Grain Handling

CORNER-AUGER GRAIN CART
MODELS V800 & V1000

Serial Number B44730100 & Higher

Part Number 297411

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

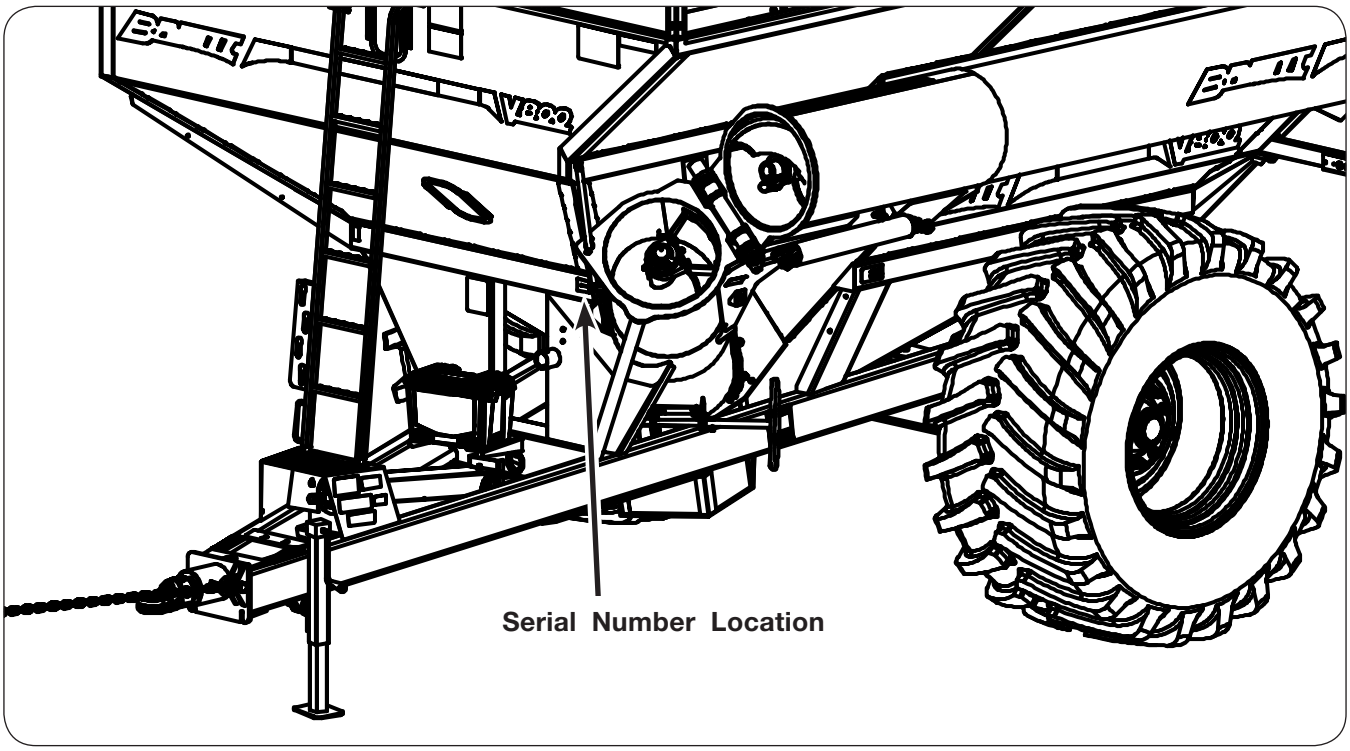
All products manufactured by Unverferth Mfg. Co., Inc. are warranted to be free from material and workmanship defects for one full year from time of consumer delivery. Your local dealer will gladly assist you with any warranty questions.

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 _____



Serial Number Location

IMPORTANT

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

Table of Contents

Section I
Safety

Table of Contents

Section II
Set Up

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

Table of Contents

Section III
Operation

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

Table of Contents

Section IV
Maintenance

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

Table of Contents

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 INDIVIDUAL MANUALS.

Notes

Section I
Safety

General Hazard Information

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

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

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

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

REMEMBER:

THINK SAFETY

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT!

SIGNAL WORDS

DANGER

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

WARNING

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

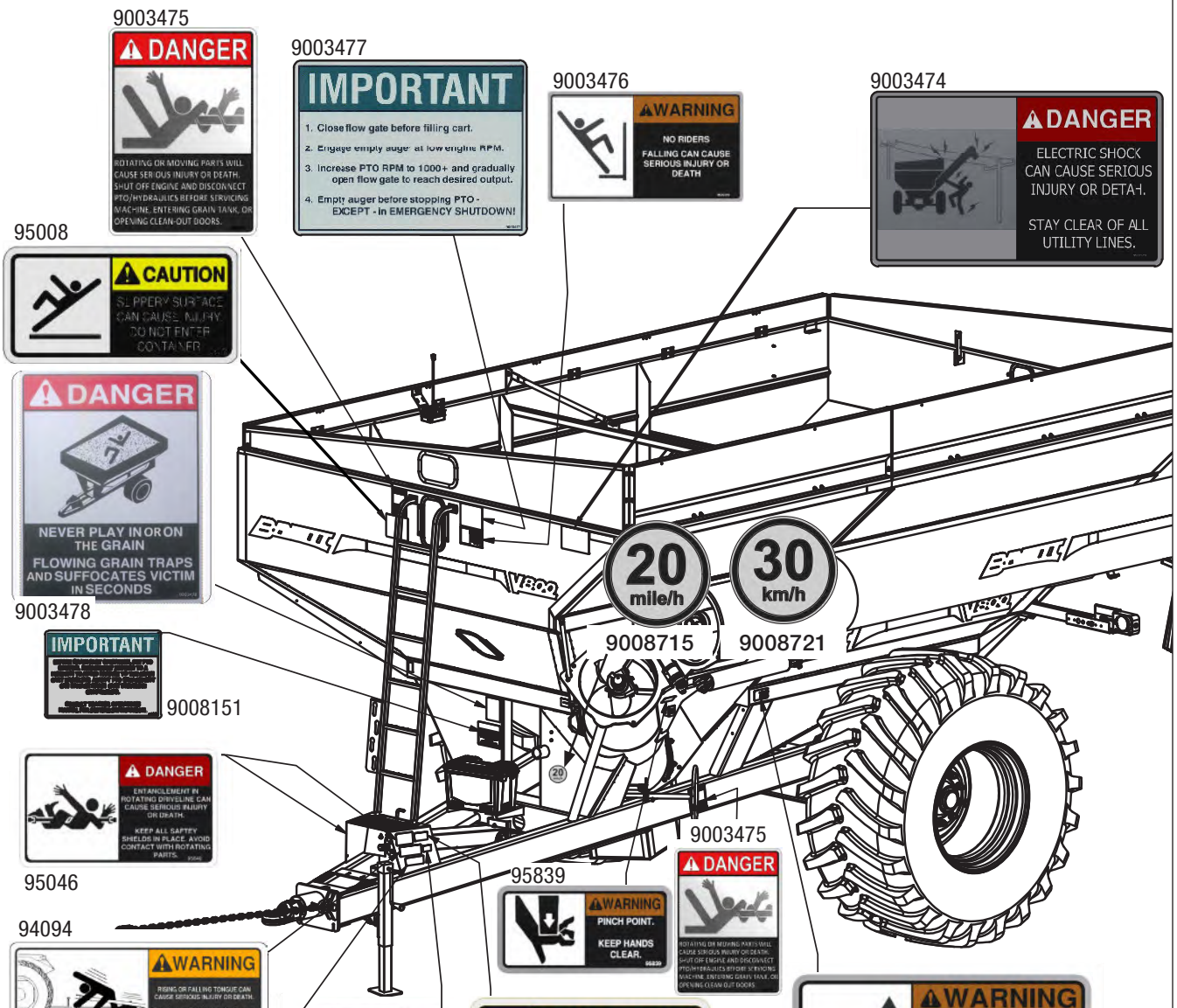
CAUTION

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

IMPORTANT

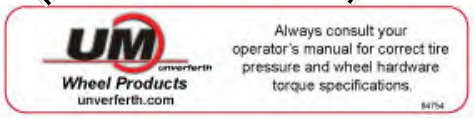
Is used for instruction on operating, adjusting, or servicing a machine.

Decals


9003475
DANGER
ROTATING OR MOVING PARTS WILL CAUSE SERIOUS INJURY OR DEATH. SHUT OFF ENGINE AND DISCONNECT PTO/HYDRAULICS BEFORE SERVICING MACHINE, ENTERING GRAIN TANK, OR OPENING CLEAN-OUT DOORS.
9003477
IMPORTANT
1. Close flow gate before filling cart.
2. Engage empty auger at low engine RPM.
3. Increase PTO RPM to 1000+ and gradually open flow gate to reach desired output.
4. Empty auger before stopping PTO - EXCEPT - in EMERGENCY SHUTDOWN!
9003476
WARNING
NO RIDERS
FALLING CAN CAUSE SERIOUS INJURY OR DEATH
9003474
DANGER
ELECTRIC SHOCK CAN CAUSE SERIOUS INJURY OR DEATH.
STAY CLEAR OF ALL UTILITY LINES.
95008
CAUTION
SLIPPERY SURFACE CAN CAUSE INJURY DO NOT ENTER CONTAINER
DANGER
NEVER PLAY IN OR ON THE GRAIN
FLOWING GRAIN TRAPS AND SUFFOCATES VICTIM IN SECONDS
9003478
IMPORTANT
9008151
DANGER
ENTANGLEMENT IN ROTATING DRIVELINE CAN CAUSE SERIOUS INJURY OR DEATH.
KEEP ALL SAFTEY SHIELDS IN PLACE. AVOID CONTACT WITH ROTATING PARTS.
95046
20 mile/h
30 km/h
9008715
9008721
9003475
DANGER
95839
WARNING
PINCH POINT.
KEEP HANDS CLEAR.
94094
WARNING
RISING OR FALLING TONGUE CAN CAUSE SERIOUS INJURY OR DEATH.
USE JACK TO SUPPORT IMPLEMENT BEFORE REMOVING HITCH PIN.
IMPORTANT
Use only OEM replacement shear bolts and torque properly to maintain proper PTO operation. Consult operator's manual for additional information.
9003574
WARNING
READ AND UNDERSTAND OPERATORS MANUAL BEFORE USING THIS MACHINE. FAILURE TO FOLLOW OPERATING INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.
97961
WARNING
HIGH PRESSURE FLUID CAN CAUSE SERIOUS INJURY OR DEATH.
KEEP AWAY FROM LEAKS.
RELIEVE PRESSURE BEFORE SERVICING.
SEEK IMMEDIATE MEDICAL TREATMENT IF INJURED BY HIGH PRESSURE FLUIDS.
95445
CAUTION
ALWAYS USE TRANSPORT CHAIN.
CONSULT OPERATORS MANUAL FOR DETAILS.
97575
9003127
REFLECTOR AMBER

Safety Decals (continued)

TA1-906109-0



94754

95046

9003125
FLUORESCENT STRIP

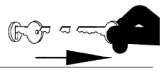
9003126
REFLECTOR RED

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

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 mph 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 mph during off-highway travel.
- Slow down before making sharp turns to avoid tipping. Drive slowly over rough ground and side slopes.
- Do not transport loaded grain cart on 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 and servicing.

- 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 INDIVIDUAL MANUALS.

Set Up Checklist

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

- ❑ Complete dual wheel install and set up. (if applicable)
- ❑ Adjust axle from shipping position to desired operating position. (If applicable) Refer to "Adjustable Axle (Optional)".
- ❑ Torque wheel nuts as specified in MAINTENANCE section.
- ❑ Inflate tires to specified air pressure. (if applicable)
- ❑ Ensure optional hydraulic brakes are bled and function properly. (If applicable)
- ❑ Wash the unit and remove road salt tag #255000 from ladder.
- ❑ Complete sideboard and tarp set up. Remove tarp/sideboard shipping brackets.
- ❑ Set or Calibrate tractor PTO control engagement to MINIMUM setting. Refer to tractor operator's manual for setting information.
- ❑ Remove upper auger rest retainer.
- ❑ 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.
- ❑ Paint all parts scratched in shipment.
- ❑ Test run the augers. See "Auger Operation" in OPERATION section.
- ❑ Check hydraulics for leaks and check hose routing.

Wheel & Tire Set Up

Optional Hydraulic Brake System

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

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 16,000 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.**

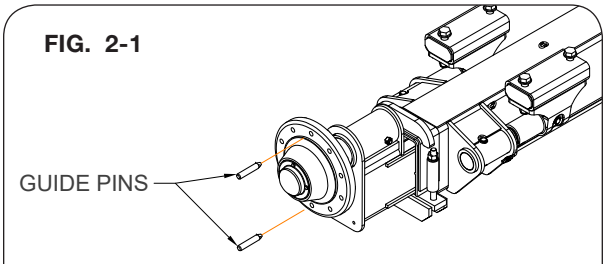
IMPORTANT

- *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.*

Dual Wheel Installation

1. Use a safe lifting device rated at a minimum of 16,000 lbs. and supports rated at 16,000 lbs. minimum during the wheel and tire attachment. Place supports under the axle near the axle clamps.
2. Insert the guide pins into the bolt holes on the hub. (FIG. 2-1).

FIG. 2-1

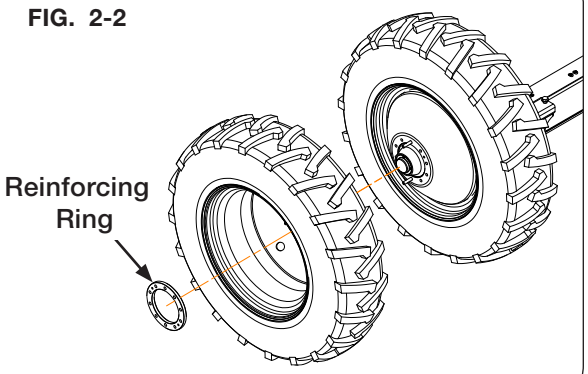


Wheel & Tire Set Up (continued)

Dual Wheel Installation (continued)

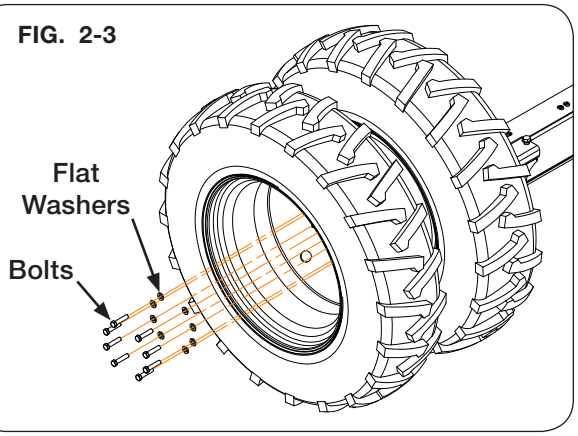
3. Align and install the dual wheels and reinforcing ring over the guide pins (FIG. 2-2).

FIG. 2-2



4. Secure the wheel and reinforcing ring with 8 flat washers and 8 bolts provided. (FIG. 2-3)

FIG. 2-3

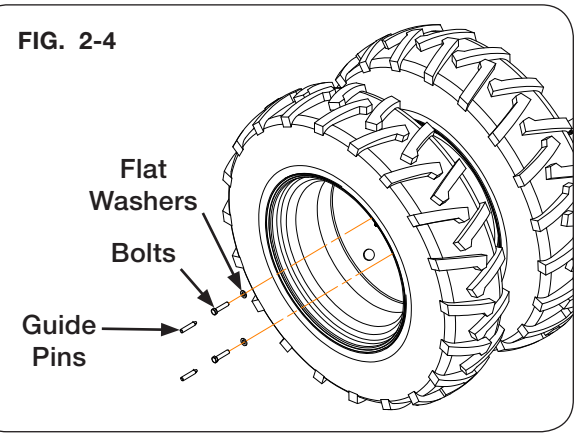


5. Remove the guide pins and install the 2 remaining flat washers and bolts. (FIG. 2-4).

6. Torque 7/8" wheel hardware to 440 ft.-lbs.

NOTE: Refer to "Wheels and Tires" in MAINTENANCE section for more details.

FIG. 2-4



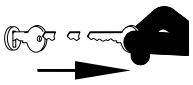
Wheel & Tire Set Up (continued)

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	Center of tire to Center of Tire w/ Rim Offset
650/75 x R32	11 1/4”	132”	145”
800/65 x 32 R-1W	11 1/4”	132”	145”
IF800/60 x 32 R-3	11 1/4”	132”	145”
900/60 x 32 R-1W	11 1/4”	132”	145”
900/65 x 32 R-3	11 1/4”	132”	145”
1050/50 x 32 R-1W	13 1/4”	136”	149”
1250/50 x 32 R-1W	20 1/4”	150”	163”

Adjustable Axle (Optional)

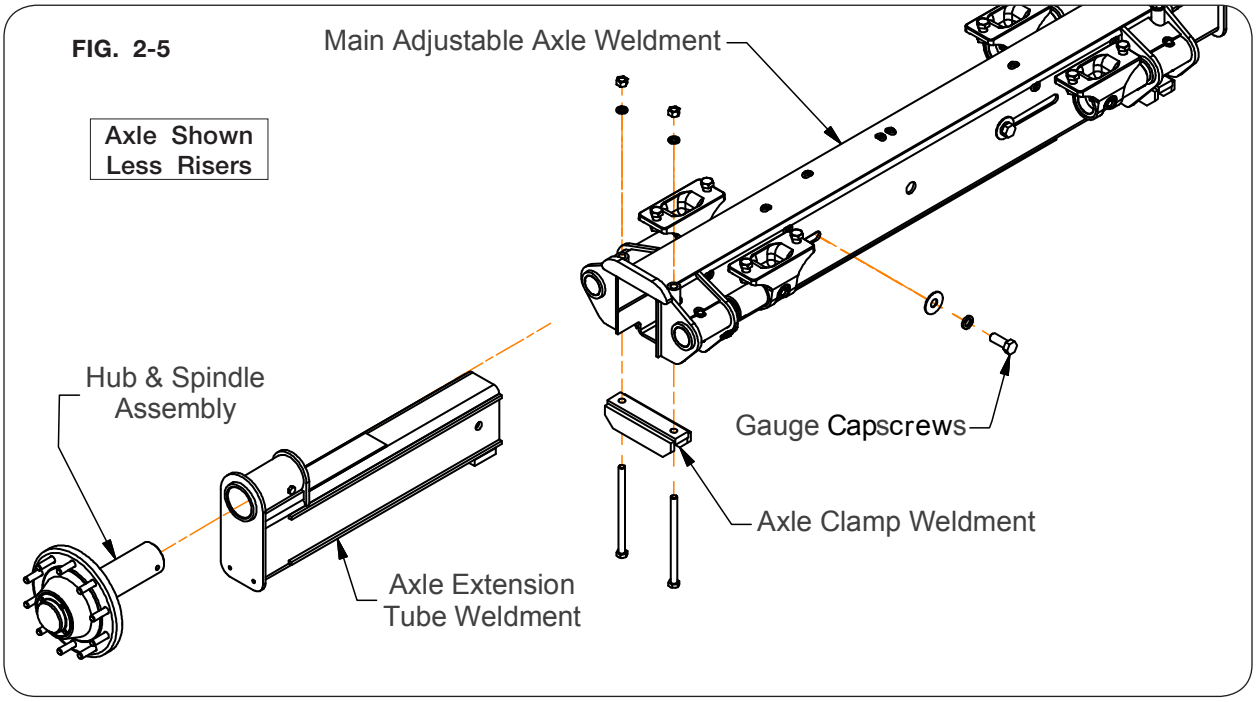
1. Hitch cart to tractor. Park the empty unit on a firm, level surface. Set the tractor’s parking brake, shut-off engine and remove the ignition key.



2. Using a safe lifting device rated for a minimum of 16,000 lbs. and supports rated at 8,000 lbs. minimum, 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. Figure 2-5.

FIG. 2-5



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 on page 2-5 and Figure 2-6.

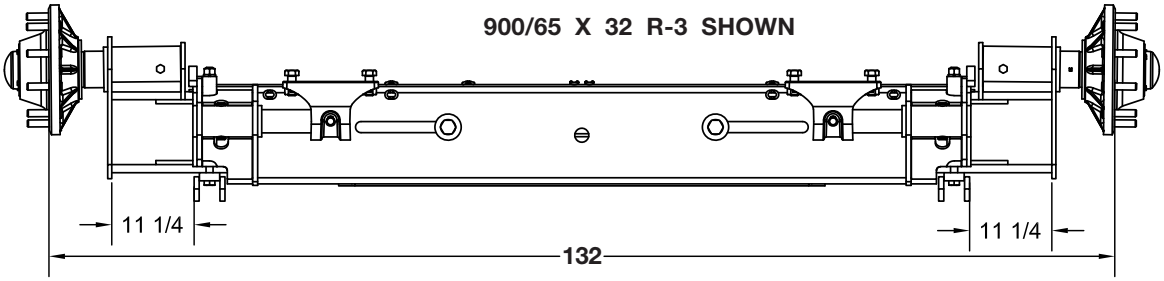
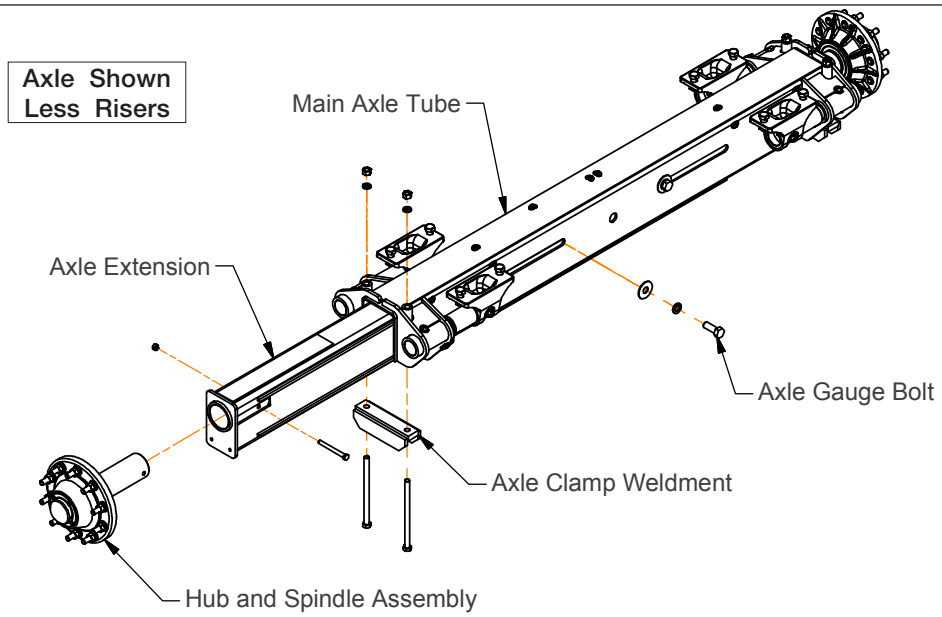


FIG. 2-6

5. Tighten axle gauge bolts followed by axle clamp bolts, refer to MAINTENANCE section for proper torque specifications. Figure 2-7.

FIG. 2-7



6. Remove supports and lower cart to ground.

7. Ensure warning lamp extensions are positioned so reflectors are within 16” of the outside of tires. Refer to “Warning Lamp Set Up” in this section for details.

Driveline Install

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.**

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.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 16,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

Driveline Install (continued)

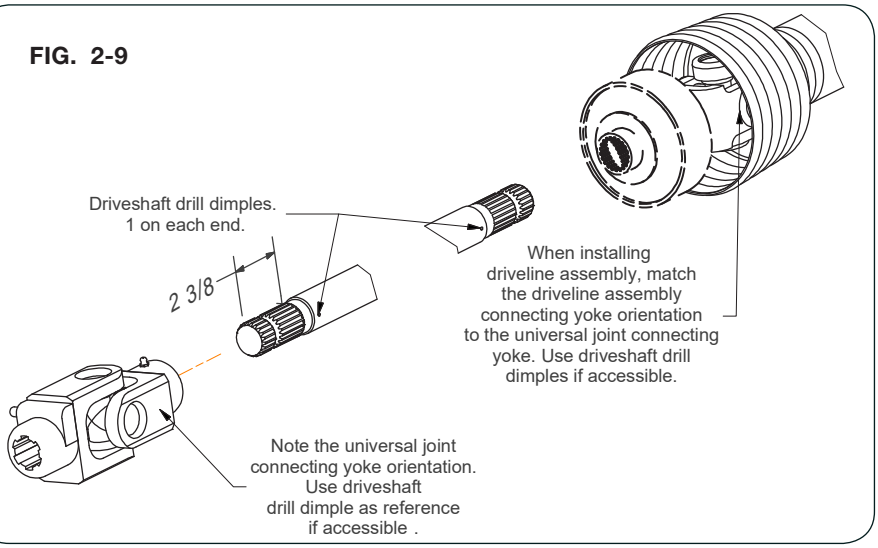
1. Clean and grease the grain cart driveline splined shaft.

2. Remove telescopic PTO driveshaft from the rear of the cart. (FIG. 2-8)

FIG. 2-8

3. Align the telescopic PTO driveshaft u-joint with the gearbox u-joint. (FIG. 2-9)

FIG. 2-9



Driveline Install (continued)

WARNING

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

4. Attach the overrunning clutch/torque limiting end of the telescopic PTO driveshaft to the grain cart driveline splined shaft. (FIGS. 2-10, 2-11, 2-12)

NOTE: If your PTO driveshaft includes a clamp bridge lock, shown in FIG. 2-12, the capscrews must be removed before installing. Once slid onto shaft, insert capscrews into driveline groove. Torque capscrews to 70 ft.-lbs.

5. Push/Pull the driveline to verify the locking collar is engaged on the PTO driveshaft.

NOTE: See MAINTENANCE section for more PTO information.

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

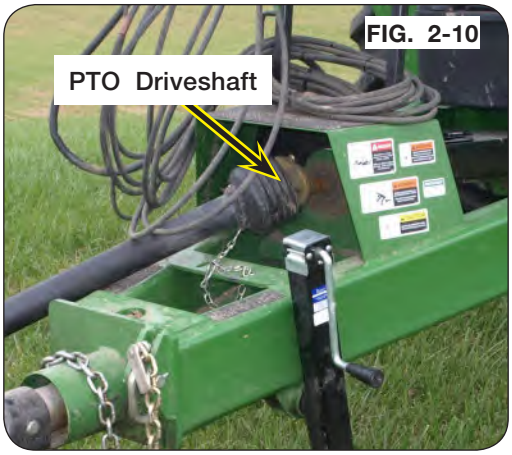


FIG. 2-10

SHEARBOLT CLUTCH WITH OVERRUNNING CLUTCH

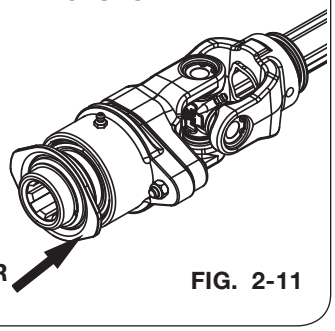


FIG. 2-11

CLAMP BRIDGE LOCK

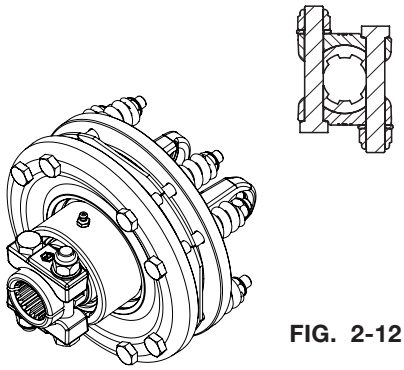


FIG. 2-12

Auger Set Up

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

⚠ WARNING

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

Auger Rest Retainer Removal

1. Close the cleanout door.
2. Hitch cart to tractor. Refer to "Hitching to Tractor" in the OPERATION section.
3. Park the empty cart on a firm, level surface. Block tractor and cart to prevent movement. Set the tractor's parking brake. Leave tractor on throughout procedure.
4. Remove the retainer located on the upper auger rest at the back of the cart, before raising the upper auger tube. (FIGS. 2-13 & 2-14)

FIG. 2-13

FIG. 2-14

5. Use tractor SCV to raise the upper auger.
6. Cycle auger fold all the way up and down to ensure movement is free.
7. 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.

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.*

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. (FIGS. 2-15 and 2-16)

IMPORTANT

- *Failure to store the jack in storage position could result in damage to the jack, cart, or tractor tire. (FIG. 2-15)*

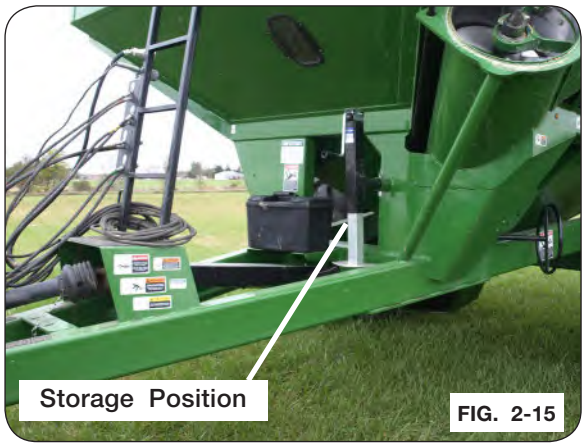


FIG. 2-15

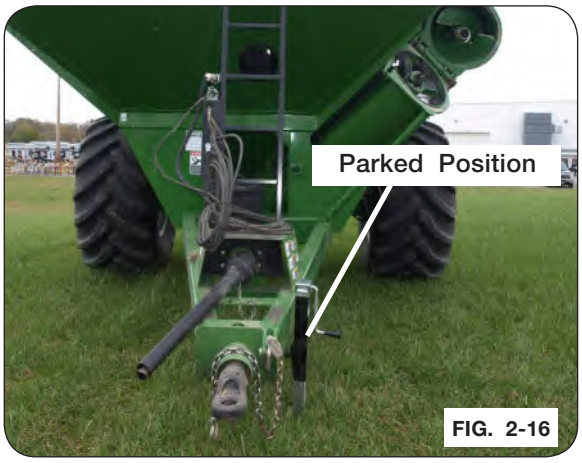


FIG. 2-16

Warning Lamp Set Up

1. Pivot warning lamp to widest setting.

2. Adjust warning lamp brackets so that the REFLECTORS are not more than 16” from the outer edge of the tire.

NOTE: The edge of the reflector (not lamp) must be within 16” of the outer edge of the tire. (FIG. 2-17)

3. Verify amber reflector is facing forwards. (FIGS. 2-17 and 2-18)

NOTE: 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.

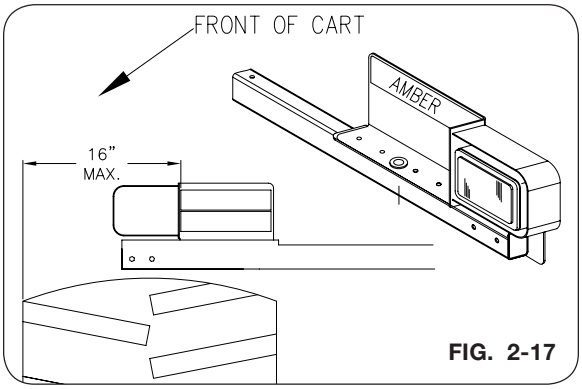


FIG. 2-17

FIG. 2-18

Basic Set Up

Sideboards

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, and shipping bundle which includes front and rear end caps from inside the cart.

3. Remove and discard shipping hardware for right-hand sideboards. (Fig. 2-19)

NOTE: All 3/8" flange hardware along sideboard bottom edge are size 3/8"-16UNC and part numbers 95585 capscrew and 91263 nut.

4. Lift the right-hand sideboards into position and loosely secure sideboard into place using 3/8" flange screws and flange nuts along sideboard bottom edge. (Fig. 2-20)

NOTE: When moving sideboards into position, hinge brackets WILL support the sideboard. (Figs 2-20 and 2-21)

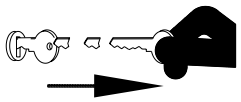


FIG. 2-19

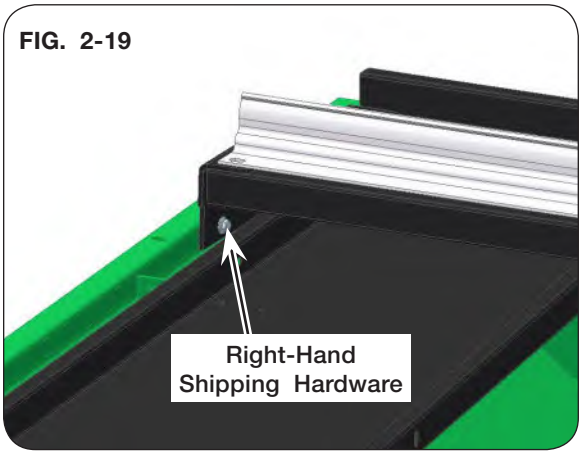


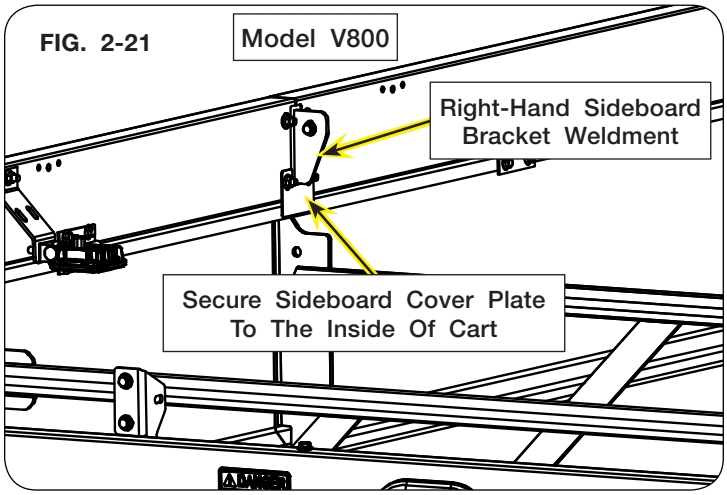
FIG. 2-20

Basic Set Up (continued)

NOTE: Right-hand sideboard bracket weldment (Model V800: 296366B; Model V1000: 296282B) arrives from the factory attached between the right-hand front and rear sideboards. (Fig. 2-21)

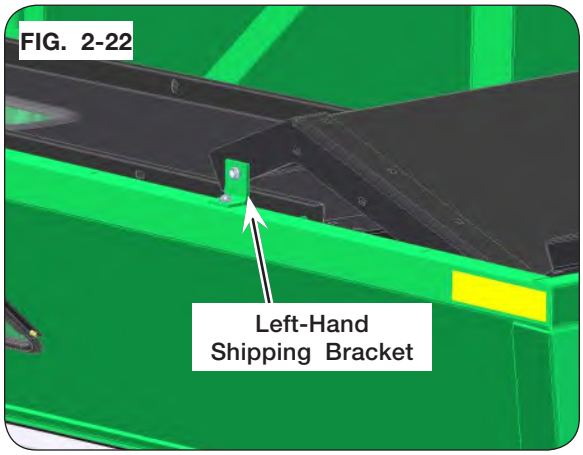
5. Loosely secure sideboard cover plate (295691B) with 3/8”-16UNC x 1” carriage bolts (9388-051) and 3/8”-16UNC flange nuts (91263) to the inside bottom right-hand front and rear sideboards. (Fig. 2-21)

FIG. 2-21



6. Remove and discard shipping bracket for left-hand sideboard. (Fig. 2-22)

FIG. 2-22



7. Lift the left-hand sideboards into position. (Fig. 2-23)

NOTE: When moving sideboards into position, hinge brackets WILL support the sideboard and tarp. (Fig. 2-23)

8. Loosely secure left-hand sideboard with 3/8” flange screws and flange nuts along the bottom. (Fig. 2-23)

FIG. 2-23

Basic Set Up (continued)

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. 2-24)

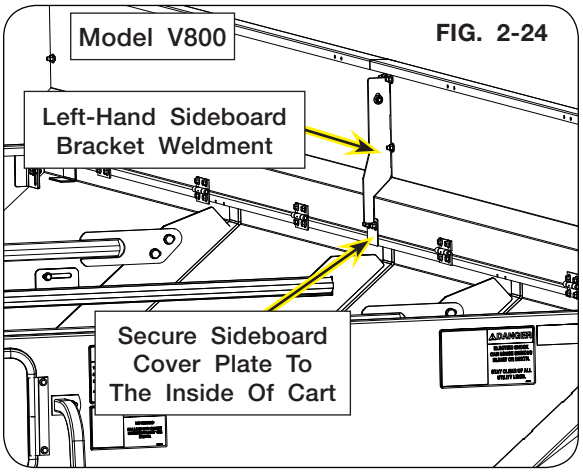


FIG. 2-24

10. SIDEBOARD BRACE TUBES:
    Install sideboard brace tubes (220032B) to the center cross tube weldment with 3/8”-16UNC x 1” flange screws (91262) and 3/8”-16UNC flange nuts (91263). The center cross tube weldment uses sideboard brace tubes on both sides. (Fig. 2-25)

NOTE: DO NOT torque 3/8” hardware at this time. Only tighten brace tube hardware. (Fig. 2-25)

11. Straighten sideboards to vertical and lock the position by tightening the brace tube hardware. (Fig. 2-25)

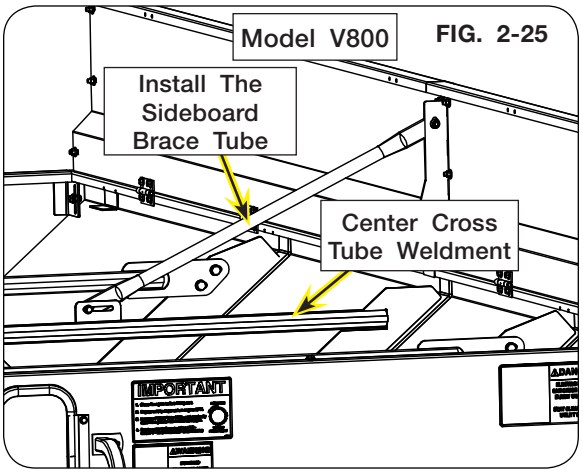


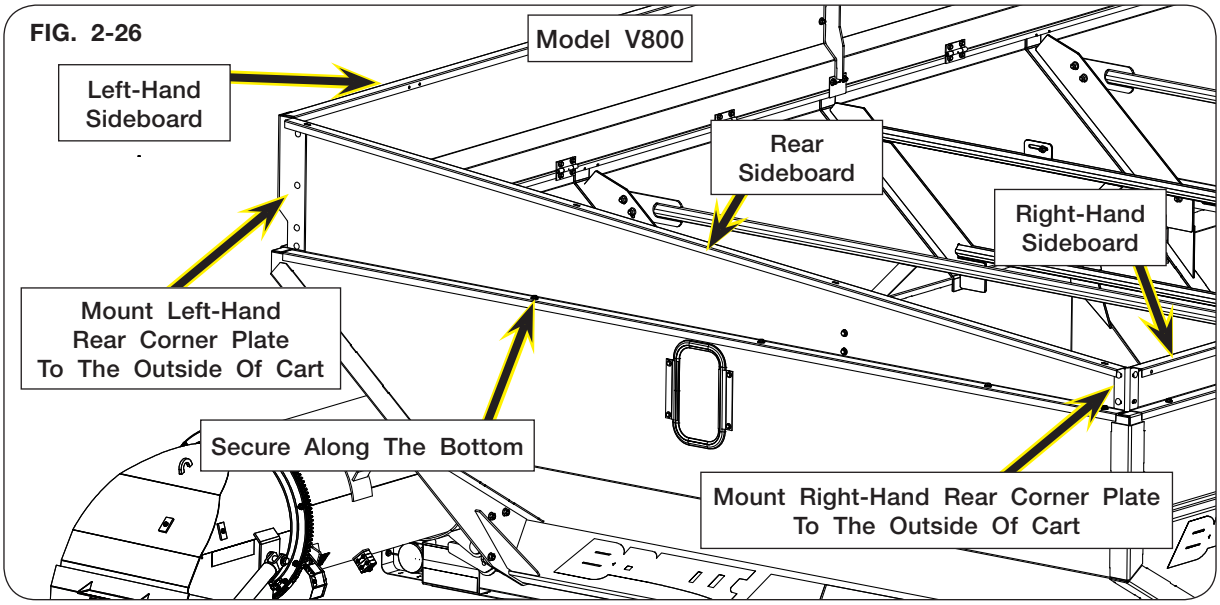
FIG. 2-25

Basic Set Up (continued)

12. Lift the rear sideboard (Model V800: 296357B; Model V1000: 296273B) into position and loosely secure with 3/8” flange screws and flange nuts along the bottom. (Fig. 2-26)

13. Connect rear sideboard to the right-hand and left-hand sideboards using the right-hand rear corner sideboard plate (Model V800: 296364B; Model V1000: 296281B) and left-hand rear corner sideboard plate (Model V800: 296363B; Model V1000: 296279B). Loosely secure using 3/8”-16UNC x 1” carriage bolts (9388-051) and 3/8”-16UNC flange nuts (91263). (Fig. 2-26)

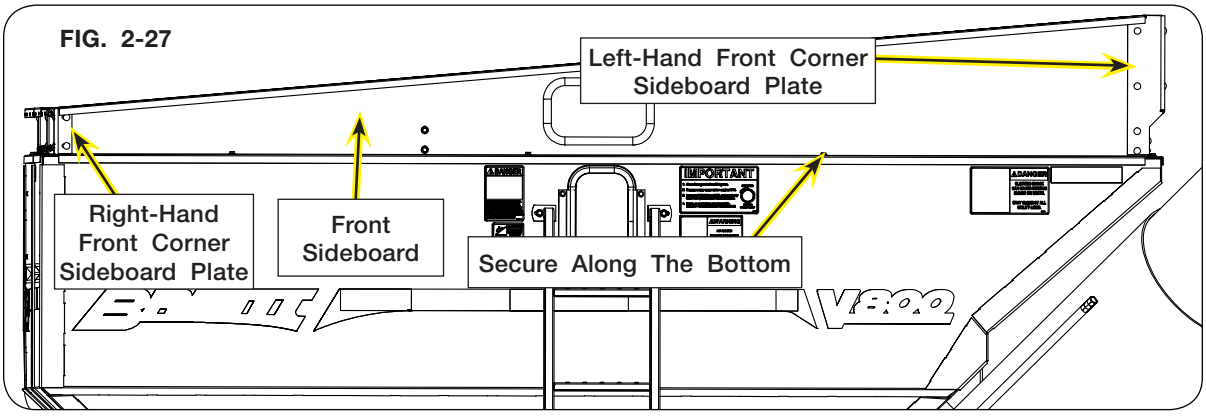
FIG. 2-26



Basic Set Up (continued)

14. Lift front sideboard (Model V800: 296356B; Model V1000: 296272B) into position and loosely secure with 3/8” flange screws and flange nuts along the bottom. (Fig. 2-27)

FIG. 2-27



15. Connect front sideboard to the right-hand and left-hand sideboards using the right-hand front corner sideboard plate (Model V800: 296364B; Model V1000: 296280B) and left-hand front corner sideboard plate (Model V800: 296362B; Model V1000: 296278B). Loosely secure using 3/8”-16UNC x 1” carriage bolts (9388-051) and 3/8”-16UNC flange nuts (91263). (Fig. 2-27)

NOTE: If your cart does not come with a weather guard tarp, torque all hardware according to specification in MAINTENANCE.

NOTE: If installing a weather guard tarp, complete the next section before torquing sideboard hardware.

Weather Guard Tarp Installation

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

End Caps and Bows

1. Attach the end caps (296127B) to the front and rear sideboards with 3/8”-16UNC x 3/4” large flange screws (95585) and 3/8”-16UNC flange nuts (91263). (FIG. 2-28)

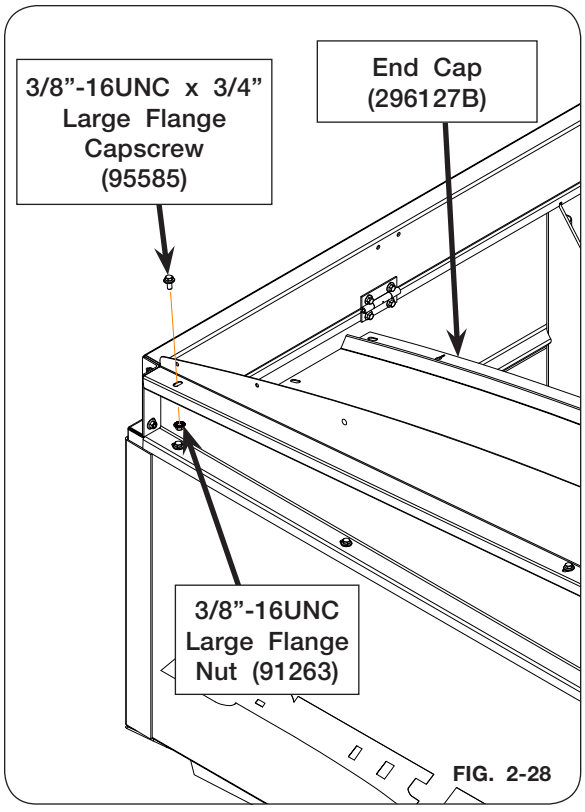


FIG. 2-28

Weather Guard Tarp Installation (continued)

2. Slide end cap extension panels (286843B - right-hand front & left-hand rear; 286842B - left-hand front & right-hand rear) under the end caps previously installed. (FIG. 2-29)

NOTE: Ensure that end cap extension panel is set back at least 1/4" from the outside edge of the sideboard to prevent tearing tarp.

3. Fasten end cap extension panels with 3/8"-16UNC x 1" truss head screws (9005312) and 3/8"-16UNC large flange nuts (91263). (FIG. 2-29)

4. Next, install 5/16"-18UNC x 3/4" large flange screws (91256) and 5/16"-18UNC flange nuts (91257) along the vertical edge. (FIG. 2-29)

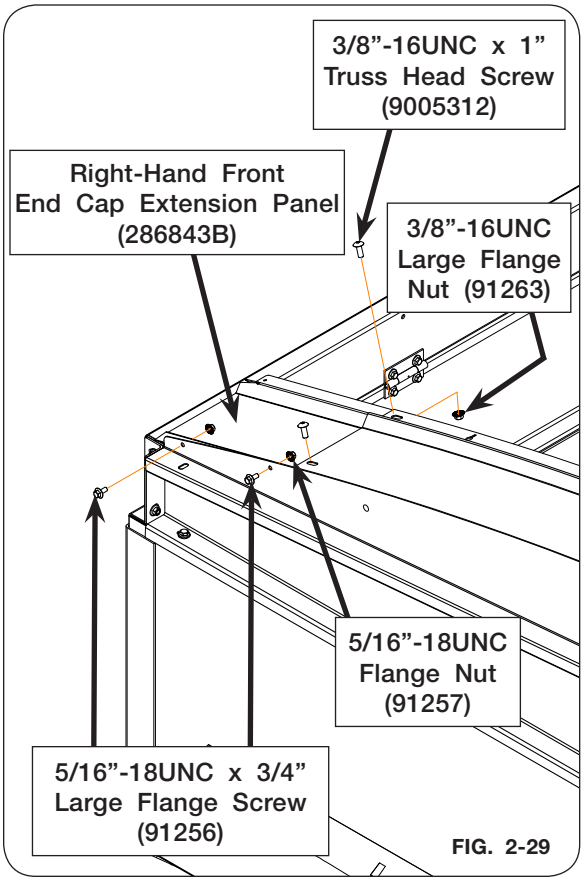
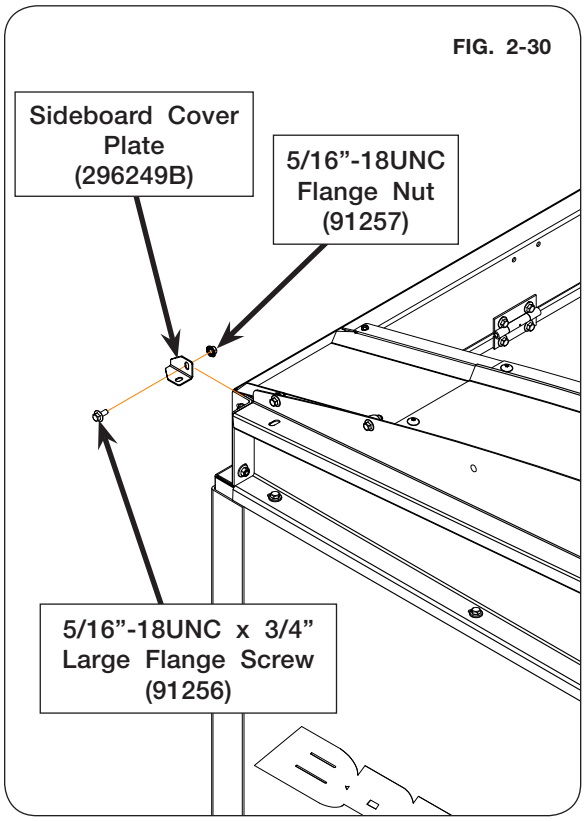


FIG. 2-29

Weather Guard Tarp Installation (continued)

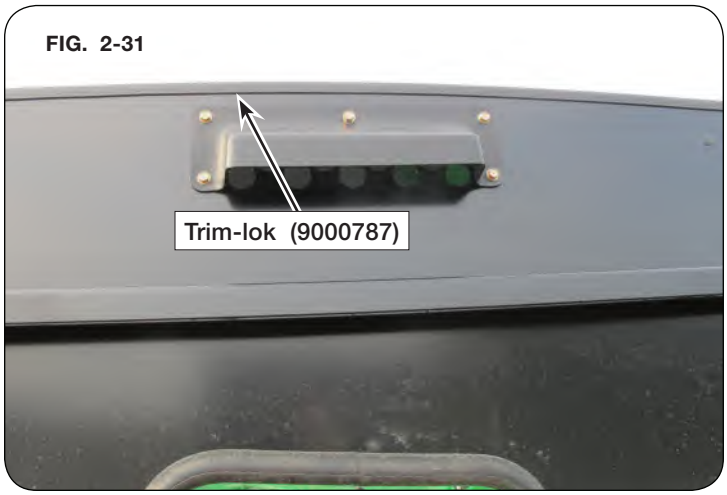
5. Attach sideboard cover plates (296249B) to the end cap extension panels with 5/16”-18UNC x 3/4” large flange screws (91256), 5/16”-18UNC flange nuts (91257). (FIG. 2-30)

FIG. 2-30



6. Install Trim-lok (9000787) along the top of the front end cap. (FIG. 2-31)

FIG. 2-31



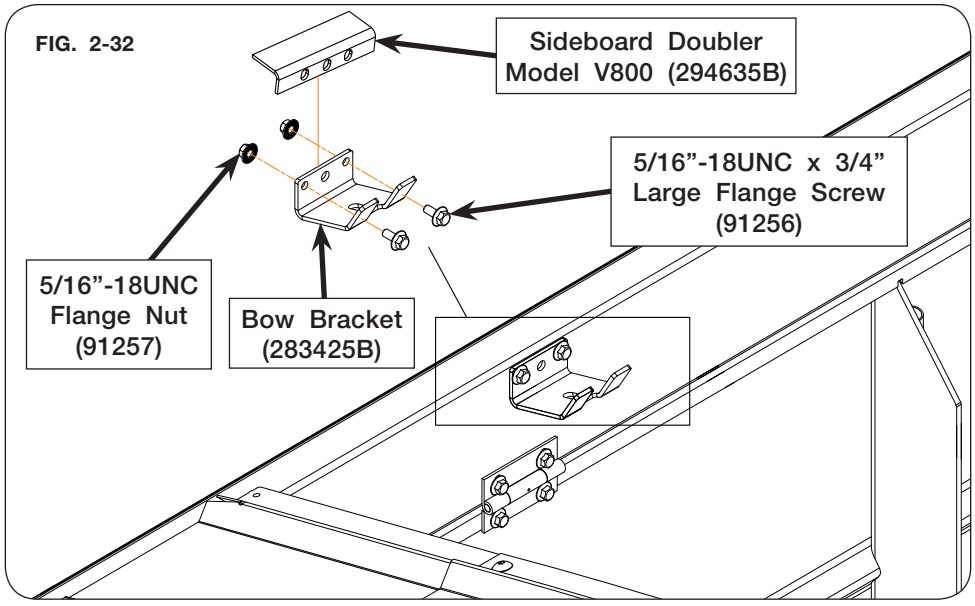
Weather Guard Tarp Installation (continued)

NOTE: For V1000 carts, skip to step 9 on next page.

