

Honey Bee

Grain Belt Swather



JD 4890 / 4895

JD 4990 / 4995

2007 Operator's Manual

INSTALLATION INSTRUCTIONS JD 4890 / 4895 DRAPER HEADER ADAPTER KIT

IMPORTANT!

Leveling of the table can be accomplished, prior to installation of the lift arm extensions, resulting in saving dealer time in reinstallations.

Please refer to the information listed below, prior to any preliminary work on either the power unit or the table.

- If your table setup requires that the lift arm float cylinders be switched around, proceed **first** to **LEVELING - Option 2** on page 43 of this insert. After completion of the cylinder switch, proceed to page 2.
- If your table setup does **NOT** require that the lift arm float cylinders be switched around, proceed to page 2 of this insert.

JD Windrower Float Cylinder Recommendation with Honey Bee

Single Knife / Double Knife - Single Swath

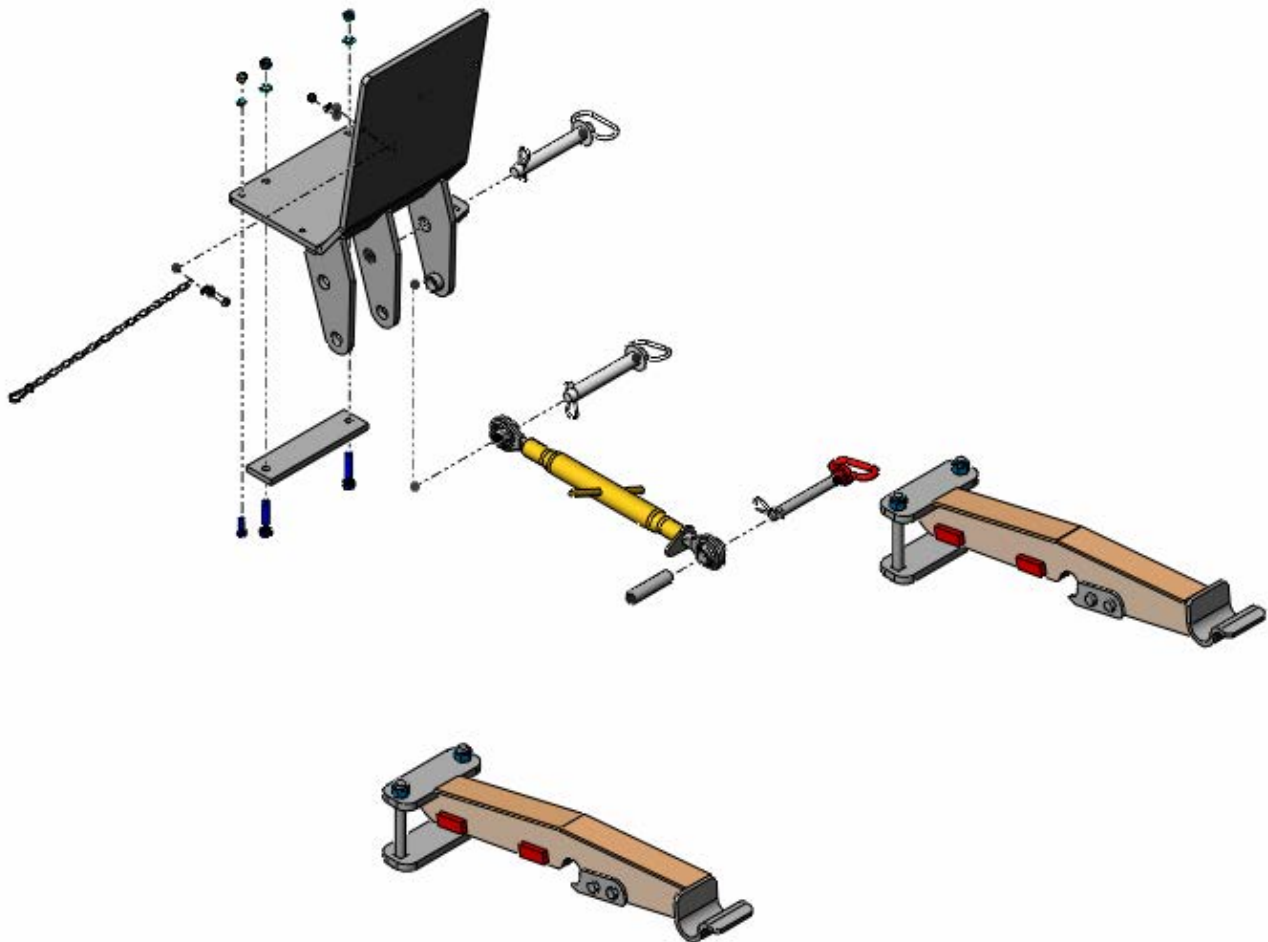
	No Hitch	Hitch	Float Pressure
18'	Swap cylinders	No change	Approximately 1200 psi at cutting height
21'	Swap cylinders	No change	Approximately 1250 psi at cutting height
25'	Swap cylinders	No change	Approximately 1500 psi at cutting height
30'	Swap cylinders	No change	Approximately 1700 psi at cutting 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	
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'	n/a	n/a	

***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.

INSTALLATION INSTRUCTIONS JD 4890 / 4895 DRAPER HEADER ADAPTER KIT



These instructions are for the JD 4890 and the JD 4895.

Please read the instructions carefully noting the differences and the changes that are applicable to your power unit.

HYDRAULIC MODIFICATIONS - JD 4890 / 4895

Remove any attachments from the power unit as outlined in your Owners / Operators manual supplied by the power unit manufacturer.

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HAZARD POSITION

To avoid possible injuries, be aware of your surroundings and the people working around the power unit and the table.

If you are the **power unit operator**, ensure that you can see all people around the power unit and table. At the same time ensure the people understand your intended direction of movement.

If you are the **person on the ground**, ensure that you do not put yourself in a position of possible harm from sudden movement of the power unit, or table. (see photo to the right for an example of dangerous positioning)



If you are the person on the ground, you may want to follow these steps in avoiding possible injuries;

1. Ensure a **safe path of exit**. Look around to ensure that you will not trip over any objects when needing a quick exit. An example of this would be when removing the tire from the transport; place the tire away from the work area.
2. Ensure **proper footing**. Steel toed boots, or proper grips on the soles. An example of this case would be taking special care when working in mud.
3. **Visually check your surroundings**. Prior to entering an area of caution, look for possible hazards. An example may be keeping your hand (in a safe location) on the power unit tire if hooking up to the table.
4. Ensure that the **power unit operator has seen you** in the area and **has acknowledged** that he is aware of your presence. A good way to acknowledge the presence is by giving each other a “thumbs up”.

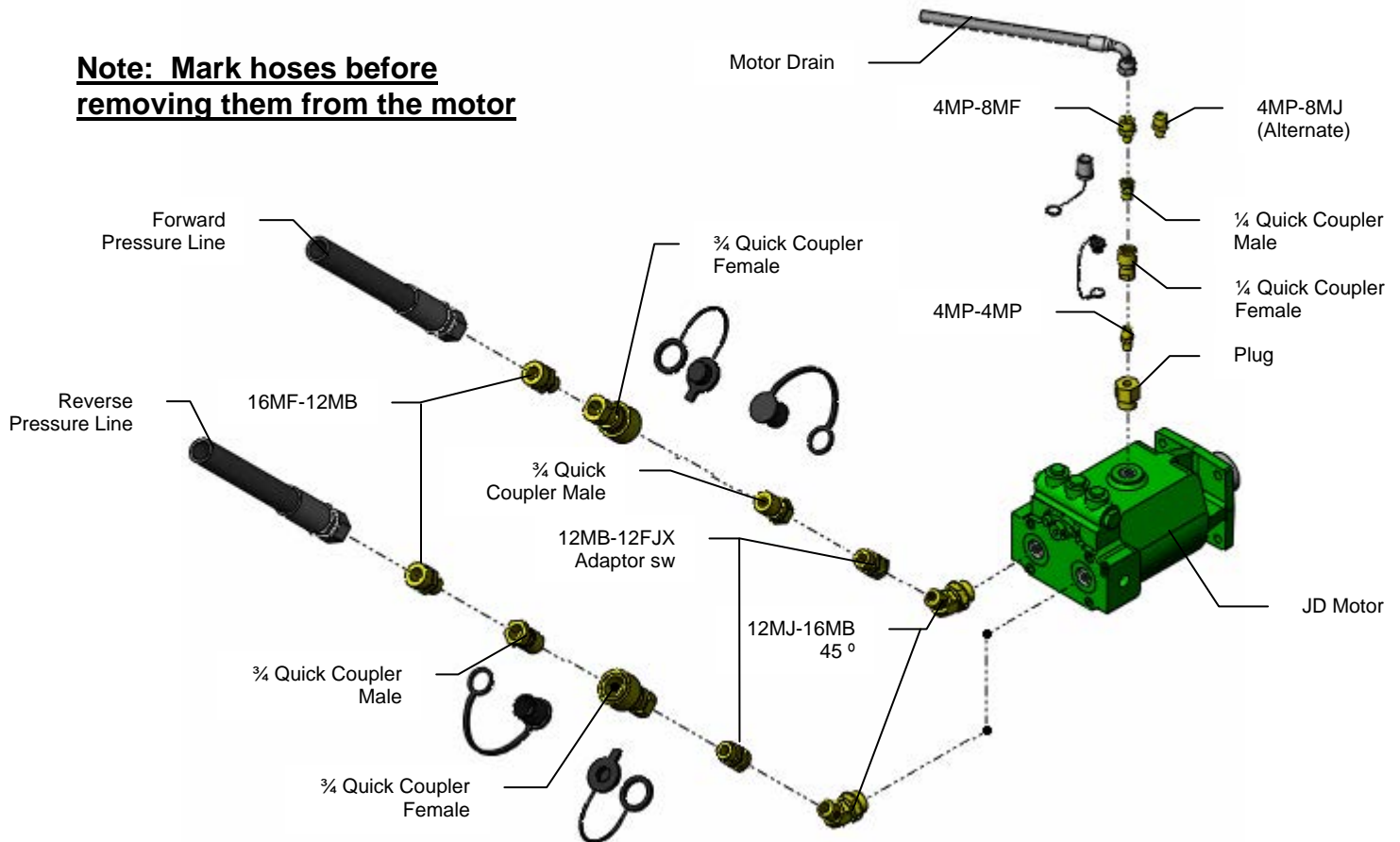
Reduce the possible risk and eliminate the potential injury.

Warning: To avoid bodily harm, do not place yourself between the tire and table while raising table.

If entering area, lower table to the ground or engage the table lift lock-out lever prior to entry.

POWER UNIT PREPARATION JD 4890 / 4895 INSTALL QUICK COUPLERS

Note: Mark hoses before removing them from the motor



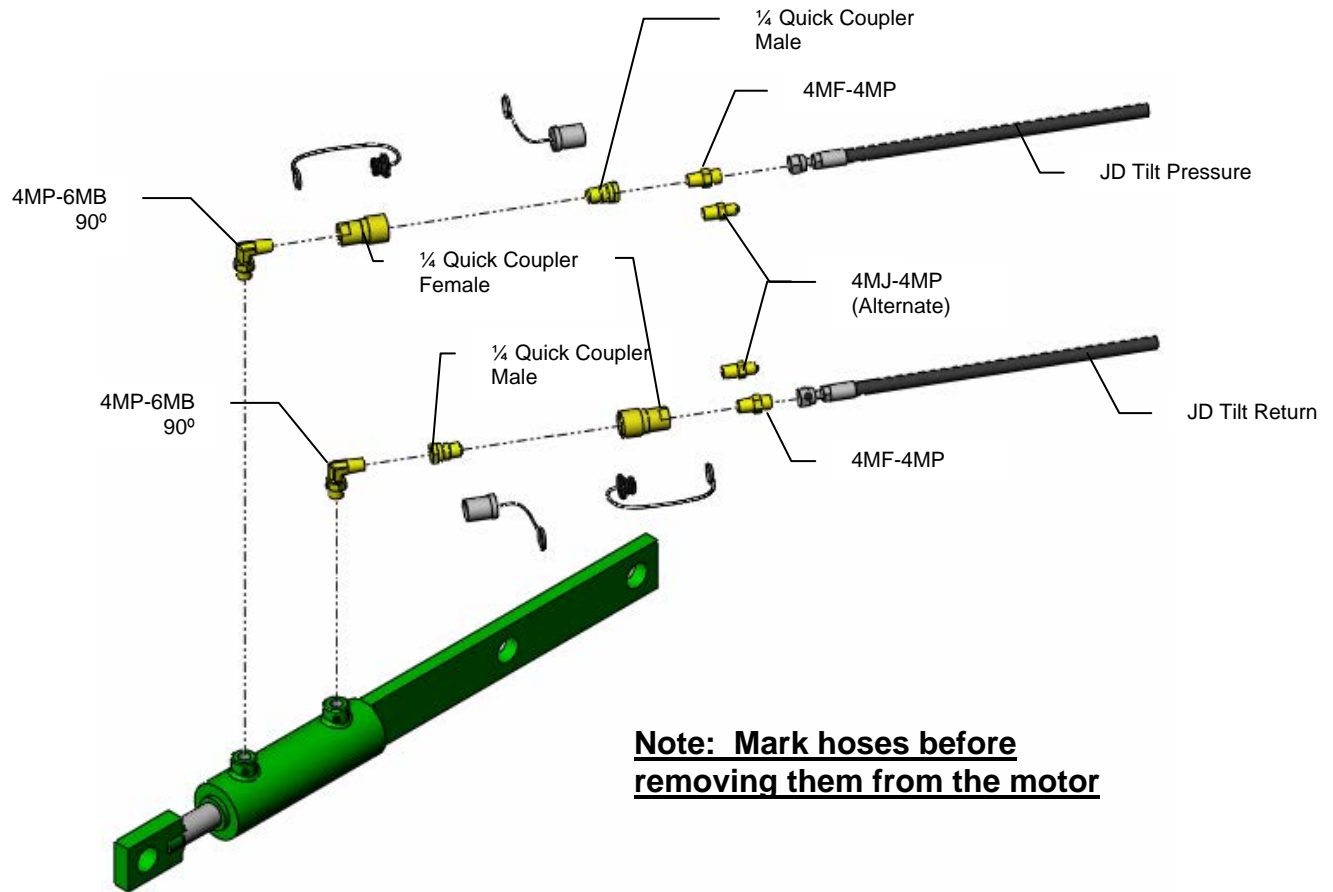
NOTE: USE A THREAD SEALANT ON ALL FITTINGS WITH PIPE THREADS. DO NOT USE THE THREAD SEALANT ON FITTINGS THAT HAVE AN "O" RING, A FACE SEAL OR A JIC SWIVEL.

The John Deere hydraulic motor will not be used on 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.

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 place of. Install the 12MB - 12FJX swivel adaptors, with applicable dust caps to the 3/4" quick couplers; Male on the forward pressure side and female on the return.
4. To the reverse pressure hose assemble a 16MF - 12MB, dust cap, and 3/4" male quick coupler.
5. To the forward pressure hose assemble a 16MF - 12MB, dust plug, and 3/4" female quick coupler.

INSTALL QUICK COUPLERS TO THE TILT CYLINDER.

Mark hoses before removing from the cylinder.



