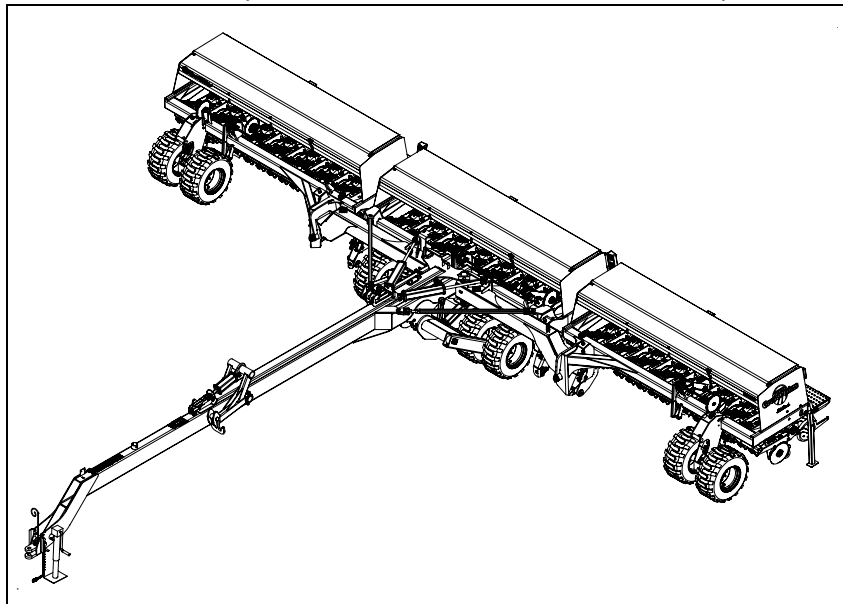


# Pre-Delivery Manual

3S-4000 and 3S-4000F  
Three-Section Drill



Read the operator's manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!



*Cover illustration may show optional equipment not supplied with standard unit.*

ORIGINAL INSTRUCTIONS



© Copyright 2019

Printed 2019-04-25

195-242Q





# Table of Contents

<b>Safety Information .....</b>	<b>1</b>	Electrical Connections .....	19
<b>Introduction .....</b>	<b>5</b>	Hydraulic Hose Hookup .....	20
Document Family .....	5	Bleeding Hydraulics .....	21
Description of Unit .....	5	Bleeding Opener Lift Hydraulics .....	22
Intended Usage .....	5	Bleeding Transport Lift Hydraulics .....	24
Models Covered .....	5	Bleeding Marker Hydraulics .....	25
Using This Manual .....	6	Folding .....	26
Definitions .....	6	Unfolding .....	27
<b>Preparation .....</b>	<b>7</b>	Folding and Unfolding Quick Reference .....	27
Unloading Truck .....	7	To Fold Drill .....	27
Tools Required .....	7	To Unfold Drill .....	27
Pre-Assembly Checklist .....	7	Leveling the Drill .....	28
<b>Assembly .....</b>	<b>8</b>	Center Box Frame Leveling .....	28
Install Center Box on Frame .....	8	Opener Frames .....	28
Install Walkboards and Steps .....	9	Wing Box Alignment .....	29
Install Center Walkboard .....	9	Align Transfer Drive Shaft .....	30
Install Wing Walkboards .....	9	Toolbar Height .....	32
Install Swing-Down Ladders .....	10	Opener-Frame Clearance .....	33
Install Swing-Down Ladder Mounts .....	10	Install Final Accessories .....	33
Install Ladders .....	11	Acrometer Installation .....	33
Install Reflectors and Decals .....	11	Shaft Monitor .....	34
Center Section Decals .....	11	Point Row Controller .....	34
Swing-Down Ladder Decals .....	12	Scraper Installation .....	34
Inboard Ends of Outer Section Walkboard Decals .....	12	<b>Appendix .....</b>	<b>35</b>
SMV Panel .....	13	Specifications and Capacities .....	35
Other Assembly Items .....	13	Tire Inflation Chart .....	35
Install Press Wheels .....	14	Tire Warranty Information .....	35
Two Outlet Kit .....	14	Torque Values Chart .....	36
Markers .....	15	Hydraulic Diagrams .....	37
Open Center Conversion .....	15	Fold .....	37
Point Row Option .....	16	Transport Lift .....	37
Acrometer .....	16	Dual Markers .....	38
Post Assembly Checklist .....	16	Single Marker .....	38
<b>Setup .....</b>	<b>17</b>	Two Outlet Conversion .....	39
Hitching .....	17	Opener Lift: Standard Closed-Center .....	40
Hitch Selection .....	17	Opener Lift: Optional Open-Center .....	41
Hitch Height .....	18	Point-Row .....	42

© Copyright 2000-2009, 2015, 2017, 2019 All rights Reserved

Great Plains Manufacturing, Inc. provides this publication "as is" without warranty of any kind, either expressed or implied. While every precaution has been taken in the preparation of this manual, Great Plains Manufacturing, Inc. assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. Great Plains Manufacturing, Inc. reserves the right to revise and improve its products as it sees fit. This publication describes the state of this product at the time of its publication, and may not reflect the product in the future.

Trademarks of Great Plains Manufacturing, Inc. include: AccuShot, Max-Chisel, Row-Pro, Singulator Plus, Short Disk, Swath Command, Terra-Tine, Ultra-Chisel, and X-Press.

Registered Trademarks of Great Plains Manufacturing, Inc. include: Air-Pro, Clear-Shot, Discovator, Great Plains, Land Pride, MeterCone, Nutri-Pro, Seed-Lok, Solid Stand, Terra-Guard, Turbo-Chisel, Turbo-Chopper, Turbo-Max, Turbo-Till, Ultra-Till, Whirlfilter, and Yield-Pro.

Brand and Product Names that appear and are owned by others are trademarks of their respective owners.

Printed in the United States of America







## Safety Information

### ■ Look for Informational Symbols



**SAFETY ALERT SYMBOL** indicates there is a potential hazard to personal safety involved and extra precaution must be taken. When you see this symbol, be alert and carefully read the message that follows. In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.



**NOTE** indicates useful - but not crucial - information for machine operation, assembly, or adjustment. It may also direct you towards additional information.

### ■ Be Aware of Signal Words

Signal words designate a degree of level of hazard seriousness. The signal words are:



**DANGER** indicates an imminent hazard which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for unguarded machine components.



**WARNING** indicates a potential hazard which, if not avoided, could result in death or serious injury including hazards that are exposed when guards are removed. It also alerts against unsafe practices.



**CAUTION** indicates a potential hazard which, if not avoided, may result in minor or moderate injury. It also alerts against unsafe practices.



**NOTICE** indicates a potential hazard which, if not avoided, may result in moderate to severe damage to your machine, machine parts, or nearby property.

### ■ Be Familiar with Safety Decals



1. Thoroughly read and understand **"Introduction"** on page 5.
2. Read all instructions noted on the decals.
3. Keep decals clean. Replace damaged, faded and illegible decals.

### Prepare for Emergencies



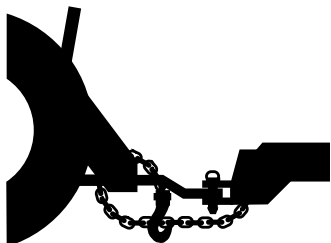
1. Be prepared if a fire starts
2. Keep a first aid kit and fire extinguisher handy.
3. Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.

### ■ Wear Protective Equipment



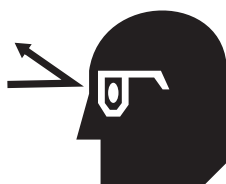
1. Wear protective clothing and equipment appropriate for the job, such as safety shoes, safety glasses, hard hat and ear plugs.
2. Clothing must fit snug without fringes and pull strings to avoid entanglement with moving parts.
3. Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
4. Operating equipment safely requires your full attention. Avoid using distracting multimedia devices, such as audio that requires headphones, tablet, or smart phone, while operating machinery.

## ■ Use A Safety Chain



1. A safety chain will help control drawn machinery if the machinery separates from tractor drawbar.
2. Use a chain with a strength rating equal to or greater than the gross weight of towed machinery.
3. Attach chain to tractor drawbar support or other specified anchor location. Allow only enough slack in chain to permit turning.
4. Replace chain if any links or end fittings are broken, stretched or damaged.
5. Do not use safety chain for towing.

## ■ Avoid High Pressure Fluids



### ⚠ **WARNING: Escaping Fluid Hazard**

*Escaping fluid under pressure can penetrate the skin, causing serious injury.*

1. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.
2. Avoid the hazard by relieving pressure before disconnecting hydraulic lines or performing any work on the system.
3. Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
4. Escaping fluid under pressure can penetrate the skin causing serious injury.
5. Use a piece of paper or cardboard, **NOT BODY PARTS**, to check for suspected leaks.
6. **DO NOT DELAY.** If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury. Any fluid injected into the skin or eyes must be treated within a few hours or gangrene can result.

## ■ Tire Safety

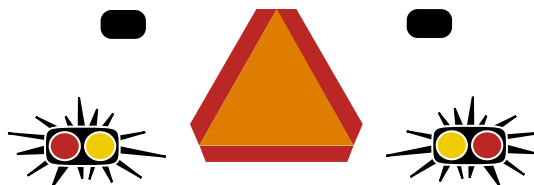


### 📖 **NOTE: Use Correct Tire Changing Tools**

*Tire changing can be dangerous and must be performed by trained personnel using correct tools and equipment.*

1. When inflating tires, use a clip-on chuck and extension hose long enough for you to stand to one side—not in front of or over tire assembly. Use a safety cage if available.
2. When removing and installing wheels, use wheel-handling equipment adequate for weight involved.

## ■ Use Safety Lights and Devices



### 📖 **NOTE: Always Use Safety Lighting**

*Slow-moving tractors and towed machinery can create a hazard when driven on public roads. They are difficult to see, especially at night.*

1. If the slow moving vehicle sign obscures the lighting on the tractor, install the optional lighting kit on the implement.
2. If equipped, use flashing warning lights and turn signals whenever driving on public roads.
3. Use safety devices provided with implement.

## ■ Check for Overhead Lines



### 📖 **NOTE: Check for Overhead Lines**

Drill markers contacting overhead electrical lines can introduce lethal voltage levels on drill and tractor frames. A person touching almost any metal part can complete the circuit to ground, resulting in serious injury or death.

1. Avoid overhead lines during seed loading/unloading and marker operations.

## ■Keep Riders Off Machinery

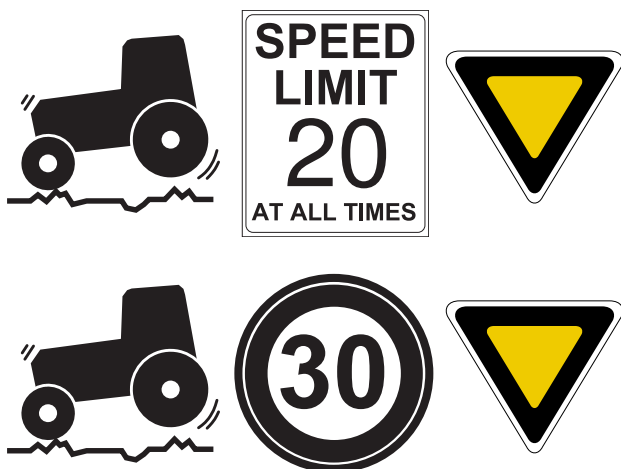


### **WARNING: Do Not Ride Machinery**

*Riders obstruct the operator's view. Riders could be struck by foreign objects or thrown from the machine.*

1. Never carry rides or use machinery as a personal lift.
2. Riders obstruct the operators view.
3. Riders can be struck by foreign objects or thrown from the machine
4. Never allow children to operate equipment.
5. Keep all bystanders away from machine during operation.

## ■Transport Machinery Safely



### **NOTE: Maximum Transport Speed**

*Maximum Transport speed for implement is 30 kph (20 mph). Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.*

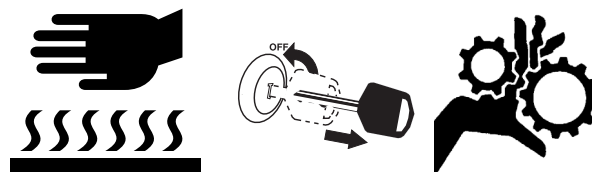
1. Comply with state and local laws.
2. Carry reflectors or flags to mark machinery in case of breakdown on the road.
3. Keep clear of overhead power lines and other obstructions when transporting. Refer to transport dimensions under "**Appendix**" on page 35.
4. Do not fold or unfold the implement while the tractor is moving.

5. Do not tow an implement that, when fully loaded, weighs more than 1.5 times the weight of towing vehicle.
6. Turning tractor too tight can cause implement to tip over.
7. When towing on a trailer, secure implement with tie downs and chains.
8. When towing on a trailer, sudden braking can cause a trailer to swerve and upset. Reduce speed if trailer is not equipped with brakes.

## ■Shutdown and Storage

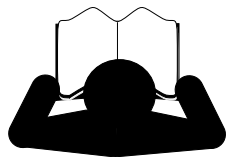
1. Park the tractor and implement on a solid, level surface where children normally do not play.
2. Raise and then fold the wings. Put tractor in park or set park brake. Turn off engine and remove switch key to prevent unauthorized starting.
3. Wait for all components to come to a complete stop before leaving the operator's seat.
4. Detach the tractor. Secure the implement using blocks and supports.

## ■Practice Safe Maintenance



1. Understand procedure before doing work. Use proper tools and equipment. Refer to this manual.
2. Work in a clean, dry area.
3. Lower the implement. Put tractor in Park, turn off engine. To prevent unauthorized starting, remove key before performing maintenance or service work.
4. Make sure all moving parts have stopped and all system pressure is relieved.
5. Disconnect lighting harness from the tractor before servicing or adjusting electrical systems.
6. Welding: Disconnect lighting harness from the tractor. Protect hydraulic lines. Avoid fumes from heated paint.
7. Inspect all parts. Make sure parts are in good condition and installed properly. Replace parts on this machine with genuine Great Plains parts only.
8. Do not alter this machine in a way which will adversely affect its performance.
9. Remove buildup of grease, oil or debris.
10. Remove all tools and unused parts from implement before operation.

## ■ Safety At All Times



### NOTE

Thoroughly read and understand the instructions in this manual before operation. Read all instructions noted on the safety decals.

### NOTE

Do not allow anyone to operate this equipment who has not fully read and comprehended this manual and who has not been properly trained in the safe operation of the equipment.

1. The operator must not use drugs or alcohol as they can change the alertness or coordination of that person while operating equipment. If over-the-counter drugs are used, seek medical advice on whether you can safely operate equipment.
2. Operator must be familiar with all functions of the tractor and attachments, and be able to handle emergencies quickly.
3. Make sure all guards and shields are in place and secured before operating the implement.
4. Keep all bystanders away from equipment and work area.
5. Operator must start tractor and operate controls from the driver's seat only, never from the ground.
6. Dismounting from a moving tractor can cause serious injury or death.
7. Be familiar with all functions of the implement.
8. Do not leave implement unattended with tractor engine running.
9. Do not stand between the tractor and the implement during hitching.
10. Watch out for wires, trees, etc., when folding and raising the implement.
11. Turning tractor too tight can cause hitched implement to ride up on wheels. This can result in injury or equipment damage.

## ■ Handle Chemicals Properly



### Warning: Chemical Exposure Hazard

*Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.*

1. Read and follow chemical supplier instructions.
2. Wear protective clothing.
3. Handle all chemicals with care.
4. Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.
5. Inhaling smoke from any type of chemical fire is a serious health hazard.
6. Store or dispose of unused chemicals as specified by the chemical manufacturer.
7. If chemical is swallowed, carefully follow the chemical manufacturer's recommendations and consult with a doctor.
8. If persons are exposed to a chemical in a way that could affect their health, consult a doctor immediately with the chemical label or container in hand. Any delay could cause serious illness or death.
9. Dispose of empty chemical containers properly. By law rinsing of the used chemical container must be repeated three times. Puncture the container to prevent future use. An alternative is to jet-rinse or pressure rinse the container.
10. Wash hands and face before eating after working with chemicals. Shower as soon as application is completed for the day.
11. Apply only with acceptable wind conditions. Wind speed must be below 5 mph. Make sure wind drift of chemicals will not affect any surrounding land, people or animals.
12. Never wash out a hopper within 100 feet (30 m) of any freshwater source or in a car wash.



## Introduction

Great Plains Manufacturing wants you to be satisfied with any new machine delivered by the Great Plains Trucking network. To ease the assembly task and produce a properly working machine, read this entire manual before assembling or setting up new equipment.

### Document Family

195-242M	Owner's Manual
195-242P	3S-4000 / 3S-4000F Parts Manual
195-242B	Seed Rate Manual

### Description of Unit

The 3S-4000 / 3S-4000F is a towed seeding implement. This three section drill has a working width of 40 feet (12.2m). The drill has straight arm, double disk openers. The opener disks make a seed bed, and seed tubes mounted between the disks place seed in the furrow. Press wheels following the opener disks close the furrow and gauge opener seeding depth. A T-handle on the opener body is for seeding depth adjustments. Seeding rates are adjustable with the seed rate adjustment handle and sprocket changes.

The 3S-4000 / 3S-4000F features active hydraulic down pressure on the opener frames. When used on a tractor with closed-center hydraulics, constant down pressure ensures even opener penetration in uneven ground. Hydraulic down pressure is adjustable at a single point.

### Intended Usage

Use this implement to seed production-agriculture crops in conventional or minimum tillage applications.

### Models Covered

3S-4000 / 3S-4000F

- 3S-4000 / 3S-4000F-4810 (10in / 24cm)
- 3S-4000 / 3S-4000F-6375 (7.5in / 19cm)
- 3S-4000 / 3S-4000F-7806 (6in / 15cm)

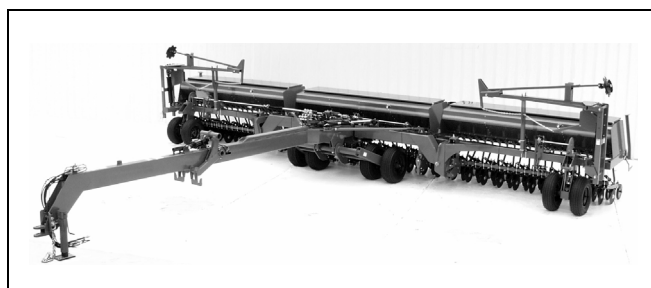
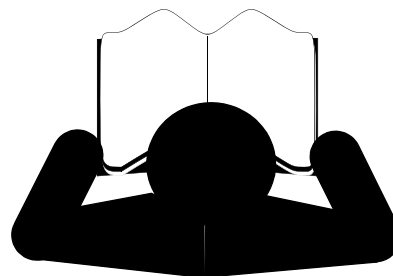


Figure 1  
3S-4000 / 3S-4000F Drill

18843

## Using This Manual

This manual was written to help you assemble and prepare the new machine for the customer. The manual includes instructions for assembly and setup. Read this manual and follow the recommendations for safe, efficient and proper assembly and setup.

