Pre-Delivery Manual

3N-4010HDA and ADC2350B
3-Section 40-Foot No-Till Air Drill
and Air Cart

Great Plains
Manufacturing, Inc.
www.greatplainsmfg.com

Read the pre-delivery 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 units.
# Table of Contents

**Important Safety Information** .............................................. 1  
**Introduction** .................................................................... 4  
**Implements Covered** ...................................................... 4  
**Document Family** ........................................................... 4  
**Definitions** .................................................................... 4  
**Assembly and Setup Assistance** ....................................... 5  
**Air Cart Pre-Delivery** ..................................................... 6  
**Air Cart Preparation** ....................................................... 6  
**Tools Required** .............................................................. 6  
**Cart Pre-Assembly Checklist** .......................................... 6  
**Unload Air Cart** ............................................................... 7  
**Lift Air Cart on Truck** ..................................................... 7  
**Locate Parts** .................................................................. 7  
**Install Wheels** ............................................................... 8  
**Spot Air Cart** .................................................................. 9  
**Install Cab Components** ................................................. 9  
**Air Drill Pre-Delivery** ..................................................... 10  
**Drill Preparation** ............................................................ 10  
**Tools Required** .............................................................. 10  
**Drill Pre-Assembly Checklist** .......................................... 10  
**Unload Truck** ................................................................ 11  
**Remove Shipping Wheels** ............................................. 12  
**Spot Implements** ............................................................ 13  
**Check Drill Level** ........................................................... 13  
**Locate Parts** .................................................................. 13  
**Drill Assembly** .............................................................. 14  
**Install Markers (Option)** .................................................. 14  
**Install Weight Brackets** .................................................. 14  
**Install Std. Outer Brackets** ............................................. 14  
**Install Std. Mid-Wing Brackets** ...................................... 15  
**Install Optional Brackets** ............................................... 16  
**Attach Rear Hitch** .......................................................... 17  
**Install Hose Connection Bulkhead** ................................ 18  
**Mount Pintle Hook** ......................................................... 18  
**Install Hydraulic Hoses** .................................................. 19  
**Install Towers** ............................................................... 20  
**Dimensions** ................................................................. 20  
**Lateral Tower Location (Figure 17)** ............................... 20  
**Tower Inlet Angle (Figure 17)** ...................................... 20  
**Tower Height (Figure 18)** .............................................. 20  
Tower Elevation .................................................................. 21  
**Install Tower Mounts** ..................................................... 21  
**Install Tower Weldments** .............................................. 23  
**Install Primary Hoses** ..................................................... 24  
**Bulkhead Port** ............................................................. 24  
**Primary Hose Length** .................................................... 24  
**Install Secondary Hoses** ................................................ 25  
**Port Numbering Convention** ......................................... 25  
**Port Assignments, 10in (25.4cm) Drill** ......................... 26  
**Port Assignments, 7.5in (19.2cm) Drill** ......................... 27  
**Install Lift Switch** .......................................................... 29  
**Route Lighting Cable** .................................................... 29  
**Route Monitor Harness** ................................................. 30  
**Monitor Harness without Blockage** ............................... 30  
**Install Blockage Detectors (Option)** ............................... 31  
**Install WSMBs** ............................................................. 31  
**Prepare Hoses for Sensors** ............................................ 32  
**Install Blockage Sensors** ............................................... 32  
**Mount Row Harnesses** .................................................. 33  
**Connect Sensors to Row Harnesses** .............................. 33  
**Install WSMB Harnesses** ............................................... 34  
**Interconnect WSMB Section Harnesses** ......................... 34  
**Blockage Harness Routing** ............................................ 35  
**Harness ID** .................................................................. 35  
**Install Hitch Harness** ..................................................... 35  
**Install Left-Center Extension** ........................................ 36  
**Install Center-Right Extension** ...................................... 36  
**Install Right-Extension** .................................................. 36  
**Install Rear Hitch Extension** ........................................... 36  
**Install Press Wheels** ..................................................... 37  
**Install Options** .............................................................. 37  
**Hold-Down Kits** ........................................................... 37  
**Hitch Air Cart to Drill** .................................................... 37  
**Appendix** ..................................................................... 38  
**Torque Chart** ............................................................... 38  
**Parts Lists** ..................................................................... 39  
**Parts Supplied with Drill or Air Cart** ............................. 39  
**Parts Supplied with ADC2350B Air Cart** ...................... 40  
**Parts in 823-274C Kit** .................................................... 40  
**Parts Supplied with Blockage Monitors** ......................... 41  
**Parts in 823-282C and 823-283C Kits** ............................. 41  
**Abbreviations** .............................................................. 42  

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Important Safety Information

Look for Safety Symbol
The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety involved and extra safety precaution 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.

Be Aware of Signal Words
Signal words designate a degree or level of hazard seriousness.

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, typically for machine components that, for functional purposes, cannot be guarded.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

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

Review Operating Information
▲ Review Operator Manuals included with drill and cart.
▲ Read and understand “Safety Decals” in Operator Manuals.
▲ Read all instructions noted on the decals.

Prepare for Emergencies
▲ Be prepared if a fire starts
▲ Keep a first aid kit and fire extinguisher handy.
▲ Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.
Avoid High Pressure Fluids

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, seek immediate medical attention from a physician familiar with this type of injury.

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.

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

Transport Machinery Safely

Maximum transport speed for drill and/or cart is 20 mph (32 kph). Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.

▲ Do not exceed 20 mph (32 kph). Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes.

▲ Comply with national, regional and local laws.

▲ Follow your tractor manual recommendations for maximum hitch loads. Insufficient weight on tractor steering wheels will result in loss of control.

▲ Carry reflectors or flags to mark implements in case of breakdown on the road.

▲ Keep clear of overhead power lines and other obstructions when transporting. Refer to transport dimensions under “Specifications and Capacities” in Operator manual.
Practice Safe Maintenance

▲ Understand procedure before doing work. Use proper tools and equipment. Refer to this manual for additional information.

▲ Work in a clean, dry area.

▲ Put tractor in park, turn off engine, and remove key before performing maintenance.

▲ Make sure all moving parts have stopped and all system pressure is relieved.

▲ Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on implements.

▲ Inspect all parts. Make sure parts are in good condition and installed properly.

▲ Remove buildup of grease, oil or debris.

▲ Remove all tools and unused parts from implements before operation.
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 setting up new equipment.

Implements Covered

- 3N-4010HDA Air Drill Implement, when used with:
- ADC2350B “pull behind” Air Drill Cart.

Note: This model drill is not compatible with the “pull between” ADC2350 cart, nor the ADC1150, ADC2220 or ADC2250 carts.

Note: Do not commence assembly unless the cart is also at hand. Some drill components are shipped with the cart.

Pre-delivery includes hitching to the air cart. The cart is intended to be towed by the drill, although either can be towed alone if necessary.

Document Family

167-085M ADC2350/2350B Operator Manual
167-085M ADC2350/2350B Parts Manual
167-085B ADC2350/2350B Seed Rate Manual
196-444M 3N-4010HDA Operator Manual
196-444P 3N-4010HDA Parts Manual
196-444Q 3N-4010HDA Pre-Delivery (this manual)
110011445 DICKEY-john Air Cart Operator
110011461 3N40 QUICKSTART GUIDE

Definitions

IMPORTANT!

