessive wear and tear on both the cart and tractor.

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

Lock tractor drawbar in center position.

Refer to the tractor Operator's Manual for information on tractor drawbar length.

FIG. 3-1



⚠ WARNING

- **CRUSHING CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT STAND BETWEEN CART AND TRACTOR WHEN HITCHING. ALWAYS ENGAGE PARKING BRAKE AND STOP ENGINE BEFORE INSERTING HITCH PIN.**

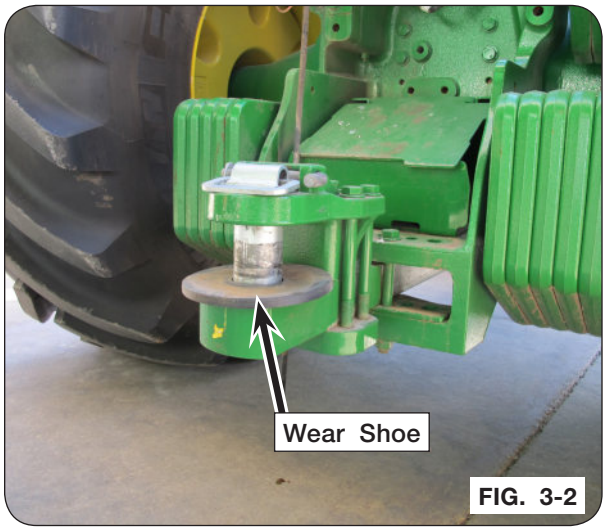


FIG. 3-2

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

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

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

2 7/8" Higher Than The Standard Position

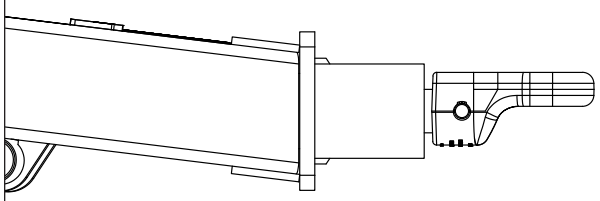


FIG. 3-3

Hitching to Tractor (continued)

Jack Usage

WARNING

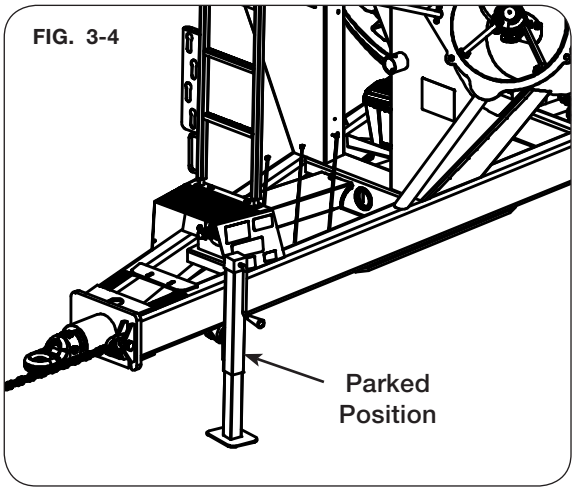
- **UNHITCHING A LOADED CART CAN CAUSE SERIOUS INJURY OR DEATH DUE TO THE TONGUE RISING OR FALLING. ALWAYS HAVE A LOADED CART ATTACHED TO A TRACTOR. THE JACK IS INTENDED TO SUPPORT AN EMPTY CART ONLY.**

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 outside frame using pin and hair pin. Mount jack in storage position once cart is hitched to tractor. (FIG. 3-4 and 3-5)

IMPORTANT

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

FIG. 3-4



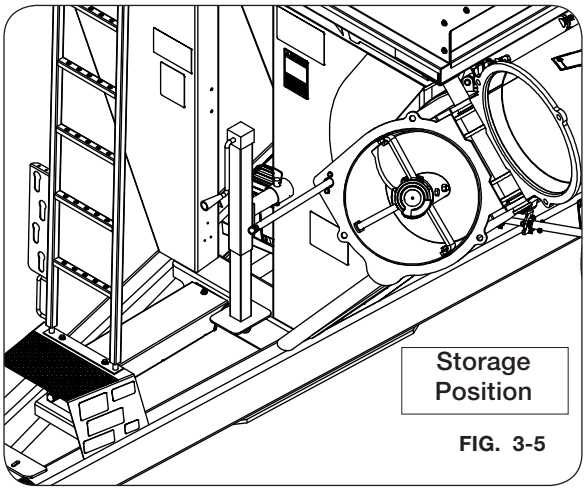


FIG. 3-5

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. Figure 3-6 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. 3-6

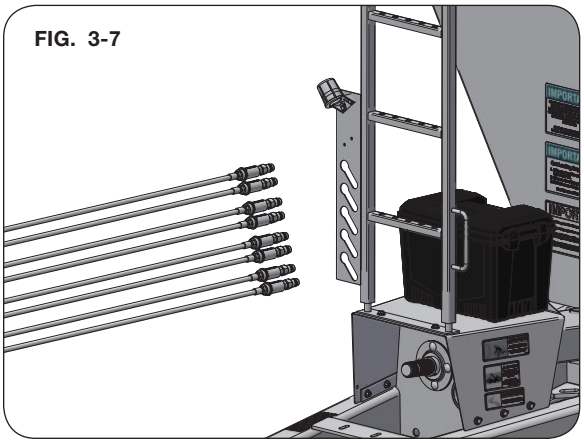
Hitching to Tractor (continued)

Hydraulic Connections

IMPORTANT

- *When coupling hydraulic hoses to ports on the tractor, be sure that the coupler ends are clean of dust, dirt and debris. Failure to do so could contaminate hydraulic system resulting in excessive wear and possible failure. (FIG. 3-7)*

FIG. 3-7



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

This unit is equipped with color-coded grips on the hydraulic hoses. This will help in identifying the hose function and correct hook up.

Color	Hose Function
Red	+ Flow Door Open
	- Flow Door Closed
Green	+ Auger Unfold
	- Auger Fold
Tan	+ Spout Rotate Out
	- Spout Rotate In
Yellow	+ Spout Tilt Out
	- Spout Tilt In
Blue	Brakes (Optional)

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.

Before disconnecting hoses from tractor, place tractor in Park and shut PTO off, operate auger fold to the lowest position. Where possible, remove hydraulic pressure and avoid potential pressure buildup in the lines from long storage periods such as upper auger not in rest 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.

Optional Implement Brake Connection

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

Hitching to Tractor (continued)

Hydraulic Connections for Hydraulic Drive

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

Electrical Connections

This cart is equipped with a seven-pin SAE connector plug which will connect with the receptacle found on most newer tractors. If your tractor does not have this type of receptacle, an SAE J-560 seven-point socket can be purchased from your Unverferth dealer (Part number 92824). (FIG. 3-8)

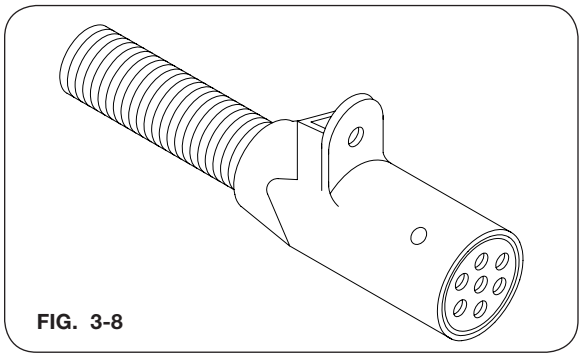


FIG. 3-8

NOTE: It is recommended the joystick and 7-pin connector be plugged into the same power source.

The wiring schematic for this cart, shown in the MAINTENANCE section, complies with ASABE 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 (291206) 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 Unverferth dealer for additional brackets, reflectors, or lights to meet your requirements.

Hitching to Tractor (continued)

Towing

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

IMPORTANT

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

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

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

The PTO driveshaft must be properly attached to the tractor during transport. See "Driveline Installation" in SET UP section and "PTO Shaft and Clutch" in MAINTENANCE section before connecting the PTO driveshaft to the tractor.

Secure transport chain to tractor chain support before towing.

⚠ CAUTION

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

Rotate the directional spout to the narrowest transport width position.

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.

For carts equipped with optional hydraulic brakes: verify proper tractor connection and brake function/release before towing.

Always fold auger into storage position when auger is not in use.

IMPORTANT

- *Remove and store the complete PTO before towing grain cart behind a delivery truck. Interference could occur when turning resulting in damage to PTO and cart*

During transport, if the PTO shaft cannot be connected to the tractor, use a safe lifting device rated at 100 lbs. to remove the PTO telescoping shaft and place in the storage position. Damage to frame and driveline may result if PTO is not placed on storage brackets. To prevent damage during turning when using non-PTO equipped towing vehicles, use a safe lifting device rated at 100 lbs. to store the PTO driveshaft in the brackets provided on the rear of the frame rail.

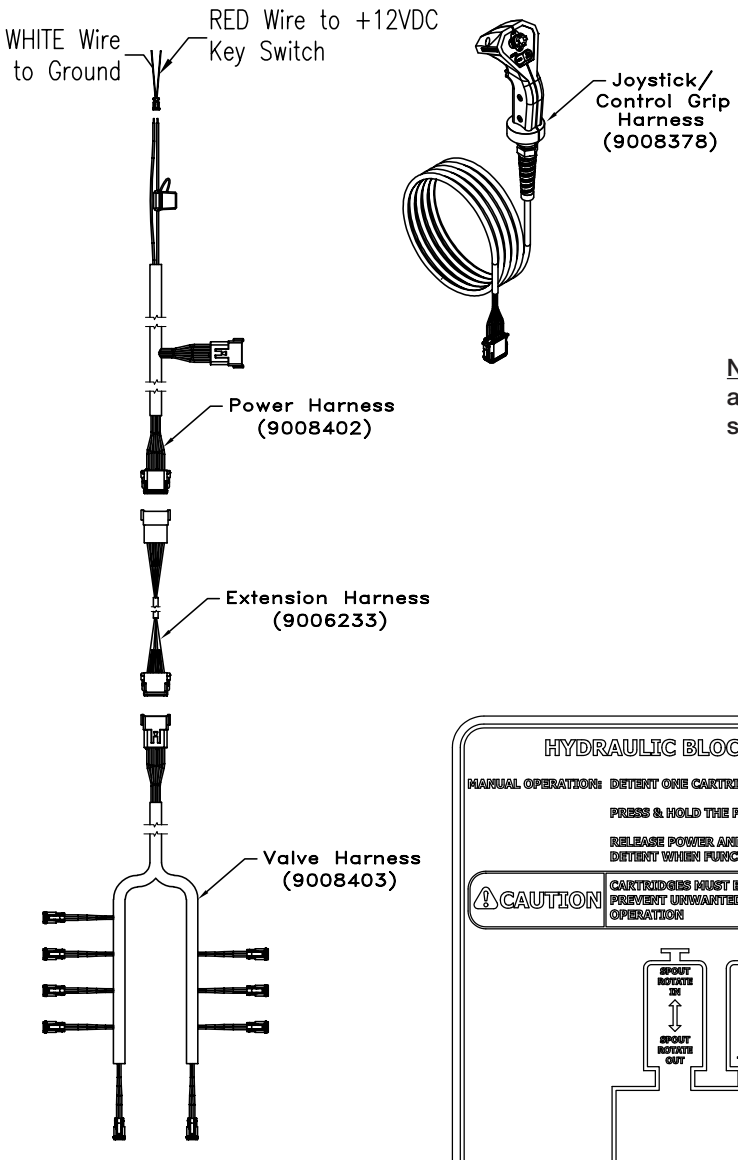
Electric Over Hydraulic Operation (Optional)

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 (9008402) to a key switched +12VDC power supply. (FIG. 3-9)

2. Connect the white wire from power harness (9008402) to ground. (FIG. 3-9)



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

NOTE: It is recommended the joystick and 7-pin connector be plugged into the same power source.

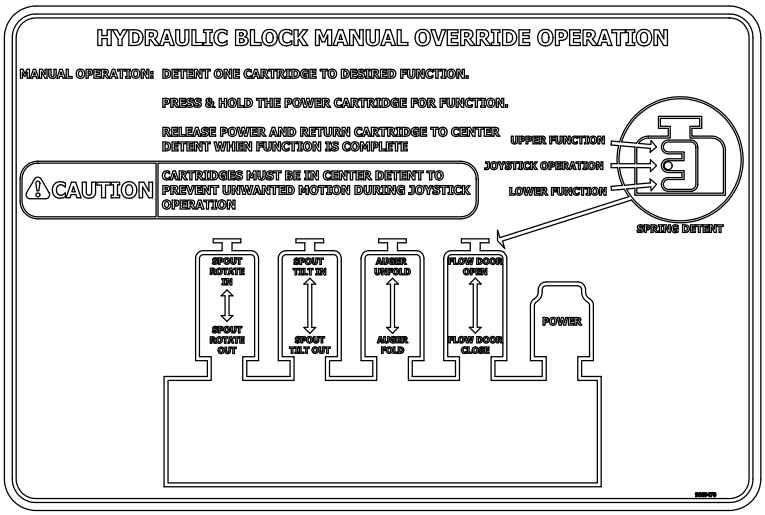


FIG. 3-9

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 of 6 gal/min. to minimum 4 gal/min.

5. To fold auger out from transport to operating position, depress the auger unfold button on joystick face until the upper and lower auger are engaged. See FIG. 3-10.

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

6. To tilt spout OUT away from cart, push hat switch toward OUT. Hold the switch until desired position is achieved. See in FIG. 3-10.

7. To tilt spout IN toward cart, push hat switch toward IN. Hold the switch until desired position is achieved. See in FIG. 3-10.

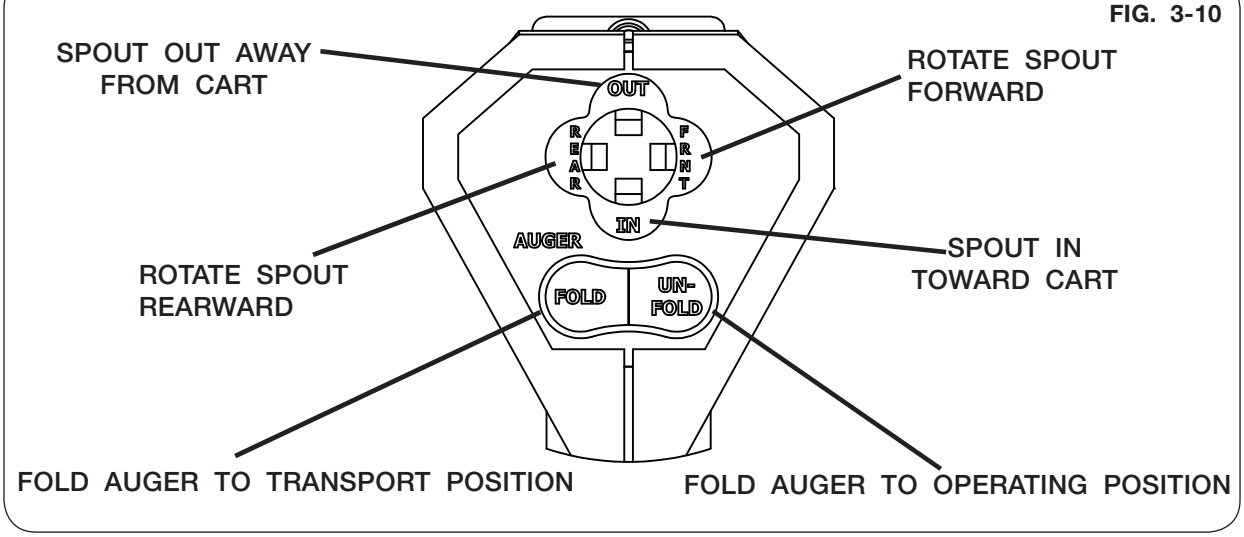
8. To rotate spout FORWARD, push hat switch toward FRNT. Hold the switch until desired position is achieved. See FIG. 3-10.

9. To rotate spout REARWARD, push hat switch toward REAR. Hold the switch until desired position is achieved. See FIG. 3-10.

NOTE: Refer to “Troubleshooting” for EOH and/or auger issues in the OPERATION section.

10. To fold auger from operating position to transport position, press auger FOLD button on joystick. See FIG. 3-10

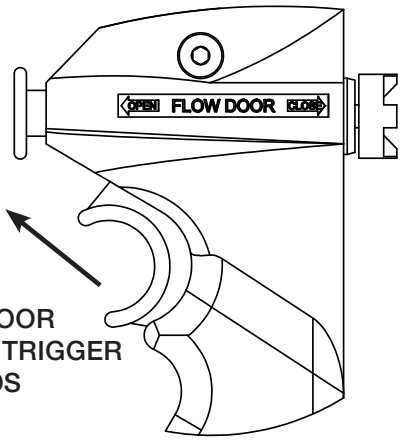
FIG. 3-10



Electric Over Hydraulic Operation (Optional) (continued)

11. To open flow door, rotate the switch upwards. Observe flow door indicator to determine when to release trigger and stop flow door movement. See FIG 3-11.

FIG. 3-11

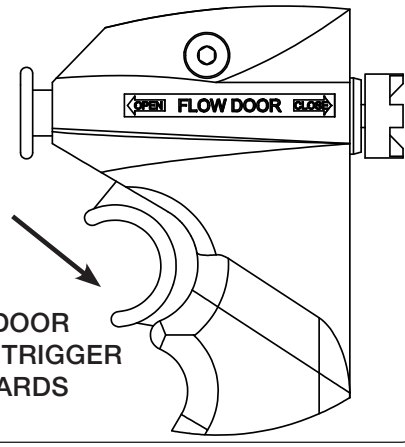


12. To close flow door, rotate the switch downwards. Observe the flow door indicator and release trigger when door is closed to desired position. See FIG. 3-12.

NOTE: Refer to "Troubleshooting" for EOH and/or vertical auger issues in the MAINTENANCE section.

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

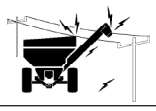
FIG. 3-12



Auger Operation

DANGER

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



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

NOTE: Set PTO engagement modulation to minimum. See tractor operator manual for procedure.

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

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

NOTE: Minimum of 1,000 PTO RPM MUST be maintained when operating the flow door at the maximum setting.

3. Engage tractor PTO at low engine RPM, then increase engine RPM until 1,000 PTO RPM is reached.

IMPORTANT

- *Operating the PTO at less than 1,000 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. 3-13)

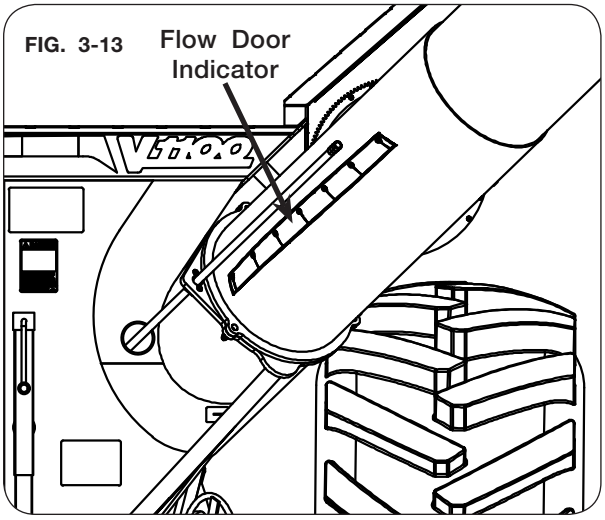


FIG. 3-13

IMPORTANT

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

NOTE: If an overload occurs, (Excessive heat/smoke or a ratcheting or "clicking" noise from the cut-out clutch) shut off PTO immediately. Close flow control door and relieve auger grain pressure by opening cleanout door to remove some grain from auger before resuming. When resuming operation, allow clutch to cool, then engage tractor PTO at low engine RPM, and increase engine RPM until 1,000 PTO RPM is reached.

NOTE: For maximum flow of material, the factory-adjusted cylinder stop may be moved. See "Auger System - Auger Flow Door Stop" in MAINTENANCE.

Auger Operation (continued)

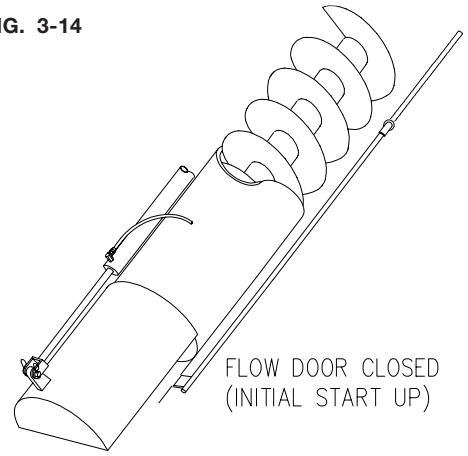
5. To slow or stop grain flow, close flow door, DO NOT reduce tractor/PTO RPM as a means to control grain flow. Close flow door fully when unloading is complete. (FIG. 3-14)

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.

6. When auger is empty, reduce tractor RPM to idle, then stop PTO.

7. After the PTO has come to a complete stop, fold auger to the transport position.

FIG. 3-14



Rear Ladder and Access Door Operation

⚠ 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, 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: Lower ladder section must be raised and locked in the storage position when not used.

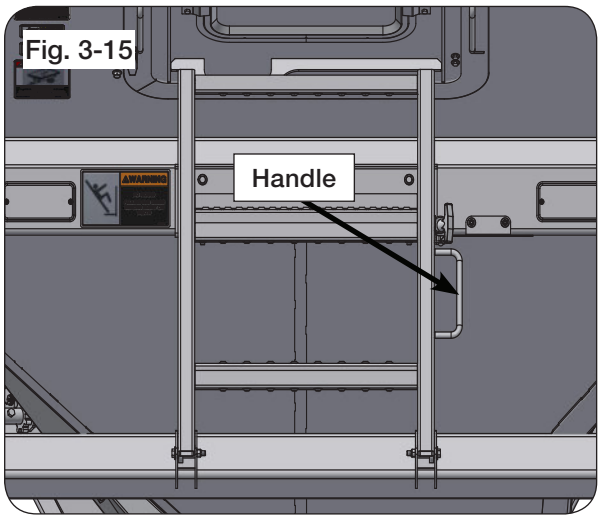


Fig. 3-15

Unfolding Ladder

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. 3-15 and 3-16)

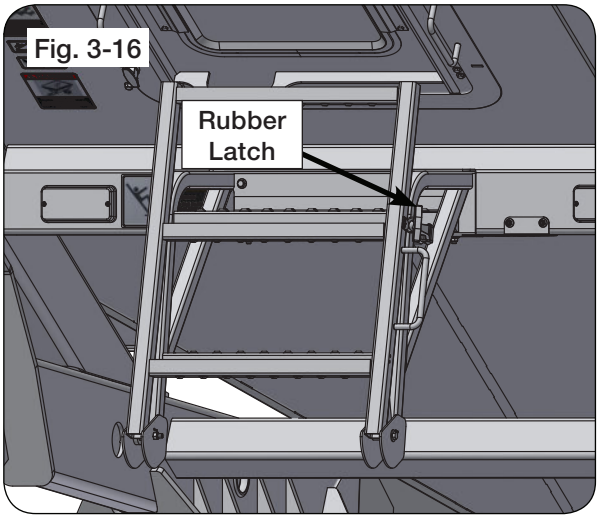


Fig. 3-16

Rear Ladder and Access Door Operation (continued)

3. While holding ladder handle, slowly swing the lower ladder section completely down to working position (FIG. 3-17)

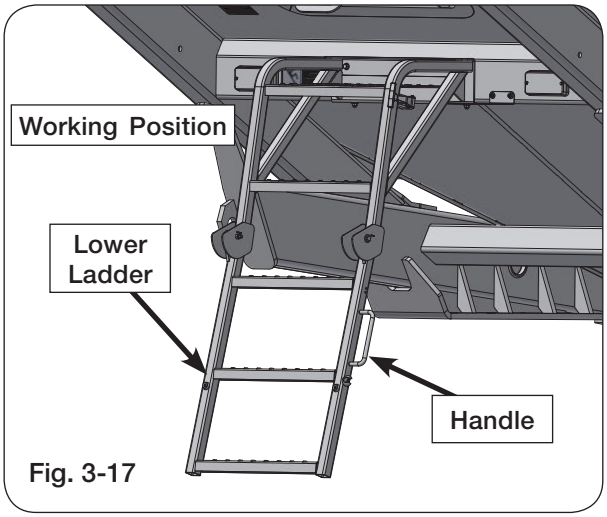


Fig. 3-17

Folding Ladder

1. Slowly lift and swing the lower ladder section up to storage position. (FIG. 3-17)

2. While holding ladder handle, fasten rubber latch into holder to lock ladder in storage position. (FIG. 3-18 and 3-19)

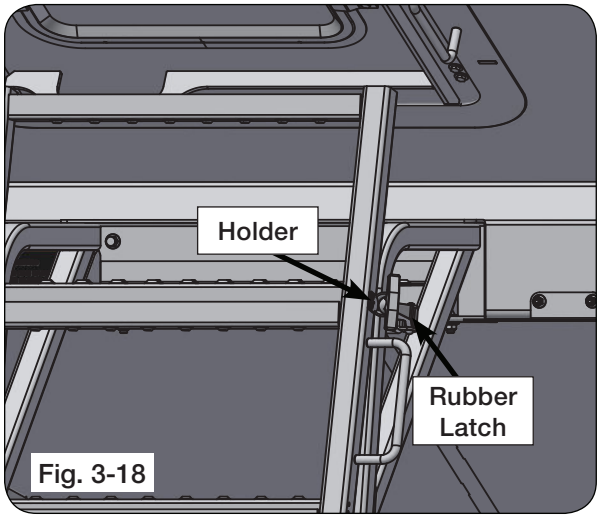


Fig. 3-18

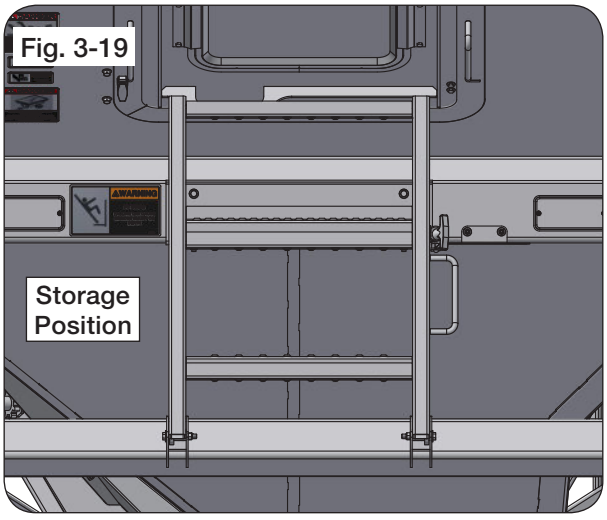


Fig. 3-19

Rear Ladder and Access Door Operation (continued)

⚠ 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 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 hand grabs then turn both door latches counter clockwise to unlatch door. (Fig. 3-20)
3. Push in on bottom door handle to open rear access door. (Fig. 3-21)
4. Push rear access door inward until it stops.
5. Use hand grabs to enter the cart.
6. Use inner handle to exit cart. (Fig. 3-21)
7. Use door handle to close the rear access door. (Fig. 3-20)
8. Turn both door latches clockwise to lock the rear access door. (Fig. 3-20)

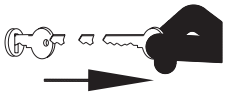


FIG. 3-20

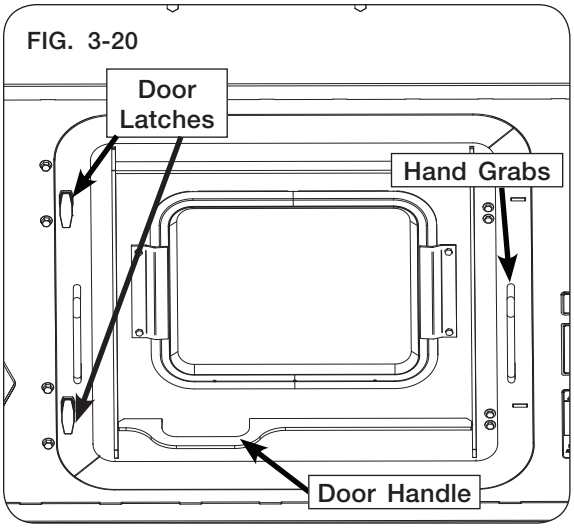
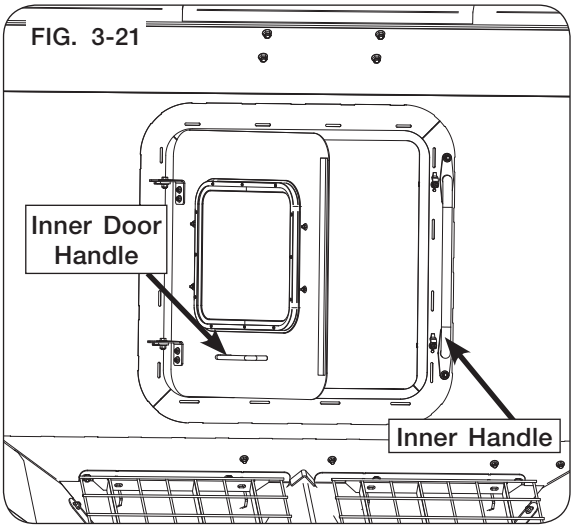


FIG. 3-21



Video System (Optional)

IMPORTANT

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

Please reference the video system's (265770) operation instruction sheet for more information.

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 caution when operating tarp.

If equipped, refer to electric roll tarp manual (291206) 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.

Remove any ice or 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 next page. For weather guard tarp, continue to step 1.

1. Using both hands, carefully remove tarp handle weldment from tube holder. (FIG. 3-22)
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.

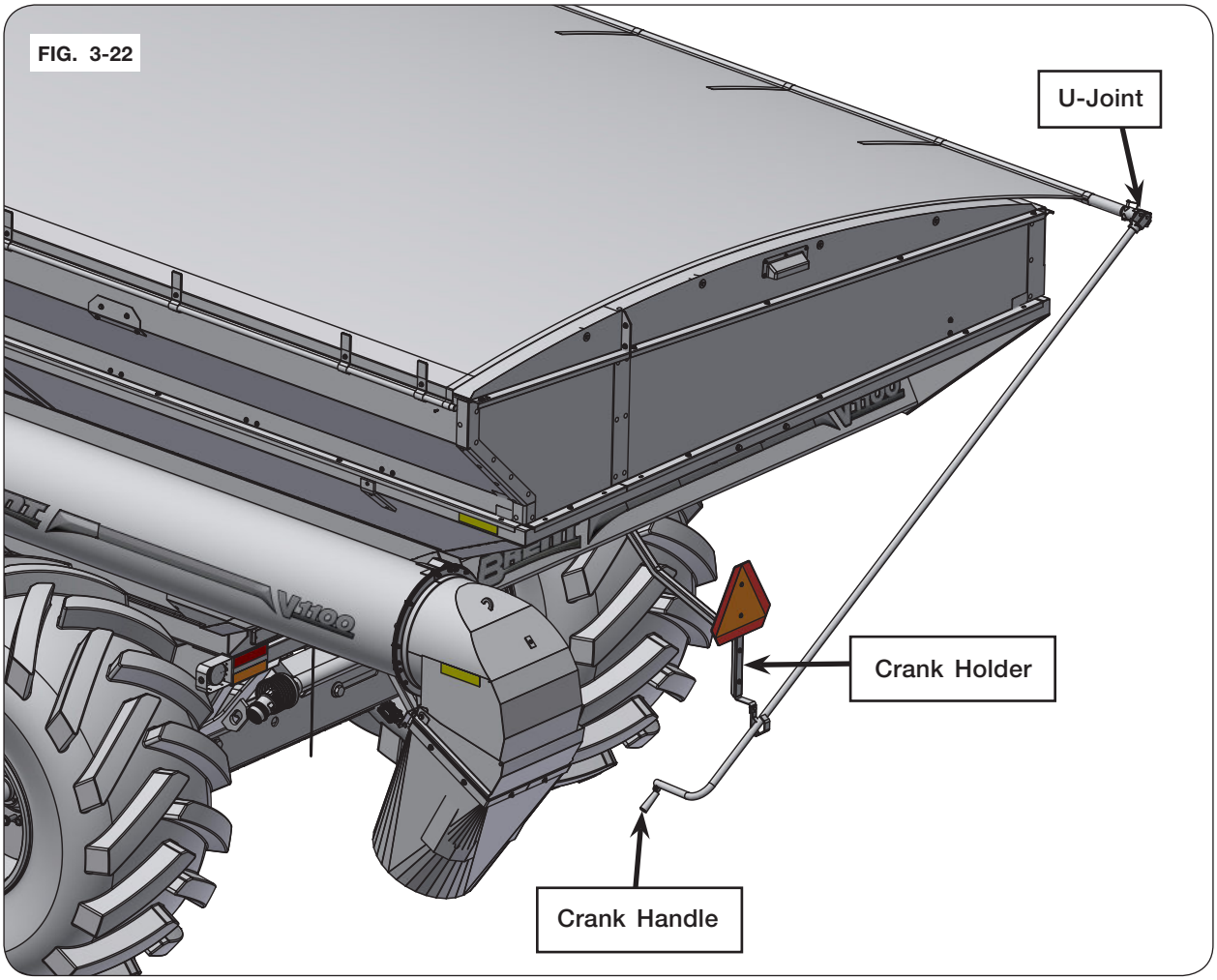
NOTE: Do not tighten if tarp overlaps end of the latch plate. Tearing of the tarp may occur. Reposition tarp, as necessary.

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.

FIG. 3-22



Weather Guard Tarp (continued)

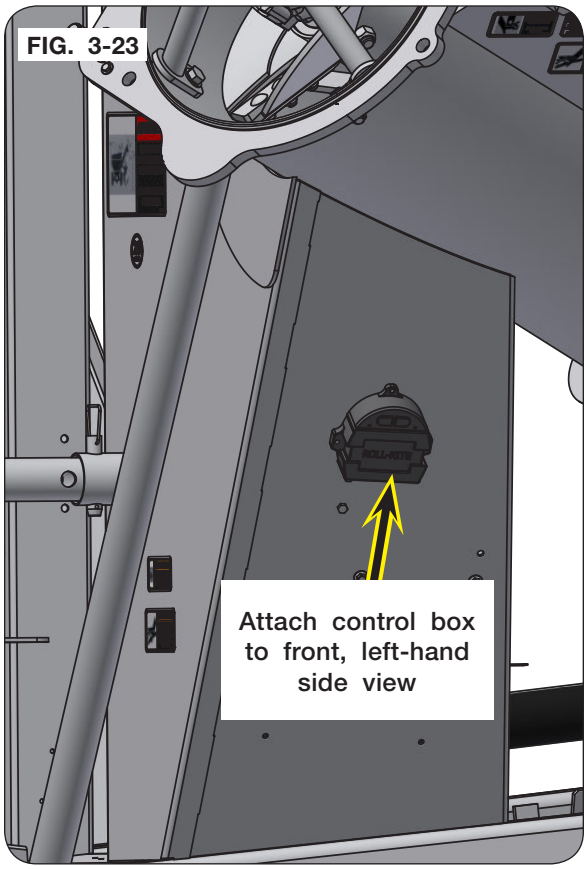
Electric Tarp Wireless Receiver and Control Box Location

NOTE: Refer to electric roll tarp manual (291206) for wireless operation details.

1. Position the control box on the cart to front, left-hand side support as shown in figure 3-23. If the holes are not predrilled, mark and drill the three 5/16" holes.

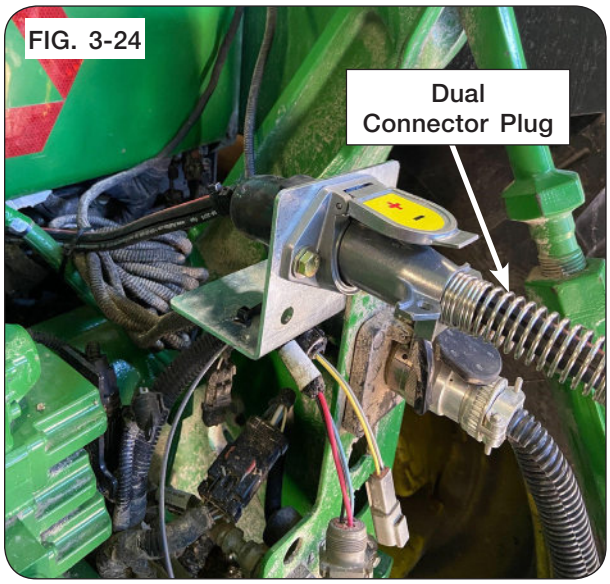
2. Secure control box to cart with hardware provided. (Fig. 3-23)

3. Route wire up to the front of the cart to the hose holder.



4. Dual connector plug (9005327) attaches to the socket on the back of the tractor as shown. (Fig. 3-24)

5. 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.

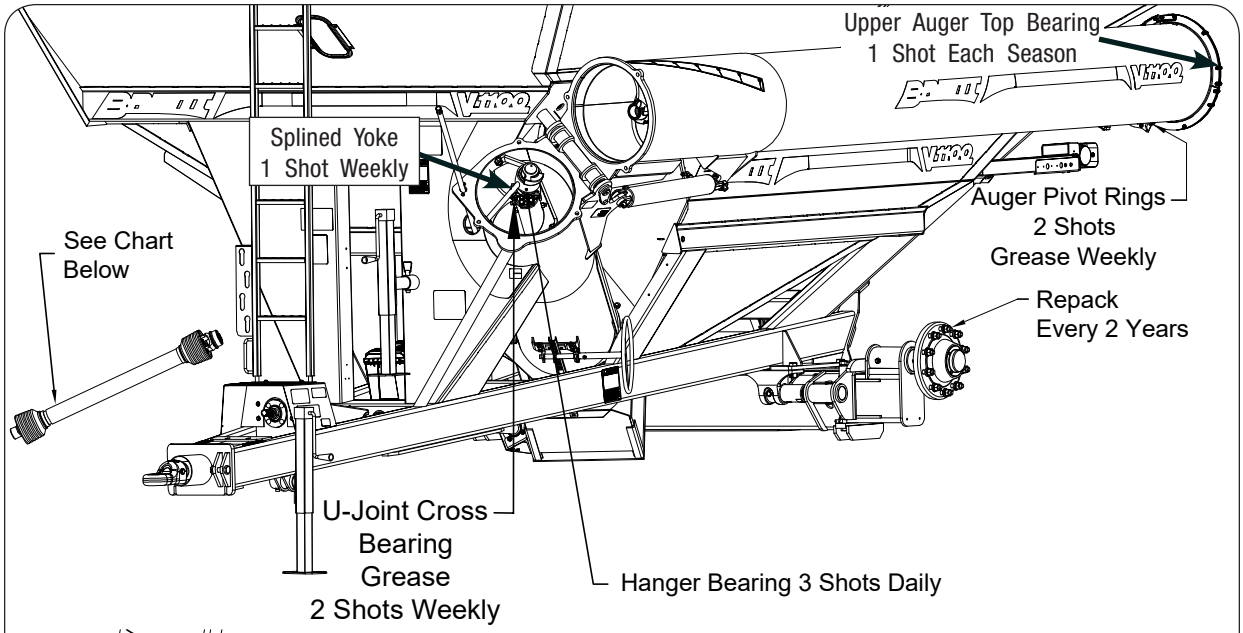


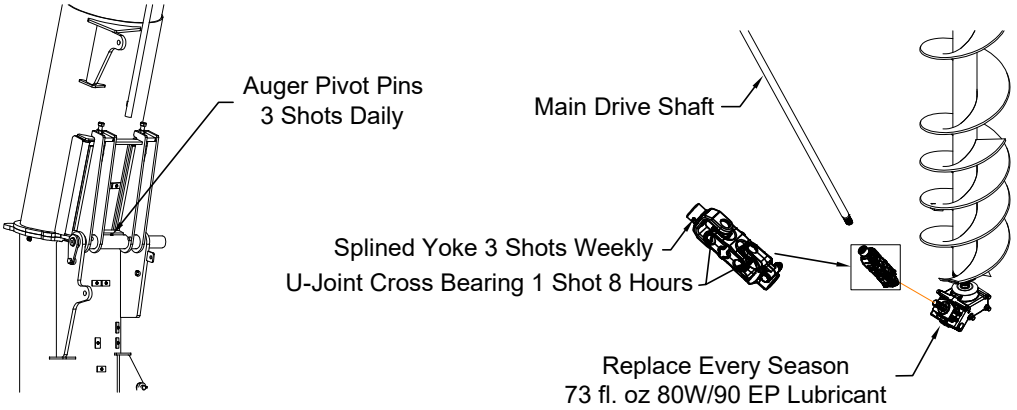
Section IV
Maintenance

FOR SCALE, TRACK, UHARVEST, HYDRAULIC DRIVE, ELECTRIC TARP, AND VIDEO SYSTEM OPTIONS, PLEASE REFER TO THE SPECIFIC MANUAL.

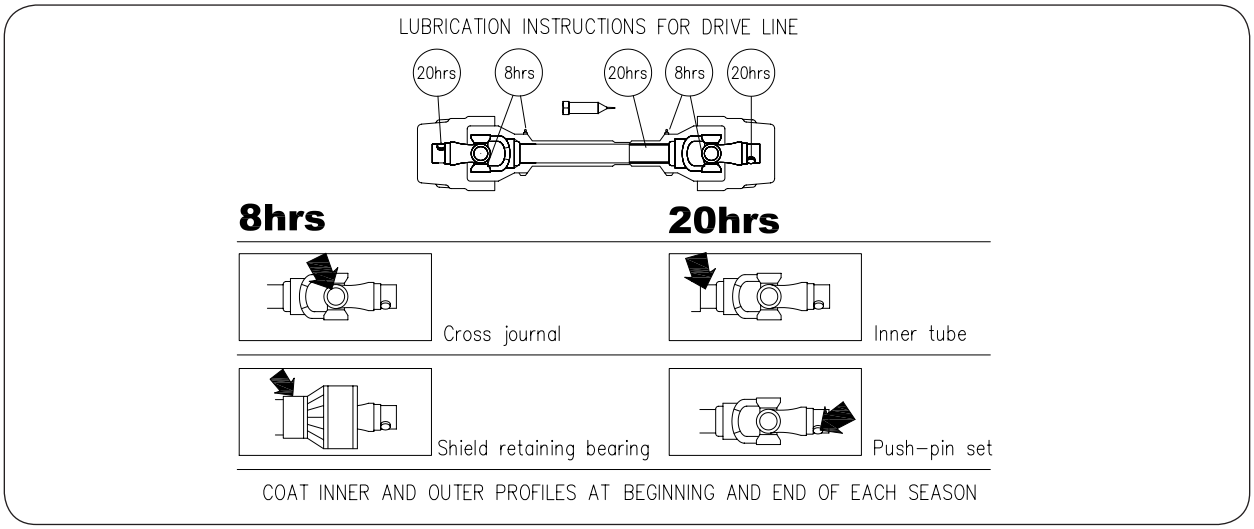
Lubrication

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





NOTE: FOR TRACK LUBRICATION, PLEASE REFER TO APPROPRIATE TRACK MANUAL.