An operator's manual is also provided with the new machine. Read and understand Important Safety Information and Operating Instructions in the operator's manual before assembling the machine. As a reference, keep the operator's manual on hand while assembling.

The information in this manual is current at printing. Some parts may change to assure top performance.

### Definitions

The following terms are used throughout this manual.

Right-hand and left-hand as used in this manual are determined by facing the direction the machine will travel while in use unless otherwise stated.

### NOTICE

*NOTICE indicates a potential hazard which, if not avoided, may result in moderate to severe damage to your machine, machine parts, or nearby property.*



### NOTE

NOTE indicates useful - but not crucial - information for machine operation, assembly, or adjustment. It may also direct you towards additional information.

## Further Assistance

For additional help with understanding these assembly instructions or for any other assembly or setup related questions, please contact our service department at the following address:

**Great Plains Service Department**  
**1525 E. North St.**  
**P.O. Box 5060**  
**Salina, KS 67402-5060**

Or call us at **(800) 270-9302** to speak over the phone with a service representative.

Copies of this machine's operator manual are available by mail or online. Please visit **[www.greatplainsag.com](http://www.greatplainsag.com)** and follow the product link for information on your machine, or use the QRC code below to view our online publications.

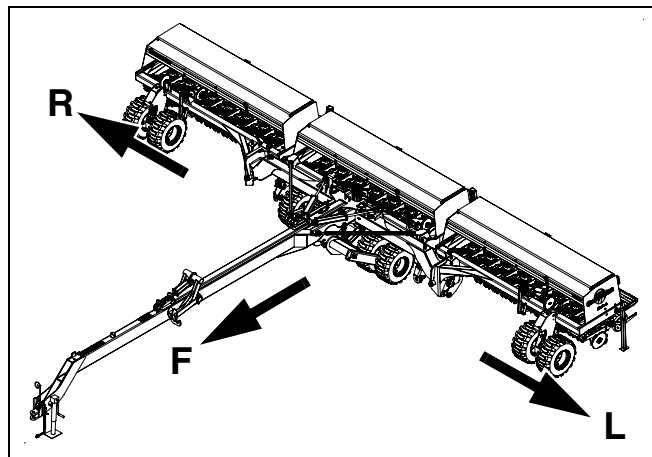


Figure 2  
Direction Notation

18824





## Preparation

The following headings are step-by-step instructions for assembling the drill. Begin with **“Tools Required”** and **“Pre-Assembly Checklist”** to make sure you have all necessary parts and equipment. Follow each step to make the job as quick and safe as possible and produce a properly working machine.

### Unloading Truck

Before unloading the drill from the truck, connect all opener springs (1) to the opener frames (2).

#### NOTICE

##### *Opener Damage Risk:*

*To prevent damage to openers, make sure all openers are connected before unloading the drill.*

Unload all equipment before beginning assembly.

### Tools Required

- Forklift, loader or overhead hoist with 3,000 pound (1361 kg) capacity
- A tractor of sufficient size and horsepower with at least two remote hydraulic circuits. Refer to **“Specifications and Capacities”** on page 35.
- General hand tools
- Jack stands or blocks and safety chain



##### **NOTE:**

You will need about 4.5 gallons of hydraulic oil to refill the tractor hydraulic reservoir after initial bleeding and cycling of the hydraulic systems.

### Pre-Assembly Checklist

1. Read and understand **“Safety Information”** on page 1 before assembling.
2. Have at least two people on hand while assembling.
3. Make sure the assembly area is level and free of obstructions (preferably an open concrete area).
4. Have all major components accounted for.
5. Have all fasteners and pins shipped with drill.
6. Have a copy of the implement Parts Manual (195-242P) on hand. If unsure of proper placement or use of any part or fastener, refer to the parts manual.
7. Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
8. Check that all factory-applied safety labels and reflectors are correctly located and legible. Replace if improperly located or damaged. Refer to **Safety Decals**, in the **“Important Safety Information”** section of the implement Operator's Manual.



##### **NOTE:**

Some decals are dealer installed, to prevent decal damage during disassembled shipment.

9. Inflate tires to recommended pressure as listed on the **“Tire Inflation Chart”** on page 35.
10. Tighten wheel bolts as specified on the decals on or near the wheel.

#### NOTICE

*If a pre-assembled part or fastener is temporarily removed, remember where it goes. Keep the parts separated.*

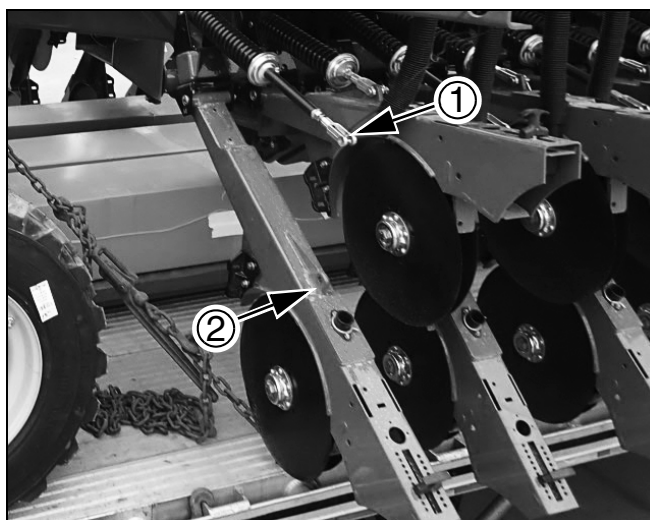


Figure 3  
Opener Spring to Opener Frame

71302



## Assembly

### Install Center Box on Frame

*Refer to Figure 4*

1. Unload mainframe/wing assembly ① from truck and place it in a location that allows for wing unfolding (21 feet (6.4 m) either side of implement centerline; 42 feet (12.8 m) total span).

If markers were ordered, allow 46 ft (14 m) either side of implement centerline; 92 ft (28 m) total span.

2. With forklift chains secured around lifting bar on back of center section box ②, lift center section box up to folded drill.
3. Bolt center section to drill tongue as shown using 8 sets of  $\frac{7}{8}$  inch bolts ③, flat washers, lock washers and nuts ④.
4. Connect truss tubes ⑤ to center section as shown using clevis pins ⑥. Secure clevis pins with cotter pins provided. Take looseness out of truss by adjusting turnbuckles ⑦ on each truss tube, but do not overtighten.

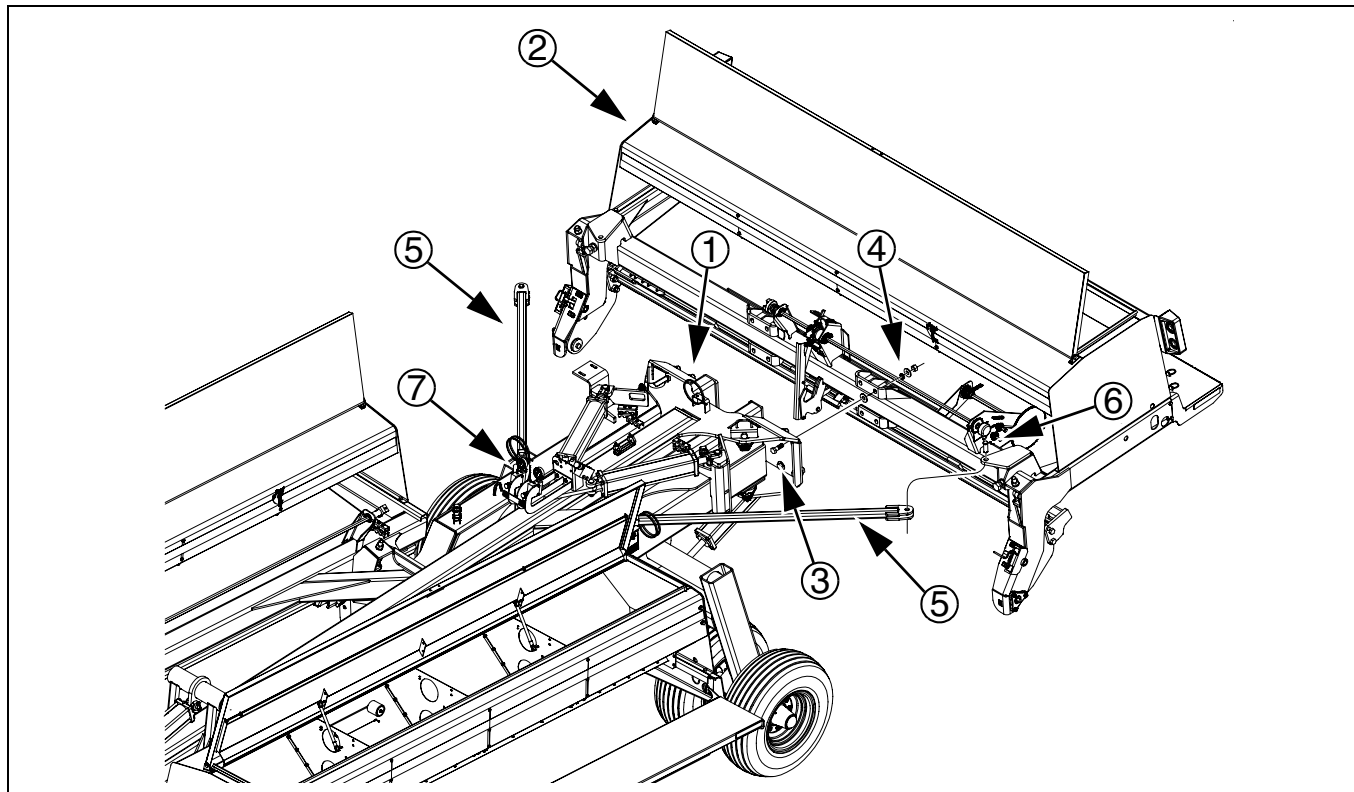


Figure 4  
Mount Center Box

19115



## Install Walkboards and Steps

There are three walkboards, one on the back of each seed box. The walkboards themselves are identical for each section. The way they install varies by section.

Bolts for walkboards are shipped in a bag in one of the drill boxes.

### Install Center Walkboard

*Refer to Figure 5*

1. Select four sets of  $\frac{1}{2} \times 1\frac{1}{4}$  inch bolts ③, lock washers and hex nuts ④.
2. Bolt center walkboard ① to box support channels ②.

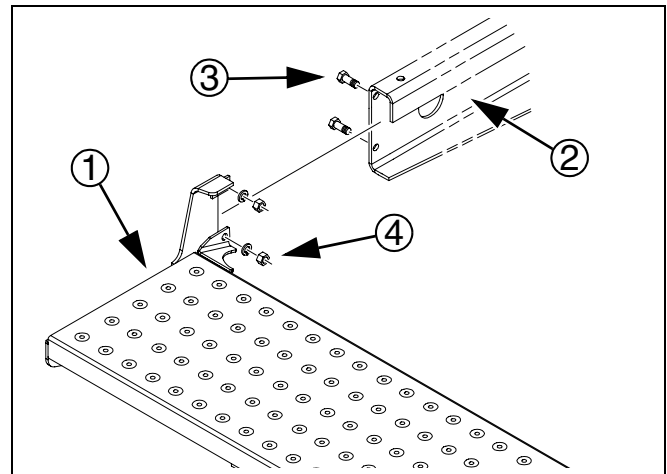


Figure 5  
Center Walkboard Installation

18810

### Install Wing Walkboards

*Refer to Figure 6*

Walkboard installation is identical at both ends of all three walkboards.

1. Select eight sets of  $\frac{1}{2} \times 1\frac{1}{4}$  inch bolts ③, lock washers and hex nuts ④.
2. Bolt each walkboard ① to box support channels ②.

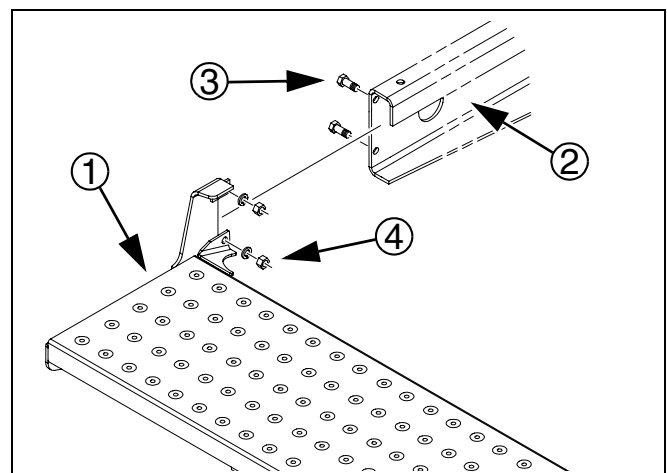


Figure 6  
Wing Walkboards, Inner End

18810

## Install Swing-Down Ladders

Swing-down ladders, they are installed after the walkboards are installed.

### Refer to Figure 7 and Figure 8

Where to place the top ladder mount depends on whether the drill has the Small Seeds option. Install with reference to the appropriate Figure for the drill.

## Install Swing-Down Ladder Mounts

### Refer to Figure 7

Top mount weldments ① are provided in left-hand and right-hand side versions and are not interchangeable. All other parts may be used on either end. Starting with the left-hand wing:

1. Select the left-hand wing top mount weldment ①.
2. Select four  $\frac{7}{16}$ -14x1 $\frac{3}{4}$  inch round head shank neck bolts ②.
3. Position the top mount ① over the four walkboard holes ③ second from the left-hand rear corner of the walkboard.
4. Insert the four bolts ② to loosely hold the top mount in place on the walkboard ③.
5. Select a bottom mount plate ④ and four sets of: ⑤  $\frac{7}{16}$  plated washers, and ⑥  $\frac{7}{16}$ -14 nuts.
6. Position the bottom plate ④ under the walkboard ③ and inside the top mount ①. Loosely hold it in place with the washers ⑤ and nuts ⑥.
7. Select two sets of:
  - ⑦  $\frac{3}{8}$ -16x1 inch hex head cap screws
  - ⑧  $\frac{3}{8}$  inch lock washer
  - ⑨  $\frac{3}{8}$ -16 flange nut
8. Insert the screws ⑦ through the side holes in both the top mount ① and bottom plate ④, and secure with lock washers ⑧ and flange nuts ⑨.
9. Tighten the four  $\frac{7}{16}$  inch bolts securing the top mount to the bottom plate.
10. Repeat for right-hand wing section.

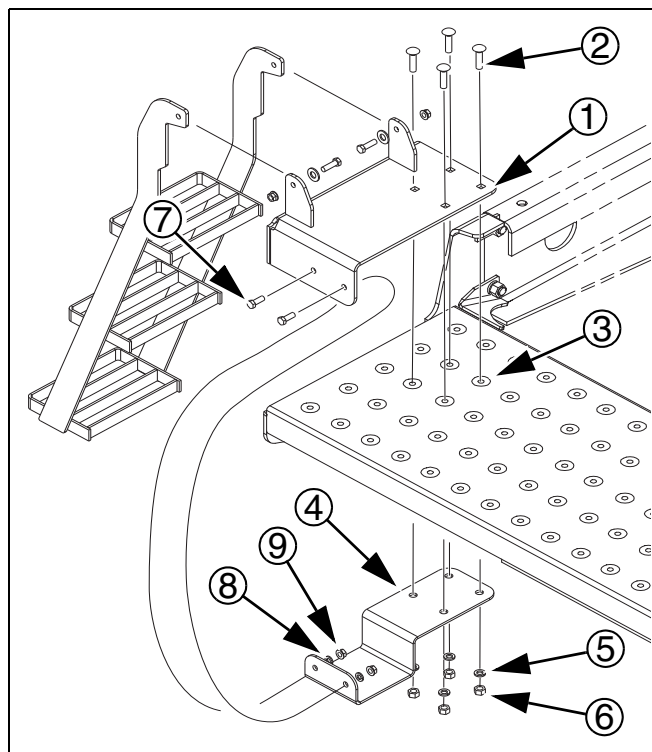


Figure 7  
Mount w/o Small Seeds

27013

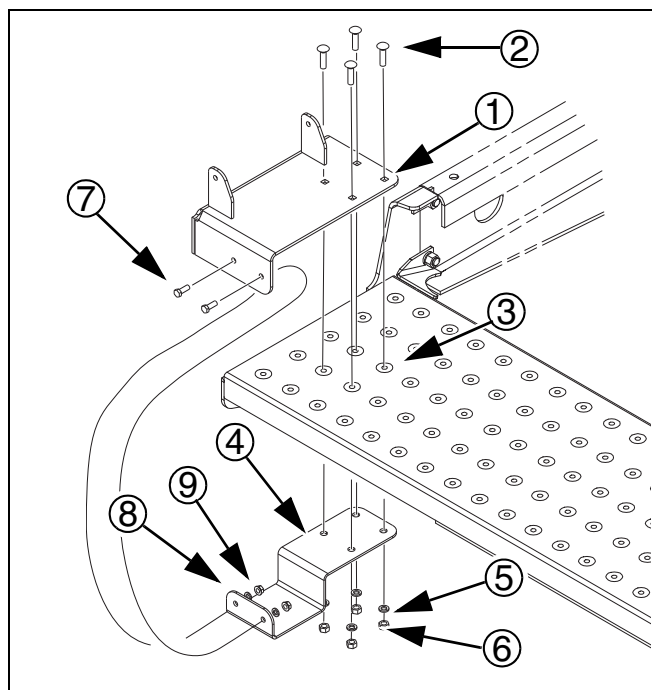


Figure 8  
Small Seeds Mounting

27055

## Install Ladders

### Refer to Figure 9

1. Lay the ladder ① on the walkboard with the swing holes up and near the top mount lug holes ②. Align the holes in the ladder in between the holes in the lugs.
2. Select two sets of:
  - ③  $\frac{3}{8}$ -16x1 $\frac{1}{4}$  inch hex head cap screws
  - ④  $\frac{1}{2}$  inch washer
  - ⑤  $\frac{3}{8}$ -16 flange nut
3. Insert a screw ③ through a washer ④ and then through the ladder side plate ① and lug ②. Secure with lock nut ⑤.
4. Repeat for right-hand wing section.

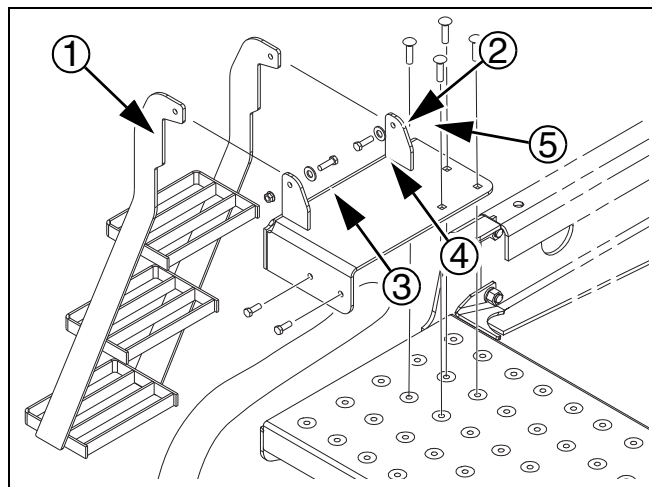


Figure 9  
Swing-Down Ladder

27013

## Install Reflectors and Decals

To prevent scuffing in shipment, walkboard decals are shipped in a bag in one of the drill boxes, and are applied after final field assembly.