Note: Mark hoses before removing them from the motor

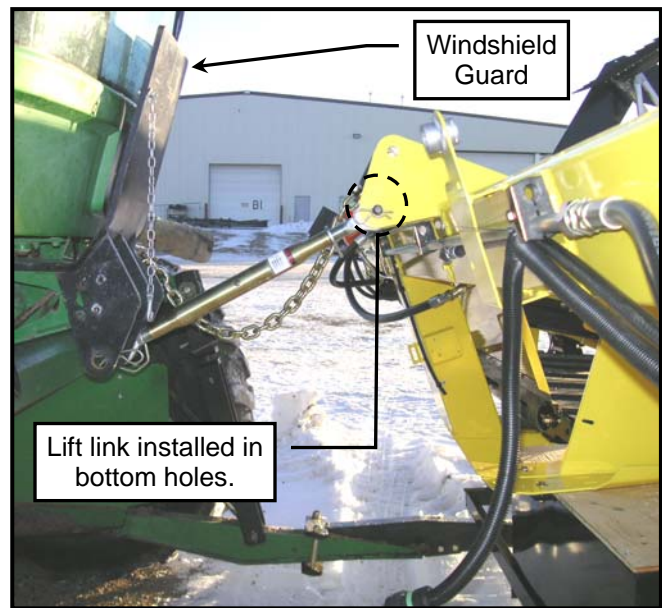
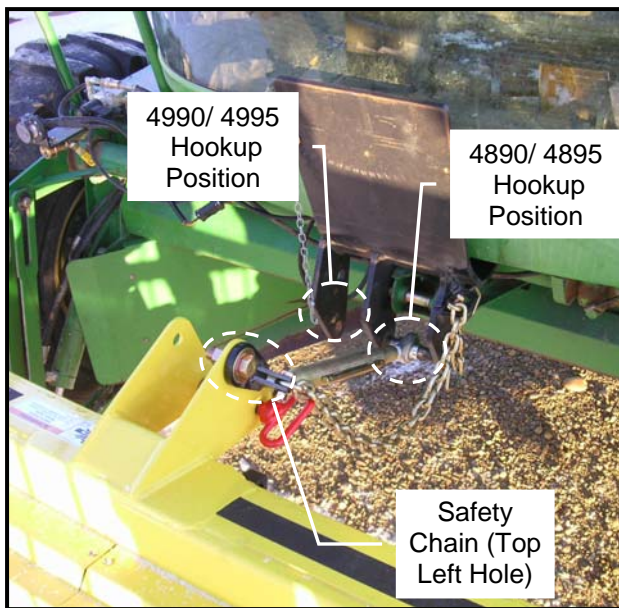
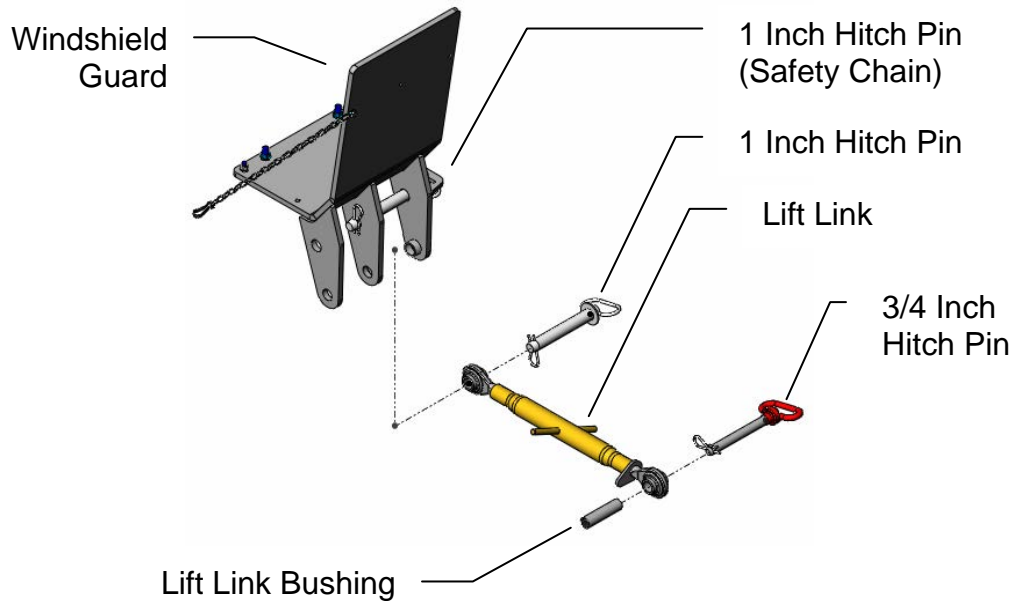
1. On the tilt pressure hose, install a 1/4" male quick coupler, dust cap, and a 4MP - 4MF nipple (alternate fitting 4MJ - 4MP).
2. On the return side, install a 1/4" female quick coupler, dust plug, and a 4MP - 4MF nipple (alternate fitting 4MJ - 4MP).
3. Install a 4MP - 6MB 90° elbow to the rod end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

NOTE: 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.

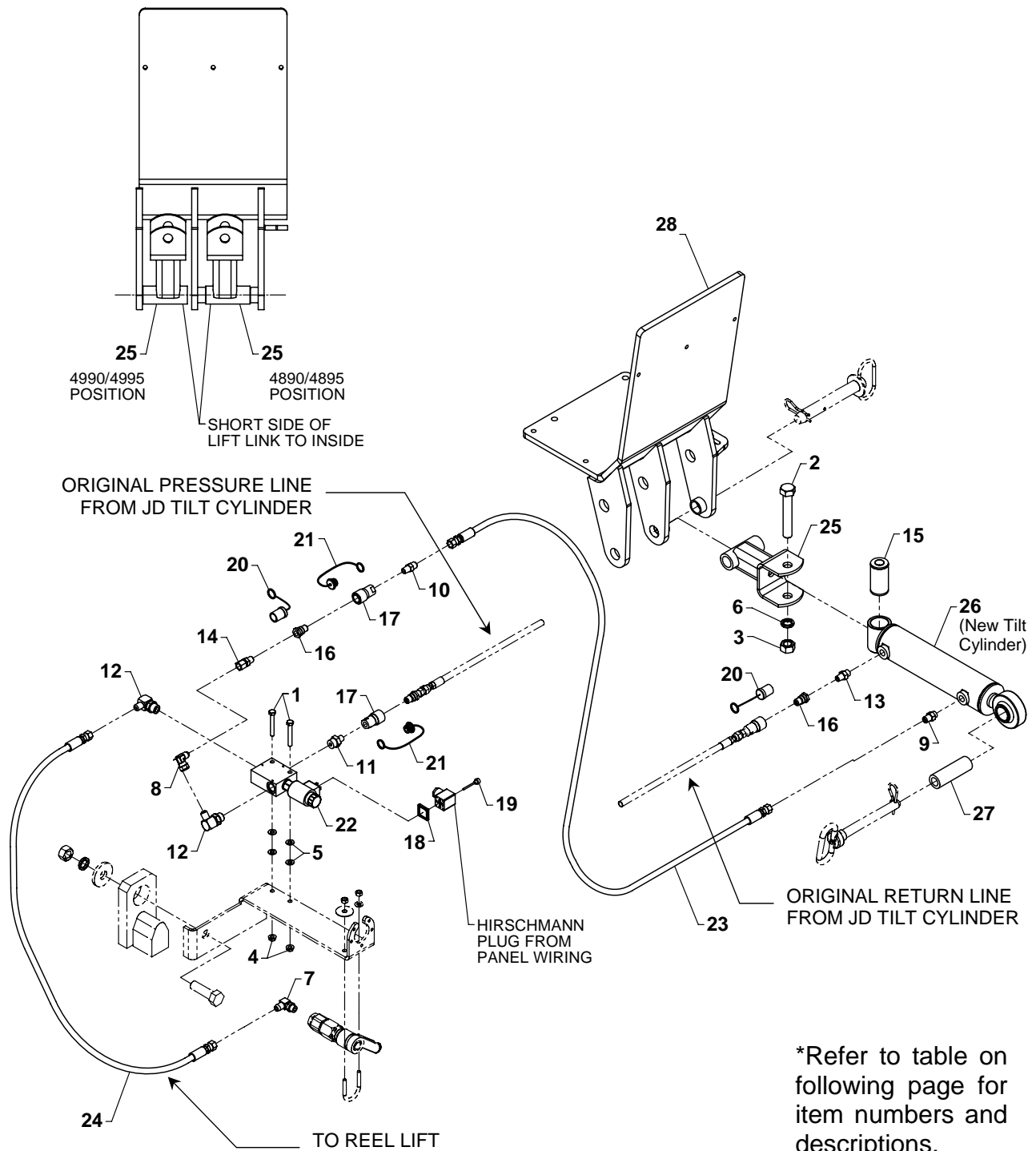
If reel lift does not work check to see if hoses are connected to the proper hoses, and the couplers are fully engaged.

INSTALL THE MANUAL LIFT LINK (STANDARD)

The manual lift link comes standard on the JD 4890/ 4895 windrowers. To install the manual lift link, first refer to “**INSTALL WINDSHIELD GUARD**” on page 18 of this manual. Then complete the installation of the manual lift link using the following diagram and pictures.

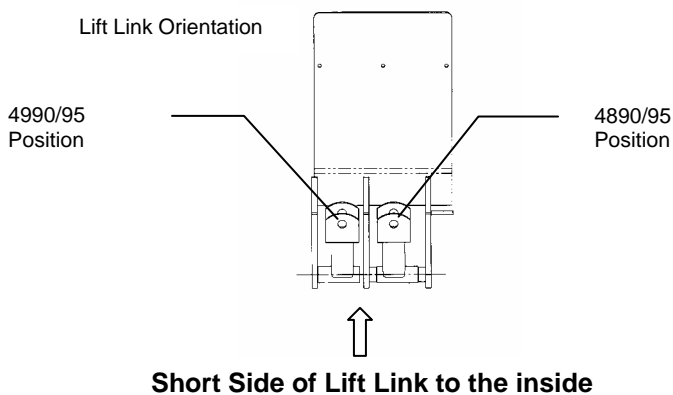


INSTALL THE HYDRAULIC TILT CYLINDER (OPTIONAL)



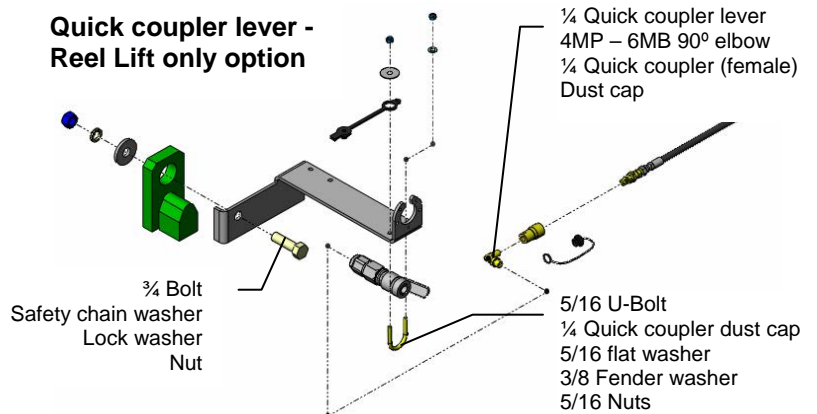
ITEM #	QTY	DESCRIPTION
1	2	BOLT 5/16 X 2-1/4 UNC
2	1	BOLT 3/4 X 4-1/2 UNC
3	1	NUT 3/4 UNC
4	2	NUT 5/16 UNC FLANGE LOCK
5	4	WASHER FLAT 5/16 PLTD
6	1	WASHER LOCK 3/4 PLTD
7	1	ELBOW 6MB- 6MJ -90°
8	1	ELBOW SWIVEL 6MJ- 6FJX-90°
9	1	NIPPLE 6MB - 6MJ
10	1	NIPPLE 4MP - 6MJ
11	1	NIPPLE 4MP - 8MB
12	2	ELBOW 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-HYDR. HEADER TILT
23	1	HH04 66 6FJX- 6FJX
24	1	HH04 13 6FJX- 6FJX
25	1	LIFT LINK-CYLINDER 2-1/2 X 8
26	1	CYLINDER 2-1/2 X 8 - 3000 PSI
27	1	BUSHING - LIFT LINK CYLINDER
28	1	GUARD - WINDSHIELD 3 LUG 06

1. Connect the lift link to the windshield guard using the 1 inch hitch pin. **Ensure that the lift link is in the proper position and the short side of the lift link is to the inside,** as shown:



2. Install the tilt cylinder to the lift link using the 3/4 inch hardware supplied (4-1/2 bolt, lock washer, and nut) and the RB-58 bushing. When not in use, use the chain supplied with the windshield guard to hold the cylinder in the storage position. Insert the 3/4 inch hitch pin and bushing into the other end of the cylinder when in storage.

3. Install the bracket mount to the power unit using the $\frac{3}{4}$ inch hardware (2-1/2 bolt, washer, lock washer, and nut). Connect the quick coupler lever under the bracket using the 5/16 u-bolt, $\frac{1}{4}$ quick coupler dust cap, 5/16 and 3/8 fender washer, and c/lock nuts



4. If the tilt cylinder option (previous page) has been ordered, install the valve assembly to the mount using 5/16 hardware supplied (2-1/4 bolt, flat washers (2), and nut). The Hirschmann plug should also be installed at this time using the gasket and screw provided.
5. On the tilt pressure hose, install a $\frac{1}{4}$ 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 $\frac{1}{4}$ 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 $\frac{1}{4}$ 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.

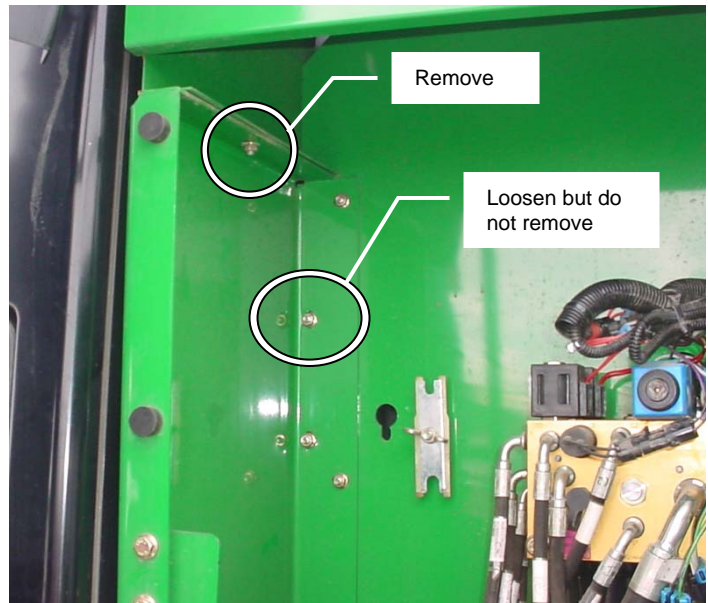
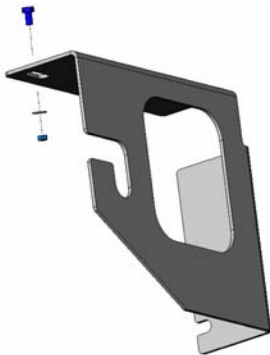


MOUNTING BRACKET INSTALLATION

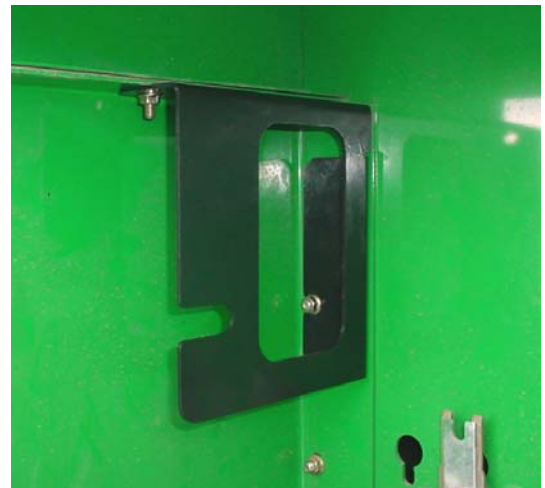
On the left side of the power unit at the top of the stairs, access the compartment door behind the cab.



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 and reinstallation will be difficult).



Slide the bracket between the previously loosened nut and frame. Insert a 5/16 bolt (included) through the top hole of the frame, then the bracket, washer and nut. Tighten the nuts to secure.

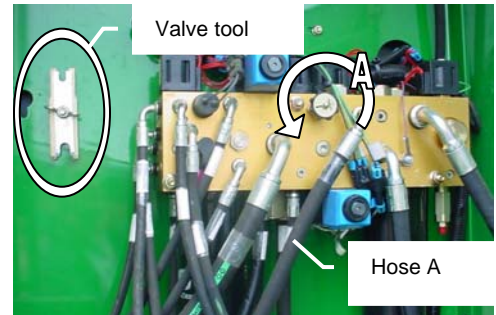


HOSE INSTALLATION

Start the power unit and lower the table to the ground.