Lubrication (continued)

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:

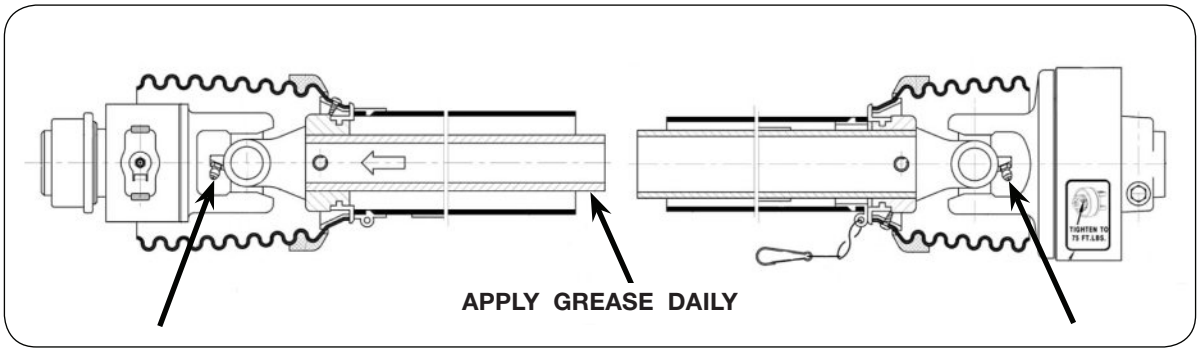
DESCRIPTION	POINT	LUBRICANT	QTY.	HOURS
PTO Driveshaft	7	EP-2	1 Shot	See Previous Page
Gearbox -- Remove Cover - Check oil level every 2 weeks. Replace oil every season. Refer to Gearbox in MAINTENANCE section for instructions.	1	EP80W90	73oz	Once Every Season
U-Joint Cross Bearing - Driveline	2	EP-2	1 Shots	8 Hours
Splined Yoke - Driveline U-Joint	1	EP-2	3 Shots	Weekly
Hanger Bearing - Lower Auger *See note below.	1	EP-2	3 Shots*	Daily
U-Joint Cross Bearing - Lower Auger	1	EP-2 Lithium Base W/O Moly	2 Shots	Weekly
Splined Yoke - Lower Auger	1	EP-2	1 Shot	Weekly
Upper Auger Top Bearing	1	EP-2	1 Shot	Each Season
Upper Auger Pivot Rings	4	EP-2	2 Shots	Weekly
Lower Auger Pivot Pins	1	EP-2	3 Shots	Daily
Hubs	2	EP-2	Repack	2 Years

*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

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

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



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 - Hydraulic Fittings" 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 the 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 the system at full pressure for at least 5 seconds after the cylinder rods stop moving, or hydraulic motors have completed the required movement. Check that all movements are fully completed.
C. Check oil reservoir in the hydraulic power source and refill as needed.
D. Pressurize the system again to reverse the motion of step B. Maintain pressure on the system for at least 5 seconds after the cylinder rods stop moving, or hydraulic motors have completed the required movement. Check that all movements are fully completed.
E. Check for hydraulic oil leaks using cardboard or wood. Tighten connections according to directions in the Torque Specifications in the MAINTENANCE section.
F. Repeat steps in 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.

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.**

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

- **ALL SAFETY SWITCHES ARE DEACTIVATED WHILE UTILIZING MANUAL OVERRIDE(S).**

NOTE: It is recommended the joystick and 7-pin connector be plugged into the same power source.

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

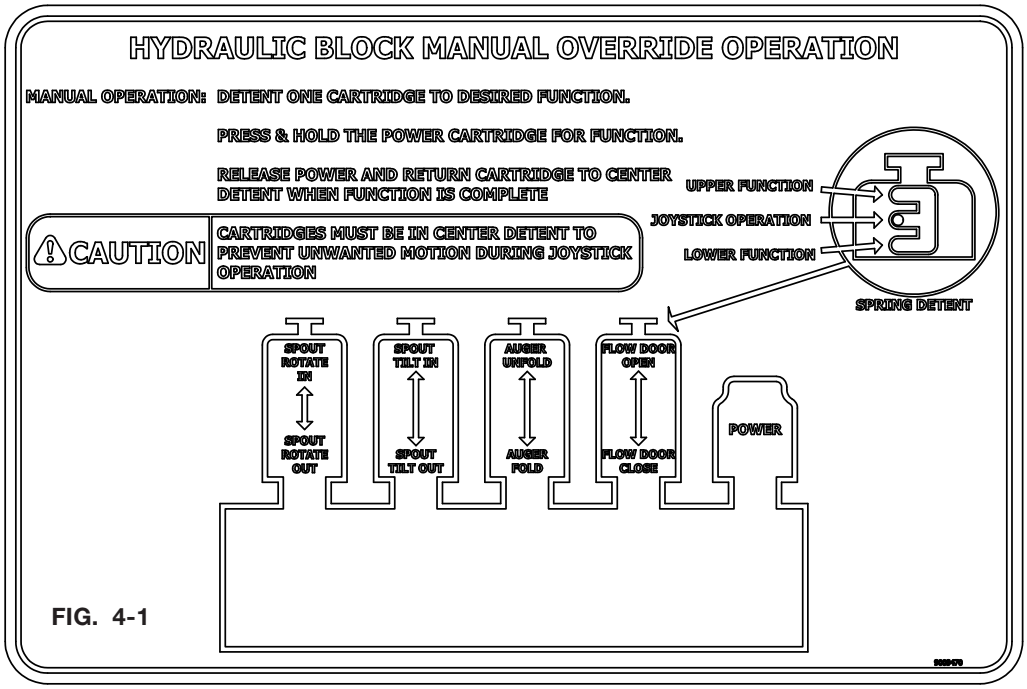


FIG. 4-1

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.

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

3. To operate the manual override functions, 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) may be in the top or bottom detent position at a time to function properly. All other valves must be in the middle detent postion. (FIG 4-2 & 4-3)

4. Locate desired function on valve (9008416) and move cartridge to top/bottom detent, as desired, and lock in position. (FIG. 4-1)

5. Push and hold the power cartridge on valve (9008438). (FIG. 4-4)

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

7. Return cartridge to center and lock valve (9008416) in position. (FIG. 4-2 & 4-3)

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

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

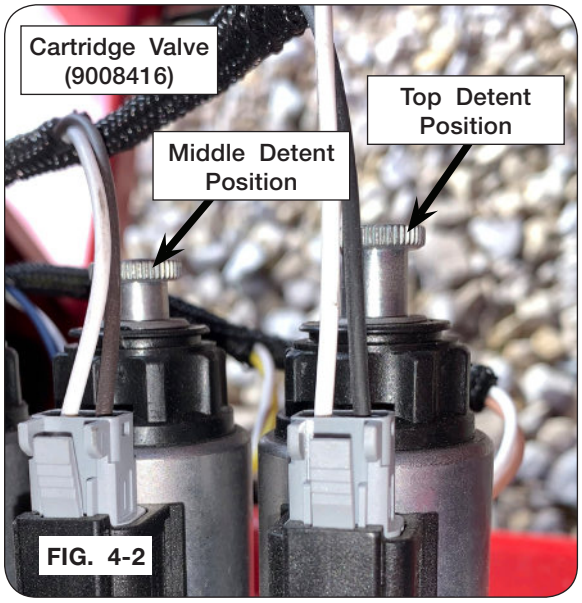
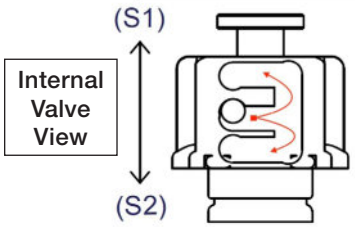


FIG. 4-2

FIG. 4-3



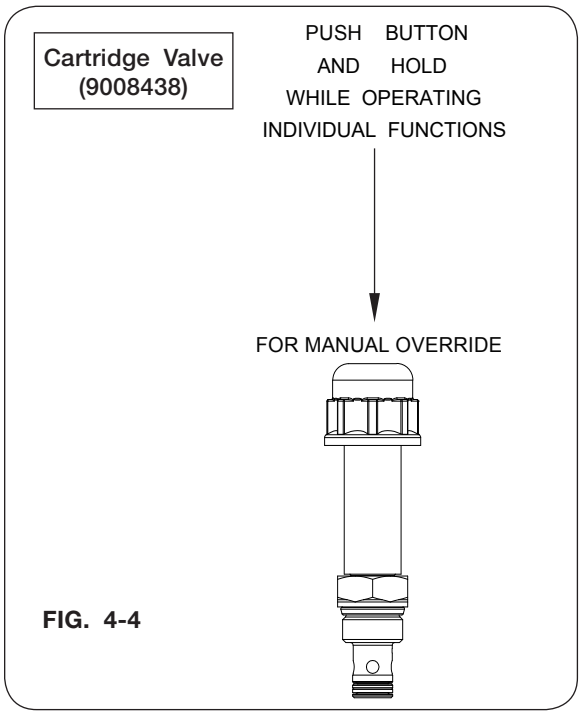


FIG. 4-4

Bleeding Procedure For Braking System (Optional)

⚠ WARNING

- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.**
- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. 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.**
- **PLACE TRACTOR IN PARK. TRACTOR MUST IN PARK DURING ENTIRE PROCEDURE.**

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

NOTE: This procedure is a **two-person** process. With responsible operator behind controls, one person operates the brake pedal while the second person loosens the bleeder screw on the brake caliper.

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

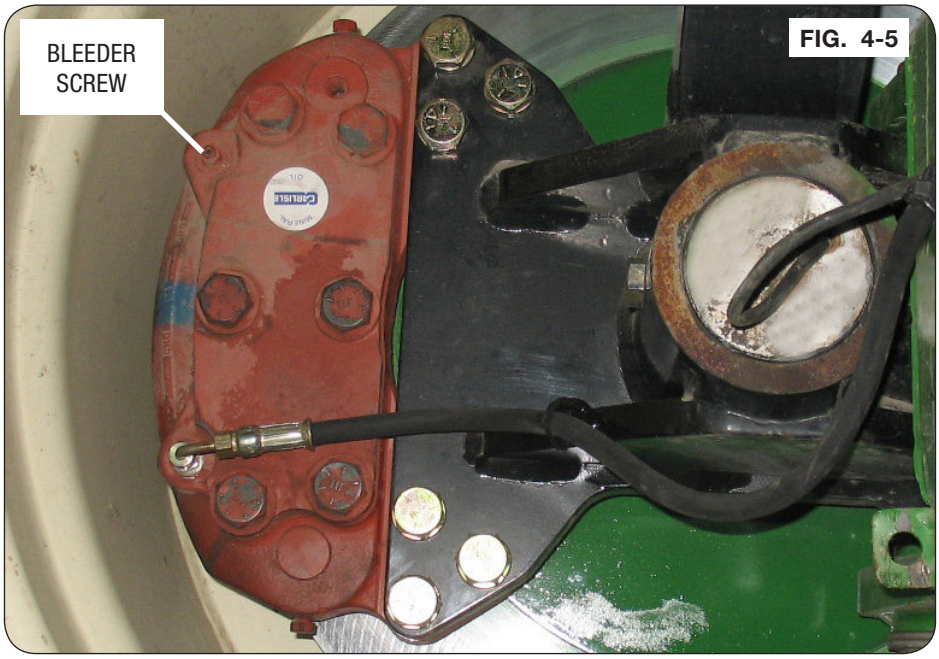


FIG. 4-5

Gearbox Lubrication

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

For maximum gearbox life:
Check oil level every 2 weeks.
Replace oil every season with 73 fl. oz. of 80W90 EP gear lubricant.

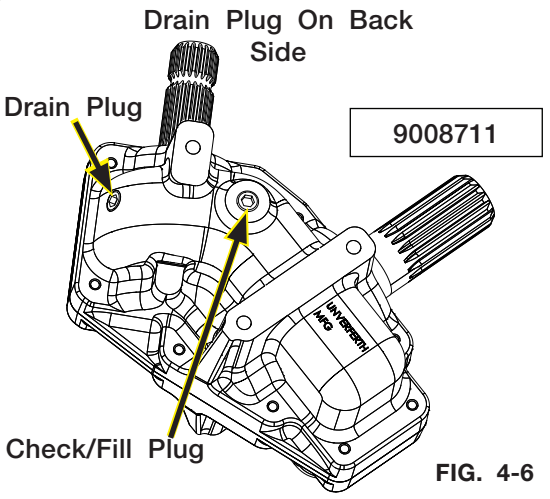


FIG. 4-6

Auger System

⚠ WARNING

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

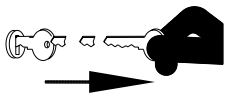
- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR(S) ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING MACHINE.**

- **SHARP EDGES ON THE MACHINE CAN CAUSE INJURY. BE CAREFUL WHEN WORKING AROUND THE MACHINE.**

Auger System (continued)

Lower Auger Removal

1. Park the empty grain cart on a firm, level surface. Use tractor SCV to open flow door completely and fold auger to transport position. Set the tractor's parking brake, shut-off the engine, remove the ignition key, and disconnect PTO shaft. Block the machine to keep it from moving.



2. Remove the three 5/8"-11UNC x 2" capscrews (9390-124), 5/8" flat washers (9405-098), 5/8"-11UNC lock nuts (9003398) and shims that secure the hanger bearing bracket to the auger tube. (FIG. 4-7)

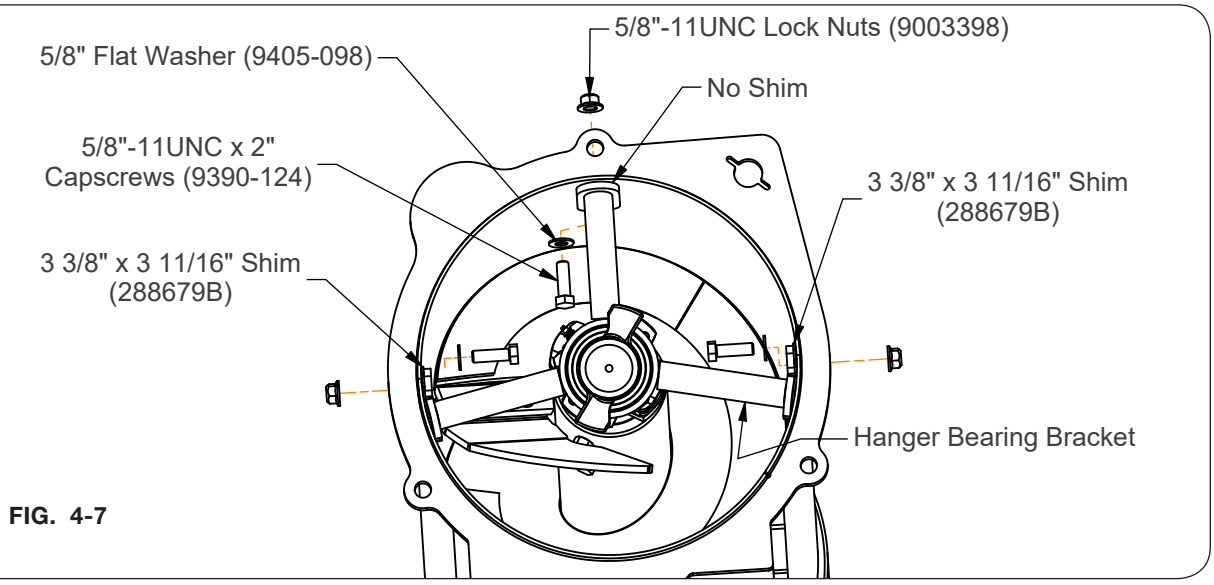


FIG. 4-7

3. Using a safe lifting device rated at a minimum of 1,000 lbs., support the lower auger. Remove the hanger bearing assembly. Then remove the lower auger through the auger hinge opening.

Auger System (continued)

Lower Auger Removal

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

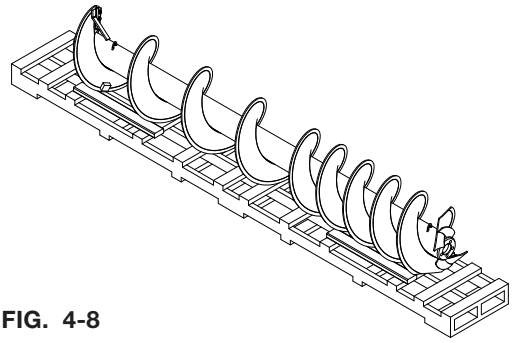


FIG. 4-8

5. Remove the u-joint assembly from the old lower auger.

NOTE: If reusing flighting extension, replace with new hardware and apply anti-seize to hardware before installing to auger flighting. Do not reuse old flighting extension hardware.

6. Attach the u-joint assembly to the new lower auger flighting by placing 5/8"-11UNC x 7" capscrews (9390-138) and 5/8"-11UNC lock nuts (9801) into the auger from opposite directions as shown in FIG. 4-9.

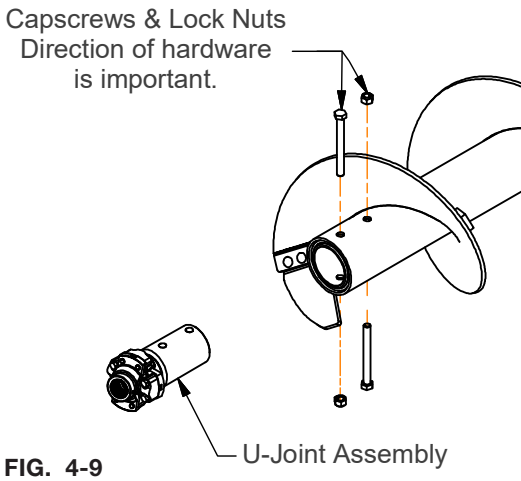


FIG. 4-9

7. Open cleanout door.

8. Using a safe lifting device rated at a minimum of 1,000 lbs., lift the auger and assembly. Slowly lower the auger down through the auger plate opening to engage with the drive bushing.

9. Align auger end with the five pin auger drive plate assembly and securely engage together, see FIG. 4-10.

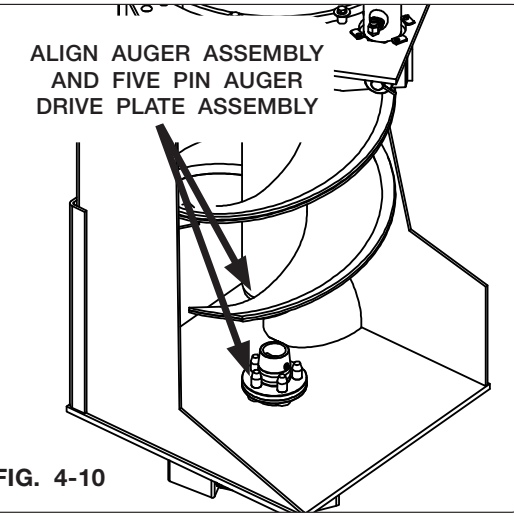


FIG. 4-10

Auger System (continued)

Hanger Bearing Centering

10. Once the lower auger is inserted into the auger tube, center the lower auger in the tube and support with two 5/8" thick bars wedged near the auger hinge plate. (FIG. 4-11)

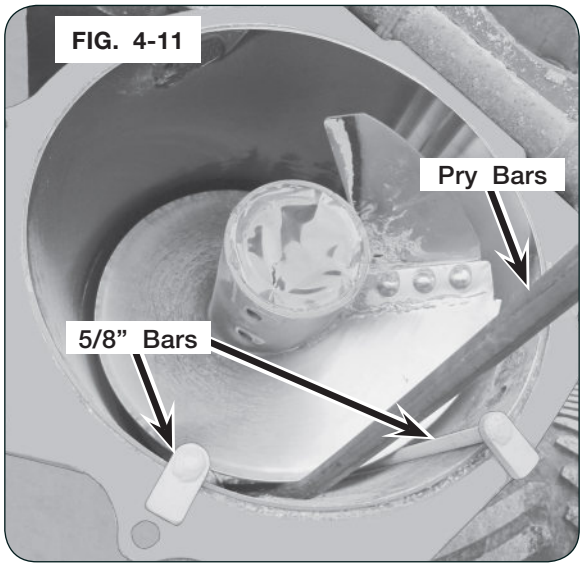


FIG. 4-11

Lower Auger Timing

11. Apply anti-seize to the splines before sliding the drive dog into the u-joint. Time the drive dog (as in Fig. 4-12) with the finished edge of the flighting at 12 o'clock reference. Position the drive dog so the driving edge is at 11 o'clock position.

NOTE: When looking down at the lower flighting (FIG. 4-12) the auger rotation will be clockwise.

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

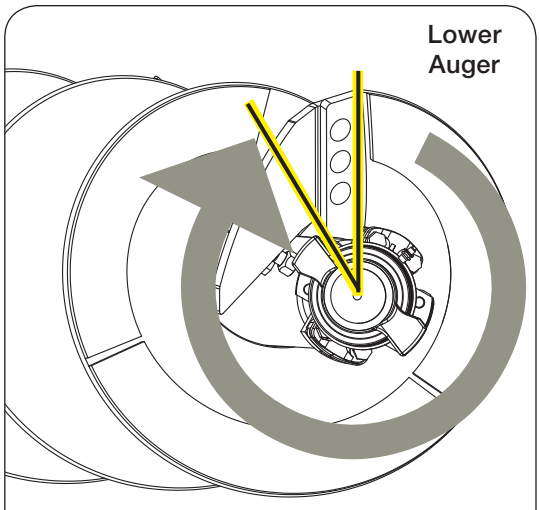


FIG. 4-12

Auger System (continued)

12. Loosely secure the hanger bearing using two 3 3/8" x 3 11/16" shims (288679B), three 5/8"-11UNC x 2" capscrews (9390-124), three 5/8" flat washers (9405-098), and three 5/8"-11UNC lock nuts (9003398) as shown in FIG. 4-13.

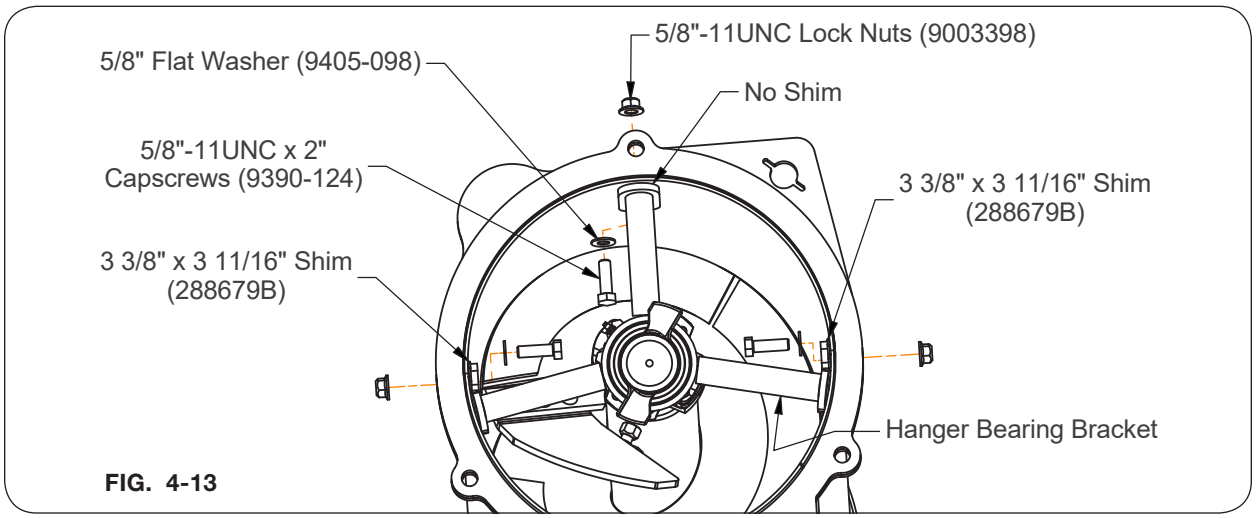


FIG. 4-13

U-Joint Spline Gap

13. Verify spline gap before tightening hanger bearing hardware. Spline gap must be a minimum of 3/16". Using a safe lifting device rated for 250 lbs., raise the hanger bearing in the holes so the proper minimum spline gap is achieved. (FIG. 4-14)

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

14. Tighten the retaining hardware to the appropriate torque values listed in the MAINTENANCE section.

15. Grease the spline grease zerk. (FIG. 4-14)

16. Test run the auger. Verify smooth auger operation and re-verify spline gap.

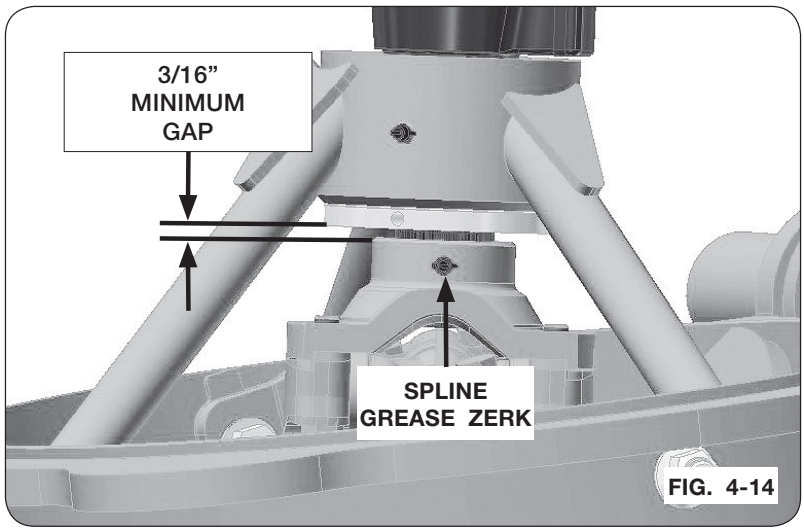
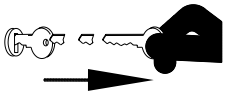


FIG. 4-14

Auger System (continued)

Upper Auger

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



Upper Auger Removal

2. Loosen the two bearing set screws. Remove and save the 5/16"-18UNC x 2 3/4" capscrew (9390-037), four 5/16" SAE flat washers (9405-068) 5/16"-18UNC lock nut (901527) and 2" flat washers (93974). (FIG. 4-15)

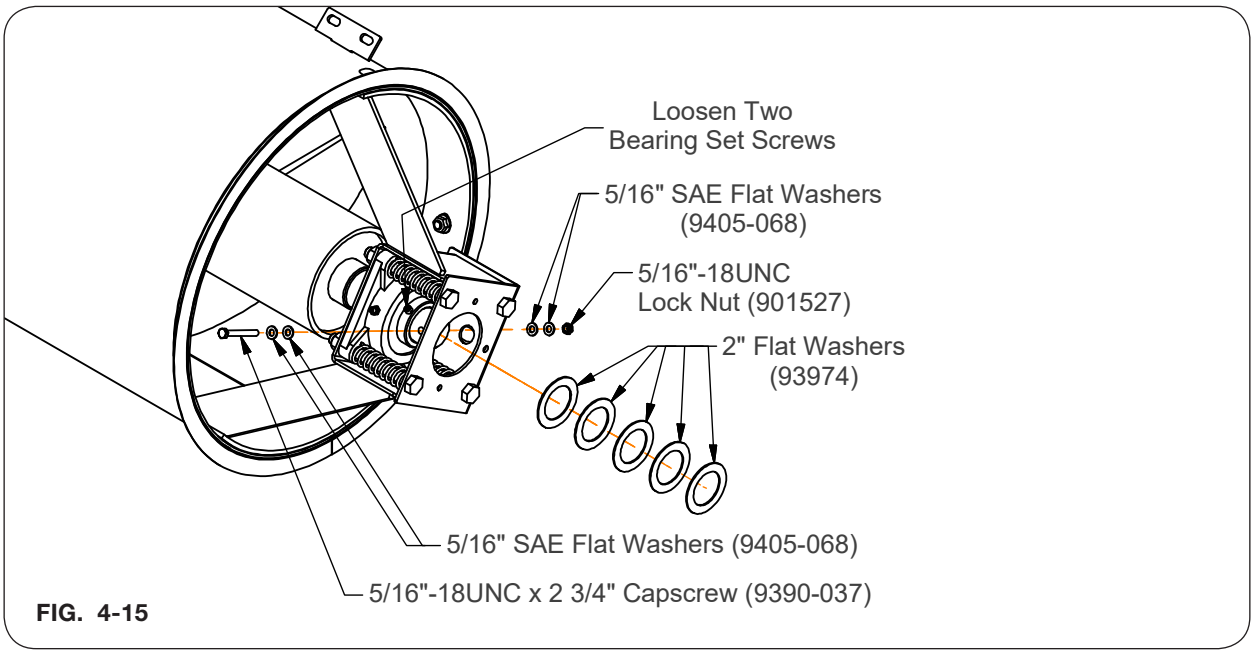


FIG. 4-15

Auger System (continued)

Soft Start Replacement

3. Use a safe lifting device rated at a minimum of 2,000 lbs. to support the upper auger, remove auger from tube.

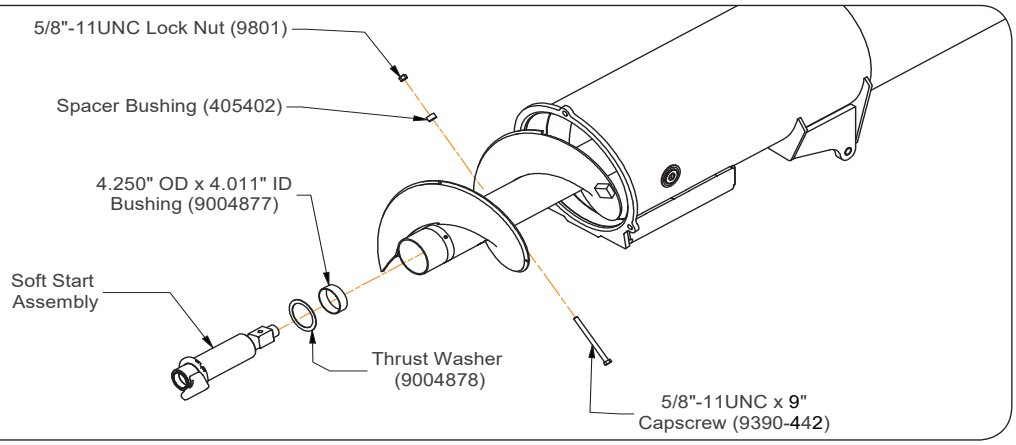
4. Remove the 5/8”-11UNC x 9” capscrew (9390-442), spacer bushing (405402), and 5/8”-11UNC lock nut (9801), soft start assembly, thrust washer (9004878), and bushing (9004877). Discard 5/8”-11UNC capscrew (9390-442), 5/8”-11UNC lock nut (9801), and spacer bushing (405402). (FIG. 4-16)

NOTE: If reusing flighting extension, replace with new hardware and apply anti-seize to hardware before installing to auger flighting. Do not reuse old flighting extension hardware.

NOTE: Before soft start reassembly, ensure the spacer bushing (405402) is on the same side as lock nut (9801).

5. Insert the bushing (9004877) into the end of the upper auger. Attach the thrust washer (9004878) and apply anti-seize to the soft start and insert into the auger tube. (FIG. 4-16)

FIG. 4-16



Upper Auger Assembly and Timing

6. Time the drive pin (as in FIG. 4-17) with the finished edge of the flighting at 12:00. Position the drive pin at 7:00.

NOTE: Looking up at the upper flighting (FIG. 17) the auger rotation will be counter clockwise.

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

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

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

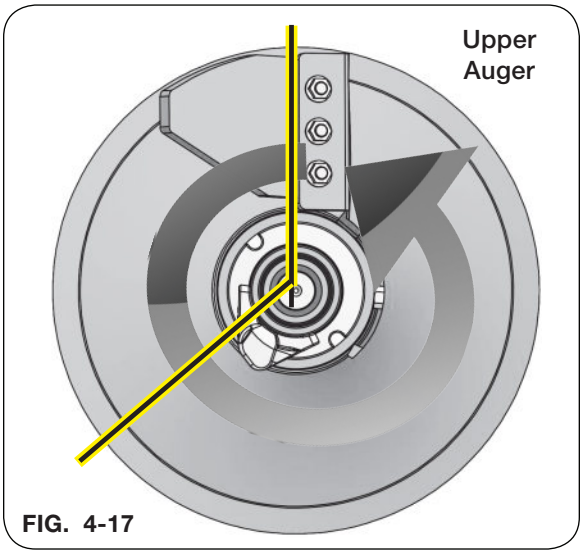


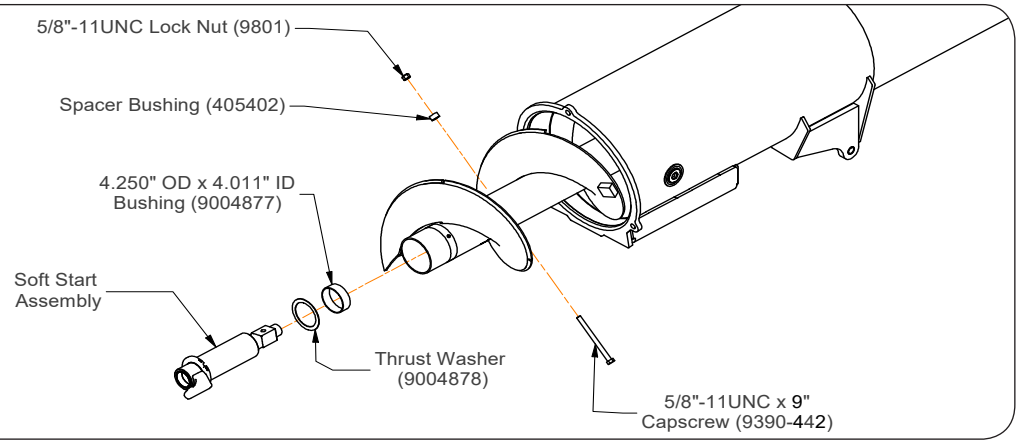
FIG. 4-17

Auger System (continued)

7. Retain the soft start into position with 5/8”-11UNC x 9” capscrew (9390-442), spacer bushing (405402), and 5/8”-11UNC lock nut (9801). (FIG. 4-18)

NOTE: Verify that the spacer bushing is on the locknut side of the auger center tube.

FIG. 4-18



8. The replacement auger is factory balanced. Remove entire auger from shipping crate and secure from rolling.

9. Using an adequate safe lifting device with a minimum capacity of 2,000 lbs. to support the upper auger, install upper auger into the tube.

Upper Auger Inset

10. Set upper auger in-set of 4”. With the upper auger unfolded, ensure the height of the upper auger is set correctly. The face of the soft start bushing that sits on the top of the drive dog should be 4” back from the square cut face of the auger housing tube. (FIG. 4-19)

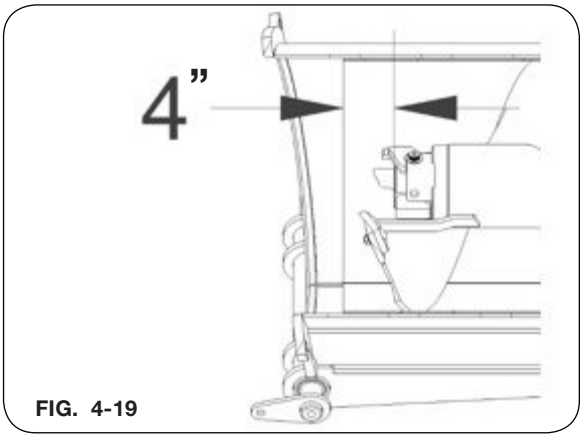


FIG. 4-19

Auger System (continued)

Upper Auger Assembly (continued)

11. Make sure that the 4 bolt flange bearing is sitting tight against the mounting plate and then tighten the two bearing set screws. Attach the 5/16”-18UNC x 2 3/4” capscrew (9390-037), four 5/16” SAE flat washers (9405-068) 5/16”-18UNC lock nut (901527) and as many 2” flat washers (93974) as required to fill the gap between the bearing and the cross bolt. (FIG. 4-20)

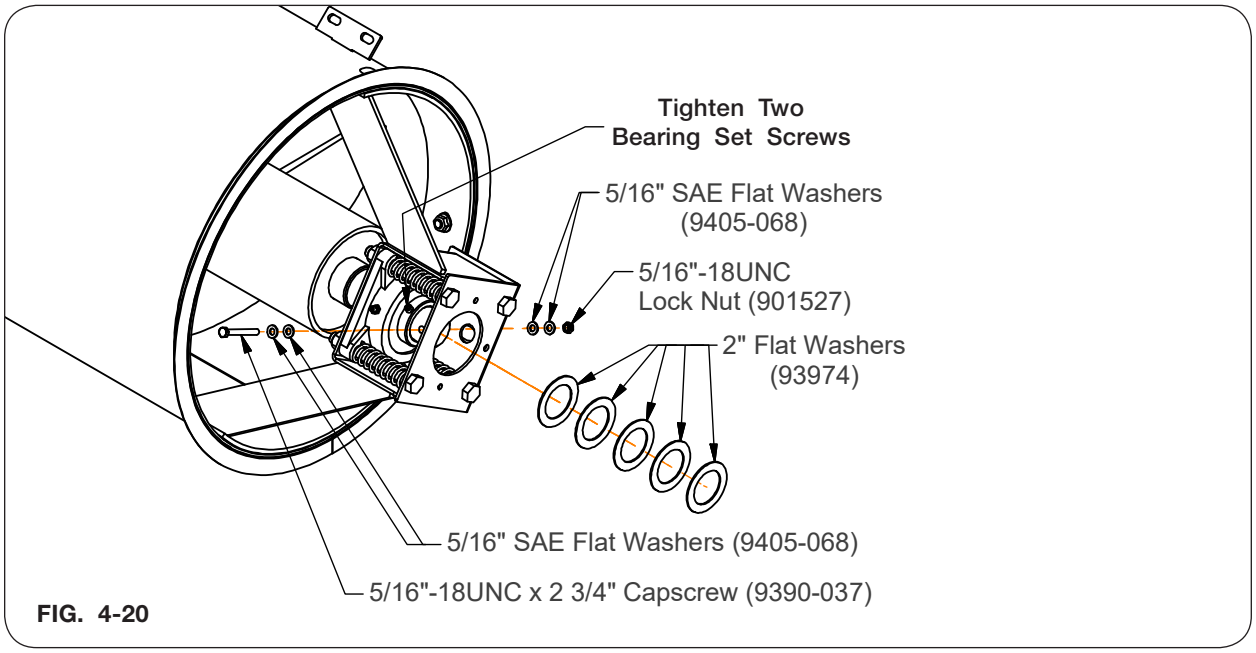


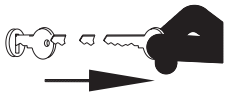
FIG. 4-20

Auger System (continued)

Upper Auger Bearing Gap

12. Unfold the auger to the unload position.

13. Engage PTO and test run augers to ensure drive dogs are engaged. Stop PTO, shut off tractor and remove key.



14. Remove upper auger tube plug and visually verify upper and lower auger engagement. (Fig. 4-23)

15. Verify the upper auger bearing height by inspecting the upper auger bearing in operating position. There must be minimum 1/16" to 1/8" gap between the bearing and mount plate with the upper auger in operating position and the drive dog completely engaged. (FIG. 4-21) If gap is present, no action is needed, go to step 14. If no gap or gap is too large, Re-adjust the upper auger placement to achieve a 1/16-1/8" gap. If there is no gap, the upper auger will need to be moved ahead. If there is too large of a gap, move it backwards in the upper auger housing. The number of washers (93974) will also need to be adjusted to eliminate any gap between the bearing and the cross bolt. (FIG. 4-22)

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

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

18. If upper and lower auger engagment is good, install upper auger tube plug. (FIG. 4-23)

19. Test run auger driveline to verify smooth driveline operation. Check for noise and/or vibration and address immediately.

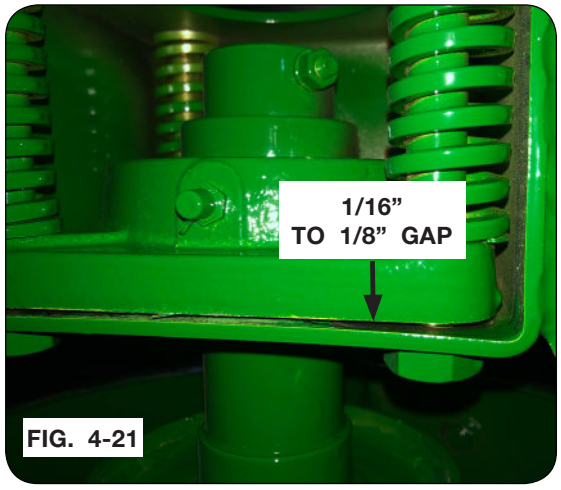


FIG. 4-21

FIG. 4-22

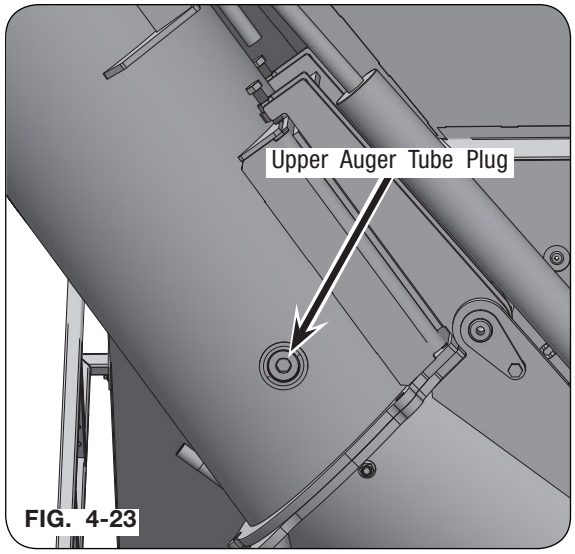


FIG. 4-23

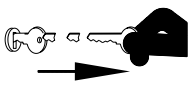
Auger System (continued)

Auger Flow Door Cylinder Replacement

WARNING

- **TO PREVENT PERSONAL INJURY OR DEATH ALWAYS ENSURE THAT THERE ARE PEOPLE WHO REMAIN OUTSIDE THE CART TO ASSIST THE PERSON WORKING INSIDE, AND THAT ALL SAFE WORKPLACE PRACTICES ARE FOLLOWED. THERE 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.**
- **SLIPPERY SURFACES ARE PRESENT INSIDE THE CART. USE EXTREME CAUTION WHEN ENTERING AND WORKING INSIDE THE CART.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.**
- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. 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.**
- **HYDRAULIC SYSTEM MUST BE PURGED OF AIR BEFORE OPERATING TO PREVENT SERIOUS INJURY OR DEATH.**

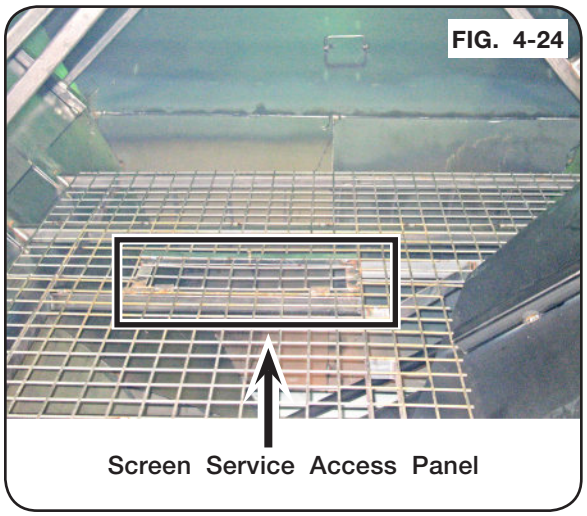
1. Park the empty grain cart on a firm, level surface and extend auger. Block the machine to keep it from moving. Unfold upper auger to make the flow door cylinder easier to access. If possible, close the flow door at least 8" from the fully open position. Relieve hydraulic pressure, see tractor operator's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



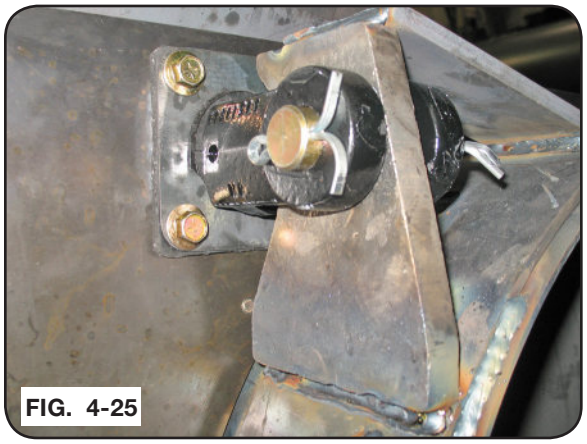
Auger System (continued)

Auger Flow Door Cylinder Replacement (continued)

2. On the inside of the cart, open the screen service access panel shown in FIG. 4-24.

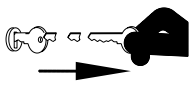


3. Remove the cotter pins from the lower cylinder pin then remove the pin. Then remove the four 3/8”-16UNC x 1” flange bolts holding on the gasket and gasket plate, shown in FIG. 4-25.