NOTE: Ensure RH and LH sideboard doublers are inside the upper sideboard lip. See FIG. 2-32.

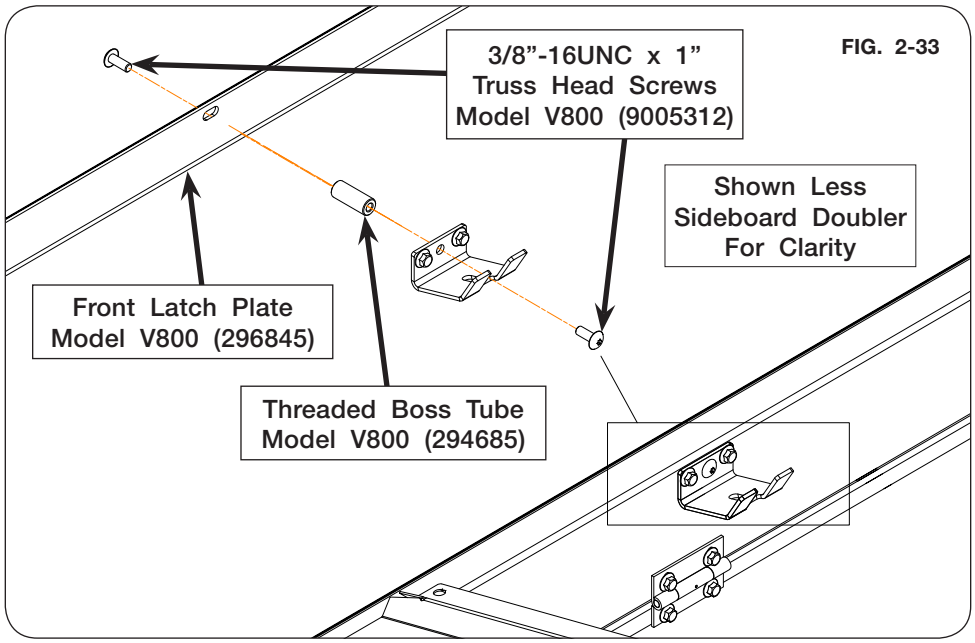
7. Attach the bow brackets (283425B) by sliding the sideboard doubler (294635B right-hand side & 289986B left-hand side) under the upper lip of the sideboard. Place the bow brackets as shown in FIG. 2-32 and attach using 5/16"-18UNC x 3/4" large flange screws (91256) and 5/16"-18UNC flange nuts (91257). Repeat 4 addtional times for right-hand side. (FIG. 2-32)

FIG. 2-32



8. Attach the front latch plate (296845) with 3/8"-16UNC x 1" truss head screws (9005312) and threaded boss tube (294685). (FIG. 2-33)

FIG. 2-33

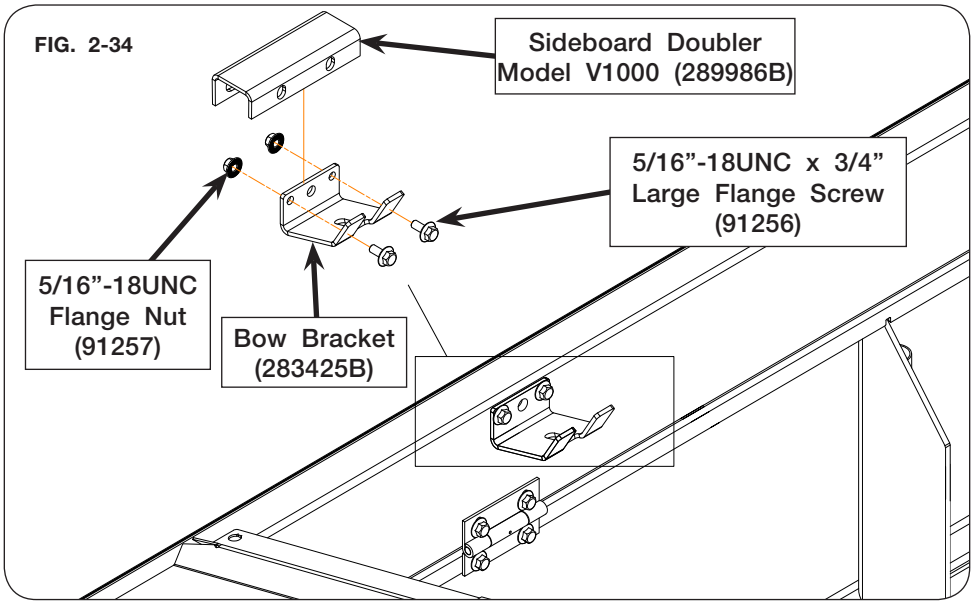


Weather Guard Tarp Installation (continued)

NOTE: Ensure RH and LH sideboard doublers are inside the upper sideboard lip. See FIG. 2-34.

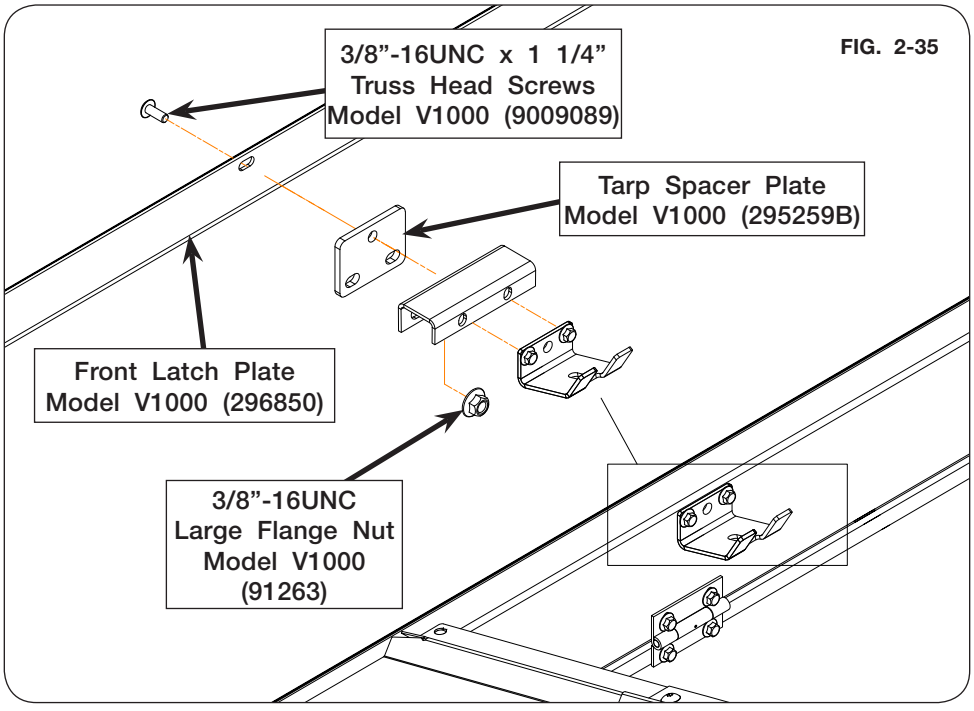
9. Attach the bow brackets (283425B) by sliding the sideboard doubler (289986B - Qty. 5 right-hand & left-hand sides) under the upper lip of the sideboard. Place the bow brackets as shown in FIG. 2-34 and attach using 5/16”-18UNC x 3/4” large flange screws (91256) and 5/16”-18UNC flange nuts (91257). Repeat 4 addtional times for right-hand side. (FIG. 2-34)

FIG. 2-34



10. Attach the front latch plate (296850) with 3/8”-16UNC x 1 1/4” truss head screws (9009089), tarp spacer plate (295259B) and 3/8”-16UNC large flange nut (91263). (FIG. 2-35)

FIG. 2-35

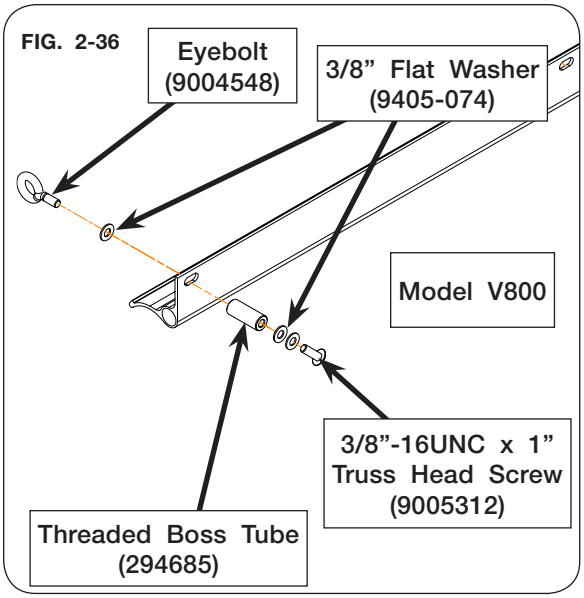


Weather Guard Tarp Installation (continued)

11. Attach front eyebolt (9004548) for tarp elastic. (FIGS. 2-36 and 2-37)

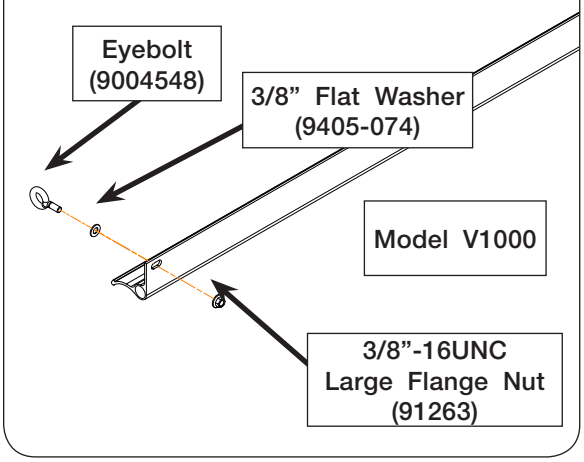
For V800: Insert threaded boss tube (294685) under the sideboard lip. Hold in place with eyebolt (9004548), 3/8”-16UNC x 1” truss head screw (9005312) and 3/8” flat washer (9405-074) as shown in FIG. 2-36.

FIG. 2-36



For V1000: Attach eyebolt (9004548) with 3/8” flat washer (9405-074) and 3/8”-16UNC large flange nut (91263) as shown in FIG. 2-37.

FIG. 2-37



12. Attach the rear of the front latch plate (Model V800 - 296845; Model V1000 - 296850) and the front and rear of the rear latch plate (Model V800 - 296846; Model V1000 - 296849) with truss head screws (Model V800: 3/8”-16UNC x 1” - 9005312; Model V1000: 3/8”-16UNC x 1 1/4” - 9009089) and 3/8”-16UNC large flange nuts (91263). (FIG. 2-38)

For V1000: Attach the tarp spacer plate (295259B) to rear latch plate using 3/8”-16UNC x 1 1/4” truss head screws (9009089) and 3/8”-16UNC large flange nut (91263) as shown in FIG. 2-38.

NOTE: This is the only tarp spacer plate without a sideboard doubler. See FIG. 2-38.

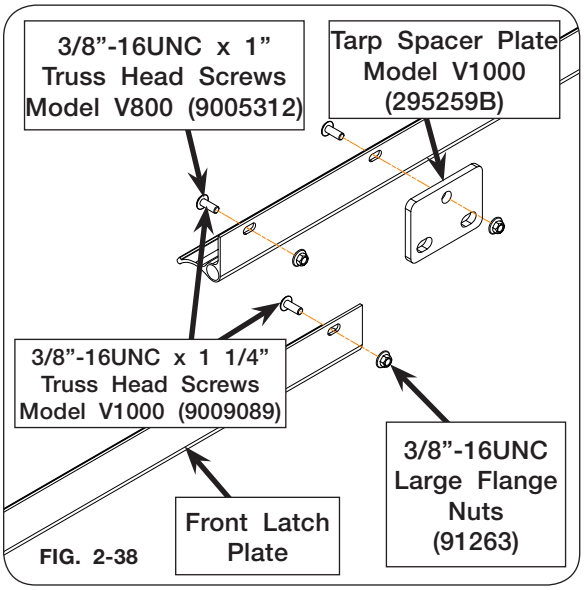


FIG. 2-38

Weather Guard Tarp Installation (continued)

NOTE: Ensure sideboard doublers (289986B) are inside the left-hand sideboard lip. See FIG. 2-39.

13. Attach left-hand bow brackets (283427B) by sliding the sideboard doubler (Model V800: 289986B - Qty. 5 left-hand side; Model V1000: 289986B - Qty. 5 right-hand & left-hand sides) under the upper lip of the sideboard. Attach bracket with 5/16"-18UNC x 3/4" large flange screws (91256) and 5/16"-18UNC flange nuts (91257). (FIG. 2-39)

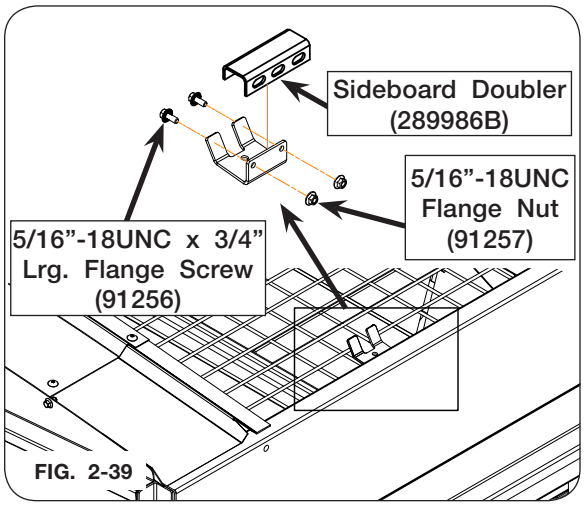
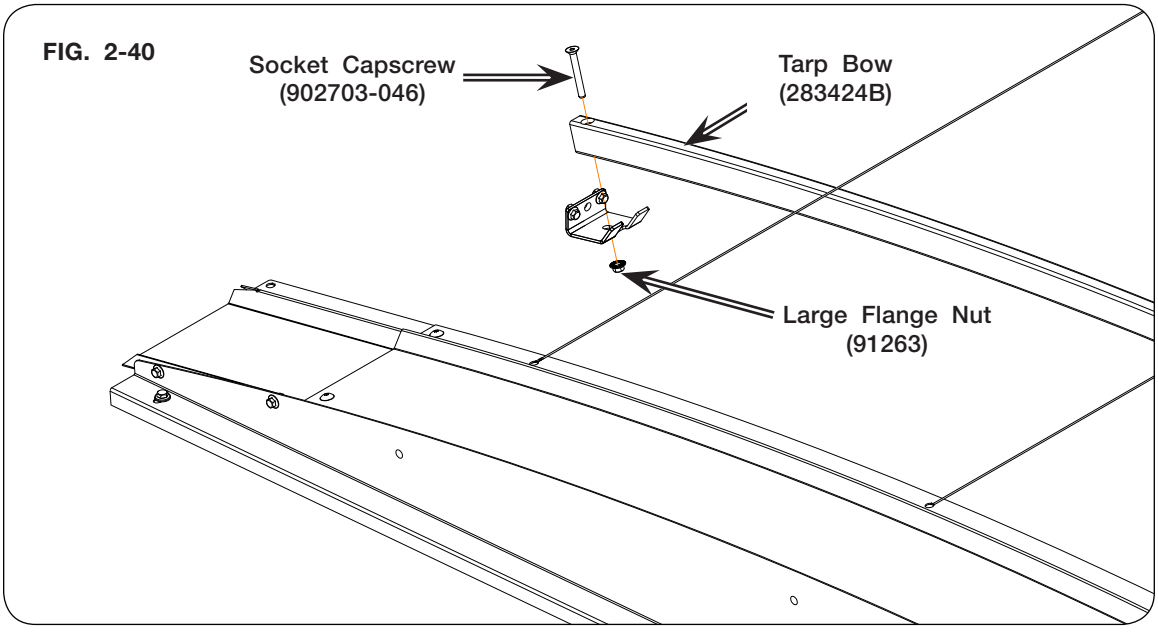


FIG. 2-39

14. Install five tarp bows (283424B) to RH and LH brackets using 3/8"-16UNC x 3" capscrew (902703-046) and 3/8"-16UNC (91263) large flange nut. (FIG. 2-40)

NOTE: Ensure capscrew head (902703-046) is flush with the top of bow weldment (283424B). (FIG. 2-40 and 2-41)

FIG. 2-40



Weather Guard Tarp Installation (continued)

15. Insert capscrew (902703-046) into the tarp bow (283424B). (FIG. 2-41)

16. Tighten all hardware on sideboards, end caps, sideboard brace tubes, and tarp bows.

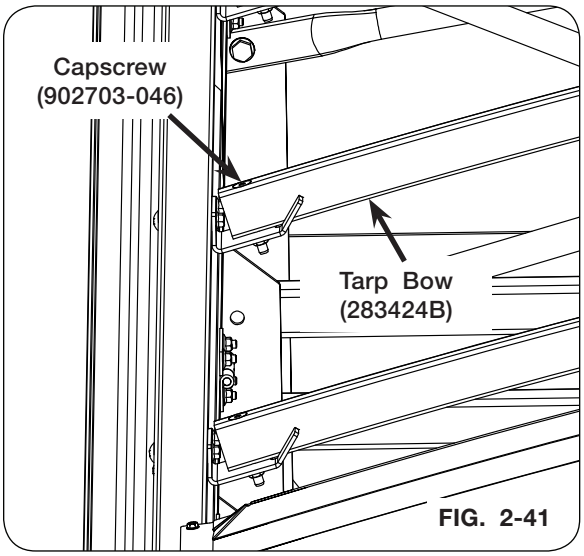
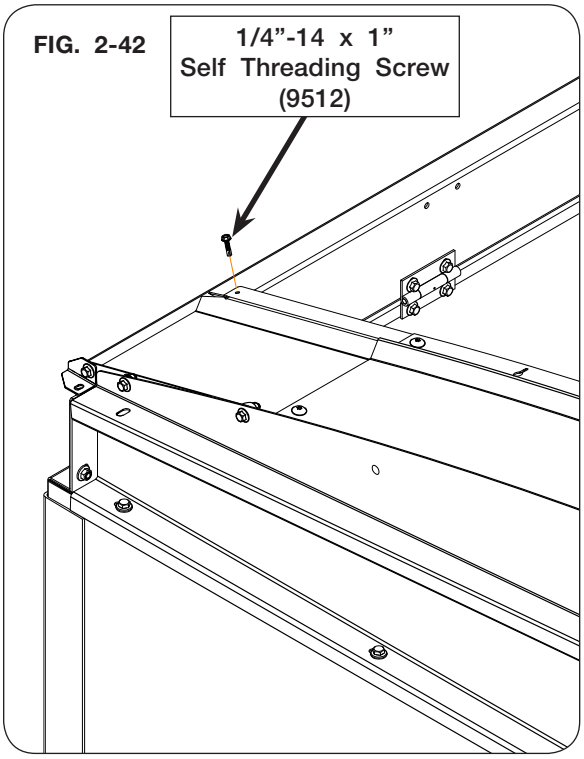


FIG. 2-41

17. Retain end cap extension panels (286843B - right-hand front & left-hand rear; 286842B - left-hand front & right-hand rear) to sideboards using 1/4”-14 x 1” self-threading screws (9512) (FIG. 2-42)

NOTE: Grain carts with any unused holes on the side of the cart need to be plugged. Use pre-drilled 1/8” locator holes in the right-hand side of the cart. Install with 1/4” self-tapping screws and nuts provided.

FIG. 2-42



Weather Guard Tarp Installation (continued)

Cables, Tarp, Tubes

18. Attach the cable assemblies (Model V800 - 9007675; Model V1000 - 9007896) to the front end cap (296127B) slotted holes, see FIG. 2-43. Run the cables over the top of the bows (283424B). Route the cables through the holes in the rear end caps (296127B), see FIG. 2-44. Secure the cables to the slot in the bracket (281712B), see FIG. 2-45.

19. To tighten the cables, tighten the capscrew (TA0907131-0) on the outside of the cart until the bracket makes the cables snug tight, see FIG. 2-46. **Do not overtighten.**

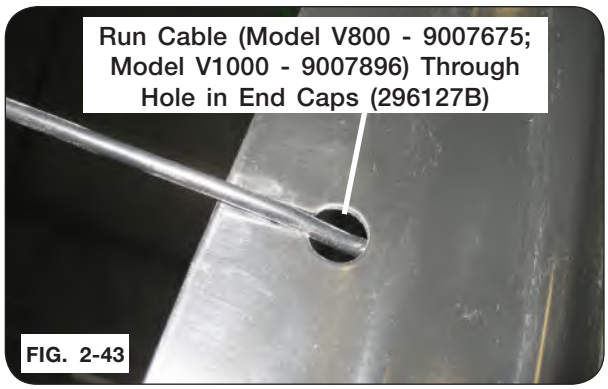


FIG. 2-43

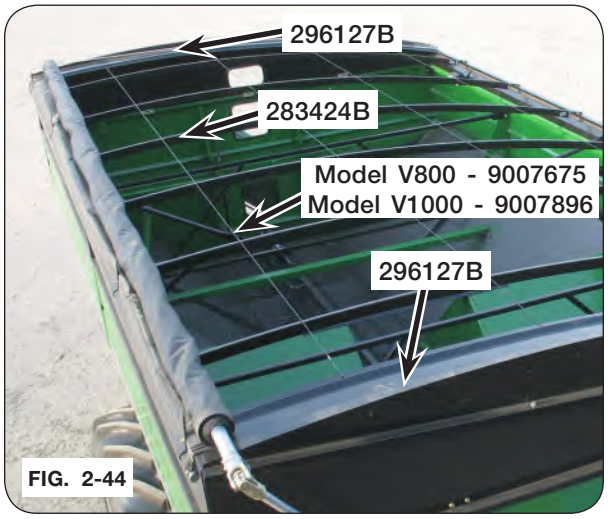


FIG. 2-44

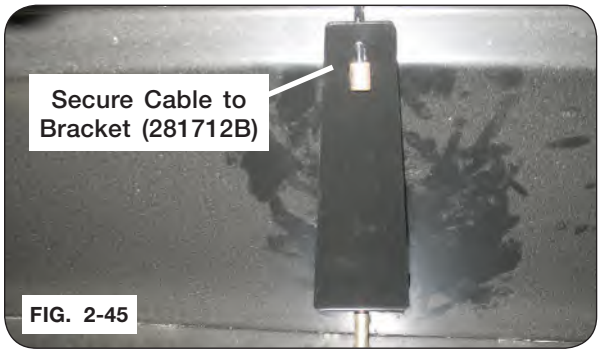


FIG. 2-45

FIG. 2-46

Weather Guard Tarp Installation (continued)

20. **(2-person operation)** On a clean floor, lay the tarp out flat with the raw edge of the hems and pockets down and the exterior side facing up.

NOTE: This step requires the use of a pop-rivet gun for use with 3/16" size rivets.

21. Insert the small 1 1/8" fixed tube weldment (Model V800 - 221808; Model V1000 - 291083) by sliding it into the small pocket of the tarp. Leave 1" of the tube sticking out one end and drill a 3/16" hole through the center of the outer reinforcement strap and tube. Fasten with a screw (9005197). At the other end, pull on the tarp by hand to stretch it until there is 1" of tube sticking out. Fasten with 9005197 self drilling screw. Press the 1 1/8" plugs (9005088) into each end of the tube. (FIG. 2-47)

INSTALLATION TIP: Tarp is designed to be stretched the length of the tube to reduce wrinkling. For easier assembly, apply liberal dusting of dry lubricant (talc, graphite or baby powder) on tube and inside of tube pockets before sliding tubes in pockets.

22. Insert the 2" roll tube into the large pocket, with the splined shaft to the rear. Measure 10 1/2" for Model V800; 11 1/2" for Model V1000 from the end of the spline to the start of the tarp. Install the first U-clamp (9004949) and self-drilling screws (9005197) on the first reinforcement strap, to secure the tarp to the tube. Stretch tarp tight, and then install U clamp and self-drilling screw on the next reinforcement strap. (FIG. 2-47)

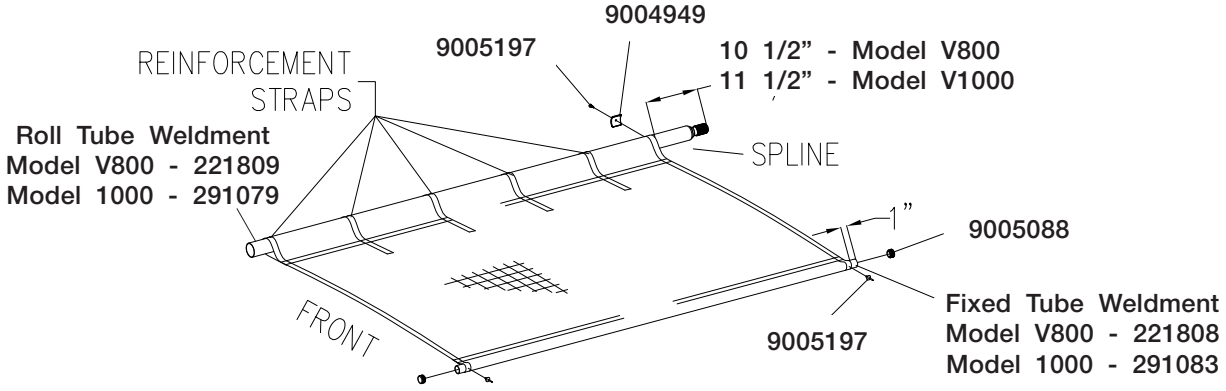


FIG. 2-47

Weather Guard Tarp Installation (continued)

23. Insert knotted stretch rope (221722) through flat washer (9405-074), plastic tube (221668), end plug (9004947) and hose (TA806225). Place these items as an assembly into front end of roll tube weldment (Model V800 - 221809; Model V1000 - 291079) and press the end plug into the end of the tube. Fasten self-drilling screw (9001396) through side of roll tube into end plug (9004947) to retain plug into tube. Slide hose (TA806225) over bungee. (FIG. 2-48)

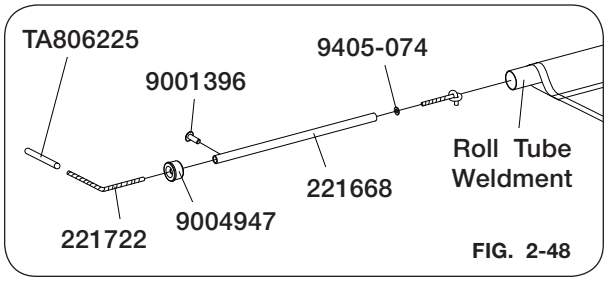


FIG. 2-48

24. Using a safe lifting device rated for a minimum of 250 lbs. position the tarp on top of the left-hand side of the cart. Hand roll the tarp into open position. Place the 1 1/8" stationary tube side of the tarp on top of the left side of the cart, centered from front to back of cart. BE CAREFUL NOT TO LET THE TARP ROLL OFF OF THE BOX. (FIG. 2-49)

NOTE: The front and rear stops should be 1 foot from the ends of the cart. (FIG. 2-49)

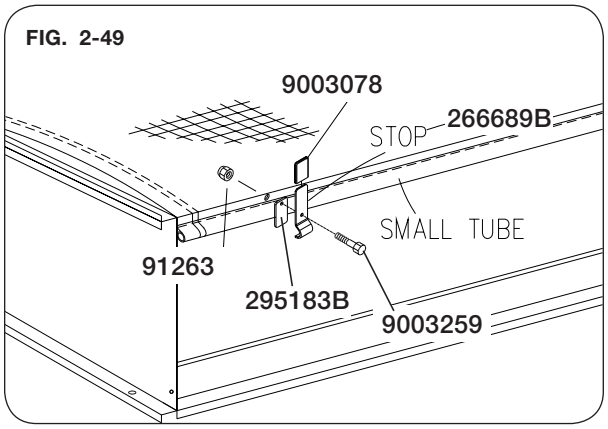


FIG. 2-49

25. Assemble the tarp, stops (266689B), tarp stop spacer (295183B), and caps (9003078) to the left sideboards by poking a hole through the tarp and using 3/8"-16UNC x 1 1/4" flange screws (9003259) and 3/8"-16UNC flange nuts (91263). Assemble the stop through the left sideboard and sideboard doubler. Repeat at each tarp bow. (FIG. 2-49)

26. Insert U-joint (9004977) over splined end of roll tube weldment (Model V800 - 221809; Model V1000 - 291079) and secure with wire lynch pin (9005305). Insert crank handle (221749) into U-joint and secure with roll pin (9392-180). Insert phillips head bolt (903172-450) into bottom hole of crank handle (221749) and. Insert 1 1/4" plug (9005089) into end of handle. (FIG. 2-50)

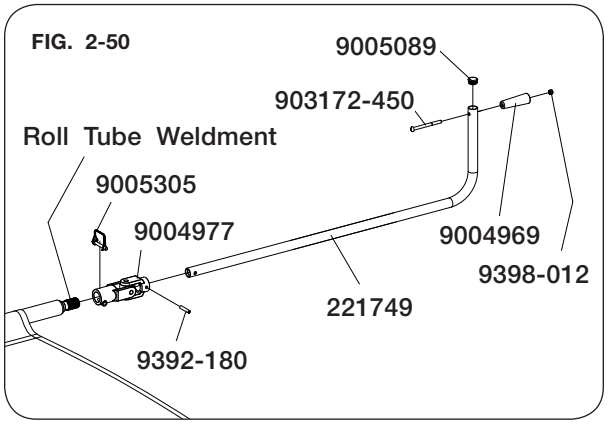


FIG. 2-50

27. Turn crank handle clockwise with tarp rolled up under latch plate, thread bungee cord end through top of eyebolt (9004548). 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. 2-51)

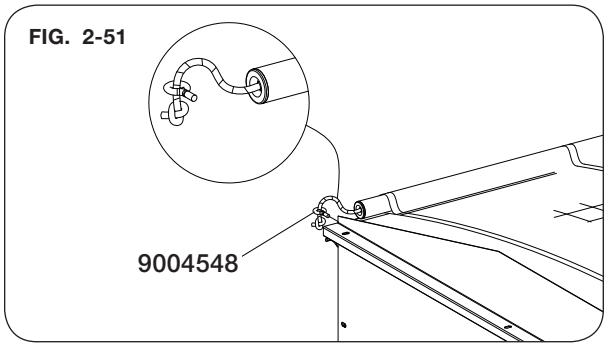


FIG. 2-51

Weather Guard Tarp Installation (continued)

28. Locate the mounting bracket underneath the rear perimeter, centered on the box. Use 1/2”-13UNC x 1” capscrews (9390-099) and 1/2”-13UNC flange nuts (9002058) to attach the crank handle (Model V800 - 265706B; Model V1000 - 287394B). Attach handle retainer (221770B) to plastic handle (9004969) using capscrew (9390-055) and locknut (9928). (FIGS. 2-52 & 2-53)

29. Test tarp for proper working motion.

NOTE: A slight bow in the crank tube should indicate adequate tension.

NOTE: U-Joint may need to be re-indexed on the splined shaft of the roll tube to achieve an ideal tarp tension. Over time it may need to be readjusted.

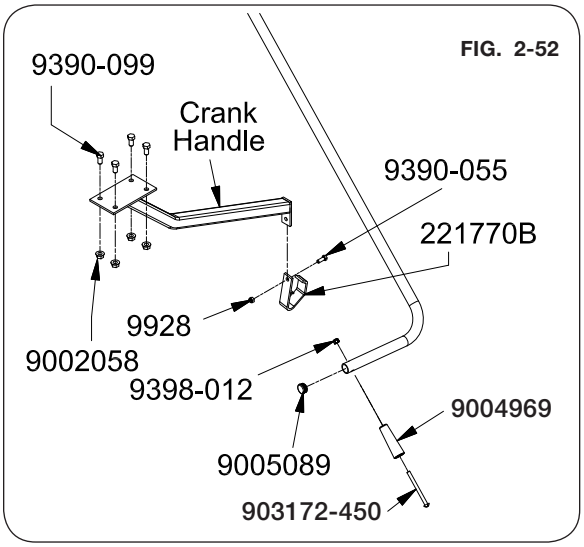


FIG. 2-52


FIG. 2-53

SMV Emblem & SIS Decals

The reflective surface of the SMV must face rearward. This may require removal of film protecting the reflective surface or removing and reinstallation of the SMV. (FIG. 2-54)

When reinstalling the SMV make sure that it is mounted with the wide part of the SMV at the bottom. (FIG. 2-54)

Ensure the front and rear SIS decals are clean and visible after shipping. (FIG. 2-55)

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

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

FIG. 2-54

FIG. 2-55

Video System (Optional)

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

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

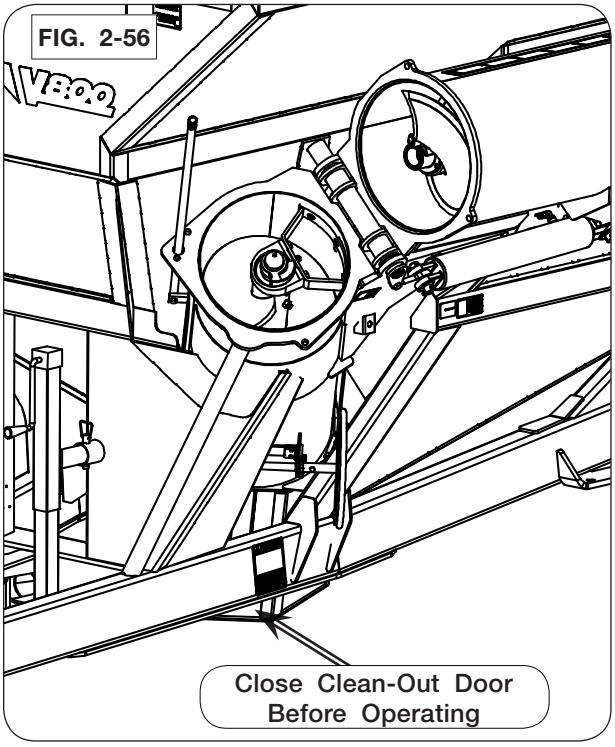
- *Before running the auger, inspect and verify all grain dust and filings are removed from inside the lower auger to prevent machine damage and the cleanout door is completely closed.*

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

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 & Pivot (if applicable)
8. Auger Startup & Shut-down
9. Brakes (if applicable)
10. Tarp
11. Video System Camera

FIG. 2-56



Notes

Section III
Operation

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

Operating Checklist

- ❑ Read and understand all safety precautions before operating cart.
- ❑ Check axle spacing to be sure axle is adjusted from shipping position to desired operating width. (If applicable)
- ❑ Set or Calibrate tractor PTO control engagement to MINIMUM setting. Refer to tractor operator's manual for setting information.
- ❑ Torque wheel nuts and check tire pressure as specified in MAINTENANCE section.
- ❑ Verify track has been aligned and is properly conditioned. (If applicable)
- ❑ Verify track grease pump reservoir is full. Refer to track auto grease pump instruction sheet (282986) for setting information. (If applicable)
- ❑ Inflate tires to specified air pressure. (if applicable)
- ❑ Lubricate all grease fittings and check gearbox oil level.
- ❑ Inspect cleanout door assembly for play or movement, refer to "Adjusting Cleanout Door" in the MAINTENANCE section.
- ❑ Test operation and functionality of work lights, flow door, flow door indicator, auger fold, spout rotate, spout tilt, tarp & if equipped, scale, hydraulic drive, electric tarp & video system.
- ❑ Verify all reflective decals are correctly located.
- ❑ Check SMV sign and SIS decals are clearly visible with the cart attached to the tractor.
- ❑ Verify transport lights are working properly. Check and follow all regulations before towing on a road or highway.
- ❑ Verify tractor drawbar height and length. See "Preparing Tractor" in this section.
- ❑ Verify PTO length, see "Verify Telescoping PTO Shaft Length" in MAINTENANCE section.
- ❑ Ensure transport chains are installed and properly secured. See "Transport Chain Connection" in OPERATION section.
- ❑ Ensure screens over the lower auger are in place and properly secured.
- ❑ Test run the augers. See "Auger Operation" in OPERATION section.

Preparing Tractor

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

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

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

Set tractor PTO modulation to MINIMUM. Check that your tractor has the latest PTO engagement software from the OEM. If unsure, contact your local dealer for tractor capabilities and recommended setting for grain cart operation.

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

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

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

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

NOTE: The grain cart comes with a CAT 4 hitch utilizing a 2" pin. Bushings are provided for other pin sizes. An optional clevis hitch is available if your tractor has a single-tang drawbar.

⚠ CAUTION

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

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

Preparing Cart

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

Hardware

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

Pivot Pins

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

Hitch

Check hitch wear plates for damage and wear. Be aware of the size of any hitch adapter bushings in use. 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)

Soft Start System

Check the missile shaft wear. Make sure there is grease on the missile cone to prevent binding during the fold and unfold sequence. Inspect the split bushing in the soft start receiver for uneven wear.

Hydraulic System

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

Optional Hydraulic Brake System

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

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

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

Hitching to Tractor

Drawbar Connection

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

The cart comes with a CAT 4 hitch for use with a 2" 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. (FIG. 3-1)

NOTE: Optional clevis hitch is available if your tractor has a single-tang drawbar.

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 setting drawbar length.

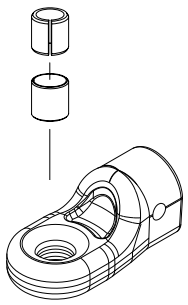
⚠ WARNING

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

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" (FIG. 3-3). Position the cast hitch to help assure a level cart when loaded, or the rear of the hopper slightly higher than the front, to maintain rear slope cleanout. Whenever the cast hitch is flipped, the driveline clearances needs to be reviewed.



Hitch Bushings FIG. 3-1

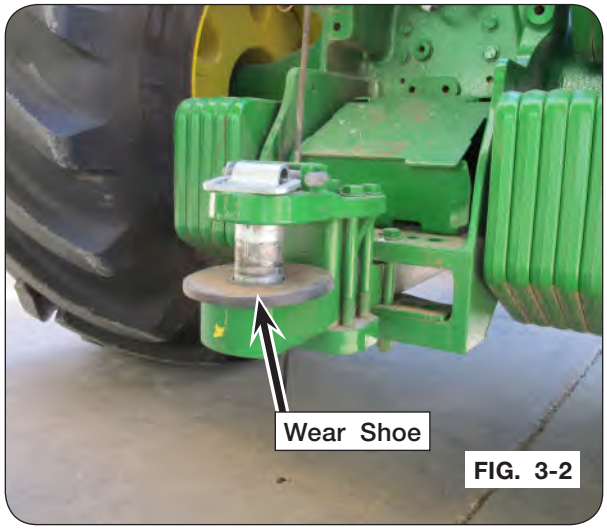


FIG. 3-2

2 7/8" Higher Than The Standard Position

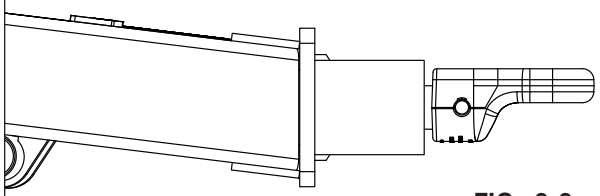


FIG. 3-3

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)*

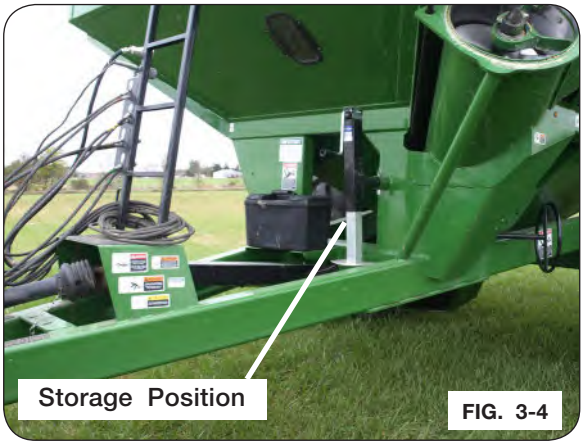


FIG. 3-4

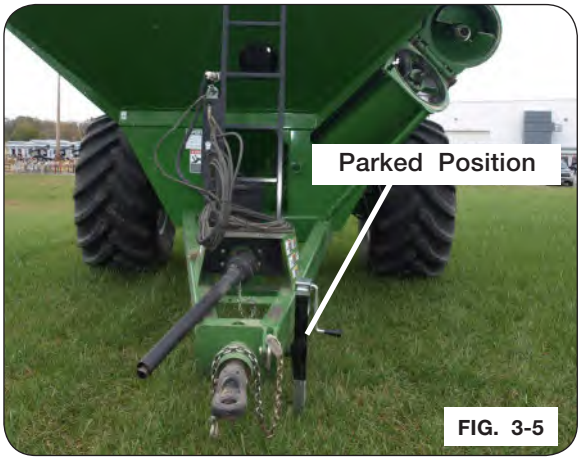


FIG. 3-5

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 OR DAMAGED. DO NOT WELD TRANSPORT CHAIN.**

Always use intermediate chain support when connecting cart directly to a tractor. DO NOT use the intermediate chain support as the chain attaching point. Figure 3-6 shows how the transport chain must be installed between cart and tractor.

The transport chain is rated for towing the grain cart empty on public roads. Use only ASABE approved chains. Allow no more slack in chain than necessary to permit turning.

FIG. 3-6

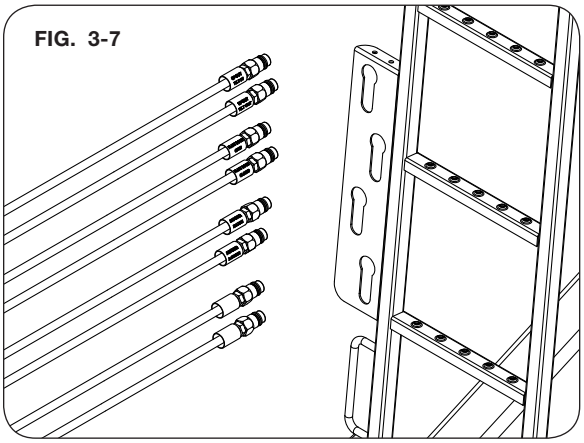
Hitching to Tractor (continued)

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, attach auger fold circuit to coupler #4, and brake pressure to special brake port, if equipped.

This unit is equipped with hose grips attached to 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 Raise
	- Auger Lower
Tan	+ Spout Out
	- Spout In
Yellow	+ Spout Tilt Out
	- Spout Tilt In

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 positions. 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. (FIG. 3-7)

Hitching to Tractor (continued)

Hydraulic Connections for Hydraulic Drive

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

It is possible that the tractor utilizes more than one pump to achieve higher hydraulic flow rates. To maximize hydraulic flow to auger hydraulic drive motor, refer to tractor's Operator's Manual to determine which couplers should be used to achieve maximum flow. A flow test by your dealer's tractor technician can be performed and is recommended to assure maximum flow without exceeding motor limits.

A case drain hose is supplied with the 55 and 100 gpm kits and must be used.

IMPORTANT

- *The case drain line is to be connected to the tractor's pressure free return line ONLY! DO NOT connect to SCV! DO NOT plumb both case drain and hydraulic drive return lines to low pressure return. Pressure in return lines will back flow into case drain and shorten motor life.*

To avoid thermal shock, maintain a temperature difference less than 50 degrees between the tractor's hydraulic fluid and the motor's hydraulic fluid. With the flow door closed, run the motor in very short intervals (bursts with 15 second pauses) or low hydraulic flow rate at startup, in order for hydraulic oil to slowly exchange colder oil in the motor with warmer oil from the tractor. Particularly advised on cold days and/or first loads of the day.

Hitching to Tractor (continued)

Electrical Connections

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

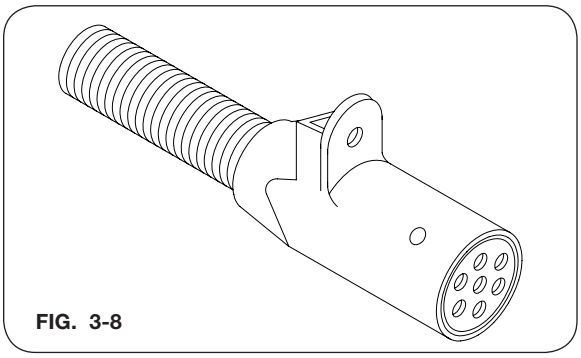


FIG. 3-8

Attach the 7-pin connector to tractor as shown in FIG. 3-9.

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

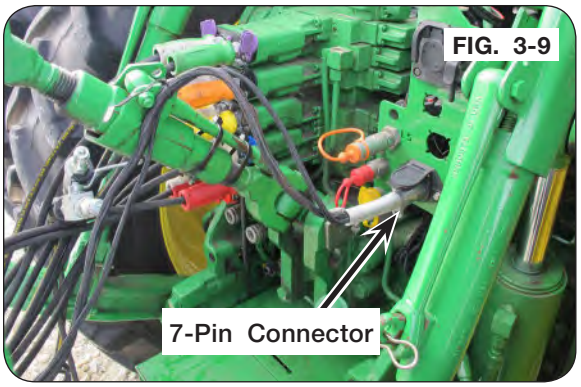


FIG. 3-9

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

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

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

If the flashers and/or turn signal is on; the Side Marker lights flash in unison with their respective side's amber turn lamp.
Compliance with all lighting and marking laws is the responsibility of the operator at the time of travel.

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

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

Optional Implement Brake Connection

Connector must apply 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)

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. See "Brake Pressure Manual Release" in MAINTENANCE section.*

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 Install" 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.

Grain carts equipped with brakes require a tractor to have SAE5676 ports. This allows the cart brakes to engage when tractor brake pedals are depressed. If tractor does not have the port accessible, please contact your tractor dealer to purchase the SAE5676 ports.

Verify brake operation/release before towing.

⚠ CAUTION

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

Rotate the directional spout to the narrowest transport width position.

Regulate speed to road conditions and maintain complete control.

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

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

Always 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, the PTO telescoping shaft must be removed and placed 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, store the PTO driveshaft in the brackets provided on the rear of the frame rail.

Hitching to Tractor (continued)

PTO Chain

NOTE: PTO chain is intended to prevent the shield from rotating against non-moving parts and thereby preventing shield damage. A properly installed chain will increase the service life of the shield.

1. Chains must be fitted so as to allow sufficient articulation of the shaft in all working positions. (FIG. 3-10) Care must be taken to be sure that chain does not become entangled with drawbar hitch or other restrictions during operation or transport of machine. (FIG. 3-11)

2. The PTO driveshaft must not be suspended from the chain. (FIG. 3-12)

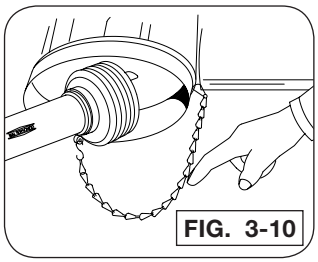


FIG. 3-10

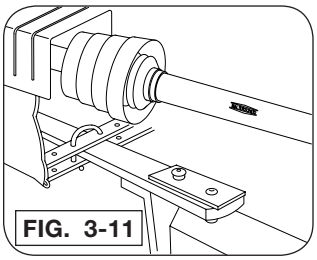


FIG. 3-11

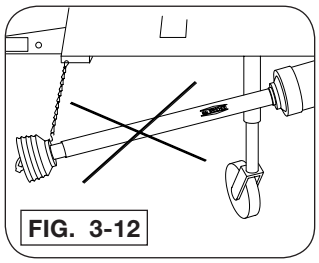


FIG. 3-12

Auger Operation

PTO Driven Auger

DANGER

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

- **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.**

WARNING

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

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

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

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

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

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

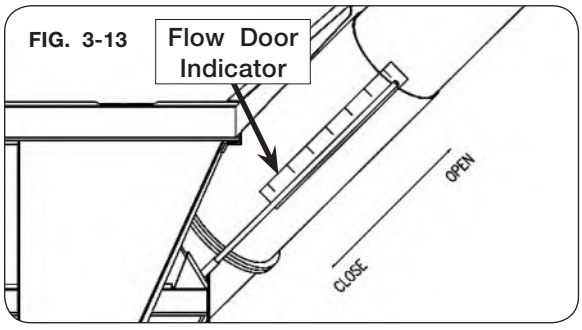


FIG. 3-13

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)

IMPORTANT

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

NOTE: If an overload occurs, (Shearbolt failure or excessive heat/smoke from friction 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.