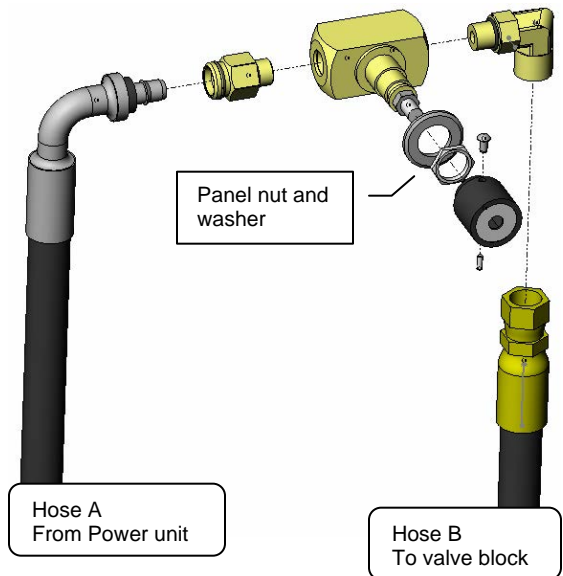
To locate the manual float release valve (A), open the side panel on the left side of the power unit at the top of the stairs (see bracket installation) and relieve the pressure by opening the valve (counter clockwise).

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

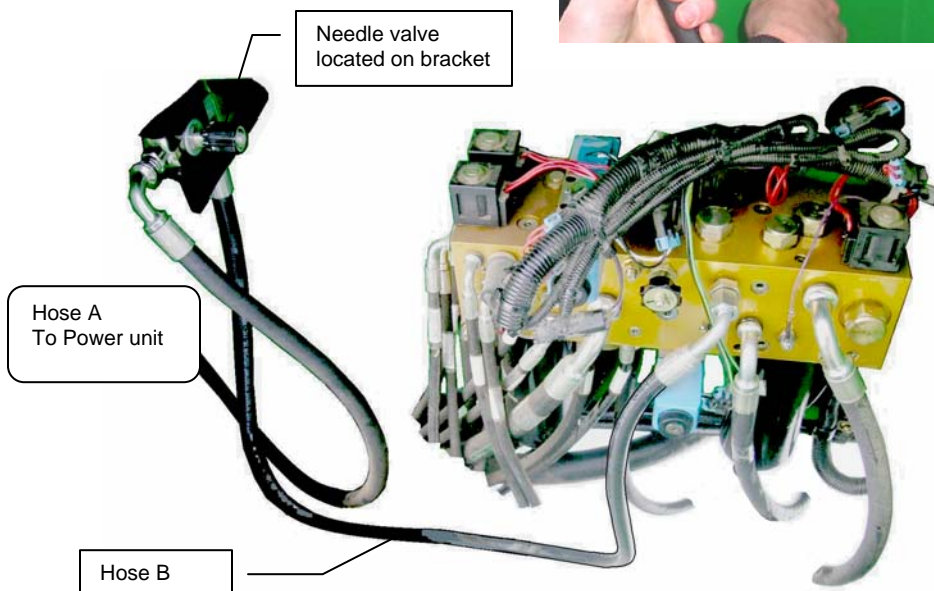
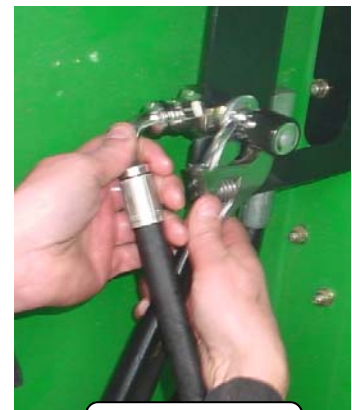


Disconnect the platform lift hose (Hose A) at the block (using the valve tool on the power unit) and connect the supplied hose (Hose B) to the block using the fitting supplied.

Disassemble the needle valve knob from the body and reassemble using the panel nut and washer (as shown). Install to the needle valve, the supplied hose (Hose B) using the elbow (supplied), and the power unit hose (Hose A) with the adapter fitting (supplied).



Slide the needle valve onto the mounting bracket and tighten to secure. Close the manual float release valve (clockwise) and set your flow rate through the needle valve.

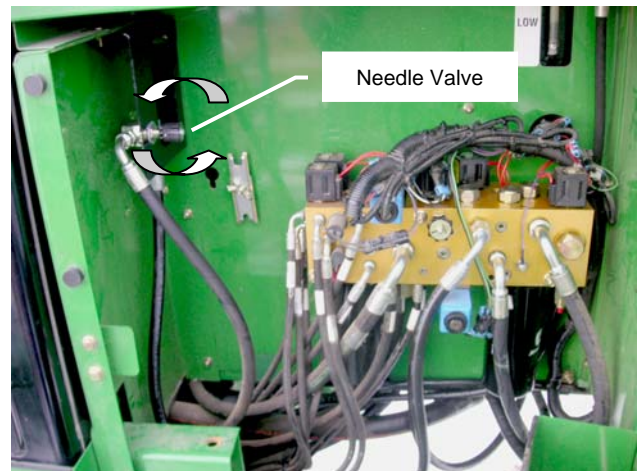


NEEDLE VALVE OPERATION

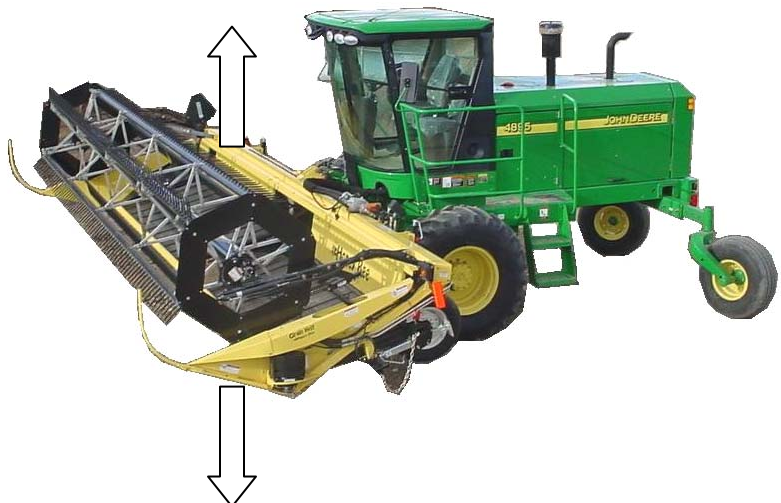
To locate the needle valve that regulates the platform lift and drop circuit, open the compartment door on the left side of the power unit at the top of the stairs.



To begin with a slow and safe table drop rate, turn the needle valve clockwise to limit the oil flow going to the lift arms (do not turn the valve completely closed).



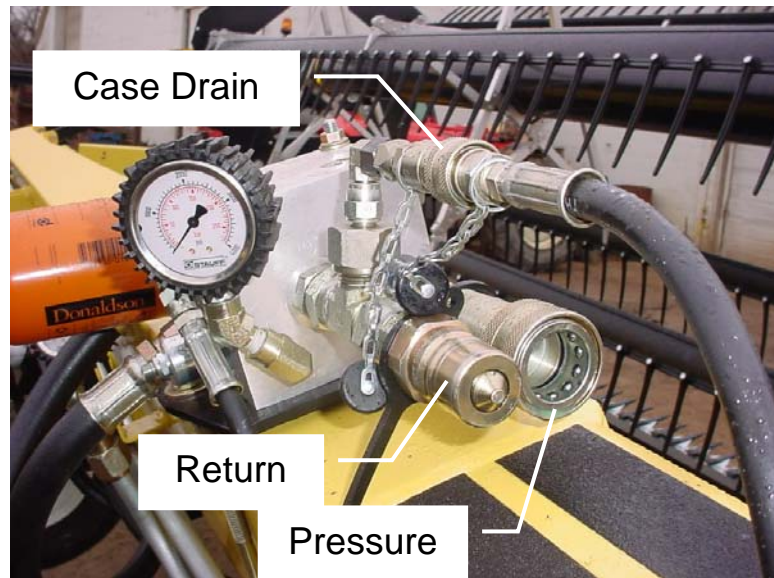
Raise and lower the table a few times to find the rate of speed that allows ease of operation, while ensuring full control. If the rate is too slow, turn the needle valve counter - clockwise at discretionary increments and test the drop rate speed at each interval.



CHANGES TO THE TRACTOR HYDRAULICS

The header receives power from the reverse pressure of the tractor. Connect the Pressure, Return and Case Drain hoses to the header.

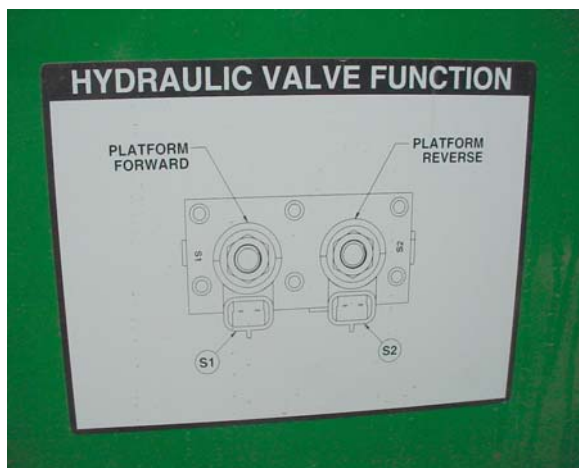
NOTE: WHEN HEADER IS IN STORAGE, THE CASE DRAIN HOSE SHOULD BE RECONNECTED. THIS IS TO RELIEVE PRESSURE IN THE CLOSED HYDRAULIC SYSTEM. OTHERWISE DAMAGE TO SYSTEM COMPONENTS MAY OCCUR.



JD 4895 SOLENOIDS

Locate the hydraulic valve function in the access panel on the right side of the power unit. Mark the wires on solenoids S1 (Platform Forward) and S2 (Platform Reverse). Disconnect the control plugs to these two solenoids. Take the control wire for solenoid S1 and connect it into the S2 solenoid. This allows the reverse side of the pump to be used with the forward switch.

If switching back to a mower-conditioner, switch the wiring on the solenoids back to original settings.



JD 4895 TRACTOR

In order to supply 19 gallons of oil to the Honey Bee table, the reverse mode of the pump is used. Locate the pump under the engine access panel on the right hand side of the power unit.

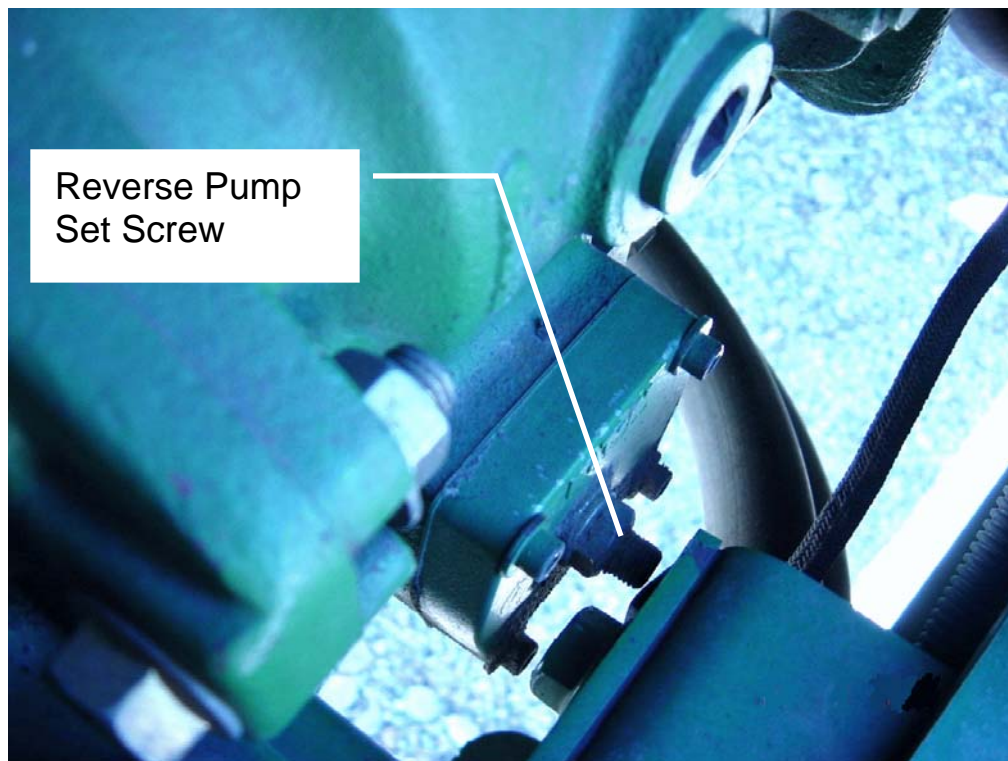
Start the power unit, engage the header drive, and operate machine at full rpm.

Locate the adjusting screw for the reverse flow of the pump. Loosen the lock nut, and back off the set screw until 19 gpm is obtained. It may be necessary to use needle nose pliers to adjust set screw.

Using the display for the knife speed, screw the Allen screw out until the display reads 720 rpm. This reading will be approximately 19 gpm to the knife drive.

Caution: Damage to knife, knife heads and knife drive may occur if knife is allowed to exceed recommended speed.

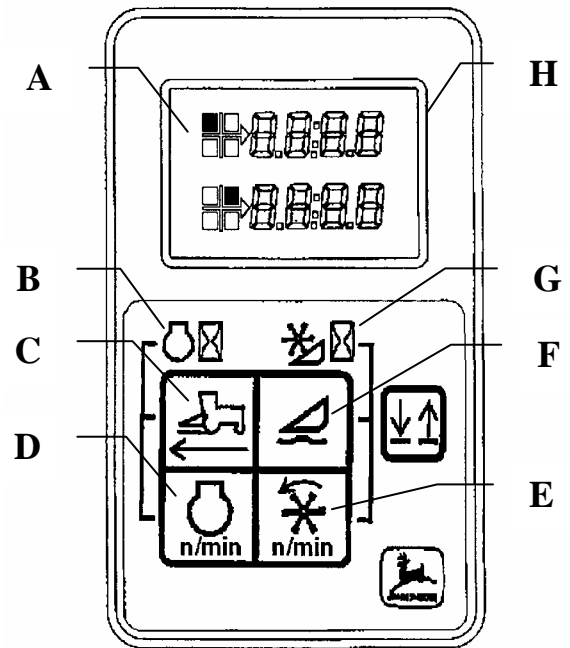
Excessive knife speed will void all warranty.



PROGRAM TACHOMETER

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

1. Move key switch to "OFF" position.
2. Press and hold the Ground Speed (C) and Float Pressure (F) buttons while turning the key switch to "RUN" position to enter the "Setup" mode. The upper left quadrant will be displayed in the function selected display (A) and the primary machine code will be displayed in the digital display (H).
3. Press the Ground Speed (C) or Engine Speed (D) buttons to increment the machine type code up or down until the code reads "13".
4. Press the Reel Speed (E) and Float Pressure (F) buttons at the same time to store the code and move to the next step.
5. The upper right quadrant will then be displayed in the "function selected" display (A), this is not used, press the Ground Speed (C) or Engine Speed (D) to increment this reading to "0". The secondary code is "1" for 4895 (the difference is input range for reel speed/platform speed).



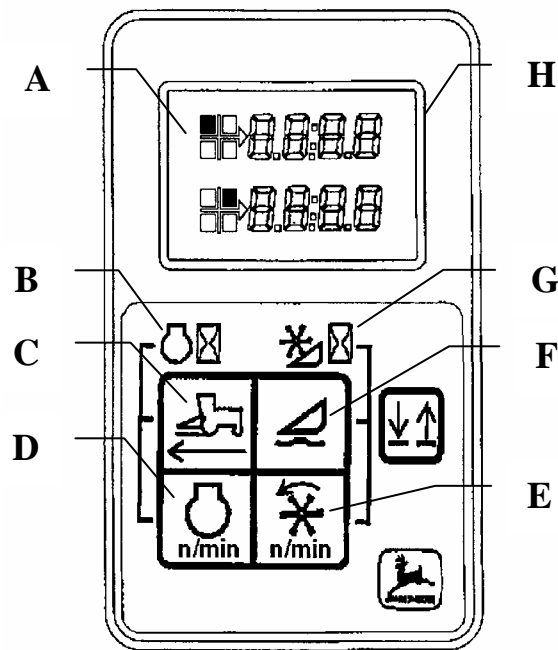
A	- Function Selected
B	- Engine Hours
C	- Ground Speed (mph)
D	- Engine Speed (rpm)
E	- Reel Speed (knife drive)
F	- Float Pressure (psi)
G	- Platform Hours
H	- Digital Display

***NOTE: IF THE DISPLAY DOES NOT READ CORRECTLY WITH CODE "1" TRY CODE "0" AS AN ALTERNATE NUMBER.**

6. Press the Reel Speed (E) and Float Pressure (F) buttons at the same time to store the code and move to the next step.
7. The lower right quadrant will then be displayed in the "function selected" display "A". Press the Ground Speed (C) or Engine Speed (D) to increment this reading to "26". Beginning with 2002 model year, this number is "24.5" because of the final drive ratio change.
8. Press the Reel Speed (E) and Float Pressure (F) buttons at the same time to store the code and move to the next step.

