Grain Handling

DOUBLE-AUGER GRAIN CARTS MODEL 2054

Serial Number B46320100 & Higher

Part No. 297459

Foreword

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

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

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

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

Product Information

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

- Machine name
- Model number
- Serial number

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

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

Purchase Date _____ Model _____ Serial Number_____

Dealer _____ City _____

Dealer Contact _____ Phone _____

IMPORTANT

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

Table of Contents

Section I
Safety

Section II
Set Up

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

Table of Contents

Section III
Operation

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

Table of Contents

Section IV
Maintenance

FOR SCALE, TRACK, UHARVEST, ELECTRIC TARP, VIDEO SYSTEM OR OTHER 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.

(Continued on next page)

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

Section I
Safety

General Hazard Information

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

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

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

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

REMEMBER:

THINK SAFETY

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT!

SIGNAL WORDS

DANGER

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

WARNING

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

CAUTION

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

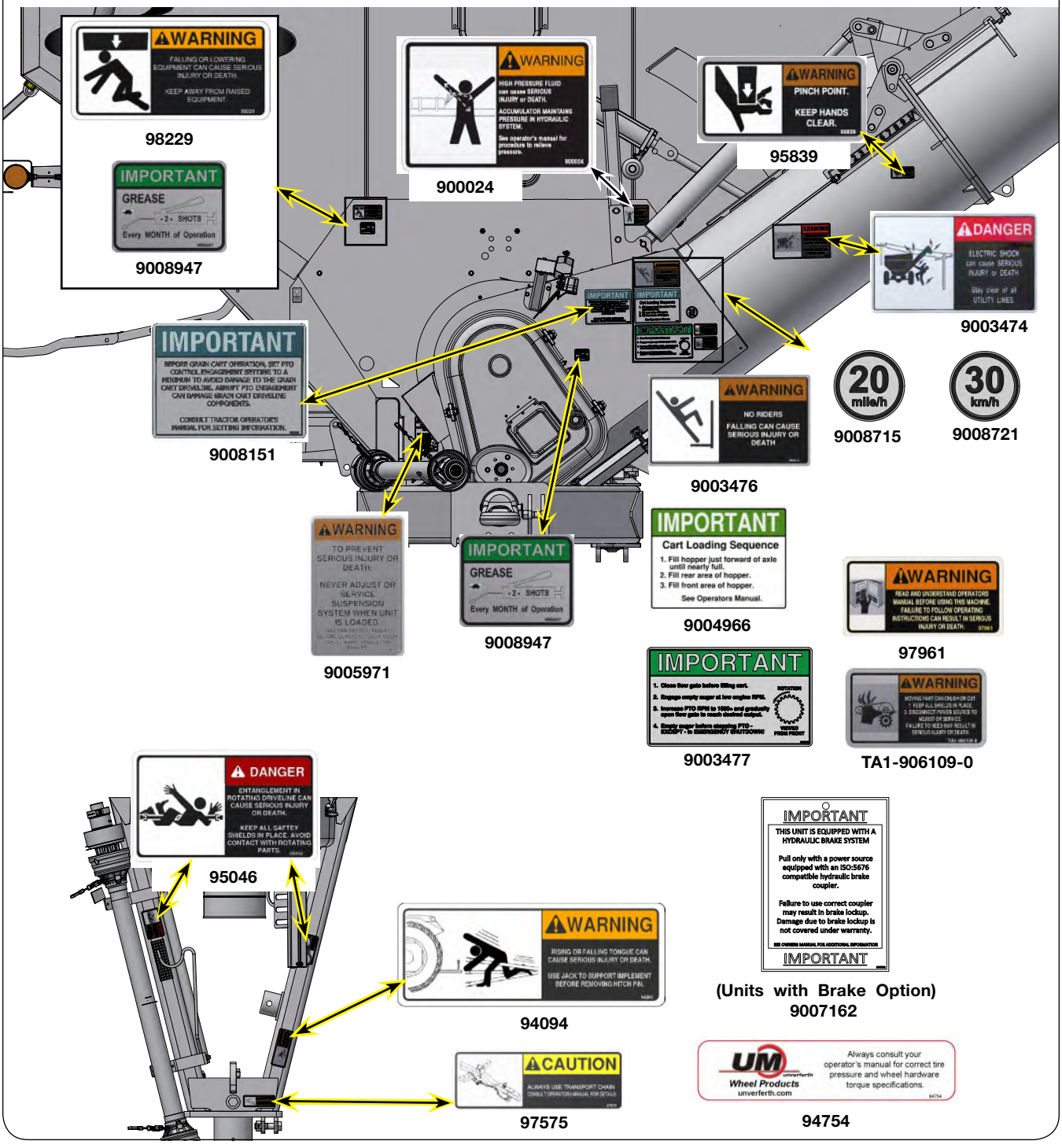
IMPORTANT

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

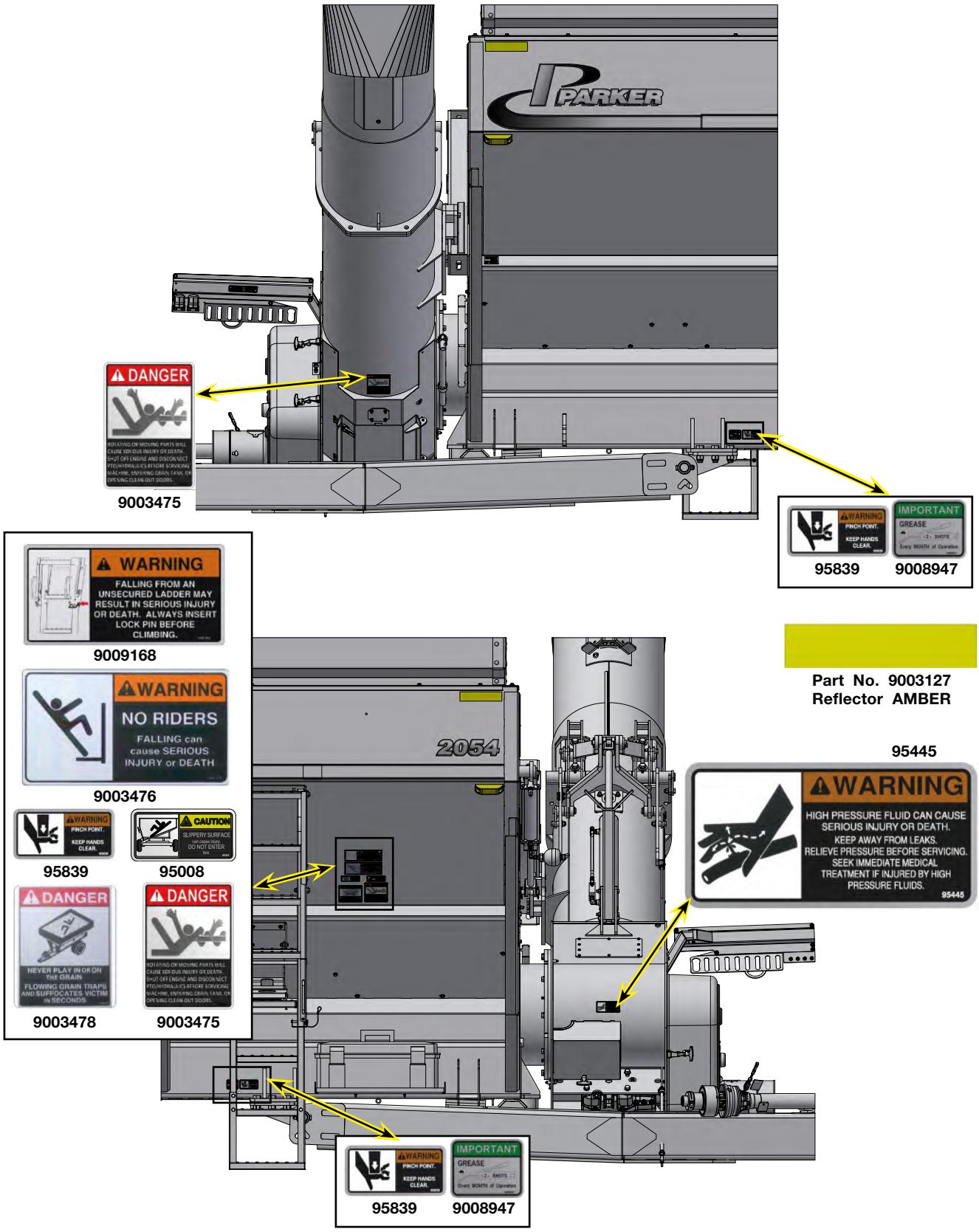
Safety Decals

⚠ WARNING

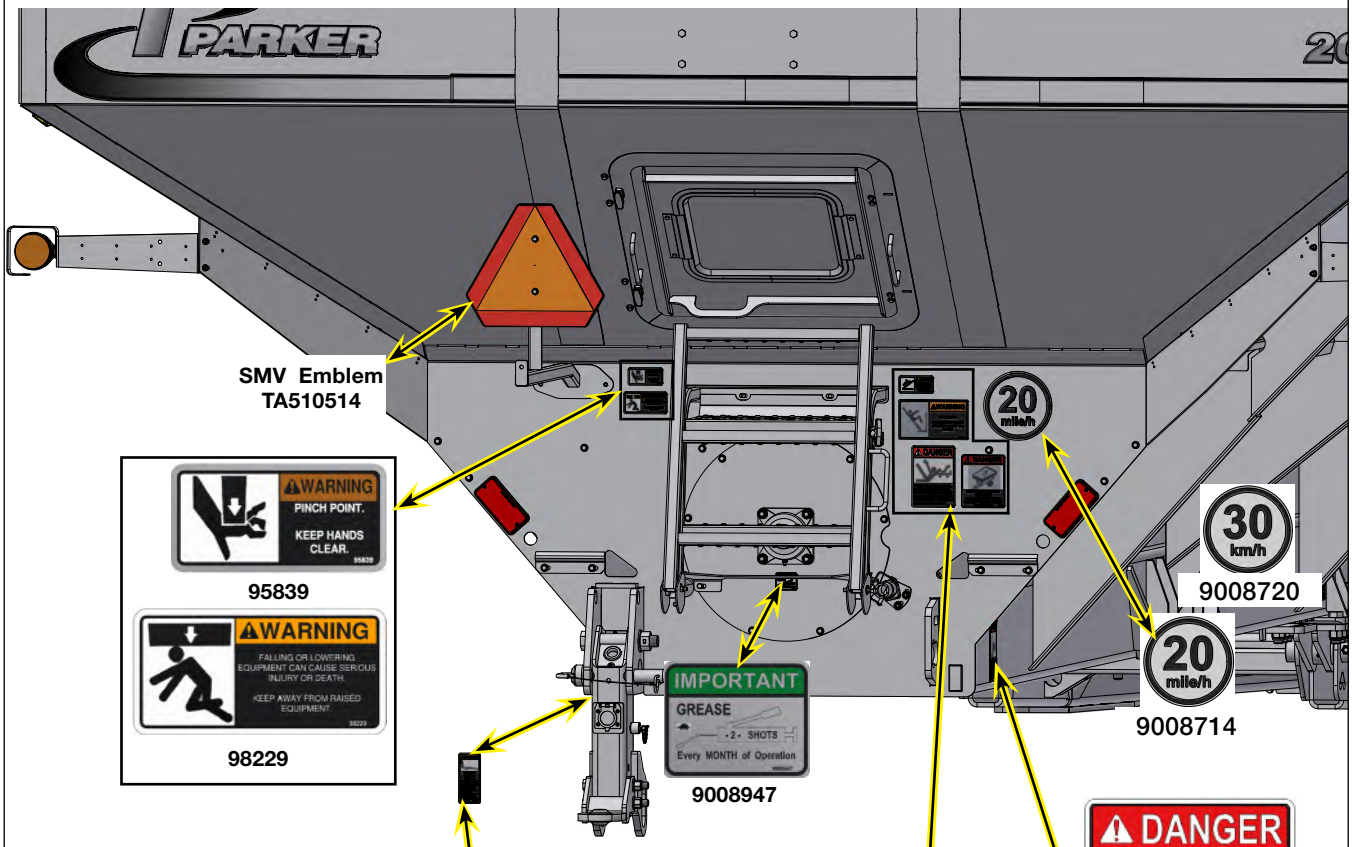
- **REPLACE LOST, DAMAGED, PAINTED, OR UNREADABLE DECALS IMMEDIATELY. IF PARTS THAT HAVE DECALS ARE REPLACED, ALSO MAKE SURE TO INSTALL NEW DECALS. THESE DECALS INFORM AND REMIND THE OPERATOR WITH OPERATIONAL INFORMATION AND SAFETY MESSAGES.**



Safety Decals (continued)



Safety Decals (continued)



Following Safety Instructions

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

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

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

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

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

Before 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 is restricted mobility and limited exit paths when working inside the implement.
- Secure drawbar pin with safety lock and lock tractor drawbar in fixed position.
- Explosive separation of a tire and rim can cause serious injury or death. Only properly trained personnel should attempt to service a tire and wheel assembly.
- Verify that all safety shields are in place and properly secured.

- Add sufficient ballast to tractor to maintain steering and braking control at all times. Do not exceed tractor's lift capacity or ballast capacity.
- Do not stand between towing vehicle and implement during hitching.

- Hot parts can cause severe burns. Use caution when working around power system/ground engaging components. Allow parts to cool before servicing.
- Always make certain everyone and everything is clear of the machine before beginning operation.

During Operation

- Regulate speed to working conditions. Maintain complete control at all times.
- Never 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

- Verify transport chain capacity meets or exceeds weight capacity of all towed implements. Secure transport chain to towing vehicle before transporting. DO NOT transport without chain.
- Check for proper function of all available transport lights. Make sure that all reflectors are clean and in place on machine. Make sure the SMV emblem and SIS decals are visible to approaching traffic.
- Make sure auger is folded and vertical auger assembly is positioned in its narrowest configuration.
- This implement may not be equipped with brakes. Ensure that the towing vehicle has adequate weight and braking capacity to tow this implement.

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 grain cart on roads while loaded.
- It is probable that this implement is taller, wider and longer than the towing vehicle. Become aware of and avoid all obstacles and hazards in the travel path of the equipment, such as power lines, ditches, etc.

Driveline Safety

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

Pressurized Oil

- Relieve the hydraulic system of all pressure before adjusting or servicing. See tractor operator's manual manual for procedure to relieve pressure.

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

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

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

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

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

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

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

Preparing for Emergencies

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

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

Wearing Protective Equipment

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

- Wear steel-toed shoes when operating.

- Wear hearing protection when exposed to loud noises.

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

Notes

Section II
Set Up

FOR SCALE, TRACK, UHARVEST, ELECTRIC TARP, VIDEO SYSTEM OR OTHER 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.

- ☐ Set or Calibrate tractor PTO control engagement to MINIMUM setting. Refer to tractor operator's manual for setting information.
- ☐ Remove auger spout cylinder stop.
- ☐ Remove PTO from shipping brackets, install onto gearbox input shaft and set in PTO holder. Remove PTO shipping brackets.
- ☐ Move upper ladder extension from shipping to operating position. See "Upper Side Ladder Extension" in this section.
- ☐ Move rear left-hand and right-hand light brackets from shipping to operating position. See "Move Lights to Operating Position" in this section.
- ☐ Torque wheel nuts as specified in MAINTENANCE section.
- ☐ Check tire pressure and inflate tires as needed to specified air pressure. See "Tire Pressure" in MAINTENANCE section. (If applicable)
- ☐ Ensure optional hydraulic brakes are bled and function properly. See "Brake Bleeding Procedure For Braking System (Optional)" in MAINTENANCE section. (If applicable)
- ☐ Verify track has been aligned and is properly conditioned. (If applicable)
- ☐ Lubricate all grease fittings and check gearbox oil level.
- ☐ Inspect cleanout door assembly for proper adjustment, refer to "Vertical & Horizontal Clean-Out Door Operation" in the OPERATION section.
- ☐ Verify all safety decals are correctly located and legible. Replace if damaged.
- ☐ Verify all reflective decals are correctly located.
- ☐ Check SMV decal and SIS decals are in place, clean and visible.
- ☐ Verify transport lights are working properly.
- ☐ Verify PTO length, see "Verify Telescoping PTO Shaft Length" in MAINTENANCE section.
- ☐ Align and properly tension belts. See "Belt Tightener Adjustment" and "V-Belt Alignment" in MAINTENANCE section.
- ☐ Ensure screens over horizontal auger are in place and properly secured.
- ☐ Ensure transport chain on the grain cart is sized according to the weight that is being towed. Refer to "Transport Chain Connection" in OPERATION section for complete transport chain instructions.
- ☐ Install transport chain and torque hardware to specification. See "Transport Chain" in OPERATION section.
- ☐ Paint all parts scratched in shipment.
- ☐ Test run the augers. See "Auger Operation" in OPERATION section.
- ☐ Check hydraulics for leaks and check hose routing.

Repositioning Tongue If Equipped With Optional Equalizer SP Tracks

⚠ WARNING

- **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 7,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

NOTE: If equipped with 50” x 172” Equalizer SP tracks, the tongue must be relocated from shipping position to operating position. Refer to this section for procedure.

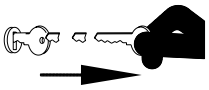
If your 2054 is not equipped with 50” x 172” Equalizer SP tracks, skip to “Driveline Install” in this section.

Repositioning Tongue (continued)
If Equipped With Optional Equalizer SP Tracks

IMPORTANT

- *Prior to adjusting tongue position, ensure horizontal cleanout doors are CLOSED. Do not attempt to close horizontal cleanout doors with tongue in shipping position. Damage to cleanout doors and components will result. Reference steps 8 through 10 for tongue re-position and closing cleanout door procedure.*

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



2. Using a safe lifting device rated at a minimum of 7,000 lbs., raise the front of the cart.

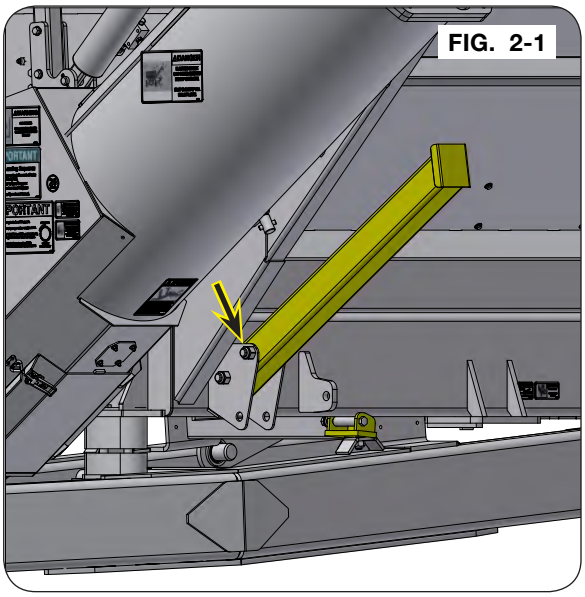


FIG. 2-1

3. Remove and save the 1”-8UNC x 6” capscrew (9390-195) and 1”-8UNC elastic locknut (9398-026) (FIG. 2-1). Rotate the support stands (276748B) downward. Reinstall the 1”-8UNC x 6” capscrew (9390-195) and 1”-8UNC elastic locknut (9398-026) (FIG. 2-2). Repeat process on the opposite side of the grain cart.

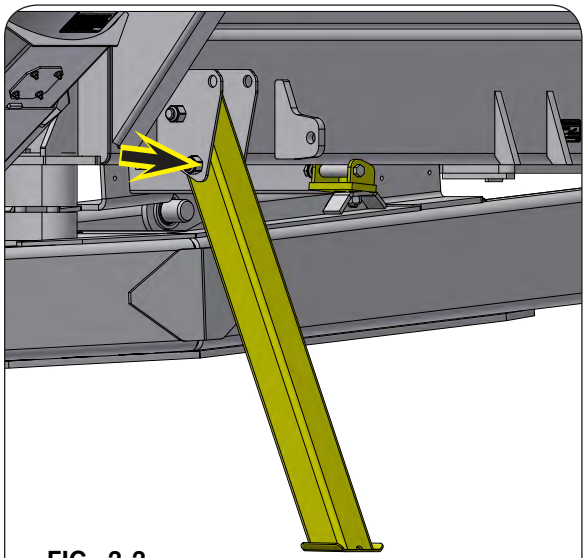


FIG. 2-2

Repositioning Tongue (continued)
If Equipped With Optional Equalizer SP Tracks

4. Remove and save the 1”-8UNC x 10” capscrews (9390-464), spring retainer plates (271687B), both urethane springs (9006456 and 9006457), and 1”-8UNC locknuts (92199). (FIG. 2-3)

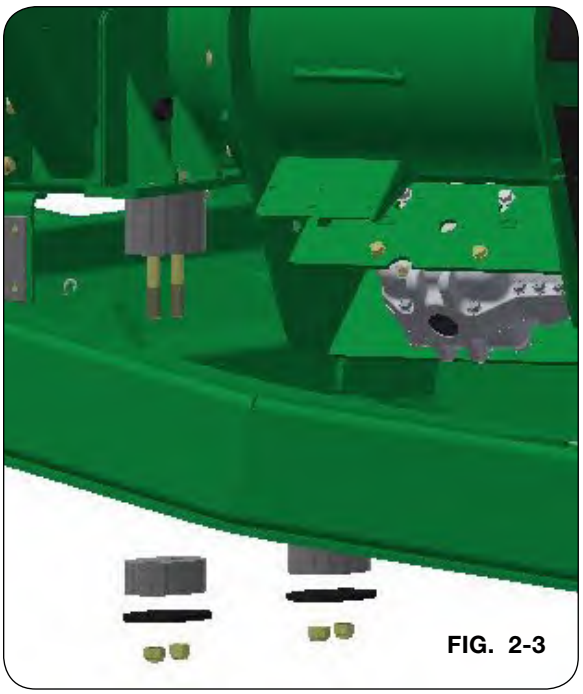


FIG. 2-3

5. Support the tongue with safe lifting devices rated for a minimum of 2,000 lbs.

6. Remove and discard the 5/8”-11UNC serrated flange nuts (9502324), 5/8” SAE flat washers (9405-098), 5/8”-11UNC x 5 1/2” capscrews (9390-135), 3/4”-10UNC locknuts (9802), 3/4”-10UNC x 2” capscrews (9390-145), and slide support weldments (298516Y) from the tongue. (FIG. 2-4)

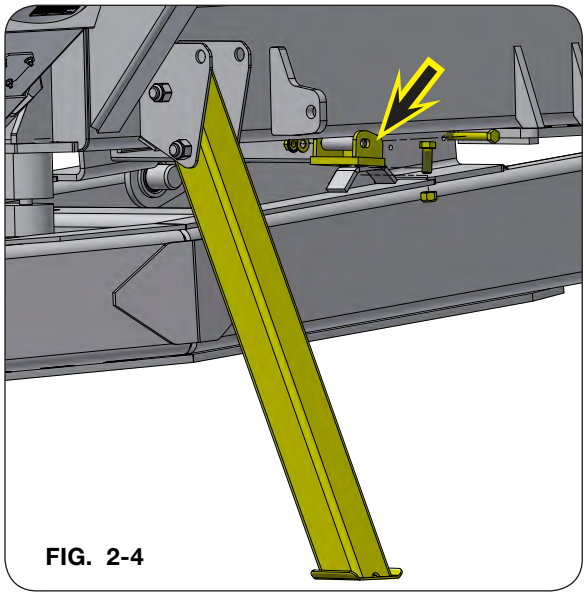


FIG. 2-4

Repositioning Tongue (continued)
If Equipped With Optional Equalizer SP Tracks

7. Remove and save the 1”-14UNS x 3” capscrews (9390-409) and 1”-14UNS elastic locknuts (9008441) from the tongue pivot weldments (left-hand 274818G/R; right-hand 274819G/R). (FIG. 2-5)

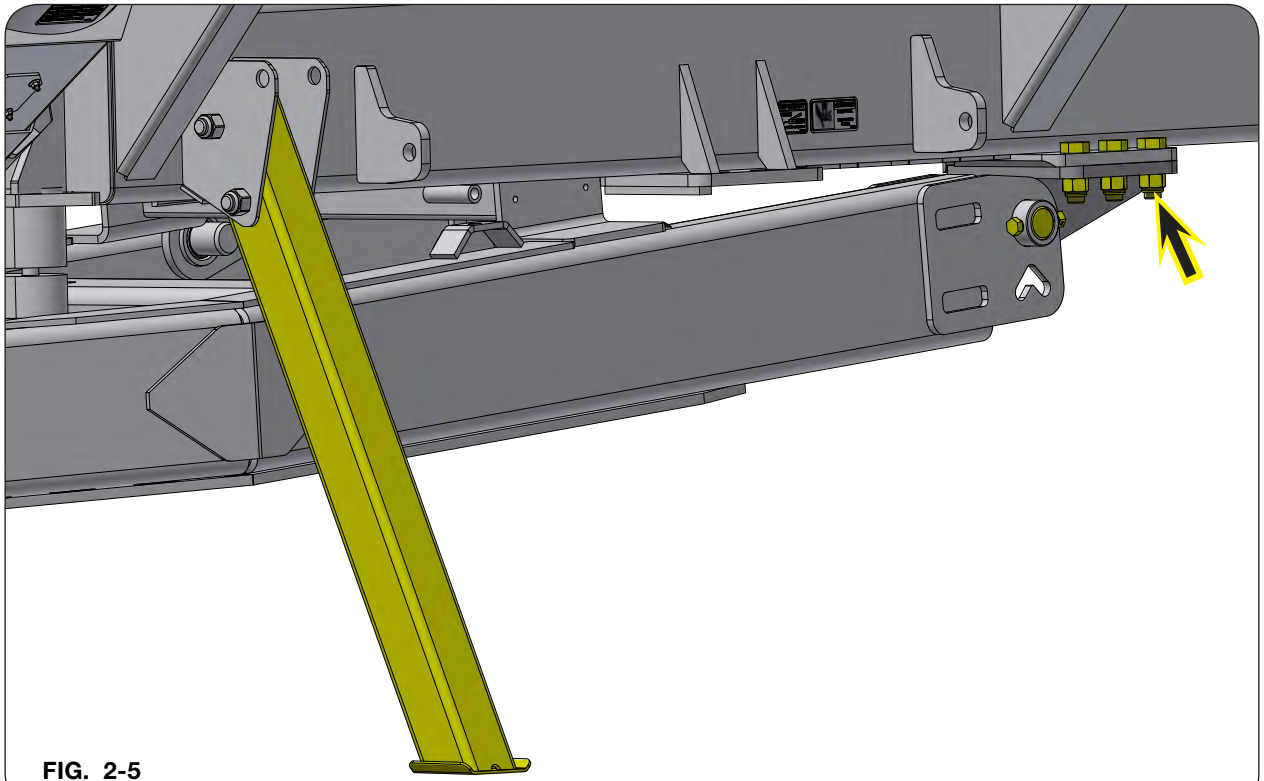


FIG. 2-5

Repositioning Tongue (continued)
If Equipped With Optional Equalizer SP Tracks

8. Using a safe lifting device rated at a minimum of 2,000 lbs., lower hitch side of the tongue so it clears the auger assembly. (FIG. 2-6)

9. Slide the tongue forward until the tongue pivots align with the forward mounting plate. (FIG. 2-6)

NOTE: Use only 1”-14UNS hardware on the tongue pivot and 1”-8UNC hardware on the urethane springs. Do not mix UNS hardware and UNC hardware.

10. Secure the tongue pivot weldment to the cart with 1”-14UNS x 3” capscrews (9390-409) and 1”-14UNS elastic locknuts (9008441). (FIG. 2-6)

11. Torque 1” UNS hardware to 550 ft.-lbs. (FIG. 2-6)

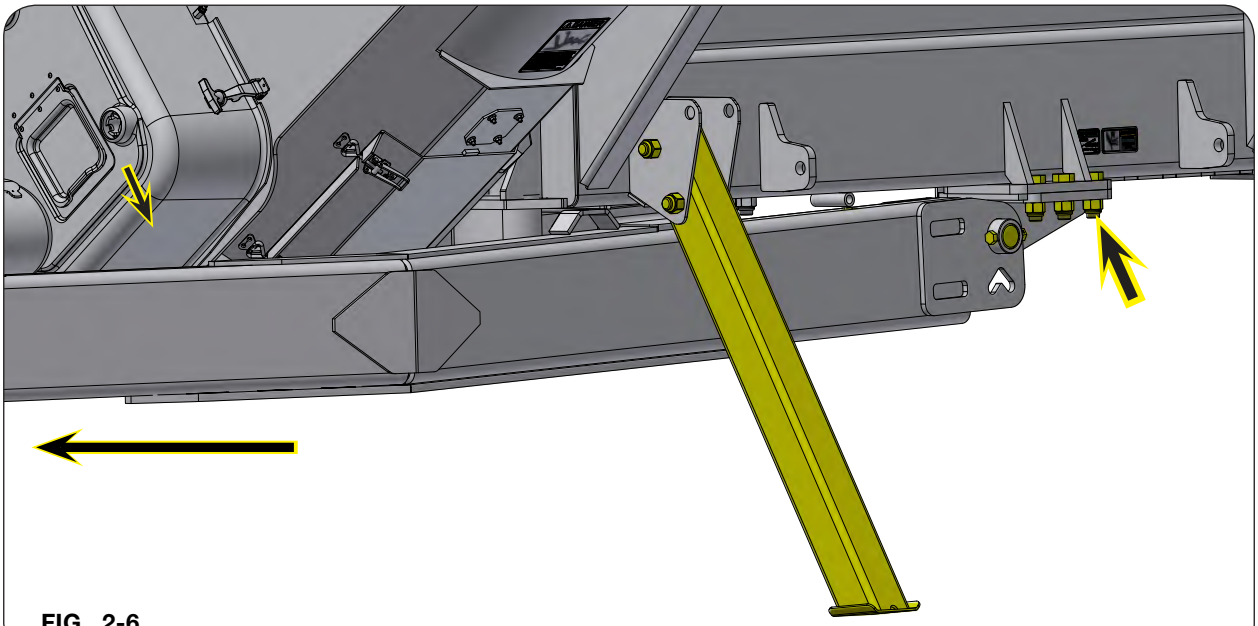


FIG. 2-6

Repositioning Tongue (continued)
If Equipped With Optional Equalizer SP Tracks

12. Attach 4 3/4" thick urethane springs (9006456) between tongue and frame, 2 1/2" thick urethane springs (9006457) under the tongue, followed by retainer plates (271687B). Secure to grain cart with, 1"-8UNC x 10 1/2" capscrews (9390-465) and 1"-8UNC elastic locknuts (9398-026) (FIG. 2-7 & 2-8).

13. Tighten the 1" UNC hardware to compress the upper bumpers 1/4". (FIG. 2-7 & 2-8)

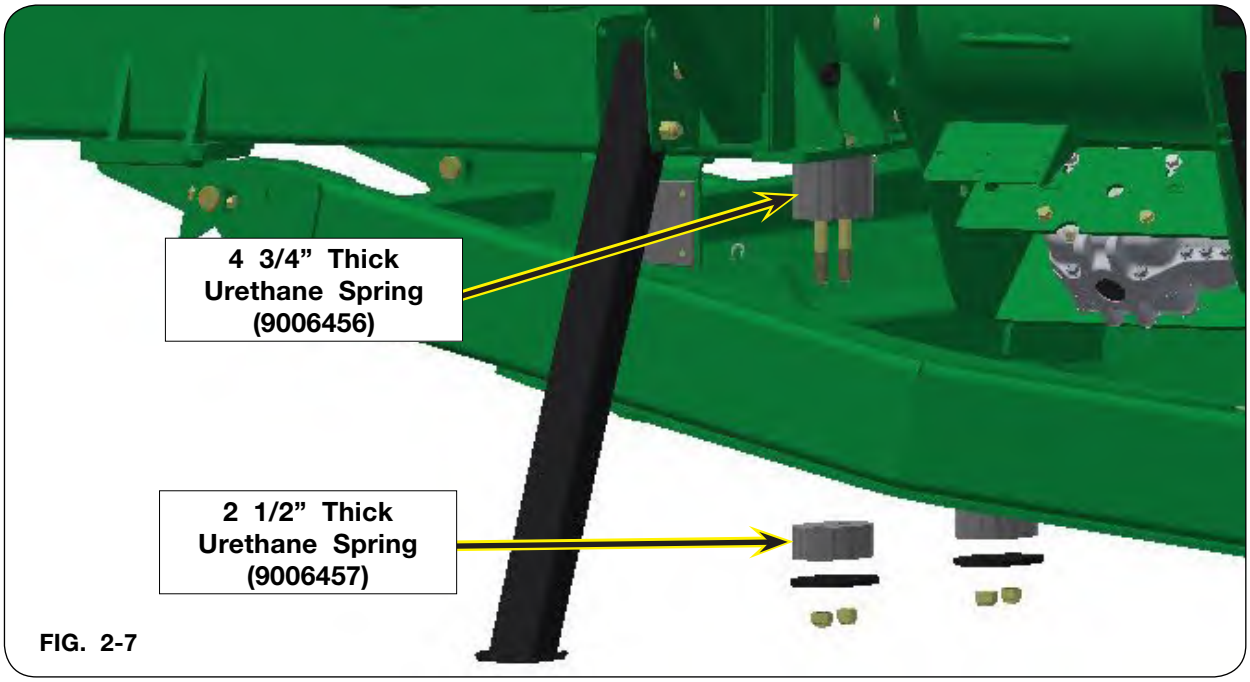


FIG. 2-7

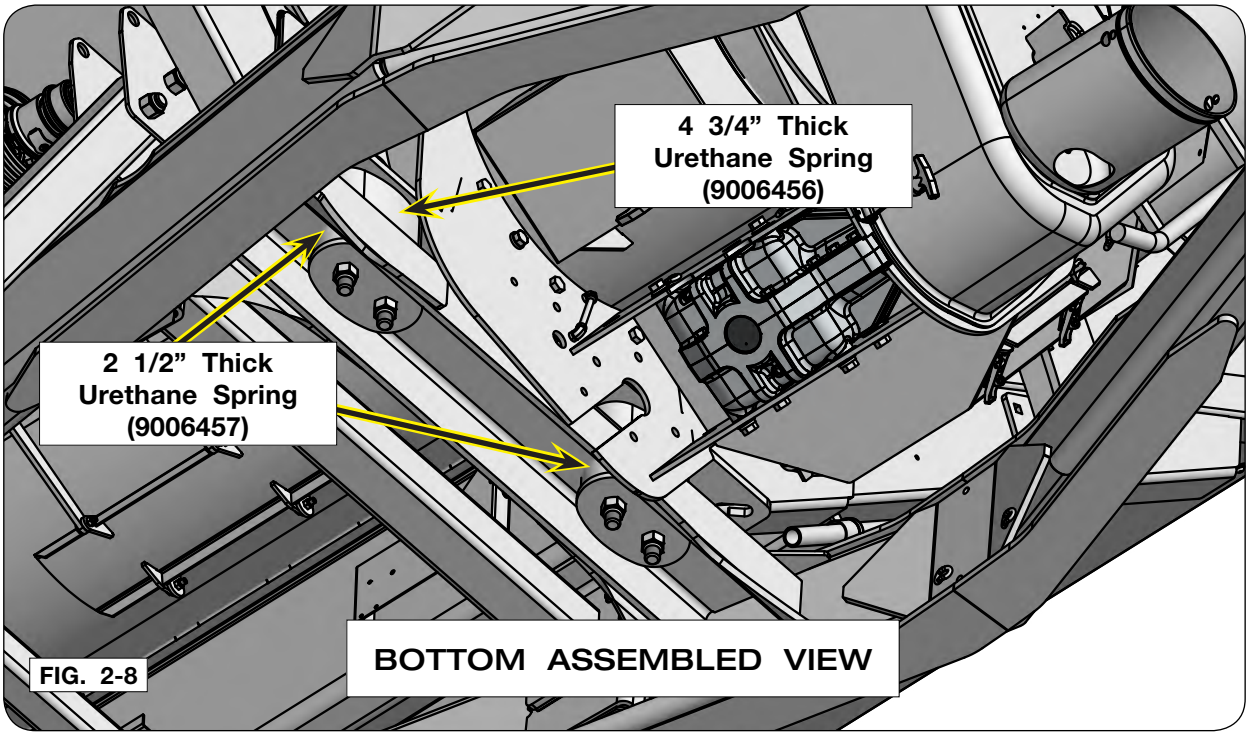


FIG. 2-8

Repositioning Tongue (continued)
If Equipped With Optional Equalizer SP Tracks

14. HYDRAULIC JACK
    Use the tractor hydraulics to lower the jackstand and lift the support stands. (FIG. 2-9)

    NOTE: Refer to "Hydraulic Jack Usage" in the OPERATION section for procedure.


FIG. 2-9

15. Remove the 1"-8UNC x 6" capscrew (9390-195) and 1"-8UNC elastic locknut (9398-026). Rotate the support stands (276748B) upwards. Reinstall the 1"-8UNC x 6" capscrew (9390-195) and 1"-8UNC elastic locknut (9398-026). Repeat process on the opposite side of the grain cart. (FIG. 2-10)

16. Remove the safe lifting devices under the tongue and front of the cart.

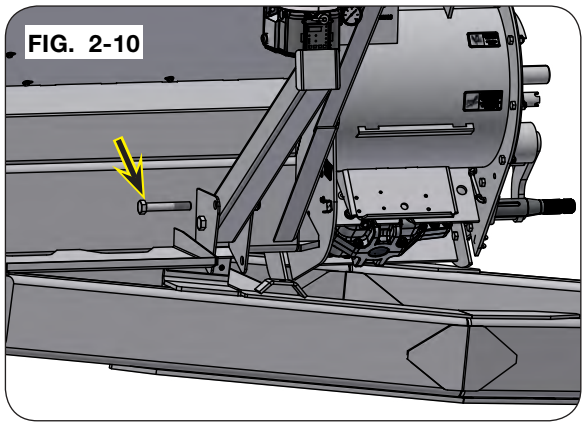


FIG. 2-10

Driveline Install

Driveline Set Up

⚠ DANGER

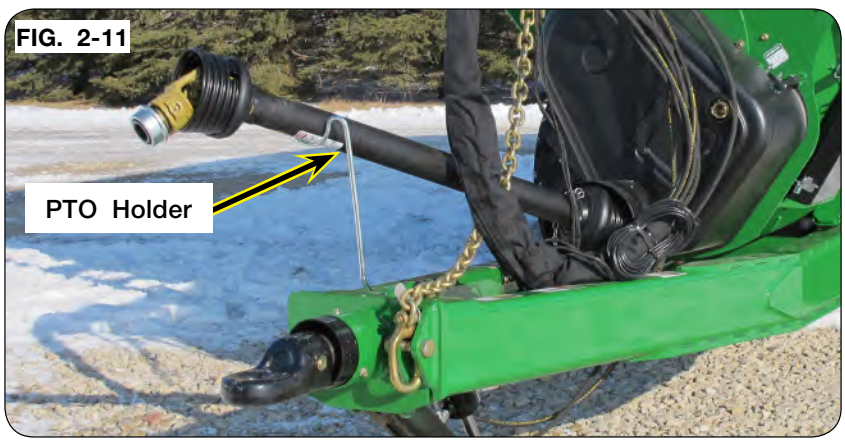
- **ENTANGLEMENT WITH THE DRIVELINE WILL CAUSE SERIOUS INJURY OR DEATH. KEEP ALL GUARDS AND SHIELDS IN GOOD CONDITION AND PROPERLY INSTALLED AT ALL TIMES. AVOID PERSONAL ATTIRE SUCH AS LOOSE FITTING CLOTHING, SHOE STRINGS, DRAWSTRINGS, PANTS CUFFS, LONG HAIR, ETC. THAT CAN BECOME ENTANGLED IN A ROTATING 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 IS 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 40,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

1. Using a safe lifting device rated at a minimum 100 lbs., remove PTO assembly from the tongue. Remove clamp cone/socket head bolt from torque cut-out clutch.
2. Clean and grease the Implement Gearbox splined shaft. Gearbox shaft guard has access doors for installing and removing of driveline.
3. Attach PTO onto the gearbox input splined shaft and use the PTO holder as shown below. (FIG. 2-11)

FIG. 2-11



Driveline Install (continued)

Driveline Set Up (continued)

4. Remove the PTO brackets on the tongue, before operating the auger pivot or when connecting the driveline assembly to the tractor. Keep PTO brackets for seasonal storage. Refer to “Seasonal Storage” in MAINTENANCE section. (FIG. 2-12)

IMPORTANT

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

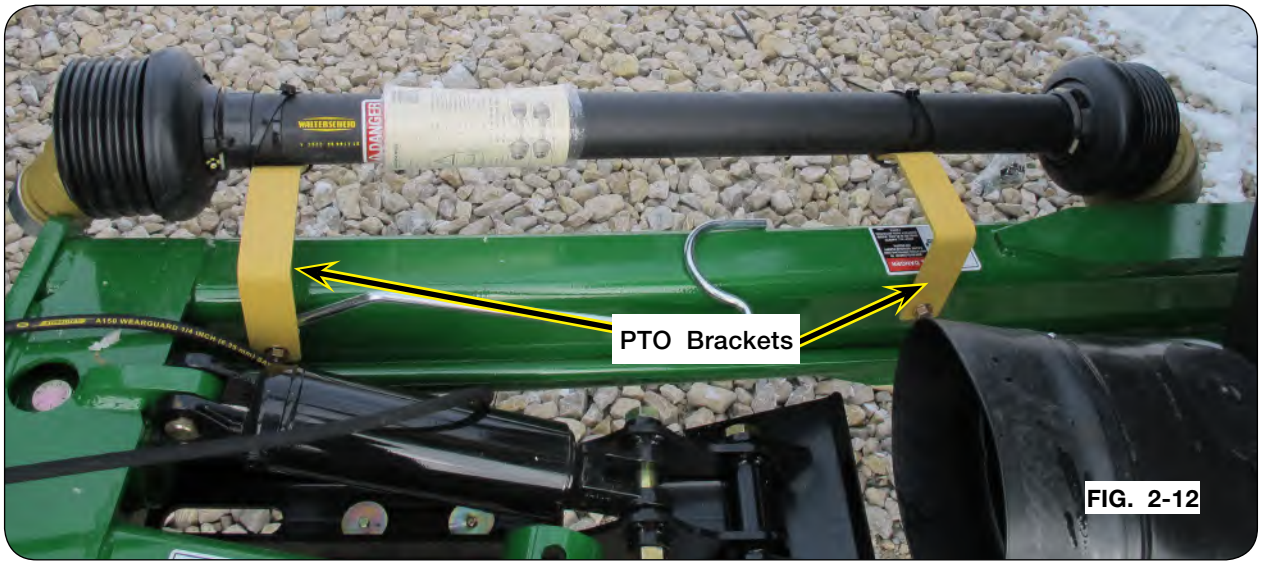


FIG. 2-12

Driveline Install (continued)

Driveline Set Up (continued)

5. Engage PTO drive shaft onto implement PTO shaft until retaining groove of implement PTO shaft aligns with clamping cone/socket head bolt hole.

6. For Benzi clutch, insert socket head bolt into lock washer, collar threaded hole, and threaded insert, hand tighten. (Figs. 2-13 and 2-14)

FIG. 2-13 Benzi Clutch

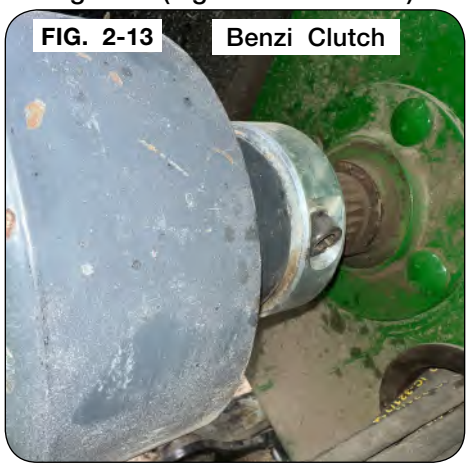
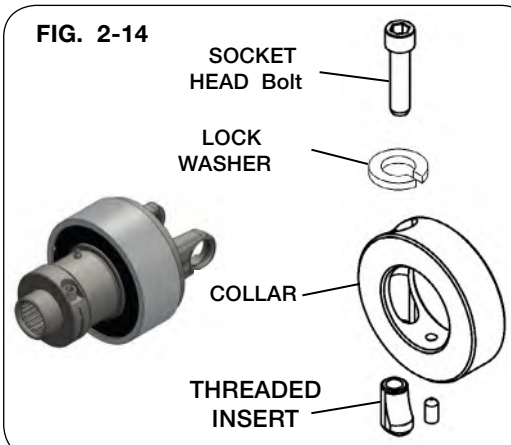


FIG. 2-14



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

Auger Set Up

⚠ WARNING

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

7-Pin Connection & Auger Pivot Slide Shipping Block Removal

1. Close the vertical cleanout door.
2. Remove the PTO assembly from the tongue. Refer to "Driveline Install" in this section.
3. Hitch cart to tractor. Refer to "Hitching to Tractor" in the OPERATION section.
4. Park the empty cart on a firm, level surface. Block the machine to keep it from moving. Set the tractor's parking brake.
5. Attach the 7-pin connector to tractor. (FIG. 2-16)

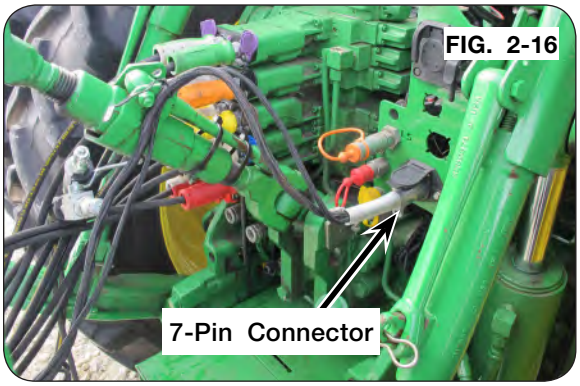
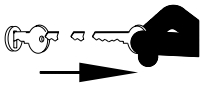


FIG. 2-16

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

6. Use tractor SCV to pivot auger up.
7. Shut-off the engine and remove the ignition key.



8. Remove and discard the wood block from the auger pivot. (FIG. 2-17)
9. Restart engine and cycle auger pivot all the way up and down to ensure movement is free.
10. Check all hoses and cylinders for signs of leakage. Hoses should not be kinked, twisted or rubbing against sharp edges. Re-route hoses as necessary. Refer to SAFETY section for additional information.

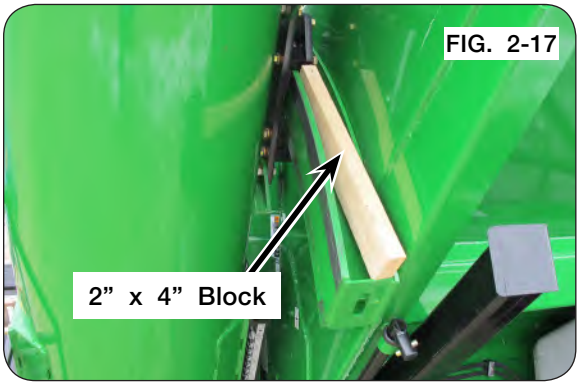


FIG. 2-17

Auger Set Up (continued)

Auger Spout Cylinder Stop Removal

1. Extend spout cylinder before removing the shipping stop. (Figs. 2-18 and 2-19)

2. Support spout to prevent movement while removing the shipping stop from the spout tilt cylinder. (Figs. 2-18 and 2-19)

IMPORTANT

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

FIG. 2-18

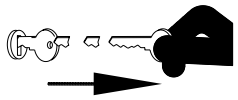
FIG. 2-19

Hydraulic Jack Set Up

⚠ WARNING

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

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



2. Assemble hoses (9006068) and fittings to cylinder (9009047) as shown in FIG. 2-20. The valve needs to be attached to the hose on the base end of the cylinder. Assemble the fittings on the cylinder so they face each other, then store the hydraulic hoses on the hose caddy.

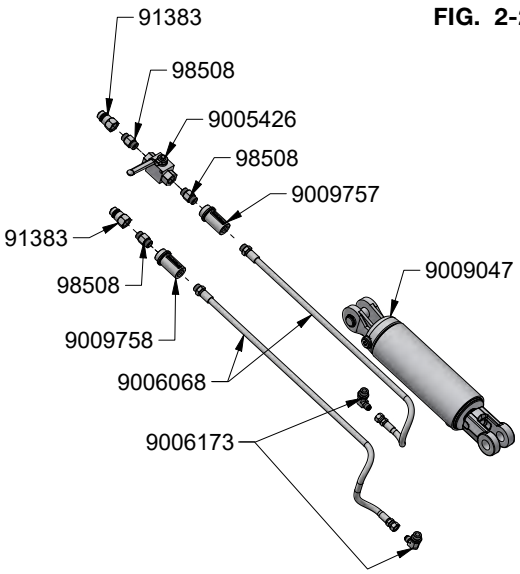


FIG. 2-20

Hydraulic Jack Set Up (continued)

WARNING

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

3. Assemble the cylinder (9009047) and jack foot (271723B) to the jack weldment (271712B) as shown in FIG. 2-21 using 1”-8UNC x 7” capscrews (9390-197) and 1”-8UNC locknuts (92199).

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

4. Tighten 1” hardware on jack leg weldment and allow the cylinder and jack foot to freely pivot. (FIG. 2-21)

5. Attach mounting bracket (273808B) to jack leg weldment (271712B) using 1”-8UNC x 7” capscrew (9390-197) and 1”-8UNC locknut (92199), before mounting to the tongue. (FIG. 2-22)

6. Tighten 1” hardware on jack leg weldment and allow the joint to pivot. (FIG. 2-22)

7. Attach the mounting bracket (273808B) to the back side of the front hitch plate with two 7/8”-9UNC x 2 1/4” capscrews (9390-165) and 7/8” lock washers (9404-037). (FIG. 2-22)

8. Torque 7/8” hardware to 330 ft.-lbs. (FIG. 2-22)

9. Align the base end of the cylinder with the lug on the top of the tongue and assemble the cylinder pin (272587) and snap rings (91192) shown in FIG. 2-23.

NOTE: Refer to “Optional Hydraulic Jack Usage” in the OPERATION section for additional information.

10. Purge air from system. See “Purge Hydraulic System” in the MAINTENANCE section for procedure.

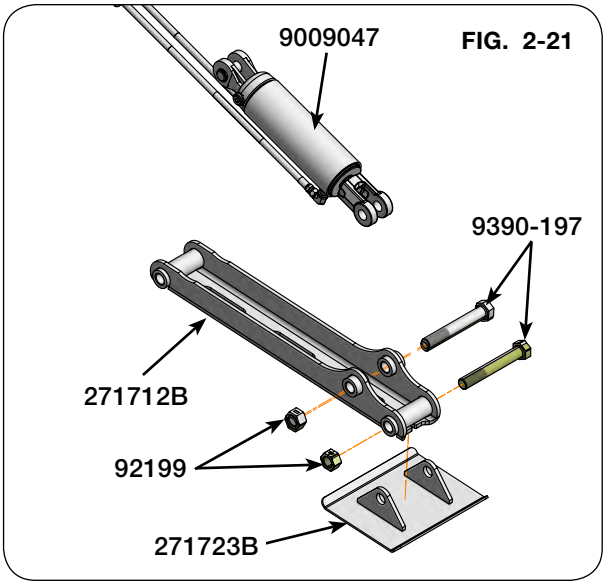


FIG. 2-21

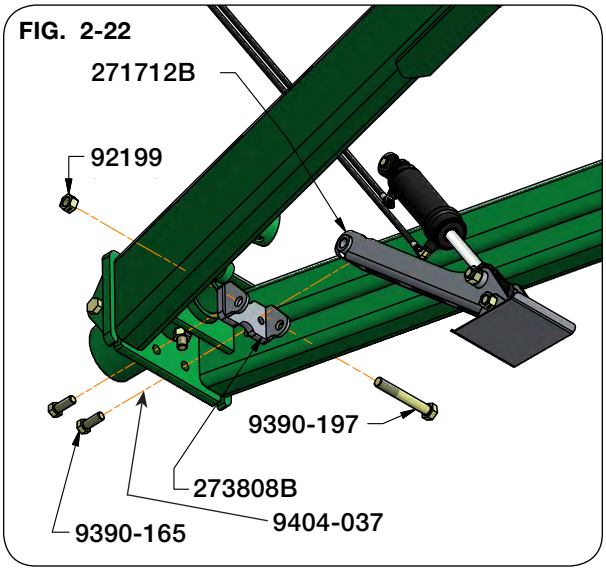


FIG. 2-22

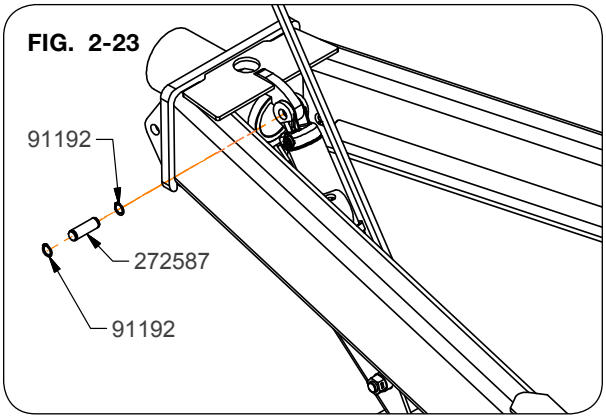


FIG. 2-23

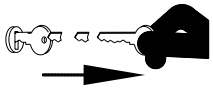
Upper Side Ladder Extension

⚠ WARNING

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

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

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



1. Park the unit on a firm, level surface. Block the machine to keep it from moving. Set the vehicle parking brake, shut off the engine and remove the ignition key.
2. Move the upper ladder extension (289707B) from shipping position by removing the 5/16”-18UNC x 3/4” carriage bolts (9388-024), 5/16” flat washers (9405-064) and 5/16”-18UNC locknuts (9008441). Keep hardware for next step. (FIG. 2-24)
3. Using hardware from step 2, attach upper ladder extension to the higher set of holes to be in operating position. (FIG. 2-24, FIG. 2-25 and 2-27)
4. Torque hardware to 17 ft.-lbs.

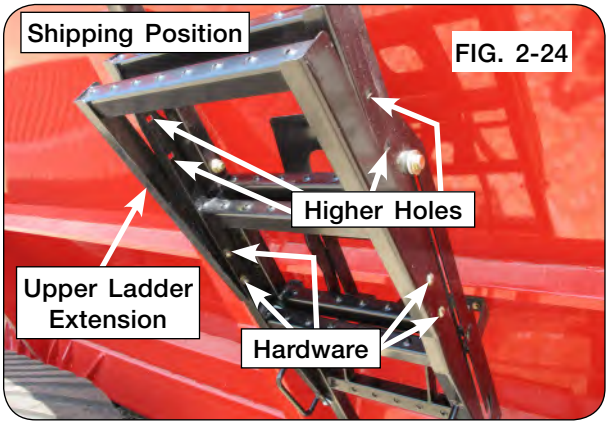


FIG. 2-24

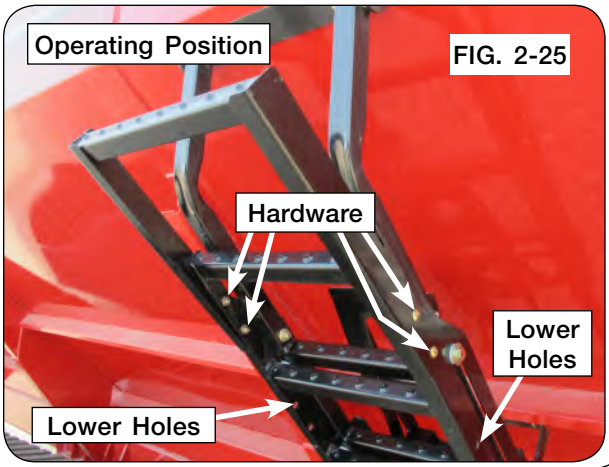


FIG. 2-25

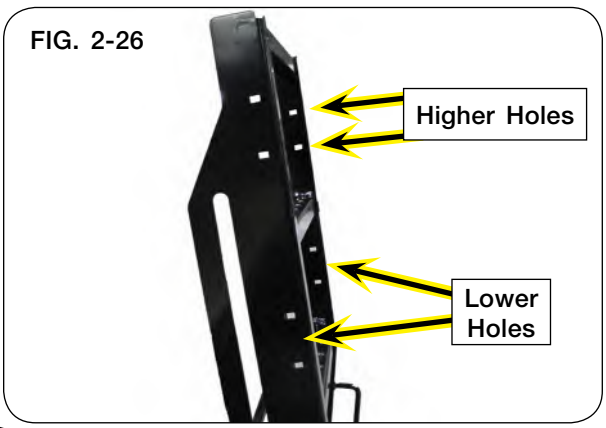


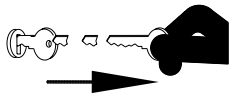
FIG. 2-26

Move Lights to Operating Position

⚠ WARNING

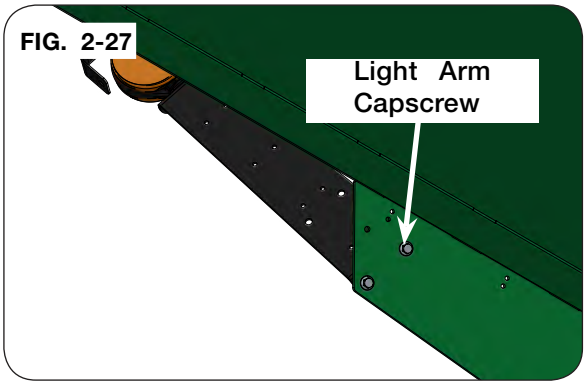
- **FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RAISING, OR LOWERING.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**

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



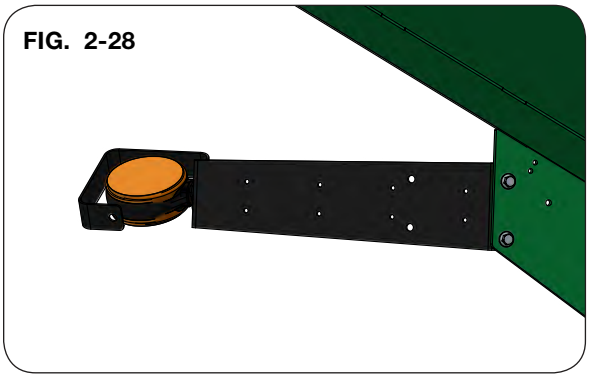
2. Remove upper light arm capscrew. (Fig 2-28)

FIG. 2-27



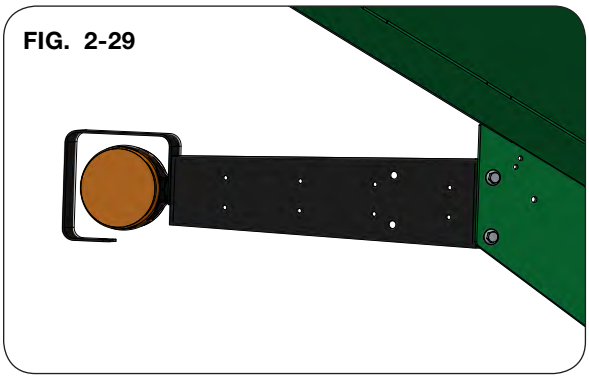
3. Loosen lower light arm capscrew and rotate the light arm downward. (FIG. 2-28)
4. Reinstall the upper light arm capscrew. (FIG. 2-28)
5. Loosely tighten upper and lower light arm capscrews.

FIG. 2-28



6. Loosen amber light and light guard nut and rotate both parallel to the light arm. (FIG. 2-29)
7. Torque both the upper and lower light arm capscrews and light guard nut to 17 ft.-lbs.
8. Repeat process for the opposite side of the grain cart.

FIG. 2-29



Wheel & Tire Set Up

Tire Pressure

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

Wheel Nuts

⚠ WARNING

- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 40,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.**

⚠ CAUTION

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

IMPORTANT

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

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

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

SMV Emblem & SIS Decals

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

Install the SMV with the wide part at the bottom and reflective surface facing outward. (FIG. 2-30)

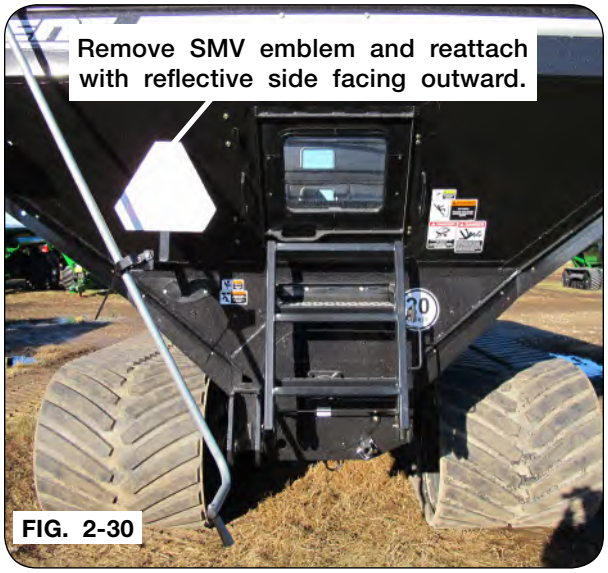


FIG. 2-30

Ensure the front and rear SIS decals are clean and visible after shipping. (FIG. 2-31)

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

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

FIG. 2-31

Video System (Optional)

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

Belt Engagement

⚠ WARNING

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

The unit is shipped without tension applied to the belts. To engage the tensioner use the belt tensioner handle, located on the front left-hand side of the grain cart, behind the first panel. Verify the belts are correctly aligned and are seated in both sheaves. If belt hangs over edge of sheave, detention idler, adjust and retention idler. (Figs. 2-33 and 2-34)

Rotate the handle downwards to engage tensioner. (FIG. 2-33)

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

FIG. 2-32

Handle up is in disengaged position.

FIG. 2-43

Handle down is in engaged position.

Operational Check

⚠ WARNING

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

IMPORTANT

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

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

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

NOTE: The joystick and 7-pin connector MUST be plugged into the same power source. If plugged into different power sources, the spout rotate and auger fold functions WILL NOT operate normally.

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

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

Section III
Operation

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

Operating Checklist

- ❑ Read and understand all safety precautions before operating cart.
- ❑ R.V. antifreeze needs to be completely flushed from the Water Delivery System and disposed of properly. Make certain the Water Delivery System only contains water before placing the Water Delivery System in service. (If applicable)
- ❑ Set or Calibrate tractor PTO control engagement to MINIMUM setting. Refer to tractor operator's manual for setting information.
- ❑ Torque wheel nuts and check tire pressure as specified in MAINTENANCE section.
- ❑ Verify track has been aligned and is properly conditioned. Refer to 50" x 172" Equalizer SP Track manual (297550), 50" / 42" Equalizer Track manual (267909) or 36" x 148" Hydraulic Tension Track manual (267997) MAINTENANCE section for alignment information. (If applicable)
- ❑ Verify track grease pump reservoir is full. Refer to track auto grease pump instruction sheet (282986) for setting information.
- ❑ Inflate tires to specified air pressure. See "Tire Pressure" in MAINTENANCE section. (If applicable)
- ❑ Lubricate all grease fittings and check gearbox oil level.
- ❑ Inspect cleanout door assembly for proper adjustment, refer to "Vertical & Horizontal Clean-Out Door Operation" in the OPERATION section.
- ❑ Test operation and functionality of work lights, flow door, flow door indicator, auger fold, auger pivot, spout rotate, spout tilt, tarp, rear access door, and if equipped, rear drop hitch, hydraulic jack stand, scale, joystick, scale remote display, video system, and water delivery system.
- ❑ Verify all reflective decals are correctly located.
- ❑ Check SMV sign and SIS decals are clearly visible with the cart attached to the tractor and implement grain cart optional rear hitch.
- ❑ Verify transport lights are working properly. Check and follow all regulations before towing on a road or highway.
- ❑ Verify tractor drawbar height and length. See "Preparing Tractor" in this section.
- ❑ Verify PTO length, see "Verify Telescoping PTO Shaft Length" in MAINTENANCE section.
- ❑ Align and properly tension belts. See "Belt Tightener Adjustment" and "V-Belt Alignment" in MAINTENANCE section.
- ❑ Ensure screens over horizontal auger are in place and properly secured.
- ❑ Ensure all cleanout doors and rear access door are closed and latched.
- ❑ Ensure side and rear ladders are in storage position.
- ❑ Ensure transport chain is properly sized, installed and attached. See "Transport Chain Connection" in OPERATION section.
- ❑ Test run the augers. See "Auger Operation" in OPERATION section.

Preparing Tractor

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

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

On carts equipped with optional hydraulic brake system, make sure the tractor is equipped with components necessary for operating the cart's hydraulic brakes. This cart is compatible with ISO:5676 brake systems. Consult your tractors Operator's Manual or your tractor dealer for appropriate brake control system.

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.

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

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 is standard with a CAT 5 hitch utilizing a 2 3/4" dia. pin. A CAT 4 tongue is available for a 2" dia. pin. Bushings are not recommended for this cart.

⚠ CAUTION

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

Hitch pin sizes for each Category to properly identify drawbar category.

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

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

Preparing Cart

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

Hardware

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

Pivot Pins

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

Hitch

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

Auger

Inspect auger for damage and wear.

Rear Drop Hitch (Optional)

Check rear drop hitch wear plates for damage and wear. Check that the hitch pin is in place and in good condition. Replace worn, damaged or missing hitch pin.

Preparing Cart (continued)

Hydraulic System

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

Optional Hydraulic Brake System

On carts equipped with 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.

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

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

IMPORTANT

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

Tires/Wheels

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

⚠ CAUTION

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

IMPORTANT

- *Install wheels with the tires in the narrowest position. Installing wheels without the proper inset/offset could result in hub or spindle failure. This will cause substantial damage to cart and is not covered by warranty. Inset/offset will vary depending on tire size. See SET UP section 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 is equipped standard with a single tang hitch. A 2 3/4" diameter hitch pin (CAT 5) must only be used with a clevis-type tractor drawbar.

NOTE: CAT 4 tongue is available for a 2" dia. pin. Contact your dealer for a CAT 4 tongue/ hitch, if required.

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

NOTE: Bushings are not recommended for this cart.

- Lock tractor drawbar in center position.
- Refer to the tractor Operator's Manual for information on tractor drawbar length.

⚠ WARNING

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

- Place wear shoe (281898-CAT 4; 281899-CAT 5) between tractor hitch and grain cart hitch. (Figure 3-2)
- After inserting drawbar pin, secure drawbar pin with a locking device to prevent uncoupling during use.