Auger Operation (continued)

PTO Driven Auger (continued)

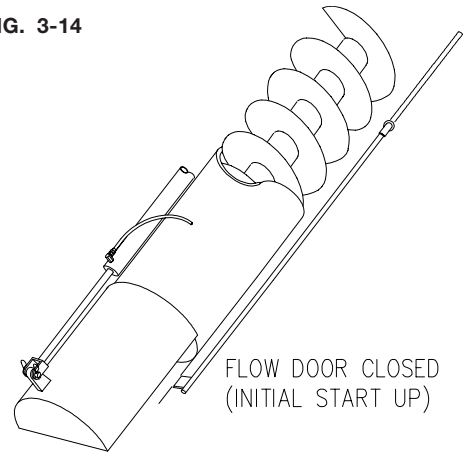
5. To slow or stop grain flow, close flow door, DO NOT reduce tractor/PTO RPM as a means to control grain flow. Close flow door fully when unloading is complete. (FIG. 3-14)

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



Auger Operation (continued)

Hydraulic Driven Auger Option

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

IMPORTANT

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

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

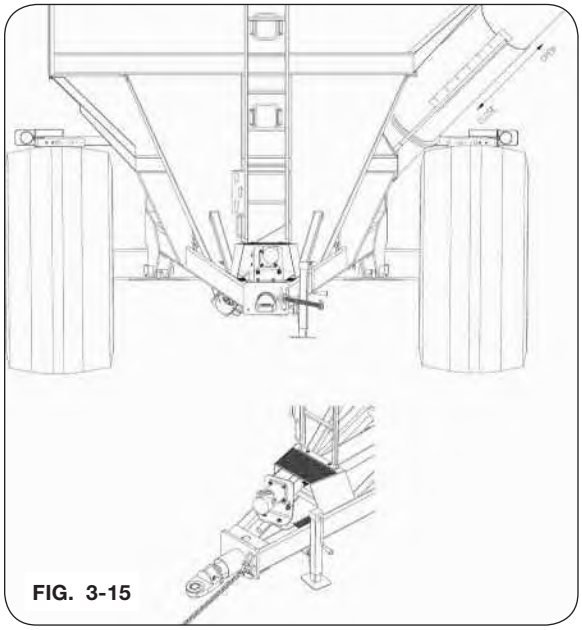


FIG. 3-15

Auger Operation (continued)

Hydraulic Driven Auger Option (continued)

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

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

2. Choose an area free from obstructions and fully unfold auger to the unloading position.

3. Connect hydraulic hoses to tractor hydraulic circuits. Attach pump pressure hoses to RETRACT ports on tractor.

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

NOTE: The dual or triple connections help utilize full tractor hydraulic power at the cart hydraulic motor. For tractors that have more than 55 GPM or 100 GPM available pump output, use tractor flow controls to regulate total output to a maximum of 55 GPM or 100 GPM.

4. Engage hydraulic drive circuits at low engine RPM one at a time, then increase engine to full throttle. See hydraulic connections for hydraulic drive in previous "OPERATIONS" sections for cold starts.

5. While watching hydraulic pressure gauge, begin slowly opening flow control door. Stop opening flow control door when pressure (on hydraulic gauge by pump) climbs to within 200 psi less than maximum tractor hydraulic pressure. Ideally, maintaining maximum PTO RPM will optimize unloading performance.

IMPORTANT

- *If auger stalls during unloading, **immediately** place tractor hydraulic controls for motor functions in **FLOAT** to stop auger. Close flow control door, then move all hydraulic controls to **HOLD**. Relieve auger grain pressure by opening auger cleanout door to remove some grain before attempting to restart auger.*

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

7. Stop auger by placing both auger hydraulic circuits in FLOAT. This reduces strain on driveline components and prolongs hydraulic motor life. Move controls to HOLD after auger has come to a complete stop.

8. Choose an area free from obstructions and fully fold auger to the transport position.

Video System (Optional)

IMPORTANT

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

The video system kit includes its own operation instruction sheet.

Weather Guard Tarp

⚠ WARNING

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

IMPORTANT

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

Always use adequate caution when operating tarp.

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

Open and close the tarp evenly.

Make sure tarp is open before loading.

Make sure all persons are clear of the tarp system before and during operating.

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

If tarp is covered with snow, remove snow before operating.

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

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

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

Weather Guard Tarp (continued)

1. Using both hands, carefully remove tarp handle from the tube holder. (FIG. 3-16)
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 down perpendicular to the ground. Continue by lifting it up into the tube holder.

NOTE: Tarp handle 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 in tube holder.

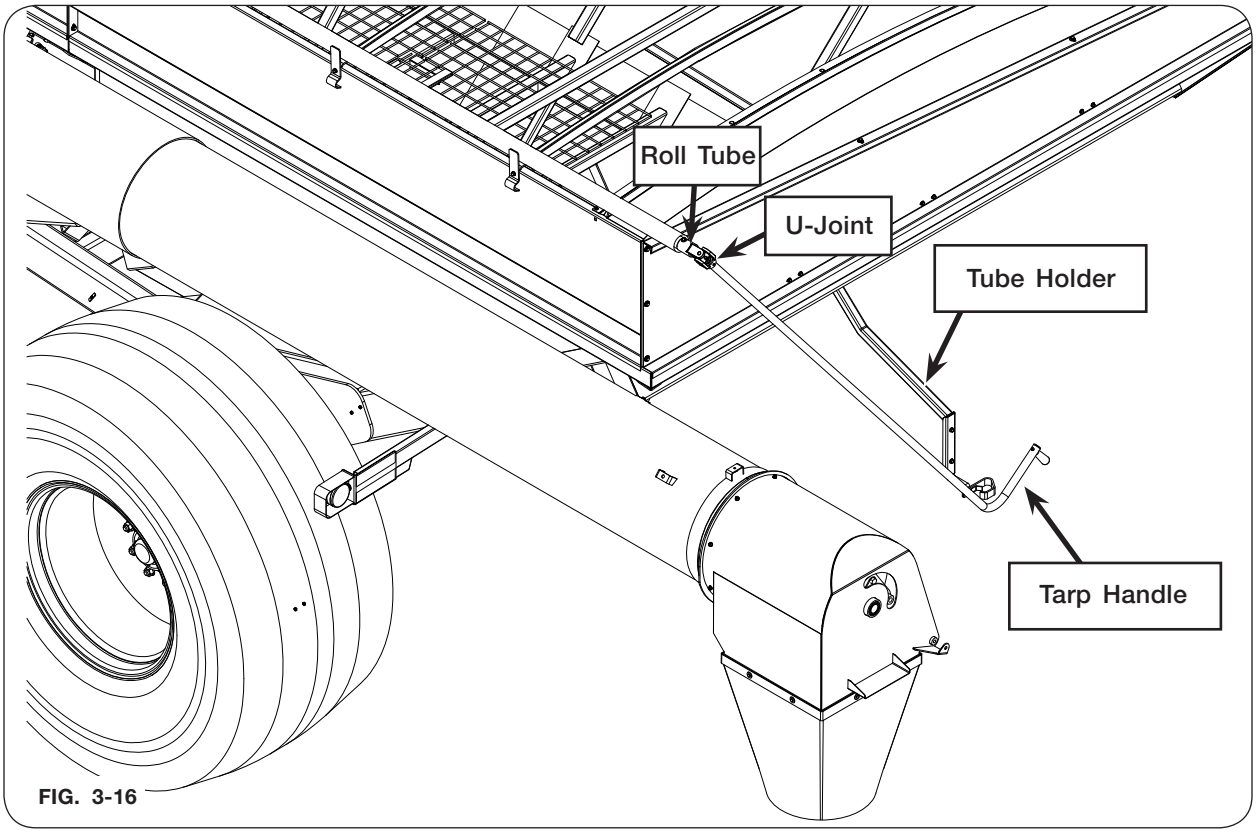


FIG. 3-16

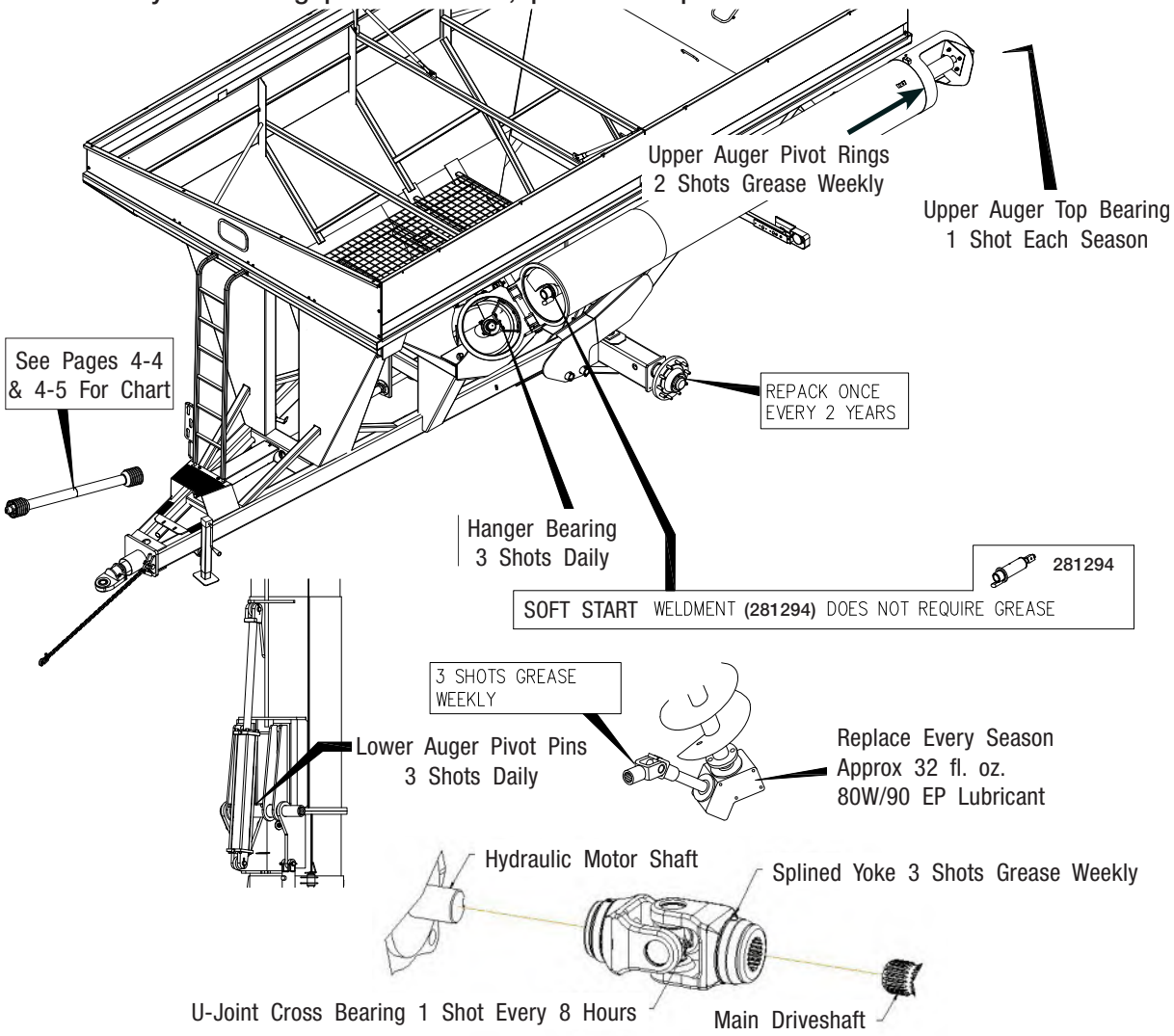
Notes

Section IV
Maintenance

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

Lubrication

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



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

Lubrication (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 - Benzi	-	EP-2	1 Shot	See Next Pages
Gearbox -- Remove Cover - Check oil level every 2 weeks. Replace oil every season. Refer to Gearbox in MAINTENANCE section for instructions.	1	EP80W90	Approx 32 oz	Once Every Season
U-Joint Cross Bearing - Driveline	2	EP-2	1 Shot	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
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

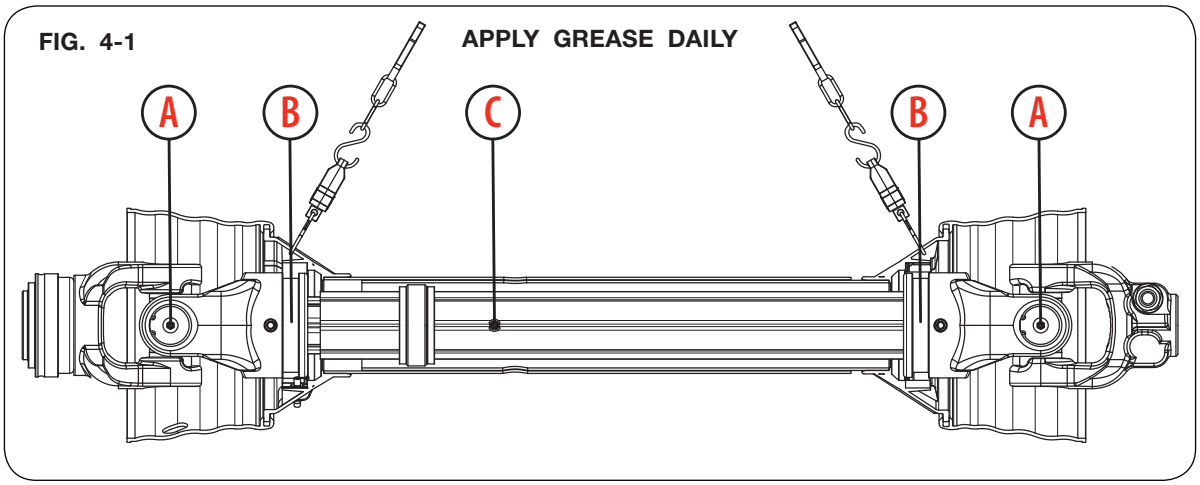
*NOTE: Hanger bearing contains hydraulic shut-off grease zerk (9005240) with pressure relief to prevent over-greasing that could push bearing seals out. If grease is coming out of the relief on the zerk this is normal and the bearing contains enough grease.

PTO Driveshaft Lubrication - Benzi PTO

Lubricate with NLGI grade 2 grease before starting work and every 8 operating hours. Clean and grease PTO driveshaft before each prolonged period of non-use. Molded nipples on the shield near each shield bearing are intended as grease fittings and should be lubricated every 8 hours of operation! Check and grease the guard tubes in winter to prevent freezing.

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

FIG. 4-1 APPLY GREASE DAILY



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

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.**

- **FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RASING, OR LOWERING.**

Purge air from system as follows:

A. Clear all personnel and objects from the area, including where the machine will have full range of motion during the hydraulic movement.
B. Pressurize the system and maintain system at full pressure for at least 5 seconds after cylinder rods stop moving. Check that all cylinders have fully extended or retracted.
C. Check oil reservoir in hydraulic power source and refill as needed.
D. Pressurize system again to reverse the motion of step B. Maintain pressure on system for at least 5 seconds after cylinder rods stop moving. Check that all cylinders have fully extended or retracted.
E. Check for hydraulic leaks using cardboard or wood. Tighten connections according to directions in "Torque Specifications" in the MAINTENANCE section.
F. Repeat steps B, C, D, and E 10-12 times.

IMPORTANT

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

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

Hydraulic System (continued)

Relieving Hydraulic Pressure

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

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 CARD-BOARD 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 the tractor parking brake, but leave tractor engine on throughout the procedure. Attach hydraulic brake coupler on the cart to the implement brake port at the rear of the tractor.
2. Apply and hold pressure to brake pedal.
3. Attach 1/4" hose to 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. 4-2)
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.

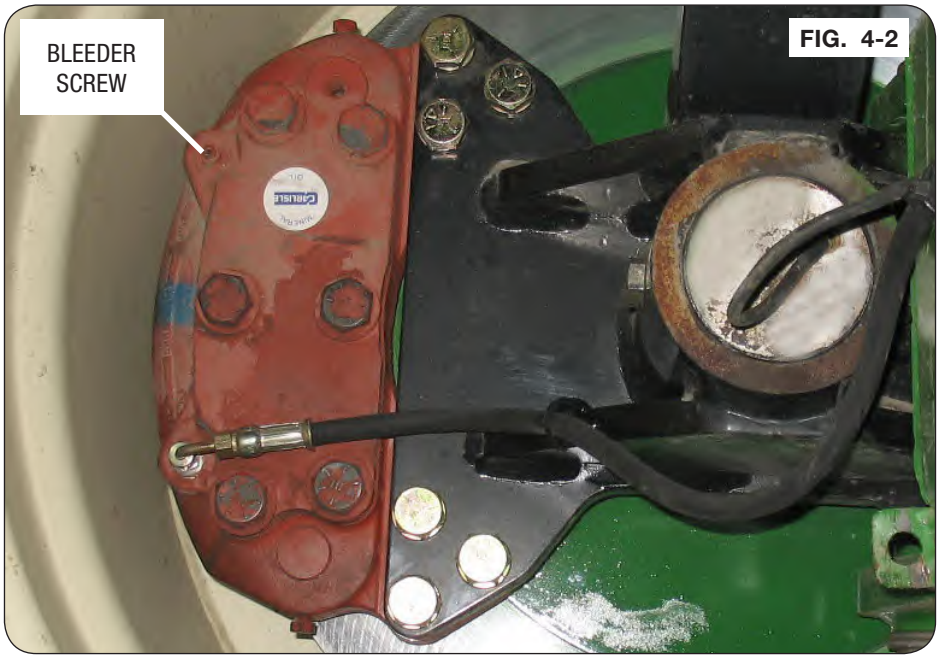


FIG. 4-2

Bleeding Procedure For Braking System (Optional) (continued)

Brake Pressure Manual Release

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

1. Set tractor parking brake. Block tires to prevent cart from moving. Shut off tractor and remove ignition key.

2. Attach 1/4" hose to bleeder screw fitting. Put hose in an approved container. Loosen the bleeder screw to relieve pressure and drain oil. Once pressure is relieved, close bleeder screw. (Fig. 4-4)

3. Repeat step 2 for the remaining brake calipers. Repeat until all brakes are relieved of pressure.

4. Perform a final tightness check of all caliper bleed screws.

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 16,000 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, support the weight of your grain cart using a safe lifting and load holding devices rated at 16,000 lbs. 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.

NOTE: For straddle duals, first remove the outer wheel and tire.

⚠ WARNING

- **FOR DUAL WHEELS, INNER WHEEL AND TIRE MAY FALL FROM HUB CAUSING SERIOUS INJURY OR DEATH. ALWAYS SUPPORT INNER WHEEL WHEN REMOVING OUTER WHEEL.**

4. If only changing wheel and tire, skip to Step 8; otherwise continue with Step 4.

   Remove the hardware retaining the hubcap. Next, remove the hubcap, gasket, cotter pin, castle nut and spindle washer. Remove hub with bearings from old spindle using a 200 lbs. safe lifting device.

Wheel, Hub and Spindle Disassembly and Assembly (continued)

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

   Remove the bolt and lock nut that retains the spindle to the axle. Using a safe lifting device rated for 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. 4-3) Install until flush with back face of hub. Using a safe lifting device rated for 200 lbs., install hub assembly onto spindle. Install outer bearing, spindle washer and castle nut.

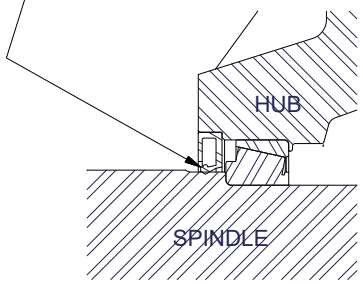


FIG. 4-3

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, 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 cart to the ground.

Wheels and Tires

Wheel Nut Torque Requirements

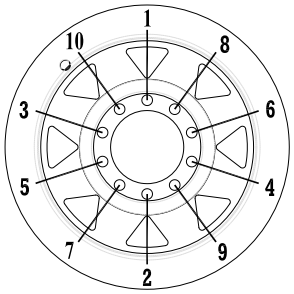
⚠ CAUTION

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

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

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

WHEEL HARDWARE	
SIZE	FOOT-POUNDS
3/4-16 (UNF)	365 ft.-lbs.
7/8-14 (UNF)	440 ft.-lbs.
M22x1.5	475 ft.-lbs.



10 BOLT

DIAGRAM 1

Wheels and Tires (continued)

Tire Pressure

The following is to be used as a general guide for tire inflation and figures can vary depending on specific brand of tire used. **It is important that tires are inspected after unit is loaded.** Start with minimum pressure 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 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	172A8	44
	800/60R32 R-3	181B	46
	900/65R32 R-3	191B	46
	900/60R32 R-1	176A8	44
	1250/50R32F IF/CFO R-1WNP	201D	46
	1250/50R32F IF/CFO R-1W	188B	30
	520/85R38 R-1	155A8	29
	520/85R38 R-1	173A8	64
	480/80R42 R-1	151A8	36
	520/85R42 R-1	157A8	29
	520/85R42 R-1	165A8	51
	520/85R42 IF/CFO R-1	169A8/B	35
	520/85R42 R-1W	169B	35
	420/80R46 R-1	151A8	44
	480/80R46 R-1	158A8	44
	380/90R46 R-1	152B	51

Wheels and Tires (continued)

Tire Pressure (continued)

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

Wheels and Tires (continued)

Tire Warranty

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

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

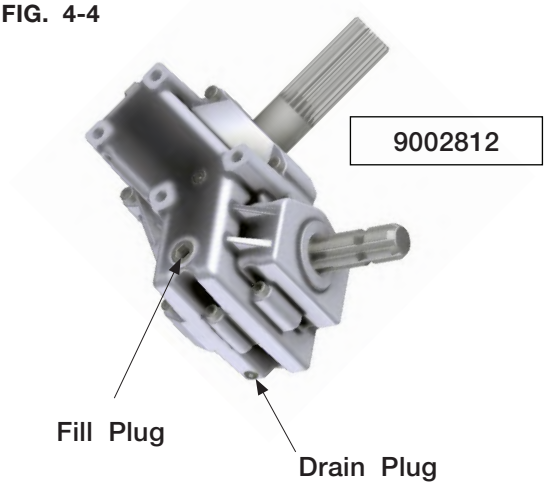
Gearbox Lubrication

The 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 or approximately 5/8" below the outside gearbox surface.

For Maximum gearbox life:
Check oil level every 2 weeks.
Replace oil every season with approx. 32 fl. oz. of 80W90 EP gear lubricant.

FIG. 4-4



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 4,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR(S) ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING MACHINE.**

- **WHEN WORKING AROUND THE IMPLEMENT, BE CAREFUL NOT TO BE CUT BY SHARP EDGES.**

Auger System (continued)

Lower Auger Removal

1. Remove the three 3/8”-16UNC x 1 1/2” capscrews (9390-057), six 3/8” flat washers (9405-076), three 3/8” lock washers (9404-021) and 3/8”-16UNC hex nuts (9394-006) which secures the hanger bearing weldment (281502B) to the auger tube (FIG. 4-5).

2. Using a safe lifting device rated for a minimum of 700 lbs., remove auger from auger tube and perform required repair or replacement.

3. Remove the two 5/8”-11UNC x 6” capscrews (9390-136), 5/8” lock washers (9404-029) and 5/8”-11UNC hex nuts (9394-014) which secures the drive dog to the auger as shown in FIGS. 4-7 and 4-8.

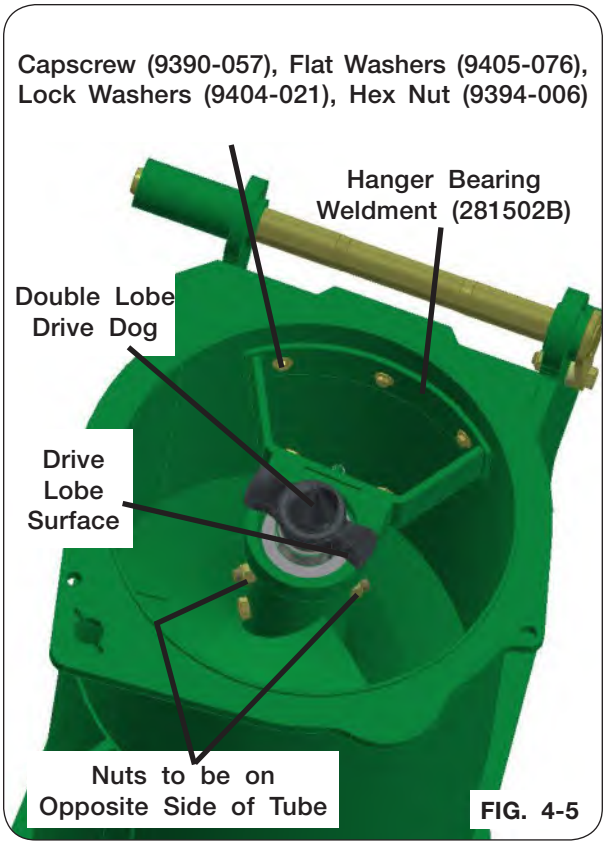


FIG. 4-5

Auger System (continued)

Lower Auger Replacement

1. Slide drive dog assembly out of old flighting.
2. The replacement auger is factory balanced. Remove entire auger from shipping crate and secure from rolling.
3. Coat the drive dog with anti-seize and slide into new auger flighting.
4. Rotate the drive dog so the driving edge is at 11 o'clock position when the finishing edge of the flighting is at 12 o'clock position. See FIG. 4-6.
5. Insert 5/8"-11UNC hardware into hanger bearing assembly and the auger tube. (FIGS. 4-9 and 4-10)
6. Torque 5/8"-11UNC hardware to 120 ft.-lbs.
7. Using a safe lifting device rated at least 700 lbs., lift the auger and hanger bearing assembly up. Slowly lower the auger down through the auger plate opening to intersect with the drive bushing.

(Continued on next page)

LOOKING DOWN INTO THE LOWER AUGER FLIGHTING

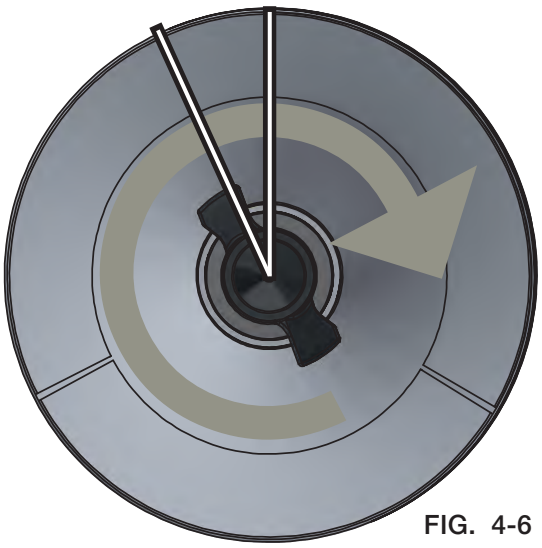


FIG. 4-6

Auger System (continued)

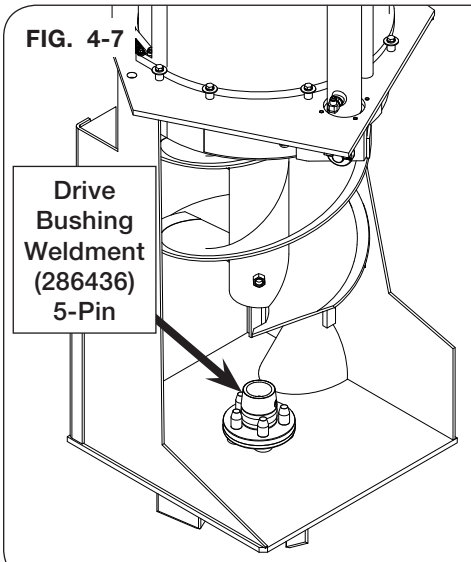
Lower Auger Replacement (continued)

8. Align auger end with the five pin drive bushing and securely engage together, see FIGS. 4-7 and 4-8. Secure hanger bearing to auger housing tube wall with original three 3/8"-16UNC x 1 1/2" capscrews and three 3/8"-16UNC flange nuts. Do not tighten.

9. Start tractor and slowly raise the upper auger tube into position and check for engagement between the upper auger drive dog with the lower auger drive dog as the auger rises.

NOTE: If the lower and upper auger are not properly positioned for full engagement, refer to "Upper Auger Replacement" section in MAINTENANCE for upper auger positioning and adjustment information.

FIG. 4-7



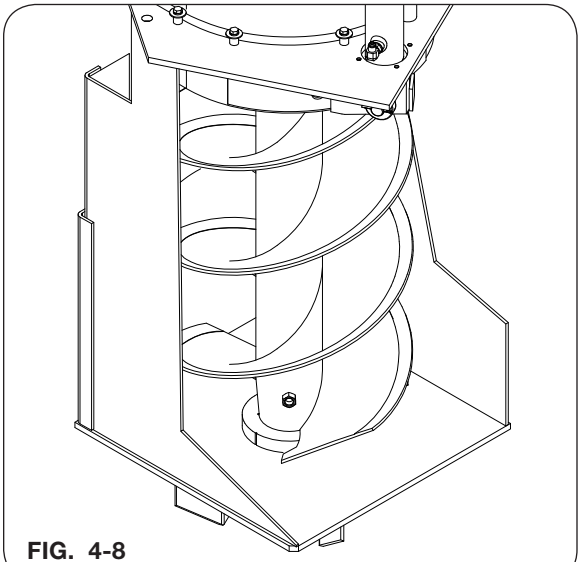


FIG. 4-8

10. Lower the upper auger assembly, turn off tractor and remove key. Slowly turn lower auger by hand while applying grease to the hanger bearing. Grease until the grease purges out and around the drive dog housing. Apply a light coat of surface grease to drive dog conical shaft. Wipe off excess purged grease from hanger bearing top seal area. (FIG. 4-9)

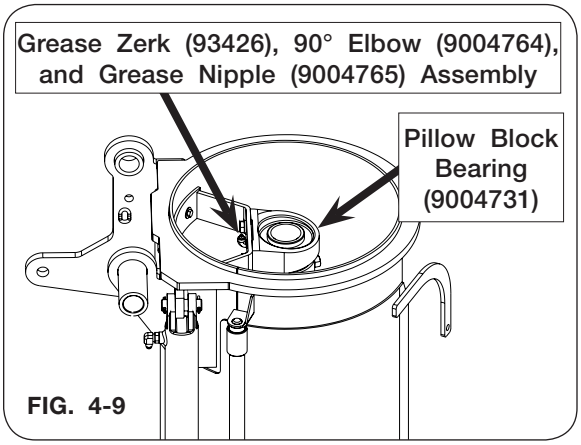


FIG. 4-9

Auger System (continued)

Lower Auger Replacement (continued)

11. Perform a final inspection of auger and lower collector box to ensure all debris and tools have been removed. Close the clean-out door completely and lock the position. Connect PTO to tractor. Fully extend the upper auger assembly into full vertical locked position. Slowly engage PTO and rotate to ensure both lower and upper augers are engaged. Allow auger assembly to stop completely. Once stopped, lower the upper auger approximately 45 degrees, shut off tractor engine and remove keys. View the distance between the lower auger flighting trailing edge and upper auger flighting leading edge. Verify the upper auger flighting follows the lower auger flighting, then lower the upper auger assembly to the rest position. Shut off tractor engine and remove key.

Auger System (continued)

Auger Timing

1. For the lower auger, use the finishing edge of the flighting as a 12 o'clock reference. Position the drive dog so the driving edge is at 11 o'clock position.

NOTE: Looking down at the lower flighting (as in Fig. 4-10) the auger rotation will be clockwise. When looking up at the upper flighting (as in Fig. 4-11), the auger rotation will be counter-clockwise.

Lower Auger

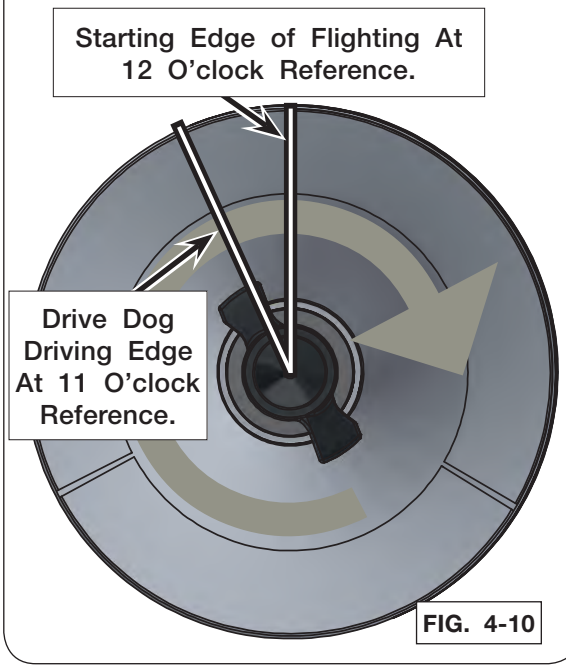


FIG. 4-10

Upper Auger

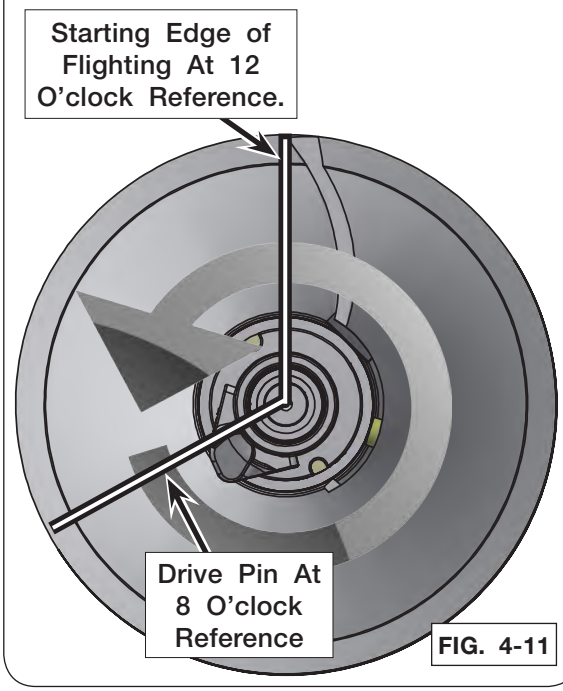


FIG. 4-11

2. For the upper auger, use the bottom edge of the flighting as a 12 o'clock reference. Postion the driving edge of the drive pin at the 8 o'clock position. (Fig. 4-12)

3. When engaged, the top flighting should immediately follow the bottom flighting as pictured in figure 4-12.

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

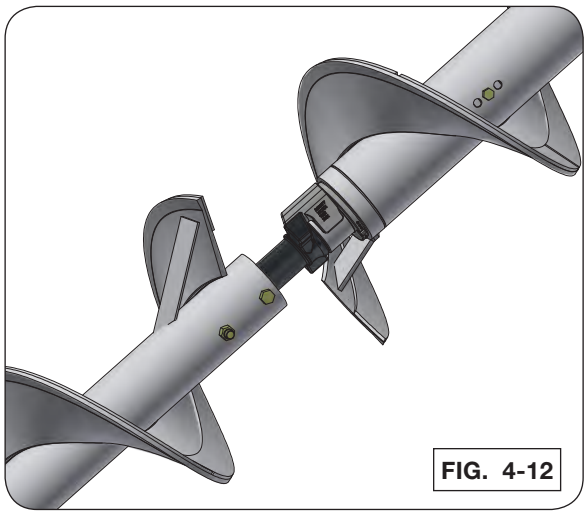


FIG. 4-12

Auger System (continued)

Upper Auger Removal

1. Support the upper auger assembly using a safe lifting device rated at 4,000 lbs. and two straps rated for 2,000 lbs.
2. Remove auger tube cylinder pin and carefully swing cylinder down without breaking hose connections.
3. Disconnect auger and spout light.
4. Disconnect spout assembly from the upper auger assembly.
5. Using a safe lifting device rated at 200 lbs., lift the spout assembly from the upper auger assembly.
6. With auger tube fully supported, loosen two 3/4”-10UNC x 3” capscrews and remove 7/8”-9UNC x 2” capscrews (9390-164) and flat washers (97041) from the upper auger pivot bracket. (FIG. 4-13)
7. Lift upper auger assembly from unit. Repair or replace as required.
8. To remove auger from tube, use a safe lifting device rated at a minimum capacity of 600 lbs. loosen two upper auger bearing setscrews and remove 5/16”-18UNC x 2 3/4” capscrew (9390-037), 5/16” washers (9405-068), 5/16”-18UNC lock nut (901527), and 2” flat washers (93974). (FIG. 4-14)
9. Inspect upper auger bearing, springs, four 5/8” x 6” capscrews, and 5/8” locknuts. Replace if necessary. (FIG. 4-14)

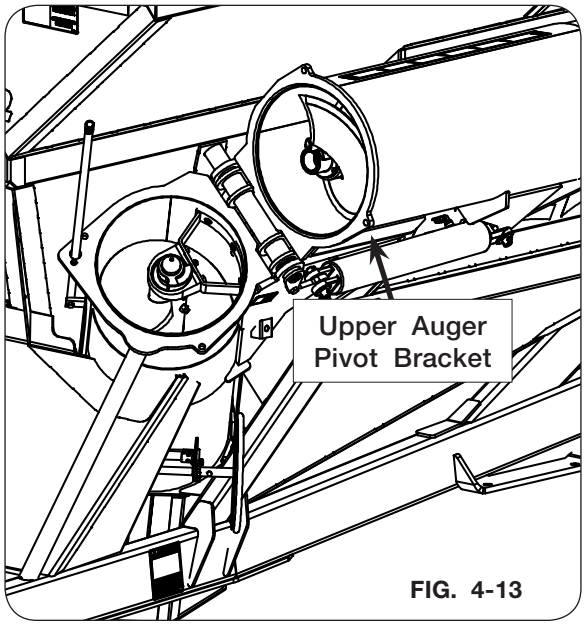


FIG. 4-13

10. Remove safe lifting and support devices.

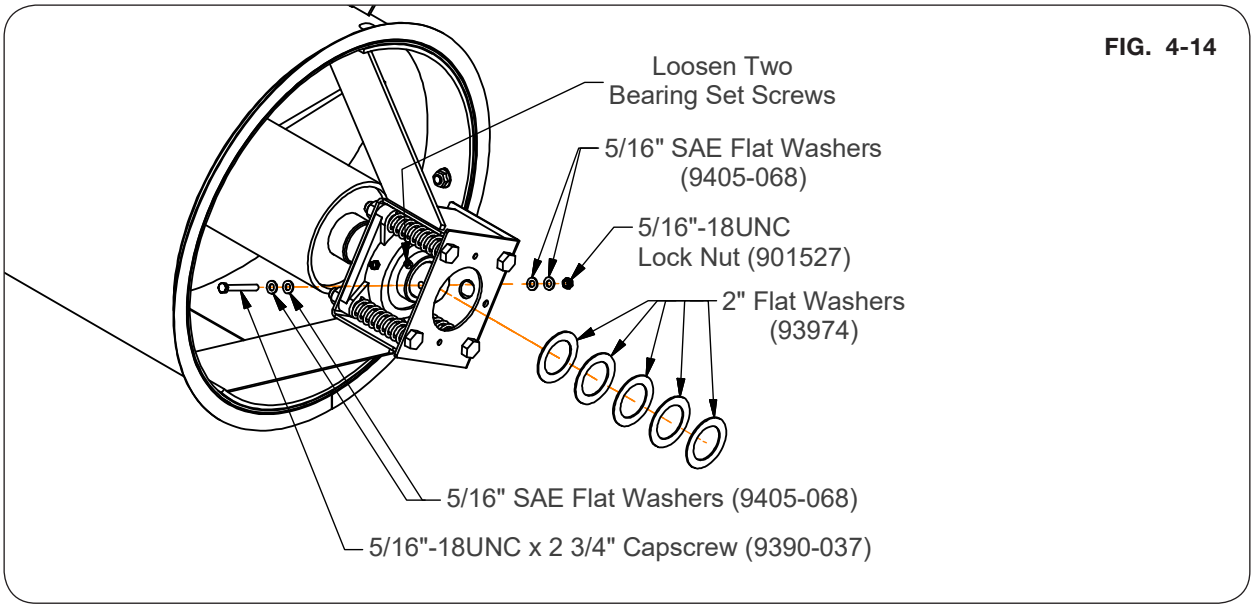


FIG. 4-14

Auger System (continued)

Soft Start Replacement

11. Remove the 1/2”-13UNC x 7” capscrew (9390-117), 1/2”-13UNC lock nut (9800), soft start assembly, thrust washer (9004878), and bushing (9004877). Discard capscrew only. (FIG. 4-15)

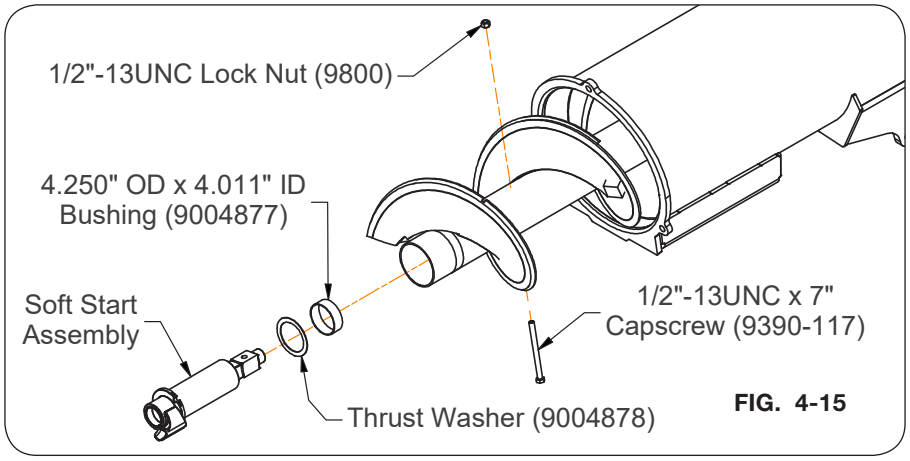


FIG. 4-15

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

12. 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. (FIGS. 4-15 and 4-16)

13. Time the drive pin (as in FIG. 4-16) with the bottom edge of the flighting at 12 o’clock. Position the drive pin at 8 o’clock.

NOTE: Looking up at the upper flighting (FIGS. 4-15 and 4-16) the auger rotation will be counter clockwise.

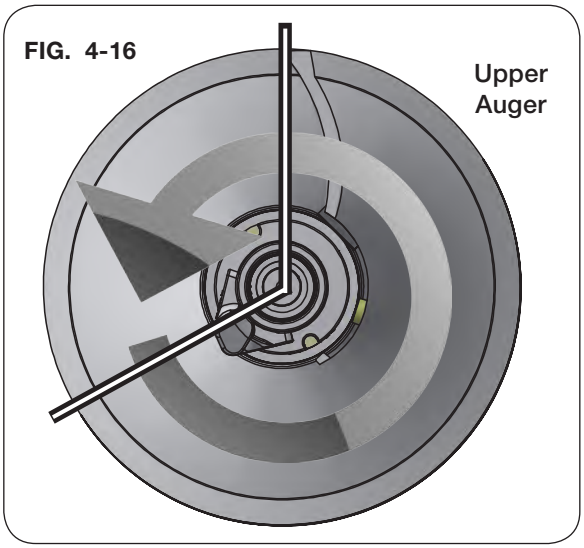


FIG. 4-16

(Continued on next page)

Auger System (continued)

15. Retain the soft start into position with 1/2”-13UNC x 8” capscrew (9390-119), spacer bushing (410511), and 1/2”-13UNC lock nut (9800). (FIG. 4-17)

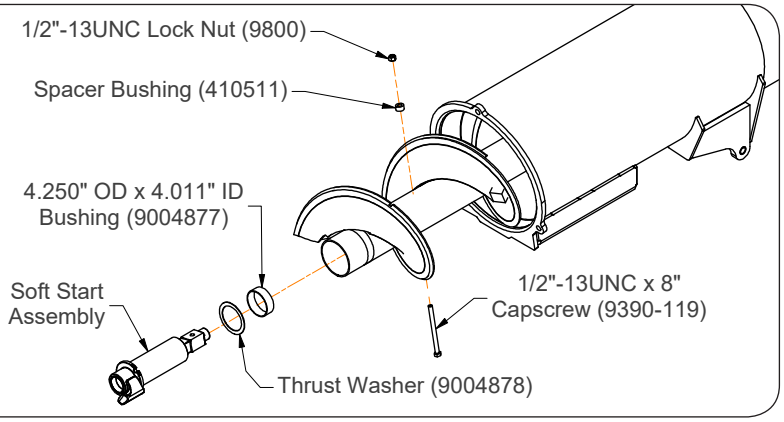


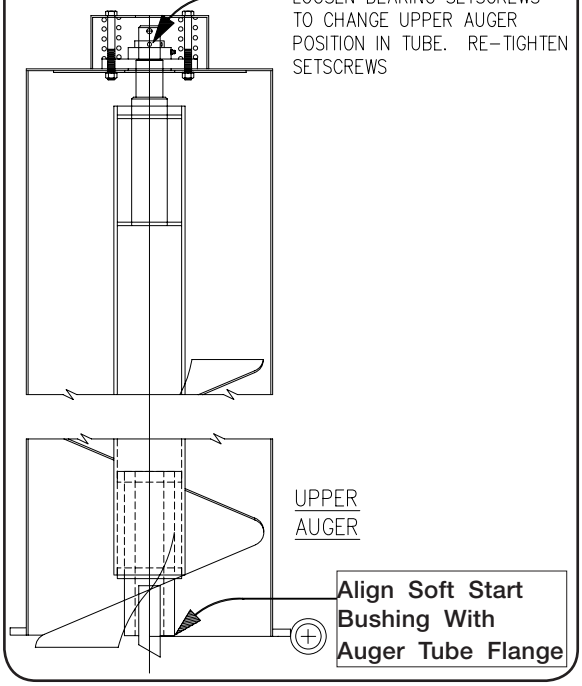
FIG. 4-17

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

Upper Auger Replacement

1. Install upper auger bearing and spring assembly, if previously removed.
2. Ensure the upper auger bearing setscrews are loosened.
3. Using safe lifting device rated at a minimum capacity of 600 lbs., insert upper auger into upper auger tube. (FIG. 4-18)
4. Ensure the upper auger is set correctly. The face of the soft start bushing that sits on top of the drive dog must be flush with auger tube flange. (FIG. 4-18)

FIG. 4-18



Auger System (continued)

Upper Auger Replacement (continued)

5. Insert auger stub shaft through upper auger bearing. 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. 4-19)

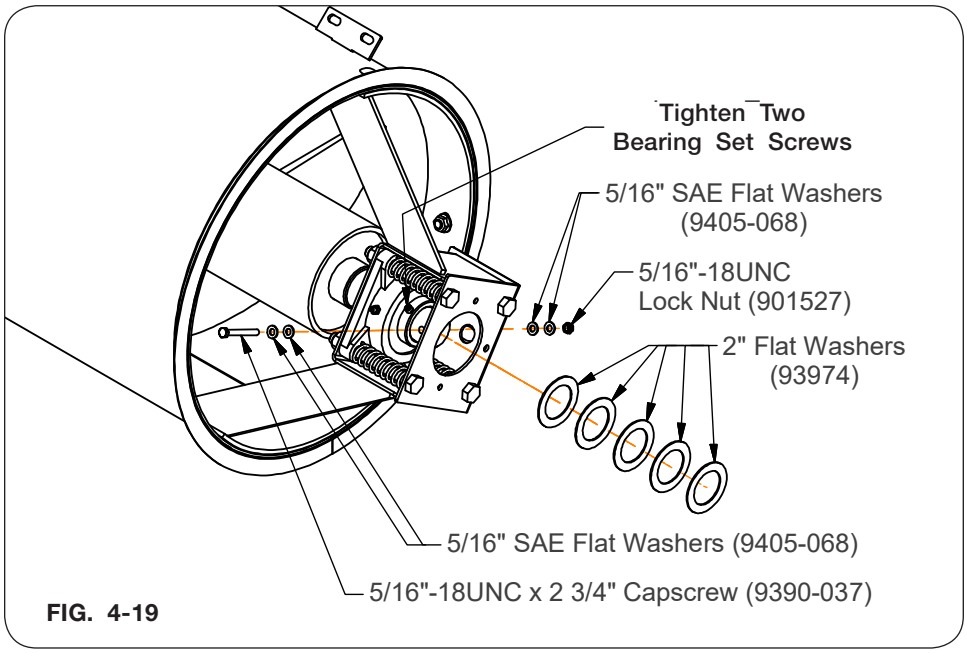


FIG. 4-19

6. Using safe lifting device rated at a minimum capacity of 4,000 lbs., lift upper auger assembly onto upper auger pivot bracket. Align retainer holes on upper auger assembly and upper auger pivot bracket.