4. Remove all tools and extra hardware from the grain cart. Make sure all personnel are outside of the hopper. Then, retract the cylinder so that there is about 8” of clearance between the cylinder clevis and the lug.

5. Relieve hydraulic pressure, shut off the engine, remove the ignition key, and disconnect the hydraulic hoses from the tractor and cart.



Auger System (continued)

Auger Flow Door Cylinder Replacement (continued)

6. Label the hydraulic hoses to indicate upper and lower. Disconnect them from the cylinder, along with the lower hydraulic fitting (Fig. 4-26).

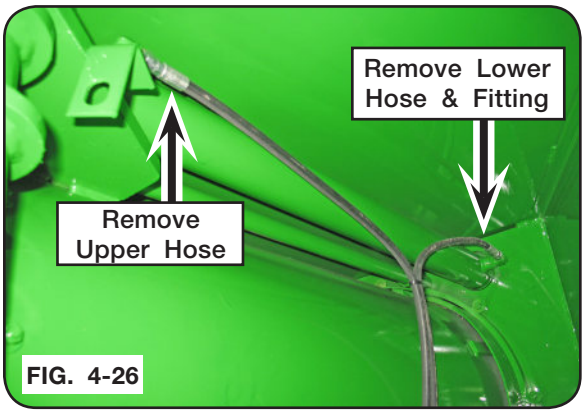


FIG. 4-26

7. Remove the cotter pins from the upper cylinder pin and remove pin (Fig. 4-27).

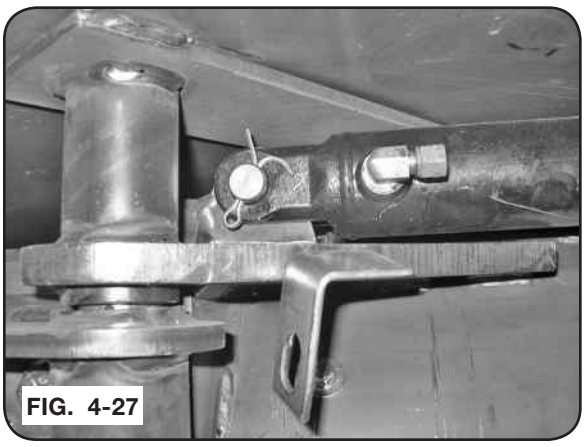


FIG. 4-27

8. Slide the flow door cylinder through the hole in the junction box until the upper cylinder clevis clears the lug, then raise the top of the cylinder above the auger fold bushing and remove the cylinder.

9. Replace with the new cylinder and insert the upper cylinder pin. Remove the cylinder port plugs. Manually extend the cylinder until the lower clevis lines up with the door lug and assemble the pin and cotter pins. Assemble hydraulic fittings and attach hoses.

10. Replace rubber gasket and gasket plate with 3/8”-16UNC x 1” flange screws, shut and secure the screen service access panel.

11. Remove all tools and extra hardware from the grain cart. Make sure all personnel are outside of the hopper. **After the hydraulic components have been tightened**, purge air from system as follows:

    A. Pressurize the system and maintain system at full pressure for at least 5 seconds after cylinder rods stop moving. Check that all cylinders have fully extended or retracted.
    B. Check oil reservoir in hydraulic power source and re-fill as needed.
    C. Pressurize system again to reverse the motion of step A. Maintain pressure on system for at least 5 seconds after cylinder rods stop moving. Check that cylinders have fully extended or retracted.
    D. Check for hydraulic leaks using cardboard or wood. Tighten connections according to directions in the Torque Specifications in your Operator’s Manual.
    E. Repeat steps A, B, C and D three or four times.

Auger System (continued)

Auger Flow Door Cylinder Stop

DANGER

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

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

The floor door has been set with a stop to limit the maximum opening. The factory stop position provides full auger fill in most crops and conditions. For extra-difficult flowing crops, more auger opening may be required.

NOTE: Opening the auger flow door past the factory setting will increase power consumption, auger wear, and shorten driveline life. (FIG. 4-28)

NOTE: In order to increase grain flow to the maximum bushels per minute, cylinder stop (289737B) can be adjusted further down on flow door indicator rod. (FIG. 4-28)

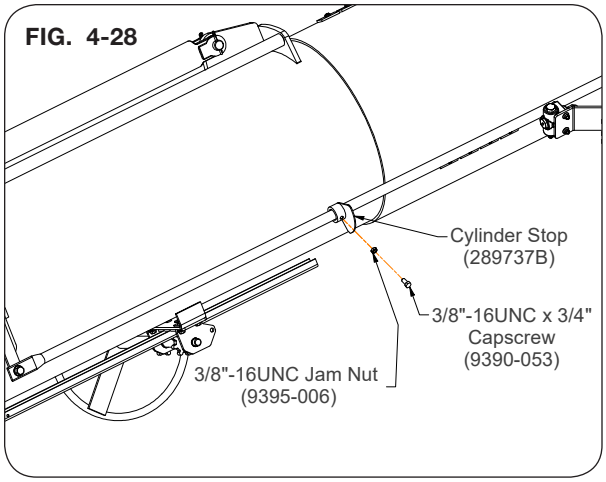
1. Park the empty grain cart on a firm and level surface. Block the machine to keep it from moving. Set the tractor's parking brake. Leave the tractor on throughout procedure.

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

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

4. Locate the cylinder stop on the flow door indicator rod. (FIG. 4-28)

FIG. 4-28



5. Loosen the capscrew and jam nut retaining the cylinder stop.

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

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

Adjusting Auger Rest

⚠ WARNING

- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.**
- **FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RASING, OR LOWERING.**

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. Leave the tractor on throughout procedure.
2. Loosen auger rest bracket bolts and move the rest bracket to the highest position. (Fig. 4-29)
3. Slowly fold the auger until it touches the auger rest bracket.
4. If the auger rest does not fit into the radius of the auger rest bracket, unfold the auger, loosen the auger rest bracket bolts and move the auger rest bracket down.
5. Slowly fold the auger in and check the auger rest and rest bracket fitment.

   NOTE: For proper auger rest fitment, the auger rest should fit tightly in the radius of the auger rest bracket. (Fig. 4-30)
6. Repeat steps 3, 4, and 5 until a proper fit is achieved.

FIG. 4-29

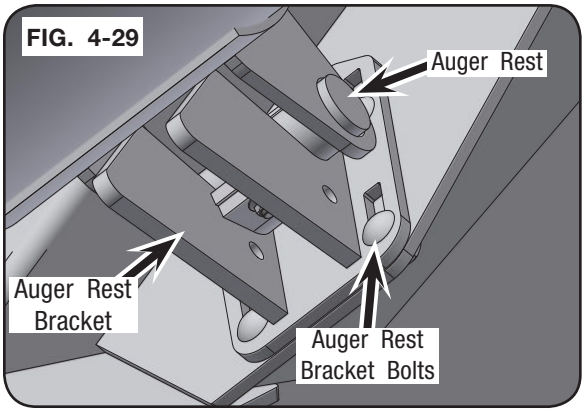
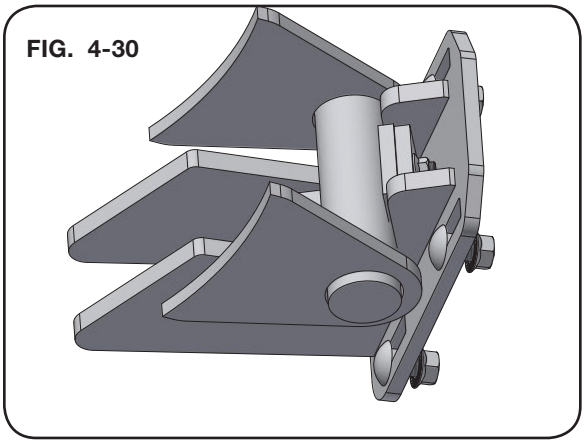


FIG. 4-30



Adjusting Cleanout Door

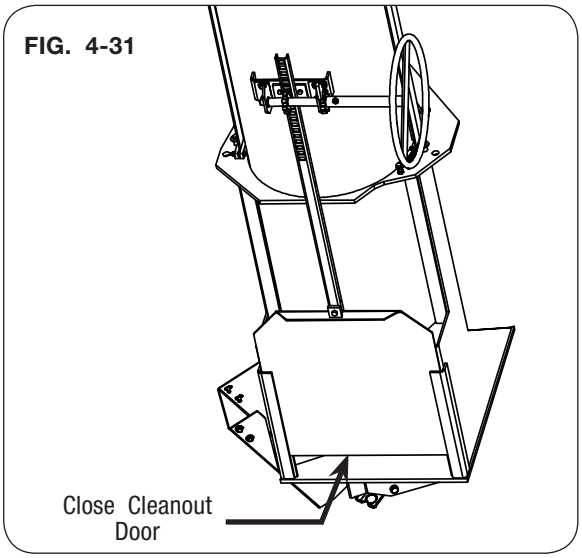
⚠ WARNING

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

1. Park the empty grain cart on a firm and level surface. Block the 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. Inspect and verify that all the grain dust and filings are removed that may prevent the door from shutting completely. Completely close cleanout door. (FIG. 4-31)

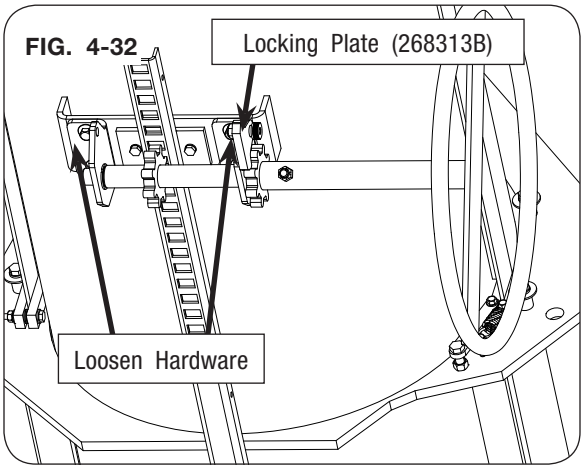
FIG. 4-31



3. Engage the locking plate (268313B). (FIG. 4-32)

4. Loosen mounting hardware. (FIG. 4-32)

FIG. 4-32



Adjusting Cleanout Door (continued)

5. Push the gear assembly toward bottom of auger to remove excess movement and prevent the door from moving upward when unloading the cart. (FIG. 4-33)

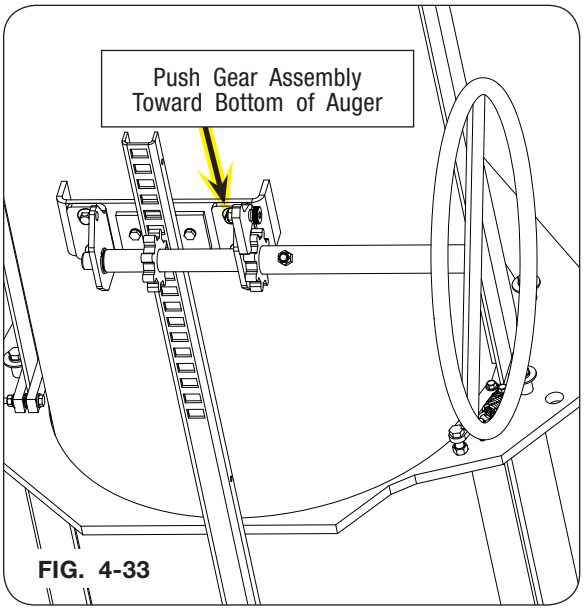
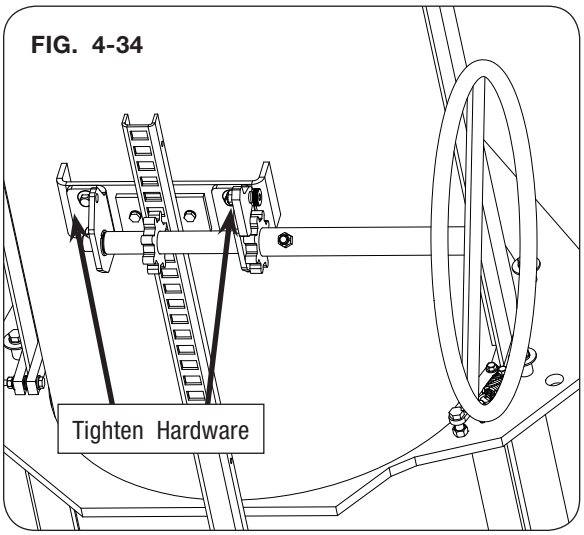


FIG. 4-33

6. Tighten hardware loosened in step 4. (FIG. 4-34)

7. Check door operation. Lock the handle weldment into position. (FIG. 4-34)

FIG. 4-34



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.

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" (Figure 4-35).

   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" (Figure 4-36)

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

3. Calculate maximum recommended extended length:

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

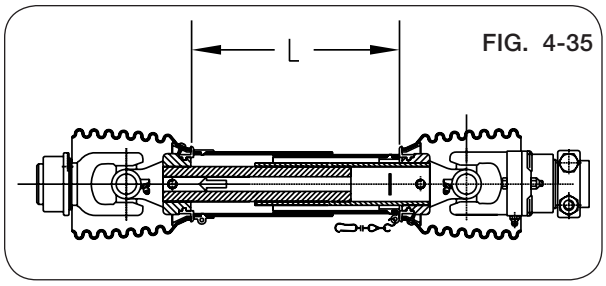


FIG. 4-35

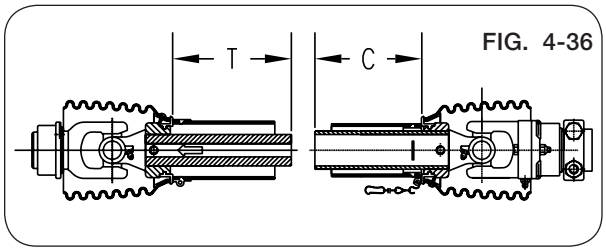


FIG. 4-36

This is the maximum recommended extended length.

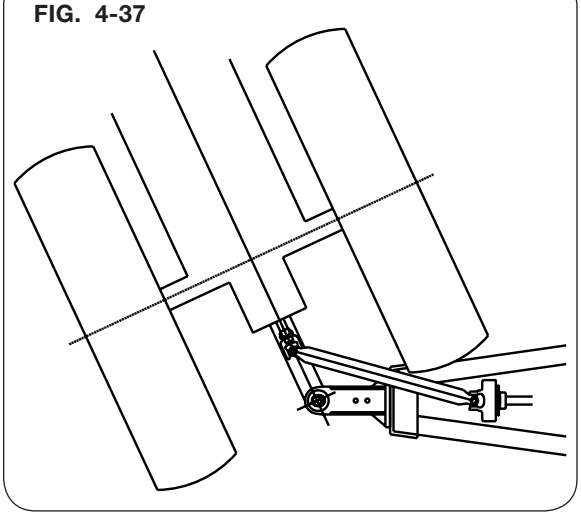
Verify Telescoping PTO Shaft Length (continued)

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, obtain a longer PTO shaft assembly before operating cart.

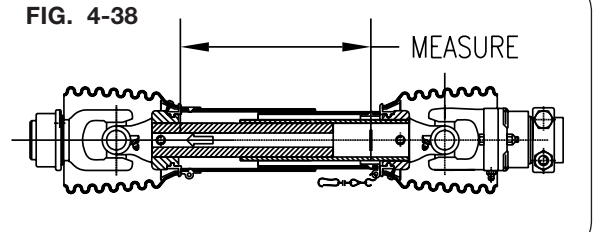
6. Position the tractor to obtain tightest turning angle, relative to the cart. (Fig. 4-37)

FIG. 4-37



7. Measure length "L" from same points as used in step 1. **This distance must be at least 1.5 inches greater than the distance measured in step 1.** If necessary, adjust length of PTO shaft by cutting inner and outer plastic guard tubes and inner and outer sliding profiles by the same length. Round off all sharp edges and remove burrs before greasing and reassembling shaft halves. (Fig. 4-38)

FIG. 4-38



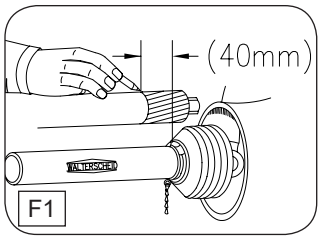
PTO Shaft Length Adjustment

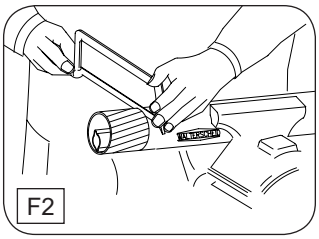
WARNING

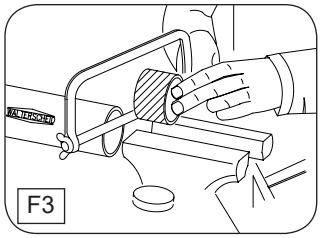
- **CHECK THE LENGTH OF THE TELESCOPING MEMBERS TO ENSURE THE DRIVELINE WILL NOT BOTTOM OUT OR SEPARATE WHEN TURNING AND/OR GOING OVER ROUGH TERRAIN.**

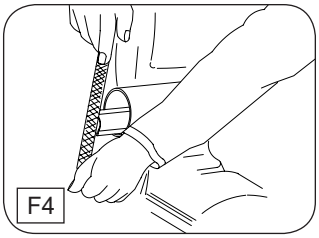
NOTE: Maximum operating length LB. (Refer to "Verify Telescoping PTO Shaft Length" in this section for LB length.)

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.





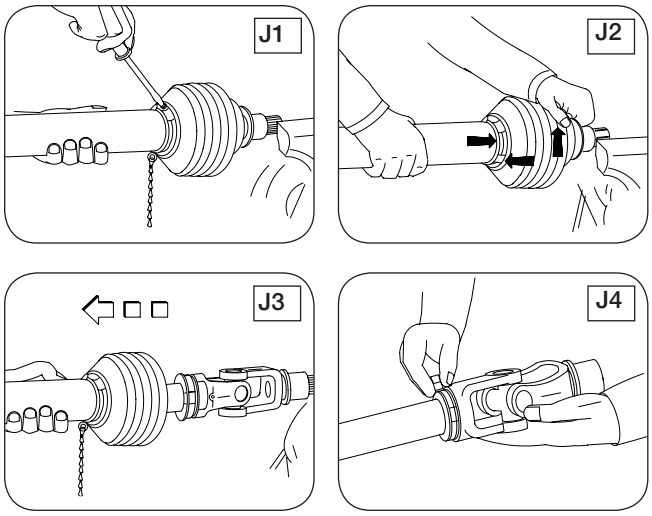




PTO Shaft and Clutch

To Dismantle Guard (Figs. J1 - J4)

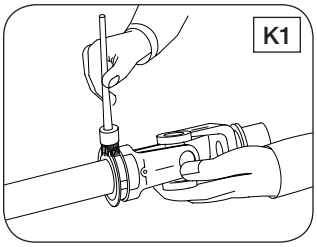
1. Remove locking screw.
2. Align bearing tabs with cone pockets.
3. Remove half-guard.
4. Remove bearing ring.

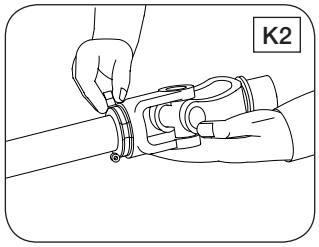


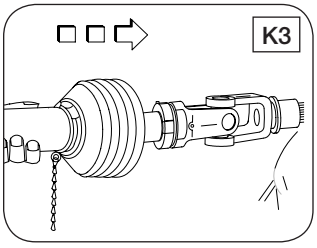
PTO Shaft and Clutch (continued)

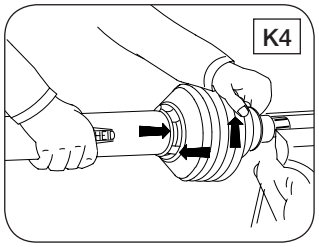
To Assemble Guard (Figs. K1 - K5)

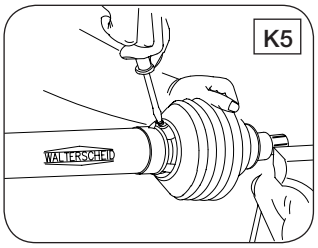
1. Grease yoke groove and inner profile tube.
2. Fit bearing ring in groove with recesses facing profile tube.
3. Slip on half-guard.
4. Turn cone until it engages correctly.
5. Install locking screw.





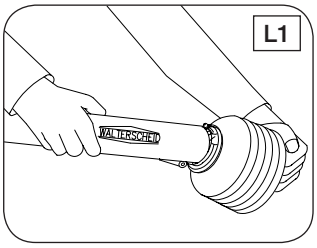


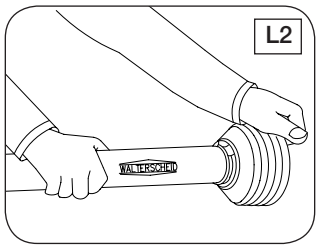


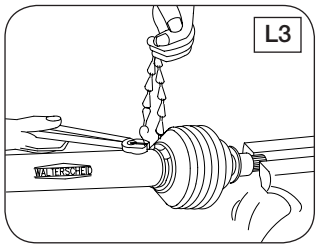


To Assemble Cone (Figs. L1 - L3)

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







Auger Driveline

Bearings

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

Driveline Replacement

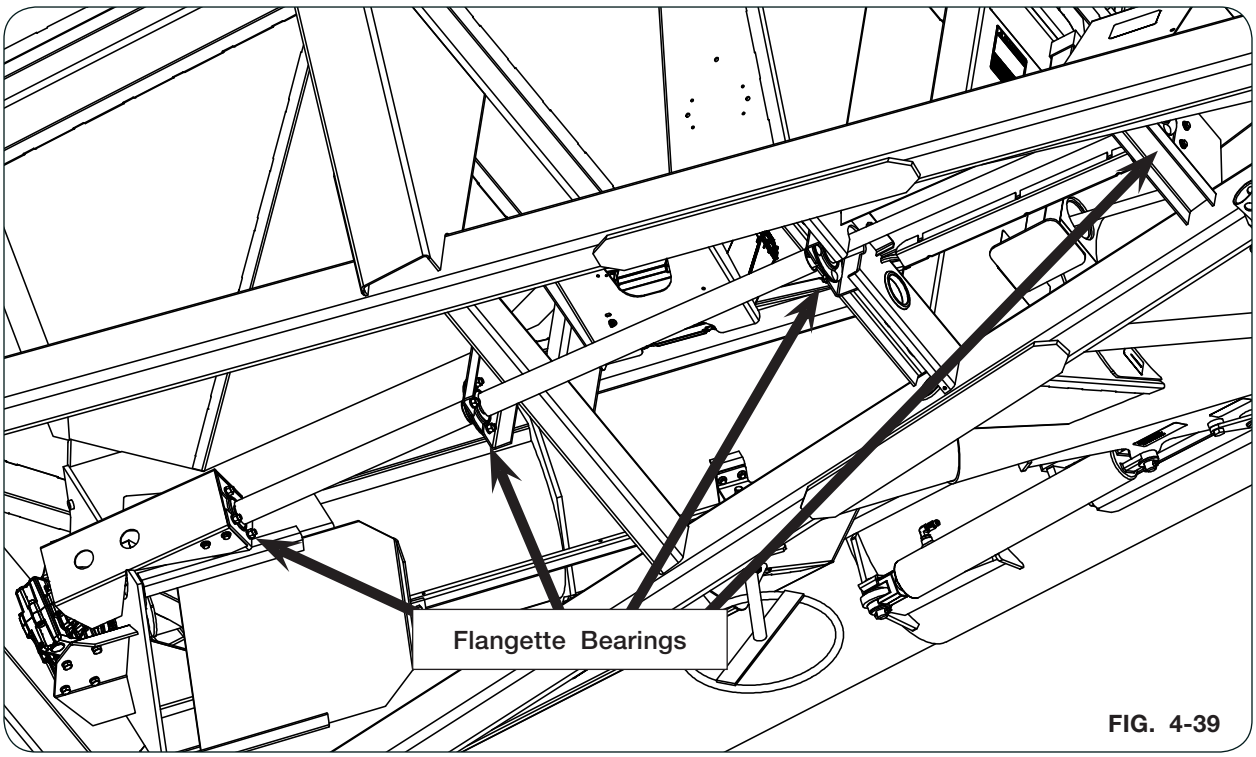


FIG. 4-39

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

2. Loosen the setscrews (9399-071) on all flangette bearings (9003920) (Fig. 4-39).

3. Remove the 1/2" carriage bolts (9388-103), flange nuts (9394-010), and lock washers (9404-025) holding the flangette bearings. Keep hardware. (Fig. 4-40).

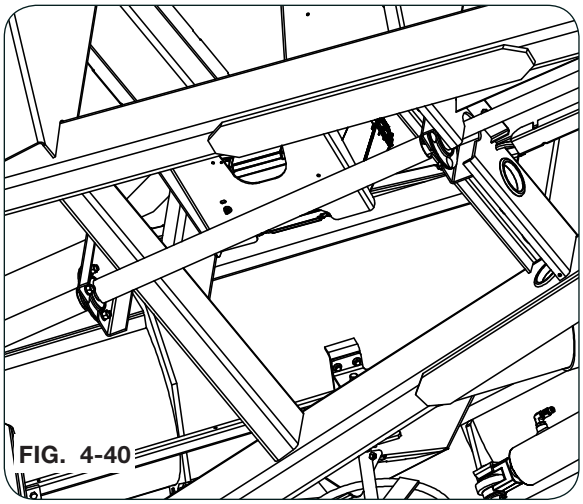


FIG. 4-40

4. Remove paint on driveshaft to allow for easier movement. Slide driveshaft forward until the rear spline is out of the universal joint connected to the gearbox.

5. Drop the gearbox end of driveshaft down and slide driveshaft out of the flangette bearing on the hitch end of the driveshaft.

Auger Driveline (continued)

Driveline Replacement (continued)

6. Remove bearings, bearing mounts, universal joint cover, PVC driveshaft covers, driveshaft lock collars (if lock collars are attached to driveshaft), and driveline cover, located behind the ladder, from the current driveshaft.

7. Slide new 1 1/2" dia. two-piece lock collars (9008671) to both sides of new bearing (9003920) closest to the U-Joint, when installing bearings onto new driveshaft (9008809).

8. Assemble new 26" PVC driveshaft cover (293391) between bearings near the gearbox, and new 36" PVC driveshaft cover (291554) between bearings behind the hitch driveline cover. (FIG. 4-41)

NOTE: Ends of driveshaft are symmetrical.

9. Slide the hitch end of the driveshaft, bearing and hitch driveline cover into the bearing near hitch of the cart. (FIG. 4-41)

10. Raise the gearbox end of the driveshaft up and insert the original 1/2" carriage bolts, flange nuts, and lock washers into the mounting flanges making sure that the bearing flanges are both on the front side of the mounting brackets. Only loosely tighten the hardware.

11. Slide driveshaft down into the universal joint attached to the gearbox until the end of the shaft extends into the universal joint about 2 3/8". Ensure universal joint and driveshaft splines completely engage. Verify the hitch end for adequate length for driveline assembly to connect. (FIG. 4-42)

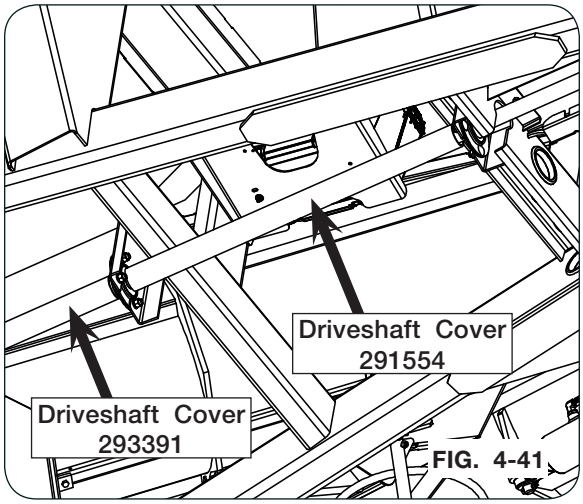
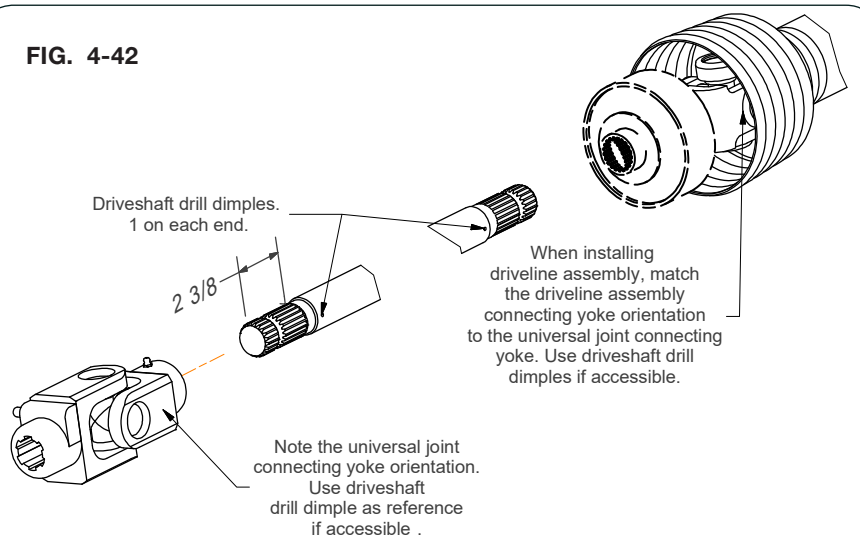


FIG. 4-41

FIG. 4-42



Auger Driveline (continued)

Driveline Replacement (continued)

12. Tighten all flangette mounting hardware.

13. With flangette mounting hardware completely tightened, drill a setscrew dimple in the driveshaft by going through the bearing setscrew threaded hole to dimple the driveshaft being careful to not damage threads. Drill the dimple to a depth that setscrews are flush with the bearing prior to applying blue thread locker and installing setscrews. (FIG. 4-43)

14. For alignment of the yoke, the orientation of the universal joint at the gearbox must be in line with the driveshaft drill dimple when the driveline assembly is attached. (FIG. 4-43 and 4-44)

15. Apply blue thread locker on bearing setscrews and tighten.

16. Torque lock collars to 170 inch-lbs.

NOTE: Check/fill gearbox oil and grease universal joint before installing new universal joint cover. See “Gearbox Lubrication” for oil specifications.

17. Attach new universal joint cover (293392B) to the bearing mount in front of the gearbox using original 3/8”-16UNC capscrews. Verify PVC driveshaft covers and driveline cover, located behind the ladder, are in place and hardware tightened prior to operation.

18. Test run driveline. Verify smooth driveline operation.

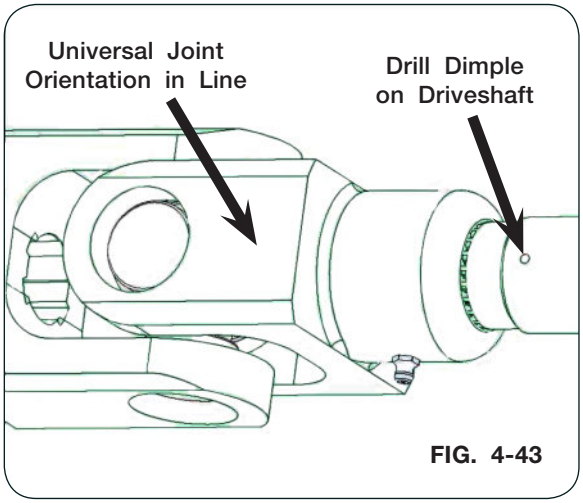


FIG. 4-43

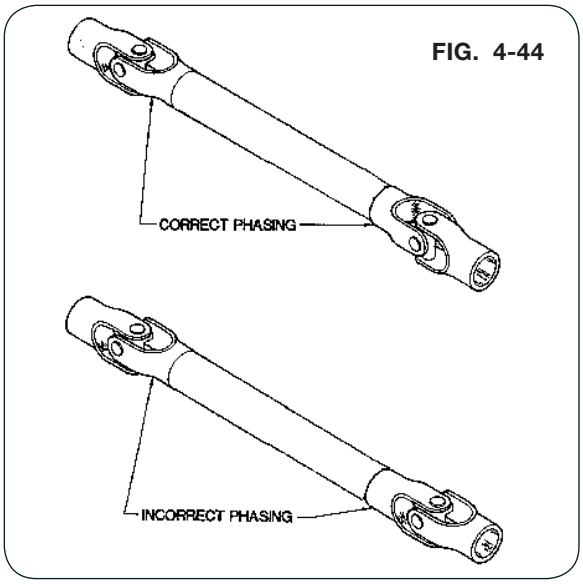


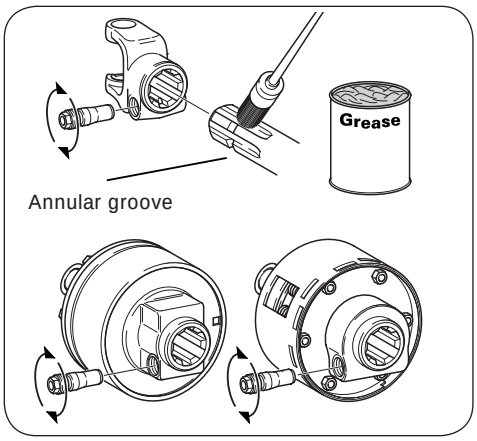
FIG. 4-44

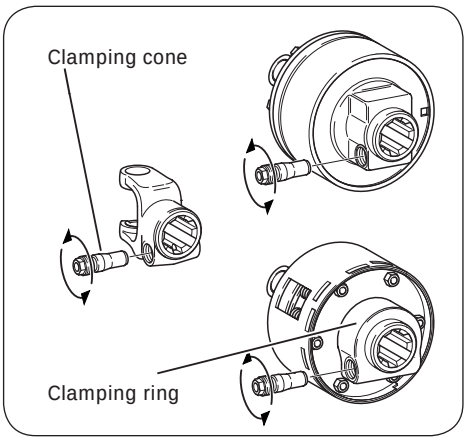
PTO Quick Disconnect

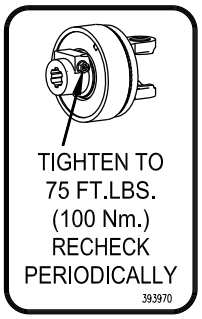
Coupling

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

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

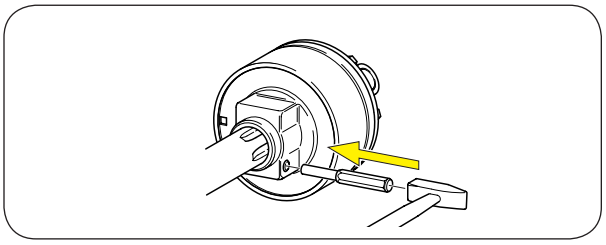






Uncoupling

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



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.**

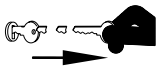
⚠ CAUTION

- **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 3,000 lbs. safe lifting device to support the wheel and tire during removal.

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.

Wheel, Hub and Spindle Disassembly and Assembly

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.

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. 4-45) 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.

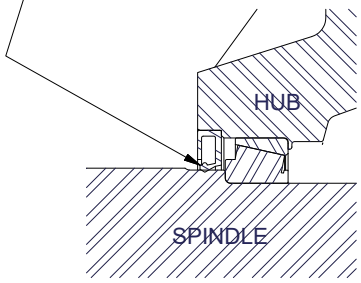


FIG. 4-45

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.

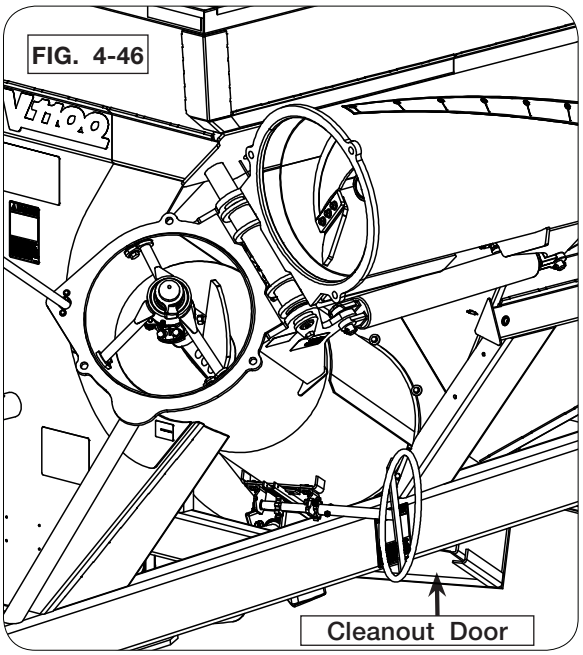
Seasonal Storage

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

Do the following before placing the cart in storage:

1. 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.
2. Using safe lifting device rated at 100 lbs., store PTO on the rest brackets at the rear of the cart.
3. Repaint all areas where paint has been removed to keep rust from developing. Rust will affect grain flow.
4. Coat exposed cylinder piston rods with rust preventative material if applicable.
5. Lubricate machine at all points outlined.
6. Inspect for damage or worn parts, replace before next season.

FIG. 4-46



7. Store cart inside, away from livestock.
8. Replace all worn, torn or faded decals and reflectors.
9. If unit is equipped with a scale indicator or electric hydraulic controls, store these indoors in a dry location.
10. Fully open flow door and auger cleanout door to remove any remaining grain and to allow moisture to dry.
11. Close the tarp to keep debris out of the hopper, if equipped.

Troubleshooting

Problem	Possible Cause	Corrective Action
No Electric Over Hydraulic (EOH) Functions work	7 Pin connector not supplying good ground to cart.	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 part way and stops	Debris in the EOH block on the auger fold cylinder	Fold auger, remove the Coil and the cartridge valve on the EOH valve block. Remove any debris and reinstall cartridge and coil.
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.

Tarp Troubleshooting Inspection & Maintenance

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

Inspection and Maintenance

⚠ WARNING

- **TO PREVENT PERSONAL INJURY OR DEATH, DO NOT ALLOW ANYONE ON A CLOSED TARP. TARP SYSTEM IS NOT DESIGNED TO SUPPORT A PERSON.**

- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. REMOVE ACCUMULATED WATER/SNOW/ICE OR ANY OTHER OBJECTS FROM TARP BEFORE OPENING TARP.**

IMPORTANT

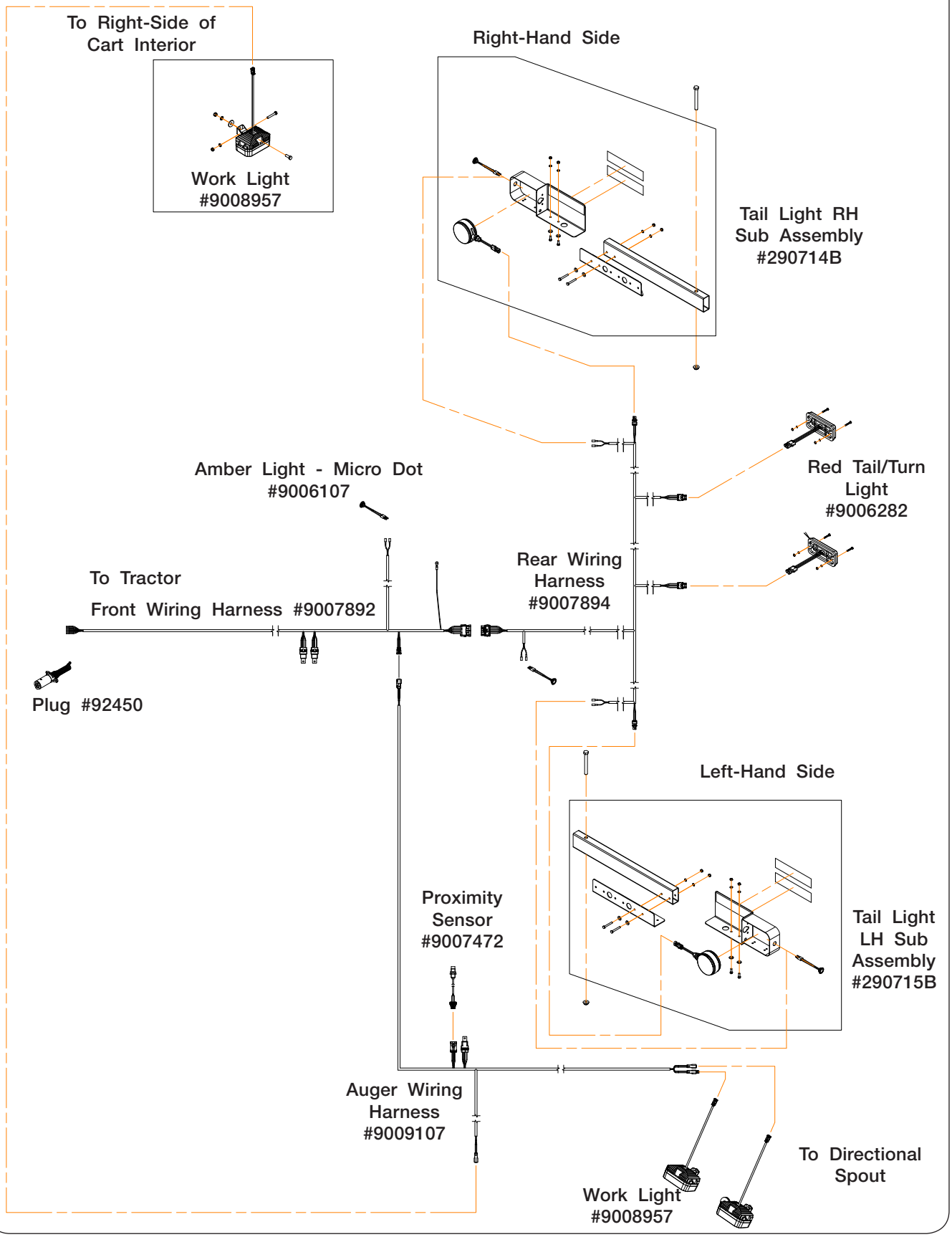
- *Do not open or close tarp while moving or in high wind conditions. Damage to the tarp may occur.*
- *Tarp should not be used if it is torn or the bungee cords are frayed or show damage. Fully close tarp with tension on the latch plate to prevent water from pooling.*

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.

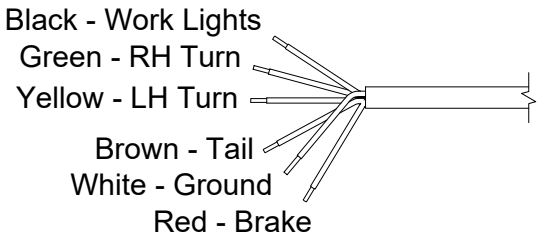
Tears in tarp should addressed before further tarp operation. If water pools on tarp, adjust tension of tarp cables and/or crank handle tension.

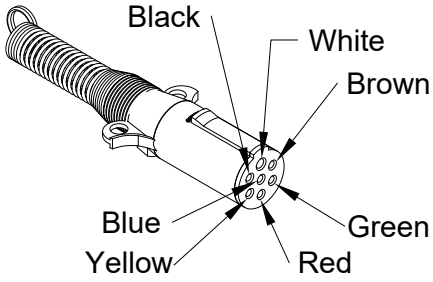
If installed correctly, tarp should always operate as well as when first installed. If tarp does not pass this simple inspection, make all appropriate repairs or adjustments immediately before serious damage occurs.