To install new reflectors and decals:

- Clean and dry the area where the reflector or decal is to be placed.
- Peel backing from reflector or decal. Press firmly on surface, being careful not to cause air bubbles under reflector or decal.



## Center Section Decals

### Refer to Figure 10

Start at the left-hand end of the center walkboard.

1. Place one 838-265C Amber decal ① on the outside end of the walkboard. Align the rear end of the decal with the walkboard corner.
2. Place one 838-266C Red decal ② on the rear-facing mounting plate at the outside end of the center walkboard.
3. Place one 838-267C Daytime decal ③ on the rear-facing mounting plate inboard of the red decal.
4. Repeat for right-hand end of center section walkboard.

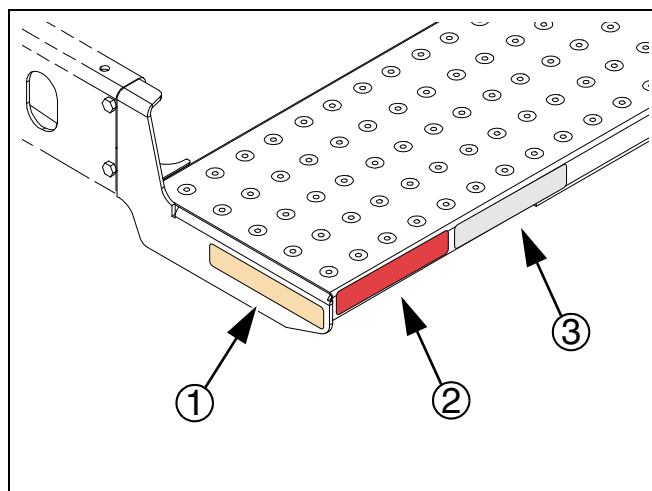


Figure 10  
Center Walkboard Decals

27019

## Swing-Down Ladder Decals

**Refer to Figure 11**

Start on the left-hand wing walkboard.

1. Place the 838-102C Danger Falling Hazard decal ① forward of and near the top of the ladder, where it is visible to climbers.
2. Place one 838-265C Amber decal ② on the outside of the ladder mount, between the ladder side plates (to prevent damage by ladder operation).
3. Place one 838-265C Amber decal ③ on the rear and corner of the ladder mount. This decal is slightly longer than that side of the mount. Wrap the excess around the corner.
4. Repeat for right-hand wing section walkboard ladder.

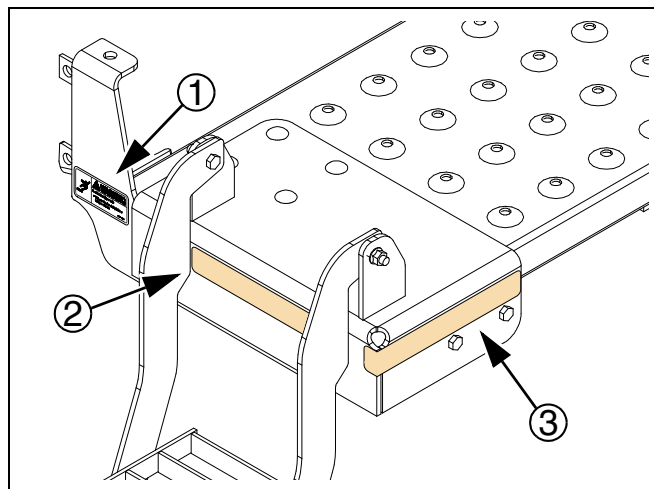


Figure 11  
Swing-Down Ladder Decals

27016

## Inboard Ends of Outer Section Walkboard Decals

**Refer to Figure 12**

Start on the right-hand end of the left-hand wing walkboard.

1. Place one 838-265C Amber decal ① on the mounting plate at the outside end of the walkboard.
2. Place one 838-266C Red decal ② on the right-hand end of the walkboard. Align the rear end of the decal with the walkboard corner. Align the top edge of the decal with the top of the walkboard frame.
3. Place one 838-267C Daytime decal ③ on the right-hand end of the walkboard, just below the red decal ②. Align the rear end of the decal with the with the walkboard corner.
4. Repeat for the left-hand end of the right-hand walkboard.

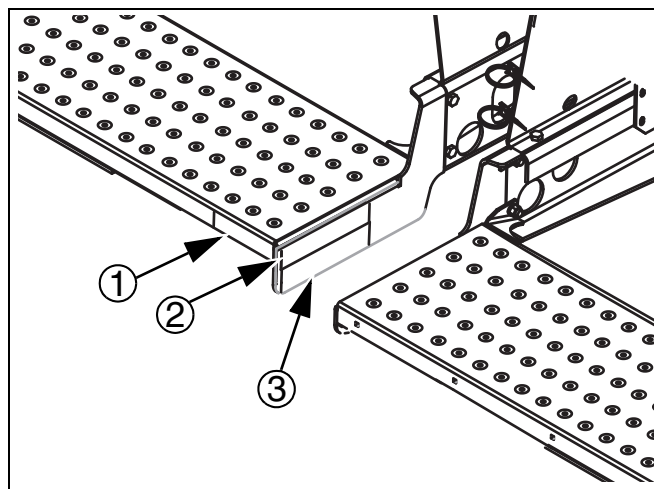


Figure 12  
Decals, Left-Hand Walkboard

68430A

## SMV Panel

Select one:

- ① 133-070D 3000 SMV mounting blade

Select two sets of:

- ② 5/16-18x3/4 RHSNB GR5
- ③ 5/16 washer flat USS PLT
- ④ 5/16 washer lock spring PLT
- ⑤ 5/16-18 nut hex PLT

Install the two RHSNB ② in the keyhole slots ⑥ in the rear lip ⑦ of the center walkboard.

Install the mounting blade ① on the two RHSNB.

Install two 5/16 flat washers ③, two 5/16 lock spring washers ④, and two 5/16-18 nuts ⑤ to fasten the mounting blade to the walkboard. Push the mounting blade toward the left-hand end of the walkboard while tightening the nuts.

Select one:

- ⑧ SMV panel

Select two sets of:

- ⑨ 1/4-20x5/8 screw round head
- ⑩ 1/4 SAE washer flat PLT
- ⑪ 1/4 washer lock spring PLT
- ⑫ 1/4-20 nut hex PLT

Put the two 1/4-20x5/8 screws ⑨ through the mounting blade ①.

Put the SMV panel ⑧ on the two round head 1/4-20x5/8 screws.

Install two 1/4 flat washers ⑩, two 1/4 lock spring washers ⑪, and two 1/4-20 nuts ⑫.

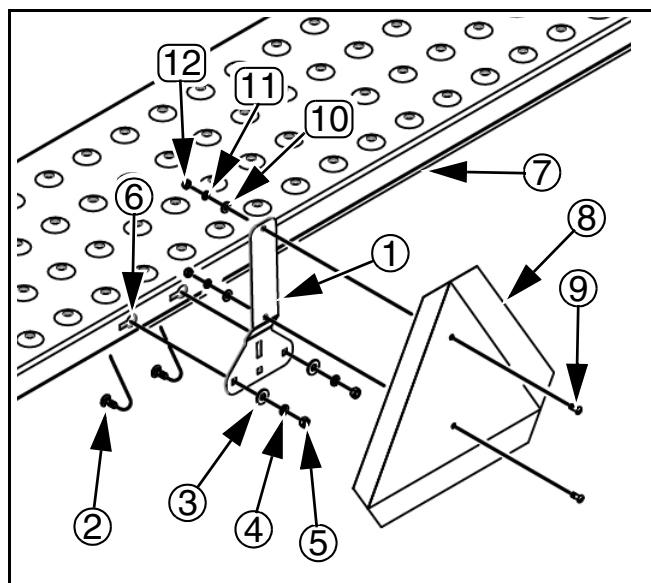


Figure 13  
SMV Panel Installation

27020

## Other Assembly Items

There are a few additional standard components, and several possible optional items, that are not factory installed. Some of these, which follow in this chapter, need to be installed prior to first hydraulic hookup. Others are installed after hookup, bleeding and leveling. See “Install Final Accessories” on page 33.

## Install Press Wheels

### Refer to Figure 14

1. Remove  $\frac{1}{2} \times \frac{3}{4}$  inch flange bolt ① and flange lock nut ② from each opener body.
2. Leave pivot bushing components ③ in place and bolt press wheel arm ④ to opener with  $\frac{1}{2} \times \frac{3}{4}$  inch flange bolt ① and lock nut ②. Repeat for all openers.
3. Remove  $\frac{5}{8}$  inch bolt ⑤ from each press wheel arm ④ and use bolts to assemble press wheels ⑥ to press wheel arms.

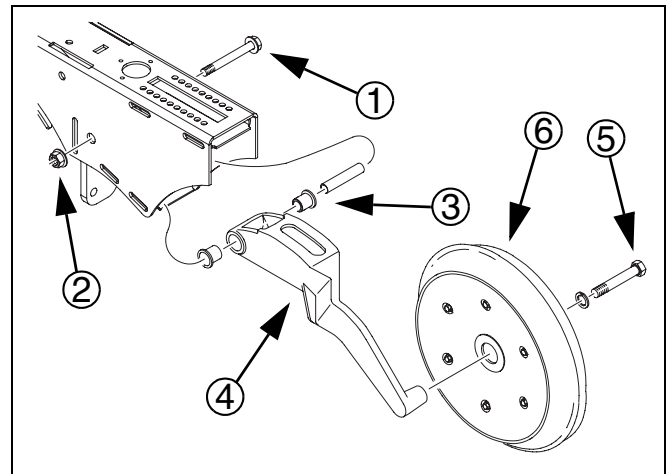


Figure 14  
Press Wheel Assembly

24432

## Two Outlet Kit

### Refer to Figure 15

If the Two-Outlet Hydraulic Kit was ordered, install it now (before the markers, as this kit contains items needed when both 2-outlet and markers are installed).

Installation instructions are provided in a separate manual with the Two-Outlet kit.

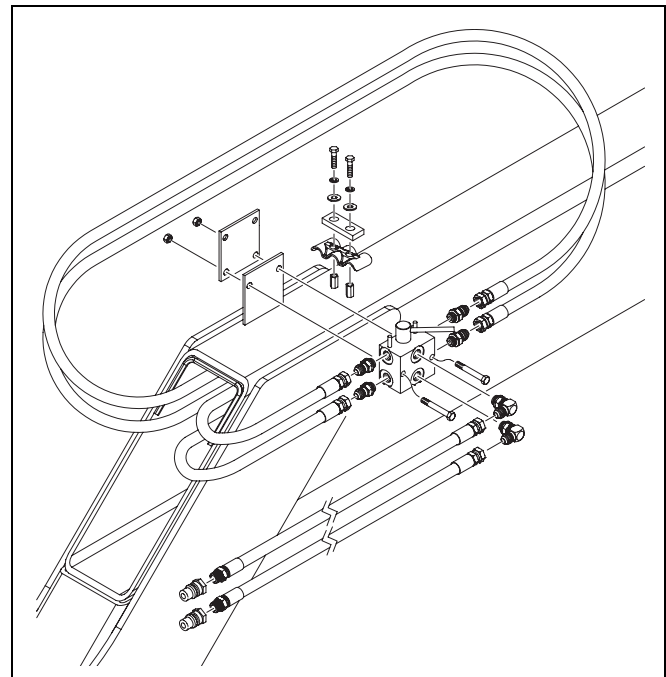


Figure 15  
Two-Outlet Selector

27020

## Markers

### Refer to Figure 16

Markers are not factory-installed, due to vertical clearance requirements during shipment. An installation manual is provided, but does not include details for installation where a Two-Outlet Kit is also present. If a Two-Outlet kit is installed, observe these tips:

- The Marker/Fold valve mounts on the second valve bracket.
- Use the longer bolts in the Two-Outlet kit to stack the hose clamps. Place the clamp hold-down on the top clamp.
- For consistency of operation, be sure to plumb the Fold circuit to the forward ports of the Marker/Fold valve, and plumb the Marker circuits to the rear.

Handle forward (Fold) is then Transport operations, and handle back (Marker) is then Field operations.

Consult the drill Operator's manual for setting initial marker extension length, and the latest information on chain length adjustment.

## Open Center Conversion

### Refer to Figure 17

If the drill was shipped with an Open Center kit, it is not factory-installed. Install it now. An installation manual is provided.



Figure 16  
Marker Installed

18843

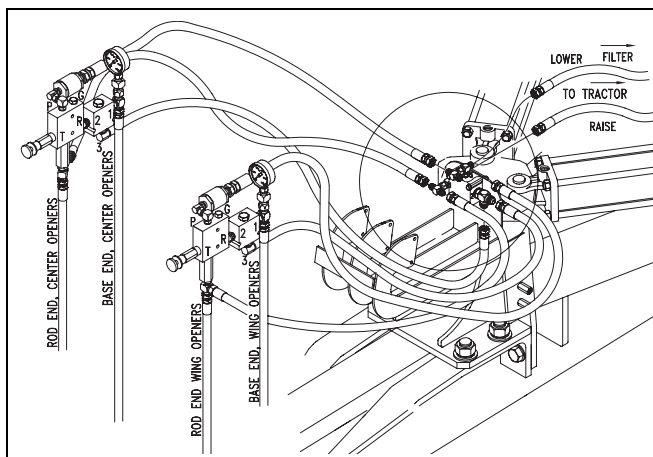


Figure 17  
Open Center Conversion

18750



## Point Row Option

### Refer to Figure 18

If the Point Row Option was ordered with the drill, the hydraulics and drill electrical lead are factory-installed.

If the customer's primary tractor is available, install the control module in the tractor cable and make the electrical connection. Consult the Point Row installation manual provided.

If the primary tractor is not available, temporarily connect the control module so that openers can be operated during Setup.

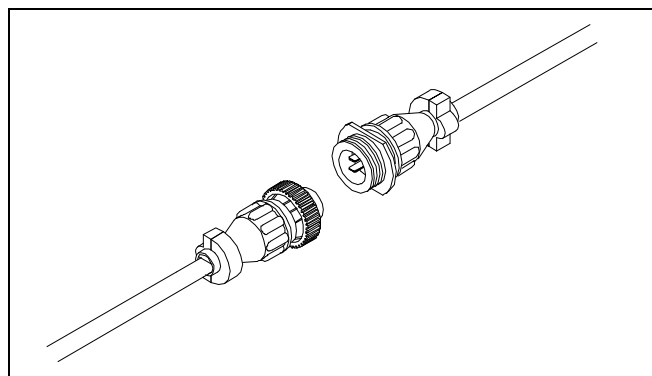


Figure 18  
Point-Row Connector

26469

## Acremeter

### Refer to Figure 19

The acremeter is installed on the end of main drive shaft on the center section as shown.

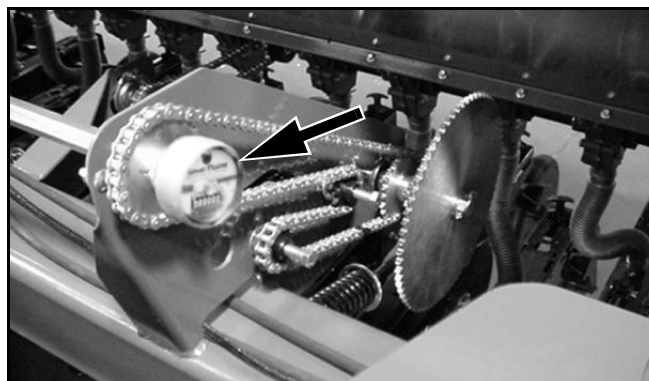


Figure 19  
Acremeter

18922

## Post Assembly Checklist

- Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
- Check for proper tension and alignment on all drive chains.
- Check that all safety decals and reflectors are located correctly and are legible. Replace if improperly located or damaged. Refer to “**Safety Decals**” in the Operator’s manual.
- Inflate tires to recommended pressures as listed on the “**TirTie Inflation**” on page 35. Tighten wheel bolts as specified on “**Torque Values Chart**” on page 36.







## Setup

The assembly steps of the preceding chapter must be completed prior to setup.

Setup steps consist of:

1. Hitch to suitable tractor.
2. Connect hydraulics.
3. Bleed hydraulics.
4. Level drill.
5. Install any options not factory-installed.

## Hitching

### **⚠ DANGER**

*You may be severely injured or killed by being crushed between the tractor and drill. Do not stand or place any part of your body between machines being hitched. Stop tractor engine and set park brake before installing hitch pins.*

### Hitch Selection

### **⚠ WARNING**

*This drill can have positive and negative tongue weight, which can work the hitch pin loose during transport. To avoid serious injury or death due to a road accident, always use a clevis hitch or clevis drawbar with a locking-style hitch pin.*

**Refer to Figure 20**

Use a drill-hitch option that is compatible with the tractor drawbar used during setup.

The 3S-4000 / 3S-4000F has three hitch options. Although only one is installed, the original order for the drill may have included extra alternate hitches:

- ① a clevis hitch,
- ② a small-hole, single-strap hitch or;
- ③ a large-hole, single-strap hitch.

Use the clevis hitch with tractors that have single-tang drawbars. Use the single-strap hitch for tractors with clevis drawbars. Always use a locking-style hitch pin sized to match the holes in the hitch and drawbar.

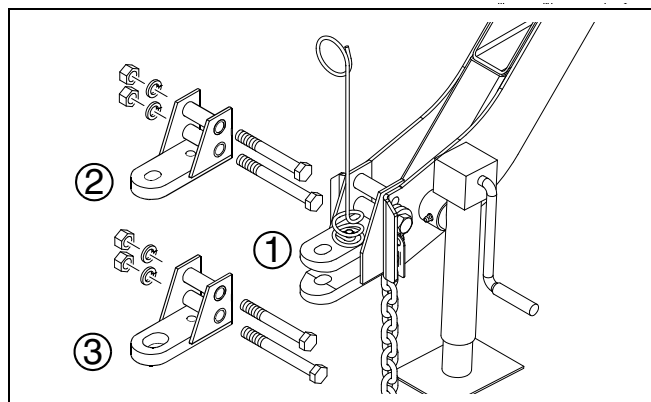
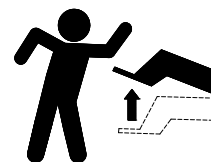


Figure 20  
Hitches

26487

## Hitch Height

**Refer to Figure 21 and Figure 22**

1. To adjust the drill hitch to match your tractor-drawbar height, mount tongue jack on side of tongue.
2. Use jack to raise drill tongue so lowest hitch hole is 18 inches (45.7 cm) above ground level with drill lowered to FIELD position.
3. Bolt drill hitch onto drill tongue to match your tractor-drawbar height. You can turn the hitch over for a total of six different hitch heights. Always have two (2) bolts in two holes of both tongue and hitch.

### NOTE

When hitching drill to a different tractor, check for a difference in drawbar heights. If heights are different, readjust hitch height accordingly.

4. Install a hitch pin and lock the hitch pin.
5. If this tractor will be used to move the drill, securely attach safety chain to an anchor on the tractor.
6. Check Operator's manual and ensure that tractor is capable of pulling the drill.