7. Torque two 3/4”-10UNC x 3” capscrews to 200 ft.-lbs.

8. Attach 7/8”-9UNC x 2” capscrews (9390-164) and flat washers (97041) to the upper auger pivot bracket.

9. Torque 7/8” hardware to 340 ft.-lbs.

10. Using safe lifting device rated at 200 lbs., attach the spout assembly to the upper auger assembly.

11. Connect auger and spout light.

12. Reinstall hydraulic cylinder and pivot pins. Clamp hoses into position and recheck connector tightness.

13. Remove safe lifting devices.

Auger System (continued)

Upper Auger Bearing Gap

14. Unfold the auger to the unload position.

15. Verify the upper auger bearing height by inspecting the upper auger bearing in operating position. There should be minimum 1/16” to 1/8” gap between the bearing and mount plate with the upper auger in operating position and the drive dog completely engaged. (FIG. 4-20) 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. 4-21)

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 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. Test run auger driveline. Verify smooth driveline operation.

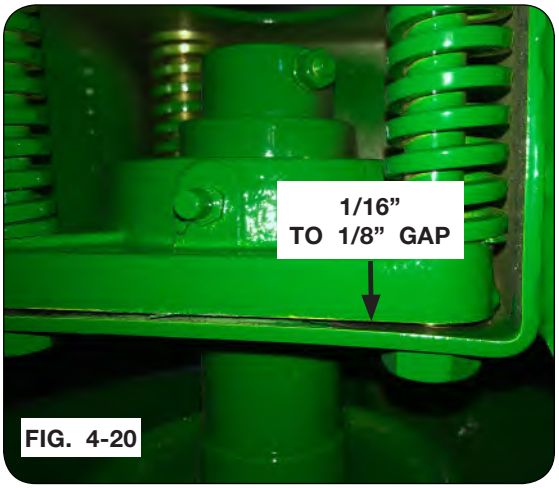


FIG. 4-20

FIG. 4-21

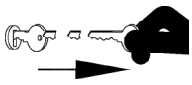
Auger System (continued)

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.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREA.**
- **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.**

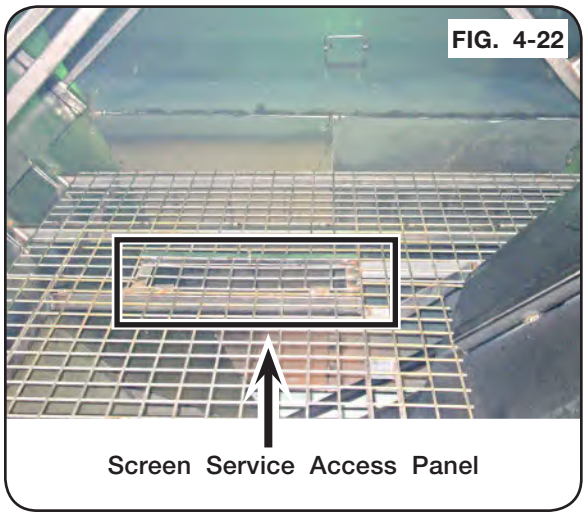
1. Park the empty grain cart on a firm, level surface and extend auger. Block the machine to keep it from moving. Unfold upper auger to make the flow door cylinder easier to access. If possible, close the flow door at least 8" from the fully open position. Relieve hydraulic pressure, see tractor operator's 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)

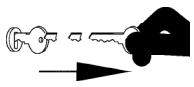
2. On the inside of the cart, open the screen service access panel shown in Fig. 4-22.



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. 4-23.

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. 4-24).

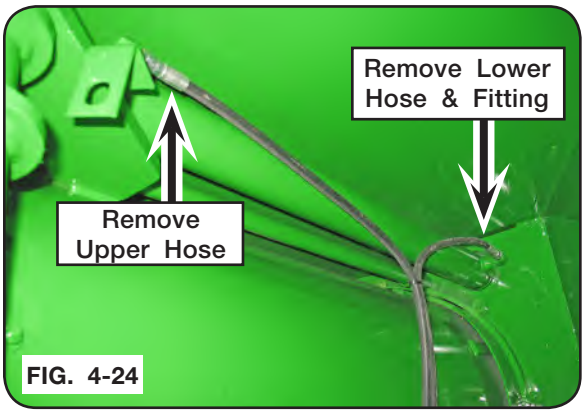


FIG. 4-24

7. Remove the cotter pins from the upper cylinder pin and remove pin (Fig. 4-25).

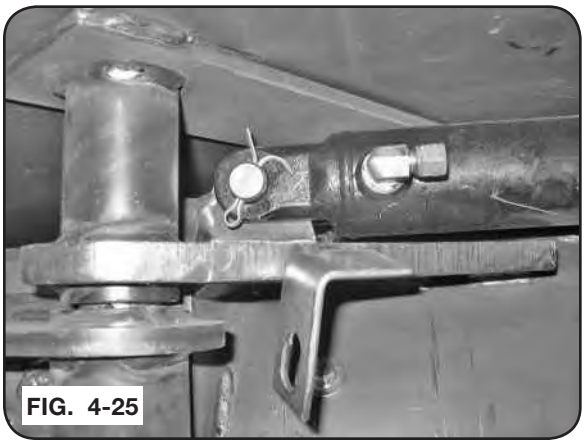


FIG. 4-25

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. Tighten hydraulic lines to specification. See torque chart in this section.

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. Purge air from hydraulic system.

Auger Driveline

Bearings

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

Driveline Replacement

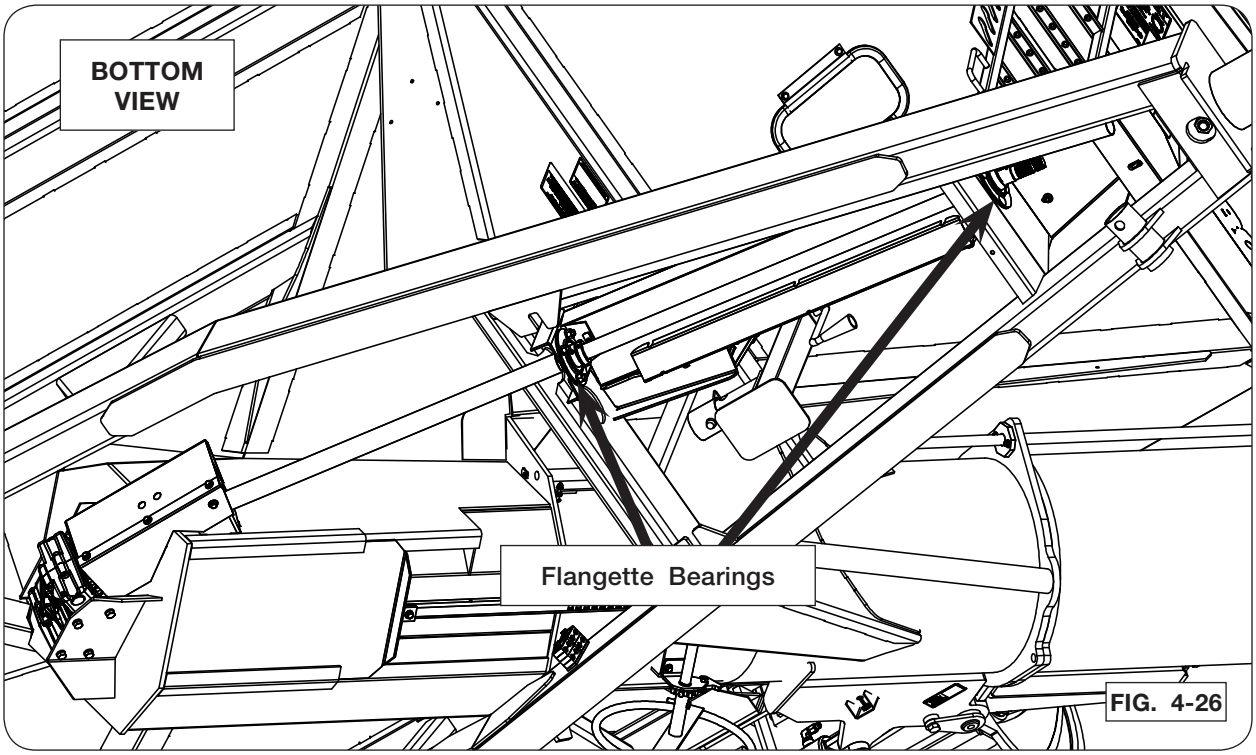
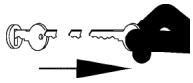


FIG. 4-26

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



2. Loosen the setscrews (9399-071) on two flangette bearings (9003920) (Fig. 4-26).
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. 4-27).
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 two flangette bearings.

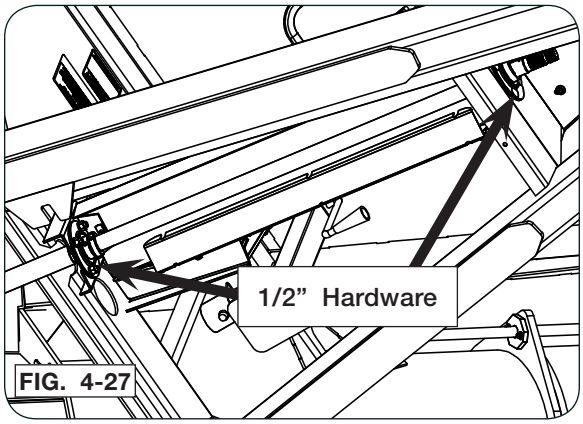


FIG. 4-27

Auger Driveline (continued)

Driveline Replacement (continued)

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

U-Joint Quick Disconnect Pin

7. Remove U-joint assembly (95012) on the gearbox by using a drift punch and hammer on the quick disconnect pin. (92362 - quick disconnect pin kit) (FIGS. 4-28 and 4-29)

8. Drive the pin towards the retaining washer to force the complete U-joint assembly out. (FIG. 4-29)

FIG. 4-28

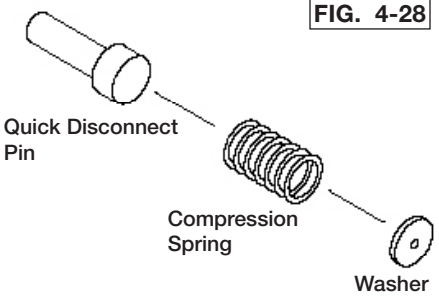
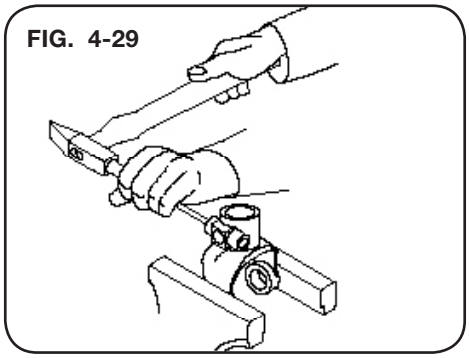


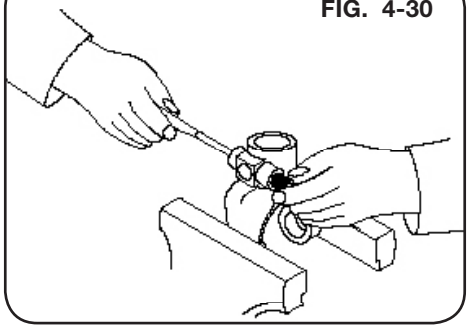
FIG. 4-29



9. Clear the edges of the retaining washer bore to accept the new one by removing the deformed metal from the last peening operation to hold the washer in place. (FIG. 4-30)

(Continued on next page)

FIG. 4-30

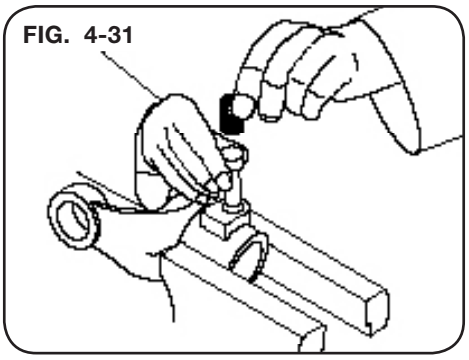


Auger Driveline (continued)

U-Joint Quick Disconnect Pin (continued)

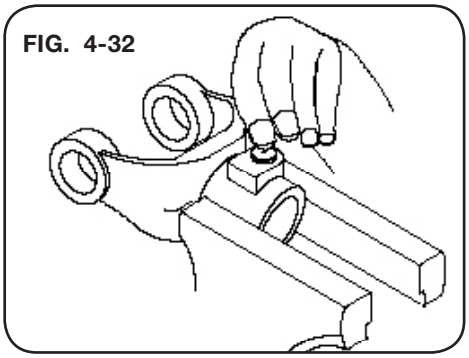
10 Insert quick disconnect pin, compression spring and washer into U-joint pin hole. (FIG. 4-31)

FIG. 4-31



11. Holding the washer in place, peen the edges of the pore seat to retain the washer, spring and pin. (FIGS. 4-32 and 4-33)

FIG. 4-32



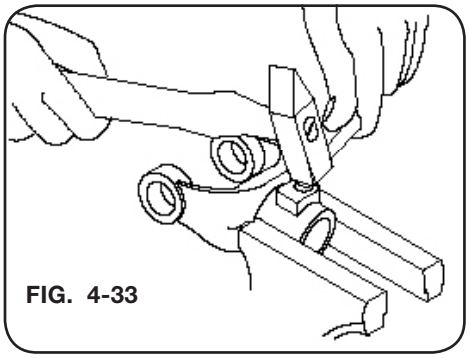


FIG. 4-33

12. Clean and grease the gearbox splined shaft.

13. Attach the quick disconnect pin end of the U-joint assembly to the gearbox splined shaft.

14. Push/Pull U-joint assembly to verify quick disconnect pin is engaged on the gearbox splined shaft.

Auger Driveline (continued)

Driveline Replacement (continued)

15. Slide new two-piece 1 1/2” dia. shaft collars (9008671) to both sides of new bearing (9003920) closest to the U-Joint, when installing bearings onto new driveshaft (Kit 289771).

16. Assemble new PVC driveshaft cover (291558) behind new bearing (9003920) closest to the U-Joint. (FIG. 4-34)

NOTE: Ends of driveshaft are symmetrical.

17. Slide the hitch end of the driveshaft, bearing and hitch driveline cover into the bearing near hitch of the cart.

18. 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.

19. Slide driveshaft down into the universal joint attached to the gearbox until the end of the shaft extends into the universal joint 2 3/8”. Ensure universal joint and driveshaft splines completely engage. Verify the hitch end for adequate length for driveline assembly to connect. (FIG. 4-35)

(Continued on next page)

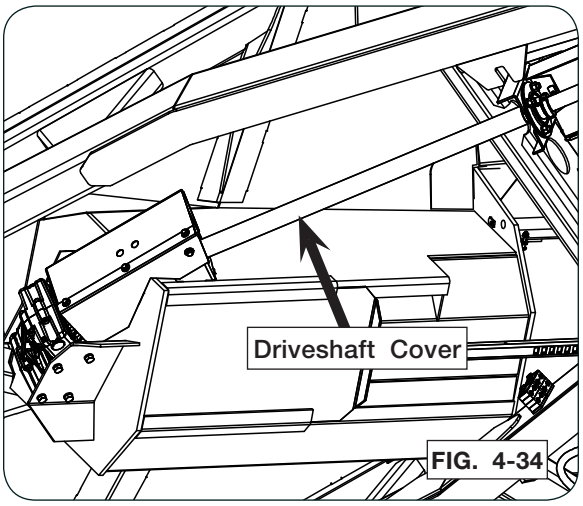
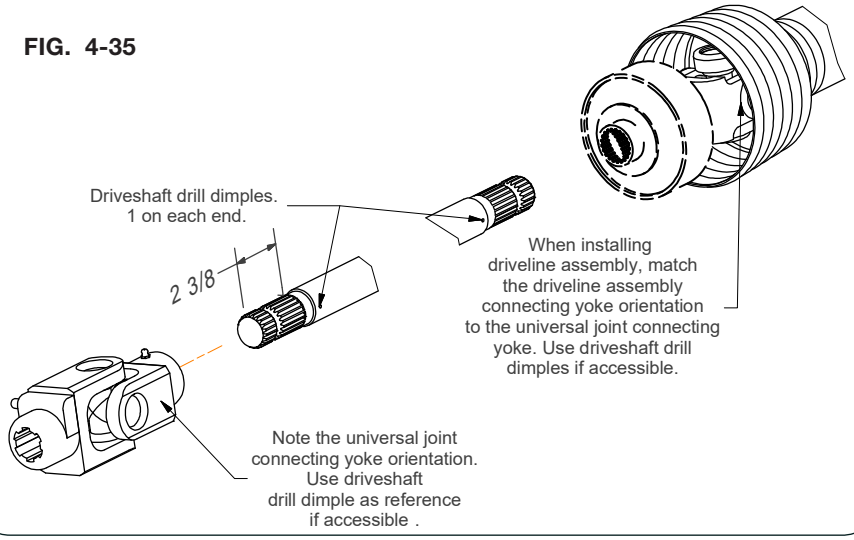


FIG. 4-34

FIG. 4-35



Auger Driveline (continued)

Driveline Replacement (continued)

20. Tighten all flangette mounting hardware.

NOTE: The driveshaft has a dimple to aid in aligning the yokes on both ends of the driveline. (FIG. 4-36 and 4-37)

21. Apply blue thread lock on flangette bearing setscrews and tighten.

22. Tighten shaft collars (9008671) to driveshaft. Torque shaft collar set screws to 170 inch-lbs.

NOTE: Check/fill gearbox and grease universal joint before installing universal joint cover assembly (296801B). See “Gearbox Lubrication” for oil specifications.

23. Attach universal joint cover assembly to the bearing mount in front of the gearbox using original 3/8”-16UNC capscrews and weld nuts, and 5/16” hardware to cover plates (296802B & 296803B). Review to ensure PVC driveshaft covers and driveline cover, located behind the ladder, are in place and hardware tightened prior to operation.

24. Test run driveline. Verify smooth driveline operation.

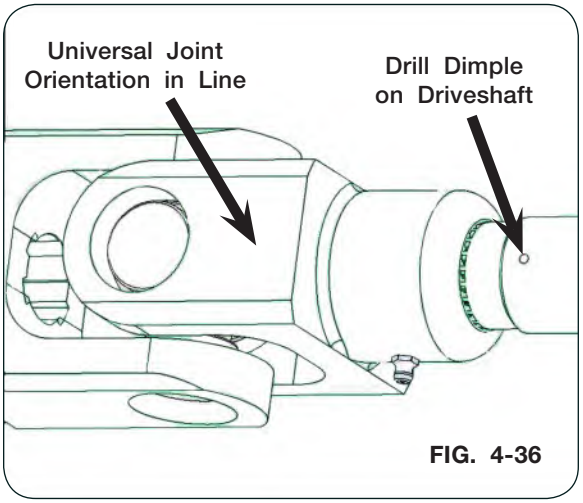


FIG. 4-36

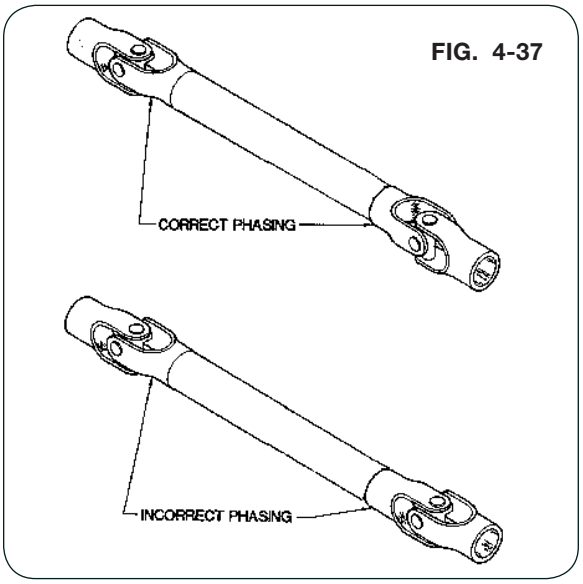


FIG. 4-37

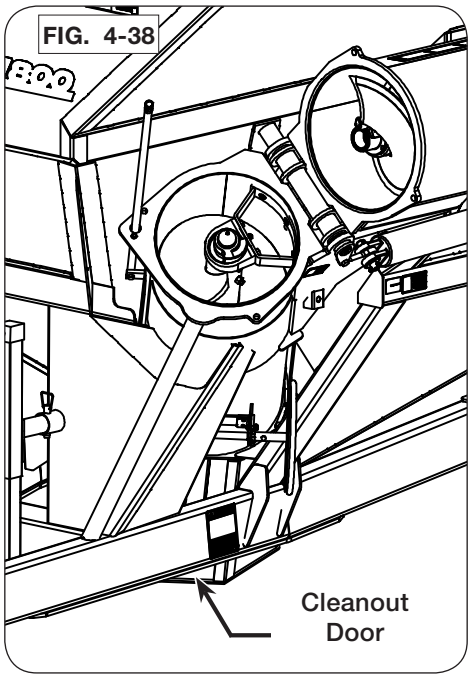
Seasonal Storage

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 to remove dirt and debris which could cause rusting. When using pressure washers, maintain an adequate distance so not to force water into bearings.
2. 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 machine for parts that may need to be replaced so they may be ordered in the offseason.

FIG. 4-38



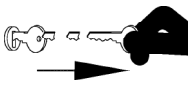
7. Replace all worn, torn or faded decals and reflectors.
8. Fully open and keep open the flow door and auger cleanout door to remove any remaining grain and to allow moisture to dry.
9. If unit is equipped with a scale indicator or electric hydraulic controls, store these indoors in a dry location.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

Adjusting Cleanout Door

WARNING

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

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



2. Completely close cleanout door. Inspect and verify that all the grain dust and filings are removed that may prevent the door from shutting completely. (FIG. 4-39)

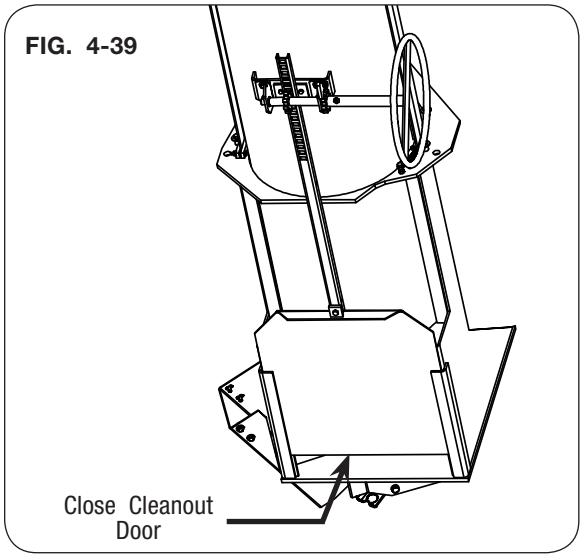


FIG. 4-39

3. Engage the locking plate (268313B). (FIG. 4-40)

4. Loosen mounting hardware. (FIG. 4-40)

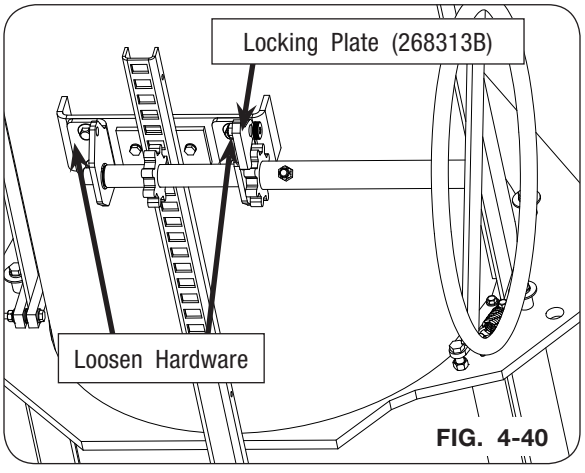


FIG. 4-40

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. 4-41)

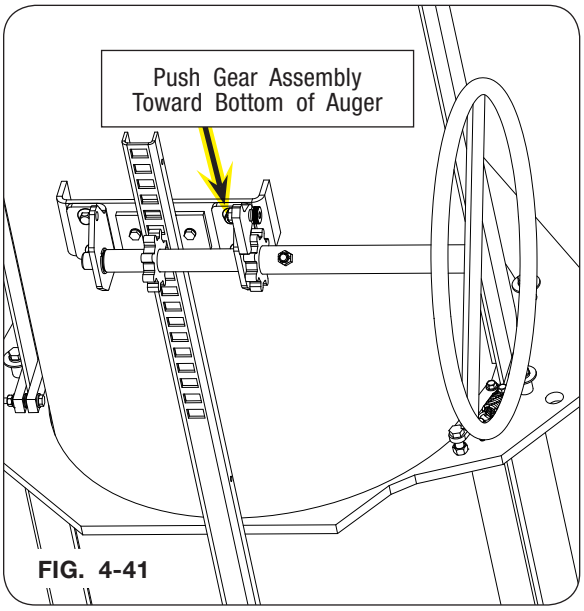


FIG. 4-41

6. Tighten hardware loosened in step 4. (FIG. 4-42)

7. Check door operation. Lock the handle weldment into position. (FIG. 4-42)

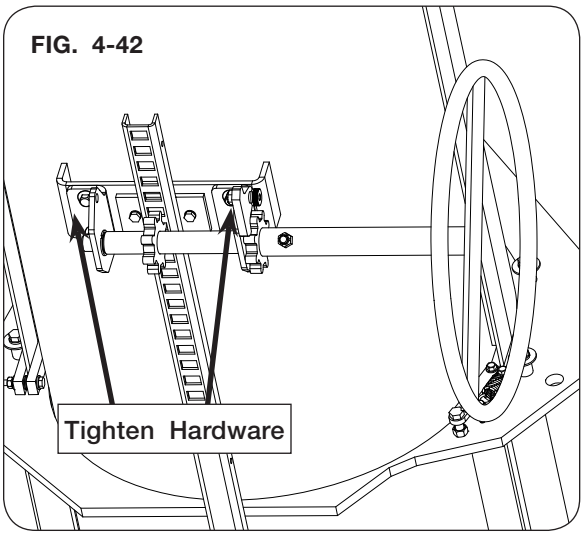


FIG. 4-42

Verify Telescoping PTO Shaft Length

⚠ WARNING

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

IMPORTANT

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

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

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

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

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

1. Fully collapse PTO shaft and measure length "L" (Figure 4-43).

   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 4-52)

   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)

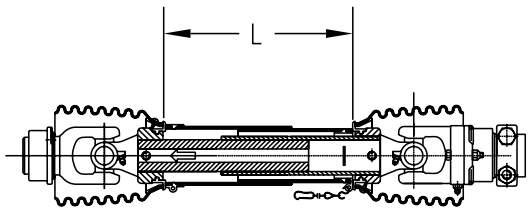


FIG. 4-43

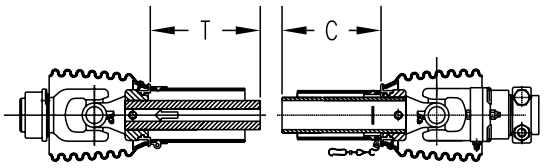


FIG. 4-44

This is the maximum recommended extended length.

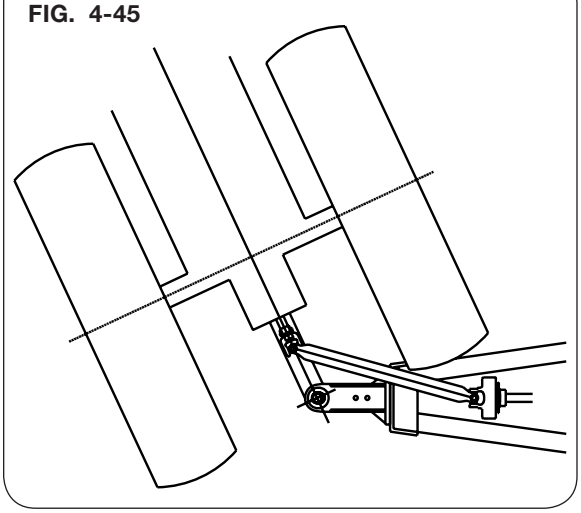
Verify Telescoping PTO Shaft Length (continued)

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.

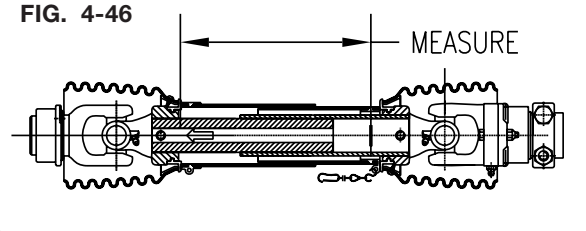
6. Position the tractor to obtain tightest turning angle, relative to the cart. (Fig. 4-45)

FIG. 4-45



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. 4-46)

FIG. 4-46



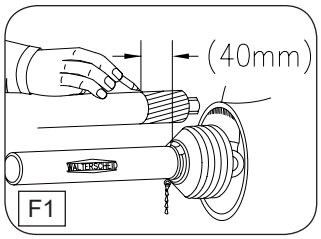
PTO Shaft Length Adjustment

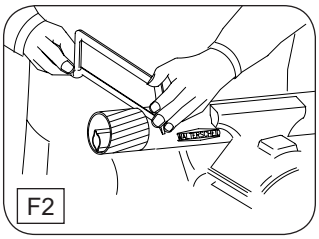
WARNING

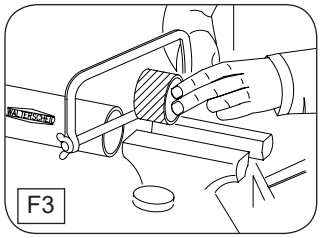
- **CHECK THE LENGTH OF THE TELESCOPING MEMBERS TO ENSURE THE DRIVELINE WILL NOT BOTTOM OUT OR SEPARATE WHEN TURNING AND/OR GOING OVER ROUGH TERRAIN.**

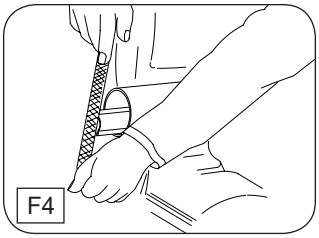
NOTE: Maximum operating length LB. (Refer to "Verify Telescoping PTO Shaft Length" in this section for LB length.)

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.





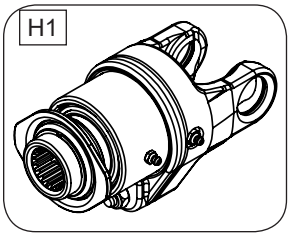


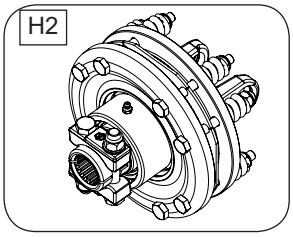


PTO Shaft and Clutch

Shear-Bolt and Friction Clutches (Figs. H1 - H3)

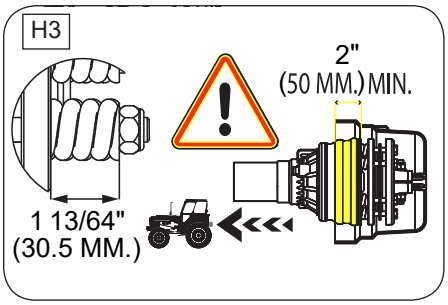
1. **Shear bolt clutches:**
   When the set torque value is exceeded, power flow is interrupted due to the bolt shearing. The torque is re-established by replacing the broken shear bolt. Use only the bolt specified in the PARTS section for replacement.
   (FIG. H1)





   Friction clutches:
   When overload occurs, the torque is limited and transmitted constantly during the period of slipping. Short-duration torque peaks are limited. (FIG. H2)

   Verify the overlap between the implement guard cone and PTO driveshaft is at least 2” (50 mm). (FIG. H3)



   When properly tightened, all springs will exert a total of 1210 NM on the disks, pressing them together. The nuts need to be tightened to the 1 13-64” or 30.5mm height only.

   Prior to first utilization and after long periods out of use, check working of disk clutch:

   a. Loosen spring nuts by unscrewing two complete turns. Rotate clutch fully to unlock device.
   b. Tighten nuts two complete turns. Now the clutch is ready for use.

IMPORTANT

- *Avoid extended and frequent slippage of over-load clutches.*

PTO Shaft and Clutch (continued)

To Dismantle Guard (Figs. J1 - J3)

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

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

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

PTO Shaft and Clutch (continued)

To Assemble Guard (Figs. K1 - K3)

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

2. Fit bearing ring in groove with three bearing ring tabs positioned as shown. (FIG. K2)

3. Slip on half-guard by aligning the holes on the cone with three bearing ring tabs and the cone inner key with the cut of the bearing ring.
(FIG. K2)

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

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

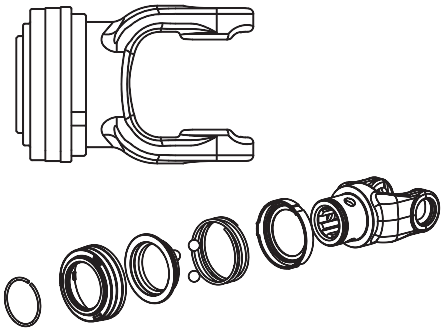
5. Confirm half-guard engagement by pulling backwards on the half-guard. (FIG. K3)

PTO Locking Systems

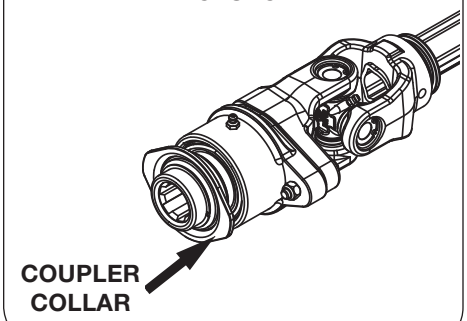
Ball-Type Collar Coupling

Slide clamp yoke or clutch onto gearbox driveline splined shaft. Pull in the coupler collar to release the balls and simultaneously push PTO driveshaft into the gearbox splined shaft until the coupler collar locks onto the driveline grooves. Push/Pull the driveline to verify coupler collar is engaged on PTO driveshaft. Continue to check at regular intervals.

L1 END YOKE



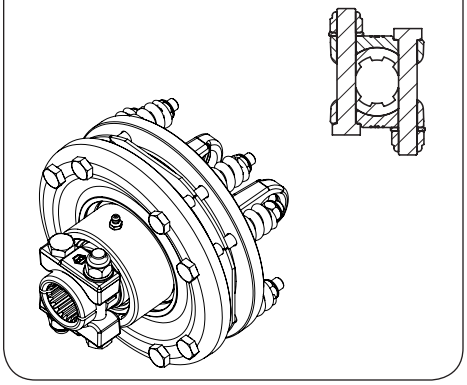
L2 SHEARBOLT CLUTCH WITH OVERRUNNING CLUTCH



Clamp Bridge Coupling For Friction Clutch

The capscrews must be removed before installing. When slid onto the gearbox driveline splined shaft, insert capscrews into driveline grooves of the shaft.
Torque capscrews to 70 ft.-lbs.

L3 CLAMP BRIDGE LOCK



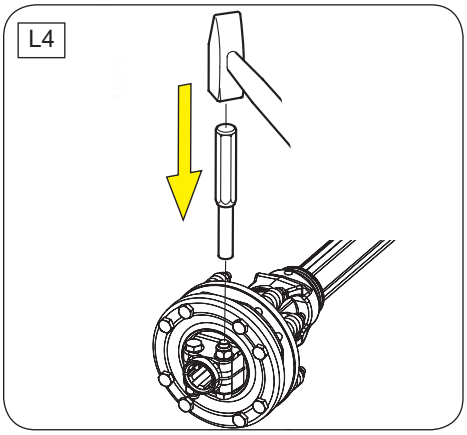
⚠ WARNING

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

Clamp Bridge Uncoupling

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

L4



Tarp Troubleshooting Inspection & Maintenance

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

Inspection and Maintenance

⚠ WARNING

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

IMPORTANT

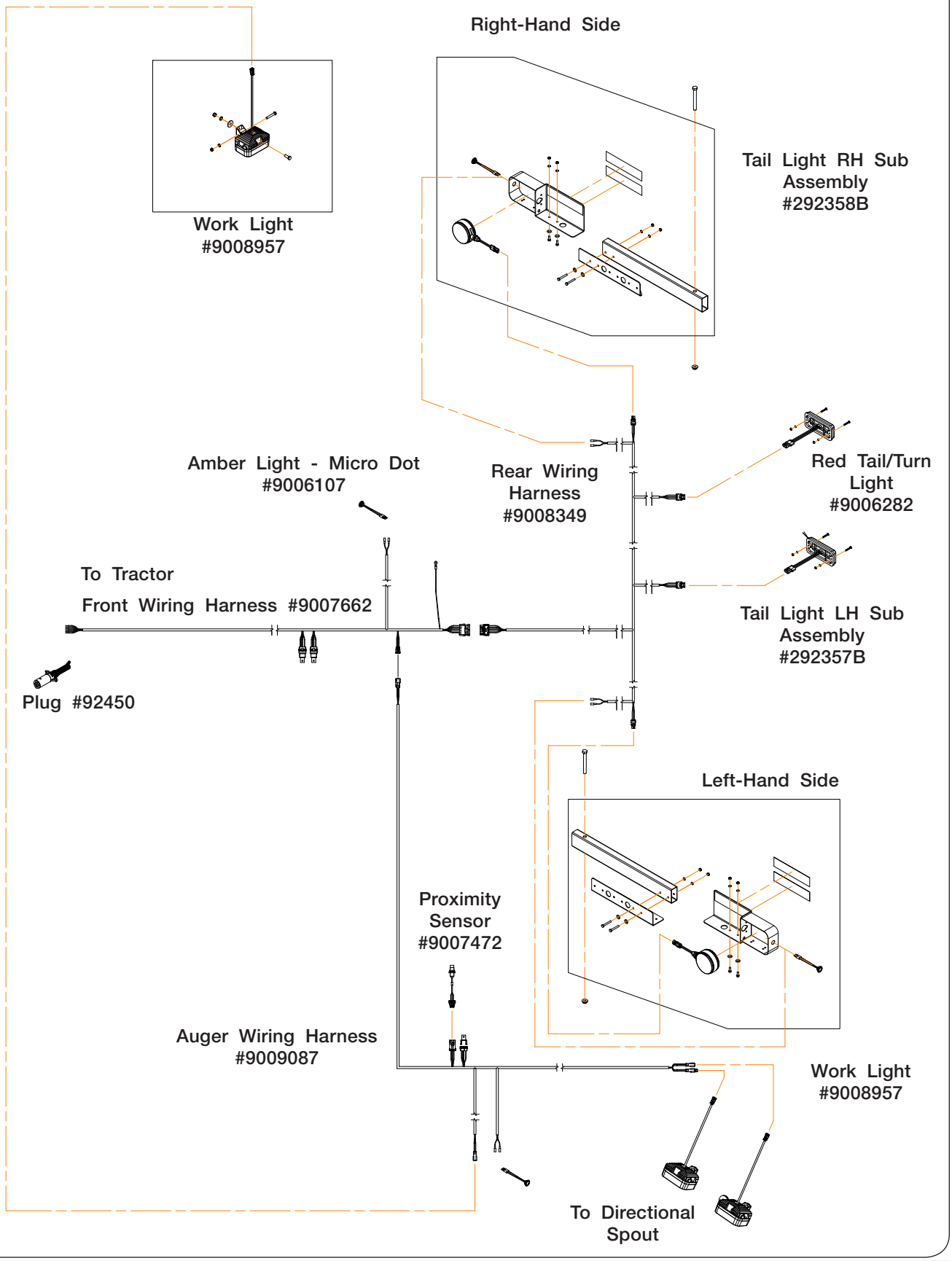
- *Do not open or close tarp while moving or in high wind conditions. Damage to the tarp may occur.*
- *Tarp should not be used if it is torn or the bungee cords are frayed or show damage. If water pools on the tarp, adjust tension of tarp cables or re-tension tarp with crank handle.*

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

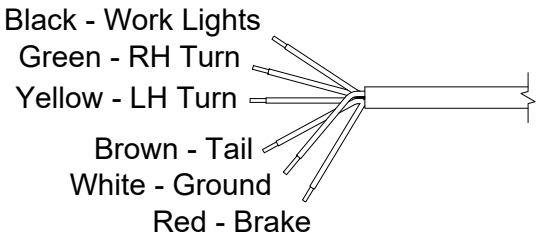
Tears in tarp should addressed before further tarp operation. If water pools on tarp, adjust tension of tarp cables and/or arm springs.

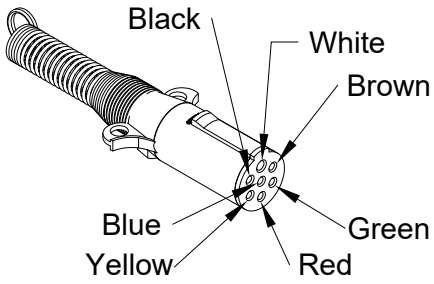
If installed correctly, tarp should always operate as well as when first installed. If tarp does not pass this simple inspection, make all appropriate repairs or adjustments immediately before serious damage occurs.

Electrical System Diagram — Overall



Electrical System Diagram — Plug #92450

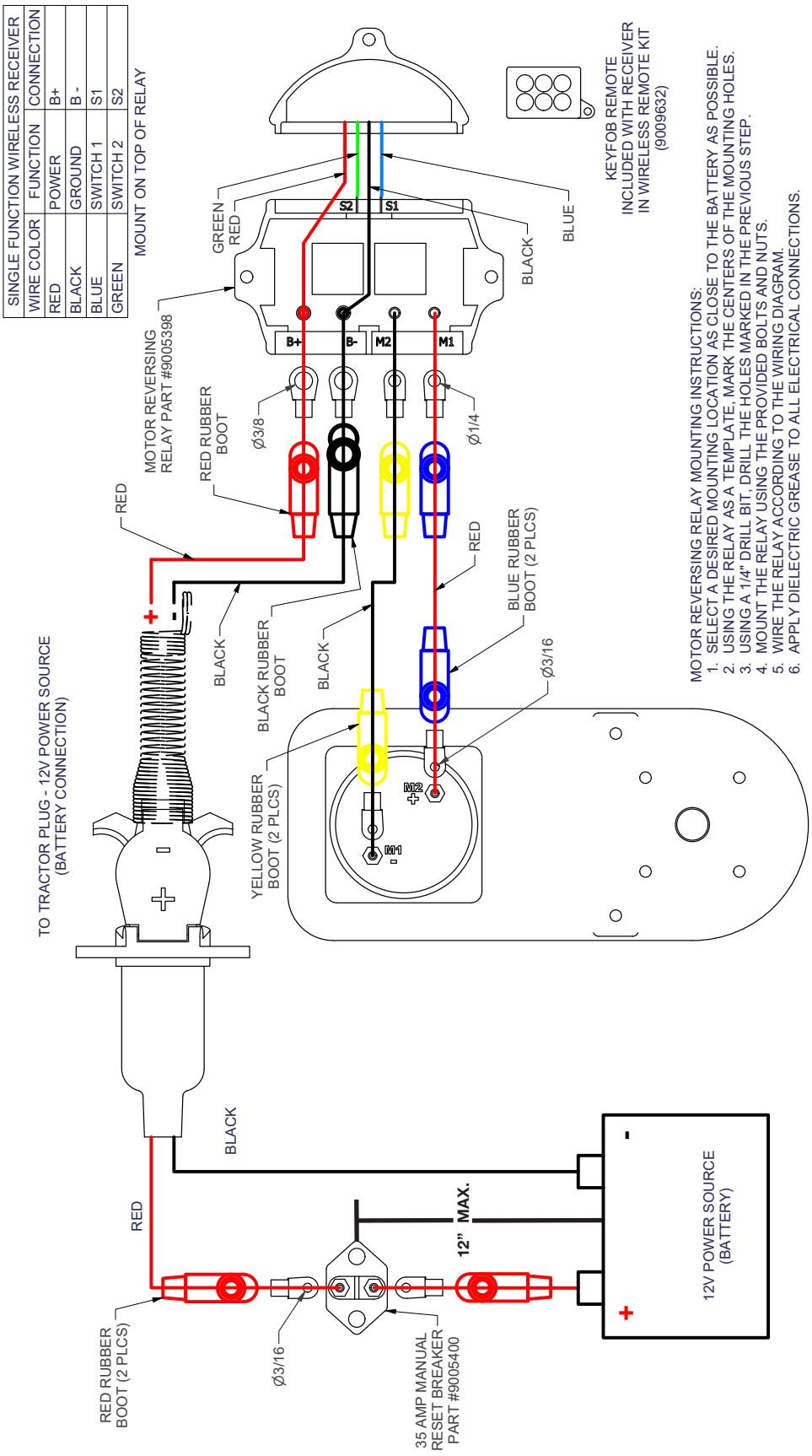




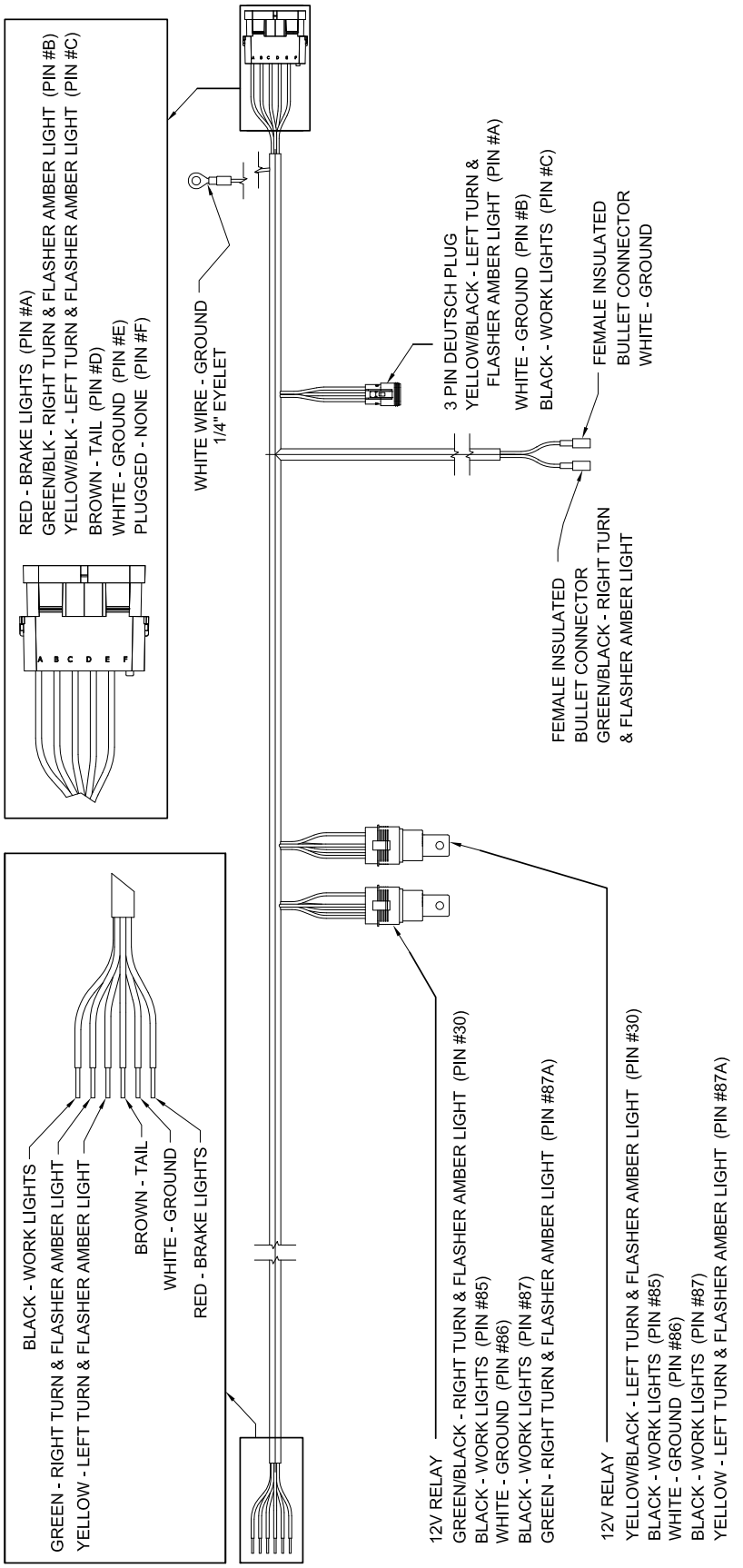
GRAIN CART WIRES

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

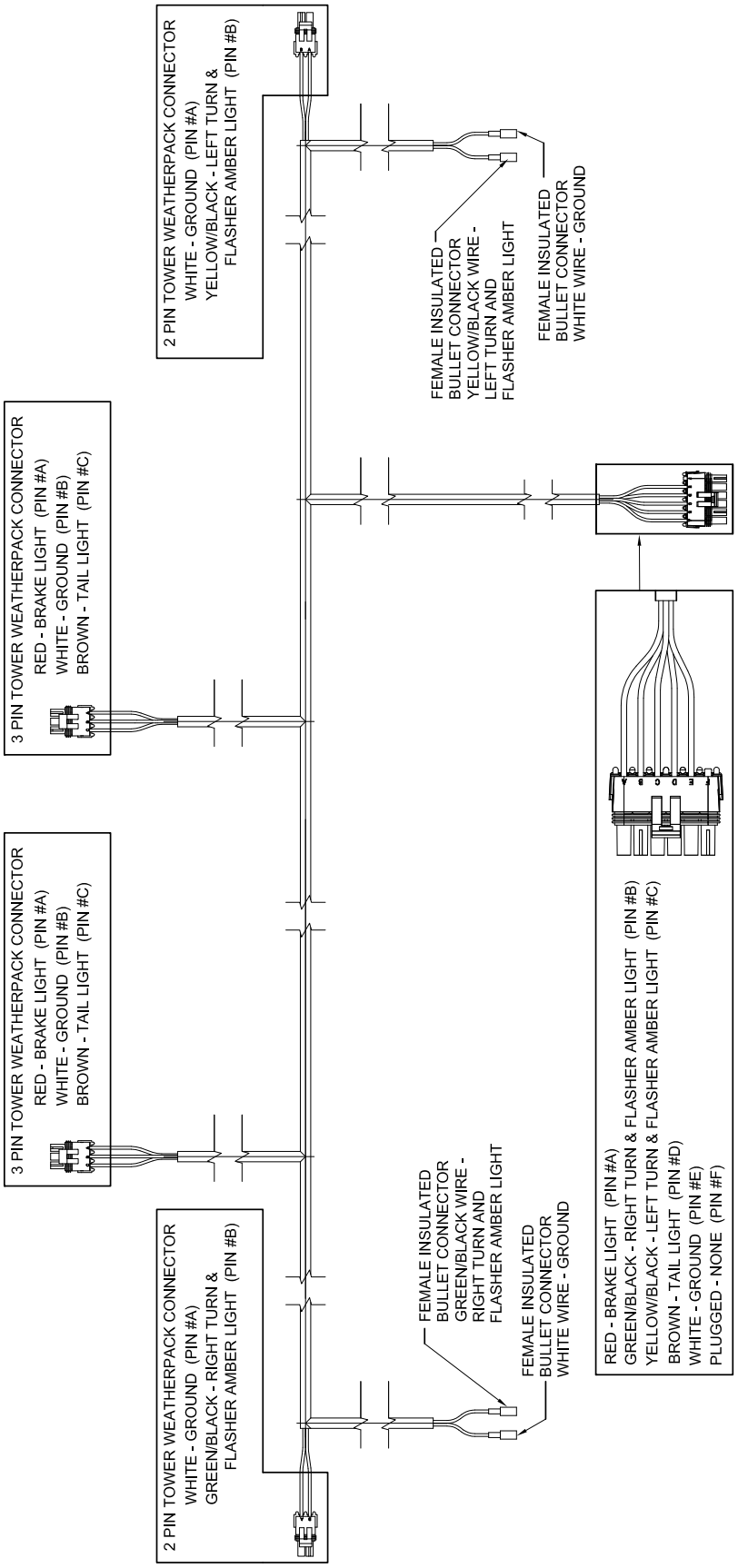
Electrical System Schematic - Optional Wireless Electric Tarp