PROGRAM TACHOMETER – continued

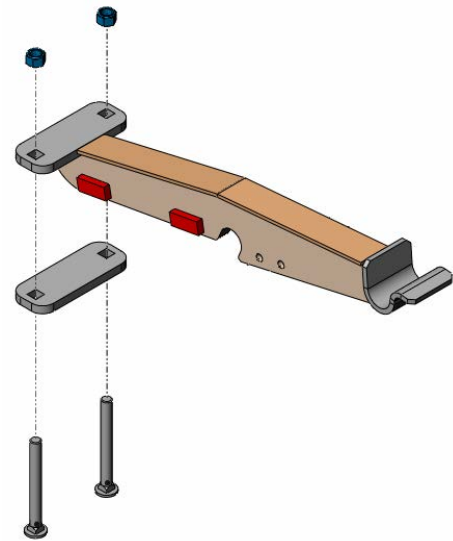
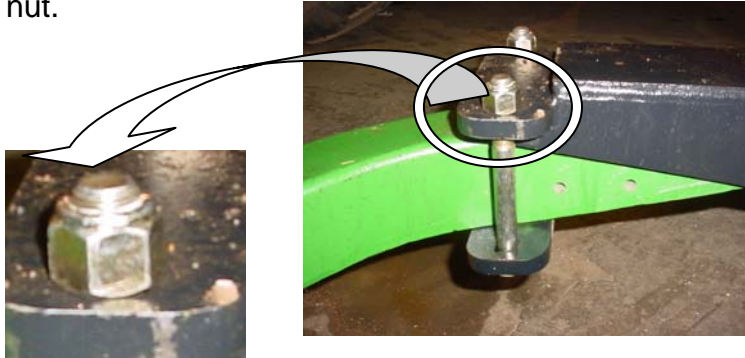
9. The lower left quadrant will then be displayed in the “function selected display (A) and the number of pulses per engine revolution will be displayed in the digital display (H).
10. Press the Ground Speed (C) or Engine Speed (D) to increment this reading to “30”.
11. Press the Reel Speed (E) and Float Pressure (F) buttons at the same time to store the code.
12. Turn key switch to “OFF” position to exit “Setup” mode.



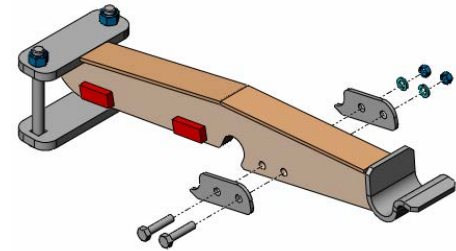
- A - Function Selected
- B - Engine Hours
- C - Ground Speed (mph)
- D - Engine Speed (rpm)
- E - Reel Speed (knife drive)
- F - Float Pressure (psi)
- G - Platform Hours
- H - Digital Display

INSTALL LIFT ARM EXTENSIONS

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. Secure the bolt only 2 or 3 threads past the nut.



Install the lift arm extension stops to both sides of each clamp plate and secure using $\frac{1}{2}$ x 2-1/4 inch bolts, washers and nuts.



Note: Do not secure the $\frac{3}{4}$ inch bolts all the way. The extensions are designed to act as a lever (or hinge) between the table and the lift arms.

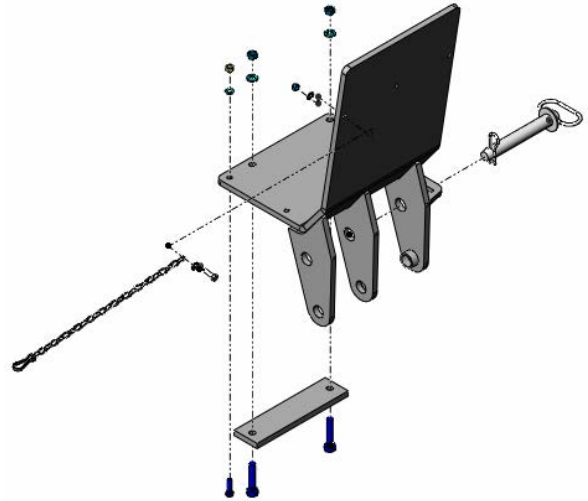


INSTALL WINDSHIELD GUARD

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

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 a clamp plate and $\frac{1}{2}$ x 2-1/2 in bolts.

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.



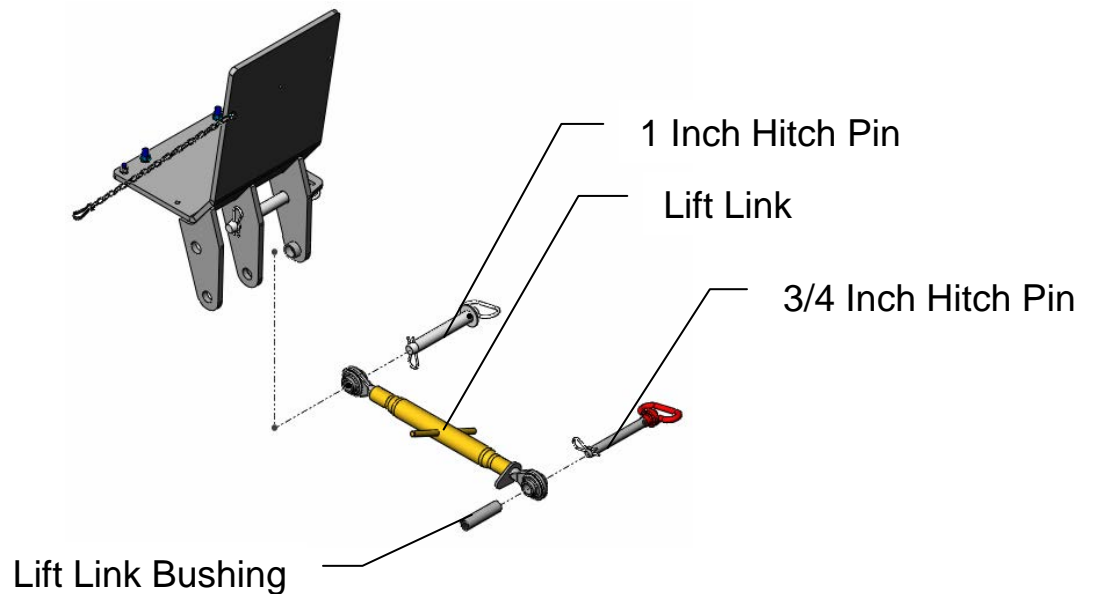
An extra hole is located on the guard to bolt the existing clamp to the guard and keep the electrical lines in order.



The windshield guard shown with the optional tilt cylinder in the storage position.



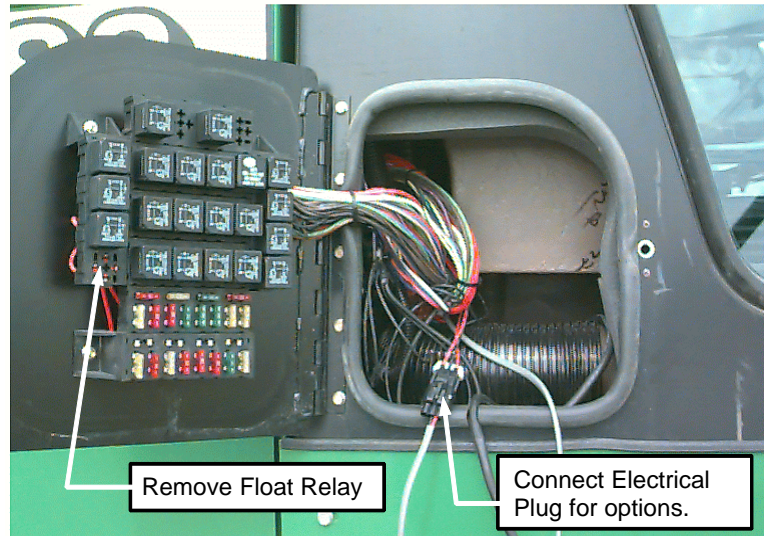
Connect the top link to the windshield guard and secure until fit up to the table.



ELECTRICAL MODIFICATIONS

1. Open the electrical access panel on the right side of the power unit. Remove float relay from electrical panel. When relay is removed, the lift and lower mode changes so that the table will stop when the switch is released.
2. If the optional deck shift, draper speed (now standard), fore and aft, and/or header tilt was purchased, connect the plug from control console to the additional power source plug.

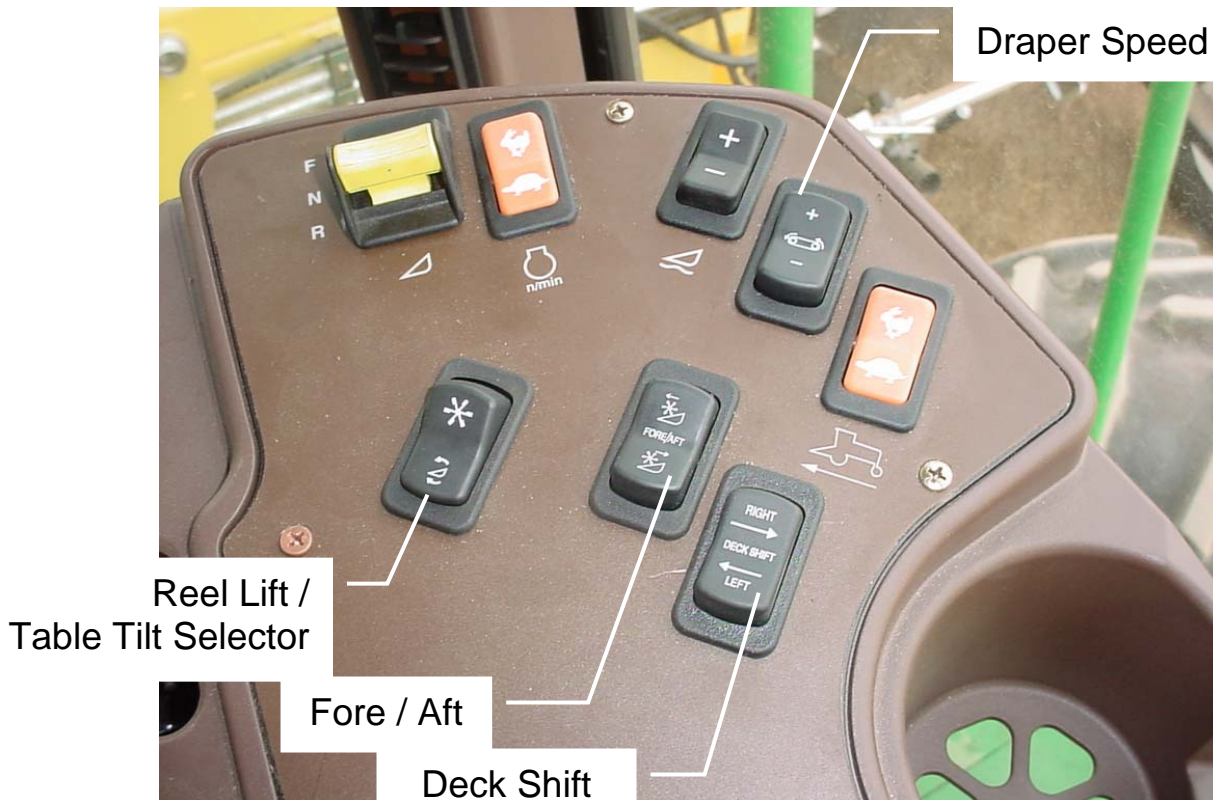
NOTE: The swather can be operated with the float relay left in. When the switch is activated up, the table will rise all the way to the top. When the switch is activated down, the table will drop to the preset float height.



CONTROL CONSOLE 4895

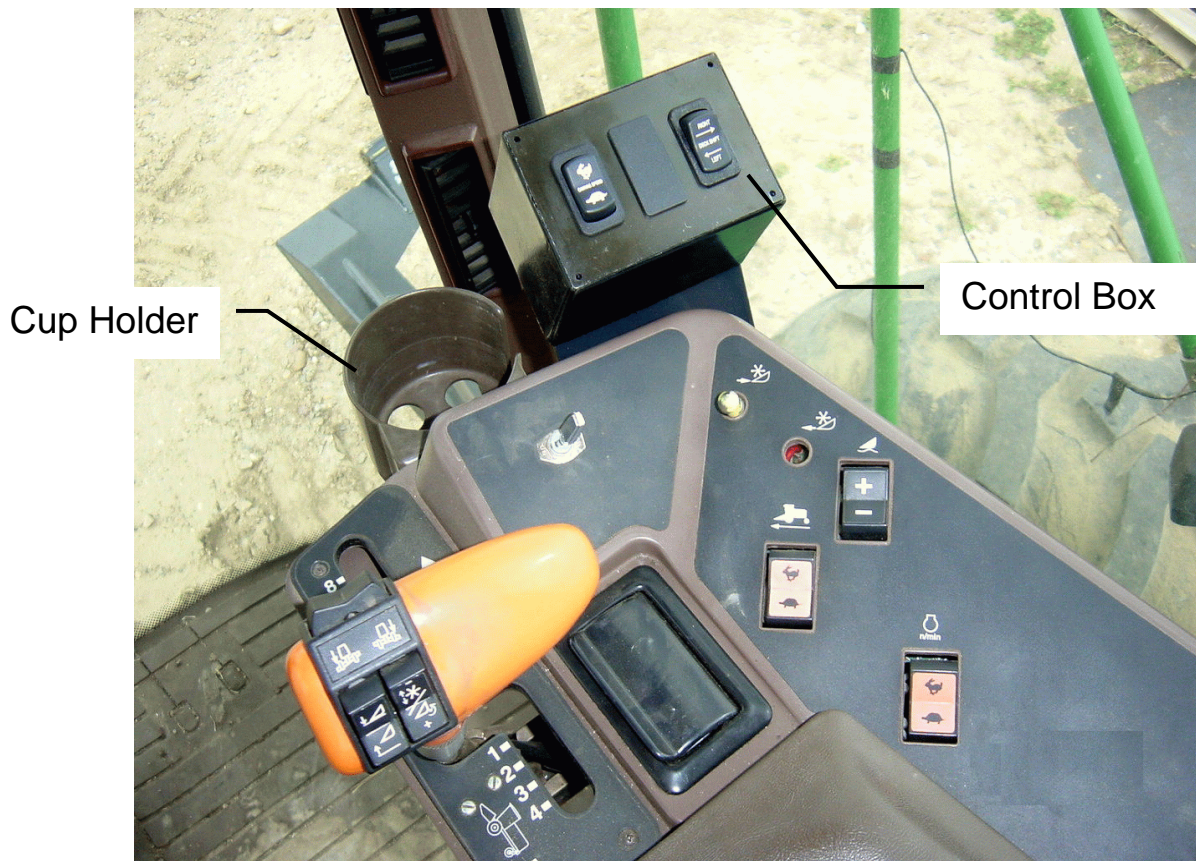
A draper header with standard configuration will not require any additional switches to be added to the control console. Reel speed and table (header) tilt is controlled with the standard switch supplied in cab, located on the FNR lever.

The switches for the standard draper speed control, optional shifting decks, fore/aft reel options and the table tilt/reel lift options are installed into the control console. Run wires into electrical access panel.