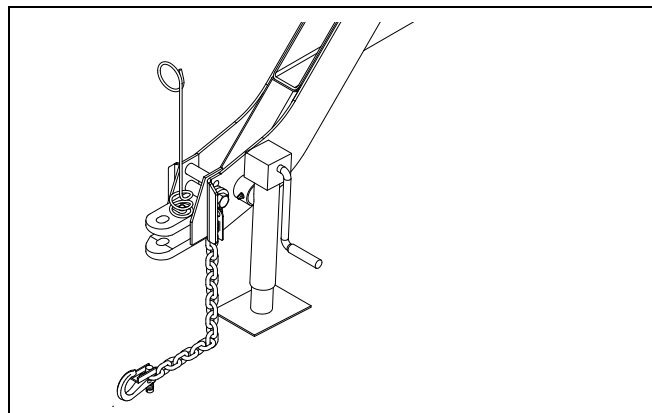


Figure 21  
Jack in Lifting Location

18941

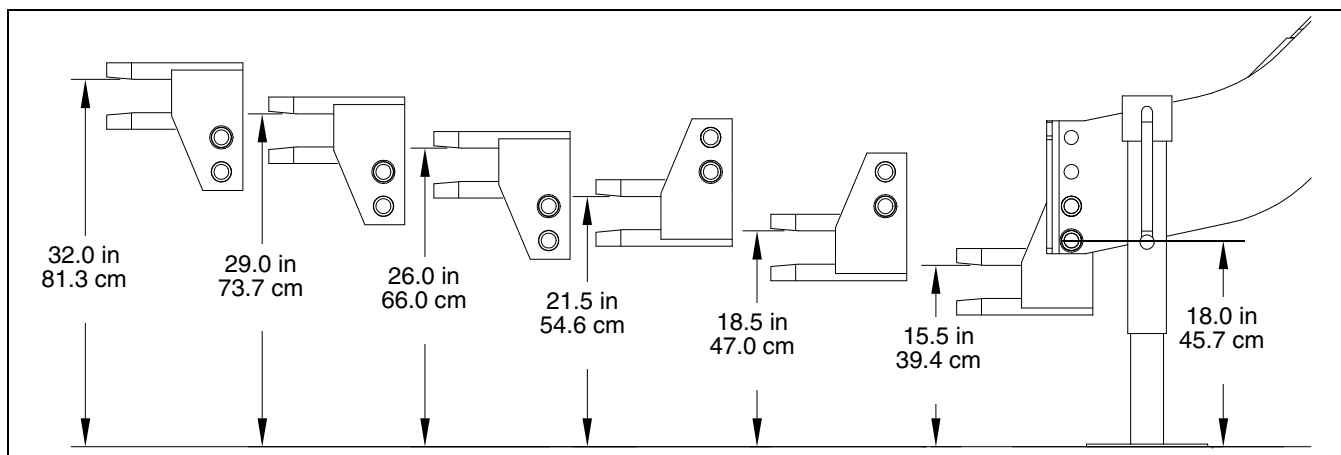


Figure 22  
Heights for Various Hitch Positions - Correct Tongue Height

18956

**Refer to Figure 23**

7. Use crank to raise jack foot. Remove pin and jack. Store jack on top of tongue.

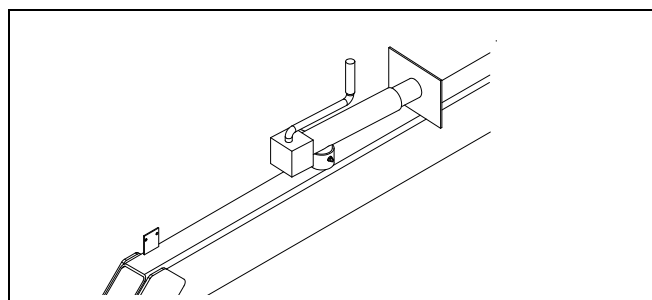


Figure 23  
Jack on Storage Stob

18940

## Electrical Connections

If the tractor will be used for movement of the drill, the lighting connection needs to be made. There may be one or two additional connectors present on the drill, depending on options ordered.

### **Refer to Figure 24**

1. Plug drill electrical lead into tractor seven-pin connector. If your tractor is not equipped with a seven-pin connector, contact your dealer for installation.
2. If the tractor currently hitched is the primary tractor that will be used with the drill, any additional electrical connections will be made under the topic **"Install Final Accessories"** on page 33.

Otherwise, secure any cables not connected so that they do not contact the ground during movement. Make sure there is enough slack to allow turns without stretching the cables.

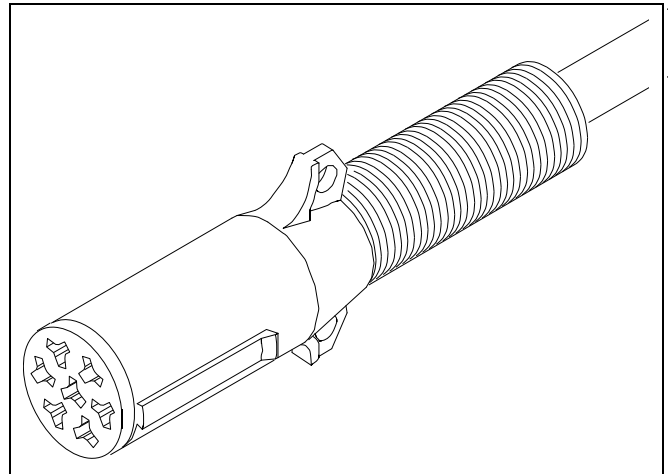


Figure 24  
Lighting Connector

26467

## Hydraulic Hose Hookup

### **WARNING**

*Only trained personnel should work on system hydraulics!*


*Escaping fluid under pressure can have sufficient pressure to penetrate the skin, causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Use a piece of paper or cardboard, NOT BODY PARTS, to check for leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene will result.*

#### **Refer to Figure 25**

Great Plains hydraulic hoses are color coded to help you hookup hoses to your tractor outlets. Hoses that go to the same remote valve are marked with the same color.

Color	Hydraulic Function
Red	Opener Lift Cylinders
Blue	Transport Lift Cylinders
White	Fold Cylinders
Orange	Marker Cylinders

1. Connect opener-lift hoses to circuit designated for hydraulic-motor control.
2. Connect transport-lift hoses to tractor remote valve.
3. Connect fold hoses to tractor remote valve.
4. Connect marker hoses to tractor remote valve.

 If the tractor has only two remote valves, you must install a double-selector valve to combine the transport-lift and opener-lift circuits. See **“Two Outlet Kit”** on page 14.

### **NOTICE**

*To run drill on tractors with open-center hydraulics or on tractors with fixed-displacement hydraulic pumps, you must install a Great Plains kit, part number 194-143A. See **“Open Center Conversion”** on page 15.*

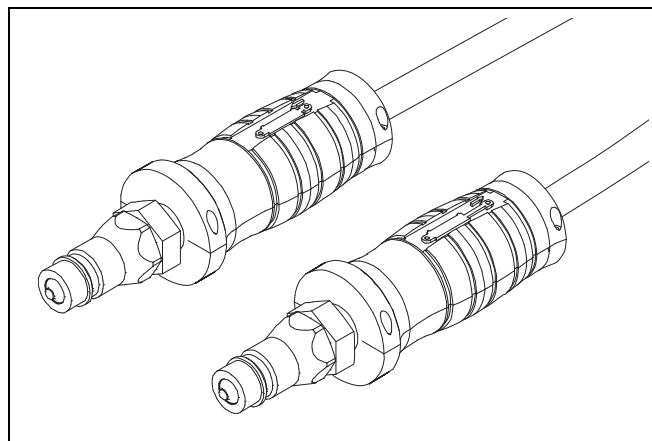
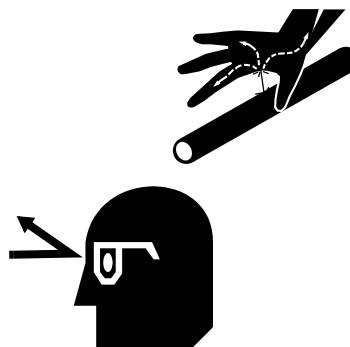


Figure 25  
Hose Ends

31733

## Bleeding Hydraulics

To function properly, the hydraulics must be free of air. If hydraulics have not been bled, they will operate with jerky, uneven motions and could cause wings to drop rapidly during folding or unfolding. If hydraulics were not bled during initial implement setup or if you replace a part in hydraulic system during the life of the drill, complete the following procedures.

### **WARNING**

*Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.*

### **WARNING**

*Raising openers on unfolded, unhitched drill will cause drill tongue to rise suddenly, which could cause serious injury or death. Be certain that drill is hitched securely to your tractor drawbar and the safety chain is securely attached to tractor before raising openers and unfolding drill.*

### **NOTICE**

*Do not loosen an O-ring fitting for bleeding. Bleeding air from an O-ring fitting will damage the seal.*

*Bleed only at:*

*JIC (Joint Industry Conference, 37° flare) or  
NPT (National Pipe Thread, tapered thread) fittings.*

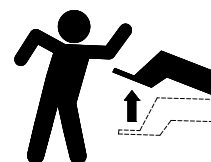
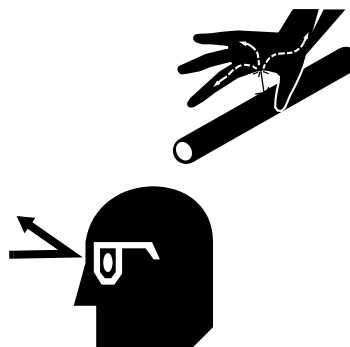
*Never bleed at:*

*ORB (O-Ring Boss) or  
QD (Quick Disconnect) fittings.*

### **NOTE**

Check hydraulic fluid level in tractor reservoir and fill to proper level. Add fluid to system as needed.

System capacity for entire drill is about 4½ U.S. gallons (17 liters).



## Bleeding Opener Lift Hydraulics

### Refer to Figure 26

1. Check hydraulic fluid level in tractor reservoir and fill to proper level. System capacity for entire drill is about 4 1/2 gallons.
2. Review warnings, bleeding notes and system information on page 21.
3. Make sure opener frames are locked up in ROAD position. Refer to Opener Lock Up in Operators Manual.
4. Turn knob on both pressure-control valves ③ completely counterclockwise, then turn valves clockwise far enough to build up 1000 psi (about three turns).
5. Turn knob on bypass valve ① completely clockwise for no oil flow.
6. Loosen six hose-end JIC fittings ② at the locations shown.
7. **NOTE**  
Do not loosen an O-ring fitting for bleeding. Bleeding air from an O-ring fitting will damage the seal.
8. Slowly supply oil to top side of pressure-control valves until oil begins to appear at a loosened hose fitting. As oil begins to appear at a fitting, tighten that fitting.
9. Slowly supply oil to bottom side of pressure-control valves until oil begins to appear at remaining loosened hose fitting. As oil begins to appear at the fitting, tighten fitting. Continue to supply oil to bottom side of pressure-control valves until all openers are raised completely.
10. Move opener transport locks to FIELD position and cycle openers up and down ten times. Each time you lower openers, hold tractor remote lever until opener circuit builds up to pressure set at control valves.
11. After cycling openers, return opener transport locks to road position, and lock openers up.

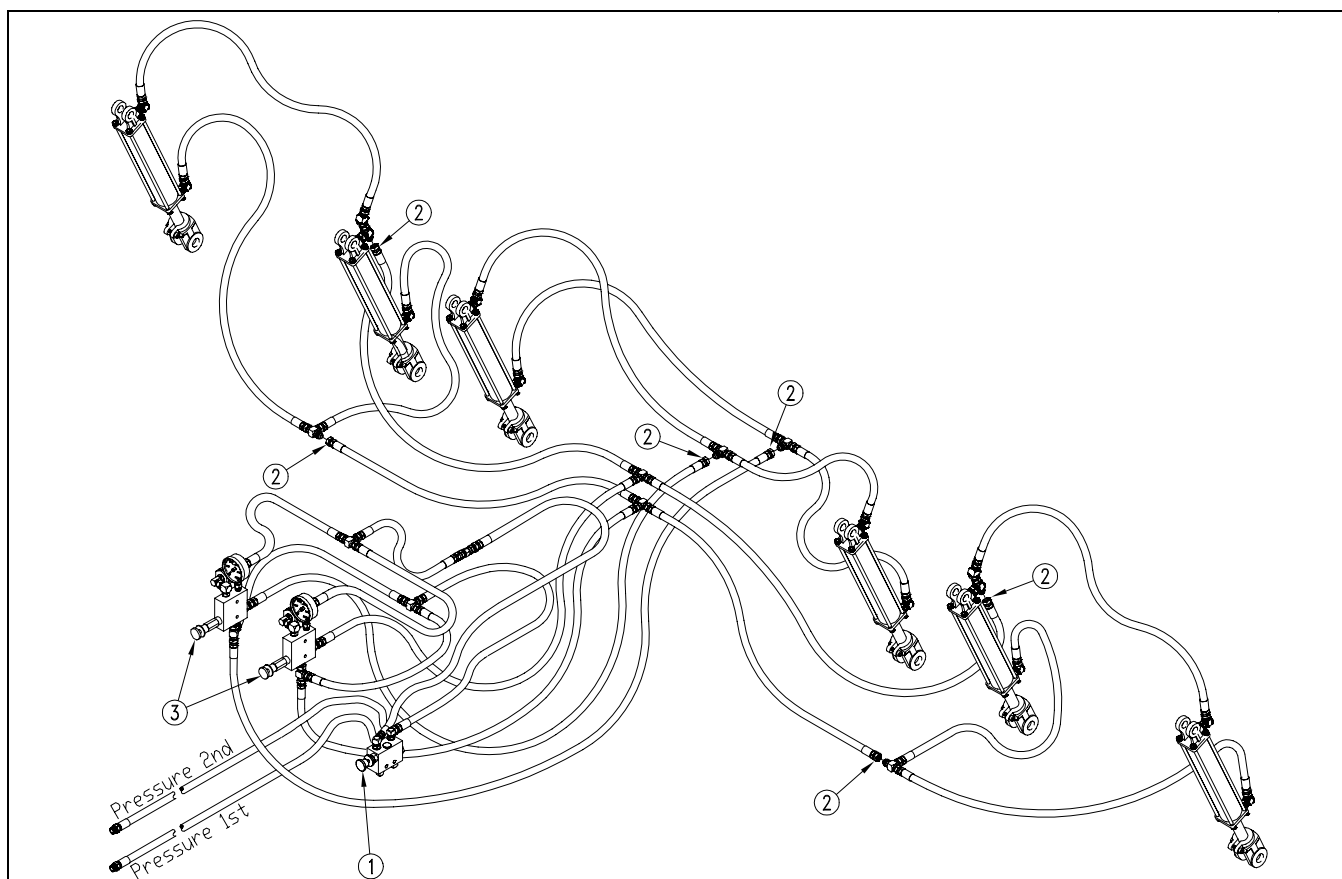


Figure 26  
Bleeding Opener Lift Hydraulics

22975

## Bleeding Fold Hydraulics

*Refer to Figure 27*

1. Check hydraulic fluid level in tractor reservoir and fill to proper level. System capacity for entire drill is about 4 1/2 gallons.
2. Review warnings, bleeding notes and system information on page 21.
3. With drill unfolded and fold cylinders completely extended, disconnect rod end pins and swing the cylinders so they will not contact anything when extended.
4. Loosen rod end hose JIC fitting ① at elbow on right-hand fold cylinder.
5. Slowly supply oil to rod end of fold cylinders until oil appears at loosened hose fitting. Tighten fitting and completely retract fold cylinders.
6. With cylinders completely retracted, loosen base end hose JIC fitting ② at elbow on right-hand fold cylinder.
7. Slowly supply oil to base end of fold cylinders until oil appears at loosened hose fitting. Tighten base end hose fitting and cycle fold cylinders in and out several times.
8. Pin cylinder rod clevis.



### NOTE

Do not loosen an O-ring fitting for bleeding. Bleeding air from an O-ring fitting will damage the seal.

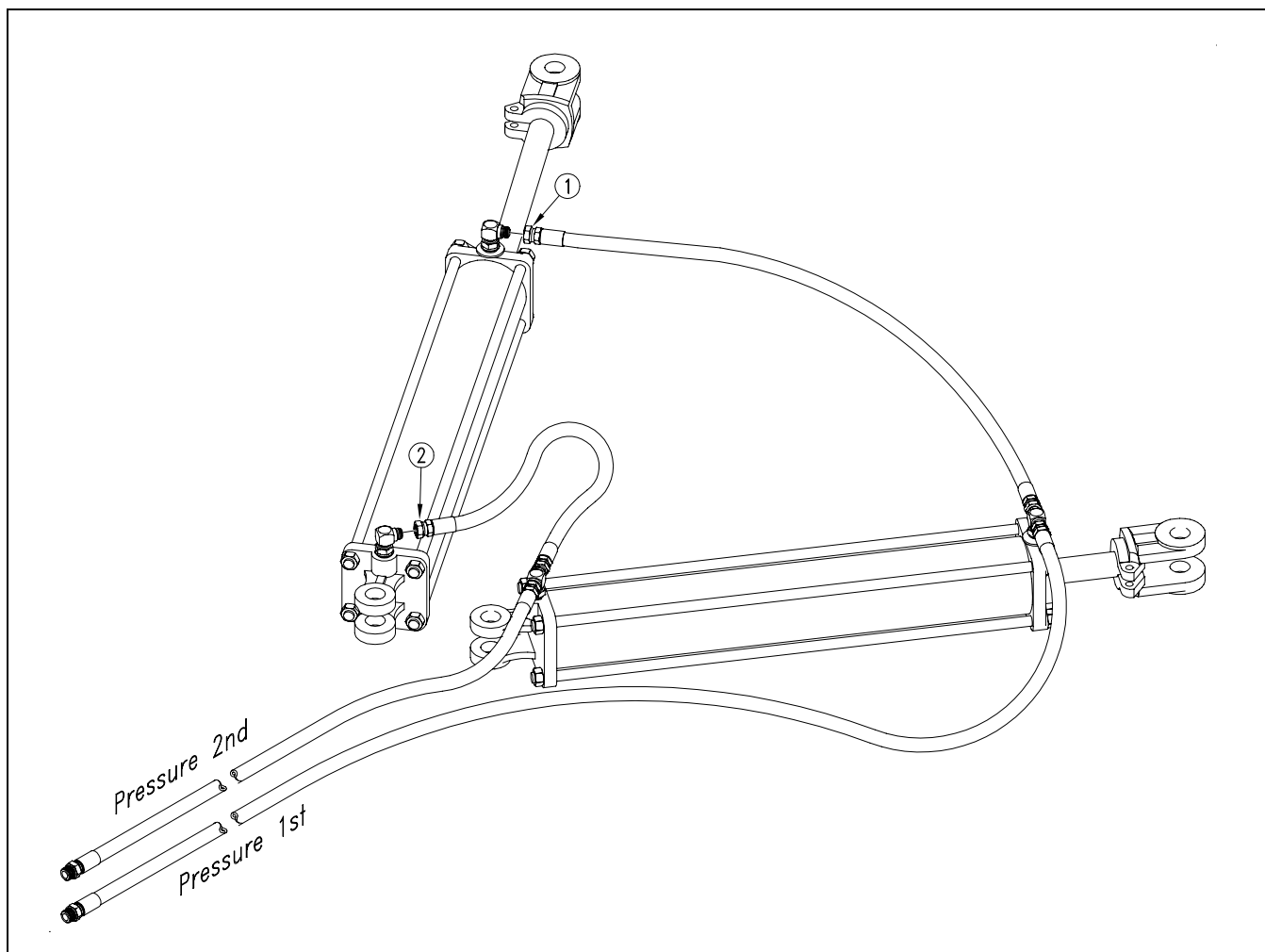


Figure 27  
Bleeding Fold Hydraulics

18958

## Bleeding Transport Lift Hydraulics

Refer to Figure 28

### **WARNING**

*The hydraulics could fail, causing the openers to fall and crush you. To prevent serious injury or death, always secure cylinder lock channels over extended transport-lift cylinders before working under openers.*

1. Check hydraulic fluid level in tractor reservoir and fill to proper level. System capacity for entire drill is about 4 1/2 gallons.
2. Review warnings, bleeding notes and system information on page 21.
3. Lower drill into field position and completely retract box lift cylinder at middle of tongue. Loosen base end hose JIC fitting on left-hand transport lift cylinder and base end JIC fitting on box lift cylinder ①.
4. Slowly supply oil to base end of transport lift cylinders until oil appears at loosened hose fitting. Oil may not appear at both locations at the same time. As oil begins to appear at a fitting, tighten that fitting and proceed until both fittings have been tightened.
5. Completely extend transport lift cylinders and immediately lock cylinders up by flipping up cylinder lock channels on both transport lift cylinders and box lift cylinder.
6. When cylinder lock channels are in place, loosen rod end hose fitting on left-hand transport lift cylinder and rod end hose fitting on box lift cylinder ②.