Paragraphs in this format present a crucial point of information related to the current topic.

Read and follow the directions to:
- remain safe and
- avoid serious damage to equipment.

Note: Paragraphs in this format provide useful information related to the current topic.

“Left” and “Right” are facing in the direction of machine travel. An orientation rose in the line art illustrations shows the directions of: Up, Back, Left, Down, Front, Right.

① to ⑤ & callouts identify components in the currently referenced Figure or Figures.
⑥ to ⑧ call-outs reference new parts from the lists starting on page 39, and are consistent across all pages. Descriptions match those on the cartons, bags or item tags, as well the current Parts Manual.

a. If the drill alone is towed on public roads, install a temporary Slow Moving Vehicle reflector.
Assembly and Setup Assistance
To order additional copies of pre-delivery instructions or operator's and parts manuals, write to the address below. Include model numbers in all correspondence.

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

Product Support
Great Plains Mfg. Inc., Service Department
PO Box 5060
Salina, KS 67402-5060

gp_web_cs@greatplainsmfg.com
785-823-3276
Air Cart Pre-Delivery

Air Cart Preparation

Step-by-step instructions for assembling the ADC2350B air cart begin on page 8. Before commencing work, review the Tools Required and Pre-Assembly Checklist to make sure you have all necessary parts and equipment.

The ADC2350B is shipped via flat bed truck. It is the dealer’s responsibility to unload the new machine. Unload all equipment before beginning assembly.

IMPORTANT !
Attempt no assembly work with air cart still on truck.

The general sequence is:

Cart Assembly Summary
a. Remove all items except cart from truck.
Note: Many items shipped with the ADC2350B air cart, or shipped on the truck carrying the air cart, are installed on the 3N-4010HDA air drill implement.
b. Lift air cart above truck, and pull truck away.
c. Lower air cart.
d. Install wheels.
e. Spot air cart for final implement assembly.
These next steps are performed during drill pre-delivery tasks:
f. Prepare cart hitch.
g. Hitch to air drill implement.

Tools Required

• A tractor adequate for re-positioning the air cart. Tractor requirements for drill pre-delivery are more demanding (see drill Operator manual).
• A large hoist or two forklifts, with a net lifting capacity of 9800 pounds (4445 kg) for elevating air cart above truck bed.
• Jacks, jack stands or blocks, and safety chain.
• General hand tools.

Cart Pre-Assembly Checklist

☐ Read and understand “Important Safety Information” on page 1 before assembling.
☐ Have at least four people for unloading.
☐ Make sure the assembly area is level and free of obstructions (preferably an open concrete area).
☐ Have all major components accounted for.
☐ Have a copy of the air cart Parts Manual (167-085P) on hand. If unsure of proper placement or use of any part or fastener, refer to the parts manual.
☐ Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
☐ 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 drill Operator’s Manual.
☐ Inflate tires to recommended pressure as listed in the Operator manual.

An Operator Manual is provided with the new machine. Read and understand “Important Safety Information” and “Operating Instructions” in the Operator Manual before assembling the machine. As a reference, keep the Operator Manual on hand while assembling.
Unload Air Cart

The ADC2350B is normally ordered with an 3N-4010HDA drill, and delivered on two or more flatbed trucks. Un-installed components may be on the air cart truck, the drill truck (single-truck delivery), or on a separate truck.

Note: The ADC2350B is loaded for lift delivery. Hoist is not recommended. Do not attempt dock unload.

Refer to Figure 2
1. Have the truck parked where it can be driven out from under an elevated air cart, and where two fork lifts can approach the cart from each side.
2. Use fork lifts or hoists to remove everything except the air cart from the truck. This will include wheels for the air cart, and may include crates of drill parts, the drill rear hitch weldment and un-installed options. Do not install any components on the air cart while still on the truck.

Lift Air Cart on Truck
Use two fork lifts, each rated for at least 4900 pounds (2223 kg). Have two cargo straps at hand.
3. Spread the forks on each lifter as wide as possible. Have each lift approach the cart near the ladder.

Refer to Figure 3
4. Place the forks under the lower side frame tubes, on either side of the ladder, and as far forward on the air cart as possible.
   
   This places the back fork as close to the ladder as possible.
5. Secure the back fork to the frame tube with a cargo strap.
6. Lift the cart about a foot (30cm).
7. Signal the driver to pull the truck away.
8. Lower the cart to the ground.

Locate Parts
9. Review the Parts Lists beginning on page 39. Determine which crates or cartons contain the items.
Install Wheels

Refer to Figure 4

Wheels are supplied as mirror-image assemblies, mounted for left vs. right hand use. The wheel assemblies use identical tires and rims, each side mounted with the valve stem to the outside. The figure shows tread orientations suggested by Great Plains.

If the customer’s preference is to reverse the tread pattern at the ground, the wheels may be mounted on the opposite cart side. Do not merely invert the wheels, or the valve stems will be to the inside.

10. Jack up the tongue end of the cart, and support the front weldment with jack stands.

11. Remove and save the nuts (16 total):
   47 803-347C WHL NUT, SWIVEL FLG 5/8-18 UNF from the front caster hub assemblies.

12. Select one:
   20 168-379K 21.5L-16.1 TIRE/18-8 BLT WL LH

   Mount the wheel 20, valve stem side out, on the left side of the front caster. Secure with eight nuts 47.

13. Select one:
   19 168-378K 21.5L-16.1 TIRE/18-8 BLT WL RH

   Mount the wheel 19, valve stem side out, on the right side of the front caster. Secure with eight nuts 47.

14. Lower front end of cart to ground and block wheels.

15. Jack up the rear end of the cart, and support the rear of the frame with jack stands.

16. Remove and save the nuts (24 total):
   45 803-183C NUT HEX FLANGE 3/4-16 PLT from the rear hub assemblies.

17. Select one:
   18 168-377K 30.5L-32 TIRE/27-10 BLT WHL LH

   Mount the wheel 18, valve stem side out, on the left side of the cart. Secure with ten nuts 45.

18. Select one:
   17 168-376K 30.5L-32 TIRE/27-10 BLT WHL RH

   Mount the wheel 17, valve stem side out, on the right side of the cart. Secure with ten nuts 45.

19. Lower rear end of cart to ground.
Spot Air Cart

Choose an assembly location with ample room. Allowing room for turns, the complete assembly of tractor, drill and air cart may require a space with a:
- length over 100 feet (30m) and
- width of 50 feet (15m) without markers, or
- width of 83 feet (25m) with markers.

⚠️ CAUTION
Check for overhead lines, particularly if the drill will have markers. The air cart requires at least 12ft (7.6m) vertically, and more if auger deployment is contemplated.

Refer to Figure 5
20. Move the air cart ① to the final assembly area. Block the wheels.
21. Verify that the cart has the correct sprocket for the drill. See “Cart Drive System” in the Air Cart Operator manual.

Install Cab Components

If the customer tractor is available, install the Seed Monitor in the tractor cab. This is described under “Preparation and Setup” in the Air Cart Operator manual.
Air Drill Pre-Delivery

Drill Preparation

Step-by-step instructions for assembling the drill begin on page 12. Before commencing work, review the Tools Required and Pre-Assembly Checklist to make sure you have all necessary parts and equipment.

