

# Pre-delivery Instructions

ADC1150

**Air Drill Cart**

# Great Plains

Manufacturing, Inc.

P.O. Box 5060 Salina, Kansas 67402-5060



Read this 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!

# Great Plains



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

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## Important Safety Information

For your safety, thoroughly read “**Important Safety Information**” and “**Operating Instructions**” in the operator’s manual before proceeding.

### Safety Notations

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

Watch for the following safety notations throughout your operator’s manual.

### **DANGER!**

Indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury. This signal word is limited to the most extreme situations.

### **WARNING!**

Indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

### **CAUTION!**

Indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury. It may also be used to alert against unsafe practices

### **Safety Rules**

Most accidents are the result of negligence, carelessness or failure to follow safety precautions. Though your implement is designed with many built-in safety features, safety precautions are mandatory to prevent accidents.

# 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.

## Description of Unit

The ADC1150 is a grain-drill cart that uses air to move seed or fertilizer from the cart to the implement. Air is supplied by a fan driven by a hydraulic motor. A pressurized meter under the bin dispenses material into the air stream at a rate proportional to distance traveled. The meter rate can be adjusted.

## Intended Usage

Use this cart with a Great Plains air drill implement. Use the cart for seeding small grains and legumes or applying dry, granular fertilizer.

## 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

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

**IMPORTANT:** A crucial point of information related to the preceding topic. For safe and correct operation, read and follow the directions provided before continuing.

**NOTE:** Useful information related to the preceding topic.

## Assembly and Setup Assistance

To order additional copies of dealer assembly instructions or operator's and parts manuals, write to the following address. Include model numbers in all correspondence.

If for any reason you do not understand any part of this manual or have other assembly or setup questions, assistance is available. Contact

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

Or go to [www.greatplainsag.com](http://www.greatplainsag.com) and follow the contact information at the bottom of your screen for our service department.

## Section 1 Assembly

### Section 1 Assembly

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

The cart is shipped via flat bed truck. It is the dealer's responsibility to unload the new machine. Unload all equipment before beginning assembly. Do not attempt any assembly work while the cart is on the truck.

#### Tools Required

- Forklift or overhead hoist with 8,000-pound capacity
- Hand jack with 4-ton capacity
- General hand tools
- Jack stands, blocks and safety chain

#### Pre-Assembly Checklist

1. Read and understand "**Important Safety Information**" on page 3 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.
5. Have all fasteners and pins shipped with cart.

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

6. Have a copy of the parts manual 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 safety labels and reflectors are correctly located and legible. Replace if improperly located or damaged. Refer to *Safety Labels*, "**Important Safety Information**" in the operator's manual.
9. Inflate tires to recommended pressure as listed on the *Tire Inflation Chart* on the "**Appendix**" on page 11. Tighten wheel bolts as specified on *Torque Values Chart* on the "**Appendix**" on page 11.

#### Remove Cart from Truck

##### **DANGER!**

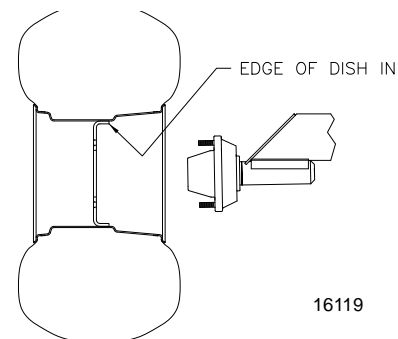
*Crushing hazard. You may be severely injured or killed by the cart if it falls. Secure cart to lifting equipment so it cannot fall. Do not walk or place any body part under the raised sections of the cart. Always support the cart with jack stands or blocks before working on the cart when raised off the ground.*

##### **WARNING!**

*Obey all safety instructions from lifting equipment manufacturer. Be sure shipping stands are securely attached prior to lifting. Be sure lifting equipment has enough capacity to lift cart.*

1. Use the forklift or hoist to move the cart from the truck to the center of the assembly area.
2. Use 4-ton jack to raise frame so rear axle is high enough to install wheels.
3. Bolt wheels to hubs and tighten as specified on *Torque Values Chart* on the "**Appendix**" on page 11.

