

Honey Bee

4990 – 4995
Swather Installation
Instructions





Installation Instructions

This information is designed for first-time installation, but will be valuable every time you are re-mounting the swather to the windrower. It is suggested that you follow the instructions in the order that they are given to avoid difficulties. Use the check lists at the end of this section to ensure that the swather is mounted properly and ready for the field.

Mounting and Dismounting Terminology

Power Unit:	FRONT	Lift arm end of the windrower.
	BACK OR REAR	Engine end of the windrower.
	RIGHT and LEFT	As seen when sitting in the driver's seat facing the swather.
Swather Table:	FRONT	Cutter bar side
	BACK OR INSIDE	Lift arm mount side.
	RIGHT and LEFT	As seen when sitting in the driver's seat facing the swather when it is mounted on the windrower.



Illustration 1: General Information - Directions



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4990-4995 Swather Mounting Kit

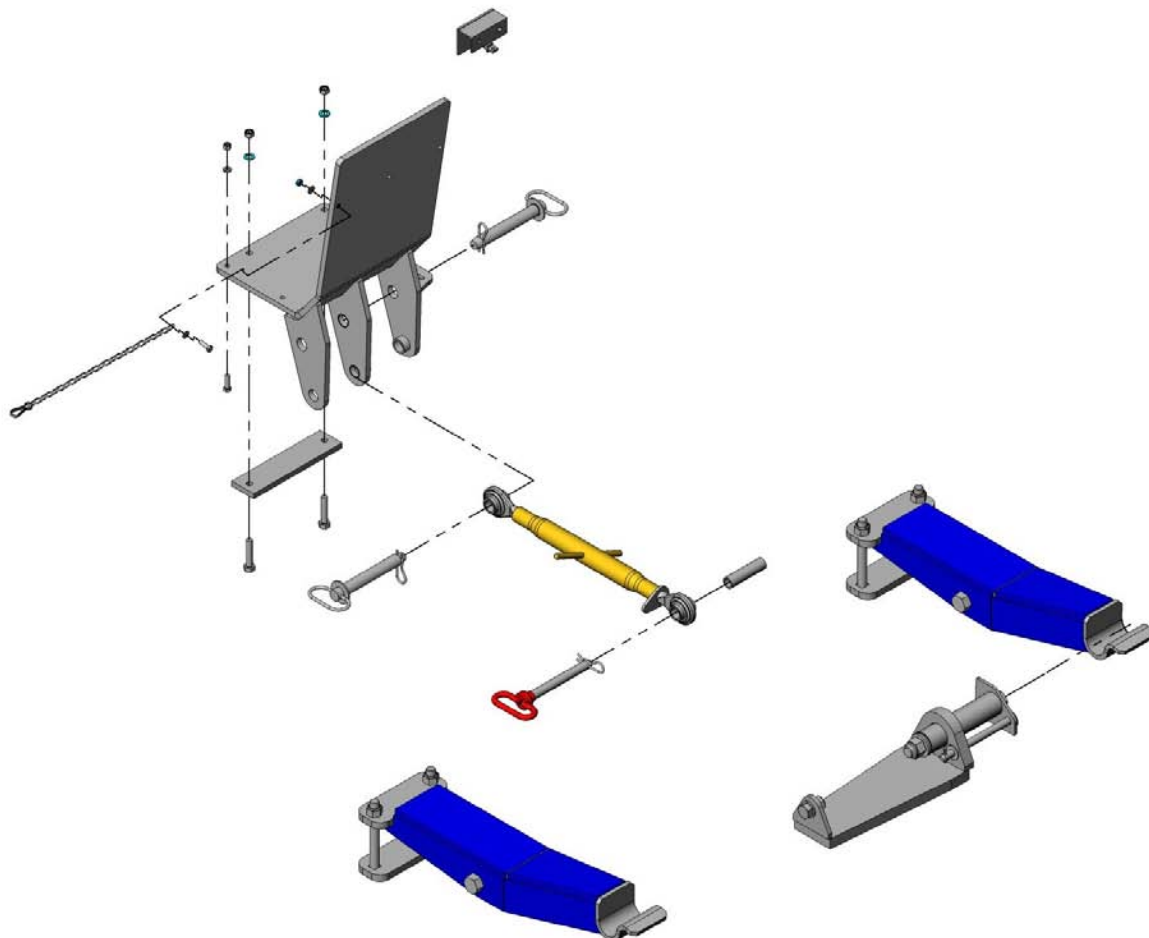


Illustration 2: swather Adapter Kit Components

Please read these instructions carefully, noting the configuration details that are applicable to your windrower.



Preliminary Information

IMPORTANT!

Please study the information listed on the following page prior to starting any work on either the windrower or the table to determine whether the windrower lift-arm cylinders require changes. If changes are required, completing them at this point will result in savings of dealer time in equipment setup.

If your table setup requires that the lift arm float cylinders be swapped, proceed to LEVELING - Option 2 - Switch the Lift Arm Cylinders. After completion of the cylinder switch, return, and proceed from this point in the manual. If you determine that your table does NOT require the lift arm float cylinders to be switched around, proceed from this point.

JD Windrower Float Cylinder Recommendation with Honey Bee

Single Knife / Double Knife - Single Swath

	No Hitch	Hitch	Float Pressure
18'	Swap Cylinders	No Change	Approximately 1200 psi at cutting height
21'	Swap Cylinders	No Change	Approximately 1250 psi at cutting height
25'	Swap Cylinders	No Change	Approximately 1500 psi at cutting height
30'	Swap Cylinders	No Change	Approximately 1700 psi at cutting height
*36'	Swap Cylinders	No Change	Approximately 1900 psi at cutting height

Single Knife / Double Knife - Double Swath

	No Hitch	Hitch	Float Pressure
18'	N/A	N/A	N/A
21'	Swap Cylinders	No Change	Approximately 1250 psi at cutting height
25'	Swap Cylinders	No Change	Approximately 1500 psi at cutting height
30'	Swap Cylinders	No Change	Approximately 1700 psi at cutting height
*36'	Swap Cylinders	No Change	Approximately 1900 psi at cutting height

***NOTE:** For 36' Double knife with hitch, floatation may be improved by replacing the 2 3/4" cylinder with another 3" cylinder with 1900 psi float pressure.

Preparing the table for further Leveling

If the table requires further leveling, you have 3 options that can be completed individually or in combination:

Option 1- Remove the Transport Hitch

If the hitch end of the swather is low, this condition may be due to the weight of the hitch.



IMPORTANT!: Park the windrower on a hard, level surface, and engage the park brake.

Raise the swather to the fully raised position, shut the unit down, and wait for all moving parts to stop. Lock the platform in the fully raised position.

1. Release the safety chain from the jack storage tube, if necessary. Pull the hitch tube lock pin, and extend the hitch tube.

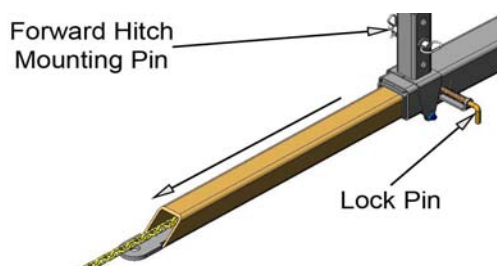


Illustration 3: Extending the Hitch Tube

2. Support the hitch, and remove the forward hitch mounting pin. Lower this end of the hitch to the ground.
3. Position yourself under the swather near, but not below the inner end of the hitch sleeve, and remove the pin holding the sleeve onto the strut. Allow the sleeve to drop to the ground. Store the hitch components in an appropriate location.

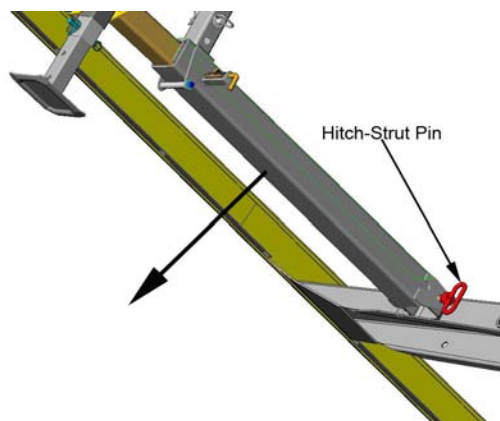


Illustration 4: Hitch Strut Pin – Viewed from underneath the Swather



Option 2 - Switch the lift arm float cylinders

Before you begin this option, refer to the table on the following page for important recommendations.

Before mounting the table to the windrower, swap the left (3.00 x 10.00) and right (2.75 x 10.00) hand cylinders. The larger cylinder will compensate with the extra power to lift the right side of the table evenly.

The cylinders have different sized hoses flowing to and from the windrower. Fittings will need to be changed.

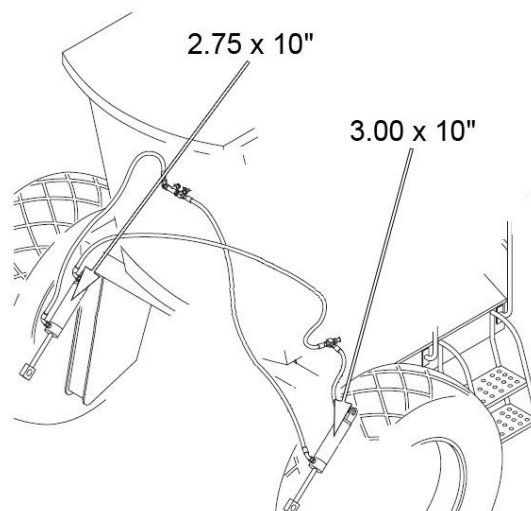


Illustration 5: Lift Arm Cylinders - Standard Orientation

Make the connections as shown, using the components listed below, which correspond to the numbers in the diagram.

- 1 – 6MF-8MB
- 2 – 6MB-8FB
- 3 – 8MB-10MF-90°
- 4 – 8MB-8MF-90°
- 5 – 6MB-8MF-90° (from rod-end port of 2.75 inch cylinder.)

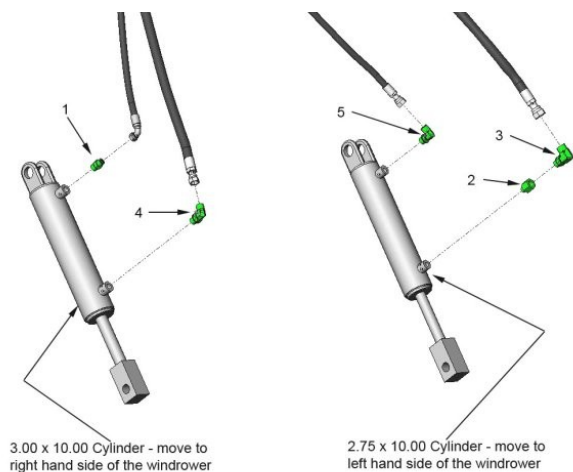


Illustration 6: Lift Cylinder Hose Connections



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Option 3 - Adjust the set screw on the float cylinders

At the top of the float cylinders on both lift arms, there is a bolt used to set the point from which the cylinder lifts on the windrower.

Adjust these screws, alternately raising the low side and lowering the high side, until the swather sits level.



Illustration 7: Float Cylinder Set Screw

Power Unit Preparation

Hydraulic Modifications - JD 4990 / 4995

Remove any attachments from the windrower as outlined in your John Deere Owner's / Operator's manual.

Mark the hoses before you remove them, so you can re-connect them correctly later.