The drill is shipped via flat bed truck. It is the dealer’s responsibility to unload the new machine. Unload all equipment before beginning assembly.

IMPORTANT!

Attempt no assembly work with drill still on truck.

The general sequence is:

**Drill Assembly Summary**

a. Back truck up to a dock.
b. Hitch a tractor to the drill, connecting at least the lift hydraulic circuit.
c. Lift drill off shipping stands.
d. Tow raised drill off truck.
e. Exchange lift locks. Remove shipping wheels (4).
f. Install rear cart hitch.
g. Install towers.
h. Cut and install hoses.
i. Install other standard and optional components that were not factory-installed, such as:
   - markers
   - blockage detectors.
j. Level drill.
k. Install press wheels.
l. Perform air cart pre-delivery

**Tools Required**

- A tractor of sufficient size and horsepower with at least two remote hydraulic circuits. Refer to “Specifications and Capacities” in the drill Operator’s Manual.
- A hoist or forklift for removing shipping wheel weldments.
- Jacks, jack stands or blocks, and safety chain.
- General hand tools, including snap ring pliers.

**Drill Pre-Assembly Checklist**

- Read and understand “Important Safety Information” on page 1 before assembling.
- Have at least two people on hand while assembling.
- Make sure the assembly area is level and free of obstructions (preferably an open concrete area).
- Have all major components accounted for. Have all fasteners and pins shipped with drill.
- Have a copy of the drill Parts Manual (196-444P) on hand. If unsure of proper placement or use of any part or fastener, refer to the parts manual.
- Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
- 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 drill Operator’s Manual.
- Inflate tires to recommended pressure as listed in the Operator manual.
- Tighten wheel bolts as specified on “Torque Chart” on page 38.

An Operator Manual is 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 Manual on hand while assembling.
Unload Truck

The 3N-4010HDA is normally ordered with an air cart, and delivered on two flatbed trucks. Un-installed components may be on the drill truck (single-truck delivery), the air cart truck, or on a separate truck.

Note: The 3N-4010HDA is loaded for dock delivery. Do not hoist or fork lift.

Refer to Figure 6

13. Verify that the fold lock is engaged. The drill cannot safely be removed from the truck with the tooth of the lock withdrawn.


15. Remove any un-installed components from the drill truck. Do not install any of these while the drill is still on the truck.

16. Mechanically hitch a suitable tractor to the drill. Refer to “Hitching to Tractor” in the drill Operator Manual for hitching details. Electrical connections are not required.

Note: The un-assembled drill may weigh nearly 30,000 pounds (14000 kg).

Only one hydraulic circuit is required for unload, but two are required for assembly.

17. Set the tractor parking brakes. Connect the drill’s lift hydraulic circuit (color coded Blue) to a tractor remote. Release chains and cargo straps securing the drill.

18. Engage the lift circuit to raise the drill off any shipping stands on the truck. Remove the shipping stands (these are returned to Great Plains).

Refer to Figure 6

19. Carefully tow the drill off the truck bed.
Remove Shipping Wheels

Refer to Figure 8

20. Raise the drill. At the front and rear center lift cylinders ①, replace the small shipping lock channels ② with the standard lock channels ③. Install the standard lift lock channels at the wing casters.

21. Store the small removed lock channels on the shipping wheel weldments for return to Great Plains.

Note: The longer lock channels are used for normal operating lift lock, and remain with the drill.

22. Unfold the drill.

23. Place jacks under the rear caster arms (not visible in Figure). Lift the arms just enough to raise both rear shipping wheels ④ off the ground.

Note: Welded loops (⑥ in Figure 8) are provided for hoisting shipping weldments.

24. Remove the nuts, washers and bolts ⑦, and plate ⑧ that secure the shipping weldment to the rear casters. Remove the shipping wheel weldment.

25. Lower the rear casters and remove the jacks.

26. Re-assemble the plate ⑧ to the shipping weldment for return to Great Plains.

27. Place jacks under the rockshaft axles ⑨. Elevate the rockshaft just enough to raise both front shipping wheels ⑩ off the ground.

28. Remove the nuts, washers ⑦ and U-bolts ⑪ that secure the shipping weldment to the rockshaft. Remove the shipping wheel weldment.

29. Re-assemble the U-bolts ⑪ to the front shipping weldment for return to Great Plains.
Spot Implements

Choose an assembly location with ample room. Allowing room for turns, the complete assembly of tractor, drill and air cart may require a space with a:

- length over 100 feet (30m) and
- width of 50 feet (15m) without markers, or
- width of 83 feet (25m) with markers.

⚠️ CAUTION

Check for overhead lines, particularly if the drill will have markers. The air cart requires at least 12ft (7.6m) vertically, and more if auger deployment is contemplated.

Refer to Figure 9

30. Move the air cart ① to the final assembly area.
   Block the wheels.

31. Fold the drill.

32. Move the drill ② to the final assembly area, about 9 ft
   (1m) in front of the pintle ring of the air cart.

33. Raise the drill off the lock channels.
   Unfold the drill.

34. Remove the lock channels (six).
   Lower the drill.

Check Drill Level

35. Refer to the drill Operator manual and check topics:
   “Opener Frame Height”,
   “Side-to-Side Level”,
   “Front-to-Back Level” and
   “Section Alignment”

Locate Parts

36. Review the Parts Lists beginning on page 39. Determine which crates or cartons contain the items.

37. Locate all cable ties, and gather them at one spot.
   Set this size apart from the others:
   800-082C CABLE TIE .31X21.5 6DIA 120LB
   Use these only when specifically called by part number.
Drill Assembly

Install Markers (Option)
If markers were ordered with the drill, install them first, per the instructions included with the markers. It is easier to install markers before towers and seed hoses are present. The marker transport rest weldments need to be in place prior positioning weight brackets.

Once installed, set the initial marker extension based on the row spacing. See “Initial Marker Extension” in the drill Operator manual.

Install Weight Brackets
Four weight brackets (two pairs) are standard, but may not be factory-installed. A third pair is optional, and is not factory-installed. Install brackets before routing hoses and cables. Weights are not included.

Install Std. Outer Brackets
Start with the left wing.

Refer to Figure 10
38. Select two:
   ‏56‏ 806-172C U-BOLT 3/4-10 X 10 1/32X11 1/2

   From the front of the wing, insert the U-Bolts 56 through the holes in the outside lug 1.

39. Select one:
   ‏21‏ 196-291H 40P WEIGHT BRACKET WLDMNT
   and four sets:
   ‏33‏ 804-023C WASHER LOCK SPRING 3/4 PLT
   ‏42‏ 803-027C NUT HEX 3/4-10 PLT

   Mount the bracket weldment 21 on the U-Bolts 56, and secure with lock washers 33 and nuts 42.

40. Select one:
   ‏25‏ 197-062D WEIGHT BRACKET ADJ LEG
   and two sets:
   ‏33‏ 802-057C HHCS 5/8-11X2 1/4 GR5
   ‏51‏ 804-019C WASHER FLAT 5/8 USS PLT
   ‏52‏ 804-022C WASHER LOCK SPRING 5/8 PLT
   ‏40‏ 803-021C NUT HEX 5/8-11 PLT

   Orient the adjustment leg 25 toward the outside (end of wing), and secure with bolts 33, flat washers 51, lock washers 52 and nuts 40.