Electrical System Diagram



Electrical System Diagram — Plug #92450

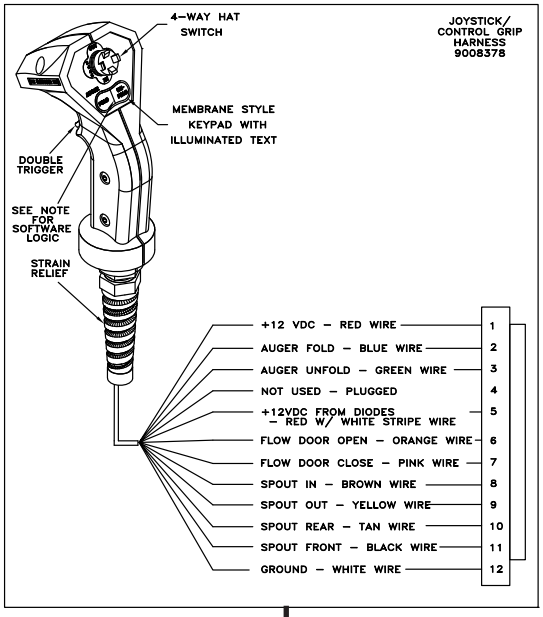




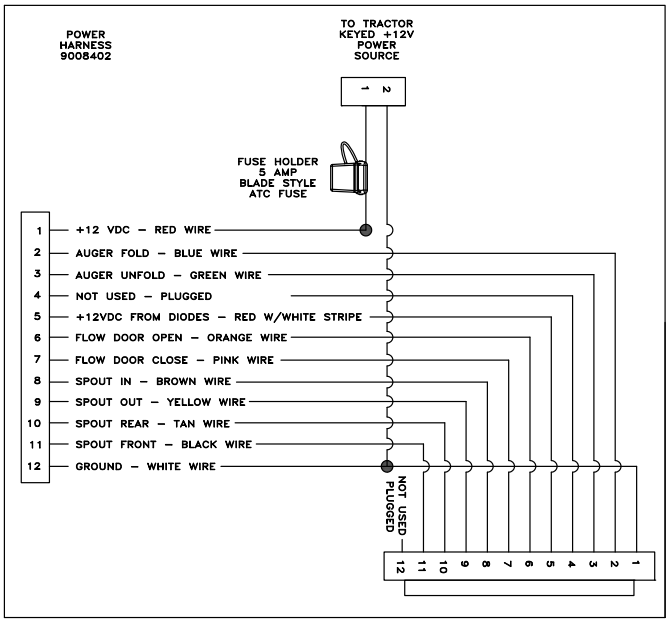
GRAIN CART WIRES

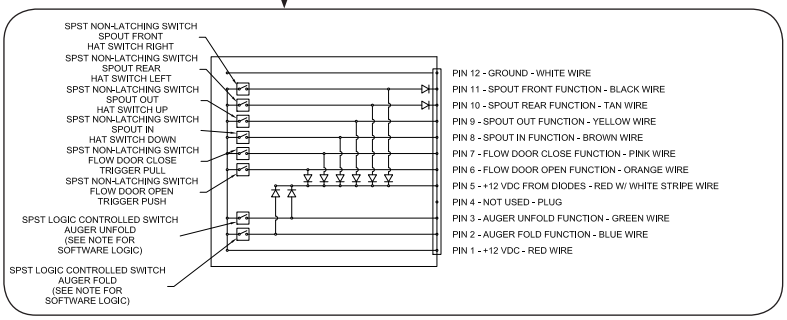
White -- Ground
Green -- Right amber flashing lamp
Yellow -- Left amber flashing lamp
Brown -- Tail light
Black -- Work Lights
Red -- Brake Lights
Blue -- NOT USED

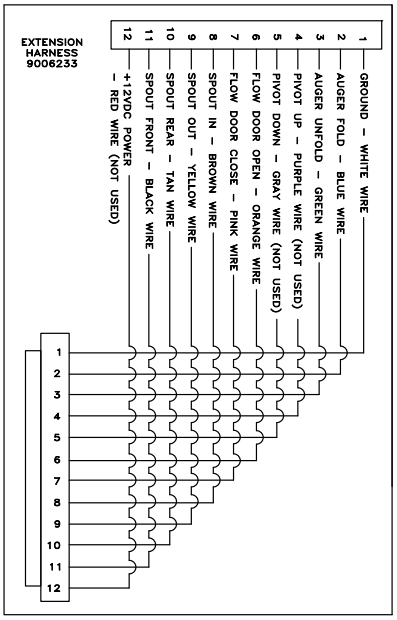
Electric Over Hydraulic (EOH) System Schematic 4 Function Optional

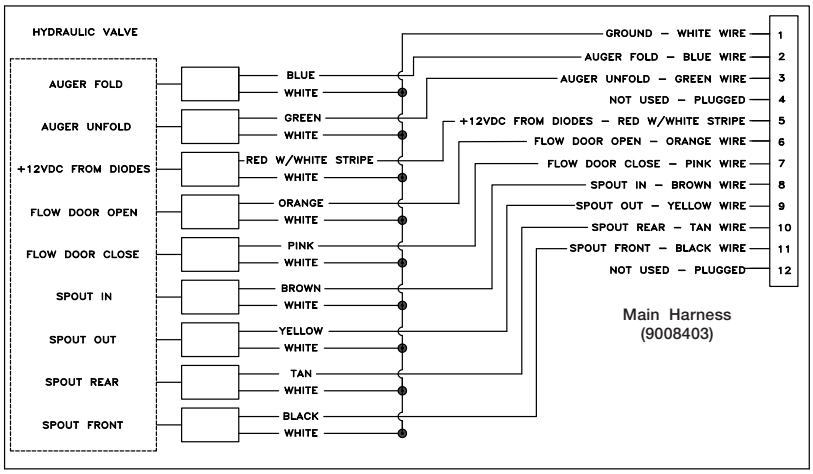


NOTE: It is recommended the joystick and 7-pin connector be plugged into the same power source.

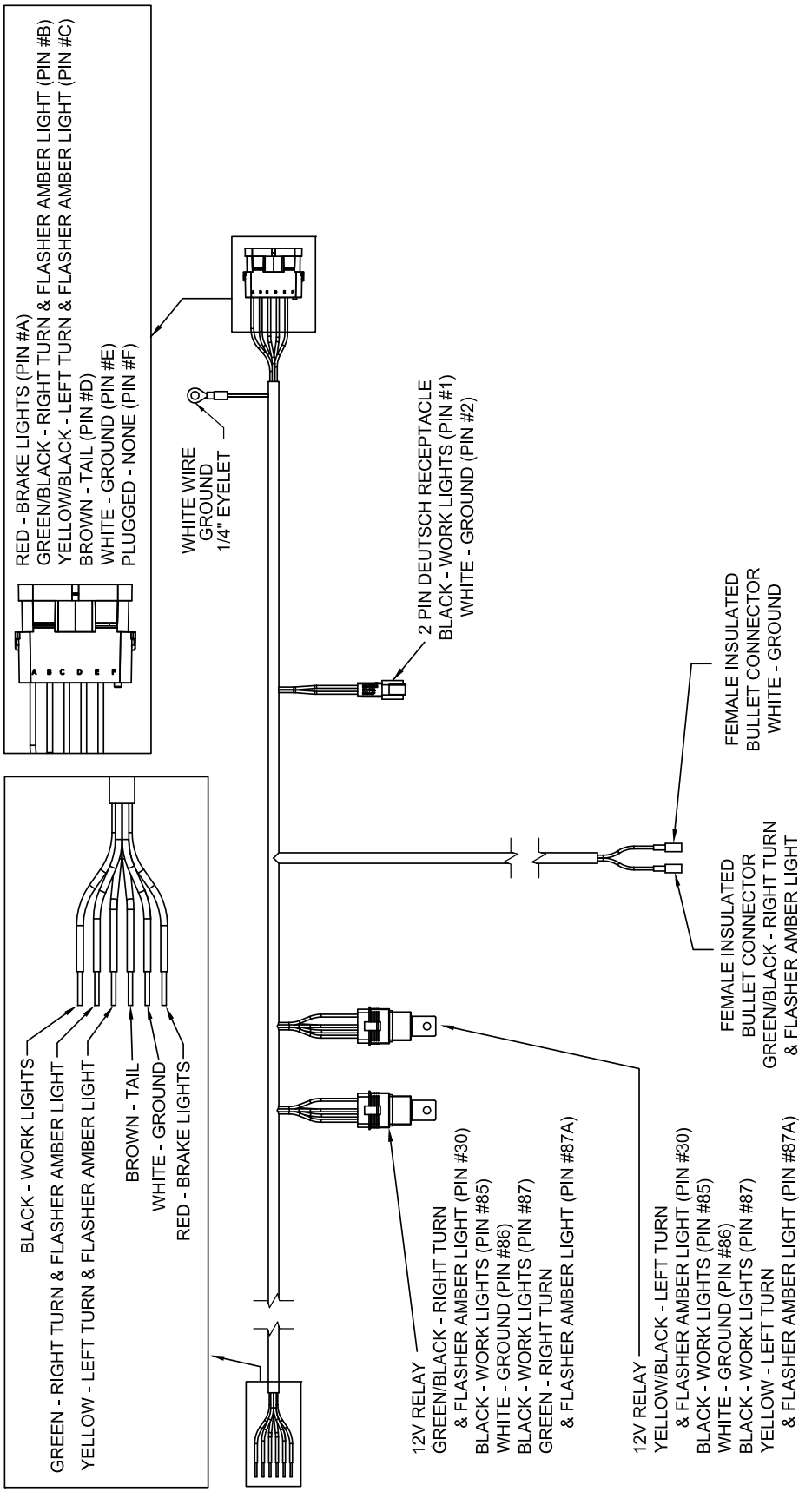




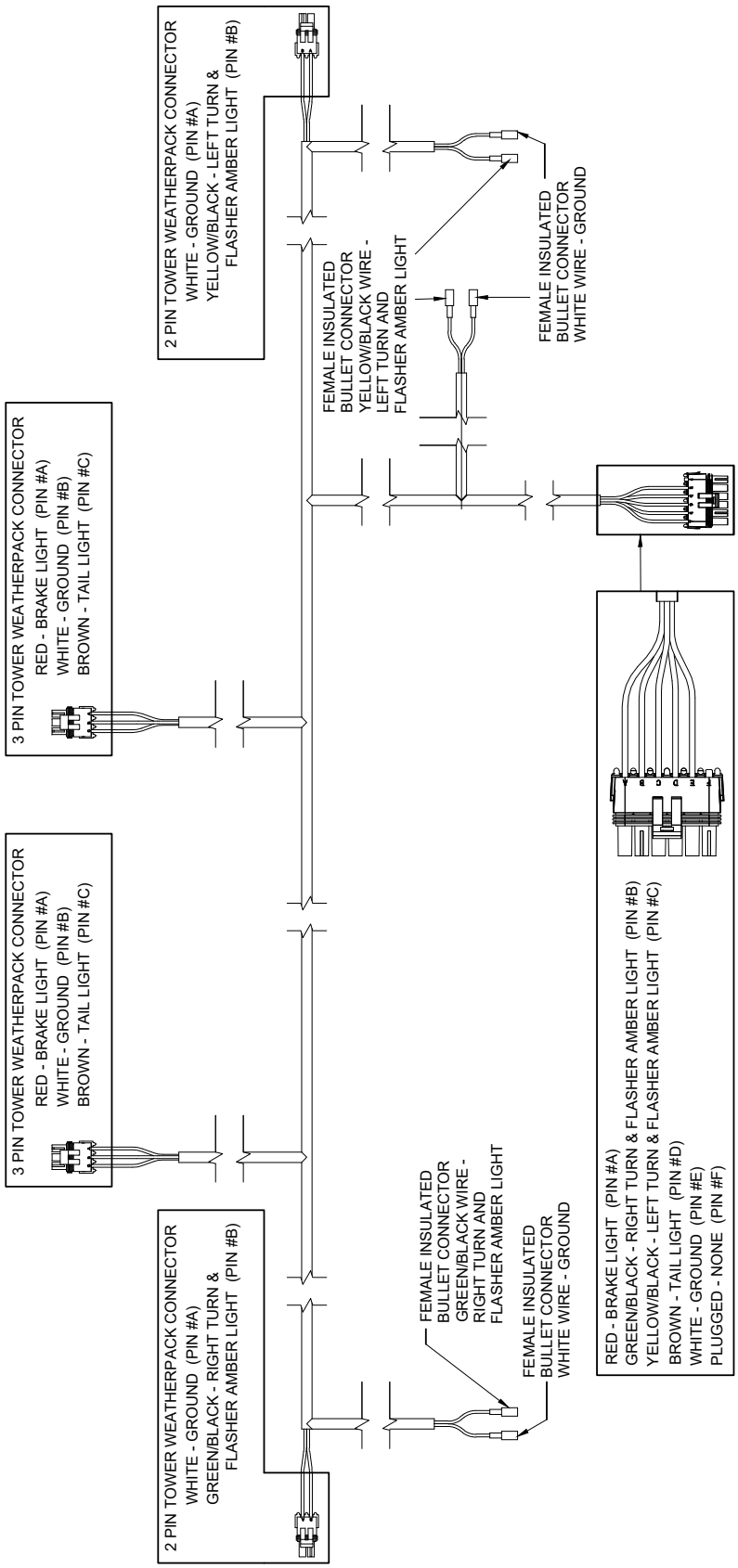




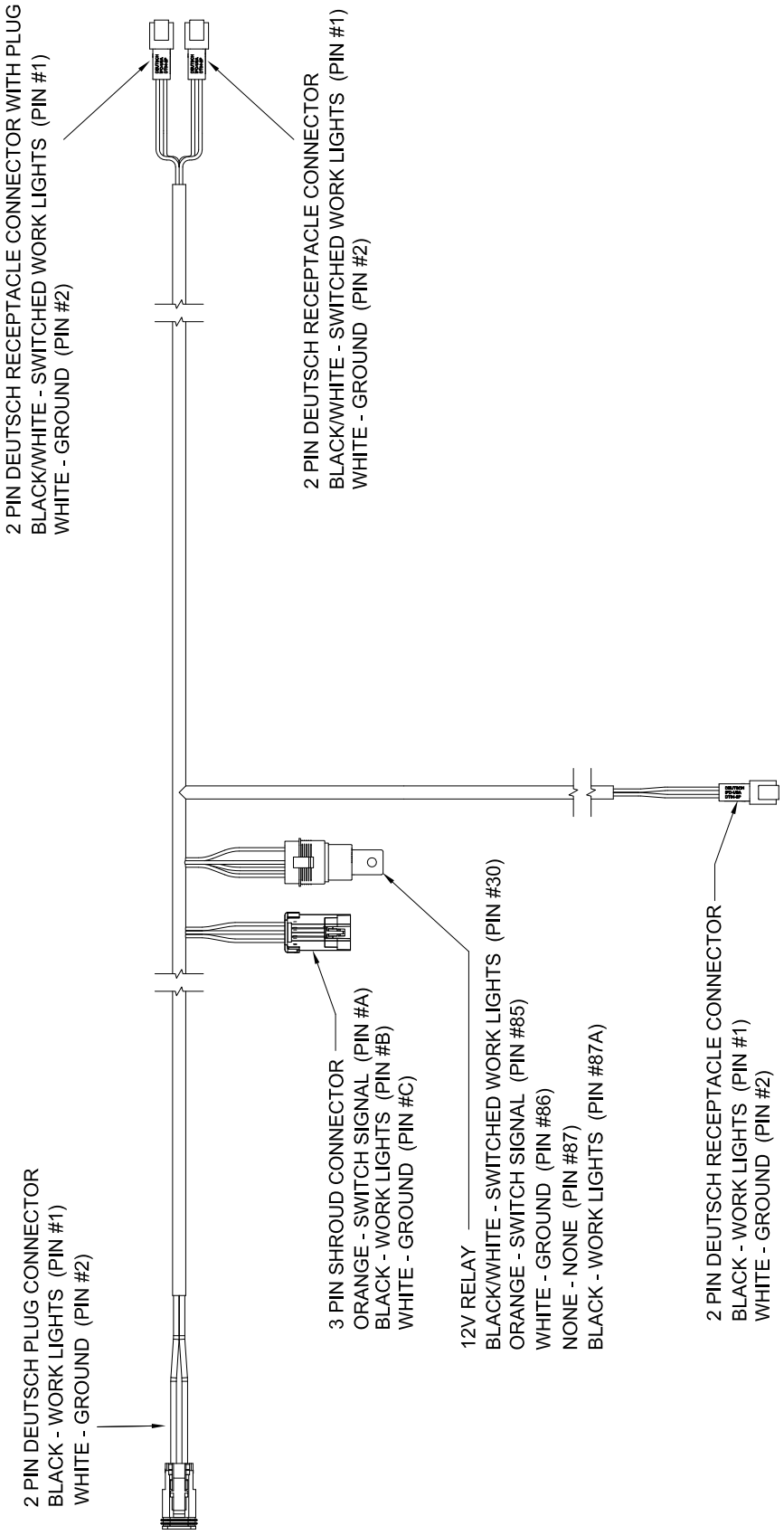
Electrical Diagram — Front Wiring Harness #9007892



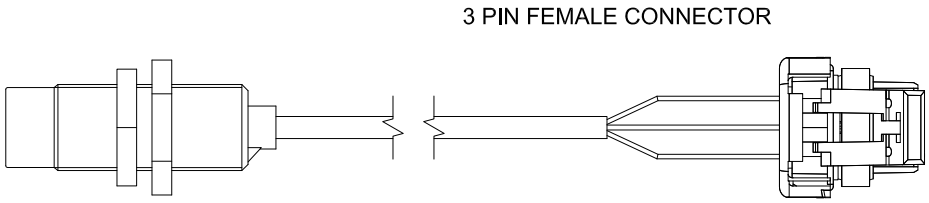
Electrical Diagram — Rear Wiring Harness #9007894



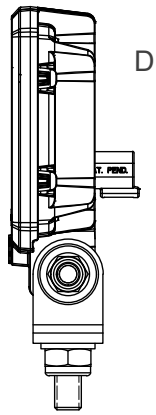
Electrical Schematic — Auger Wiring Harness #9009107



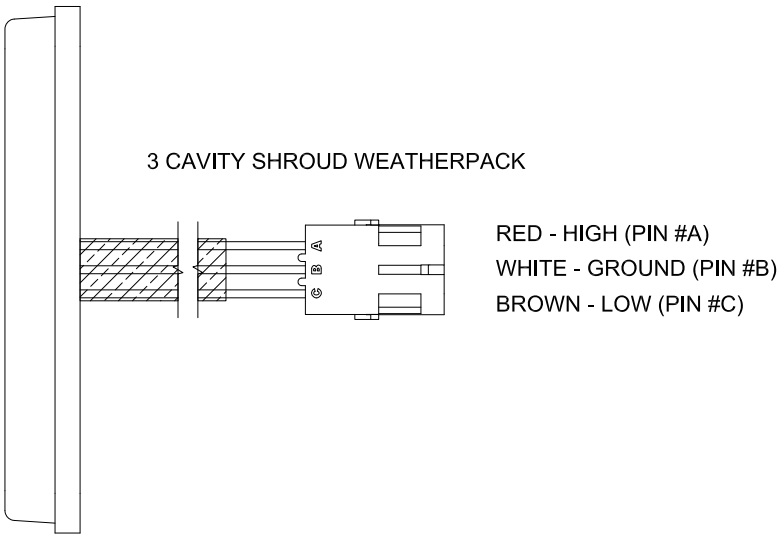
Electrical Diagram — Proximity Sensor #9007472



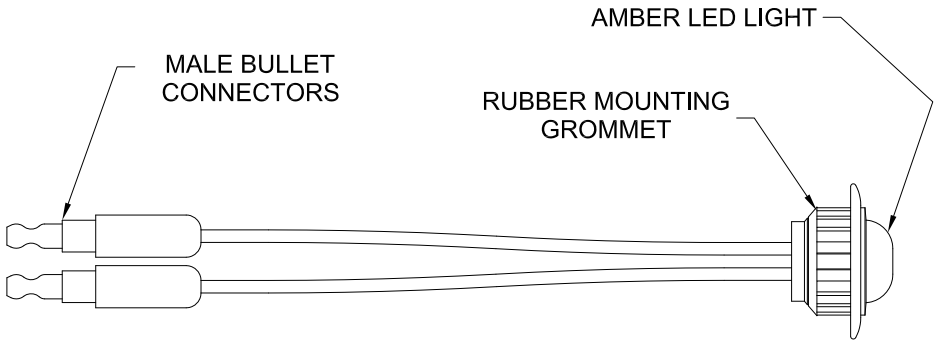
Electrical Schematic — Work Light #9008957



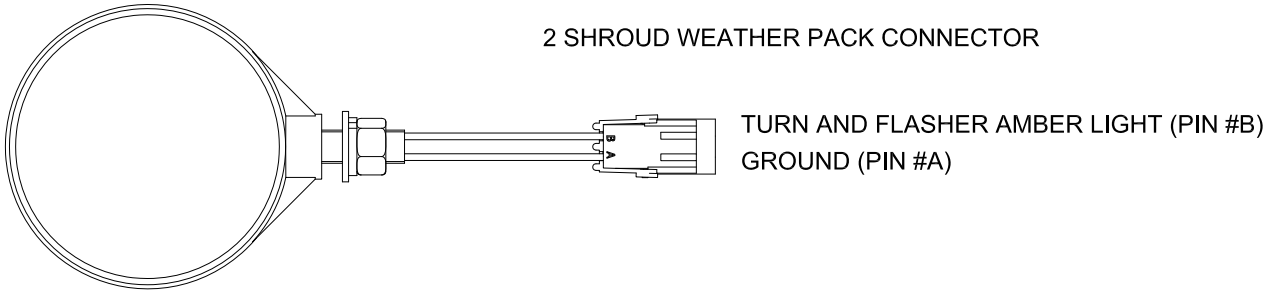
Electrical Diagram — Red Tail/Turn Light #9006282



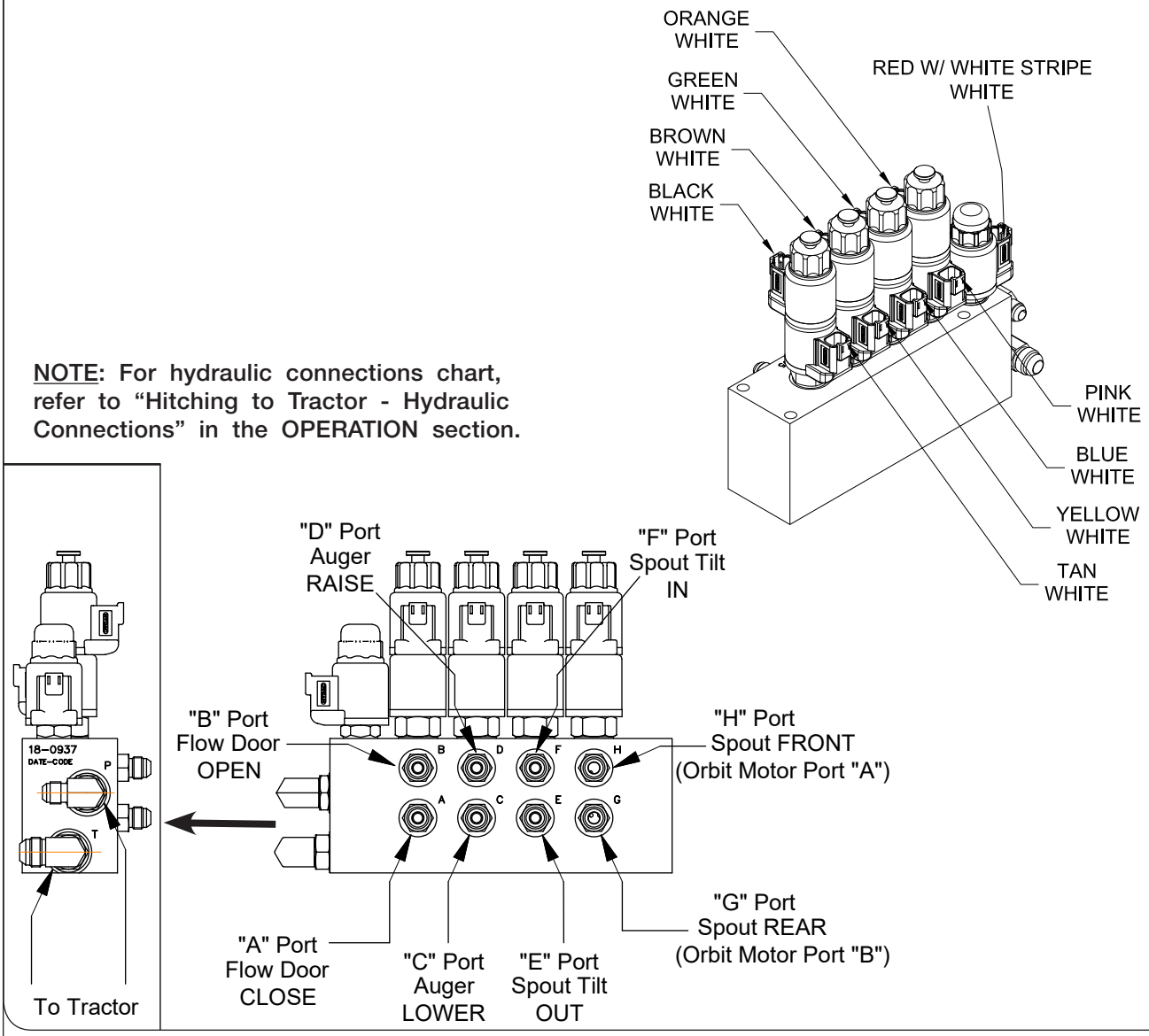
Electrical Diagram — Amber Light - Micro Dot #9006107



Electrical Diagram — Amber Lamp Double Face #9005142



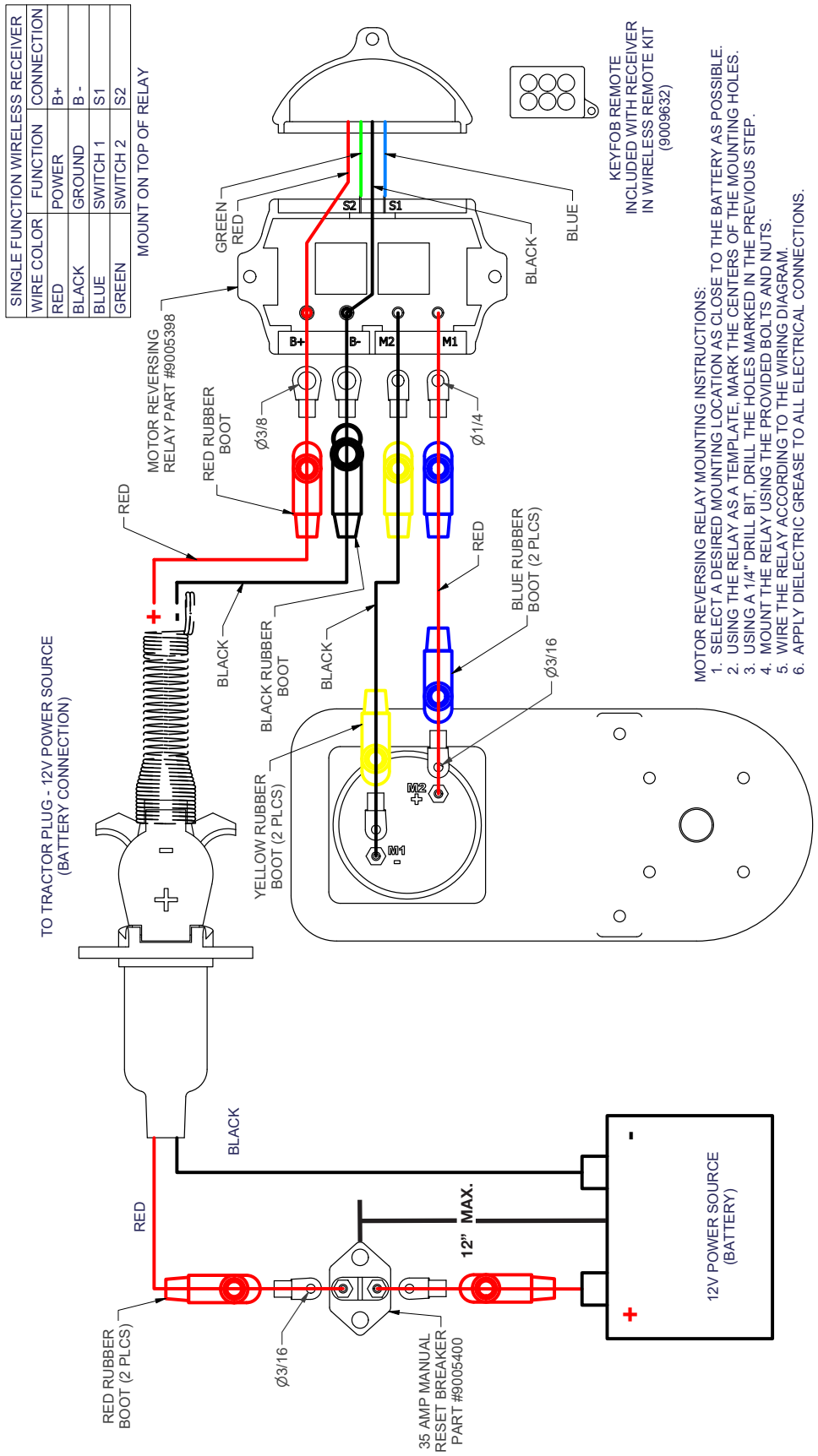
Optional Electric Over Hydraulic Valve Electric Schematic 4 Spool



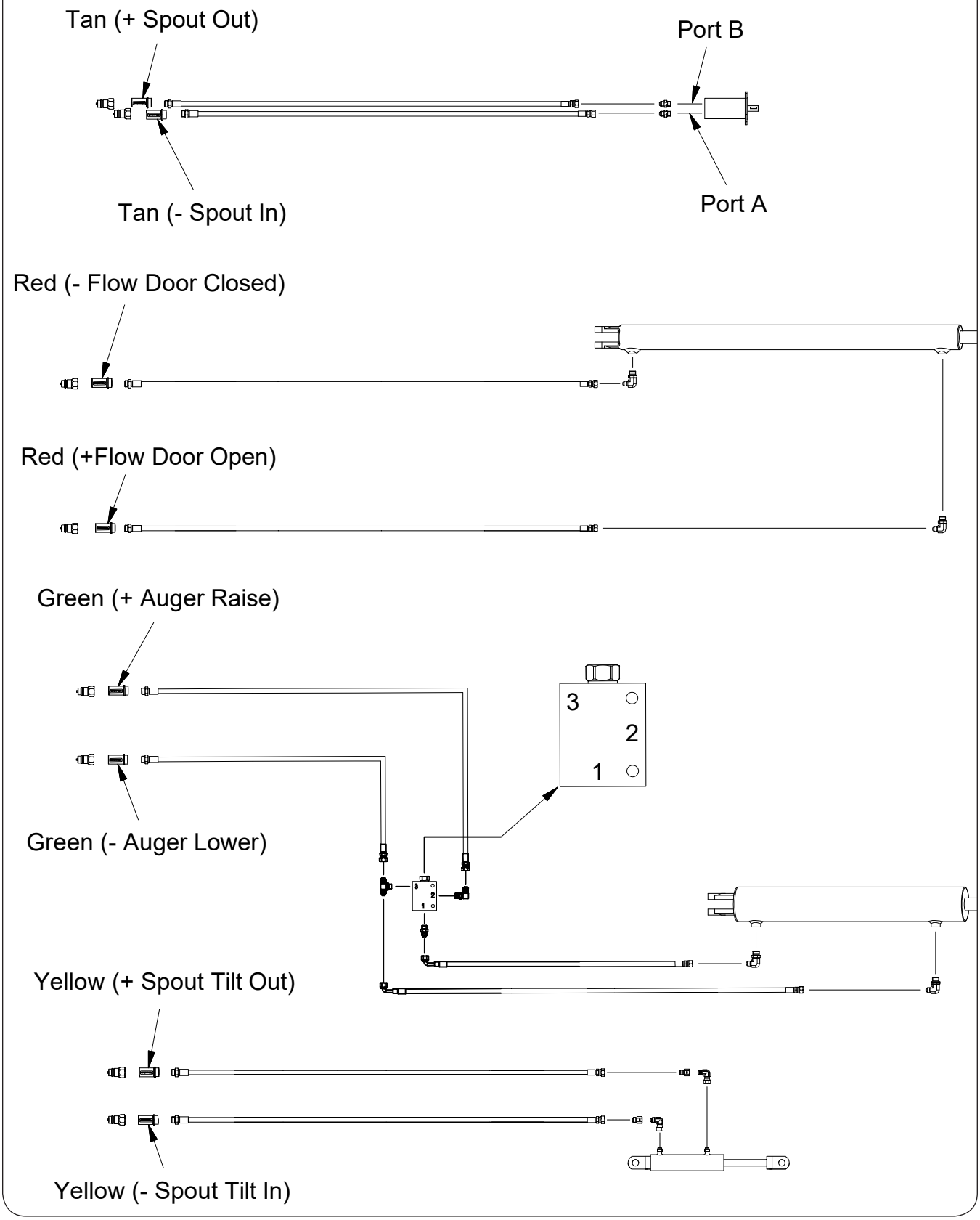
NOTE: For hydraulic connections chart, refer to "Hitching to Tractor - Hydraulic Connections" in the OPERATION section.

PORT	END OF CYLINDER	FUNCTION
A	BUTT END	FLOW DOOR CLOSE
B	RAM END	FLOW DOOR OPEN
C	RAM END	AUGER FOLD LOWER
D	BUTT END	AUGER FOLD RAISE
E	RAM END	SPOUT TILT OUT
F	BUTT END	SPOUT TILT IN
G	ORBIT MOTOR PORT B	SPOUT OUT
H	ORBIT MOTOR PORT A	SPOUT IN
P		TRACTOR PRESSURE
T		TRACTOR RETURN

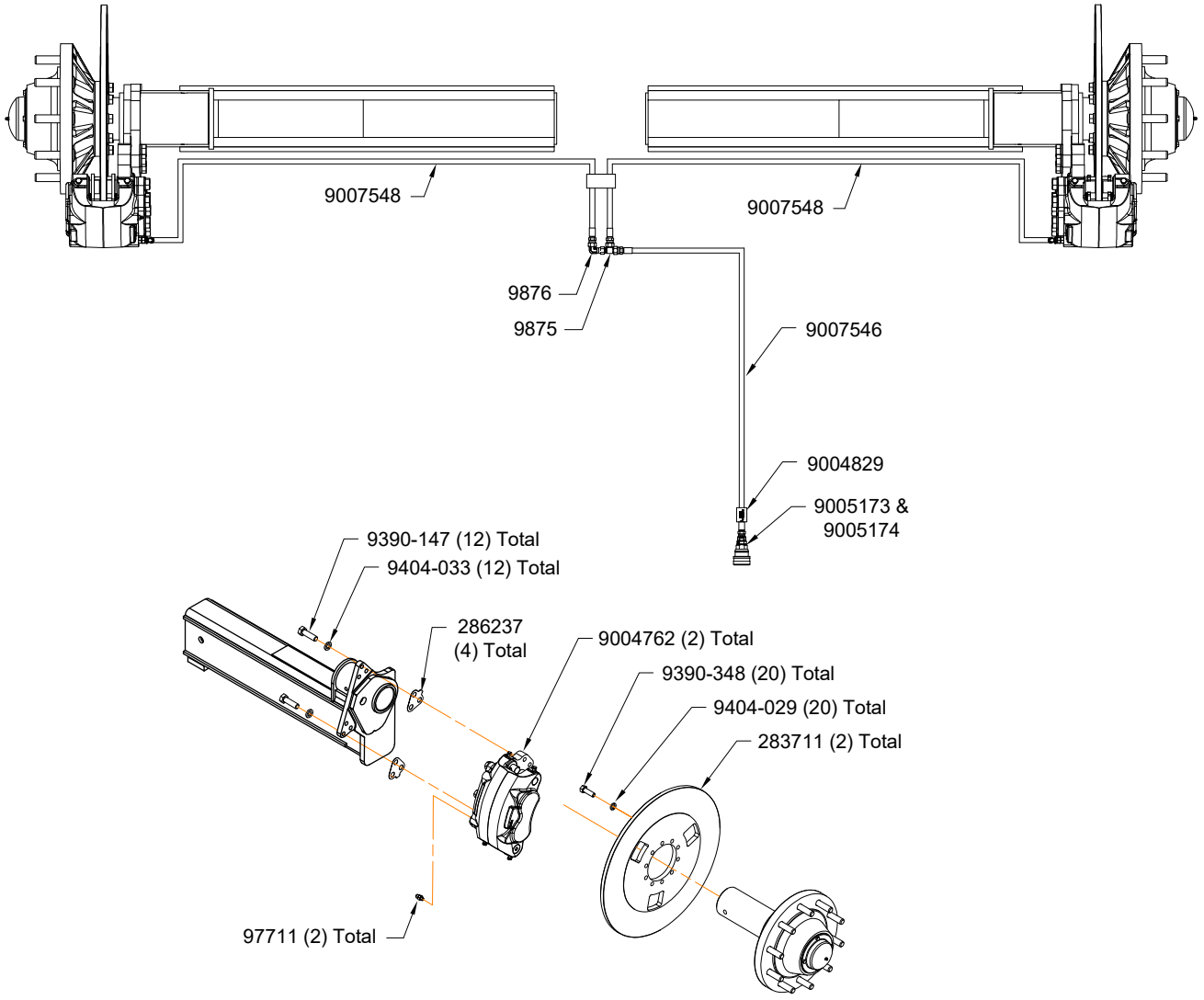
Electrical System Schematic - Optional Wireless Electric Tarp



Hydraulic System Plumbing Diagram



Braking System Schematic (Optional)



Wheels and Tires

Wheel Nut Torque Requirements

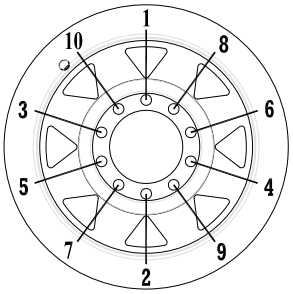
⚠ CAUTION

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

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

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

WHEEL HARDWARE	
SIZE	FOOT-POUNDS
M22x1.5	475 ft.-lbs.



10 BOLT

DIAGRAM 1

Wheels and Tires (continued)

Tire Pressure

The following is to be used as a general guide for tire inflation and figures can vary depending on specific brand of tire used. **It is important that tires are inspected after unit is loaded.** Start with minimum pressure 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
	76x50.00x32 HF-3	16	40
	76x50.00x32 HF-3	20	50
	800/65R32 R-1W	172D	41
	800/60R32 R-3	181B	46
	900/65R32 R-3	191B	46
	900/60R32 R-1	176A8	44
	1250/50R32F IF/CFO R-1WNP	201D	46
	1250/50R32F IF/CFO R-1W	188B	30
	520/85R38 R-1	155A8	29
	520/85R38 R-1	173A8	64
	480/80R42 R-1	151A8	36
	520/85R42 R-1	157A8	29
	520/85R42 R-1	165A8	51
	520/85R42 IF/CFO R-1	169A8/B	35
	IF520/85R42 R-1W	169B	35
	VF520/85R42 R-1W	177B	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 Pressure for Grain Carts

Tire Make	Tire Size	Load Index / Ply Rating	Max. PSI
Titan/Goodyear	23.1x26 R-3	10	26
	23.1x26 R-1	10	26
	24.5R32 R-1	169A8/B (5-Star)	48
	24.5x32 R-3	12	32
	24.5x32 R-1	12	32
	30.5x32 R-3	16	26
	30.5x32 R-3	14	22
	30.5x32 R-1	14	22
	480/80x42 R-1	166A8	23
	1100/45R46 F-1W	195D	35
Mitas	650/75R32 R-1W	172A8	58
	650/75R32 R-1	176A8	41
	800/65R32 R-1W	172A8	46
	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	30.5B32	18-Ply	36
	35.5LR32	193A8	44
	900/60R32 R-1W	192D	46
	1050/50R32 R-1W	185A8	52
	1250/50R32 R-1W	201B	46
Trelleborg	VF1050/50R32 R-1	198D	52
	900/50R32 R-1W	181A8	55
	900/60x32	176LI	44
	850/55R42 R-1W	161A8	32

Wheels and Tires (continued)

Tire Warranty

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

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

Complete Torque Chart

Capscrews - Grade 5

NOTE:

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

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

IMPORTANT

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

Complete Torque Chart

Capscrews - Grade 8

NOTE:

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

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

IMPORTANT

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

Hydraulic Fittings – Torque and Installation

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

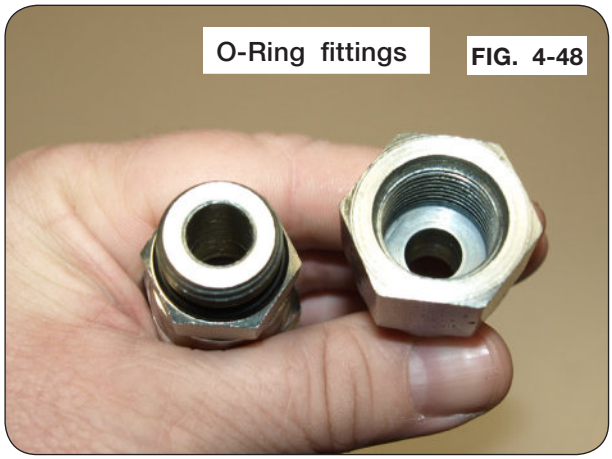


FIG. 4-48

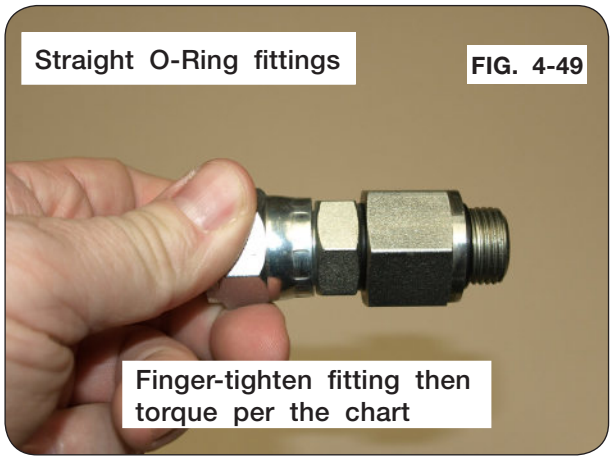


FIG. 4-49

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

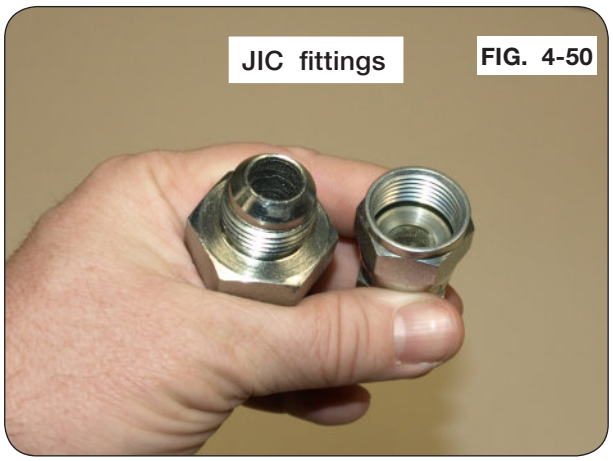


FIG. 4-50

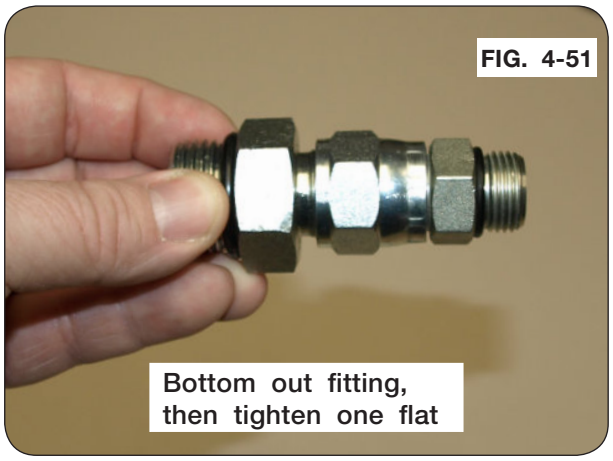


FIG. 4-51

Notes

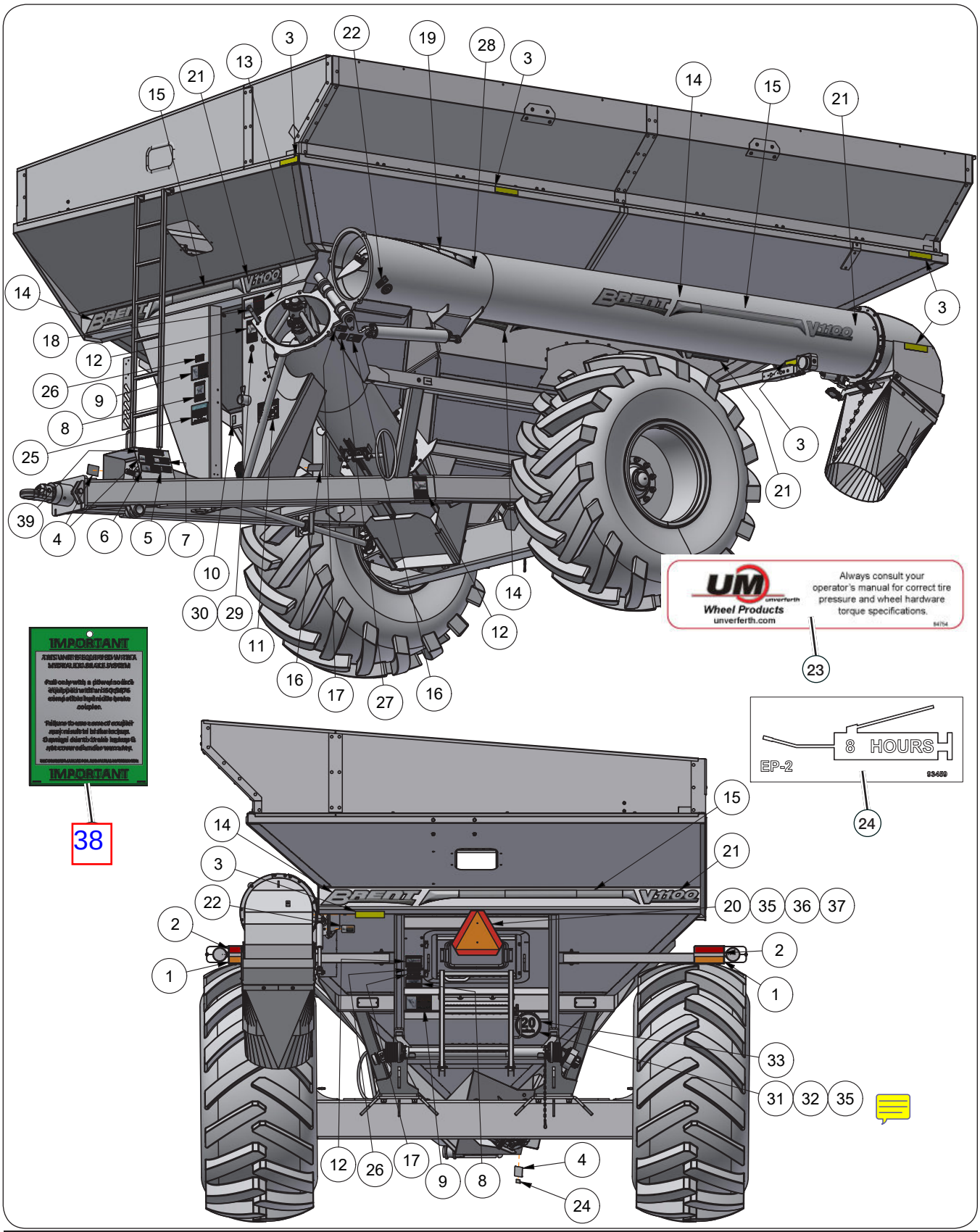
Section V
Parts

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

FOR SCALE, TRACK, UHARVEST, HYDRAULIC DRIVE, ELECTRIC TARP, AND VIDEO SYSTEM OPTIONS, PLEASE REFER TO THE SPECIFIC MANUAL.