Installing Quick Couplers

Install quick couplers and fittings of the sizes shown, as indicated below:



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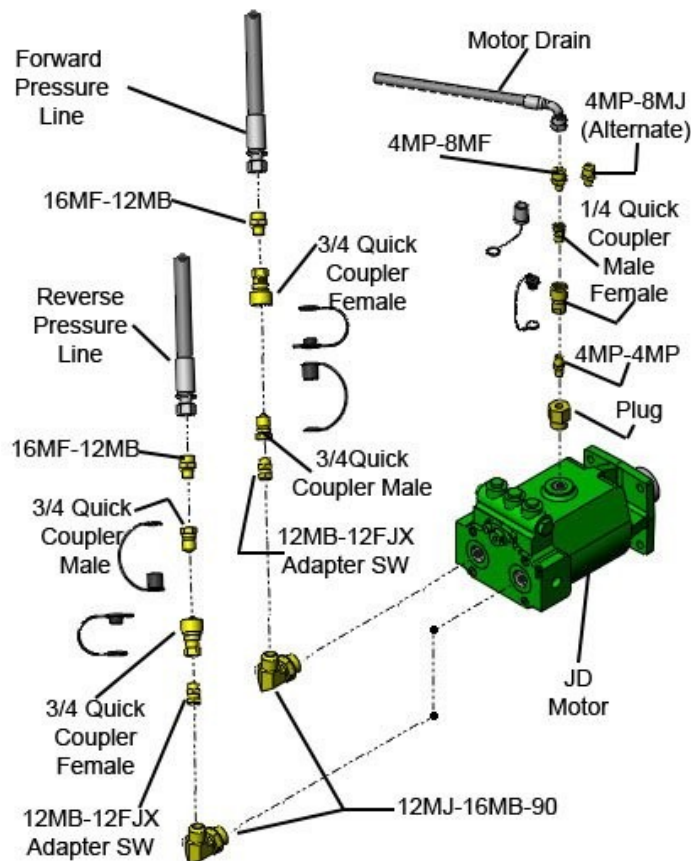


Illustration 8: Quick Coupler Fittings - detail

NOTE:	Use thread sealant only on fittings with PIPE thread. DO NOT use thread sealant on fittings that have an “O” ring, face seal, or JIC swivel.
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The John Deere hydraulic motor is not used with the Honey Bee swather. If you own an auger platform, the motor, with the newly installed quick couplers, can be stored on the platform. Otherwise store the motor in a clean, safe, and convenient location for future use.

1. On the motor, remove the 3/8" case drain hose from the top. Install a 4MP-8MF nipple (**also included in the kit is the alternate fitting 4MP- 8MJ**) to the hose. To this fitting, install the dust cap and the 1/4" male quick coupler.
2. If the motor has the 8MF-12MB (8MJ-12MB) adaptor, remove it from motor and install the plug fitting (fitting with a hole in the middle) into the motor. Install a 4MP-4MP



- nipple into previous fitting, and install the dust cap and female quick coupler to the nipple.
3. Remove the 16MF-16MB-45° elbows from the motor, and install 16MB-12MJ-45° elbows in their place. Install the 12MB-12FJX swivel adaptors, with dust caps to the 3/4" quick couplers; ensuring you put the male fitting on the forward pressure side and female on the return.
 4. Thread a 16MF-12MB, dust cap, and 3/4" male quick coupler to the reverse pressure hose.
 5. Thread a 16MF-12MB, dust plug, and 3/4" female quick coupler to the forward pressure hose.

Install Tilt Cylinder Quick Couplers

Mark the hoses before removing them from the cylinder and the motor, so you can identify them correctly for reassembly.

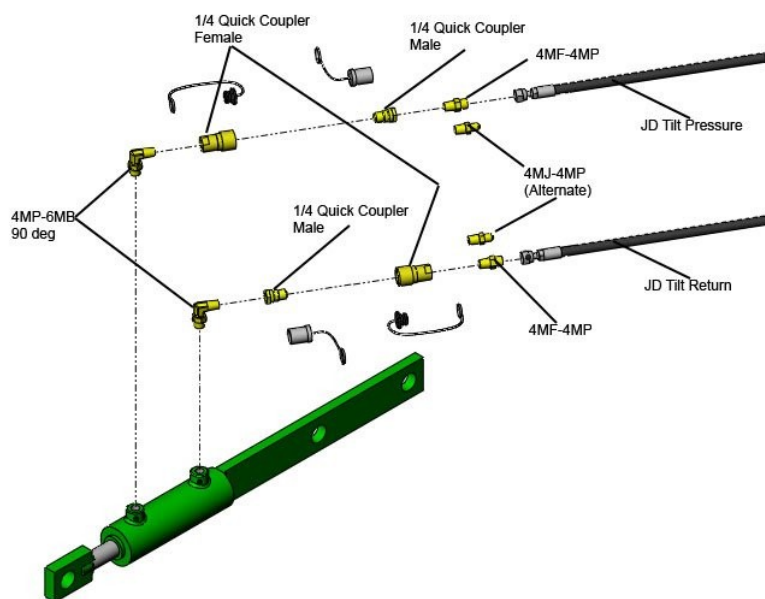


Illustration 9: Tilt Cylinder Couplers

6. On the tilt pressure hose, install a 1/4" male quick coupler, dust cap, and a 4MP - 4MF nipple (alternate fitting 4MJ - 4MP).
7. On the return side, install a 1/4" female quick coupler, dust plug, and a 4MP - 4MF nipple (alternate fitting 4MJ - 4MP).
8. Install a 4MP - 6MB 90° elbow to the rod end of the cylinder, and from the elbow, a 1/4" female quick coupler and dust plug.



9. Install to the cylinder end a 4MP - 6MB 90° elbow, a 1/4" male quick coupler and dust cap.

NOTE:	<i>The reel lift is controlled by the platform tilt circuit on the power unit. The hose connected to the front port of the tilt cylinder will be the reel lift pressure hose. The hose from the power unit must have a male quick coupler.</i>
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If the reel lift does not work check that the hoses are connected properly, and the couplers are fully engaged.

Install the Windshield Guard

The windshield guard is designed to prevent the top link rising above the designated limit and destroying the glass.

1. Install the guard by securing the 1 inch hitch pin through the right side holes and the power unit top link mount. Clamp the guard in place using the clamp plate and 1/2 x 2-1/2 in bolts, lock washers, and nuts.

A chain is located on the side of the guard to secure the top link to the guard when the table is not connected to the power unit and a quick disconnect is required.

2. Attach the chain using a 5/16 x 1" bolt, two flat washers, and a c/lock nut.

An extra hole is located on the guard to relocate the existing wire clip to the guard, keeping the electrical lines in order.

3. Attach the clamp using a 3/8 x 1-1/4" bolt, lock washer, and nut.

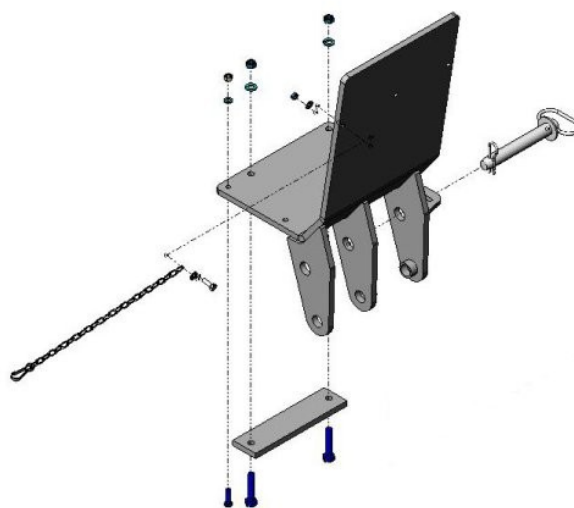


Illustration 10: Windshield Guard



Illustration 11: Wire Clip



Install the Manual Lift Link (Standard Equipment)

Install the manual lift link using the following diagram for reference:

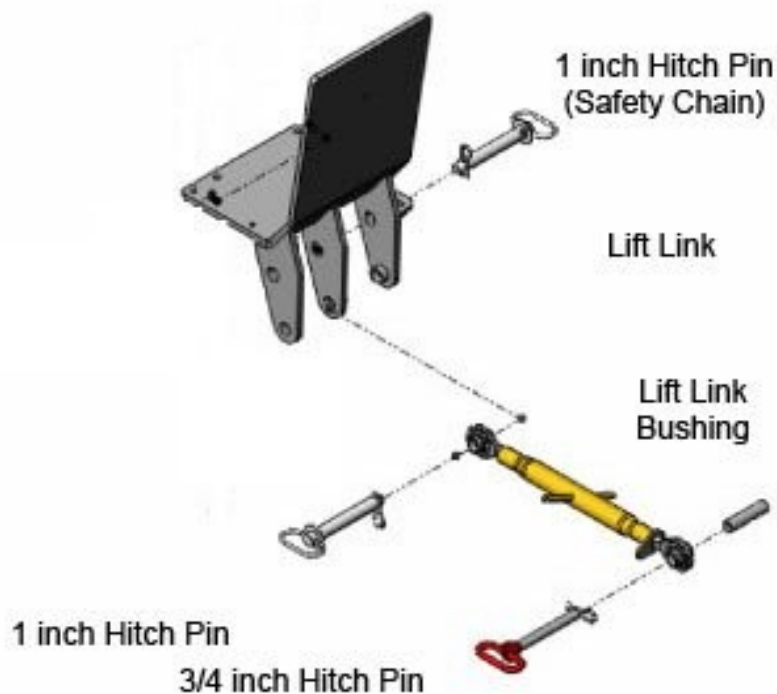


Illustration 12: Manual Lift Link - Exploded View

Install the Hydraulic Tilt Cylinder (Optional Equipment)

Refer to the table on the following page for descriptions of the numbered items below:

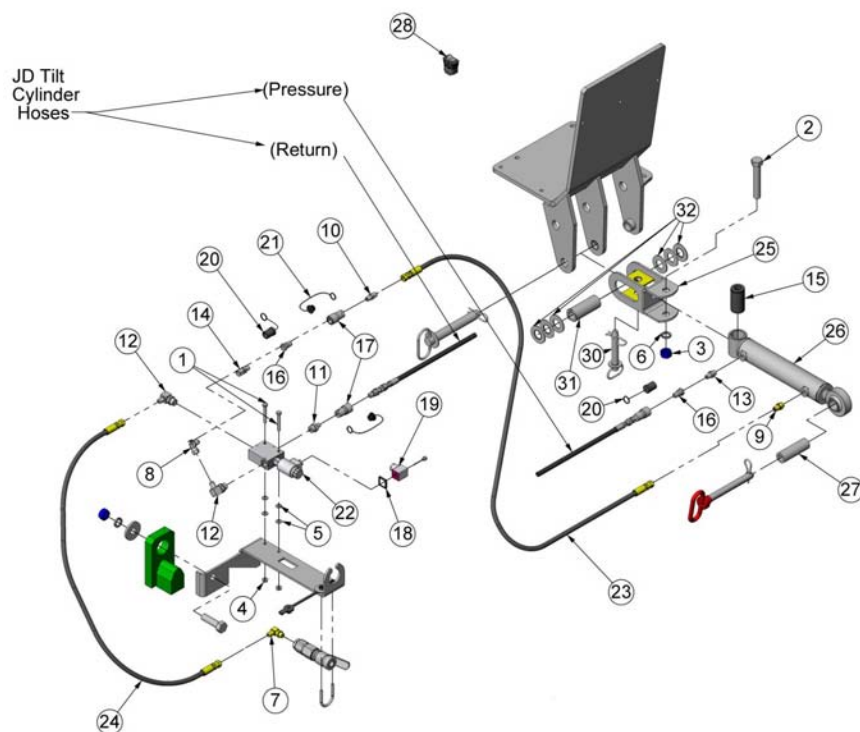


Illustration 13: Hydraulic Tilt Cylinder - Exploded View

1. Connect port #1 to hose #24 using a #12 fitting.
2. Connect port #2 to fitting #11 and coupler # 17.
3. Connect port #3 to fitting #12 and hose # 23.