### **NOTE**

Do not loosen an O-ring fitting for bleeding. Bleeding air from an O-ring fitting will damage the seal.

7. Slowly supply oil to rod end of transport lift cylinders until oil appears at the loosened hose fittings. As oil begins to appear at fitting, tighten that fitting and proceed until all fittings are tightened.
8. Extend transport lift cylinders, and remove the cylinder lock channels. Completely cycle transport lift hydraulics several times.

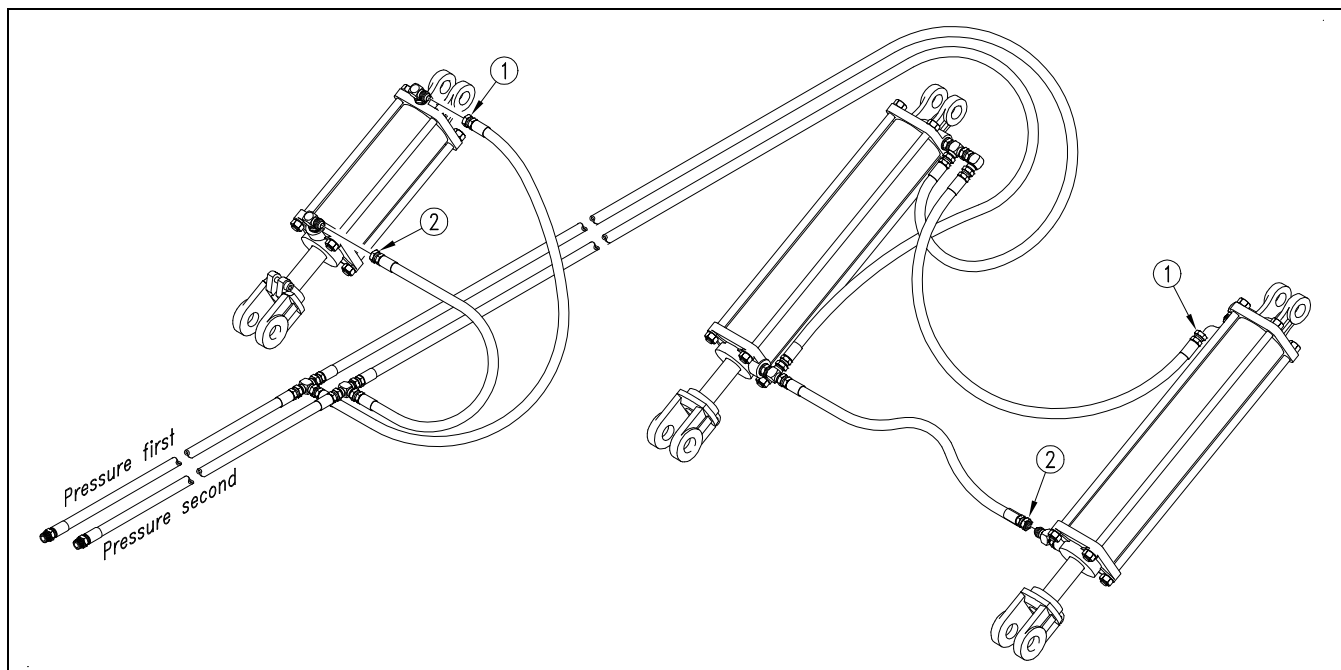


Figure 28  
Bleeding Transport Lift Hydraulics

18836



## Bleeding Marker Hydraulics

Refer to Figure 29


### **WARNING**

*You may be injured if hit by a folding or unfolding marker. Markers may fall quickly and unexpectedly if the hydraulics fail. Never allow anyone near the drill when folding or unfolding markers.*

1. Check hydraulic fluid level in tractor reservoir and fill to proper level. System capacity for entire drill is about 4 1/2 gallons.
2. Review warnings, bleeding notes and system information on page 21.
3. With markers unfolded in field position, crack hydraulic-hose JIC fittings ① at base and rod ends of each marker cylinder.

### **NOTE**

Do not loosen an O-ring fitting for bleeding. Bleeding air from an O-ring fitting will damage the seal.

4. With tractor at idle speed, activate tractor hydraulic valve forward until oil appears at a fitting. When oil begins to seep out around a fitting, tighten that fitting. Reverse the tractor hydraulic valve until oil appears at opposite hose fitting. Tighten that fitting.
  5. If you have dual markers, activate tractor hydraulic valve forward again until oil seeps out around a fitting on the other marker cylinder. Tighten that fitting. Reverse tractor hydraulic valve until oil seeps out around remaining hose fitting and tighten it.
  6. Fold and unfold markers slowly to work out all air.
-  Use caution when folding and unfolding markers for the first time, checking for pinching and kinking of hoses.

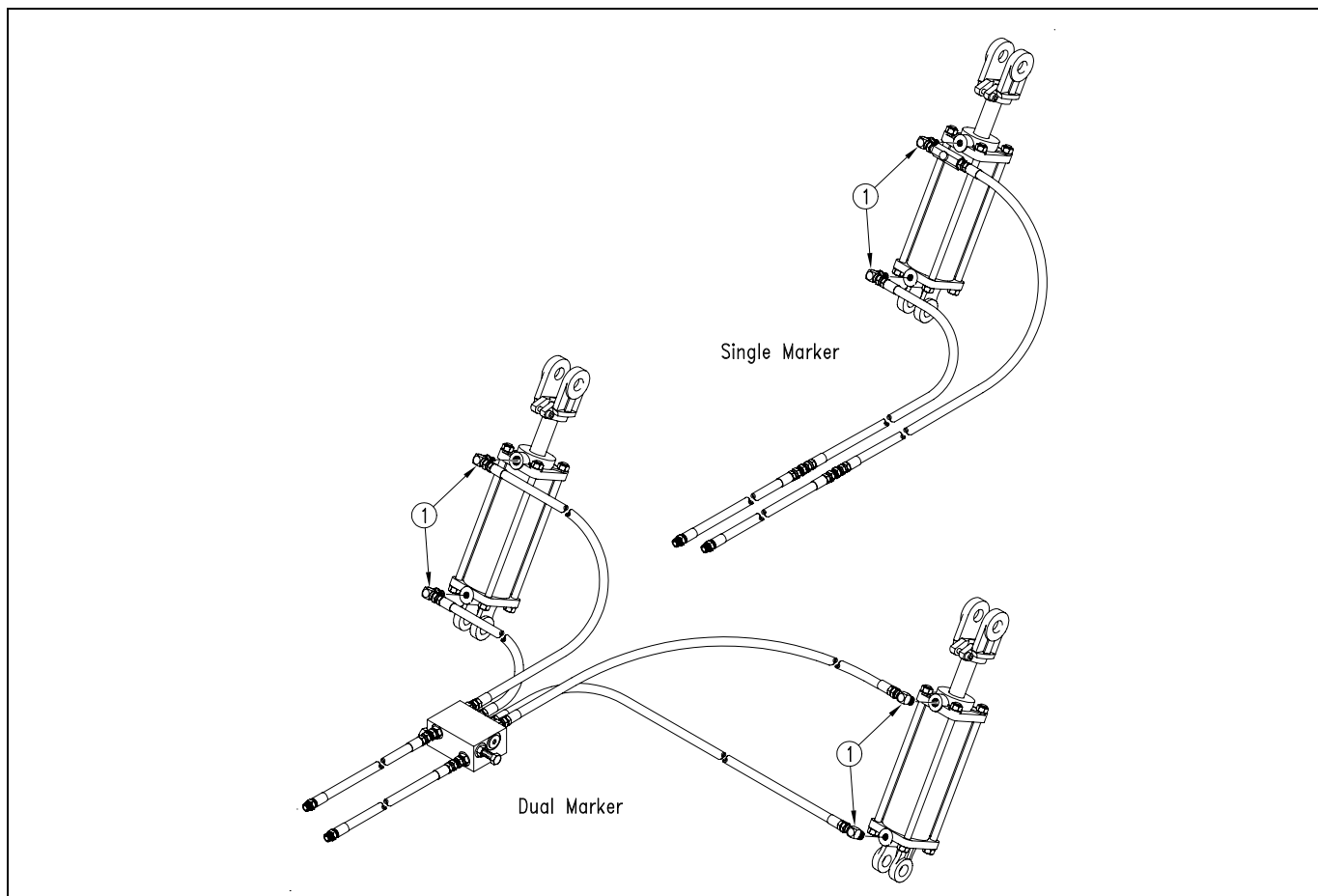


Figure 29  
Bleeding Marker Hydraulics

18942

## Folding

### **⚠ WARNING**

*Crushing hazard – Bystanders could be crushed between the folding drill boxes and the drill tongue. To avoid serious injury or death, keep all bystanders well away during drill operation.*

1. Park tractor and drill on level ground with tractor transmission in park. Be aware of clearance needed to fold drill.
2. Position opener lock handles in road position and as shown in Figure 30 and completely raise openers.

### **📖 NOTE**

The opener transport lock handles are spring loaded and can be moved to road position with openers up or down, but locks will only engage when openers are completely raised. There are two locks on each drill section.

3. Make sure transport lift cylinders and front box lift cylinder are completely retracted.
4. Slowly supply oil to rod end of fold circuit. Completely fold wing frames until both wing gauge wheels contact tongue tube.
5. Supply oil to transport lift circuit until transport lift cylinders and front box lift cylinder are completely extended and drill is completely raised.
6. Refer to Figure 31. Rotate cylinder lock channels over rods on the two transport lift cylinders and the front box lift cylinder.

### **NOTICE**

*The channels will remain in position when cylinders settle against channels.*

7. Allow transport lift cylinders to settle back against lock channels.
8. Before transporting, check that hydraulic cylinders are holding lock channels securely.

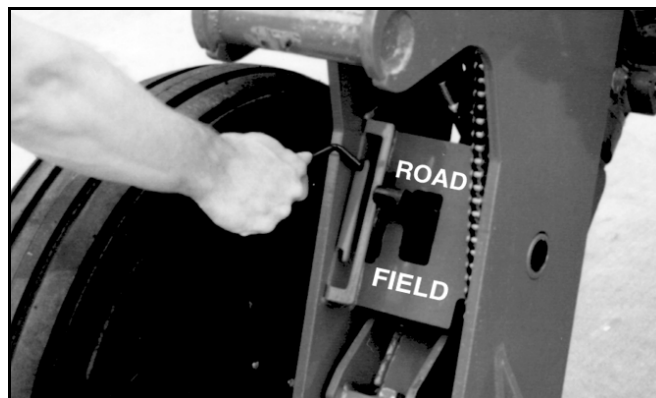


Figure 30  
Opener Lock Up

15549

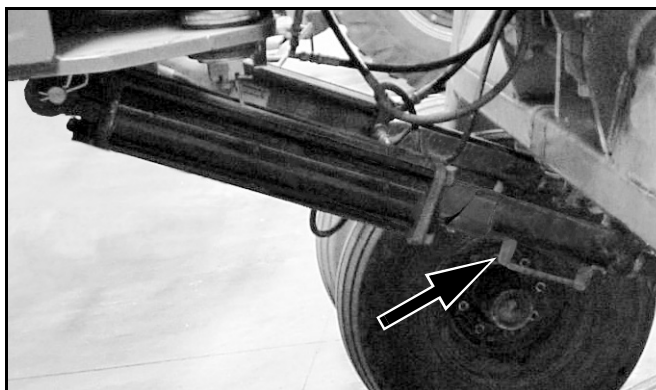


Figure 31  
Transport Lift Cylinder Lock

18906

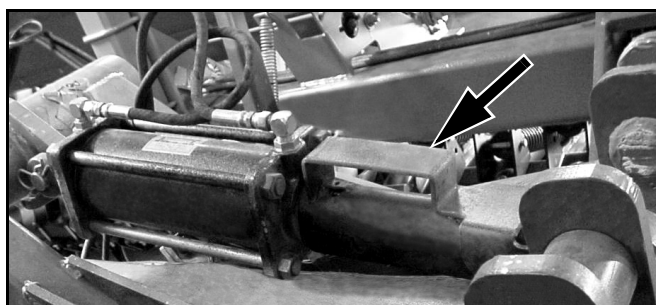


Figure 32  
Cylinder Lock Channels Inserted  
for Transport - Front Box  
Cylinder Shown

18959

## Unfolding

1. Park tractor and drill on level ground with tractor transmission in park. Be aware of clearance needed to unfold drill.
2. Supply oil to transport lift circuit until transport lift cylinders and front box lift cylinder are completely extended and drill is raised completely.
3. Rotate cylinder lock channels off cylinder rods of transport lift cylinders and front box lift cylinder. See Figure 33.
4. Completely retract transport lift cylinders and front box lift cylinder.
5. Slowly supply oil to base end of fold circuit. Unfold wing frames by completely extending fold cylinders.
6. Position opener transport lock handles in field position. See Figure 34.
7. Completely raise openers to allow opener transport locks to disengage.

### NOTE

The opener transport lock handles are spring loaded and can be moved to field position with openers up or down, but locks will only disengage when openers are completely raised. There are two lock handles on each drill section.

## Folding and Unfolding Quick Reference

### To Fold Drill

1. Raise openers.
2. Fold drill
3. Extend transport and front box lift cylinders.
4. Lock transport and front box lift cylinders.

### To Unfold Drill

1. Completely extend transport and front box lift cylinders.
2. Unlock transport and front box lift cylinders.
3. Retract transport and front box lift cylinders.
4. Unfold drill.
5. Lower openers.

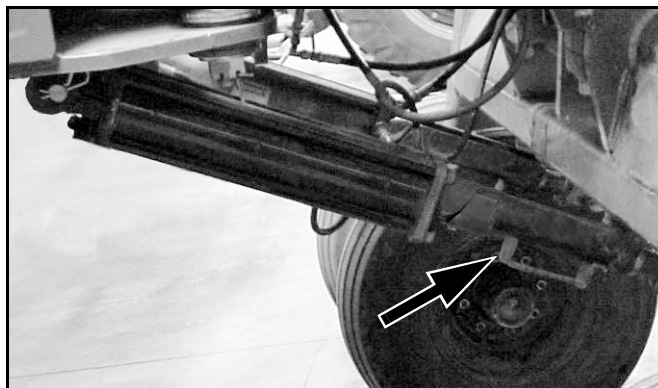


Figure 33  
Transport Lift Cylinder Lock

18906



Figure 34  
Cylinder Lock Channels Inserted  
for Transport - Front Box  
Cylinder Shown

18959



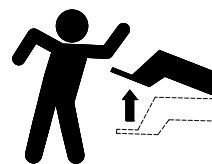
Figure 35  
Opener Unlock Up

15548

## Leveling the Drill

To perform leveling, the drill must be hitched to a tractor, with at least the hydraulics connected.

*Raising openers on unfolded, unhitched drill will cause drill tongue to rise suddenly, which could cause serious injury or death. Be certain that drill is hitched securely to your tractor drawbar and the safety chain is securely attached to tractor before raising openers and unfolding drill.*



## Center Box Frame Leveling

1. Park the drill on a clean, solid, level surface.
2. Raise the openers and lock them up. See “**Opener Operation**” in Operators Manual for opener lift and lock instructions.

Refer to Figure 36

### NOTICE

*Nut and washers shown removed on one for clarity. Loosen, but do not remove them.*

3. Loosen the eight center 7/8 inch box mount bolts ①, four bolts on each side of tongue. Slide center box frame sideways until it is centered with mainframe and transport axle.

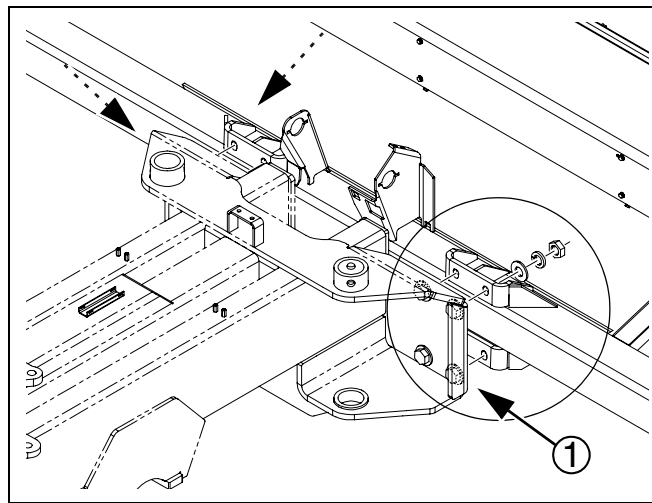


Figure 36  
Center Box Mount Bolts

26470

Refer to Figure 36 and Figure 37

4. Measure the height ① of center box opener frame pivots ① from the level surface and raise low end of box frame up until both opener frame pivots measure the same distance from the ground.
5. Tighten the 7/8 inch box mount bolts ① to torque specified in “**Torque Values Chart**” on page 36.

## Opener Frames

Check that opener frames are level across drill. When fully raised, top of opener mounts should clear bottom of drill frame tube by at least 1/2 inch (1.3 cm). See “**Opener-Frame Clearance**” on page 33, for further instructions.