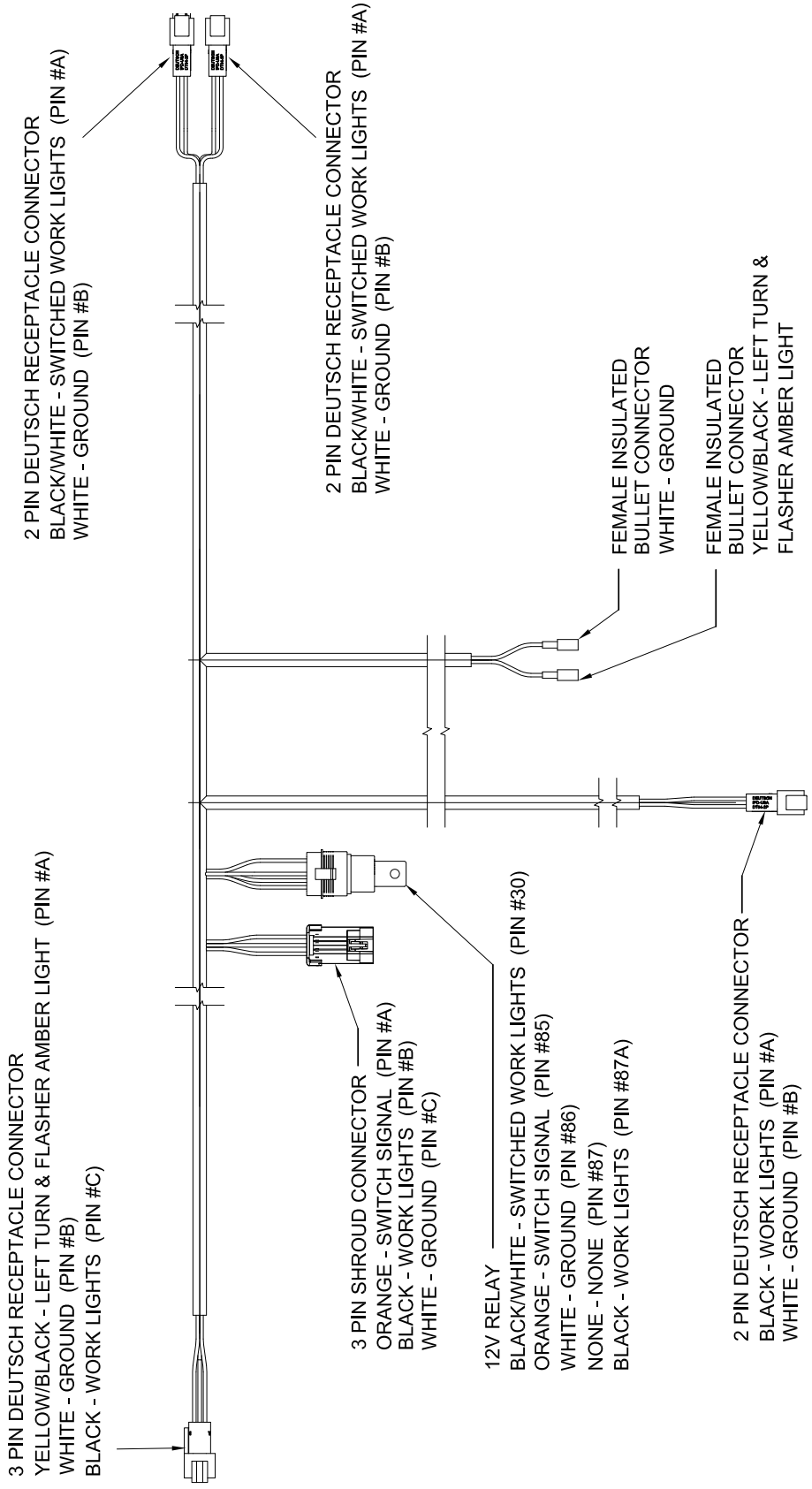
Electrical Diagram — Front Wiring Harness #9007662



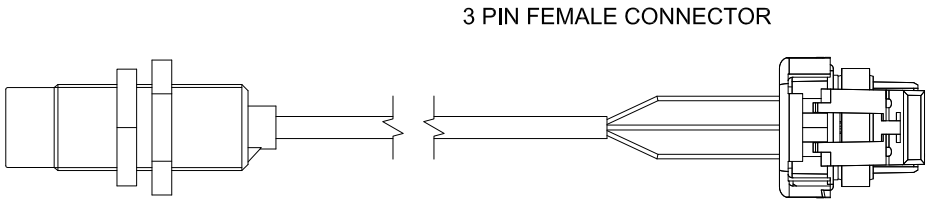
Electrical Diagram — Rear Wiring Harness #9008349



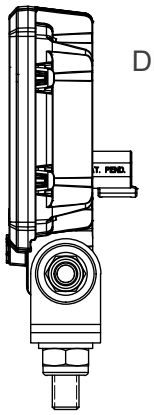
Electrical Diagram — Auger Wiring Harness #9009087



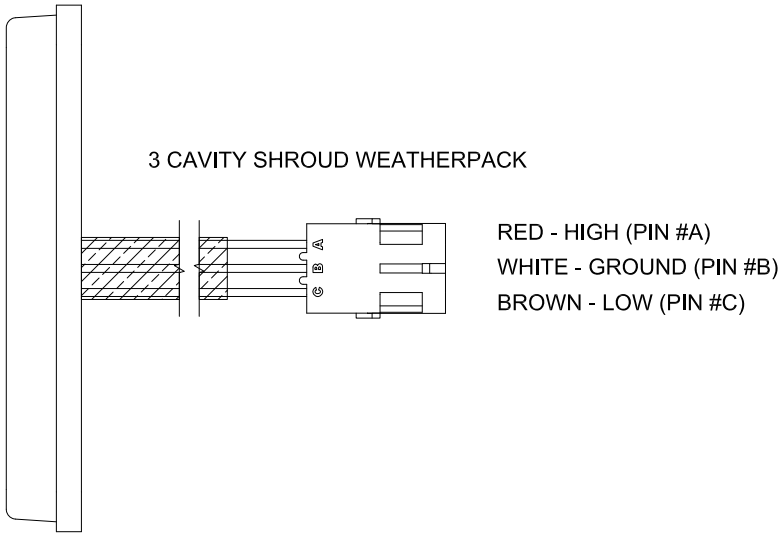
Electrical Diagram — Proximity Sensor #9007472



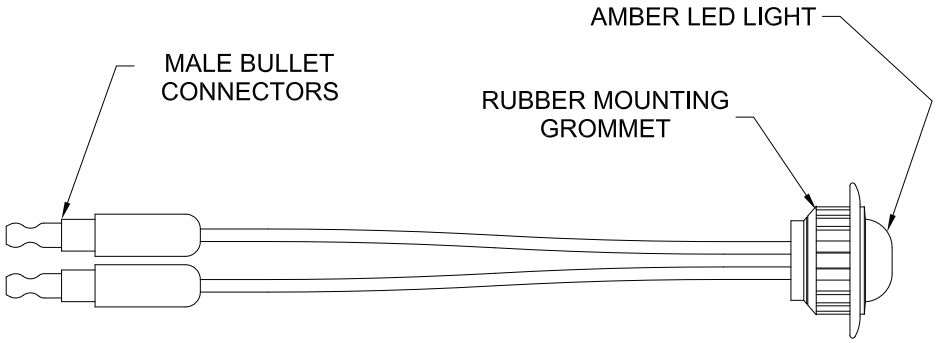
Electrical Diagram — Work Light #9008957



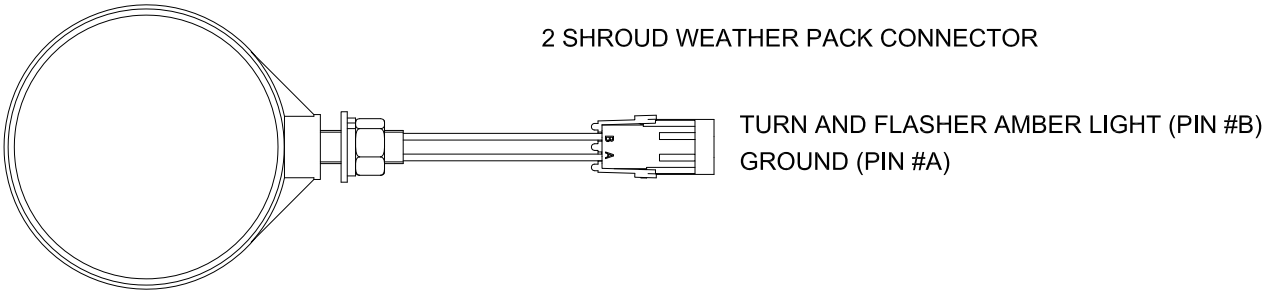
Electrical Diagram — Red Tail/Turn Light #9006282



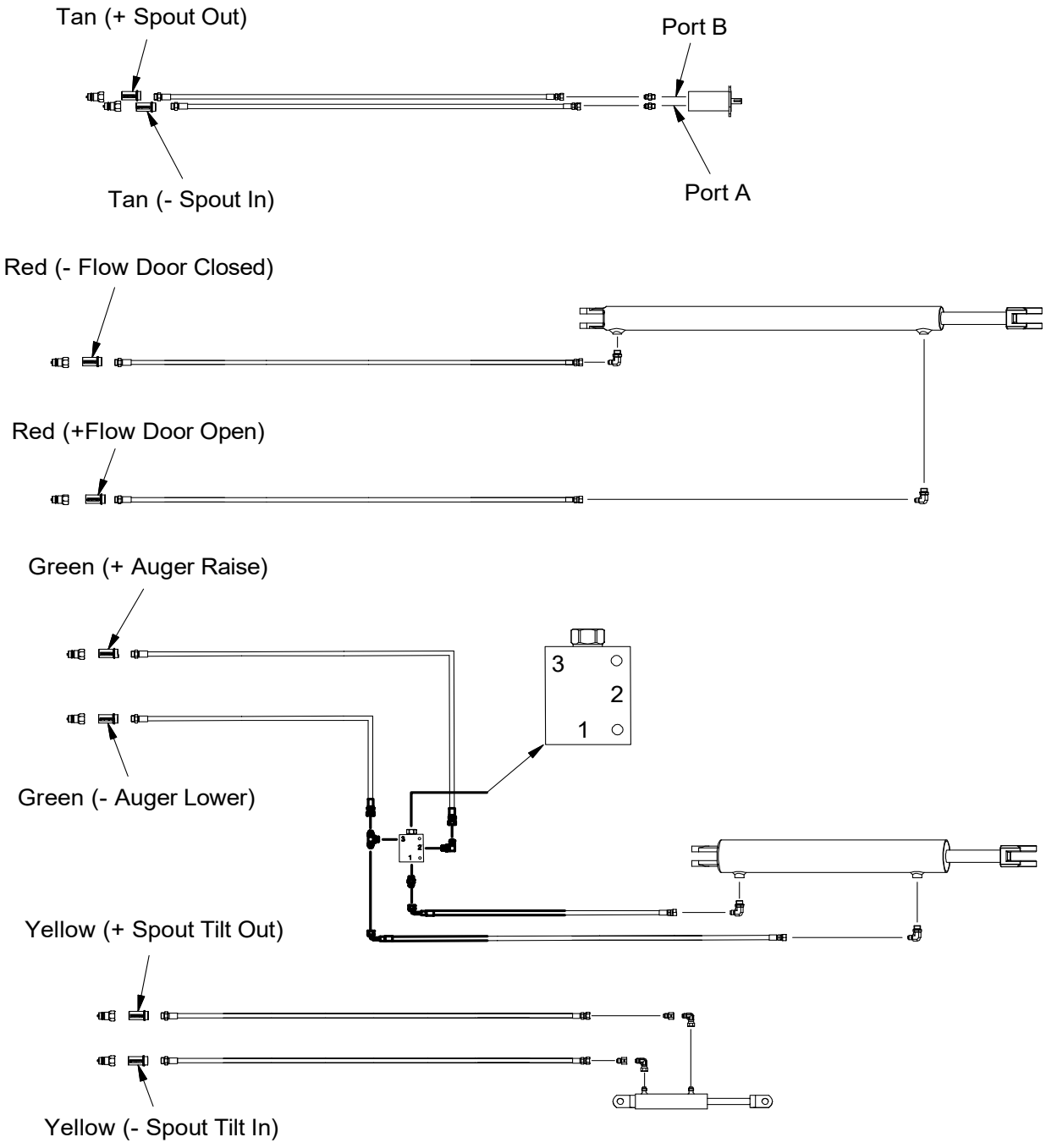
Electrical Diagram — Amber Light - Micro Dot #9006107



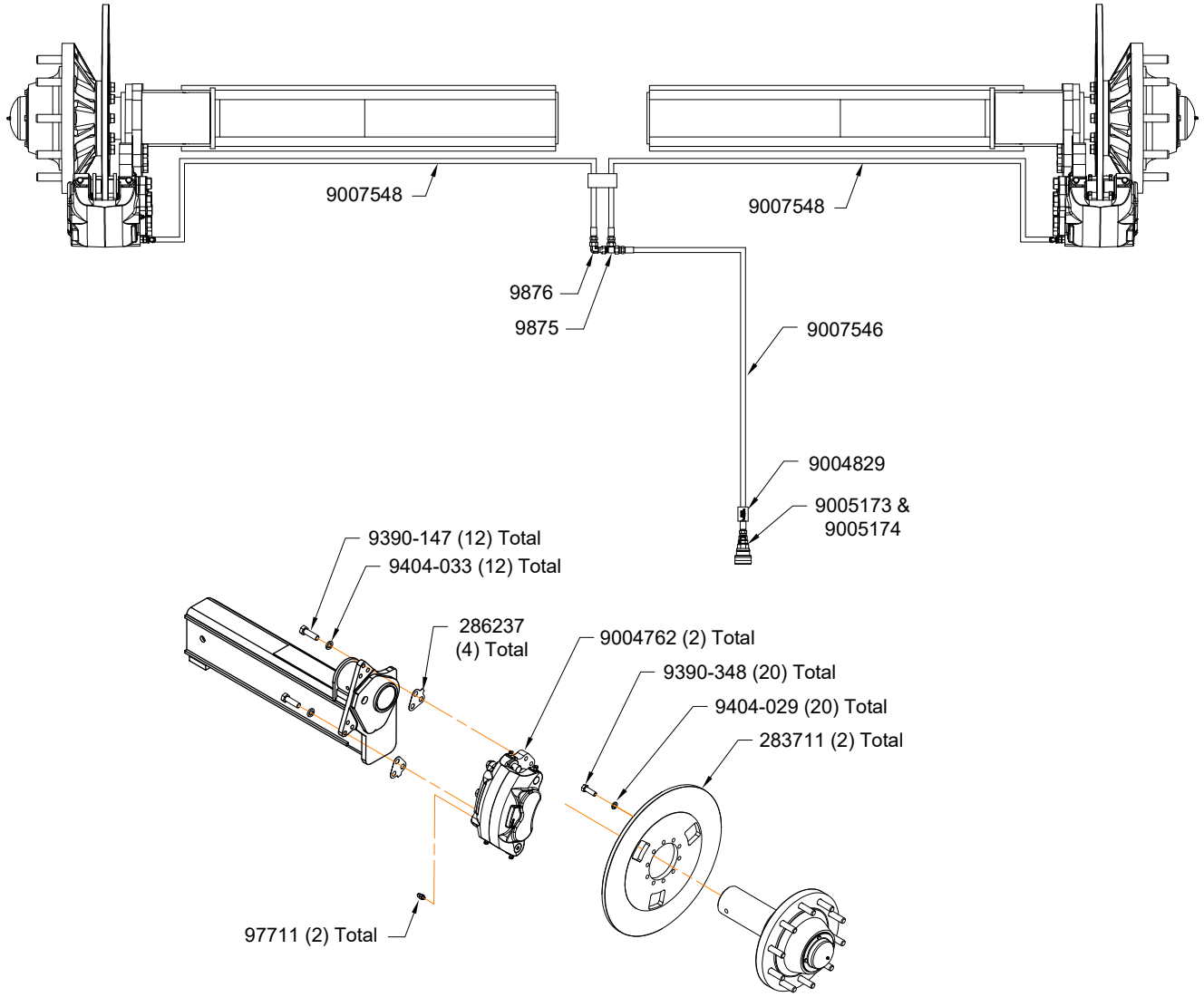
Electrical Diagram — Amber Lamp Double Face #9005142



Hydraulic System Diagram



Braking System Schematic (Optional) — Model V1000



Complete Torque Chart

Capscrews - Grade 5

NOTE:

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

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

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

IMPORTANT

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

Complete Torque Chart

Capscrews - Grade 8

NOTE:

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

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

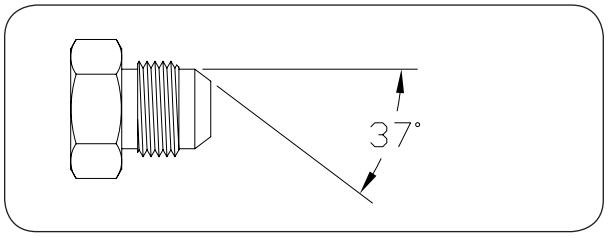
IMPORTANT

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

Hydraulic Fittings – Torque and Installation

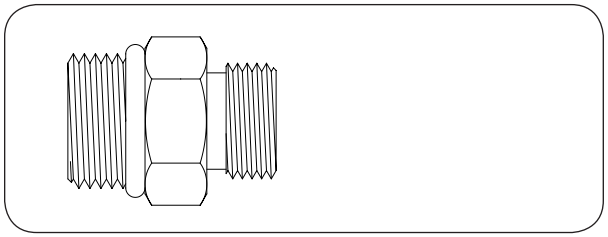
SAE Flare Connection (J. I. C.)

1. Tighten nut with finger until it bottoms the seat.
2. Using a wrench, rotate nut to tighten. Turn nut 1/6 turn or 60 degrees to apply proper torque.



SAE Straight Thread O-Ring Seal

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



Notes

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

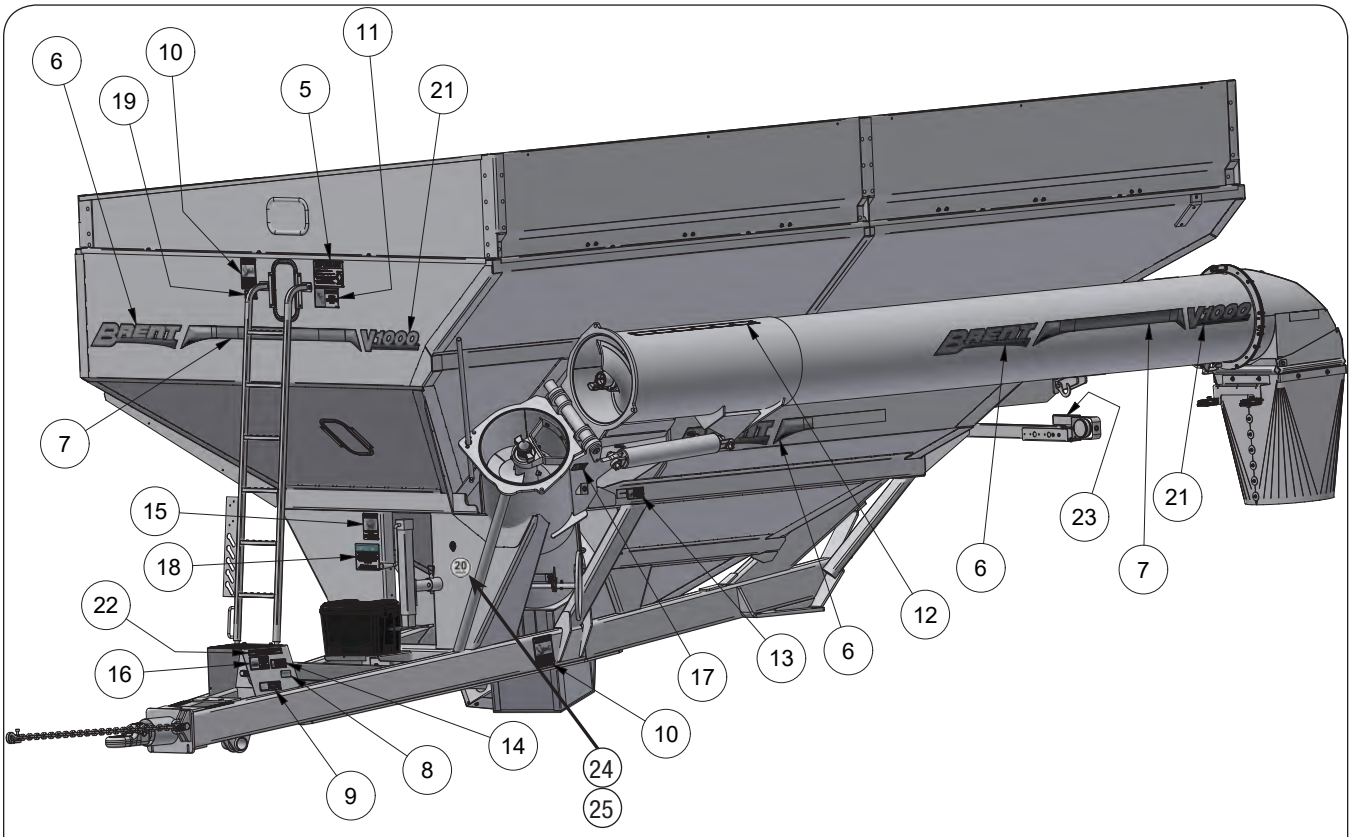
Section V
Parts

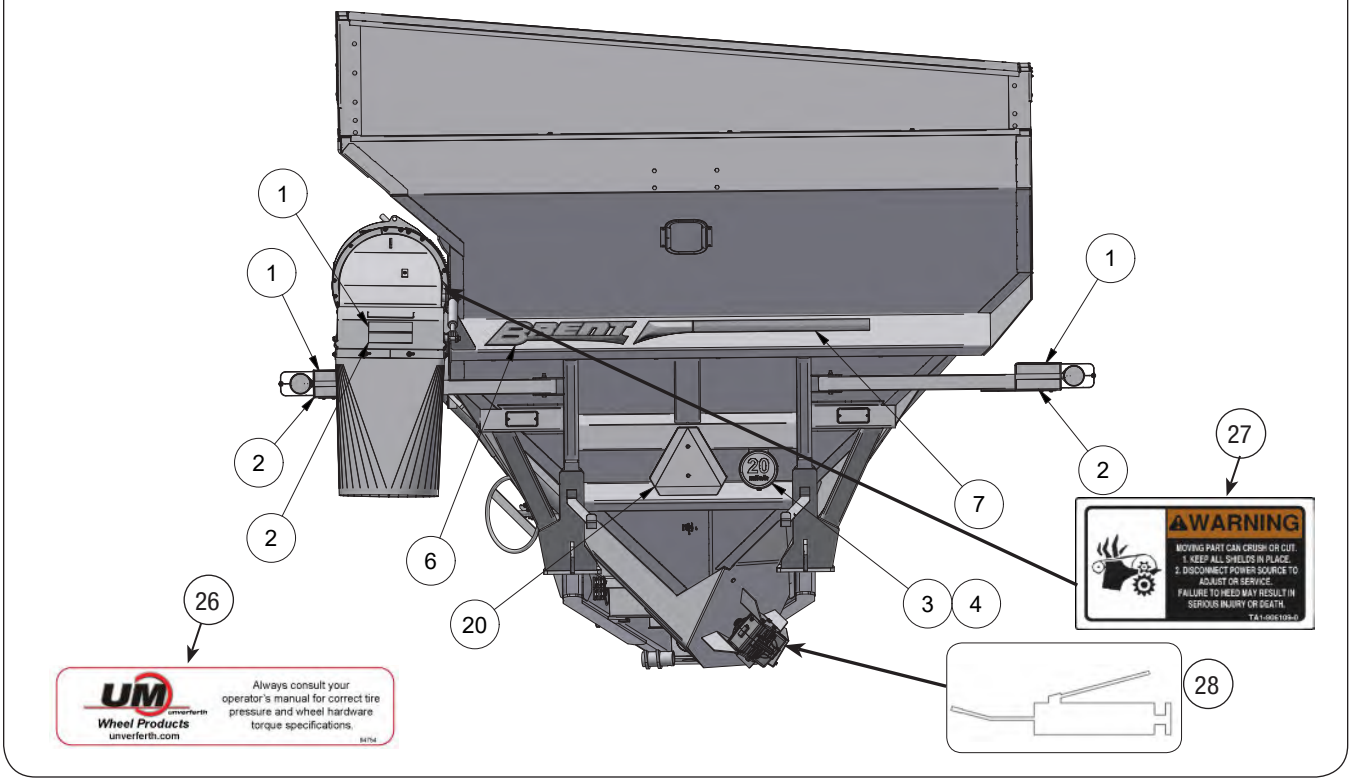
Please visit www.unverferth.com/parts/ for the most current parts listing.

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

Decals

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



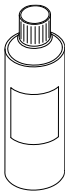


Decals

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	9003126	Reflector 2" x 9" =Red=	3	
2	9003125	Reflector 2" x 9" Fluorescent Orange	3	
3	9008714	Decal, Rear SIS 20 MPH	1	Uses Items 30, 31, and 32
4	9008720	Decal, Rear SIS 30 KPH	1	
5	9003477	Decal, IMPORTANT "Flow Control Gate"	1	
6	9006360	Decal, Brent Logo - 5.5" x 43"	5	
7	9006361	Decal, Stripe - 2.73" x 36.50"	10	
8	9003574	Decal, IMPORTANT "Shear-Bolts"	1	
9	97575	Decal, CAUTION "Transport Chain"	1	
10	9003475	Decal, WARNING "PTO Cut & Crush"	2	
11	9003476	Decal, WARNING "No Riders"	1	
12	92563	Decal, Flow Control 3" x 38"	1	
13	95445	Decal, WARNING "High-Pressure"	1	
14	97961	Decal, WARNING "Read & Understand"	1	
15	9003478	Decal, DANGER "Just For Kids"	1	
16	95046	Decal, DANGER "Drive Shaft Entanglement"	3	
17	95839	Decal, WARNING "Pinch Point"	1	
18	9008151	Decal, IMPORTANT "PTO Engagement"	1	
19	95008	Decal, CAUTION "Slippery Surface"	1	
20	TA510514	SMV Sign	1	
21	9007738	Decal, V800	5	
	9007733	Decal, V1000		
22	9009866	Decal, Hose Legend	1	
23	9003127	Reflector 2" x 9" =Amber=	8	
24	9008715	Decal, Front SIS 20 MPH	1	
25	9008721	Decal, Front SIS 30 KPH	1	
26	94754	Decal, UM Wheel "Tire Pressure"	1	
27	TA1-906109-0	Decal, WARNING "Moving Parts"	1	
28	93459	Decal, "Grease - 8 Hours"	1	
29	276987B	SIS Decal Mounting Bracket =Black=	1	
30	97189	Hex Nut 1/4"-20UNC	2	Not Shown
31	97420	Flange Screw 1/4"-20UNC x 3/4"	2	

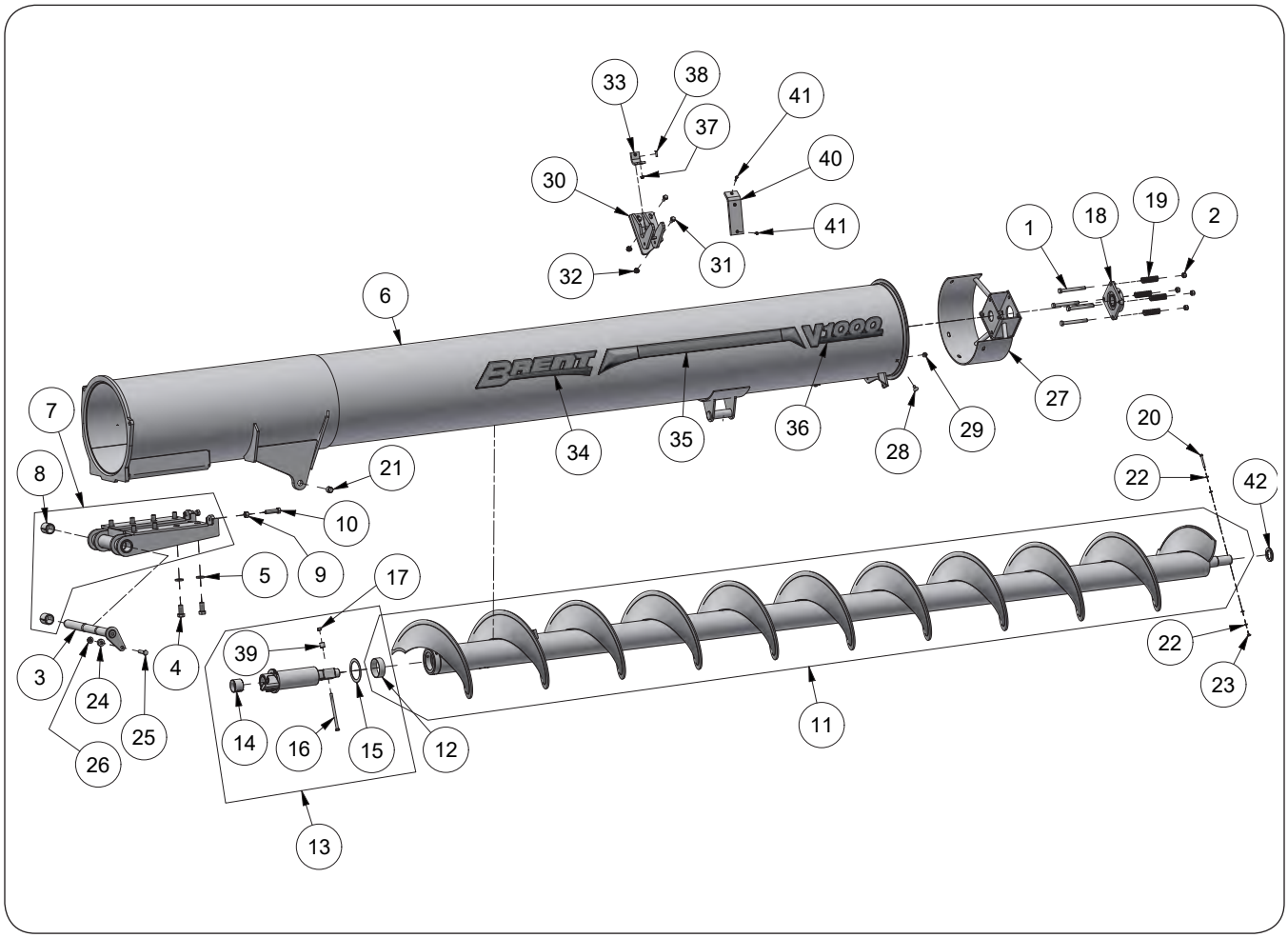
Touch-Up Paint



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

Upper Auger Components

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



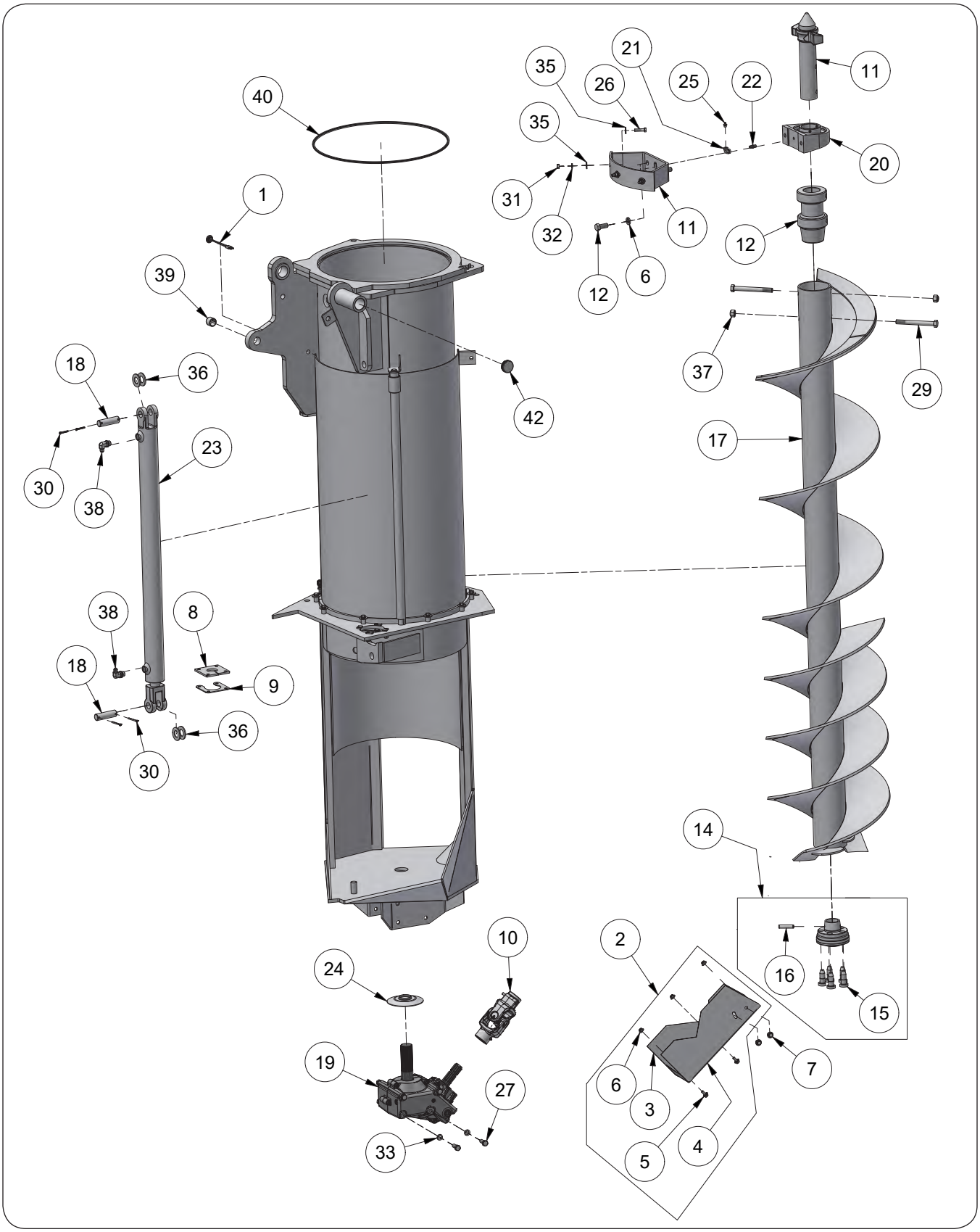
Upper Auger Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	9390-136	Capscrew 5/8"-11UNC x 6" Grade 5	4	
2	9801	Locknut/Top 5/8"-11UNC	4	
3	268946	Pivot Shaft Weldment	1	
4	9390-164	Capscrew 7/8"-9UNC x 2" Grade 5	8	
5	97041	Flat Washer 7/8"	8	
6	291470G	Upper Housing Weldment =Green=	1	
	291470R	Upper Housing Weldment =Red=		
7	286984G	Pivot Weldment - Upper Auger =Green=	1	Includes Item 8
	286984R	Pivot Weldment - Upper Auger =Red=		
8	9004980	Bushing-Tension	2	
9	9394-016	Hex Nut 3/4"-10UNC	2	
10	94733	Capscrew (Fully Threaded) 3/4”-10UNC x 3” Gr.5	2	
11	297322B	Upper Auger Replacement Kit (Black)	1	Includes Item 13, 14, and 27
12	284626	Flex Coupler Bushing Asy	1	
13	281682	Soft Start Kit	1	Includes Items 13 & 15 through 17
14	9003230	Bushing-Split	1	
15	9004878	Washer-Self Lubricating Thrust	1	
16	9390-119	Capscrew 1/2”-13UNC x 8” G5	1	Replacement Kit #293438 Includes Items 16, 17 and 39
17	9800	Top Locknut 1/2"-13UNC	1	
18	9002492	Bearing-2"	1	
19	9001812	Compression Spring	4	
20	9390-037	Capscrew 5/16"-18UNC x 2 3/4"	1	
21	91268	Split Tension Bushing	1	
22	9405-068	Flat Washer 5/16" SAE	4	
23	901527	Hex Nut 5/16"-18UNC	1	
24	268896	Bushing Spacer	1	
25	9390-127	Capscrew 5/8"-11UNC x 2 1/2" Grade 5	1	
26	9003398	Flange Top Locknut 5/8”-11UNC	1	
27	296451B	Bearing Weldment-Hanger =Black=	1	
28	9388-102	Carriage Bolt 1/2"-13UNC x 1"	4	
29	9003397	Locking Flange Nut 1/2”-13UNC	4	
30	291521G	Auger Rest Weldment =Green=	1	
	291521R	Auger Rest Weldment =Red=		
31	91266	Flange Screw 1/2"-13UNC x 1 1/4"	4	
32	91267	Flange Nut 1/2"-13UNC	4	
33	9004263	Pad-Stop	1	
34	-	Decal-Brent Logo	5	See “Decals” Parts Pages
35	-	Decal-Stripe	10	See “Decals” Parts Pages
36	-	Decal - V800/V1000	5	See “Decals” Parts Pages
37	91257	Flange Nut 5/16"-18UNC	17	
38	903171-662	Phillips Head Screw 5/16"-18UNC x 1 1/4"	2	
39	410511	Spacer Bushing	1	
40	291133	Poly Bumper	1	For V1000 Only
41	9512	Self Threading Screw 1/4”-14 x 1”	3	For V1000 Only
42	93974	Flat Washers 2”	4	

Lower Auger Components

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



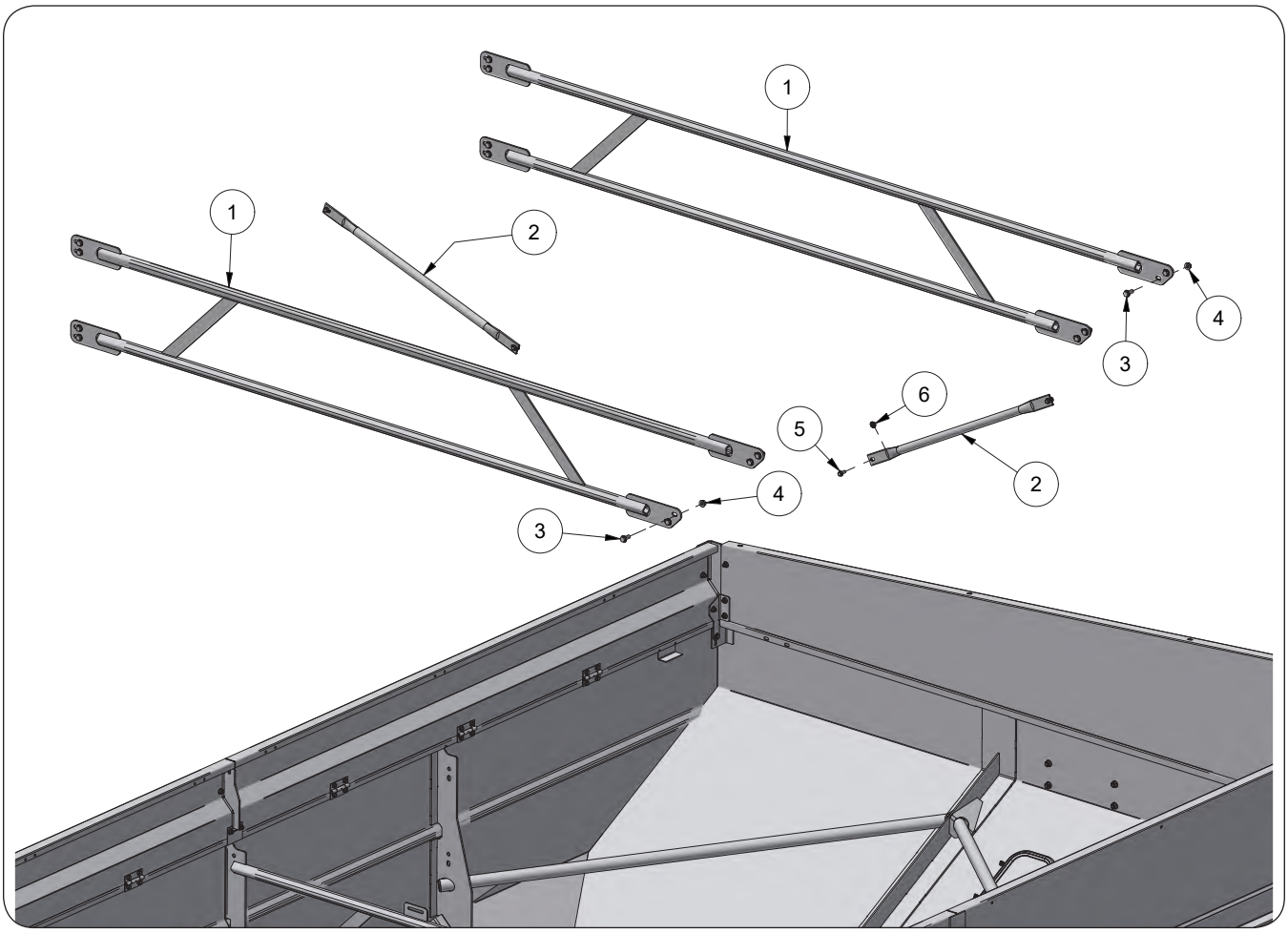
Lower Auger Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	9006107	Amber Light - Micro Dot - LED	1	
2	296801B	U-Joint Assembly Cover (Black)	1	
3	296802B	Cover Plate 7 3/4" x 16" =Black=	1	
4	296803B	Cover Plate 12 21/32" x 18 3/32" =Black=	1	
5	91256	Flange Screw 5/16"-18UNC x 3/4"	3	
6	91257	Hex Nut/Large Flange 5/16"-16UNC	3	
7	95585	Capscrew/Large Flange 3/8"-16UNC x 3/4" Gr. 5	3	
8	268217	Rubber Gasket	1	
9	268218	Plate-Cover	1	
10	95012	U-Joint	1	
11	288811	Drive Dog, Double Lobe	1	
12	281209B	Auger Tube Adapter =BLACK=	1	
13	281502B	Hanger Bearing Weldment =BLACK=	1	
14	286436	Auger Drive Plate Assembly (5-Pin)	1	Includes Items 12 & 13
15	9007000	Pin-Drive, Headed	5	
16	902614-236	Spiral Pin 1/2" Dia. x 2 1/4" (Heavy Duty)	1	
17	291441B	Lower Auger Weldment =Black=	1	
18	804572	Pin 1" Dia. x 3 1/2"	2	
19	9002812	Gearbox 45°	1	
20	9004731	Pillow Block Bearing 2 1/2" Bore	1	
21	9004764	90° Elbow	1	
22	9004765	Hex Pipe Nipple	1	
23	9005363	Flow Door Cylinder-Welded, 2 1/2 x 36"	1	
	9005409	Seal Kit	-	
24	92805B	Dust Cover =BLACK=	1	
25	93426	Zerk-Grease 1/8"-27 NPT	2	
26	9390-057	Capscrew 3/8"-16UNC x 1 1/2" Grade 5	3	
27	9390-100	Capscrew 1/2"-13UNC x 1 1/4" Grade 5	8	
28	9390-122	Capscrew 5/8"-11UNC x 1 1/2" Grade 5	2	
29	9390-136	Capscrew 5/8"-11UNC x 6" Grade 5	2	
30	9391-046	Cotter Pin 3/16" Dia. x 2"	4	
31	9394-006	Hex Nut 3/8"-16UNC	3	
32	9404-021	Lock Washer 3/8"	3	
33	9404-025	Lock Washer 1/2"	8	
34	9404-029	Lock Washer 5/8"	2	
35	9405-076	Flat Washer 3/8" USS	6	
36	9405-116	Flat Washer 1" SAE	4	
37	9801	Locknut/Top 5/8"-11UNC	2	
38	9874	90° Elbow 9/16"-18 JIC M x 3/4"-16 OR M	2	
39	91268	Split Tension Bushing 1 1/4" OD x 1" ID	1	
40	296290	Lower Auger Seal Kit	-	
	9009728	Gasket 1/4" x 1/4"	1	
41	281688G	Flow Door Repair Kit =Green=	1	(NOT SHOWN)
	281688R	Flow Door Repair Kit =Red=	1	
42	9009934	Plug	1	

Hopper Cross Brace Components

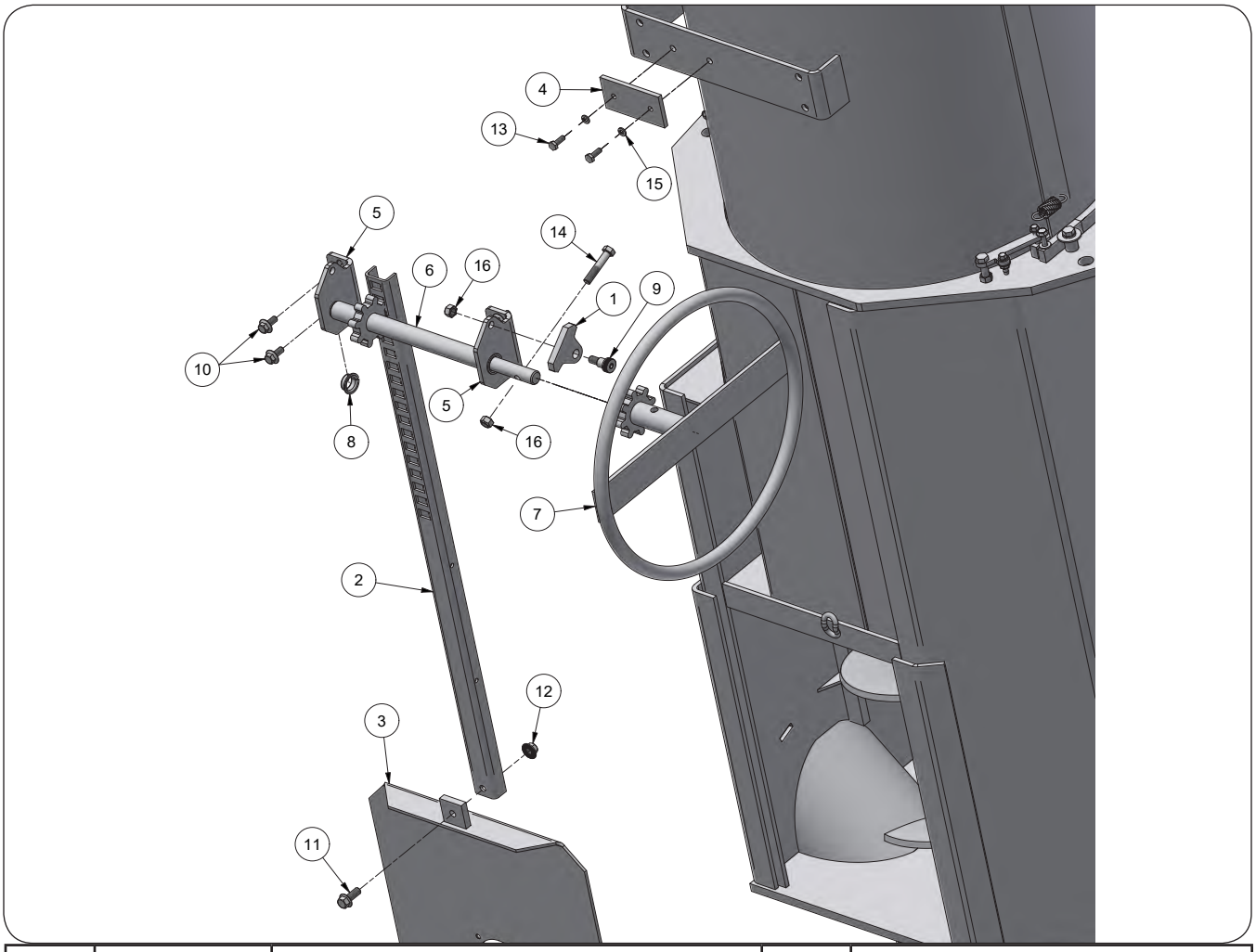
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	281943B	Cross Brace Weldment =Black=	2	
2	220032B	Angle Brace =Black=	2	
3	91266	Flange Screw 1/2"-13UNC x 1 1/4" Grade 5	16	
4	9002058	Flange Nut 1/2"-13UNC Grae 5	16	
5	91262	Flange Screw 3/8"-16UNC x 1" Grade 5	4	
6	91263	Flange Nut 3/8"-16UNC Grade 5	4	