41. Repeat step 38 through step 40 for the right wing.
Install Std. Mid-Wing Brackets

Refer to Figure 11

42. Select two:
   806-172C U-BOLT 3/4-10 X 10 1/32X11 1/2

   From the centerline of the inside U-Bolt installed at step 38, measure toward drill center, approximately:
   2 35 1/2in (90cm)

   Insert a U-bolt from drill front, under the hoses. Insert the second U-Bolt 7 1/2in (19cm) further in.

43. Select one:
   196-291H 40P WEIGHT BRACKET WLMNT
   and four sets:
   804-023C WASHER LOCK SPRING 3/4 PLT
   803-027C NUT HEX 3/4-10 PLT

   Position the bracket weldment on the U-Bolts, and adjust the placement as necessary to clear tube weldments, web plates, grease banks, marker parts and secure with lock washers and nuts.

44. Select one:
   197-062D WEIGHT BRACKET ADJ LEG
   and two sets:
   802-057C HHCS 5/8-11X2 1/4 GR5
   804-019C WASHER FLAT 5/8 USS PLT
   804-022C WASHER LOCK SPRING 5/8 PLT
   803-021C NUT HEX 5/8-11 PLT

   Orient the adjustment leg toward the inside (center of drill), and secure with bolts, flat washers, lock washers and nuts.

45. Repeat step 42 through step 44 for the right wing.
**Install Optional Brackets**

*Refer to Figure 11*

46. Select two:

806-172C U-BOLT 3/4-10 X 10 1/32X11 1/2

Position the first U-Bolt just inboard of the lug weldment used for the outer bracket. Insert the second U-Bolt 7 1/2 in (19 cm) further inboard of the first.

47. Select one:

196-291H 40P WEIGHT BRACKET WLDMNT and four sets:

804-023C WASHER LOCK SPRING 3/4 PLT
803-027C NUT HEX 3/4-10 PLT

Position the bracket weldment on the U-Bolts, and adjust the placement as necessary to clear tube weldments, web plates, grease banks, marker parts, and secure with lock washers and nuts.

48. Select one:

197-062D WEIGHT BRACKET ADJ LEG and two sets:

802-057C HHCS 5/8-11X2 1/4 GR5
804-019C WASHER FLAT 5/8 USS PLT
804-022C WASHER LOCK SPRING 5/8 PLT
803-021C NUT HEX 5/8-11 PLT

Orient the adjustment leg toward the inside (center of drill), and secure with bolts, flat washers, lock washers and nuts.

49. Repeat step 46 through step 48 for the right wing.
Attach Rear Hitch

*Refer to Figure 13*

50. Cut any ties securing coil of hydraulic hose, and clear the hose from the work area.

51. Select one:
   - 196-439H 3N-40 PULL HITCH WELDMENT
   - and two (2) sets:
     - 802-065C HHCS 3/4-10X2 1/4 GR5
     - 804-024C WASHER FLAT 3/4 USS PLT
     - 804-023C WASHER LOCK SPRING 3/4 PLT
     - 803-027C NUT HEX 3/4-10 PLT

52. Use a hoist to lift the hitch weldment 22. Orient the hitch with the chain anchor 1 to the left. Align the center mounting plate 2 with the rear mounting plate of the center frame 3. Insert bolts 34 through top two holes of both plates, and loosely secure with flat washers 54, lock washers 53, and nuts 42.

53. Select four (2) more sets of:
   - 802-065C HHCS 3/4-10X2 1/4 GR5
   - 804-024C WASHER FLAT 3/4 USS PLT
   - 804-023C WASHER LOCK SPRING 3/4 PLT
   - 803-027C NUT HEX 3/4-10 PLT

   Insert in remaining holes of plates, finger-tight.

54. Select four (4):
   - 806-093C U-BOLT 3/4-10 6 1/32 X 7 3/4
   - eight (8) sets of:
     - 804-023C WASHER LOCK SPRING 3/4 PLT
     - 803-027C NUT HEX 3/4-10 PLT

   Secure the hitch side tube mount plates 4 to the rear tubes of the center frame weldment 5. Tighten all nuts to torque specification (see page 38).
Install Hose Connection Bulkhead

Refer to Figure 14

The bulkhead [73] is shipped with the air cart.

55. Select one:
   - [73] 166-181H IMPLEMENT HOSE CONNECTION WELD
   - and two (2) sets:
     31 802-034C HHCS 1/2-13X1 1/4 GR5
     50 804-015C WASHER LOCK SPRING 1/2 PLT
     39 803-020C NUT HEX 1/2-13 PLT

   With the longer ends of the tubes facing Front, mount the bulkhead [73] on the hitch top cap.

Mount Pintle Hook

If the hook assembly is pre-mounted, skip to the next page.

56. Select one:
   - [85] 890-955C PINTLE HOOK 20 TON HEAVY DUTY

   Orient the hook so that the fixed part is at the bottom, and the moveable clasp at top.

   Use the included 9/16-18 Grade 8 hardware to secure the hook to the hitch weldment.
Install Hydraulic Hoses

Refer to Figure 15

57. If the hose bracket:

- 166-701D PULL BEHIND CART HYD HOSE BRKT
is not pre-installed on the bulkhead, select it.

Whether pre-installed or not, notice that it has three slightly different holes:

- ① for sump return hose
- ② for fan/auger pressure hose
- ③ for seed monitor

Refer to Figure 16 and Figure 15

58. If the hose bracket:

- 166-701D PULL BEHIND CART HYD HOSE BRKT
is not already installed on the bulkhead, select it, and two sets:

- 802-007C HHCS 5/16-18X3/4 GR5
- 804-009C WASHER LOCK SPRING 5/16 PLT
- 803-008C NUT HEX 5/16-18 PLT

Secure the bracket to the bulkhead with the 4-hole break facing up and to front.

59. Select one:

- 806-192C U-BOLT 5/16-18X1 1/2X2 1/2 RND
two sets:

- 804-009C WASHER LOCK SPRING 5/16 PLT
- 803-008C NUT HEX 5/16-18 PLT

and four (4):

- 804-010C WASHER FLAT 5/16 USS PLT

60. Route the sump return hose (③, the larger of the two hoses) through the larger (left end) hole (①) of the hose bracket. Secure with U-bolt (⑦), flat washers (④), lock washers (③), and nuts (⑧).

61. Select two:

- 800-044C SNAP RING EXT 1 1/2 SHAFT

62. Route the fan/auger pressure hose (⑤) to the bracket hole adjacent to the sump return inlet. Secure with a snap ring (②) on either side of the bracket.
Install Towers

Dimensions

Refer to Figure 17, Figure 18 and Figure 19 on page 21
All lateral measurements are from outside end of tubes to centerline of mount location. Tower placement on right wing is a mirror image of left wing.