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

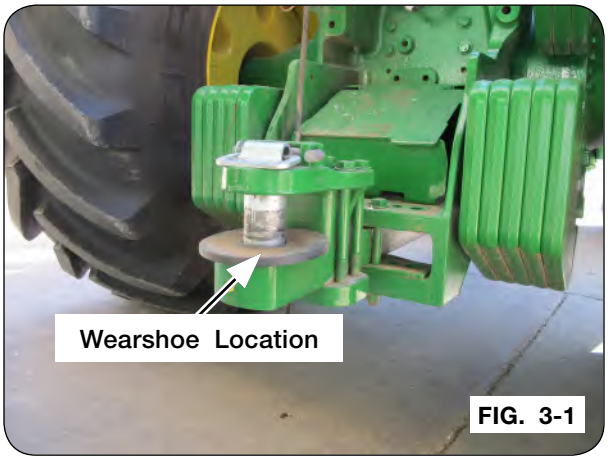


FIG. 3-1

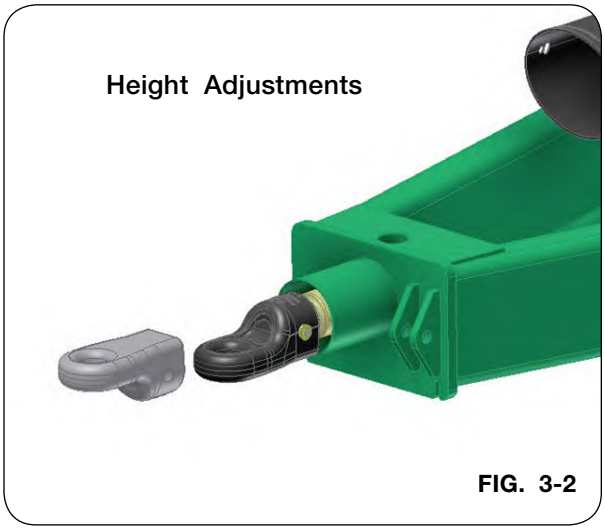


FIG. 3-2

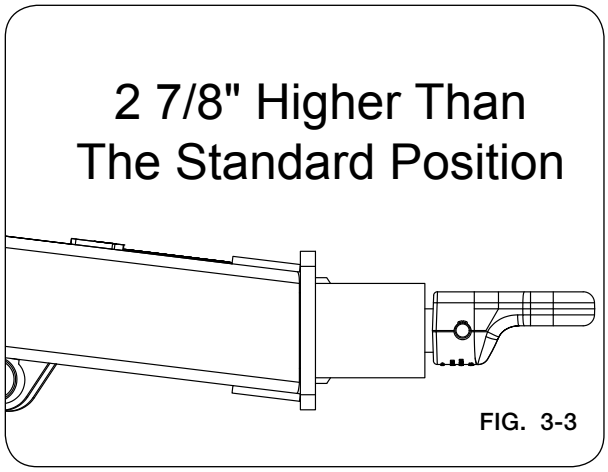


FIG. 3-3

Hitching to Tractor (continued)

Hydraulic Jack Usage

⚠ WARNING

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

IMPORTANT

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

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

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

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

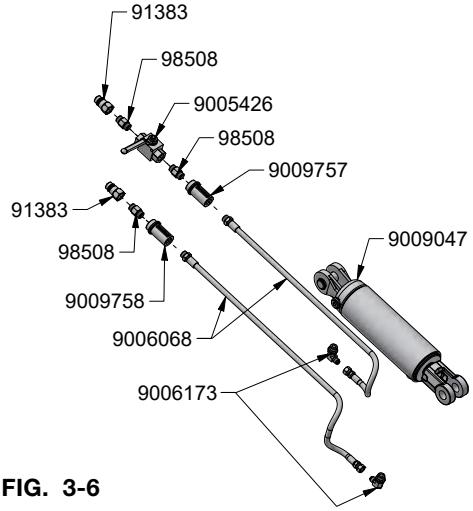


FIG. 3-6

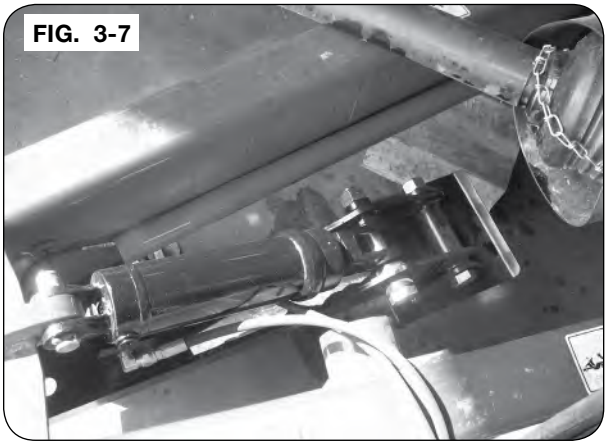


FIG. 3-7

Hitching to Tractor (continued)

Transport Chain Connection

⚠ CAUTION

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

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

FIG. 3-8

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

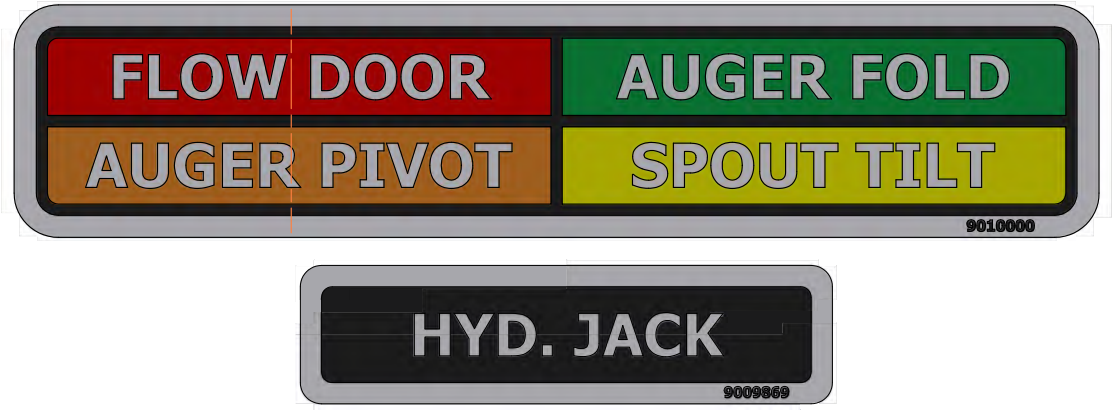
If the grain cart has the rear hitch installed, the standard transport chain must be replaced with PF1238-19 61,000 LBS. transport chain. The PF1238-19 61,000 LBS. transport chain is rated for the empty grain cart plus the rear hitch capacity of 20,000 LBS.

Hitching to Tractor (continued)

Hydraulic Connections

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

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



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.

Hitching to Tractor (continued)

Hydraulic Connections (continued)

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

FIG. 3-9

Optional Implement Brake Connection

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

Hitching to Tractor (continued)

Electrical Connections

This cart is equipped with a seven-pin SAE connector plug that 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. 3-10)

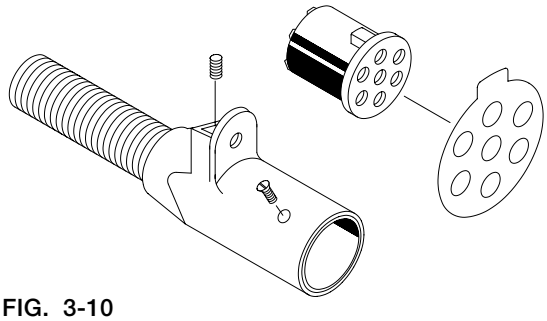


FIG. 3-10

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

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

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

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

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

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

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

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

Hitching to Tractor (continued)

Towing

Even if the cart is equipped with brakes, ensure that the towing vehicle has adequate weight and braking capacity to tow this grain cart and up to 20,000 lbs. on the optional towed header transport. See the towing vehicle manual for towing capacity. Never tow a loaded grain cart over public roads.

IMPORTANT

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

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

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

The PTO drive shaft 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 drive shaft to the tractor.

Secure transport chain to tractor before towing.

Carts equipped with brakes require a tractor with rear hydraulic brake ports. If your tractor is not equipped with rear hydraulic brake ports, consult your dealer.

Verify brake operation/release before towing.

⚠ CAUTION

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

IMPORTANT

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

Regulate speed to road conditions and maintain complete control.

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

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

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

Transport Position Shown

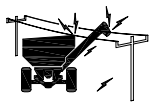
FIG. 3-11

Auger Operation

PTO Driven Auger

DANGER

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



WARNING

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

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

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 and over-center latch to fully engage.

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

IMPORTANT

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

Auger Operation (continued)

4. Open flow control door to desired unloading rate. Numbers on the auger tube provide a point of reference for operator convenience. (FIG. 3-12)

5. To slow or stop grain flow, close flow door, do not reduce tractor RPM. Close flow door fully when unloading is complete.

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

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

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

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

7. After PTO has come to a complete stop, align the checkered flag decals to locate center as shown in FIG. 3-13.

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

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

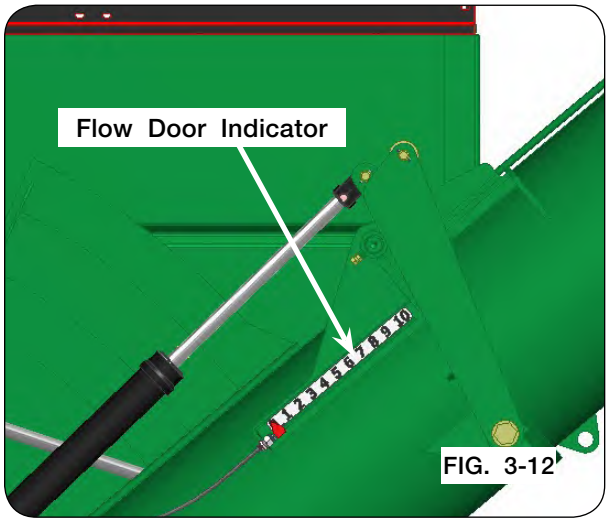


FIG. 3-12

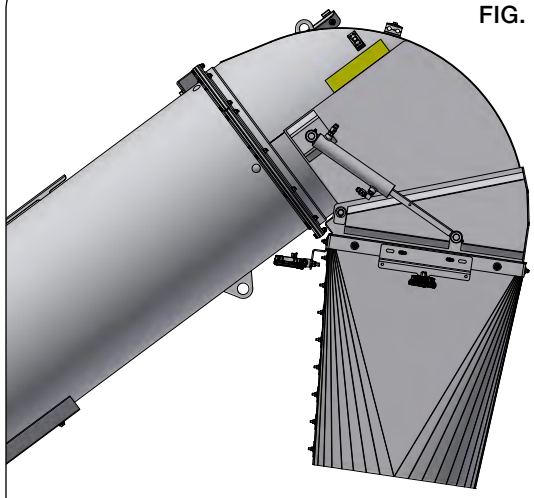


FIG. 3-13

Spout Centered Position

Auger Operation (continued)

Vertical Auger Fold

WARNING

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

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

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

FIG. 3-14

Auger Operation (continued)

Auger Overload Procedure

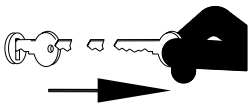
IMPORTANT

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

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

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

1. Close flow door.
2. Shut-off the engine and remove the ignition key.



3. With the PTO off and driveline stopped, disengage the belt tensioner using the belt tensioner handle, this disengages the horizontal auger from the drivetrain. (FIG. 3-15)
4. Restart and engage the tractor PTO at low engine RPM.
5. Increase engine RPM until 1,000 PTO RPM is reached to empty the vertical auger.

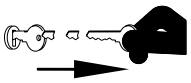
FIG. 3-15

FIG. 3-16

IMPORTANT

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

6. Once vertical auger is empty, stop PTO.
7. Shut-off the engine and remove the ignition key.



8. With the tractor PTO off and driveline stopped, reengage the belt tensioner using the belt tensioner handle. Return handle to storage. (FIG. 3-16)
9. Restart and engage the tractor PTO at low engine RPM.
10. Increase engine RPM until 1,000 PTO RPM is reached to empty the drag auger.

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

Electric Over Hydraulic Operation (Optional)

Electric/Hydraulic Connection

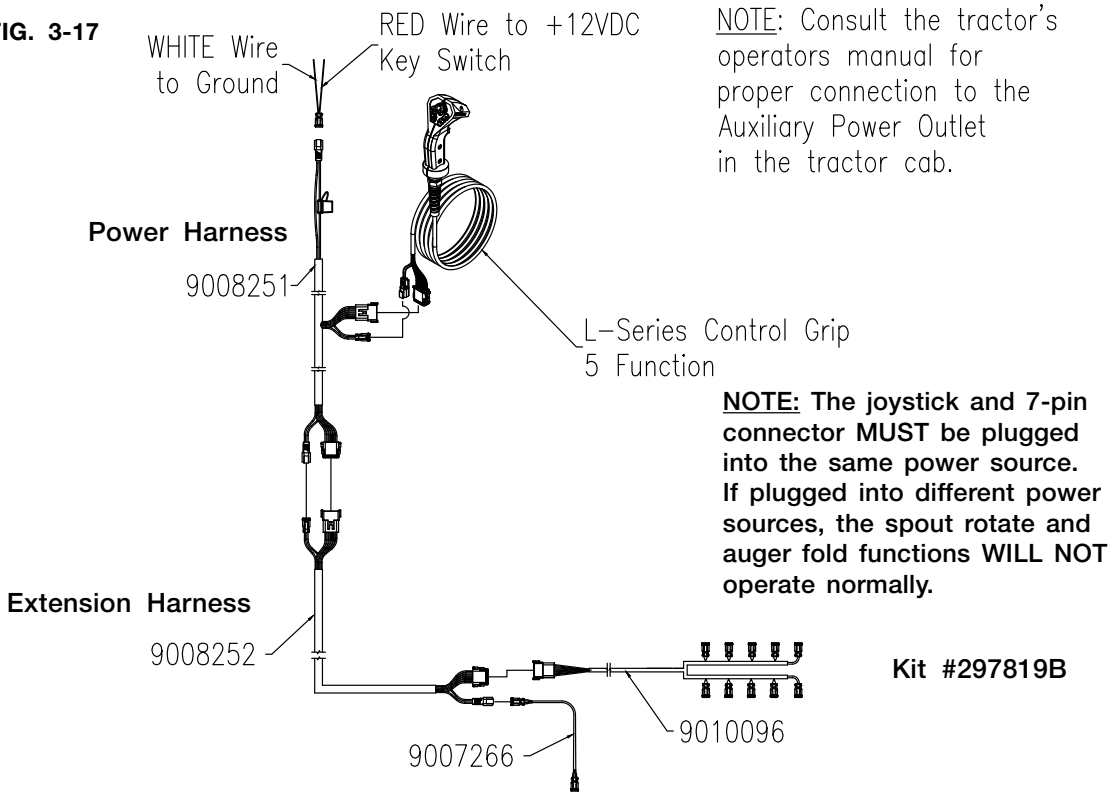
Before operating cart, familarize yourself with the functions associated with the joystick controller by operating with an empty cart.

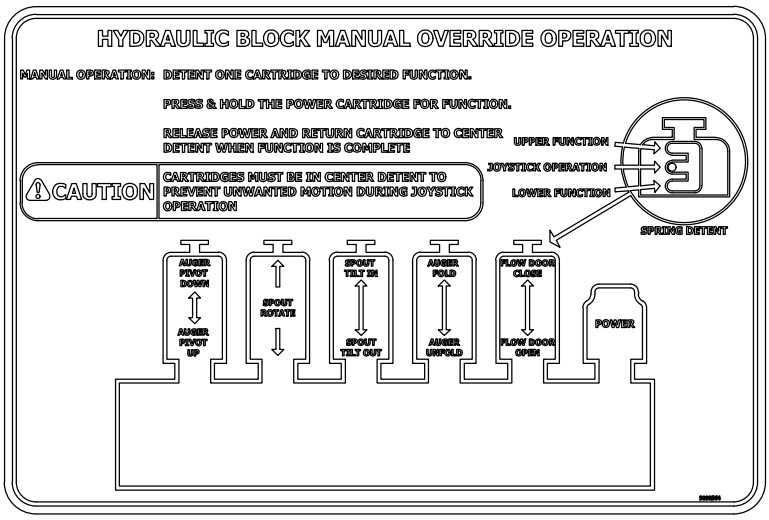
The joystick comes with a mounting pin allowing storage inside the tractor cab when not in use.

1. Connect the red wire from power harness (9008251) to a key-switched +12VDC power supply. (FIG. 3-17)

2. Connect the white wire from power harness (9008251) to ground. (FIG. 3-17)

FIG. 3-17





Electric Over Hydraulic Operation (Optional) (continued)

Auger Fold & Spout Operation

NOTE: Cartridge valves (9008416 and 9008463) must be locked in center position for joystick to function properly. Refer to "Manual Override for Opt. Electric Over Hydraulic System" in MAINTENANCE section.

1. Connect the Hydraulic Pressure and Return hoses to the tractor SCV remote so that the Pressure line is able to be put in continuous detent.
2. Place the remote in continuous detent so that the Hydraulic Pressure hose is pressurized and set the hydraulic flow to a maximum 6 gal/min to minimum 4 gal/min.
3. To fold auger out from transport to operating position, push down the auger unfold button on joystick face until the upper and lower auger are engaged and fold linkage is over center. See FIG. 3-18.

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

4. To pivot spout OUT away from cart, push hat switch toward OUT. Hold the switch until desired position is achieved. See FIG. 3-18.
5. To pivot spout IN toward cart, push hat switch toward IN. Hold the switch until desired position is achieved. See FIG. 3-18.
6. To pivot the entire auger UP, press and hold the auger pivot UP button until the desired height is achieved. See FIG. 3-18.
7. To pivot the entire auger DOWN, press and hold the auger pivot DOWN button until the desired height is achieved. See FIG. 3-18.
8. To pivot the spout FORWARD, push hat switch RIGHT. Hold the switch until desired position is achieved. See FIG. 3-18.
9. To pivot the spout REARWARD, push hat switch LEFT. Hold the switch until desired position is achieved. See FIG. 3-18.

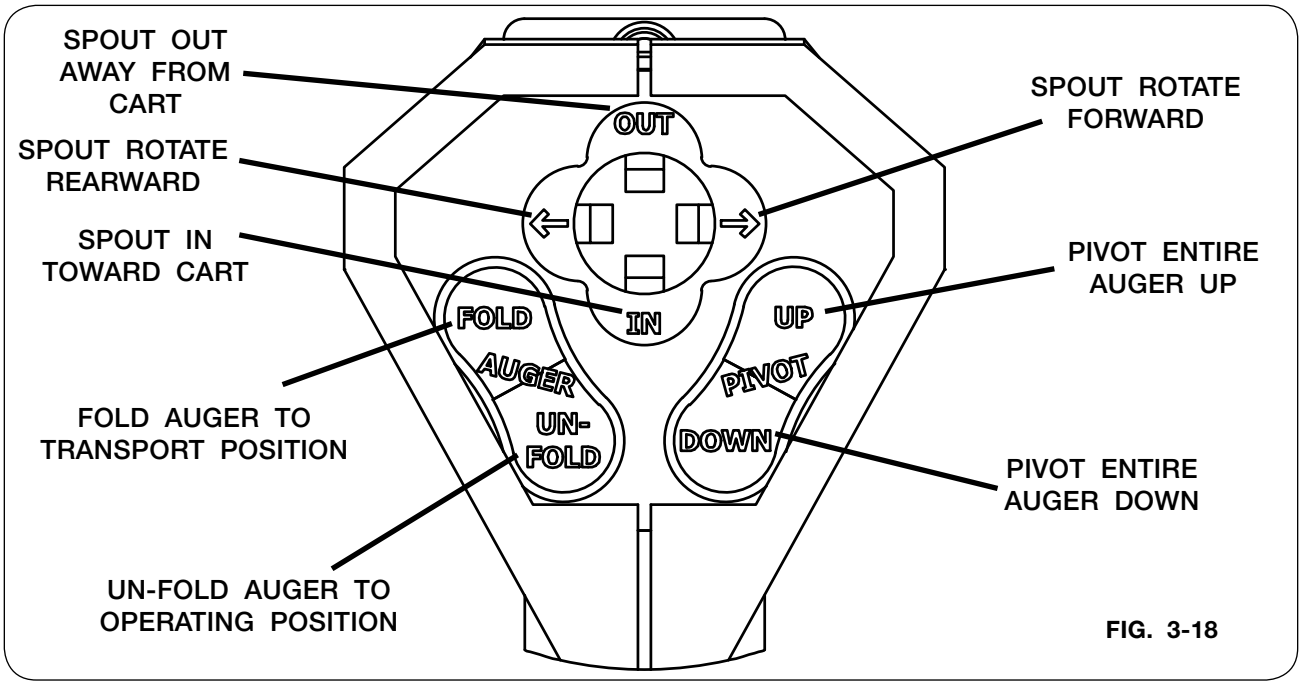


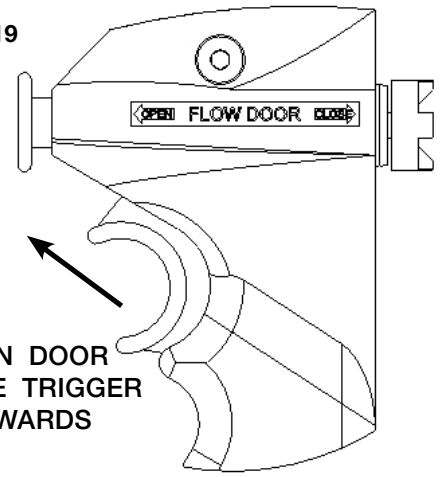
FIG. 3-18

Electric Over Hydraulic Operation (Optional) (continued)

Flow Door Operation

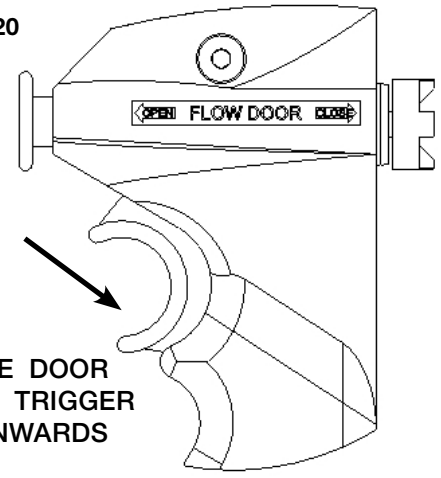
1. To open flow door, rotate the switch upwards. Observe flow door indicator to determine when to release trigger and stop flow door movement. See FIG. 3-19.

FIG. 3-19



2. To close flow door, rotate the switch downwards. Observe the flow door indicator and release trigger when door is closed to desired position. See FIG. 3-20.

FIG. 3-20



Auger Fold to Transport

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

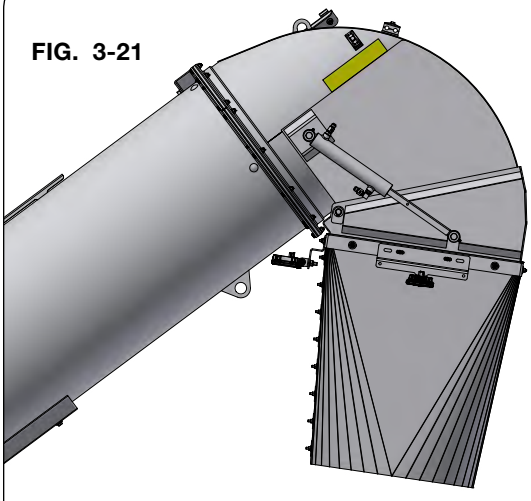
1. To fold auger from operating position to transport position:

A. Press auger FOLD button on joystick.

B. Double tap FOLD button until upper auger is on field rest or in transport position.

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

FIG. 3-21



Cart Loading Sequence

⚠ WARNING

- **NEVER LOAD THE REAR OF A GRAIN CART FIRST. LOAD THE CART EVENLY TO MAINTAIN WEIGHT ON THE TRACTOR DRAWBAR. LOADING ONLY THE FRONT, OR ONLY THE REAR, CAN CAUSE A LOSS OF CONTROL.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.**
- **UNHITCHING A LOADED CART CAN CAUSE SERIOUS INJURY OR DEATH DUE TO THE TONGUE RISING OR FALLING. ALWAYS HAVE A LOADED CART ATTACHED TO A TRACTOR. THE JACK IS INTENDED TO SUPPORT AN EMPTY CART ONLY.**
- **NEVER ENTER A CART CONTAINING GRAIN. FLOWING GRAIN TRAPS AND SUFFOCATES VICTIMS IN SECONDS.**

1. Ensure auger flow door is closed before loading cart.

2. Fill the cart starting just forward of the axle until nearly full.

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

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

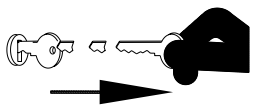
Vertical & Horizontal Cleanout Door Operation

⚠ WARNING

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

Closing Vertical Cleanout Door

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



3. To completely close cleanout door, ensure the vertical auger cleanout door top edge clears the vertical position stop (key stop). (FIG. 3-22)
4. Attach eye bolt ends of over center latches to the hooks on the vertical auger. (FIG. 3-22)
5. Clasp the over center latch handles to lock the door in the closed position. (FIG. 3-22)
6. Inspect and verify cleanout door perimeter for gaps. Ensure all grain dust and filings are removed that may prevent the door from shutting completely.
7. If gaps are present, unclasp the over center latch and tighten eye bolt to improve door seal contact on the vertical auger.

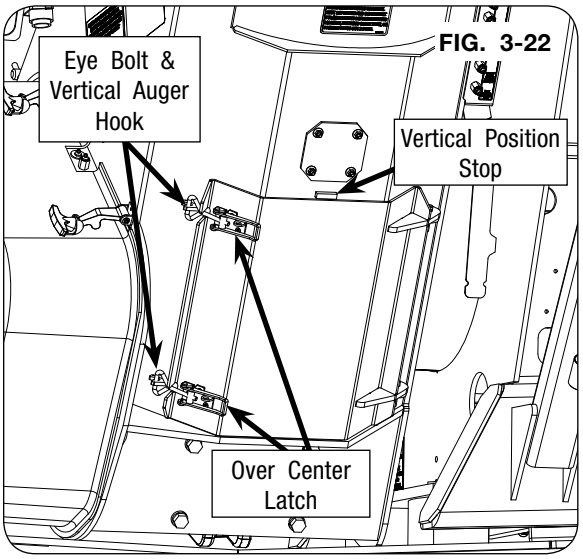


FIG. 3-22

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

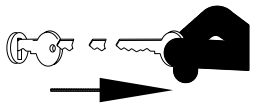
NOTE: Repeat steps 4 - 8, as necessary.

Vertical & Horizontal Cleanout Door Operation (continued)

Opening Vertical Cleanout Door

1. Raise the vertical auger to highest position.

2. Park the empty grain cart on a 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.



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

3. To open and remove the vertical auger cleanout door, unclasp the over center latch. (FIG. 3-23)

4. Unhook the eye bolt from the vertical auger and open the cleanout door. (FIG. 3-23)

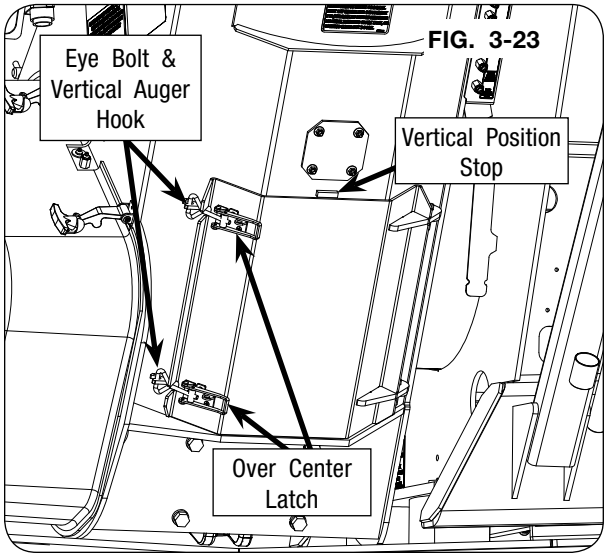


FIG. 3-23

5. The hinge on the vertical auger cleanout door is set on a pin. Lift and remove the cleanout door from the vertical auger. Keep vertical auger cleanout door. (FIG. 3-24)

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

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

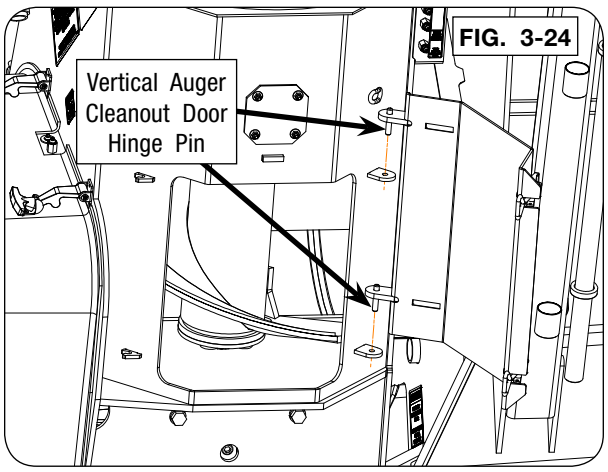


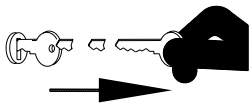
FIG. 3-24

Vertical & Horizontal Cleanout Door Operation (continued)

Horizontal Cleanout Door

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

1. Park the empty grain cart on a 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. Insert tensioner handle into the cleanout door receiver coupler on the rear panel, and remove lynch pin from rockshaft. Keep lynch pin. (FIG. 3-25)

3. Rotate the tensioner handle clockwise to open the cleanout doors. (FIG. 3-26)

4. Insert and lock lynch pin into rockshaft. (FIG. 3-26)

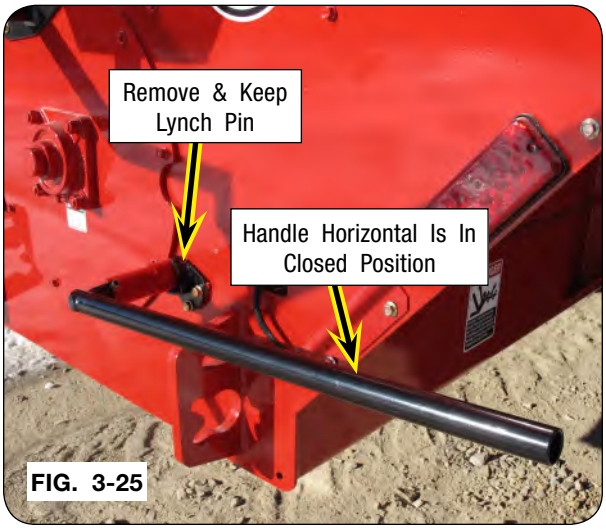


FIG. 3-25

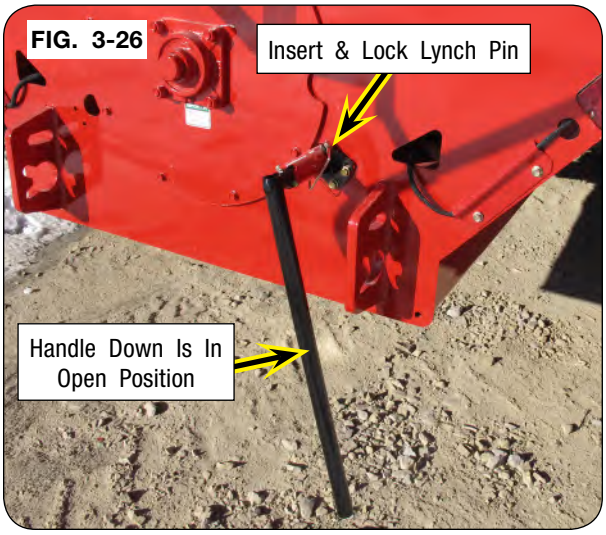


FIG. 3-26

NOTE: Remove 2 middle horizontal auger cleanout doors to improve horizontal auger cleaning.

5. To open and remove the middle horizontal auger cleanout doors, unclasp the over center latch. (FIG. 3-27)

6. Unhook the eye bolt from the cleanout door and open. (FIG. 3-27)

7. The hinge on the horizontal auger cleanout door is set on a pin. Lift and remove the cleanout door from the horizontal auger. Keep horizontal auger cleanout door. (FIG. 3-27)

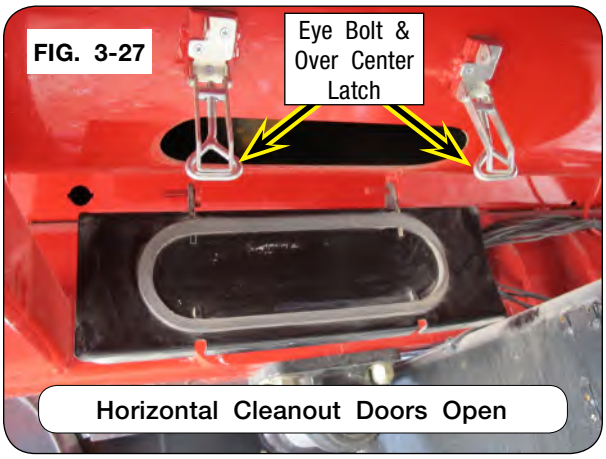


FIG. 3-27

8. Inspect and verify all debris is removed from inside the horizontal auger housing and the cleanout doors that may prevent the doors from shutting completely. (FIGS. 3-27 & 3-28)

9. Reattach the horizontal cleanout door to the horizontal auger.

Vertical & Horizontal Cleanout Door Operation (continued)

Horizontal Cleanout Door

NOTE: If cleanout doors do not function properly, refer to "Horizontal Cleanout Door Adjustment" in MAINTENANCE section for more information.

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


FIG. 3-28
Horizontal Cleanout Doors Open

11. Rotate handle counter-clockwise to close doors and ensure all doors seal. (FIG. 3-29)


Horizontal Cleanout Doors Closed
FIG. 3-29

12. Insert and lock lynch pin into rockshaft and return handle to storage location. (FIG. 3-30)

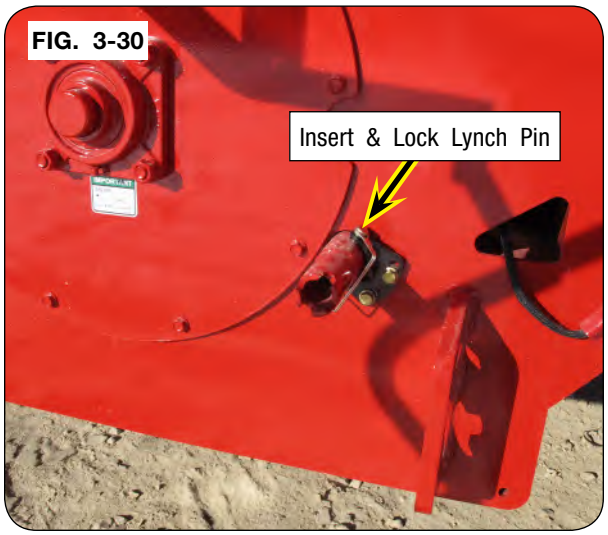


FIG. 3-30
Insert & Lock Lynch Pin

In-Line Tandem

Optional Implement Brake System for In-Line Tandem

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

Ladder Operation

Side Ladder Operation

⚠ WARNING

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

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

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

NOTE: Always use lock pin in the working and storage position to lock the ladder extension. The lock pin can be inserted in either left-hand or right-hand ladder hole. (FIGS. 3-31 & 3-32)

FIG. 3-31

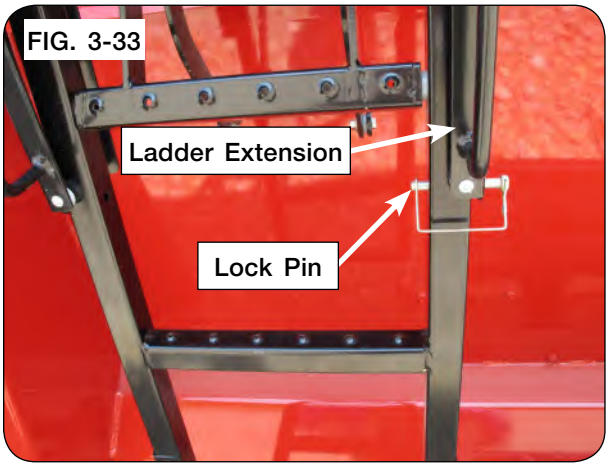
FIG. 3-32

Ladder Operation (continued)

Storage to Working Position

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

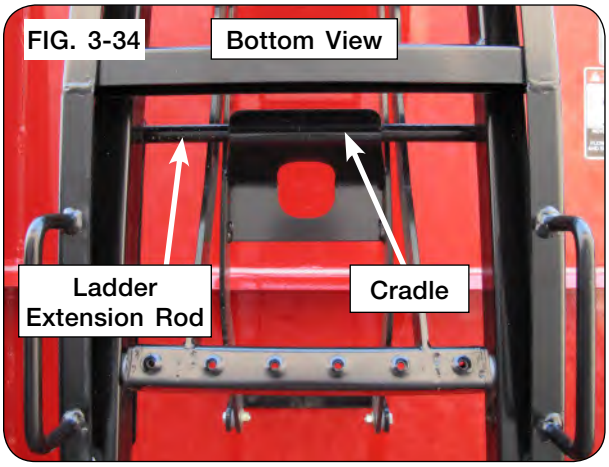
2. Keep one hand on ladder handle and with opposite hand, remove lock pin from ladder extension. Retain for future use. (FIG. 3-33)



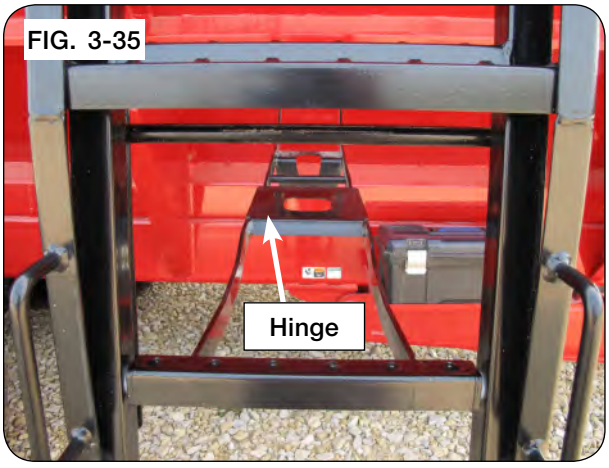
3. With hands back on ladder handles, push ladder towards hopper bin and lift ladder extension to unseat ladder extension rod from the cradle. (FIG. 3-34)

⚠ CAUTION

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



4. Slowly swing ladder outward until hinge is fully extended and locks in the working position. (FIG. 3-35)



Ladder Operation (continued)

Storage to Working Position

5. Lift and seat ladder extension into shorter leg of “J slot”. (FIG. 3-36)

6. Using lock pin from step 2, insert lock pin into ladder extension and ladder. (FIG. 3-36)

⚠ WARNING

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

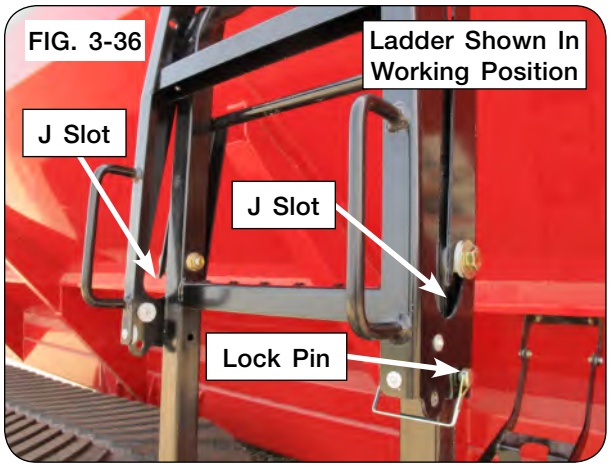


FIG. 3-36

Working to Storage Position

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

8. Keep one hand on ladder handle and with opposite hand, remove lock pin from ladder extension. Retain for future use. (FIG. 3-37)

9. With hands back on ladder handles, lift and unseat ladder extension from shorter leg of “J slot”. (FIG. 3-36)

10. Lower ladder extension until fully seated in longer leg of “J slot”. (FIG. 3-37)

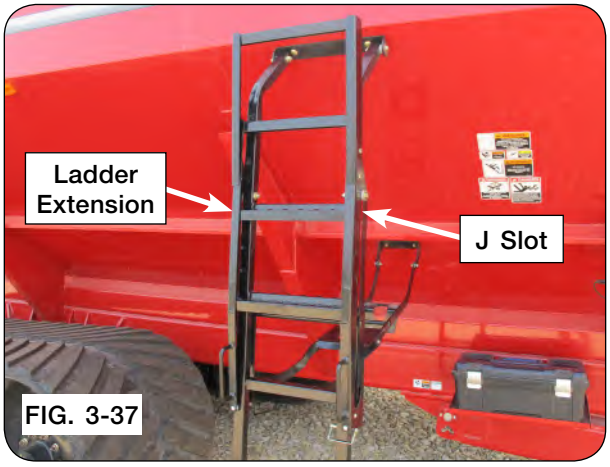


FIG. 3-37

11. Keep one hand on ladder handle and with opposite hand, reach between ladder rungs and grab the ladder hinge hole. (FIG. 3-38)

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

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

14. Slowly push ladder towards hopper bin.

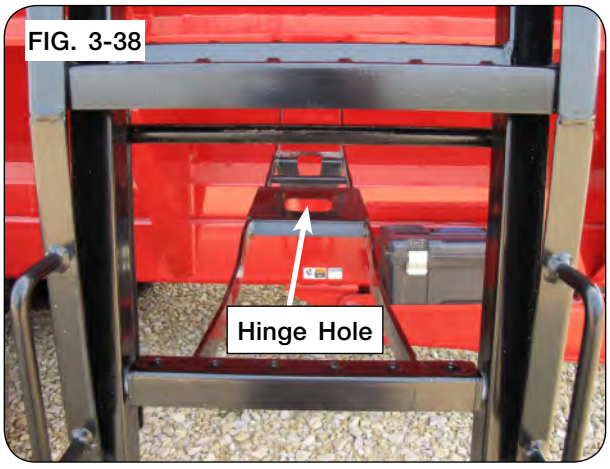
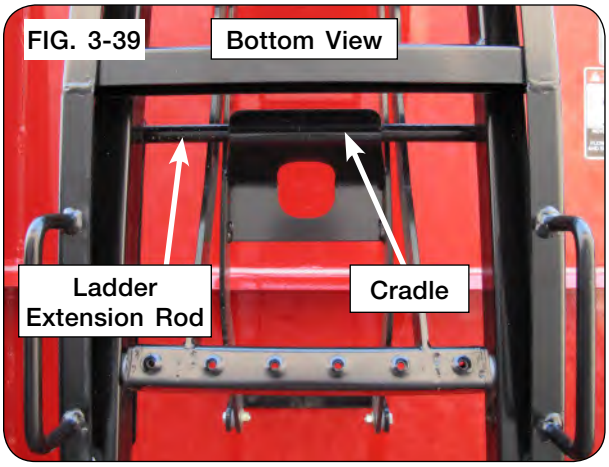


FIG. 3-38

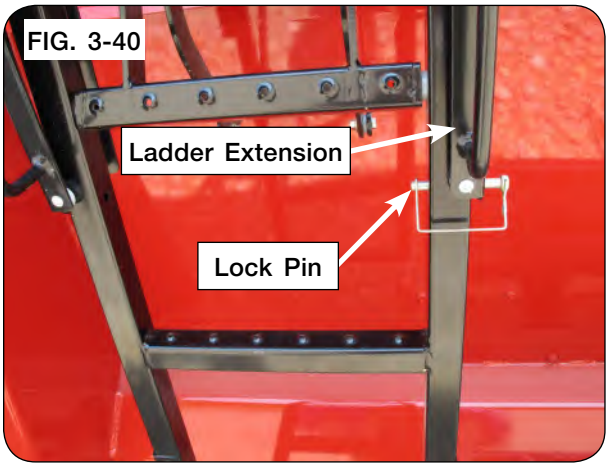
Ladder Operation (continued)

Working to Storage Position

15. Lower ladder extension and seat ladder extension rod onto the cradle. (FIG. 3-39)



16. Using lock pin from step 8, insert lock pin into ladder extension and ladder. (FIG. 3-40)



Ladder Operation (continued)

Rear Ladder Operation

⚠ WARNING

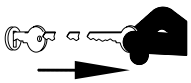
- **FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RAISING, OR LOWERING.**
- **DO NOT ALLOW ANYONE TO RIDE ON THE LADDER. MAKE SURE EVERYONE IS CLEAR BEFORE OPERATING MACHINE OR TOWING VEHICLE.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**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

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

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

Storage to Working Position

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



2. While holding ladder handle, remove rubber latch from holder. (FIG. 3-41 and 3-42)

(Continued on next page)

FIG. 3-41

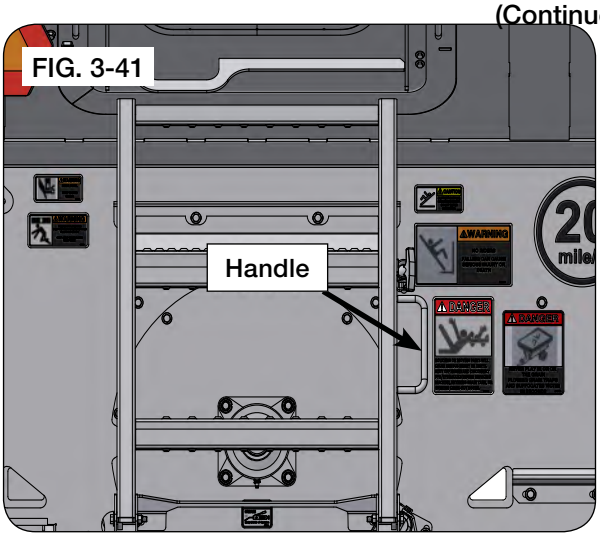
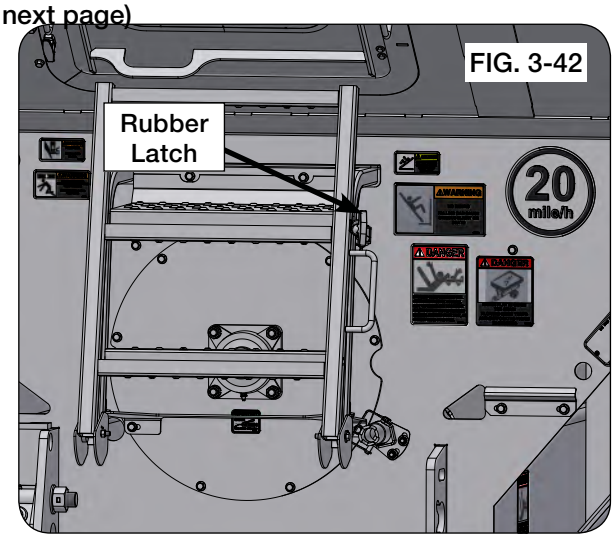


FIG. 3-42



Ladder Operation (continued)

3. While holding ladder handle, slowly swing the lower ladder section completely down to working position. (FIG. 3-43)

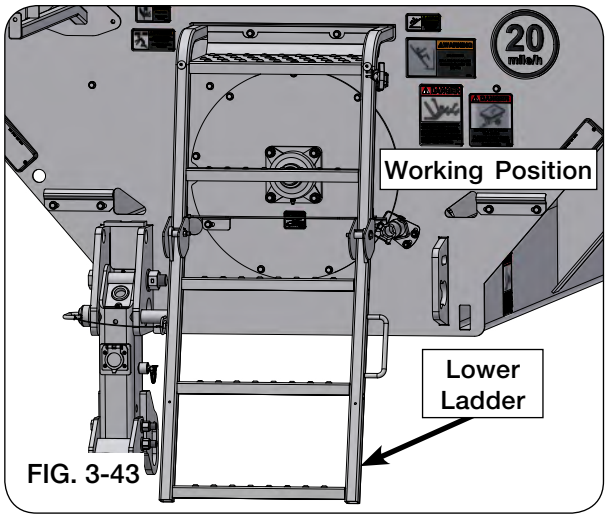


FIG. 3-43

Working to Storage Position

1. Slowly lift and swing the lower ladder section up to storage position. (FIG. 3-44)

2. While holding ladder handle, attach rubber latch into holder to lock ladder in storage position. (FIG. 3-45 and 3-46)

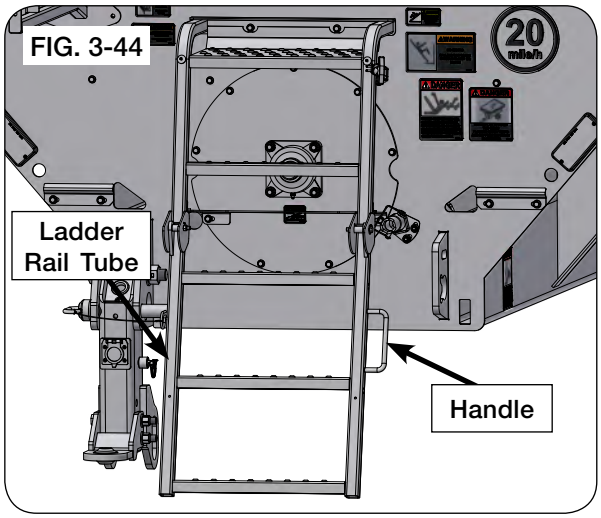


FIG. 3-44

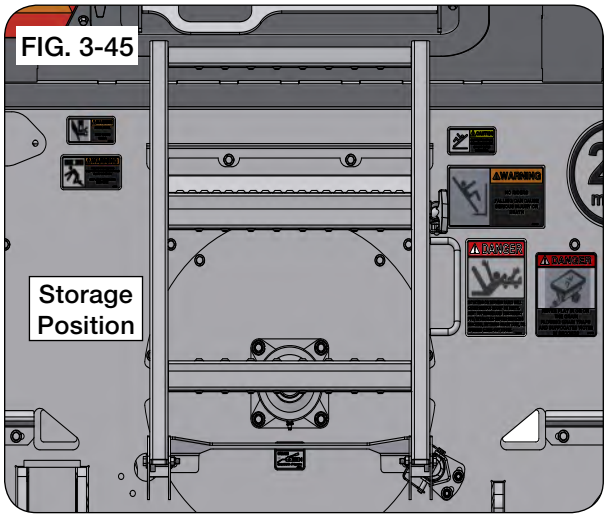


FIG. 3-45

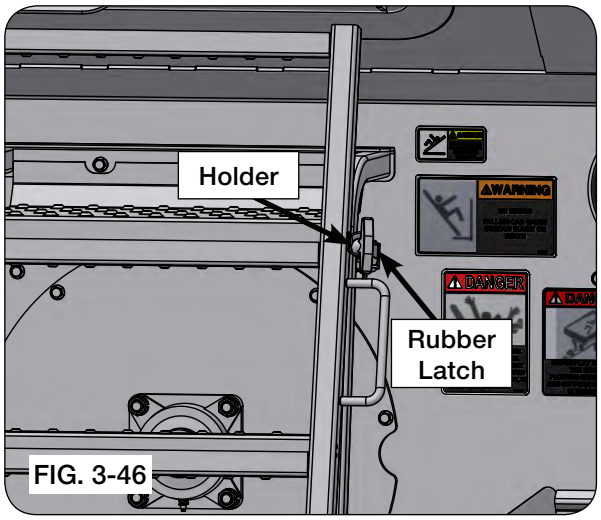


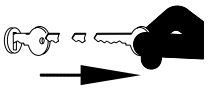
FIG. 3-46

Rear Access Door Operation

WARNING

- **ENSURE SCREENS OVER HORIZONTAL AUGERS ARE IN PLACE AND PROPERLY SECURED.**
- **TO PREVENT PERSONAL INJURY OR DEATH, ALWAYS ENSURE THAT THERE ARE PEOPLE WHO REMAIN OUTSIDE THE CART TO ASSIST THE PERSON WORKING INSIDE, AND THAT ALL SAFE WORKPLACE PRACTICES ARE FOLLOWED. THERE IS RESTRICTED MOBILITY AND LIMITED EXIT PATHS WHEN WORKING INSIDE THE IMPLEMENT.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.**
- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEANOUT DOORS ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.**
- **NEVER ENTER A CART CONTAINING GRAIN. FLOWING GRAIN TRAPS AND SUFFOCATES VICTIMS IN SECONDS.**

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



2. Turn both door latches 180 degrees counter clockwise. (FIG. 3-47)
3. Push door handle to open rear access door. (FIG. 3-47)
4. Push door until it stops. While maintaining contact with the outer handles, enter the grain cart. (FIG. 3-47)

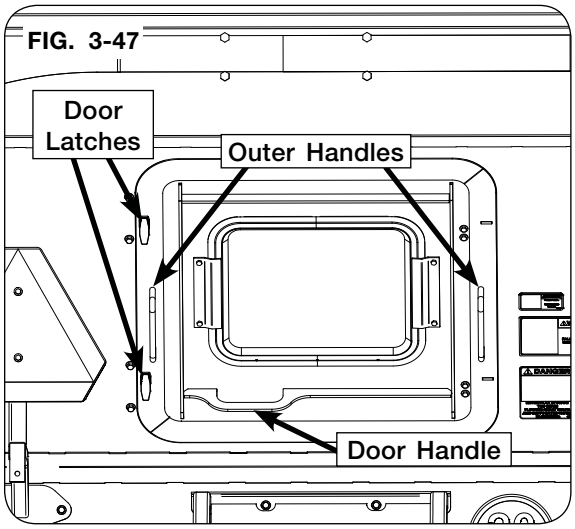
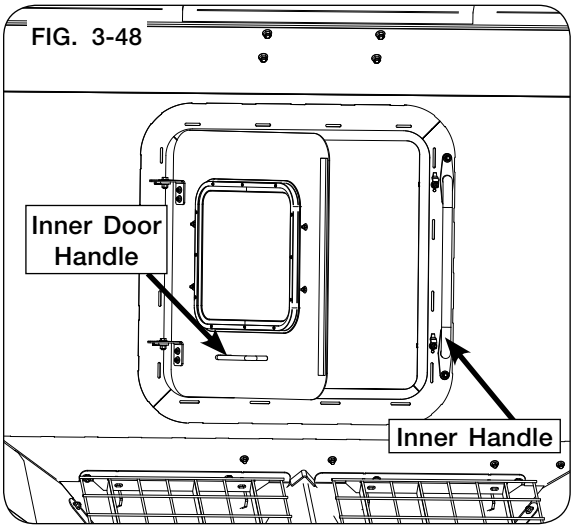


FIG. 3-47

Rear Access Door Operation (continued)

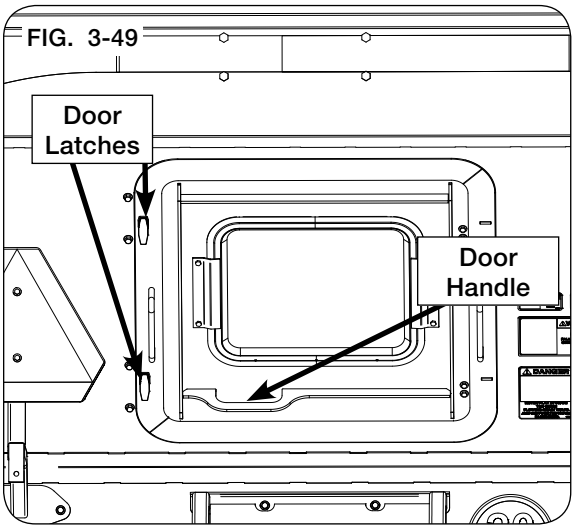
5. To exit, pull inner door handle to open the rear access door, place hand on inner handle and exit grain cart. (FIG. 3-48)

FIG. 3-48



6. While maintaining contact with outer handles, use door handle to close the rear access door. (FIG. 3-49)
7. Turn both door latches 180 degrees clockwise to lock the rear access door. (FIG. 3-49)

FIG. 3-49



Rear Drop Hitch Operation (Optional)

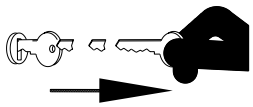
WARNING

- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.**
- **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 50 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

Storage to Working Position

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

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



2. Attach a safe lifting device rated for a minimum of 50 lbs. to the rear drop hitch.
3. Remove the keeper from the pivot pin, then remove the pivot pin from the rear drop hitch. (FIG. 3-50)
4. Slowly pivot rear drop hitch to desired position. (FIG. 3-51)
5. Reinstall pivot pin and keeper into rear drop hitch. (FIG. 3-51)

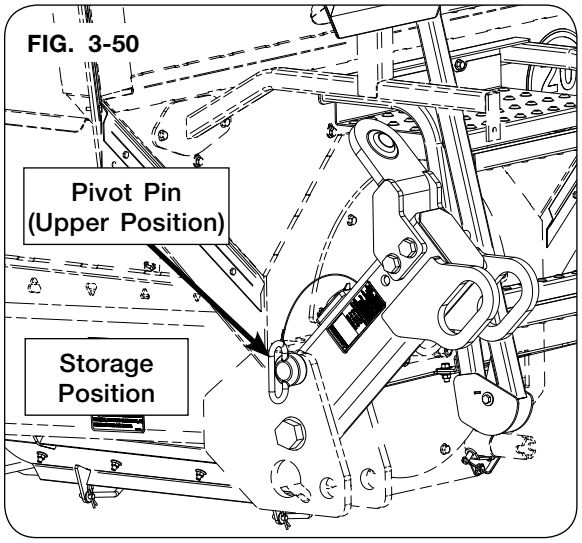


FIG. 3-50

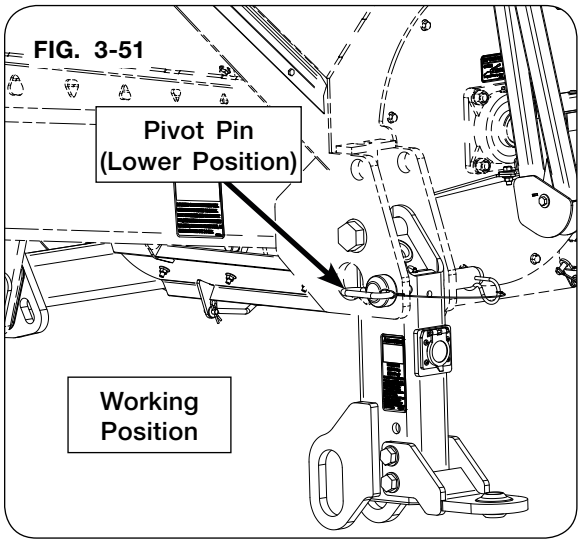


FIG. 3-51

Rear Drop Hitch Operation (Optional) (continued)

Rear Hitch Connection

IMPORTANT

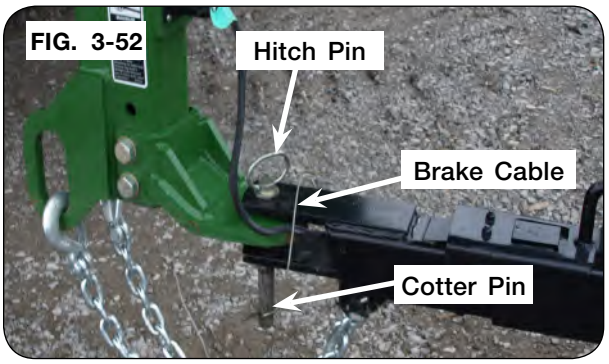
- *The rear ladder MUST be folded into storage position to prevent damage when towing with the rear drop hitch.*

The transport chain on the grain cart must be sized according to the weight that is being towed. Refer to "Transport Chain" in OPERATION section for complete transport chain instructions.

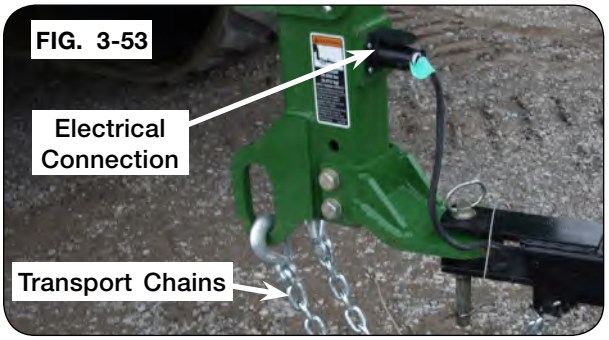
NOTE: Keep rear drop hitch in storage position when not in use.

1. With hitch in operating position, connect the tongue of the header transport to the rear drop hitch. (FIG. 3-52)

2. If header transport has brakes, attach the brake cable to the rear drop hitch. (FIG. 3-52)



3. Connect transport chains and electrical connection of the header transport to the rear drop hitch. See implement operator's manual for proper transport chain instructions. (FIG. 3-53)



Rear Drop Hitch Operation (Optional) (continued)

Electrical Connection

The rear drop hitch is equipped with a 7-blade connector which will connect to the plug on most newer header transports to be towed behind the cart. (FIG. 3-54)

The wiring schematic for this connector is shown in the MAINTENANCE section. Verify correct electrical function before using this connector.

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

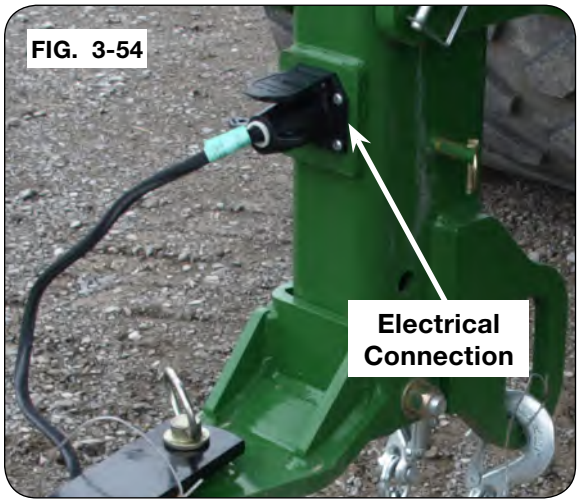


FIG. 3-54

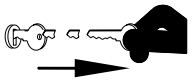
Rear Drop Hitch Operation (Optional) (continued)

⚠ WARNING

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

Rear Drop Hitch Adjustment

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



2. Remove the nuts, washers, and bolts from the rear drop hitch.
3. Remove hitch tang and re-install in one of the four positions depending on the height that is needed to maintain a level trailer tongue. There will be a differance of 6 3/4" from position 1 to position 4. (Figs. 3-55 through 3-58)
4. Reinstall the nuts, washers, and bolts to the rear drop hitch and torque to specification.

FIG. 3-55

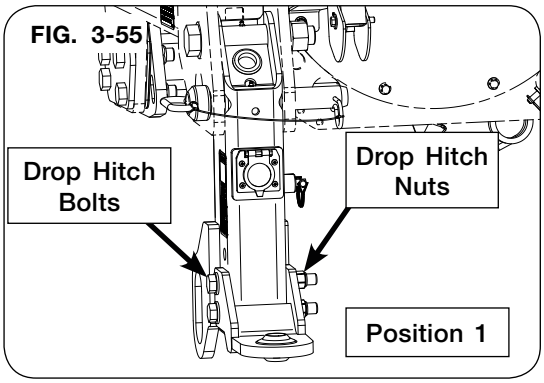


FIG. 3-56

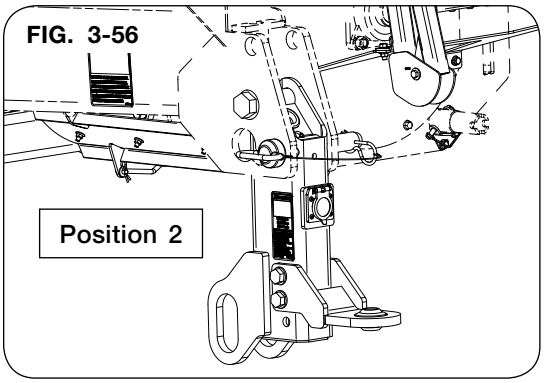


FIG. 3-57

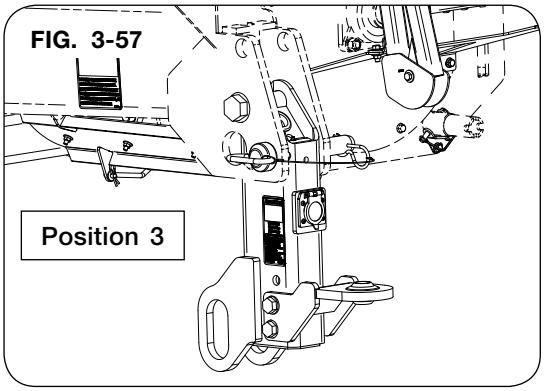
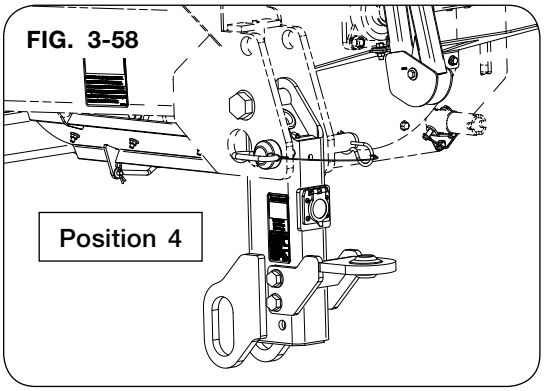


FIG. 3-58



Video System (Optional)

IMPORTANT

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

The video system (265770) includes its own operation instruction sheet.

Weather Guard Tarp

⚠ WARNING

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

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

IMPORTANT

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

Always use adequate caution when operating tarp.

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

Open and close the tarp evenly.

Make sure tarp is open before loading.

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

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

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

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

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

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

Weather Guard Tarp (continued)

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

1. Using both hands, carefully remove tarp handle weldment from tube holder. (FIG. 3-59)
2. Roll tarp to the desired location, choosing either a fully open or fully closed position.
3. To close the tarp, rotate the roll tube clockwise up under the latch plate.
4. Make sure tarp is positioned evenly over latch plate length.

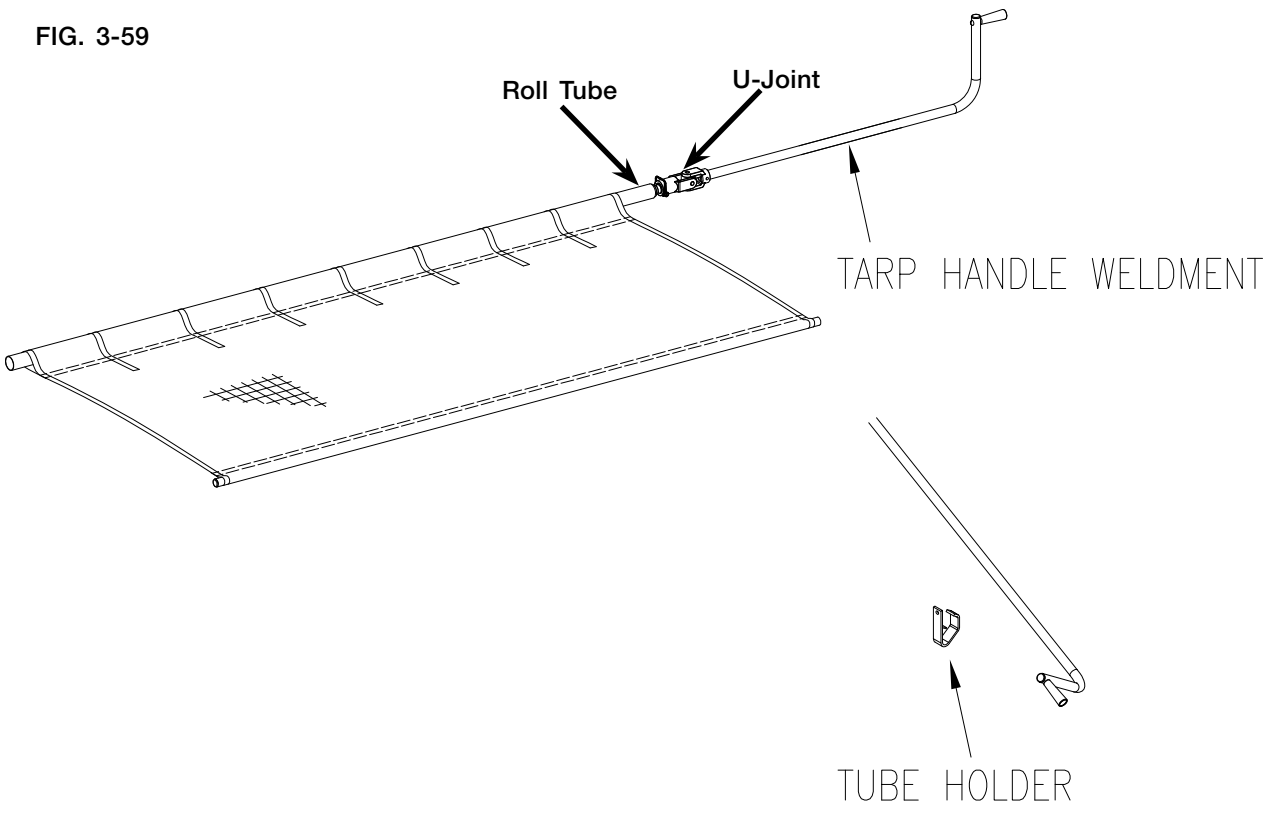
NOTE: Do not tighten if tarp overlaps end of the latch plate. Tearing of the tarp may occur. Reposition tarp, as necessary.