Cleanout Door Assembly

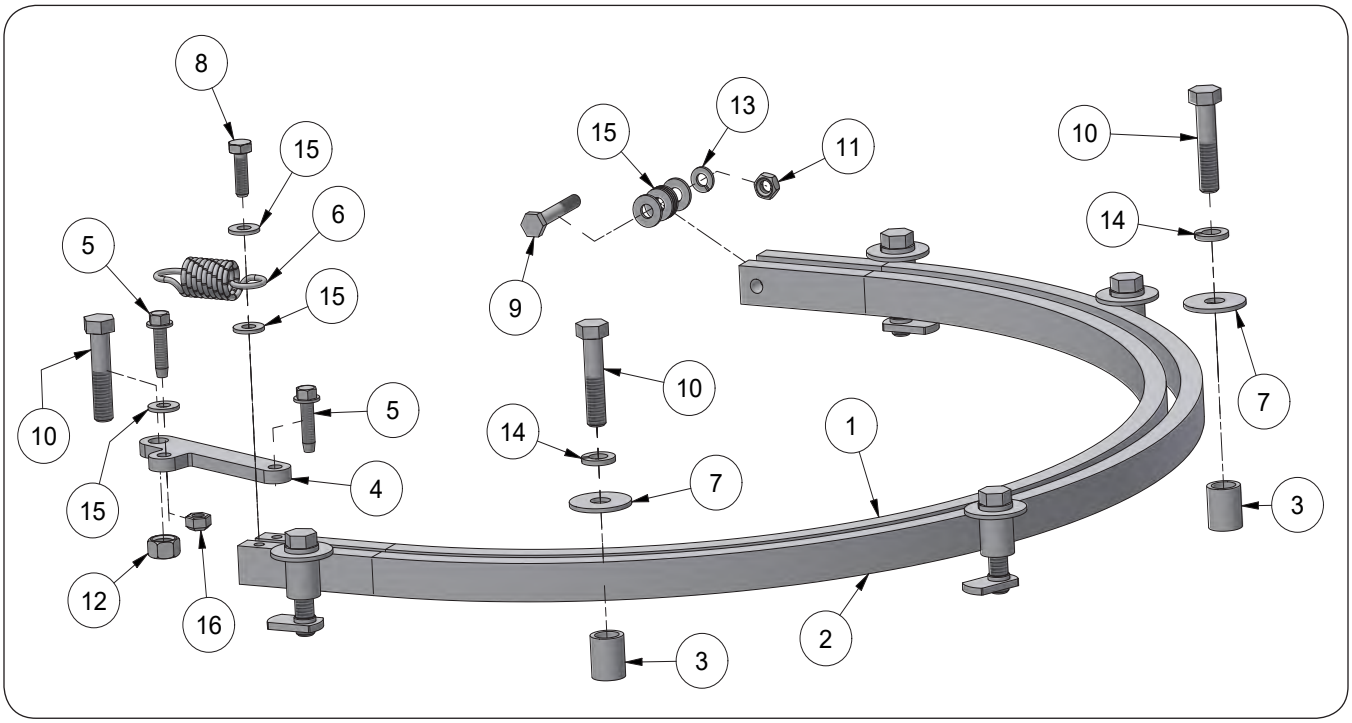
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	268313B	Plate - Lock =BLACK=	1	
2	281105B	Plate - Door Rack =BLACK=	1	
3	286996B	Door Weldment =BLACK=	1	
4	286801	Pad - Wear	1	
5	286802B	Plate - Door Lift =BLACK=	2	
6	286988	Door Lift/Shaft Weldment	1	
7	291576B	Door Lift/Wheel Weldment =BLACK=	1	
8	9003411	Bushing-Split	2	
9	9006181	Shoulder Bolt-1/2" Dia. x 1/2”	1	
10	91256	Flange Screw 5/16”-18UNC x 3/4”	4	
11	91262	Flange Screw 3/8”-16 x 1”	1	
12	91263	Nut/Large Flange 3/8”-16UNC	8	
13	9390-003	Capscrew 1/4”-20UNC x 3/4”	4	
14	9390-059	Capscrew 3/8”-16UNC x 2”	2	
15	9404-017	Lock Washer 1/4”	6	
16	9928	Top Locknut 3/8”-16UNC	2	

Flow Door Seals

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



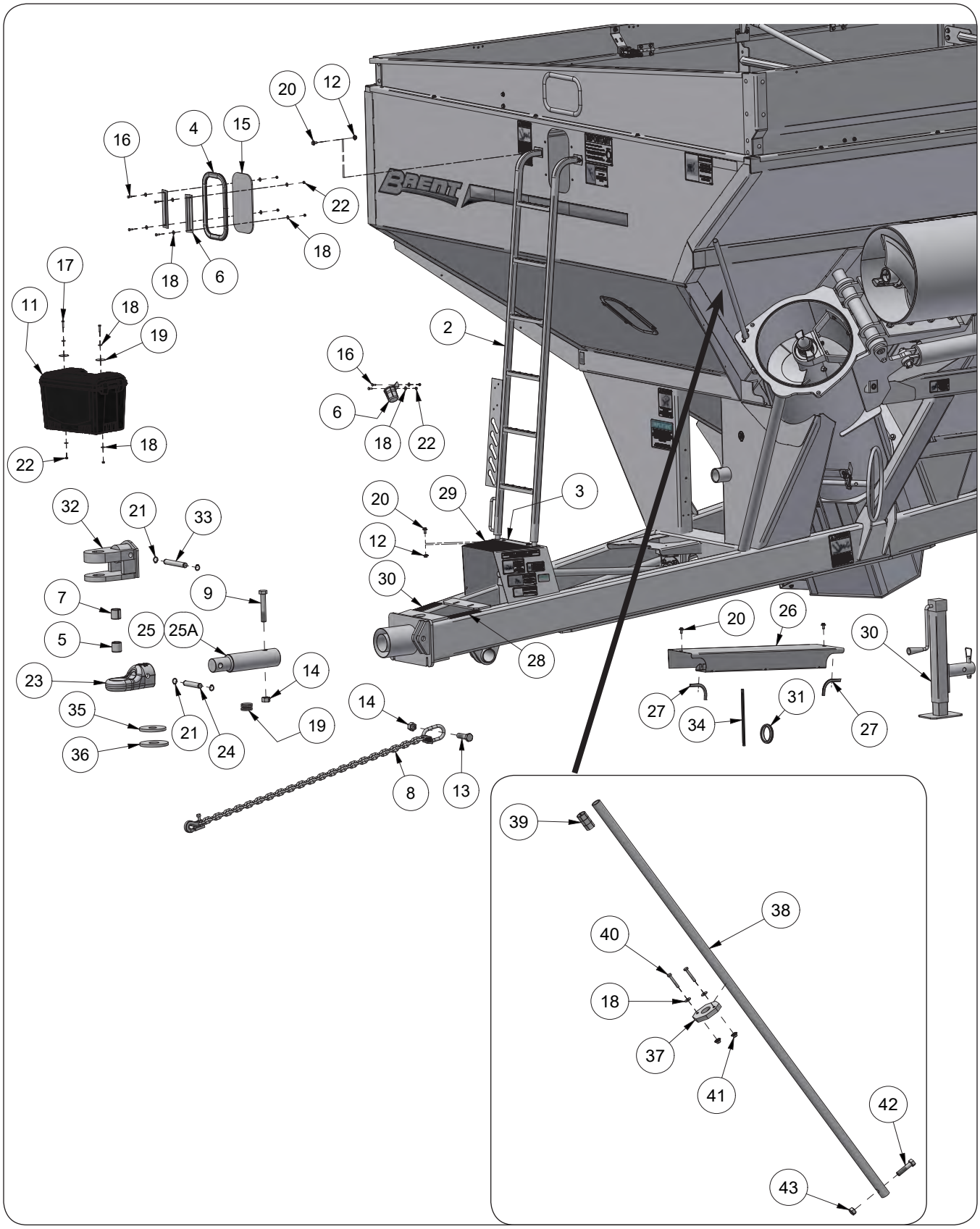
ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	281255	Seal - Poly	1	
2	281256	Seal - Poly	1	
3	281257G	Spacer Bushing =Green=	6	
	281257R	Spacer Bushing =Red=		
4	281258	Spring Bracket	1	
5	9004355	Screw, 1/4”-20UNC x 1” (Self-Threading)	2	
6	9004375	Spring	1	
7	9004537	Fender Washer, 3/8”	6	
8	9390-004	Capscrew, 1/4”-20UNC x 7/8” G5	1	
9	9390-008	Capscrew, 1/4”-20UNC x 1 3/4” G5	1	
10	9390-058	Capscrew, 3/8”-16UNC x 1 3/4” G5	7	
11	9394-002	Hex Nut, 1/4”-20UNC G5	1	
12	9394-006	Hex Nut, 3/8”-16UNC G5	1	
13	9404-017	Lock Washer, 1/4”	1	
14	9404-021	Lock Washer, 3/8”	6	
15	9405-062	Flat Washer 1/4”	7	
16	9936	Lock Nut, 1/4”-20UNC	1	

Notes

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

Final Assembly

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



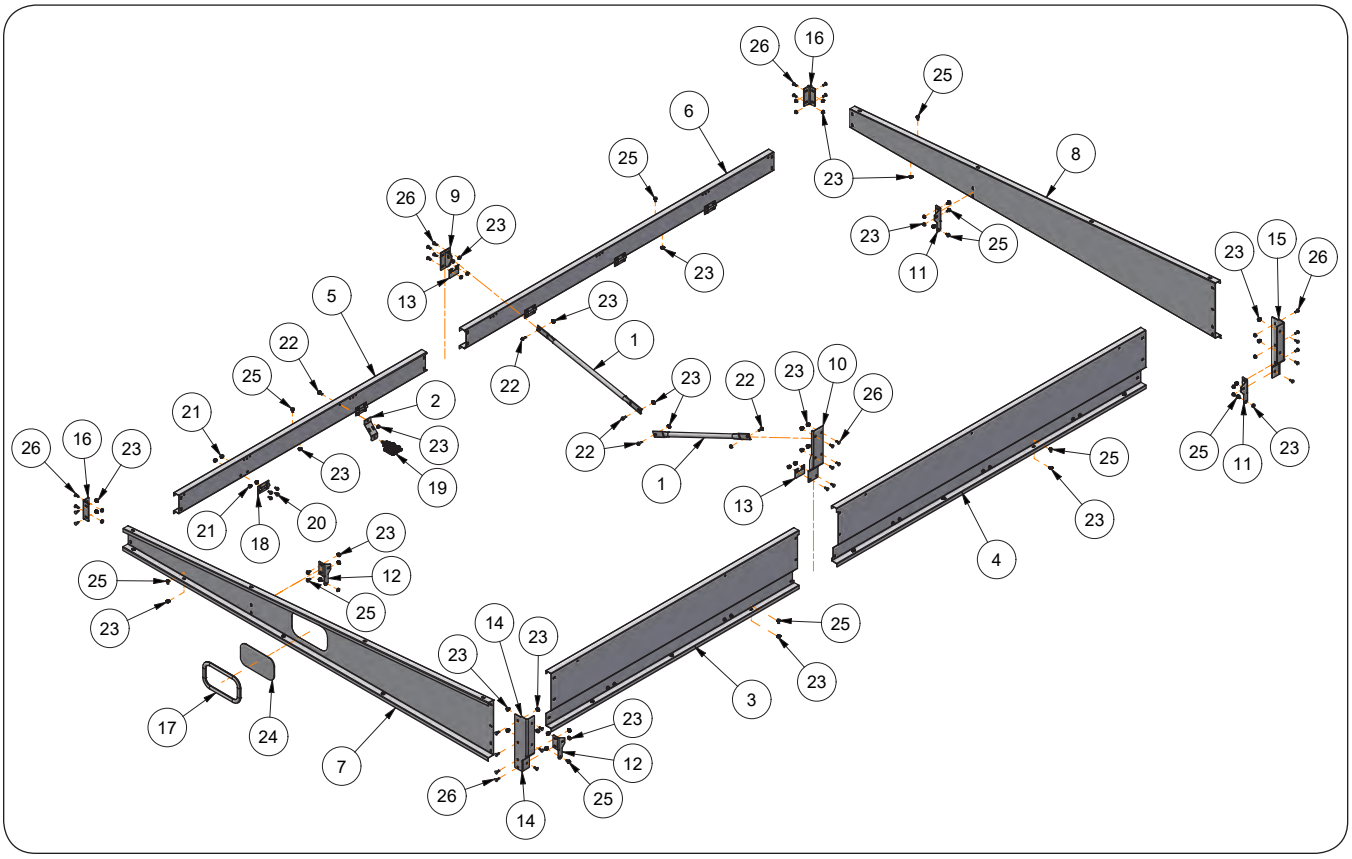
Final Assembly

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	250461B	Bracket, Window Retainer =Black=	4	
2	286831B	Ladder Weldment =Black=	1	
3	286845B	Ladder Bracket Weldment =Black=	1	
4	271951	Window Molding	2	
5	9001917	Tension Bushing 2" OD x 1.516" ID x 2"	1	
6	9001968	Connector Holder	1	
7	9002130	Split Tension Bushing 2" OD x 1 3/4" ID x 2"	1	
8	9003278	Transport Chain	1	
9	9390-195	Capscrew 1"-8UNC x 6" Grade 5	1	
10	9005259	O-Ring	4	
11	9005850	Storage Box	1	
12	91263	Nut/Large Flange 3/8"-16UNC Grade 5	6	
13	91299-189	Capscrew 1"-8UNC x 3 1/2" Grade 8	1	
14	92199	Locknut 1"-8UNC	1	
15	92403	Window	3	
16	9390-003	Capscrew 1/4"-20UNC x 3/4" Grade 5	8	
17	9390-006	Capscrew 1/4"-20UNC x 1 1/4" Grade 5	2	
18	9405-064	Flat Washer 1/4"	12	
19	94763	Fender Washer 5/16"	2	
20	95585	Capscrew/Large Flange 3/8"-16UNC x 3/4" Gr.5	6	
21	91192	Retaining Ring 1"	2	
22	9936	Locknut 1/4"-20UNC	8	
23	282875B	Hitch, Single Tang CAT4 =Black=	1	
24	282876	Pin 1" Dia. x 5 1/2"	1	
25	284780	Hitch Bar 3 3/4" Dia.	1	
25A	9004913	Scale Hitch Bar 3 3/4" Dia. x 16 3/8"	1	See UM410/UM520 scale manual for for additional parts
26	291547B	Driveshaft Cover =Black=	1	
27	9000787	Trim Lock	A/R	Specify in Feet
28	9001498	Runner Pad	2	
29	9008331	Platform Rubber Pad	1	
30	9004156	Jack Assembly w/Pin	1	
31	9006780	Rubber Grommet 3" ID	2	
	9007173	Rubber Grommet 2 5/8" ID	2	
32	281690	Scale Clevis Hitch	1	Optional - Includes Items 21 & 35
33	281691	Pin 1" Dia. x 7 3/8"	1	Optional
34	9003946	Trim Lock	1	
35	281663	Poly Wear Shoe For CAT 3	1	
36	281898	Poly Wear Shoe For CAT 4	1	
37	286942	Pad Indicator 3" x 3 1/2"	1	
38	286851B	Indicator Tube =BLACK=	1	
39	9010006	Decal, Yellow Reflective Tape	1	
40	9390-008	Capscrew 1/4"-20UNC x 1 3/4" G5	2	
41	97189	Hex Nut/Large Flange 1/4"-20UNC	2	
42	9390-103	Capscrew 1/2"-13UNC x 2" G5	1	
43	94981	Locknut/CENTER 1/2"-13UNC	1	

Sideboards — Model V800

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



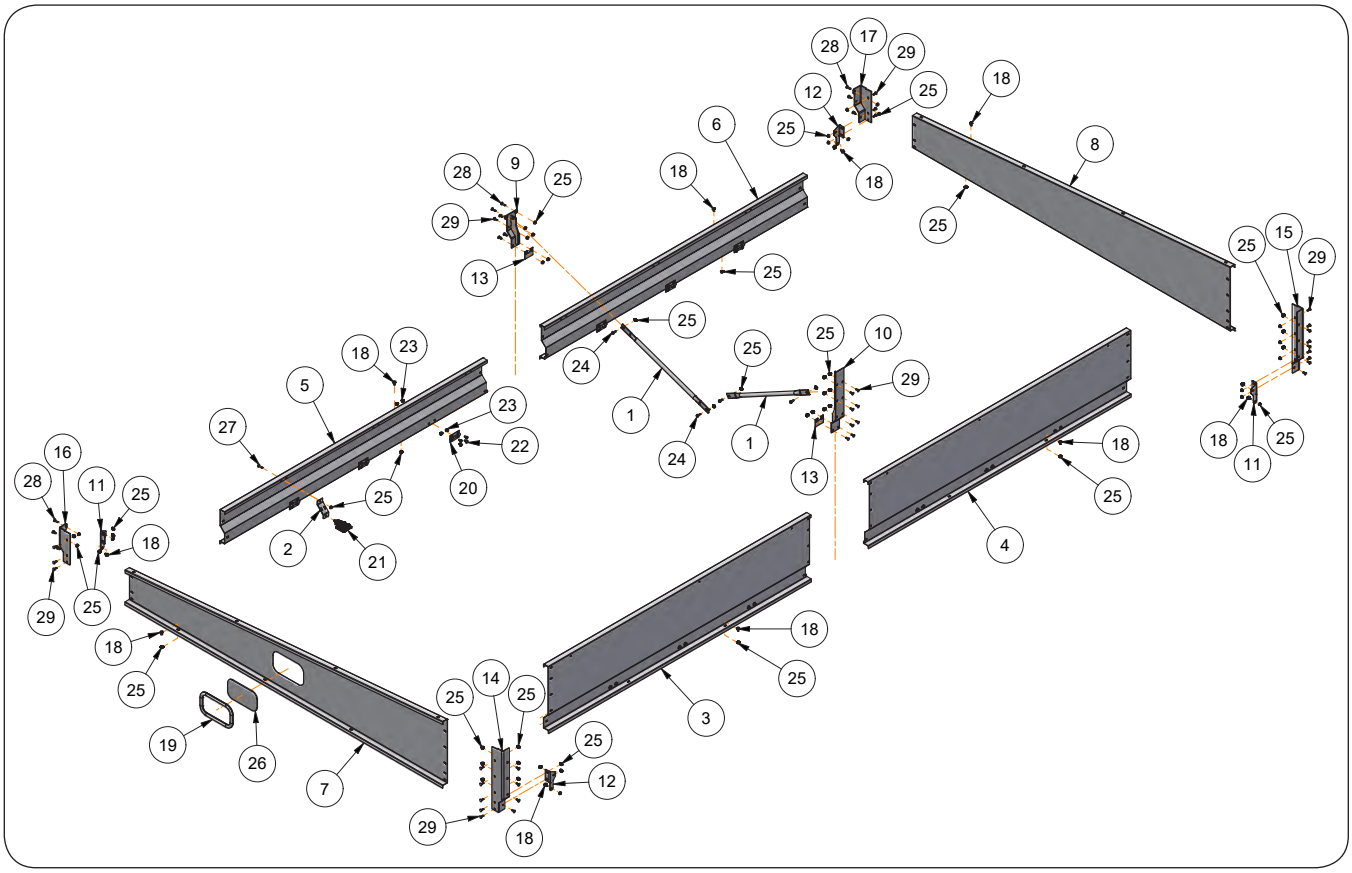
Sideboards — Model V800

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	220032B	Tube, Angle Brace/Sideboard Support =Black=	2	
2	271574B	Lamp Mount Bracket =Black=	1	
3	296360B	Sideboard, Front LH =Black=	1	
4	296361B	Sideboard, Rear LH =Black=	1	
5	296358B	Sideboard, Front RH =Black=	1	
6	296359B	Sideboard, Rear RH =Black=	1	
7	296356B	Sideboard Front =Black=	1	
8	296357B	Sideboard Rear =Black=	1	
9	296366B	Sideboard Bracket Weldment RH =Black=	1	
10	296367B	Sideboard Bracket Weldment LH =Black=	1	
11	288427B	Hinge Bracket =Black=	2	
12	288428B	Hinge Bracket =Black=	2	
13	295691B	Sideboard Cover Plate =Black=	2	
14	296362B	Sideboard Corner Plate, Front LH =Black=	1	
15	296363B	Sideboard Corner Plate, Rear LH =Black=	1	
16	296364B	Sideboard Corner Plate, RH =Black=	2	
17	250431	Window Molding	1	
18	9004626	Hinge	10	
19	9008957	LED Work Light	1	
20	91256	Flange Bolt 5/16”-18UNC x 3/4”	40	
21	91257	Flange Nut 5/16”-18UNC	40	
22	91262	Screw/Large Flange 3/8”-16UNC x 1”	5	
23	91263	Nut/Large Flange 3/8”-16UNC	70	
24	92403	Window, 1/4” x 7 1/16” x 12 5/8”	1	
25	95585	Capscrew/Large Flange 3/8”-16UNC x 3/4”	29	
26	9388-051	Carriage Bolt 3/8”-16UNC x 1”	32	

Sideboards — Model V1000

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



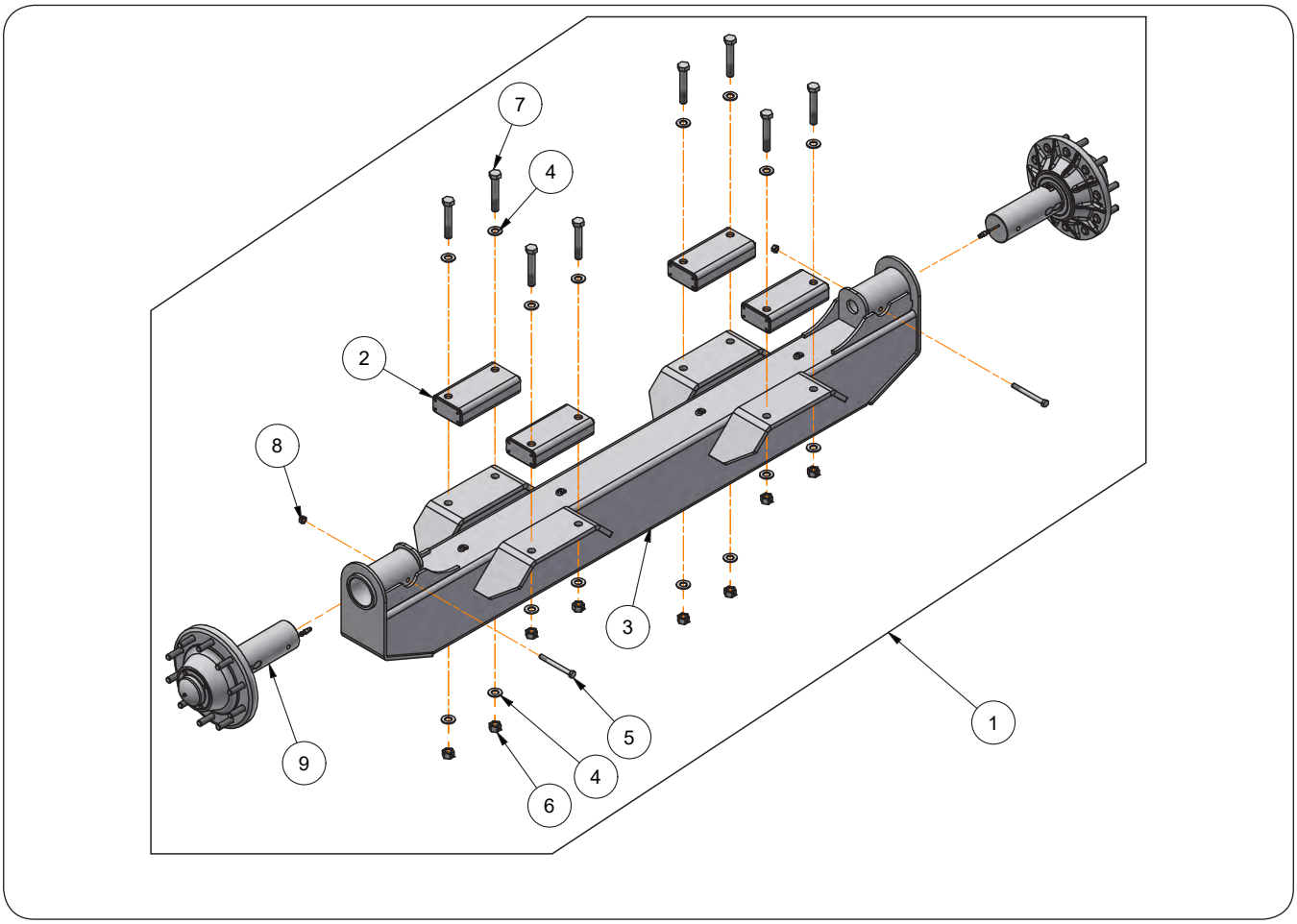
Sideboards — Model V1000

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	220032B	Tube, Angle Brace/Sideboard Support =Black=	2	
2	271574B	Lamp Mount Bracket =Black=	1	
3	296276B	Sideboard, Front LH =Black=	1	
4	296277B	Sideboard, Rear LH =Black=	1	
5	296274B	Sideboard, Front RH =Black=	1	
6	296275B	Sideboard, Rear RH =Black=	1	
7	296272B	Sideboard Front =Black=	1	
8	296273B	Sideboard Rear =Black=	1	
9	296282B	Sideboard Bracket Weldment RH =Black=	1	
10	296283B	Sideboard Bracket Weldment LH =Black=	1	
11	288427B	Hinge Bracket =Black=	2	
12	288428B	Hinge Bracket =Black=	2	
13	295691B	Sideboard Cover Plate =Black=	2	
14	296278B	Sideboard Corner Plate, Front LH =Black=	1	
15	296279B	Sideboard Corner Plate, Rear LH =Black=	1	
16	296280B	Sideboard Corner Plate, Front RH =Black=	1	
17	296281B	Sideboard Corner Plate, Rear RH =Black=	1	
18	95585	Capscrew/Large Flange 3/8”-16UNC x 3/4”	18	
19	250431	Window Molding	1	
20	9004626	Hinge	12	
21	9008957	LED Work Light	1	
22	91256	Flange Bolt 5/16”-18UNC x 3/4”	48	
23	91257	Flange Nut 5/16”-18UNC	48	
24	91262	Screw/Large Flange 3/8”-16UNC x 1”	4	
25	91263	Nut/Large Flange 3/8”-16UNC	67	
26	92403	Window, 1/4” x 7 1/16” x 12 5/8”	1	
27	9009729	Truss Head Screw, 3/8”-16UNC x 1 1/2”	1	
28	9009089	Truss Head Screw, 3/8”-16UNC x 1 1/4”	4	
29	9388-051	Carriage Bolt 3/8”-16UNC x 1”	40	

Rigid Axle — Model V800 (Single Wheel)

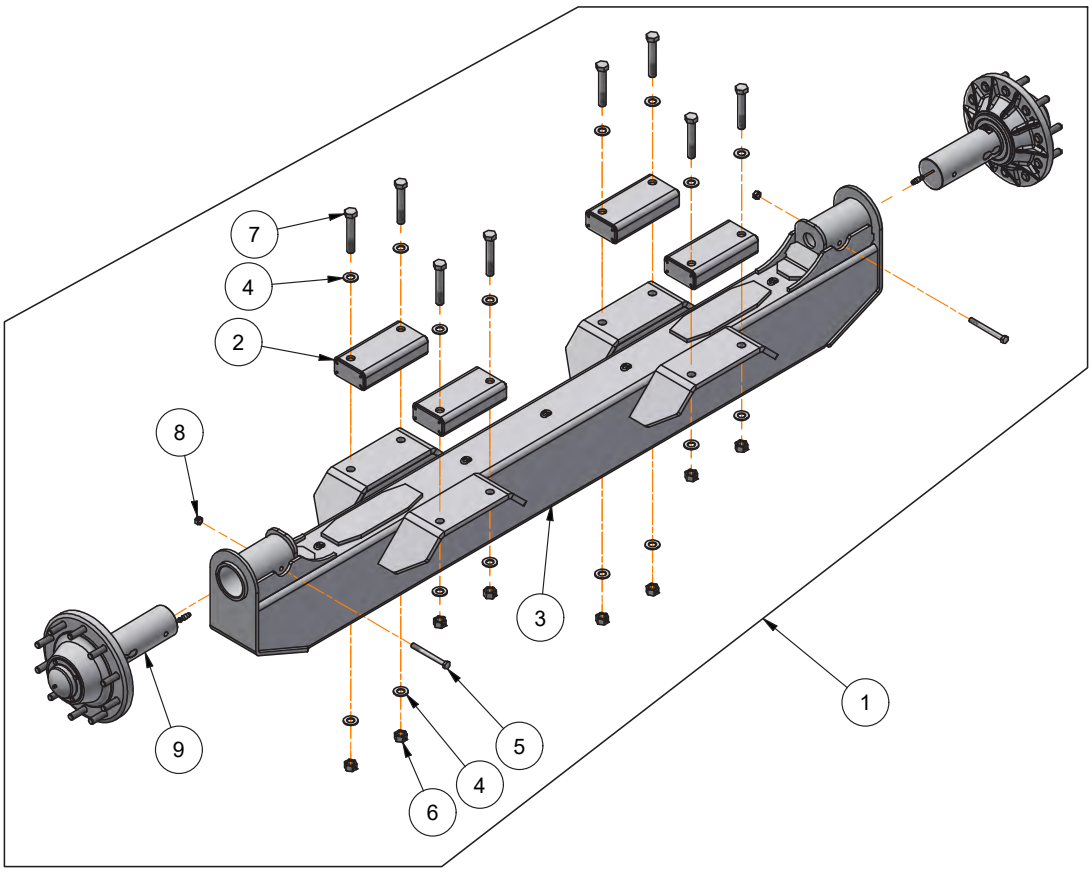
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	291630B	Rigid Axle Assembly w/out Scales (Black)	1	Includes Items 1 through 9 All Service Parts Are Black
	291629B	Rigid Axle Assembly w/Scales (Black)		
2	290198B	Axle Riser Weldment =Black=	4	All Service Parts Are Black
3	291631B	Axle Tube Weldment =Black=	1	
4	804685	Flat Washer Hardened 2"	16	
5	9007387	Capscrew 5/8"-11UNC x 6 1/4" Grade 5	2	
6	9008441	Elastic Locknut 1"-14UNS Grade 8	8	
7	91299-1464	Capscrew 1"-14UNS x 6" Grade 8	8	
8	95905	Locknut 5/8"-11UNC Grade 5	2	
9	280634B	Hub & Spindle Assembly w/out Scales (Black)	2	See "Hub & Spindle - Single Wheel" with 3/4" Hardware PARTS Page
	286954B	Hub & Spindle Assembly w/Scales (Black)	2	

Rigid Axle — Model V1000 (Single Wheel)

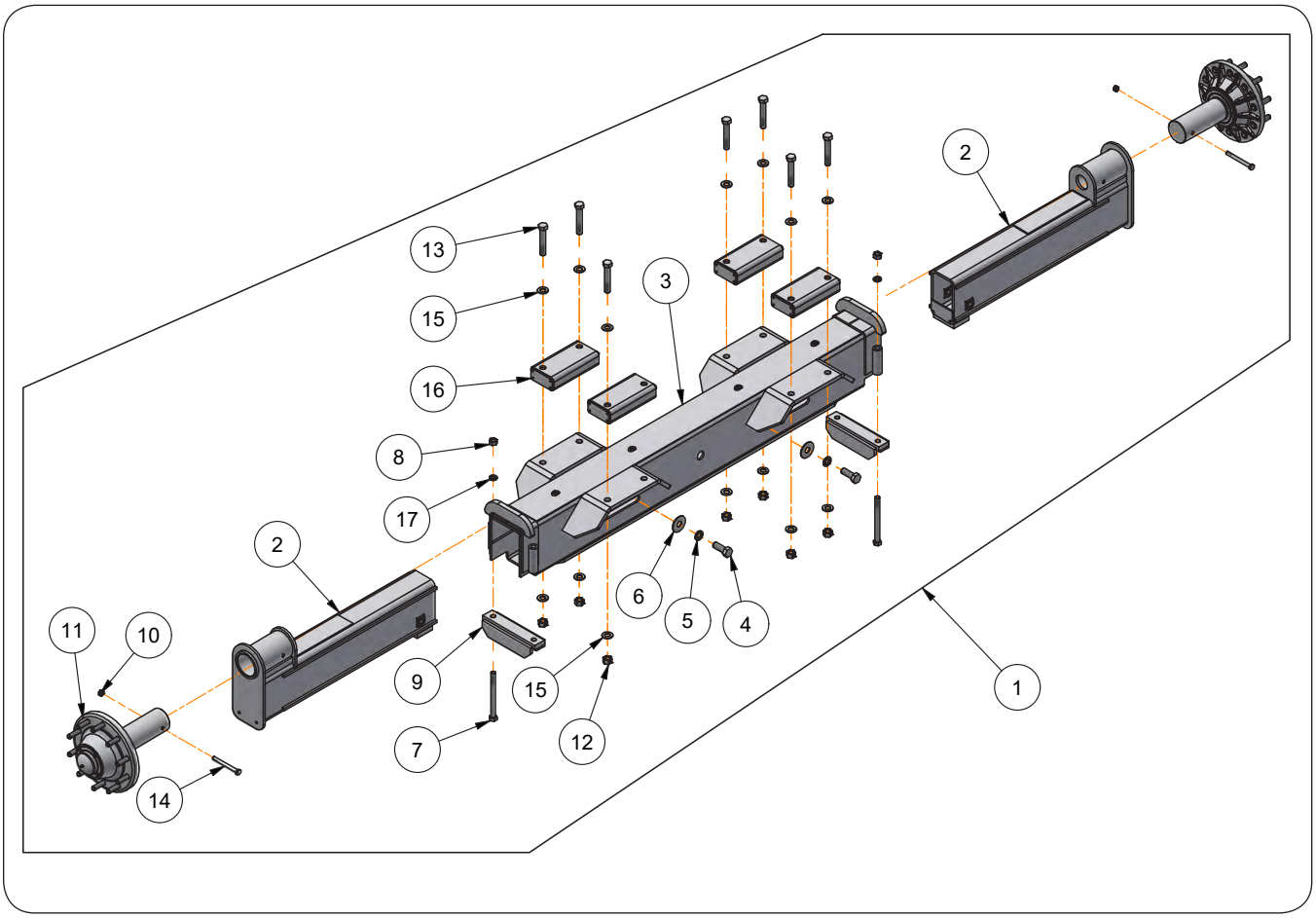
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	291526B	Rigid Axle Assembly w/out Scales (Black)	1	Includes Items 1 through 9 All Service Parts Are Black
	291473B	Rigid Axle Assembly w/Scales (Black)		
2	290198B	Axle Riser Weldment =Black=	4	All Service Parts Are Black
3	292250B	Axle Tube Weldment =Black=	1	
4	804685	Flat Washer Hardened 2"	16	
5	9007387	Capscrew 5/8"-11UNC x 6 1/4" Grade 5	2	
6	9008441	Elastic Locknut 1"-14UNS Grade 8	8	
7	91299-1464	Capscrew 1"-UNS x 6" Grade 8	8	
8	95905	Locknut 5/8"-11UNC Grade 5	2	
9	284268B	Hub & Spindle Assembly w/out Scales (Black)	2	See "Hub & Spindle - Single Wheel" with M22 Hardware PARTS Page
	267280B	Hub & Spindle Assembly w/Scales (Black)	2	

Adjustable Axle — Model V800

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



Adjustable Axle — Model V800

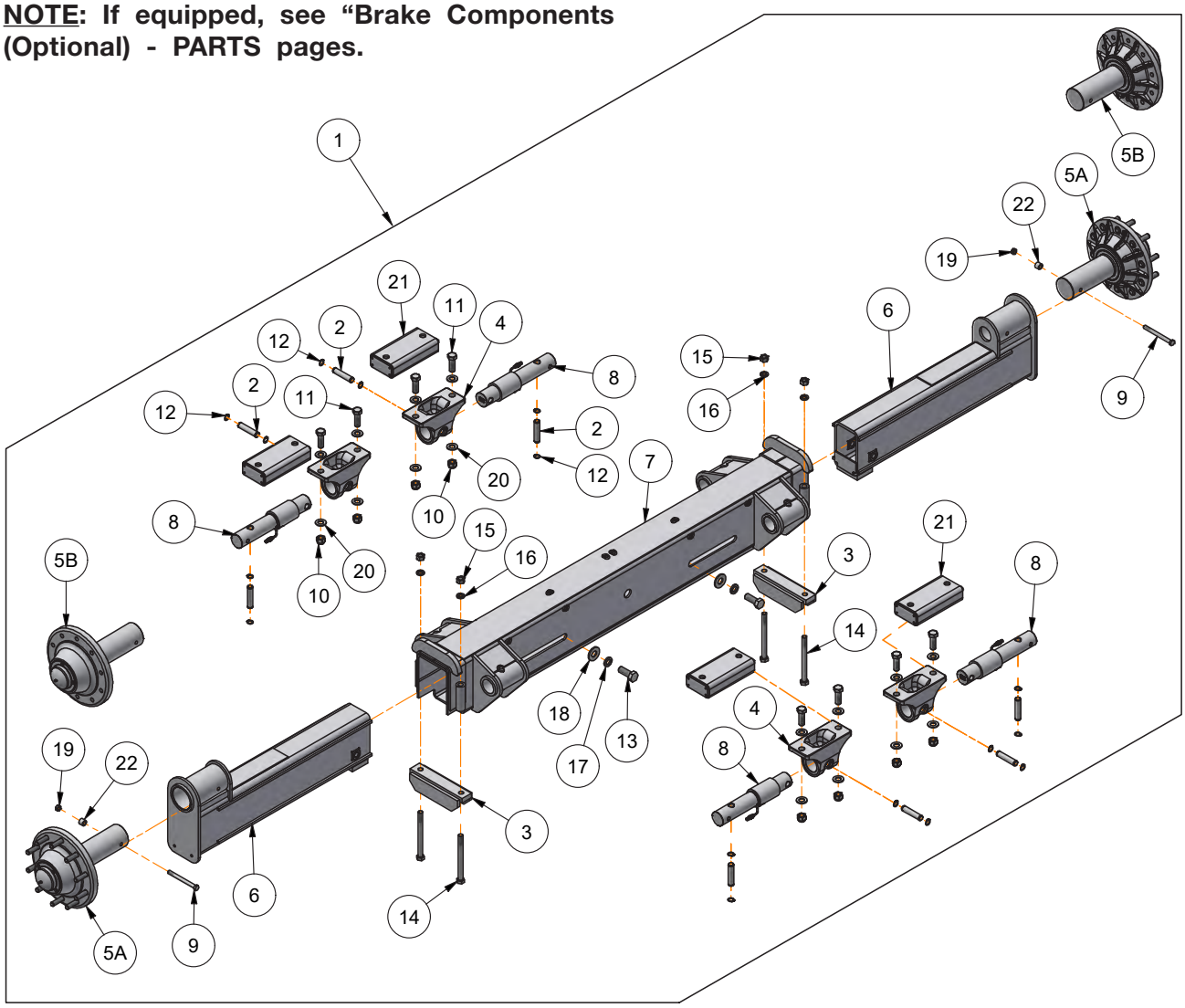
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NUMBER			DESCRIPTION	QTY	NOTES
	Straddle Duals	Single Wheel With Risers	Single Wheel Without Risers			
1	291637B	291633B	292635B	Adjustable Axle Assembly w/out Scales (Black)	-	Includes Items 1-17 All Service Parts Are Black
	291638B	291634B	292636B	Adjustable Axle Assembly w/Scales (Black)		
2	292217B	292217B	292217B	Axle Extension Tube Weldment =Black=	2	All Service Parts Are Black
3	291639B	291639B	291639B	Main Tube Weldment =Black=	1	
4	9390-200	9390-200	9390-200	Capscrew 1 1/8”-7UNC x 3” Grade 5	2	
5	9404-045	9404-045	9404-045	Lock Washer 1 1/8”	2	
6	289325	289325	289325	Heavy Duty Washer 1 1/8”	2	
7	9390-457	9390-457	9390-457	Capscrew 7/8”-9UNC x 10” Grade 5	4	
8	9394-018	9394-018	9394-018	Hex Nut 7/8”-9UNC	4	
9	280293B	280293B	280293B	Clamp Weldment =Black=	2	All Service Parts Are Black
10	95905	95905	95905	Locknut 5/8”-11UNC	2	
11	-	-	-	Hub & Spindle (Black)	2	See “Hub & Spindle” Parts Pages
12	9008441	9008441	9008441	Elastic Locknut 1”-14UNS Grade 8	8	
13	-	-	91299-1456	Capscrew 1”-14UNS x 3” Grade 8	8	
	91299-1464	91299-1464	-	Capscrew 1”-14UNS x 6” Grade 8		
14	9007387	9007387	9007387	Capscrew 5/8”-11UNC x 6 1/4” Grade 5	2	
15	804685	804685	804685	Flat Washer Hardened 2”	16	
16	290198B	290198B	-	Axle Riser Weldment =Black=	4	All Service Parts Are Black
17	9404-037	9404-037	9404-037	Lock Washer 7/8”	4	

Adjustable Axles — Model V1000

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

NOTE: If equipped, see "Brake Components (Optional) - PARTS pages.



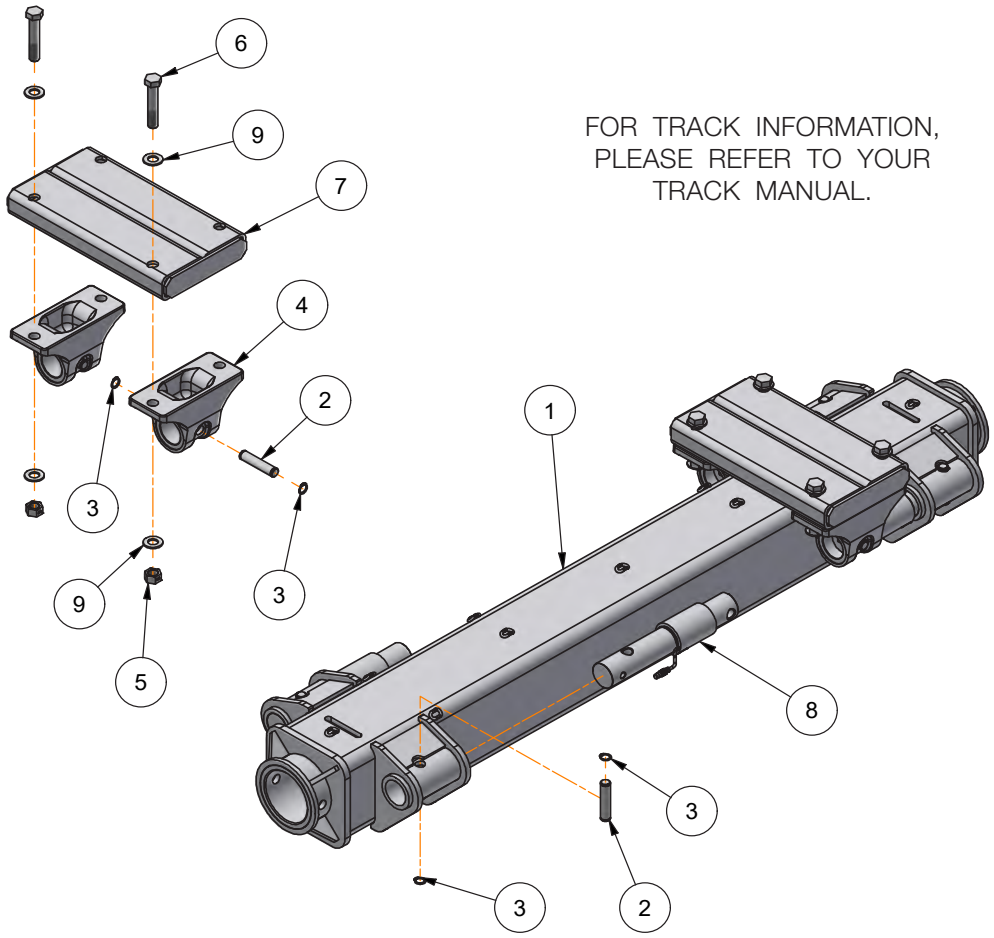
Adjustable Axle — Model V1000

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

ITEM	PART NUMBER			DESCRIPTION	QTY	NOTES
	Straddle Duals	Single Wheel With Risers	Single Wheel Without Risers			
1	291179B	291476B	292518B	Adjustable Axle Assembly w/out Scales (Black)	-	Includes Items 1-5A & 5B-21 and 22 All Service Parts Are Black
	291180B	291477B	292519B	Adjustable Axle Assembly w/Scales (Black)		
2	250843	250843	250843	Pin 1" Dia. x 4 9/16"	8	
3	280293B	280293B	280293B	Axle Clamp Weldment =Black=	2	All Service Parts Are Black
4	283855B	283855B	283855B	Axle Mount Casting =Black=	4	
5A	-	284268B	284268B	Hub & Spindle Assembly (Black)	2	See "Hub & Spindle" Parts Pages
5B	284269B	-	-	Hub & Spindle Assembly (Black)		
6	292217B	292217B	292217B	Axle Extension Tube Weldment =Black=	2	For Units without Brakes ONLY
7	292255B	292255B	292255B	Adjustable Axle Weldment =Black=	1	All Service Parts Are Black
8	268289	268289	268289	Bar For Units w/out Scales	4	(Not Shown)
	9004903	9004903	9004903	Load Bar For Units w/Scales		
9	-	-	91299-138	Capscrew 5/8"-11UNC x 7" Grade 8	2	
	9007387	9007387	-	Capscrew 5/8"-11UNC x 6 1/4" Grade 5		
10	9008441	9008441	9008441	Elastic Locknut 1"-14UNS Grade 8	8	
11	-	-	91299-1456	Capscrew 1"-14UNS x 3" Grade 8	8	
	91299-1464	91299-1464	-	Capscrew 1"-14UNS x 6" Grade 8		
12	91192	91192	91192	Retaining Ring 1"	16	
13	9390-200	9390-200	9390-200	Capscrew 1 1/8"-7UNC x 3" Grade 5	2	
14	9390-457	9390-457	9390-457	Capscrew 7/8"-9UNC x 10" Grade 5	4	
15	9394-018	9394-018	9394-018	Hex Nut 7/8"-9UNC Grade 5	4	
16	9404-037	9404-037	9404-037	Lock Washer 7/8"	4	
17	9404-045	9404-045	9404-045	Lock Washer 1 1/8"	2	
18	289325	289325	289325	Heavy Duty Washer 1 1/8"	2	
19	-	-	9008440	Locknut/Center 5/8"-11UNC Grade 8	2	
	95905	95905	-	Locknut/Center 5/8"-11UNC Grade 5		
20	804685	804685	804685	Flat Washer Hardened 2"	16	
21	291496B	291496B	-	Axle Riser Weldment =Black=	4	All Service Parts Are Black
22	-	-	288789B	Spacer Bushing =Black=	2	

Track Axle — Model V800 and V1000

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



FOR TRACK INFORMATION, PLEASE REFER TO YOUR TRACK MANUAL.