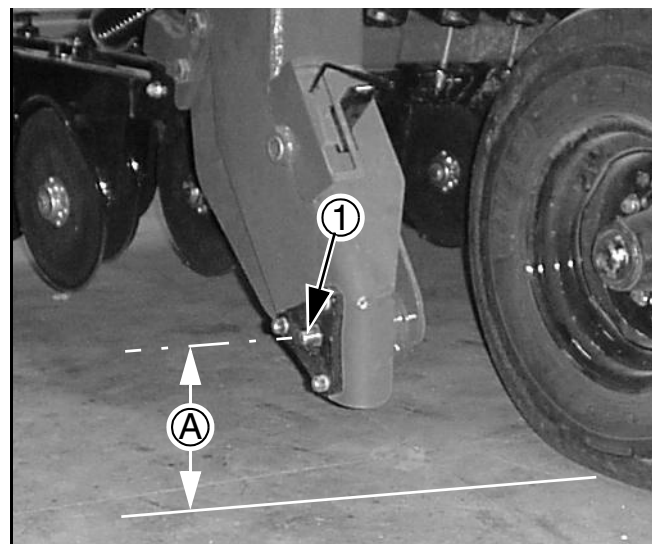


Figure 37  
Opener Frame Pivot Height

18874



## Wing Box Alignment

1. Place a block ahead of the wing gauge wheels.

### Refer to Figure 38

2. Pull forward against blocks to rock wing frames back. Pull forward until stop bolts ① are firmly against toolbars. Refer to Figure 38 for stop bolt location.

### Refer to Figure 39

3. Check for proper alignment by running a string line ① across back of drill toward outer ends of wings. Put supports ② under the string line to make sure string is parallel to center box (both measurements ③ equal).
4. Measure from the inside end of a wing box ④ to the string line.  
Measure from the outside end of the same wing box ⑤ to the string line.  
The outside end must be 1 in to 1 1/4 in (2.5 to 3.2 cm) ahead of the inside end.
5. To adjust box alignment, loosen jam nut on stop bolt. Shorten or lengthen stop bolts ⑥ until measurement until the adjustment is correct.  
Tighten the jam nut
6. Repeat the procedure for the other wing box.

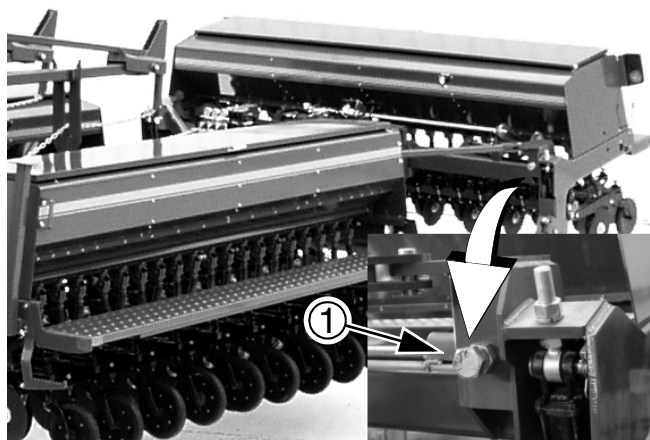


Figure 38  
Stop Bolt Location

18988

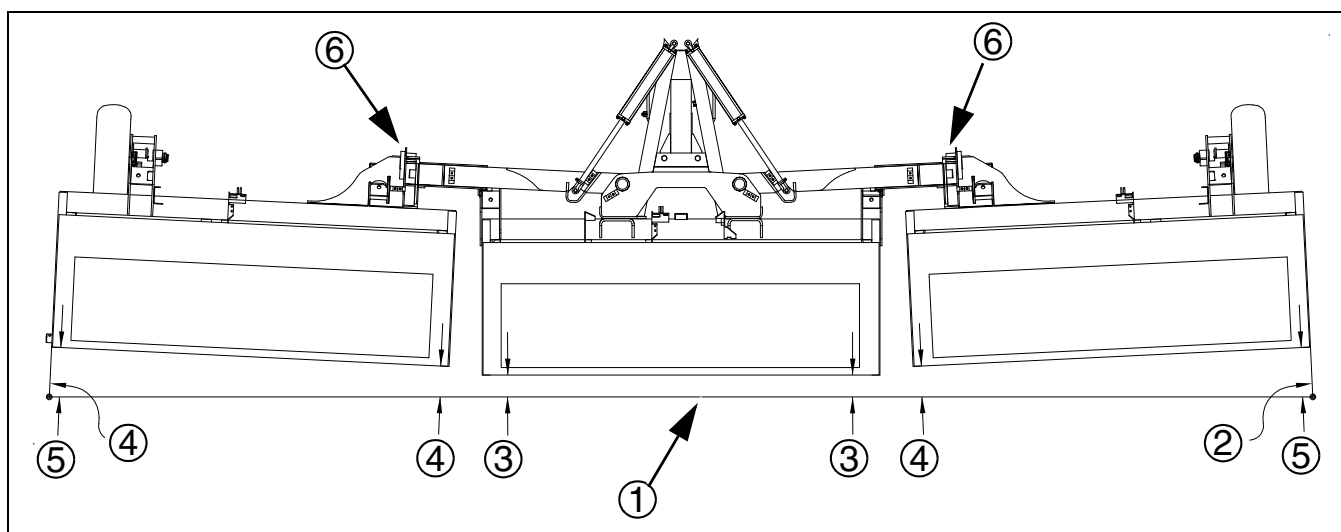


Figure 39  
Wing Box Alignment Measurement

15654

## Align Transfer Drive Shaft

**Refer to Figure 40 and Figure 41**

After wing boxes are properly aligned, the transfer drive shaft must be aligned so the pair of break-away jaws ① are fully engaged and are concentric. The  $\frac{7}{8}$  inch hex drive shafts holding the clutch jaws should not contact each other ② when wing boxes are properly aligned and back against their stops.

1. Place a 4x4 in (10x10 cm) or similar sized block ahead of the wing gauge wheels and pull forward or push wing box frames back until the tool bar is firmly against tool bar stop bolts on the center box frame.
2. To align the clutch jaws vertically, loosen the two  $\frac{5}{8}$  inch bolts ③ on the backside of the adjustment plate ④. Slide the plate up or down in the desired direction. Tighten bolts.

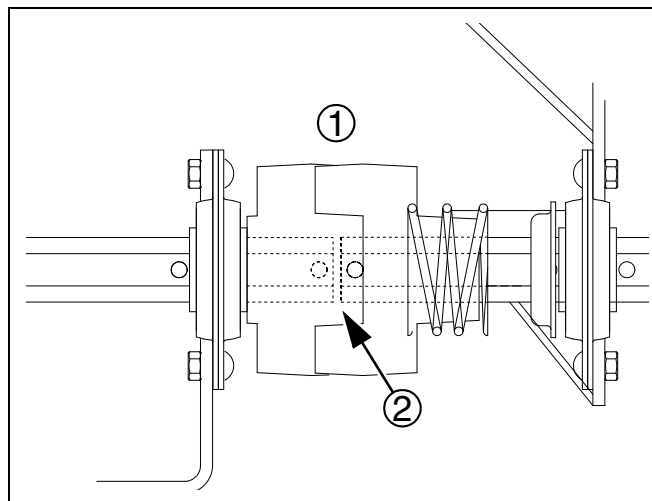


Figure 40  
Transfer Drive Jaws

18955

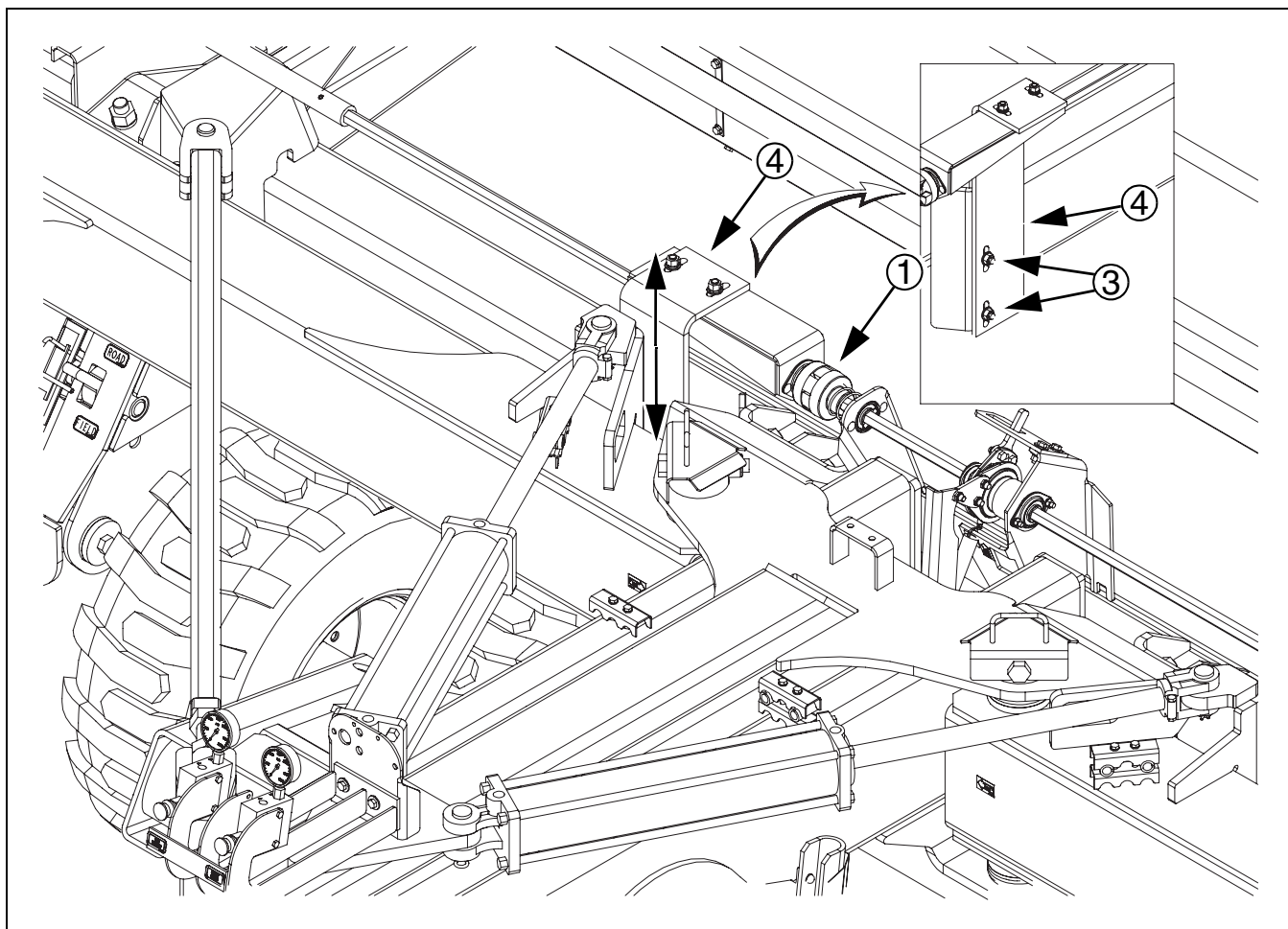



Figure 41  
Transfer Drive Shaft Vertical Adjustment

18953

**Refer to Figure 42 and Figure 43**

3. To align the clutch jaws ① from front to rear, loosen the two  $\frac{1}{2}$  inch carriage bolts ② and slide breakaway clutch bracket ③ in the desired direction.
  4. To adjust clutch jaws for full jaw contact, loosen the same two  $\frac{1}{2}$  inch carriage bolts ② and slide breakaway clutch make full contact with jaws on spring loaded half of clutch without compressing clutch spring.
-  The two  $\frac{7}{8}$  inch hex shafts ④ must have  $\frac{1}{8}$  inch (3.2 mm) gap **A** between them when the clutch jaws have full contact.
5. Tighten the two  $\frac{1}{2}$  inch carriage bolts.

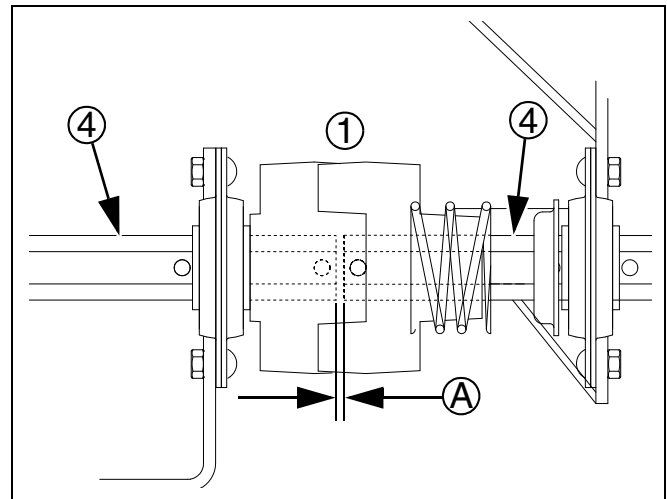


Figure 42  
Transfer Drive Shaft Gap

18955

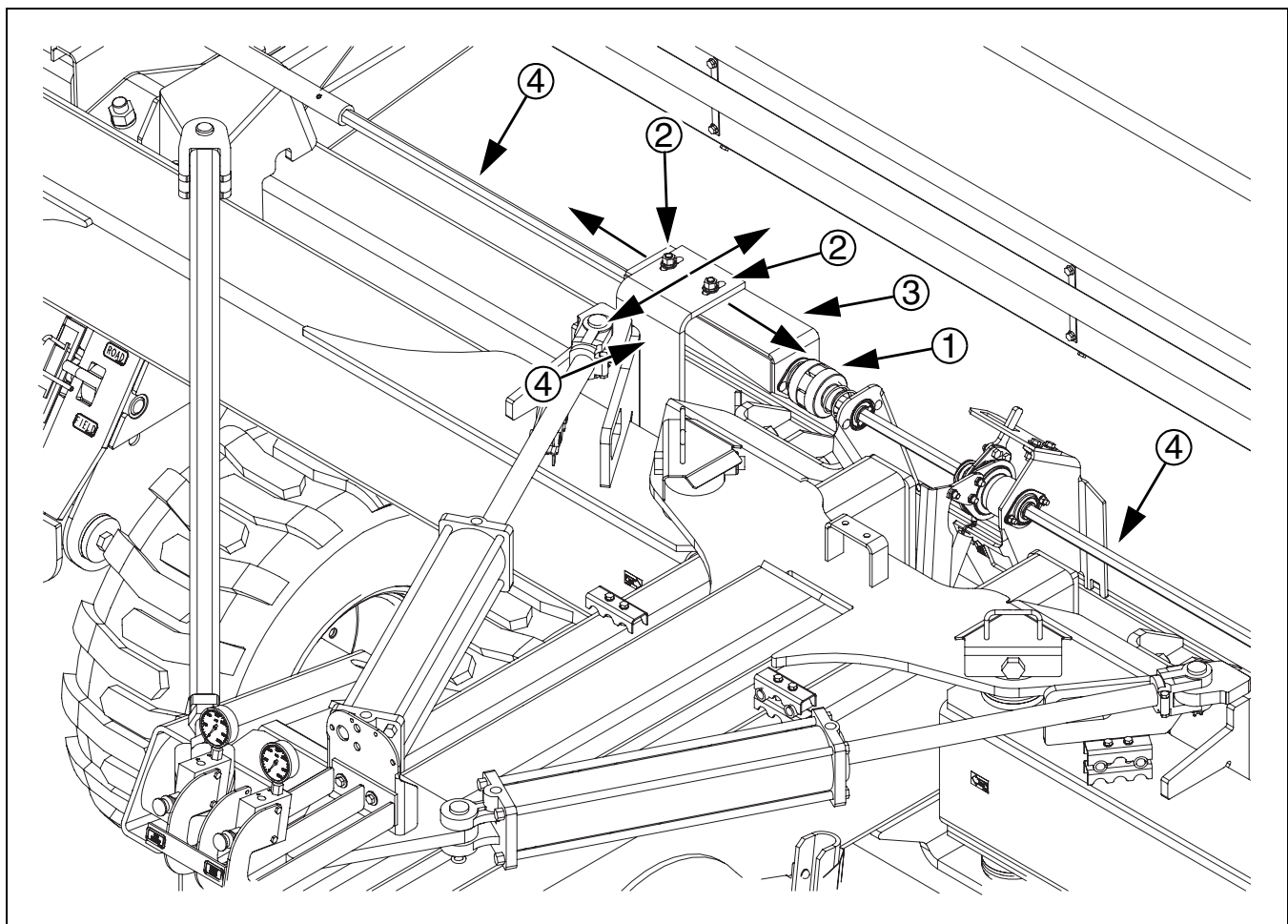


Figure 43  
Transfer Drive Shaft Horizontal Adjustment

18954





## Opener-Frame Clearance

### Refer to Figure 46

When fully raised, top of opener mounts ① must clear bottom of drill frame tube by at least  $\frac{1}{2}$  inch (12.7 mm).

To adjust opener frames so all openers have the same clearance, loosen jam nut ② on opener lift cylinders and turn adjustment nut. When openers are at the correct height, tighten jam nut. Repeat at each opener lift cylinder if necessary.

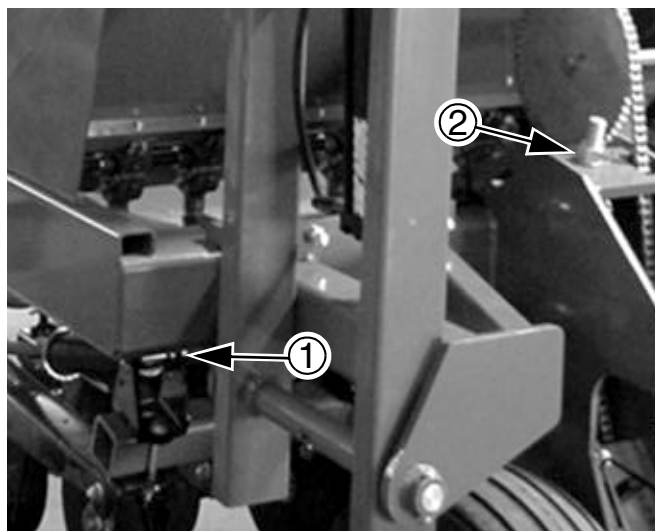


Figure 46  
Opener Frame Clearance

18853

## Install Final Accessories

### Acrometer Installation

#### Refer to Figure 47

The acrometer ③ is supplied from the factory in a separate carton, to minimize risk of shipping damage. Check to see if it has already been installed by your dealer. It is located on the left-hand end of the center main drive shaft.

If not already installed, screw the threaded end of the meter into the  $\frac{1}{2}$ -20 tapped hole ④ in the left-hand end of center main drive shaft.

Tighten the threaded end only enough to prevent it from working loose from normal vibration. In use, there is no torque or tension that might tend to unscrew it.

The acrometer counts shaft rotations whenever the shaft is rotating - normally this is only with the drill unfolded, the opener sub-frame lowered, and the drill in motion. The meter is geared to display rotations as acres, when using factory-specified tires and inflations.

Tally field acres by noting the meter reading prior to, and after planting. Subtract the starting from the ending readings.