Decals

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



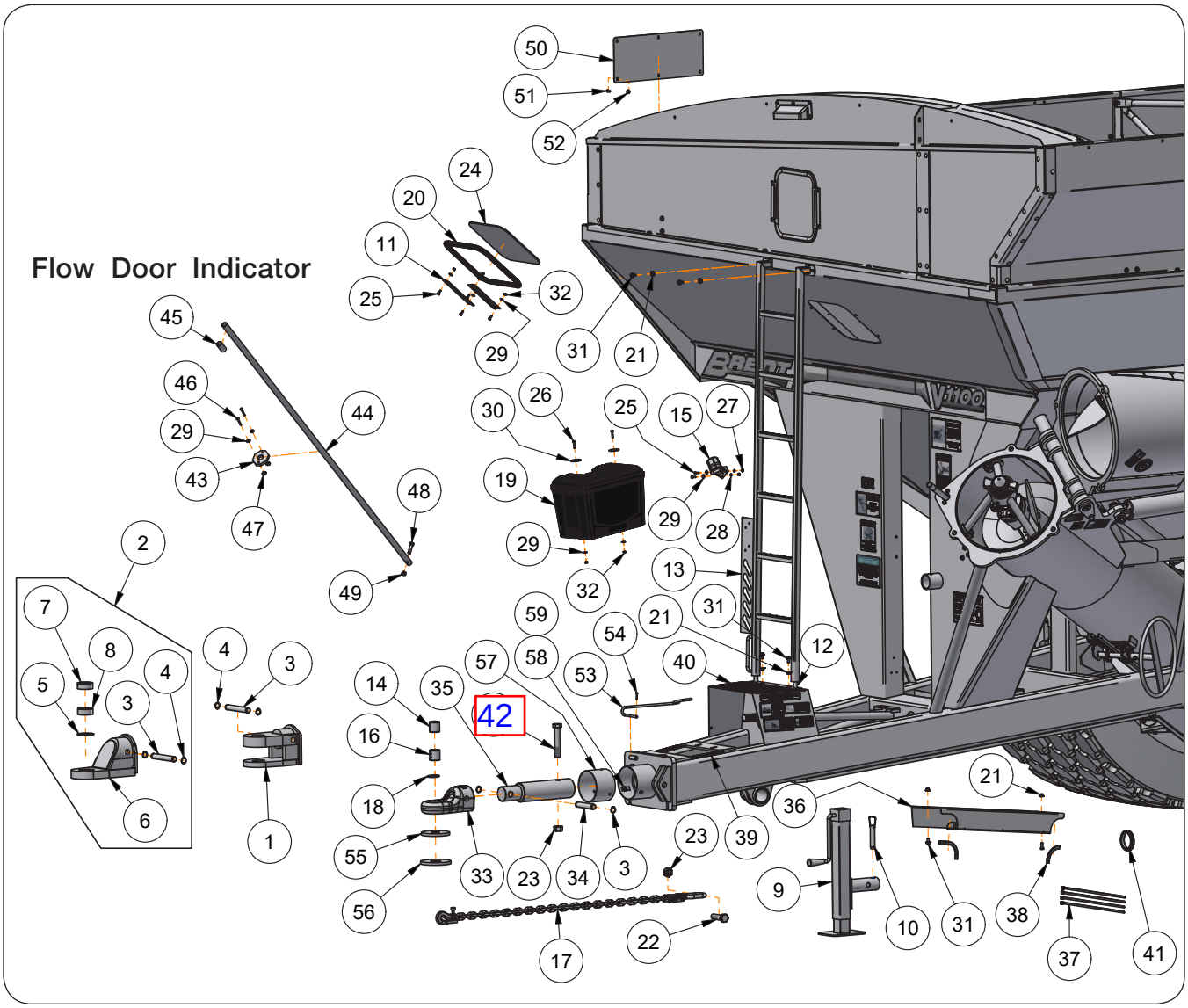
Decals

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	9003125	Fluorescent Strip	2	2 x 9"
2	9003126	Red Reflector	2	2 x 9"
3	9003127	Amber Reflector	9	2 x 9"
4	95046	Decal, DANGER “Drive Shaft Entanglement”	3	
5	97961	Decal, WARNING “Read & Understand”	1	
6	94094	Decal, WARNING “Tongue Drop”	1	
7	97575	Decal, CAUTION “Transport Chain”	1	
8	9003478	Decal, DANGER “Just For Kids”	2	
9	9003476	Decal, WARNING “No Riders”	2	
10	91605	Decal, FEMA	1	
11	9003477	Decal, IMPORTANT “Flow Control Gate”	1	
12	9003475	Decal, WARNING “PTO Cut & Crush”	3	
13	9003474	Decal, DANGER “Electrical Lines”	1	
14	9006360	Decal, Brent Logo - 5.5 x 43	5	
15	9006361	Decal, Stripe - 2.73 x 36.50	10	
16	95445	Decal, WARNING “High-Pressure”	2	
17	95839	Decal, WARNING “Pinch Point”	2	
18	297599	Decal, Yellow Reflective Tape	1	
19	92563	Decal, Flow Control 3" x 38"	1	
20	TA510514	SMV Sign	1	Use Items 35, 36, 37
21	9007734	Decal, V1100	5	
22	TA1-906109-0	Decal, WARNING “Moving Parts”	2	
23	94754	Decal, UM Wheel Systems	1	
24	93459	Decal, 8 Hours Grease	1	
25	9008151	Decal, IMPORTANT “PTO Engagement”	1	
26	95008	Decal, CAUTION “Slippery Surface”	2	
27	9008447	Decal, IMPORTANT “Grease U-Joint Bearing”	1	
28	9008908	Decal, Max Flow	1	
29	9008715	Decal, Front SIS 20 MPH	1	
30	9008721	Decal, Front SIS 30 KPH	1	
31	9008714	Decal, Rear SIS 20 MPH	1	Use Items 33, 34, and 35
32	9008720	Decal, Rear SIS 30 KPH	1	
33	276987B	SIS Decal Mounting Bracket =Black=	1	
34	97420	Flange Screw 1/4”-20UNC x 3/4” G5	2	Not Shown
35	97189	Hex Nut 1/4”-20UNC	4	
36	9390-005	Capscrew 1/4”-20UNC x 1” Grade 5	2	
37	9405-064	Flat Washer 1/4”	2	
38	9007162	Information Tag Brakes Option	1	
39	9009866	Decal, Hose Legend	1	

Final Assembly

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



ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	281690	Scale Clevis Hitch	Opt.	Includes Clevis Hitch, Items 3 & 4
2	293184B	Drop Hitch Conversion Kit CAT 4 =Black=	Opt.	Includes Items 3-8
3	281691	Pin 1" Dia. x 7 3/8	Opt.	
4	91192	Retaining Ring 1" Dia.	2	
5	9003554	Retaining Ring 3 3/16" Dia.	2	For Carts With LSW-1100 Tires
6	293175B	Drop Hitch Weldment CAT 4 =Black=	1	
7	266797	Bushing For CAT 4	1	
8	266796	Bushing For CAT 3	1	
9	9004156	Jack Assembly w/Pin	1	Includes Item #5
10	9004171	Pin	1	
11	250461B	Bracket, Window Retainer =Black=	4	
12	280603B	Ladder Bracket Weldment =Black=	1	
13	290746B	Ladder Weldment =Black=	1	
14	9001917	Tension Bushing 2" OD x 1.516" ID x 2"	1	
15	9001968	Connector Holder	1	
16	9002130	Split Tension Bushing 2" OD x 1 3/4" ID x 2"	1	
17	9003278	Transport Chain	1	

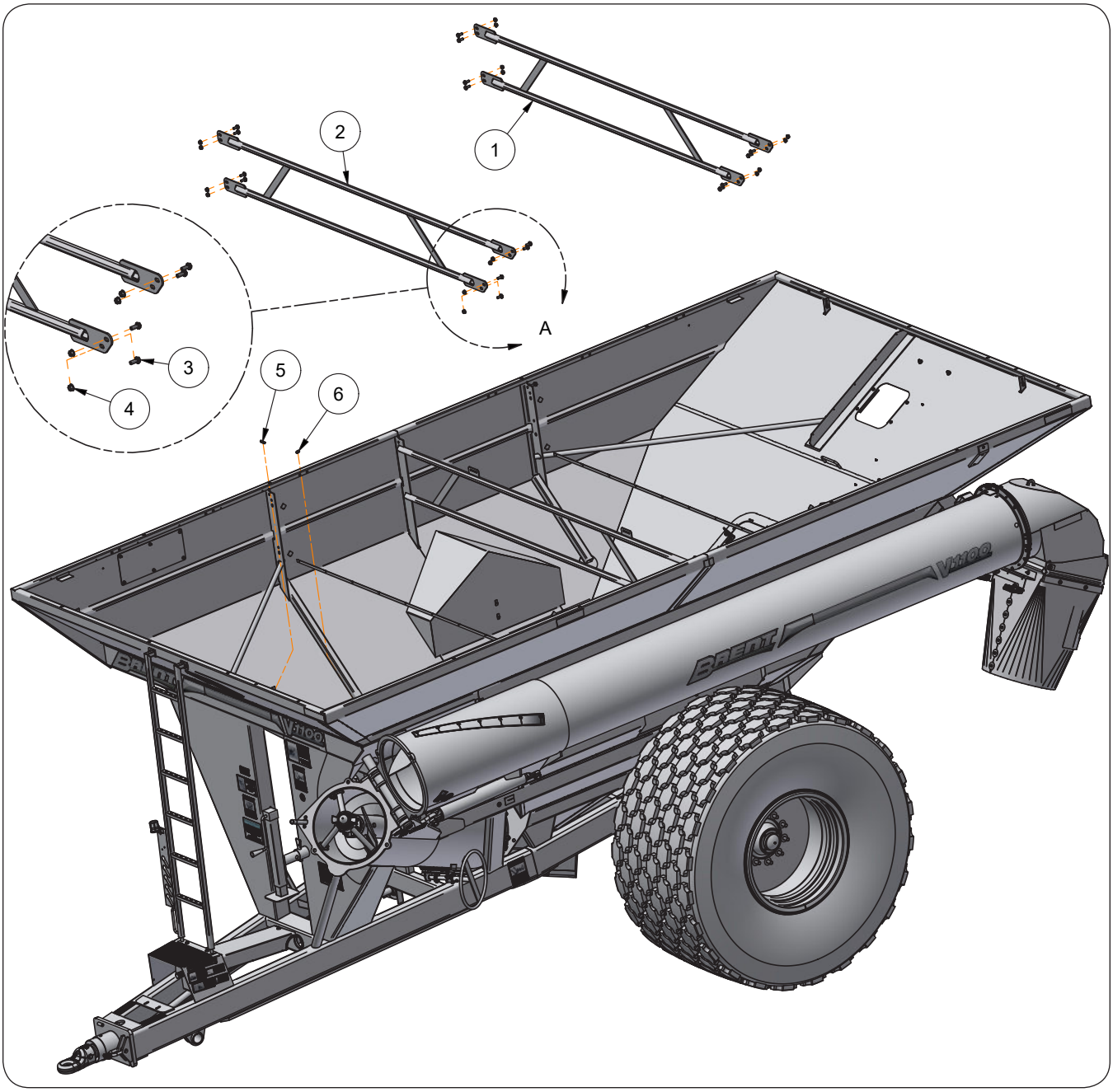
Final Assembly

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
18	9005259	O-Ring	4	
19	9005850	Storage Box	1	
20	271952	Window Molding	3	
21	91263	Nut/Large Flange 3/8"-16UNC Grade 5	6	
22	91299-189	Capscrew 1"-8UNC x 3 1/2" Grade 8	1	
23	92199	Locknut 1"-8UNC	2	
24	9002544	Window	3	
25	9390-003	Capscrew 1/4"-20UNC x 3/4" Grade 5	10	
26	9390-006	Capscrew 1/4"-20UNC x 1 1/4" Grade 5	2	
27	9394-002	Hex Nut 1/4"-14UNC	2	
28	9404-017	Lock Washer 1/4"	2	
29	9405-064	Flat Washer 1/4"	6	
30	94763	Fender Washer	2	
31	95585	Capscrew, 3/8"-16UNC x 3/4" Grade 5	6	
32	9936	Locknut 1/4"-20UNC	10	
33	282875B	Hitch, Single Tang =Black=	1	For Carts Without LSW-1100 Tires
34	282876	Pin 1" Dia. x 5 1/2"	1	
35	284780	Hitch Bar 3 3/4" Dia.	1	
36	290718B	Driveshaft Cover =Black=	1	
37	9000104	Cable Tie 21 1/2"	5	
38	9000787	Trim Lock	A/R	Specify in Feet
39	9001498	Runner Pad	2	
40	9004114	Platform Rubber Pad	1	
41	9006780	Rubber Grommet, 1/4" W x 3 1/2" D Groove	2	
42	91299-195	Capscrew 1"-8UNC x 6 Grade 8	1	
43	286942	Pad Indicator 3" x 3 1/2"	1	
44	290723B	Indicator Tube =BLACK=	1	
45	297599	Decal, Yellow Reflective Tape	1	
46	9390-008	Capscrew 1/4"-20UNC x 1 3/4" G5	2	
47	~~97189~~	~~Hex Nut/Large Flange 1/4"-20UNC~~	~~2~~ 4	
48	9390-103	Capscrew 1/2"-13UNC x 2" G5	1	
49	94981	Locknut/CENTER 1/2"-13UNC	1	
50	295491G	Scale Display Cover Plate =Green=	1	
	295491R	Scale Display Cover Plate =Red=		
	295491BM	Scale Display Cover Plate =Black Metallic=		
51	9003829	Hex Screw 1/4"-20UNC x 3/4" Full Thread	6	
52	97189	Flange Nut 1/4"-20UNC	6	
53	297558	Driveline Storage Rod	1	
54	9391-023	Cotter Pin, 1" x 1/8" Dia.	1	
55	281663	Poly Wear Shoe For CAT 3	1	
56	281898	Poly Wear Shoe For CAT 4	1	
57	271891B	Shield Tube =Black=	1	
58	9005376	U-Nut 3/8"-16UNC	3	
59	9390-053	Capscrew 3/8"-16UNC x 3/4" G5	3	

Hopper Cross Brace Components

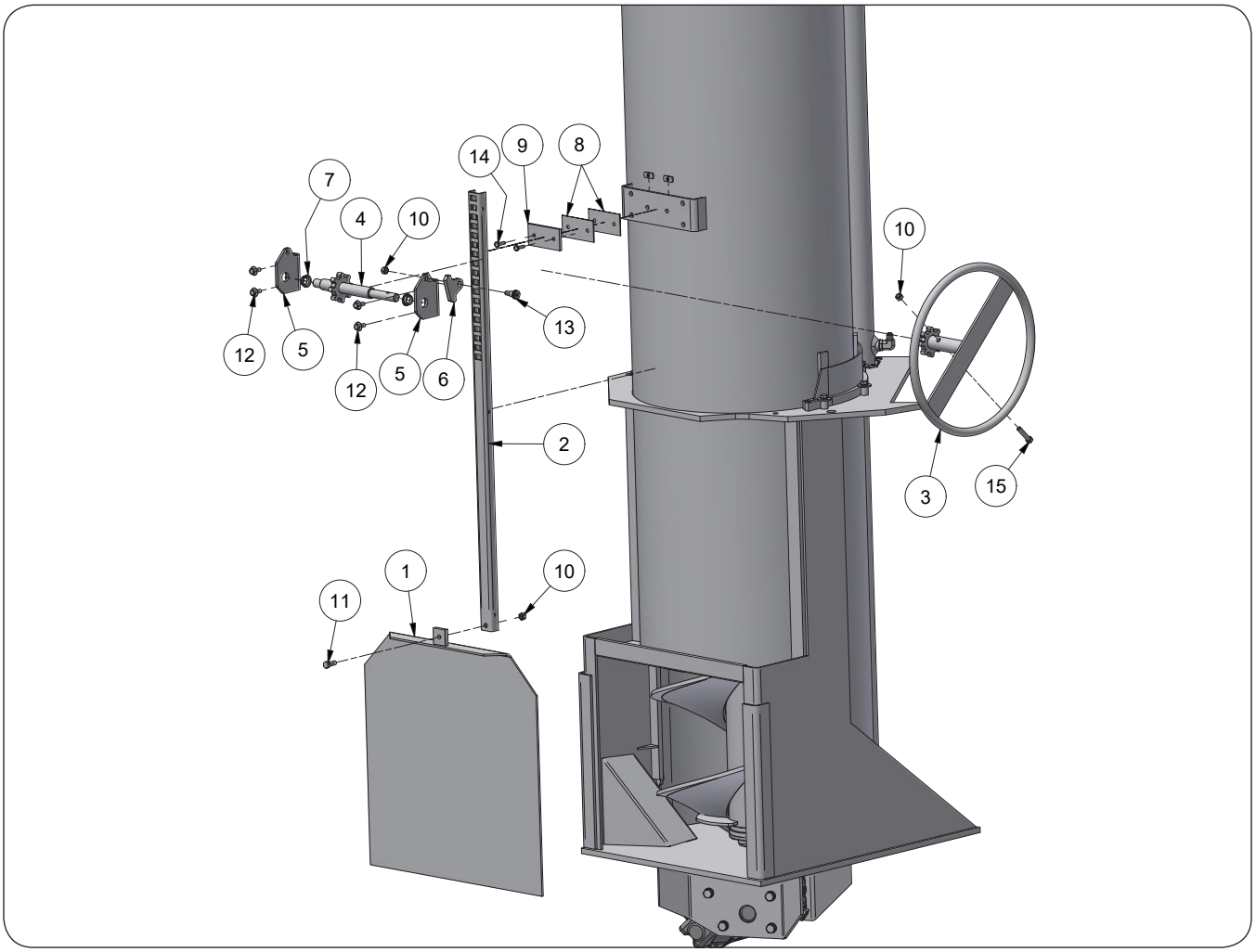
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	297465B	Rear Cross Brace Weldment =Black=	1	
2	281943B	Front Cross Brace Weldment =Black=	1	
3	91266	Flange Screw 1/2"-13UNC x 1 1/4" Grade 5	16	
4	9002058	Flange Nut 1/2"-13UNC Center Lock Grade 5	16	
5	9009602	Grommet 1 3/8" OD x 3/4" ID x 7/16"	1	
6	9007987	Grommet 1" OD x 5/16" ID x 7/16"	1	

Cleanout Door Assembly

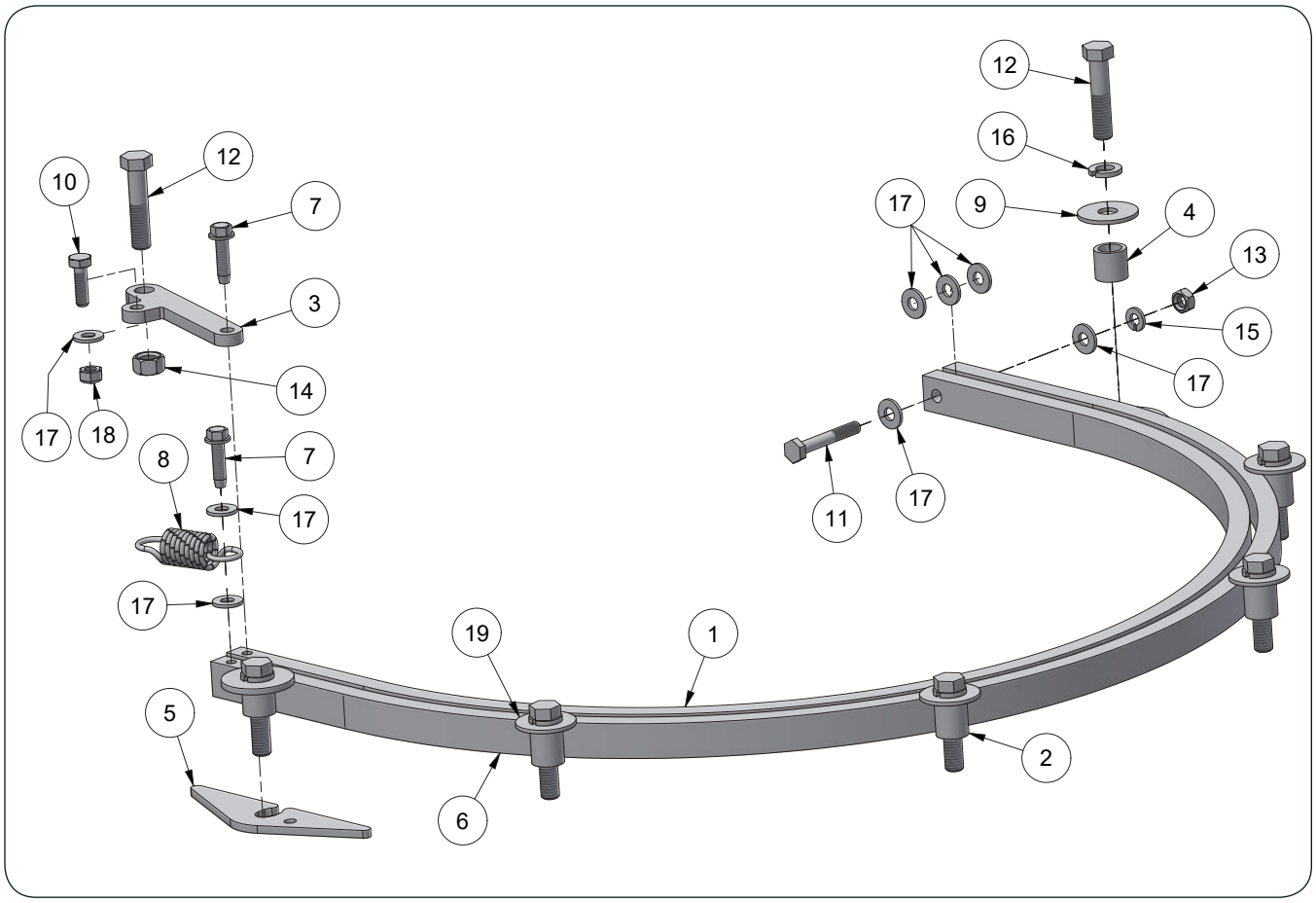
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	290890B	Cleanout Door Weldment =Black=	1	
2	290722B	Plate-Door Rack =Black=	1	
3	291581B	Door Lift/Wheel Weldment =Black=	1	
4	268901B	Door Lift/Shaft Weldment =Black=	1	
5	286802B	Shaft Weldment Plate =Black=	2	
6	268313B	Plate-Lock =Black=	1	
7	9003411	Flange Bushing-Self Lubricating	2	
8	291087B	Shim =Black=	2	
9	286801	Wear Pad	1	
10	9928	Locknut 3/8”-16UNC Grade 5	1	
11	9390-055	Capscrew 2/8”-16UNC x 1” Grade 5	1	
12	91256	Flange Screw 5 /16”-18UNC x 3/4” Grade 5	4	
13	9006181	Shoulder Bolt 3/8”-16UNC x 1/2” Socket Drive	1	
14	9390-004	Capscrew 1/4”-20UNC x 7/8” Grade 5	2	
15	9390-058	Capscrew 3/8”-16UNC x 1 3/4” Grade 5	1	

Flow Door Seals

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



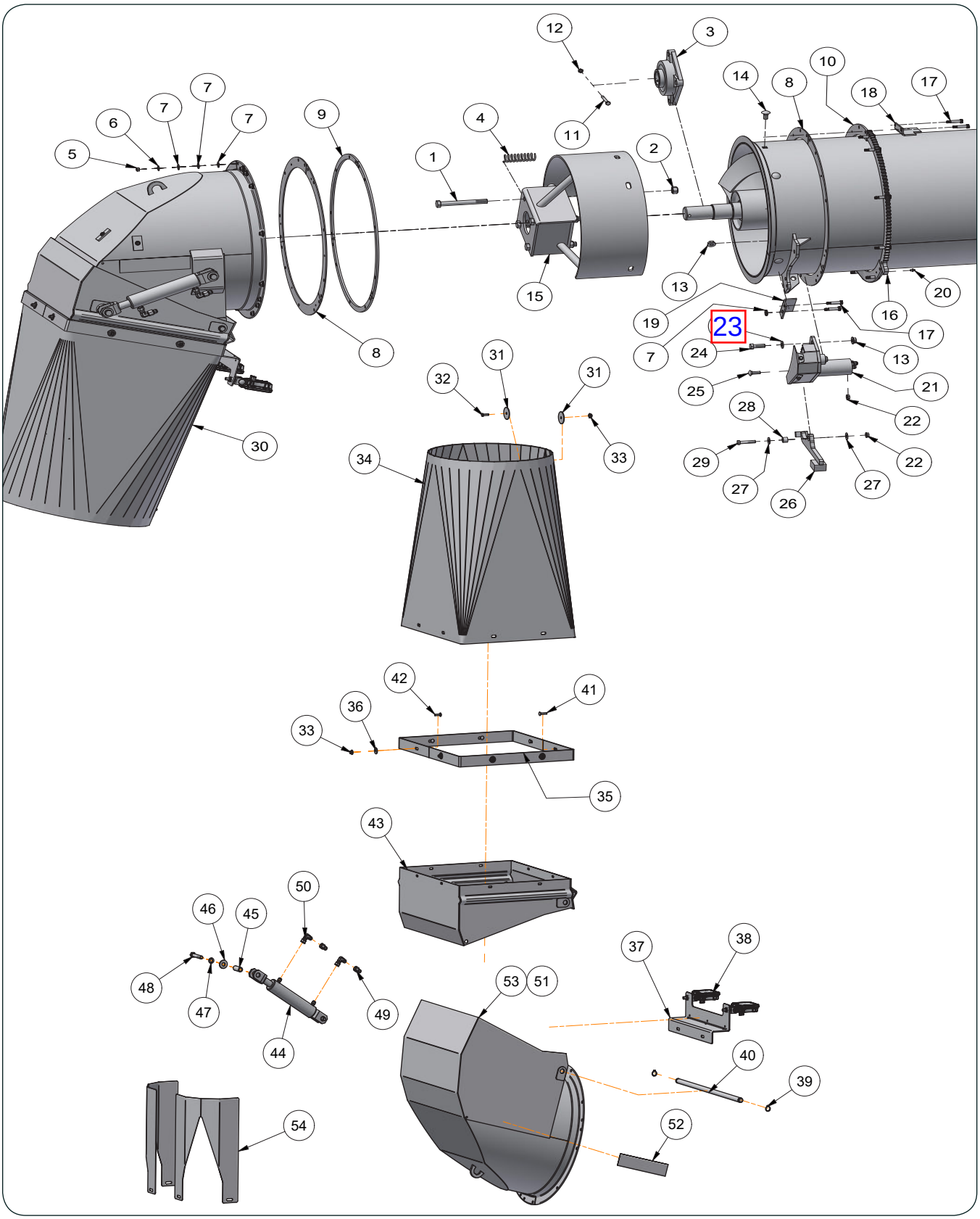
Flow Door Seals

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	293103	Seal - Poly	1	
2	281257G	Spacer Bushing =Green=	5	
	281257R	Spacer Bushing =Red=		
3	281258	Spring Bracket	1	
4	285960G	Spacer Bushing =Green=	1	
	285960R	Spacer Bushing =Red=		
5	288113B	Pusher Plate =Black=	1	
6	292294	Seal - Poly	1	
7	9004355	Screw, 1/4-20UNC x 1 (Self-Threading)	2	
8	9004375	Spring	1	
9	9005696	Fender Washer, 3/8	1	
10	9390-004	Capscrew, 1/4-20UNC x 7/8 Grade 5	1	
11	9390-008	Capscrew, 1/4-20UNC x 1 3/4 Grade 5	1	
12	9390-058	Capscrew, 3/8-16UNC x 1 3/4 Grade 5	7	
13	9394-002	Hex Nut, 1/4-20UNC Grade 5	1	
14	9394-006	Hex Nut, 3/8-16UNC Grade 5	1	
15	9404-017	Lock Washer, 1/4	1	
16	9404-021	Lock Washer, 3/8	6	
17	9405-062	Flat Washer 1/4	8	
18	9936	Lock Nut, 1/4-20UNC	1	
19	9004537	Washer 3/8	5	

Directional Spout

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



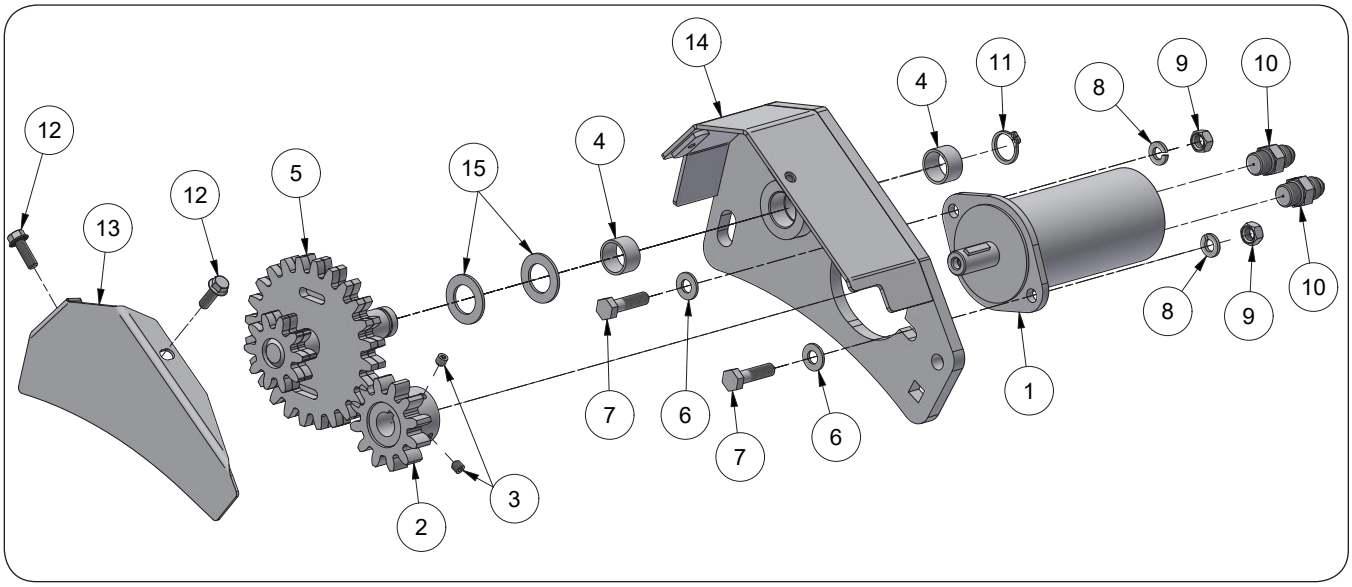
Directional Spout

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9390-136	Capscrew 5/8"-11UNC x 6" Grade 5	4	
2	9801	Locknut 5/8"-11UNC	4	
3	9002492	Flanged Bearing 2" Dia.	1	
4	9001812	Compression Spring 4" Long	4	
5	9807	Locknut 5/16"-18UNC	17	
6	9405-064	Flat Washer 1/4"	15	
7	9405-074	Lock Washer 1/2"	18	
8	272748	Pivot Pad 20 13/16" ID x 1/8"	6	
9	291344B	Pivot Pad 22 7/19" ID x 1/4" =Black=	3	
10	272842B	Spout Pivot Plate =Black=	2	
11	9390-037	Capscrew 5/16"-18UNC x 2 3/4" Grade 5	1	
12	901527	Locknut 5/16"-18UNC	1	
13	9003397	Locking Flange Nut 1/2"-13UNC	5	
14	9388-102	Carriage Bolt 1/2"-13UNC x 1" Grade 5	4	
15	296451B	Hanger Bearing Weldment =Black=	1	
16	272719	Spout Pivot Gear	1	
17	9007837	Shoulder Bolt 3/8" Dia. x 1 1/4"	8	
18	272855B	Stop Plate 3 3/4" Long =Black=	1	
19	290884B	Stop Plate 3 1/4" Long =Black=	1	
20	91160	Grease Zerk	4	
21	288188B	Spout Motor Assembly =Black=	1	See Directional Spout Motor Parts Page
22	9003396	Locknut 3/8"-16UNC	2	
23	9405-086	Flat Washer 1/2" SAE	1	
24	9390-101	Capscrew 1/2"-13UNC x 1 1/2" Grade 5	1	
25	9388-052	Carriage Bolt 3/8"-16UNC x 1 1/4" Grade 5	1	
26	291327B	Stop Weldment =Black=	1	
27	9405-076	Flat Washer 3/8"	2	
28	290882	Lock Pivot Bushing	1	
29	9390-059	Capscrew 3/8"-16UNC x 2"	1	
30	292350B	Spout Assembly =Black=	1	Includes Items 31-53
31	94763	Fender Washer	16	
32	9390-005	Capscrew 1/4"-20UNC x 1" Grade 5	8	
33	97189	Large Flange Hex Nut 1/4"-20UNC	16	
34	9008139	Rubber Chute	1	
35	292197B	Chute Strap/Plate =Black=	2	
36	9405-066	Flat Washer 1/4"	8	
37	292198B	Light Bracket =Black=	1	
38	9008957	Work Light, LED	2	
39	9003810	External Retaining Ring 3/4"	2	
40	290993	Pivot Shaft 3/4" Dia. x 23 1/2"	1	
41	9388-004	Carriage Bolt 1/4"-20UNC x 1 1/4" Grade 5	2	
42	9388-003	Carriage Bolt 1/4"-20UNC x 1" Grade 5	6	
43	292352B	Spout Weldment =Black=	1	
44	9008152	Cylinder 1 1/2" x 6" (3000PSI)	1	
45	285290	Bushing Sleeve 2.0625" Long	2	
46	9405-088	Flat Washer 1/2" USS	2	
47	9404-025	Lock Washer 1/2"	2	
48	9390-107	Capscrew 1/2"-13UNC x 3" Grade 5	2	
49	95193	Adapter 9/16"-18 JIC Female x 9/16"-18 JIC M	2	w/ .030" Restrictor
50	9876	90° Elbow 9/16"-18 JIC F x 9/16"-18 JIC M	2	
51	291668B	Spout Service Kit =Black=	1	
52	9003127	Reflector - Amber	2	
53	288947B	Spout Weldment =Black=	1	
54	292292B	Chute Support Plate =Black=	2	

Directional Spout Motor Components

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



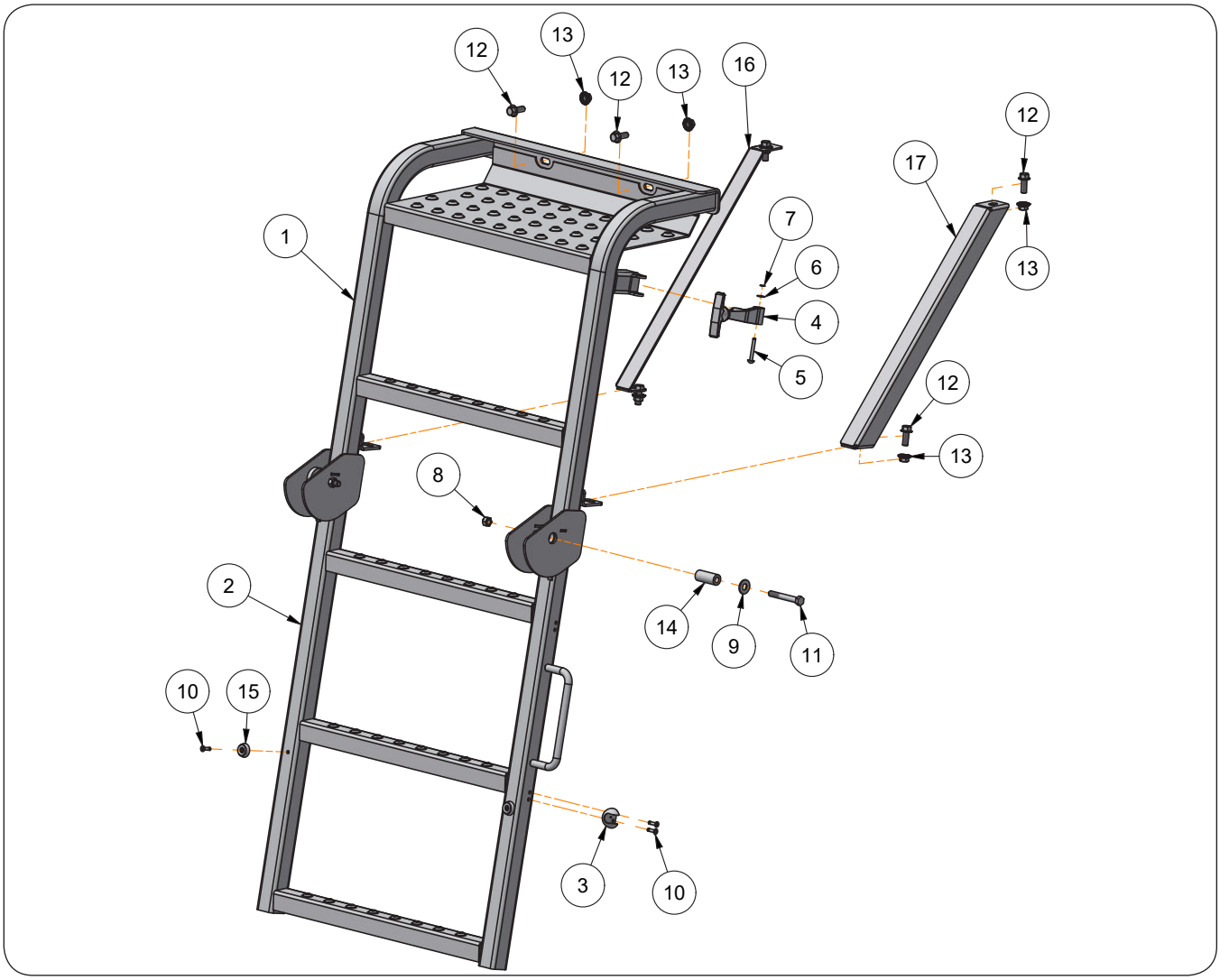
ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	9007626	Spout Hydraulic Motor 3.07 CID, 1" Dia. Shaft	1	
	9008974	Seal Kit	-	
2	272840	Gear Weldment	1	
3	9007653	Set Screw 1/4"-20UNC x 3/16"	2	
4	9003809	Bushing, Self Lubricating	2	
5	272844	Gear Weldment	1	
6	9405-068	Flat Washer 5/16" SAE	2	
7	9390-031	Capscrew 5/16"-18UNC x 1 1/4" Grade 5	2	
8	9404-019	Lock Washer 5/16"	2	
9	9394-004	Hex Nut 5/16"-18UNC	2	
10	9004393	Adapter 9/16"-18JICM x 9/16"-18ORBM W/ 0.055 Restrictor	2	
11	9003810	Snap Ring 3/4"	1	
12	97420	Flange Screw 1/4"-20UNC x 3/4" Grade 5	2	
13	288384B	Panel, Cover =Black=	1	
14	288385B	Spur Gear Mount Weldment =Black=	1	
15	TA500309	BUSHING 1 1/4" OD x 3/4" ID (14GA)	2	