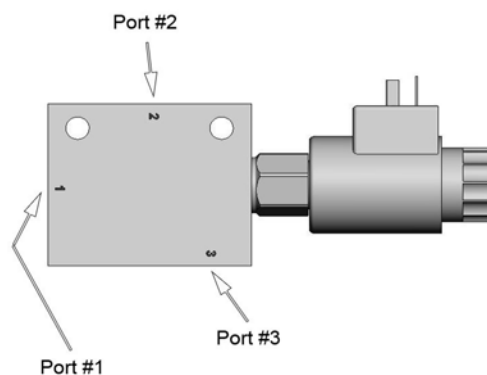


Illustration 14: Hydraulic Tilt Valve Assembly



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John Deere 4990-4995 WS Swather – Installation

<i>Item #</i>	<i>Quantity</i>	<i>Description</i>
1	2	Bolt – 5/16 x 2-1/4" UNC
2	1	Bolt – 3/4 x 4-1/2" UNC
3	1	Nut - 3/4 UNC
4	2	Nut 5/16 UNC Flange Lock
5	4	Washer, flat 5/16 plated
6	1	Washer, lock 3/4 plated
7	1	Elbow 6MB-6MJ – 90°
8	1	Elbow, swivel 6MJ-6FJX – 90°
9	1	Nipple, 6MB-6MJ
10	1	Nipple, 4MP-6MJ
11	1	Nipple, 4MP-8MB
12	2	Elbow, 6MJ-8MB – 90°
13	1	Nipple, 4MP-6MB
14	1	Adaptor, swivel, 4MP-6FJX
15	1	Bushing, RB-58
16	2	Quick Coupler, 1/4 Male PKR
17	2	Quick Coupler, 1/4 Female PKR
18	1	Hirschmann – Gasket
19	1	Hirschmann – Screw
20	2	Quick Coupler, 1/4 Male Dust Cap
21	2	Quick Coupler, 1/4 Female Dust Cap NH
22	1	Valve Assembly – Hydraulic Header Tilt
23	1	HH04 66 6FJX-6FJX
24	1	HH04 13 6FJX-6FJX
25	1	Lift-link bracket - Slotted
26	1	Cylinder 2 x 8"
27	1	Bushing, Lift-link Cylinder
28	1	In Cab Switch
30	1	Hitch Pin
31	1	Lift-link Sleeve
32	6	Washer, flat 1" plated



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John Deere 4990-4995 WS Swather – Installation

1. Attach the lift link bracket as shown for the 4990/4995 Windrower, using the items and fasteners shown in Hydraulic Tilt Cylinder - Exploded View, page 11.

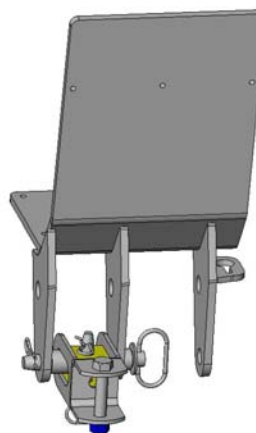


Illustration 15: 4990-4995 Lift Link Bracket

2. Attach the 2 x 8" Cylinder by inserting the RB 58 bushing into the end of the cylinder. Insert this end of the cylinder into the Lift-link bracket and secure with the bolt, nut and lock-washer. Refer to Hydraulic Tilt Cylinder - Exploded View, page 11 for details and orientation of the components.

The Installed cylinder, in storage position, should appear as shown below:

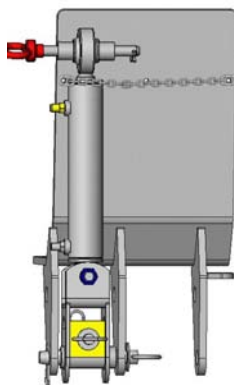


Illustration 16: Hydraulic Tilt Cylinder - Storage Position

3. Refer to Wiring Bracket - Exploded View, below. Install the bracket mount to the power unit using the hardware shown. Connect the quick coupler valve under the bracket using the 5/16 u-bolt, 1/4 quick coupler dust cap, 5/16 and 3/8 fender washer, and c/lock nuts.
4. If the hydraulic tilt cylinder option (previous page) has been ordered, install the valve assembly to the mount using the hardware supplied. The Hirschmann plug should also be installed at this time using the gasket and screw provided.

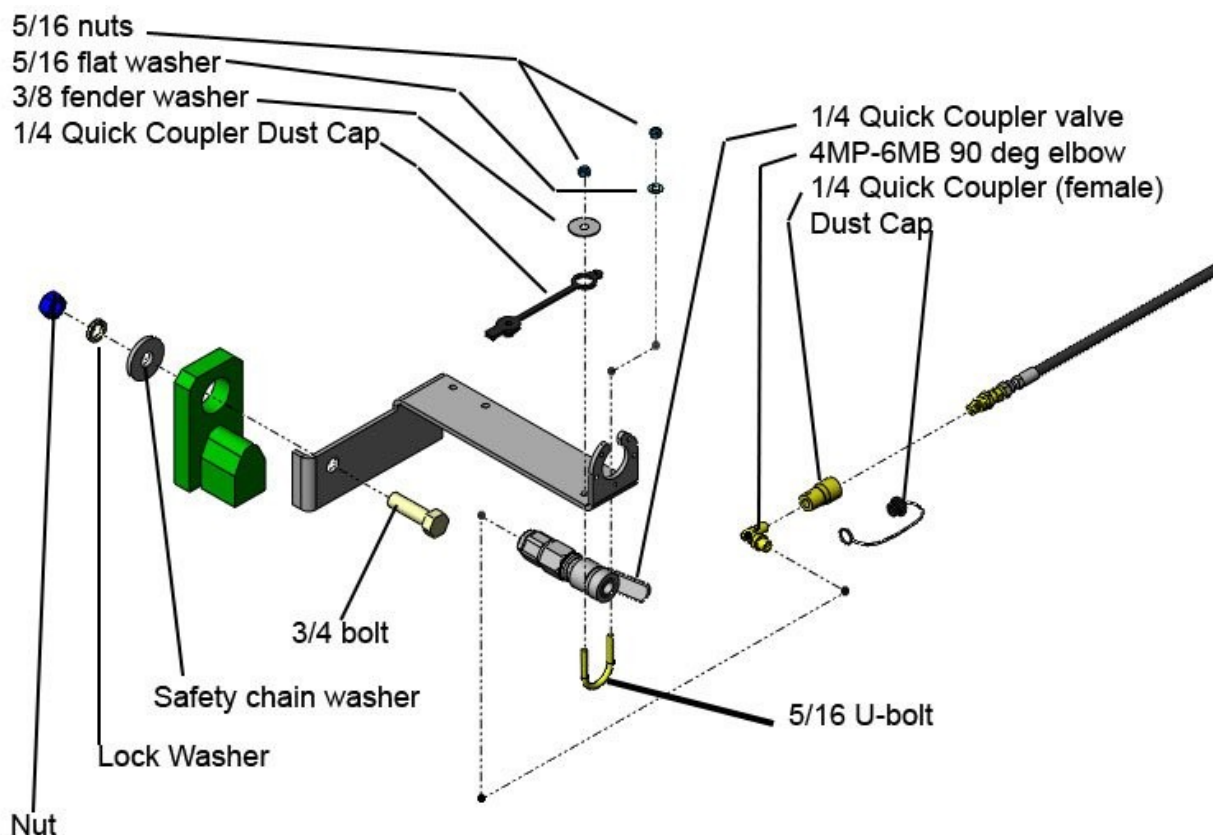


Illustration 17: Wiring Bracket - Exploded View

NOTE:	<i>This diagram shows the hydraulic connections for the manual link, see Illustration 13: Hydraulic Tilt Cylinder - Exploded View, page 11 for hydraulic tilt connection.</i>
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5. On the tilt pressure hose, install a ¼ inch female quick coupler and dust cap. Install a 4MP – 8 MB nipple to the valve Assembly “2” port.
6. On the return hose, install a 1/4" male quick coupler and dust cap. Install a 4MP - 6MB nipple to the tilt cylinder (cylinder end).
7. From the Rod end of the cylinder, install a 66 inch 6FJX – 6FJX hose with a 6MB – 6MJ nipple. On the other end of the hose install a ¼ inch female quick coupler with a 4MP – 6MJ nipple plus dust plug.
8. From the valve assembly “3” port, connect a 6MJ – 8MB 90° elbow to a 6MJ – 6FJX 90° elbow, to a 4MP – 6FJX adaptor, to a ¼ inch male quick coupler and dust plug. This assembly will then be connected to the 66 inch hose assembly.
9. From the “1” port of the valve assembly, install a 6MJ – 8MB 90° elbow to a 13 inch 6FJX – 6 FJX hose, to a 6MB – 6MJ 90° elbow, which is then connected to the quick coupler lever.



Illustration 18: Bracket Installation Complete

Installing the Needle Valve

Refer to the illustrations on the next two pages to familiarize yourself with the locations of the components involved.

1. On the left side of the power unit at the top of the stairs, access the compartment door behind the cab.

At the top-front of the compartment, you will find small nuts and bolts that will line up with the bracket shown at right. Remove the top bolt, but only loosen the side nut.

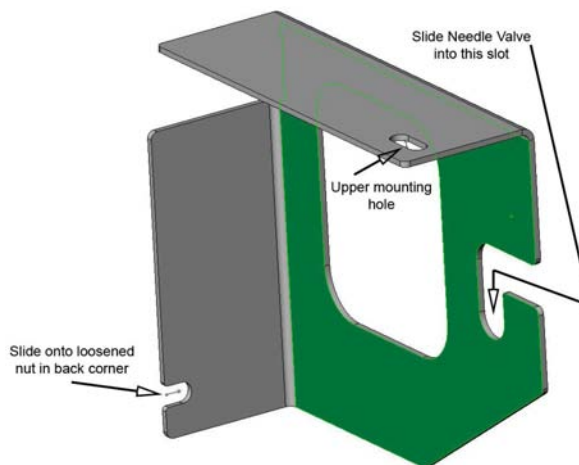


Illustration 19: Needle Valve Mounting Bracket

2. Loosen the nuts from the two locations identified. Remove the nut and bolt from the top location but **DO NOT REMOVE THE NUT** from the side location (since the bolt may fall out making re installation difficult).
3. Slide the bracket between the previously loosened nut and frame. Insert a 5/16 bolt (included) through the top hole of the frame. Thread the washer and nut onto the top bolt. Tighten the nuts to secure.

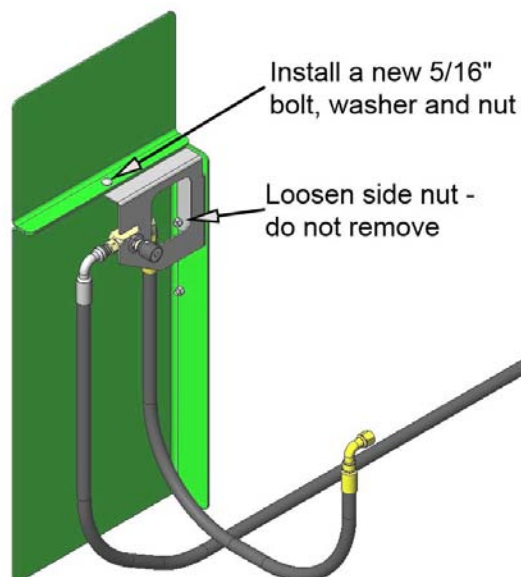


Illustration 20: Needle-Valve bracket in position



4. To locate the manual float release valve, open the side panel on the left side of the power unit at the top of the stairs (see bracket installation) and relieve the pressure by opening the valve (counter clockwise).

Warning: *Ensure that you open the valve prior to disconnecting any hoses to avoid excess spillage or potential harm from heated oil.*

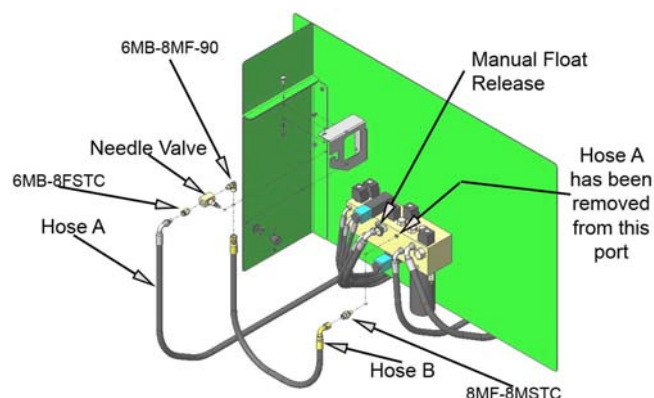


Illustration 21: Needle Valve and Hydraulic Control Block

The following sequence will minimize oil spillage.

5. Disassemble the needle valve knob from the body and reassemble using the panel nut and washer as shown. Install the supplied hose "B."

Units with serial numbers starting at 320001 and up will use the needle valve assembly shown here.