Lateral Tower Location (Figure 17)

<table>
<thead>
<tr>
<th>Tower No.</th>
<th>Location Name</th>
<th>for Row Spacing</th>
<th>Height and Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 6</td>
<td>Wing, Outside</td>
<td>7.5in (19cm)</td>
<td>33in (83.8cm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10in (25cm)</td>
<td>to top of 4x2in tube</td>
</tr>
<tr>
<td>2, 5</td>
<td>Wing, Inside</td>
<td>50in (127cm)</td>
<td>35in (88.9cm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40in (100cm)</td>
<td>to top of 4x2in tube</td>
</tr>
<tr>
<td>3, 4</td>
<td>Center</td>
<td>40in (100cm)</td>
<td>33in (83.8cm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Center in Slot</td>
<td>above tube slot reinforcing ring</td>
</tr>
</tbody>
</table>

Tower Height (Figure 18)

Tower Inlet Angle (Figure 17)

<table>
<thead>
<tr>
<th>Tower No.</th>
<th>Location Name</th>
<th>Inlet Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 6</td>
<td>Wing, Outside</td>
<td>to drill center</td>
</tr>
<tr>
<td>2, 5</td>
<td>Wing, Inside</td>
<td>front, 45° toward center</td>
</tr>
<tr>
<td>3, 4</td>
<td>Center</td>
<td>to rear</td>
</tr>
</tbody>
</table>
Tower Elevation

Install Tower Mounts

Start with the outside tower ① on the left wing.

Refer to Figure 19, Figure 18 and Figure 17 on page 20

63. Select two each:
   ⑯ 168-362D NTA35 DIST TOWER MOUNT
   ⑰ 806-155C U-BOLT 1/2-13 X 4 1/32 X 3 1/4
   and four (4) sets:
   ⑱ 804-015C WASHER LOCK SPRING 1/2 PLT
   ⑲ 803-020C NUT HEX 1/2-13 PLT

Install both mounts ⑯ to the top of the 4x2in rear frame tube, with the longer leg of the angle mount facing forward. See “Lateral Tower Location (Figure 17)” table on page 20 for placements from nearest tool bar end.
Refer to Figure 20 and Figure 17/18 on page 20/21

64. Select one each:
   - 23 196-923D CENTER AIR TOWER MOUNT PLATE
   - 24 196-925D CENTER TOWER MOUNT BOLT PLATE
   and four (4) sets:
   - 32 802-041C HHCS 1/2-13X3 1/2 GR5
   - 30 804-015C WASHER LOCK SPRING 1/2 PLT
   - 39 803-020C NUT HEX 1/2-13 PLT

   Secure the mount plate 23 to the center frame side tube at the reinforced slotted hole 39. Center the mount plate in the slot.

65. Repeat step 63 and step 64 for the right side of the drill.
Install Tower Weldments

Start with the outside tower \( \circ \) on the left wing. The module mount plate \( \mathbb{2} \) (if any) may be installed now or at step 97.

Refer to Figure 22 and Figure 17 on page 20

66. Select two:
- \( \mathbb{14} \) 168-216H DISTRIBUTION TOWER WELDMENT
- and if the drill was ordered with the optional Blockage Monitor, select two:
- \( \mathbb{82} \) 168-465D DIST TOWER MODULE MOUNT PLATE

67. Select four (4) each:
- \( \mathbb{77} \) 806-010C U-BOLT 1/2-13 X 2 1/2 X 3 1/2
- and eight (8) sets:
- \( \mathbb{50} \) 804-015C WASHER LOCK SPRING 1/2 PLT
- \( \mathbb{39} \) 803-020C NUT HEX 1/2-13 PLT

Loosely assemble the weldments \( \mathbb{14} \) to the mounts \( \mathbb{16} \). The module mount plate \( \mathbb{82} \) is to the rear, side with smaller holes at top, extending to wing center (outer tower plate extends to drill center; mid-wing tower plate extends away from drill center).

68. Orient the inlet \( \circ \) to point in the direction specified in the “Tower Inlet Angle (Figure 17)” table on page 20 and Figure 17. Adjust the tower height, from top of cap to reference point, per the “Tower Height (Figure 18)” table on page 20. Secure the U-bolts.

Refer to Figure 23 and Figure 17 on page 20

69. Select one each:
- \( \mathbb{13} \) 168-216H DISTRIBUTION TOWER WELDMENT
- \( \mathbb{82} \) 168-465D DIST TOWER MODULE MOUNT PLATE
- two each:
- \( \mathbb{77} \) 806-010C U-BOLT 1/2-13 X 2 1/2 X 3 1/2
- and four (4) sets:
- \( \mathbb{50} \) 804-015C WASHER LOCK SPRING 1/2 PLT
- \( \mathbb{39} \) 803-020C NUT HEX 1/2-13 PLT

Loosely assemble the weldment \( \mathbb{13} \) to the mount \( \mathbb{23} \). The module mount plate \( \mathbb{82} \) is to the center, side with smaller holes up, extending to drill back.

70. Orient the inlet \( \circ \) to point to the rear. Set the tower height to 33in (83.8cm) above the top of the reinforcing ring \( \circ \). Secure the U-bolts.

71. Repeat step 66 through step 70 for the right side of the drill.
Install Primary Hoses

Refer to Figure 24

72. Select the supply of: 
   990-125R SEED HOSE 2 1/2 ID KANAFLEX
   This is the larger diameter hose.

73. Cut six (6) lengths of hose from this supply, two of each length in the table below.

Note: Any remaining length of this hose is surplus.
Do not use it for seed delivery, or the rates to the towers may be imbalanced.

Refer to Figure 25 on page 25

74. Select the two outside 31.5 ft (9.6m) lengths of:
   990-125R SEED HOSE 2 1/2 ID KANAFLEX and four (4):
   800-180C 2 1/2 AIR HOSE BAND CLAMP
   Connect these to bulkhead ports 66 and 66.
   Route them to the outside wing towers, 1 and 6 respectively. Route must pass through the hoops at the wing pivots. Secure ends with clamps 66.
Refer to Figure 25

75. Select the two mid-wing 24 ft (7.32m) lengths of:
   - 990-125R SEED HOSE 2 1/2 ID KANAFLEX
   - 800-180C 2 1/2 AIR HOSE BAND CLAMP
Connect these to bulkhead ports ⑥ and ⑦. Route them to the mid-wing towers, ② and ⑤ respectively. Route must pass through the hoops at the wing pivots. Secure ends with clamps ⑧.

76. Select the two outside 10 ft (3.05m) lengths of:
   - 990-125R SEED HOSE 2 1/2 ID KANAFLEX
   - 800-180C 2 1/2 AIR HOSE BAND CLAMP
Connect these to bulkhead ports ③ and ④. Route them to the center towers, ③ and ④ respectively. Secure ends with clamps ⑧.

Install Secondary Hoses
Secondary seed hose is 1 inch (2.5cm) in diameter and is provisioned in 100-foot (30.5m) rolls. The raw hose is cut-to-length to connect each distribution tower outlet (port) to a row unit seed tube.

Port Numbering Convention
Refer to Figure 24 on page 24
Tower ports are numbered:
1-8 on 3N-4010HDA-4810 or
1-11 on 3N-4010HDA-6675

Ports are numbered in ascending order, clockwise around tower. Port one (1) is the port closest to the center of the tower-mounting plate ⑪. This corresponds to:
on wing towers (1, 2, 5, 6): rear-most port
on center towers (3, 4): port closest to drill center.