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

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

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

FIG. 3-59



Weather Guard Tarp (continued)

Wireless Receiver and Control Box Location

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

1. Wireless receiver (9009632) and control box (9005398) mount to the left-hand standard behind the vertical auger as shown. (FIGS. 3-42 & 3-43)

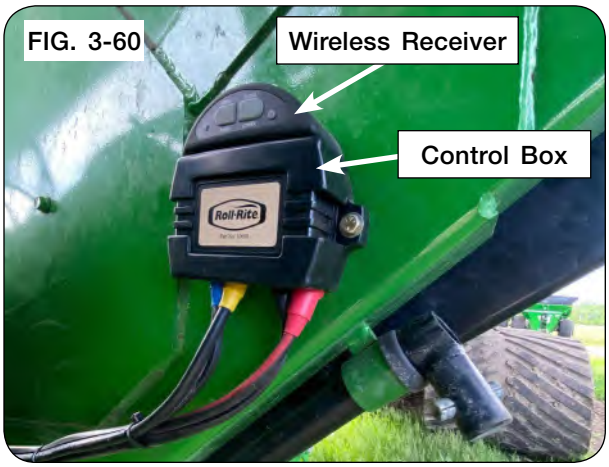


FIG. 3-60

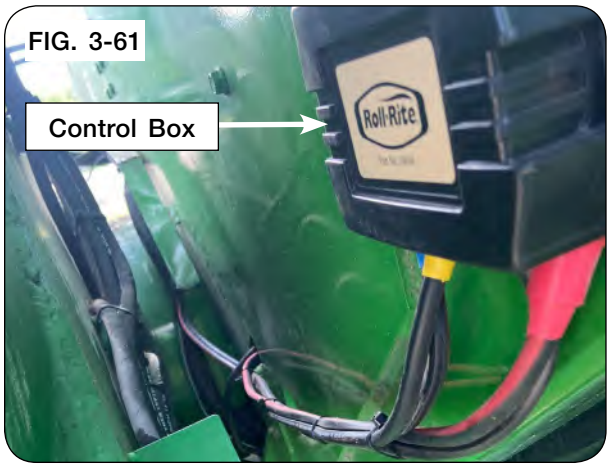


FIG. 3-61

2. Control box wires route along the front of the cart following the isobus harness.

3. Dual connector plug (9005327) attaches to the socket on the back of the tractor as shown. (FIG. 3-44)

4. When electric tarp is not in use, place connector plug into storage caddy. Be sure to route connector plug harness to clear PTO driveline during operation.

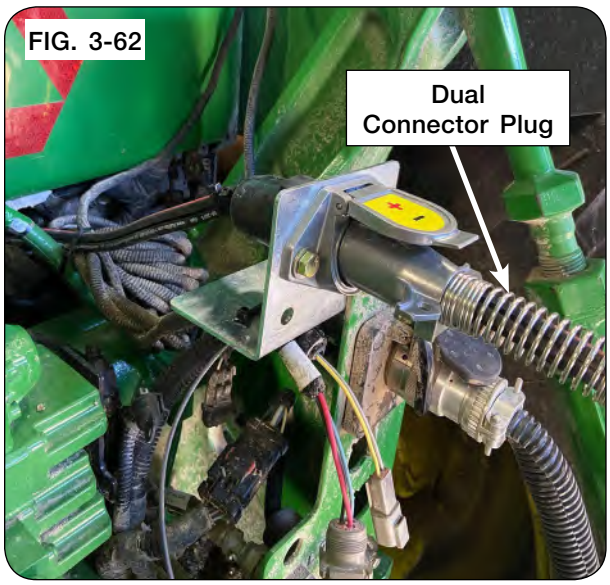
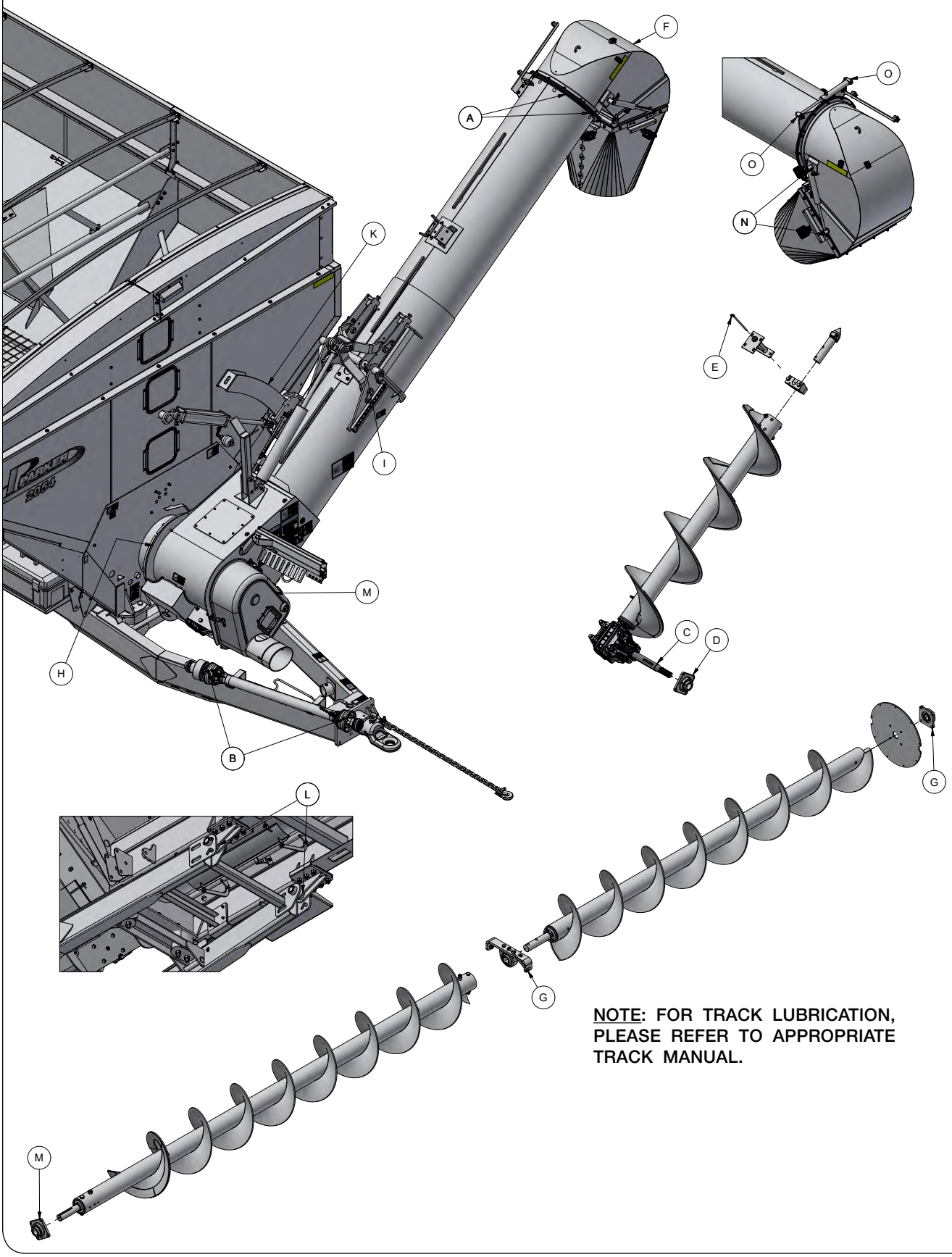


FIG. 3-62

Section IV
Maintenance

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

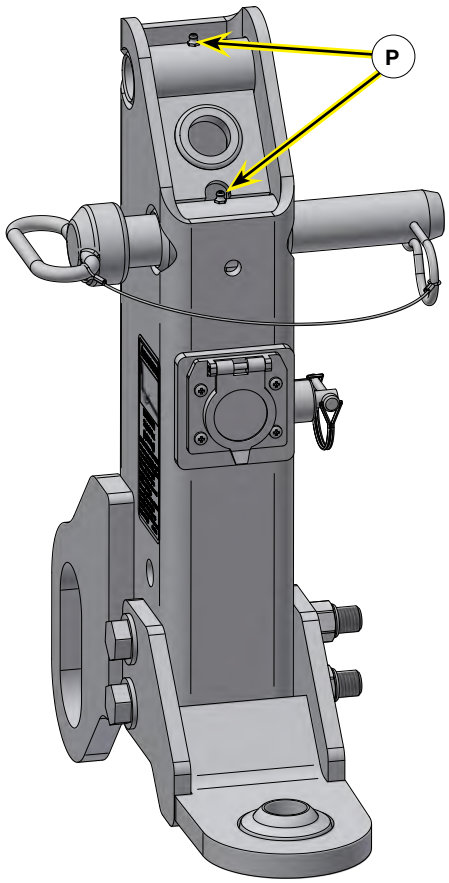
Lubrication



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

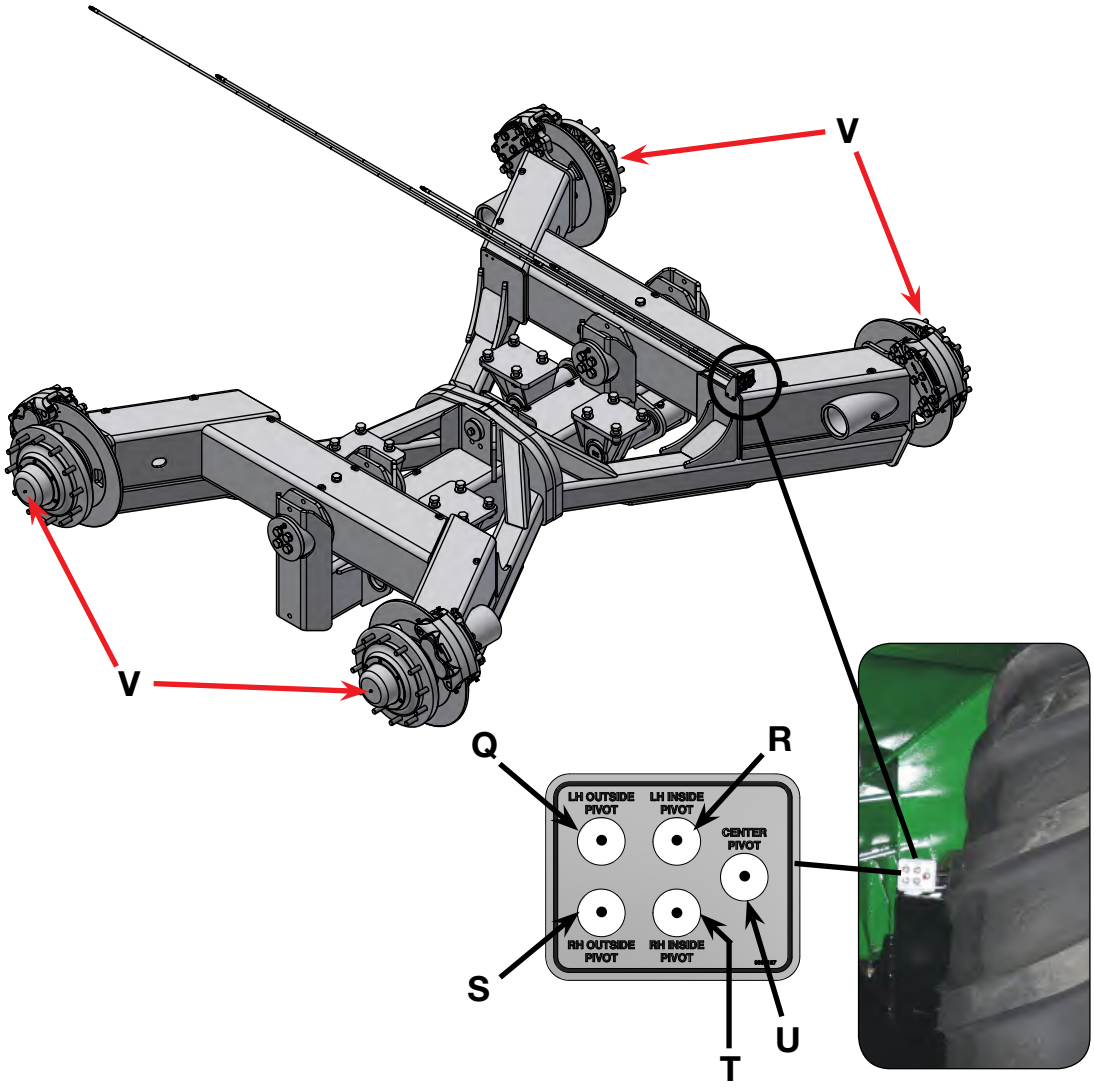
Lubrication (continued)

Optional Rear Hitch



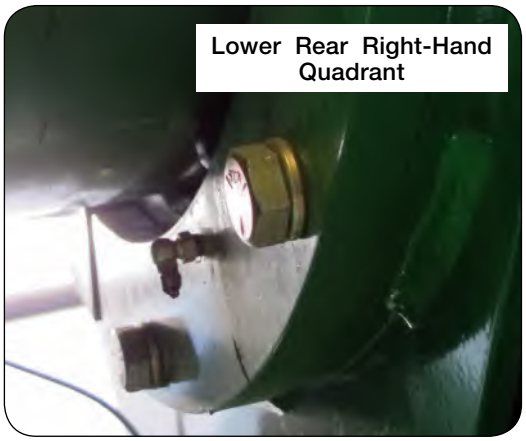
Lubrication (continued)

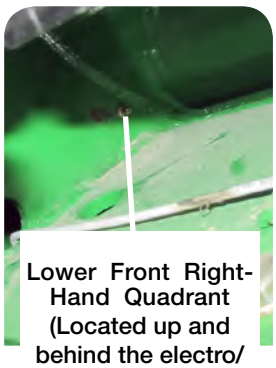
In-Line Tandem Lubrication Locations

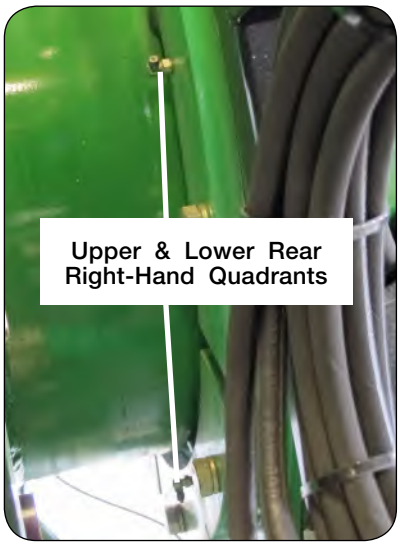


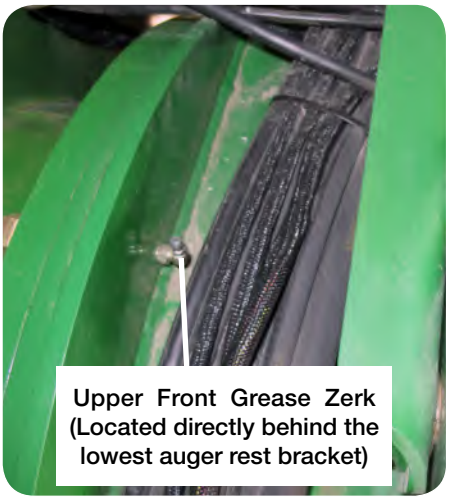
Lubrication (continued)

Lower Auger Pivot Housing Grease Points









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:

ITEM	DESCRIPTION	POINT	LUBRICANT	QTY.	HOURS
A	Discharge Spout Pivot Grease Points	6	EP-2	1 Shot	Monthly
B	PTO Driveshaft - Benzi	-	EP-2	1 Shot	See Next Pages
C	Gearbox -- Remove Cover - Check oil level every 2 weeks. Replace oil every season. Refer to Gearbox in MAINTENANCE section.	1	EP80W90	Approx 85 oz.	Once Every Season
D	Gearbox Support Bearing	1	EP-2	1 Shot	Weekly
E*	Hanger Bearing - Vertical Lower Auger *See note below.	1	EP-2	2 Shots*	Monthly
F	Top Bearing - Vertical Upper Auger	1	EP-2	1 Shot	Each Season
G	Horizontal Auger End & Center Bearings	2	EP-2	2 Shots	Monthly
H	Auger Pivot Rings See previous page for zerk locations.	8	EP-2	2 Shots	Daily
I	Auger Pivot Pin	2	EP-2	2 Shots	Daily
K	Grease Slide Plate	1	EP-2	1 Shot	Each Season
L	Tongue Pivot Bushing	2 (one per side)	EP-2	2 Shots	Daily
M	Front Horizontal Auger Drive Bearings	2	EP-2	1 Shot	Weekly
N	Spout Tilt Cylinder	2	EP-2	1 Shot	Each Season
O	Spout Rotate Cylinder (Optional)	2	EP-2	1 Shot	Each Season
P	Rear Hitch Pivot Pin (Optional)	2	EP-2	2 Shots	Monthly
Q	Grease Bank for Tandem LH Outside Pivot	1	EP-2	6 Shots	Daily
R	Grease Bank for Tandem LH Inside Pivot	1	EP-2	6 Shots	Daily
S	Grease Bank for Tandem RH Outside Pivot	1	EP-2	6 Shots	Daily
T	Grease Bank for Tandem RH Inside Pivot	1	EP-2	6 Shots	Daily
U	Grease Bank for Tandem Center Pivot	1	EP-2	6 Shots	Daily
V	Hubs	4	EP-2	Repack	Annually

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

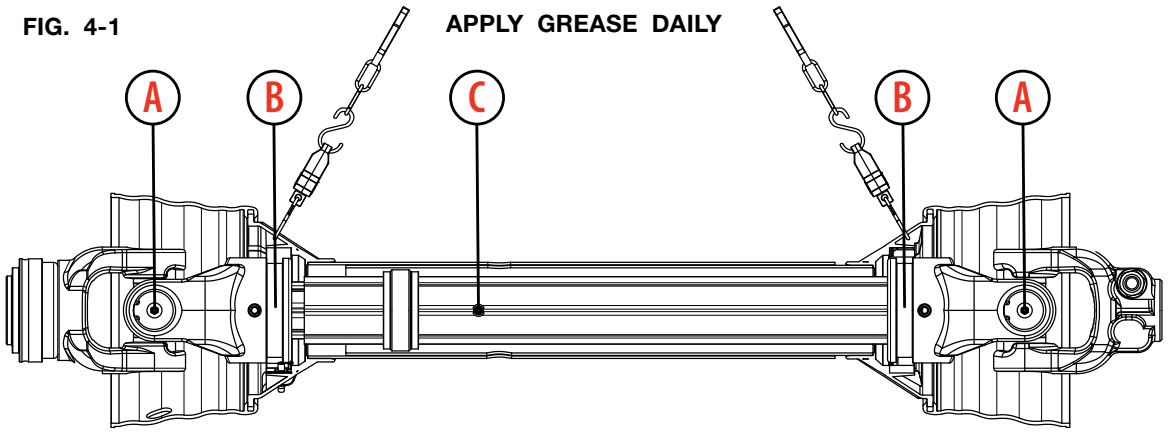
PTO Driveshaft Lubrication - Benzi PTO

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

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

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

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 3,000 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 Specifications” in the MAINTENANCE 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

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

- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**

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

Purge air from system as follows:

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

Manual Override for Optional Electric Over Hydraulic System

WARNING

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

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

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

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

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

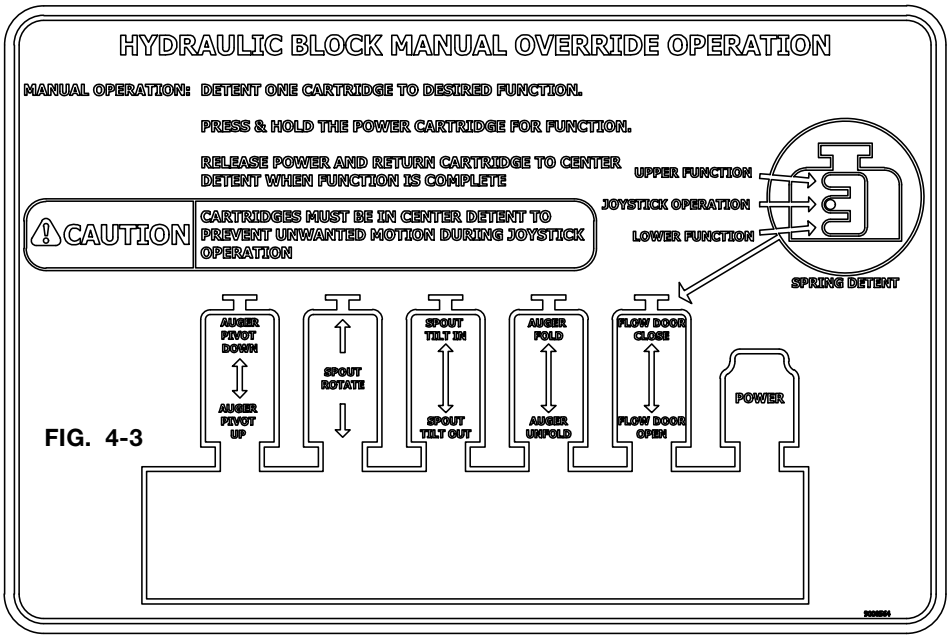


FIG. 4-3

1. Park the grain cart on a firm and level surface. Block the machine to keep it from moving. Set the tractor's parking brake. Keep engine running.

Manual Override for Optional Electric Over Hydraulic System (continued)

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

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

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

FIG. 4-4

Manual Override for Optional Electric Over Hydraulic System (continued)

NOTE: Only one cartridge valve (9008416 & 9008463) must be in the top or bottom detent position at a time to function properly. All other valves must be in the middle detent postion. (FIG. 4-5 & 4-6)

5. Operate the desired function on valve (9008416 & 9008463) by rotating the manual override knurled knob from the locked neutral position. (FIG. 4-5, 4-6, & 4-8)

6. Push and hold the manual override button on valve (9008438). (FIG. 4-7)

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

8. Return knurled knob to center and lock valve (9008416) & (9008463) in position. (FIG 4-5, 4-6 & 4-8)

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

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

10. Place cover plate (272606B) from step 2 back onto the bottom of the lower auger housing.

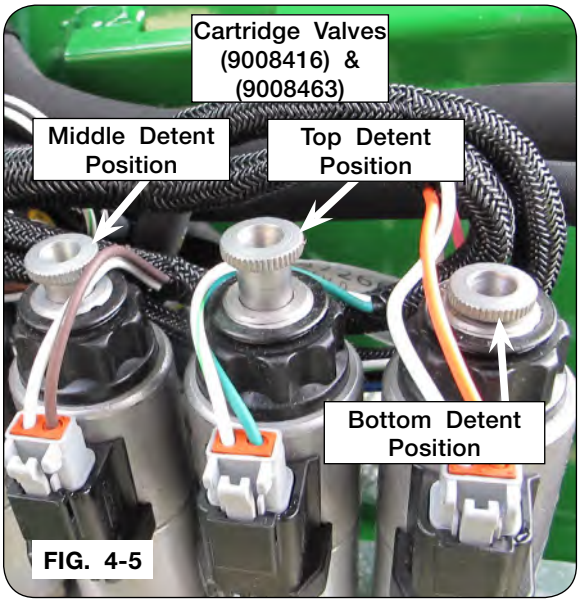


FIG. 4-5

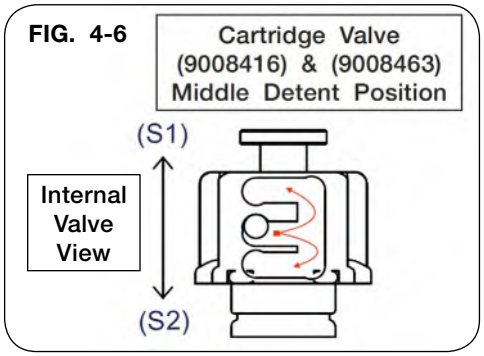


FIG. 4-6

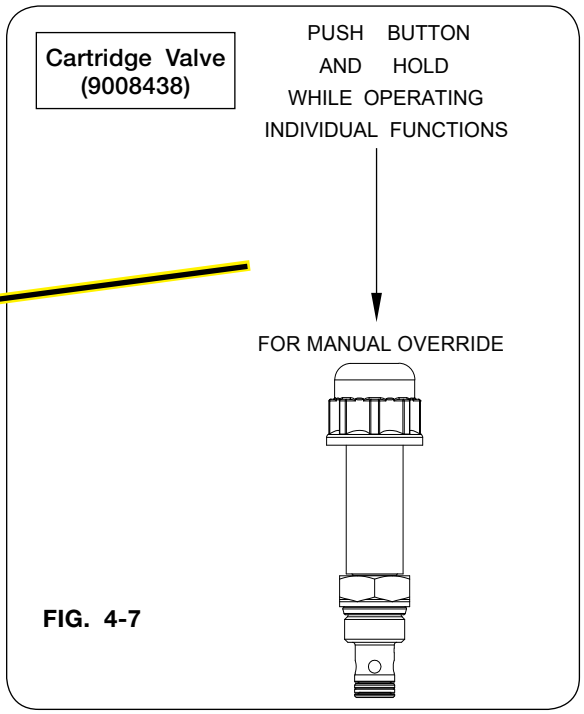


FIG. 4-7

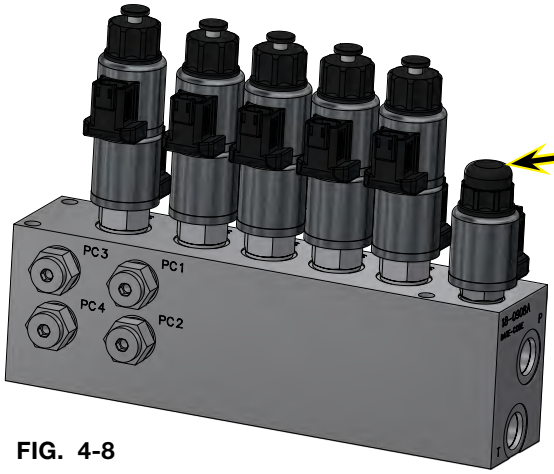


FIG. 4-8

Auger System

⚠ WARNING

- **TO PREVENT PERSONAL INJURY OR DEATH, ALWAYS ENSURE THAT THERE ARE PEOPLE WHO REMAIN OUTSIDE THE CART TO ASSIST THE PERSON WORKING INSIDE, AND THAT ALL SAFE WORKPLACE PRACTICES ARE FOLLOWED. THERE IS RESTRICTED MOBILITY AND LIMITED EXIT PATHS WHEN WORKING INSIDE THE IMPLEMENT.**
- **NEVER ENTER CART WITH AUGER OR TRACTOR RUNNING. SERIOUS OR FATAL INJURY CAN OCCUR DUE TO ENTANGLEMENT WITH ROTATING COMPONENTS. ALWAYS STOP ENGINE AND REMOVE KEY BEFORE ENTERING CART.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 2,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR(S) ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING MACHINE.**

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

Vertical Auger Height Check

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

Annually check all bolts, nuts, and set screws for tightness. Replace the vertical auger top bearing hardware, as necessary. (FIG. 4-9)

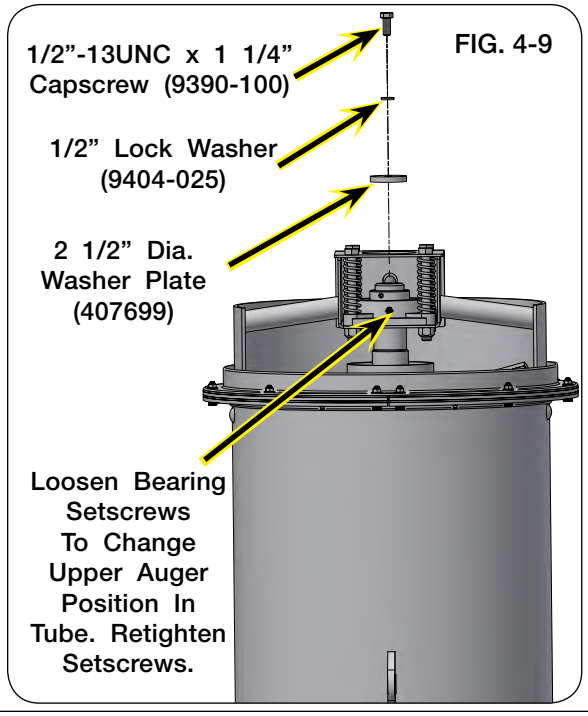


FIG. 4-9

Auger System (continued)

Vertical Auger Height Check (continued)

NOTE: The lower auger position is indexed from the drive dog / tube flange hinge surface as shown. (Figs. 4-11 & 4-12)

FIG. 4-12

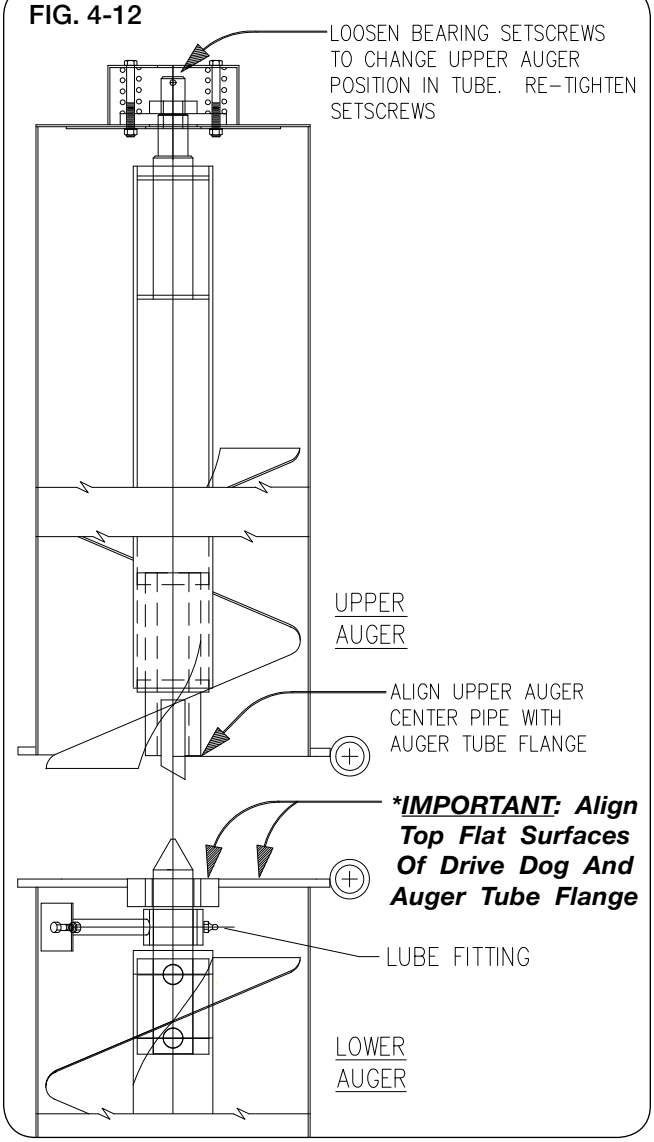
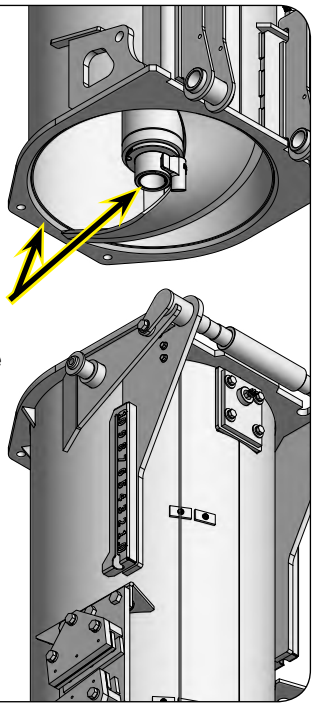
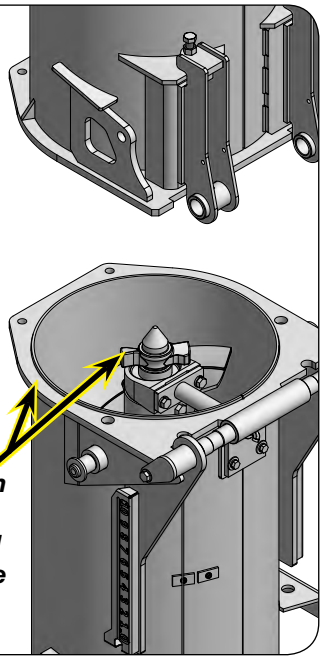


FIG. 4-10



Align Upper Auger Center Pipe With Auger Tube Flange

FIG. 4-11



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

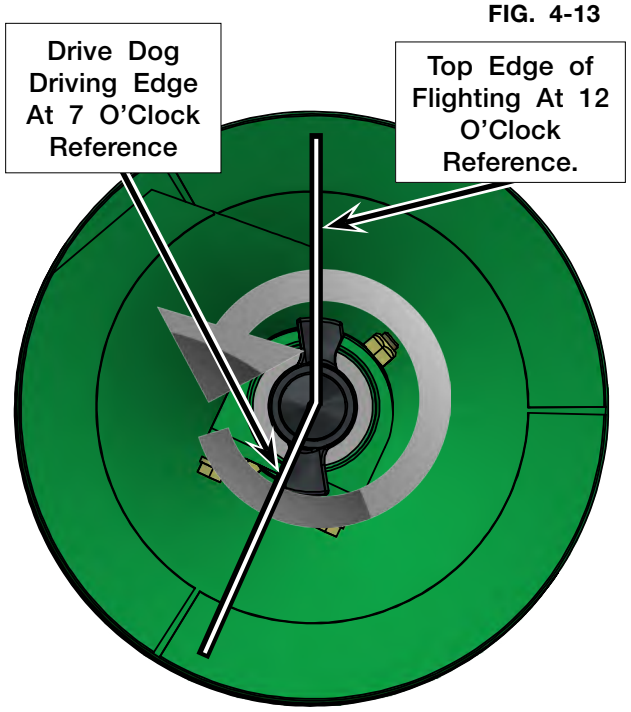
Auger System (continued)

Vertical Auger Timing

1. For the lower vertical auger, use the top edge of the flighting as a 12 o'clock reference. Position the drive dog so the driving edge is at the 7 o'clock position. (FIG. 4-13)

NOTE: Looking down at the lower flighting (FIG. 4-13) the auger rotation will be counter-clockwise. When looking up at the upper flighting (FIG. 4-14) the auger rotation will be clockwise.

FIG. 4-13

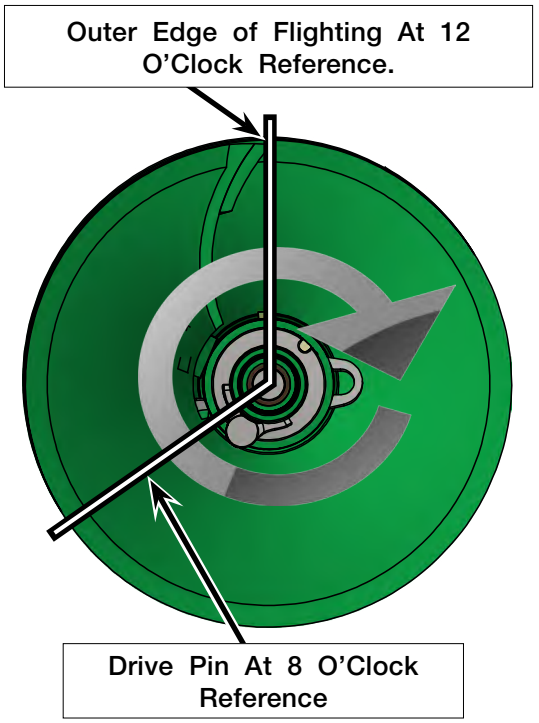


Lower Auger

2. For the upper auger, use the outer edge of the flighting as a 12 o'clock reference. Postion the driven edge of the drive pin at the 8 o'clock position. See FIG. 4-14.

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

Upper Auger FIG. 4-14



Auger System (continued)

Horizontal Auger

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

Horizontal Auger Height Measurement

4. Run a string from the front of the cart to the back, above the cleanout doors and linkages as shown in FIG. 4-15.

5. Attach the string to the bottom of the belly pan in the front side of the front opening. Place a 3/8”-1/2” spacer under the belly pan and clamp the string to the center of the opening as shown in FIG. 4-16.

6. Attach the opposite end of the string to the back side of the rear belly pan opening. Place the same thickness of spacer as was used on the front in between the string and the belly pan. Pull the string tight and clamp to the center of the opening. (FIG. 4-17)

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

8. Measure the string to the auger tube either in front or behind the hanger bearing. If this dimension is 1/8” greater than the measurement taken in the front and rear, shims are required on top of the center hanger bearing. (FIG. 4-18)

NOTE: The shims are 1/8” thick each. Add as needed. Shims (286424B) are available from your Unverferth dealer.

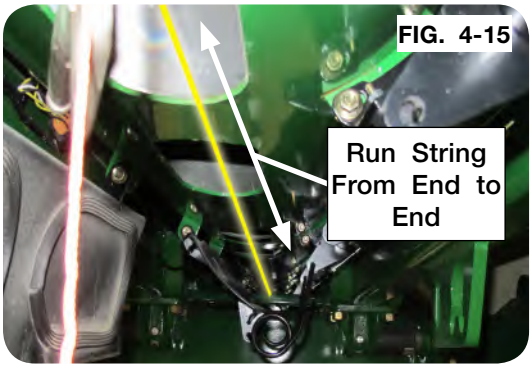


FIG. 4-15

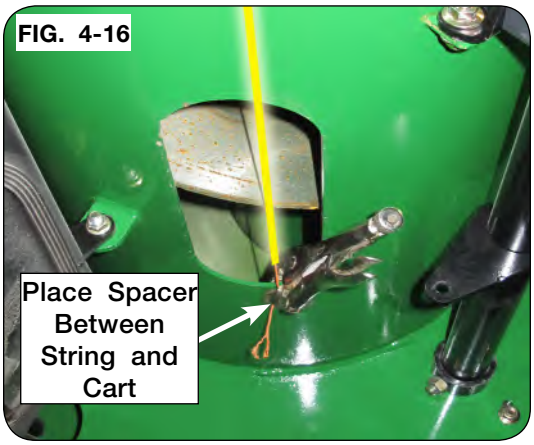


FIG. 4-16

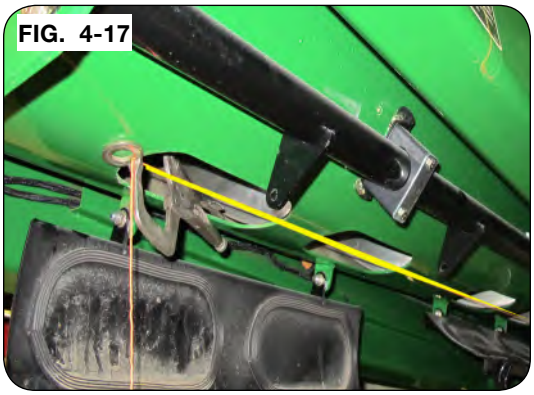


FIG. 4-17

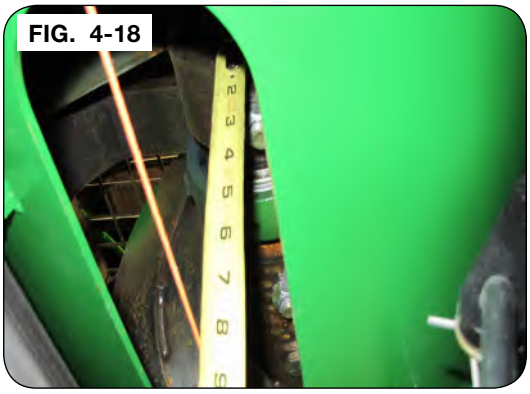


FIG. 4-18

Auger System (continued)

Hanger Bearing Height Adjustment

9. Remove the center screens inside the hopper by removing the 3/8" hardware holding them in place. (FIG. 4-19)

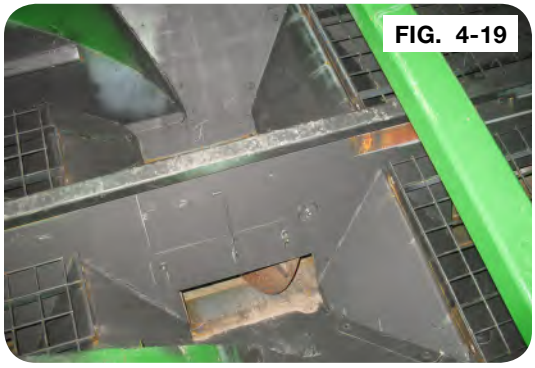


FIG. 4-19

10. Remove the baffle weldment on the auger tent at the opening above the hanger bearing. (FIG. 4-20)

11. Loosen the two 5/8"x2" capscrews. It is not necessary to remove this hardware if two or fewer shims are being installed. Install the shims from the backside between the bearing and the bracket as shown in FIG. 4-20.

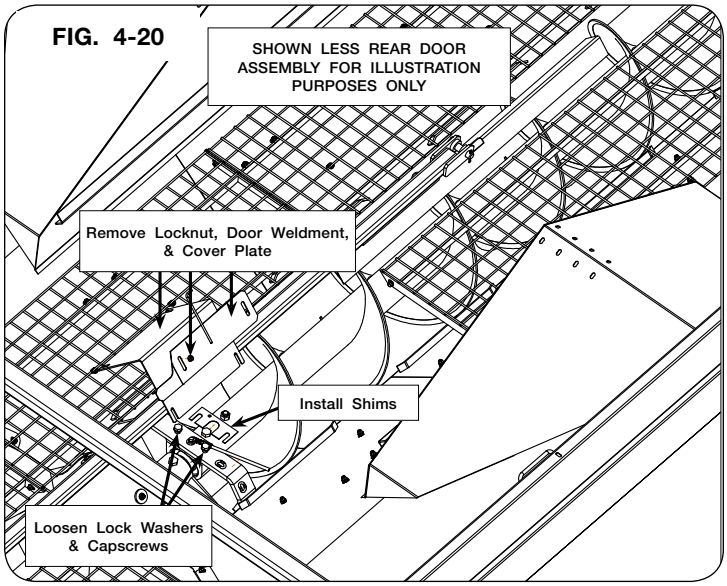


FIG. 4-20

12. If more than two shims are necessary to set the bearing height, replace 5/8" x 1 3/4" capscrews with 5/8" x 2" capscrews (9390-124). See your Unverferth dealer for capscrews.

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

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

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

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

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

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

Auger System (continued)

Horizontal Auger Driveline Bearings

IMPORTANT

- *Periodically check set screws in all bearings at either end of the driveline for tightness. (FIGS. 4-21, 4-22 & 4-23)*

FIG. 4-21

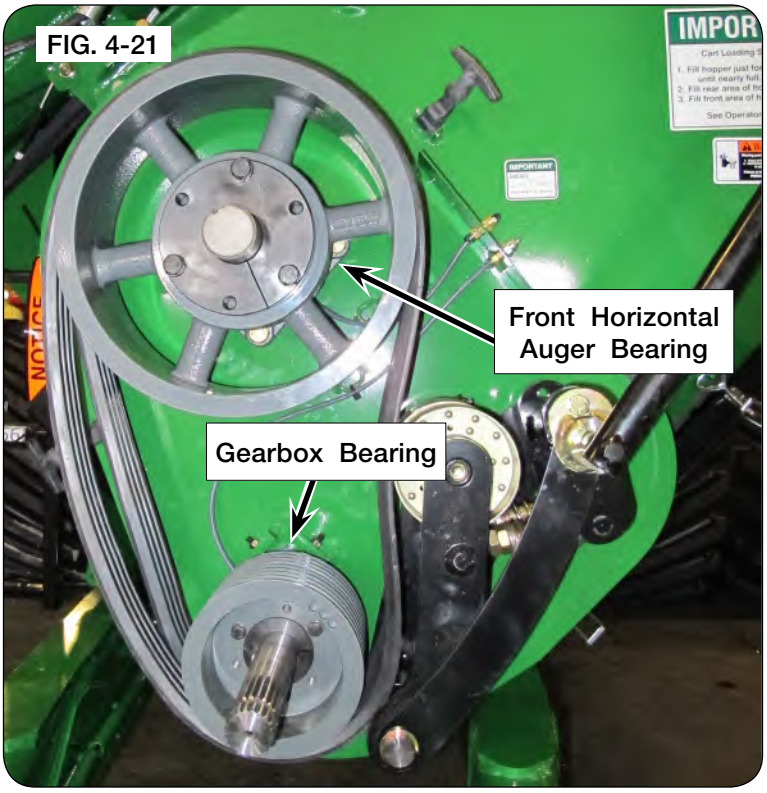
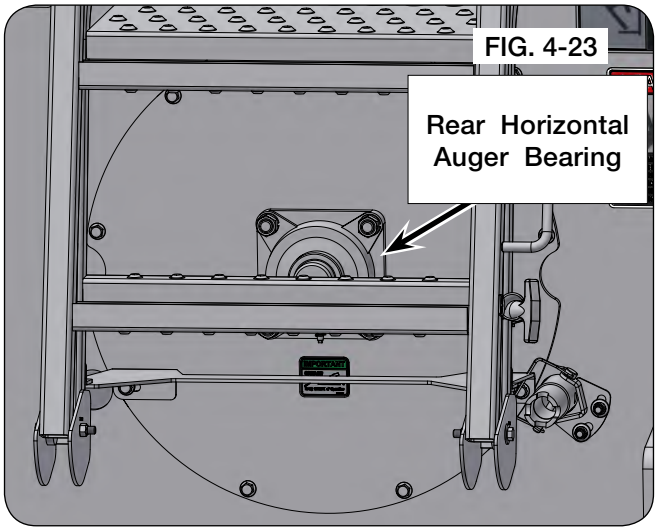


FIG. 4-23



Belt Tightener Adjustment

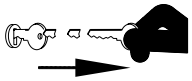
IMPORTANT

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

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

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

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



⚠ WARNING

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

2. Remove PTO assembly from Gearbox input shaft.

3. Detension the belt as outlined in OPERATION section. Remove belt tensioner handle.

4. Remove cover and inspect belts for misalignment, loose parts and cracks. Replace if necessary with a matched set. See FIG. 4-26.

FIG. 4-24

FIG. 4-25


FIG. 4-26

Belt Tightener Adjustment (continued)

5. Belt tension is adjusted with hex nuts below the spring. All belt tension MUST be released from linkage. Loosen outer hex nut and adjust inner nut to establish a 3 1/16" pre-load dimension between the heavy washers. Tighten the outer hex nut against inner nut to lock position. (FIG. 4-27)

6. Check the lower belt pulley to ensure belt is aligned in their grooves. Using the belt tensioner handle, engage the roller/idler linkage against the belt and over-center stop. The compressed spring should now be approximately 1 3/4" between the washers and generating a force of approximately 480 lbs. against the belt. (FIG. 4-28)

7. Release and tighten belt multiple times to confirm positions and final adjustments. See FIG. 4-28 and FIG. 4-29.

8. Tighten belt. Install the cover guard and the PTO shaft to the gearbox input shaft. Clear work area and test-run drivetrain for 3 minutes at 1000 PTO RPM.

⚠ WARNING

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

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

NOTE: Always replace belts in matched sets.

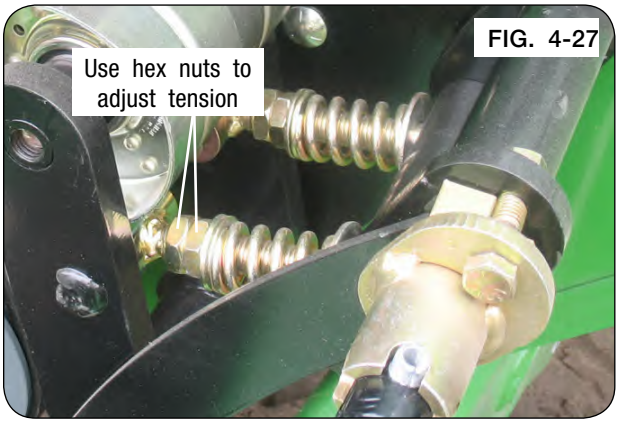


FIG. 4-27

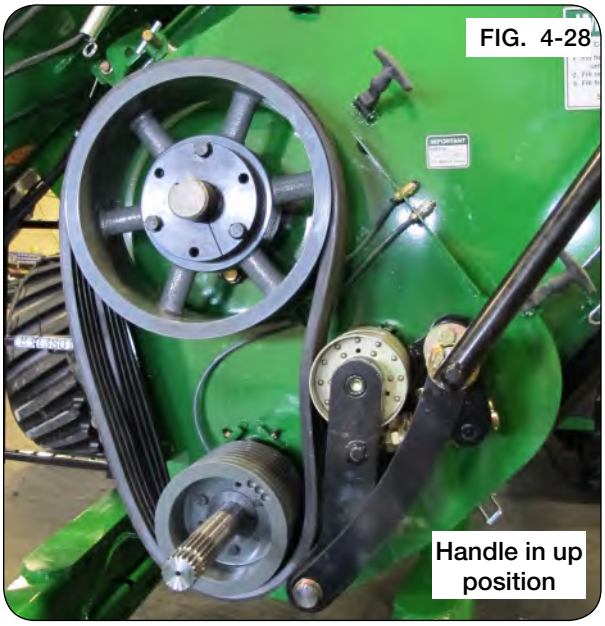


FIG. 4-28

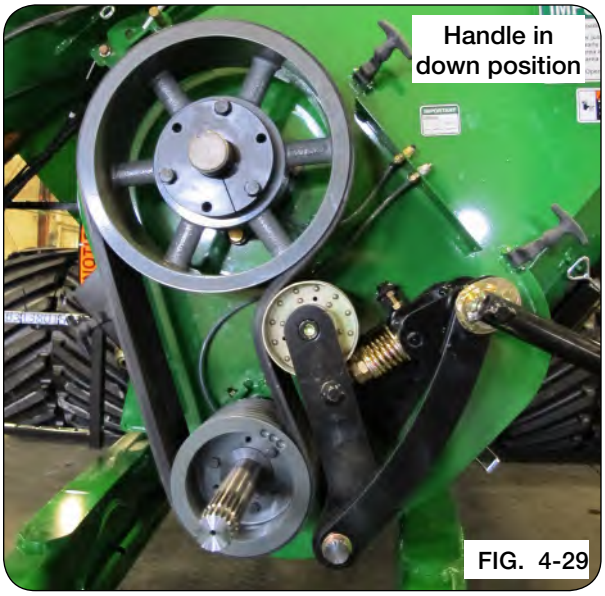


FIG. 4-29

V-Belt Alignment

1. Pulleys must be aligned with the fixed idler. Belts should be centered on idler for longest belt life. (FIG. 4-30)

FIG. 4-30

2. After tightening taper-lock bushing hardware, lay a straight edge across face of the drive and driven belt pulleys to ensure alignment between the grooves on the pulleys. (FIG. 4-31)

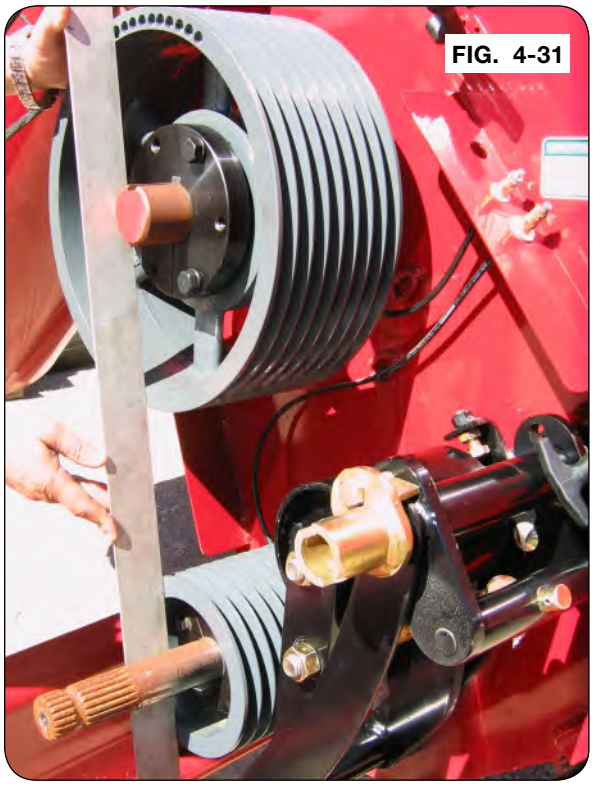


FIG. 4-31

V-Belt Alignment (continued)

Split Tapered Bushings

Check annually for tight engagement to driveshaft. Torque three bolts progressively to values shown in FIG. 4-32.

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

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

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

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

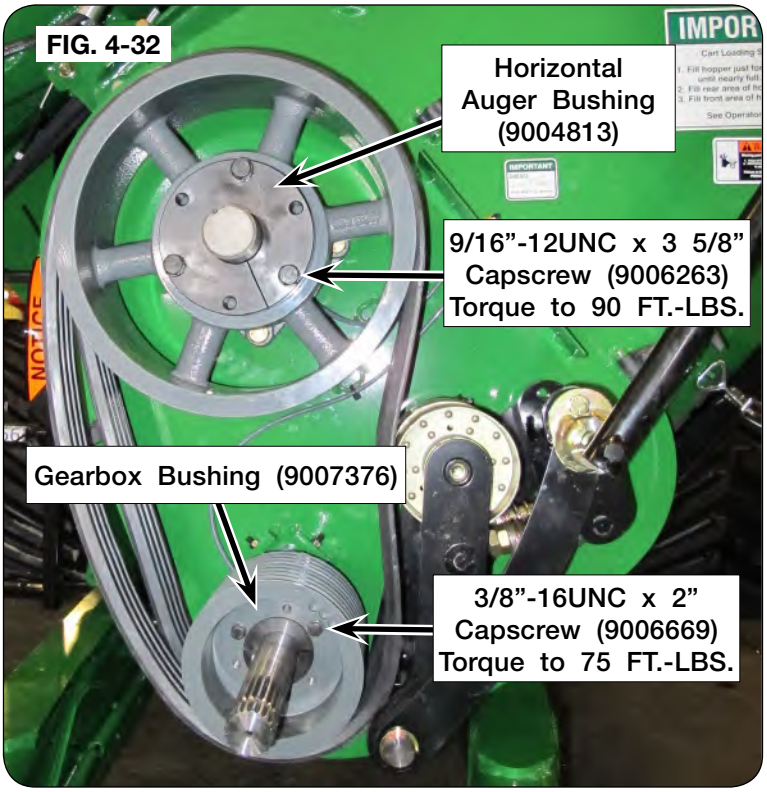


FIG. 4-32

Horizontal Auger Removal and Replacement

⚠ WARNING

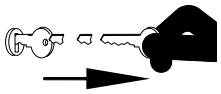
- **TO PREVENT PERSONAL INJURY OR DEATH, ALWAYS ENSURE THAT THERE ARE PEOPLE WHO REMAIN OUTSIDE THE CART TO ASSIST THE PERSON WORKING INSIDE, AND THAT ALL SAFE WORKPLACE PRACTICES ARE FOLLOWED. THERE IS RESTRICTED MOBILITY AND LIMITED EXIT PATHS WHEN WORKING INSIDE THE IMPLEMENT.**
- **NEVER ENTER CART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

NOTE: Open the flow gates all the way.

1. Park the unit on a firm, level surface. Block the machine to keep it from moving. Set the vehicle parking brake, shut off the engine and remove the ignition key and disconnect the PTO shaft from the tractor.
2. Remove 4 rear ladder capscrews attached to the cart. (FIG. 4-33)

NOTE: Keep all hardware for re-assembly.

3. Remove rear ladder from the cart. (FIG. 4-33)



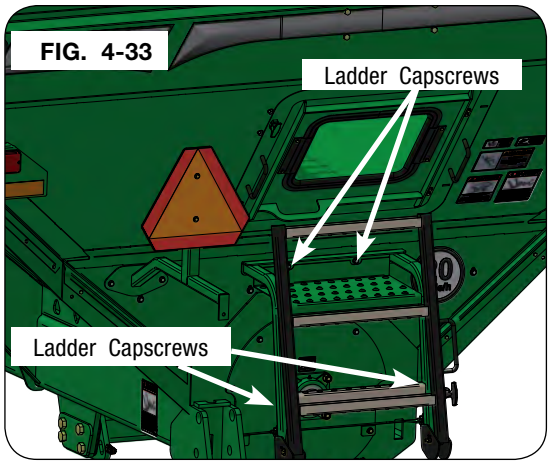


FIG. 4-33

Horizontal Auger Removal and Replacement (continued)

4. Remove the capscrews from the auger cover.
5. Pry the auger from the auger tube. (FIG. 4-35)
6. Using a safe lifting device rated for a minimum 1,000 lbs., pull the rear auger out of the cart. (FIG. 4-36)

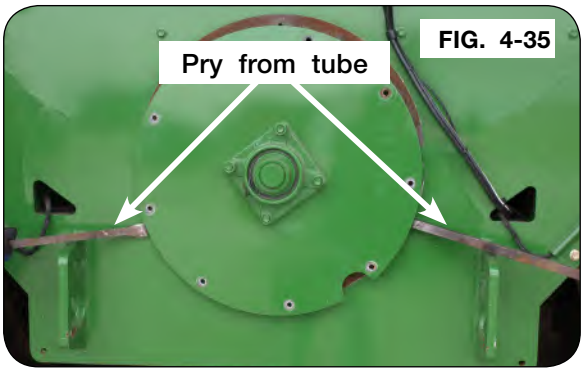


FIG. 4-35

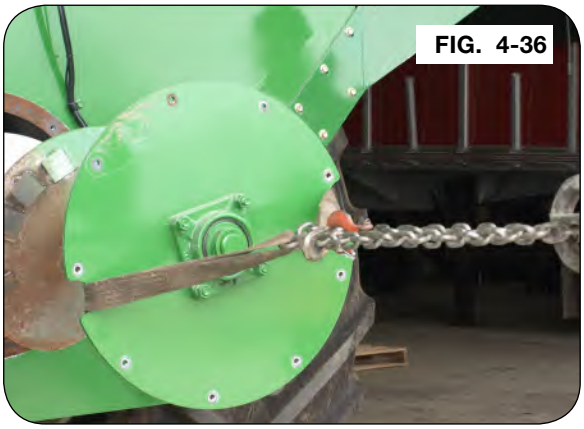


FIG. 4-36

Horizontal Auger Removal and Replacement (continued)

NOTE: If only servicing rear auger, skip to step 23. For 5-pin driver replacement, continue to step 8.

8. Remove the flange screws in both middle grates inside the cart. Remove the grates. (FIG. 4-37)

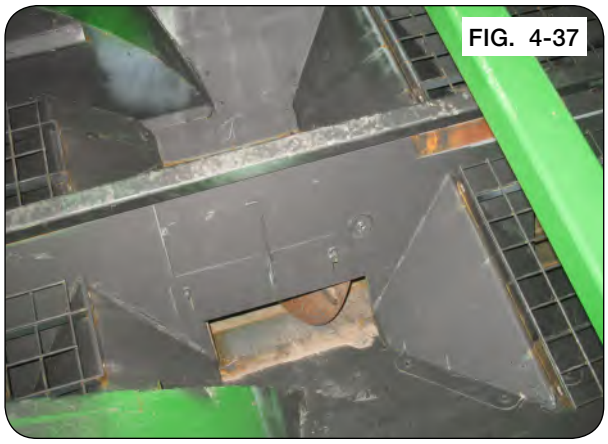


FIG. 4-37

9. Remove locknuts, baffle weldments and cover plates from the middle tent. (FIG. 4-38)

10. Disconnect grease line. (FIG. 4-38)

11. Remove the bearing mount bar bolts on each side of the auger.

12. Remove capscrews and lock washers holding bearing onto the bearing mount bar.

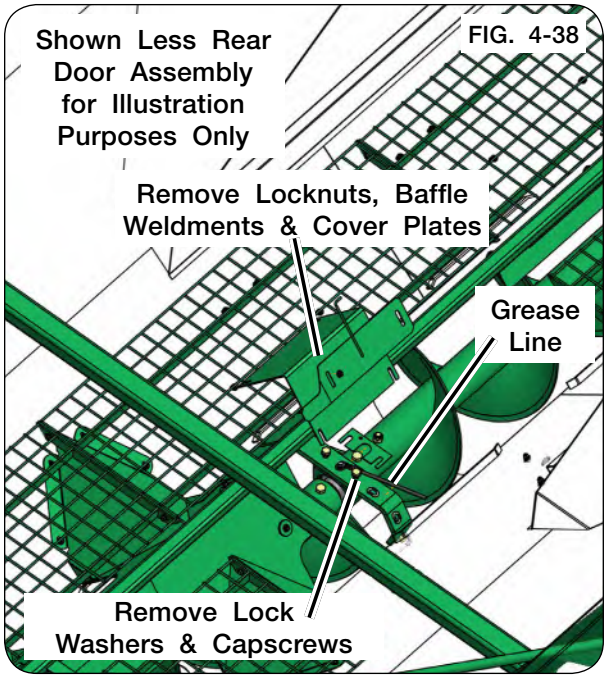


FIG. 4-38

13. Remove bearing mount bar to allow access to work on the bearing and shaft. Remove two center tube connecting capscrews, spacer bushings (283895B) and locknuts from the horizontal auger. (FIG. 4-39)

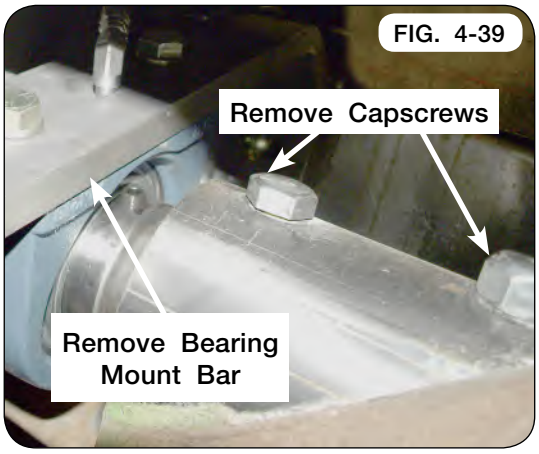


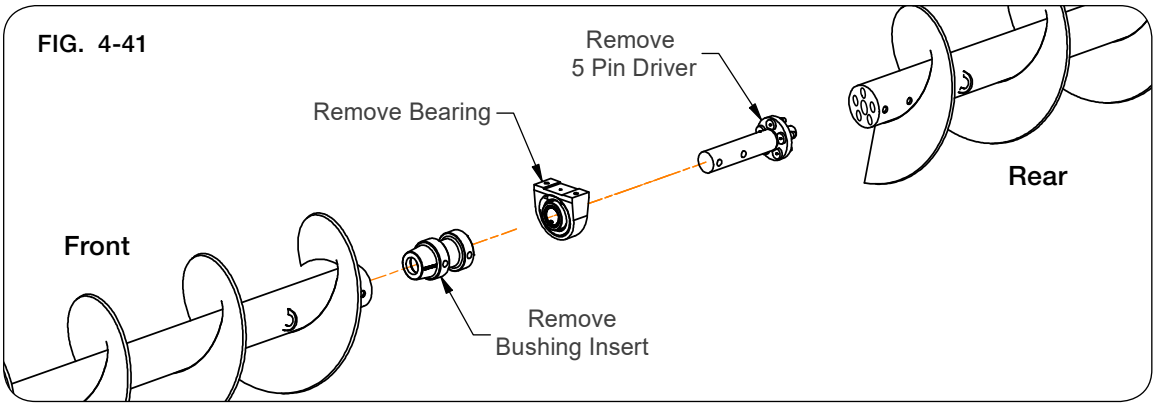
FIG. 4-39

Horizontal Auger Removal and Replacement (continued)

14. Remove the original 5-pin driver, bearing and the bushing insert. (Figs. 4-40 & 4-41)

15. Replace 5-pin driver and bushing insert, if needed.


FIG. 4-40



16. Substantially coat bushing insert with anti-seize.

17. Slide bushing insert into front auger and ensure tube holes are aligned. (Figs. 4-41 & 4-42)


FIG. 4-42

NOTE: Make sure the set screws on bearing are towards the front of the cart. (FIG. 4-43)

18. Slide bearing onto 5-pin driver. (FIG. 4-43)

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

20. Insert capscrews from opposite sides through auger, bushing and driver. Slide spacer bushings over threads and install locknuts. Hand tighten hardware at this time. (FIG. 4-43)

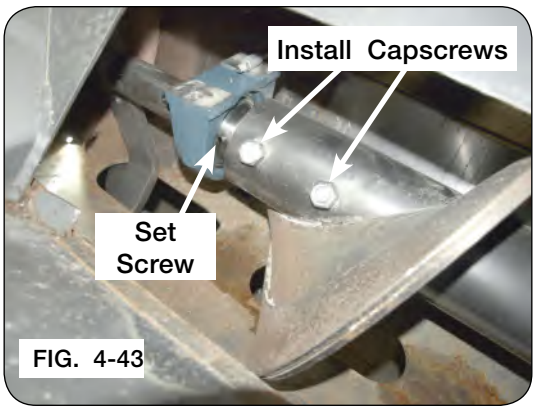


FIG. 4-43

Horizontal Auger Removal and Replacement (continued)

21. Install bearing mount bar. Leave the capscrews and lock washers loose attaching bearing mount bar to the cart. Attach bearing mount bar to the bearing. (FIG. 4-44)

22. Reattach grease line components. (FIG. 4-44)

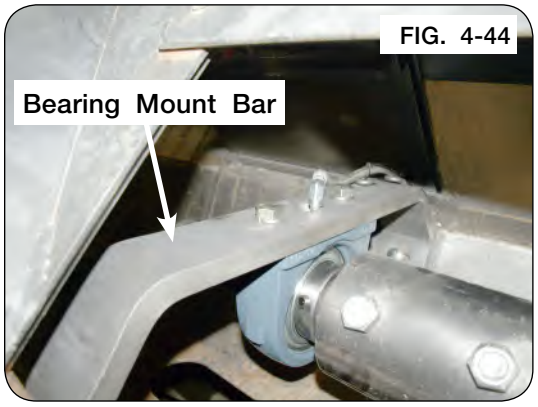


FIG. 4-44

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

23. Slide the rear auger forward. Align the pins and holes with the rear auger pipe. (FIG. 4-45)

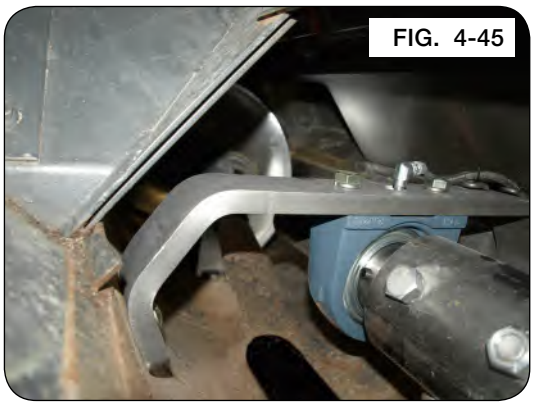


FIG. 4-45

24. Extend a string tightly from front to rear to check horizontal auger alignment. Measure the string to the auger tube near the hanger bearing. If this dimension is greater than the measurement taken in the front and rear, shims (8GA - 286419B or 12GA - 286424B) are required on top of the center hanger bearing. Ideally the center measurement should be equal to or 1/8" lower than the measurements on the ends of the augers. (FIG. 4-46)

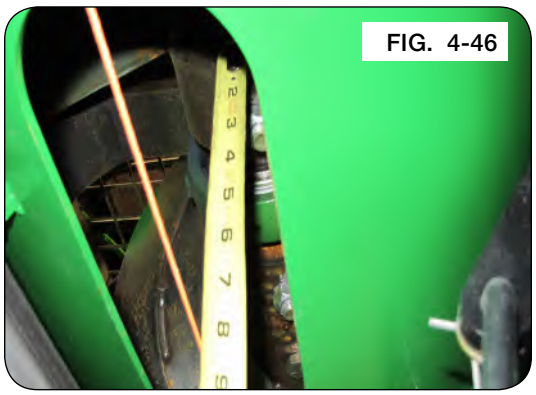


FIG. 4-46

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

25. Torque bearing mount bar capscrews to 130 ft.-lbs. See FIG. 4-44.

26. Torque front auger capscrews to 200 ft.-lbs. (FIG. 4-47)

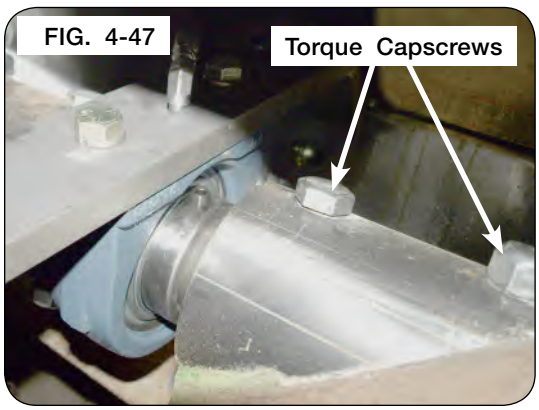


FIG. 4-47

Horizontal Auger Removal and Replacement (continued)

27. Insert hardware for rear auger cover and rear ladder, if equipped. (FIG. 4-49)

28. Torque all hardware to specification. See "Torque Chart" in this section. (FIG. 4-49)

29. Reinstall ALL the grates.

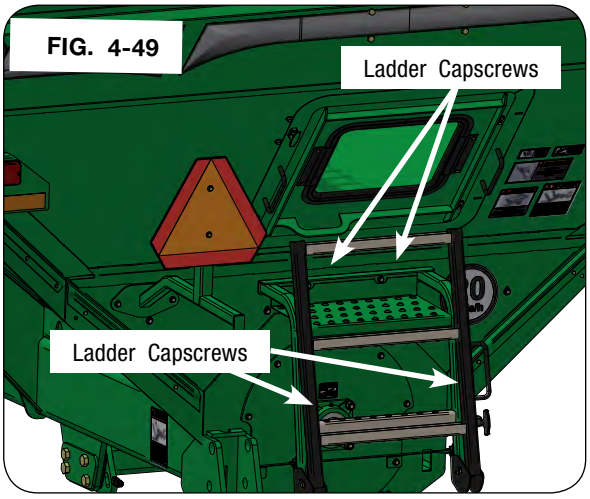


FIG. 4-49

Driveline Removal

DANGER

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

WARNING

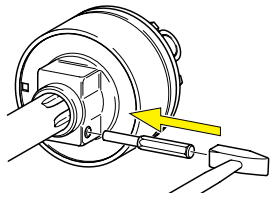
- **MOVING OR ROTATING COMPONENTS CAN CAUSE SERIOUS INJURY OR DEATH. ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING. ENSURE SERVICE COVERS, CHAIN/BELT COVERS AND CLEAN-OUT DOOR ARE IN PLACE AND SECURELY FASTENED BEFORE OPERATING UNIT.**

- **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 100 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

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

1. Remove clamping cone/retaining bolt.
2. Use a hammer and punch, if needed, to moderately hit the end of clamping cone/retaining bolt, as shown. (FIG. 4-66)
3. Once clamping cone/retaining bolt is removed, slide torque limiter off gearbox splined input shaft.