CONTROL CONSOLE 4890

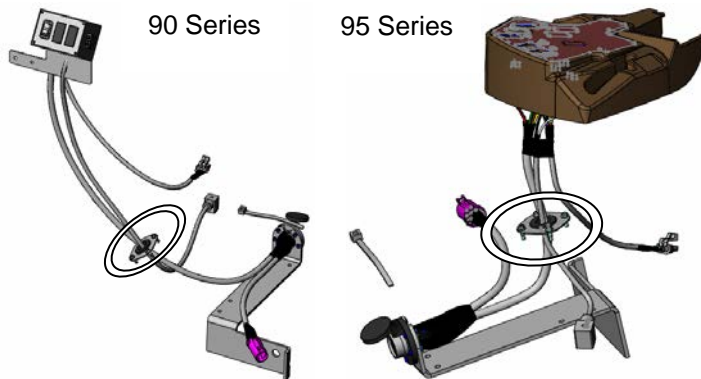
For the 90's series (4890) power units, Install the standard draper speed control, optional shifting decks, fore/aft reel options and the table tilt/reel lift options into the control console, if optional packages were purchased. Remove the two screws that hold the cup holder, and mount the control panel bracket in place behind the cup holder. Run wires into electrical access panel.



CONTROL CONSOLE – WIRING LOCATION

Wiring for the console should be located through the floor on the right hand side in the cab.

The location of the hole to be made will be identified by an existing plate located under the mat in the cab. The hole diameter should be at least 2 1/2" to ensure that the wires can be fed to the outside since the wires are already assembled.



After the hole is made, insert the 7 way connector, 21 pin plug, and the Hirschmann connector through the floor and cover with the plate using the 4 teck screws supplied.



CONTROL CONSOLE - ELECTRICAL INSTALLATIONS (4895)

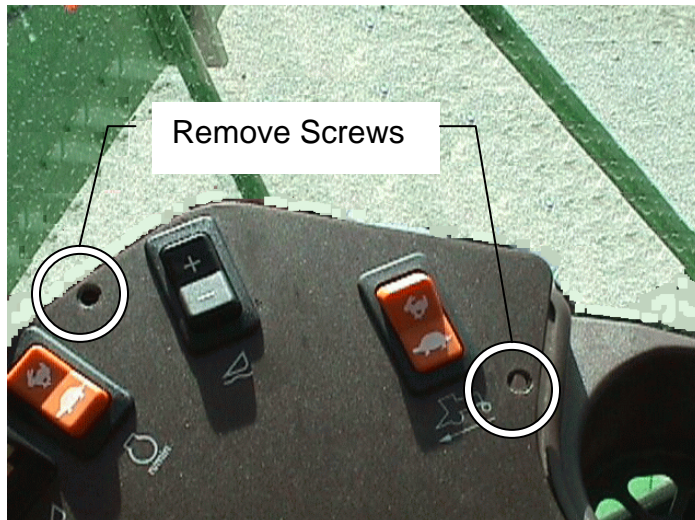
A draper header with standard configuration will not require any additional switches to be added to the control console. Reel Speed is controlled with the standard switch supplied in cab, located on the FNR lever.

If you have **ONE** option: There is space in the control console for adding one option. A control cable and switch will need to be installed.

PANELS WITH ONE OPTION:

Installation of switch and control cable.

1. Remove the three screws that hold the control console panel cover.
2. Lift cover, unplug cables to the switches. Locate the knock out from the back side.
3. With a sharp knife, cut the vinyl cover along the edge of the knock out.
4. The metal tab can be cut with a metal cutting jig saw blade or knocked out with a punch. File any burrs smooth.
5. Insert function switch into control panel from the top side, snap it into place. Leave cover off until control cable has been installed.
6. Install control cable. See Figure 21.



Single Option

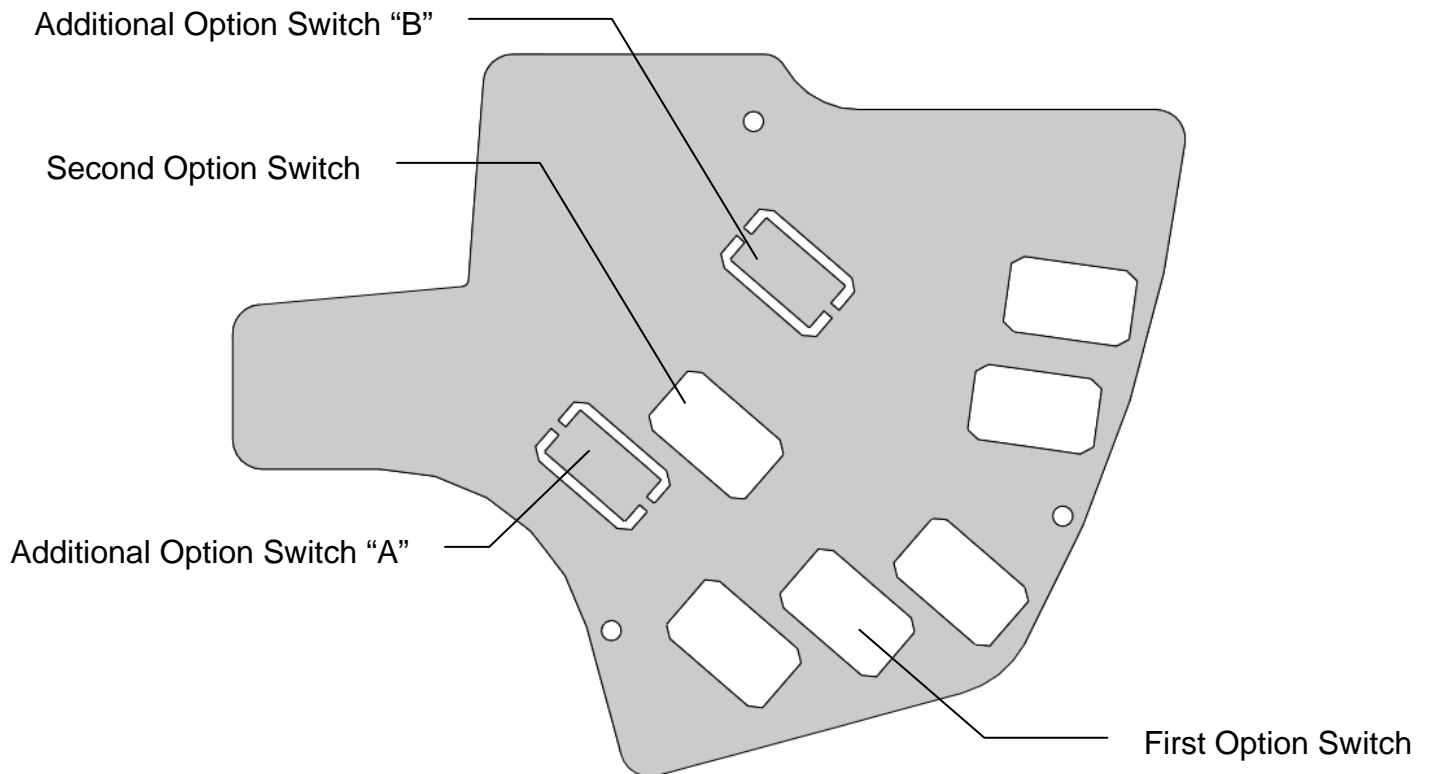


PANELS WITH TWO OR MORE OPTIONS:

Require the following parts.

Control console template
Decal template
Control switches
Control cable

1. Cut out the correct number of holes for the switches that will be installed.
2. Remove the original JD switches from the old control panel and install them in the new panel.
3. Insert additional function switches into control panel from the top side, snap it into place. Leave cover off until control cable has been installed.

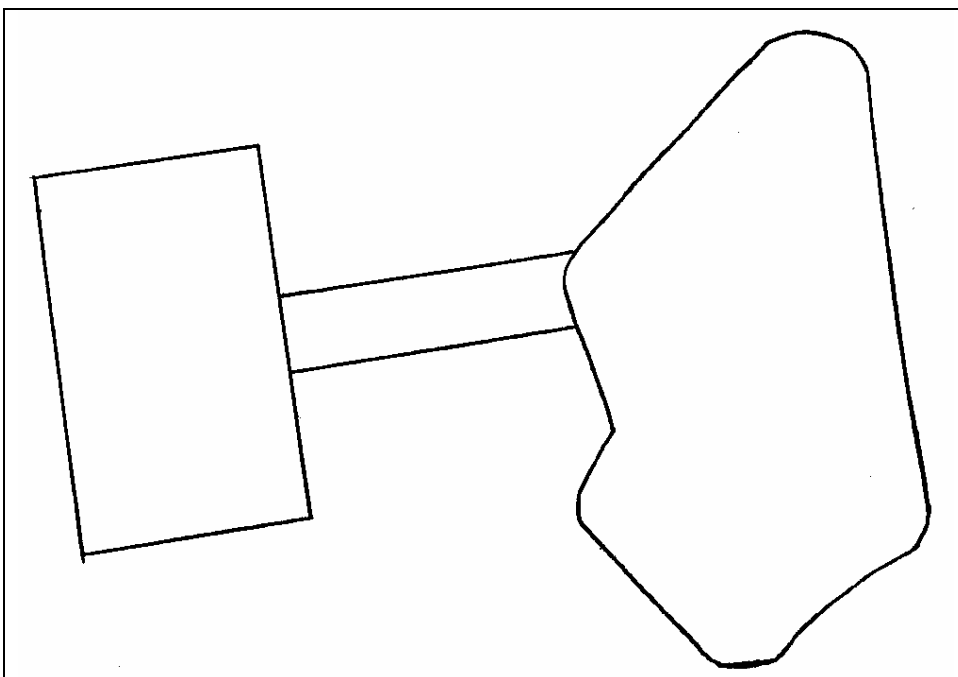


If not all options are being used, cut out additional option switch "A" first, before cutting "B".

If only one option is installed, no modifications to the control console base are necessary.

With two or more options though, the following modifications will be required.

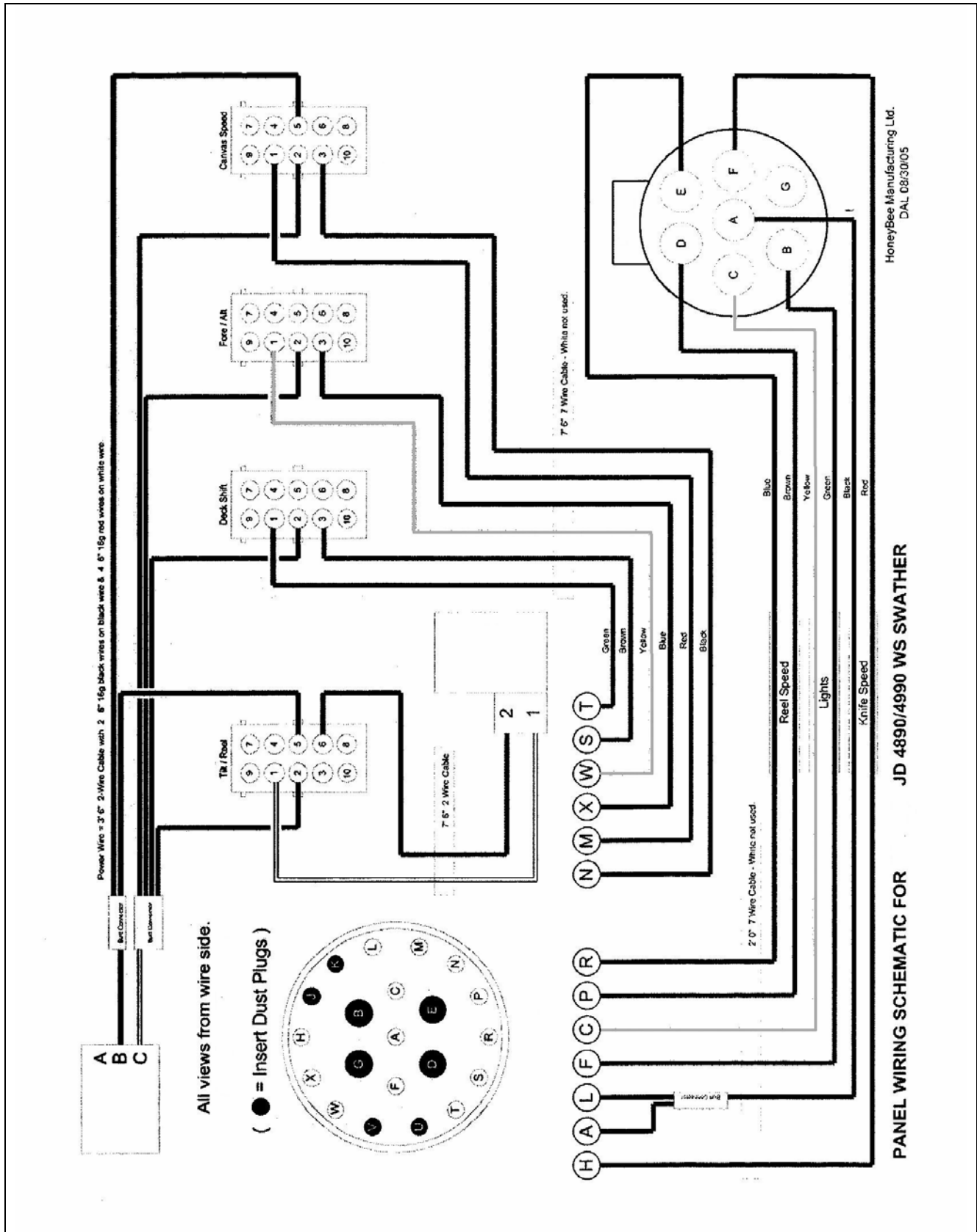
- Running the wires through to the control console requires a hole to be cut in the bottom of the panel base where the switch will be inserted. Use the template at right to trace the hole to be cut. Use a die grinder with a sharp cutting blade.



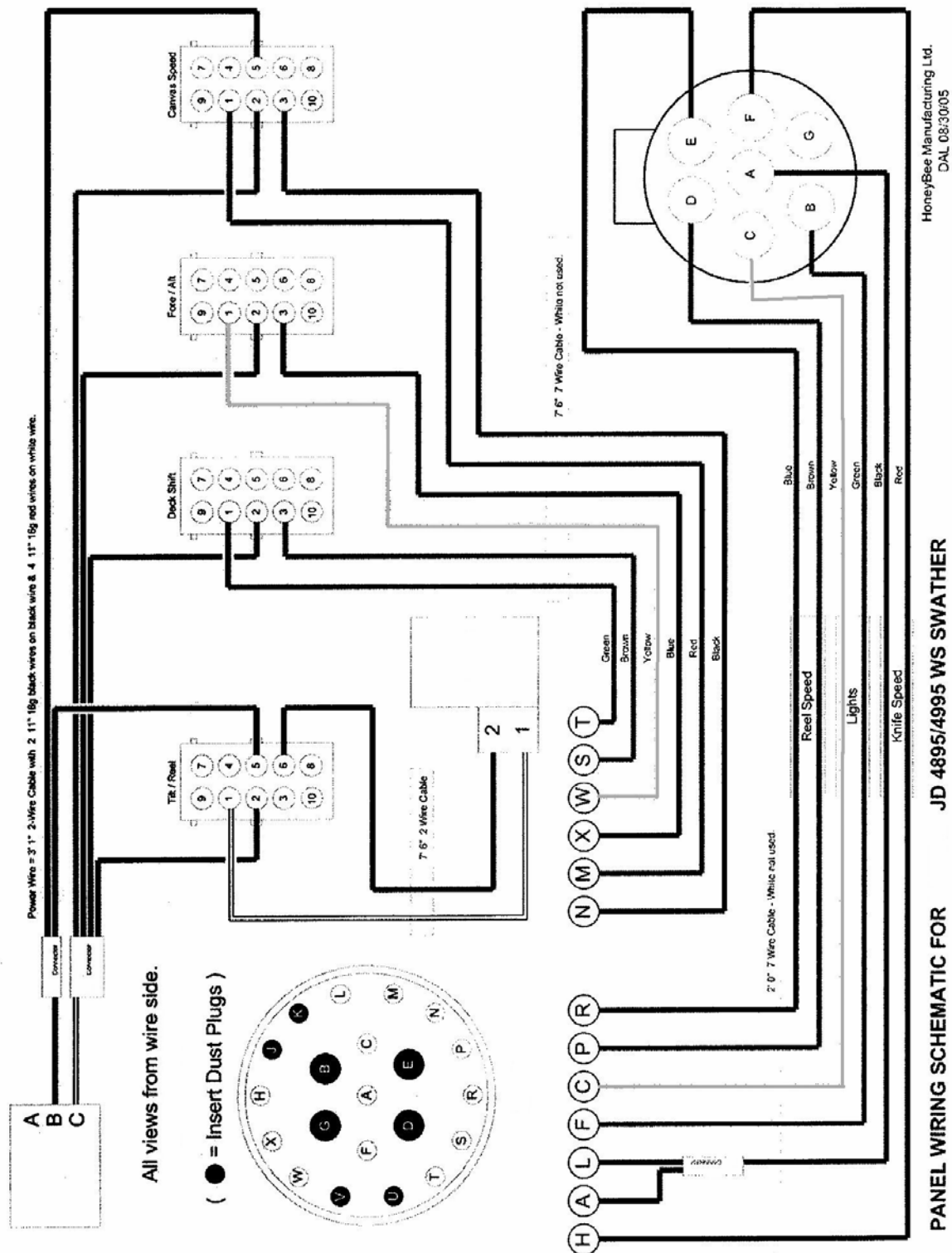
Cutting Template

The wires should already be connected to the switches. In case of disconnection or question of switch placement, refer to the following schematics for orientation of wires.