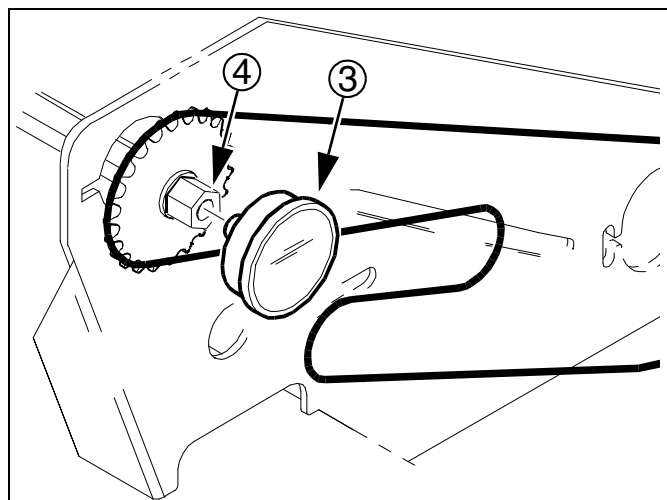


Figure 47  
Acrometer Installation

27000

## Shaft Monitor

### Refer to Figure 48

If the drill was ordered with the optional shaft monitor, install the sensors and leads per the included installation manual.

If the primary tractor is available, also install the display console in the cab.

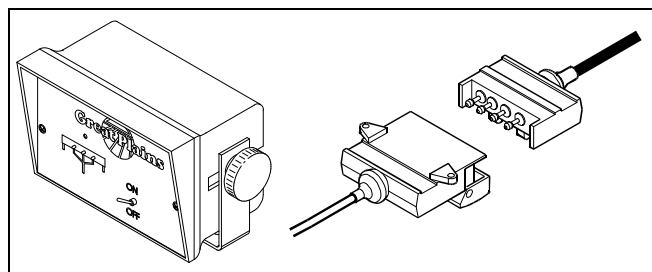


Figure 48  
Shaft Monitor

18943  
26468

## Point Row Controller

If the drill was ordered with the Point Row option, the solenoid valves, hydraulic lines and control leads were installed on the drill at the factory.

If the primary tractor is available, also install the display console in the cab.

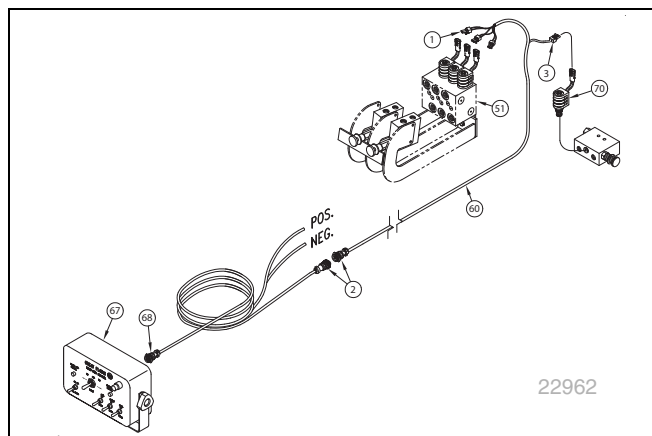


Figure 49  
Shaft Monitor

18943  
26468

## Scraper Installation

1. Remove one or both disk blades to gain safe access to the mount. Note the position of bushings and spacers for correct re-assembly.

### Refer to Figure 50

2. Position the inside scraper mount ① to the rear of the seed firmer mount ② on the opener weldment.

Secure it with two HHCS  $\frac{3}{8}$ -16x1 inch hex head bolts, lock washers and nuts. Insert the bolts from the front.

3. Position the scraper blade ③ below and behind the inside scraper mount ①, with the notch on top to machine right.

Secure it loosely with one RHSNB  $\frac{3}{8}$ -16x1 round head square neck bolt, flat washer, lock washer and nut.

4. Mount the removed disk blade.

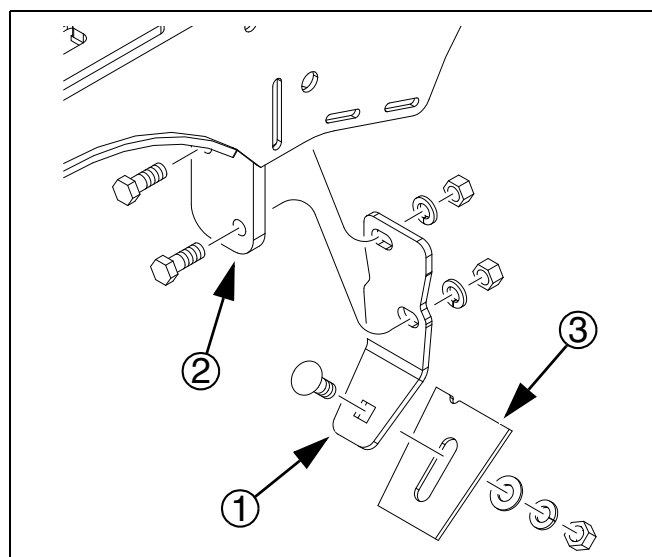


Figure 50  
Scraper Installation

26460



## Appendix

### Specifications and Capacities




	3S-4000 / 3S-4000F-7806	3S-4000 / 3S-4000F-6375	3S-4000 / 3S-4000F-4810
Row Count	78	63	48
Row Spacing	6 in (15.2 cm)	7.5 in (19.1 cm)	10 in (25.4 cm)
Main Seed Box Capacity	129.6 bushels (4567 liters)		
Tractor Requirements	180 hp minimum		
Down-Force per Row	130-209 lbs (59-95 kg)	135-240 lbs (61-109 kg)	144-291 lbs (65-132 kg)
Hydraulic Circuits	3 circuits required, load-sensitive or closed-center 15 to 30 gpm at 2300 psi Optional kits are available for two-circuit, and open center.		
Hitch Load	4800 lbs (2177 kg) folded in maximum loaded configuration Caution: <i>Negative tongue weight when raised and unfolded</i>		
Weight, with Markers	18650 lbs (8460 kg)	17600 lbs (7983 kg)	16500 lbs (7484 kg)
Transport Width	15 ft (4.6 m)		
Transport Height	7 ft 4 in (2.2 m)		
Transport Length	34 ft 8 in (10.6 m)		
Operating Length	34 ft 8 in (10.6 m)		
Operating Width	40 feet (12.2 meters)		
Swath	480.0 in (1.219 m)	476.5 in (1.21 m)	475.0 in (1.207 m)

### Tire Inflation




Tire Inflation Chart		
Wheel	Tire Size	Inflation
Transport	12.5L-15 20 Ply	90 psi 621 kPa
	395/55B16.5 NHS Skid Steer	60 psi (413 kPa)
Gauge Wheel	11L-15 8 Ply	36 psi 248 kPa
	265/70B16.5 NHS Skid Steer	60 psi (413 kPa)

Tire Warranty Information	
All tires are warranted by the original manufacturer of the tire. Tire warranty information is found in the brochures included with your Operator's and Parts Manuals or online at the manufacturer's web sites listed below. For assistance or information, contact your nearest Authorized Farm Tire Retailer.	
<u>Manufacturer</u>	<u>Web site</u>
Firestone	<a href="http://www.firestoneag.com">www.firestoneag.com</a>
Goodyear	<a href="http://www.goodyearag.com">www.goodyearag.com</a>
BKT	<a href="http://www.bkt-tires.com">www.bkt-tires.com</a>
Titan	<a href="http://www.titan-intl.com">www.titan-intl.com</a>
Gleason	<a href="http://www.gleasonwheel.com">www.gleasonwheel.com</a>

## Torque Values Chart

Bolt Size in-tpi <sup>a</sup>	Bolt Head Identification					
						
	Grade 2	Grade 5	Grade 8			
	N-m <sup>b</sup>	ft-lb <sup>d</sup>	N-m	ft-lb	N-m	ft-lb
1/4-20	7.4	5.6	11	8	16	12
1/4-28	8.5	6	13	10	18	14
5/16-18	15	11	24	17	33	25
5/16-24	17	13	26	19	37	27
3/8-16	27	20	42	31	59	44
3/8-24	31	22	47	35	67	49
7/16-14	43	32	67	49	95	70
7/16-20	49	36	75	55	105	78
1/2-13	66	49	105	76	145	105
1/2-20	75	55	115	85	165	120
9/16-12	95	70	150	110	210	155
9/16-18	105	79	165	120	235	170
5/8-11	130	97	205	150	285	210
5/8-18	150	110	230	170	325	240
3/4-10	235	170	360	265	510	375
3/4-16	260	190	405	295	570	420
7/8-9	225	165	585	430	820	605
7/8-14	250	185	640	475	905	670
1-8	340	250	875	645	1230	910
1-12	370	275	955	705	1350	995
1 1/8-7	480	355	1080	795	1750	1290
1 1/8-12	540	395	1210	890	1960	1440
1 1/4-7	680	500	1520	1120	2460	1820
1 1/4-12	750	555	1680	1240	2730	2010
1 3/8-6	890	655	1990	1470	3230	2380
1 3/8-12	1010	745	2270	1670	3680	2710
1 1/2-6	1180	870	2640	1950	4290	3160
1 1/2-12	1330	980	2970	2190	4820	3560

Bolt Size mm x pitch <sup>c</sup>	Bolt Head Identification					
						
	Class 5.8	Class 8.8	Class 10.9			
	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb
M 5 X 0.8	4	3	6	5	9	7
M 6 X 1	7	5	11	8	15	11
M 8 X 1.25	17	12	26	19	36	27
M 8 X 1	18	13	28	21	39	29
M10 X 1.5	33	24	52	39	72	53
M10 X 0.75	39	29	61	45	85	62
M12 X 1.75	58	42	91	67	125	93
M12 X 1.5	60	44	95	70	130	97
M12 X 1	90	66	105	77	145	105
M14 X 2	92	68	145	105	200	150
M14 X 1.5	99	73	155	115	215	160
M16 X 2	145	105	225	165	315	230
M16 X 1.5	155	115	240	180	335	245
M18 X 2.5	195	145	310	230	405	300
M18 X 1.5	220	165	350	260	485	355
M20 X 2.5	280	205	440	325	610	450
M20 X 1.5	310	230	650	480	900	665
M24 X 3	480	355	760	560	1050	780
M24 X 2	525	390	830	610	1150	845
M30 X 3.5	960	705	1510	1120	2100	1550
M30 X 2	1060	785	1680	1240	2320	1710
M36 X 3.5	1730	1270	2650	1950	3660	2700
M36 X 2	1880	1380	2960	2190	4100	3220

a. in-tpi = nominal thread diameter in inches-threads per inch

b. N·m = newton-meters

c. mm x pitch = nominal thread diameter in mm x thread pitch

d. ft-lb = foot pounds

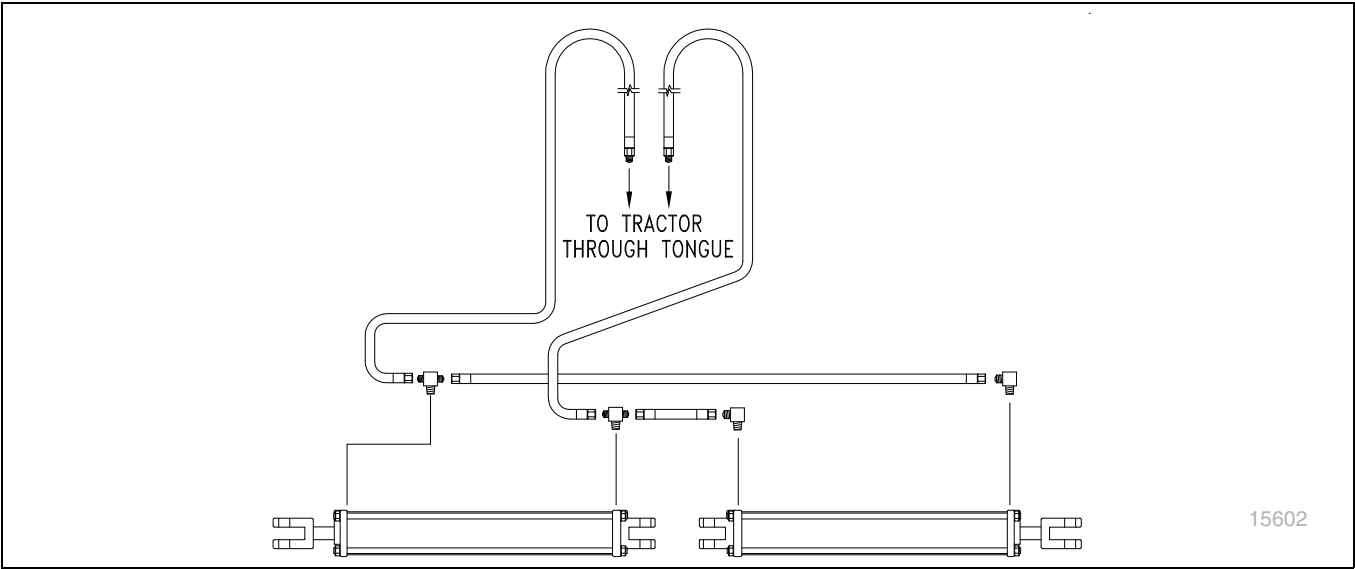
Torque tolerance + 0%, -15% of torque values. Unless otherwise specified use torque values listed above.