Note: If blockage detectors are to be installed, it is beneficial to record the opener row number at each tower port opening, using a permanent marker, on the tower top cap.

Start with Tower 1 (left wing, left tower).

Refer to Figure 27 on page (shown exploded for clarity)
77. Loosen, but do not remove, four (4) nuts ④ holding tower halves ⑤7 or ⑤8 together.

78. Locate Port 1
Assembly steps resume on page 28.

Port Assignments, 10in (25.4cm) Drill
Drill Model: 3N-4010HDA-4810
Towers are numbered from drill left (Tower 1).
Harness connectors are numbered on the cable: “Row 1” through “Row 12” (some are not connected [n/c]).
Tower Ports are numbered Clockwise from mount center (Port 1) to Port 8.
Openers are numbered from drill left (Row 1).

<table>
<thead>
<tr>
<th>Tower</th>
<th>Harness</th>
<th>Port</th>
<th>Opener</th>
<th>Hose Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tower 1</td>
<td>ROW 3</td>
<td>Port 1</td>
<td>3</td>
<td>69in (175cm)</td>
</tr>
<tr>
<td></td>
<td>ROW 1</td>
<td>Port 2</td>
<td>1</td>
<td>75in (191cm)</td>
</tr>
<tr>
<td></td>
<td>ROW 2</td>
<td>Port 3</td>
<td>2</td>
<td>72in (183cm)</td>
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<tr>
<td></td>
<td>ROW 4</td>
<td>Port 4</td>
<td>4</td>
<td>70in (178cm)</td>
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<tr>
<td></td>
<td>ROW 6</td>
<td>Port 5</td>
<td>6</td>
<td>71in (180cm)</td>
</tr>
<tr>
<td></td>
<td>ROW 8</td>
<td>Port 6</td>
<td>8</td>
<td>75in (191cm)</td>
</tr>
<tr>
<td></td>
<td>ROW 7</td>
<td>Port 7</td>
<td>7</td>
<td>71in (180cm)</td>
</tr>
<tr>
<td></td>
<td>ROW 5</td>
<td>Port 8</td>
<td>5</td>
<td>70in (178cm)</td>
</tr>
<tr>
<td></td>
<td>ROW 9-12</td>
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<td>-</td>
</tr>
<tr>
<td>Tower 2</td>
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<td>Port 1</td>
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<td>72in (193cm)</td>
</tr>
<tr>
<td></td>
<td>ROW 1</td>
<td>Port 2</td>
<td>9</td>
<td>75in (191cm)</td>
</tr>
<tr>
<td></td>
<td>ROW 2</td>
<td>Port 3</td>
<td>10</td>
<td>72in (183cm)</td>
</tr>
<tr>
<td></td>
<td>ROW 4</td>
<td>Port 4</td>
<td>12</td>
<td>72in (183cm)</td>
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<td></td>
<td>ROW 6</td>
<td>Port 5</td>
<td>14</td>
<td>73in (185cm)</td>
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<td>ROW 8</td>
<td>Port 6</td>
<td>16</td>
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<td></td>
<td>ROW 7</td>
<td>Port 7</td>
<td>15</td>
<td>76in (193cm)</td>
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<td>ROW 5</td>
<td>Port 8</td>
<td>13</td>
<td>70in (178cm)</td>
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<tr>
<td></td>
<td>ROW 9-12</td>
<td>n/c</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Tower 3</td>
<td>ROW 7</td>
<td>Port 1</td>
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<td>70in (178cm)</td>
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<td>Port 2</td>
<td>21</td>
<td>69in (175cm)</td>
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<td>Port 3</td>
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<td>ROW 1</td>
<td>Port 4</td>
<td>17</td>
<td>79in (201cm)</td>
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<td>Port 5</td>
<td>18</td>
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<td>Port 6</td>
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<td>22</td>
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<td>Port 8</td>
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</tbody>
</table>
Port Assignments, 7.5in (19.2cm) Drill

79. Drill Model: 3N-4010HDA-6675

Towers are numbered from drill left (Tower 1).

Harness connectors are numbered on the cable: “ROW 1” through “ROW 12” (some are not connected [n/c]).

Ports are numbered Clockwise from mount center (Port 1) to Port 11.

Openers are numbered from drill left (Row 1).

<table>
<thead>
<tr>
<th>Tower</th>
<th>Harness</th>
<th>Port</th>
<th>Opener</th>
<th>Hose Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ROW 6</td>
<td>Port 1</td>
<td>6</td>
<td>69in (175cm)</td>
</tr>
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<td>ROW 4</td>
<td>Port 2</td>
<td>4</td>
<td>70in (178cm)</td>
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<td>74in (188cm)</td>
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<thead>
<tr>
<th>Tower</th>
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<th>Port</th>
<th>Opener</th>
<th>Hose Length</th>
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Refer to Figure 24 on page 24 and Figure 26 on page 25

80. Select a reel of:
   - 817-039C PVC SEED HOSE 1 IN/FT
     Measure and mark the first expected hose length. Refer to tables beginning on page 26 for hose-length guidelines. For example: on 7.5in (19.2cm) rows, the hose connecting Tower 1, Port 1 to the 6th opener should be about 69in (175cm) long.

81. Route the hose from the opener called for in the table. Continuing the example from step 80, connect tower 1, port 1, to the 6th opener from the left.

82. Route hose through implement frame. Route seed hoses to prevent rubbing on sharp edges or damage when implement is raised, lowered, folded or unfolded.

83. Allow enough hose slack for implement raising, folding and down-flex.

84. Insert uncut hose into tower port.
   Push hose into port until seated against stop.

85. When you are satisfied you have the proper hose length, cut hose at mark near row unit.

Refer to Figure 28

86. Select one:
   - 816-352C AIR DRILL DD OPNR HOSE BOOT
     Connect hose boot 59 to hose 60 by screwing hose into the boot, then connect to the seed tube 59 by pushing the boot over the lip of the seed tube cap.

87. Repeat step 80 through step 86 for each tower port, working clockwise around tower. When hoses have been installed in all ports, tighten bolts on tower assembly.

88. Proceed with next tower, moving right. When all hoses have been installed, check that seed hoses are long enough for wing flex and short enough to prevent hose damage. Hoses may need to be removed, shortened and re-inserted.

IMPORTANT!

Do not cut hose until routed through implement. Lengths in table are approximate. Actual lengths may vary slightly from implement to implement.

Make clean cuts. Any snags or frays at the tower end can imbalance seed delivery.
Install Lift Switch

Refer to Figure 30
Lift switch components are shipped with the air cart. The lift switch TEGER turns the air cart seed metering on and off as the 3N-4010HDA is lowered and raised. The switch is mounted at the upper end of the parallel arms on the right rear wheel assembly.

When the 3N-4010HDA is raised, the upper parallel arm contacts the flexible switch arm extension (whisker) 1 and operates the switch.

89. Select one:
75 464820520S1 DJ SWITCH SPDT W/WISKER & WIRE
The switch includes mounting fasteners. The bracket is already installed on the drill, but may need some adjustment.

Strain relief and wire must always point down to prevent moisture from entering the switch. Switch mount screws may need to be reversed to point wire down. Rubber O-rings on the screws must be installed on either side of the switch housing.