Notes

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

Rear Ladder Components

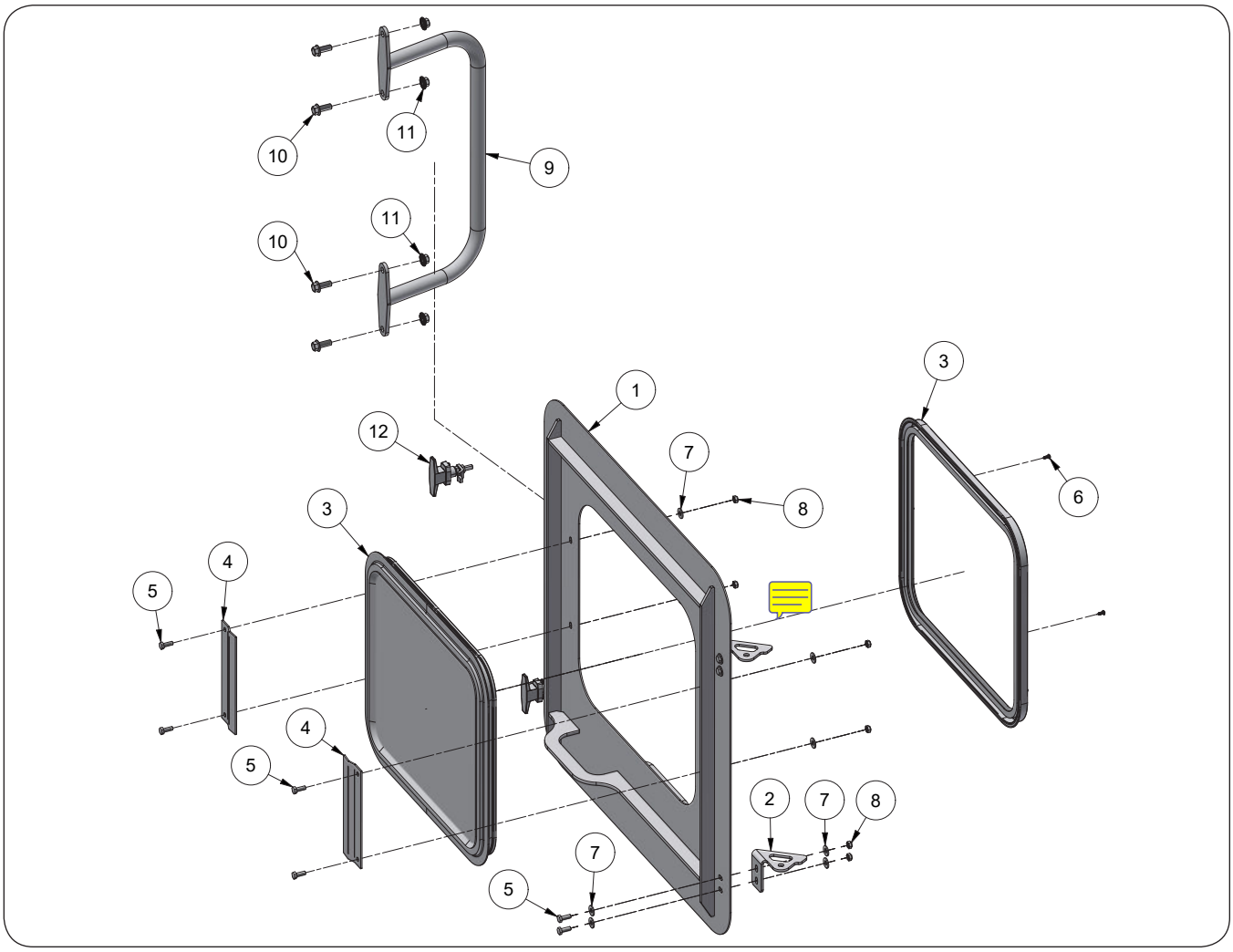
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	296417B	Upper Ladder Assembly =Black=	1	
2	296429B	Lower Ladder Assembly =Black=	1	
3	900059	Draw Latch Keeper	1	
4	900060	Draw Latch Handle	1	
5	900066	Stud 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	6	
13	91263	Flange Nut 3/8"-16UNC	6	
14	295137	Pivot Bushing	2	
15	9003850	Bumper	2	
16	256726B	Ladder Bracket LH =Black=	1	
17	256725B	Ladder Bracket RH =Black=	1	

Rear Access Door Components

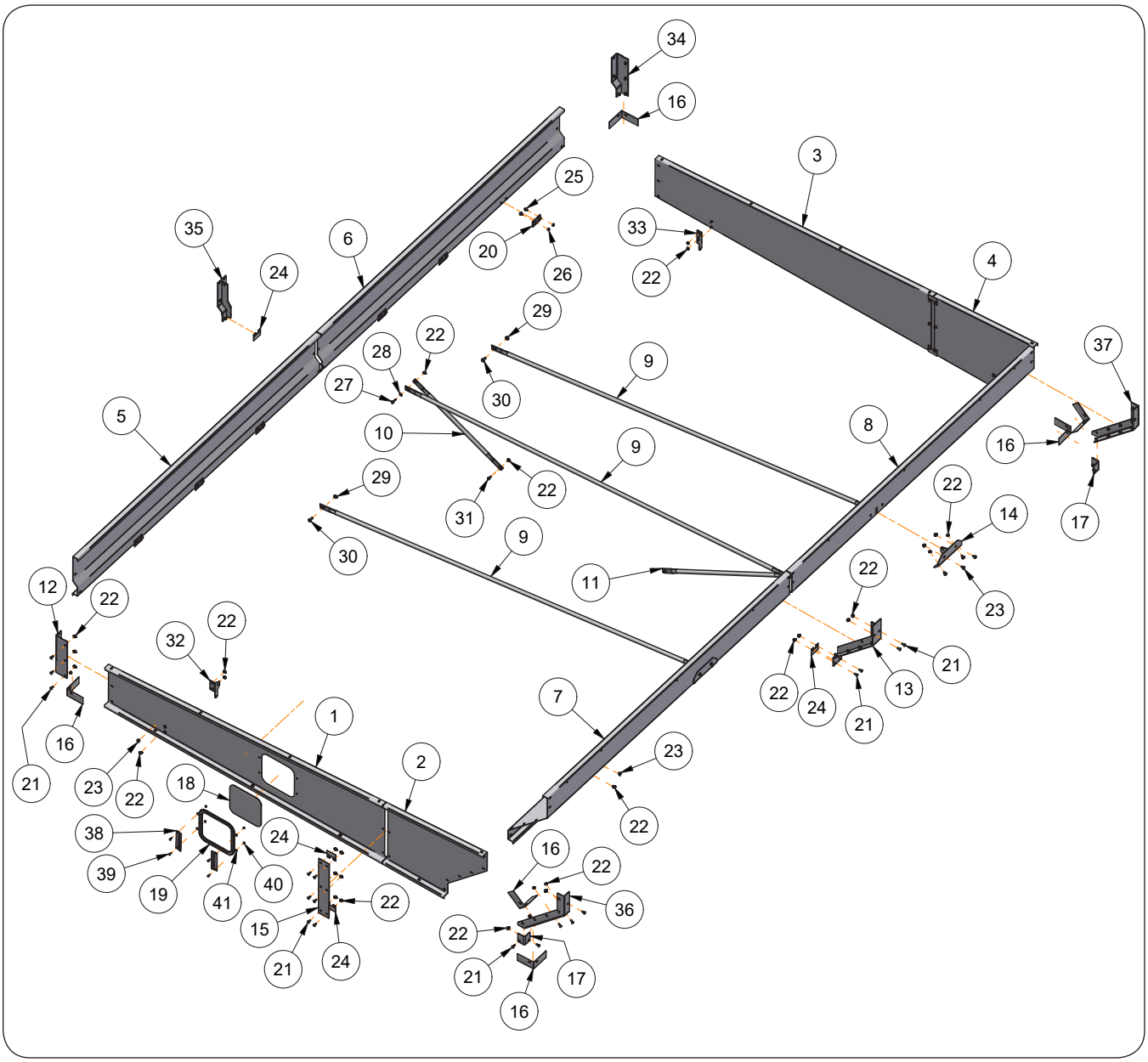
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	256527R	Rear Access Door Weldment =Red=	1	
	256527G	Rear Access Door Weldment =Green=		
	256527BM	Rear Access Door Weldment =Black Metallic=		
2	256670B	Rear Access Door Hinge =Black=	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	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	Draw Latch	2	

Sideboards

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



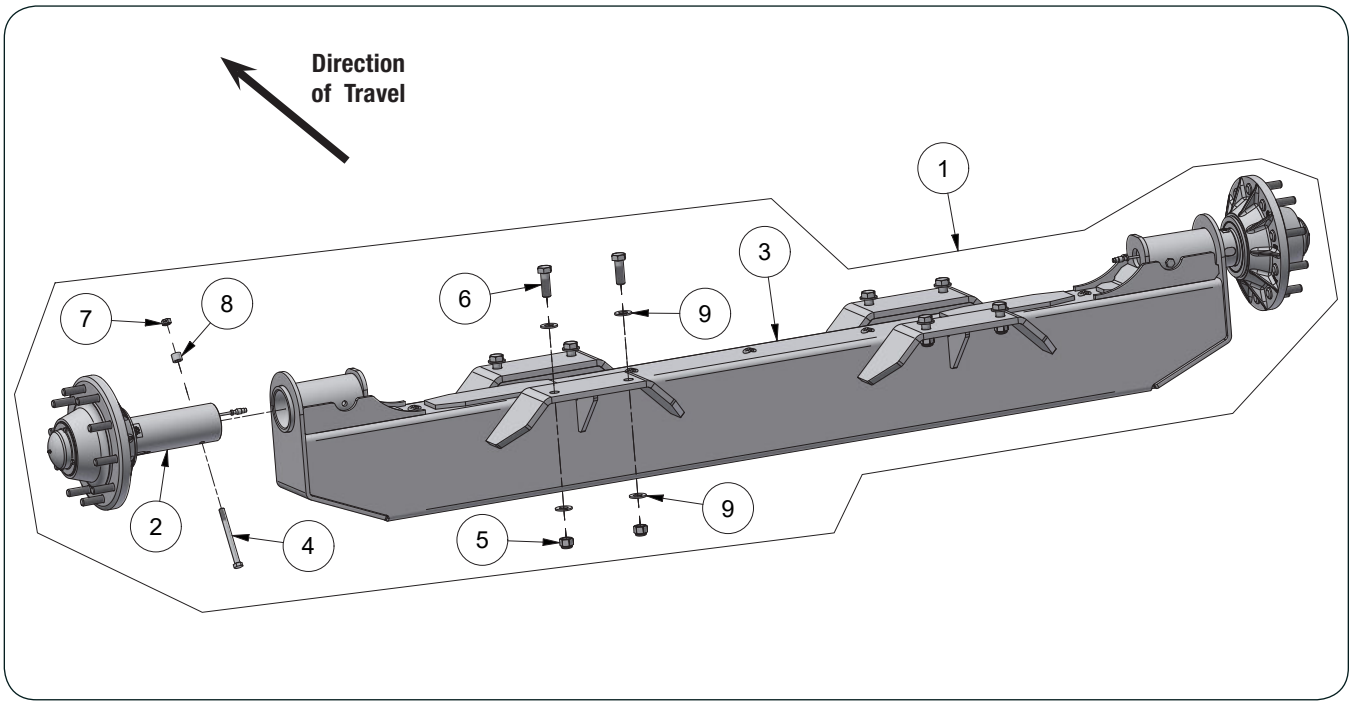
Sideboards

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	297600B	Front Right Sideboard =Black=	1	
2	296215B	Front Left Sideboard =Black=	1	
3	296216B	Rear Right Sideboard =Black=	1	
4	296217B	Rear Left Sideboard =Black=	1	
5	296218B	Right Front Sideboard =Black=	1	
6	296219B	Right Rear Sidebaord =Black=	1	
7	296220B	Left Front Sideboard =Black=	1	
8	296221B	Left Rear Sideboard =Black=	1	
9	289981B	Brace Tube 156” =Black=	3	
10	220032B	Brace Tube 39 7/8” =Black=	1	
11	287524B	Brace Tube 59 1/2” =Black=	1	
12	296224B	Front Sideboard Corner Plate, RH =Black=	1	
13	296227B	Sideboard Bracket Weldment, LH =Black=	1	
14	282318B	Sideboard Brace =Black=	2	
15	296232B	Front/Rear Sideboard Bracket =Black=	2	
16	295667B	Sideboard Cover Corner Plate =Black=	6	
17	296199B	Sideboard Corner Bracket =Black=	2	
18	9002544	Window	1	
19	271952	Window Molding	1	
20	9004626	Sideboard Hinge	12	
21	9388-051	Carriage Bolt 3/8”-16UNC x 1”	62	
22	91263	Flange Nut 3/8”-16UNC Grade 5	104	
23	95585	Flange Screw 3/8”-16UNC x 3/4” Grade 5	36	
24	295691B	Sideboard Cover Plate =Black=	6	
25	91256	Flange Screw 5/16”-18UNC x 3/4” Grade 5	48	
26	91257	Flange Nut 5/16”-18UNC	48	
27	95785	Flange Screw 3/8”-16UNC x 1 1/2” Grade 5	3	
28	9405-076	Flat Washer 3/8” USS	2	
29	91267	Flange Nut 1/2”-13UNC	8	
30	91266	Flange Screw 1/2”-13UNC x 1 1/4” Grade 5	20	
31	91262	Flange Screw 3/8”-16UNC x 1” Grade 5	2	
32	288428B	Front Hinge Plate =Black=	1	
33	288427B	Rear Hinge Plate =Black=	1	
34	296225B	Rear Sideboard Corner Plate, RH =Black=	1	
35	296226B	Sideboard Bracket Weldment, RH =Black=	1	
36	296222B	Front Sideboard Corner Plate, LH =Black=	1	
37	296223B	Rear Sideboard Corner Plate, LH =Black=	1	
38	250461B	Window Bracket =Black=	2	
39	9390-003	Capscrew, 1/4”-20UNC x 3/4” Grade 5	4	
40	9936	Locknut, 1/4”-20UNC	4	
41	9405-064	Flat Washer 1/4”	4	

Rigid Axle

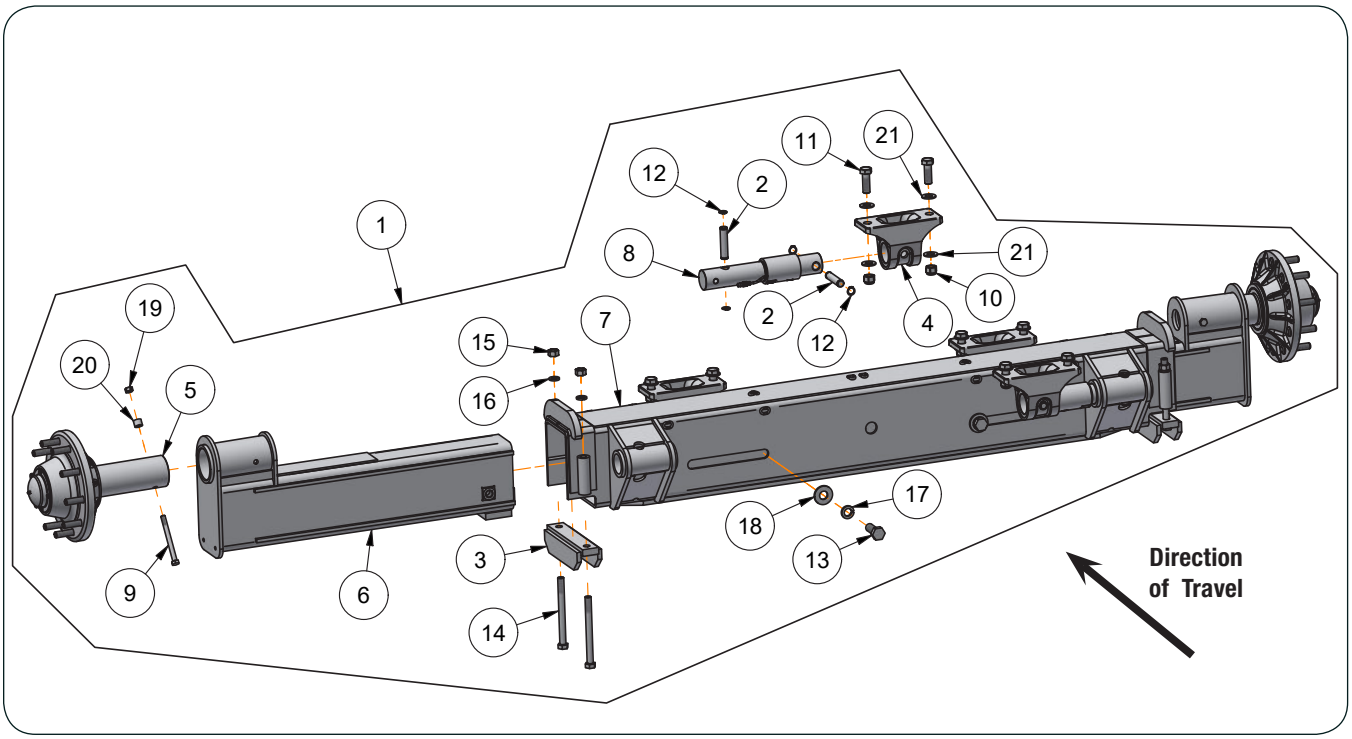
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	292516B	Rigid Axle Assembly w/out Scales =Black=	1	
	292517B	Rigid Axle Assembly w/Scales =Black=		
2	284268B	Hub & Spindle Assembly w/out Scales =Black=	2	See "Hub & Spindle Components" PARTS Page
	267205B	Hub & Spindle Assembly w/Scales =Black=		
3	292250B	Axle Tube Weldment =Black=	1	
4	91299-138	Capscrew 5/8"-11UNC x 7" Grade 8	2	
5	9008441	Locknut 1"-14UNS Grade 8	8	
6	91299-1456	Capscrew 1"-14UNS x 3" Grade 8	8	
7	9008440	Locknut 5/8"-11UNC Grade 8	2	
8	288789B	Spacer Bushing =Black=	2	
9	804685	Washer 2" Dia.	16	

Adjustable Axle

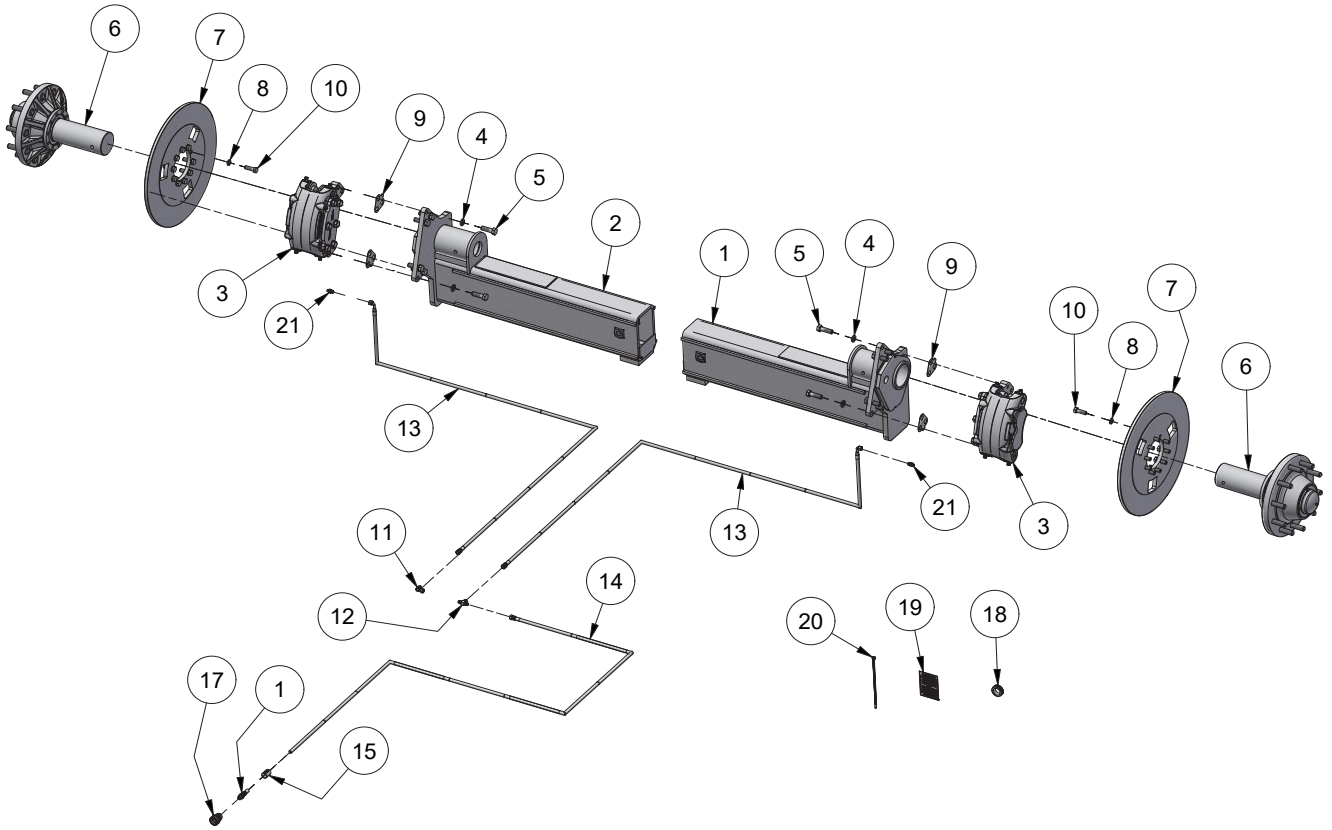
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	292518B	Adjustable Axle Assembly w/out Scales =Black=	1	
	292519B	Adjustable Axle Assembly w/Scales =Black=		
2	250843	Hitch Pin 1" Dia. x 4 9/16"	8	
3	280293B	Axle Clamp Weldment =Black=	2	
4	283855B	Axle Mount Casting =Black=	4	
5	284268B	Hub & Spindle Assembly =Black=	2	
6	292217B	Axle Extension Tube Weldment =Black=	2	
7	292255B	Adjustable Axle Weldment =Black=	1	
8	268289	Bar For Units w/out Scales	4	
	9004903	Load Cell For Units w/Scales		
9	91299-138	Capscrew 5/8"-11UNC x 7" Grade 8	2	
10	9008441	Locknut 1"-14UNS Grade 8	8	
11	91299-1456	Capscrew 1"-14UNS x 3" Grade 8	8	
12	91192	Retaining Ring 1" Grade 5	16	
13	9390-200	Capscrew 1 1/8"-7UNC x 3" Grade 5	2	
14	9390-457	Capscrew 7/8"-9UNC x 10" Grade 5	4	
15	9394-018	Hex Nut 7/8"-9UNC	4	
16	9404-037	Lock Washer 7/8"	4	
17	9404-045	Lock Washer 1 1/8"	2	
18	289325	Heavy Duty Washer 1 1/8"	2	
19	9008440	Locknut/Center 5/8"-11UNC	2	
20	288789	Spacer Bushing	2	
21	804685	Flat Washer	16	

Brake Components (Optional)
(Requires tractor with Implement Braking)

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



For V1100 With Adjustable Axle Option Only

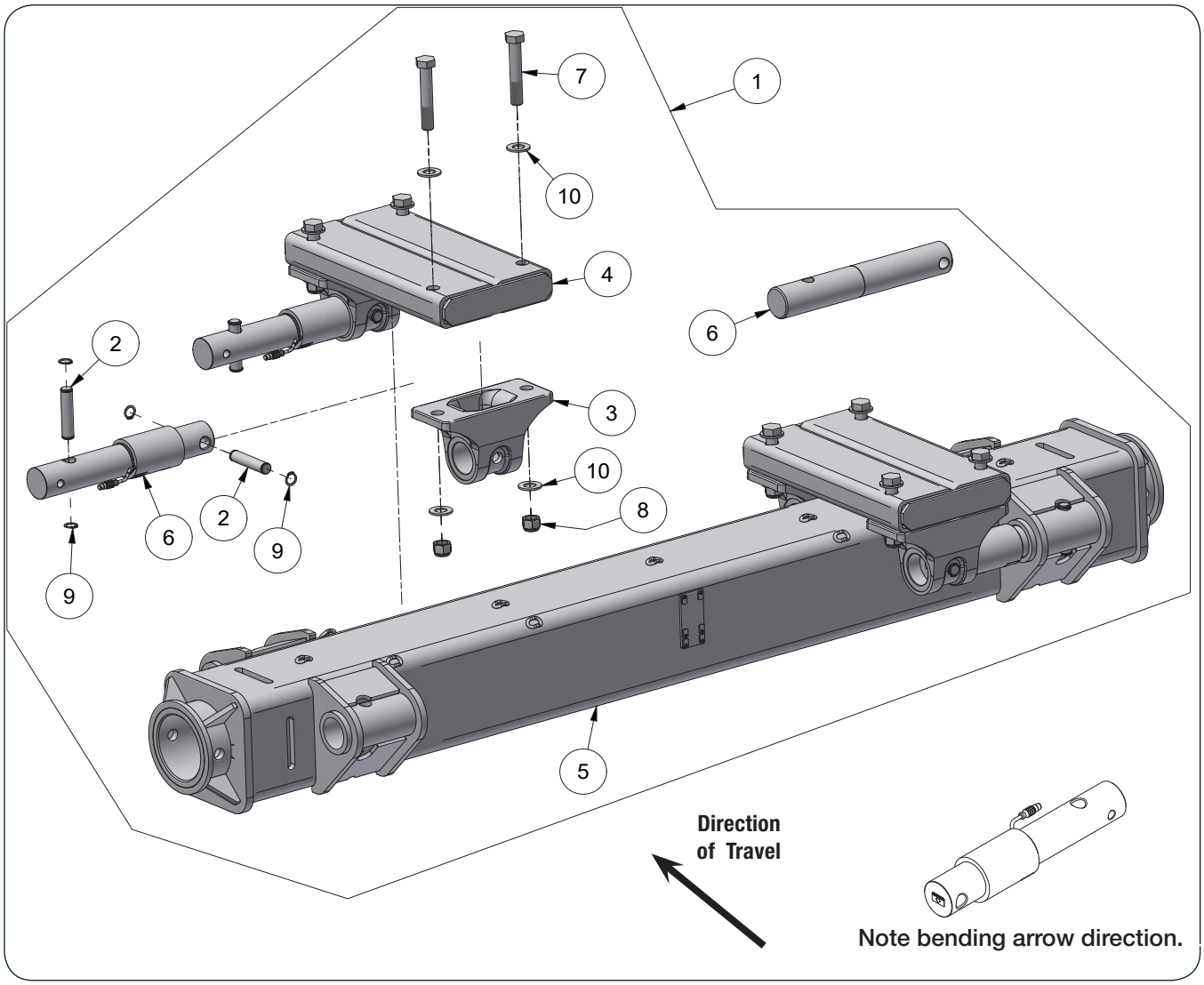
Brake Components (Optional)
(Requires tractor with Implement Braking)

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	292496B	Axle Extension Weldment, Left-Hand =Black=	1	
2	292495B	Axle Extension Weldment, Right-Hand =Black=	1	
3	9004762	Brake Assembly	2	Includes Items 3A, 3B, & 3C
3A	9007135	Brake Pad - Outer	1	Quantity Per Brake Caliper (Not Shown)
3B	9007136	Brake Pad - Inner	1	
3C	9007137	Seal Kit	1	
4	9404-033	Lock Washer 3/4"	12	
5	9390-147	Capscrew 3/4"-10UNC x 2 1/2" Grade 5	12	
6	286170B	Hub & Spindle Assembly =Black=	2	See "Hub & Spindle Components" PARTS Page
7	283711	Brake Rotor Plate	2	
8	9404-029	Lock Washer 5/8"	20	
9	286237	Shim	4	Use as Needed
10	9390-348	Capscrew 5/8"-18UNF x 2" Grade 5	20	
11	9876	90° Elbow 9/16"-18 JIC M x 9/16"-18 JIC F	1	
12	9875	Tee 9/16"-18 JIC M	1	
13	9007548	Hose 1/4" x 102" (3000 PSI)	2	
14	9007546	Hose 1/4" x 320" (3000 PSI)	1	
15	9004829	Hose Marker Sleeve = BLUE, Brake Pressure	1	
16	9005174	Adapter 9/16"-18 JIC M x 3/8"-19 BSPP	1	
17	9005173	Quick Coupler	1	
18	98487	Grommet	1	
19	9007162	Information Tag	1	
20	9003735	Cable Tie 11" Long	10	
21	97711	Adapter 9/16"-18 JIC M x 7/16"-20 OR M	2	

Track Axle Components

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



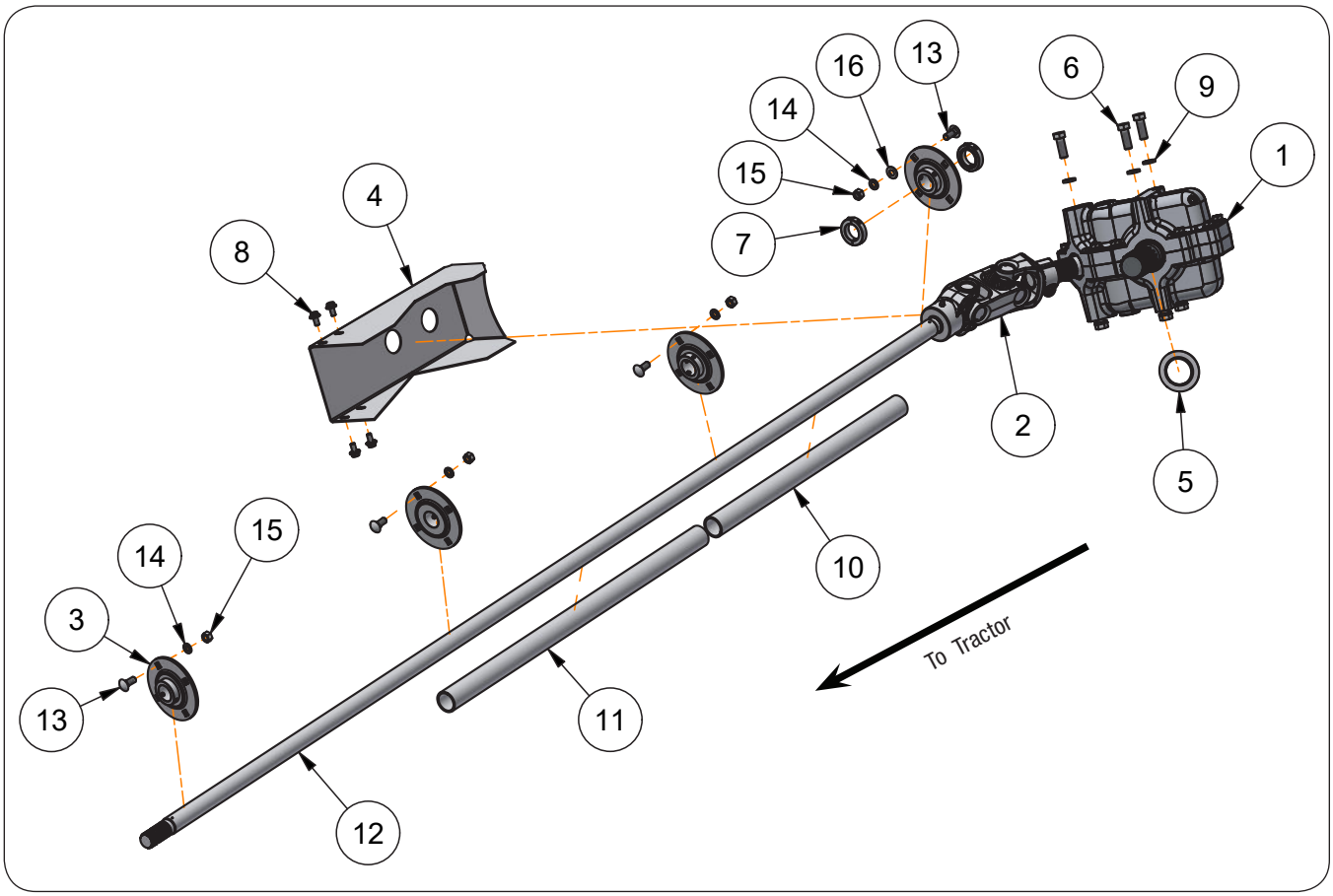
Track Axle Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	291394B	36” Track Axle Bundle, Scale =Black=	-	Includes Items 1-10
	292525B	42” Track Axle Bundle, Scale =Black=		
	292522B	36” Track Axle Bundle, Non-Scale =Black=	-	
	292524B	42” Track Axle Bundle, Non-Scale =Black=		
2	250843	Pin 1” Dia. x 4 9/16	8	
3	283855B	Axle Mount Casting =Black=	4	
4	287945B	Riser Weldment =Black=	2	
5	291393B	Axle Weldment =Black=	1	For 36” Track Axle (SHOWN)
	292264B	Axle Weldment =Black=		For 42” Track Axle
6	9004903	Scale Load Cell 2.875” Dia.	4	For Units with Scales (SHOWN)
	268289	Bar 2.875” Dia.		For Units without Scales
7	91299-1464	Capscrew 1-14UNS x 6 Grade 8	8	
8	9008441	Locknut 1-14UNS	8	
9	91192	Retaining Ring 1”	16	
10	804685	Washer 2” Dia.	16	

Driveline Components

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



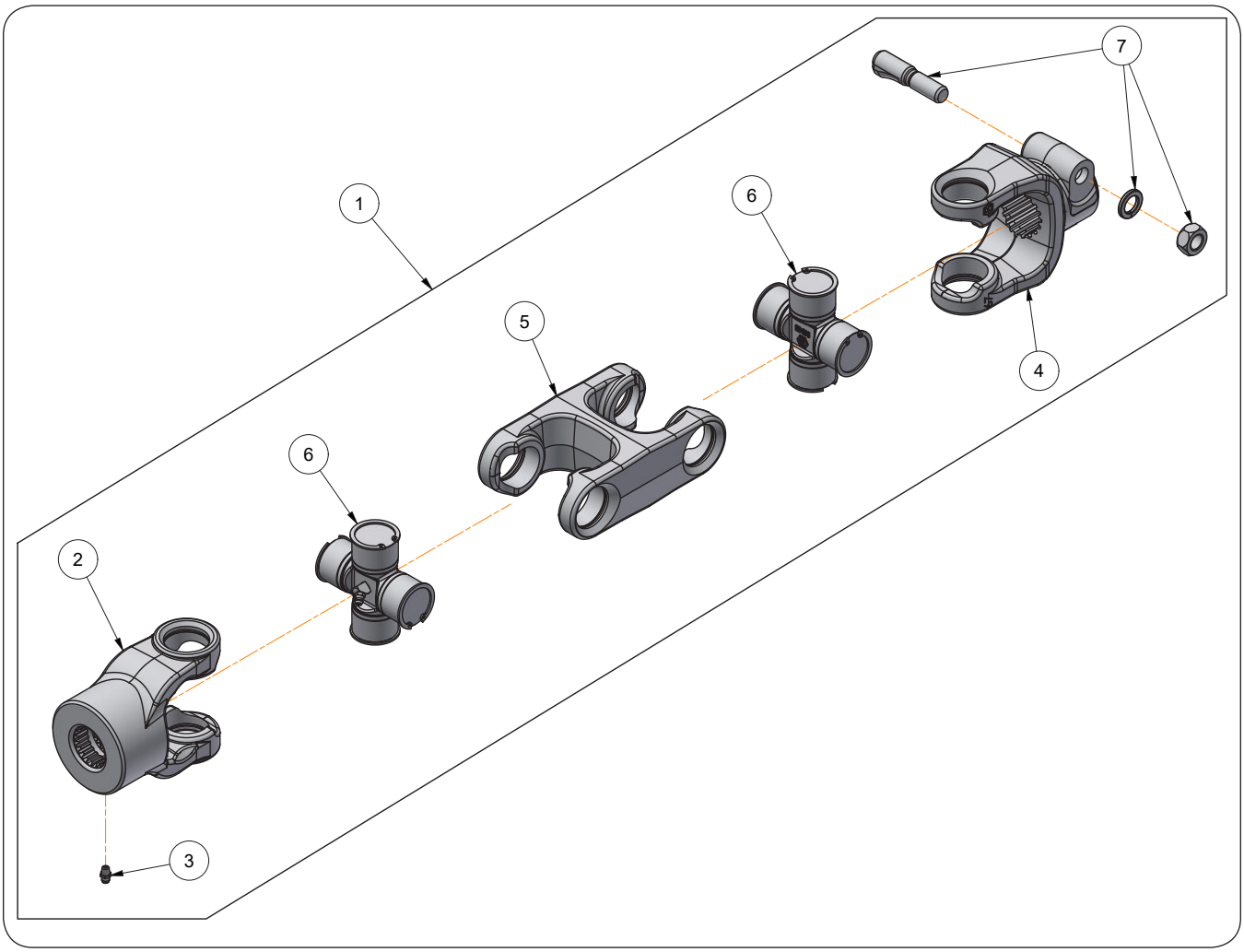
Driveline Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	9008711	Gearbox 45 Degree	1	
2	9010018	Complete Double U-Joint Assembly	1	For 1 3/4"-20 Spline Gearbox
3	9003920	Flange Bearing for Driveline - 1 1/2"	4	
4	297828B	U-Joint Cover Plate =Black=	1	
5	9007377B	Dust Cover =Black=	1	
6	9390-123	Capscrew 5/8"-11UNC x 1 3/4" Grade 5	6	
7	9008671	Shaft Collar 1 1/2" Bore Two-Piece	2	
8	95585	Flange Screw 3/8"-16UNC x 3/4" Grade 5	4	
9	9404-029	Lock Washer 5/8"	6	
10	293391	Rear Driveshaft Guard	1	
11	291554	Front Diveshaft Guard	1	
12	289787	Driveshaft Replacement Kit	1	Includes 1 3/8"-21 Splined Shaft, Shaft Collars 1 1/2", Items 3, 10, 11, 13, 15 and Instruction Sheet
13	9388-103	Carriage Bolt 1/2"-13UNC x 1 1/4" Grade 5	16	
14	9404-025	Lock Washer 1/2"	16	
15	9394-010	Hex Nut 1/2"-13UNC Grade 5	16	
16	9405-086	Flat Washer 1/2"	4	

Driveline U-Joint Assembly

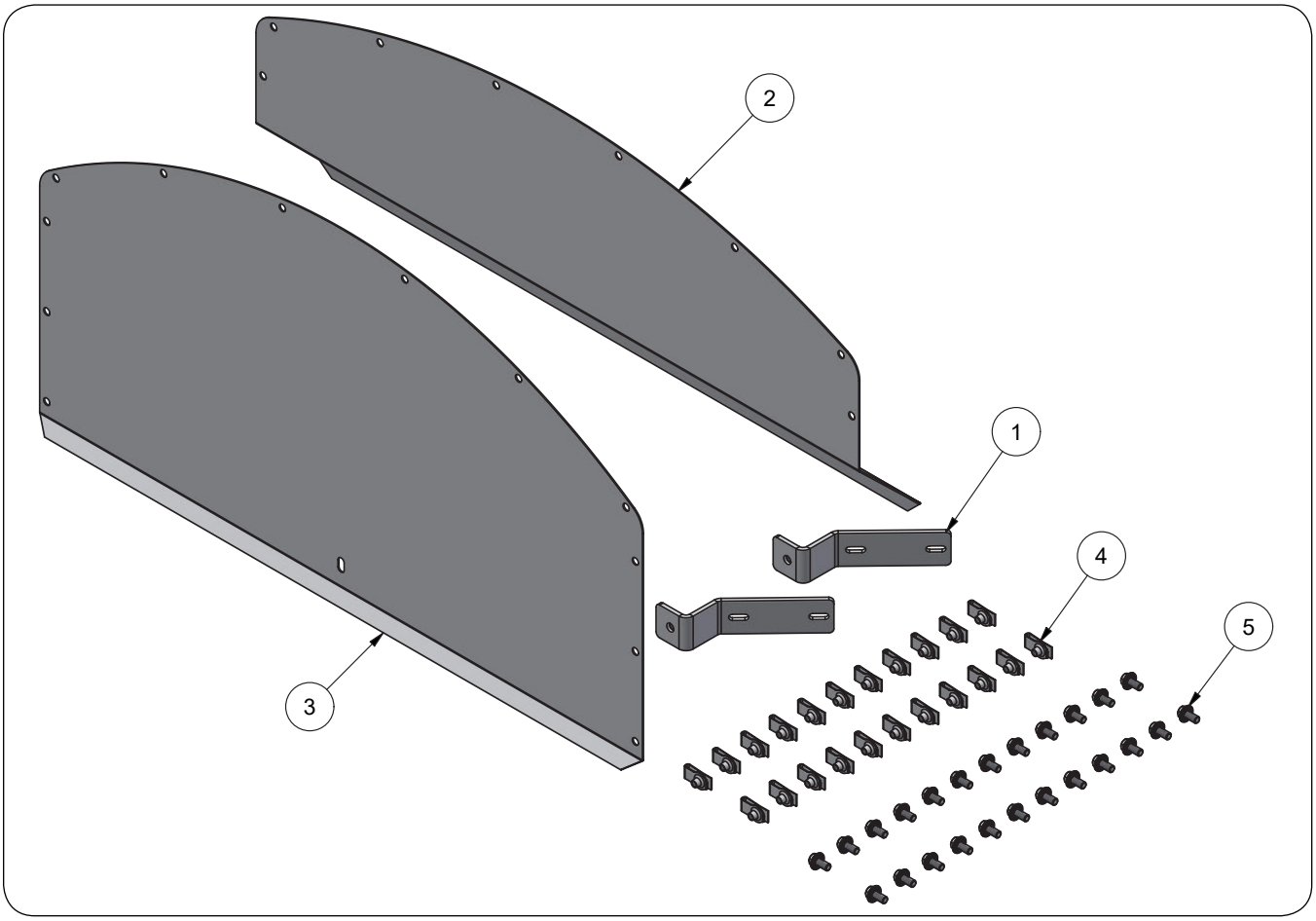
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	9010018	Complete Double U-Joint Assembly	1	For 1 3/4"-20 Spline Gearbox
2	9010014	Yoke, 1 3/8"-21 Spline	1	Driveline End
3	91160	Grease Zerk, 1/4"-28 UNF	1	
4	9010012	Yoke, 1-3/4"-20 Spline	1	For 1 3/4"-20 Spline Gearbox
5	9010016	Double Center Yoke	1	
6	9010020	Cross Bearing Kit	2	
7	9008789	Conic Bolt Set	1	Includes Conic Bolt and Hardware Torque Conic Bolt To 74 Ft.-Lbs.