FIG. 4-66



Gearbox

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

For adequate lubrication, the oil should be visible in the sight glass. Fill with oil to the sight glass only. (FIG. 4-67)

For Maximum gearbox life:
Check oil level every 2 weeks.

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

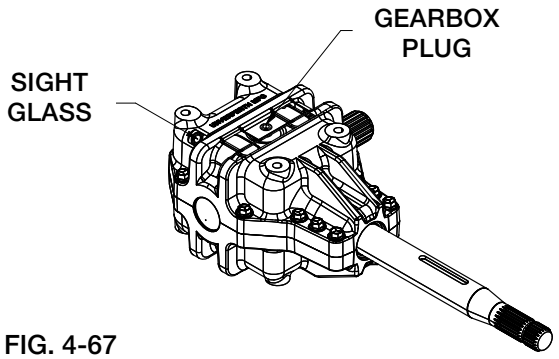


FIG. 4-67

Verify Telescoping PTO Shaft Length

WARNING

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

- **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 100 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

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.

(Continued on next page)

Verify Telescoping PTO Shaft Length (continued)

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

1. Fully collapse PTO shaft and measure length "L" (FIG. 4-68).

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

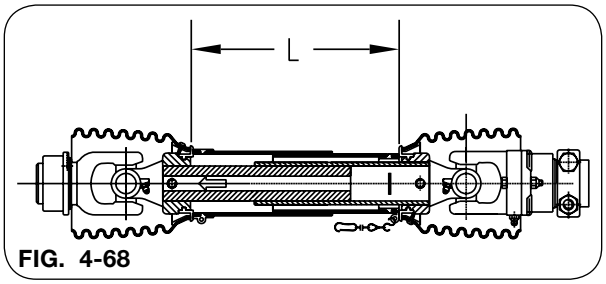


FIG. 4-68

2. Pull apart PTO telescoping shaft ends and measure lengths "T" & "C" (FIG. 4-69)

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

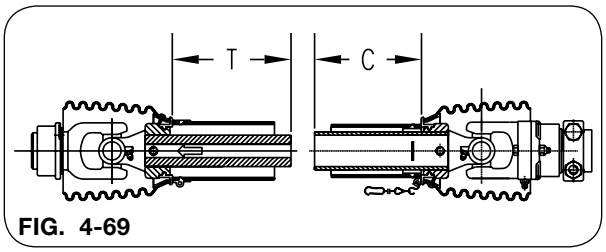


FIG. 4-69

3. Calculate maximum recommended extended length:

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

This is the maximum recommended extended length.

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

5. Using a safe lifting device rated at a minimum 100 lbs., connect PTO shaft to tractor, and measure length "L" from same points as used in step 1. Ensure that this measurement does not exceed the maximum recommended extended length calculated in step 3 above. If necessary, choose a shorter drawbar position, or obtain a longer PTO shaft assembly before operating cart.

6. Position the tractor to obtain the tightest turning angle, relative to the cart. (FIG. 4-70)

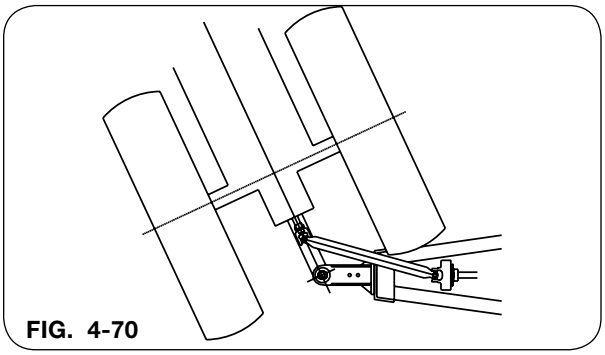


FIG. 4-70

7. Measure the length "L" from the same points as used in step 1. **This distance must be at least 1.5 inches greater than the distance measured in step 1.** If necessary, adjust the length of the PTO shaft by cutting the inner and outer plastic guard tubes and inner and outer sliding profiles by the same length. Round off all sharp edges and remove burrs before greasing and reassembling shaft halves. (FIG. 4-71)

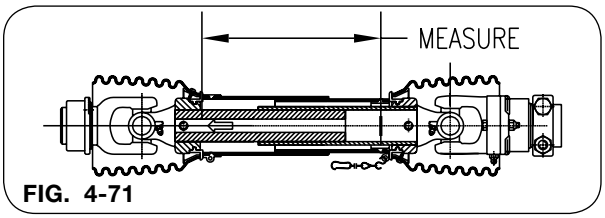


FIG. 4-71

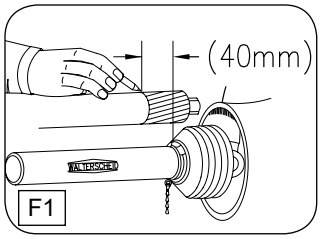
PTO Shaft Length Adjustment

WARNING

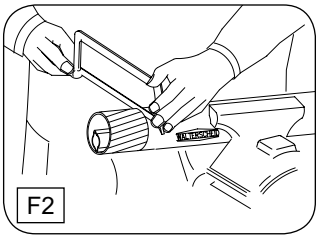
- **CHECK THE LENGTH OF THE TELESCOPING MEMBERS TO ENSURE THE DRIVELINE WILL NOT BOTTOM OUT OR SEPARATE WHEN TURNING AND/OR GOING OVER ROUGH TERRAIN.**

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

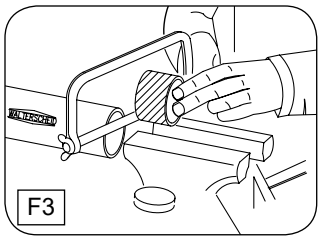
1. To adjust length, hold the half-shafts next to each other in the shortest working position and mark them.
2. Shorten inner and outer guard tubes equally.
3. Shorten inner and outer sliding profiles by the same length as the guard tubes.
4. Round off all sharp edges and remove burrs. Grease sliding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



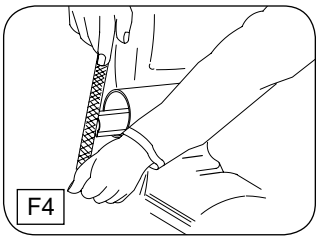
F1



F2



F3


F4

PTO Shaft and Clutch - Benzi PTO

To Dismantle Guard (Figs. J1 - J3)

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

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

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

PTO Shaft and Clutch - Benzi PTO (continued)

To Assemble Guard (Figs. K1 - K3)

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

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

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

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

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

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

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 40,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

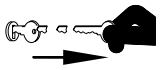
⚠ CAUTION

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

IMPORTANT

- *Remove only one wheel and tire from a side at any given time in the following procedure.*

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



2. With cart empty, use safe lifting and load holding devices rated at a minimum 40,000 lbs. to support the weight of your grain cart. Place the safe lifting device under the axle closest to the tire.

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

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

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

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 locknut that retain the spindle to the axle. Using a safe lifting device rated at a minimum 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 locknut to retain spindle to axle. Tighten as outlined in MAINTENANCE section.

Wheel, Hub and Spindle Disassembly and Assembly (continued)

6. Remove seal and inspect bearings, spindle washer, castle nut and cotter pin. Replace if necessary. Pack both bearings with approved grease and reinstall inner bearing. Install new seal in hub with garter spring facing the outside of hub by tapping on flat plate that completely covers seal while driving it square to hub. (FIG. 4-72) Install until flush with back face of hub. Using a safe lifting device rated at a minimum 200 lbs., install hub assembly onto spindle. Install outer bearing, spindle washer and castle nut.

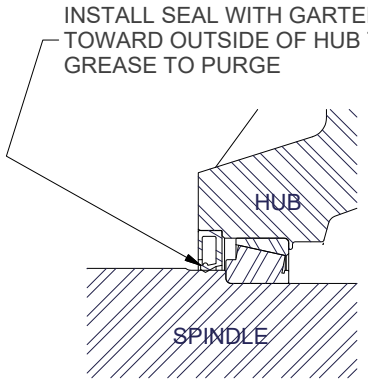


FIG. 4-72

7. Slowly tighten castle nut while spinning the hub until drag causes the hub to stop freely spinning. Do not use an impact! Turn castle nut counterclockwise until the hole in the spindle aligns with the next notch in castle nut. Hub should spin smoothly with little drag and no end play. If play exists, tighten to next notch of castle nut. If drag exists, then back castle nut to next notch of castle nut. Spin and check again. Install cotter pin. Clean face for hub cap gasket and install gasket, grease- filled hub cap and retain hubcap with hardware removed. Tighten hubcap hardware in alternating pattern.

8. Attach the wheel(s) and tire(s) to the hub using the same rated safe lifting device for removal. Tighten wheel nuts to appropriate requirements and recheck as outlined in the Wheel and Tire section of this manual.

9. Raise cart, remove safe load holding devices and lower tire and cart to the ground.

Wheels and Tires

Wheel Nut Torque Requirements

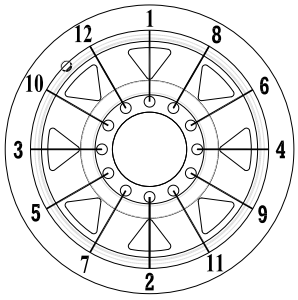
⚠ CAUTION

- **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	NEWTON METERS
M22x1.5	475	650



12 BOLT

DIAGRAM 1

Wheels and Tires (continued)

Tire Pressure

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

Tire Pressure for Grain Carts

Tire Make	Tire Size	Load Index / Ply Rating	Max. PSI
Firestone	23.1x26 R-3	12	32
	23.1x26 R-1	12	32
	28Lx26 R-3	12	26
	24.5x32 R-3	12	32
	24.5x32 R-1	12	32
	30.5x32 R-1	14	28
	30.5x32 R-3	14	28
	30.5x32 R-3	16	34
	30.5x32 R-1	16	26
	35.5x32 R-3	20	36
	76x50.00x32 HF-3	16	40
	76x50.00x32 HF-3	20	50
	800/65R32 R-1W	172D	41
	800/60R32 R-3	181B	46
	900/65R32 R-3	191B	46
	900/60R32 R-1	176A8	44
	1250/50R32F IF/CFO R-1WNP	201D	46
	1250/50R32F IF/CFO R-1W	188B	30
	520/85R38 R-1	155A8	29
	520/85R38 R-1	173A8	64
	480/80R42 R-1	151A8	36
	520/85R42 R-1	157A8	29
	520/85R42 R-1	165A8	51
	520/85R42 IF/CFO R-1	169A8/B	35
	IF520/85R42 R-1W	169B	35
	VF520/85R42 R-1W	177B	35
	420/80R46 R-1	151A8	44
	480/80R46 R-1	158A8	44
	380/90R46 R-1	152B	51

Wheels and Tires (continued)

Tire Pressure (continued)

Tire Make		Tire Size	Load Index / Ply Rating	Max. PSI
Titan/Goodyear	94286	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
		900/60R32 R-1W	185A	49
		1050/50R32 R-1	196D	52
		1100/45R46 R-1W	195D	35
		IF1250/50R32 R-1W	201D	46
Mitas		650/75R32 R-1W	172A8	58
		650/75R32 R-1	176A8	41
		800/65R32 R-1W	172A8	46
		900/60x32 R-1W	181A8	58
		900/60x32 CHO R-1W	181A8	46
		900/70R32 R-1W	188A8	53
		1050/50x32 R-1W	178A8	41
		1250/50R32 R-1W	188A8	41
		900/60x38 R-1W	181A8	44
		520/85x42 R-1W	162A8	44
		650/65x42 R-1W	168A8	44
Alliance		30.5B32	18-Ply	36
		35.5LR32	193A8	44
		900/60R32 R-1W	192D	46
		1050/50R32 R-1W	185A8	52
		1250/50R32 R-1W	201B	46
Trelleborg		VF1050/50R32 R-1	198D	52
		900/50R32 R-1W	181A8	55
		900/60x32	176LI	44
		850/55R42 R-1W	161A8	32

Wheels and Tires (continued)

Tire Warranty

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

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

Bleeding Procedure For Braking System

⚠ WARNING

- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.**
- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**
- **PLACE TRACTOR IN PARK. TRACTOR MUST IN PARK DURING ENTIRE PROCEDURE.**

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

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

1. Block tires to prevent movement. Set 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 fitting. Put hose in an approved container. Loosen the bleeder screw, at the top of the 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. 4-73)
4. Repeat steps 2 and 3 to the next closest brake caliper in the brake circuit. Repeat until all brakes are bled.
5. Perform a final tightness check of all caliper bleed screws before beginning cart operation. Check that all brakes actuate and release properly with tractor brake pedal.

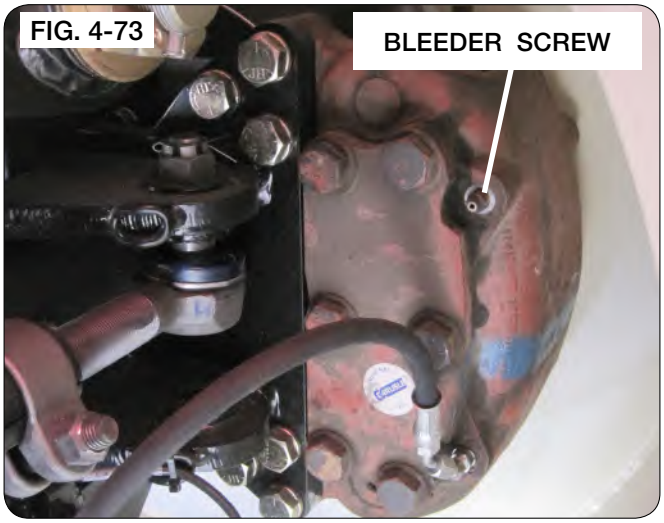


FIG. 4-73

Baffle Adjustment

WARNING

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

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

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

Refer to the following reasons for baffle adjustment:

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

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

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

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

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

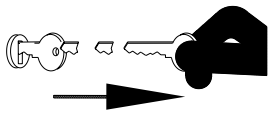
Baffle Adjustment (continued)

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

If a higher flow is desired and torque is not a factor, loosen the (2) flange nuts on each baffle, see FIG. 4-74. Use the lift handle to raise each baffle to the desired position, retighten both flange nuts, see figures 4-74 & 4-75.

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

NOTE: Screen removed in FIG. 4-75 for illustration only.



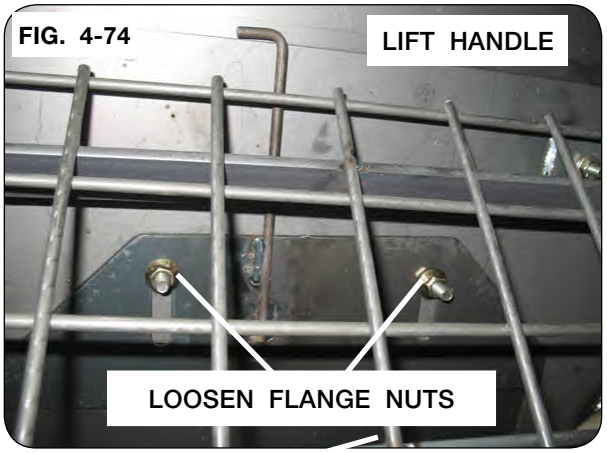


FIG. 4-74

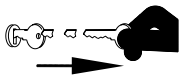
FIG. 4-75

Horizontal Cleanout Door Adjustment

WARNING

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

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



2. Loosen all the hardware in the slotted brackets connecting the cleanout door rockshaft to the grain cart tube. (FIG. 4-76)

3. Starting at the front of the cart, using a jack, push the rockshaft up and toward the runner tube. (FIG. 4-76)

FIG. 4-76

NOTE: Ideal distance between the runner tube and rockshaft is 3 1/4". (FIG. 4-77)

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

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

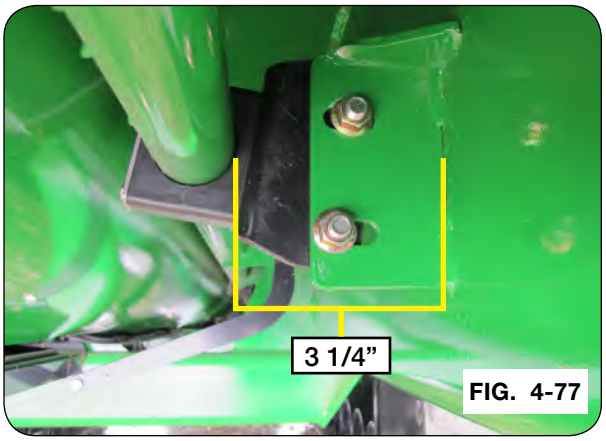


FIG. 4-77

Horizontal Cleanout Door Adjustment

6. To open the middle horizontal auger cleanout doors, unclasp the over center latch. (FIG. 4-78)

7. Unhook the eye bolt from the cleanout door and open. (FIG. 4-78)

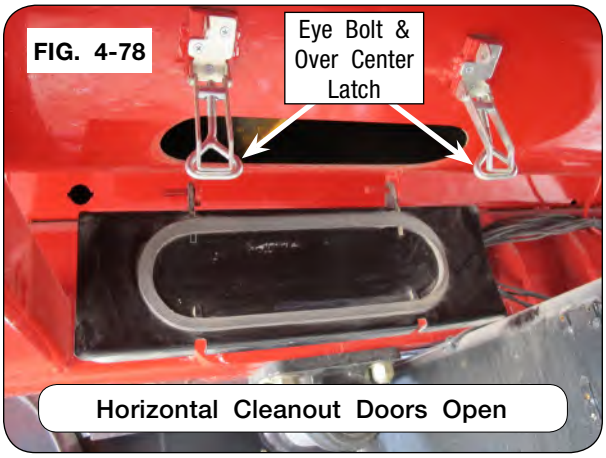
8. Inspect and verify all debris is removed from inside the horizontal auger housing and the cleanout doors that may prevent the doors from shutting completely. (FIG. 4-78)

9. Close the middle horizontal auger cleanout doors and ensure the seals fit into the belly pan opening. (FIG. 4-78)

10. Rotate the tensioner handle counter-clockwise to close the doors allowing the seals to fit into the belly pan. (FIG. 4-79)

11. Close the doors and ensure all doors seal. (FIG. 4-79)

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

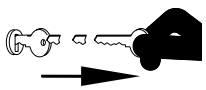


Hydraulic Jack Cylinder Replacement

⚠ WARNING

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

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



3. Open valve and lower jack leg to ground. DO NOT raise tongue.
4. Relieve pressure on hydraulic jack circuit. See tractor operator manual for procedure.
5. Close valve.
6. Support the hydraulic jack assembly with a safe lifting device rated for a minimum of 100 lbs.
7. Remove hydraulic jack hoses from tractor SCV.
8. Remove cylinder pin (272587) and snap rings (91192) from the base end of the cylinder at the lug on top of the tongue. (FIG. 4-80)

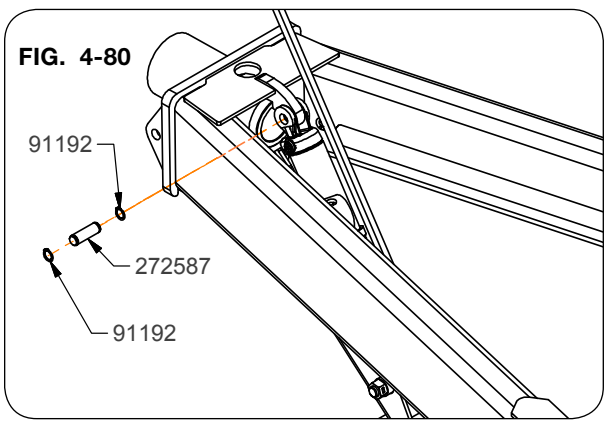


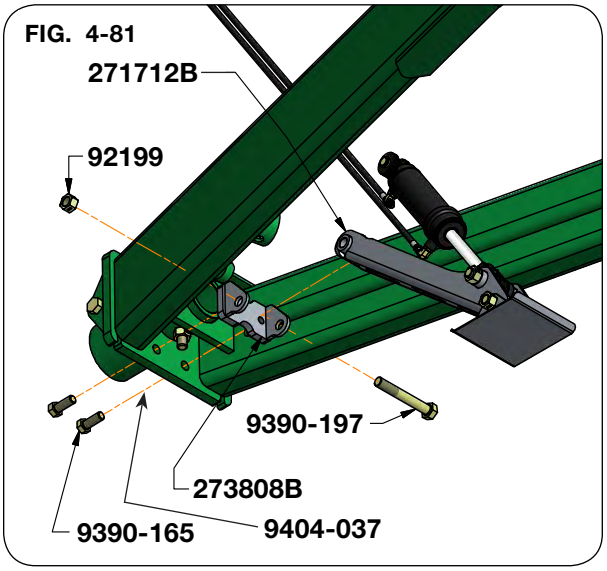
FIG. 4-80

Hydraulic Jack Cylinder Replacement (continued)

9. Remove two 7/8"-9UNC x 2 1/4" capscrews (9390-165) and 7/8" lock washers (9404-037) from mounting bracket (273808B). (FIG. 4-81)

10. Remove hydraulic jack assembly from the tongue. (FIG. 4-81)

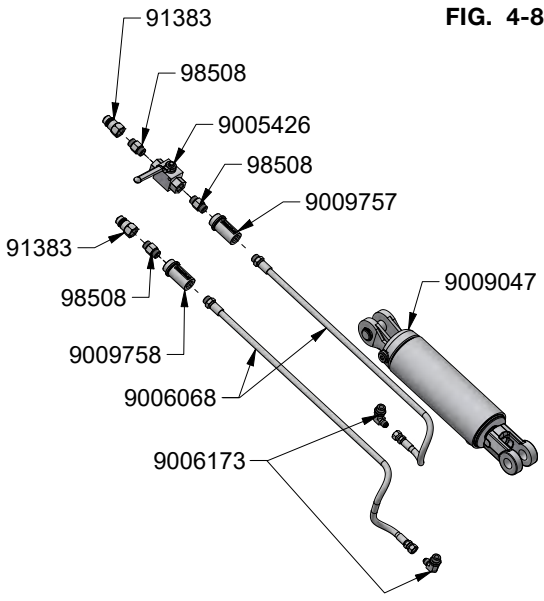
FIG. 4-81



11. On new hydraulic assembly (294143B), attach hoses (9006068) and fittings to cylinder (9009047) as shown in FIG. 4-82. The valve needs to be assembled to the hose on the base end of the cylinder. Assemble the fittings on the cylinder so they face each other, then store the hydraulic hoses on the hose caddy.

12. To reassemble hydraulic jack, see "Install Hydraulic Jack (Optional)" in SET UP section.

FIG. 4-82



Seasonal Storage

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

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

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

Lubricate machine at all points outlined.

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

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

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

FIG. 4-83

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

Close the tarp to keep debris out of the hopper.

Ensure rear access door is closed and latched and that all ladders are in storage position.

Troubleshooting

Problem	Possible Cause	Corrective Action
No Electric Over Hydraulic (EOH) Functions work	Not getting 12 Volt power supply to the power harness in the tractor	Check the connections to the main power harness in the tractor cab, and check the 5 AMP fuse in the fuse holder of the main power harness. Replace fuse if necessary. Make sure the joystick and 7-pin connector are plugged into the same power source. If plugged into different power sources, the spout rotate and auger fold functions WILL NOT operate properly.
	Not getting good connection at Deutch connectors in the harnesses	Unplug the Deutsch connectors at the hitch point and in the extension harness (if used). Clean up the connectors with electrical contact cleaner. Make sure the connectors are aligned correctly and re-connect them.
	Not pressurizing the correct hydraulic hose	Make sure the quick couplers are properly connected to the tractor SCV and the Hydraulic Pressure line is being pressurized when engaging the tractor SCV.
Auger unfolds part way and stops	Debris in the EOH block on the auger fold cylinder	Fold auger, remove the coil and the cartridge valve on the EOH valve block. Remove any debris and reinstall cartridge and coil.

Troubleshooting (continued)

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

Tarp Troubleshooting Inspection & Maintenance

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

Inspection and Maintenance

⚠ WARNING

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

IMPORTANT

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

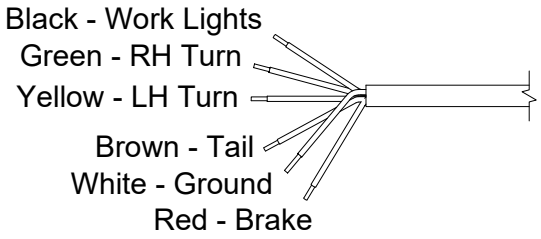
Periodic preventive maintenance should be practiced. Inspect tarp and hardware often for abrasions or loosened bolts that may need adjustment and/or repair. Check bungee cords for wear and adjust tension at the beginning of the season and again half way through the season.

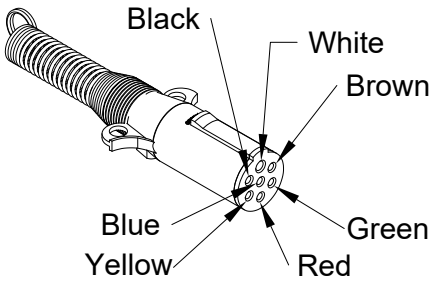
Tears in tarp should addressed before further tarp operation. If water pools on tarp, adjust tension of tarp cables and/or arm springs.

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

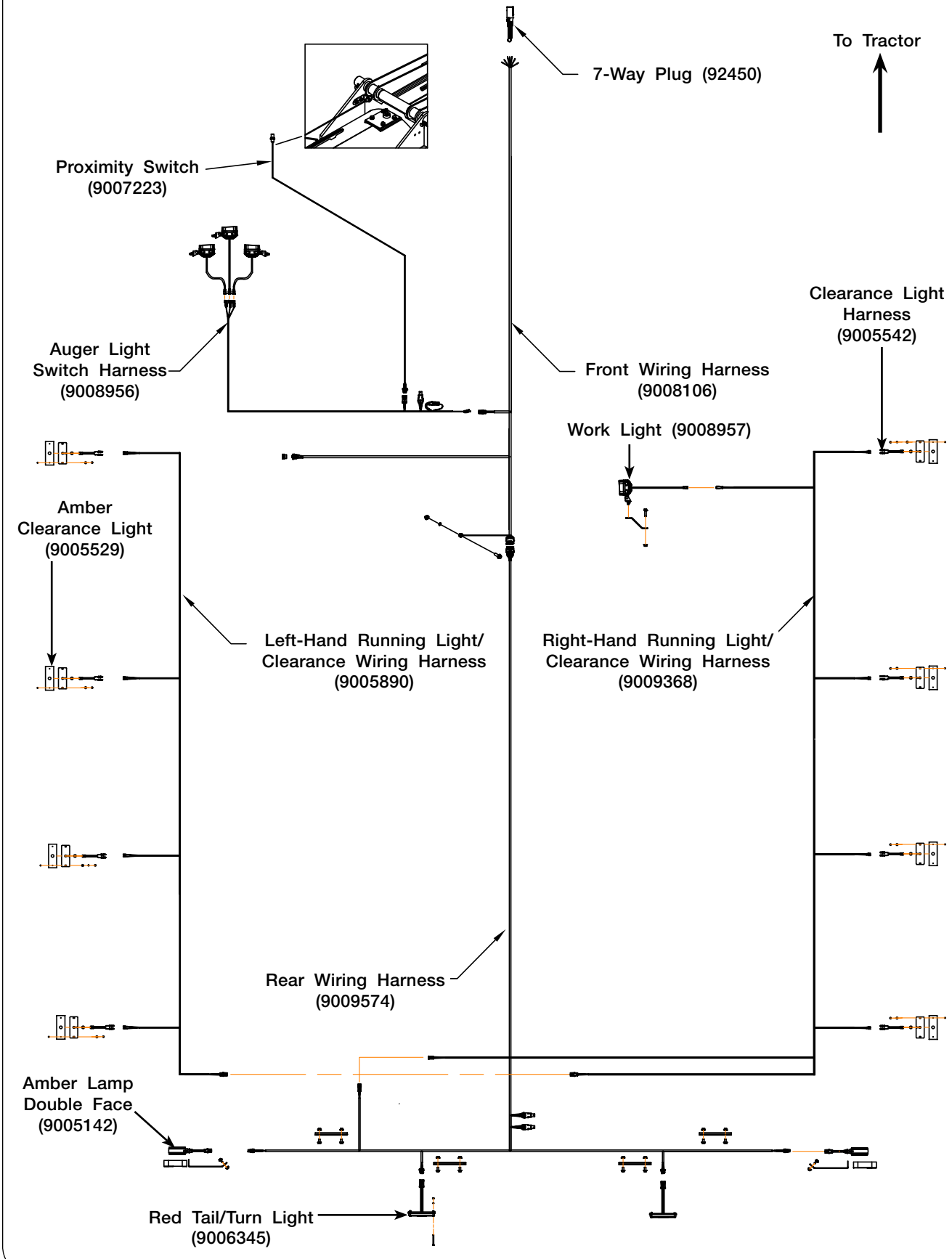
Electrical System Diagram — Plug #92450

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

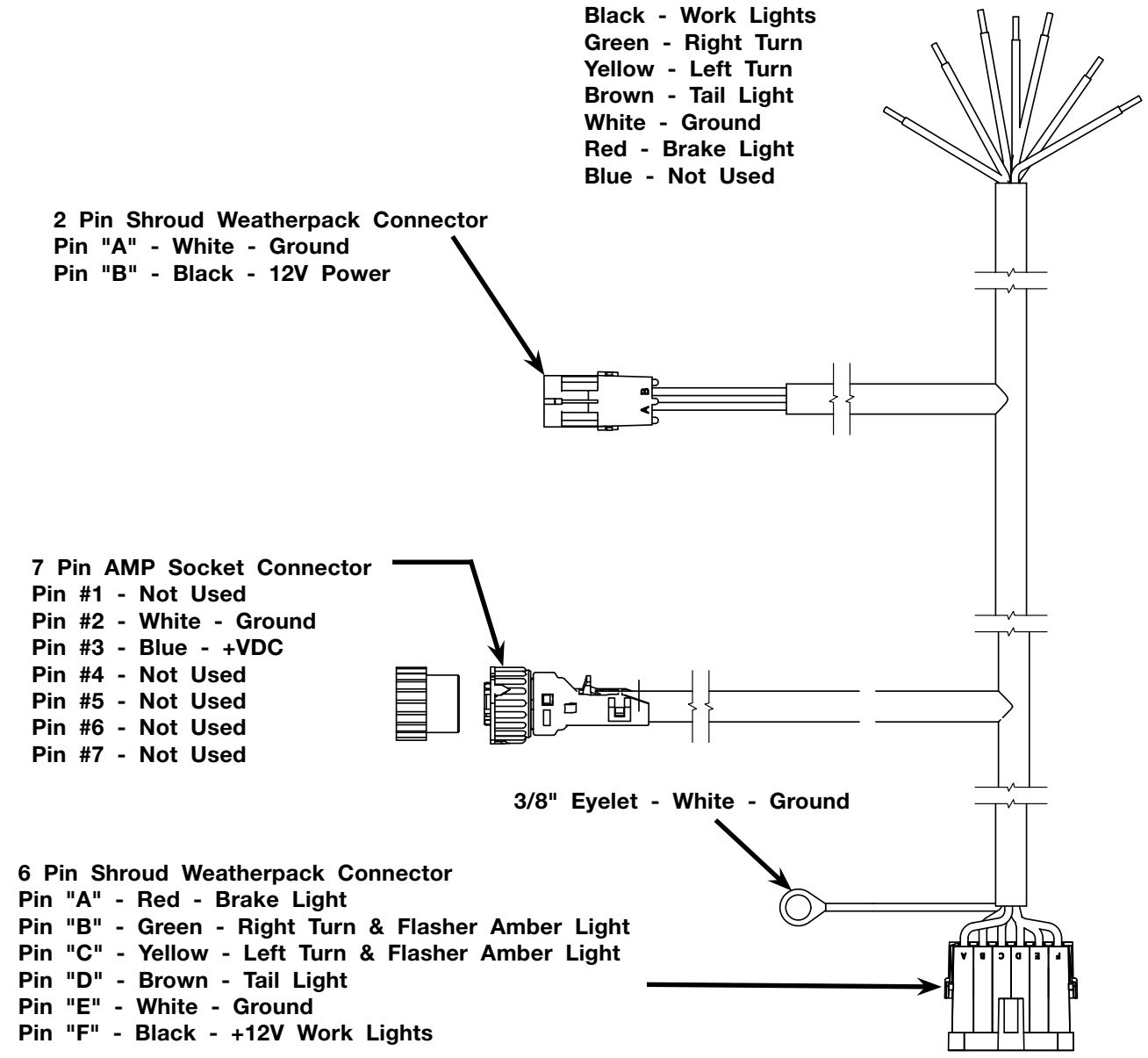




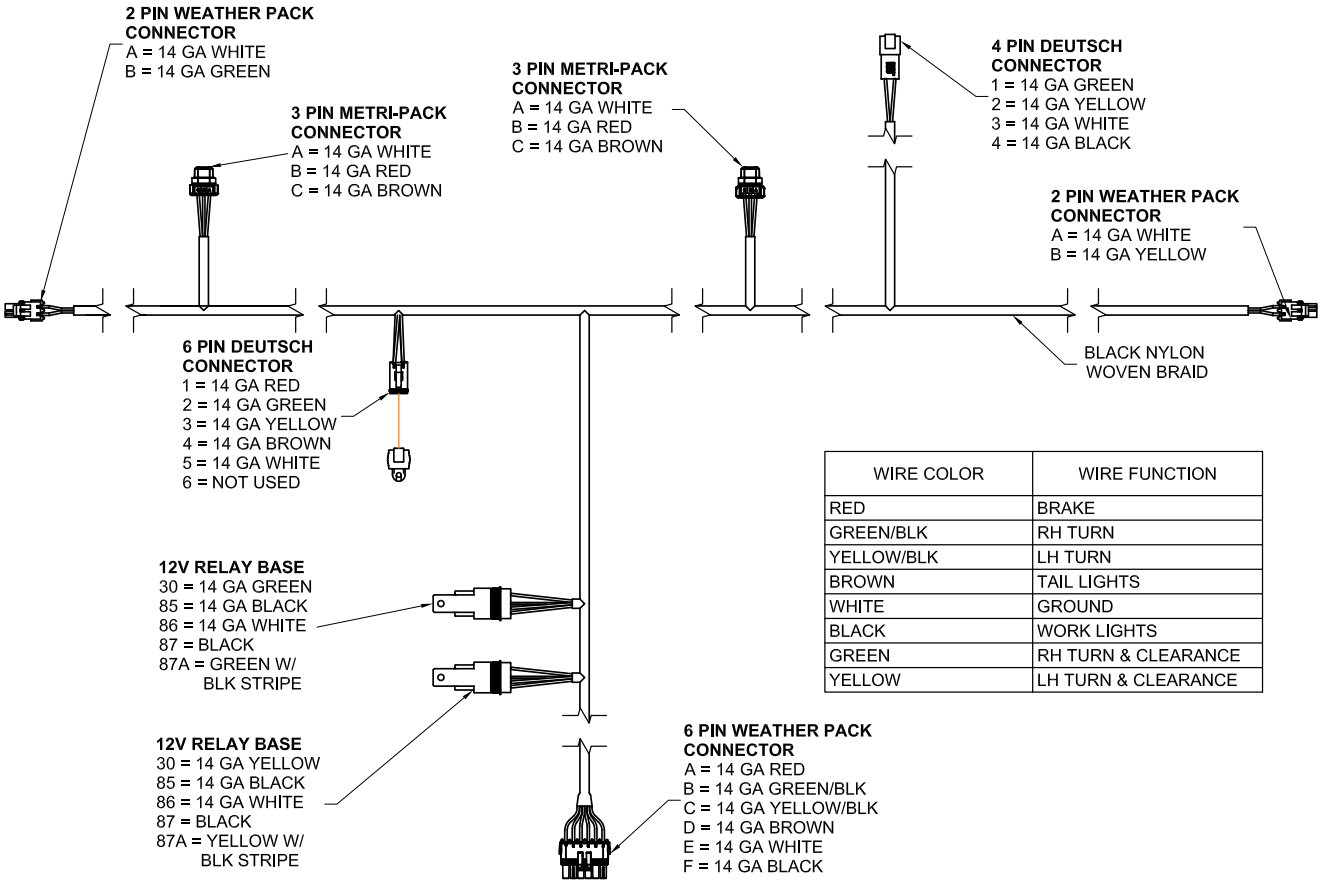
Electrical Diagram



Electrical Diagram — Front Harness #9008106

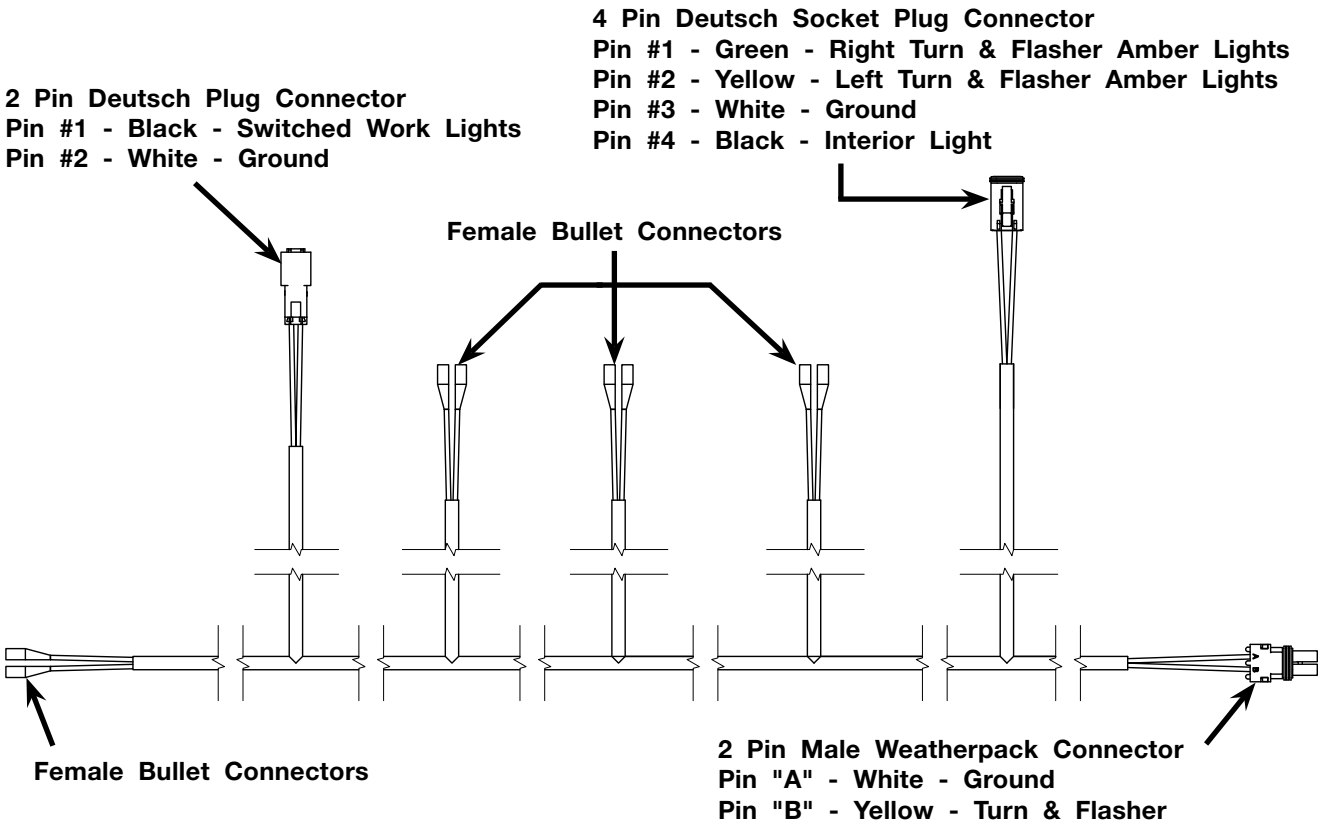


Electrical System Schematic - Rear Harness #9009574

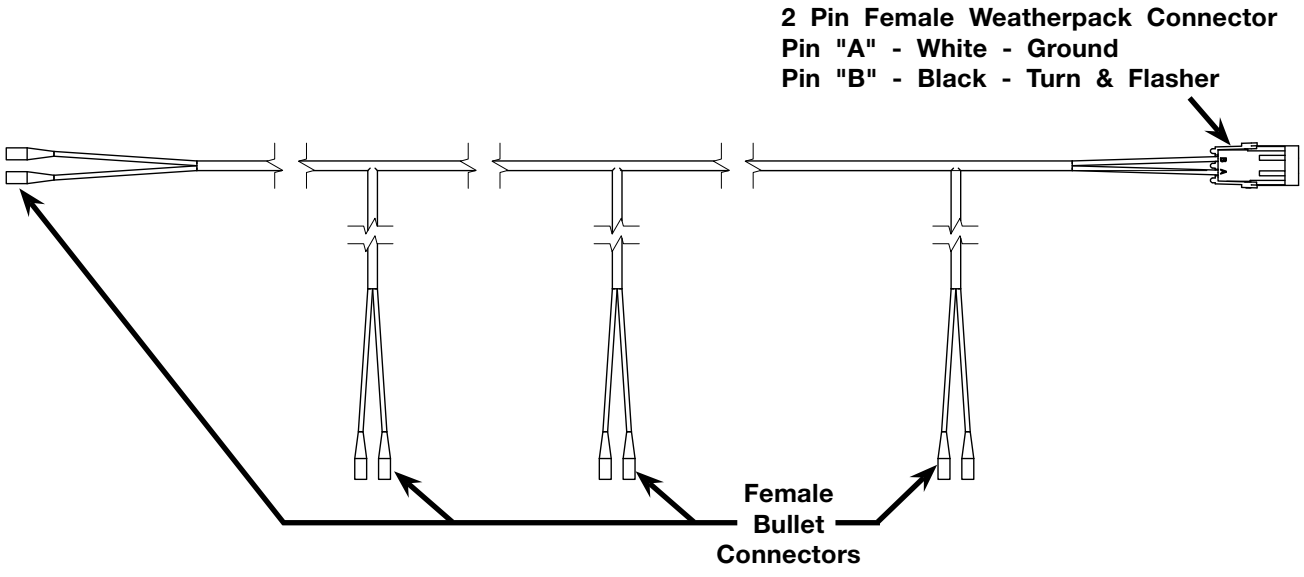


WIRE COLOR	WIRE FUNCTION
RED	BRAKE
GREEN/BLK	RH TURN
YELLOW/BLK	LH TURN
BROWN	TAIL LIGHTS
WHITE	GROUND
BLACK	WORK LIGHTS
GREEN	RH TURN & CLEARANCE
YELLOW	LH TURN & CLEARANCE

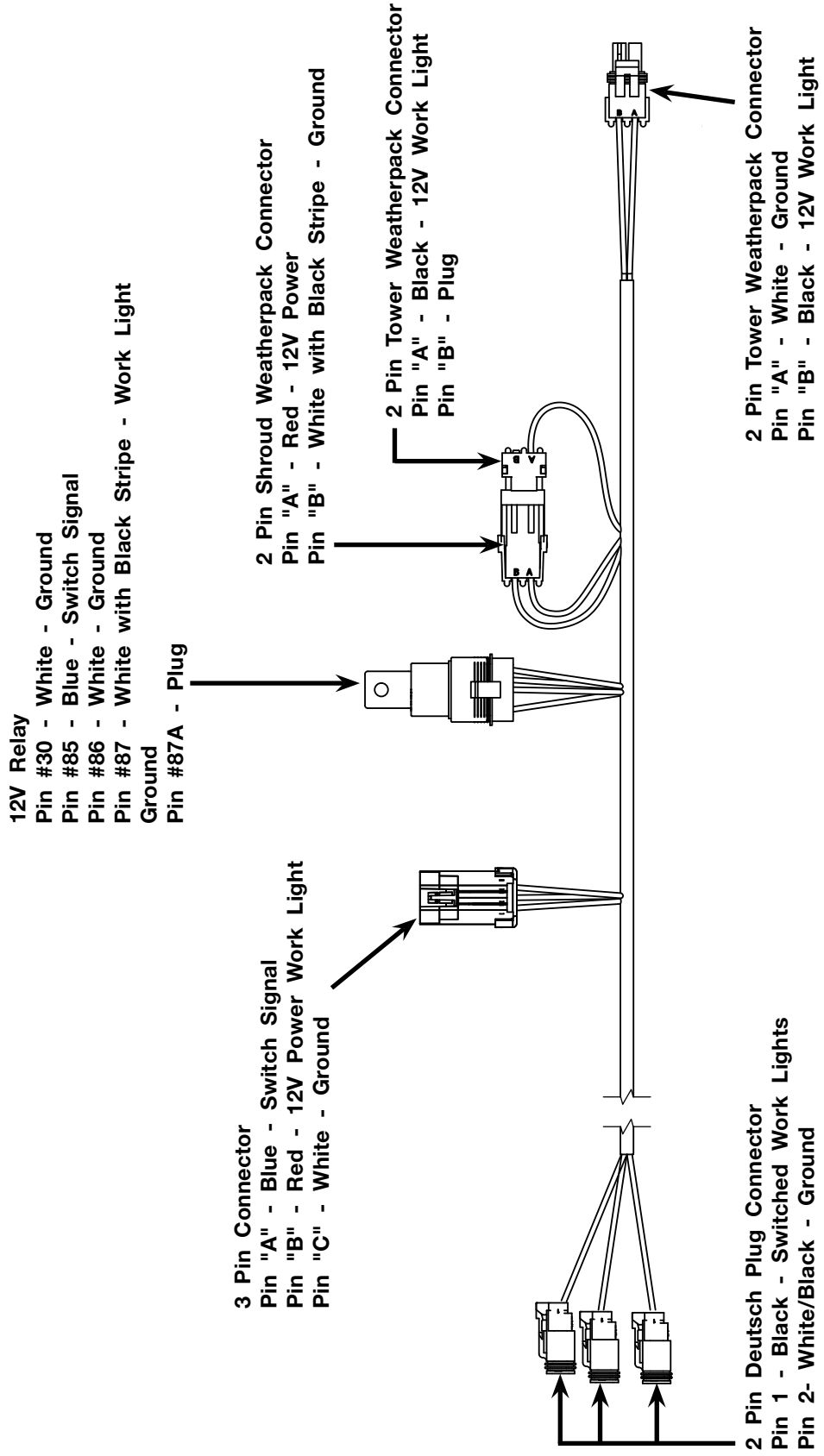
Electrical Diagram — Right-Hand Running Light/Clearance #9009368



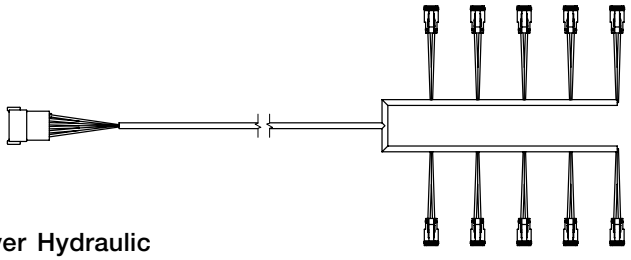
Electrical Diagram — Left-Hand Running Light/Clearance Wiring Harness #9005890



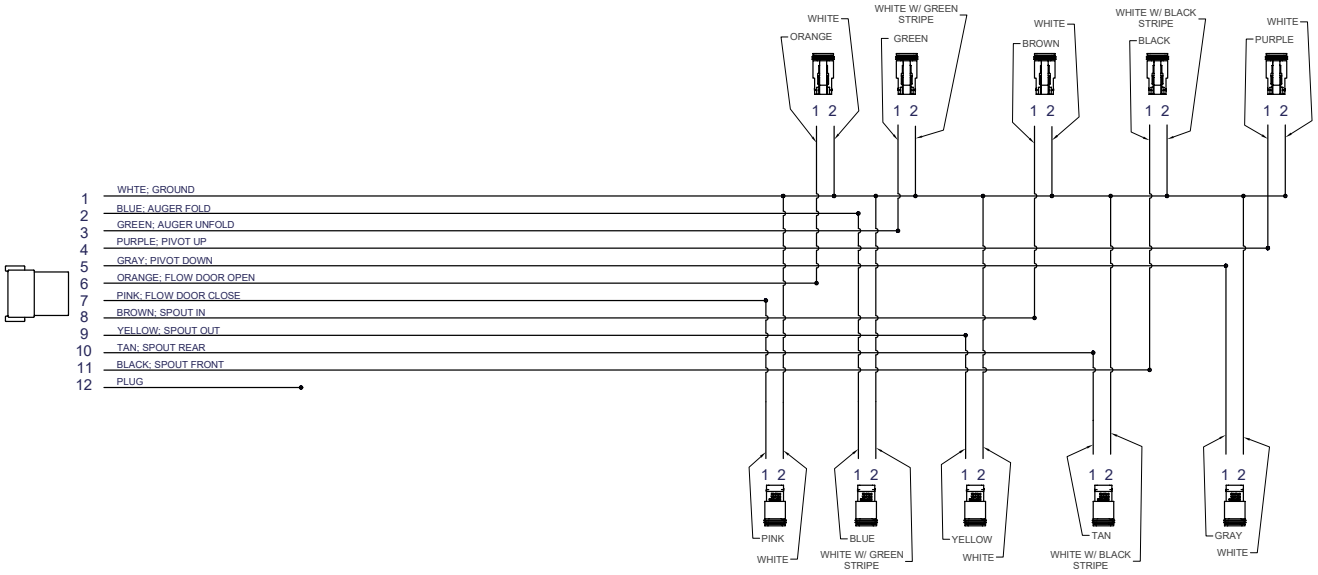
Electrical Diagram — Auger Wiring Harness #9008956

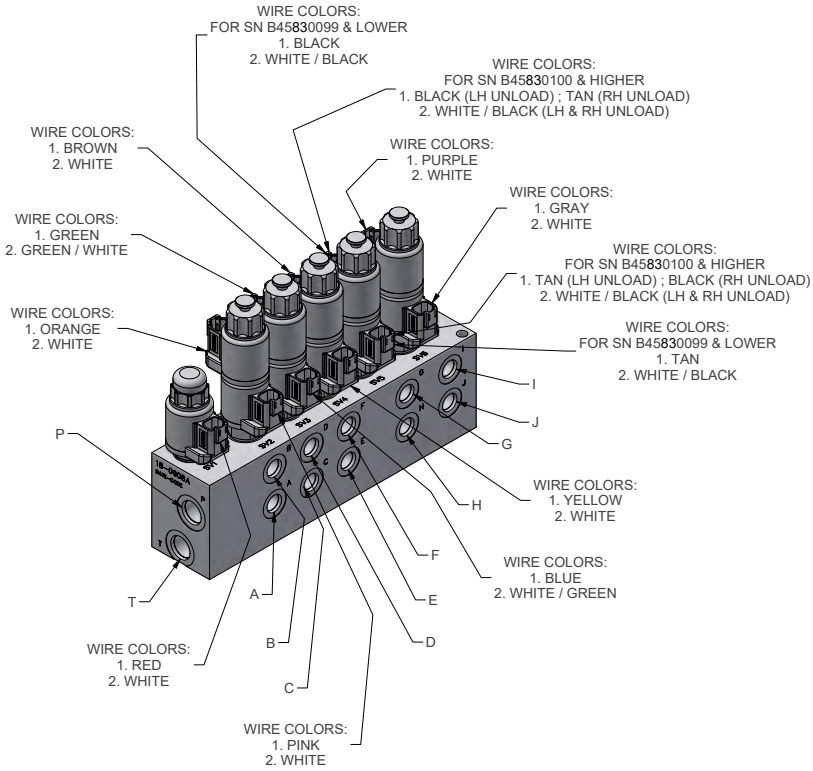


Electrical System Diagram - Main Harness #9010096 (Opt.)



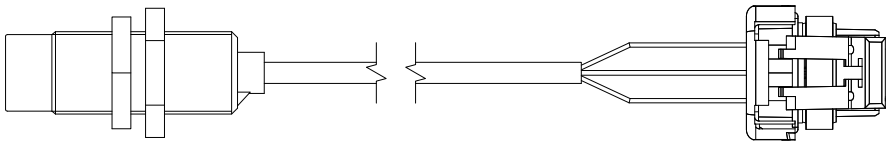
NOTE: For Optional Electric Over Hydraulic 5 Function Valve Shown Below.





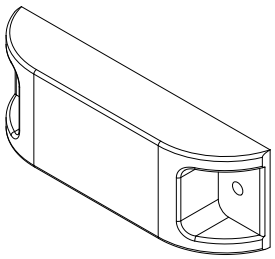
Electrical Diagram — Proximity Sensor #9007223

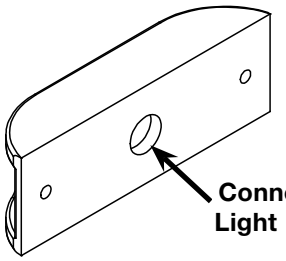
3 Pin Female Connector



Pin "A" - Black - Signal
Pin "B" - Brown - +12V DC
Pin "C" - Blue - Ground

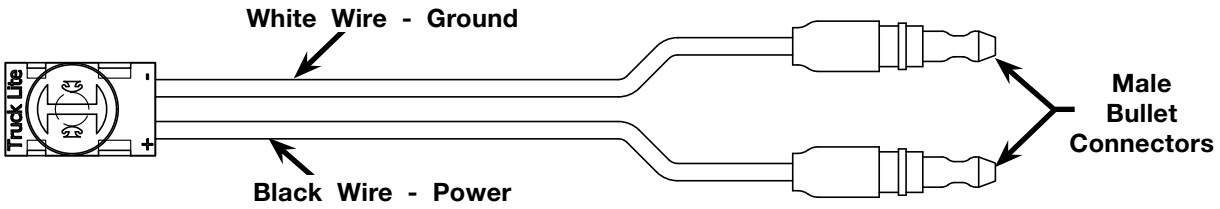
Electrical Diagram — Amber Clearance Light #9005529



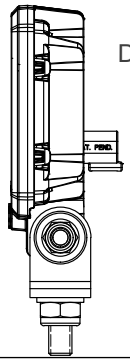


Connects To Clearance Light Harness #9005542

Electrical Diagram — Clearance Light Harness #9005542



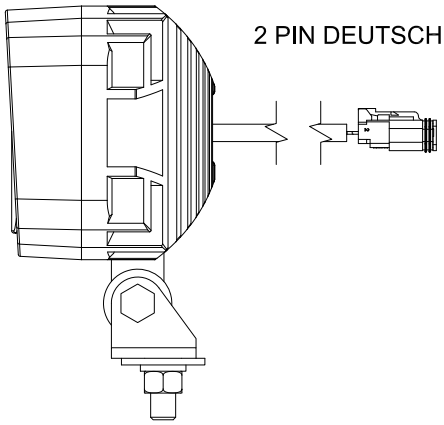
Electrical System Diagram - Work Flood Lamp #9008957



2 PIN INTEGRATED
DEUTSCH CONNECTOR

POWER (PIN #1)
GROUND (PIN #2)

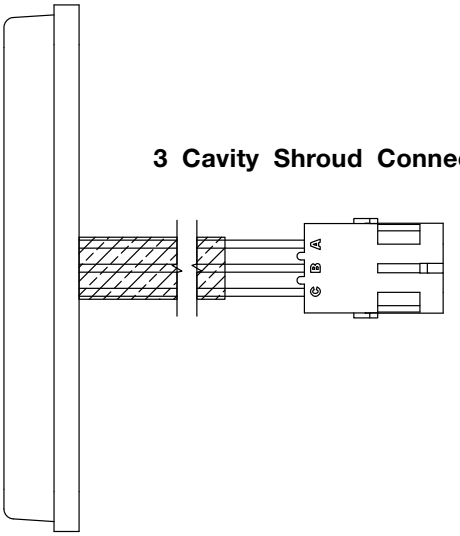
Electrical System Diagram — Work Flood Lamp #9007186



2 PIN DEUTSCH PLUG CONNECTOR

POWER (PIN #1)
GROUND (PIN #2)

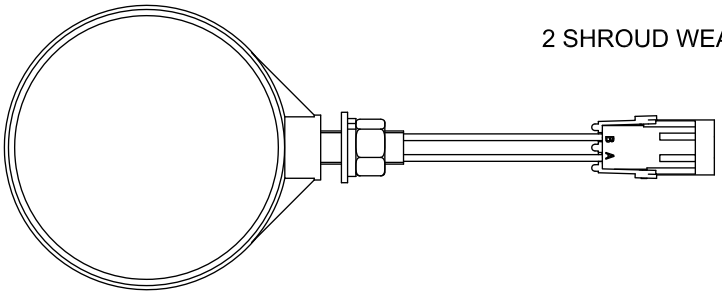
Electrical Diagram — Red Tail/Turn Light #9006345



3 Cavity Shroud Connector

Pin "A" - White - Ground
Pin "B" - Red - High
Pin "C" - Brown - Low

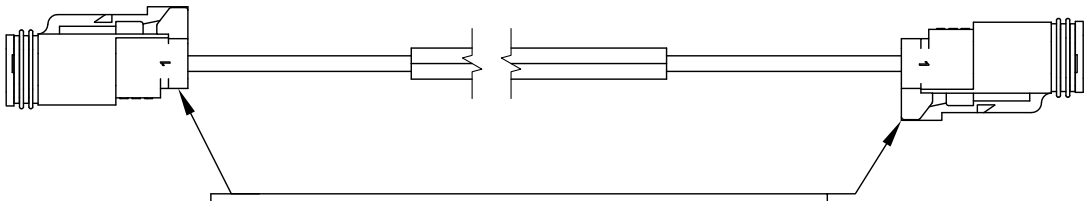
Electrical Diagram — Amber Lamp Double Face #9005142



2 SHROUD WEATHER PACK CONNECTOR

TURN AND FLASHER AMBER LIGHT (PIN #B)
GROUND (PIN #A)

Electrical System Schematic - Diverter Harness #9007266



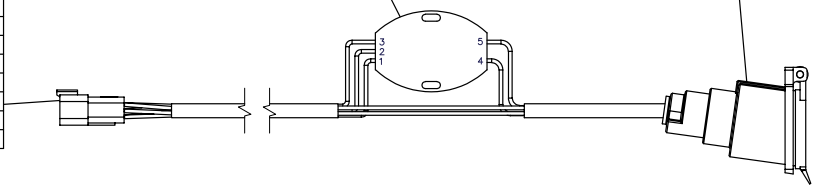
CONNECTOR TYPE: 2 PIN DEUTSCH PLUG		
PIN #	WIRE COLOR	FUNCTION
1	RED	+12V POWER
2	WHITE	GROUND

Electrical System Schematic - Adapter Harness, AG to 7-Blade Connector #9009843 (Optional - Rear Hitch)

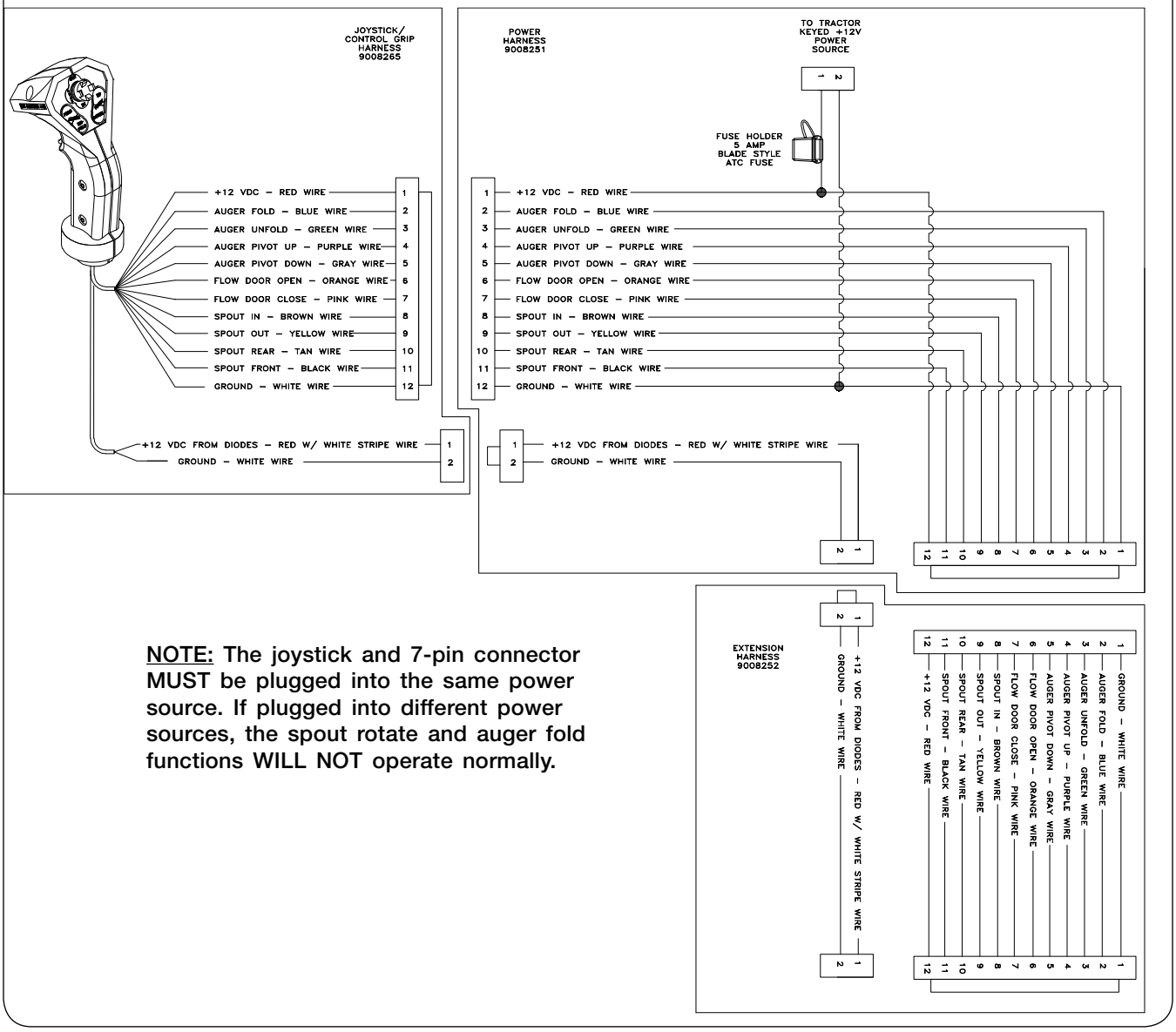
TAIL LIGHT CONVERTER		
WIRE	COLOR	WIRE FUNCTION
1	YELLOW	LEFT TURN/FLASHING
2	RED	BRAKE LIGHTS
3	GREEN	RIGHT TURN/FLASHING
4	YELLOW	LEFT TURN/STOP
5	GREEN	RIGHT TURN/FLASHING

7-BLADE CONNECTOR		
PIN #	WIRE COLOR	WIRE FUNCTION
1	WHITE	GROUND
2	NA	NA
3	BROWN	TAIL/RUNNING LIGHTS
4	BLACK	+12V SWITCHED POWER
5	YELLOW	LEFT TURN/STOP
6	GREEN	RIGHT TURN/STOP

6 PIN DEUTSCH RECEPTACLE		
PIN #	WIRE COLOR	WIRE FUNCTION
1	RED	BRAKE LIGHTS
2	GREEN	RIGHT TURN & FLASHER AMBER LIGHT
3	YELLOW	LEFT TURN & FLASHER AMBER LIGHT
4	BROWN	TAIL LIGHTS
5	WHITE	GROUND
6	BLACK	WORK LIGHTS

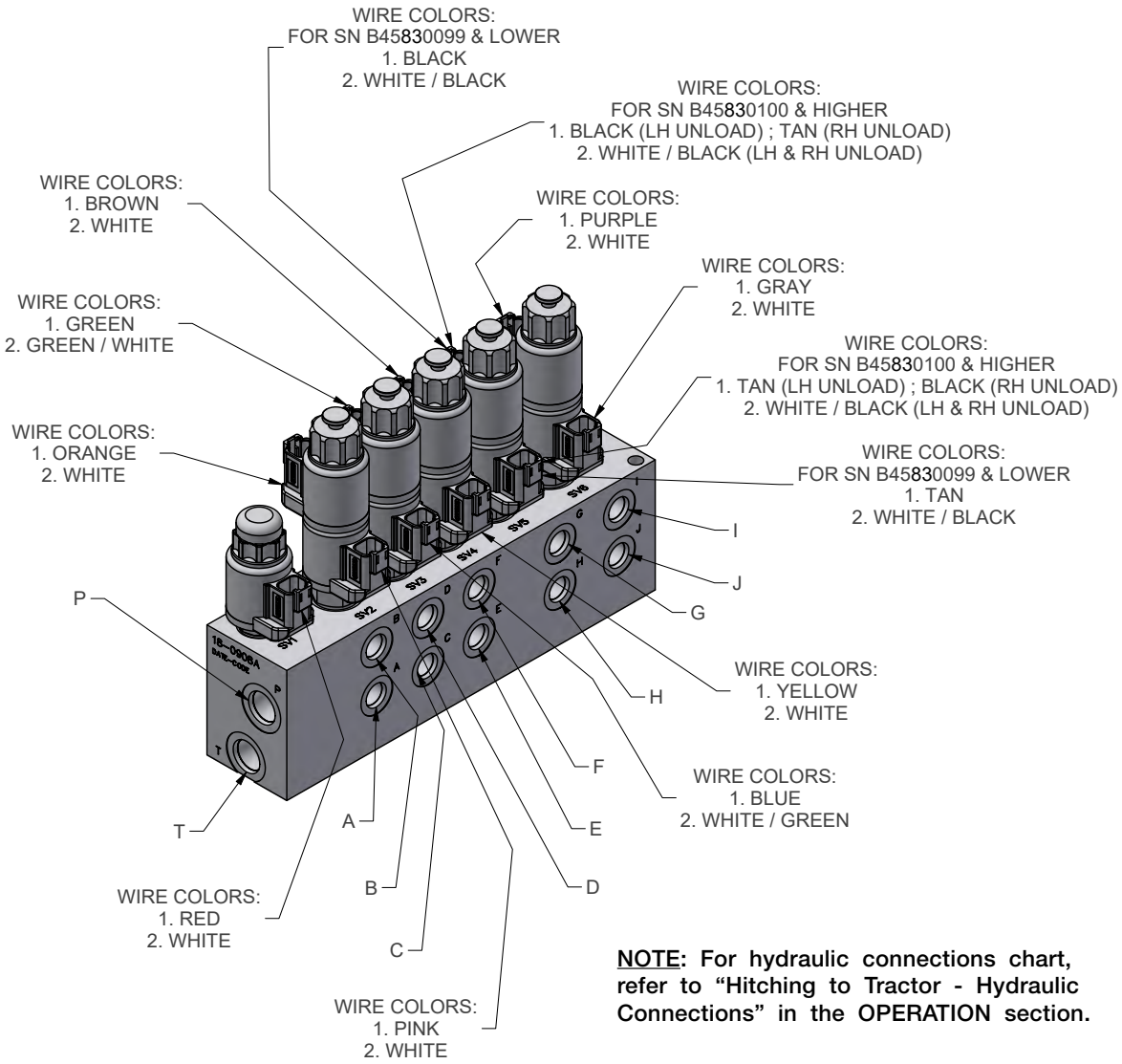


Electrical Over Hydraulic (EOH) System Schematic 5 Function Optional



NOTE: The joystick and 7-pin connector MUST be plugged into the same power source. If plugged into different power sources, the spout rotate and auger fold functions WILL NOT operate normally.