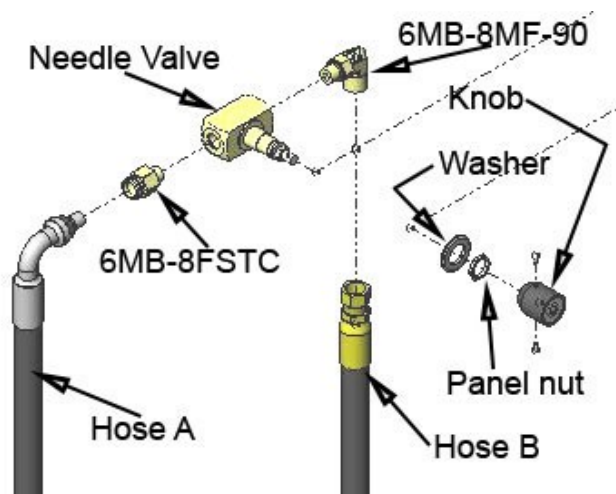


Illustration 22: Needle Valve - STC Fittings

NOTE: *Units with serial numbers up to and including 320000 will require the threaded hose fittings also included in the installation kit. Units from serial number 320001 and up will use the non threaded "STC" fittings.*



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Units with serial numbers up to and including 320000 will use the needle valve assembly shown here.

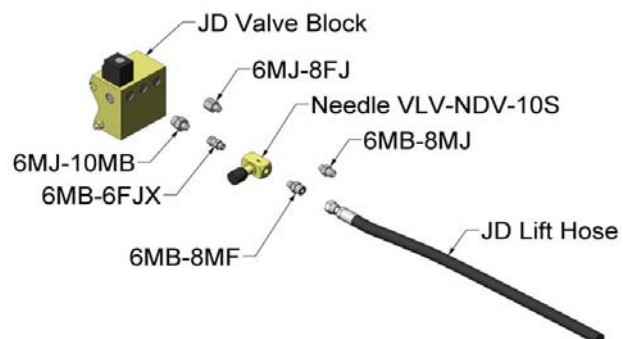


Illustration 23: Needle Valve - Non-STC Threaded Fittings

6. Disconnect the platform lift hose "A" at the block, using the valve tool provided in the compartment. Connect the supplied hose "B" as seen in Illustration 23: Needle Valve - Non-STC Threaded Fittings, page 18. Now connect Hose A to the needle valve, as shown in the same illustration.

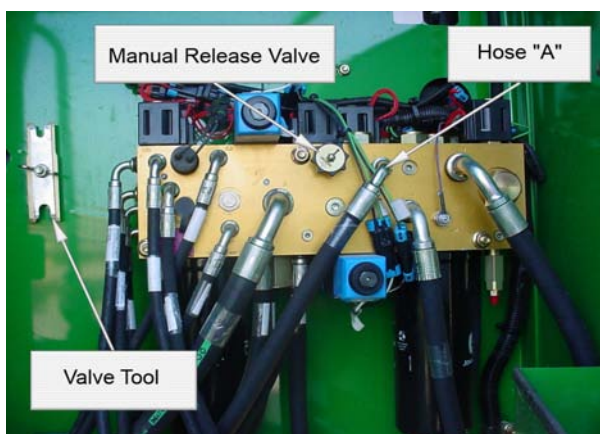


Illustration 24: Hydraulic Control Block

7. Slide the needle valve onto the mounting bracket, as shown in Needle Valve Mounting Bracket, page 16, and secure in place with the panel nut. Close the manual float release valve on the block (clockwise) and set a small flow rate on the needle valve (counter-clockwise.)

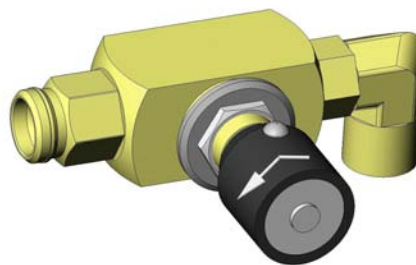


Illustration 25: Needle Valve



Wiring Installation

Model Identification

It is important that you determine exactly which model of windrower you have. Possible variations are:

New Models

All John Deere 4995 units built after 29 January 2007 with serial numbers including, and after: E04995X330675.

The cab will have the correct in-cab wiring and switch panel factory installed. **No in-cab modification is required!**

Draper Option

If the power unit was ordered specifically for use with a Honey Bee draper platform (**Honey Bee Ready**), all switches for this option will be installed in the panel. **If the unit was not ordered with this option**, the switches will be supplied by Honey Bee, and will need to be installed and plugged into the existing harness by the dealer.

If you have identified your unit as a “New Model,” proceed to New Model Wiring, page 20.

Older production models

Proceed as instructed in Wiring Installation – Older Models, page 23. Switches and in-cab harness will be supplied by Honey Bee.

NOTE:	If you need to refer to wiring schematics, see p.47, p.48, and p.49
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New Model Wiring

1. Identify the 21-pin plug of the wiring adapter, and mount this end in the front bracket of the windrower, located on the right hand side of the cab.
2. Feed the other end of the harness under the cab.



Illustration 26: Bracket

You will find a wiring harness clip under the cab floor.

3. Feed the wire into this clip and secure it with a zip-tie.

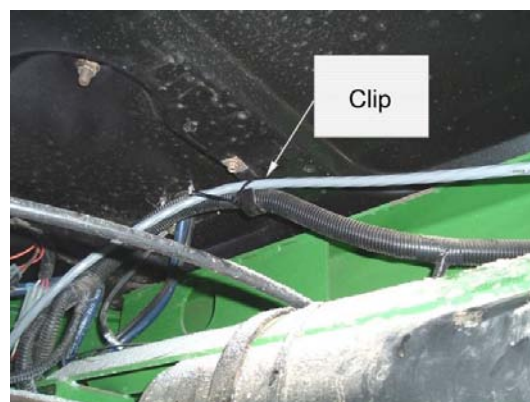


Illustration 27: Wiring Harness Clip



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Toward the rear of the cab, you will see an opening in the frame.

4. Feed the 31-pin plug through to the exterior via this access.



Illustration 28: Access to Rear Electrical Panel

5. Insert the 31-pin plug into the receptacle provided. The plug will align in the same fashion as the front plug, by first aligning the widest tab in the plug with the wide slot in the receptacle. Once it is fully seated, turn the locking collar to secure the plug.



Illustration 29: 31-pin Plug

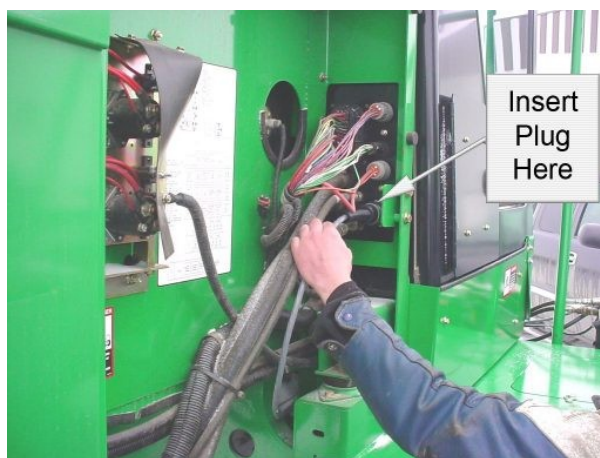


Illustration 30: Plug Location

6. If the unit was not ordered “Honey Bee Ready,” remove the screws holding the switch panel in place, and remove the appropriate switch position blank(s). Snap the new switches in place, as shown here, and connect them to the harness plugs as shown in the windrower manual.

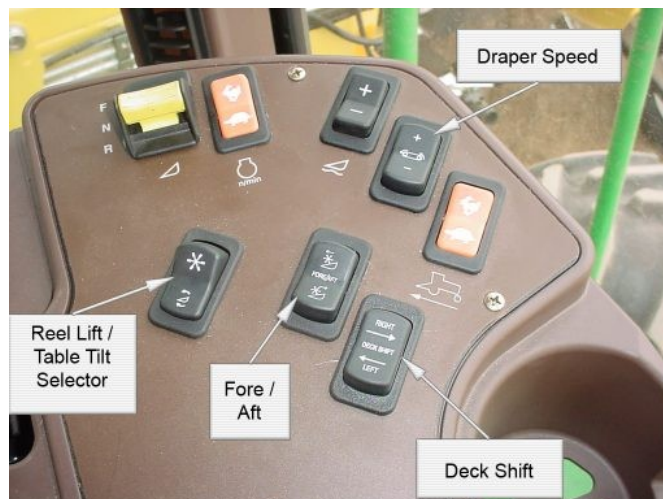


Illustration 31: 4995 Switch Panel

7. Open the electrical panel access on the right side of the windrower. Remove the float relay from the electrical panel. With this relay removed, the table will raise and lower only so long as the switch is activated, and will stop when it is released.

For the successful completion of this installation, the relay should be removed; however, if you prefer, it may be replaced for field use. With the relay in place, the table will lift to maximum height when up is selected, and will lower to the preset float height when down is selected.

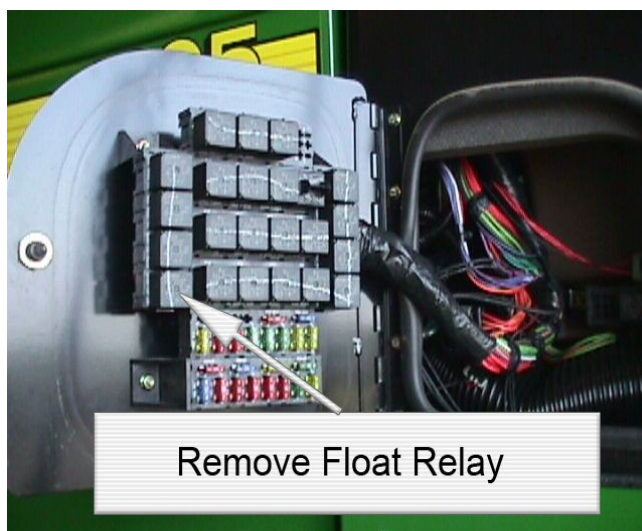


Illustration 32: Electrical Panel - Float Relay

NOTE:

When hooking up to the swather, this relay should be removed to provide fine control over the operation of the hydraulics.

8. When all other installations are completed, test the operation of the in-cab controls.



Wiring Installation, Older Models

4990 Model Switch Installation

Switches for the standard draper speed control, optional deck shift and reel fore/aft option are supplied for installation into an add-on, prewired control panel. This panel is installed using the two screws that secure the cup holder.

1. Remove the cup holder, place the bracket for the panel, aligning the holes, place the cup holder bracket over this, and replace the screws.

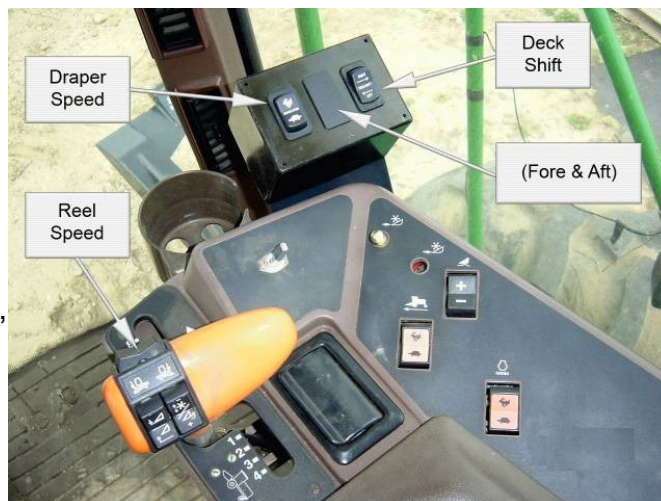


Illustration 33: 4990 Switch Panel

4995 Model Switch Installation

Reel speed and table tilt /reel lift operations are controlled with the standard switches located on the F-N-R control lever.

The switches for the standard draper speed control, optional shifting decks, fore/aft reel options, and the table tilt/reel lift options need to be installed in the control console. If additional switches are required, refer to Illustration 34: 4995 - Suggested Switch Locations page 24 for switch locations.