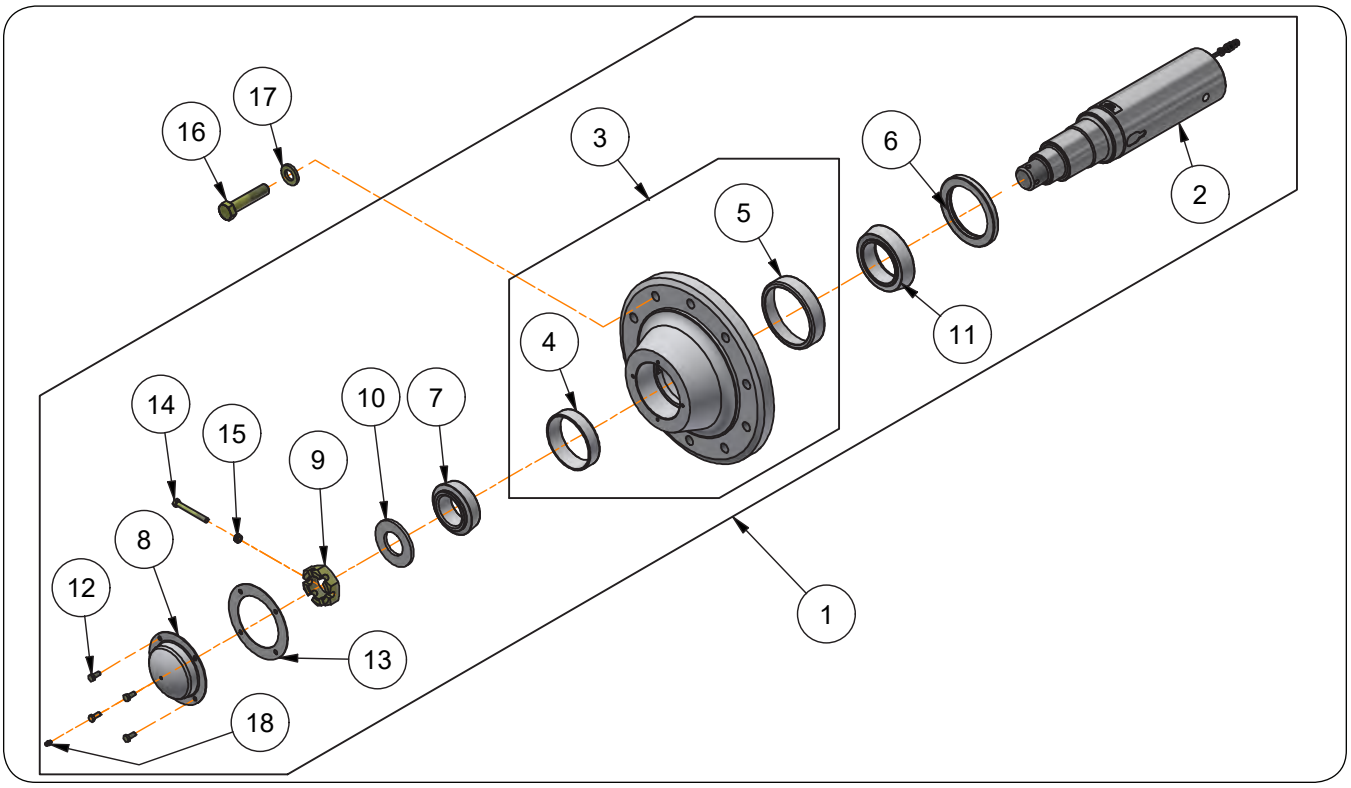
Track Axle — Model V800 and V1000

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
	292522B	36" Track Axle Bundle, Non-Scale (Black)	-	Includes Items 1 through 8 All Service Parts Are Black
	291394B	36" Track Axle Bundle, Scale (Black)		
1	291393B	Track Axle Weldment =Black=	1	All Service Parts Are Black
2	250843	Pin 1" Dia. x 4 9/16"	8	
3	91192	Retaining Ring 1"	16	
4	283855B	Axle Mount =Black=	4	All Service Parts Are Black
5	9008441	Elastic Locknut 1"-14UNS Grade 8	8	
6	91299-1464	Capscrew 1"-14UNS x 6" Grade 8	8	
7	287945B	Axle Riser Weldment =Black=	2	All Service Parts Are Black
8	268289	Bar 2.875" Dia. (NOT SHOWN)	4	For Units without Scales
	9004903	Load Bar - Scale 2.875" Dia. w/16 Ft. Cable		For Units with Scales (Shown)
9	804685	Flat Washer Hardened 2"	16	

Hub & Spindle — Straddle Duals

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

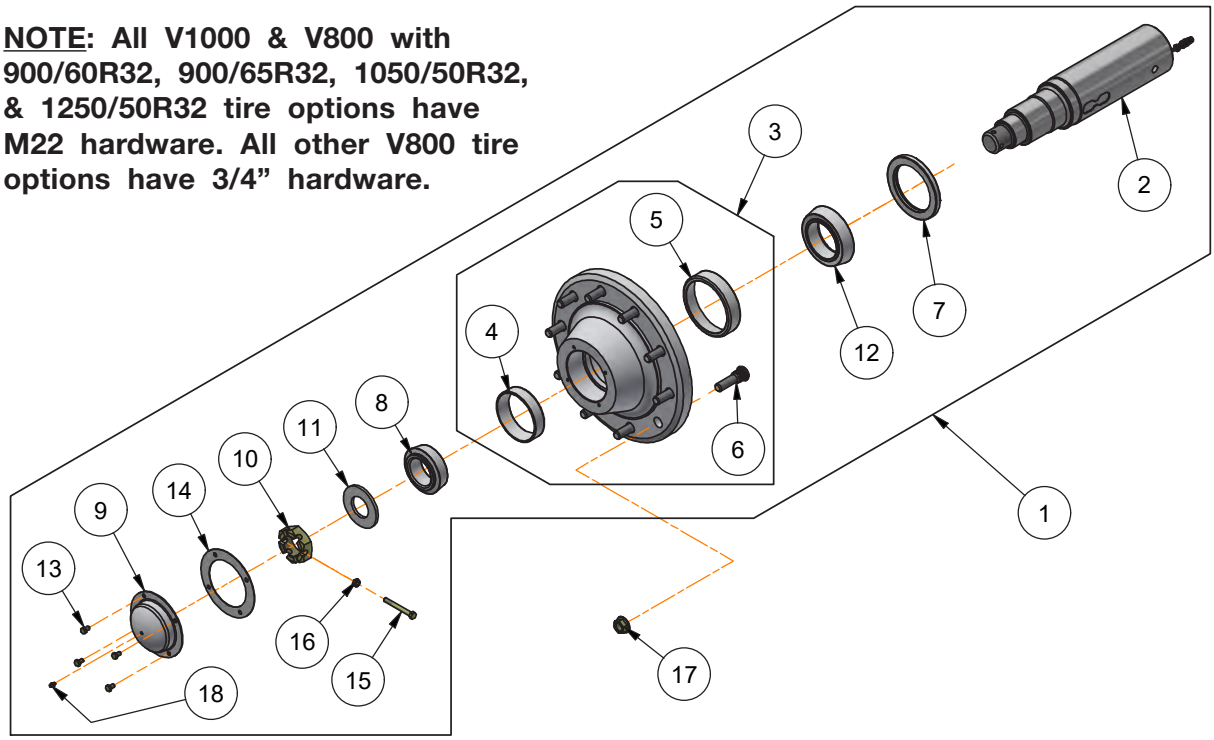


ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	284269B	Hub & Spindle Assembly w/out Scales (Black)	-	Includes 2 through 15 & 18 For Model V800 Less Scales & All Model V1000
	267210B	Hub & Spindle Assembly w/Scales (Black)	-	Includes 2 through 15 & 18 For Model V800 with Scales Only
2	280240	Spindle Dia. 4.50" (For Units w/out Scales)	1	For Model V800 Less Scales & All Model V1000
	9006348	Spindle Dia. 4.50" (For Units w/Scales)		For Model V800 With Scales Only
3	266455B	Hub Sub Assembly (Black)	1	Includes Items 4 & 5 All Service Parts Are Black
4	92462	Bearing Cup 4.8125" O.D.	1	HM212011
5	92476	Bearing Cup 5.786" O.D.	1	HM218210
6	92455	Seal - 4.375" I.D.	1	43605SA
7	92464	Outer Bearing Cone	1	HM212049
8	286171B	Hub Cap =Black=	1	All Service Parts Are Black
9	92470	Nut	1	
10	92472	Washer	1	
11	92545	Inner Bearing Cone	1	HM218248
12	9390-028	Capscrew 5/16"-18UNC x 3/4" Grade 5	4	
13	284230	Gasket	1	
14	9390-064	Capscrew 3/8"-16UNC x 3 1/4" Grade 5	1	
15	902875	Locknut 3/8"-16UNC	1	
16	97043	Capscrew 7/8"-14UNF x 4" Grade 8	10	
17	97041	Flat Washer 7/8"	10	
18	91160	Grease Zerk	1	

Hub & Spindle — Single Wheel

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

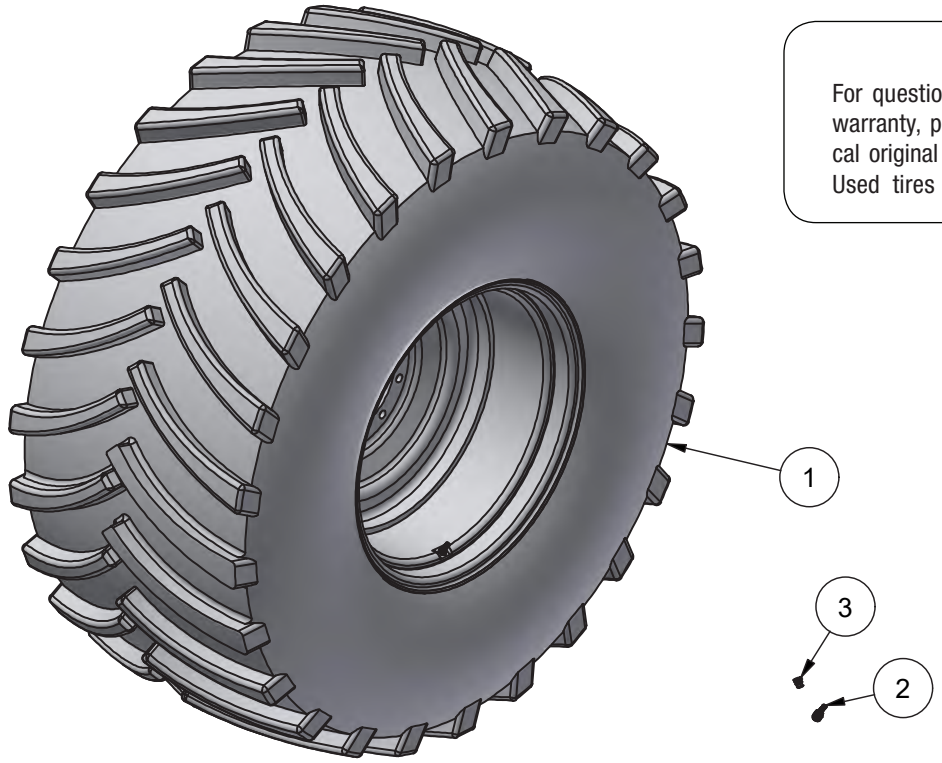
NOTE: All V1000 & V800 with 900/60R32, 900/65R32, 1050/50R32, & 1250/50R32 tire options have M22 hardware. All other V800 tire options have 3/4" hardware.



ITEM	PART NUMBER 3/4" Stud	PART NUMBER M22 Stud	DESCRIPTION	QTY	NOTES
1	280634B	284268B	Hub & Spindle Assembly w/out Scales (Black)	-	Includes 2 through 16 & 18
	286954B	267280B	Hub & Spindle Assembly w/Scales (Black)	-	Includes 2 through 16 & 18
	-	286170B	Hub & Spindle Assembly (Black)	-	Includes 2 through 16 & 18 For Model V1000 With Brakes Only
2	280240	280240	Spindle Dia. 4.50" (For Units w/out Scales)	1	
	9006348	9006348	Spindle Dia. 4.50" (For Units w/Scales)		
3	200039B	265390B	Hub Sub Assembly (Black)	1	Includes Items 4, 5, 6 All Service Parts Are Black
4	92462	92462	Bearing Cup	1	HM212011
5	92476	92476	Bearing Cup	1	HM218210
6	94794	-	Stud Bolt 3/4"-16UNF x 3" Grade 8	10	
	-	9007001	Stud Bolt M22x1.5x4		
7	92455	92455	Seal - 4.375" I.D.	1	43605SA
8	92464	92464	Outer Bearing Cone	1	HM212049
9	286171B	286171B	Hub Cap =Black=	1	All Service Parts Are Black
10	92470	92470	Nut	1	
11	92472	92472	Washer	1	
12	92545	92545	Inner Bearing Cone	1	HM218248
13	9390-026	9390-026	Capscrew 5/16"-18UNC x 1/2" Grade 5	4	
14	284230	284230	Gasket	1	
15	9390-064	9390-064	Capscrew 3/8"-16UNC x 3 1/4" Grade 5	1	
16	902875	902875	Locknut 3/8"-16UNC	1	
17	92458	-	Wheel Nut 3/4"-16UNF	10	
	-	97319	Flanged Cap Nut M22x1.5		
18	91160	91160	Grease Zerk	1	

Single Wheels & Tires

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



TIRES

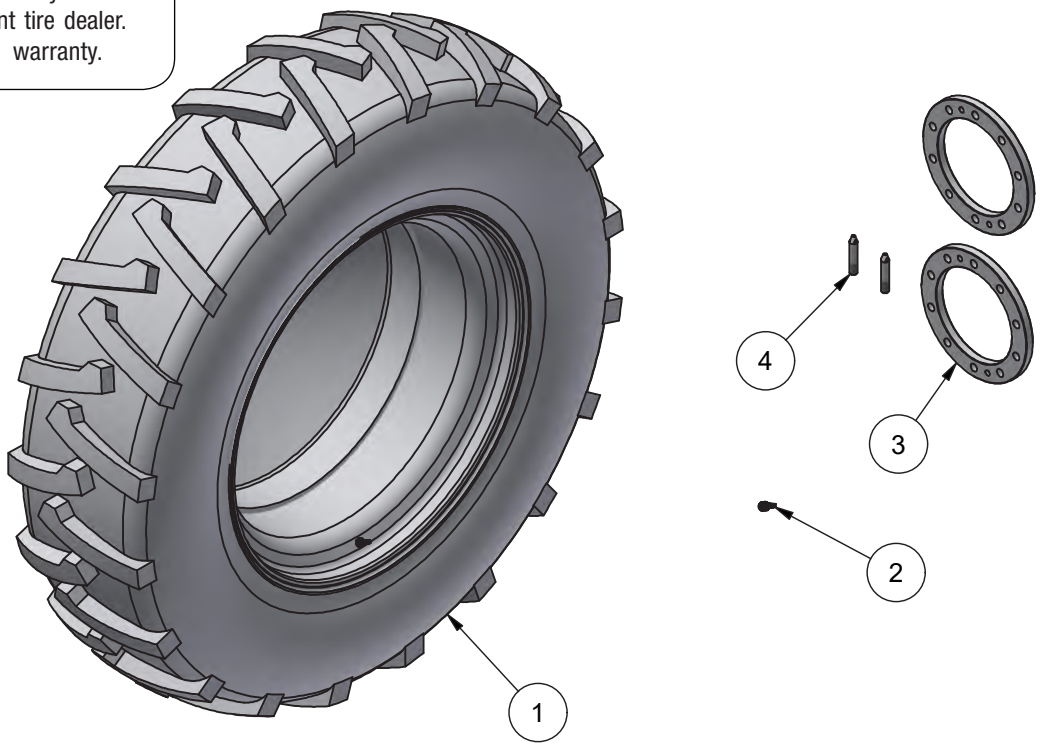
For questions regarding new tire warranty, please contact your local original equipment tire dealer. Used tires carry no warranty.

ITEM	PART NUMBER		DESCRIPTION	QTY.	NOTES
	Model V800	Model V1000			
1	-	19969SM	Wheel & Tire Assembly	2	44 x 32 / TL1250/50R32M R-1W
	-	19966SM	Wheel Only	2	44 x 32
1	-	17923SM	Wheel & Tire Assembly	2	36 x 32 / TL1050/50R32 R-1W
	-	17922SM	Wheel Only	2	36 x 32
1	18519SM	18519SM	Wheel & Tire Assembly	2	30 x 32 / TL900/60R32 R-1W
	110314SM	110314SM	Wheel & Tire Assembly	2	30 x 32 / TL900/65R32 R-3W
	903059SM	903059SM	Wheel Only	2	30 x 32
1	19976SM	-	Wheel & Tire Assembly	2	27 x 32 / TL800/65R32 R-1W
	19977SM	-	Wheel & Tire Assembly	2	27 x 32 / TL800/60R32 R-3W
	92417SM	-	Wheel Only	2	27 x 32
1	92416SM/9504360	-	Wheel & Tire Assembly	2	21 x 32 / TLIF650/75R32 CFO R-1
	92416SM	-	Wheel Only	2	21 x 32
2	93300	93300	Valve Stem	2	
3	95365	95365	Plug, Rim Hole	2	

Dual Wheels & Tires

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

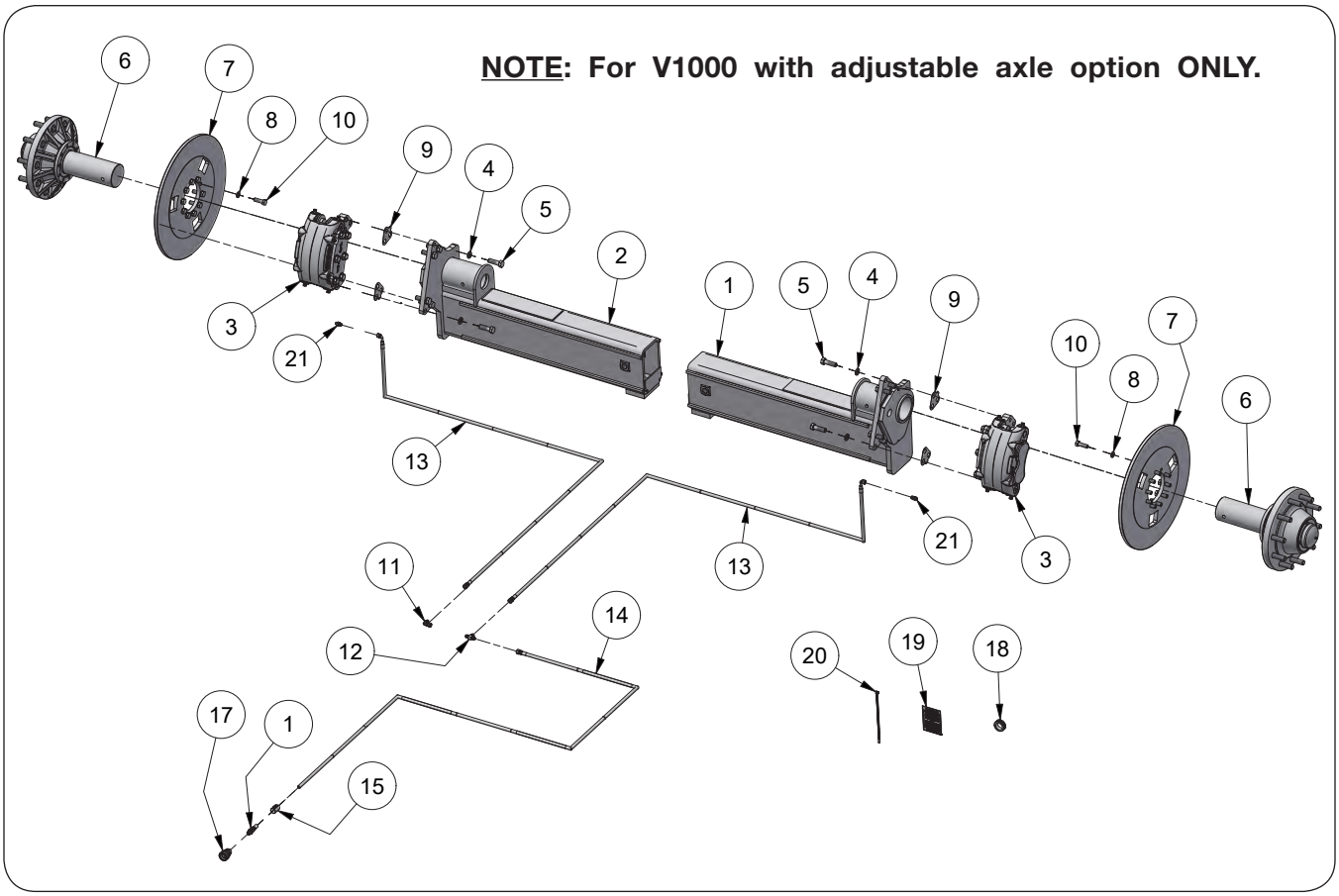
TIRES
For questions regarding new tire warranty, please contact your local original equipment tire dealer. Used tires carry no warranty.



ITEM	PART NUMBER		DESCRIPTION	QTY.	NOTES
	Model V800	Model V1000			
1	15311SM	-	Wheel & Tire Assembly	4	TL420/80R46F 3 Star R-1
	15303SM	-	Wheel Only	4	13 x 46 - 10 Hole
1	14565SM	-	Wheel & Tire Assembly	4	TL520/85R42F R-1
	14562SM	-	Wheel Only	4	18 x 42 - 10 Hole
1	14564SM	-	Wheel & Tire Assembly	4	TL480/80R42F R-1
	14561SM	-	Wheel Only	4	16 x 42 - 10 Hole
1	-	15366SM	Wheel & Tire Assembly	4	TL480/80R46F R-1
	-	15365SM	Wheel Only	4	16 x 46 - 10 Hole
1	-	14565SM	Wheel & Tire Assembly	4	TL520/85R42F R-1
	-	14562SM	Wheel Only	4	18 x 42 - Hole
2	93300	93300	Valve Stem	4	
3	14442SM	14442SM	Reinforcing Ring	2	
4	266459	266459	Guide Pin	2	

Brake Components (Optional) — Model V1000
(Requires tractor with Implement Braking)

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



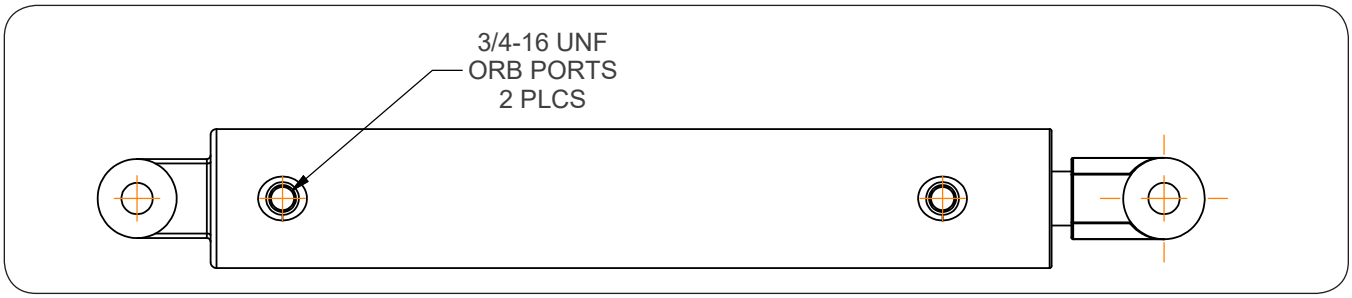
Brake Components (Optional) — Model V1000 (Requires tractor with Implement Braking)

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	All Service Parts Are Black
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	All Service Parts Are Black See "Hub & Spindle - Single Wheel" with M22 Hardware 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	

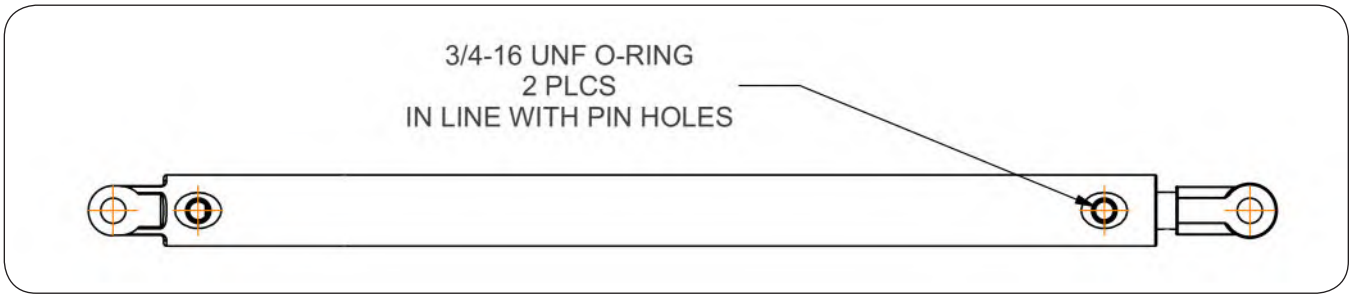
Cylinders — 4” x 20” (Auger Fold)

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



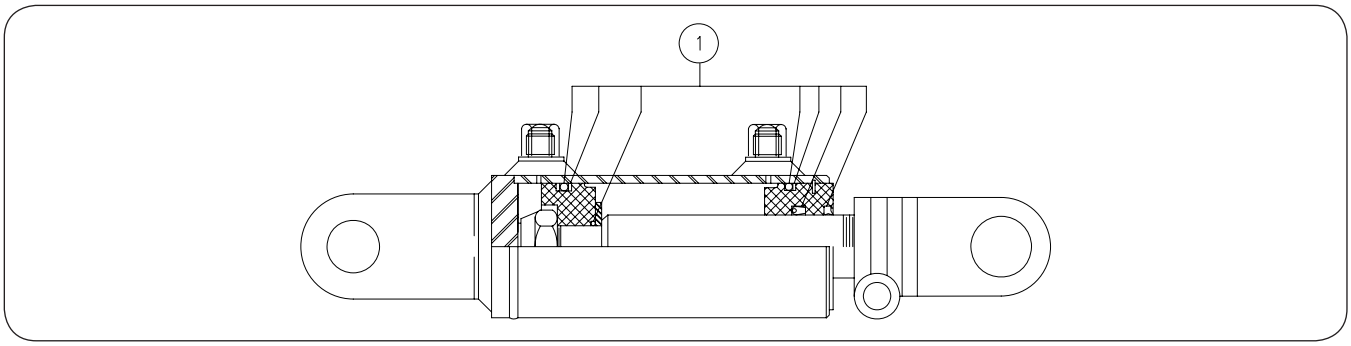
ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
	9007960	Cylinder, Complete	1	
1	9008025	Seal Kit	1	

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” (Spout Tilt)



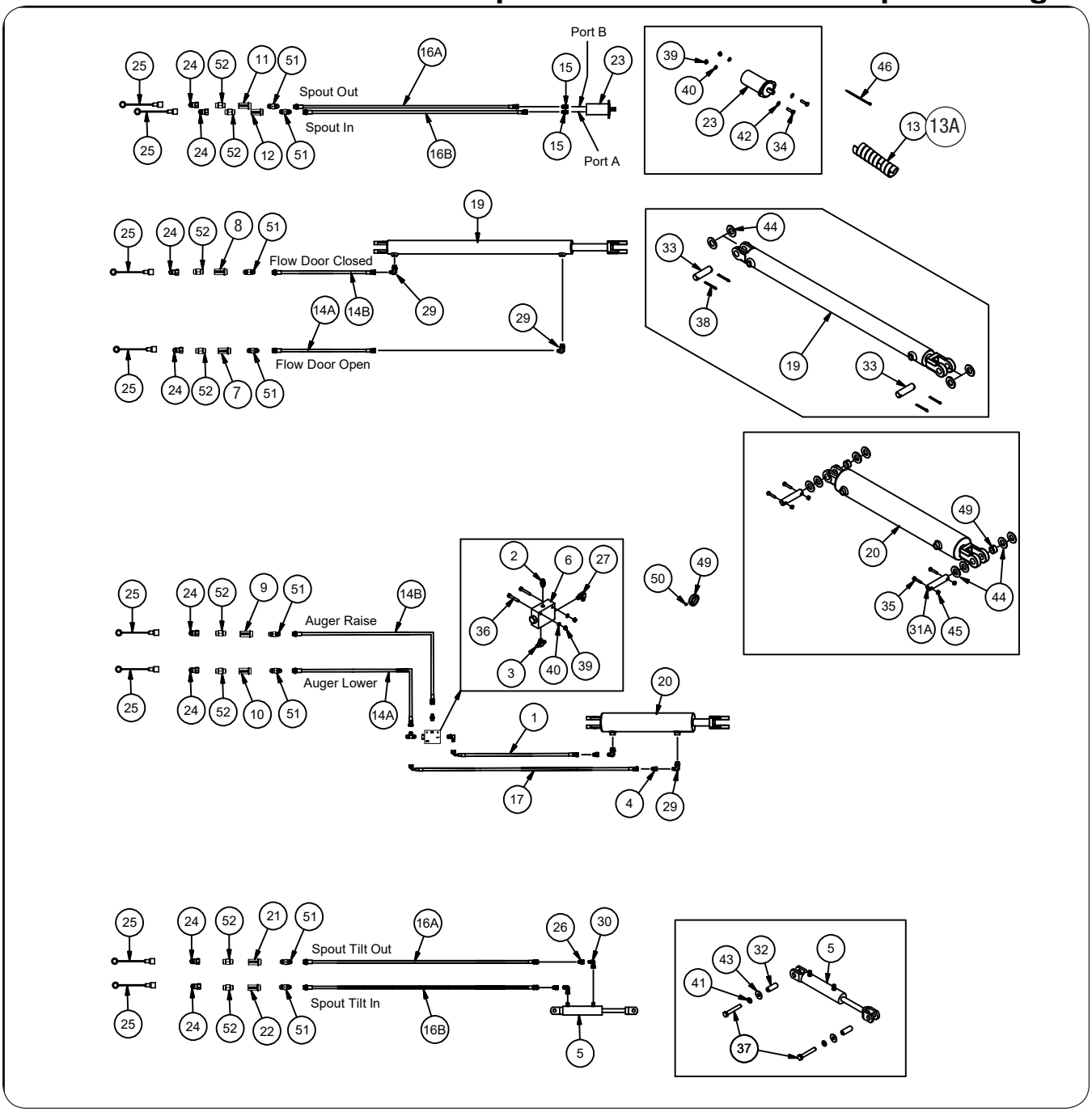
ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	9008152	Cylinder, Complete - 1 1/2” x 6”	1	
	9008341	Seal Kit	1	

Notes

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	97401	Hose 1/4" x 34" (9/16"-18 JICF Swivel)	1	
2	9001495	Adapter (9/16"-18 JICM x 9/16"-18 OR Male)	1	
3	9001710	Tee (9/16"-18 JICM x 9/16"-18 OR Male x 9/16"-18 JICM)	1	
4	9002199	Reducer	2	
5	9008152	Hydraulic Cylinder 1 1/2" x 6"	1	
	9008341	Seal Kit	-	
6	9003990	Pilot Operated Check Valve Block	1	
7	9009754	Aluminum Hose Grip Red (+ Flow Door Open)	1	
8	9009755	Aluminum Hose Grip Red (- Flow Door Closed)	1	

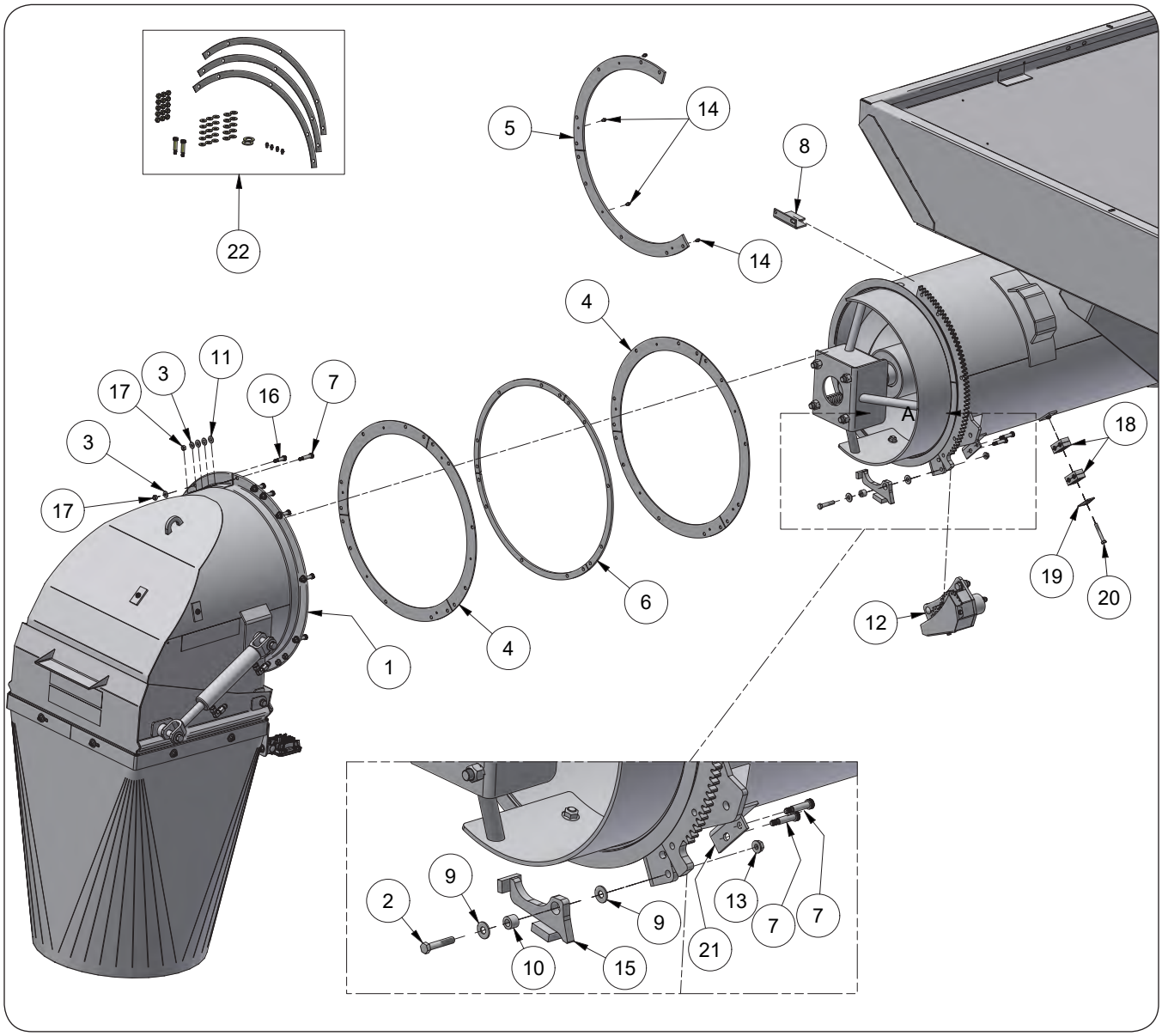
Hydraulics

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
9	9009751	Aluminum Hose Grip Green (+ Auger Raise)	1	
10	9009752	Aluminum Hose Grip Green (- Auger Lower)	1	
11	9009765	Aluminum Hose Grip Tan (+ Spout Out)	1	
12	9009766	Aluminum Hose Grip Tan (- Spout In)	1	
13	9004075	Spiral Hose Wrap 11 1/8"	4 FT	
13A	9003848	Hose Wrap 2" ID	8 FT	
14	9006587	Hose 1/4" x 500" (9/16"-18 JICF x 3/4"-16 OR Male)	1	
14B	9009451	Hose 1/4" x 100" (9/16"-18JIC Female Swivel)	1	
15	9004393	Adapter (9/16"-18 JICM x 9/16"-18 OR Male)	2	w/.055" Yellow Restrictor
16	9006587	Hose 1/4" x 500" (9/16"-18 JICF x 3/4"-16 OR Male)	2	
16B	9009860	Hose 1/4" x 540" (9/16"-18 JICF x 3/4"-16 OR Male)	2	
17	9004774	Hose 1/4" x 100" (90° Elbow 9/16"-18 JICF x 9/16"-18 JICF)	1	
	9003114	Hose 1/4" x 54" (9/16"-18 JICF Swivel)	1	
19	9005363	Flow Door Cylinder 2 1/2" x 36"	1	
	9005409	Seal Kit	-	
20	9007960	Hydraulic Cylinder, 4" x 20" - 3000 PSI	1	
	9008025	Seal Kit	-	
21	9009759	Aluminum Hose Grip Yellow (+ Spout Tilt Out)	1	
22	9009760	Aluminum Hose Grip Yellow (- Spout Tilt In)	1	
23	9007626	Spout Hydraulic Motor	1	
	9008974	Seal Kit	-	
24	91383	Male Coupler 3/4"-16 Female O-Ring	8	
25	91511	Dust Cap	8	
26	95193	Adapter (9/16"-18 JICF x 9/16"-18 JICM)	2	w/.030" Red Restrictor
27	97445	90° Elbow (9/16"-18 JICM x 9/16"-18 OR Male)	1	
29	9874	90° Elbow (9/16"-18 JICF x 3/4"-16 OR Male)	4	
30	9876	90° Elbow (9/16"-18 JICF x 9/16"-18 JICM)	2	
31	291988	Pin 1" Dia. x 4 7/8"	2	
	288742	Pin Kit (Includes Pin, Capscrews, Washers, & Lock Nuts)	2	
32	285290	Sleeve/Bushing 3/4" OD x 17/32" ID x 1 15/16"	2	
33	804572	Pin 1" Dia. x 3 1/2"	2	(For Auger & Flow Door Cylinder)
34	9390-031	Capscrew 5/16"-18UNC x 1 1/4" Grade 5	2	
35	9390-032	Capscrew 5/16"-18UNC x 1 1/2" Grade 5	2	
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	2	
40	9404-019	Lock Washer 5/16"	2	
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	10	
45	9807	Locknut 5/16"-18UNC	2	
46	9000104	Cable Tie 21 1/2"	4	
	9000106	Cable Tie 7 1/2"	22	
	9000107	Cable Tie 14 1/2"	8	
47	9003814	Top Plate	6	(NOT SHOWN)
48	9003816	Clamp Pair	6	(NOT SHOWN)
49	291265B	Cylinder Stop =Black=	1	
50	9399-060	Set Screw 1/4"-20UNC x 1/2"	1	
51	92295	ADAPTER 9/16-18 JIC MALE x9/16-18 JIC MALE	8	
52	98508	ADAPTER O-R UNION 3/4-16 MALE O-Rx 3/4-16 MALE O-R	8	

Directional Spout Mounting Components

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



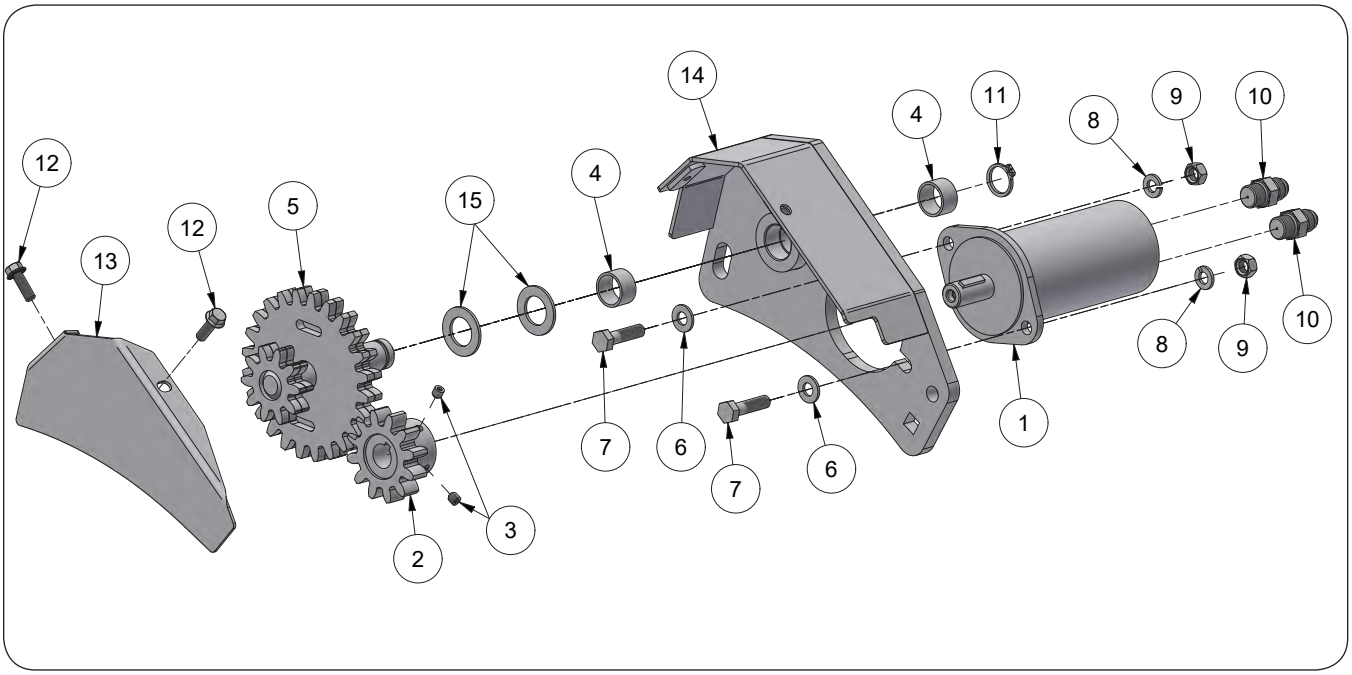
Directional Spout Mounting Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	292150B	Spout Assembly =Black=	1	
2	9390-059	Capscrew 3/8"-16UNC x 2" Grade 5	2	
3	9405-064	Flat Washer 1/4" USS	20	
4	272748	Pad-Pivot, 20 11/16" ID x 1/8"	6	
5	272842B	Plate-Pivot, Spout =Black=	2	
6	291344B	Pad-Pivot, 22 7/16" ID x 1/4"	3	
7	9007837	Shoulder Bolt 3/8" Dia. x 1 1/4", Socket Head, 5/16"-18UNC	8	
8	272855B	Plate-Stop =Black=	1	
9	9405-076	Flat Washer 3/8" USS	2	
10	290882	Bushing-Pivot, Lock	1	
11	9405-074	Flat Washer 3/8" SAE	18	
12	288188B	Spout Motor Assembly	1	
13	9003396	Lock Nut 3/8"-16UNC	2	
14	91160	Grease Zerk	4	
15	291327B	Stop Weldment =Black=	1	
16	9007838	Shoulder Bolt 3/8" Dia. x 7/8", Socket Head, 5/16"-18UNC	7	
17	9807	Lock Nut 5/16"-18UNC	19	
18	9003816	Poly Clamp Pair (0.55)	2	
19	9003814	Clamp Top Plate	1	
20	9390-035	Capscrew 5/16"-18UNC x 2 1/4"	2	
21	290884B	Plate, Stop =Black=	1	
22	274593	Spout Shim Kit	-	

Directional Spout Motor Components

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



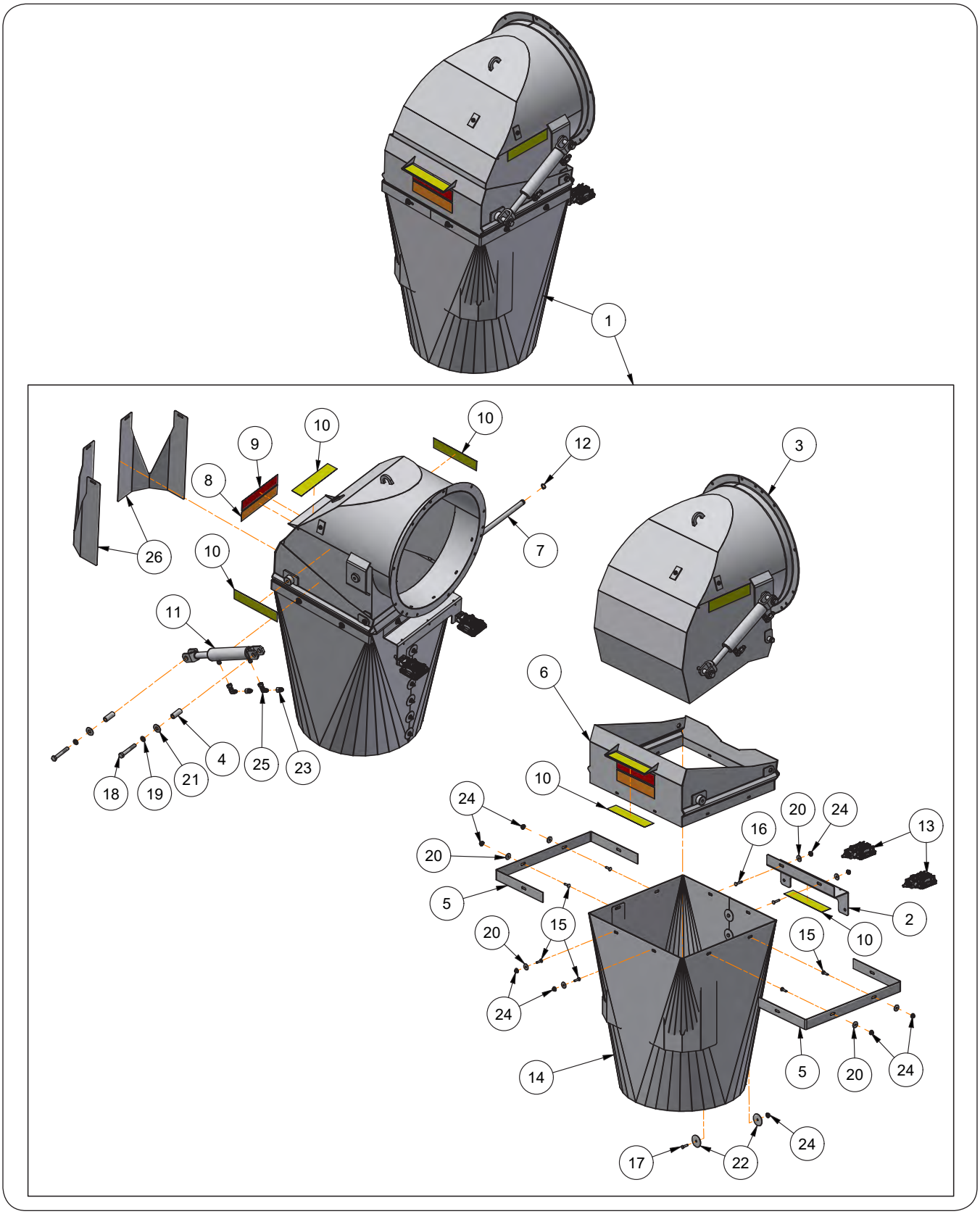
ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	9007626	Hydraulic Motor 3.07 CID	1	
2	272840	Gear Weldment	1	
3	9007653	Set Screw 1/4”-20UNC x 3/16”	2	
4	9003809	Bushing, Self Lubricating	2	
5	272844	Gear Weldment	1	
6	9405-068	Flat Washer 5/16” SAE	2	
7	9390-031	Capscrew 5/16”-18UNC x 1 1/4” Grade 5	2	
8	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 1/4Dx3/4Dx.074	2	

Notes

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

Directional Spout Components

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



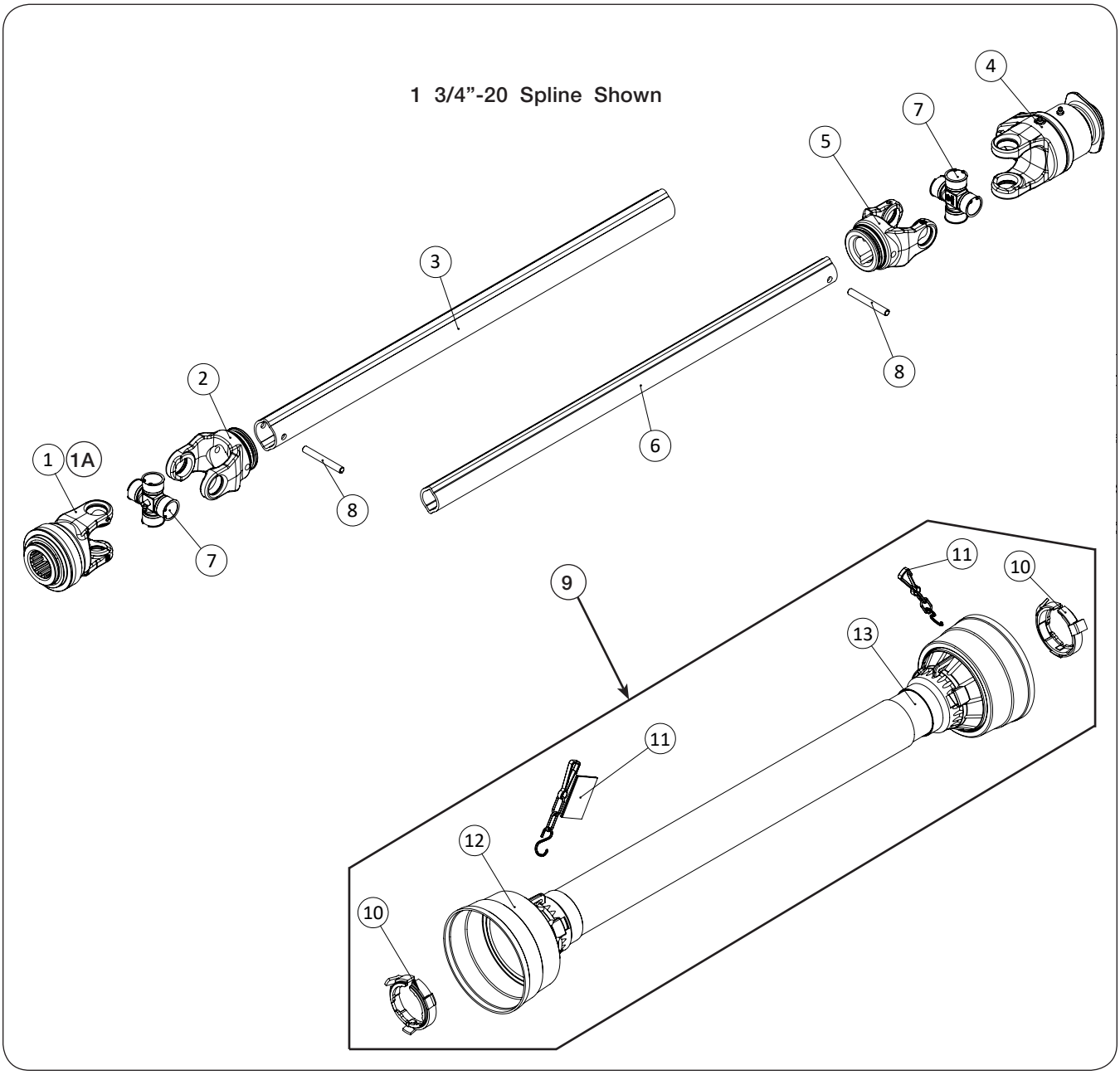
Directional Spout Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	292150B	Spout Assembly =BLACK=	1	
2	291670B	Bracket-Light, Service Kit =BLACK=	1	Includes Item 10
3	291668B	Spout Weldment, Service Kit =BLACK=	1	Includes Spout Weldment & Item 10
4	285290	Bushing-Sleeve 3/4" OD x 17/32" ID x 1 15/16"	2	
5	292197B	Plate-Chute Strap =BLACK=	2	
6	291152B	Spout Weldment =BLACK=	1	
7	290993	Shaft-Pivot 3/4" Dia. x 23 1/2"	1	
8	9003125	Reflector 2" x 9" Fluorescent - Red-Orange	1	
9	9003126	Reflector 2" x 9" =RED=	1	
10	9003127	Reflector 2" x 9" =AMBER=	5	
11	9008152	Hydraulic Welded Cylinder 1 1/2" x 6"	1	
12	9003810	Snap Ring 3/4"	2	
13	9008957	Light-Work, LED	2	
14	9008139	Rubber Chute	1	
15	9388-003	Carriage Bolt 1/4"-20UNC x 1"	6	
16	9388-004	Carriage Bolt 1/4"-20UNC x 1 1/4"	2	
17	9390-005	Capscrew 1/4"-20UNC x 1"	8	
18	9390-108	Capscrew 1/2"-13UNC x 3 1/4"	2	
19	9404-025	Lock Washer 1/2"	2	
20	9405-066	Flat Washer 1/4" (Fender Washer)	8	
21	9405-088	Flat Washer 1/2" USS	2	
22	94763	Fender Washer 5/16" ID	16	
23	95193	Adapter 9/16"-18 JIC F x 9/16"-18 JIC M	2	0.030" Red Restrictor
24	97189	Hex Nut/Large Flange 1/4"-20UNC	16	
25	9876	90° Elbow 9/16"-18 JIC M x 9/16"-18 JIC F	2	
26	292292B	Plate-Chute Support =Black=	2	

PTO Assembly Shearbolt Clutch

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



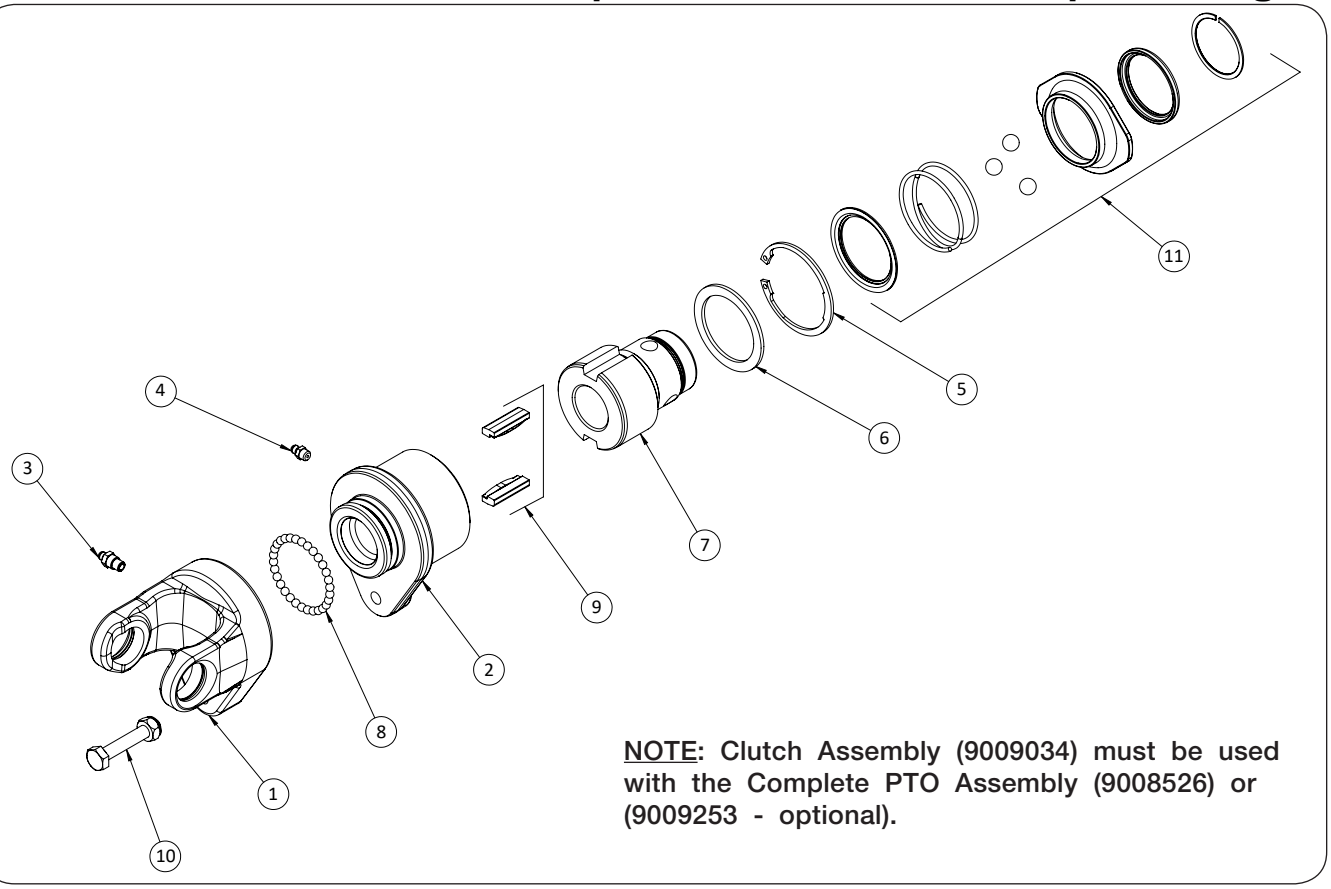
PTO Assembly Shearbolt Clutch

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9008526	PTO Assembly Complete - 1 3/4"-20 Spline (Tractor End)	1	Includes Front and Rear Half Assemblies (Benzi America PTO)
	9009253	PTO Assembly Complete - 1 3/8"-21 Spline (Tractor End)	1	Includes Front and Rear Half Assemblies (Benzi America PTO) (Optional)
	9009248	Driveline Front Half Assembly (Tractor End)	1	1 3/4"-20 Spline Includes Items 1 - 3 and 7 - 13
	9009285		1	1 3/8"-21 Spline (Optional) Includes Items 1A - 3 and 7 - 13
	9009249	Driveline Rear Half Assembly	1	Includes Items 4 - 13
1	9009033	Yoke Assembly	1	1 3/4"-20 Spline
1A	9009254		1	1 3/8"-21 Spline (Optional)
2	9009036	Outer Yoke	1	
3	9009039	Outer Profile Tube w/ Pin Hole	1	
4	9009034	End Yoke / Overrunning Clutch	1	
5	9009035	Inner Yoke	1	
6	9009040	Inner Profile Tube w/ Pin Hole	1	
7	9009037	U-Joint Cross Kit	1	L Series
8	9008794	Tension Pin	1	
9	9009041	Safety Guard Assembly	1	Includes Items 10-13
10	9009044	Guarding Cone Retainer Clip Package	1	Package of 2
11	9009046	Chain	2	
12	N/A	Outer Guard Half	1	Not For Individual Sale. See Item 9
13	N/A	Inner Guard Half	1	Not For Individual Sale. See Item 9

Shearbolt Clutch Assembly

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



NOTE: Clutch Assembly (9009034) must be used with the Complete PTO Assembly (9008526) or (9009253 - optional).