4890



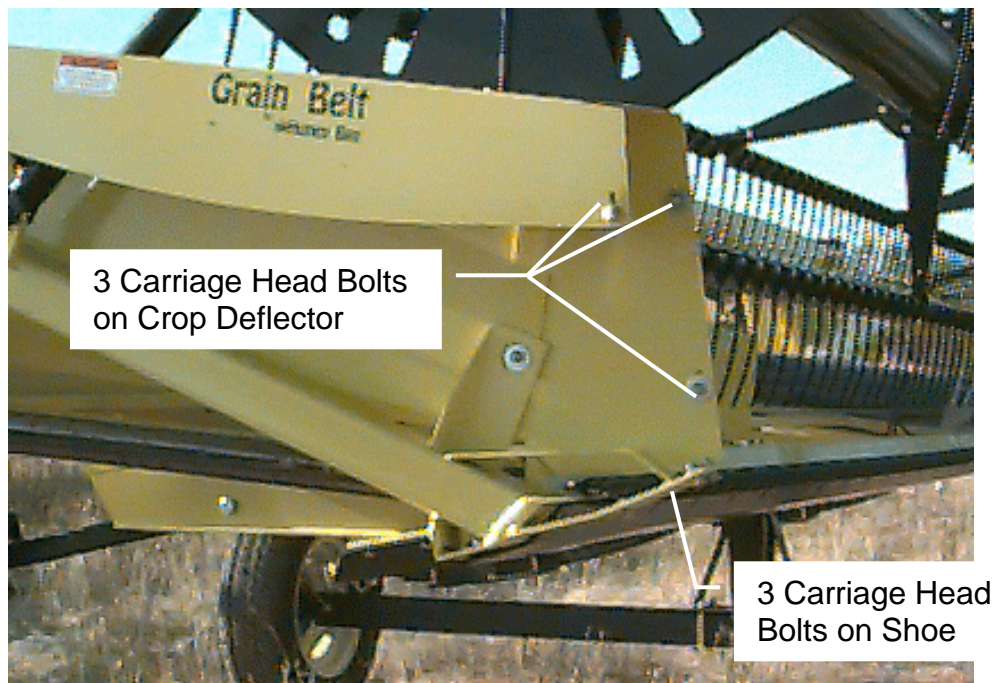
4895



SWATHER PREPARATION

1. Park the Grain Belt Swather on flat, hard, and level ground. Support the hitch end of the swather by lowering 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 or pipes are not installed at the factory. **Operators should be aware of the transport width of the table and should check local regulations.**
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 crop divider, through the table shoes, at each end of the table, and are held in place by flat washers and crimp lock nuts. The crop divider overlaps the outside of the crop deflector to provide a smooth transition for the crop. The other three carriage head bolts are installed from the inside of the formed sheet metal portion of the crop divider, into the crop deflector. The bolts are held in place with flat washers and crimp lock nuts.

NOTE: The inside edge of the crop divider and pipe should be aligned so that they are approximately 90 degrees to the cutter bar. This will allow the crop to be separated well and helps prevent crop from plugging in the corners.

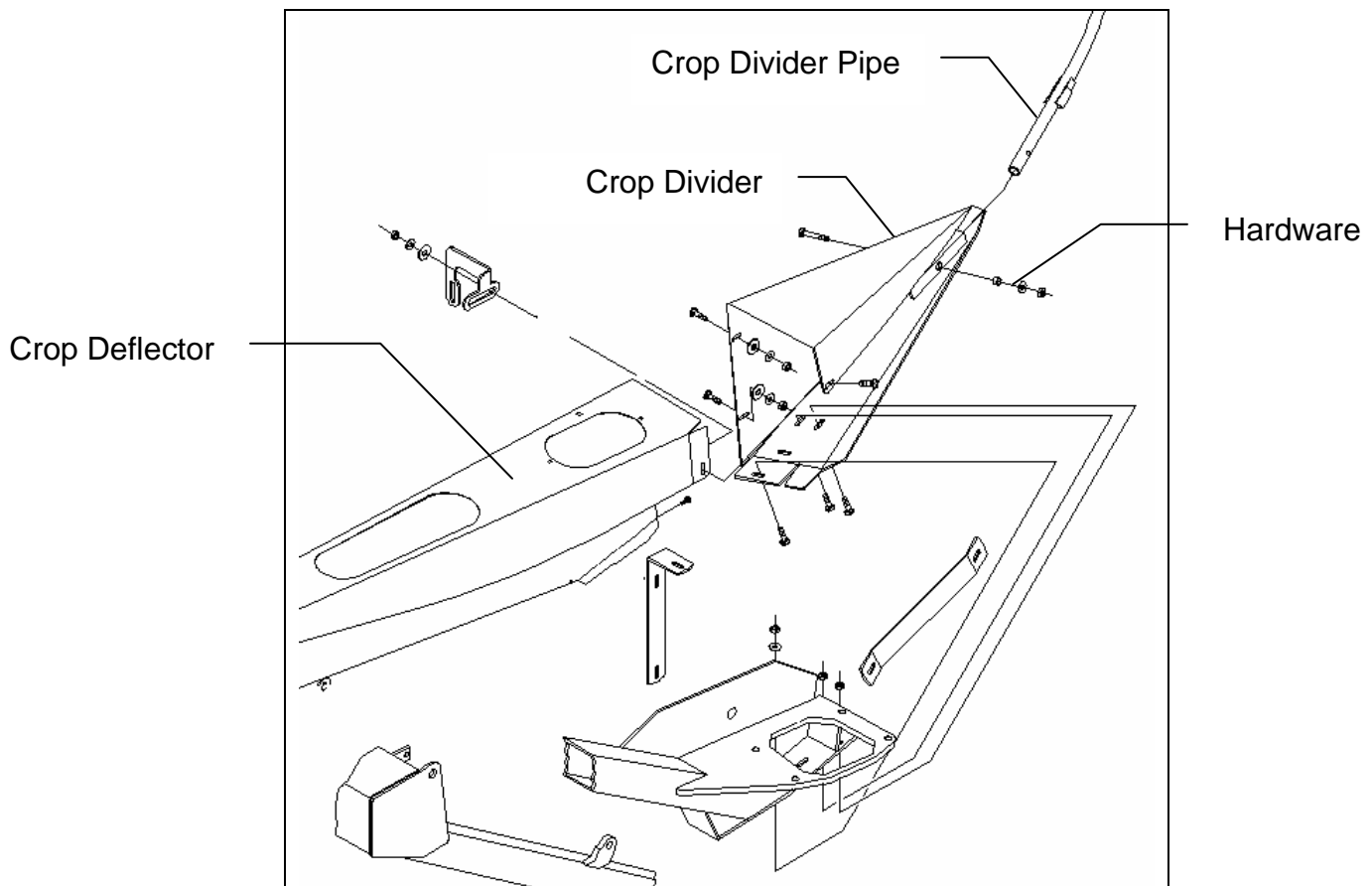


SWATHER PREPARATION (continued)

4. Side view of header showing deflector, divider and crop divider pipe in place.



5. Install the crop divider pipe into the crop divider using a 3/8" x 2" carriage head bolt. After the bolt is inserted through the divider and pipe, install a bushing-spacer onto the bolt followed by a flat washer and a lock nut. The bushing-spacer should press tightly against the crop divider pipe to hold it firmly in place.



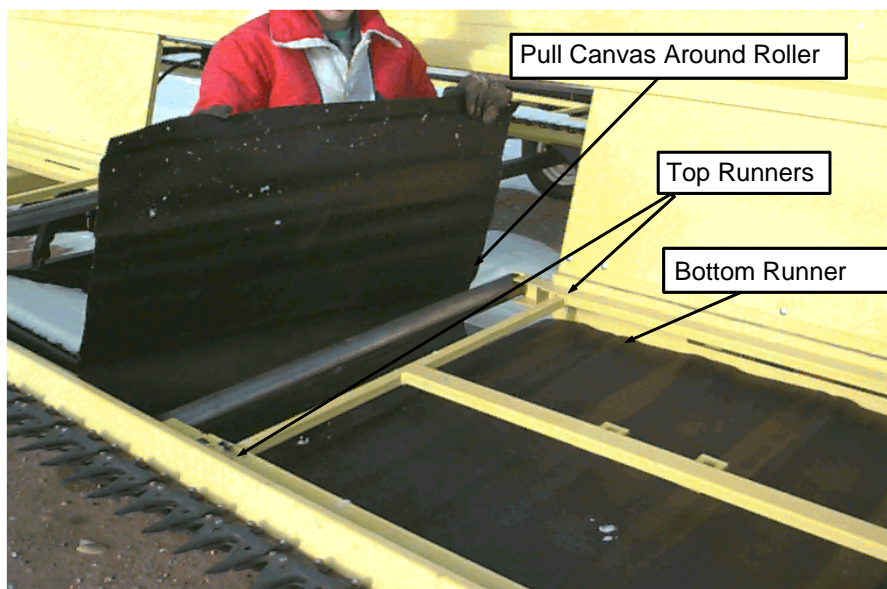
SWATHER PREPARATION (continued)

6. Install draper belts onto the decks if not installed.

Depending on how the header is equipped there may be two or three lateral drapers on the header. The lateral draper moves the material from the cutter bar to the center opening. All drapers must be set properly and maintained in good condition to perform well. Quick release adjusters with spring tensioning have been installed to allow for easier cleaning of internal parts and to maintain proper draper tension.

DRAPER INSTALLATION

Unpack draper, and check size so that it corresponds to the size of the deck. Place draper bundle on the top of deck runners. Unroll draper with the slats facing up. From one end, wrap draper around one of the rollers and pull draper along the top side of the lower runner of the deck. On the underside of the deck, the lower runners should support the draper, to prevent it from hanging down.

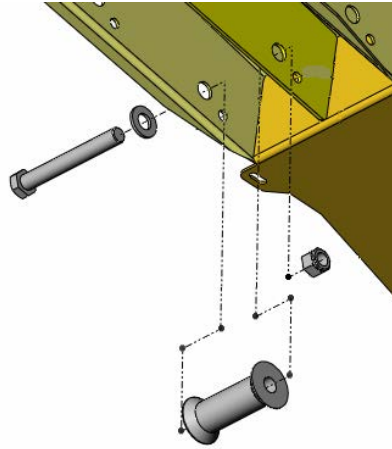


Continue to pull draper until it can be wrapped around the other roller. Pull the ends of the draper together. Install a connector bar to the draper joint using the pre-punched holes. The heads of the screws should be installed from the center deck opening side. This helps to prevent the crop from being caught on the screws. Complete installation by adjusting tension and tracking.

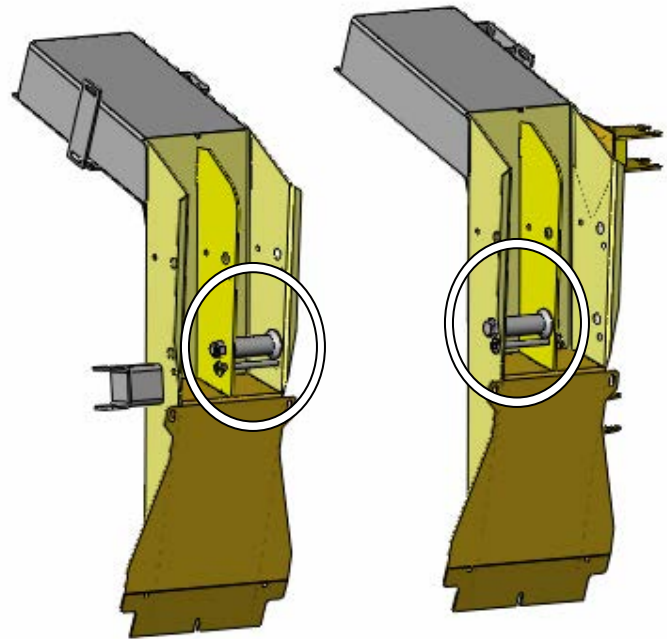
SWATHER PREPARATION (continued)

Prior to mounting the table to the power unit, ensure that the lift arm rollers are securely fashioned to the proper hole locations on the inside sections of the wide struts.

Ensure that the 5/8 hitch pin is not in the struts at this time.



Install the roller using a 1 x 8 UNC bolt.



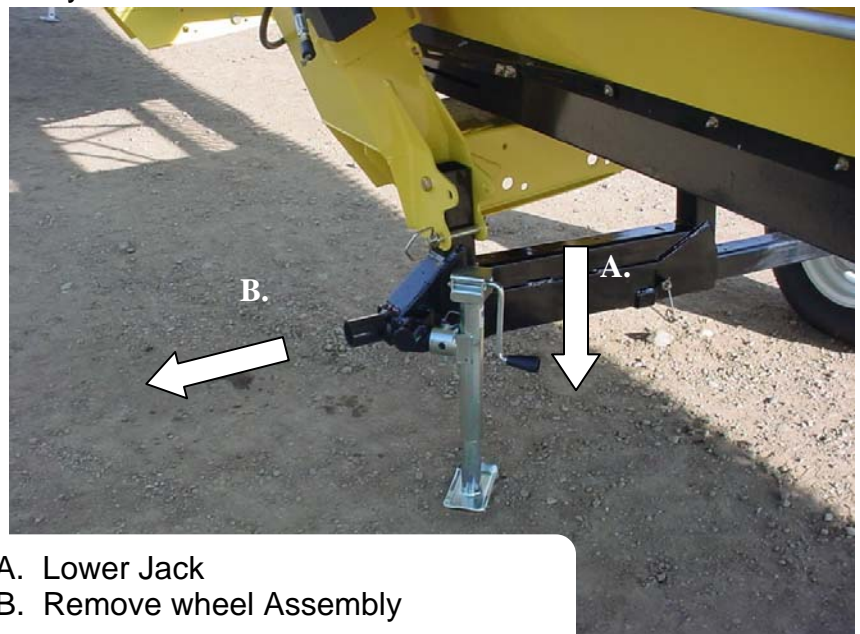
LH Strut

RH Strut

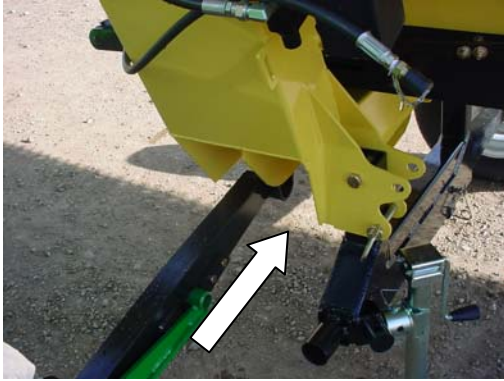
MOUNTING


1. Prepare the swather table for mounting by removing transport wheel from power unit side of table. In order to do this, lower the screw jack which is mounted to the side of the transport axle to raise the tire off the ground. Remove the quick pin that secures the hub and spindle, and remove wheel assembly from axle.

If gauge wheel option has been purchased, install the tire assembly into left hand gauge wheel bracket.