1. Remove the three screws holding the console panel cover, lift the cover, mark, and unplug the cables to the switches.

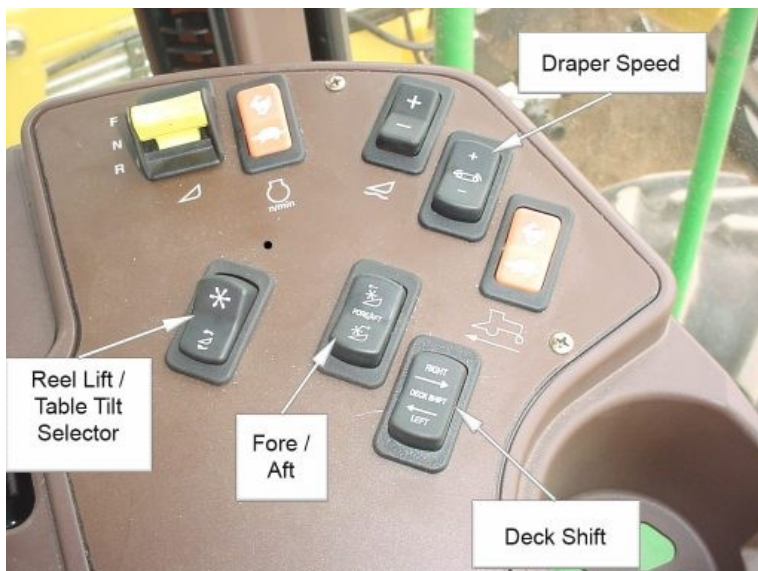


Illustration 34: 4995 - Suggested Switch Locations

2. Locate the knockout(s) for the options to be installed, using the suggested sequence shown.
3. With a sharp knife, cut the vinyl cover along the edge of the knockout.
4. Cut the metal tabs at each end of the opening and file any burrs smooth.
5. Insert the new function switch or switches from the top and snap into place.

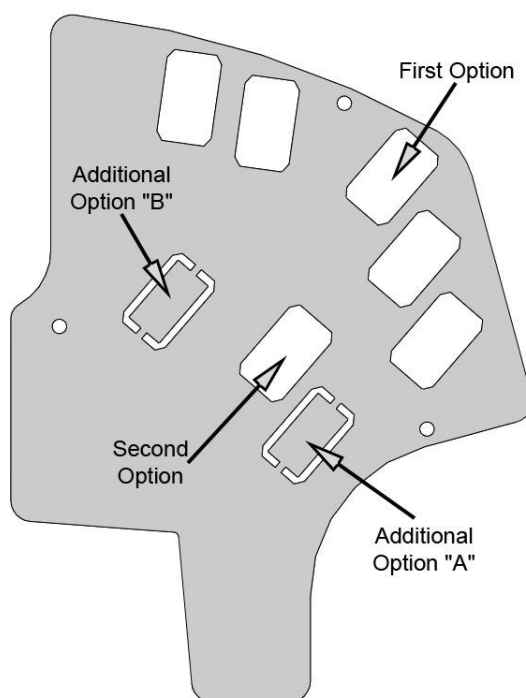


Illustration 35: Suggested Switch Placement



If only one option is added, no modification to the control console base is required; however, with two, or more options, the modifications shown to the right are needed.

6. Feed the new harness up, inserting the appropriate plugs through the holes so they will line up with the switches in the panel.
7. Connect the plugs to the corresponding switches, and replace the panel cover using the three screws removed earlier.



Illustration 36: Console Modification

The template (Illustration 37: Console Cutting Template, page 25), will give you the correct sizes for the openings shown above.

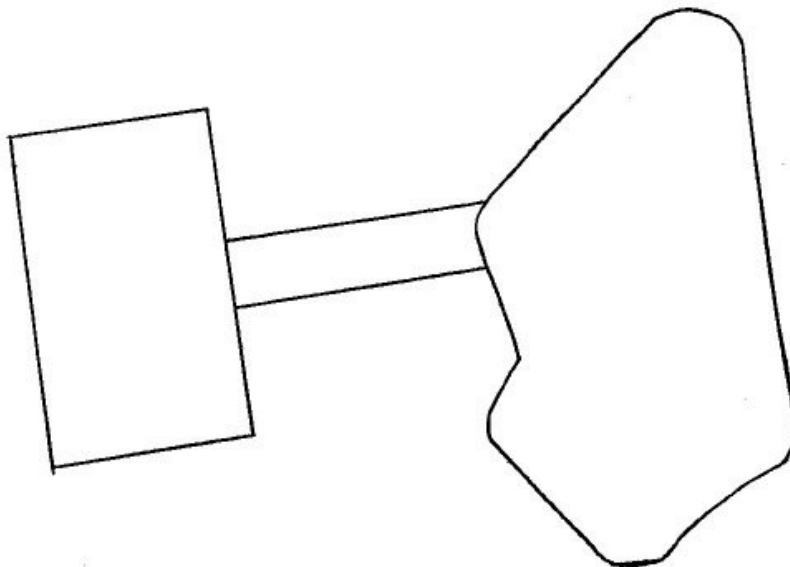


Illustration 37: Console Cutting Template



4990 and 4995 Models – Cab Modifications

8. A hole must be made in the floor for the wiring loom supplied for these options. Raise the floormat and locate a small plate welded to the floor.

The hole diameter should be at least 2-1/2" to allow the prewired plug and wiring loom to be fed through the floor.

(See the photos to the right and below.)

9. Install the wiring harness and reclose the hole with the grommet and plate supplied. Secure with four (4) sheet-metal screws.



Illustration 38: Hole Location



Illustration 39: Wiring Installation Complete



Illustration 40: Hole Location - Closeup View



10. Open the electrical access panel on the right-hand side of the windrower. Remove the float relay from the panel on the door.
11. If the optional deck shift, draper speed (now standard), fore and aft, and/or hydraulic tilt was purchased, connect the plug from the newly installed console wiring into the optional power source plug.

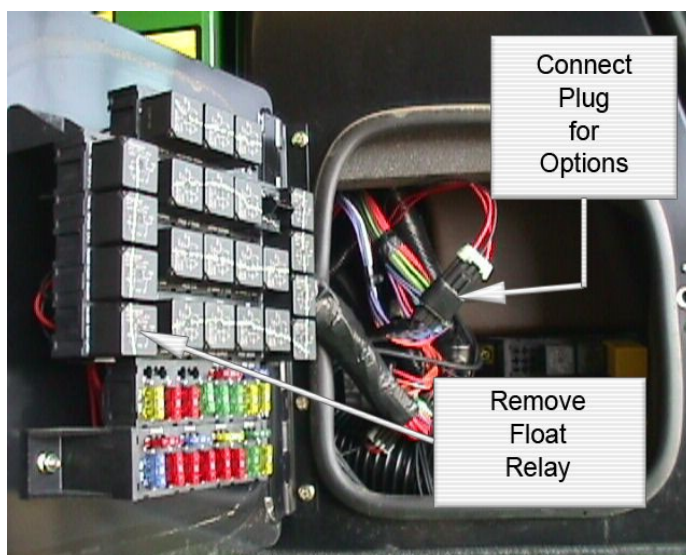


Illustration 41: Wiring Panel Access

NOTE:	<p>The swather may be operated with the float relay left in place. In this case, when the “Up” switch is activated, the table will rise to the the top of its travel. Similarly, when the “Down” switch is activated, the table will lower to the preset float height.</p> <p><i>When hooking up to the swather, this relay should be removed to provide fine control over the operation of the hydraulics.</i></p> <p>If you wish, it may be re-installed once these setup instructions have been completed.</p>
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Install Lift-Arm Extensions

1. Place the lift arm extensions on the power unit lift arms. Secure the extension to the lift arm by installing the clamp plate under the lift arm using $\frac{3}{4}$ x 7 inch bolts and nuts.

Tighten the bolt only until 2 or 3 threads are exposed past the top of the nut.

2. Secure the lift arm extension in place using the M24 17cm x 2.4cm bolt and the M24 nut provided.

Do not overtighten the 3/4 x 7" bolts. These extensions are designed to act as a hinge between the windrower lift arms and the table.

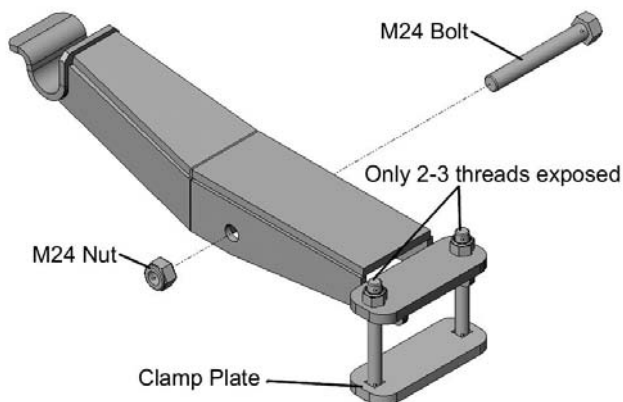


Illustration 42: Lift Arm Extension



Illustration 43: Lift Arm Assembly Complete

Swather Preparation

Crop Divider Installation

1. Park the Grain Belt Swather on flat, hard, and level ground. support the hitch end of the unit by extending the hitch jack until the swather is sitting level.
2. Install the crop dividers, and crop divider pipes to the ends of the table. The crop divider and pipes are not installed at the factory for shipping purposes. **Once installed, operators should be aware of the assembled width of the swather, and should check local regulations before transporting on public roadways.**

3. The crop divider is held in place with six (6) 3/8 x 1-1/4" carriage-head bolts. Three bolts are installed through the base of the divider, and the table shoes at each end of the table. They are held in place using the supplied flat washers and lock-crimp nuts. All holes are pre-drilled.

When properly positioned, the crop divider overlaps the outside of the crop deflector to provide a smooth transition for the crop. The remaining three carriage-head bolts are installed from the inside of the formed sheet metal portion of the crop divider, into the crop deflector using flat washers and crimp-lock nuts.

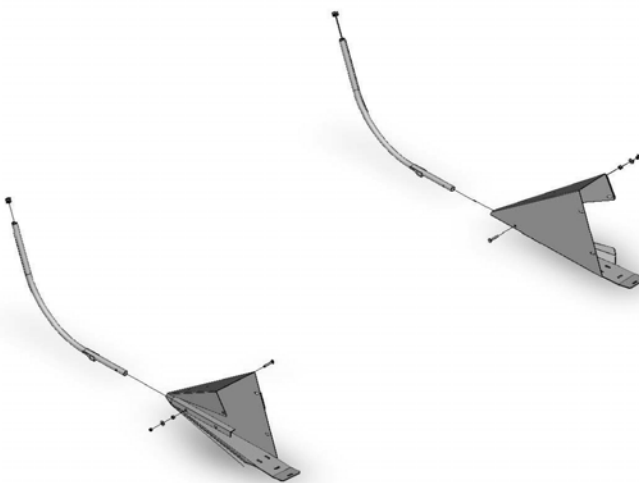


Illustration 44: Crop Divider- Exploded View

4. Insert the crop divider pipe into the nose of the crop divider and insert a 3/8 x 2" carriage-head bolt. With the bolt in place, place a bushing-spacer followed by a flat washer, and tighten with a lock nut. The bushing should press firmly against the crop divider pipe to hold it firmly in place.



Honey Bee Manufacturing Ltd.
John Deere 4990-4995 WS Swather – Installation

NOTE: The inside edge of the crop divider and pipe should be aligned so that they are approximately 90 degrees (right angle) to the cutter bar. This will provide good crop separation, and will help prevent crop plugging in the corners.



Illustration 45: Crop Divider Complete



Draper Installation

Unpack draper. Check size to ensure it correct for the size of the deck. Place draper bundle on the top of deck runners, and unroll with the slats facing up.

Wrap draper around one of the rollers and feed draper into the bottom runner of the deck. The bottom runners will support the draper, and prevent it from hanging down.



Illustration 46: Unpacking the Draper

Pull draper through bottom runner, and wrap around the other roller. Pull the ends of the draper together. Install a connector bar to close the joint.

The heads of the screws should be installed from the center deck opening side. This helps prevent the crop being caught on the screws. Complete the installation by adjusting tension and tracking.

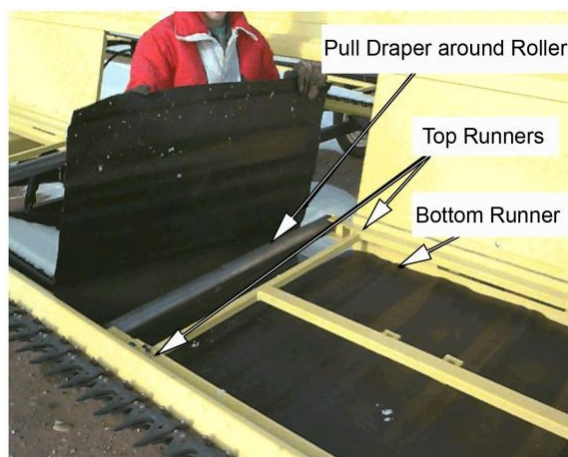


Illustration 47: Feeding Draper onto Bottom Runner



Installing the Strut Rollers

The JD 4990 and 4995 swather comes with two standard rollers from factory. One of these rollers needs to be replaced with a base plate roller.