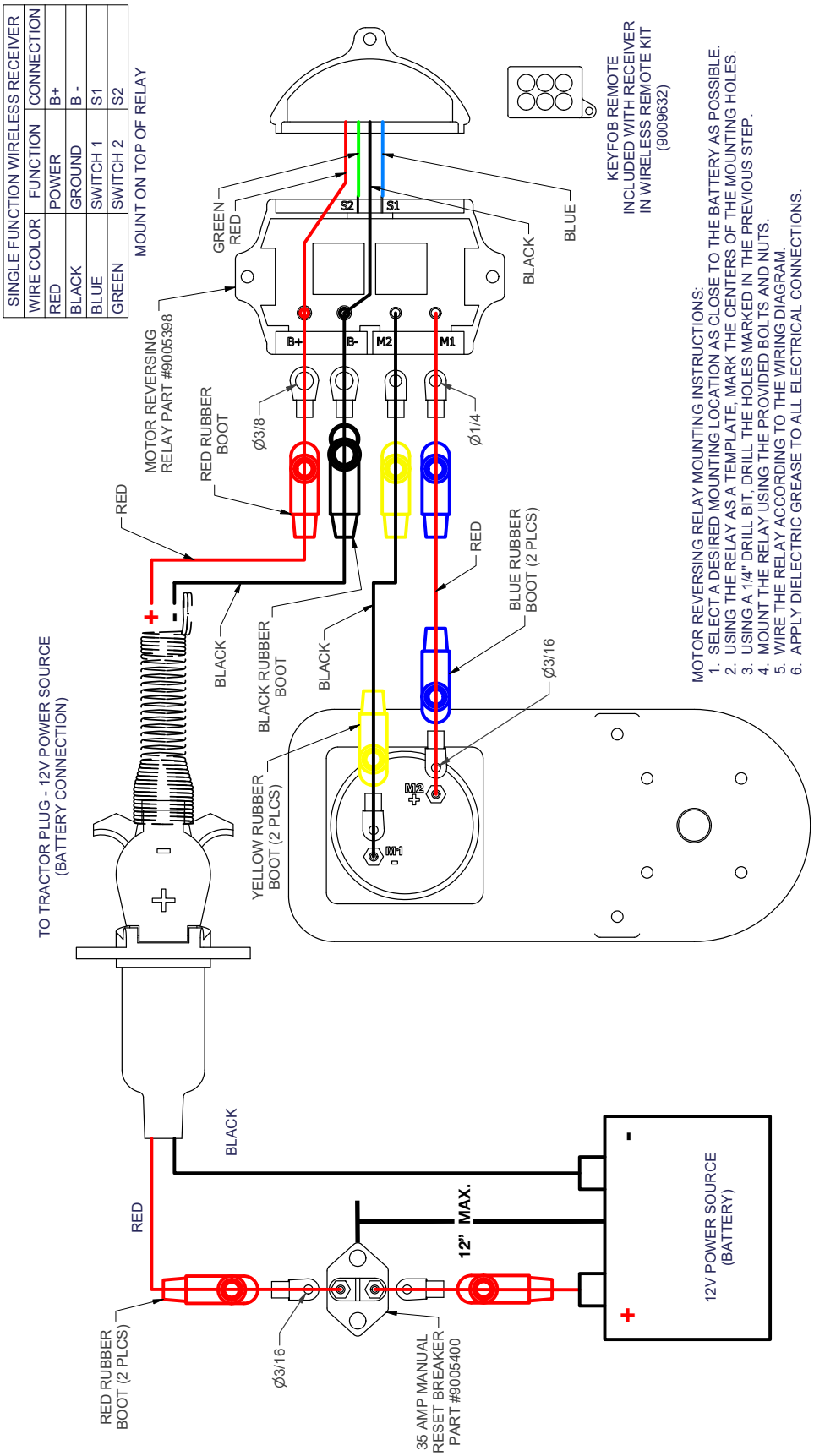
Optional Electric Over Hydraulic Valve Electric Schematic 5 Function



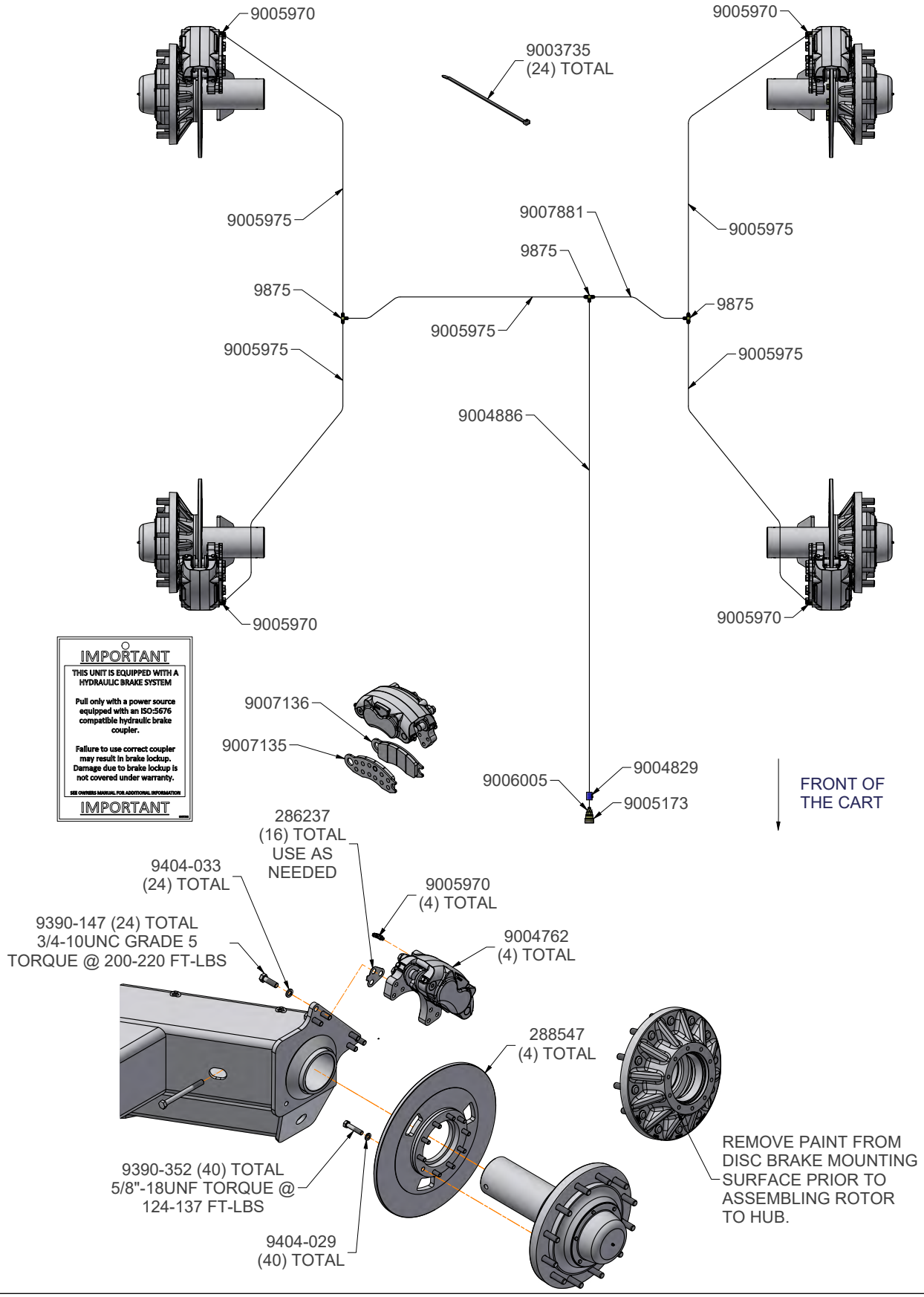
NOTE: For hydraulic connections chart, refer to "Hitching to Tractor - Hydraulic Connections" in the OPERATION section.

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

Electrical System Schematic - Optional Wireless Electric Tarp



Braking System Schematic (Optional)



Complete Torque Chart

Capscrews - Grade 5

NOTE:

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

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

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

IMPORTANT

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

Complete Torque Chart

Capscrews - Grade 8

NOTE:

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

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

IMPORTANT

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

Hydraulic Fittings – Torque and Installation

Tightening O-Ring Fittings

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

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

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

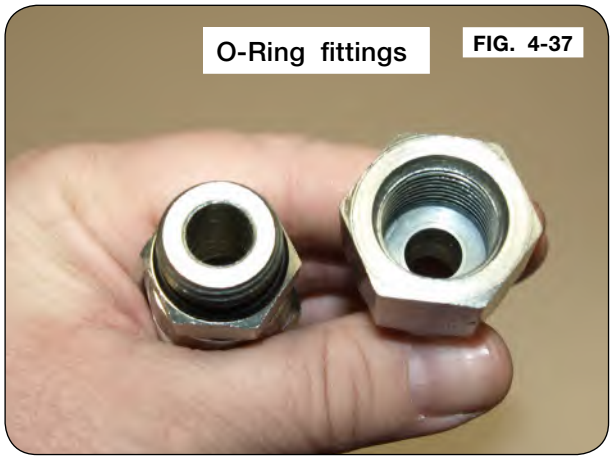


FIG. 4-37

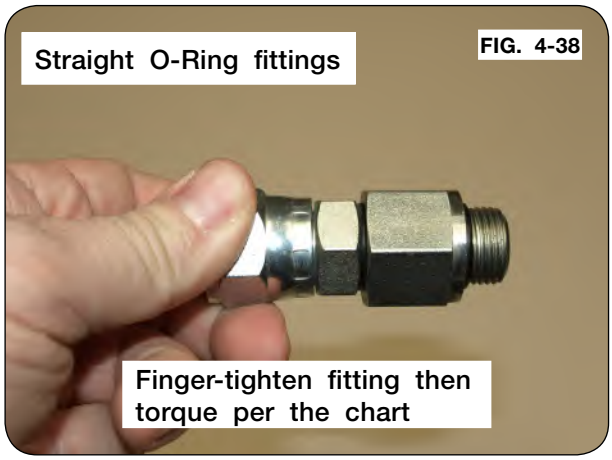


FIG. 4-38

Hydraulic Fittings – Torque and Installation (continued)

Tightening JIC Fittings

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

NOTE: Never use a power tool to install a fitting

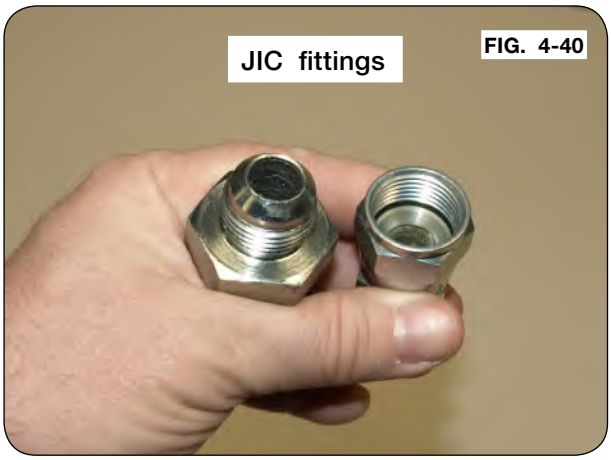


FIG. 4-40

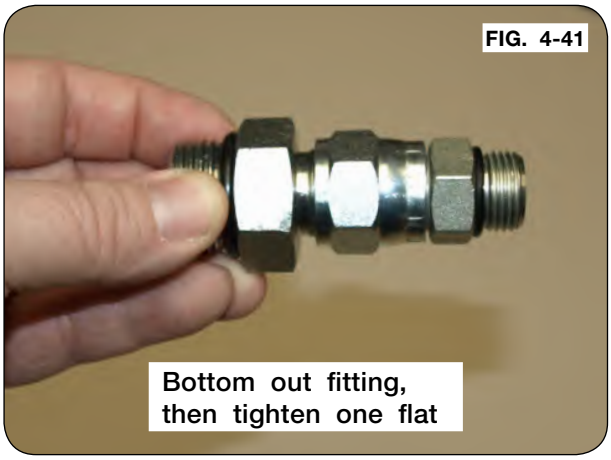


FIG. 4-41

Notes

Section V
Parts

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

(Continued on next page)

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

Section V
Parts (Continued)

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

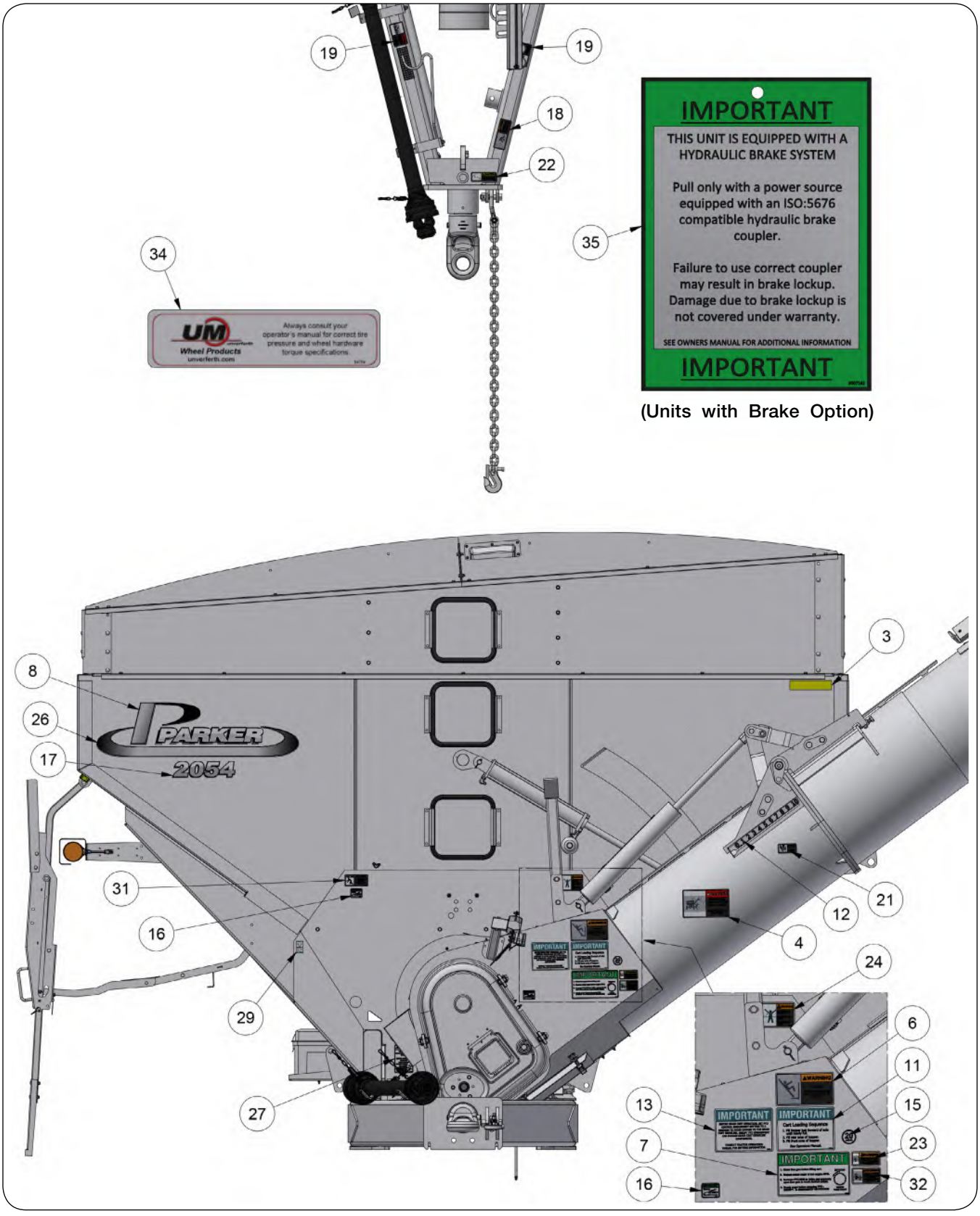
FOR SCALE, TRACK, UHARVEST, ELECTRIC TARP, AND / OR WATER DELIVERY SYSTEM INFORMATION, PLEASE REFER TO THE INDIVIDUAL MANUALS.

Notes

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

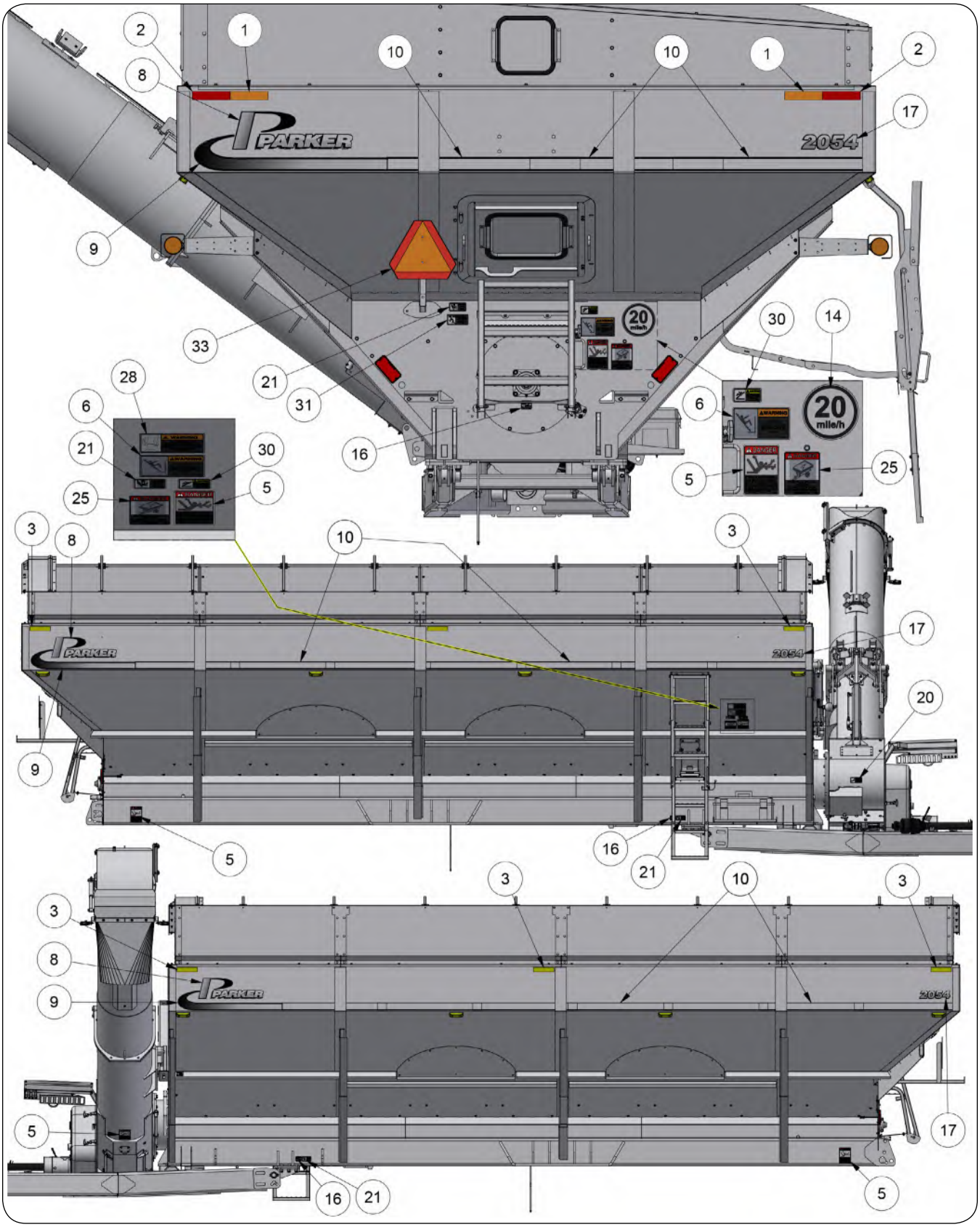
Decals

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



Decals (continued)

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



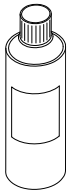
Decals (continued)

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9003125	Decal, 2" x 9" =FLUORESCENT=	2	
2	9003126	Reflector 2" x 9" =RED=	2	
3	9003127	Reflector 2" x 9" =AMBER=	8	
4	9003474	Decal, DANGER (Electrical Lines)	1	
5	9003475	Decal, DANGER (Cut & Crush)	4	
6	9003476	Decal, WARNING (No Riders)	2	
7	9003477	Decal, IMPORTANT (Operation)	1	
8	9004172	Decal, Parker Logo	4	
9	9004174	Decal, Left-Hand Swoosh	3	
10	9004175	Decal, Parker Stripe	17	
11	9004966	Decal, IMPORTANT (Cart Loading)	1	
12	9006601	Decal, Flow Control Indicator	1	
13	9008151	Decal, IMPORTANT (PTO Engagement)	1	
14	9008714	Decal, Rear SIS 20 MPH	1	
14	9008720	Decal, Rear SIS 30 KPH	1	
15	9008715	Decal, Front SIS 20 MPH	1	
15	9008721	Decal, Front SIS 30 KPH	1	
16	9008947	Decal, Grease	5	
17	9009980	Decal, 2054	4	
18	94094	Decal, WARNING (Tongue Rise)	1	
19	95046	Decal, DANGER (Entanglement)	2	
20	95445	Decal, DANGER (Do Not Use Hands)	1	
21	95839	Decal, WARNING (Pinch Point)	5	
22	97575	Decal, CAUTION (Transport Chains)	1	
23	97961	Decal, WARNING (Read Manual)	1	
24	900024	Decal, WARNING (High Pressure Oil)	1	
25	9003478	Decal, DANGER (Never Play)	1	
26	9004173	Decal, Double Swoosh	1	
27	9005971	Decal, WARNING (Suspension)	1	
28	9009168	Decal, WARNING (Ladder Lock Pin)	1	
29	91605	Decal, FEMA	1	
30	95008	Decal, CAUTION (Slippery Surface)	1	
31	98229	Decal, WARNING (Falling Equipment)	1	
32	TA1-906109-0	Decal, WARNING (Moving Parts Crush/Cut)	1	
33	TA510514	SMV Emblem	1	
34	94754	Decal, UM Wheel Systems	1	
35	9007162	Information Tag Brakes Option	1	
36	9010000	Decal, Hose Legend	1	

Touch-Up Paint

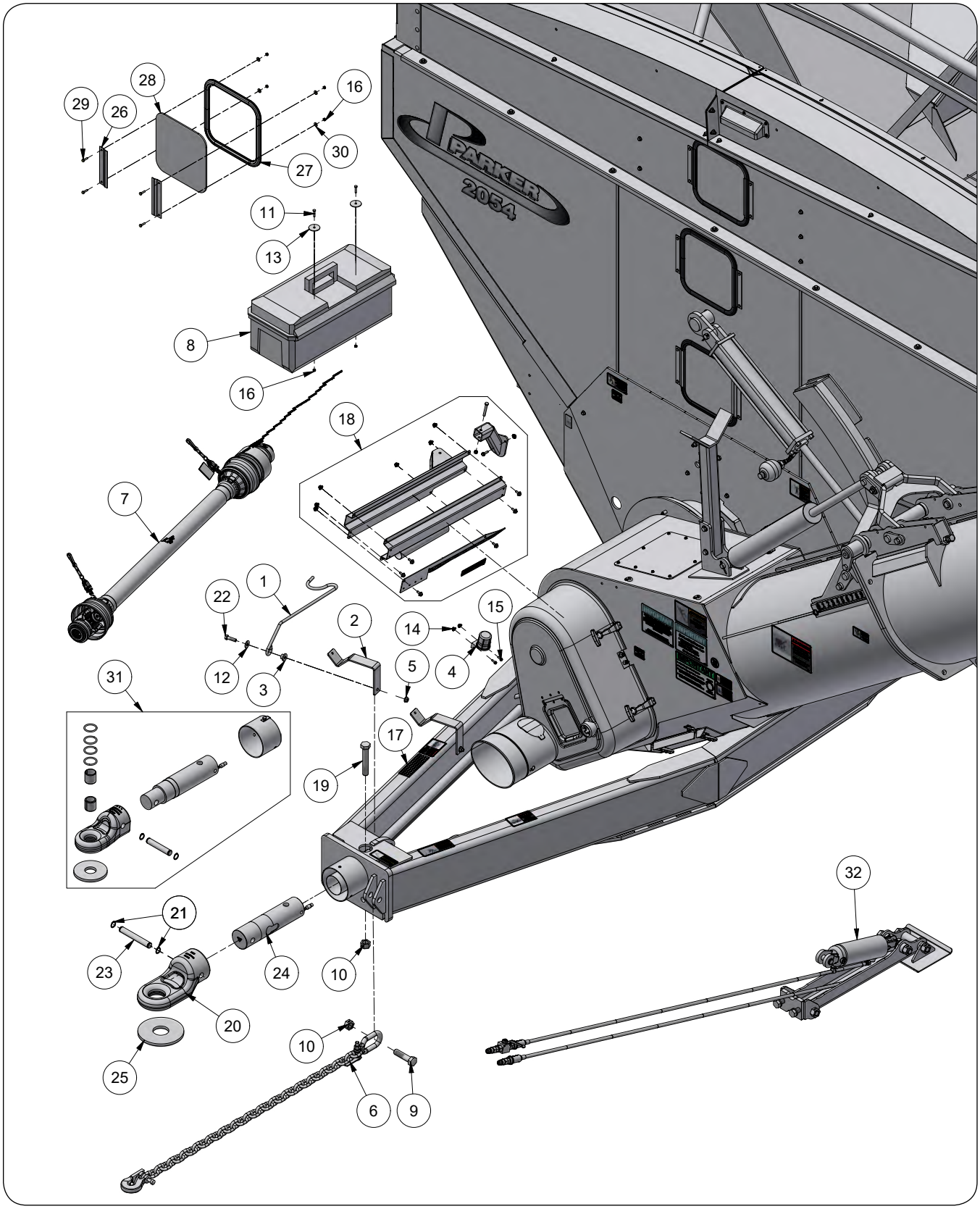
Please visit www.unverferth.com/parts/ for the most current parts listing.



PAINT	SPRAY CAN 12 OZ.
Black	97013
Green	97015
Red	97301
Primer, Gray	9500082
Silver Mist	97012
Midnight Gray Metallic	2013136

Front End Components

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



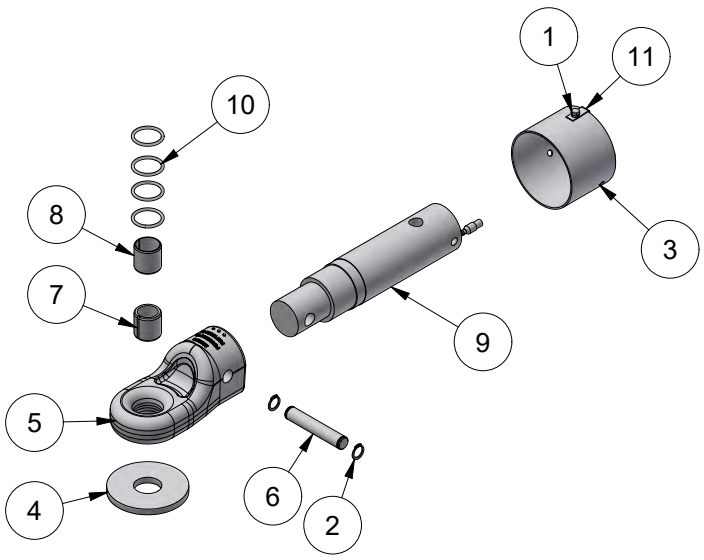
Front End Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	295840	Driveline Storage Rod	1	
2	296155Y	PTO Bracket =Yellow=	1	
3	296156	PTO Holder Bushing 1 3/8" ID	1	
4	9001968	Trailer Connector Holder	1	
5	9003397	Locknut/Top, 1/2"-13UNC	2	
6	9004898	Transport Chain 41,000#	1	Standard
	PF1238-19	Transport Chain 61,000#	1	Replaces Standard Grain Cart Transport Chain At Front Of Cart If Equipped With Optional Rear Hitch
7	9008527	PTO Assembly Complete (Benzi) with 1 3/4"-20 Spline	1	U-Joint Color is Gray See "PTO Assembly Cut Out Clutch"
8	9008634	Toolbox	1	
9	91299-191	Capscrew, 1"-8UNC x 4" G8	1	
10	92199	Locknut, 1"-8UNC	2	
11	9390-006	Capscrew, 1/4"-20UNC x 1 1/4" G5	2	
12	9405-088	Flat Washer, 1/2"	1	
13	94763	Fender Washer, 5/16" Dia.	2	
14	97189	Large Flange Hex Nut, 1/4"-20UNC	6	
15	97420	Flange Screw, 1/4"-20UNC x 3/4" G5	6	
16	9936	Locknut, 1/4"-20UNC	10	
17	9001498	Rubber Pad	1	
18	298418B	Hose Caddy Replacement Kit (Black)	1	See "Hose Caddy Components"
19	91299-195	Capscrew, 1"-8UNC x 6" G8	1	
20	282329B	Cast Hitch =Black= CAT 5	1	Standard
21	91192	Retaining Ring, 1"	2	
22	9009713	Capscrew, 1/2"-13UNC x 1 3/4" G5		
23	281691	Hitch Pin 1" Dia. x 7 3/8" CAT 5	1	Standard
24	9008119	Load Bar, 3 3/4" Dia. with 16 Ft. Cable CAT 5	1	Standard
25	281899	Wearshoe - Hitch, CAT 5	1	Standard
26	250461B	Window Bracket =Black=	4	
27	9007875 271952	Window Molding 48 3/4"	2	
28	9002544	Window (Clear Tempered)	2	
29	9390-005	Capscrew, 1/4"-20UNC x 1" G5	8	
30	9405-064	Flat Washer, 1/4"	8	
31	271889B	CAT 4 Hitch Conversion Kit		Optional, See "CAT 4 Hitch Components"
	282875B	Cast Hitch =Black= CAT 4	1	Optional
32	294143B	Hydraulic Jack Kit (Black)	1	See "Hydraulic Jack Components"

CAT 4 Hitch Components

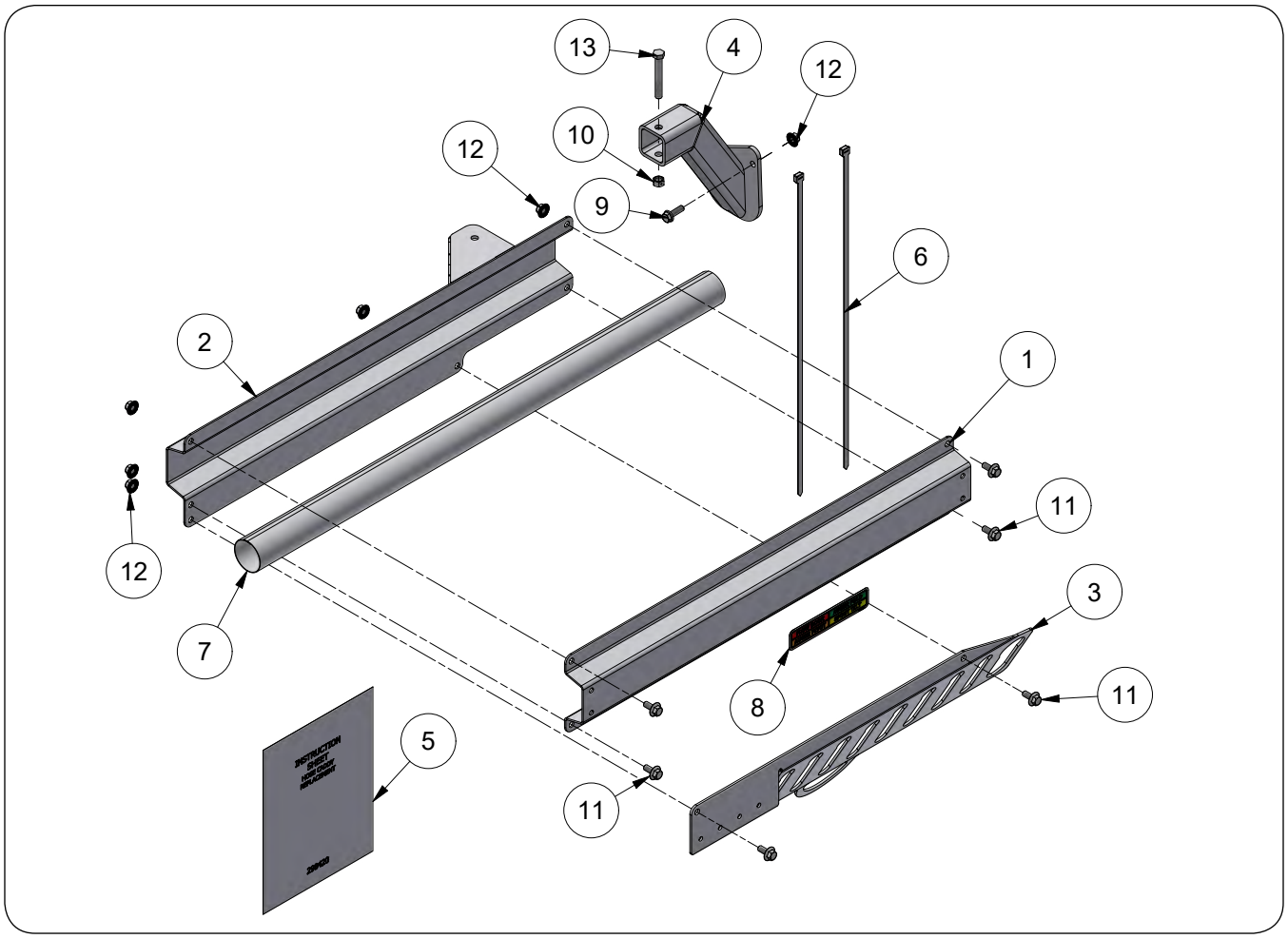
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	271889B	CAT 4 Hitch Conversion Kit		Includes items 1-11
1	9390-053	Capscrew, 3/8"-16UNC x 3/4" G5	3	
2	91192	Retaining Ring, 1"	2	
3	271891B	Tube Shield =Black=	1	
4	281898	Wearshoe - Hitch, CAT 4	1	
5	282875B	Cast Hitch =Black= CAT 4	1	
6	282876	Pin, 1" Dia. x 5 5/8"	1	
7	9001917	Bushing, 2" OD x 1 1/2" ID x 2"	1	
8	9002130	Bushing, 2" OD x 1 3/4" ID x 2"	1	
9	9004910	Load Bar, 3 3/4" Dia. with 16 Ft. Cable CAT 4	1	
10	9005259	O-Ring, 2"	4	
11	9005376	U-Nut, 3/8"-16UNC	3	

Hose Caddy Components

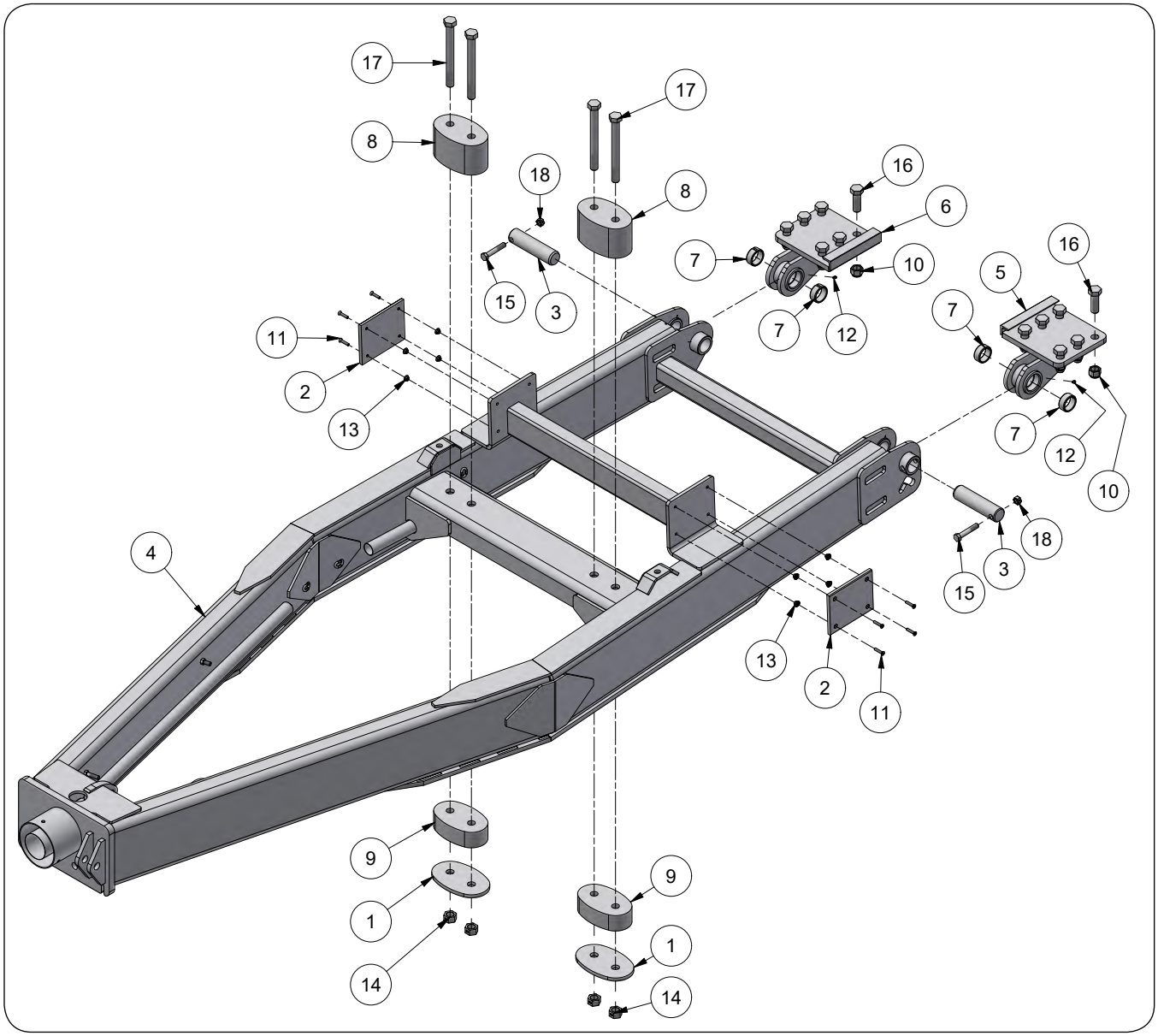
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	298418B	Hose Caddy Replacement Kit (Black)	1	Includes Items 1-13
1	294085B	Hose Caddy Cover =Black=	1	
2	295799B	Hose Caddy Weldment =Black=	1	
3	296159	Hose Retainer Plate	1	
4	297490B	Hose Caddy Mount Weldment =Black=	1	
5	298420	Instruction Sheet	1	
6	9000104	Cable Tie, 21 1/2"	2	
7	9003848	Hose Wrap 2" Dia.	1 Ft.	
8	9010000	Decal, Hose Legend	1	
9	98580	Flange Screw, 5/16"-18UNC x 1 1/4" G5	2	
10	902875	Locknut/Center, 3/8"-16UNC	1	
11	91256	Flange Screw, 5/16"-18UNC x 3/4" G5	6	
12	91257	Hex Nut/Large Flange, 5/16"-18UNC	8	
13	9390-062	Capscrew, 3/8"-16UNC x 2 3/4" G5	1	

Tongue Components

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



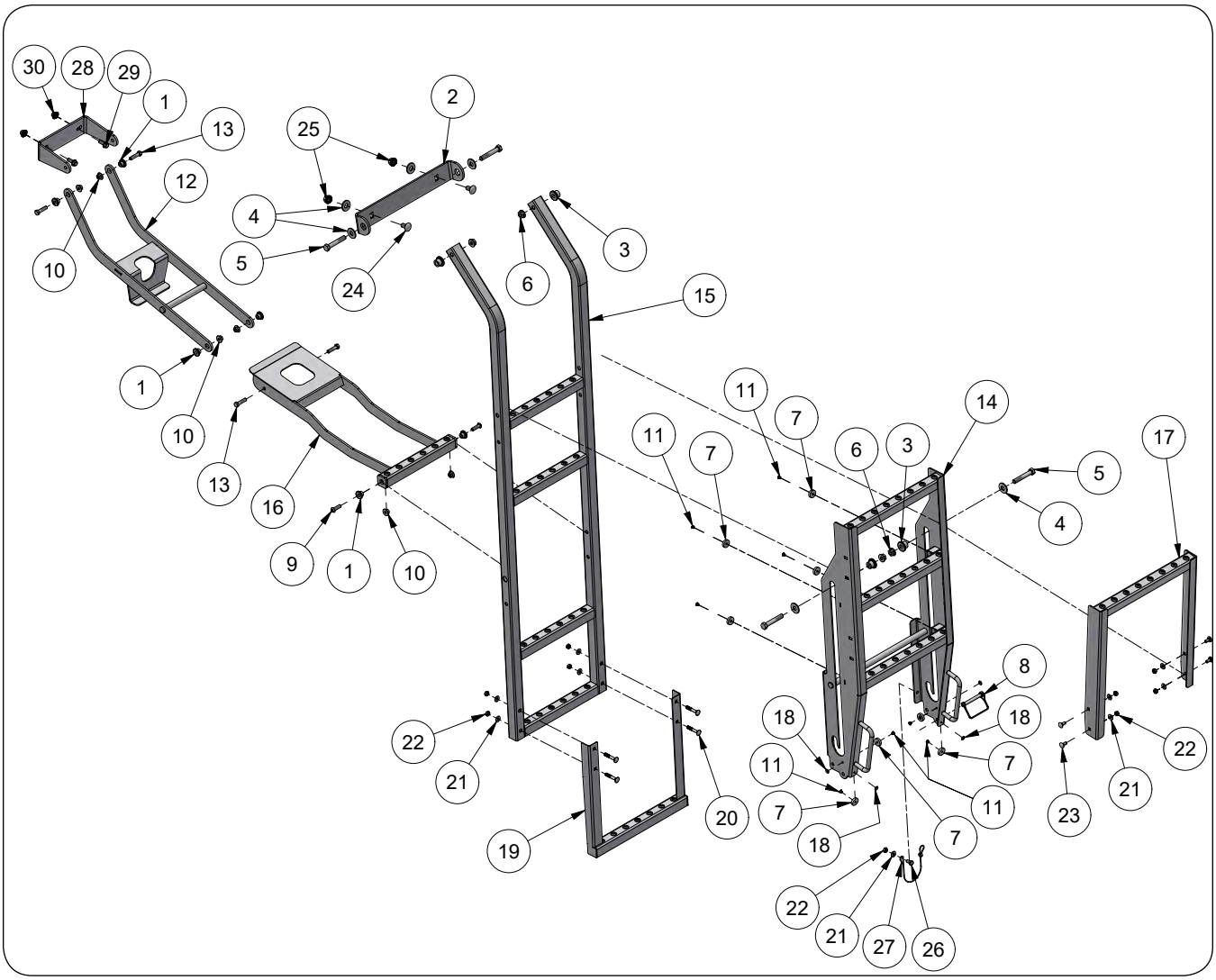
Tongue Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	271687B	Spring Retainer Plate =Black=	2	
2	273237	Nylon Wear Pad	2	
3	273368	Tongue Pin 2" Dia. x 7 3/4"	2	
4	273780G	Tongue Weldment =Green=	1	
	273780M	Tongue Weldment =Midnight Gray Metallic=		
	273780R	Tongue Weldment =Red=		
5	274818G	Tongue Pivot Weldment Left-Hand =Green=	1	
	274818M	Tongue Pivot Weldment Left-Hand =Midnight Gray Metallic=		
	274818R	Tongue Pivot Weldment Left-Hand =Red=		
6	274819G	Tongue Pivot Weldment Right-Hand =Green=	1	
	274819M	Tongue Pivot Weldment Right-Hand =Midnight Gray Metallic=		
	274819R	Tongue Pivot Weldment Right-Hand =Red=		
7	9005473	Split Tension Bushing 2 3/8" OD x 2" ID x 1"	4	
8	9006456	Polyurethane Spring 4 3/4" Thick	2	
9	9006457	Polyurethane Spring 2 1/2" Thick	2	
10	9008441	Elastic Locknut 1"-14UNS	12	
11	903171-663	Flat Countersunk Head Phillips Screw, 5/16"-18UNC x 1 1/2"	8	
12	91160	Grease Zerk	2	
13	91257	Flange Nut 5/16"-18UNC	8	
14	92199	Locknut, 1"-8UNC	4	
15	9390-130	Capscrew 5/8"-11UNC x 3 1/2" G5	2	
16	9390-409	Capscrew 1"-14UNS x 3" G5	12	
17	9390-464	Capscrew 1"-8UNC x 10" G5	4	
18	95905	Locknut/Ctr 5/8"-11UNC	2	

Side Ladder Components

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



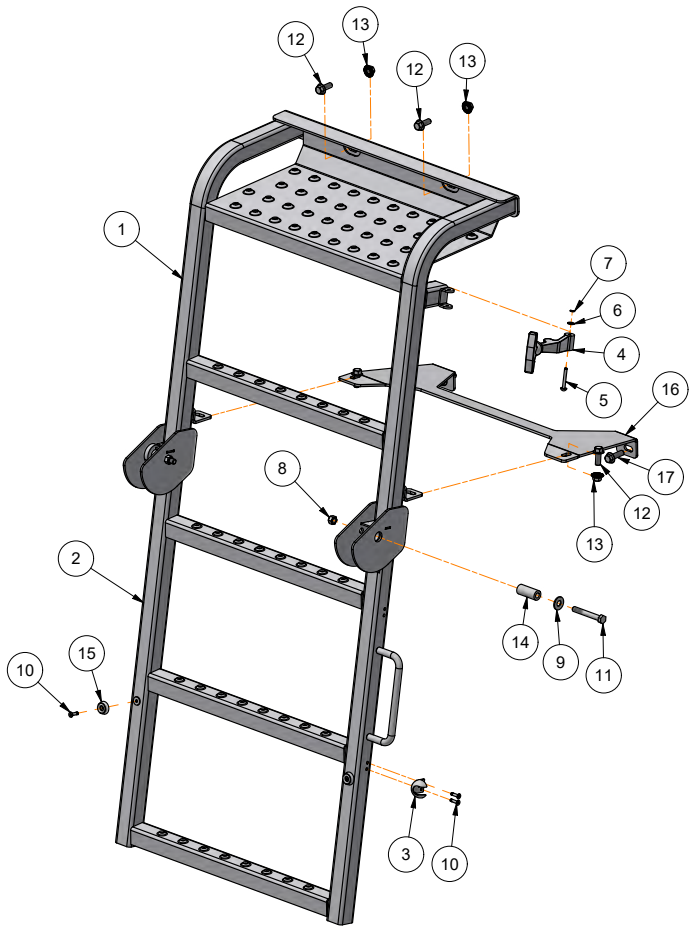
Side Ladder Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	2003029	Nylon Bushing, .625" OD x .406" ID x .380"	6	
2	289294B	Plate-Bracket, Ladder =Black=	1	
3	2003030	Nylon Bushing, .875" OD x .531" ID x .563"	4	
4	9405-088	Flat Washer, 1/2" USS	6	
5	9390-107	Capscrew, 1/2"-13UNC x 3" G5	4	
6	9003397	Locknut/Top, 1/2"-13UNC	4	
7	TA620384	Plastic Stop, 1" Dia. x .250"	8	
8	9005305	Lynch Pin, 3/8" Dia. x 3"	1	
9	99985	Button Head Socket, 3/8"-16UNC x 1 1/4"	2	
10	9008159	Locknut/Top, 3/8"-16UNC	6	
11	9003503	Rivet, 3/16" X 1/4"	8	
12	289717B	Ladder Link Weldment =Black=	1	
13	9390-057	Capscrew, 3/8"-16UNC x 1 1/2" G5	4	
14	289328B	Ladder Extension Weldment =Black=	1	
15	289326B	Ladder Weldment =Black=	1	
16	289280B	Step Weldment =Black=	1	
17	289707B	Ladder Extension Weldment =Black=	1	
18	9004998	Rivet Burr 3/16"	4	
19	289844B	Ladder Weldment =Black=	1	
20	9388-029	Carriage Bolt, 5/16"-18UNC x 2" G5	4	
21	9405-064	Flat Washer, 5/16" ID USS	9	
22	901527	Locknut/Center, 5/16"-18UNC	9	
23	9388-024	Carriage Bolt, 5/16"-18UNC x 3/4" G5	4	
24	9388-102	Carriage Bolt, 1/2"-13UNC x 1"	2	
25	91267	Flange Nut, 1/2"-13UNC	2	
26	9390-027	Capscrew, 5/16"-18UNC x 5/8" G5	1	
27	97879	Nylon Lanyard	1	
28	289704B	Ladder Mount =Black=	1	
29	91262	Flange Screw, 3/8"-16UNC x 1" G5	2	
30	91263	Nut/Large Flange, 3/8"-16UNC	2	

Rear Ladder Components

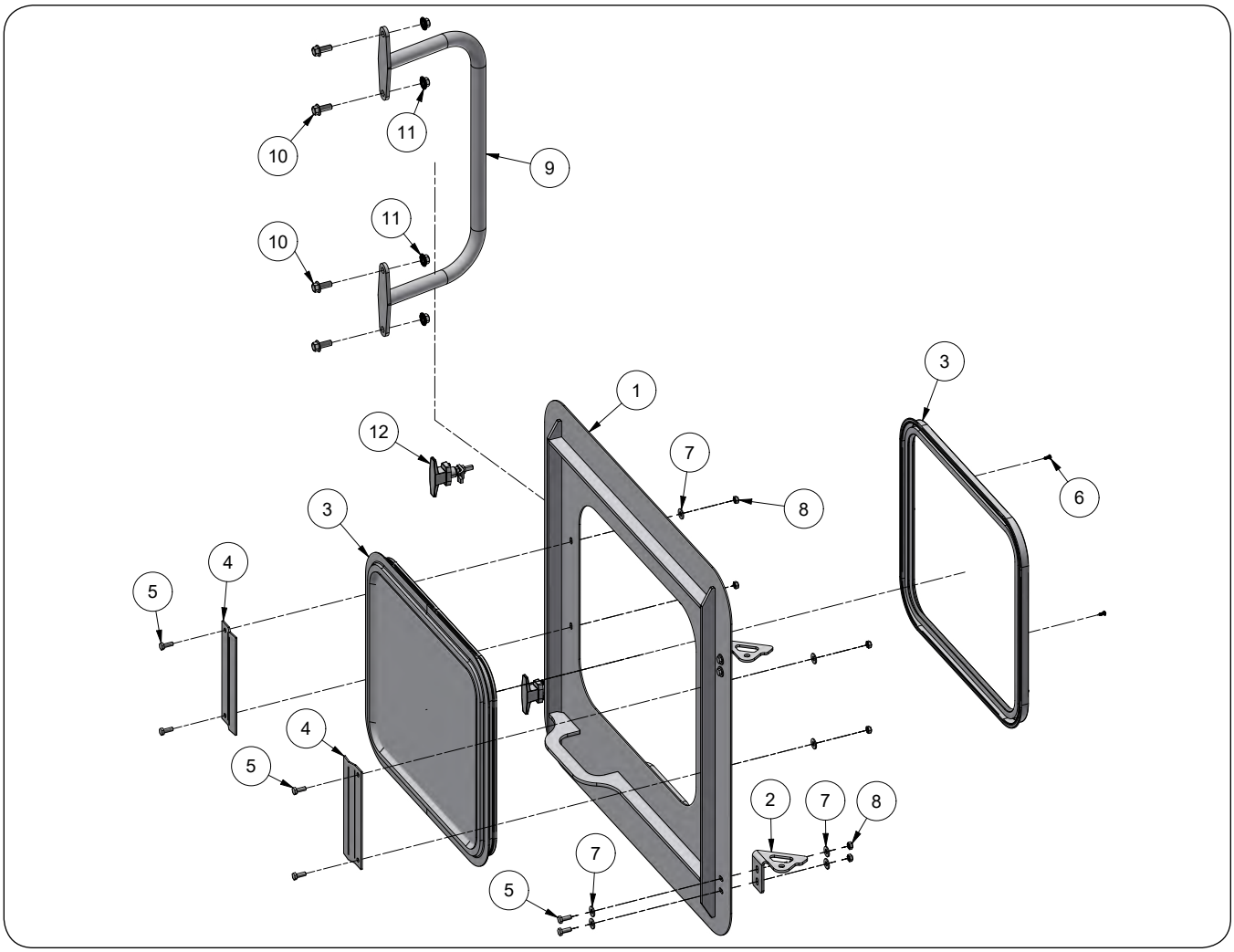
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	297804B	Upper Ladder Replacement Kit (Black)	1	Includes Upper Ladder, Items 3 and 10
2	297805B	Lower Ladder Replacement Kit (Black)	1	Includes Lower Ladder, Items 3 and 10
3	900059	Draw Latch Keeper	1	
4	900060	Draw Latch Handle	1	
5	900066	Pin 3/16" x 1 1/2"	1	
6	900067	Washer 1/2"	1	
7	900068	E-Ring	1	
8	9928	Locknut 3/8-16UNC"	2	
9	9405-076	Flat Washer 3/8" USS	2	
10	TA0-908386-0	3/16" Stainless Rivet	4	
11	9390-062	Capscrew 3/8"-16UNC x 2 3/4" G5	2	
12	91262	Flange Screw 3/8"-16UNC x 1" G5	4	
13	91263	Nut/Large Flange, 3/8"-16UNC	4	
14	295137	Pivot Bushing	2	
15	9003850	Bumper	2	
16	296586B	Ladder Bolt Plate =Black=	1	
17	9003259	Flange Screw 3/8"-16UNC x 1 1/4" G5	2	

Rear Access Door Components

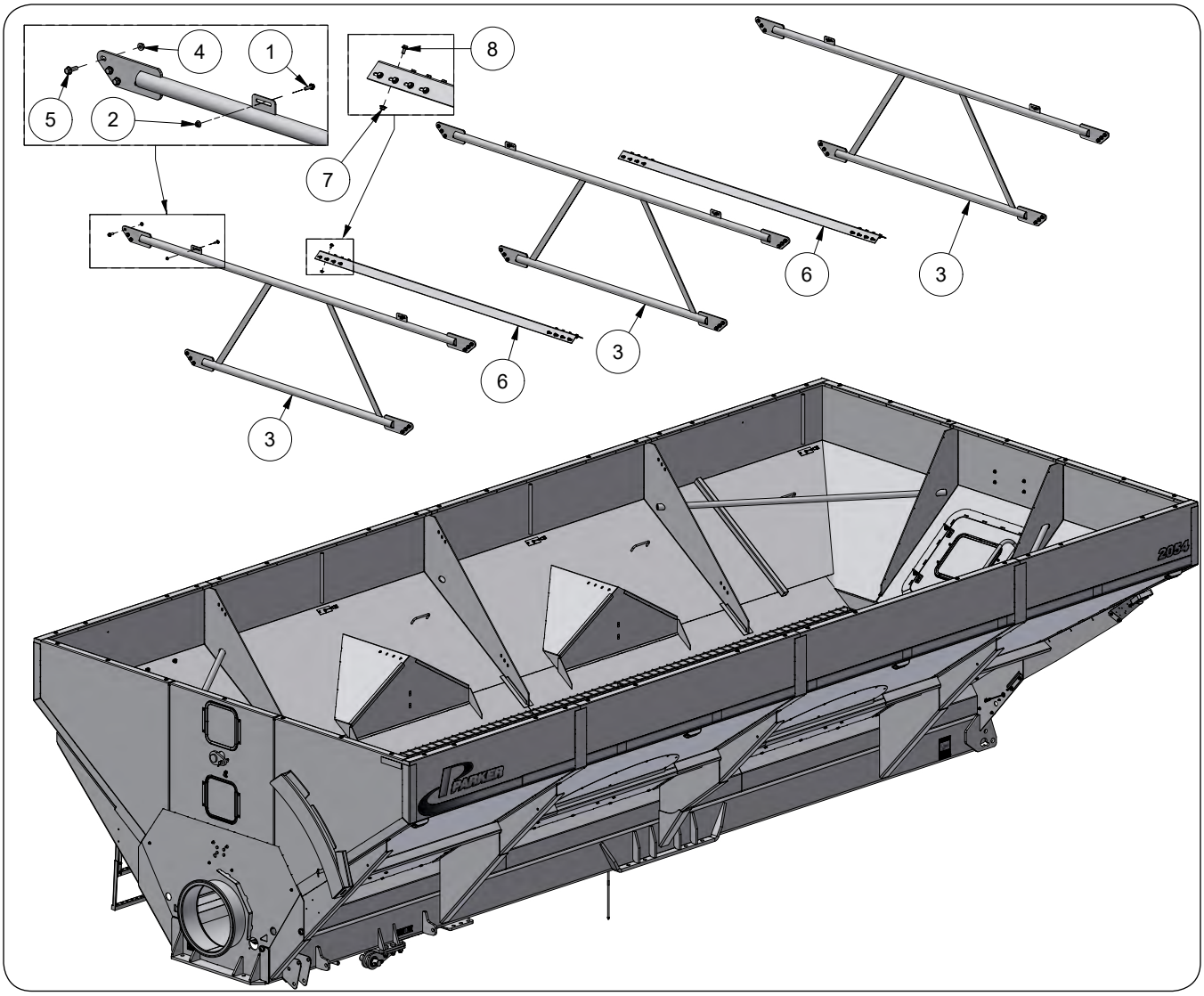
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	256527G	Rear Access Door Weldment =Green=	1	
	256527M	Rear Access Door Weldment =Midnight Gray Metallic=		
	256527R	Rear Access Door Weldment =Red=		
2	256670B	Rear Access Door Hinge =Black=	2	
3	9008680	Window and Trim Assembly	1	
4	294121B	Window Bracket =Black=	2	
5	9390-003	Capscrew, 1/4"-20UNC x 3/4" G5	8	
6	9008933	Phillips Head Screw, #8-18 x 1/2"	10	
7	9405-064	Flat Washer, 1/4" USS	8	
8	9936	Locknut/Top, 1/4"-20UNC	8	
9	296534B	Access Door Handle Weldment =Black=	1	
10	91262	Flange Screw, 3/8"-16UNC x 1" G5	4	
11	91263	Nut/Large Flange, 3/8"-16UNC	4	
12	9009768	Compression Draw Latch =Black=	2	

Internal Bracing Components

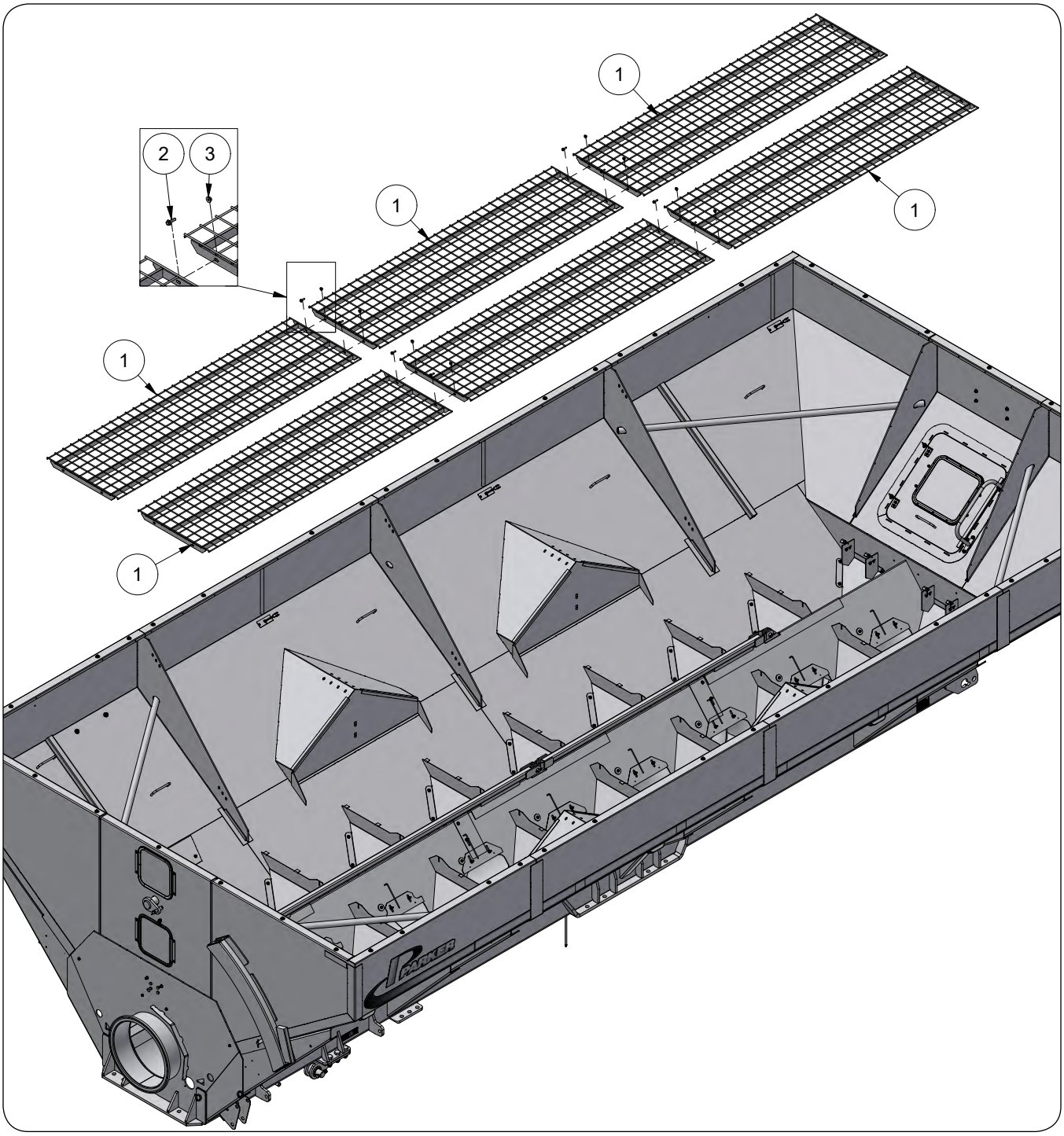
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9003259	Flange Screw, 3/8”-16UNC x 1 1/4” G5	6	
2	9008159	Automation Locknut/Top, 3/8”-16UNC	6	
3	294409B	Cross Brace Weldment =Black=	3	
4	9003397	Locknot/Top Flange Nut, 1/2”-13UNC	36	
5	9005705	Flange Screw, 1/2”-13UNC x 1 1/2” G5	36	
6	273491B	Wheel Well Brace =Black=	2	
7	91263	Nut/Large Flange, 3/8”-16UNC	32	
8	95585	Capscrew/Large Flange, 3/8”-16UNC x 3/4” G5	32	