- A. Lower Jack
B. Remove wheel Assembly

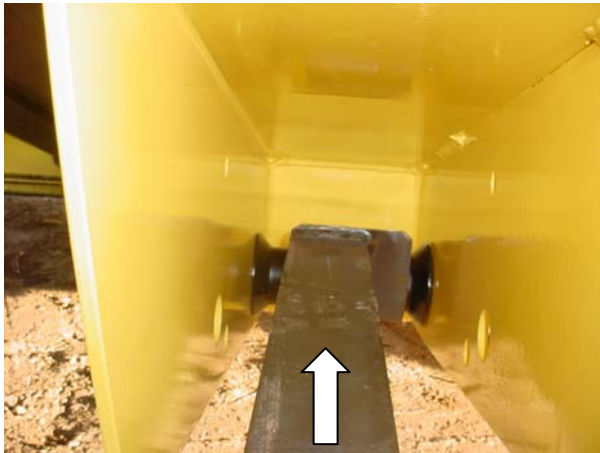
MOUNTING (continued)

Align the Lift Arms with the Struts and lift to engage the Rollers.

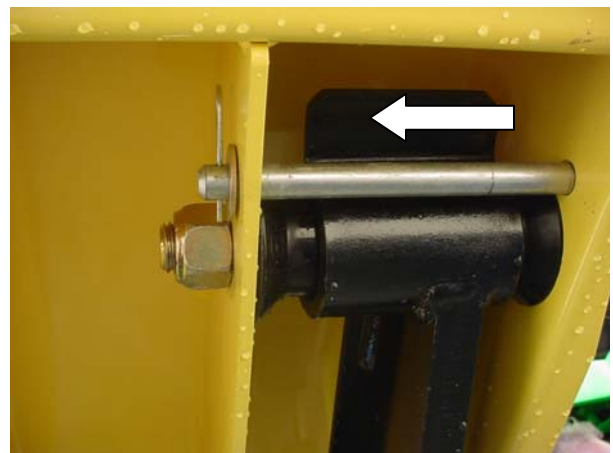


Note: Ensure that the lift arm rollers are located on the insides of the wide struts.

2. The position of the power unit should be directly in behind the swather table with the lift arms lined up with the table struts.
3. Carefully approach the table with the lift arms low enough to go under the table struts. Lift the extension arms to grab the lift arm rollers in the table struts.



A. Raise the Lift Arm



B. Insert Hitch Pin and secure

4. Slowly raise the lift arms until the extensions are firmly set on the rollers.

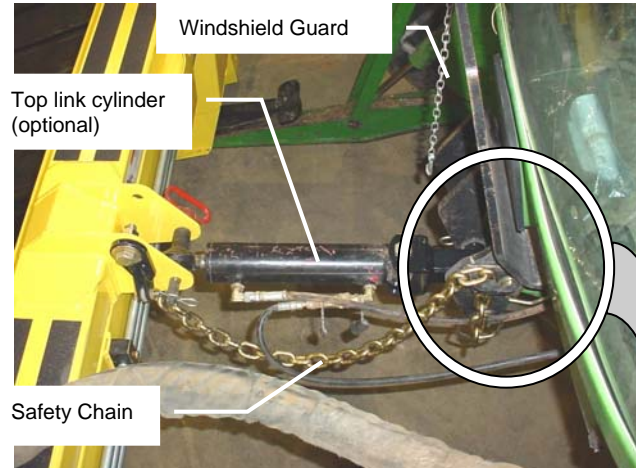
Important

5. Insert the 5/8 hitch pin into the struts to secure the extensions to the struts.

MOUNTING (continued)

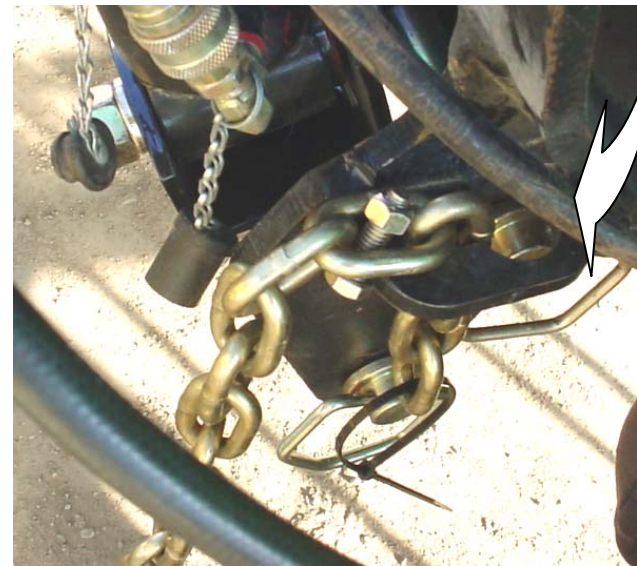
***Safety Chain Installation:**

When connecting the power unit to the table, install the safety chain to the windshield guard prior to installing the top link or optional hydraulic tilt cylinder and lifting the table off of the ground.



The safety chain comes with a bolt inserted into the links, to ensure that you can not limit the range of the top link.

Do not remove the bolt.



The safety chain is designed to stop the table from tilting forward and causing an incident during operation or connection to the power unit.



MOUNTING (continued)

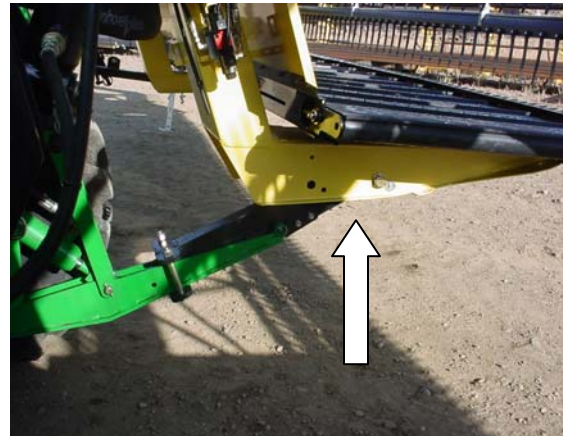
WARNING: DO NOT LIFT TABLE OFF THE GROUND UNTIL AFTER TOP LINK HAS BEEN CONNECTED.

Before lifting the table to install the top link, secure the safety chain to ensure the table does not fall forward.

The upper hole of the tower is used for the safety chain connecting the windshield guard to the table.



Once the extensions are in place, carefully and slowly lift the table to align the swather top link bracket with the top link cylinder.



Connect the top link from link mount on the tractor to the swather frame. Insert a spacer inside the tilt mount bracket, followed by a 3/4" x 6 1/2" hitch pin through spacer and top link as shown. Secure pin. Connect other end of top link to tower on table. The top link should be mounted in the lower hole of the tower.



MOUNTING (continued)

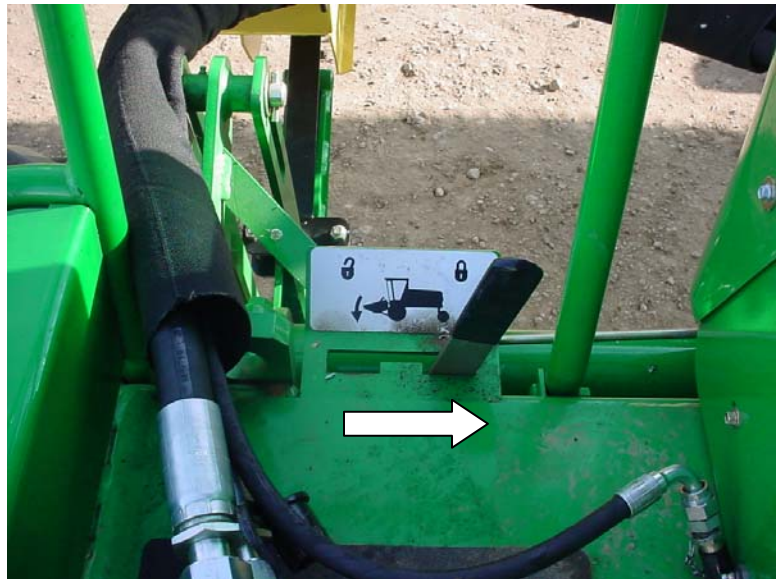
When working under the swather, engage the platform lift lockout lever to prevent accidental lowering of the table.



WARNING! Lock the lift arms in the fully raised position by engaging the platform transport lock.

LIFT SWATHER TABLE

Raise the lift arms and lift swather table to its fully raised position then engage the platform transport lock.



AXLE FIELD USE

Remove the tire from the cutter bar side of the table and insert onto the gauge wheel mount (if the gauge wheel option has been purchased), or store in an accessible location.

Remove the pin holding the extension in place, and retract the extension into the axle



Secure the extension inside the axle by reinserting the pin.



Remove the pin securing the axle in the transport position and swing the axle up and secure using the pin through the strut and the leg of the axle.

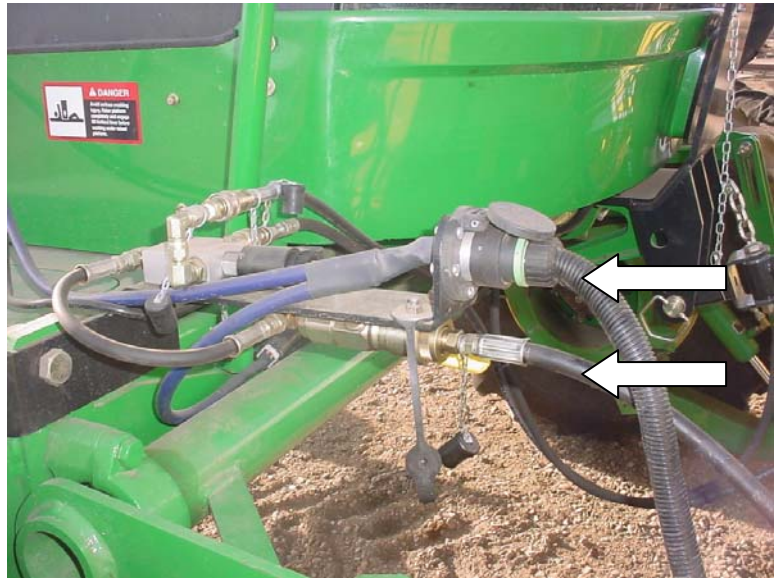
Be careful, axle is heavy and may swing back down if not lifted properly.



CONNECT ELECTRICAL LINES & REEL LIFT/ TILT CYLINDER HOSE

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

Note: Both pictures show the optional tilt cylinder set up connection.

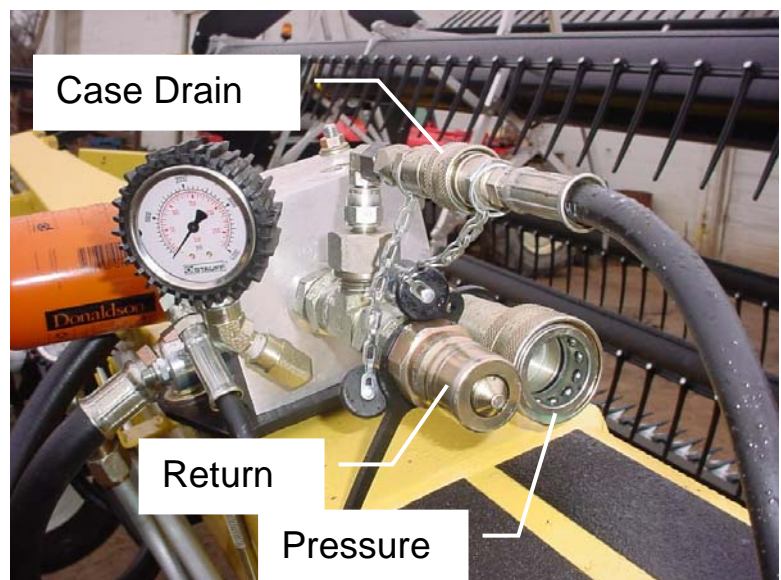


Open the valve to the hydraulics on the reel lift / tilt cylinder.



CONNECT HYDRAULIC HOSES

Connect hoses from the power unit to the swather, Pressure, Return and Case Drain.



HYDRAULIC SCHEMATICS

***NOTE:** For all hydraulic schematics, please refer to “**HYDRAULICS**” chapter in the **Operator’s Manual**.

SELF STORING HITCH

To convert the hitch from transport to storage mode, start by lifting the swather off of the ground.

Ensure the table is locked in position.

Jack the leg up, and collapse the lower section to the first hole.

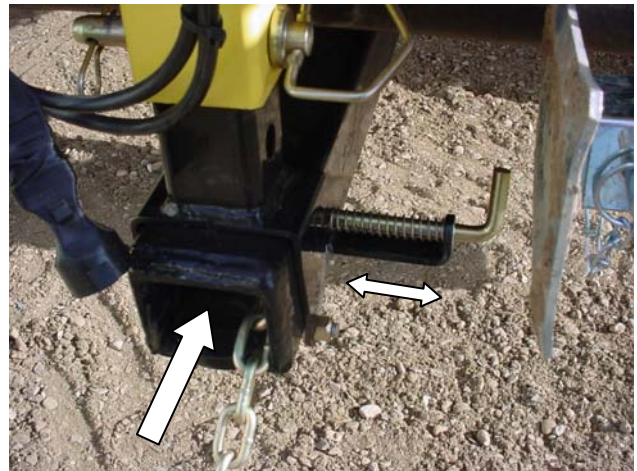
Loosen the locking lever on the jack mount and remove jack mount from the draw bar tube.

Place the jack on the storage bracket.



Pull lock pin on hitch tube.

Collapse the hitch tube into the hitch tube sleeve and secure with the lock pin.



Store the hitch jack in the storage position by tightening the locking lever and attaching the safety chain to storage stub.

If excessive vibration occurs on the jack mount, you can reduce this by extending the jack until it contacts the transport tube.



LEVELING

Adjusting the table for further Leveling

If the table needs further leveling, you have 3 different options that can be done alone or in conjunction with each other.

Option 1

Remove transport hitch



IMPORTANT! PARK THE POWER UNIT ON A HARD, LEVEL SURFACE, AND THEN ENGAGE THE PARK BRAKE.

1. Raise the swather to its fully raised position.

ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING THE CAB.

2. Lock platform in fully raised position as described in your Power Unit Operator's Manual.
3. Remove the hitch from the draw bar tube.
4. Lower the hitch tube by removing the pin securing the hitch to the table (Figure B).
5. Carefully, remove the pin on the strut holding the other end of the transport to the table (Figure C).