1. Remove the 5/8" hitch pins.

The hitch pins will be used later to secure the lift arms.

2. Remove both rollers. The roller from the right hand strut will be moved from the left opening to the right hand opening. The roller from the left hand strut will be replaced.

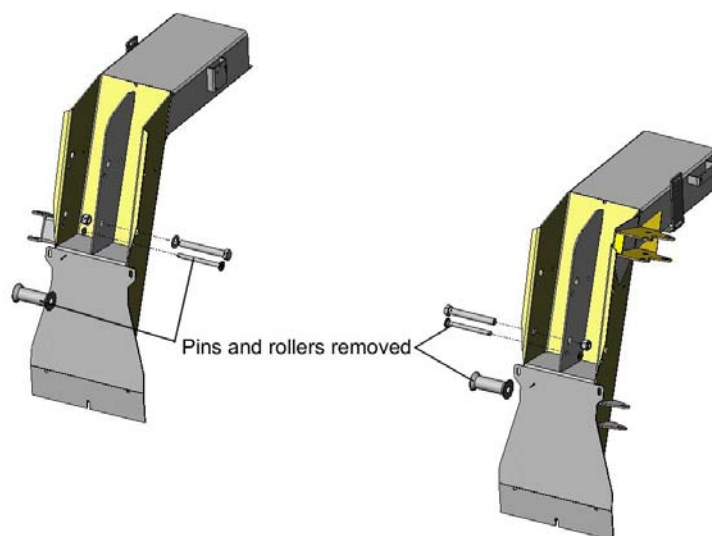


Illustration 48: Installation of Strut Rollers

3. Connect the base plate roller to the left hand strut using the 1"x10" UNC bolt, 3/4"x1 1/2" UNC bolt, as well as the washers and nuts provided.
4. Connect the standard roller to the right side opening of the right hand strut as shown in the illustration to the right.

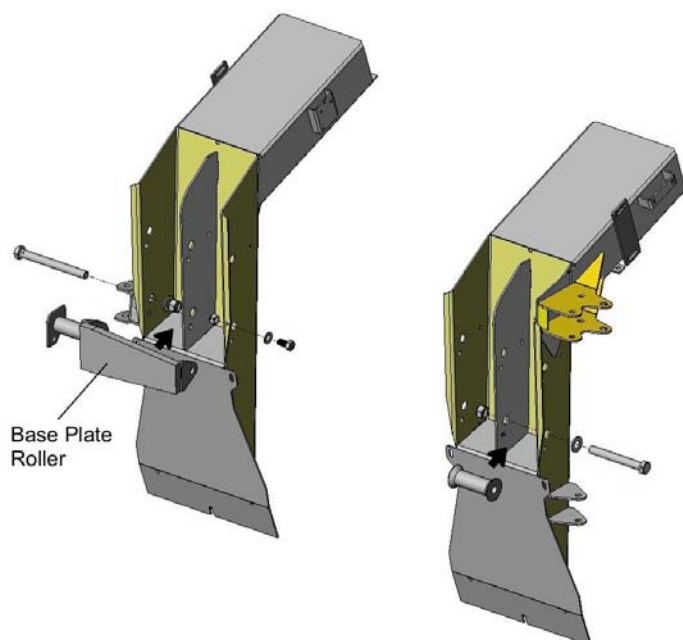


Illustration 49: Securing the Base Plate Roller.



Install the Hose Holder

A bracket and canvas loop are provided to route the hydraulic hoses both while in use, and in storage. Use of this hanger will prevent damage to the hoses and connections from being run over, or trailed on the ground.

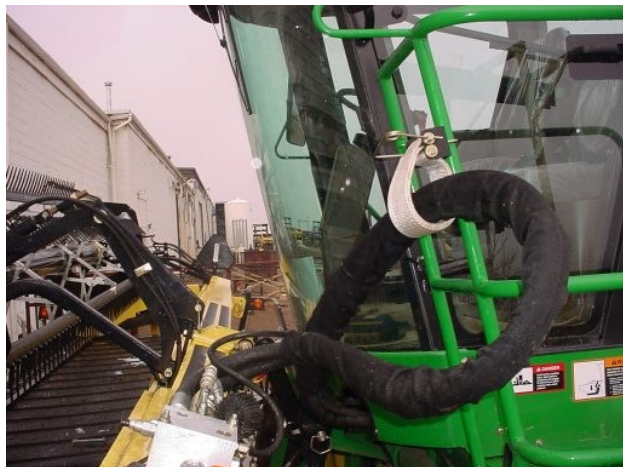


Illustration 50: Hose Connected to Swather

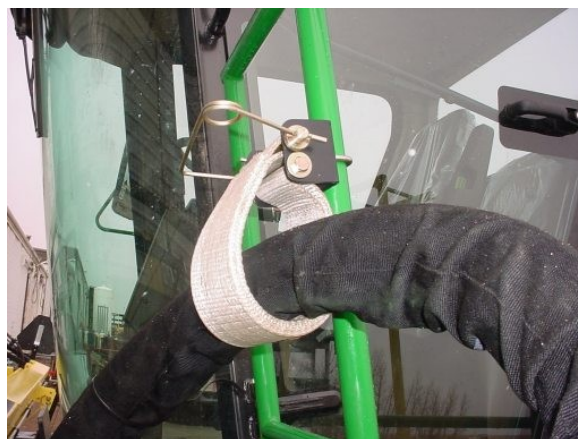


Illustration 51: Hose Hanger - Close-up View



Illustration 52: Hose in Storage Position



Mounting the Swather to the Windrower

1. Park the swather and transport unit on firm, level ground, where it will be easily accessible for the windrower operator to pick up.



Illustration 53: Swather on Transport Unit

2. Lower the screw jack, located on the side of the transport axle, and raise the axle until the tire clears the ground.

Remove the quick pin securing the hub and spindle, and remove the wheel assembly. Store the wheel assembly in an appropriate location, or if the gauge wheel option has been purchased, install the wheel into the left-hand gauge wheel mount and secure with the quick pin as seen below.

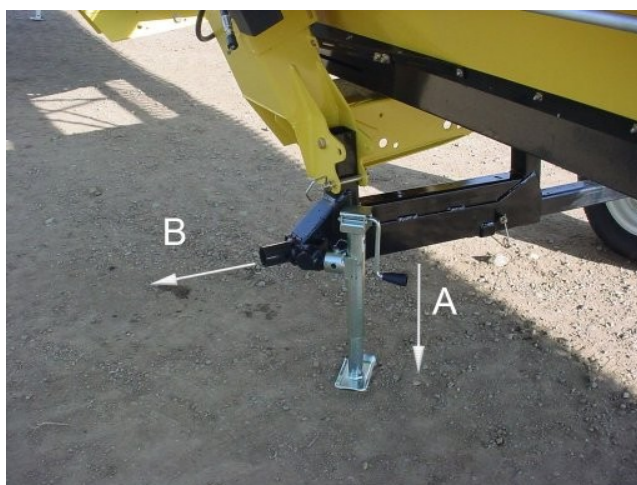


Illustration 54: Wheel Assembly Removed

3. Start the windrower. Test the lift-arm controls to ensure smooth operation.

NOTE: If the lift arms move too abruptly, reduce the flow of oil at the needle valve.

If they raise and lower fully with one cycle of the control, ensure the relay shown in Electrical Panel - Float Relay, page 22, and 27 has been removed.

4. Move the windrower into position, lining up the lift arm extensions with the outside channels of the struts on the swather. Ensure the arms are low enough to move under the struts.



Illustration 55: Positioning the Windrower

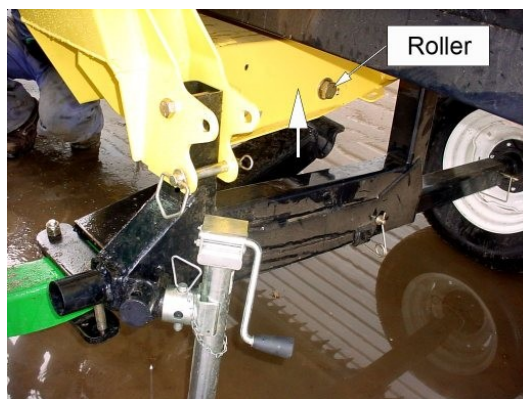


Illustration 56: Lifting the Extension Arm

5. Slowly raise the lift arms until they are firmly set on the rollers. Ensure the end of the extension arm has fully engaged the roller.

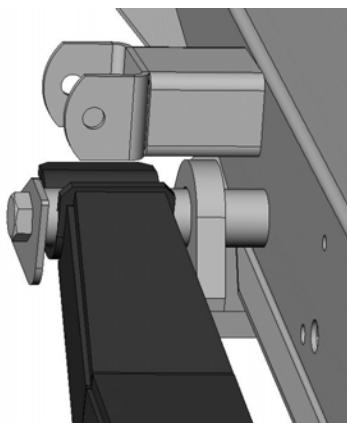


Illustration 57: Left Roller Engaged

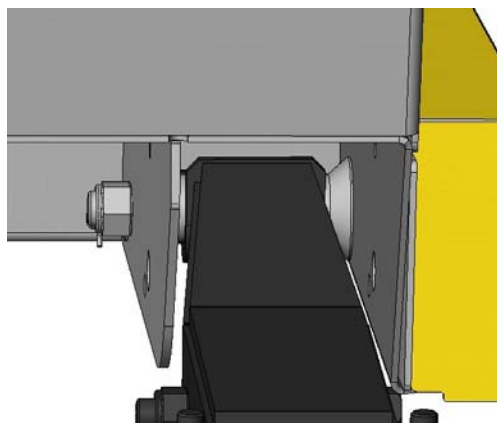
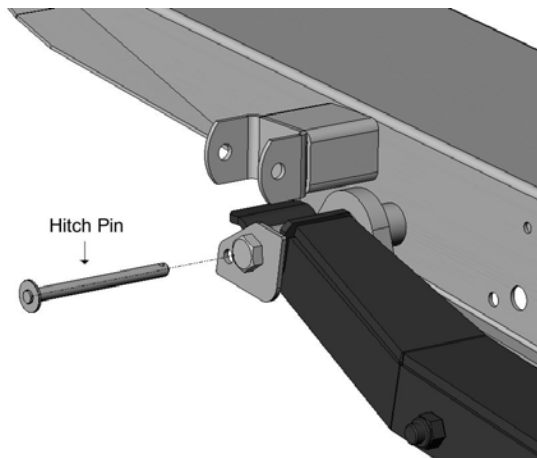


Illustration 58: Right Roller Engaged

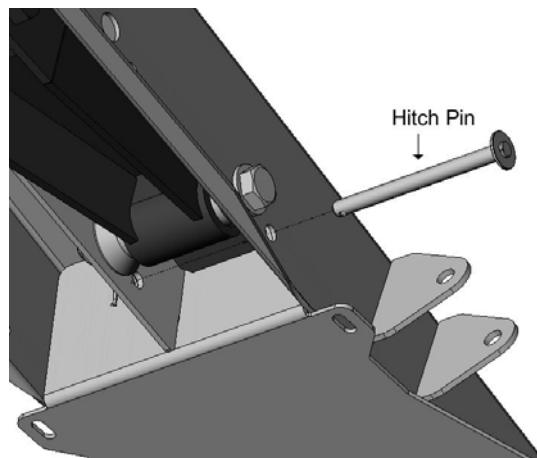


Honey Bee Manufacturing Ltd.
John Deere 4990-4995 WS Swather – Installation

6. If the arms are located correctly, insert the Hitch Pins and secure with lynch pins.



*Illustration 59: Left Roller Pin Installation
top view.*



*Illustration 60: Right Roller Pin Installation
bottom view.*



Warning! *Do not attempt to lift the swather until safety chain is attached!*

7. Connect the safety chain to the windshield guard, and the swather as shown. The chain is supplied with a bolt through one of the links to mark the minimum length of chain. **Do not remove this bolt.**

Attach the manual, or hydraulic top link, as shown to the right, and Illustration 62: Manual Lift Link, page 37.