**IMPORTANT:** Wheels must be installed with the center dish in the correct position. Bolt wheels with the edge of the center dish in toward the hub as shown in Figure 1-1. Otherwise, wheels will be positioned too wide.



**Figure 1-1**  
**Cart Wheel Installation**

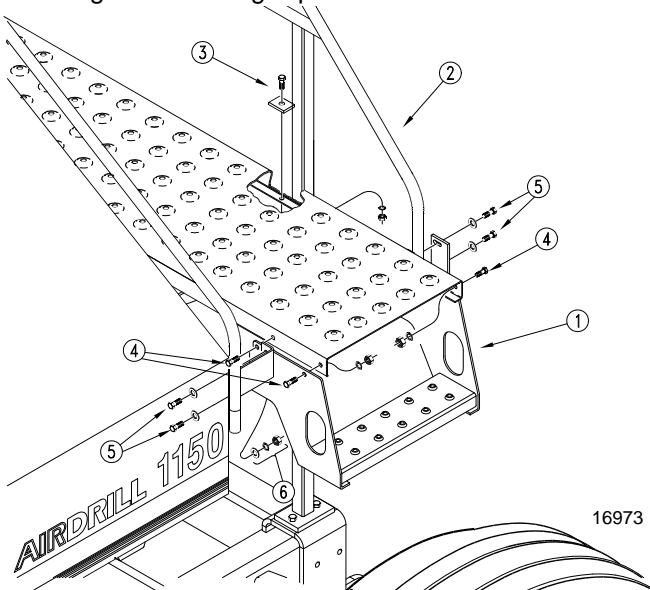
4. Lower cart onto wheels. Inflate tires to pressure recommended on *Tire Inflation Chart* on the "**Appendix**" on page 11.
5. Remove cart jack from storage stob on inside of left tongue rail. Block tires securely and raise cart tongue with forklift or jack. Place cart jack on stob near cart hitch and lower jack to support cart.

## Section 1 Assembly

### Install Walkboard and Upper Ladder

Refer to Figure 1-2.

1. Unstrap the upper ladder (1) from the handrails (2).
2. Loosen the retaining clips (3) holding the walkboard to the handrail. Slide the walkboard out until the edge of the walkboard is 9 1/2 inches from the cart bin.
3. Remove bolts holding upper ladder to the walkboard (4). Flip the ladder over to the upright position. Replace and tighten bolts.
4. Bolt the ladder to the handrails using 5/16-by-1 1/4-inch bolts and flat washers (5) and flat washers, lock washers and nuts (6).
5. Retighten retaining clips on walkboard.

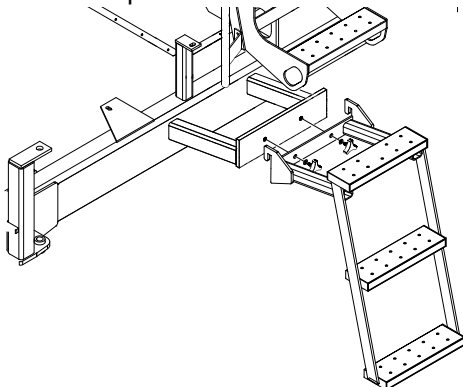


**Figure 1-2**  
Upper Ladder and Walkboard

### Install Lower Ladder

Refer to Figure 1-3.

1. Unscrew the two black knobs (1) from the lower-ladder bracket (2) on the left side of the cart.
2. Hang the lower ladder (3) over the bracket.
3. Align holes in ladder and bracket. Screw the black knobs into place.



**Figure 1-3**  
Lower Ladder Installation

### Assemble Auger

Three support arms connect the optional auger to the left side of the cart. The center swing arm is in two pieces that you assemble. The front and rear arms are bolted to the cart.

Refer to Figure 1-4.

1. Connect the inner section of the swing arm (1) to the outer section (2).
  - a. Check that the upper and lower joint bushings (3) are in place.
  - b. Install the spacer (4) between the joint bushings.
  - c. Slide the outer arm into the inner-arm joint until bolt holes are aligned.
  - d. Install the 3/4-by-6-inch bolt (5), lock washer (6) and nut (7). Tighten so the spacer is held firmly.