25199

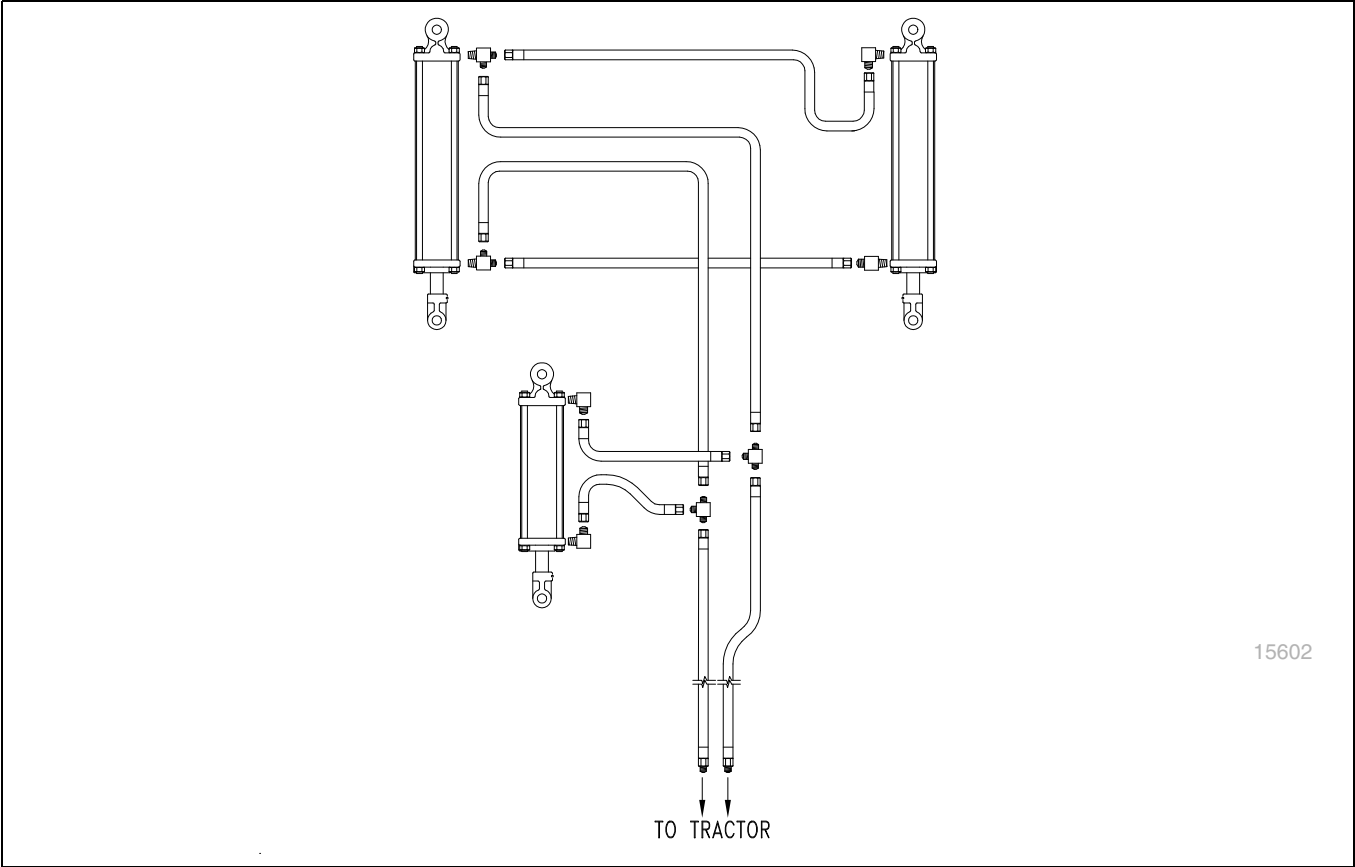
25199

Hydraulic Diagrams

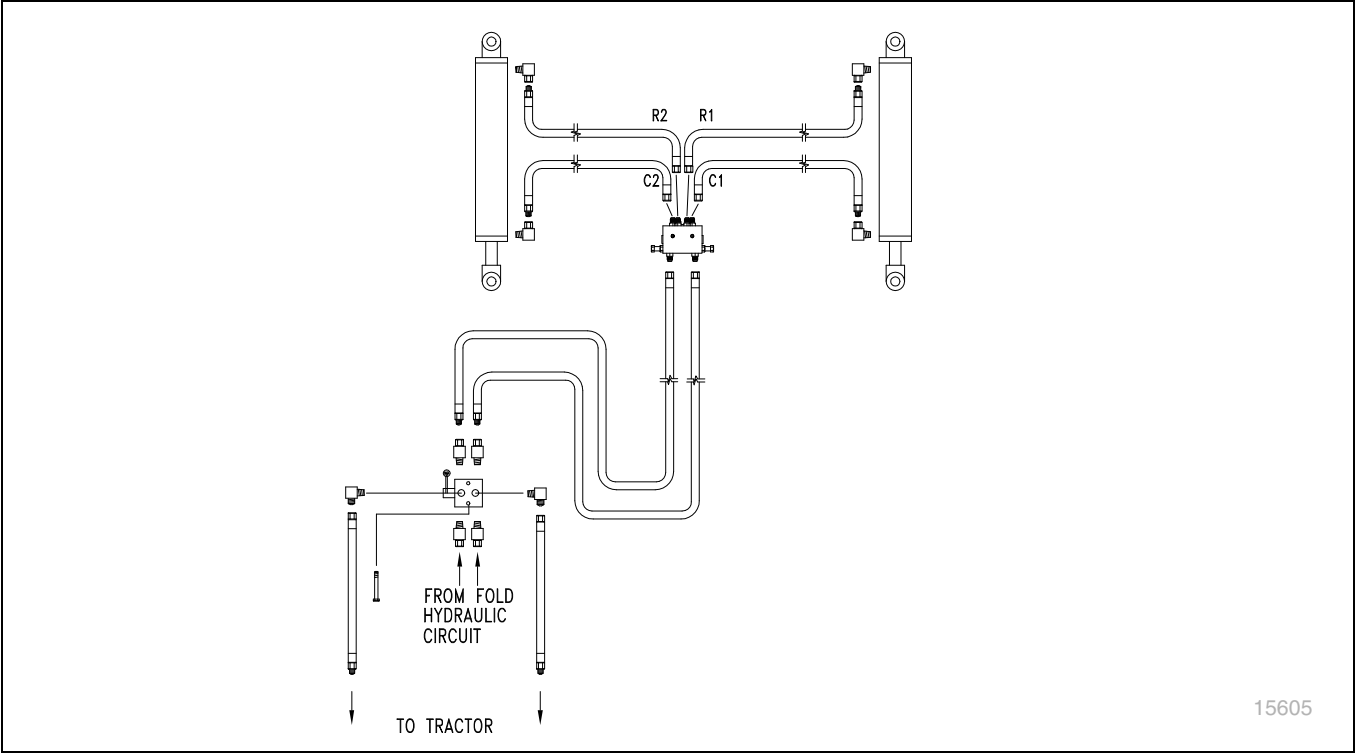
Fold



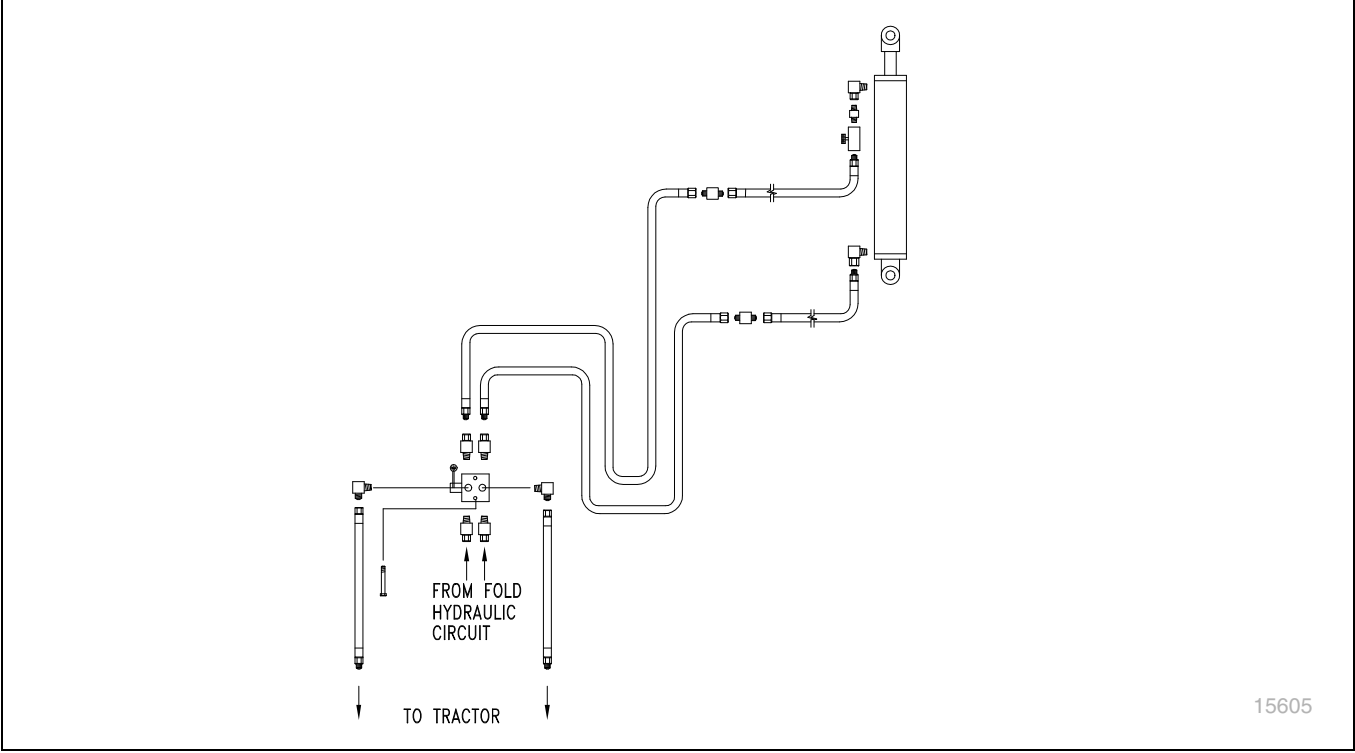
Transport Lift



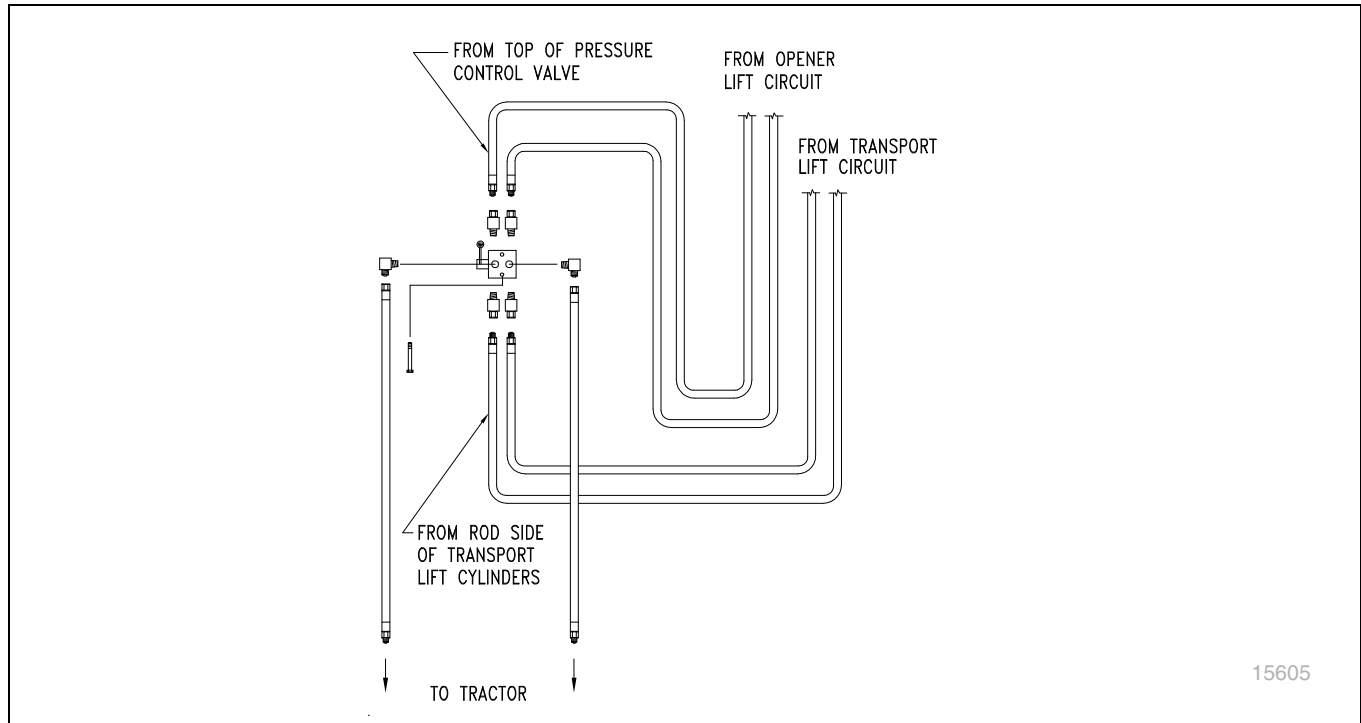
Dual Markers

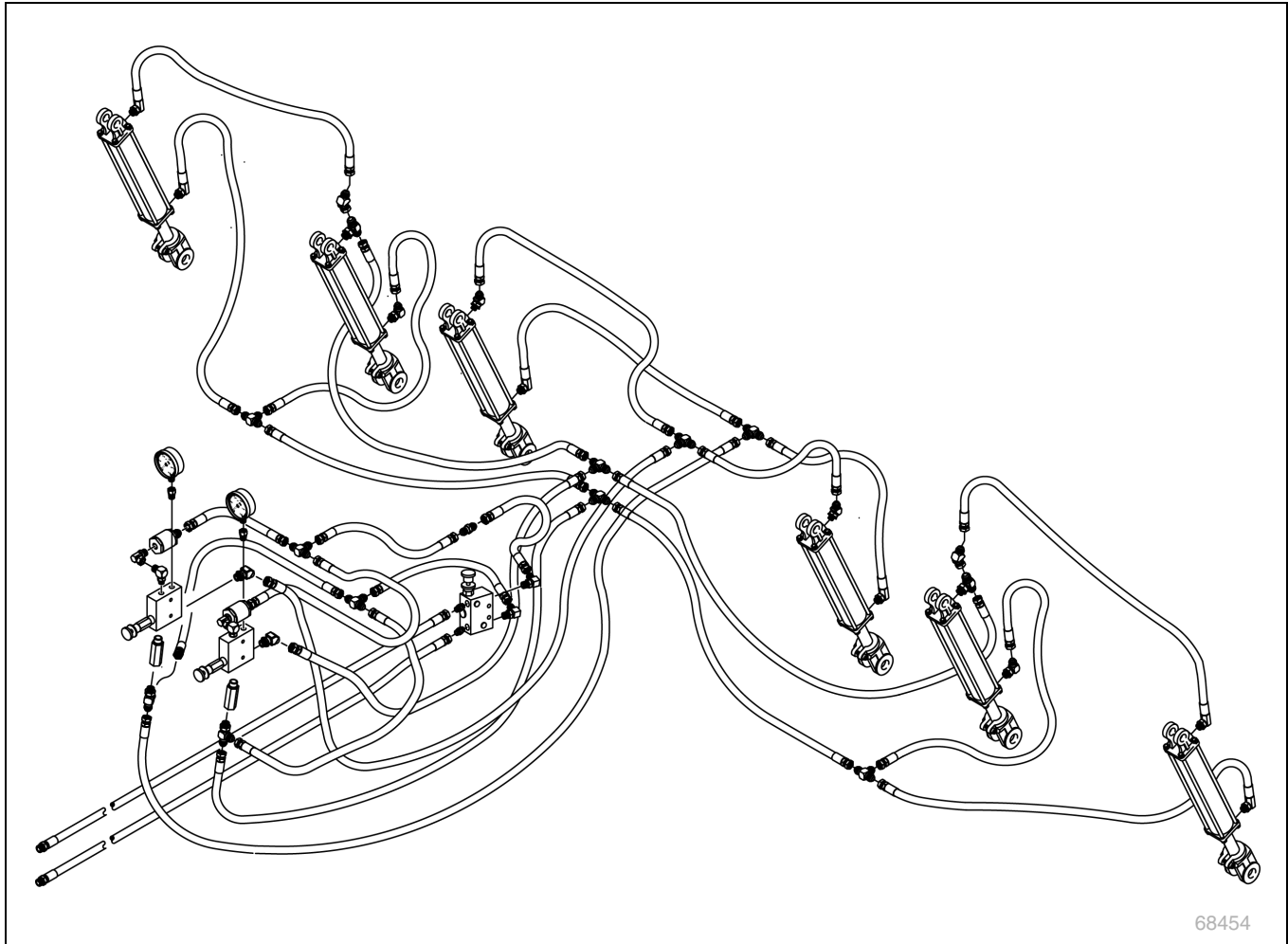


Single Marker

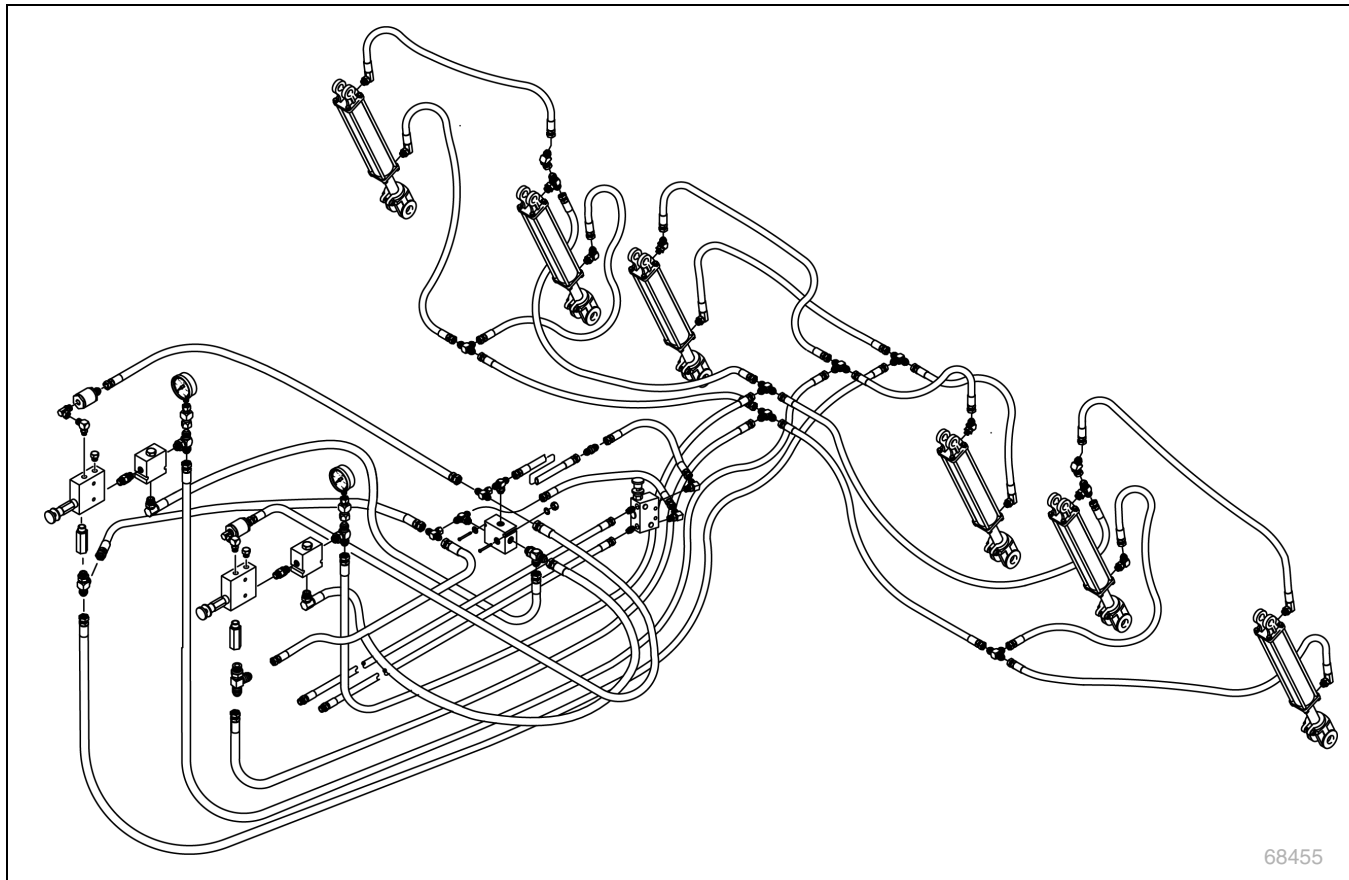


## Two Outlet Conversion

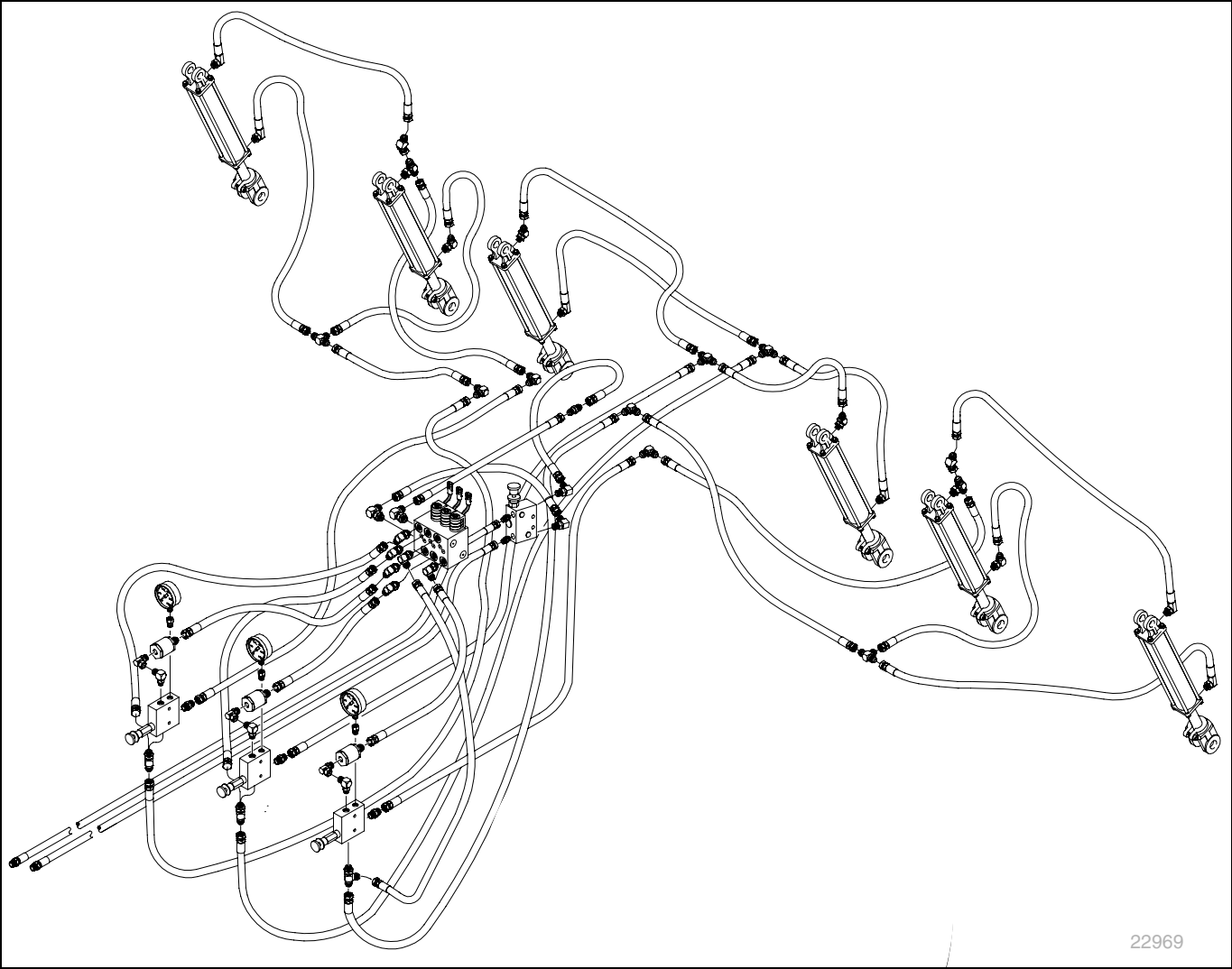


**Opener Lift: Standard Closed-Center**



**Opener Lift: Optional Open-Center**

Point-Row







**Great Plains, Mfg.**  
1525 E. North St.  
P.O. Box 5060  
Salina, KS 67402