The whisker 1 should extend under the upper parallel arm enough so that the whisker cannot slip off the arm when the drill is raised, but not so far it bends severely. To adjust, loosen the bolts attaching the switch to the bracket and slide the switch left or right as needed and re-tighten.

Refer to Figure 31 (which depicts cart hitched - mating of the bulkheads is covered in the Operator Manual, and is called for a step 127 of this manual)

90. Select one:
76 467980474 8.5 EXTNSION CABLE CPC TO CPC
Connect one end of this cable to the lift switch cable. Route the other end to the rear hitch. This cable is secured with ties at a later step.

The whisker should operate (prevent seeding) whenever the openers are just beginning to lift off the ground. See the drill Operator manual for adjustment.

Route Lighting Cable

91. Locate the lighting cable, usually coiled and tied to the rear hydraulic hoses. Select a short cable tie. Tie the drill lighting cable to the remaining top small slotted holes on the hose bracket 74 installed at step 57.

Note: For reference, the switch wiring is:
Black (switch) to black (extension)
Red (switch) to red (extension)
Switch closed when drill is raised
Route Monitor Harness

If the drill was ordered with blockage detection, skip to “Install Blockage Detectors (Option)” on page 31. Step 92 through step 96 are for a drill without detection.

Monitor Harness without Blockage

Refer to Figure 32

92. Select one:
   
   - 467980130 40’ HITCH HARNESS
     If is not quickly located in a crate, check to see if it is already installed on the drill. In either case, identify the plug (tractor) end of this cable, which has a single connector (the rear end has two connectors).

Refer to Figure 34

93. Start plug end at the front drill hitch, leaving slack for tractor hitching. Route it along the left tongue.

94. Select one:
   
   - 467980141 10’ EXT HARNESS
     If is not quickly located in a crate, check to see if it is already installed on the drill.

     Mate this extension to the 40ft harness just installed. Route it through the hoop at the wing pivot to main frame center.

95. Select one:
   
   - 467980360 3’ REAR HITCH HARNESS
     Connect one end of rear harness to the extension. Route this harness to the rear hitch bulkhead secure it to the last available large mounting hole in the hose bracket installed at step 57.

96. Select all remaining ties. Secure all hoses and cables with ties, including the lift switch cable at the rear hitch. Leave enough slack for it to connect to the small bulkhead on the cart tongue.
Install Blockage Detectors (Option)

If the drill was not ordered with Blockage Detection (as a drill option or field-install kit), make sure the harness steps (page 30) have been completed, and skip to page 37. The harness installation is different when Blockage is present, and is covered in this section.

Parts List for Blockage is on page 41. Additional installation information is found in the DICKEY-john IntelliAg Air Cart Control Operator's manual.

Note: The DICKEY-john manual does not include harness routing specific to the Great Plains 3N-4010HDA, some cable part numbers are slightly different, and the DICKEY-john manual shows a CAN bus terminator which is not installed on the 3N-4010HDA (it is provided with and pre-installed on the ADC2350B air cart).

Refer to Figure 35, Figure 36 and page 23
If the mount plates were not installed at step 66, install them now.

97. Select six (6):
   82 168-465D DIST TOWER MODULE MOUNT PLATE
   
   At each tower, remove the nuts 50 and lock washers 39 at the lower U-Bolt 77, and mount the plate 82.

   Plate orientation is small holes to top, and:
   on Towers 1 & 6: extension to drill center
   on Towers 2 & 5: extension away from drill center
   on Towers 3 & 4: extension to drill rear

Install WSMB's
Start with the left tower (Tower 1).

Refer to Figure 35 and Figure 36
98. Select one:
   97 467981100S1 INTAG WSMB/FLW MNTR MODULE 18R
   and two sets:
   84 802-224C HHCS 1/4-20X1 1/4 GR5
   86 804-006C WASHER LOCK SPRING 1/4 PLT
   85 803-006C NUT HEX 1/4-20 PLT
   
   Mount the WSMB 97 on the front of the plate 82, with the connector ports down.

99. Repeat step 98 for the remaining towers.
   The WSMB orientation is:
   on Wing towers (Figure 35):
     connectors down, module to front
   on Center towers (Figure 36):
     connectors down, module to center

   c. DICKEY-john IntelliAg Working Set Member module
Prepare Hoses for Sensors

Refer to Figure 37

DICKEY-john Recon-II blockage sensors require a hole in the hose for the detectors. The sensor has flexible flaps which are tie-wrapped around the seed hose. The long flap goes over the short flap.  

Note: Use a hole saw to make the hole. Use a high speed drill (to minimize rough edges), and cut slowly (to minimize risk of drill-through). Using a drill bit is likely to damage the hose.

Refer to Figure 38 (showing hole on top)

100. Drill one hole in each secondary seed hose at each tower. Check the first hole for sensor fit before drilling the remaining holes.  

The hole location is approximately:

④ 13in (33cm) from where the hose enters the tower.  

The hole diameter is:

⑤ 11/16 to 3/4in (17-19mm)  

Make the hole on the underside of the hose (toward center of tower), or rotate the hose to hole-under after drilling or installing sensor.

Install Blockage Sensors

Refer to Figure 39

101. Select one:

⑨ 467420352S1 RECON II

102. Orient sensor with signal lead toward opener. Insert the detector head in the hose hole. Wrap the short flap around the hose. Wrap the long flap over the short flap.  

Check that the long flap overlaps by at least 1/4in (6mm), but by no more than 1in (25mm). If the flap is too long, cut off any excess. Re-check overlap.

103. Select two ties from either:

⑧ 110110050 TY WRAP BUNDLE 50-14"  
⑩ 110110099 TY WRAP BUNDLE 100-14"  

Secure the sensor to the hose with ties.
Mount Row Harnesses
Start with Tower 1 (left wing, left tower).

Refer to Figure 40
104. Select one:
   467751320S1 12 ROW HARNESS

   Observe that the assembly has:
   1. one large connector (for the WSMB);
   2. a sealed weather-cap module; and,
   3. 12 row sensor connectors, numbered “ROW 1” through “ROW 12”

Note: Connector numbering matches harness-to-row only on Tower 1. At connection step 107, see “Port Assignment” table on page 26 or page 27.

Note: There are more sensor leads than drills rows.
   3. “ROW 12” is unused on 3N-4010HDA-6675.
   4. “ROW 9” through “ROW 12” are unused on 3N-4010HDA-4810.

Refer to Figure 41
105. Select one:
   800-082C CABLE TIE .31X21.5 6DIA 120LB

   At the tower, position the weather-cap module ②:
   - lead bundle down,
   - just under the upper U-bolt ⑦, and;
   - on the same side as the WSMB ⑨.

   Secure the module with tie ⑧ around the tower weldment and mounting plate.

106. Repeat step 104 and step 105 for tower 2 through 6.

Connect Sensors to Row Harnesses
Start with opener 1 (left opener, left wing).

Refer to Figure 42
107. Using the tables on page 26/27, determine the Harness lead (“ROW”) to tower Port assignment. Isolate each lead from the bundle, and plug the assigned harness lead and sensor cable together.