### DANGER!

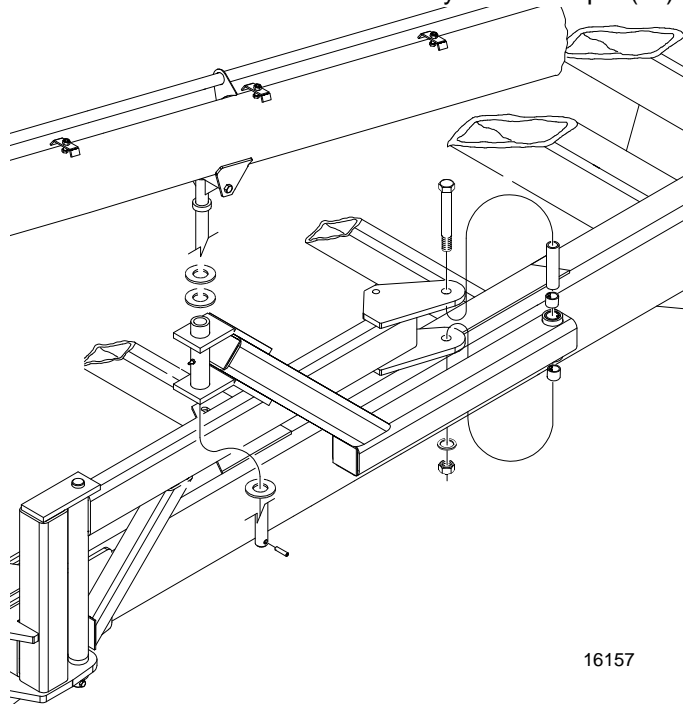
*Electrocution hazard—keep clear of overhead power lines when positioning auger.*



### WARNING!

*Auger weighs about 300 pounds and may cause injury if it falls. Secure an adequate lifting device on auger while installing.*

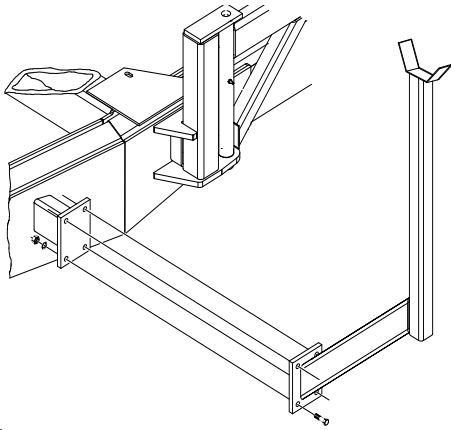
2. Install auger.
  - a. Put two washers (8) on top of swing-arm bushing.
  - b. Lower the auger swivel (9) into the bushing.
  - c. Place a washer (10) on the bottom of the installed swivel. Secure with the 3/8-by-2-inch roll pin (11).



**Figure 1-4**  
Swing Arm and Auger

## Section 1 Assembly

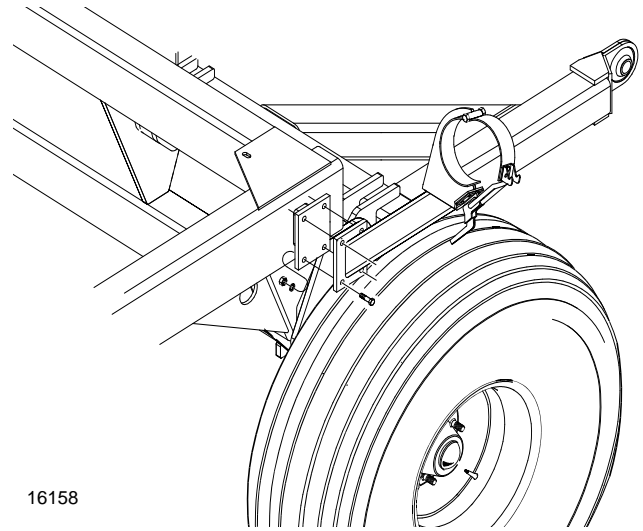
3. Bolt the front support arm (1) to the cart as shown in Figure 1-5 using 1/2-by-1 1/2-inch bolts (2), lock washers (3) and nuts (4). Rest the spout end of the auger in the front support arm.