Tandem & Track Screen Components

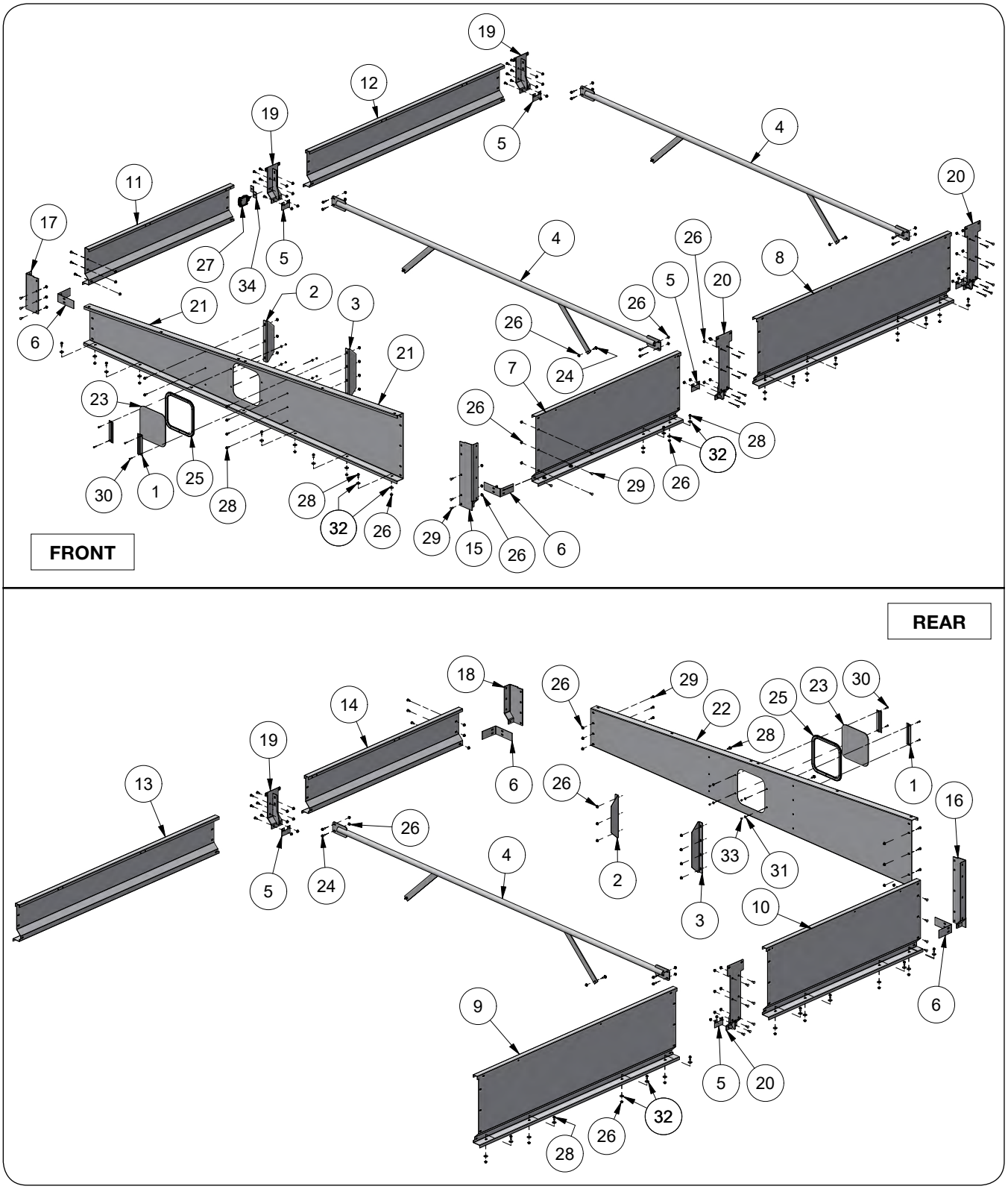
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	294286B	Screen Weldment =Black=	6	
2	9003259	Flange Screw, 3/8"-16UNC x 1 1/4" G5	8	
3	9008159	Automation Locknut/Top, 3/8"-16UNC	8	

Sideboard Components

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



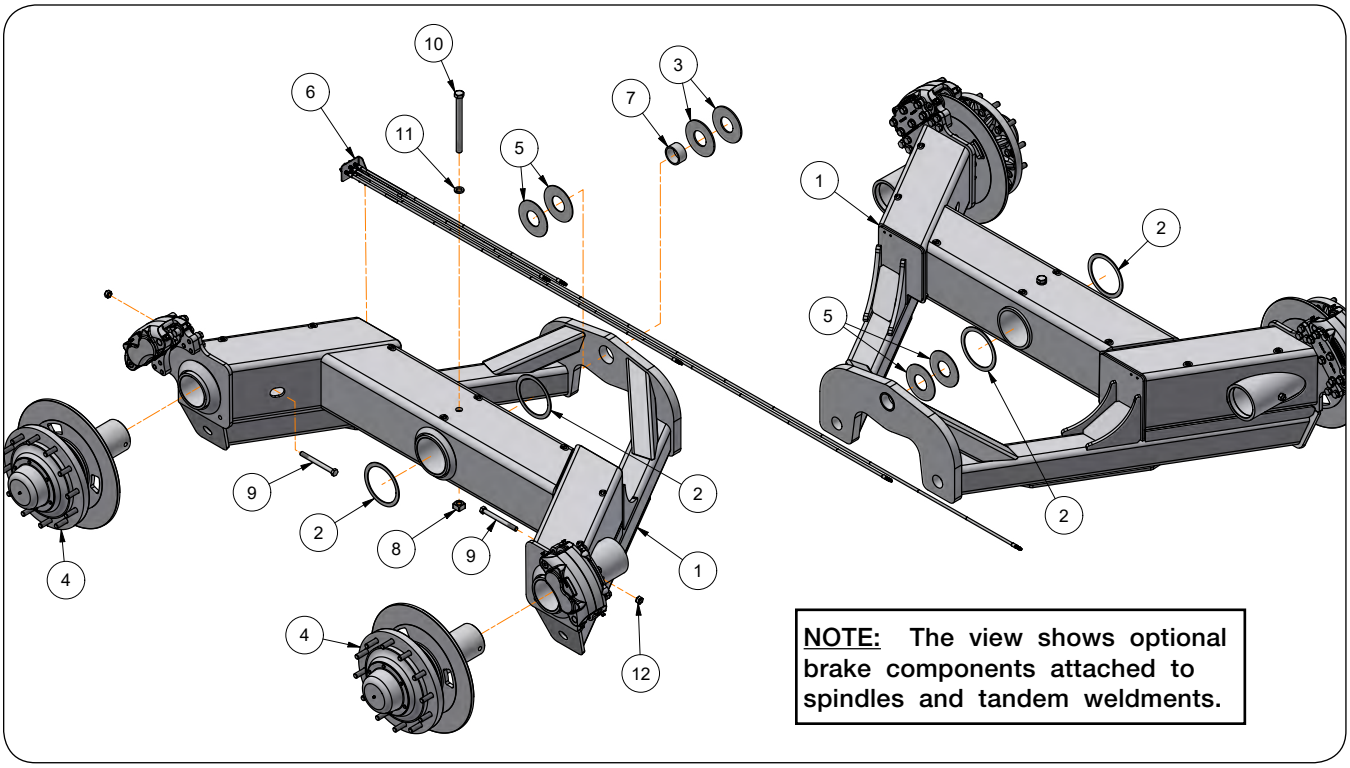
Sideboard Components

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	250461B	Window Bracket =Black=	4	
2	294439B	Plate, Sideboard Brace Right-Hand 16" =Black=	2	
3	294440B	Plate, Sideboard Brace Left-Hand 19 1/4" =Black=	2	
4	294441B	Sideboard Brace Weldment =Black=	3	
5	295124B	Sideboard Cover Plate =Black=	6	
6	295125B	Sideboard Cover Bracket =Black=	4	
7	295818B	Front LH Board Weldment =Black=	1	
8	295819B	2nd LH Board Weldment =Black=	1	
9	295820B	3rd LH Board Weldment =Black=	1	
10	295821B	Rear LH Board Weldment =Black=	1	
11	295822B	Front RH Board Weldment =Black=	1	
12	295823B	2nd RH Board Weldment =Black=	1	
13	295824B	3rd RH Board Weldment =Black=	1	
14	295825B	Rear RH Board Weldment =Black=	1	
15	295828B	Plate - Sideboard Left-Hand Front Corner =Black=	1	
16	295829B	Plate - Sideboard Left-Hand Rear Corner =Black=	1	
17	295830B	Plate - Sideboard Right-Hand Front Corner =Black=	1	
18	295831B	Plate - Sideboard Right-Hand Rear Corner =Black=	1	
19	295832B	Sideboard Bracket Weldment Right-Hand =Black=	3	
20	295833B	Sideboard Bracket Weldment Left-Hand =Black=	3	
21	297483B	Front Board Weldment =Black=	1	
22	297484B	Rear Board Weldment =Black=	1	
23	9002544	Window (Clear Tempered)	2	
24	9003259	Flange Screw, 3/8"-16UNC x 1 1/4" G5	18	
25	271952	Window Molding 48 3/4"	2	
26	9008159	Automation Locknut/Top, 3/8"-16UNC	160	
27	9008957	Work Light, LED	1	
28	91262	Screw/Large Flange, 3/8"-16UNC x 1" G5	60	
29	9388-051	Carriage Bolt 3/8"-16UNC x 1" G5	70	
30	9390-005	Capscrew 1/4"-20UNC x 1" G5	8	
31	9405-064	Flat Washer 1/4" USS	8	
32	9405-078	Flat Washer, 3/8" Type B	92	
33	9936	Locknut/Top 1/4"-20UNC G5	8	
34	271574B	Lamp Mount =Black=	1	

Tandem Components

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

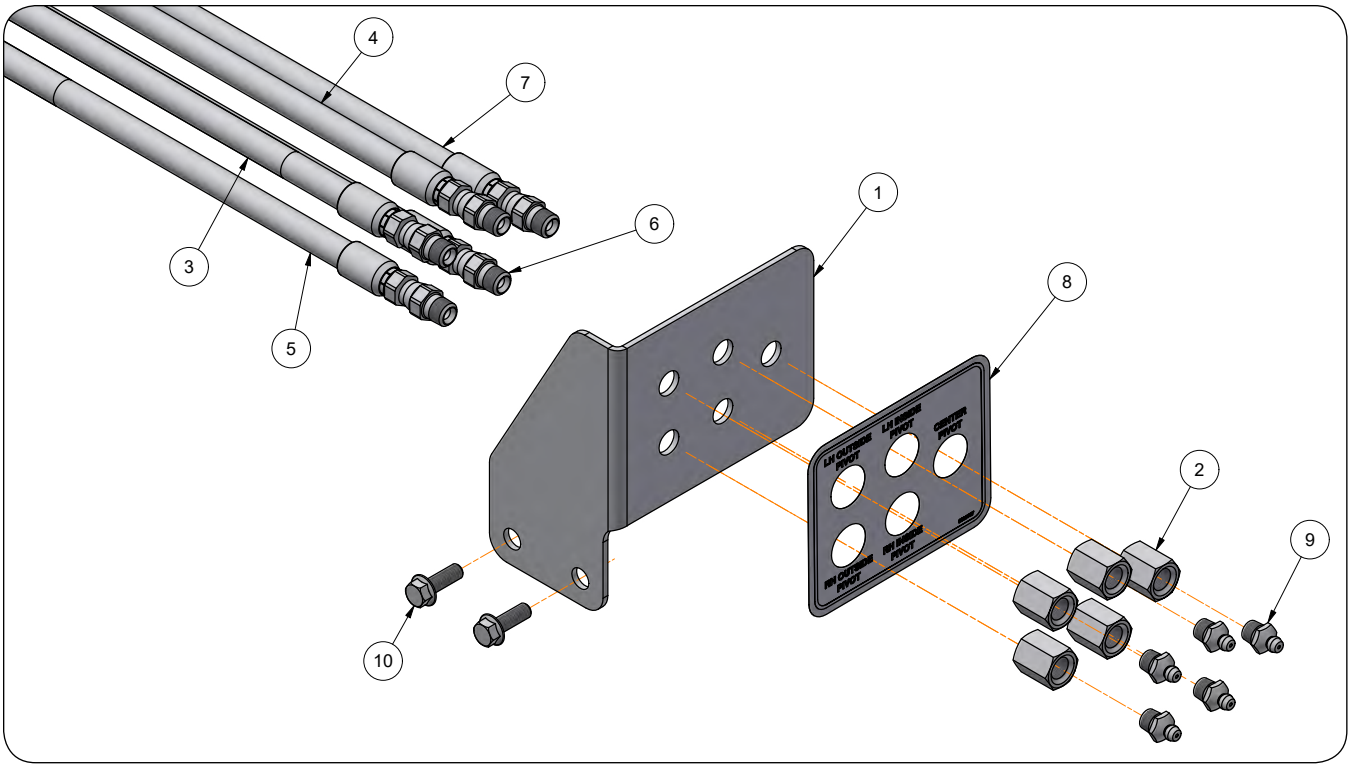


NOTE: The view shows optional brake components attached to spindles and tandem weldments.

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	288501B	Tandem Weldment =Black=	2	
2	282690	Washer 8 1/2" OD x 7.063" ID	4	
3	288538	Washer 7" OD x 3.06" ID	2	
4	288543B	Hub & Spindle Assembly (Black)	4	
5	288782	Washer 7" OD x 3.06" ID	4	
6	291310B	Grease Bank Assembly (Black)	1	
7	9007867	Self-Lubricated Bushing 3.5" OD x 3" ID x 1.75"	2	
8	9007888	Heavy Square Nut 1"-8UNC Gr.5	2	
9	9390-161	Capscrew 3/4"-10UNC x 8"	4	
10	9390-468	Capscrew 1"-8UNC x 12"	2	
11	9404-041	Lock Washer 1"	2	
12	96732	Locknut/Center 3/4"-10UNC	4	

Tandem Grease Bank Assembly #291310B

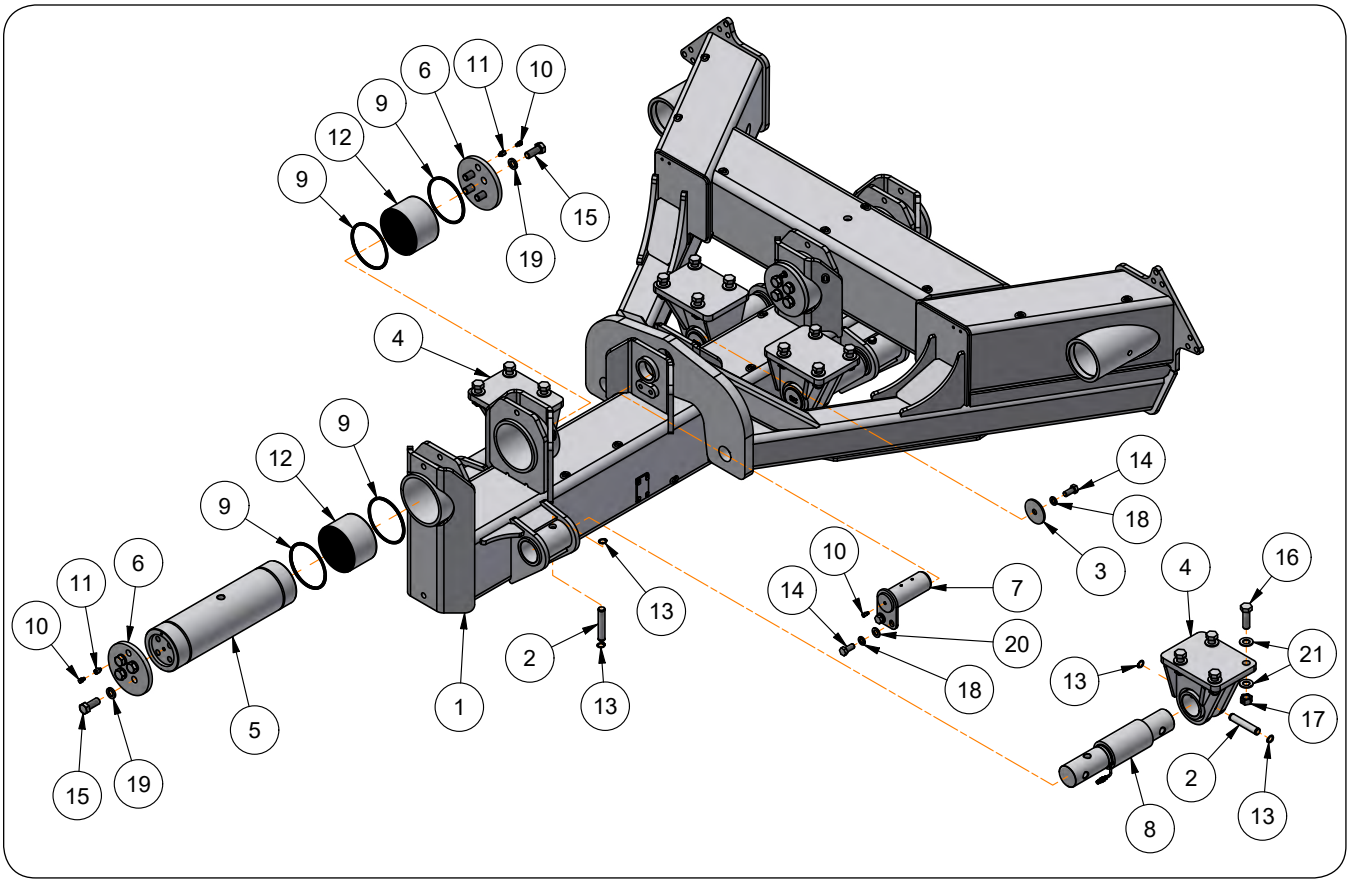
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
	291303B	Auto Grease Kit - OPERATOR MANUAL #291304		
	291310B	Grease Bank Assembly =Black=	-	Includes items 1-10
1	288783B	Grease Bank Bracket =Black=	1	
2	9003949	Coupler 1/8" NPT	5	
3	9008182	Hose 3/16" x 53"	1	
4	9008183	Hose 3/16" x 50"	1	
5	9008184	Hose 3/16" x 166"	1	
6	9008185	Hose 3/16" x 135"	1	
7	9008186	Hose 3/16" x 84"	1	
8	9008187	Decal, Grease Bank	1	
9	93426	Grease Zerk	5	
10	97420	Flange Screw 1/4"-20UNC x 3/4"	2	

Tandem Axle Components

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



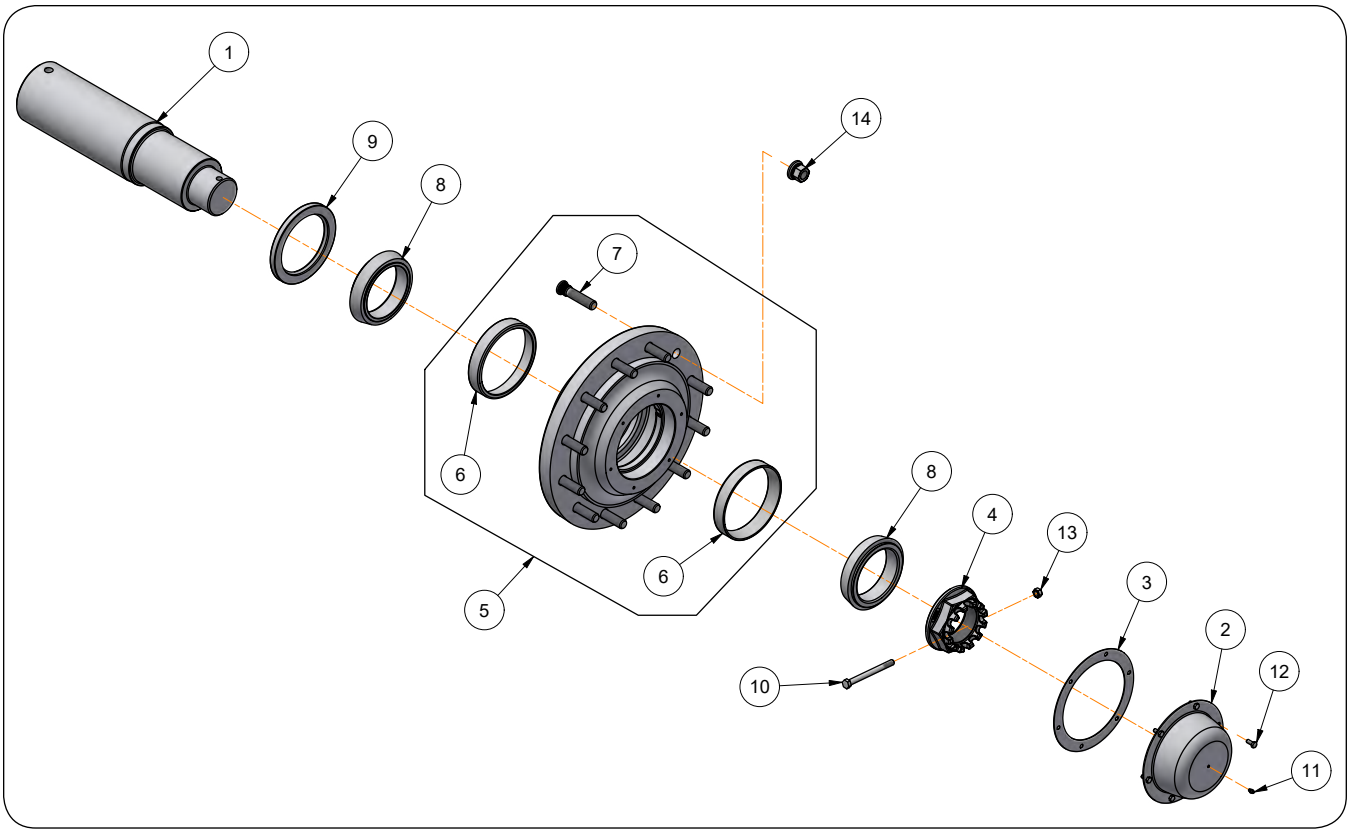
Tandem Axle Components

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	288503B	Tandem Axle Weldment =Black=	1	
2	282876	Hitch Pin 1" Dia. x 5 1/2"	8	
3	282379B	Washer 3 15/16" OD x 13/16" ID x =Black=	1	
4	288504B	Axle Mount Weldment =Black=	4	
5	298059	Pin Weldment 7" Dia. x 25 1/4"	2	
6	298058B	Cover Plate =Black=	4	
7	288551	Pin Weldment 3" Dia.	1	
8	9005811	Load Bar 3 1/2" Dia.	4	
9	9006410	Seal	8	
10	9006785	Adapter 90°	5	
11	9006816	Adapter 1/8" NPT	4	
12	9006971	Pivot Bushing 7.519" OD x 7.013" ID x 4.75"	4	
13	91192	Retaining Ring	16	
14	9390-144	Capscrew 3/4"-10UNC x 1 3/4"	3	
15	9390-185	Capscrew 1"-8UNC x 2 1/2"	16	
16	91299-1458	Capscrew 1"-14UNS x 3 1/2" G8	16	
17	9008441	Locknut 1"-14UNS G8	16	
18	9404-033	Lock Washer 3/4"	3	
19	9404-041	Lock Washer 1"	16	
20	9405-104	Flat Washer 3/4" SAE	2	
21	804685	Flat Washer 2" Dia.	32	

Tandem Hub Components

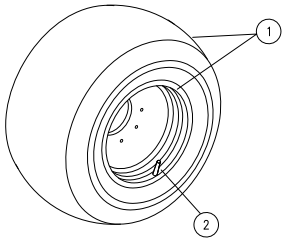
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	288543B	Hub & Spindle Assembly with M22 x 1.5 Hdw (Black)	1	Includes Items 1 through 13
1	282311	Spindle 6" Dia. x 23 13/16"	1	
2	282314B	Hub Cap =Black=	1	
3	282315	Gasket	1	
4	282316	Spindle Nut (Machined Casting)	1	
5	288544B	Hub Sub-Assembly (Black)	1	Includes Items 6 & 7
6	9006996	Bearing Cup	2	
7	9007001	Stud Bolt, M22 x 1.5 x 4	12	
8	9007007	Bearing Cone	2	
9	9007010	Seal	1	
10	9007854	Capscrew, 1/2"-13UNC x 5 3/4" G5	1	
11	91160	Grease Zerk	1	
12	9390-028	Capscrew, 5/16"-18UNC x 3/4" G5	6	
13	94981	Locknut/Center 1/2"-13UNC	1	
14	97319	Flanged Cap Nut, M22 x 1.5	12	Use with Item 7

Tandem Wheels & Tires

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



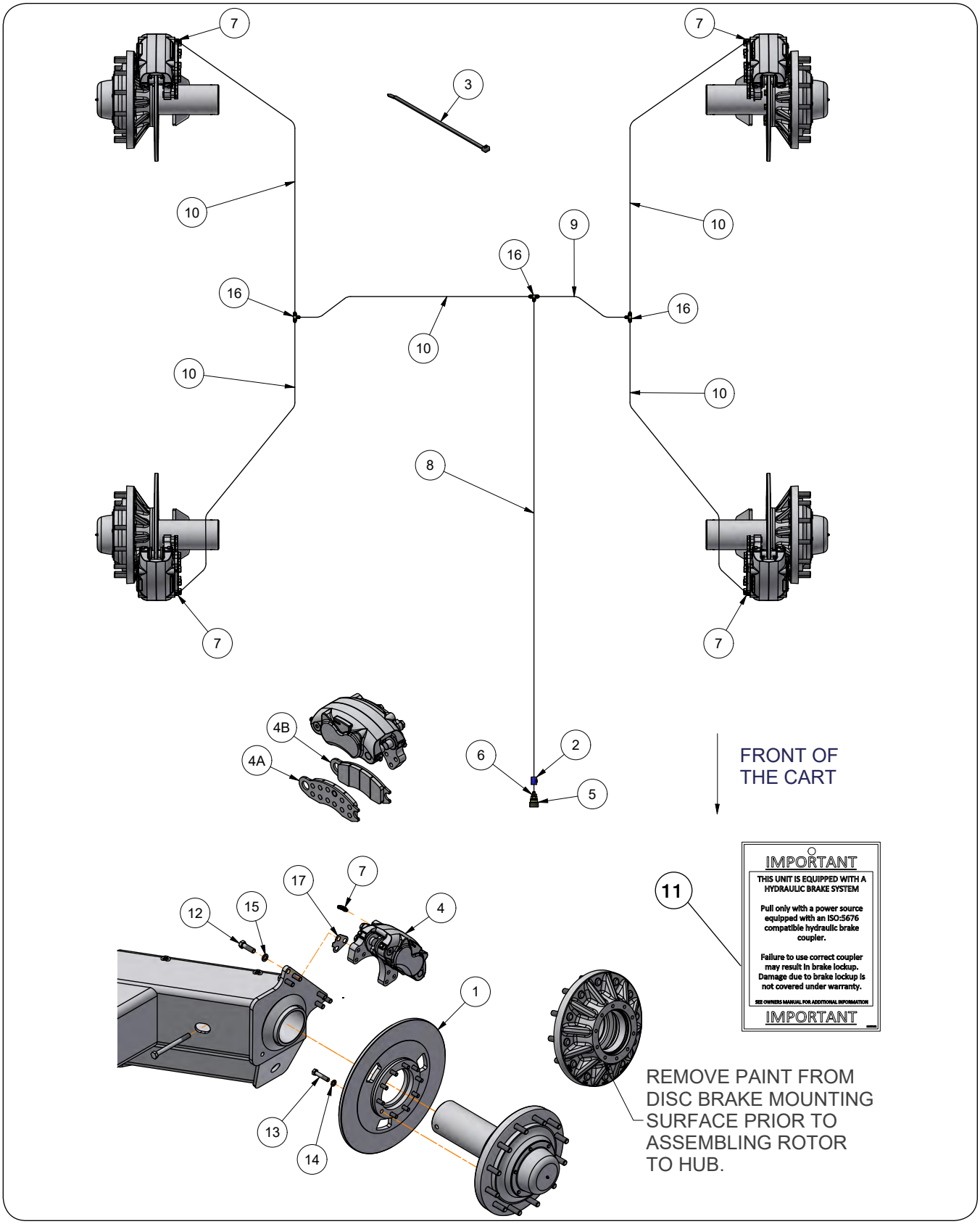
TIRES

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	110665SM/9502019	Wheel & Tire Assembly	4	36 x 32 / 1050/50R32 (Silver Mist)
	110665SM	Wheel Only	4	36 x 32 (Silver Mist)
	9502019	Tire Only	4	TLVF1050/50R32 R-1W (185A8)
2	93300	Valve Stem	4	
	95365	Plug	4	

Optional Brake Components

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



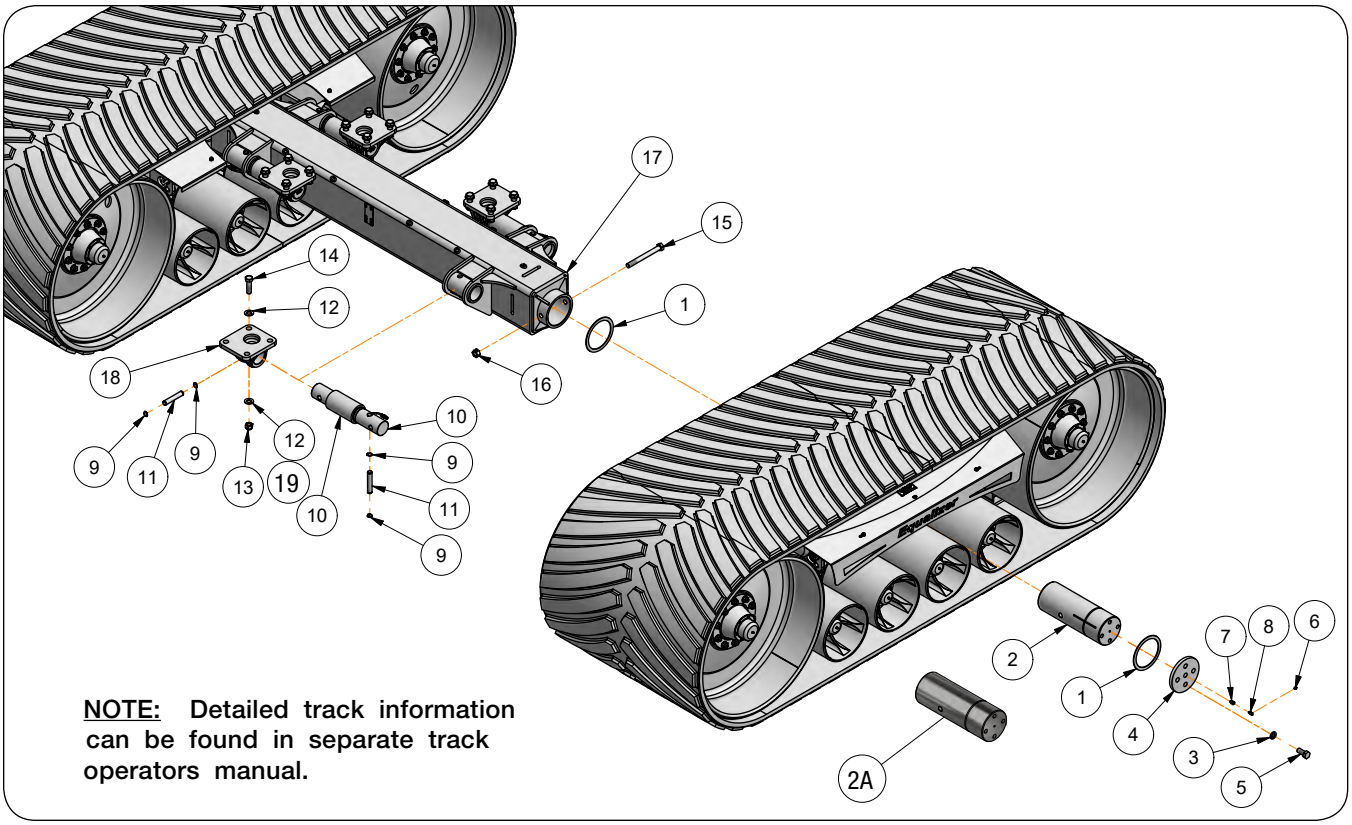
Optional Brake Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	288556	Brake Kit		
1	288547	Brake Rotor Plate	4	
2	9004829	Hose Sleeve (Blue - Brake Pressure)	1	
3	9003735	Cable Tie, 11" Long	24	
4	9004762	Brake Assembly	4	Includes Items 4A, 4B, 4C
4A	9007135	Brake Pad - Outer	1	
4B	9007136	Brake Pad - Inner	1	
4C	9007137	Brake Assembly Seal Kit	1	Not Shown
5	9005173	Quick Coupler	1	
6	9006005	Adapter, 9/16"-18 JIC Male	1	
7	9005970	Hydraulic Fitting, 7/16"-20 UNF ORB x 45° 9/16" UNF JIC	4	Locate/Replace in lowest bleeder port of each caliper.
8	9004886	Hose, 1/4" x 408" (3000 PSI)	1	
9	9007881	Hose, 1/4" x 36" (3000 PSI)	1	
10	9005975	Hose, 1/4" x 70" (3000 PSI)	5	
11	9007162	Brakes Information Tag	1	
12	9390-147	Capscrew, 3/4"-10UNC x 2 1/2" G5	24	Torque @ 200 to 220 Ft.-Lbs.
13	9390-352	Capscrew, 5/8"-18UNF x 3" G5	40	Torque @ 124 to 137 Ft.-Lbs.
14	9404-029	Lock Washer, 5/8"	40	
15	9404-033	Lock Washer, 3/4"	24	
16	9875	Tee, 9/16"-18 JIC M	3	
17	286237	Shim - Brake Caliper	16	Use As Needed

Track Axle Mounting Components

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

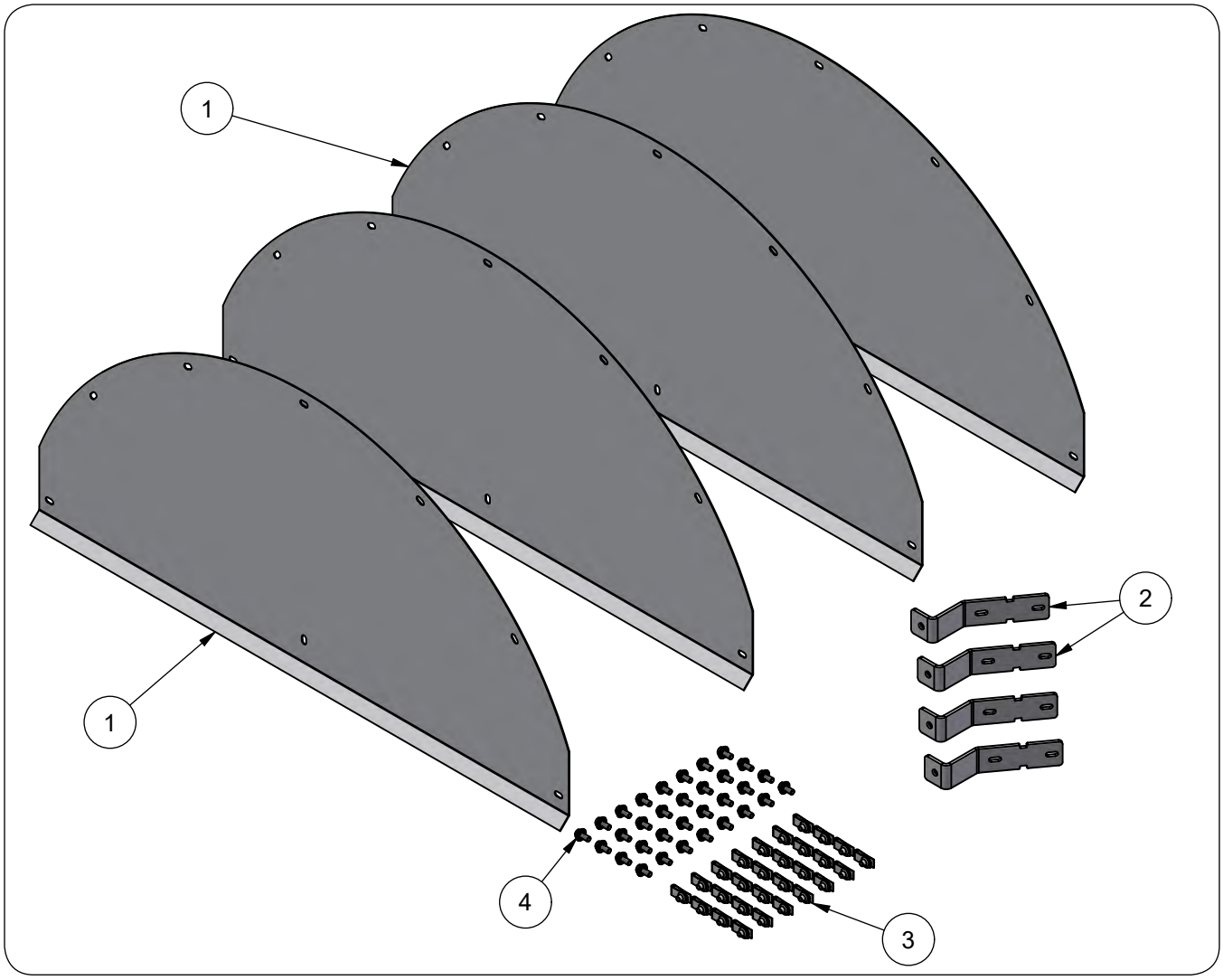


NOTE: Detailed track information can be found in separate track operators manual.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	282690	Washer 8 1/2" OD	4	
2	282102	Track Pivot Shaft 7" Dia.	2	Equalizer Track 42" x 148" & 50" x 148" Equalizer SP Track 50" x 172"
2A	282742			Standard Track 36" x 148"
3	9404-041	Lock Washer 1"	8	
4	282689B	Cover Plate =Black=	2	
5	9390-184	Capscrew 1"-8UNC x 2 1/4" G5	8	
6	93426	Grease Zerk	2	
7	9006816	Adapter 1/8"NPT	2	
8	9006785	90° Adapter	2	
9	91192	Retaining Ring 1"	16	
10	9005811	Load Bar 3 1/2" Dia. w/ 30 Ft. Cable	4	
11	282876	Pin 1" Dia. x 5 1/2"	8	
12	804685	Flat Washer 2" Dia.	32	
13	9008441	Locknut 1"-8UNS G8	16	
14	91299-1458	Capscrew 1"-14UNS x 3 1/2" G8	16	
15	9390-464	Capscrew 1"-8UNC x 10" G5	2	
16	92199	Locknut 1-8UNC	2	
17	282069B	Axle Weldment =Black=	1	Standard Track 36" x 148" & Equalizer Track 42" x 148"
	267797B			Equalizer Tracks 50" x 148" & Equalizer SP Tracks 50" x 172"
18	268838B	Axle Mount Casting =Black=19	4	

Track Wheel Well Components

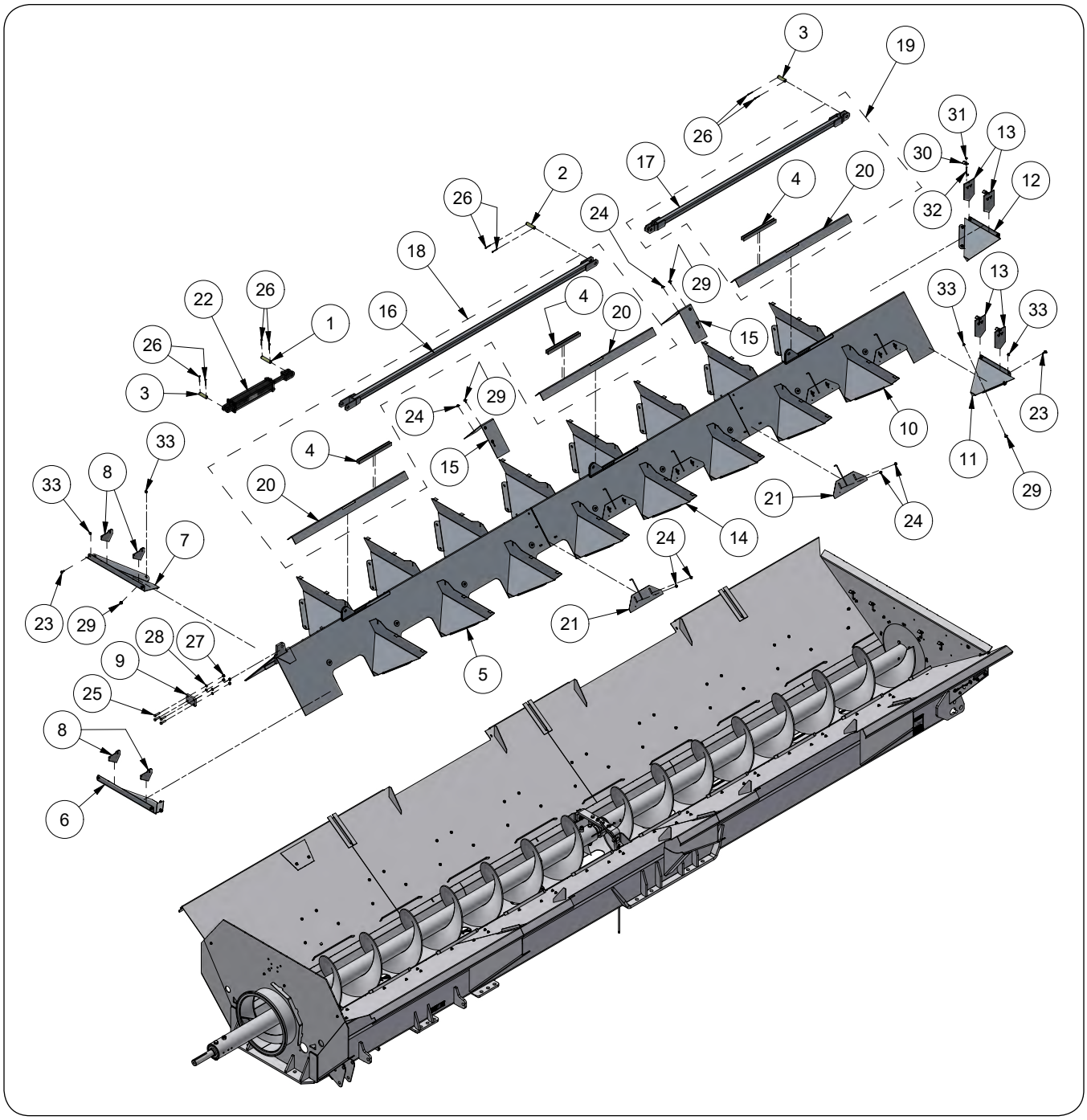
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	291253G	Wheel Well Cover Kit =Green=	-	Includes Items 1 through 4
	291253M	Wheel Well Cover Kit =Midnight Gray Metallic=		
	291253R	Wheel Well Cover Kit =Red=		
1	273998G	Wheel Well Cover Plate =Green=	4	
	273998M	Wheel Well Cover Plate =Midnight Gray Metallic=		
	273998R	Wheel Well Cover Plate =Red=		
2	291214B	Plate Weldment =Black=	4	
3	9005376	U-Nut 3/8"-16UNC	28	
4	95585	Large Flange Capscrew 3/8"-16UNC x 3/4"	32	

Hopper Flow Door Components

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



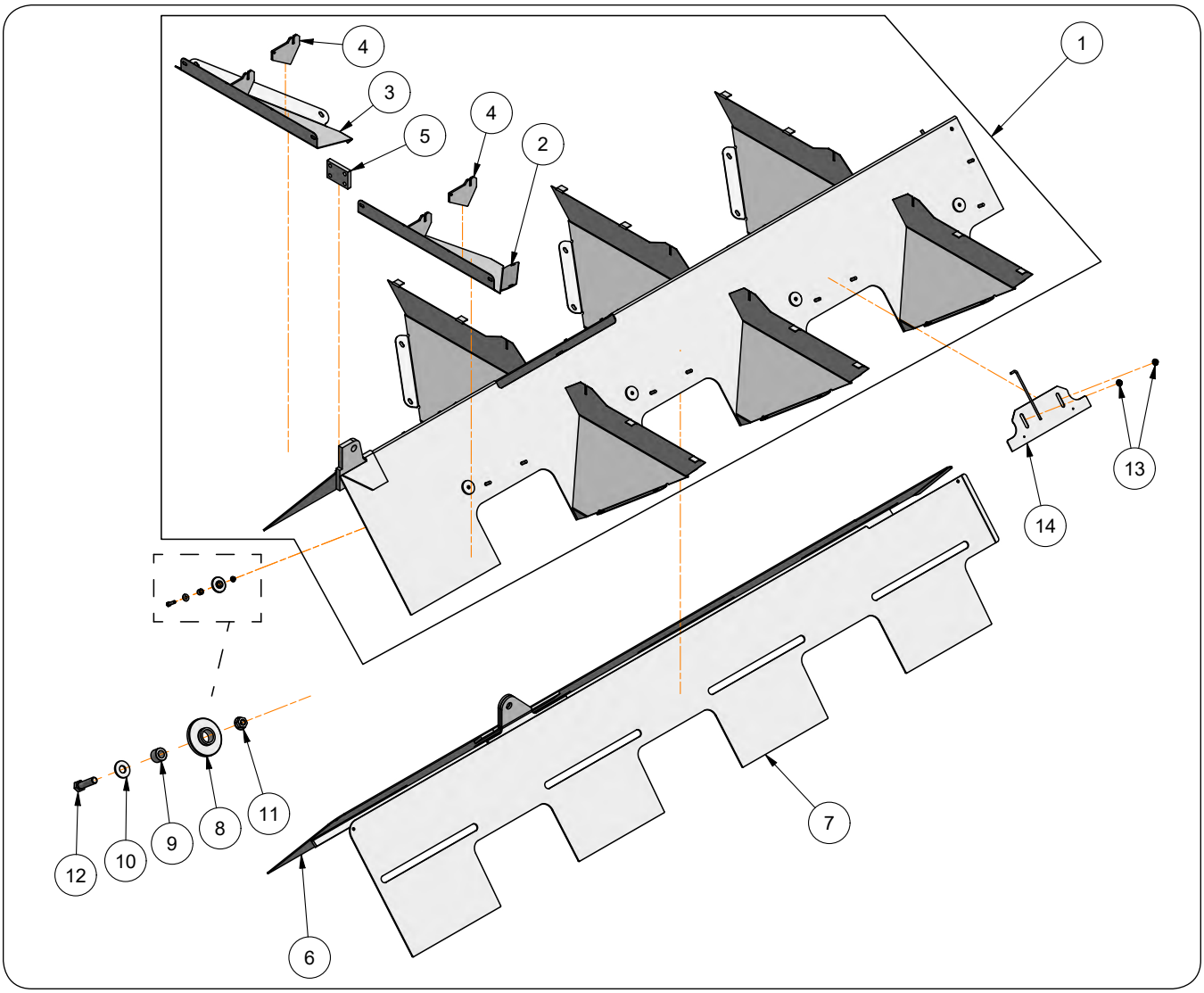
Hopper Flow Door Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	266285	Idler Pin 1" Dia. x 4 1/2"	1	
2	271112	Idler Pin 1" Dia. x 4"	1	
3	804572	Axle Lift Pin 1" Dia. x 3 1/2"	2	
4	N/A*	Seal Plate =Black=	-	*Not for individual sale, see Items 20, 21
5	296303B	Front Tent Service Kit (Black)	1	Includes Items 6 - 9 & Front Tent Weldment
6	295484B	Front LH Baffle =Black=	1	
7	295485B	Front RH Baffle =Black=	1	
8	294288B	Front Screen Mount Plate =Black=	4	
9	N/A*	Cylinder Mount Plate	-	*Not for individual sale, see Item 5
10	296307B	Rear Tent Service Kit (Black)	1	Includes Items 11 - 13 & Rear Tent Weldment
11	295486B	Rear LH Baffle =Black=	1	
12	295487B	Rear RH Baffle =Black=	1	
13	294289B	Rear Screen Mount Plate =Black=	4	
14	296304B	Middle Tent Service Kit (Black)	1	Includes Item 15 & Middle Tent Weldment
15	272141B	Cover Plate =Black=	2	
16	294240B	Front Flow Door Linkage Weldment =Black=	1	
17	273314B	Rear Flow Door Linkage Weldment =Black=	1	
18	273510B	Front Flow Door Linkage Kit =Black=	1	Includes Items 4, 16, 20
19	273511B	Rear Flow Door Linkage Kit =Black=	1	Includes Items 4, 17, 20
20	282187B	Tent Hole Cover Plate =Black=	3	
21	284721B	Baffle Weldment =Black=	12	
22	9002575	Hydraulic Cylinder 3" x 16" (3000PSI)	1	3/4"-16 SAE O-Ring Ports
23	91262	Flange Screw 3/8"-16UNC x 1" G5	8	
24	91263	Nut/Large Flange, 3/8"-16UNC	92	
25	9390-103	Capscrew 1/2"-13UNC x 2" G5	4	
26	9391-046	Cotter Pin 3/16" Dia. x 2"	8	
27	9394-010	Hex Nut 1/2"-13UNC G5	4	
28	9404-025	Lock Washer 1/2"	4	
29	95585	Large Flange Screw 3/8"-16UNC x 3/4" G5	76	
30	297057B	Rear Screen Fastener Plate =Black=	4	
31	9398-010	Elastic Locknut, 5/16"-18UNC	4	
32	9504577	J-Bolt, 5/16"-18UNC x 2" Thread	4	

Flow Door Components — Front Flow Door

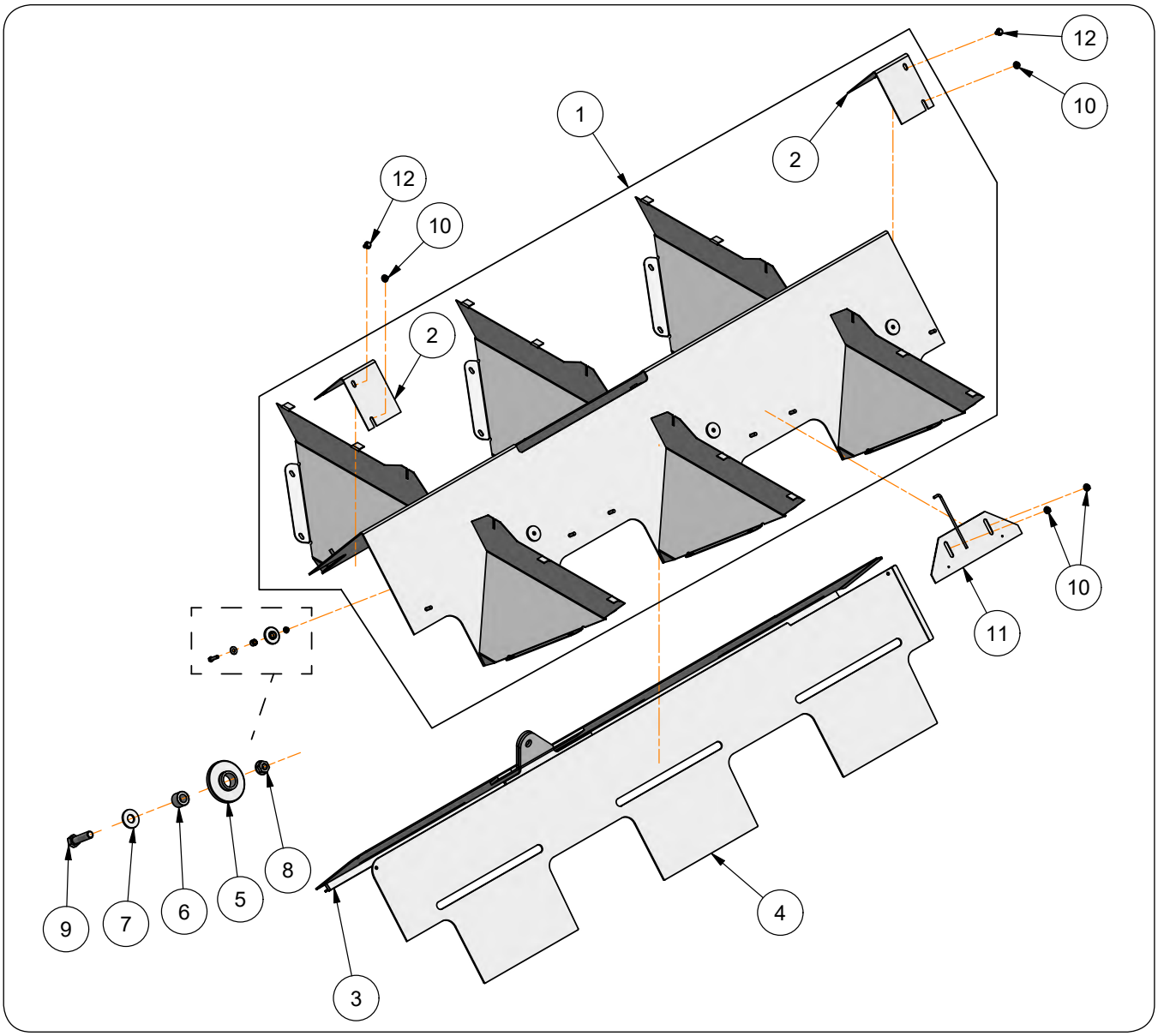
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	296303B	Front Tent Service Kit (Black)	1	Includes Items 2-5 & Front Tent Weldment
2	295484B	Front LH Baffle =Black=	1	
3	295485B	Front RH Baffle =Black=	1	
4	294288B	Front Screen Mount Plate =Black=	4	
5	271054*	Cylinder Mount Plate	-	*Not for individual sale, see Item 1
6	295467B	Front RH Door Weldment =Black=	1	
7	295469B	Front LH Door Weldment =Black=	1	
8	284168	Bushing 2 1/4 OD x 49/64 ID x 0.500	8	
9	284169	Bushing 3/4 OD x 7/16 ID x 0.531	8	
10	9005471	Flat Washer 3/8 (Hardened)	8	
11	9003396	Flange Locknut 3/8-16 UNC Gr.5	8	
12	91299-057	Capscrew 3/8-16UNC x 1 1/2 Gr.8	8	
13	91263	Nut/Large Flange, 3/8”-16UNC	12	
14	291313B	Baffle Weldment =Black=	6	

Flow Door Components — Middle Flow Door

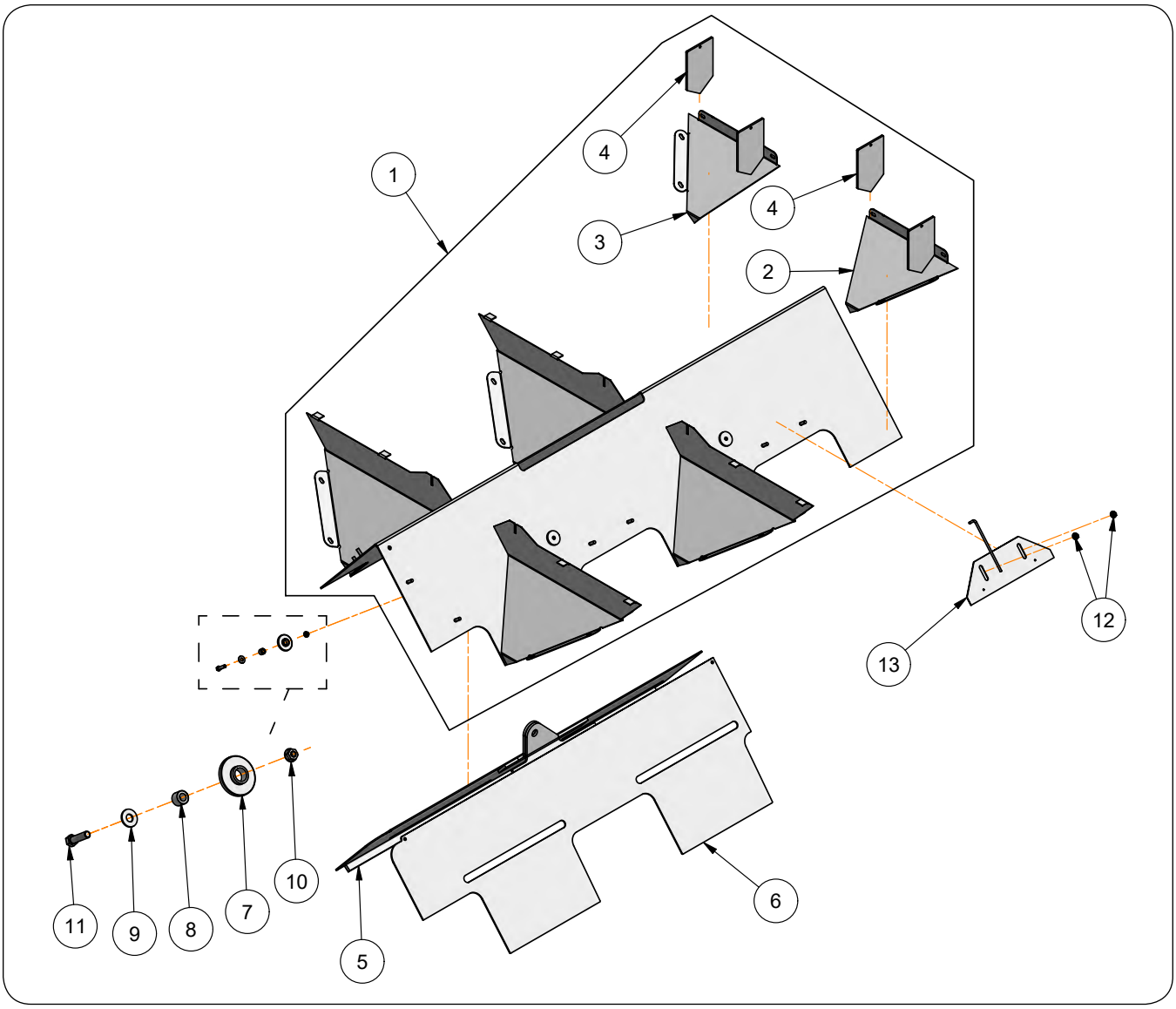
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	296304B	Middle Tent Service Kit (Black)	1	Includes Item 2 & Middle Tent Weldment
2	272141B	Cover Plate =Black=	2	
3	295474B	Middle RH Door Weldment =Black=	1	
4	295476B	Middle LH Door Weldment =Black=	1	
5	284168	Bushing 2 1/4 OD x 49/64 ID x 0.500	6	
6	284169	Bushing 3/4 OD x 7/16 ID x 0.531	6	
7	9005471	Flat Washer 3/8 (Hardened)	6	
8	9003396	Flange Locknut 3/8-16 UNC Gr.5	6	
9	91299-057	Capscrew 3/8-16UNC x 1 1/2 Gr.8	6	
10	91263	Nut/Large Flange, 3/8"-16UNC	12	
11	284721B	Baffle Weldment =Black=	4	
12	95585	Large Flange Screw 3/8-16 UNC x 3/4 G5	4	

Flow Door Components — Rear Flow Door

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



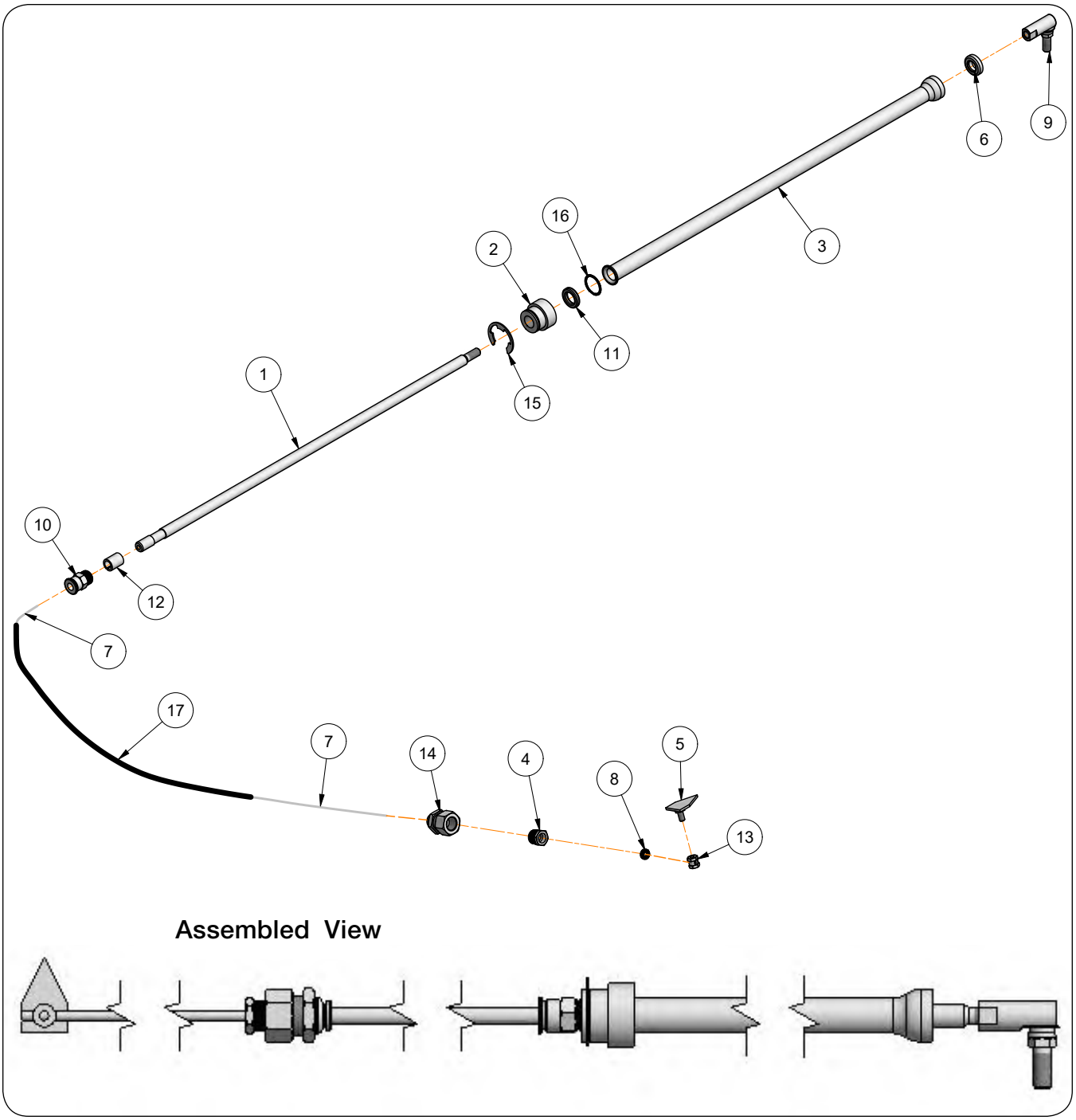
Flow Door Components — Rear Flow Door

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	296307B	Rear Tent Service Kit (Black)	1	Includes Items 2-4 & Rear Tent Weldment
2	295486B	Rear LH Baffle =Black=	1	
3	295487B	Rear RH Baffle =Black=	1	
4	294289B	Rear Screen Mount Plate =Black=	4	
5	295481B	Rear RH Door Weldment =Black=	1	
6	295483B	Rear LH Door Weldment =Black=	1	
7	284168	Bushing 2 1/4 OD x 49/64 ID x 0.500	4	
8	284169	Bushing 3/4 OD x 7/16 ID x 0.531	4	
9	9005471	Flat Washer 3/8 (Hardened)	4	
10	9003396	Flange Locknut 3/8-16 UNC Gr.5	4	
11	91299-057	Capscrew 3/8-16UNC x 1 1/2 G8	4	
12	91263	Nut/Large Flange, 3/8"-16UNC	8	
13	284721B	Baffle Weldment =Black=	4	

Flow Door Indicator Assembly

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



Assembled View

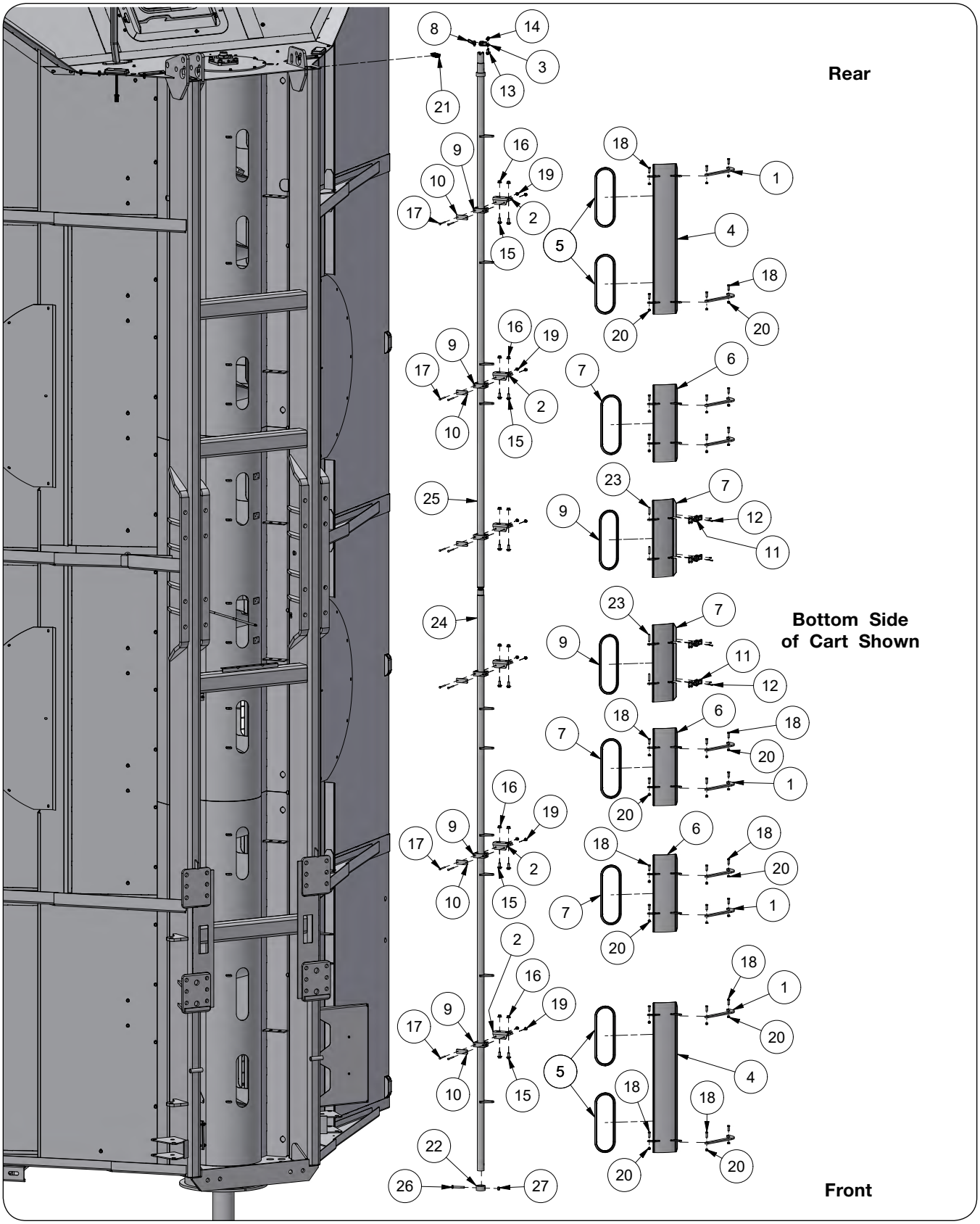
Flow Door Indicator Assembly

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

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

Clean Out Door Components

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



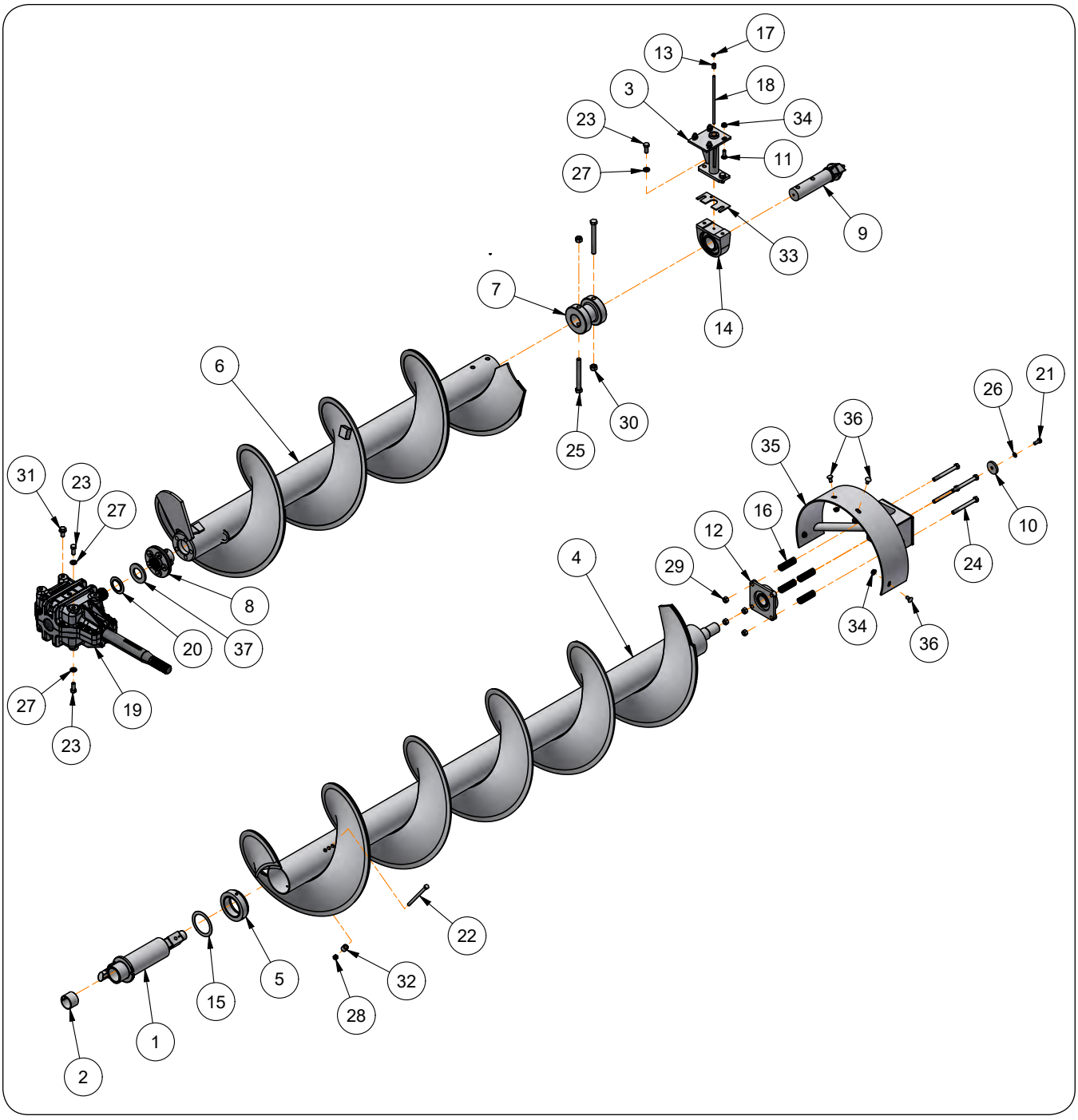
Clean Out Door Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	273734B	Door Linkage =Black=	10	
2	273741B	Door Pivot Plate =Black=	6	
3	273753B	Door Latch Weldment =Black=	1	
4	273730B	Clean Out Door Weldment 42 3/4" =Black=	2	
5	9007108	Gasket w/Adhesive Backing for Clean-Out Door	A/R	Specify in Feet
6	273748B	Clean Out Door Weldment 22" =Black=	3	
7	273944B	Middle Door Weldment =Black=	2	
8	9005305	Lynch Pin 3/8" Dia. x 3"	1	
9	9006351	Clamp Pair	6	
10	9006352	Top Plate	6	
11	9006497	Latch Draw	4	For Center Clean Out Doors Only
12	903171-574	Flat Countersunk Screw #10-24UNC x 1/2"	12	
13	91262	Flange Screw 3/8"-16UNC x 1"	6	
14	91263	Nut/Large Flange, 3/8"-16UNC	6	
15	91266	Flange Screw 1/2"-13UNC x 1 1/4" G5	12	
16	91267	Flange Nut 1/2"-13UNC	12	
17	9390-015	Capscrew 1/4"-20UNC x 3 1/2" G5	12	
18	9390-056	Capscrew 3/8"-16UNC x 1 1/4" G5	30	
19	97189	Large Flange Hex Nut 1/4"-20UNC	12	
20	9928	Locknut 3/8"-16UNC	30	
21	9009931	Plug, 1 1/2" x 3"	2	
22	271566B	Stop Bushing =Black=	1	
23	273946	Door Pin, 3/8" Dia. x 2"	4	
24	273950B	Front Link Arm Weldment =Black=	1	
25	273951B	Rear Link Arm Weldment =Black=	1	
26	9390-108	Capscrew 1/2"-13UNC x 3 1/4" G5	1	
27	94981	Locknut 1/2"-13UNC	1	