108. Select one tie from either:
   110110050 TY WRAP BUNDLE 50-14"
   110110099 TY WRAP BUNDLE 100-14"

   Tie the harness lead to the same seed hose as its assigned sensor. Tie about 1in (2.5cm) behind the cable sheath

109. Repeat step 107 and step 108 for each port on the tower, and then for each tower. One or four leads per tower are not connected. Excess cable is tie-wrapped at a later step.
Install WSMB Harnesses
Start with tower 1 (left wing, left tower)

Refer to Figure 43
110. Select one:
   - 467981201 INT AG HARNESS, WSMB MODULE

   Join the row harness connector ① to the mating connector on the row harness ④.

   Plug the WSMB connectors ② into the WSMB ⑧. These connectors are not interchangeable, and are keyed to ensure correct insertion.

Refer to Figure 41 on page 33
111. Select two:
   - 800-082C CABLE TIE .31X21.5 6DIA 120LB

   Coil up excess row harness leads and tie the bundle to the tower, above and below the lower U-bolt.

112. Repeat step 110 and step 111 for each tower.

Interconnect WSMB Section Harnesses
Start with the left wing.

Refer to Figure 44
113. At the left wing WSMB harnesses ⑨, interconnect ③ the female (receptacle) of left (outer) CAN bus with ④ the male (plug) end of the mid-wing CAN bus. Also connect the power receptacle and plug

Note: The unconnected mid-wing CAN bus connector, at right (near drill center) must be a receptacle.

114. At drill center, interconnect the center WSMB harnesses as shown in Figure 44, so that the free end of the CAN bus at right is a receptacle ③.

115. At the right wing, interconnect the wing WSMB harnesses as shown in Figure 44, so that the free end of the CAN bus at right is a receptacle ③.
Blockage Harness Routing

**Install Hitch Harness**

*Refer to Figure 45, Figure 46 and Figure 47 (next page)*

116. Select one:

- **66 467980130 40' HITCH HARNESS**
  This harness is supplied with the air cart, and not with the drill or blockage kit. It may already be installed on the drill; if so, the rear end may merely require re-routing.

  The hitch end has a single circular connector. The rear end has two connectors (the same power/CAN bus receptacles as WSMB harnesses).

117. Select several ties. Start plug end of harness **66** at the front drill hitch, leaving slack for tractor hitching. Route it along the left tongue, and then to Tower 1 (left tower, left wing). Connect power and CAN connectors at Tower 1 WSMB.

  Secure hitch harness with ties every few feet (every meter or so). Additional ties are added later.
Install Left-Center Extension

Refer to Figure 47 and Figure 45 on page 35

118. Select two:

- 467980141 10' EXT HARNESS
  One harness is supplied with the drill, the other with the air cart. Interconnect them, making one cable.

Connect the plug end of the extension to the WSMB harness at Tower 2 (left mid-wing). Route the harness through the hoop at the left wing pivot. Connect the receptacle end to the WSMB harness at Tower 3 (left side of center).

Install Center-Right Extension

Refer to Figure 47 and Figure 45 on page 35

119. Select one:

- 467980140 DJ 20' HARNESS EXT
  This harness is supplied with the blockage kit.

Connect the plug end of the extension to the WSMB harness at Tower 4 (right side of center). Route the harness through the hoop at the right wing pivot. Connect the receptacle end to the WSMB harness at Tower 5 (right mid-wing).

Install Right-Rear Extension

Refer to Figure 48 and Figure 45 on page 35

120. Select one each:

- 467980143 INT AG 25' HARNESS, WSMB EXT
  This harness is supplied with the blockage kit.

Connect the plug end of extension 467980143 to the WSMB harness at Tower 6 (right wing, right end). Route the harness through the hoop at the right wing pivot. Route it down the center section to the rear hitch.

Install Rear Hitch Extension

Refer to Figure 48 and Figure 45 on page 35

121. Select one each:

- 467980360 3' REAR HITCH HARNESS
  This harness is supplied with the air cart, and not with the drill or blockage kit.

Connect the receptacle of extension 467980360 to the rear hitch bulkhead.

122. Secure the round receptacle end of extension in the rear hitch bulkhead.

123. Use all remaining cable tie to secure all hoses and harnesses, including the lift switch cable at the rear hitch. Allow slack for cart hitching at rear, and at pivots for folding. Allow slack at towers for raising and lowering.
Install Press Wheels
To meet highway clearance requirements, the press wheel arms and wheels on rear wing rows are not factory-installed.

Start with the left end of the left wing.

124. Select one each:
- Arm and press wheel assembly (exact part number vary, depending on drill row option)
- 198-137D PRESS WHEEL PIVOT TUBE
- and two:
- 817-084C PARALLEL ARM PIVOT BUSHING

Insert the bushings in each side of the arm pivot. Insert the pivot tube in the bushings.

125. Select one each:
- 802-421C HFS 1/2-13X3 3/4 GR5 SPTHD
- 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.

Align the press wheel assembly with the pivot hole in the opener frame. Secure with bolt and lock nut.

126. Repeat step 124 and step 125 for each rear wing row.

Install Options
If any of the following were ordered with the drill, they are factory-installed. If they were ordered as separate field-install kits, install them now:
- Frame-Mounted Coulters
- Coulter Tines
- Seed Firmers

Hold-Down Kits
Install these per the instructions included with the kits:
- 122-017M HOLD DOWN INSTALLATION MANUAL

Hitch Air Cart to Drill
127. See "Hitching ADC2350B to Leading Drill" in the Air Cart Operator manual.
## Torque Chart

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### Notes:
1. in-tpi = nominal thread diameter in inches-threads per inch
2. N·m = newton-meters
3. ft-lb = foot pounds
4. mm x pitch = nominal thread diameter in millimeters x thread pitch

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

Parts lists do not include options.

### Parts Supplied with Drill or Air Cart

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### Parts Supplied with Drill or Air Cart

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<td>816-216C</td>
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<td>8 OUTLET SEED DIST. RING</td>
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<td>58</td>
<td>816-218C</td>
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<td>59</td>
<td>816-352C</td>
<td>48 or 66</td>
<td>AIR DRILL DD OPNR HOSE BOOT</td>
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<td>60</td>
<td>817-039C</td>
<td>300 or 425ft</td>
<td>PVC SEED HOSE 1 IN/FT</td>
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<td>61</td>
<td>817-084C</td>
<td>32 or 44</td>
<td>PARALLEL ARM PIVOT BUSHING</td>
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<td>62</td>
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<td>63</td>
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<td>990-125R</td>
<td>200 ft (61 m)</td>
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### Parts Supplied with ADC2350B Air Cart

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<td>3N40 QUICKSTART GUIDE</td>
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<td>73</td>
<td>166-181H</td>
<td>1</td>
<td>IMPLEMENT HOSE CONNECTION WELD</td>
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<td>74</td>
<td>166-701D</td>
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<td>PULL BEHIND CART HYD HOSE BRKT</td>
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## Parts Supplied with Blockage Monitors

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<td>CABLE TIE .31X21.5 6DIA 120LB</td>
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<td>85</td>
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<td>87</td>
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### Parts in 823-282C and 823-283C Kits

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### Abbreviations

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Great Plains Manufacturing, Inc.  
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Salina, Kansas 67402-5060 USA