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**Figure 1-5**  
**Front Support Arm**

4. Bolt the rear storage arm (1) to the cart as shown in Figure 1-6 using 1/2-by-1 1/2-inch bolts (2), washers (3) and nuts (4). Clamp the auger to the rear storage arm.



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**Figure 1-6**  
**Rear Storage Arm**

## Route Auger Hoses

### WARNING!

Escaping fluid under pressure can penetrate the skin causing serious injury. Check all hydraulic lines and fittings before applying pressure. Use 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 will result.

Refer to Figure 1-7.

Two hydraulic hoses connect the valve on the auger body (1) to the diverter on the cart tongue (2). After installing the auger, secure the hoses to the auger swing arm to prevent hose damage.

1. Loosen but do not remove the bolts holding the hose clips on the swing arm.
2. Route hoses over swing arm as shown in Figure 1-7. Use the hose clips to secure hoses. Allow enough hose slack between clips for auger arm to fold and unfold. Figure 1-7 has approximate lengths.
3. Swing the auger as if loading and unloading the cart. (Refer the *Filling the Cart* and *Unloading the Cart*, "**Operating Instructions**" in the operator's manual.) Check that hoses do not bind. Increase hose slack between clips if necessary.
4. When satisfied with hose slack, snug clips over hoses. Do not overtighten clips.