Vertical Auger Flighting Components

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



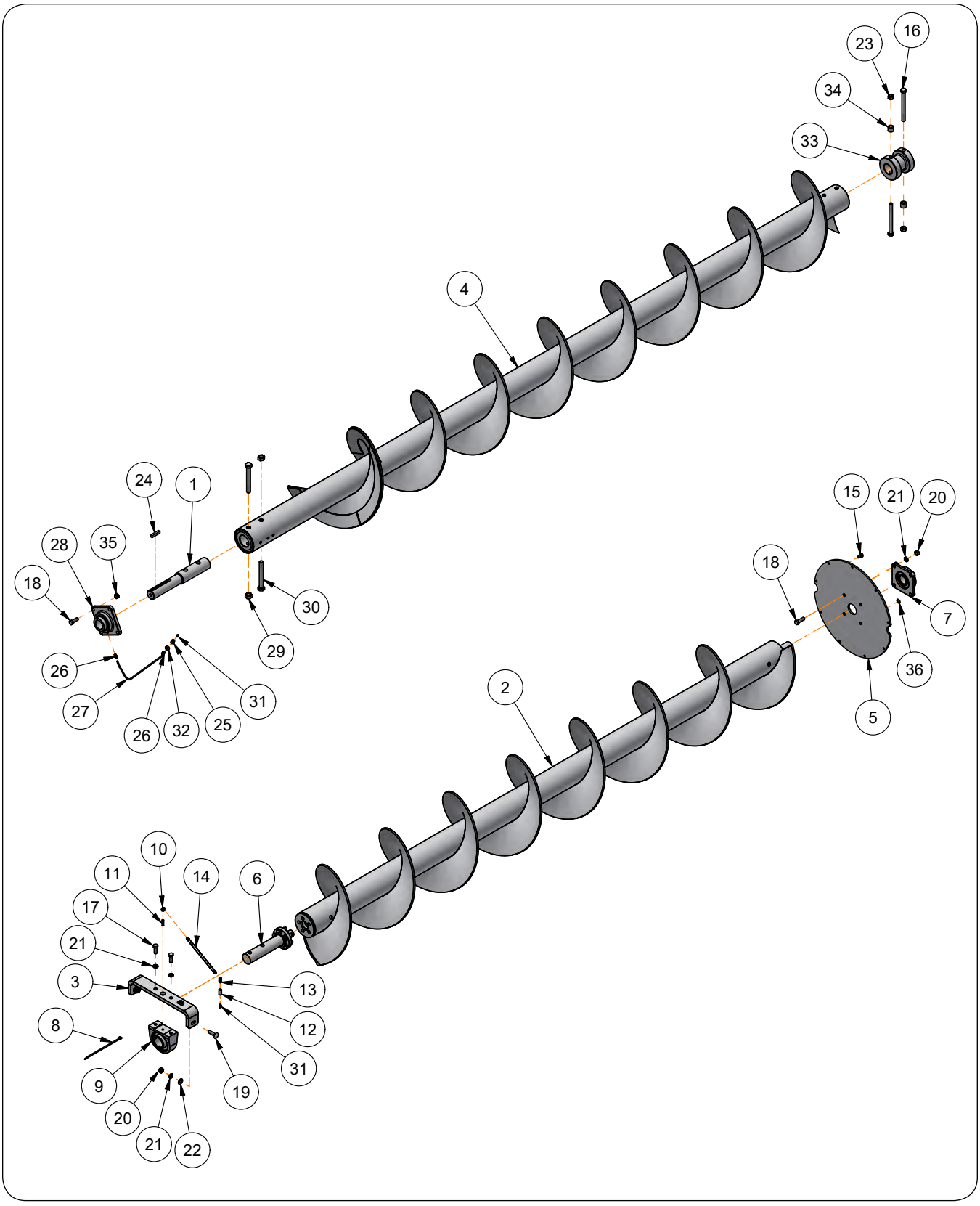
Vertical Auger Flighting Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	281283	Soft Start Assembly	1	Includes Item #2
	281912	Soft Start Replacement Kit	-	Includes Items 15, 22, 28 & 32
2	9003230	Split Bushing 2 3/4" OD x 2 1/2" ID x 2"	1	
3	293422B	Bearing Bracket Weldment =Black=	1	
4	298129B	Upper Auger Replacement Kit =Black=	1	Includes Item #1, 5, 15, 22, 28, 32, & 35
5	284626	Flex Coupler Bushing Assembly	1	
6	298130B	Lower Auger Replacement Kit =Black=	1	Fits 1 3/4"-20 Spline Gearbox Shaft Includes Item #7
7	283515	Auger Tube Adapter	1	
8	287802	Drive Plate Assembly (5-Pin)	1	
9	288813	Drive Dog Machined	1	
10	407699	Washer Plate, 2 1/2" Dia.	1	
11	9388-104	Carriage Bolt, 1/2"-13UNC x 1 1/2" G5	4	
12	9002492	Bearing 2" Dia. Flanged	1	
13	9003949	Pipe Coupling, 1/8" NPT Female	1	
14	9004731	Pillow Block Bearing, 2 1/2" Bore	1	
15	9004878	Self Lubricating Washer	1	
16	9004899	Spring - 10 Coils	4	
17	9000875	Grease Zerk	1	
18	9005793	Grease Pipe	1	
19	9007366	Gearbox 1 3/4"-20 Spline Input Shaft 2 1/4"-17 Spline Output Shaft	1	See "Gearbox" in this section for parts.
20	9007377B	Dust Cover =Black=	1	
21	9390-100	Capscrew, 1/2"-13UNC x 1 1/4" G5	1	
22	9390-119	Capscrew, 1/2"-13UNC x 8" G5	1	Replacement Kit #293428 Includes Items 22, 28, 32
23	9390-122	Capscrew, 5/8"-11UNC x 1 1/2" G5	8	
24	9390-136	Capscrew, 5/8"-11UNC x 6" G5	4	
25	9390-159	Capscrew, 3/4"-10UNC x 7 G5	2	
26	9404-025	Lock Washer, 1/2" G5	1	
27	9404-030	Lock Washer, 5/8"	8	
28	9800	Locknut, 1/2"-13UNC G5	1	
29	9801	Locknut, 5/8"-11UNC G5	4	
30	9802	Locknut, 3/4"-10UNC G5	2	
31	903161-063	Flange Screw, 5/8"-11UNC x 1 1/4" G5	2	
32	410511	Spacer Bushing	1	
33	286419B	Bearing Shim Plate =Black=	1	
34	9003397	Locknut/Top, 1/2"-13UNC	8	
35	297216B	Hanger Bearing Weldment =Black=	1	
36	9388-102	Carriage Bolt, 1/2"-13UNC x 1" G5	4	
37	297008	Gearbox Output Shaft Washer	1	Replacement Kit #297010

Horizontal Auger Components

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



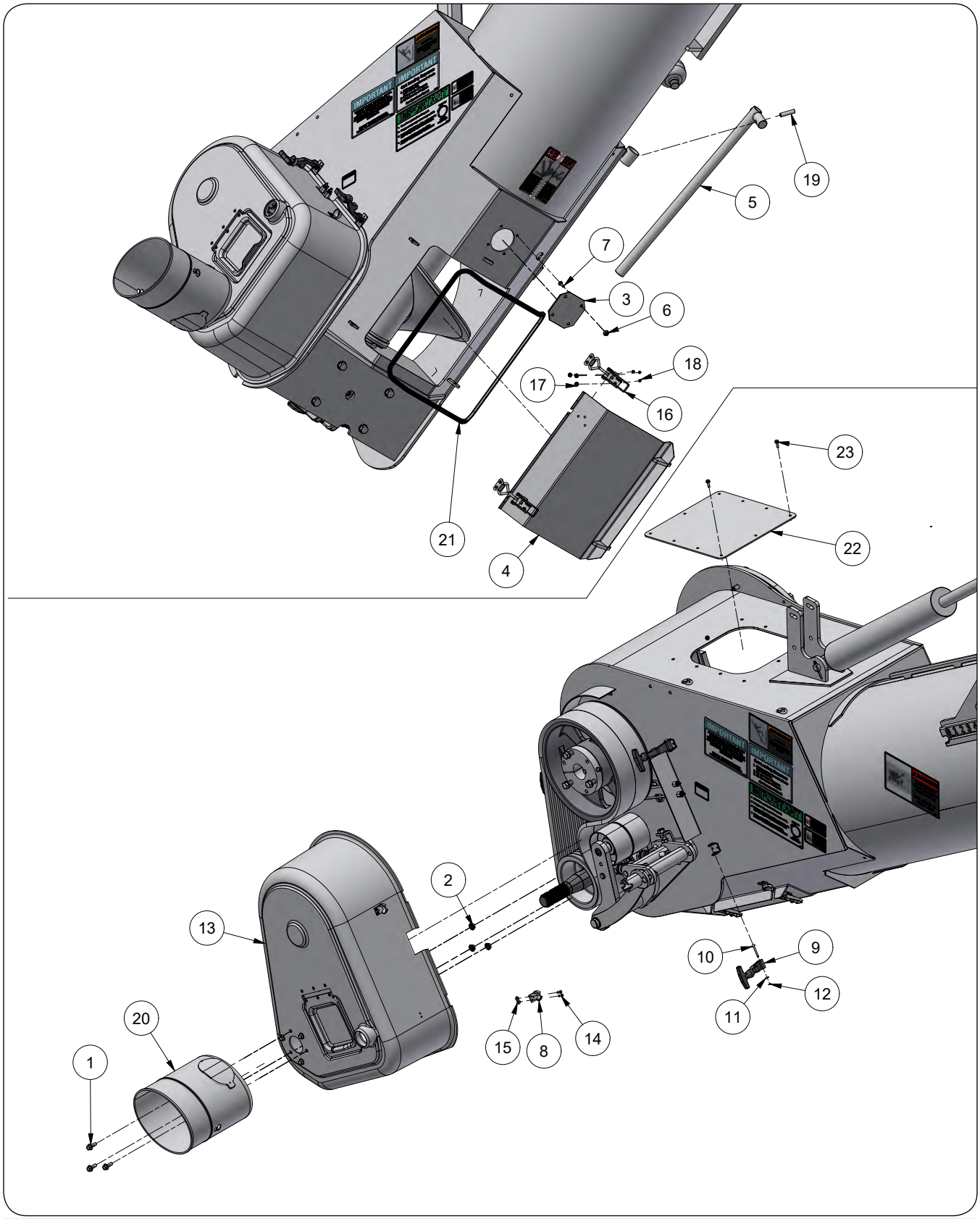
Horizontal Auger Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	273779	Auger Shaft 2 3/4" Dia. x 17 5/8"	1	
2	298326B	Rear Drag Auger Replacement Kit =Black=	1	
3	286382B	Bearing Mount Bar =Black=	1	
4	296300B	Front Drag Auger Replacement Kit (Black)	1	Includes Items 16, 23, 29, 30, 33, 34
5	295926G	Cover Plate =Green=	1	
	295926M	Cover Plate =Midnight Gray Metallic=		
	295926R	Cover Plate =Red=		
6	293957	Auger Coupler Shaft Weldment	1	
7	9002492	Bearing 2" Dia. Flanged	1	
8	9003735	Cable Tie 11" Long	1	
9	9004731	Pillow Block Bearing, 2 1/2" Bore	1	
10	9004764	90° Elbow Pipe	1	
11	9006964	Hex Pipe Nipple	1	
12	9009171	Pipe Coupling 1/8"-27 NPT	1	
13	9002479	Pipe Swivel Adapter 1/8"-27 NPT	1	
14	9006965	Grease Hose 3/16" x 15" (3000 PSI)	1	
15	91262	Flange Screw 3/8"-16UNC x 1" G5	9	
16	91299-161	Capscrew, 3/4"-10UNC x 8" G8	2	
17	9390-123	Capscrew 5/8"-11UNC x 1 3/4" G5	2	
18	9390-124	Capscrew 5/8"-11UNC x 2" G5	8	
19	9388-136	Carriage Bolt 5/8"-11UNC x 2 1/4" G5	2	
20	9394-014	Hex Nut, 5/8"-11UNC G5	6	
21	9404-029	Lock Washer 5/8"	8	
22	9405-098	Flat Washer 5/8" SAE	2	
23	9802	Locknut/Top, 3/4"-10UNC	2	
24	9002562	Key 1/2" x 1/2" x 2 1/2"	1	
25	9003949	Pipe Coupling	1	
26	9005073	Quicklinc Fitting 1/4" Tube x 1/8NPT Straight	2	
27	9005074	Grease Tube 1/4" OD	1	Specify Length In Feet
28	9005565	Flange Bearing 4-Bolt, 2 1/4" ID	1	
29	91141	Locknut 7/8"-9UNC	2	
30	91299-178	Capscrew 7/8"-9UNC x 7" G8	2	
31	93426	Grease Zerk	2	
32	9405-076	Flat Washer 3/8" USS	1	
33	295031	Auger Tube Adapter 5 7/8" Dia. x 5 5/8"	1	
34	283895B	Spacer Bushing	2	
35	9003398	Locknut/Top, 5/8-11UNC	4	
36	9501279	Washer, 1" OD x 5/8" ID x 18 Ga.	4	

Lower Auger Cleanout Door & Cover Components

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



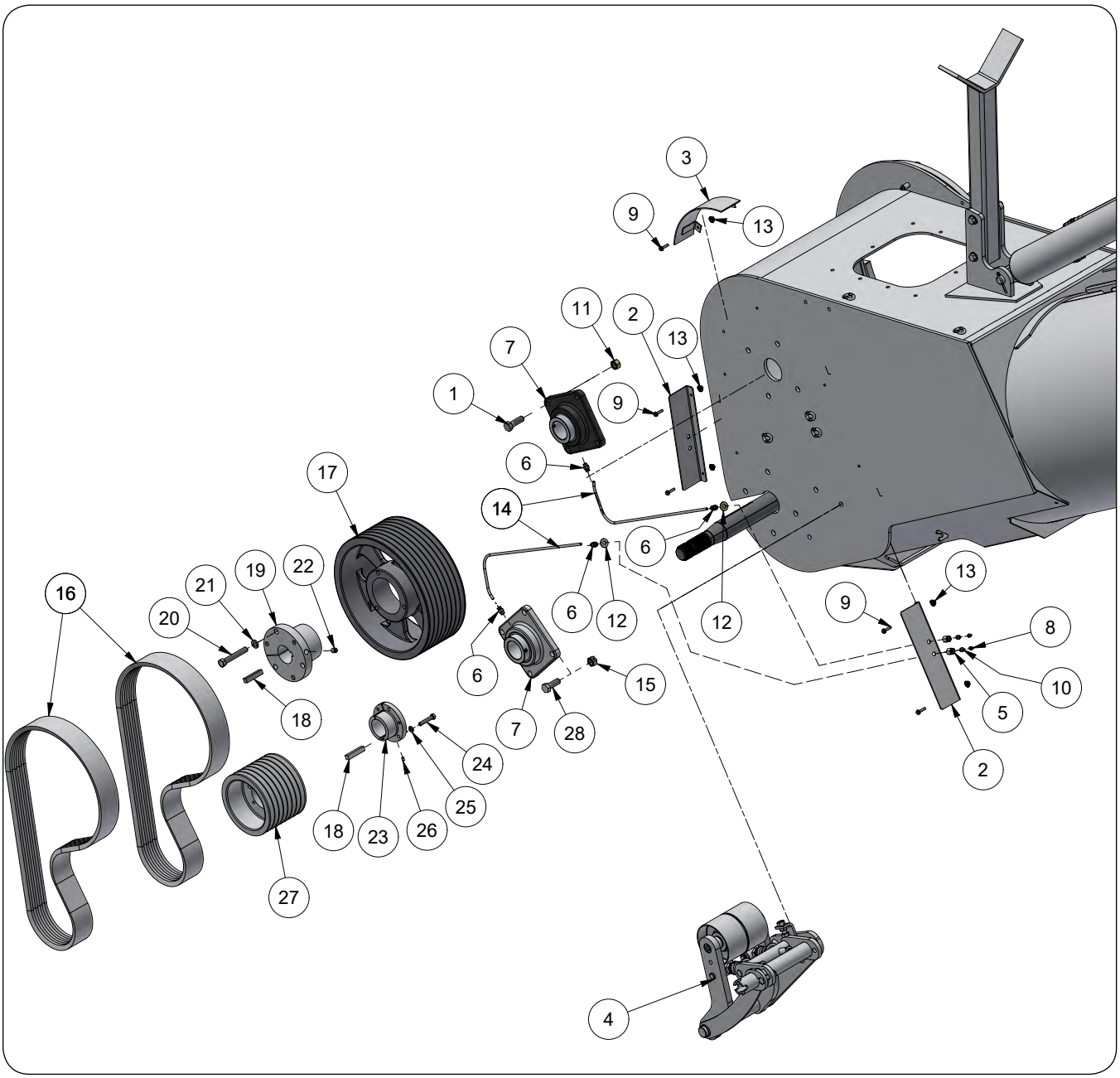
Lower Auger Cleanout Door & Cover Components

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	91262	Capscrew, 3/8"-16UNC x 1" G5	3	
2	91263	Nut/Large Flange, 3/8"-16UNC	3	
3	2001446B	Cover Plate, 4 1/2" x 4 1/2" =Black=	1	
4	276557B	Cleanout Door =Black=	1	
5	284714B	Locking Pipe Weldment with Roll Pin =Black=	1	Includes Item #19
6	97189	Hex Nut/Large Flange, 1/4"-20UNC	4	
7	9388-003	Carriage Bolt, 1/4"-20UNC x 1" G5	4	
8	900059	Flexible Draw Latch Asy w/Style R Keeper	3	
9	900060	Handle for Draw Latch	4	
10	900066	Stud-Pin 3/16" Dia. x 1 1/2"	4	
11	900067	Washer	4	
12	900068	Retainer for Draw Latch	4	
13	9004729	Belt Cover/Shield	1	
14	9004940	Pop Rivet	6	
15	9004998	Rivet Washer/Burr 3/16"	6	
16	9006497	Latch Draw	2	
17	902331	Serrated Flange Hex Nut #10-24UNC	6	
18	903171-574	Flat Countersunk Screw #10-24UNC x 1/2"	6	
19	9392-208	Roll Pin 1/2" Dia. x 2"	1	
20	9004918	PTO Bell Cover	1	
21	9007108	Gasket w/Adhesive Backing for Clean-Out Door	A/R	Specify Length in Feet
22	283518G	Cover Plate 14 1/4" x 15" =Green=	1	
	283518M	Cover Plate 14 1/4" x 15" =Midnight Gray Metallic=		
	283518R	Cover Plate 14 1/4" x 15" =Red=		
23	97420	Flange Screw 1/4"-20UNC x 3/4" G5	10	

Lower Auger Shields, Pulleys, Bearings, & Belt Components

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



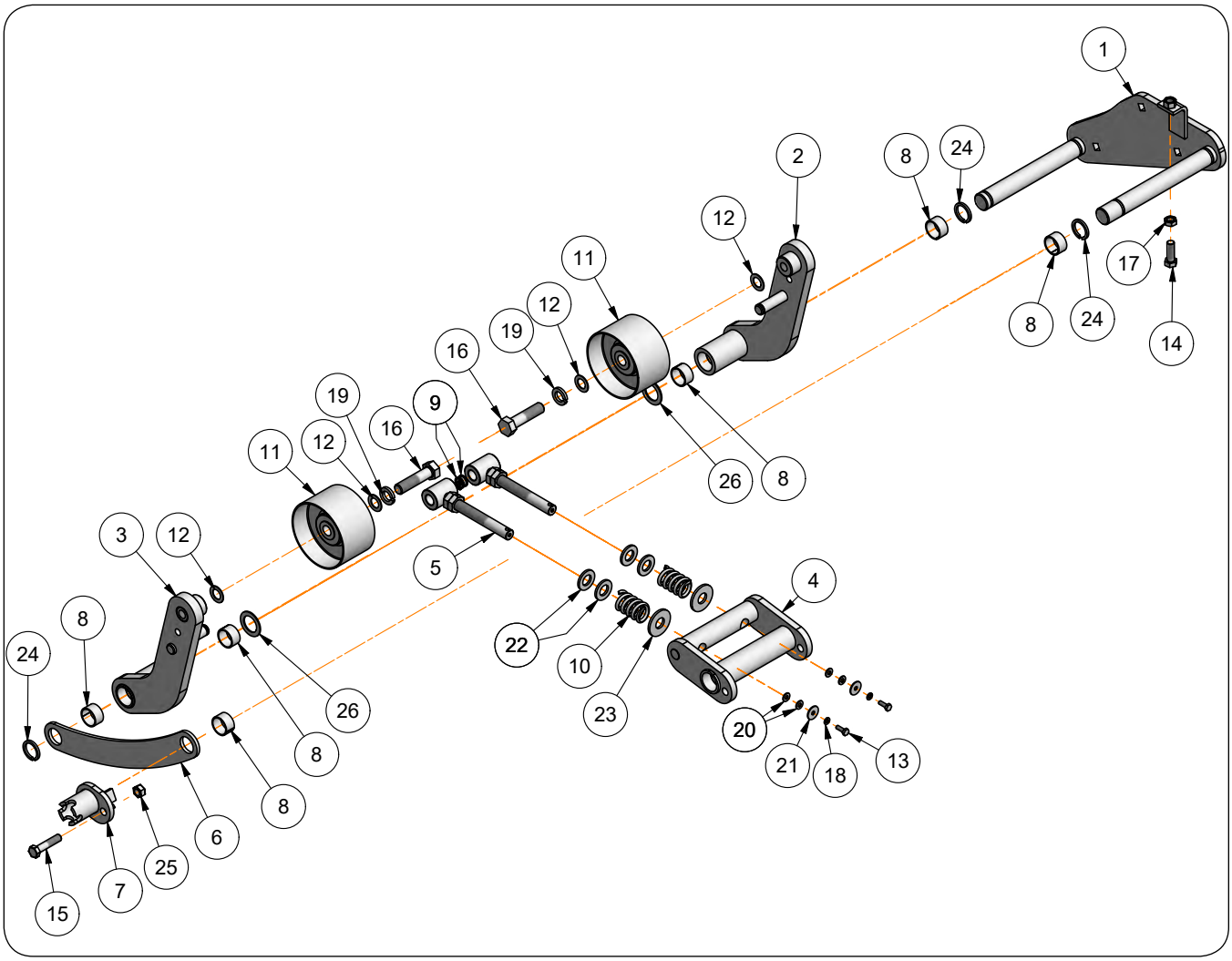
Lower Auger Shields, Pulleys, Bearings, & Belt Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9390-124	Capscrew, 5/8"-11UNC x 2" G5	4	
2	273118B	Shield Plate =Black=	2	
3	273119B	Shield Weldment =Black=	1	
4	283600B	Idler Assembly (Black)	1	
5	9003949	Hex Pipe Coupling	2	
6	9005073	Quicklinc Fitting	4	
7	9005565	Flanged Bearing, 2 1/4" ID	2	Includes Set Screw & Grease Zerk
	9399-106	Set Screw, 1/2"-13UNC x 1/2"	2	
	91160	Grease Zerk, 1/4"-28 SST	2	
8	9006849	Grease Zerk Cap	2	
9	901101	Flange Screw, 1/4"-20UNC x 1" G5	6	
10	93426	Grease Zerk, 1/8" NPT	2	
11	9003398	Flange Locknut, 5/8"-11UNC	4	
12	9405-076	Flat Washer, 3/8" USS	2	
13	97189	Hex Nut/Large Flange, 1/4"-20UNC	6	
14	9005074	Grease Hose, 1/4" OD	2.5	Specify Length in Feet
15	95905	Locknut, 5/8"-11UNC	4	
16	281675	Drive Belt Set, 4 Strand (5V750)	1	Included As Matched Pair
17	9004590	Pulley, 15" Dia. x 5 13/16"	1	
18	9002562	Keystock, 1/2" x 1/2" x 2 1/2"	2	
19	9004813	Bushing, 6 5/8" OD x 2 1/4" ID x 3 3/4" w/ 1/2" Keyway & Capscrews	1	includes Items 20-22
20	9006263	Bolt, 9/16"-12UNC x 3 5/8" G5	3	
21	9404-027	Lock Washer, 9/16"	3	
22	9399-107	Set Screw, 1/2"-13UNC x 5/8"	1	
23	9007376	Bushing, 4 5/8" OD x 2 1/4" ID x 2 1/16" w/ 1/2 Keyway & Capscrews	1	includes Items 24-26
24	9006669	Capscrew, 3/8"-16UNC x 2" G5	3	
25	9404-021	Lock Washer, 3/8"	3	
26	9399-059	Set Screw, 1/4"-20UNC x 3/8"	1	
27	9004591	Pulley, 7 1/2" Dia. x 5 13/16"	1	
28	9390-123	Capscrew, 5/8"-11UNC x 2" G5	4	

Idler Assembly Components

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



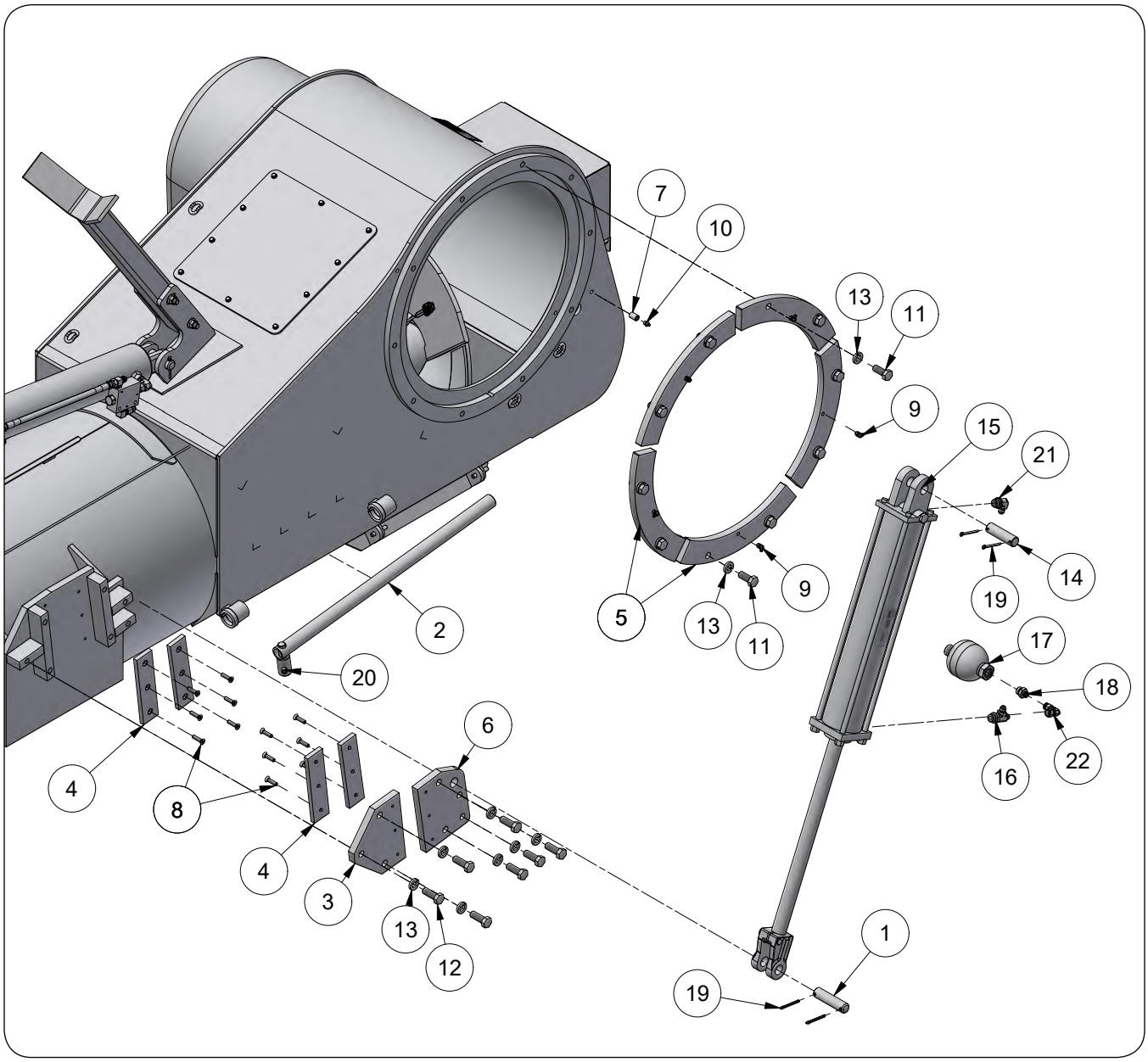
Idler Assembly Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	283600B	Idler Assembly =Black=	1	Includes items 1-26
1	283601B	Idler Mount Weldment =Black=	1	
2	283602B	Idler Arm Weldment =Black=	1	
3	283603B	Idler Arm Weldment =Black=	1	
4	283604B	Tensioner Weldment =Black=	1	
5	283605	Tensioner Rod Weldment	2	
6	283619B	Idler Brace Plate =Black=	1	
7	284703	Tensioner Bushing Weldment	1	
8	9003635	Self-Lubricating Bushing, 1.4" OD x 1.25" ID x 3/4"	6	
9	9003810	Snap Ring	2	
10	9005447	Compression Spring, 1.415" OD x 2 1/2"	2	
11	9005684	Idler Sub Assembly	2	Single Piece Item
	296744B	Idler Sub Assembly =Black=		Includes Ball Bearing W/Retaining Ring 2"
12	9005685	Machine Washer, 3/4"	4	
13	9390-003	Capscrew, 1/4-20UNC x 3/4" G5	2	
14	9390-101	Capscrew, 1/2"-13UNC x 1 1/2" G5	1	
15	9390-104	Capscrew, 1/2"-13UNC x 2 1/4" G5	1	
16	9390-149	Capscrew, 3/4"-10UNC x 3" G5	2	
17	9395-010	Hex Jam Nut, 1/2"-13UNC	1	
18	9404-017	Lock Washer, 1/4"	2	
19	9404-033	Lock Washer, 3/4"	2	
20	9405-062	Flat Washer, 1/4" SAE	4	
21	9405-066	Flat Washer, 1/4"	2	
22	9405-104	Flat Washer, 3/4" SAE	4	
23	9405-106	Flat Washer, 3/4" USS	2	
24	94144	Retaining Ring, 1 1/4"	4	
25	94981	Locknut, 1/2"-13UNC	1	
26	TA500397	Bushing, 1.875"D x .074"	2	

Lower Auger Retainer Components

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



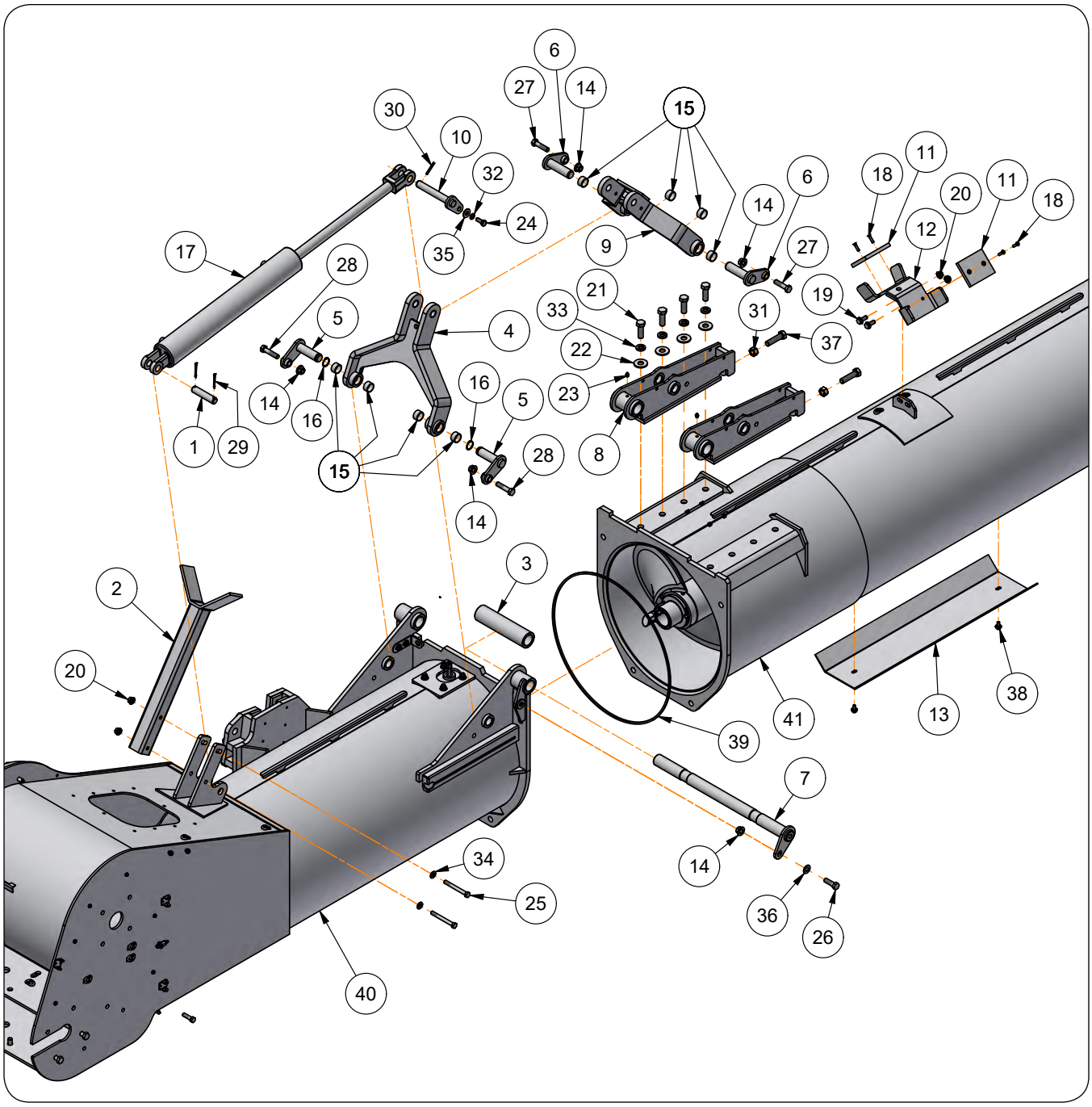
Lower Auger Retainer Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	250104	Pin, 1" Dia. x 4"	1	
2	284711B	Locking Pipe Weldment =Black=	1	
3	271119B	Fold Plate, 6 1/2" x 8" =Black=	1	
4	271124	Nylon Fold Slide, 2" x 8"	4	
5	295788B	Pivot Retainer Plate, 4 3/8" x 15 9/16" =Black=	5	
6	284518B	Fold Plate, 6" x 8" =Black=	1	
7	9002538	Pipe Coupling, 1/8" NPT	1	
8	903171-662	Flat Head Countersunk Phillips Machine Screw, 5/16"-18UNC x 1 1/4"	16	
9	93415	90° Grease Zerk, 1/4"-28 NPT	5	
10	93426	Grease Zerk, 1/8"-27 NPT	1	
11	9390-122	Capscrew, 5/8"-11UNC x 1 1/2" G5	10	
12	9390-123	Capscrew, 5/8"-11UNC x 1 3/4" G5	7	
13	9404-030	Lock Washer, 5/8"	17	
14	804572	Pin, 1" Dia. x 3 1/2"	1	
15	9000933	Hydraulic Cylinder, 3 1/2" x 20"	1	
16	9002155	Tee, 9/16"-18 JIC Male x 3/4"-16 O-Ring Male x 9/16"-18 JIC Male	1	
17	9002719	Accumulator, 1800 PSI - Precharge Temp Range 14-176 Deg.	1	
18	9002720	Adapter, 3/4"-16 O-Ring Male x 9/16"-18 JIC Female Swivel Nut	1	
19	9391-046	Cotter Pin, 3/16" Dia. x 2"	4	
20	9392-208	Roll Pin, 1/2" Dia. x 2"	1	
21	9874	90° Elbow, 9/16"-18 JIC Male x 3/4"-16 O-Ring Male	1	
22	9876	90° Elbow, 9/16"-18 JIC Male x 9/16"-18 JIC Female		

Auger Fold Linkage Components

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



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	266285	Cylinder Pin 1" Dia. x 4 1/2"	1	
2	273255G	Auger Rest Weldment =Green=	1	
	273255M	Auger Rest Weldment =Midnight Gray Metallic=		
	273255R	Auger Rest Weldment =Red=		
3	273374G	Spacer Bushing =Green=	1	
	273374M	Spacer Bushing =Midnight Gray Metallic=		
	273374R	Spacer Bushing =Red=		

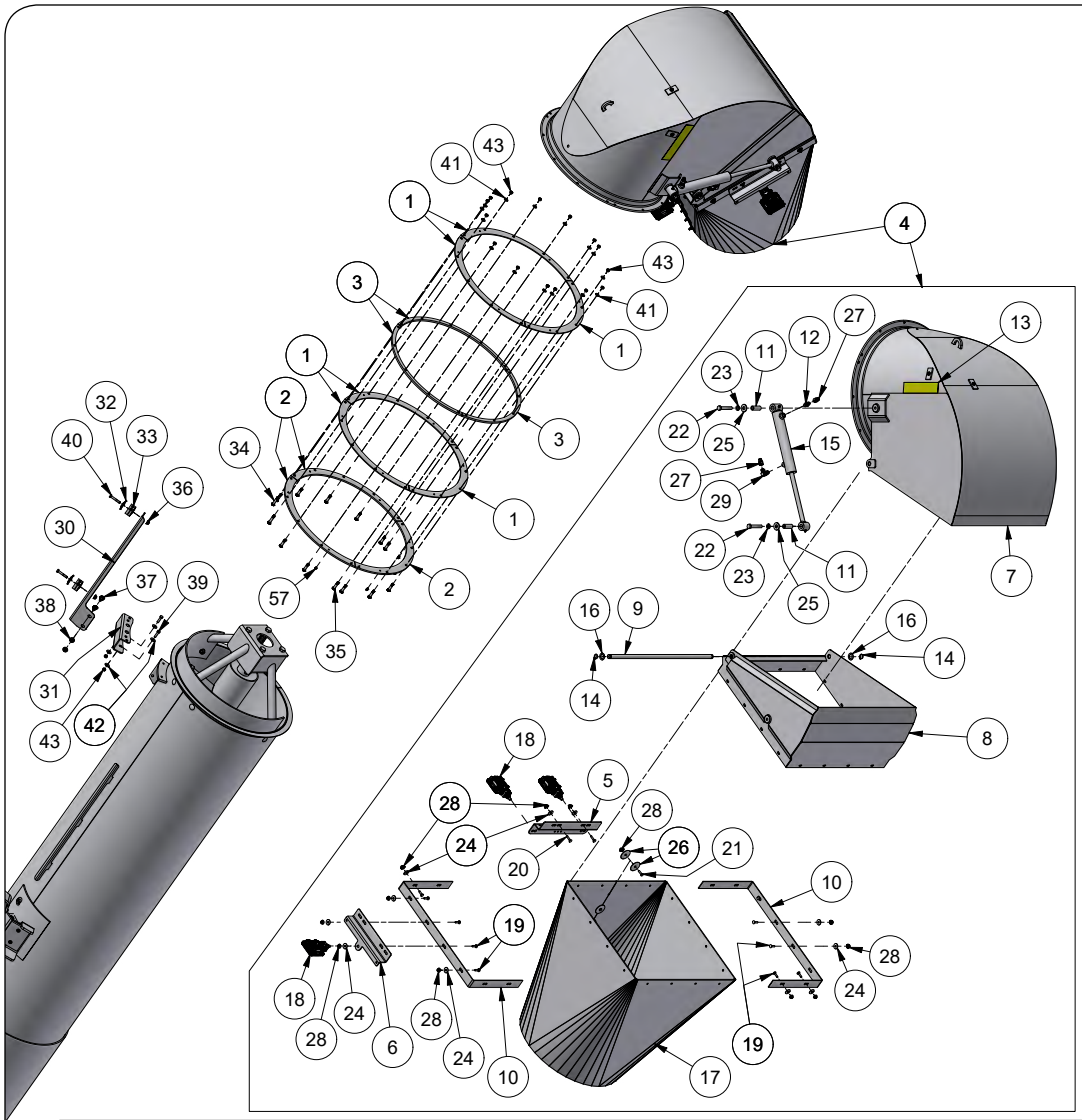
Auger Fold Linkage Components

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
4	276479G	Fold Linkage Weldment =Green=	1	
	276479M	Fold Linkage Weldment =Midnight Gray Metallic=		
	276479R	Fold Linkage Weldment =Red=		
5	276483	Linkage Pin Weldment	1	
6	276493	Linkage Pin Weldment	2	
7	276561	Auger Pivot Pin Weldment	1	
8	276593G	Auger Hinge Weldment =Green=	2	
	276593M	Auger Hinge Weldment =Midnight Gray Metallic=		
	276593R	Auger Hinge Weldment =Red=		
9	276940G	Fold Linkage Weldment =Green=	1	
	276940M	Fold Linkage Weldment =Midnight Gray Metallic=		
	276940R	Fold Linkage Weldment =Red=		
10	276941	Fold Linkage Pin Weldment	1	
11	283335	Poly Auger Stop Pad	2	
12	283340G	Auger Rest Weldment =Green=	1	
	283340M	Auger Rest Weldment =Midnight Gray Metallic=		
	283340R	Auger Rest Weldment =Red=		
13	284141G	Strike Plate =Green=	1	
	284141M	Strike Plate =Midnight Gray Metallic=		
	284141R	Strike Plate =Red=		
14	9003398	Locknut/Top, 5/8"-11UNC	7	
15	9004396	Self-Lubricating Bushing	8	
16	9006084	Retaining Ring, 1 1/4"	2	
17	9007639	Hydraulic Welded Cylinder 3 1/2" x 20" (3000 PSI)	1	
18	903171-660	Flat Countersunk Head/Machine Screw, 5/16"-18UNC x 1"	4	
19	91266	Flange Capscrew, 1/2"-13UNC x 1 1/4"	2	
20	91267	Nut/Flange, 1/2"-13UNC	4	
21	91299-146	Capscrew, 3/4"-10UNC x 2 1/4" G8	8	
22	9234PL	Flat Washer, 13/16" (Hardened)	8	
23	93426	90° Zerk	5	
24	9390-100	Capscrew, 1/2"-13UNC x 1 1/4" G5	2	
25	9390-112	Capscrew, 1/2"-13UNC x 4 1/2" G5	2	
26	9390-124	Capscrew, 5/8"-11UNC x 2" G5	5	
27	9390-126	Capscrew, 5/8"-11UNC x 2 1/2" G5	2	
28	9390-127	Capscrew, 5/8"-11UNC x 2 3/4" G5	2	
29	9391-046	Cotter Pin, 3/16" Dia. x 2"	2	
30	9392-140	Roll Pin, 1/4" Dia. x 2"	1	
31	9394-016	Hex Nut, 3/4"-10UNC G5	2	
32	9404-025	Lock Washer, 1/2"	2	
33	9404-034	Lock Washer, 3/4"	8	
34	9405-086	Flat Washer, 1/2" SAE	3	
35	9405-088	Flat Washer, 1/2" USS	1	
36	9405-098	Flat Washer, 5/8" SAE	1	
37	94733	Capscrew, 3/4"-10UNC x 3" G5	2	
38	95585	Large Flange Capscrew, 3/8"-16UNC x 3/4" G5	2	
39	296290	Lower Auger Seal Kit	1	Includes Gasket & Instructions
40	297420G	Lower Auger Housing Replacement Kit =Green=	1	
	297420M	Lower Auger Housing Replacement Kit =Midnight Gray Metallic=		
	297420R	Lower Auge r Housing Replacement Kit =Red=		
41	297743G	Upper Auger Housing Weldment =Green=	1	
	297743M	Upper Auger Housing Weldment =Midnight Gray Metallic=		
	297743R	Upper Auger Housing Weldment =Red=		

Downspout Components

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



Rotating Spout Option Components

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	276512	Pivot Pad	6	
2	276513B	Spout Pivot Plate =Black=	2	
3	276550B	Spacer Plate =Black=	3	
4	276999B	Spout Assembly (Black)	1	Includes Items 5-29
5	272646B	Light Bracket =Black=	1	
6	272841B	Light Bracket =Black=	1	

Downspout Components

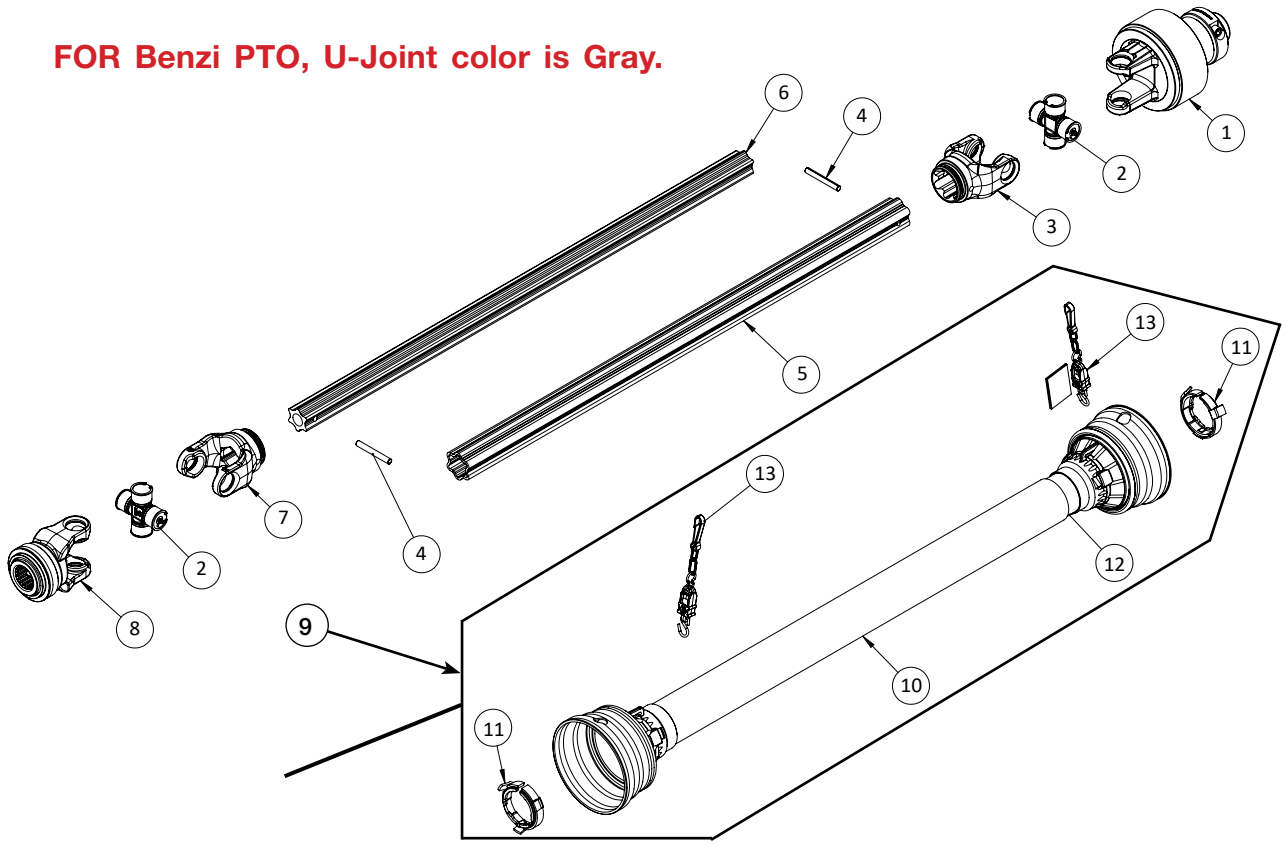
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
7	276515B	Upper Spout Weldment =Black=	1	
8	276526B	Lower Spout Weldment =Black=	1	
9	276530	Pivot Shaft 3/4" Dia. x 27"	1	
10	276531B	Chute Strap =Black=	2	
11	285290	Sleeve Bushing .75" OD x .532" ID x 1.938"	2	
12	9001495	Adapter 9/16"-18 JIC M x 9/16"-18 O-Ring	1	
13	9003127	Reflector 2" x 9" =AMBER=	2	
14	9003810	Snap Ring 3/4"	2	
15	9005135	Cylinder 1 1/2" x 8"	1	
16	9005685	Washer 3/4" Dia.	2	
17	9008318	Rubber Chute	1	
18	9008957	LED Work Light	3	
19	9388-003	Carriage Bolt 1/4"-20UNC x 1" G5	14	
20	9388-004	Carriage Bolt 1/4"-20UNC x 1 1/4" G5	2	
21	9390-005	Capscrew 1/4"-20UNC x 1" G5	8	
22	9390-107	Capscrew 1/2"-13UNC x 3" G5	2	
23	9404-025	Lock Washer 1/2"	2	
24	9405-066	Flat Washer 1/4"	16	
25	9405-088	Flat Washer 1/2" USS	2	
26	94763	Fender Washer 5/16" Dia.	16	
27	95193	Adapter, 9/16"-18 JIC F x 9/16"- 18 JIC M	2	With 0.030" Red Restrictor
28	97189	Hex Nut/Large Flange 1/4"-20UNC	24	
29	97445	Elbow, 90° 9/16"-18 JIC M x 9/16-18 O-Ring ADJ M	1	
30	297375B	Hose Bracket =Black=	1	
31	298096B	Spout Rotate Lock Bracket		
32	9003814	Clamp Top Plate	4	
33	9003816	Double Hose Clamp (Pair)	4	
34	9007837	Shoulder Bolt 3/8" Dia. Socket Head, 5/16"-18UNC x 1 1/4"	5	
35	9007843	Shoulder Bolt 3/8" Dia. Socket Head, 5/16"-18UNC x 1"	10	
36	91257	Hex Nut/Large Flange 5/16"-18UNC	4	
37	91262	Flange Screw 3/8"-16UNC x 1"	2	
38	91263	Nut/Large Flange, 3/8"-16UNC	8	
39	9390-031	Capscrew, 5/16"-18UNC x 1 1/4" G5		
40	9390-034	Capscrew, 5/16"-18UNC x 2" G5	2	
41	9405-064	Flat Washer, 1/4" USS	15	
42	9405-070	Flat Washer, 5/16" USS		
43	9807	Locknut/Top 5/16"-18UNC	15	
44	285290	Tube/Bushing, 3/4" OD x .532" ID x 1.938"		
45	297430B	Spout Lug Plate =Black=		
46	297432B	Lug Plate =Black=		
47	9005135	Cylinder 1 1/2" x 8"		
48	9007837	Shoulder Bolt 3/8" Dia. Socket Head, 5/16"-18UNC x 1 1/4"		
49	9390-032	Capscrew, 5/16"-18UNC x 1 1/2" G5		
50	9390-108	Capscrew, 1/2"-13UNC x 3 1/4" G5		
51	9405-064	Flat Washer, 1/4" USS		
52	9405-070	Flat Washer, 5/16" USS		
53	9405-088	Flat Washer, 1/2" USS		
54	9405-104	Flat Washer, 3/4" SAE		
55	94981	Locknut/Center, 1/2"-13UNC		
56	9807	Locknut/Top 5/16"-18UNC		
57	91160	Zerk 1/4"-28 STT	4	

PTO Assembly Cut Out Clutch — Benzi PTO

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

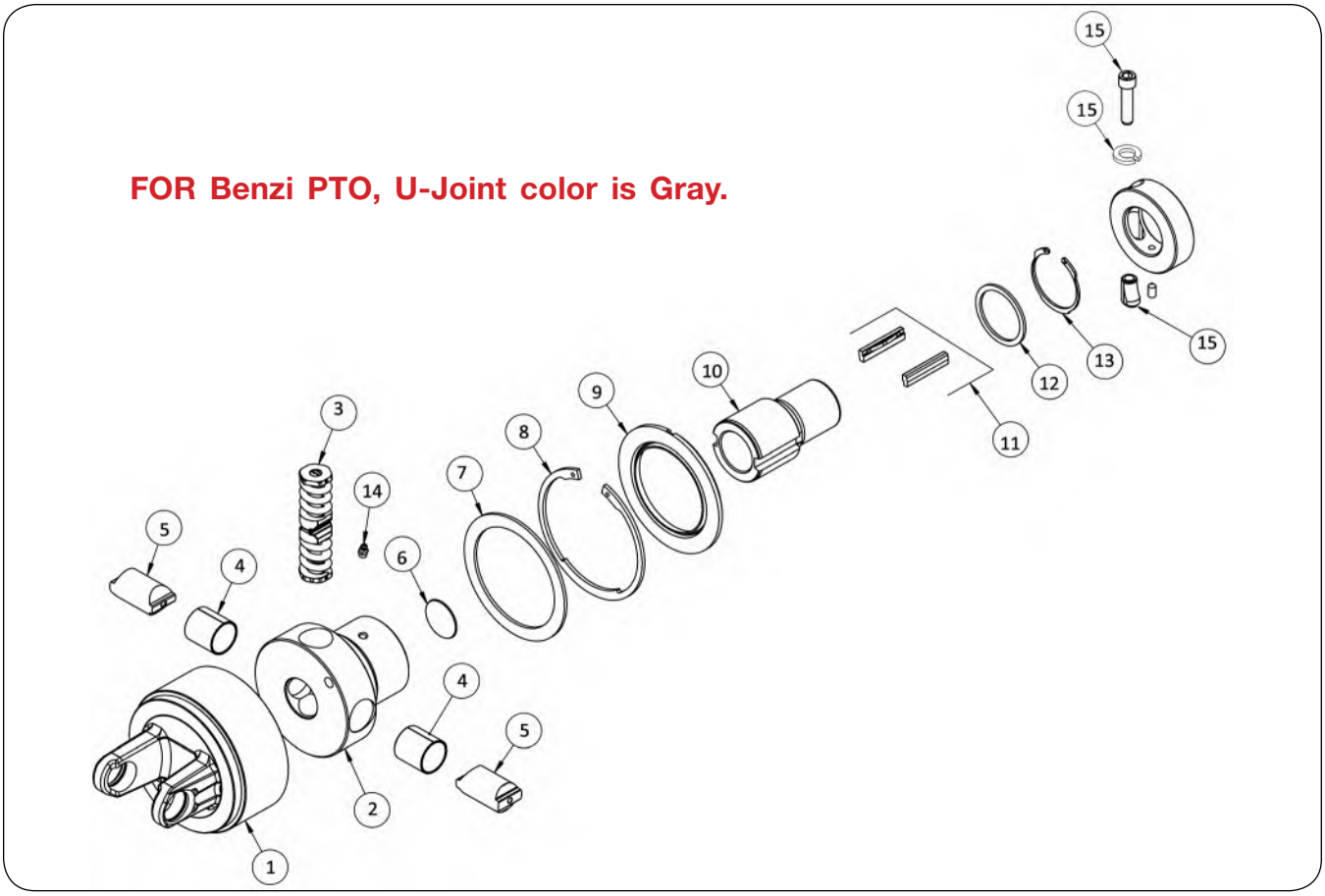
FOR Benzi PTO, U-Joint color is Gray.



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

Cut Out Clutch Assembly — Benzi PTO

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

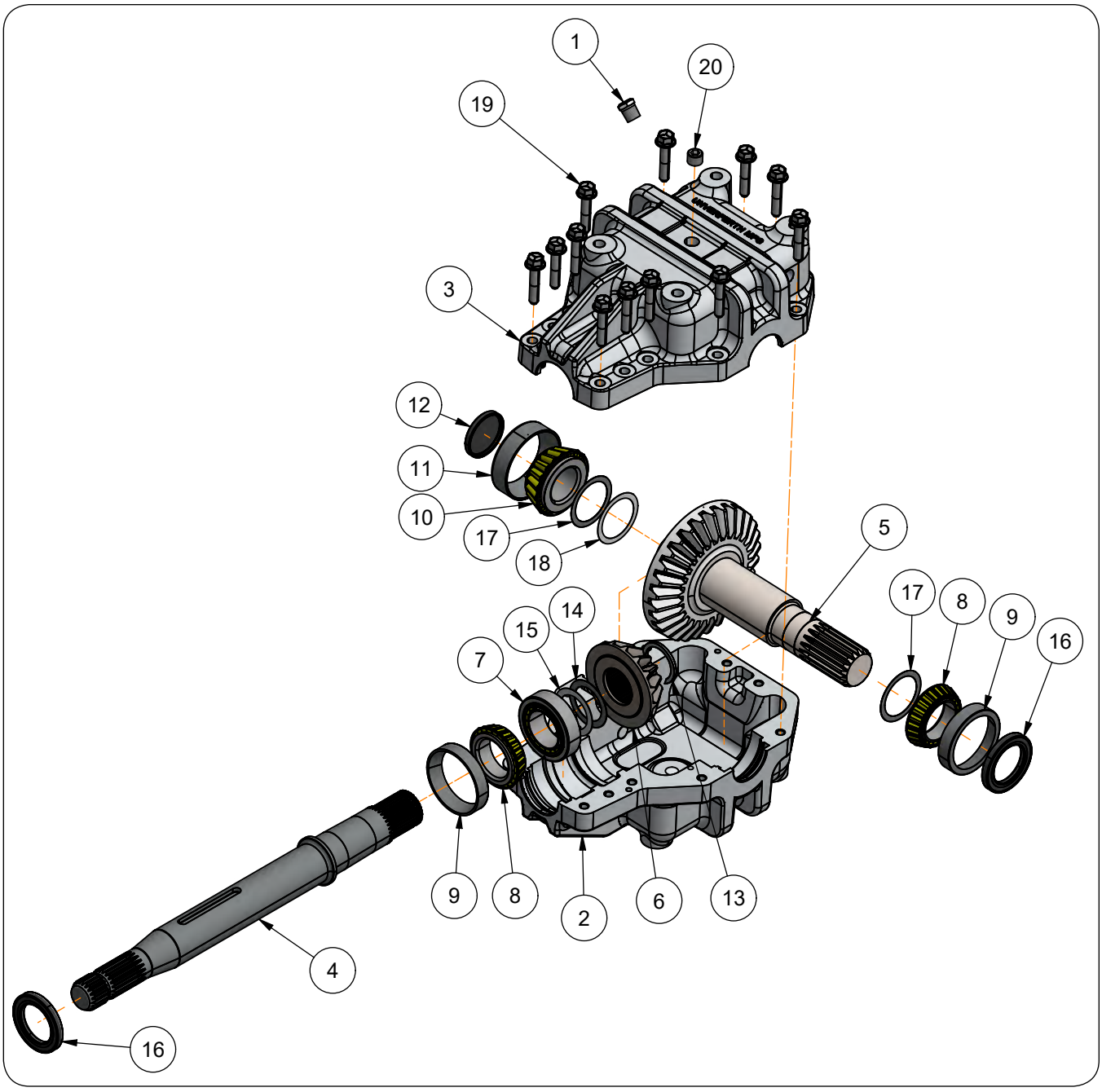


NOTE: Clutch Assembly (9008791) must be used with the Complete PTO Assembly (9008527).

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

Gearbox Components

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



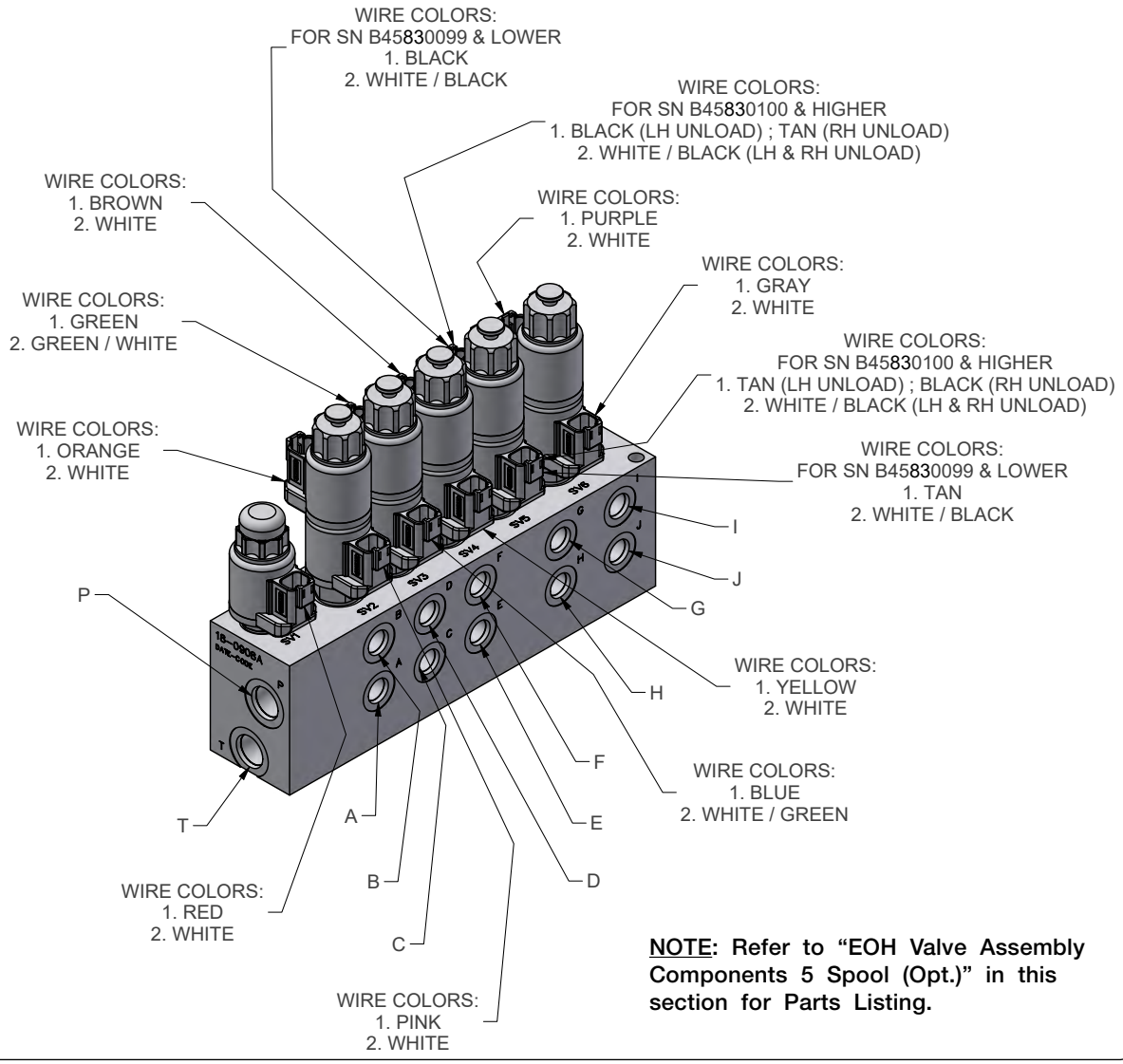
Gearbox Components

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

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

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

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



NOTE: Refer to "EOH Valve Assembly Components 5 Spool (Opt.)" in this section for Parts Listing.