Ensure you insert the collar into the swather-end of the link before sliding it in place in the tower. Insert the hitch pin in the lower hole of the bracket tower and secure it as shown.

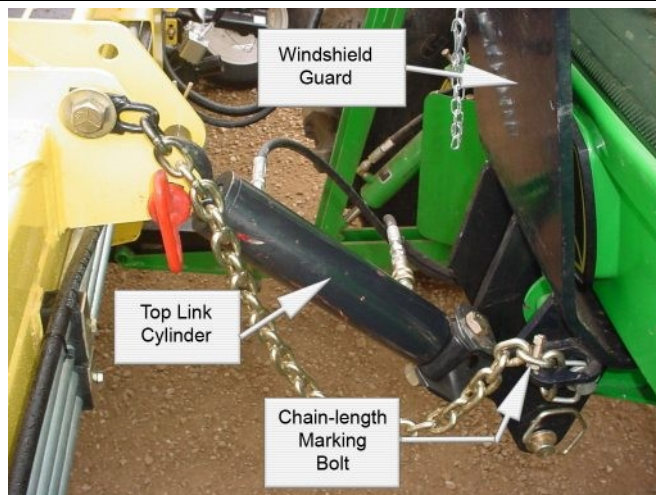


Illustration 61: Safety Chain & Hydraulic Tilt



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John Deere 4990-4995 WS Swather – Installation

8. If lining up the link is difficult, carefully raise the swather small amounts until it lines up.

This step should not be required if the hydraulic tilt option is used.

9. Observe the positioning of the manual link to the right. You will note this is mounted in the identical locations as used for the hydraulic link shown in Illustration 61: Safety Chain & Hydraulic Tilt page 36.

10. Carefully raise the swather to full height, then lock the arms, using the windrower's lock lever.

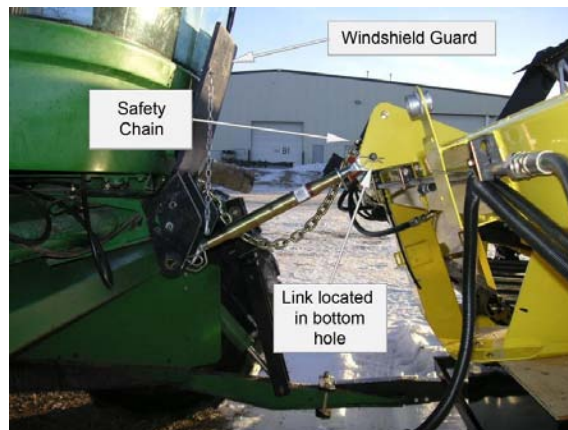


Illustration 62: Manual Lift Link



Illustration 63: Windrower Table Lock

11. If using the Hydraulic Tilt Option, secure the hydraulic tilt cylinder in place using the hitch pin provided.

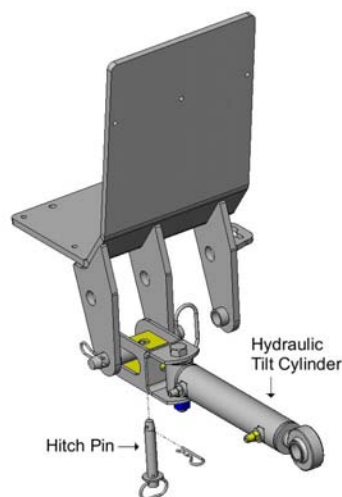


Illustration 64: Securing the Tilt Cylinder

12. Remove the wheel assembly from the cutter-bar side of the table, and store in an appropriate location, or install onto the right-hand gauge wheel, if this option was purchased.

Remove the pin holding the axle extension in place and slide the axle into the housing.

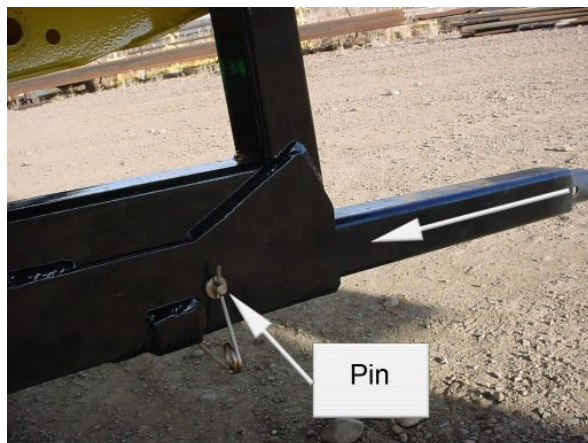


Illustration 65: Axle Tube Retraction

13. Secure the axle in the housing by re-inserting the pin in the rear hole.

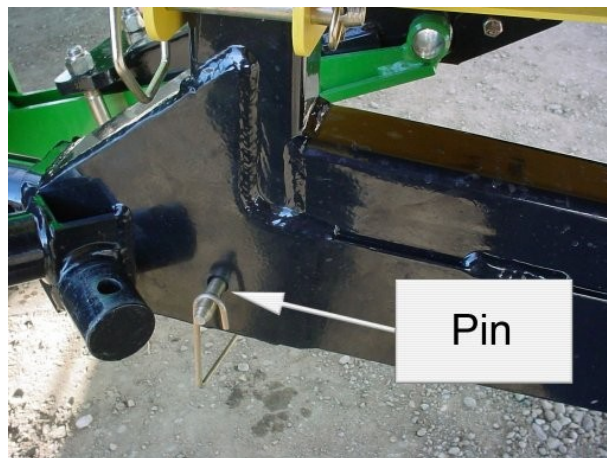


Illustration 66: Axle Tube Retracted



14. Remove the jack and remove the pin holding the axle strut in the vertical position.

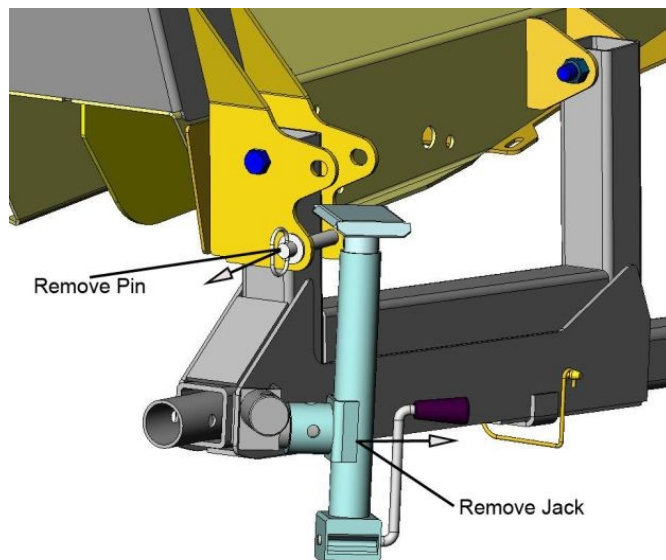


Illustration 67: Axle in road Position

15. Swing the axle up, and resecure using the pin. Replace the jack as shown and secure with the pin.

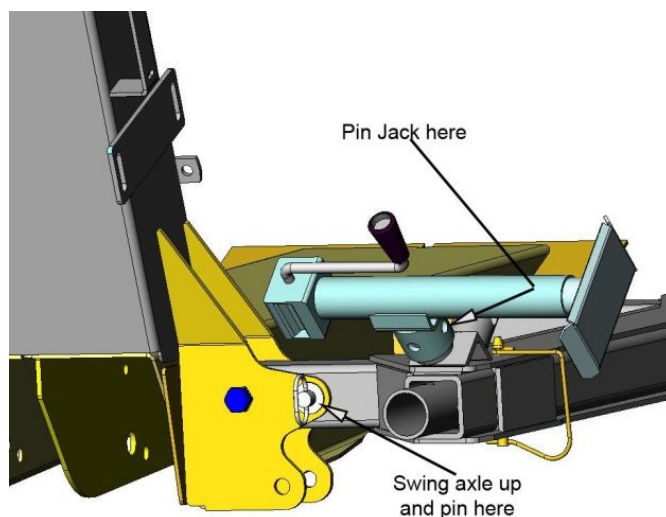


Illustration 68: Axle in Field Position

⚠ Caution!
The Axle is Heavy



Connect Electrical and Hydraulic Systems

1. Connect the electrical lines, and the hydraulic reel lift/tilt hose (standard on all tables) at the plug mount, located on the right-hand side of the cab.

NOTE: The optional hydraulic swather tilt connection is also shown here (top right). Connect this now if you have not already done so.

2. Open the valve to the reel lift/tilt cylinder (curved arrow).



Illustration 69: Windrower-Swather Connections

3. Connect hydraulics for Pressure, Return, and Case Drain to the swather.

NOTE: When the swather is being stored, the case drain hose should be left connected to relieve pressure in the closed hydraulic system, thus avoiding potential damage to system components.

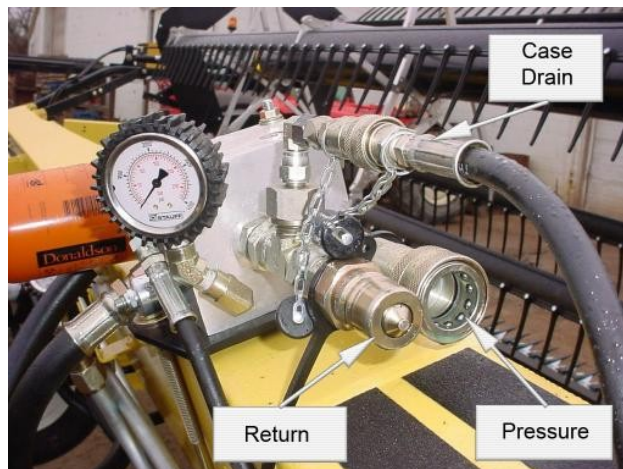


Illustration 70: Main Hydraulic Connections

Store the Transport Hitch

The swather should be lifted from the ground at this point, with the table safety lock in place.

1. Fully retract the jack leg, by raising the screw-driven section, and by collapsing the lower section (foot) to the first hole.

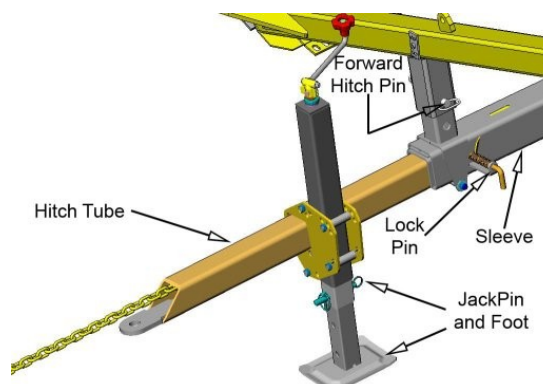


Illustration 71: Hitch Components

2. Release the hitch clamp, and slide the jack off the hitch tube. Store the jack as shown below, and tighten the clamp.



Illustration 72: Jack In Stored Position

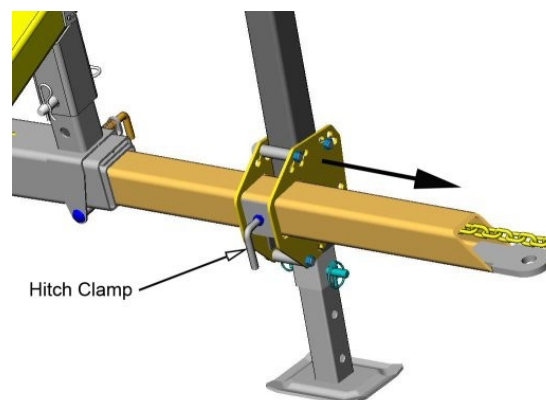


Illustration 73: Removing the Jack

3. Pull the lock pin on the hitch tube and slide the tube into the storage sleeve. Refer to Illustration 71: Hitch Components. Attach the hitch safety chain to the storage stub as shown above.

If excessive vibration occurs, extend the jack until it contacts the hitch tube storage sleeve, as shown above.



Leveling the Swather

If the table requires leveling at this stage, you have three options, which you may elect to use singly or in any combination. These three options can be found on pages 4, 5 and 6.

Programming the Tachometer

It is not necessary to start the engine to program the tachometer. These instructions apply to either single or dual display tachometers.