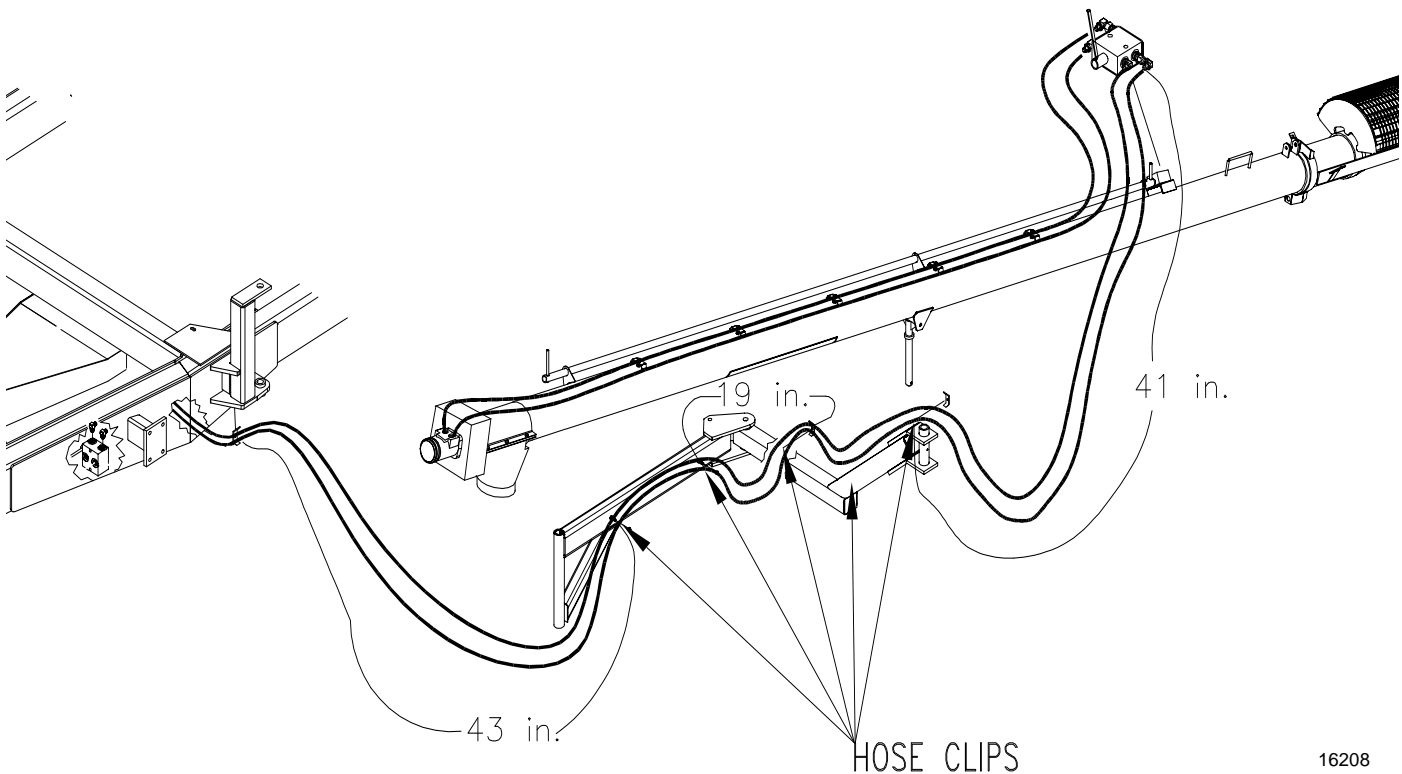


Figure 1-7  
Hydraulic Hose Routings

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## Section 2 Setup

## Section 2 Setup

This section covers preparing the drive system for the implement that will be used with the cart and hitching the cart to the tractor.

### Cart Drive System

Before hitching to the implement, check that the cart has the correct sprockets. Without the correct sprockets, the air drill will meter seed inaccurately.

#### ADC1150 Sprocket Sizes

Sprocket Location	Sprocket Size for Implement Used				
	NTA3010	NTA3510	CTA4000	ADI334	ADI345
A-Main Drive Shaft, Inboard	15 T	17 T	15 T	17 T	17 T
B-Clutch Shaft	38 T	38 T	29 T	38 T	29 T
C-Gearbox Output Shaft, Inboard	18 T	15 T	15 T	15 T	15 T

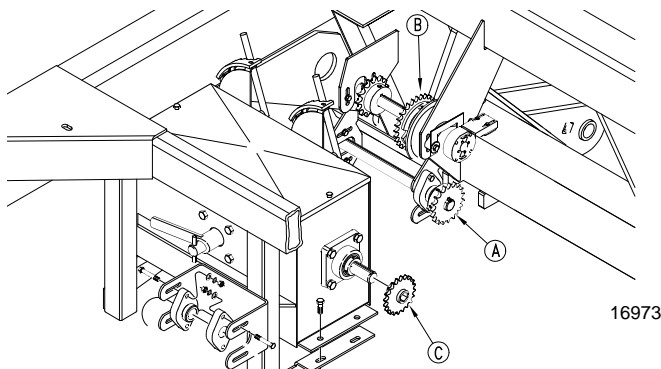


Figure 2-1  
Drive Sprocket Locations

### Hitching Cart to Tractor

#### ! WARNING!

You may be severely injured or killed by being crushed between the tractor and the cart. Always stop and shut off the tractor before placing any part of your body between the tractor and cart.

1. Back the tractor drawbar up to the cart until the holes in the cart hitch and the tractor drawbar are aligned. Use the jack to make height adjustments.
2. Install the drawbar pin. Remove the jack. Store jack in-line with the left tongue rail on the storage stob.
3. Attach the cart safety chain to an anchor on the tractor capable of pulling the unit.
4. Plug the electric-harness lead from the cart into the monitor lead. To install the monitor in your tractor, refer to *Installation and Setup*, “**System Monitor**,” in the operator’s manual.

5. Plug harness lighting connector into receptacle on tractor.

### Hydraulic Hose Hookup

#### ! WARNING!

Escaping fluid under pressure can penetrate the skin causing serious injury. Check all hydraulic lines and fittings before applying pressure. Use 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 will result.

Great Plains hydraulic hoses are color coded to help you connect hoses to your tractor outlets. Hoses are color coded as follows.

Color	Hydraulic Function
Blue	Lift Cylinders
Orange	Marker Cylinders and Auger
Yellow	Air Drill Fan and Fold Cylinders

To distinguish hoses on the same hydraulic circuit, refer to plastic hose holder. See . Hoses under extended-cylinder symbol feed cylinder base ends. Hoses under retracted-cylinder symbol feed cylinder rod ends.