Wheel Well Cover Kit

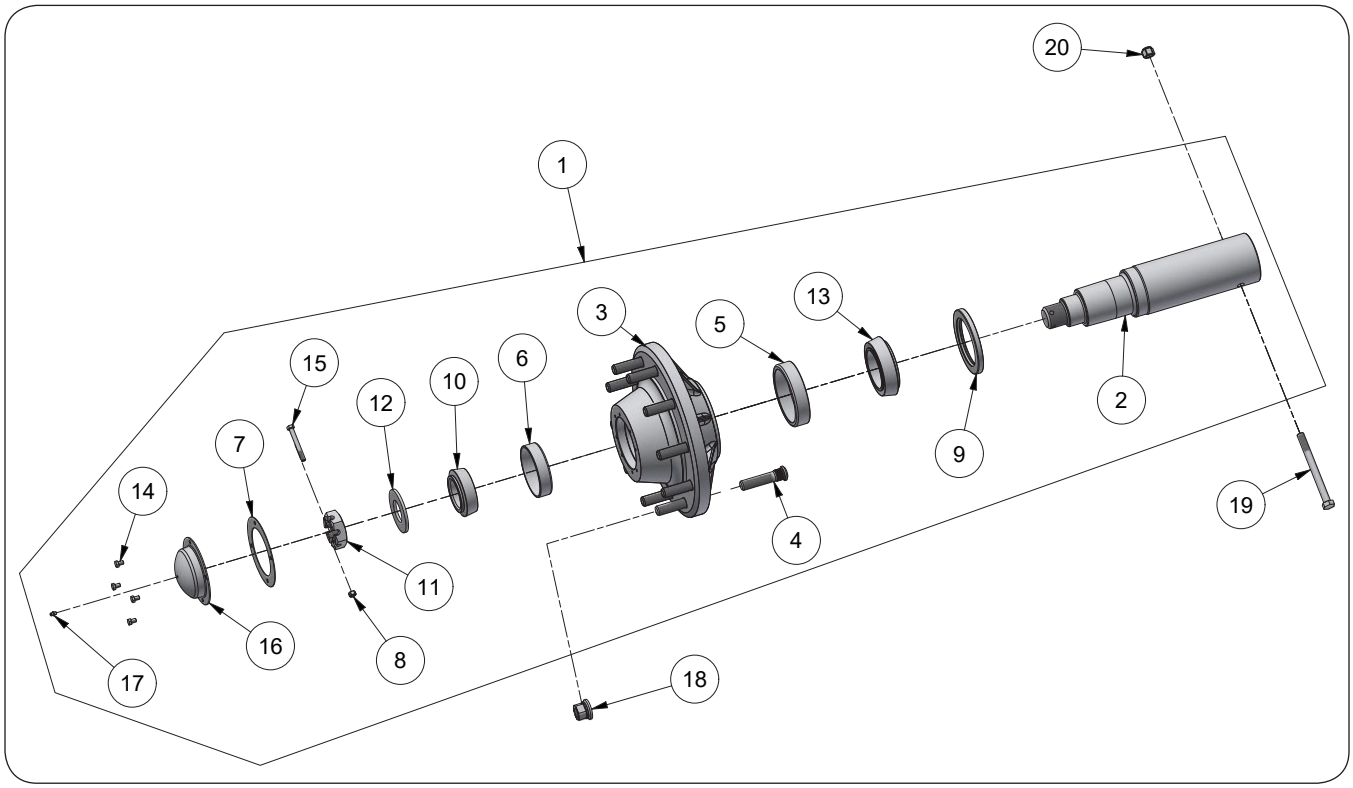
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	291561G	Wheel Well Cover Kit (Green)	1	Includes Items 1 - 5
	291561R	Wheel Well Cover Kit (Red)		
	291561BM	Wheel Well Cover Kit (Black Metallic)		
1	287691B	Plate Weldment =Black=	2	
2	291531G	Left-Hand Cover Panel =Green=	1	
	291531R	Left-Hand Cover Panel =Red=		
	291531BM	Left-Hand Cover Panel =Black Metallic=		
3	292482G	Right-Hand Cover Panel =Green=	1	
	292482R	Right-Hand Cover Panel =Red=		
	292482BM	Right-Hand Cover Panel =Black Metallic=		
3	9005376	U-Nut 3/8”-16UNC	22	
4	95585	Large Flange Capscrew 3/8”-16UNC x 3/4” Grade 5	24	

Hub & Spindle Components

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



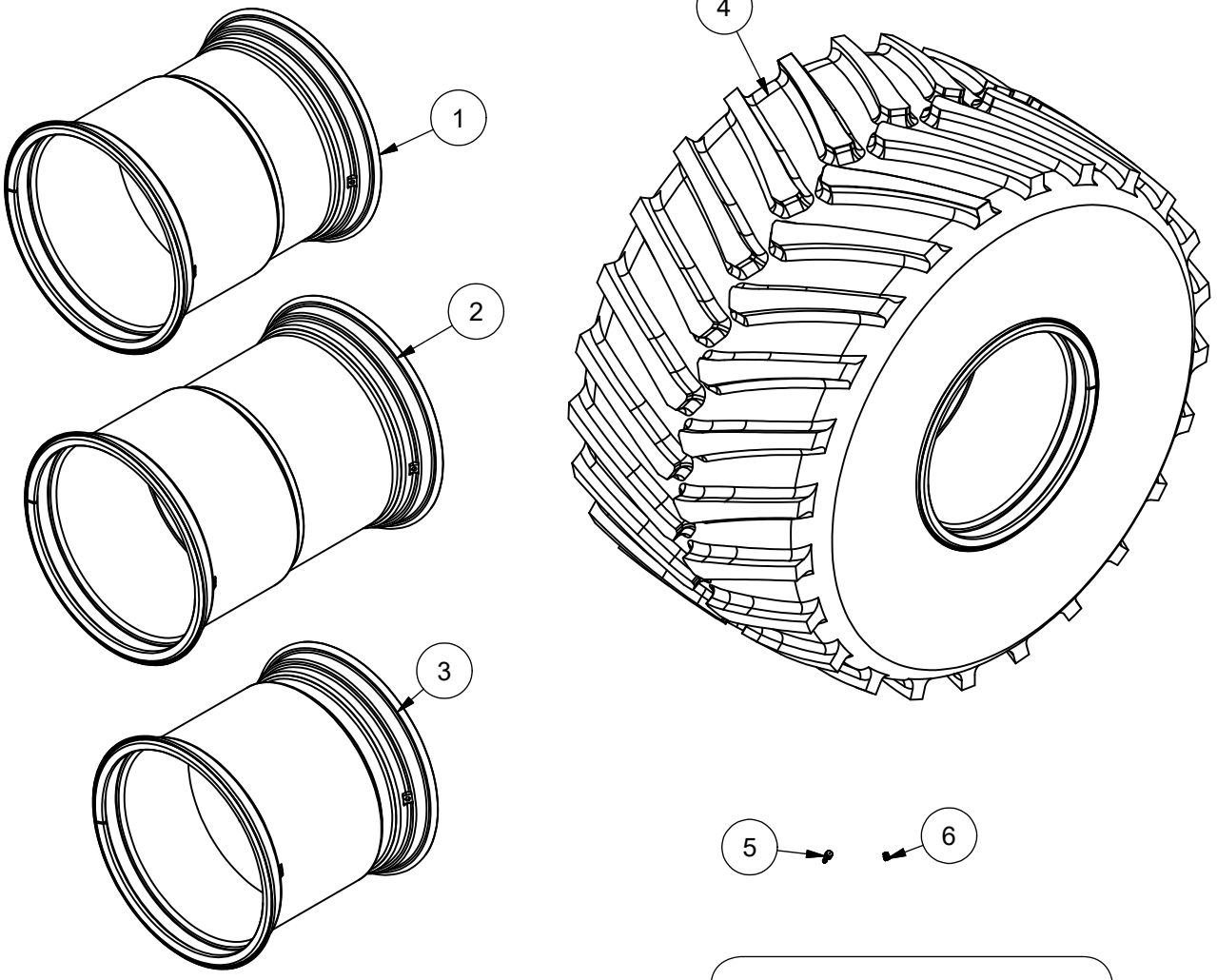
Hub & Spindle Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	284268B	Hub & Spindle Assembly w/out Scales (Black)	-	Includes Items 2 through 17 For Rigid and Adjustable Axles
	267205B	Hub & Spindle Assembly w/Scales (Black)	-	Includes Items 2 through 17 For Adjustable Axle Only
	286170B	Hub & Spindle Assembly (Black)	-	Includes Items 2 through 17 For Adjustable Axle With Brakes Only
2	286172	Spindle Dia. 4.50" (For Units w/out Scales)	1	
	9006348	Spindle Dia. 4.50" (For Units w/Scales)		
3	265390B	Hub Sub Assembly =Black=	1	Includes Items 4, 5, 6
4	9007001	Stud Bolt M22x1.5x4	10	
5	92476	Bearing Cup	1	HM218210
6	92462	Bearing Cup	1	HM212011
7	284230	Gasket	1	
8	902875	Locknut 3/8"-16UNC	1	
9	92455	Seal - 4.375" I.D.	1	43605SA
10	92464	Outer Bearing Cone	1	HM212049
11	92470	Hex Nut	1	
12	92472	Washer	1	
13	92545	Inner Bearing Cone	1	HM218248
14	9390-026	Capscrew 5/16"-18UNC x 1/2" Grade 5	4	
15	9390-064	Capscrew 3/8"-16UNC x 3 1/4" Grade 5	1	
16	286171B	Hub Cap =Black=	1	
17	91160	Grease Zerk	1	
18	97319	Flanged Cap Nut M22x1.5	10	
19	9390-138	Capscrew 5/8"-11UNC x 7"	1	
20	9390-019	Elastic Lock Nut 5/8"-11UNC	1	

Single Wheels & Tires

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



TIRES

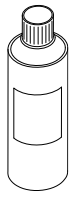
For questions regarding new tire warranty, please contact your local original equipment tire dealer. Used tires carry no warranty.

Single Wheels & Tires

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

ITEM	PART NUMBER		DESCRIPTION	QTY.	NOTES
	RIGID AXLE	ADJUSTABLE AXLE			
1	-	110825SM	Wheel Only	2	36 x 32
2	-	110803SM	Wheel Only	2	44 x 32
3	17939SM	17939SM	Wheel Only	2	30 x 32
4	17939SM/9500946	17939SM/9500946	Wheel & Tire Assembly	2	30 x 32 / TLIF900/65R32 R-3 (191B)
	-	18904SM			30 x 32 / TL900/70R32 R-1W (188A8 LI)
	-	110825SM/99478			36 x 32 / TL1050/50R32 R-1W (178A8 LI)
	-	110803SM/9500992			44 x 32 / TL1250/50R32 R-1W (194A8 LI)
		9502741SM		2	Left-Hand Assembly 38 x 46 / TL1100/45R46 LSW R-1W (195D)
		9502742SM		2	Right-Hand Assembly 38 x 46 / TL1100/45R46 LSW R-1W (195D)
5	93300	93300	Valve Stem	1	
6	95365	95365	Valve Plug	1	

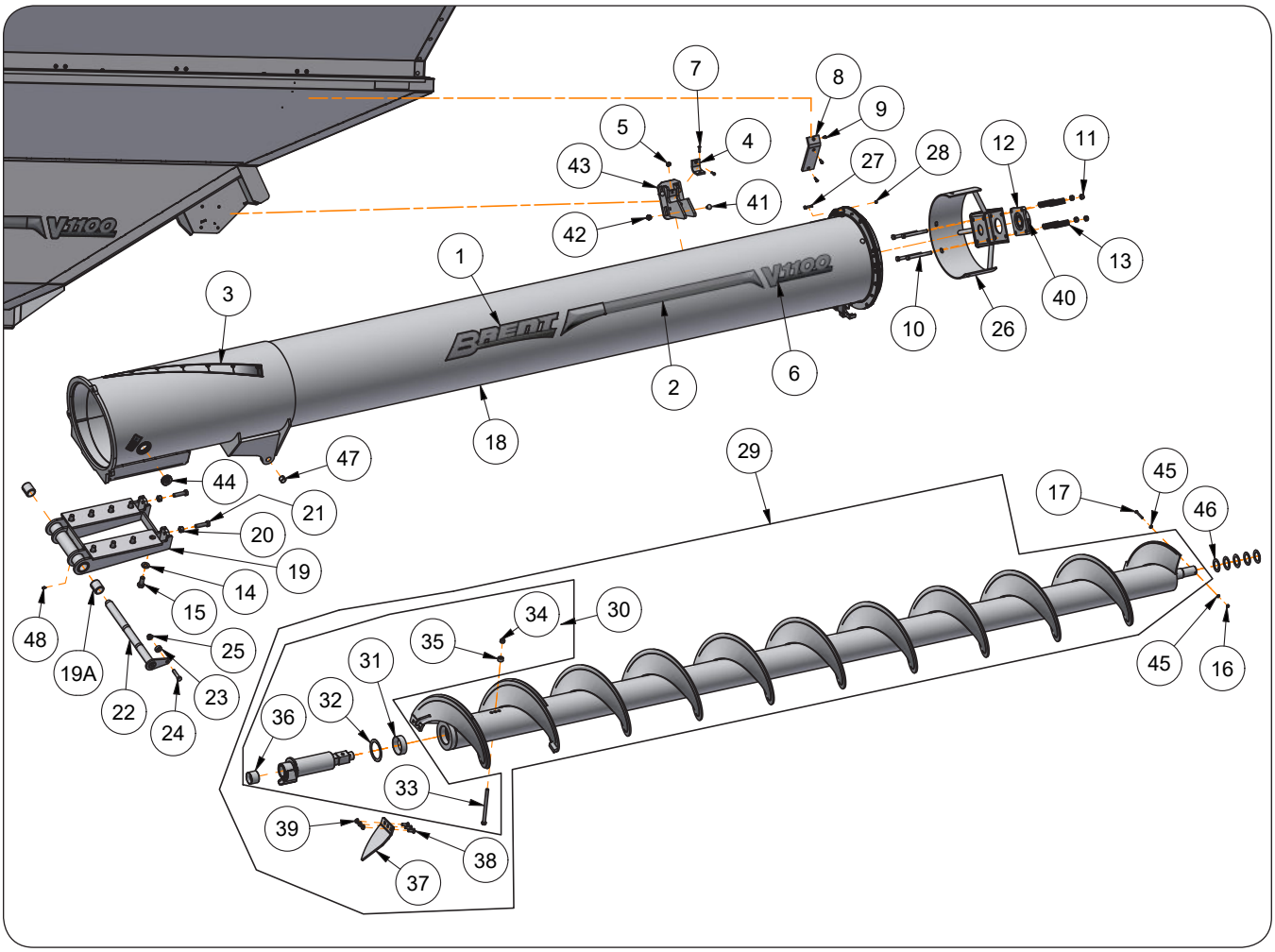
Touch-Up Paint



PAINT	SPRAY
Black	97013
Green	97015
Red	97301
Primer, Gray	9500082
Silver Mist	97012
Black Metallic	9504382

Upper Auger Components

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



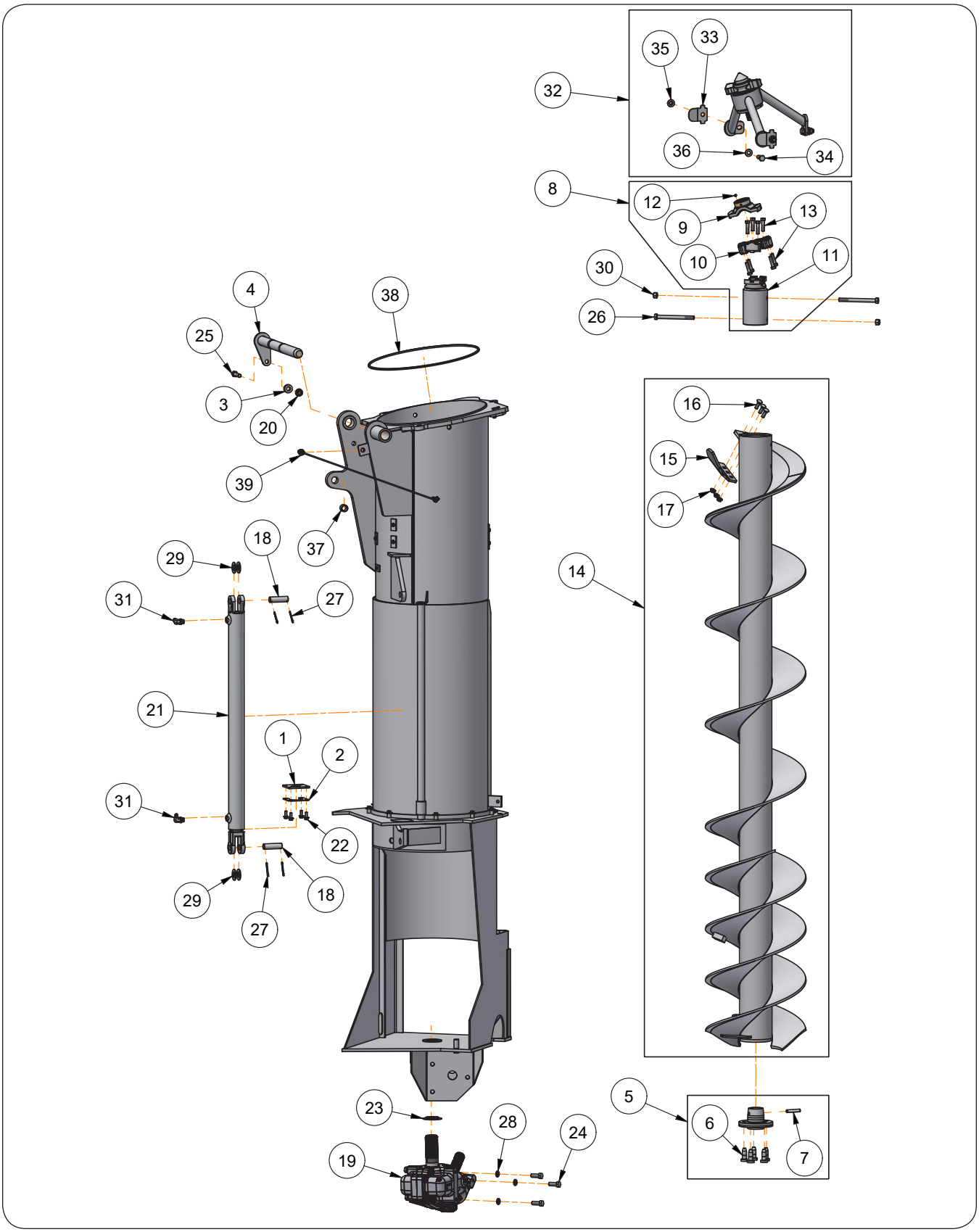
Upper Auger Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	9006360	Decal, Brent Logo (5 1/2" x 43")	5	
2	9006361	Decal, Stripe (2.73" x 36.5")	10	
3	92563	Decal, Flow Control (3" x 38")	1	
4	9004263	Stop Pad (2" x 4 3/8")	1	
5	91257	Hex Nut/Large Flange 5/16"-18UNC	17	
6	9007734	Decal, V1100	5	
7	903171-662	Flat Phillips Head 5/16"-18UNC x 1 1/4" Machine Screw	2	
8	291133	Poly Bumper	1	
9	9512	Self Drill Screw, 1/4"-14 x 1"	3	
10	9390-136	Capscrew 5/8"-11UNC x 6" Grade 5	6	
11	9801	Locknut/TOP 5/8"-11UNC	6	
12	9002492	Flanged Bearing 2" Dia.	1	
13	9001812	Compression Spring	4	
14	97041	Flat Washer 7/8" Nom.	8	
15	9390-164	Capscrew 7/8"-9UNC x 2" Grade 5	8	
16	901527	Locknut/CENTER 5/16"-18UNC	1	
17	9390-037	Capscrew 5/16"-18UNC x 2 3/4" Grade 5	1	
18	290908G	Upper Auger Housing Weldment =Green=	1	
	290908R	Upper Auger Housing Weldment =Red=		
	290908BM	Upper Auger Housing Weldment =Black Metallic=		
19	286984G	Upper Auger Pivot Weldment =Green=	1	Includes Item 19A
	286984R	Upper Auger Pivot Weldment =Red=		
	286984BM	Upper Auger Pivot Weldment =Black Metallic=		
19A	9004980	Split Tension Bushing	2	
20	9394-016	Hex Nut 3/4"-10UNC	2	
21	94733	Capscrew 3/4"-10UNC x 3" Grade 5 (Full Threaded)	2	
22	268946	Pivot Shaft Weldment	1	
23	268896	Bushing Spacer	1	
24	9390-127	Capscrew 5/8"-11UNC x 2 1/2" Grade 5	1	
25	9003398	Flange Locknut/TOP 5/8"-11UNC	1	
26	296451B	Hanger Bearing Weldment =Black=	1	
27	9007837	Shoudler Bolt 5/16"-18UNC x 1 1/4" Grade 5	4	
28	9807	Locknut 5/16"-18UNC Grade 5	4	
29	291667B	Upper Auger Weldment Replacement Kit (Black)	1	Includes Items 26, and 30 through 38
30	296488B	Soft Start Kit (Black)	1	Includes Items 31 through 35
31	9004877	Self Lubricating Bushing	1	
32	9004878	Self Lubricating Thrust Washer	1	
33	9390-442	Capscrew 5/8"-11UNC x 9" Grade 5	1	
34	9801	Locknut/TOP 5/8"-11UNC	1	
35	~~405402~~	~~Spacer Bushing~~	1	
36	9003230	Split Bushing	1	Included In Soft Start
37	293466B	Extension Plate Replacement Kit =Black=	1	
38	9388-104	Carriage Bolt 1/2"-13UNC x 1 1/2" Grade 5	3	
39	9003397	Locking Flange Nut 1/2"-13UNC	3	
40	93426	Grease Zerk 1/8"-27 NPT	1	
41	9388-103	Carriage Bolt 1/2"-13UNC x 1 1/4" Grade 5	4	
42	91267	Flange Nut, 1/2"-13UNC	4	
43	288494G	Auger Rest Weldment =Green=	1	
	288494R	Auger Rest Weldment =Red=		
	288494R	Auger Rest Weldment =Black Metallic=		
44	9008430	Socket Plug	1	
45	9405-068	Flat Washer 5/16"	4	
46	93974	Flat Washer 2"	AR	
47	91268	Split Tension Bushing	1	
48	91160	Grease Zerk 1/4"-28 Taper	1	

Lower Auger Components

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



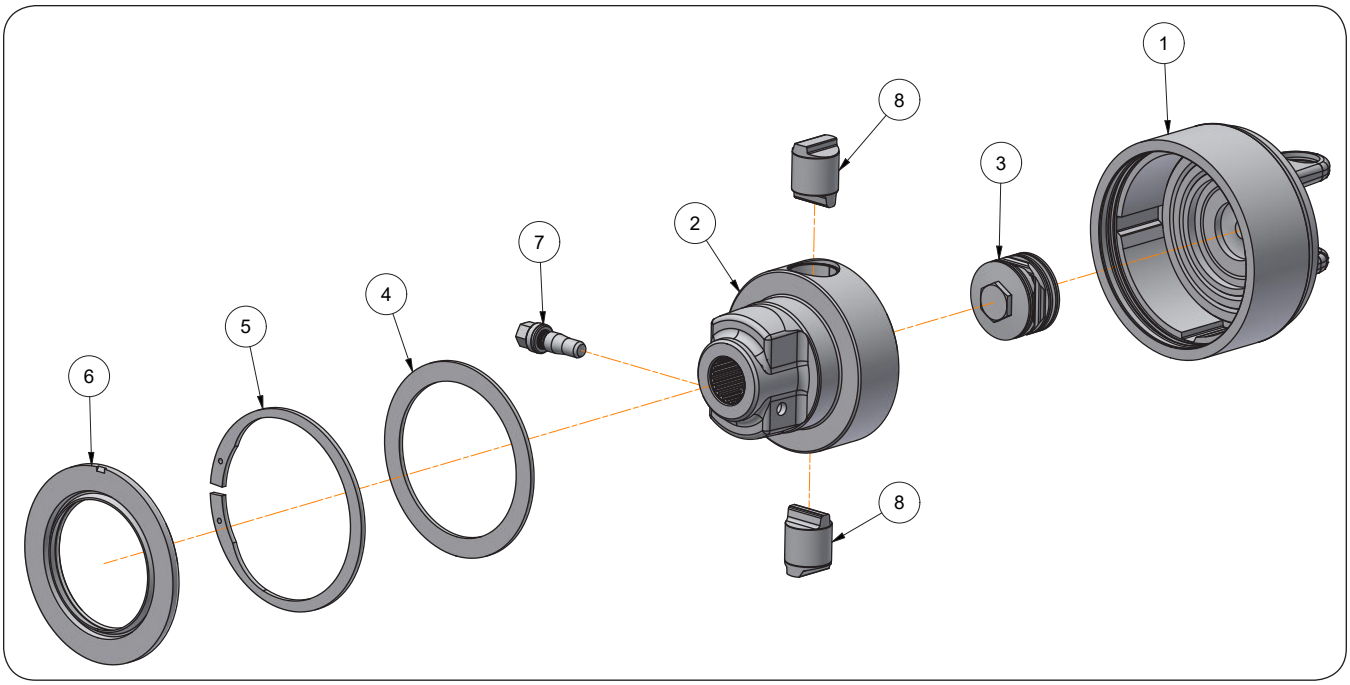
Lower Auger Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	268217	Rubber Gasket (4" x 4")	1	
2	268218	Cover Plate	1	
3	268896	Spacer Bushing 1 1/2" ID x 3/4" OD	1	
4	268946	Pivot Shaft Weldment	1	
5	287802	Auger Drive Plate Assembly 5-Pin	1	Includes Items 6 and 7
6	9007000	Headed Drive Pin	5	
7	902614-238	Spiral Pin 1/2" Dia. x 2 3/4"	1	
8	291543	U-Joint Assembly	1	
9	280065	Yoke-Splined	1	
10	9008443	Wing Bearing Assembly	1	
11	286430	Adapter Tube Yoke Assembly	1	
12	91160	Grease Zerk	1	
13	9008432	Capscrew 1/2"-20UNF x 2" Grade 8	8	
14	297831B	Lower Auger Replacement (Black)	1	Includes Lower Auger and Items 15, 16, 17
15	296457B	Extension Plate Replacement Kit =Black=	1	
16	9388-104	Carriage Bolt 1/2"-13UNC x 1 1/2" Grade 5	3	
17	9003397	Locking Flange Nut 1/2"-13UNC	3	
18	804572	Axle Lift Pin 1" Dia. x 3 1/2"	2	
19	9008711	Gearbox 45°	1	20 Spline Input Shaft Gearbox
20	9003398	Flange Locknut/TOP 5/8"-11UNC	1	
21	9005363	Hydraulic Welded Cylinder 2 1/2" x 36" 3000PSI	1	
	9005409	Seal Kit		
22	91262	Flange Screw 3/8"-16UNC x 1" Grade 5	4	
23	9007377B	Dust Cover =Black=	1	
24	9390-123	Capscrew 5/8"-11UNC x 1 3/4" Grade 5	8	
25	9390-127	Capscrew 5/8"-11UNC x 2 1/2" Grade 5	1	
26	9390-138	Capscrew 5/8"-11UNC x 7" Grade 5	2	
27	9391-046	Cotter Pin 3/16" Dia. x 2"	4	
28	9404-029	Lock Washer 5/8"	8	
29	9405-116	Flat Washer 1" SAE	4	
30	9801	Locknut/TOP 5/8"-11UNC	2	
31	9874	90° Elbow 9/16"-18 JIC Male x 3/4"-16 O-Ring Male	2	
32	293454B	Hanger Bearing Replacement Kit (Black)	1	Includes Hanger Bearing and Items 33 through 36
33	288679B	Shim Plate, 12GA =Black=	2	
34	9390-124	Capscrew, 5/8"-11UNC x 2" Gr.5	3	
35	9003398	Lock Nut, 5/8"-11UNC	3	
36	9405-098	Flat Washer 5/8" SAE	3	
37	91268	Split Tension Bushing 1" ID x 1 1/4" OD	1	
38	296290	Lower Auger Gasket Kit	1	Includes Instruction Sheet
39	9007472	Proximity Sensor W/Connector	1	

PTO Cut Out Clutch Components

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



NOTE: Clutch Assembly (9008399) Must be used with the complete PTO Assembly (9008390).

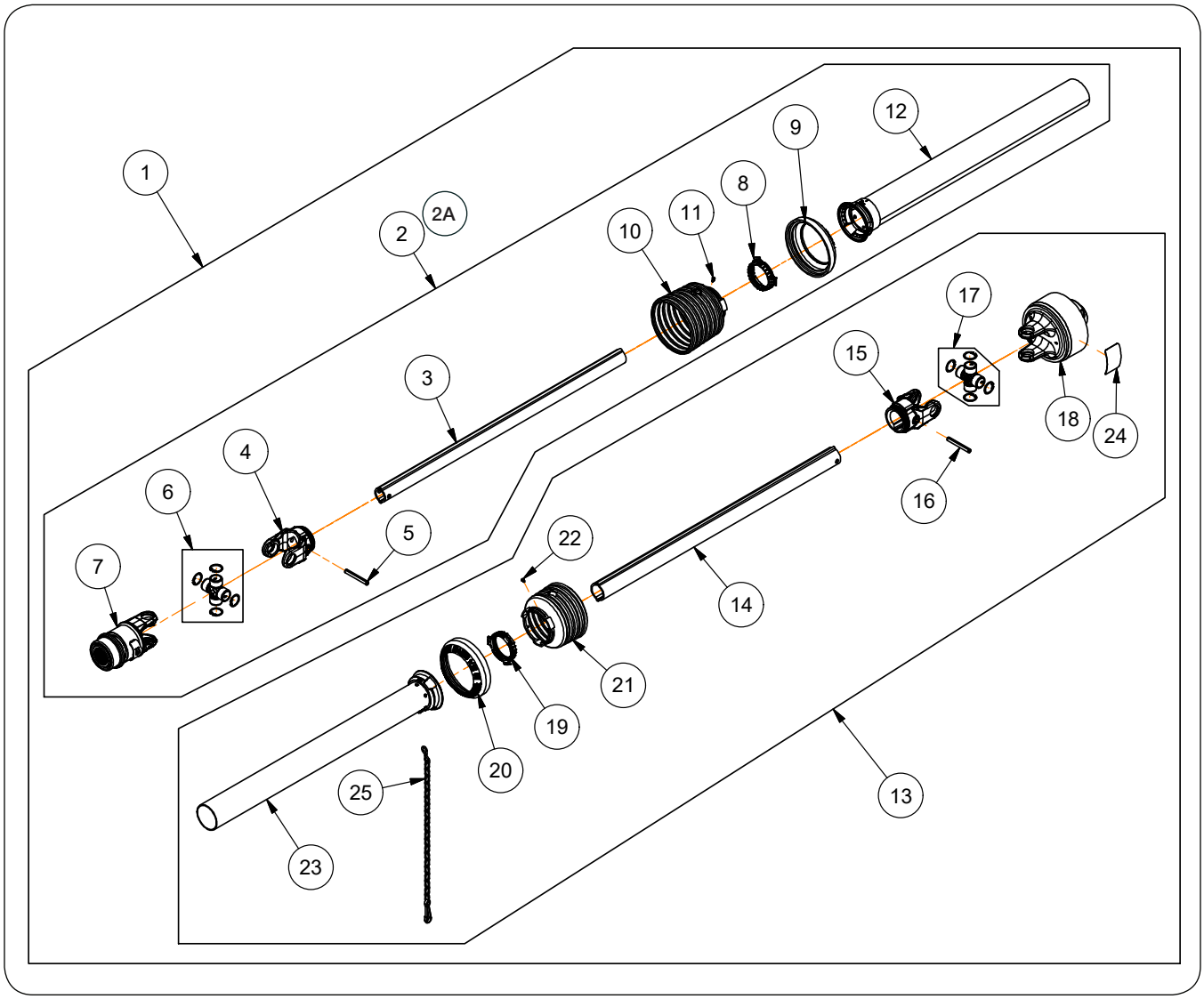
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9008399	Cut Out Clutch (2400 N*m Setting)		Includes Items 1-8
1	9005679	Clutch Housing	1	
2	9008664	Clutch Hub 1 3/8-21 Spline	1	
3	9005421	Spring Pack	1	
4	9005250	Washer	1	
5	9005251	Retaining Ring	1	
6	9005252	Sealing Ring	1	
7	9008665	Cone Clamp Lock Assembly	1	
8	9005254	Clutch Cam	2	

Notes

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

PTO Components

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



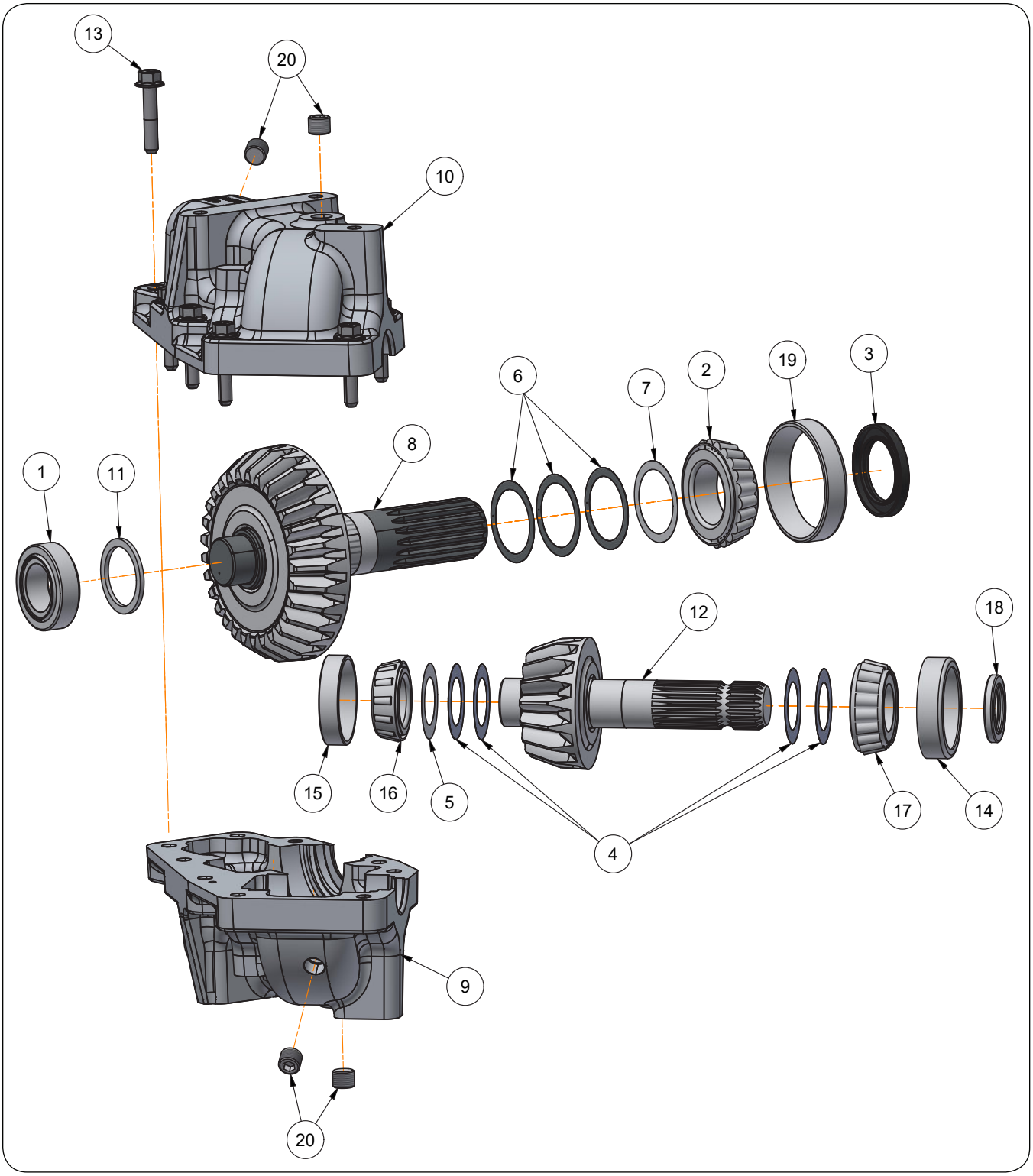
PTO Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	9008390	PTO Assembly Complete - 1 3/4-20 Spline (Tractor End)	1	Includes Items 2 & 13
2	9008396	PTO Front Half Assembly - 1 3/4-20 Spline (Tractor End)	1	Includes Items 3 through 12
2A	9004770	PTO Front Half Assembly - 1 3/8-21 Spline (Tractor End)	1	Optional
3	9004274	Inner Profile	1	
4	93858	Front Inboard Yoke	1	
5	93859	Spring Pin	2	
6	93857	Cross & Bearing Kit	2	
7	9004778	Overrunning Clutch - 2400 Series	1	
8	92373	Bearing Ring	1	
9	9001364	Reinforcing Collar	1	
10	9008398	Cone Guard, Black 7-Rib	1	
11	92372	Screw	1	
12	94839	Outer Shield Tube w/Cap	1	
13	9008397	PTO Rear Half Assembly 1 3/8-21 Spline	1	Includes Items 14 through 25
14	94837	Outer Profile	1	
15	93862	Rear Inboard Yoke	1	
16	93859	Spring Pin	2	
17	93857	Cross & Bearing Kit	2	
18	9008399	Cutout Clutch - 2400 Series	1	
19	92373	Bearing Ring	1	
20	9001364	Reinforcing Collar	1	
21	92371	Shield Cone - Rear Half	1	
22	92372	Screw	1	
23	94840	Inner Shield Tube w/Cap	1	
24	9005233	Decal K64	1	
25	92374	Restraint Chain	1	

45 Degree Gearbox

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



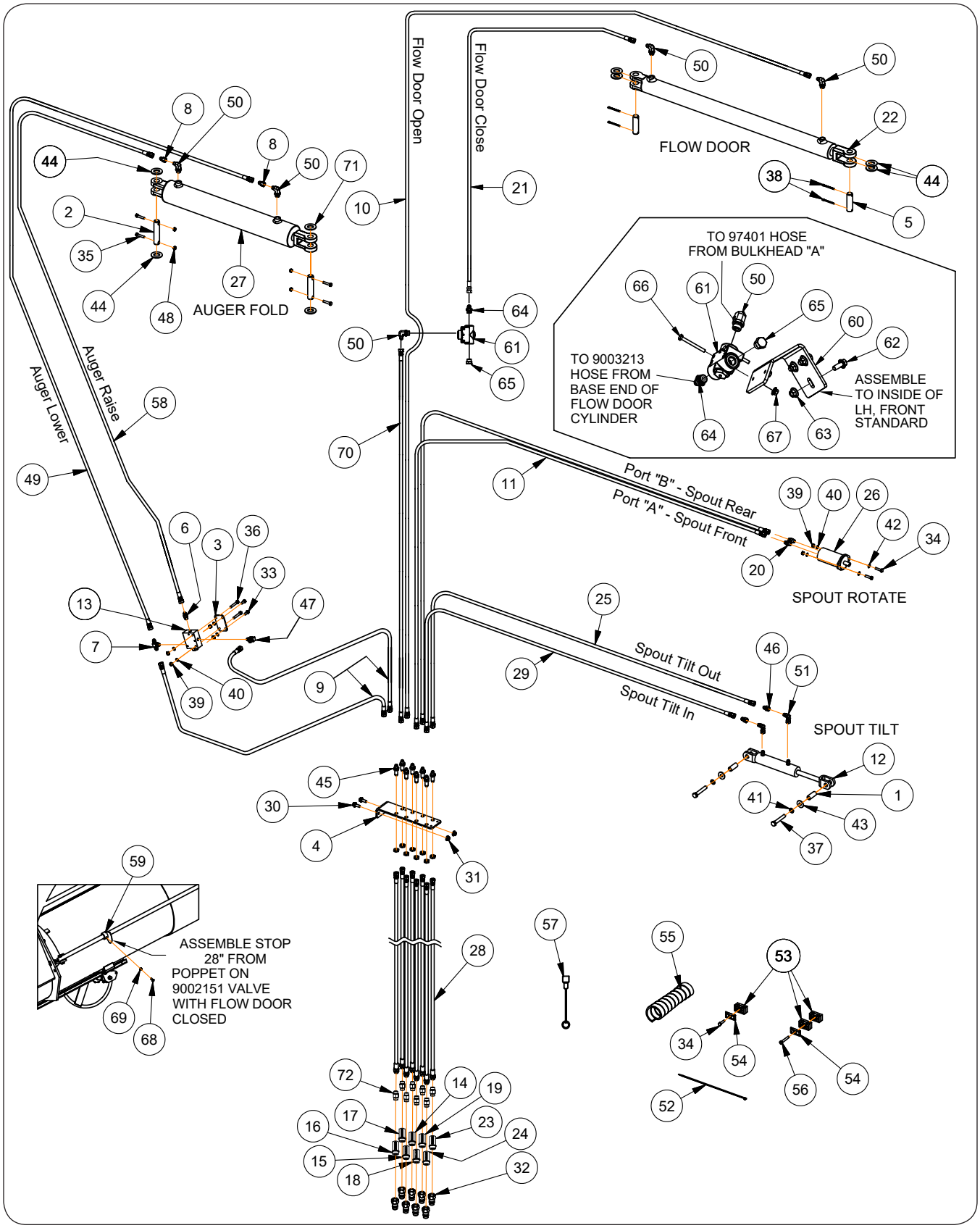
45 Degree Gearbox

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
	9008711	Gearbox 45° Q135 Series, Complete	1	Includes Items 1 through 20
1	9007488	Bearing Cup/Cone, 3.15" OD x 1.772" ID	1	
2	9007507	Bearing Cone, 2 1/4" ID x 1 1/4"	1	
3	9007508	Seal	1	
4	9007509	Steel Shim, 2.75" x 1.75" x .005"	4	
5	9007510	Steel Shim, 2.75" x 1.75" x .003"	1	
6	9007511	Steel Shim, 3.00" x 2.36" x .005"	3	
7	9007512	Steel Shim, 3.00" x 2.36" x .003"	1	
8	9007516	Gear Shaft Assembly, 29 Tooth, 2 1/4"-17 Spline	1	
9	9008509	Gearbox Housing Q135 w/Tapped Holes	1	
10	9008510	Gearbox Housing Q135 w/Thru Holes	1	
11	9008511	Spacer	1	
12	9008790	Gear Shaft Assembly, 16 Tooth, 1 3/4"-20 Spline	1	
13	903161-060	Flange Screw, 1/2"-13UNC x 2 1/2" G5	9	
14	91151	Bearing Cup, #3720	1	Large
15	91812	Bearing Cup, 3.265" OD x 0.75"	1	
16	91822	Bearing Cone, 1.75" ID	1	
17	92697	Bearing Cone, 1.750" ID x 1 1/4"	1	Large
18	92702	Seal	1	Large
19	93819	Bearing Cup, 4 7/16" OD x 15/16"	1	
20	95283	Pipe Plug, 1/2" NPT	4	

Hydraulics

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



Hydraulics

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	285290	Sleeve/Bushing	2	
2	291988	Pin 1" Dia. x 4 7/8"	2	
3	290892B	Valve Mounting Plate =Black=	1	
4	291583B	Bulkhead Mounting Plate =Black=	1	
5	804572	Pin 1" Dia. x 3 1/2"	2	(For Auger & Door Cylinders)
6	9001495	Adapter (9/16"-18 JIC Male x 9/16"-18 O-Ring Male)	1	
7	9001710	Tee (9/16"-18 JIC Male x 9/16"-18 O-Ring Male x 9/16"-18 JIC Male)	1	
8	9002199	Reducer 9/16"-18 JICF x 9/16"-18 JICM	2	With 0.060 (Yellow) Restrictor
9	9003113	Hose 1/4" x 31" (9/16"-18 JICF x 9/16"-18 JICF)	2	
10	9003212	Hose 1/4" x 122" (9/16"-18 JICF x 9/16"-18 JICF)	1	
11	9003344	Hose 1/4" x 285" (9/16"-18 JICF x 9/16"-18 JICF)	2	
12	9008152	Hydraulic Cylinder 1 1/2" x 6" - Spout Tilt	1	
	9008341	Seal Kit	-	
13	9003990	Pilot Operated Check Valve Block	1	
14	9009755	Hose Grip (Flow Door Open) (RED -)	1	
15	9009754	Hose Grip (Flow Door Close) (RED +)	1	
16	9009751	Hose Grip (Auger Raise) (GREEN +)	1	
17	9009752	Hose Grip (Auger Lower) (GREEN -)	1	
18	9009765	Hose Grip (Spout Rotate Rear) (TAN +)	1	
19	9009766	Hose Grip (Spout Rotate Front) (TAN -)	1	
20	9004393	Adapter 9/16"-18 JIC Female x 9/16"-18 JIC Male	2	With 0.055 Restrictor
21	9003213	Hose 1/4" x 88" (9/16"-18 JICF x 9/16"-18 JICF)	1	
22	9005363	Flow Door Cylinder 2 1/2" x 36" - Flow Door	1	
	9005409	Seal Kit	-	
23	9009759	Hose Grip (Spout Tilt Out) (YELLOW +)	1	
24	9009760	Hose Grip (Spout Tilt In) (YELLOW -)	1	
25	9007546	Hose 1/4" x 320" (9/16"-18 JICF x 9/16"-18 JICF)	1	
26	9007626	Spout Hydraulic Motor, 1" Dia. Shaft	1	
	9008974	Seal Kit	-	
27	9007639	Hydraulic Cylinder, 3 1/2" x 20" - 3000 PSI - Auger Fold	1	
	9006942	Seal Kit	-	
28	9007842	Hose 1/4" x 172" (9/16"-18 JICF x 3/4"-16 ORM)	8	
29	9008433	Hose 1/4" x 310" (9/16"-18 JICF x 9/16"-18 JICF)	1	
30	91262	Flange Screw 3/8"-16UNC x 1"	2	
31	91263	Nut/Large Flange 3/8"-16UNC	2	
32	91383	Male Coupler 3/4"-16 Female O-Ring	8	
33	9390-028	Capscrew 5/16"-18UNC x 3/4"	2	
34	9390-031	Capscrew 5/16"-18UNC x 1 1/4" Grade 5	3	
35	9390-032	Capscrew 5/16"-18UNC x 1 1/2" Grade 5	4	