1. Move the key to the “OFF” position.
2. Press, and hold the Ground Speed (C) and Float Pressure (F) buttons while turning the key to the “RUN” position.
3. This will open the setup mode.
4. The “Function Selected” display (A) should highlight the upper left quadrant, and the primary machine code will be displayed in (H)
5. Press the Ground Speed (C) or Engine Speed (D) button to incrementally adjust the code up or down until it reads “13.”
6. Press Reel Speed (E) and Float Pressure (F) buttons simultaneously to store the code and move to the next step.

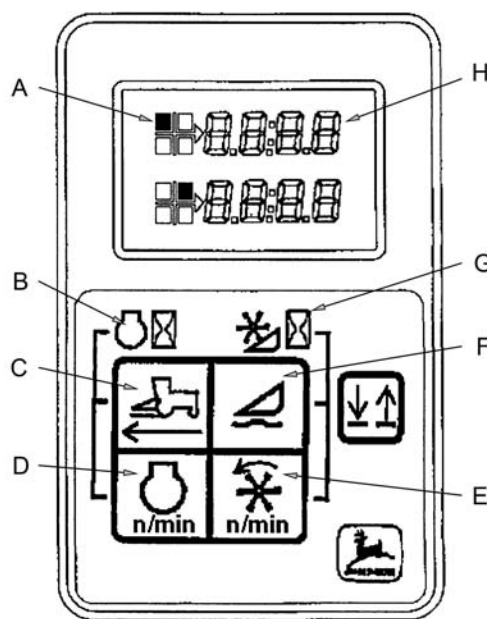


Illustration 74: Tachometer

7. The upper right quadrant will now be highlighted in the “Function Selected” display (A).
8. Press the Ground Speed (C) or Engine Speed (D) buttons incrementally, until this display reads “0” for the 4990, or “1” for a 4995 which provides greater input range for reel speed and platform speed.

A – Function Selected
B – Engine Hours
C – Ground Speed (mph)
D – Engine Speed (rpm)
E – Reel Speed (knife drive)
F – Float Pressure (psi)
G – Platform Hours
H – Digital Display

NOTE: If the display does not read correctly with Code “1”, try Code “0” as an alternate.



9. Press the Reel Speed (E) and Float Pressure (F) buttons simultaneously to store the code and move to the next step.
10. The Function Selected display (A) will now have the lower right quadrant highlighted. Press the Ground Speed (C) or the Engine Speed (D) button incrementally to adjust this reading to *“26” for units prior to the 2002 model year*. Beginning with the 2002 model year, this number will be *“24.5”* to reflect the change in final drive ratios.
11. Press the Reel Speed (E) and Float Pressure (F) buttons simultaneously to store this code and move to the next step. The Function Selected display (A) will now have the lower left quadrant highlighted. The number of pulses per engine revolution will be shown on the digital display (H).
12. Press the Ground Speed (C) or the Engine Speed (D) button incrementally until the display reads *“30”*.
13. Press the Reel Speed (E) and Float Pressure (F) buttons simultaneously to store this code.
14. Turn the key to the *“OFF”* position to exit the setup mode.

Calibrate the Hydraulic Pump

JD 4990-4995 Install the Flow-control Bracket

Set the engine high idle to 2100 RPM. Normal pump output is 45 gpm (170 lpm). The Honey Bee swather requires a flow rate of **19.5 gpm (88.5 lpm)**. Install the flow bracket assembly onto the motor mount, located under the windrower, as shown below.

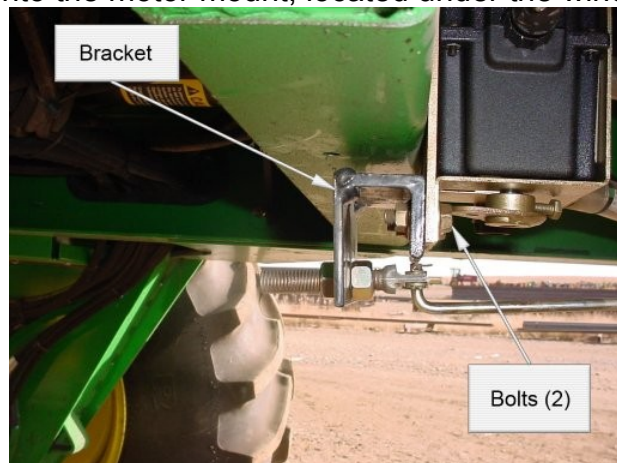


Illustration 75: Pump Adjuster Mounting Bracket

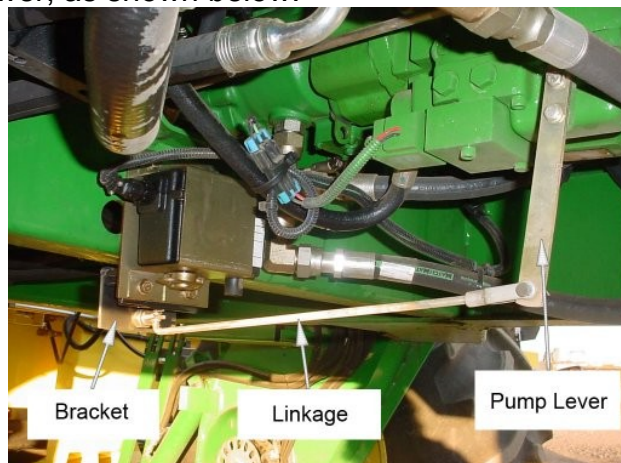



Illustration 76: Pump Adjuster Assembly Complete

1. Remove the nuts from the two bolts holding the electric swather pump output controller. Place the bracket on these bolts as shown above, replace, and tighten the nuts.
2. Remove the cotter key holding the linkage lever onto the electric controller. **Do not permit the linkage rod to turn in the clevis end of the linkage, to avoid calibration problems when the rod is returned to the electric controller arm for other applications.**
3. Relocate the linkage into the adjusting bolt attached to the bracket you installed previously. Secure by replacing the top washer and use a new cotter key to secure the linkage in place.
4. Start the engine and set high idle (2100 rpm). Select the Reel Speed display, which shows the knife speed on the tachometer. (See your windrower operator's manual.)
5. Adjust the length of the linkage from the bracket until the readout shows 700 rpm. Secure the lock nut. Recheck the knife speed to ensure it has not changed. You may verify this setting by installing a flow-meter to the output and return hoses, (19.5 gpm 88.5 lpm), or by using a photo-electric tachometer on the knife drive, in which case, the reading should also be 700 rpm.



 Caution!	<i>Exceeding speeds of 700rpm may cause damage to knife, knife drive or knife heads and void your warranty.</i>
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Mounting Checklist

	Lift arm assemblies fitted to the lift arms of the windrower.
	Lift arm and top link pins, bolts, and fasteners in place and secure.
	Transport axle and hitch tube in the storage (field) position.
	Transport parts stored for future use.
	Gauge wheels installed and secured. (if equipped.)
	Hydraulic lines (quick couplers) connected.
	Reel lift hose connected to the tilt circuit.
	Electrical connections complete and tested.
	Float relay removed.
	Reel tie down strap removed.
	Swather table leveled.



System Tests

Once all installations have been completed, the entire system should be tested to ensure everything is operating correctly. If a fault is detected, troubleshoot, and correct as needed.

NOTE: If possible, the following tests should be completed with an observer present at a safe location outside, with a clear line of sight to the operator. If this is not possible, complete the tests with the cab door open, so the operator can more easily detect unusual noises.

Hydraulics, Electrics, and Mechanical

1.	Check all fluid levels and top up if needed.
2.	Start the windrower, run the engine at low idle. Raise and lower the swather and adjust the needle valve to achieve a suitable rate of movement, given the present engine speed. Advance engine RPM to normal operating range, test the rate again, and adjust as necessary.
3.	Return the engine to idle RPM. Engage each of the swather controls, one by one, to test the electrical and hydraulic connections. Select the applicable function on the tachometer for each system you activate, and monitor its readings to ensure they are accurate.
4.	Engage all systems, and slowly advance throttle to normal operating RPM. Check that all systems are running at normal speed with no signs of problems or interference.
5.	Stop all systems, turn the engine off. Inspect the swather to ensure everything is secure, and there are no signs of abnormal operating conditions. Make adjustments as required, and re-test as necessary.
6.	Check hydraulic fluid levels and top up if necessary.



JD 4895-4995 WS Swather – New Wiring Configuration

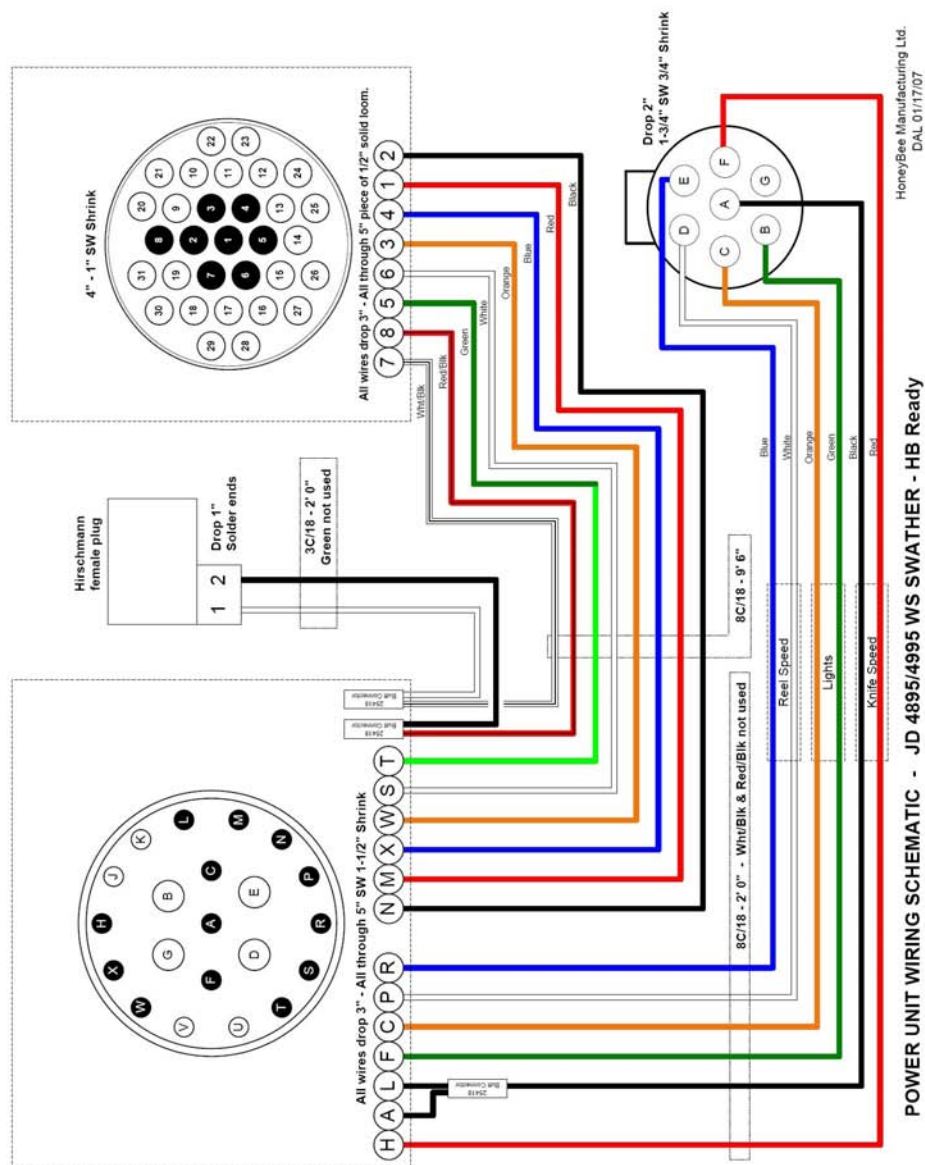


Illustration 77: New JD 4895/4995 Wiring Schematic

Applicable to all JD 4995 units with serial numbers including and after E04995X330675 and all JD 4895 units with serial numbers including and after E04895X330107.

[illegible]

Applicable to all JD 4995 units with serial numbers before E04995X330675 and all JD 4895 units with serial numbers before E04895X330107.

[illegible]

Applicable to all JD 4890 and JD 4990 units.