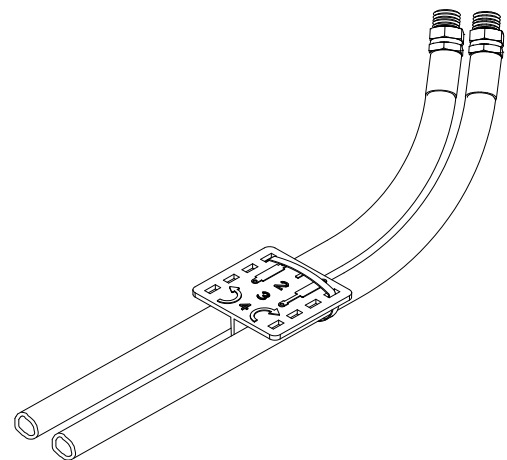


Figure 2-2  
Hydraulic Hose Label

**IMPORTANT:** For CTA implements, some tractors require an auxiliary flow kit to prevent damage to the hydraulic pump. Contact a service technician who is factory trained on your tractor before hooking to cart and CTA implement.

## Section 2 Setup

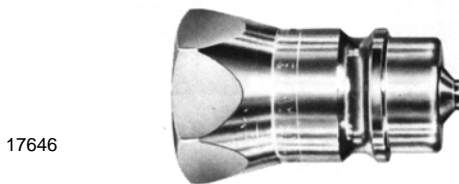
1. Connect blue-coded lift hoses to tractor remotes. Lift hoses are 3/8-inch hoses that go directly to couplers C and D on rear of cart.
2. Connect orange-coded auger hoses to tractor remotes. Auger hoses go to the diverter valve on the inside of the left tongue rail.
3. Connect yellow-coded fan hoses to tractor remotes. If your tractor has a priority circuit for hydraulic motors, connect fan hoses to this circuit.
  - a. Hook fan hose under extended-cylinder symbol to the outlet you choose to be the pressure side of circuit. The pressure hose (1) runs out of the selector valve. See .
  - b. Hook fan hose under retracted-cylinder symbol to other outlet.

NOTE: Fan hoses are not the same size. A 1/2-inch and a 3/8-inch hose are paired together.

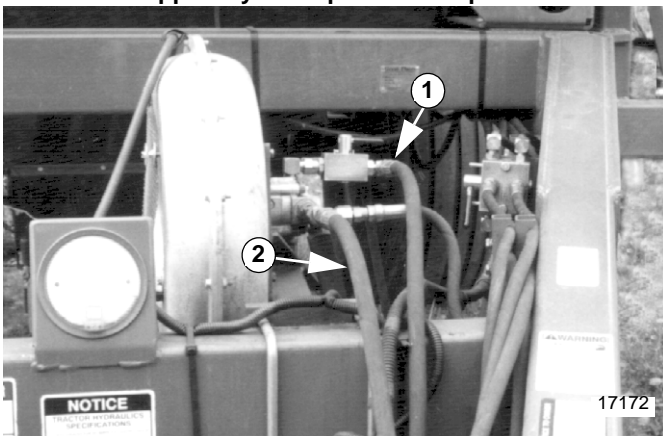
4. Connect decaled sump hose to the tractor hydraulic reservoir. Refer to your tractor operator's manual for instructions. The sump hose (2) runs beside the cart fan. See Hydraulic Hook-Up.

**IMPORTANT:** Failure to properly plumb sump hose into tractor hydraulic reservoir may result in tractor or drill damage.

NOTE: For proper hydraulic flow, use a poppet-style, Pioneer quick coupler to connect sump hose to tractor. See Figure 2-3.



**Figure 2-3**  
Poppet-Style Coupler for Sump Hose



**Figure 2-4**  
Hydraulic Hook-Up

NOTE: SAE O-ring and JIC 37-degree, flare-type hose connections do not require sealant for reconnecting. They do not require high torque for a good seal.