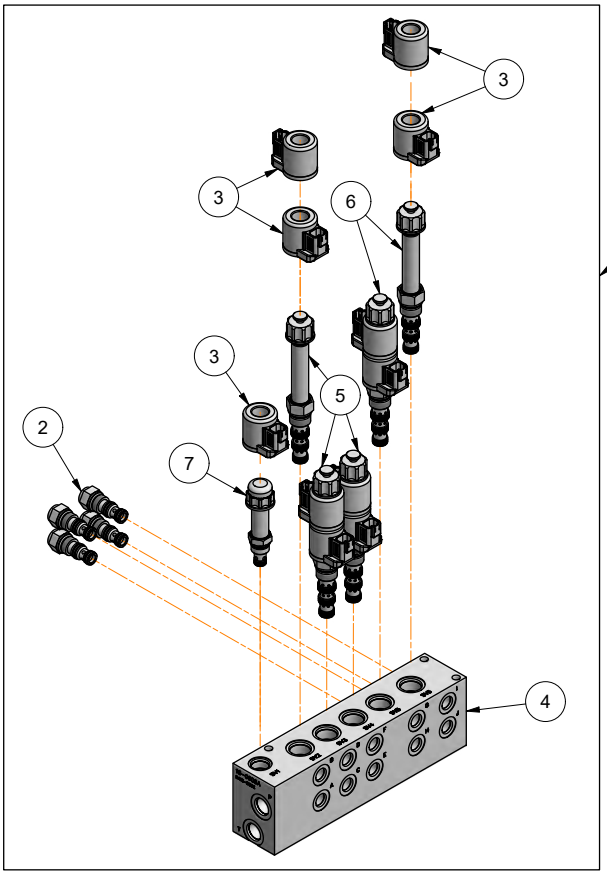
PORT	END OF CYLINDER	FUNCTION
A	BUTT END	Flow Door Close
B	RAM END	Flow Door Open
C	RAM END	Auger Unfold
D	BUTT END	Auger Fold
E	RAM END	Spout Tilt Out
F	BUTT END	Spout Tilt In
G	BUTT END)	Joystick / Spout Rotate
H	RAM END	Joystick / Spout Rotate
I	BUTT END	Auger Pivot Down
J	RAM END	Auger Pivot Up
P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

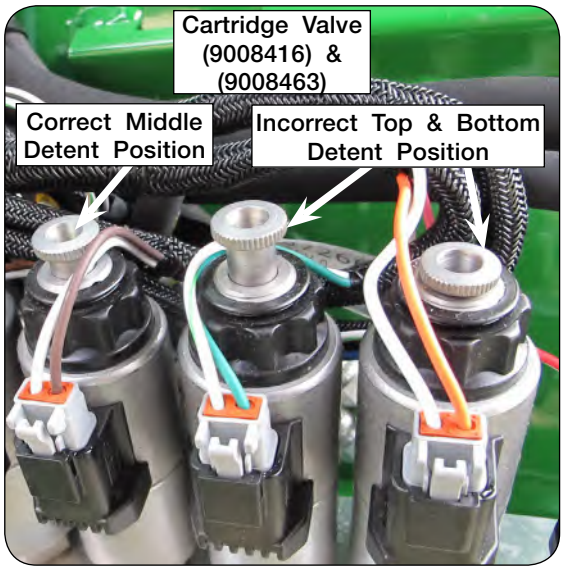
Notes

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

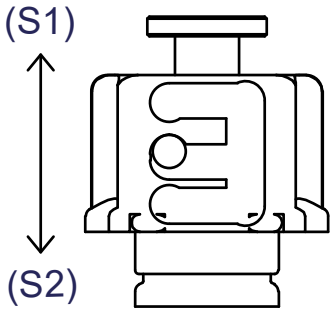
Electric Over Hydraulic (EOH) Valve Assembly Components 5 Spool (Optional)

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





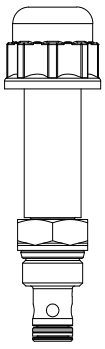
Cartridge Valve (9008416) & (9008463) Middle Detent Position



PUSH BUTTON AND HOLD WHILE OPERATING INDIVIDUAL FUNCTIONS

Cartridge Valve (9008438)

FOR MANUAL OVERRIDE



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

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

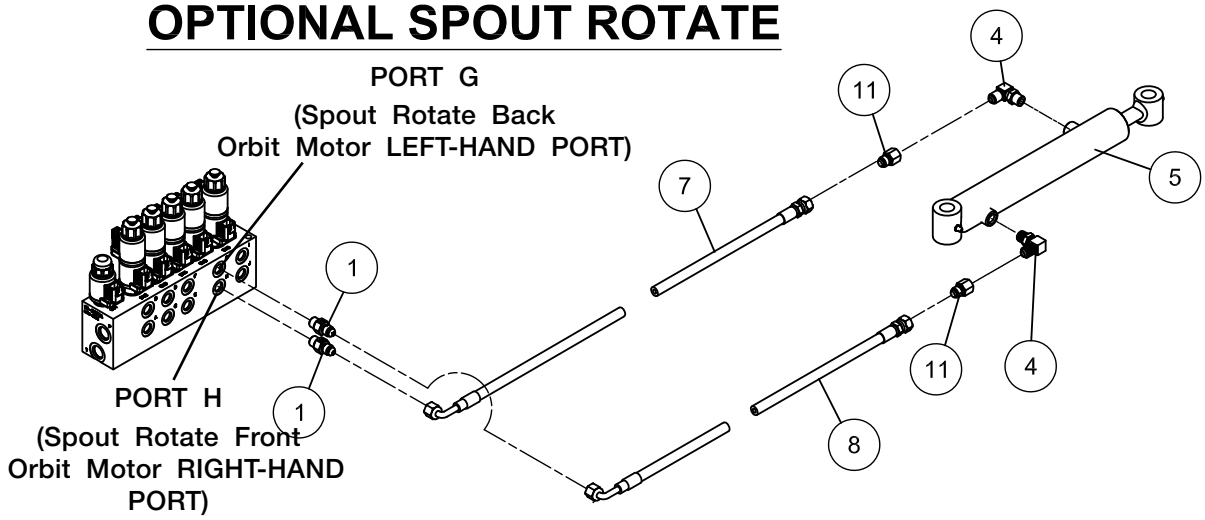
Please visit www.unverferth.com/parts/ for the most current parts listing.

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

EOH Spout Rotate Option & Tilt Hydraulic Components

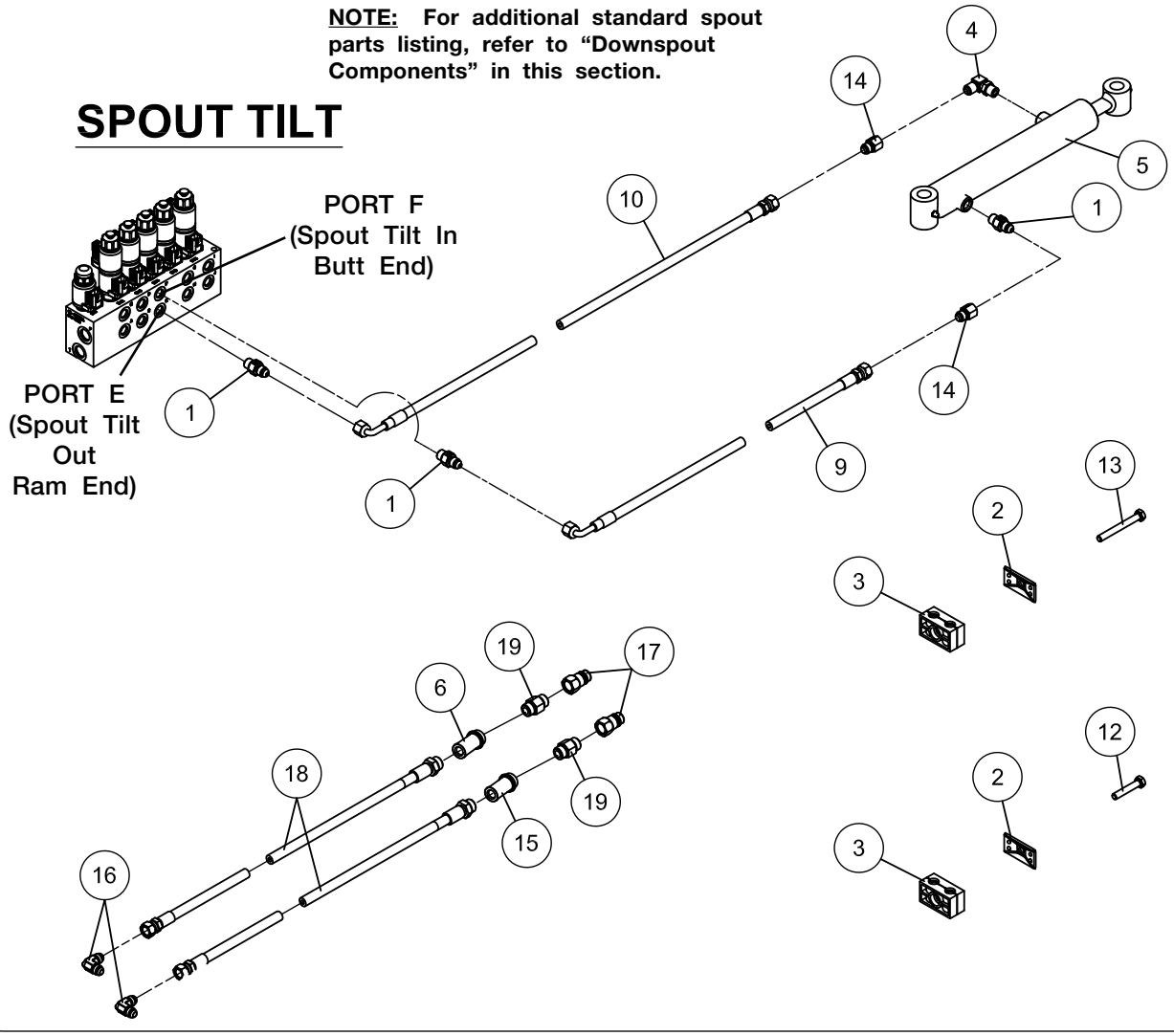
Please visit www.unverferth.com/parts/ for the most current parts listing.

OPTIONAL SPOUT ROTATE



NOTE: **For additional standard spout parts listing, refer to "Downspout Components" in this section.**

SPOUT TILT



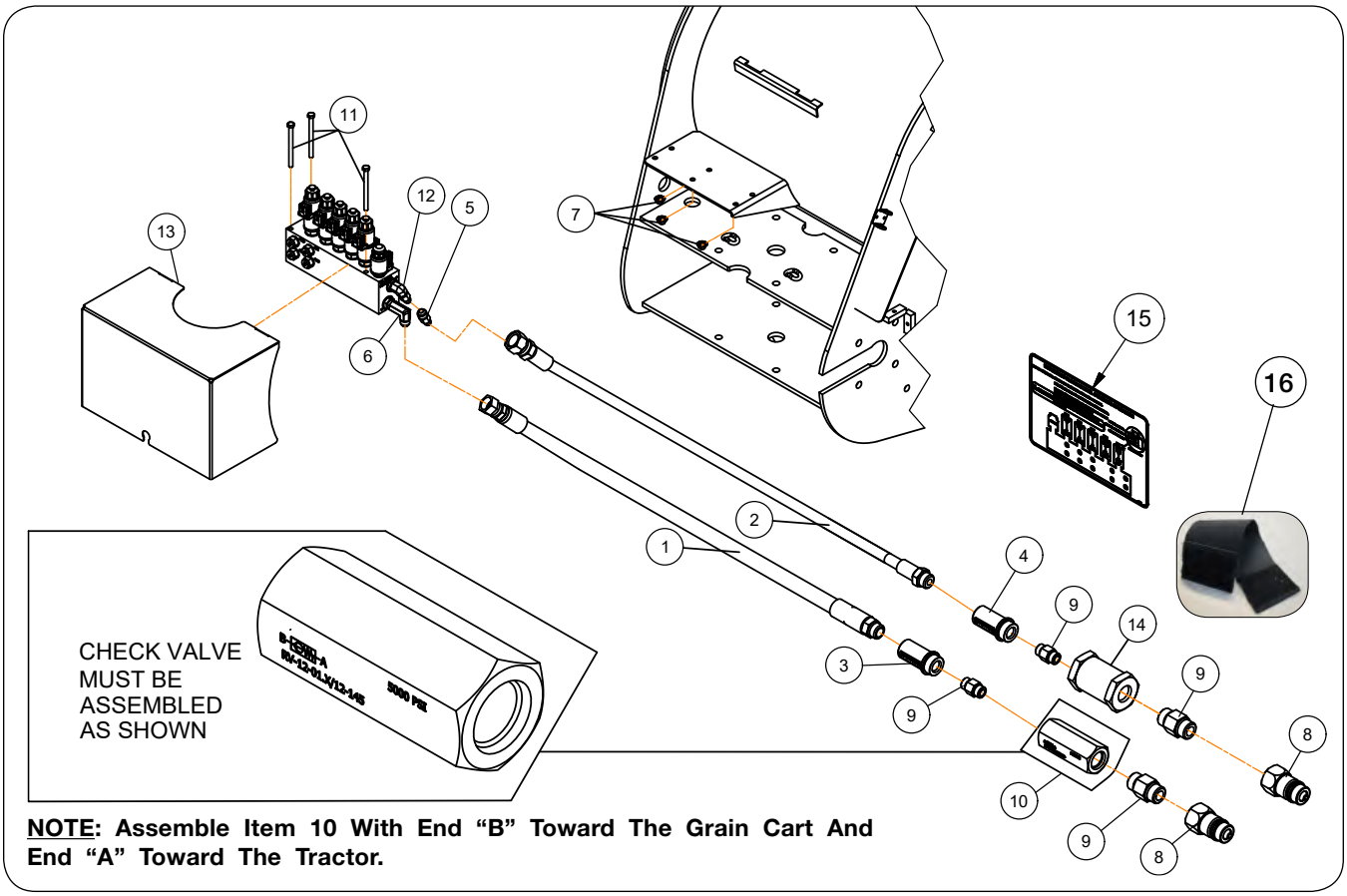
EOH Spout Rotate Option & Tilt Hydraulic Components

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

ITEM	PART NO.	DESCRIPTION	QTY.		NOTES
			Standard Spout	Optional EOH Spout	
1	9001495	Adapter, 9/16"-18 JIC Male x 9/16"-18 O-Ring Male	3	2	
2	9003814	Clamp Top Plate, 1/4" x 1 1/8" x 2 1/16"	4	-	
3	9003816	Clamp, Polypropylene	4	-	
4	97445	90° Elbow, 9/16"-18 JIC Male x 9/16"-18 O-Ring Male	2	2	
5	9005135	Hydraulic Cylinder, 1 1/2" x 8" - 3000 PSI	1	1	
	9005419	Seal Kit	-	-	
6	9009759	Hose Grip - YELLOW (+)	1	-	
7	9010075	Hydraulic Hose, 1/4" x 231" - 3000 PSI	-	1	
8	9009730	Hydraulic Hose, 1/4" x 238" - 3000 PSI	-	1	
9	9006694	Hydraulic Hose, 1/4" x 314" - 3000 PSI	1	-	
10	9006695	Hydraulic Hose, 1/4" x 324 1/2" - 3000 PSI	1	-	
11	9003303	Adapter, 9/16"-18 JIC Female x 9/16"-18 JIC Male with 0.045 Restrictor (Blue)	-	2	
12	9390-031	Capscrew, 5/16"-18UNC x 1 1/4" G5	2	-	
13	9390-034	Capscrew, 5/16"-18UNC x 2" G5	2	-	
14	95193	Adapter, 9/16"-18 JIC Female x 9/16"-18 JIC Male with 0.030 Restrictor (Red)	2	-	
15	9009760	Hose Grip - YELLOW (-)	1	-	
16	9897	90° Elbow, 9/16"-18 JIC Male x 9/16"-18 JIC Male	2	-	
17	91383	Male Tip Coupling, 3/4"-16	2	-	
18	9005574	Hydraulic Hose, 1/4" x 208" - 3000 PSI	2	-	
19	98508	Adapter, 3/4"-16 O-Ring Male x 3/4"-16 O-Ring Male	2	-	

EOH Tractor Circuit Hydraulic Components (Optional)

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

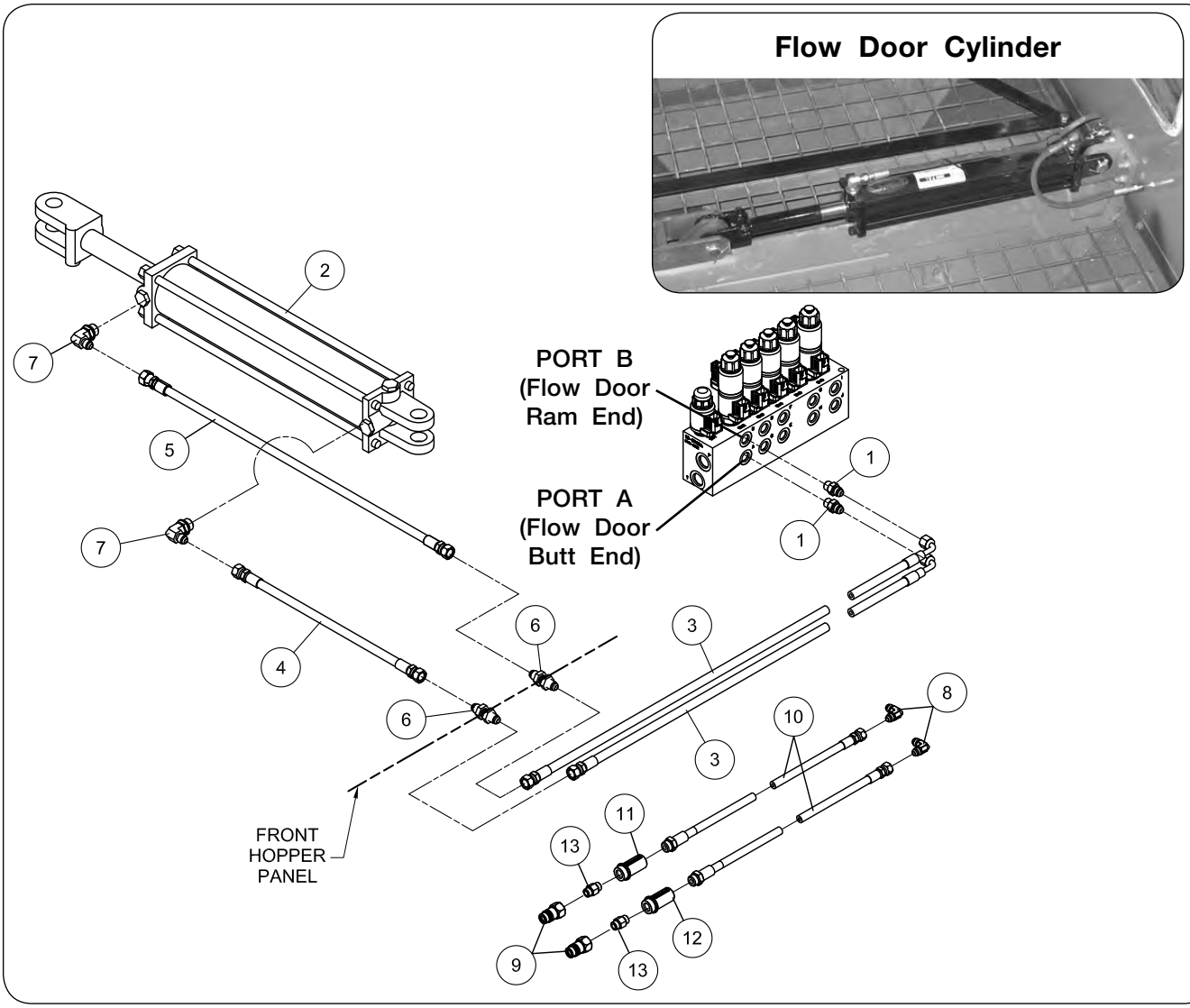


NOTE: Assemble Item 10 With End "B" Toward The Grain Cart And End "A" Toward The Tractor.

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	95802	Hydraulic Hose, 1/2" x 205" - 3000 PSI	1	
2	9005574	Hydraulic Hose, 1/4" x 208" - 3000 PSI	1	
3	9009766	Hose Grips - Tan (- Cylinder Extend)	1	Joystick / Spout Rotate Front
4	9009765	Hose Grips - Tan (+ Cylinder Retract)	1	Joystick / Spout Rotate Back
5	9006527	JIC Tube Reducer 9/16"-18 UNF M x 9/16"-UNF F	1	
6	901568	Elbow, 90° Extra Long 3/4"-16 JIC x 3/4"-16 M O-Ring	1	
7	91257	Large Flange Hex Nut, 5/16"-18UNC Gr.5	3	
8	91383	Male Tip Coupling, 3/4"-16	2	
9	98508	Adapter, 3/4"-16 O-Ring M x 3/4"-16 O-Ring M	2	
10	9006994	Check Line Valve 145 PSI	1	
11	9390-042	Capscrew, 5/16"-18UNC x 4" Gr.5	3	
12	9874	Elbow, 90° 9/16"-18 JIC M x 3/4"-16 OR ADJ M	1	
13	272606B	Valve Cover Plate	1	Also Order Item #15
14	9005403	120 Micron Hydraulic Filter	1	
15	9008564	Decal, CAUTION (Valve Block)	1	Located Inside Cover Plate #13
16	9003848	Velcro Hose Wrap, 2" ID x 127"	1	

Flow Door Circuit Hydraulic Components

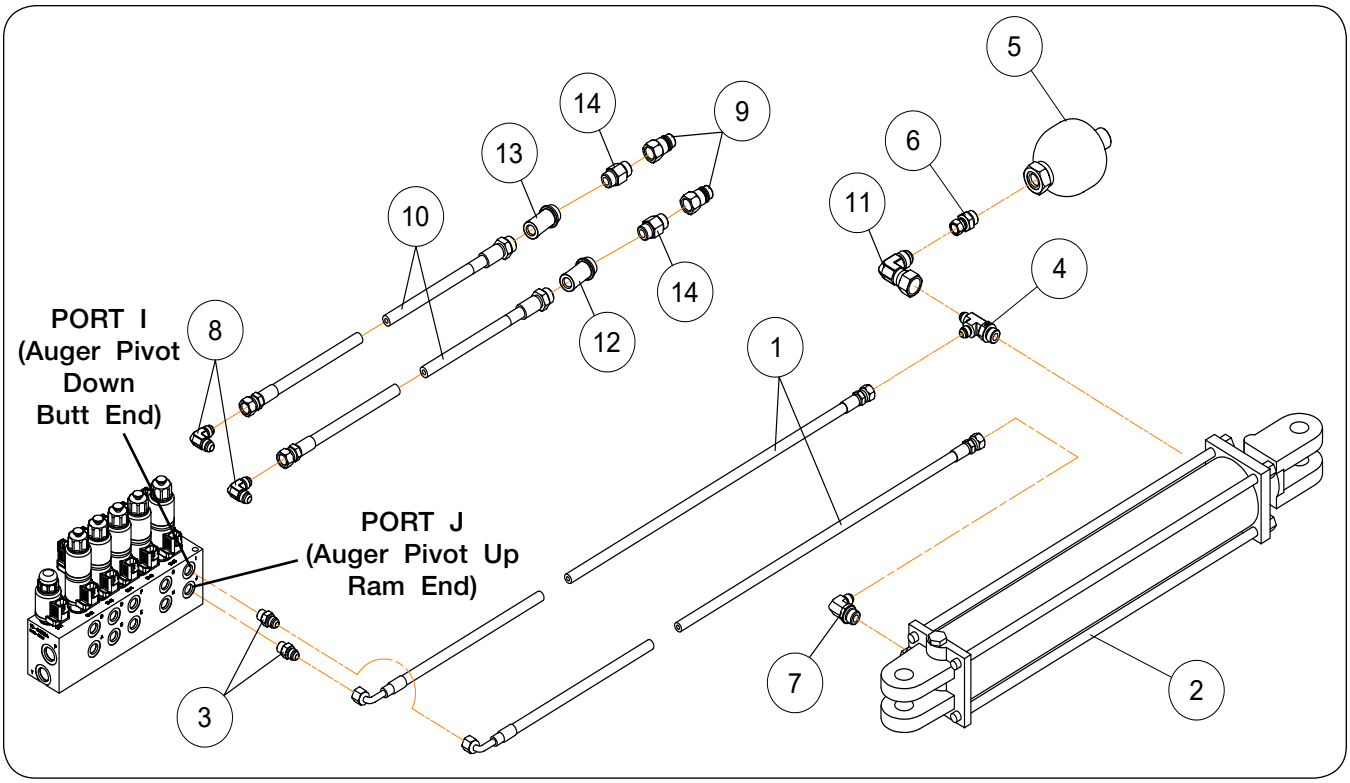
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9001495	Adapter, 9/16”-18 JIC M x 9/16”-18 OR M	2	Optional EOH (Includes 0.030” Red Restrictor)
2	9002575	Hydraulic Cylinder, 3” x 16” - 3000 PSI	1	
	9003772	Seal Kit	-	
3	9004442	Hydraulic Hose, 1/4” x 54” - 3000 PSI	1	
4	93472	Hydraulic Hose, 1/4” x 16” - 3000 PSI	1	
5	9002888	Hydraulic Hose, 1/4” x 27” - 3000 PSI	1	
6	95192	Bulkhead Union, 9/16”-18 JIC M x 9/16”-18 JIC M	2	
7	9874	Elbow, 90° 9/16”-18 JIC M x 3/4”-16 OR ADJ M	6	
8	9897	Elbow, 90° 9/16”-18 JIC M x 9/16”-18 JIC M	2	
9	91383	Male Tip Coupling, 3/4”-16	2	
10	9005574	Hydraulic Hose, 1/4” x 208” - 3000 PSI	2	
11	9009754	Hose Grips - Red (+ Cylinder Extend)	1	
12	9009755	Hose Grips - Red (- Cylinder Retract)	1	
13	98508	Adapter, 3/4”-16 OR Male x 3/4”-16 OR Male	2	

Auger Pivot Hydraulic Components

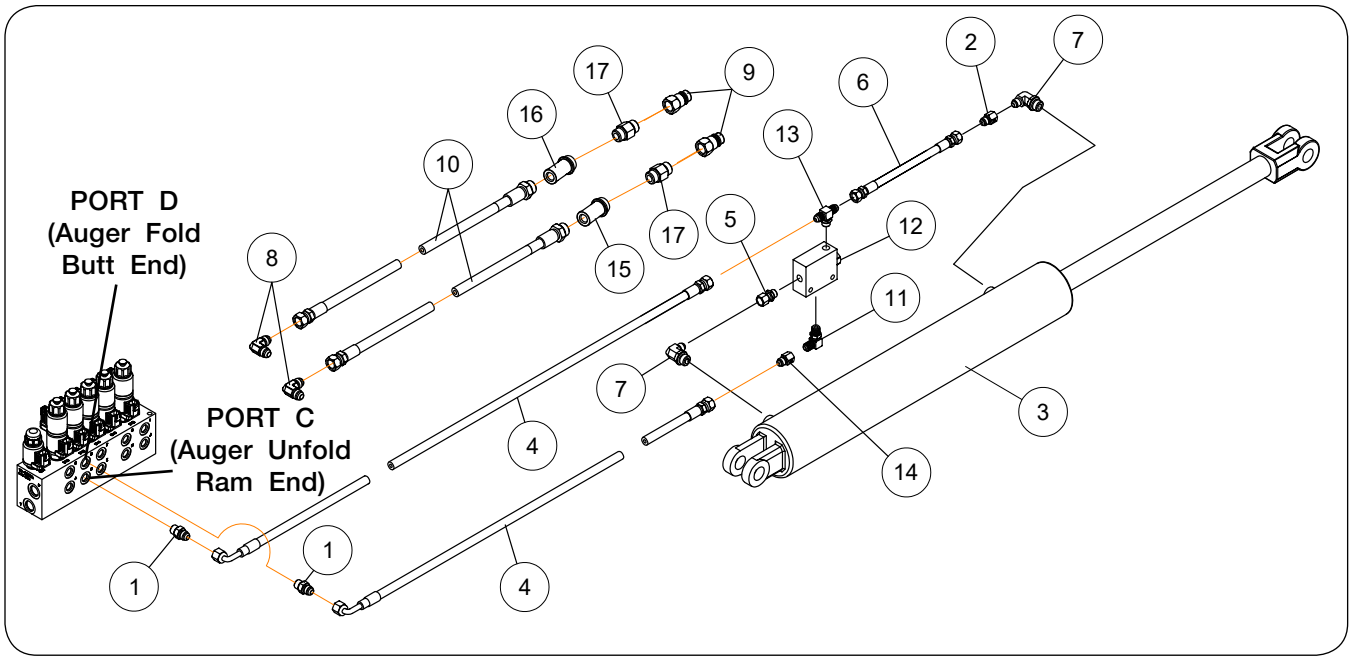
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9000925	Hydraulic Hose, 1/4" x 78" - 3000 PSI	2	
2	9000933	Hydraulic Cylinder, 3 1/2" x 20" - 3000 PSI	1	
	9001081	Seal Kit	-	
3	9001495	Adapter, 9/16"-18 JIC M x 9/16"-18 OR M	2	Optional EOH (Includes 0.030" Red Restrictor)
4	9002155	Tee, 9/16"-18 JIC M x 3/4"-16 OR ADJ M	1	
5	9002719	Accumulator - 1800 PSI	1	
6	9002720	Adapter, 3/4"-16 OR M x 9/16"-18 JIC F	1	
7	9874	Elbow, 90° 9/16-18 JIC Male x 3/4-16 OR ADJ Male	1	
8	9897	Elbow, 90° 9/16-18 JIC Male x 9/16-18 JIC Male	2	
9	91383	Male Tip Coupling, 3/4"-16	2	
10	9005574	Hydraulic Hose, 1/4" x 208" - 3000 PSI	2	
11	9876	Elbow, 90° 9/16-18 JIC Male x 9/16-18 JIC Female	1	
12	9009761	Hose Grips - Orange (+ Cylinder Extend)	1	
13	9009762	Hose Grips - Orange (- Cylinder Retract)	1	
14	98508	Adapter, 3/4"-16 OR Male x 3/4"-16 OR Male	2	

Auger Fold Hydraulic Components

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



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9001495	Adapter, 9/16”-18 JIC M x 9/16”-18 OR M	2	Optional EOH (Includes 0.030” Red Restrictor)
2	9002199	Reducer, 9/16”-18 JIC F x 9/16”-18 JIC M	1	0.060” Yellow Restrictor
3	9007639	Hydraulic Cylinder, 3 1/2” x 20” - 3000 PSI	1	
	9006942	Seal Kit	-	
4	9005864	Hydraulic Hose, 1/4” x 66” - 3000 PSI	2	
5	9002446	Adapter, 9/16”-18 M O-Ring x 9/16”-18 JIC F	1	
6	93472	Hycraulic Hose, 1/4” x 16” - 3000 PSI	1	
7	9874	Elbow, 90° 9/16”-18 JIC M x 3/4”-16 OR ADJ M	2	
8	9897	Elbow, 90° 9/16”-18 JIC M x 9/16”-18 JIC M	2	
9	91383	Male Tip Coupling, 3/4”-16	2	
10	9005574	Hydraulic Hose, 1/4” x 208” - 3000 PSI	2	
11	97445	Elbow, 90° 9/16”-18 JIC M x 9/16”-18 O-Ring ADJ M	1	
12	9003990	Pilot Operated Check Valve with 3 Ports	1	
13	9001710	Tee 9/16”-18 JIC M x 9/16”-18 JIC M x 9/16”-18 O-Ring M	1	
14	9002199	Reducer, 9/16”-18 JIC F x 9/16”-18 JIC M	1	0.060” Yellow Restrictor
15	9009751	Hose Grips - Green (+ Cylinder Extend)	1	
16	9009752	Hose Grips - Green (- Cylinder Retract)	1	
17	98508	Adapter, 3/4”-16 OR Male x 3/4”-16 OR Male	2	

Cylinders

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

Auger Flow Door Cylinder - 3” x 16”

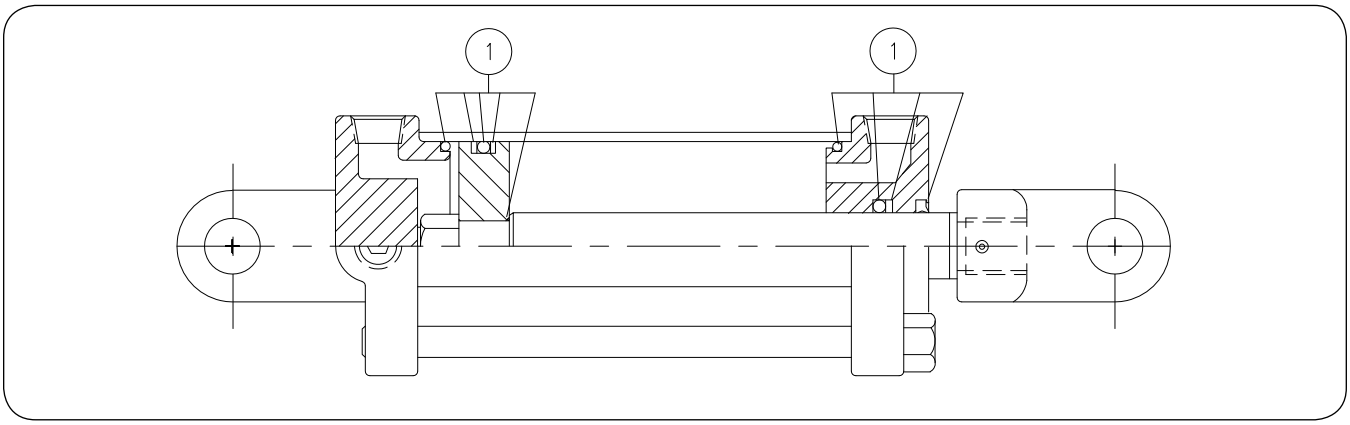
ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9002575	Cylinder 3” x 16”	1	3/4”-16 O-Ring Ports (3000 PSI)
1	9003772	Seal Kit	1	

Auger Fold Cylinder - 3” x 22”

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

Auger Pivot Cylinder - 3 1/2” x 20”

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



Cylinders

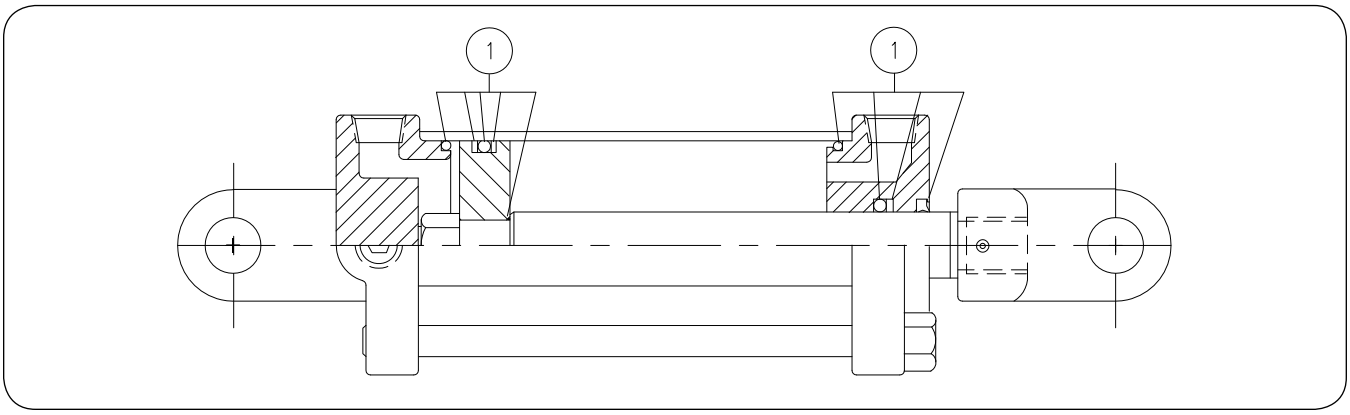
Please visit www.unverferth.com/parts/ for the most current parts listing.

Spout Tilt & Rotate Cylinder - 1 1/2" x 8"

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

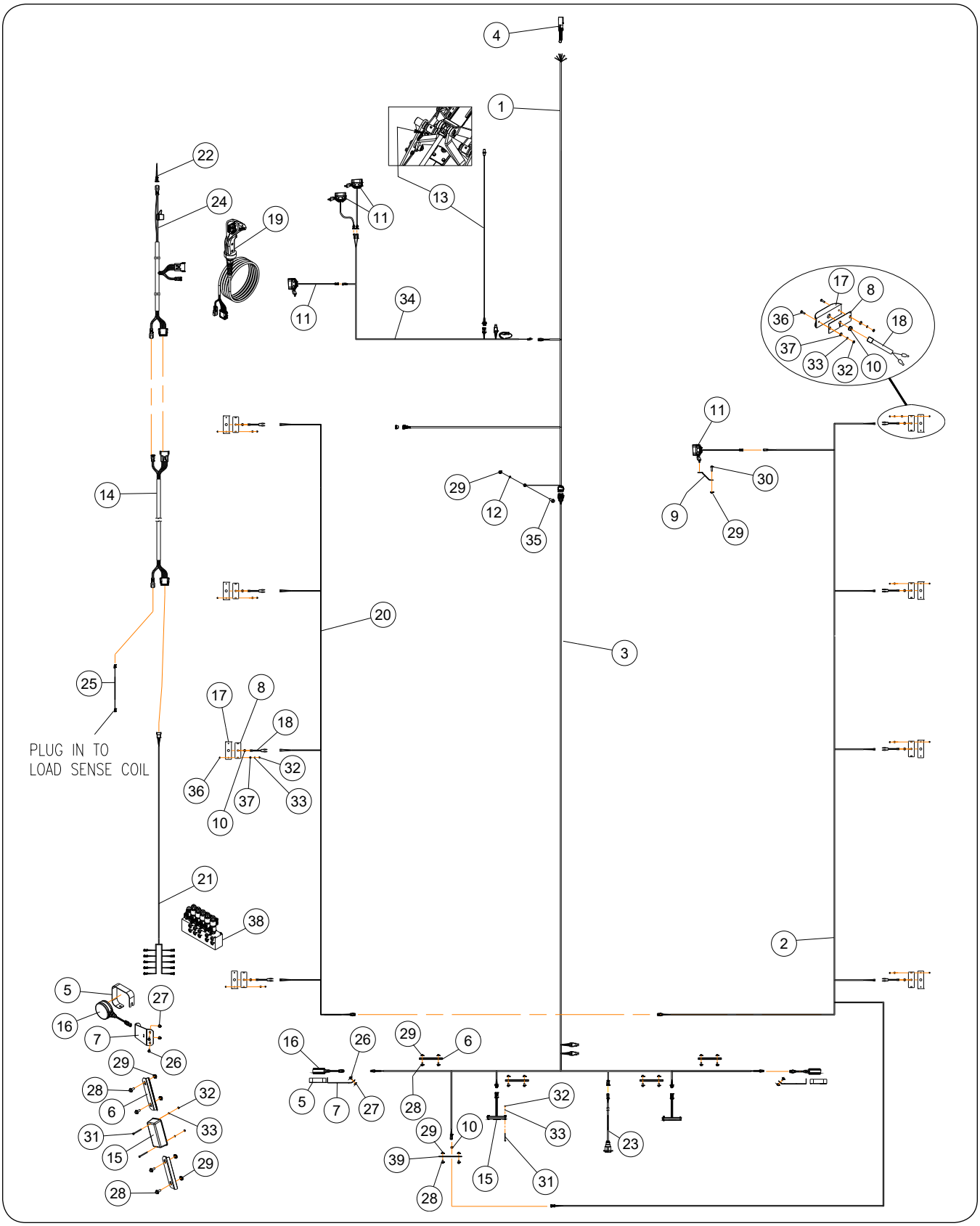
Optional Jack Cylinder - 3 1/2" x 8"

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	9009047	Cylinder, Complete - 3 1/2" x 8"	1	
1	9007880	Seal Kit	1	



Electrical Components - 5 Function Control Grip

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



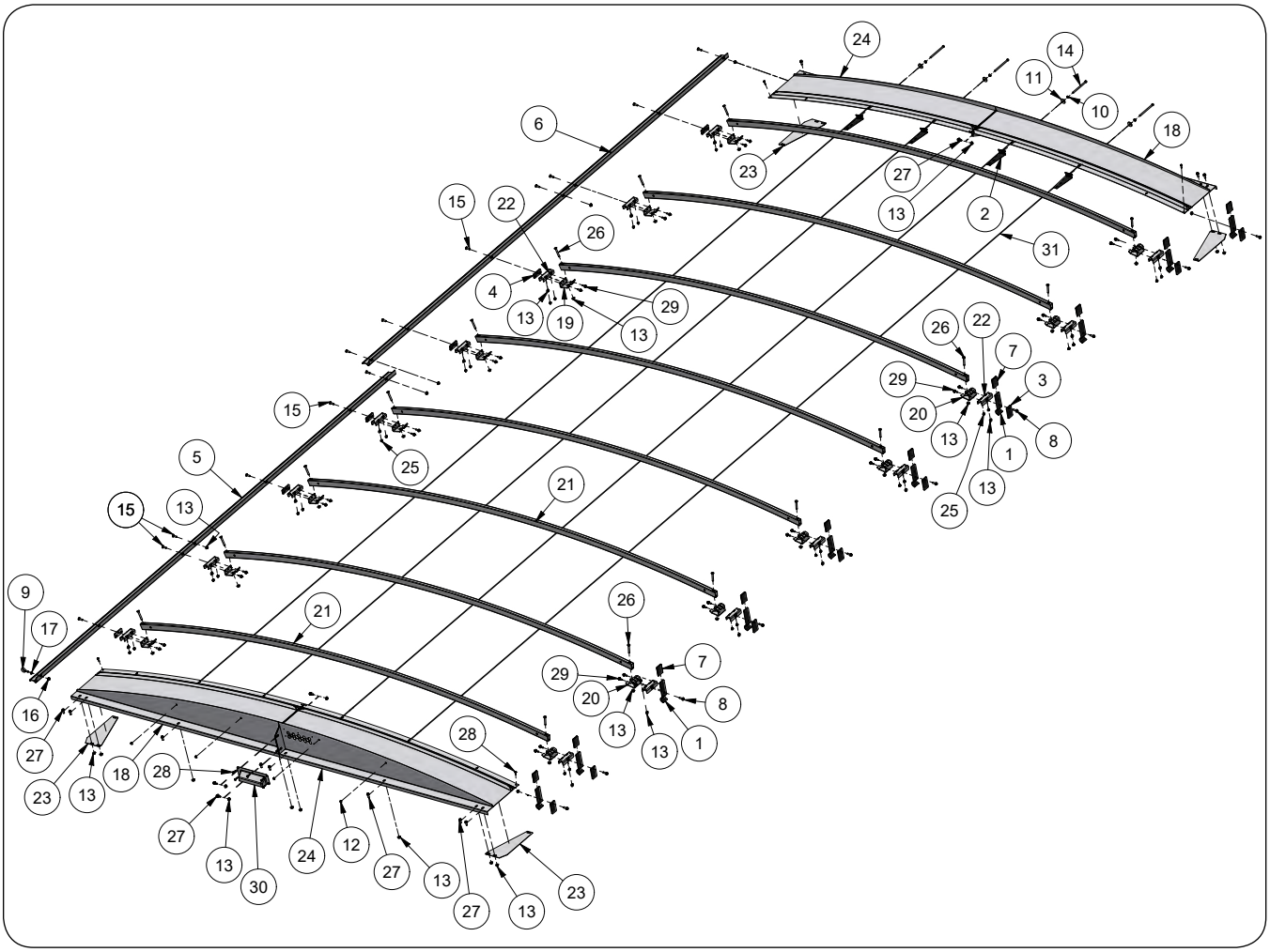
Electrical Components - 5 Function Control Grip

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	9008106	Front Harness - 260”	1	
2	9009030	RH Clearance Light Harness	1	
3	9009574	Rear Harness - 325 7/16”	1	
4	92450	7-Way Plug	1	
5	268678B	Light Guard Plate =Black=	2	
6	273371G	Harness Cover =Green=	4	
	273371M	Harness Cover =Midnight Gray Metallic=		
	273371R	Harness Cover =Red=		
7	296726B	Light Bracket =Black=	2	
8	273531B	Light Cover =Black=	8	
9	271574B	Lamp Mount Plate =Black=	1	
10	9001005	Rubber Grommet	9	
11	9008957	Work Flood Lamp (LED)	3	
12	9005688	External Tooth Lock Washer	1	
13	9007223	Proximity Switch	1	
14	9008252	Joystick Controller Extension Harness	1	
15	9006345	LED Lamp - Red	2	
	232169	LED Lamp - Red - Replacement Kit		Includes Lamp, & Items 31, 32, & 33
16	9005142	LED Lamp - Amber	2	
17	9005529	Amber Light	8	
18	9005542	Light Harness - 2 Wire	8	
19	9008265	L-Series Control Grip - 5 Function	1	
20	9009069	LH Clearance Light Harness	1	
21	9010096	“T” Main Wiring Harness - 189”	1	
22	9006907	Power Harness, 12”	1	
23	9009843	7-Blade Connector	1	Optional Rear Hitch
24	9008251	Harness - Joystick Power	1	
25	9007266	Wire Harness, 218 5/16” (2 Pin Diverter)	1	
26	91256	Large Flange Screw 5/16”-18UNC x 3/4”	4	
27	91257	Flange Nut 5/16”-18UNC	4	
28	95585	Large flange Screw 3/8”-16UNC x 3/4” G5	10	
29	91263	Nut/Large Flange, 3/8”-16UNC	12	
30	91262	Flange Screw 3/8”-16UNC x 1”	1	
31	903172-350	Pan Head Phillips Screw, #10-32UNF x 1 1/4”	4	
32	9830-016	Hex Nut, #10-32 Grade 2	20	
33	9404-013	Lock Washer, #10	20	
34	9008956	Switch Harness	1	
35	91262	Large Flange Screw, 3/8”-16UNC x 1” G5	1	
36	903172-346	Pan Head Phillips Screw, #10-32UNF x 3/4”	16	
37	9405-052	Flat Washer, 3/16”	16	
38	293416	EOH Block Assembly - 5 Spool Replacement Kit	1	
39	291169G	Rear Trim =Green=	1	
	291169M	Rear Trim =Midnight Gray Metallic=		
	291169R	Rear Trim =Red=		

Weather Guard Tarp Bows, End Caps, & Cable Components

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



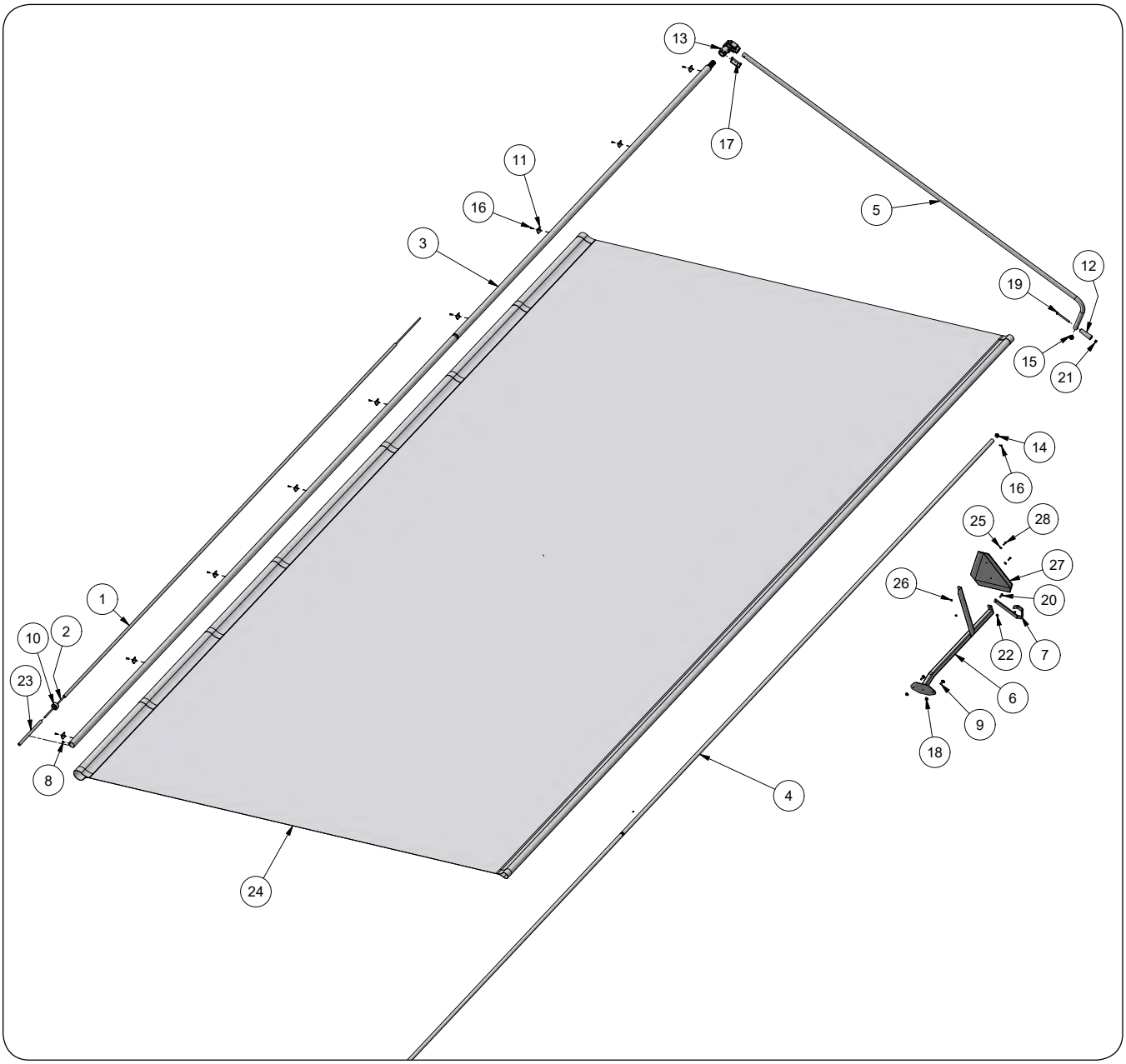
Weather Guard Tarp Bows, End Caps, & Cable Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	273518SO	Tarp Kit with Split Arched End Caps		
1	266689B	Tarp Short Stop Plate =Black=	10	
2	281712B	Bracket Assembly =Black=	4	
3	295183B	Tarp Stop Spacer Plate =Black=	8	
4	295259B	Tarp Spacer Plate =Black=	6	
5	296842	Plate - Latch 171 1/4" (Front)	1	Front & Rear Latch Plate Replacement Kit 297788
6	296843	Plate - Latch 171 1/4" (Rear)	1	
7	9003078	Cap - Plastic (2" x 3")	10	
8	9003259	Screw/Large Flange 3/8"-16UNC x 1 1/4" G5	10	
9	9004548	Eye Bolt 3/8"-16UNC x 1 3/4"	1	
10	9005688	Star Washer	4	
11	9005696	Fender Washer	4	
12	9005727	Plug 7/16"	4	
13	9008159	Automation Locknut/Top, 3/8"-16UNC	68	
14	9008315	Capscrew 3/8"-16UNC x 6" (Full Threaded)	4	
15	9009089	Truss Head Machine Screw, 3/8"-16UNC x 1 1/4"	13	
16	91263	Nut/Large Flange, 3/8"-16UNC	1	
17	9405-074	Flat Washer 3/8"	1	
18	276756B	End Cap Weldment - RH =Black=	2	
19	283425B	RH Bracket For Sideboards/Tarp Bow Weldment =Black=	8	
20	283427B	LH Bracket For Sideboards/Tarp Bow Weldment =Black=	8	
21	291289B	Tarp Bow =Black=	8	
22	294678B	Doubler Plate =Black=	16	
23	295284B	Sideboard Cover Plate =Black=	4	
24	296115B	End Cap Weldment - LH =Black=	2	
25	9010154	Locknut/Top, 5/16"-18UNC	32	
26	902703-046	Flat Socket Capscrew 3/8"-16UNC x 3"	16	
27	91262	Flange Screw, 3/8"-16UNC x 1" G5	22	
28	9512	Screw/Self Drilling 1/4"-14 x 1"	14	
29	97604	Screw/Large Flange, 5/16"-18 UNC x 1"	32	
30	9009504	End Cap Vent Cover	2	
31	9005990	Cable Assembly 324"	4	

Weather Guard Tarp & Handle Components

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



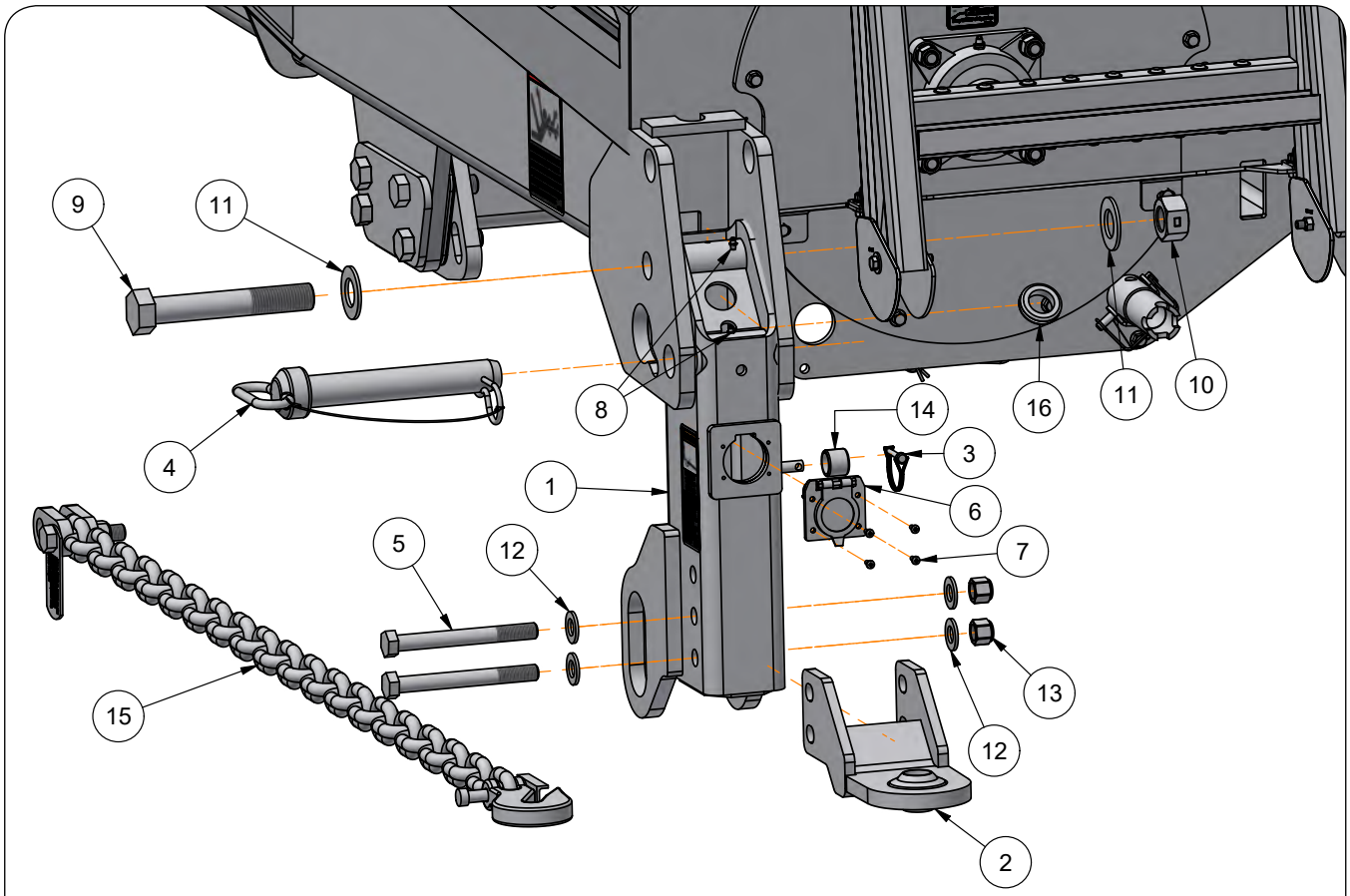
Weather Guard Tarp & Handle Components

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	273518SO	Tarp Kit with Split Arched End Caps		
1	221668	Pipe - 180”	1	
2	221722	Bungee 3/8” Dia. x 204”	1	
3	273381	Roll Tube Weldment	1	
4	273382	Fixed Tube Weldment	1	
5	287944	Tarp Handle Weldment	1	
6	296594B	Handle Bracket Weldment =Black=	1	
7	297753B	Handle Retainer Weldment =Black=	1	
8	9001396	Pan Head Screw #10-16 x 1/2”	1	
9	9003259	Screw/Large Flange 3/8”-16UNC x 1 1/4” G5	2	
10	9004947	Plug 2”	1	
11	9004949	U-Clamp	9	
12	9004969	Handle	1	
13	9004977	U-Joint w/ 1 3/8”-21 Spline	1	
14	9005088	Plug 1 1/8”	2	
15	9005089	Plug 1 1/4”	1	
16	9005197	Screw/Self Drilling #10-16 x 3/4” Pan Head	11	
17	9005305	Lynch Pin 3/8” x 3”	1	
18	9008159	Automation Locknut/Top, 3/8”-16UNC	2	
19	903172-450	Pan Head 3/8”-16UNC x 4 1/2” Phillips	1	
20	9390-055	Capscrew 3/8”-16UNC x 1” G5	1	
21	9398-012	Elastic Stop Nut 3/8”-16UNC	1	
22	9928	Locknut 3/8”-16UNC	1	
23	TA806225	Hose 1/2” EPDM	1	
24	9005856	Tarp 188” x 337”	1	
	9005581	Tarp Repair Kit	-	
25	9405-064	Flat Washer, 1/4” USS	2	
26	9936	Locknut/Top, 1/4”-20UNC	2	
27	TA510514	SMV Emblem	1	
28	9390-005	Capscrew, 1/4”-20UNC x 1” G5	2	

Rear Drop Hitch Components (Optional)

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



NOTE: Item #15 Replaces Standard Grain Cart Transport Chain At Front Of Cart.

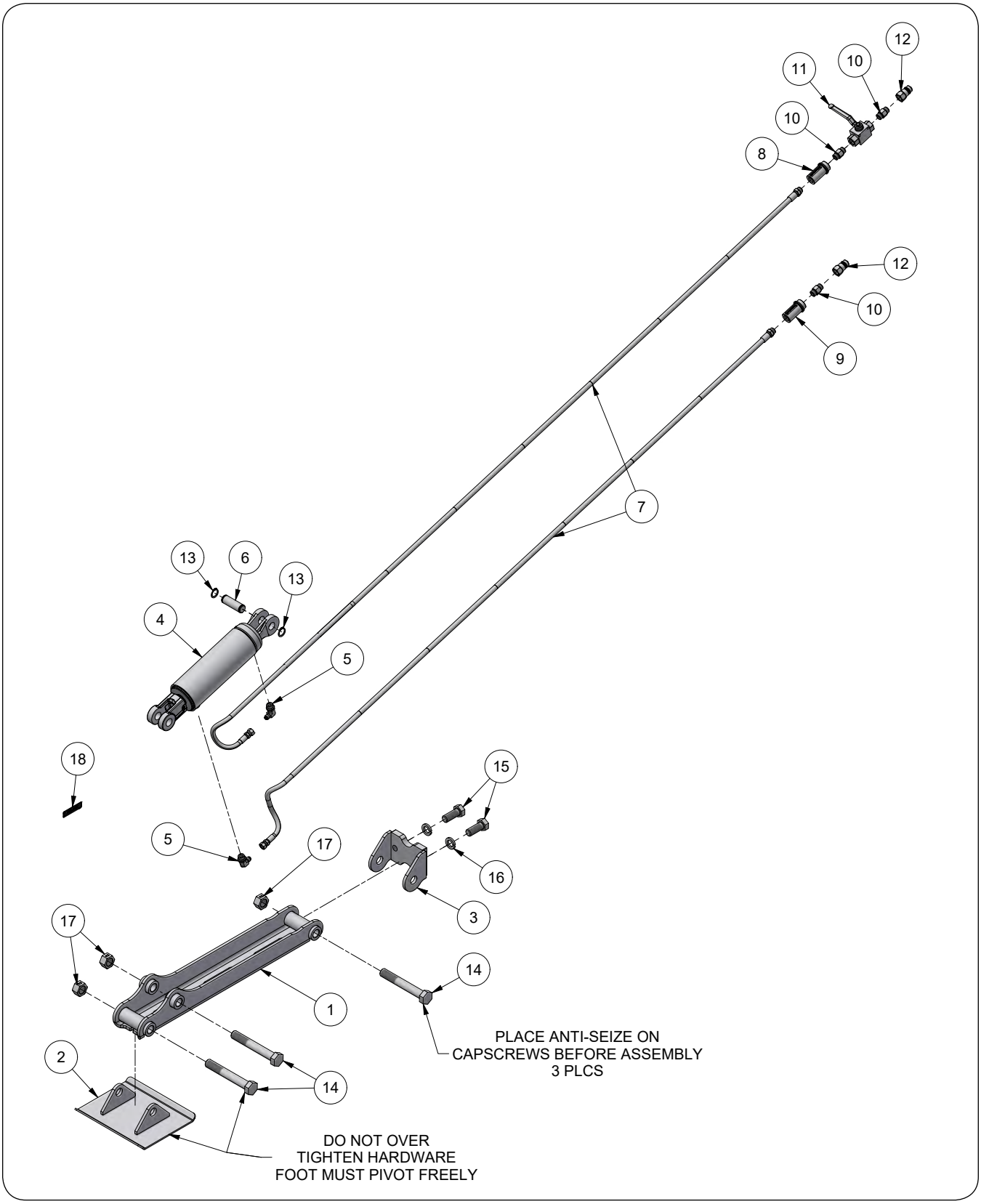
Rear Drop Hitch Components (Optional)

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
	296960B	Rear Drop Hitch Kit (Black)	-	Includes Items 1-15. See "Front End Components" For Additional Details.
1	297128B	Rear Drop Hitch Assembly (Black)	1	Includes Decal, WARNING (Towing Capacity) 9009646
2	295978B	Rear Hitch Weldment =Black=	1	
3	9000936	Lynch Pin	1	
4	9009656	Pivot Pin	1	
5	9390-159	Capscrew 3/4"-10UNC x 7" G5	2	
6	9009843	7-Blade Connector	1	
7	903172-133	Phillips Head Screw #10-24 x 1/2"	4	
8	91160	Grease Zerk	2	
9	9390-225	Capscrew 1 1/4"-7UNC x 8" G5	1	
10	93476	Locknut 1 1/4"-7UNC G5	1	
11	9405-128	Flat Washer 1 1/4" SAE	2	
12	9405-104	Flat Washer 3/4" SAE	4	
13	9398-021	Locknut 3/4"-10UNC	2	
14	91268	Tension Bushing	1	
15	PF1238-19	Transport Chain #61,000	1	Replaces Standard Grain Cart Transport Chain If Equipped With Optional Rear Hitch

Hydraulic Jack - Kit #294143B

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



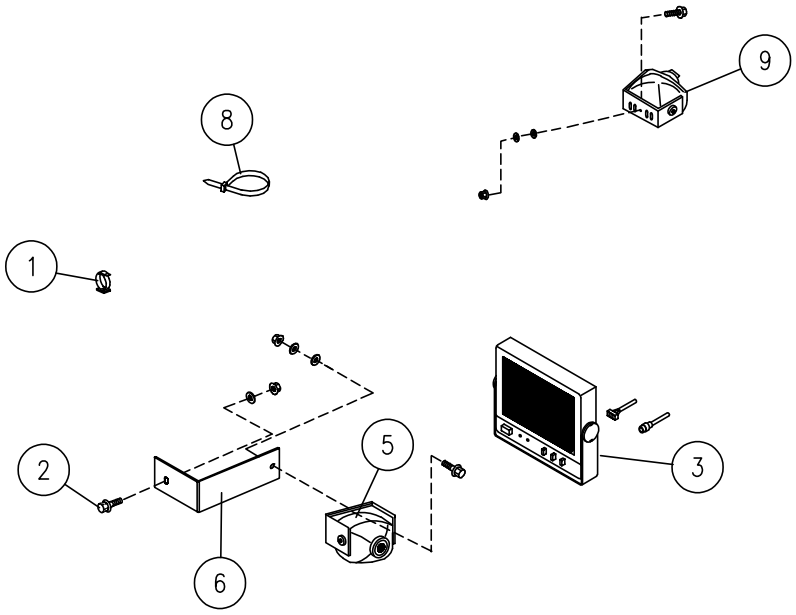
Hydraulic Jack - Kit #294143B

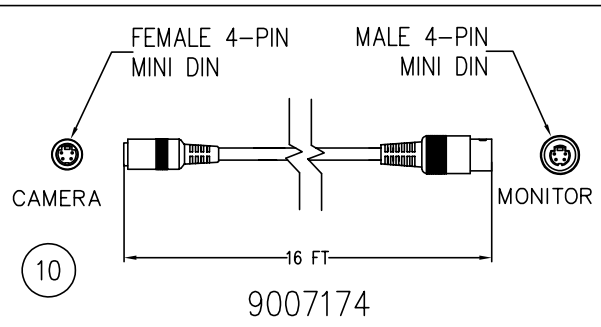
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	271712B	Jack Weldment =Black=	1	
2	271723B	Jack Foot Weldment =Black=	1	
3	273808B	Jack Mount Weldment =Black=	1	
4	9009047	Hydraulic Cylinder, 3 1/2" x 8" - 3000 PSI	1	
5	9006173	Elbow, 90°	2	
6	272587	Pin, 1" Dia. x 3 1/8"	1	
7	9006068	Hydraulic Hose, 1/4" x 92" - 3000 PSI	2	
8	9009757	Hose Grip BLACK (+)	1	
9	9009758	Hose Grip BLACK (-)	1	
10	98508	Adapter, 3/4"-16 OR Male x 3/4"-16 OR Male	3	
11	9005426	High Pressure Ball Valve	1	
12	91383	Male Tip Coupling	2	
13	91192	Retaining Ring, 1"	2	
14	9390-197	Capscrew, 1"-8UNC x 7" G5	3	
15	9390-165	Capscrew, 7/8"-9UNC x 2 1/4" G5	2	
16	9404-037	Split Lock Washer, 7/8"	2	
17	92199	Center Locknut, 1"-8UNC	3	
18	9009869	Decal, Hose Legend	1	

Video System (Optional)

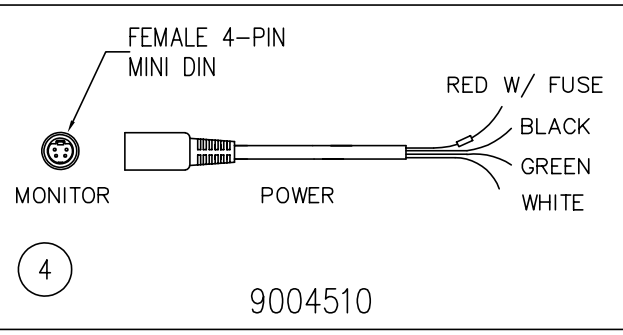
Please visit www.unverferth.com/parts/ for the most current parts listing.

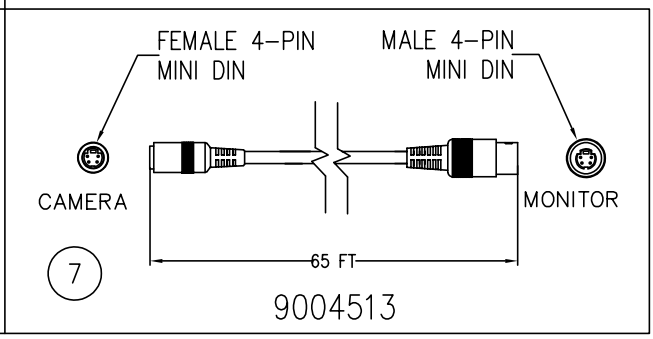




9004510 CABLE W/FUSE WIRES
Red -- Key Switched Power
Black -- Ground
Green -- **NOT USED**
White -- **NOT USED**

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





Video System (Optional)

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

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


MEMBER
FEMA
FARM EQUIPMENT
MANUFACTURERS
ASSOCIATION