IMPORTANT

- *USE GENUINE OEM REPLACEMENT PART. Incorrect part may cause shear function to occur too soon causing inconvenience or too late resulting in damage to driveline and auger components.*

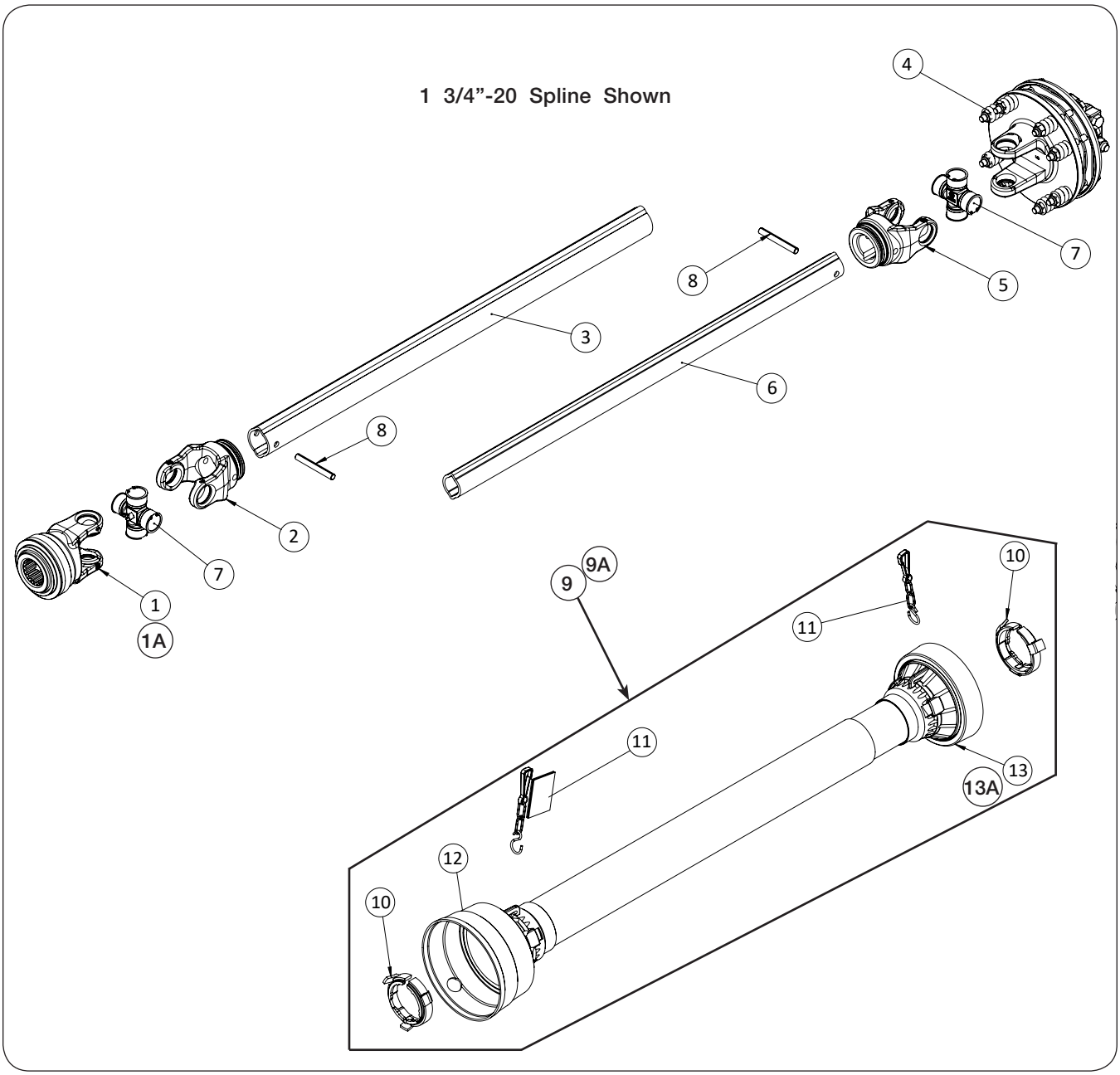
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9009034	Shearbolt Clutch	1	Includes Items 1 - 11 (Benzi America Clutch)
1	9009322	Flange Yoke - Shearbolt	1	
2	N/A	Hub Housing with Welded Flange	1	Not For Individual Sale. See Shearbolt Clutch
3	9009324	Grease Zerk, M10 x 1	1	
4	9008788	Grease Zerk, M8 x 1	1	
5	9009326	Circlip	1	
6	9009327	Shim	1	
7	9009328	Overrunning Clutch Hub	1	
8	9009329	Ball Bearing	30	
9	9009330	Spring Pack, Overrunning Clutch	1	
10	94916-061	Capscrew - M10-1.5P x 60 mm C8.8	1	Torque to 57 ft.-lbs.
	9003645	Lock Nut, M10-1.5P	1	
11	9009332	Quick Disconnect Kit	1	

Notes

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

PTO Assembly Friction Clutch

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



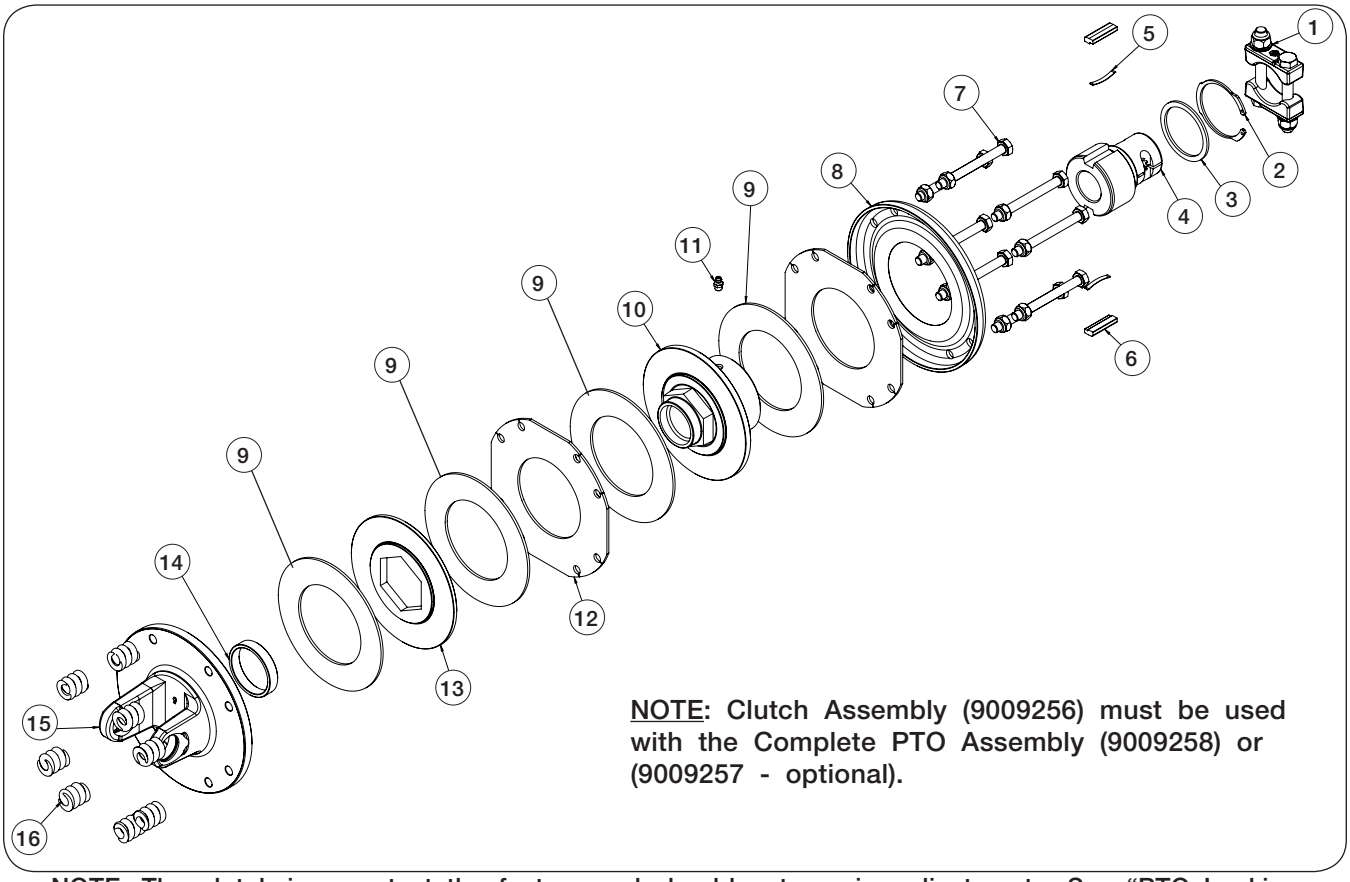
PTO Assembly Friction Clutch

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9009258	PTO Assembly Complete - 1 3/4"-20 Spline (Tractor End)	1	Includes Front and Rear Half Assemblies (Benzi America PTO)
	9009257	PTO Assembly Complete - 1 3/8"-21 Spline (Tractor End)	1	Includes Front and Rear Half Assemblies (Benzi America PTO) (Optional)
	9009248	Driveline Front Half Assembly (Tractor End)	1	1 3/4"-20 Spline Includes Items 1 - 3 and 7 - 13
	9009285		1	1 3/8"-21 Spline (Optional) Includes Items 1A - 3 and 7 - 13
	9009287	Driveline Rear Half Assembly	1	Includes Items 4 - 9A, 10 - 12, & 13A
1	9009033	Yoke Assembly	1	1 3/4"-20 Spline - Tractor End
1A	9009254		1	1 3/8"-21 Spline - Tractor End (Optional)
2	9009036	Outer Yoke	1	
3	9009039	Outer Profile Tube w/ Pin Hole	1	
4	9009256	Friction Clutch with Overrunning Clutch	1	
5	9009035	Inner Yoke	1	
6	9009040	Inner Profile Tube w/ Pin Hole	1	
7	9009037	U-Joint Cross Kit	1	L Series
8	9008794	Tension Pin	1	
9	9009041	Safety Guard Assembly	1	Front Half Assembly - All Splines Includes Items 10-13
9A	9009286		1	Rear Half Assembly Includes Items 10-13A
10	9009044	Guarding Cone Retainer Clip Package	1	Package of 2
11	9009046	Chain	2	
12	N/A	Outer Guard Half	1	Not For Individual Sale. See Item 9009041
13	N/A	Inner Guard Half	1	Not For Individual Sale. See Item 9009041
13A	9009288		1	

Friction Clutch Assembly

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



NOTE: Clutch Assembly (9009256) must be used with the Complete PTO Assembly (9009258) or (9009257 - optional).

NOTE: The clutch is preset at the factory and should not require adjustment. See "PTO Locking Systems - Benzi PTO" in the MAINTENANCE section for specific clutch information.

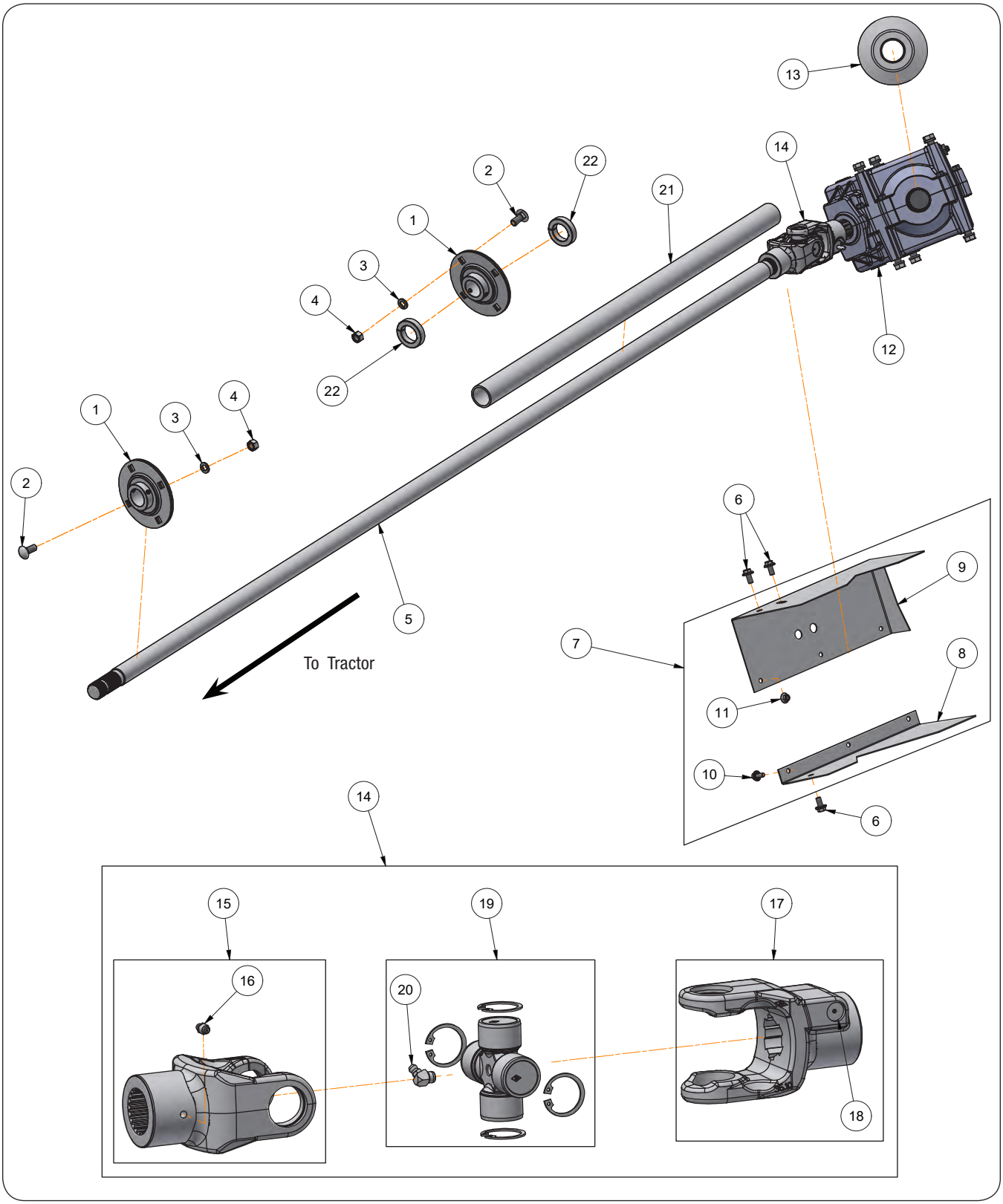
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9009256	Friction Clutch with Overrunning Clutch	1	(Benzi America PTO) Includes Items 1 - 16
1	9009325	Clamp Bridge Kit	1	Includes Clamps, Stop Nuts, Washers & Capscrews
	9002268	Elastic Stop Nut M12	2	
	9009379	Flat Washer 12 mm Dia.	2	
	94916-086	Capscrew, M12 x 90 mm	2	
2	9009333	Circlip	1	
3	9009334	Hub Washer	1	
4	9009335	Overrunning Clutch Hub	1	
5	9009330	Spring Assembly	1	Includes Leaf Springs and Torque Limiter Keys
6				
7	9009338	Bolt Set - M10 x 100 mm	8	
8	9009339	Friction Clutch Pressure Plate	1	
9	9009340	Friction Disk	4	
10	9009349	Hub Housing w/ Flange	1	
11	9008788	Grease Zerk, M8 x 1	1	
12	9009344	Friction Clutch Inner Plate	2	
13	9009345	Drive Plate w/ Hexagon	1	
14	9009346	Compression Spring Bushing	1	
15	9009347	Friction Clutch Flange Yoke	1	
16	9009348	Compression Spring	8	

Notes

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

Driveline & U-Joint Assembly Components

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



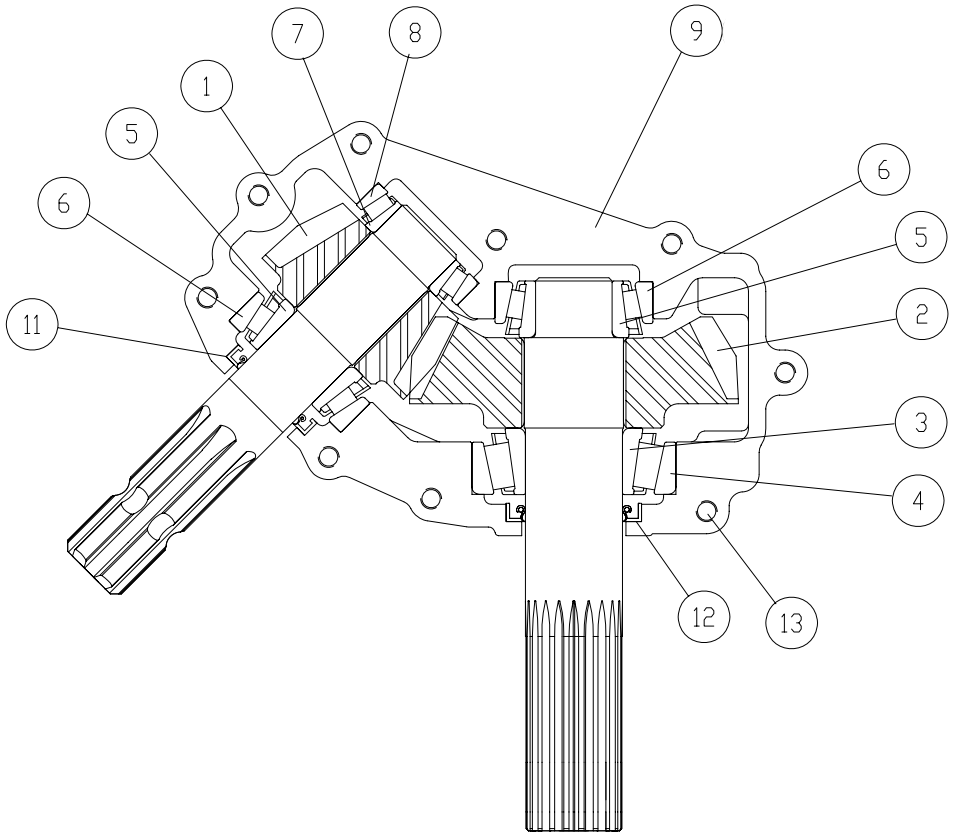
Driveline & U-Joint Assembly Components

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	9003920	1 1/2" Flangette Bearing	2	
2	9388-103	Carriage Bolt 1/2"-13 x 1 1/4"	8	
3	9404-025	Lock Washer 1/2"	8	
4	9394-010	Hex Nut 1/2"-13UNC	8	
5	289771	Driveshaft 1 1/2" x 93 1/4" (1 3/8"-21 Splined)	1	Includes Items 1 through 5 and 12
6	95585	Capscrew/Large Flange 3/8"-16UNC x 3/4"	3	
7	296801B	U-Joint Assembly Cover (Black)	1	Includes Items 8-11
8	296802B	Cover Plate 7 3/4" x 16" =Black=	1	
9	296803B	Cover Plate 12 21/32" x 18 3/32" =Black=	1	
10	91256	Flange Screw 5/16"-18UNC x 3/4"	3	
11	91257	Hex Nut/Large Flange 5/16"-16UNC	3	
12	9002812	Gearbox	1	Refer to "45 Degree Gearbox - With 6 Spline Input Shaft" in this Section for Parts Listing
13	92805B	Gearbox Dust Cover =Black=	1	
14	95012	Complete U-Joint Assembly	1	For 1 3/8"-6 Spline Input Gearbox
15	95010	Yoke, 1 3/8"-21 Spline	1	Driveline End
16	91160	Grease Zerk, 1/4"-28 UNF	1	
17	95011	Yoke, 1 3/8"-6 Spline	1	For 1 3/8"-6 Spline Input Gearbox
18	92362	Quick Disconnect Pin Kit	1	
19	93857	Cross & Bearing Kit	1	
20	92365	Grease Zerk	1	
21	291558	Tube 1 29/32" SCH 40 x 39"	1	
22	9008671	1 1/2" Dia. Shaft Collar	2	

45 Degree Gearbox - With 6 Spline Input Shaft

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



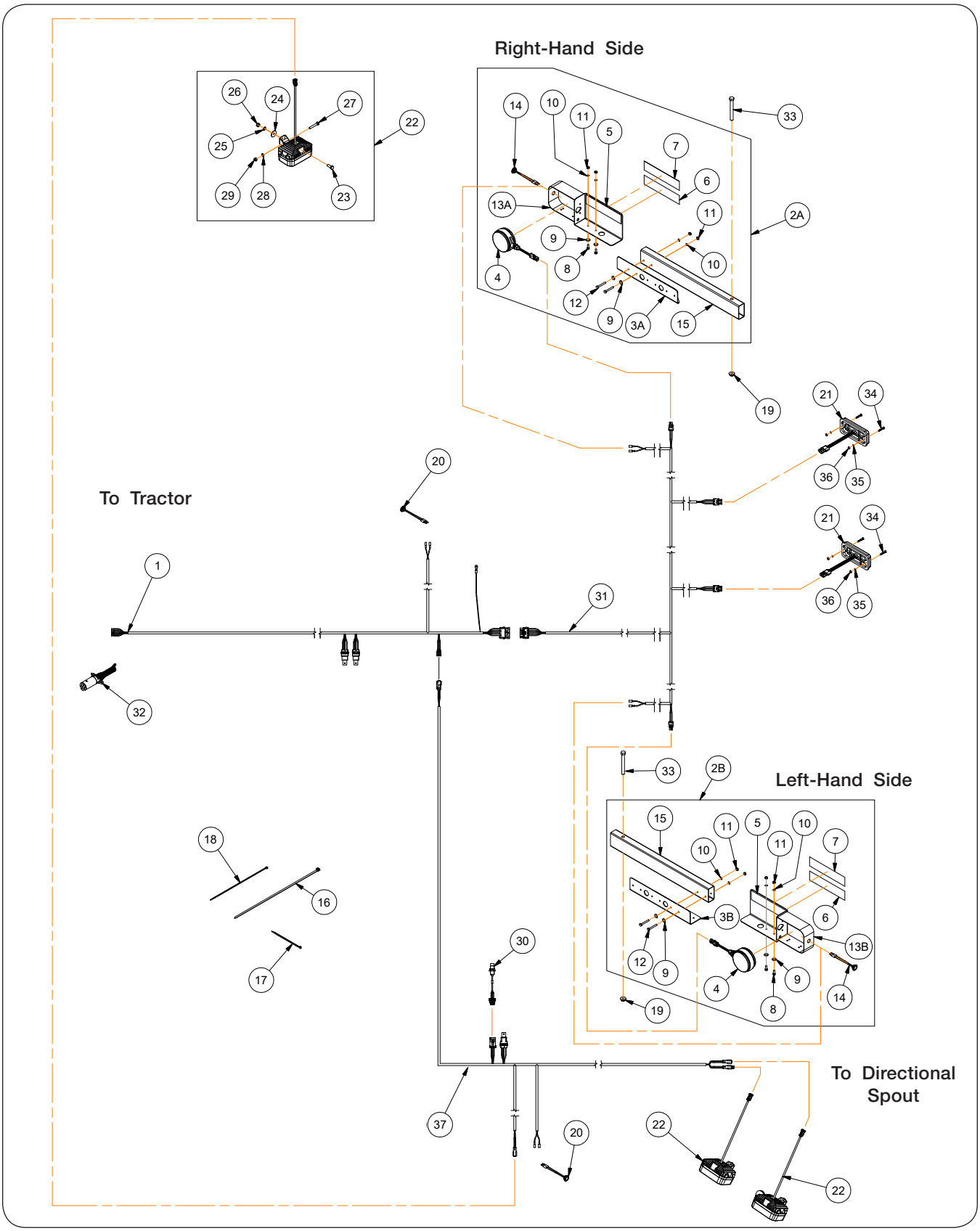
ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
	9002812	Gearbox, Complete with 6 Spline Input Shaft	1	Includes Items 1 thru 17
1	9001131	Shaft, Input	1	1 3/8”-6 Spline Input
2	9001132	Shaft, Output	1	1.8:1 Gear
3	92697	Bearing Cone	1	Large
4	91151	Bearing Cup	1	Large
5	9001133	Bearing Cone	2	
6	9001134	Bearing Cup	2	
7	91816	Bearing Cone	1	Small
8	92896	Bearing Cup	1	Small
9	9003447	Casting w/ Tapped Holes - Model Q81 Gearbox	1	Use Kit #281885
9A	9007299	Casting w/ Thru Holes - Model Q145 Gearbox	1	Not Shown
11	92688	Seal	1	Small
12	92702	Seal	1	Large
13	95281	Capscrew, 3/8”-16 UNC x 1 1/2”	9	
14	92352	Pressure Relief, 5-PSI	1	Not Shown
15	92350	Plug, Plain	3	Not Shown
16	9001139	Plug, 3/4" NPT	1	Not Shown
17	9003453	Hex Bushing Reducer	1	Not Shown

Notes

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.



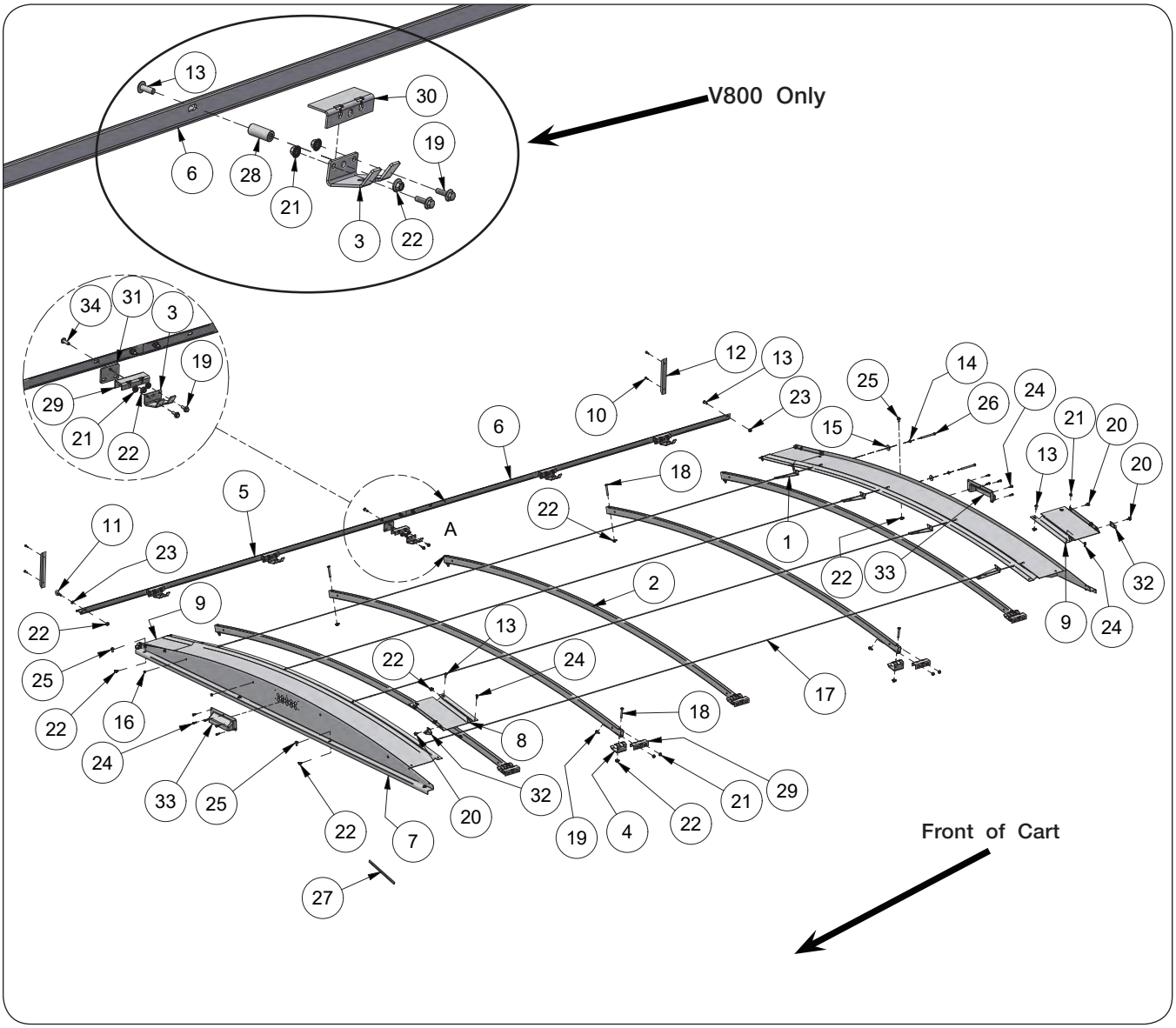
Electrical

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	9007662	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	
	9005095	LED Lens Only	-	
5	9003127	Reflector 2" x 9" =Amber=	7	
6	9003126	Reflector 2" x 9" =Red=	2	
7	9003125	Reflector 2" x 9" Fluorescent - Red-Orange	2	
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	286979B	RH Light Bracket Weldment =Black=	1	
13B	286980B	LH Light Bracket Weldment =Black=	1	
14	9006107	Micro Dot Amber Light (LED)	2	
15	292356B	Tube, Light =Black=	2	
16	9000104	Cable Tie, 21 1/2"	3	
17	9000106	Cable Tie, 6"	8	
18	9000107	Cable Tie, 15 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	9008349	Wiring Harness, Rear 230"	1	
32	92450	Electrical Coupler	1	
33	9390-112	Capscrew 1/2"-13UNC x 4 1/2"	2	
34	903172-350	Phillips 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	9009087	Wiring Harness - Auger Light 395"	1	

Weather Guard Tarp Frame Components (Optional)

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



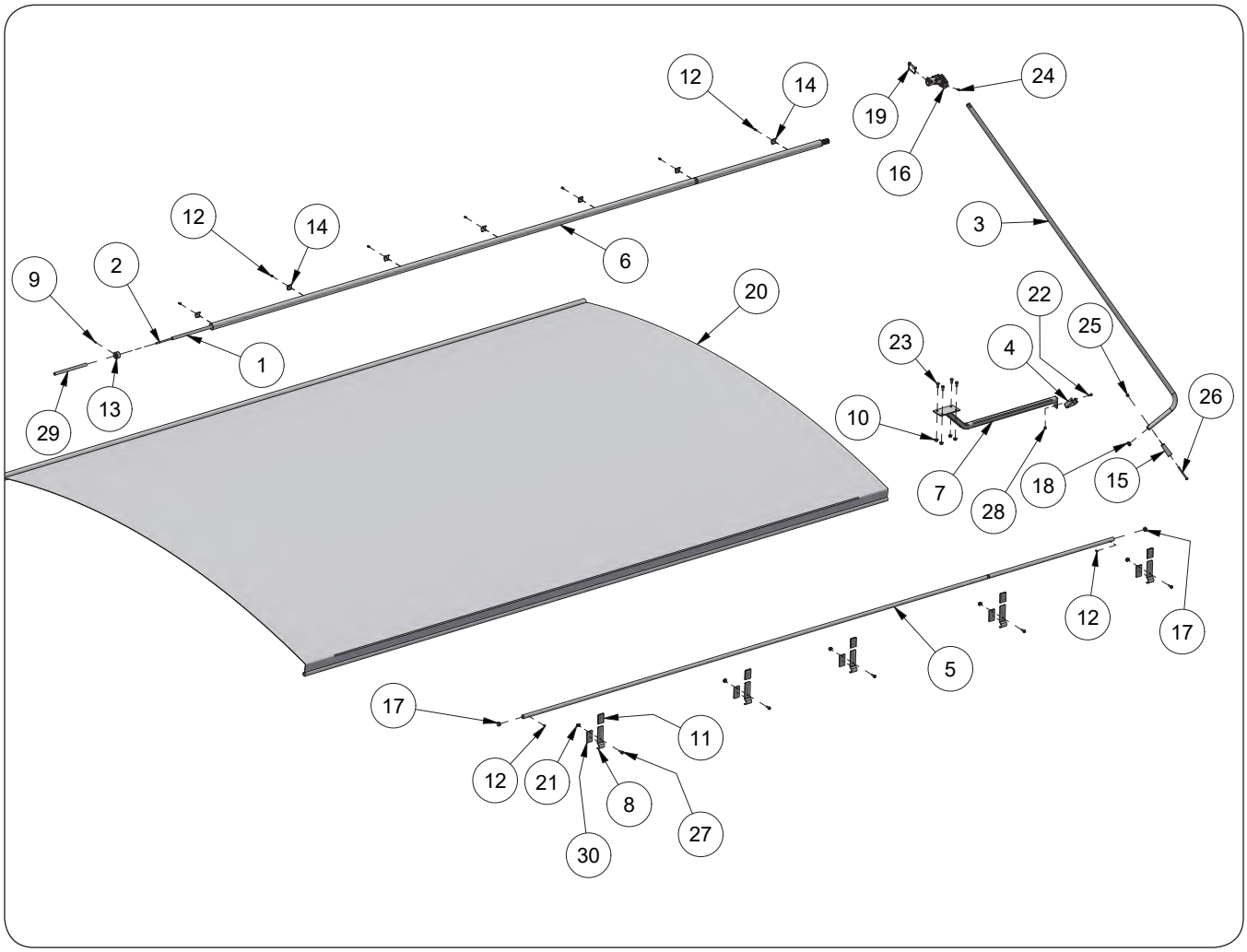
Weather Guard Tarp Frame Components (Optional)

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
	221811B	Tarp Kit w/End Caps (Black)	-	For Model V800 ONLY
	290955B			For Model V1000 ONLY
1	281712B	Bracket & U-Nut Assembly (Black)	4	
2	283424B	Bow Weldment =Black=	5	
3	283425B	Tarp Bow Bracket Right-Hand =Black=	5	
4	283427B	Tarp Bow Bracket Left-Hand =Black=	5	
5	296845	Latch Plate-Front, 92 7/16"	1	For Model V800 ONLY
	296850	Latch Plate-Front 113”		For Model V1000 ONLY
6	296846	Latch Plate-Rear, 115 7/16"	1	For Model V800 ONLY
	296849	Latch Plate-Rear 113”		For Model V1000 ONLY
7	296127B	End Cap Weldment, Front & Rear =Black=	2	
8	286842B	End Cap Panel, Front Left-Hand & Rear Right-Hand =Black=	2	
9	286843B	End Cap Panel, Front Right-Hand & Rear Left-Hand =Black=	2	
10	9004355	Screw, Self-Tapping 1/4”-20UNC x 1”	4	For Model V800 ONLY
11	9004548	Eyebolt	1	
12	9007890	Deflector 11”	2	For Model V800 ONLY
13	9005312	Truss Head Screw 3/8”-16UNC x 1” Grade 5	23	For Model V800 ONLY
			8	For Model V1000 ONLY
14	9005688	Lock Washer, 3/8” External Tooth	4	
15	9005696	Fender Washer, 3/8”	4	
16	9005727	Plug, 7/16”	4	
17	9007675	Cable Assembly, 192 1/2"	4	For Model V800 ONLY
	9007896	Cable Assembly, 210 1/2”		For Model V1000 ONLY
18	902703-046	Socket Flat Countersunk Capscrew 3/8”-16UNC x 3”	10	
19	97604	Flange Screw 5/16”-18UNC x 1” (Grade 5)	20	
20	91256	Large Flange Screw 5/16”-18UNC x 3/4” Gr.5	12	
21	91257	Flange Nut 5/16”-18UNC	32	
22	91263	Large Flange Nut, 3/8”-16UNC	33	For Model V800 ONLY
			37	For Model V1000 ONLY
23	9405-074	Flat Washer 3/8"	2	
24	9512	Self-Threading Screw, 1/4”-14 x 1”	14	
25	95585	Large Flange Capscrew, 3/8”-16UNC x 3/4” Gr.5	8	
26	TA0-907131-0	Capscrew 3/8”-16UNC x 4 1/2” Grade 5	4	
27	9000787	Trimlok	12	Specify In Feet
28	294685	Threaded Boss Tube	5	For Model V800 ONLY
29	289986B	Sideboard Doubler =Black=	5	For Model V800 ONLY
			10	For Model V1000 ONLY
30	294635B	Sideboard Doubler Right-Hand =Black=	5	For Model V800 ONLY
31	295259B	Tarp Spacer Plate =Black=	6	For Model V1000 ONLY
32	296249B	Sideboard Cover Plate =Black=	4	
33	9009504	Endcap Vent Cover	2	
34	9009089	Truss Head Screw, 3/8”-16UNC x 1 1/4”	5	For Model V1000 ONLY

Weather Guard Tarp & Handle Components (Optional)

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



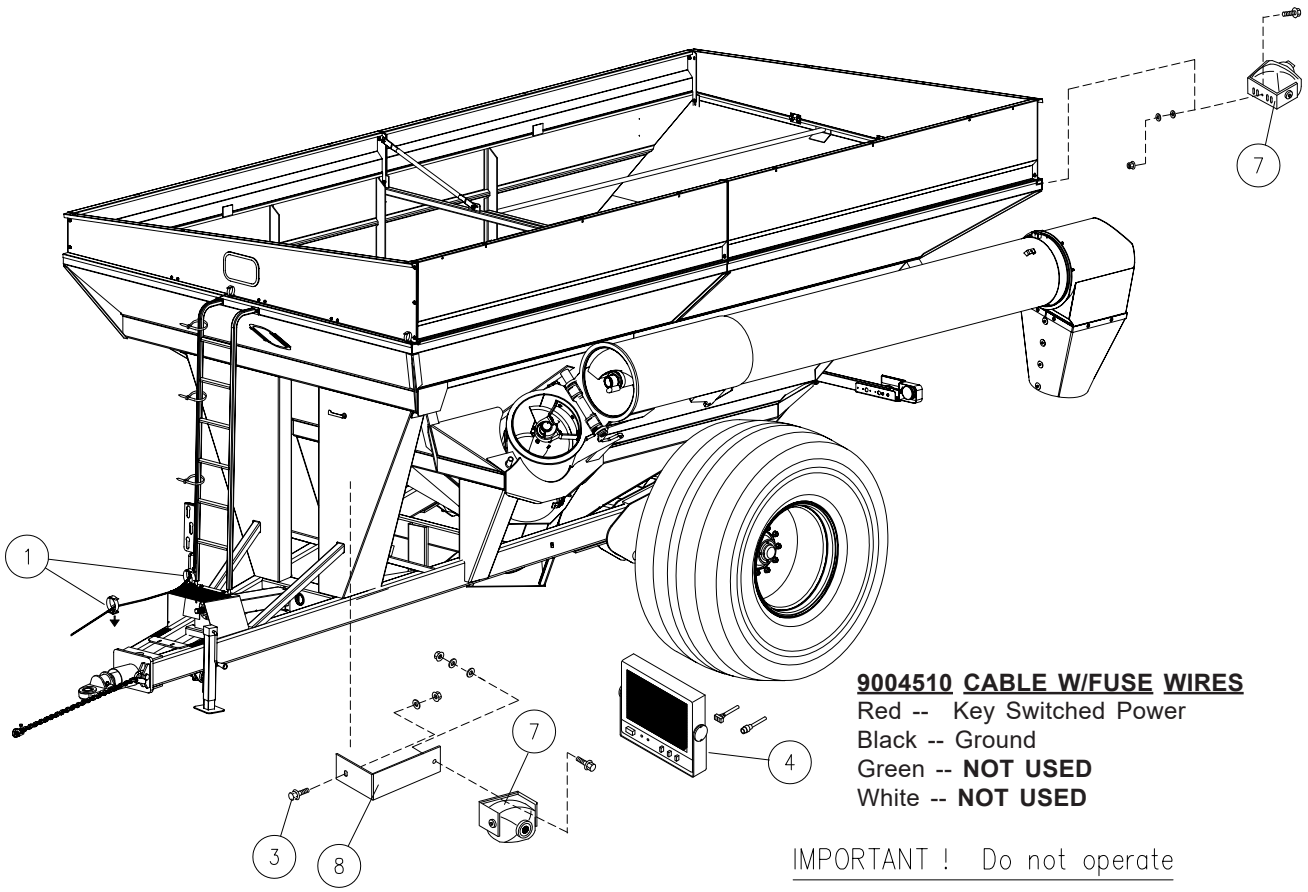
Weather Guard Tarp & Handle Components (Optional)

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

ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
	221811B	Tarp Kit w/End Caps	-	For Model V800 ONLY
	290955B			For Model V1000 ONLY
1	221668	PVC Tube	1	
2	221722	Bungee-3/8" x 204"	1	
3	221749	Crank, Roll-Over Tarp	1	
4	221770B	Handle Retainer (Metal - Pinless) =BLACK=	1	
5	221808	Fixed Tube Weldment 205”	1	For Model V800 ONLY
	291083	Fixed Tube Weldment 224”		For Model V1000 ONLY
6	221809	Roll Tube Weldment 215”	1	For Model V800 ONLY
	291079	Roll Tube Weldment 234”		For Model V1000 ONLY
7	265706B	Tarp Crank Handle Weldment =BLACK=	1	For Model V800 ONLY
	287394B	Tarp Crank Handle Weldment =BLACK=		For Model V1000 ONLY
8	266689B	Stop - Tarp Short =Black=	5	
9	9001396	Pan Head Self-Drilling Screw #10-16 x 1/2”	1	
10	9002058	Flange Nut, 1/2”-13UNC	4	
11	9003078	Cap, Plastic	5	
12	9005197	Self Tapping Screw #10-16 x 3/4”	2	
13	9004947	End Plug 1 7/8”	1	
14	9004949	U-Clamp	7	
15	9004969	Plastic Handle	1	
16	9004977	U-Joint	1	
17	9005088	Plug-1 1/8"	2	
18	9005089	Plug-1 1/4"	1	
19	9005305	Lynch Pin 3/8" Dia. x 3"	1	
20	9007638	Tarp, Fabric 166” x 203”	1	For Model V800 ONLY
	9007897	Tarp, Fabric 166” x 221”		For Model V1000 ONLY
	9005581	Tarp Patch Kit	-	Not Shown
21	91263	Large Flange Nut, 3/8”-16UNC	35	
22	9390-055	Capscrew 3/8”-16UNC x 1” Grade 5	1	
23	9390-099	Capscrew, 1/2”-13UNC x 1” Grade 5	4	
24	9392-180	Roll Pin 3/8” x 2"	1	
25	9398-012	Elastic Stop Nut 3/8”-16UNC Grade 5	1	
26	903172-450	Phillips Pan Head 3/8”-16UNC x 4 1/2"	1	
27	9003259	Large Flange Capscrew, 3/8”-16UNC x 1 1/4” Gr.5	5	
28	9928	Locknut, 3/8”-16UNC	1	
29	TA806225	Hose 1/2” EPDM	1	
30	295183B	Tarp Stop Spacer Plate =Black=	5	

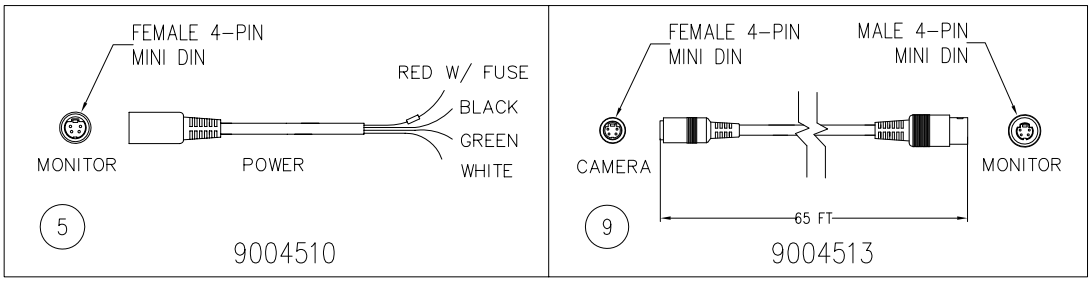
Video System Option — Model V1000

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.



Video System Option — Model V1000

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

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
	265770	Video System Kit for Front View	1	Includes Items 1,3,4,5,7,8,9 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 =Black=	1	
9	9004513	Cable, 65 ft.	1	
10	9000106	Cable Tie	AR	
11	9004506	Camera Kit for Rear View with 65 ft. Cable	1	Not Shown
12	9007174	Camera Cable, 16 ft.	1	Not Shown

MEMBER

FEMA

FARM EQUIPMENT
MANUFACTURERS
ASSOCIATION