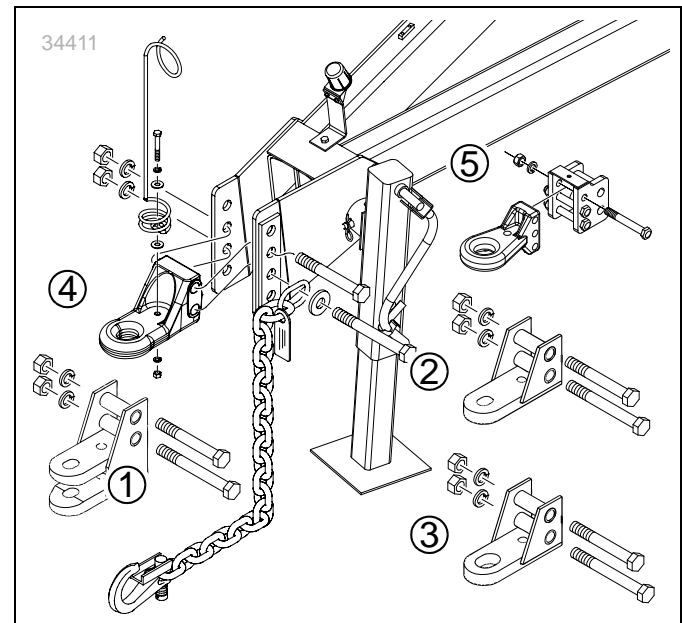
## Storage

To lengthen the life of the bin seal, store the cart with the bin lids closed but unlatched.

## Hitches

One hitch is selected upon initial order of an air cart, and includes the spring wire loop, safety chain, and all fasteners. Additional hitches may be ordered for conversion in the field, and include extra hitch mounting bolts, lock washers, nuts, and as needed, adapters.







Hitch Description	Option	Part Number
① Small Clevis	72	170-039A
② Small Strap	73	170-059A
③ Large Strap, Welded	71	170-038A
④ Large Strap, Cast	74	170-004A
⑤ Category V, Cast	75	170-073A



**Figure 2-5**  
Hitches

# Appendix

## Torque Values Chart for Common Bolt Sizes

Bolt Size (Inches) in-tpi <sup>1</sup>	Bolt Head Identification						Bolt Size (Metric) mm x pitch <sup>4</sup>	Bolt Head Identification					
	 Grade 2		 Grade 5		 Grade 8			 Class 5.8		 Class 8.8		 Class 10.9	
	N · m <sup>2</sup>	ft-lb <sup>3</sup>	N · m	ft-lb	N · m	ft-lb		N · m	ft-lb	N · m	ft-lb	N · m	ft-lb
1/4" - 20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4" - 28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16 - 18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16" - 24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8" - 16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8" - 24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16" - 14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16" - 20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2" - 13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2" - 20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16" - 12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
9/16" - 18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8" - 11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8" - 18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4" - 10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4" - 16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8" - 9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8" - 14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1" - 8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1" - 12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1-1/8" - 7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1 1/8" - 12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1 1/4" - 7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
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							

<sup>1</sup> in-tpi = nominal thread dia.in inches-threads per inch<sup>2</sup> N · m = newton-meters<sup>3</sup> ft-lb= foot pounds<sup>4</sup> mm x pitch = nominal thread dia. in millimeters x thread pitch

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

## Tire Inflation Chart

Tire Size	Inflation PSI
7.50 x 20" 4-Ply Drill Rib	28
9.0 x 22.5 10-Ply Highway Service 70	70
9.0 x 24" 8-Ply Rib Implement	40
9.5L x 15" 6-Ply Rib Implement	32
9.5L x 15" 8-Ply Rib Implement	44
9.5L x 15" 12-Ply Rib Implement	60

Tire Size	Inflation PSI
11L x 15" 6-Ply Rib Implement	28
11L x 15" 12-Ply Rib Implement	52
12.5L x 15" 8-Ply Rib Implement	36
12.5L x 15" 10-Ply Rib Implement	44
16.5L x 16.1" 10-Ply Rib Implement	36
21.5 x 16.1" SC 10-Ply Rib Implement	28

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