(Continued on next page)

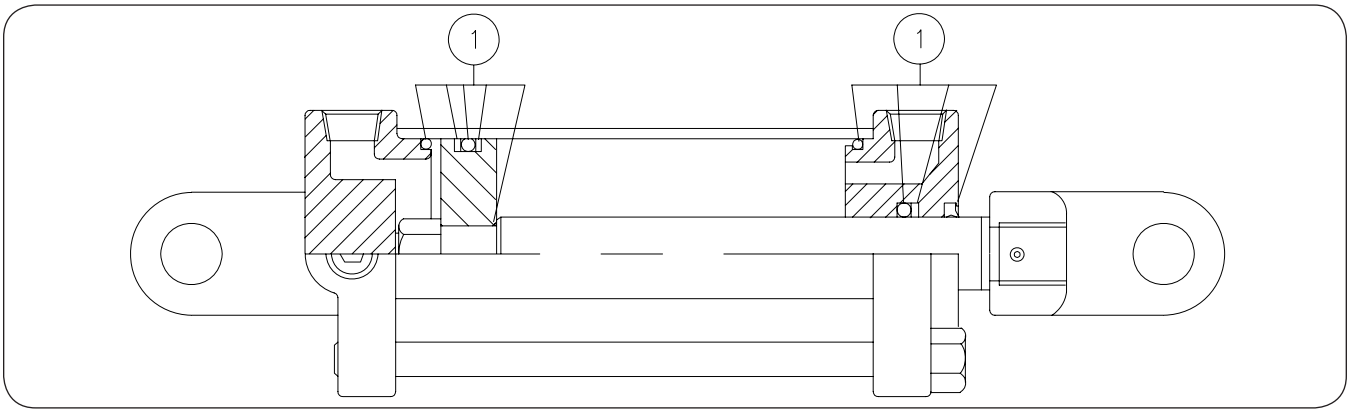
Hydraulics (continued)

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
36	9390-034	Capscrew 5/16"-18UNC x 2" Grade 5	2	
37	9390-108	Capscrew 1/2"-13UNC x 3 1/4" Grade 5	2	
38	9391-046	Cotter Pin 3/16" Dia. x 2"	4	
39	9394-004	Hex Nut 5/16"-18UNC	4	
40	9404-019	Lock Washer 5/16"	4	
41	9404-025	Lock Washer 1/2"	2	
42	9405-068	Flat Washer 5/16" SAE	2	
43	9405-088	Flat Washer 1/2" USS	2	
44	9405-116	Flat Washer 1" SAE	6	
45	95192	Bulkhead Union 9/16"-18UNF JIC	8	
46	95193	Adapter (9/16"-18 JICF x 9/16"-18 JICM)	2	w/0.030 Restrictor
47	97445	90° Elbow (9/16"-18 JIC Male x 9/16"-18 O-Ring Male)	1	
48	9807	Locknut 5/16"-18UNC	4	
49	98082	Hose 1/4" x 100" (9/16"-18 JICF x 9/16"-18 JICF)	1	
50	9874	90° Elbow (9/16"-18 JIC Female x 3/4"-16 O-Ring Male)	5	
51	9876	90° Elbow (9/16"-18 JIC Female x 9/16"-18 JIC Male)	2	
52	9000104	Cable Tie 21 1/2"	4	
	9000106	Cable Tie 7 1/2"	22	
	9000107	Cable Tie 14 1/2"	8	
53	9003816	Clamp Pair	6	
54	9003814	Top Plate	6	
55	9004075	Spiral Hose Wrap	4	
56	9390-035	Capscrew 5/16"-18UNC x 2 1/4" Grade 5	2	
57	91511	Dust Cap	8	
58	9005299	Hose 1/4" x 80" (9/16"-18 JICF x 9/16"-18 JICF)	1	
59	289737B	Cylinder Stop Weldment =Black=	1	
60	289752B	Valve Mount Plate =Black=	1	
61	9002151	Flow Door Control Valve	1	
62	91262	Flange Screw 3/8"-16UNC x 1" Grade 5	3	
63	91263	Large Flange Nut 3/8"-16UNC	3	
64	92927	Adapter (9/16"-18 JIC Male x 3/4"-16 O-Ring Male)	1	
65	93657	Plug (3/4"-16 O-Ring Male)	1	
66	9390-011	Capscrew 1/4"-20UNC x 2 1/2" Gr. 5	2	
67	97189	Hex Nut 1/4"-20UNC	2	
68	9390-053	Capscrew 3/8"-16UNC x 3/4" Gr. 5	1	
69	9395-006	Hex Jam Nut 3/8"-16UNC	1	
70	97401	Hose 1/4" x 34" (9/16"-18 JIC Female Swivel)	1	
71	291257B	Spacer Bushing =Black=	2	
72	98508	Adapter 3/4"-16 Male to 3/4"-16 Male	8	

Cylinders — 3 1/2” x 20” (Auger Fold)

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

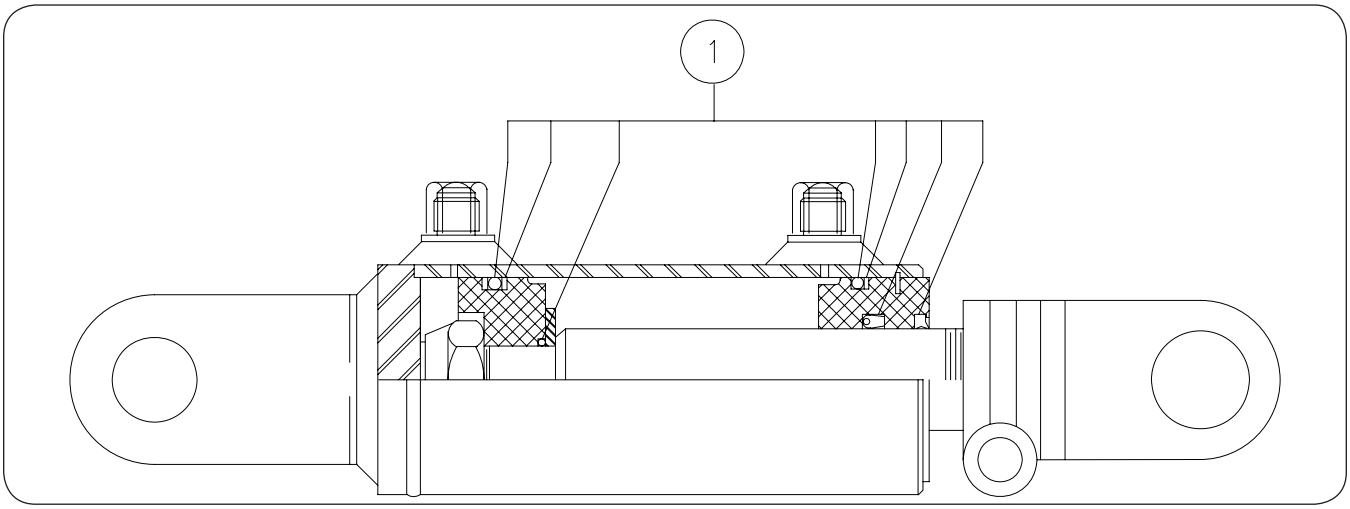


ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
	9007639	Cylinder, Complete	1	
1	9006942	Seal Kit	1	

Cylinders — 2 1/2” x 36” (Flow Door)

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

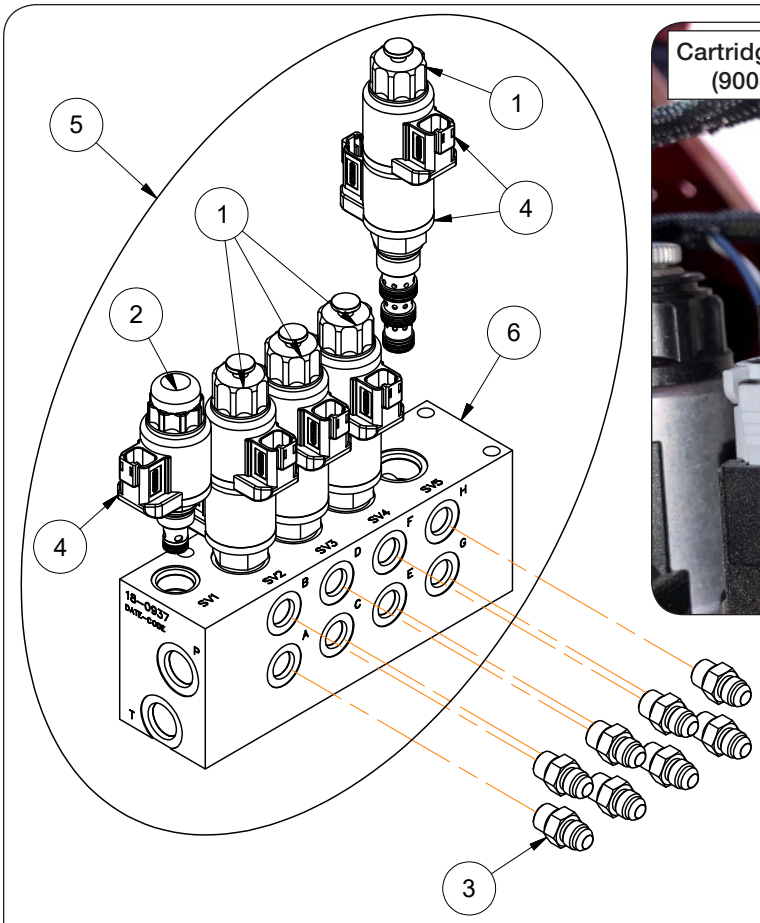
Cylinders — 1 1/2” x 6” (Discharge Spout)

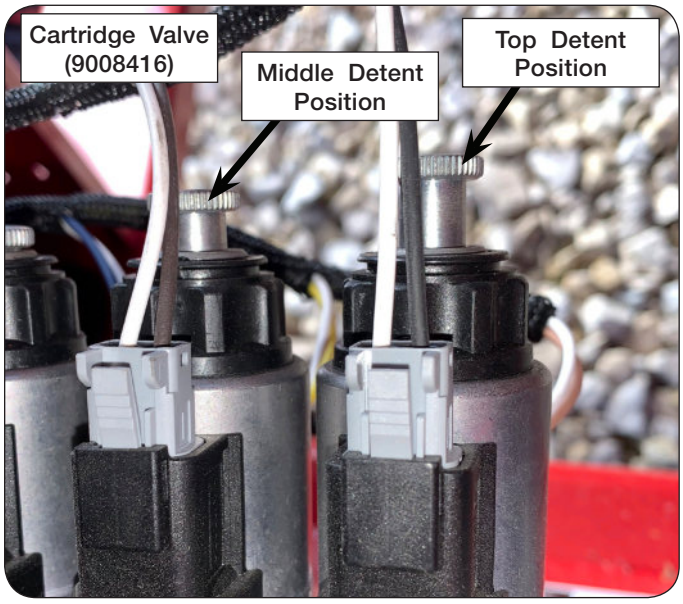


ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
	9008152	Cylinder, Complete 1 1/2” x 6”	1	
1	9008341	Seal Kit	1	

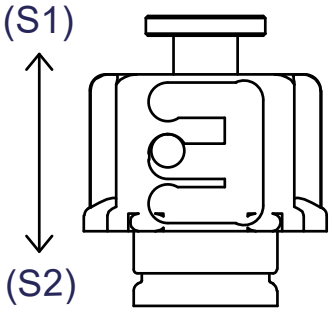
EOH Valve Assembly Components 4 Spool (Optional)

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





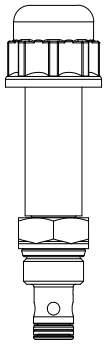
Cartridge Valve (9008416) Middle Detent Position



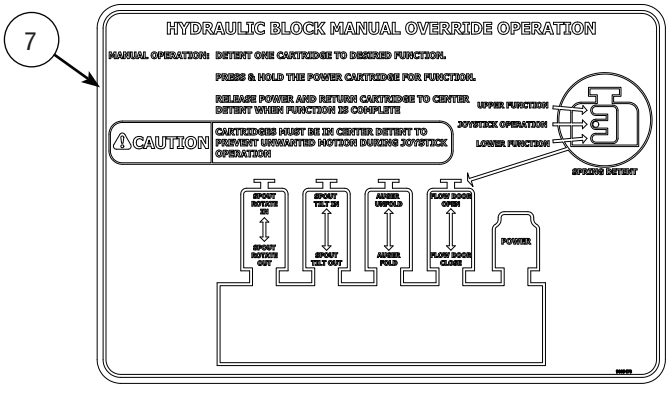
PUSH BUTTON AND HOLD WHILE OPERATING INDIVIDUAL FUNCTIONS

Cartridge Valve (9008438)

FOR MANUAL OVERRIDE



NOTE: Refer to "Electric Over Hydraulic Manual Override Operation (Optional)" in MAINTENANCE section.



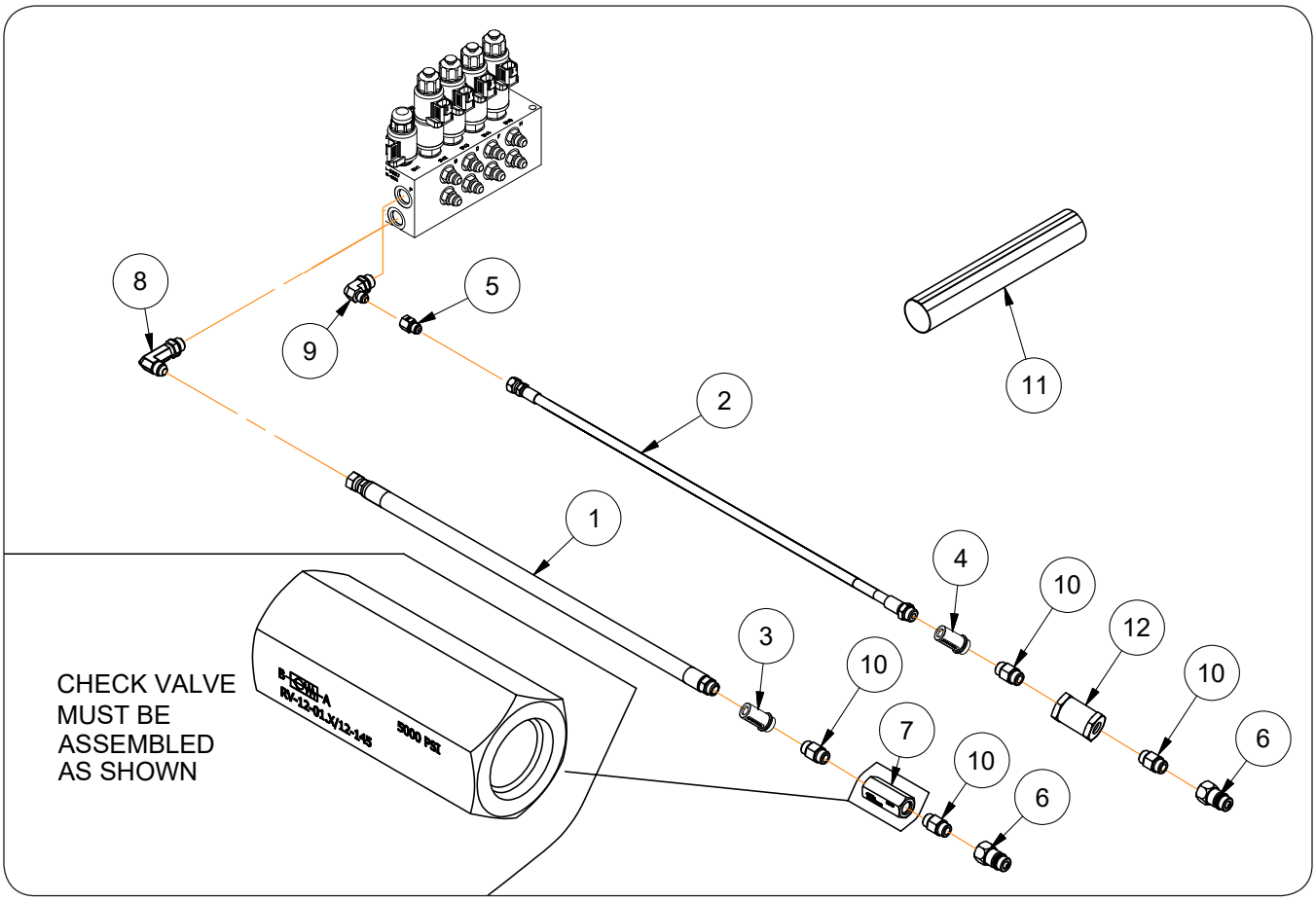
EOH Valve Assembly Components 4 Spool (Optional)

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

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

EOH Tractor Circuit Hydraulic Components (Optional)

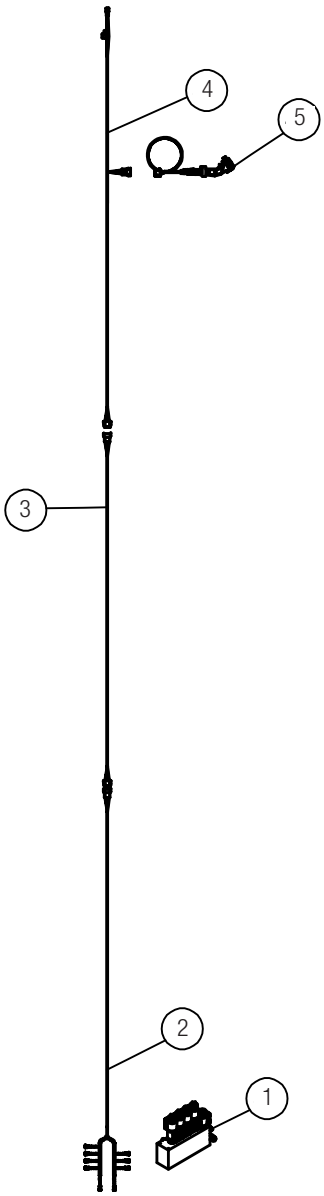
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9002283	Hydraulic Hose, 1/2 x 184" - 3000 PSI	1	
2	9007842	Hydraulic Hose, 1/4 x 172" - 3000 PSI	1	
3	9009765	Hose Grip, Hydraulic Pressure (Tan +)	1	
4	9009766	Hose Grip, Hydraulic Return (Tan -)	1	
5	9006527	JIC Tube Reducer, 9/16"-18 UNF Male x 9/16"-18 UNF Female	1	
6	91383	Male Tip Coupling, 3/4"-16	2	
7	9006994	Check Line Valve 145 PSI	1	
8	901568	90° Elbow 3/4"-16 JIC Male x 3/4"-16 O-Ring ADJ Male	1	
9	9874	90° Elbow 9/16"-18 JIC Male x 3/4"-16 O-Ring ADJ Male	1	
10	98508	Adapter 3/4"-16 O-Ring Male x 3/4"-16 O-Ring Male	4	
11	9003848	Velcro Hose Wrap, 2" I.D. x 127" Lg.	1	
12	9005403	120 Micron Hydraulic Filter	1	

EOH Joystick Components 4 Spool (Optional)

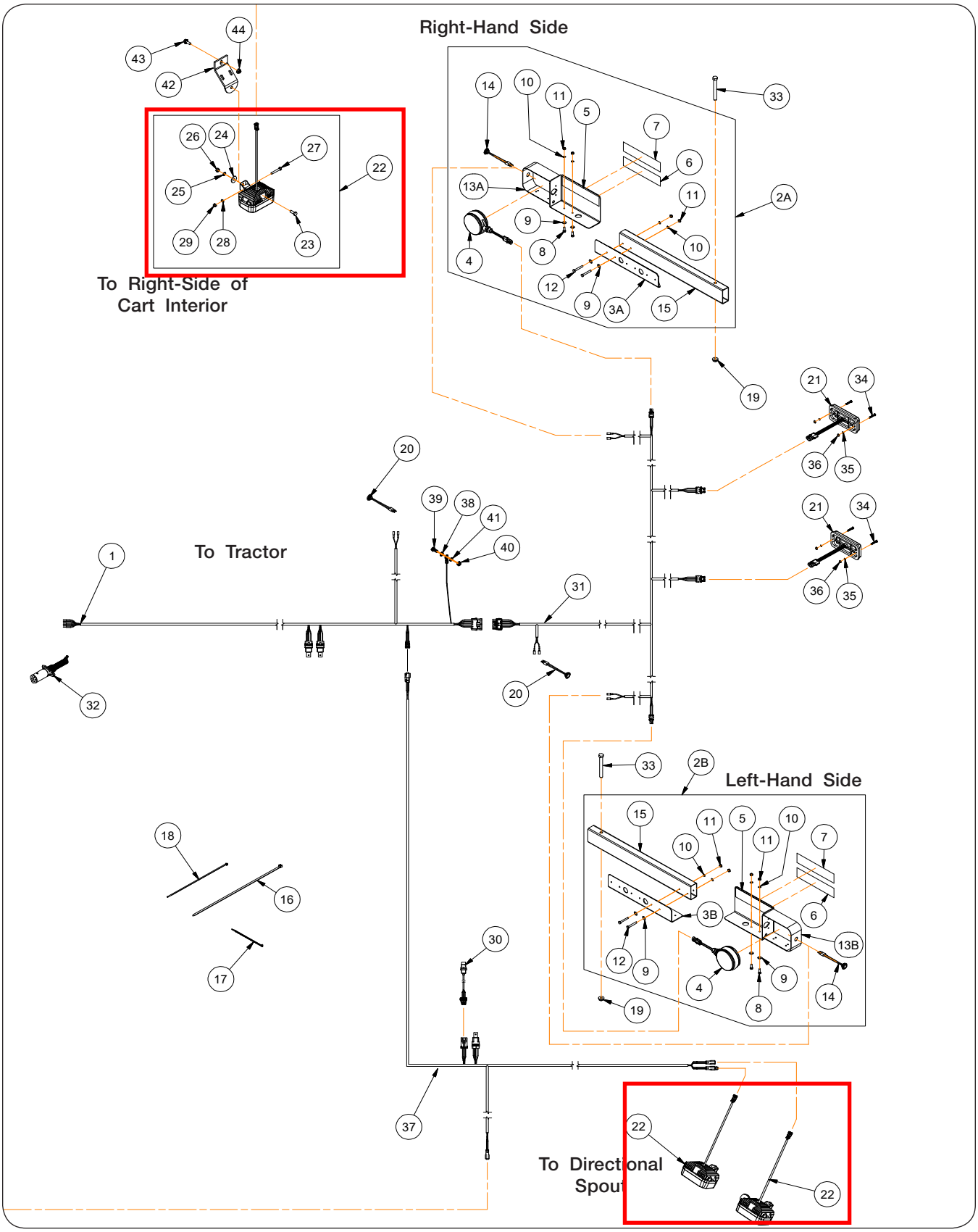
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	291585	Hydraulic Block Assembly 4 Spool	1	
2	9008403	Harness - Main	1	
3	9006233	Harness - Extension	1	
4	9008402	Harness - Power	1	
5	9008378	L-Series Control Grip - 4 Function	1	

Electrical

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



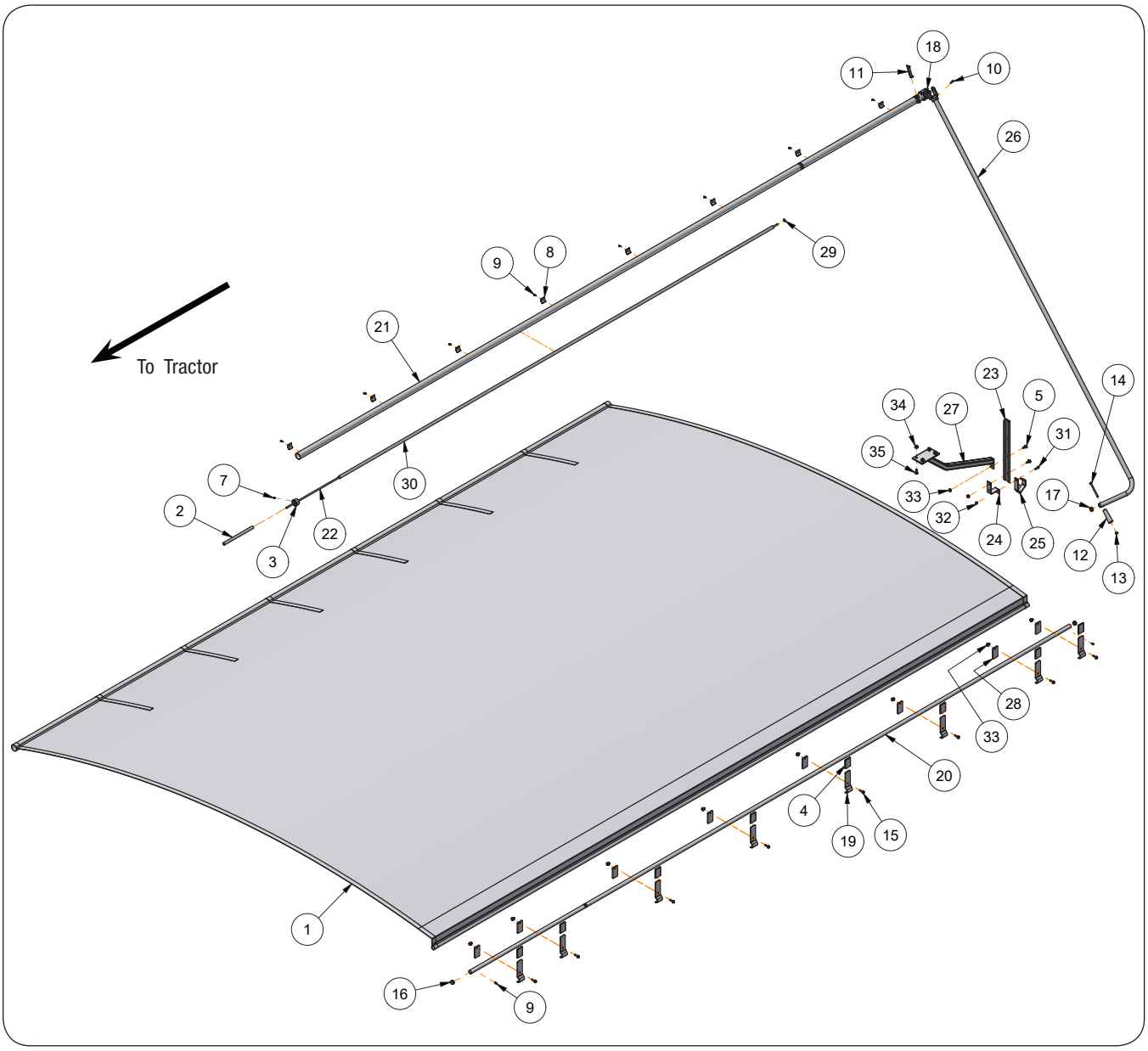
Electrical

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	9007892	Wiring Harness, Front 180"	1	
2A	292358B	Tail Light RH Sub Assembly =Black=	1	Includes Items 3A, 4 through 12, 13A, 14, 15
2B	292357B	Tail Light LH Sub Assembly =Black=	1	Includes Items 3B, 4 through 12, 13B, 14, 15
3A	251406B	RH Plate =Black=	1	
3B	251407B	LH Plate =Black=	1	
4	9005142	LED Light, Amber - Double Face	2	
5	9003127	Amber Reflector	7	2 x 9"
6	9003126	Red Reflector	2	2 x 9"
7	9003125	Fluorescent Strip, Red-Orange	2	2 x 9"
8	9390-003	Capscrew, 1/4"-20UNC x 3/4"	4	
9	9405-064	Flat Washer, 1/4"	8	
10	9404-017	Lock Washer, 1/2"	8	
11	9394-002	Hex Nut, 1/4"-20UNC	8	
12	9390-009	Capscrew, 1/4"-20 UNC x 2"	4	
13A	292719B	RH Light Bracket Weldment Kit =Black=	1	Includes Items 5 through 7
13B	292718B	LH Light Bracket Weldment Kit =Black=	1	
14	9006107	Micro Dot Amber Light (LED)	2	
15	280370B	Tube, Light =Black=	2	
16	9000104	Cable Tie, 21 1/2"	2	
17	9000106	Cable Tie, 7 1/2"	9	
18	9000107	Cable Tie, 14 1/2"	2	
19	9003397	Locking Flange Nut 1/2"-13UNC	2	
20	9006107	Micro Dot Amber Light (LED)	2	
21	9006282	Red Light- Tail/Turn (LED)	2	
22	9008957	Work Light (LED)	3	~~Includes Items 23 through 29~~
23	9390-055	Capscrew 3/8"-16UNC x 1"	1	
24	9405-078	Flat Washer 3/8"	1	
25	9404-021	Lock Washer 3/8"	1	
26	9394-006	Hex Nut 3/8"-16UNC	1	
27	9390-034	Capscrew 5/16"-18UNC x 2"	1	
28	9404-019	Lock Washer 5/16"	1	
29	9394-004	Hex Nut 5/16"-18UNC	1	
30	9007472	Proximity Switch	1	
31	9007894	Wiring Harness, Rear 219"	1	
32	92450	Electrical Coupler	1	
33	9390-112	Capscrew 1/2"-13UNC x 4 1/2"	2	
34	903172-350	Pan Head Machine Screw, #10-32UNF x 1 1/4"	4	
35	9404-013	Split Lock Washer, #10	4	
36	9830-016	Hex Nut #10-32 Grade 2	4	
37	9009107	Wiring Harness - Auger Light 382"	1	
38	9004981	Lock Washer - External Tooth	1	
39	9390-003	Capscrew 1/4"-20UNC x 3/4"	1	
40	9394-002	Hex Nut 1/4"-20UNC	1	
41	9404-017	Lock Washer 1/4"	1	
42	271574B	Light Bracket =Black=	1	
43	9009729	Truss Head Machine Screw 3/8"-16UNC x 1 1/2"	1	
44	91263	Nut/Large Flange 3/8"-16UNC	1	
~~45~~	~~291585~~	~~Hydraulic Block Assembly 4 Spool~~	~~1~~	
~~46~~	~~9008403~~	~~Harness - Main~~	~~1~~	
~~47~~	~~9006233~~	~~Harness - Extension~~	~~1~~	
~~48~~	~~9008402~~	~~Harness - Power~~	~~1~~	
~~49~~	~~9008378~~	~~L Series Control Grip - 4 Function~~	~~1~~	

Weather Guard Tarp Components

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



Weather Guard Tarp Components

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ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	297843B	Complete Tarp Kit =Black=	1	Includes All Items
1	9007458	Tarp 181" x 247"	1	
	9005581	Tarp Repair Kit	-	
2	TA806225	Hose 1/2" EPDM	1	
3	9004947	Plug 1 7/8"	1	
4	9003078	Tarp Stop Cap	8	
5	91262	Flange Screw 3/8-16UNC x 1 (Grade 5)	2	
6	91263	Nut/Large Flange 3/8-16UNC	2	
7	9001396	Self Drilling Screw #10-16 x 1/2"	1	
8	9004949	U-Clamp	8	
9	9005197	Self Drilling Screw #10-16 x 3/4"	10	
10	9392-180	Roll Pin 3/8" Dia x 2	1	
11	9005305	Lynch Pin 3/8" Dia. x 3	1	
12	9004969	Handle	1	
13	9398-012	Elastic Locknut 3/8-16UNC	1	
14	903172-450	Pan Head Phillips Machine Screw 3/8-16UNC x 4 1/2	1	
15	9003259	Flange Screw, 3/8"-16UNC x 1 1/4"	8	
16	9005088	Plastic Plug 1.125"	2	
17	9005089	Plug 1 1/4"	1	
18	9004977	U-Joint 1 3/8"-21 Spline	1	
19	266689B	Stop - Tarp Short =Black=	8	
20	221610	Fixed Tube Weldment	1	
21	221604	Roll Tube Weldment	1	
22	221722	Cord - Bungee 3/8" Dia. x 204"	1	
23	297730B	Tarp Handle Holder - Extension =Black=	1	
24	221700B	Offset Handle Holder Bracket =Black=	1	
25	221770B	Handle Retainer Weldment =Black=	1	
26	287944	Tarp Handle Weldment	1	
27	265706B	Tarp Handle Holder Weldment =Black=	1	
28	295183B	Tarp Stop Spacer Plate =Black=	8	
29	9405-074	Flat Washer, 3/8" SAE	1	
30	221668	PVC Pipe	1	
31	9390-055	Capscrew 3/8"-16UNC x 1" Grade 5	1	
32	9928	Lock Nut 3/8"-16UNC Grade 5	1	
33	91263	Flange Nut 3/8"-16UNC Grade 5	53	
34	9002058	Flange Locknut, 1/2"-13UNC	4	
35	9390-099	Capscrew, 1/2"-13UNC x 1" Grade 5	4	

Weather Guard Tarp Mounting Brackets & End Caps

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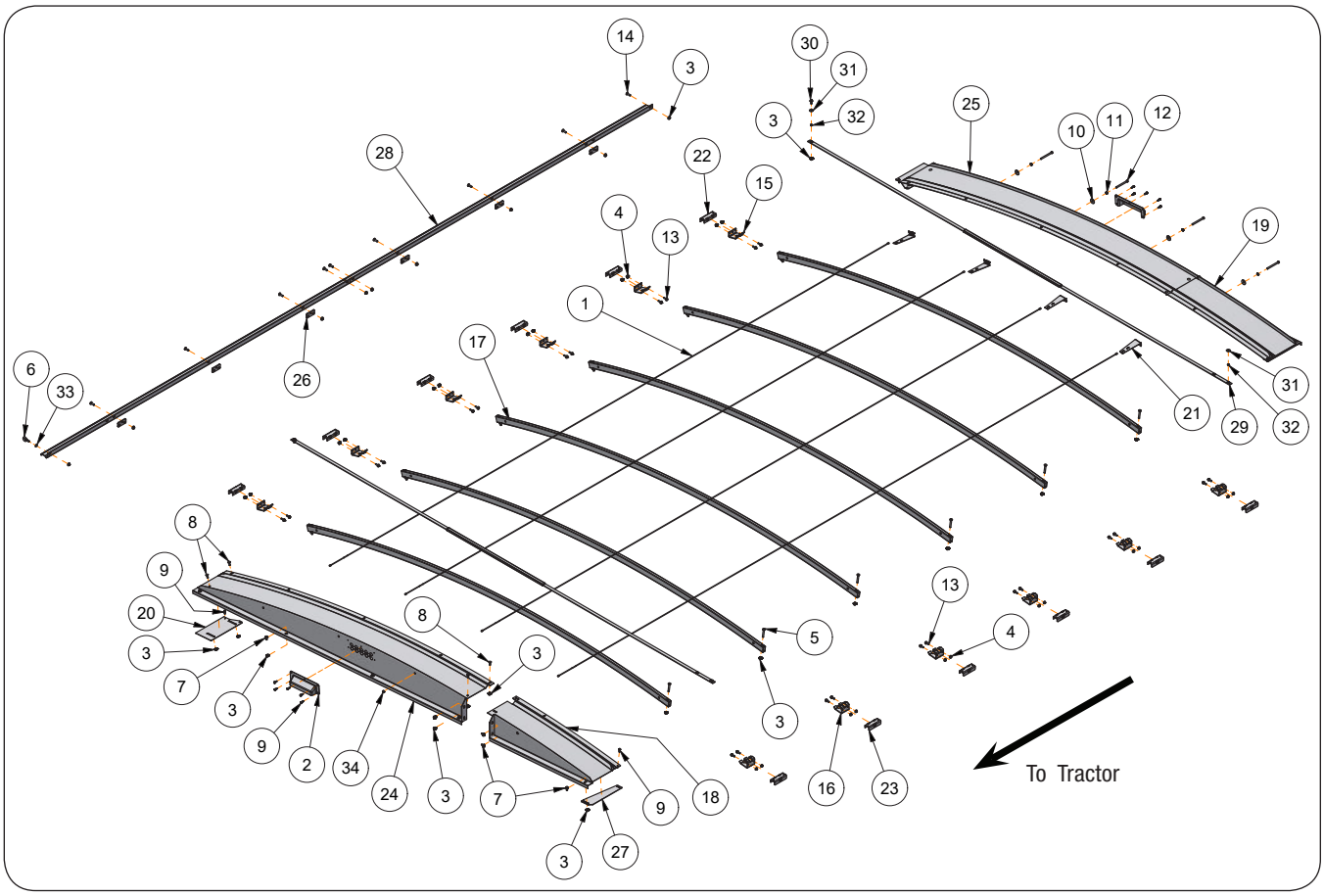


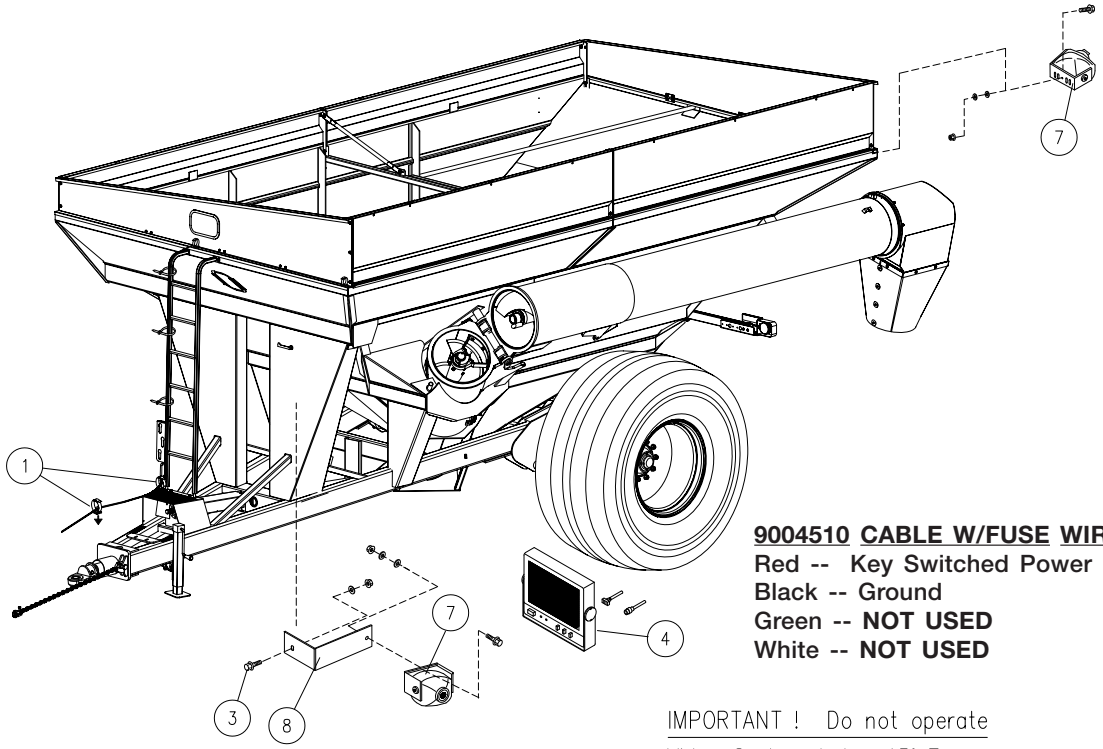
Weather Guard Tarp Mounting Brackets & End Caps

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	~~297843B~~	~~Tarp Kit with Arched End Caps~~	~~-~~	~~Includes All Items~~
1	9005698	Tarp Cable Assembly 234”	4	
2	9009504	End Cap Vent Cover	2	
3	91263	Nut/Large Flange 3/8”-16UNC	53	
4	91257	Hex Nut/Large Flange 5/16”-18UNC	24	
5	902703-046	Flat Head Socket Capscrew 3/8”-16UNC x 3” (RH Thread)	12	
6	9004548	Eye Bolt 3/8”-16UNC x 1 3/4”	1	
7	95585	Capscrew/Large Flange 3/8”-16UNC x 3/4” (Grade 5)	14	
8	9388-051	Carriage Bolt 3/8”-16UNC x 1” (Grade 5)	8	
9	9512	Self Drilling Screw 1/4”-14 x 1”	14	
10	9005696	Fender Washer 3/8”	4	
11	9005688	Lock Washer/External Tooth 3/8”	4	
12	TA0-907131-0	Capscrew 3/8”-16UNC x 4 1/2” (Grade 5) Full Threaded	4	
13	97604	Flange Screw 5/16”-18UNC x 1” (Grade 5)	24	
14	9009089	Truss Head Machine Screw, 3/8”-16UNC x 1 1/4”, Torx Head	9	
15	283425B	RH Tarp Bow Bracket =Black=	6	
16	283427B	LH Tarp Bow Bracket =Black=	6	
17	287400B	Tarp Bow Tube =Black=	6	
18	287357B	End Cap Weldment - Front - Short =Black=	1	
19	287356B	End Cap Weldment - Rear - Short =Black=	1	
20	283431B	RH End Cap Plate =Black=	2	
21	281711B	Tarp Cable Bracket =Black=	4	
22	289986B	Doubler Plate, With 3 Slots (1/2” x 1”). Right-Hand =Black=	6	
23	294678B	Doubler Plate, With 1 Slots (1/2” x 1”). Left-Hand =Black=	6	
24	296121B	End Cap Weldment - Front - Long =Black=	1	
	296755B	End Cap Weldment - Front - Long - Service Kit	-	Includes End Cap and Items 2 & 9
25	296125B	End Cap Weldment - Rear - Long =Black=	1	
	296756B	End Cap Weldment - Rear - Long - Service Kit	-	Includes End Cap and Items 2 & 9
26	295259B	Spacer Plate, 2 3/8” x 3 1/4” =Black=	6	
27	295668B	LH Cover Plate, 4” x 13 5/16” =Black=	2	
28	296830	Latch Plate - Front 126 1/2”	1	Latch Plate Replacement Service Kit #297785 Includes Front & Rear Plates
	296831	Latch Plate - Rear 126 1/2”	1	
29	9008952	Hurricane Strap 14 FT Wide Hopper	2	
30	96972	Screw/Self Tapping 3/8”-16UNC x 1”	2	
31	9008972	Flat Washer, 3/8” Aluminum	4	
32	9008949	Tarp Strap Spacer Bushing	4	
33	9405-074	Flat Washer, 3/8” SAE	1	
34	9005727	Plug 7/16” Dia.	4	

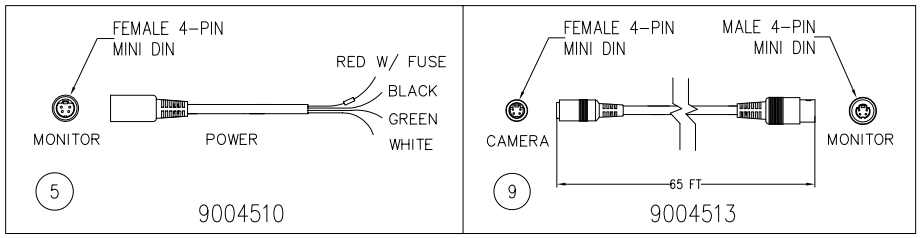
Video System Option

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

Notes

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

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