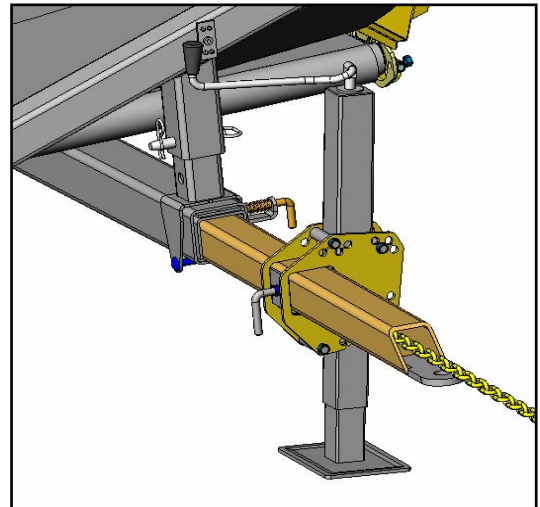
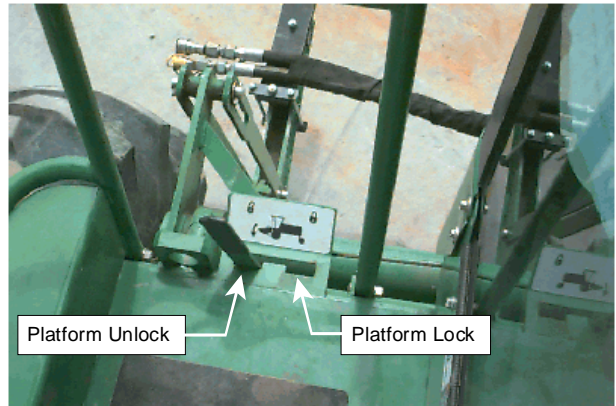


Figure A

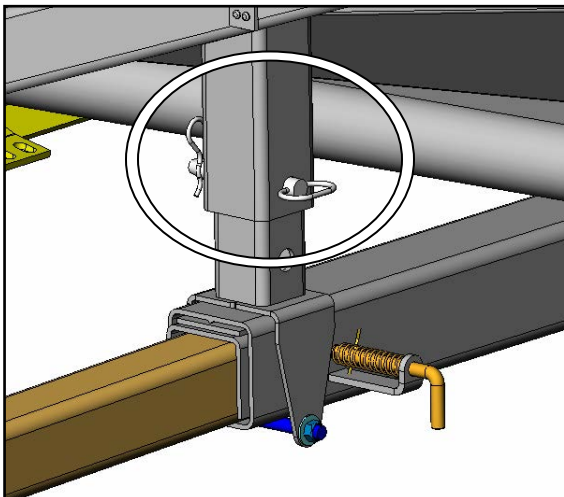


Figure B

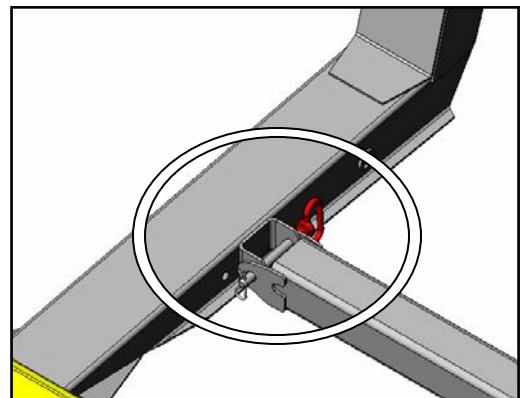


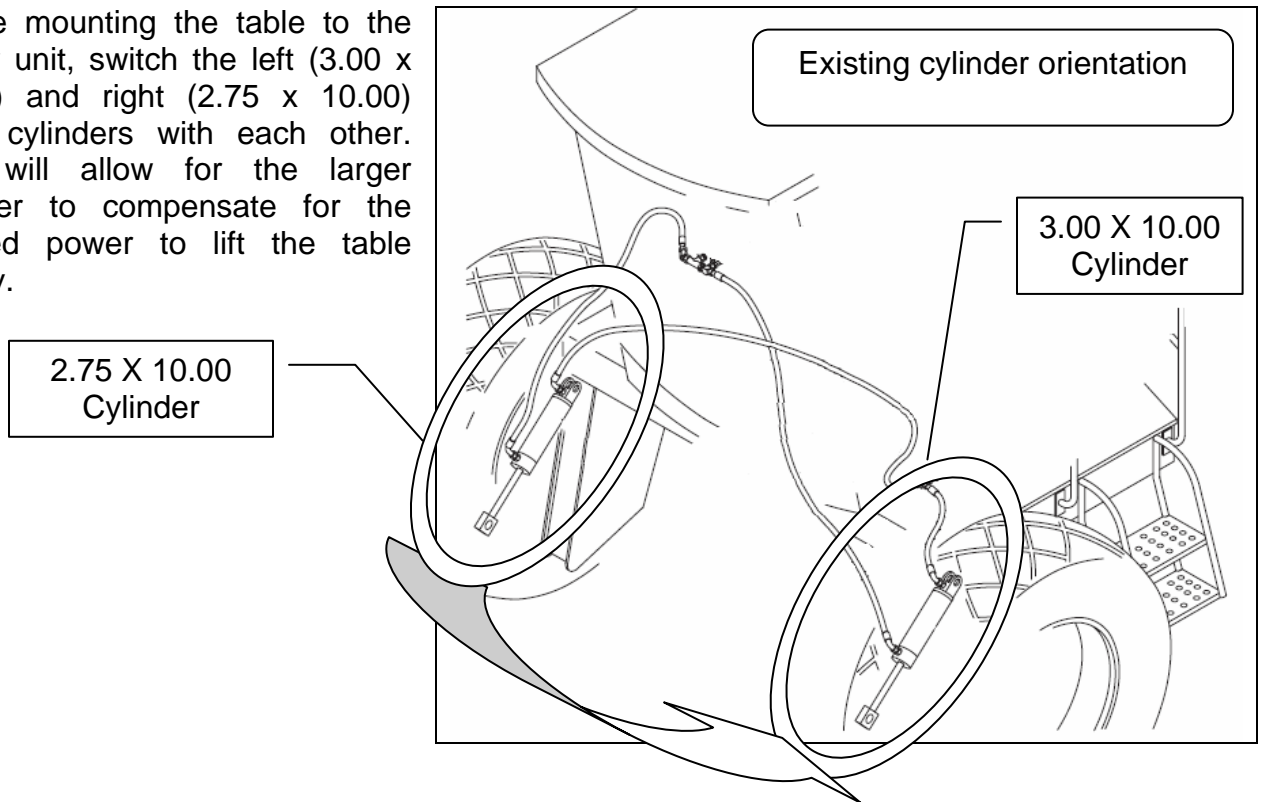
Figure C

LEVELING

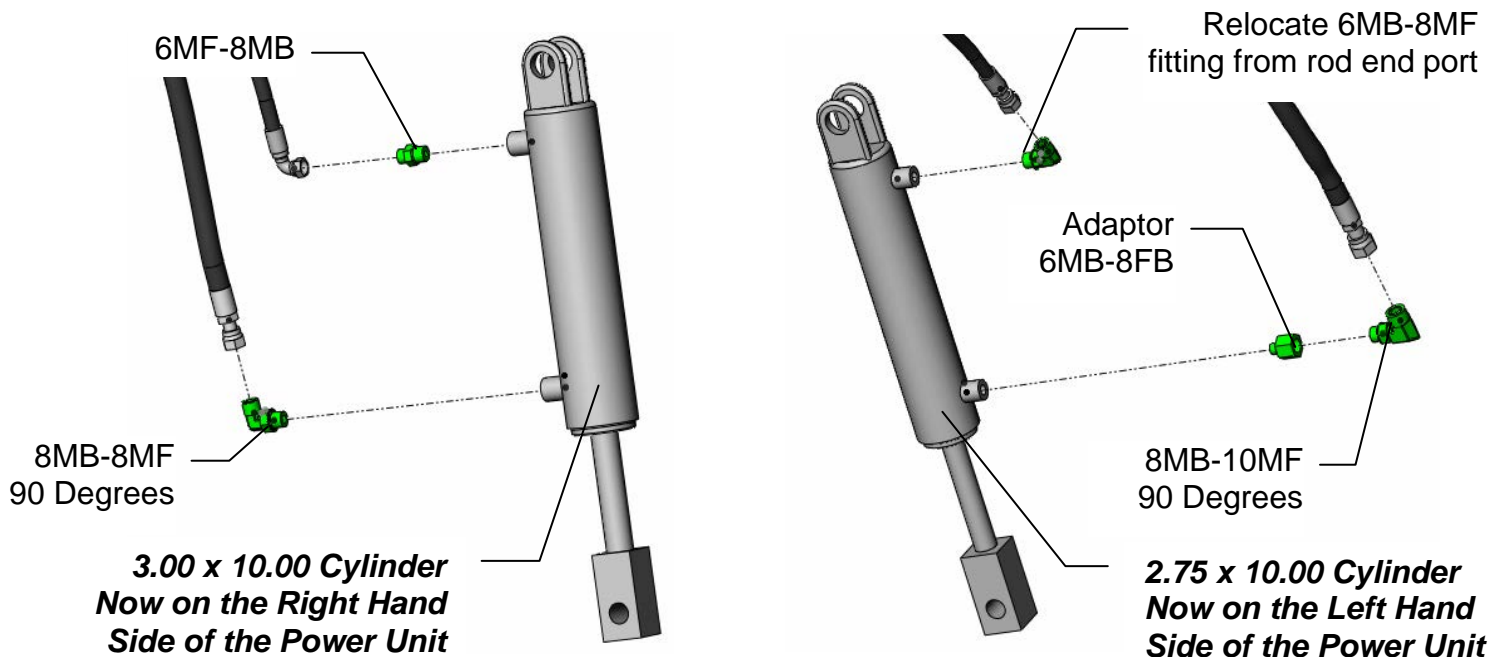
Option 2

Switch the lift arm float cylinders

Before mounting the table to the power unit, switch the left (3.00 x 10.00) and right (2.75 x 10.00) hand cylinders with each other. This will allow for the larger cylinder to compensate for the needed power to lift the table evenly.



Since the cylinders have different size of hoses flowing to and from the power unit, fittings will have to be added in order to allow for the change.



LEVELING

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

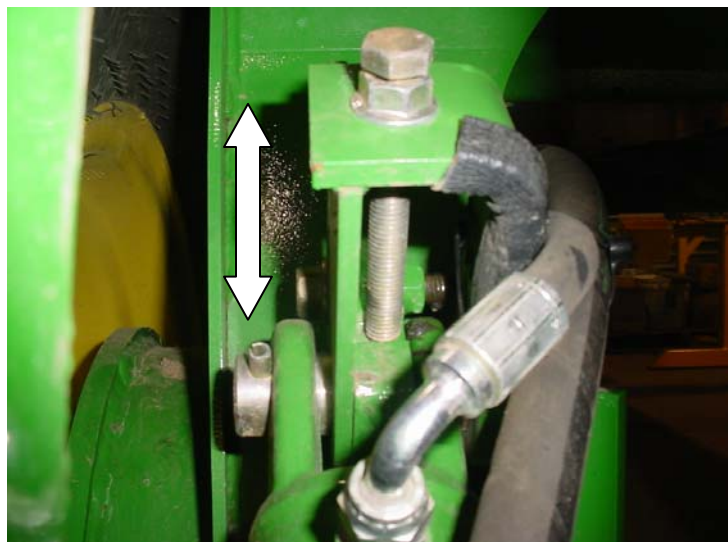
	No Hitch	Hitch	Float Pressure
18'	n/a	n/a	
21'	Swap cylinders	No change	Approximately 1250 psi at cutting height
25'	Swap cylinders	No change	Approximately 1500 psi at cutting height
30'	Swap cylinders	No change	Approximately 1700 psi at cutting height
36'	n/a	n/a	

***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.

Option 3

Adjust the set screw on the float cylinders

At the top of the float cylinders on both lift arms is a bolt that is used to set the distance the cylinder lifts from on the power unit in relation to the arms themselves.



INSTALLATION INSTRUCTIONS JD 4990 / 4995 DRAPER HEADER ADAPTER KIT

IMPORTANT!

Leveling of the table can be accomplished, prior to installation of the lift arm extensions, resulting in saving dealer time in reinstallations.

Please refer to the information listed below, prior to any preliminary work on either the power unit or the table.

- If your table setup requires that the lift arm float cylinders be switched around, proceed **first** to **LEVELING - Option 2** on page 43 of this insert. After completion of the cylinder switch, proceed to page 2.
- If your table setup does **NOT** require that the lift arm float cylinders be switched around, proceed to page 2 of this insert.

JD Windrower Float Cylinder Recommendation with Honey Bee

Single Knife / Double Knife - Single Swath

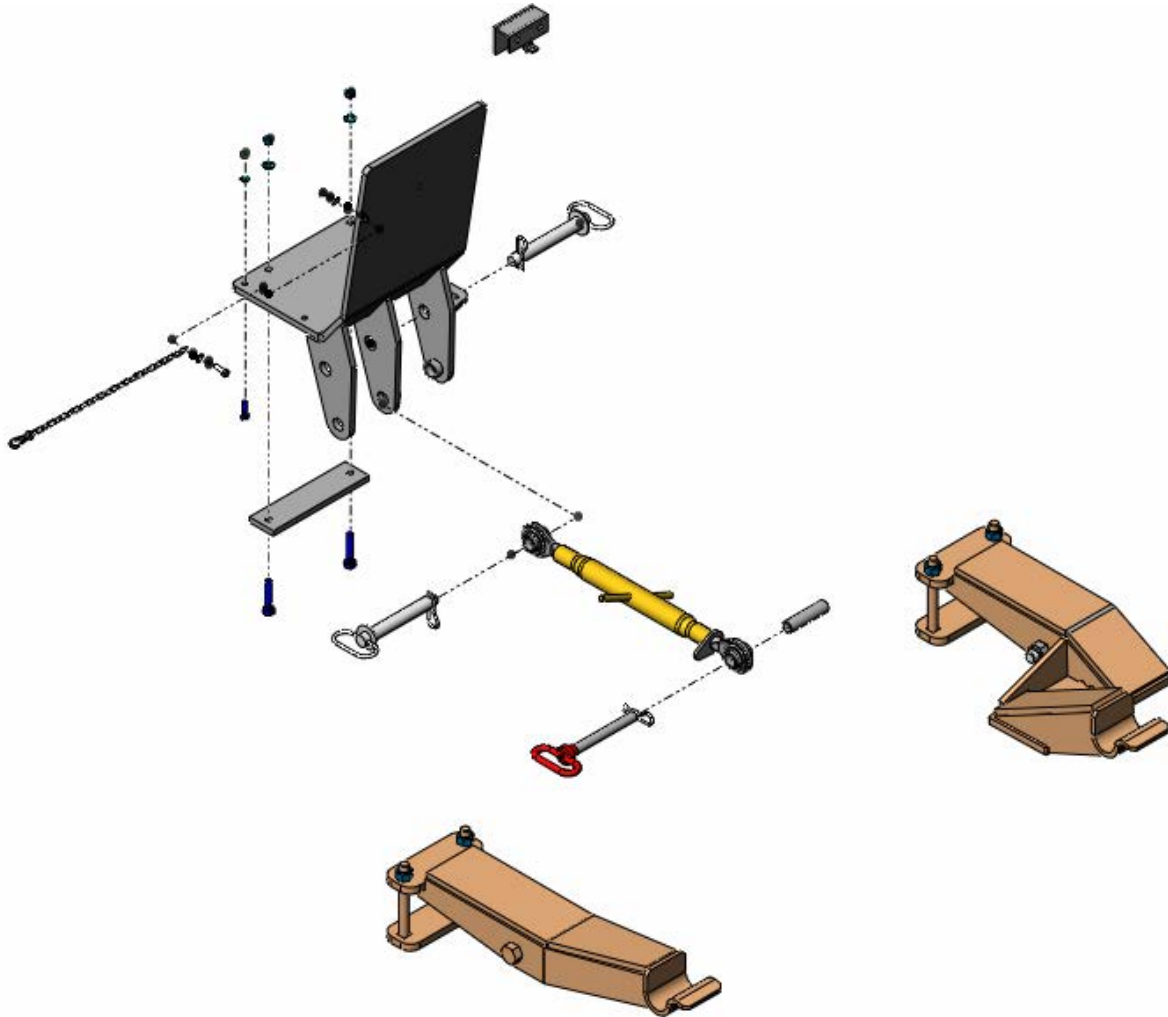
	No Hitch	Hitch	Float Pressure
18'	Swap cylinders	No change	Approximately 1200 psi at cutting height
21'	Swap cylinders	No change	Approximately 1250 psi at cutting height
25'	Swap cylinders	No change	Approximately 1500 psi at cutting height
30'	Swap cylinders	No change	Approximately 1700 psi at cutting 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	
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'	n/a	n/a	

***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.

INSTALLATION INSTRUCTIONS JD 4990 / 4995 DRAPER HEADER ADAPTER KIT



These instructions are for the JD 4990 and the JD 4995.

Please read the instructions carefully noting the differences and the changes that are applicable to your power unit.

HYDRAULIC MODIFICATIONS - JD 4990 / 4995

Remove any attachments from the power unit as outlined in your Owners / Operators manual supplied by the power unit manufacturer.

Revision 05
December 08, 2006

HAZARD POSITION

To avoid possible injuries, be aware of your surroundings and the people working around the power unit and the table.

If you are the **power unit operator**, ensure that you can see all people around the power unit and table. At the same time ensure the people understand your intended direction of movement.

If you are the **person on the ground**, ensure that you do not put yourself in a position of possible harm from sudden movement of the power unit, or table. (see photo to the right for an example of dangerous positioning)



If you are the person on the ground, you may want to follow these steps in avoiding possible injuries;

1. Ensure a **safe path of exit**. Look around to ensure that you will not trip over any objects when needing a quick exit. An example of this would be when removing the tire from the transport; place the tire away from the work area.
2. Ensure **proper footing**. Steel toed boots, or proper grips on the soles. An example of this case would be taking special care when working in mud.
3. **Visually check your surroundings**. Prior to entering an area of caution, look for possible hazards. An example may be keeping your hand (in a safe location) on the power unit tire if hooking up to the table.
4. Ensure that the **power unit operator has seen you** in the area and **has acknowledged** that he is aware of your presence. A good way to acknowledge the presence is by giving each other a “thumbs up”.

Reduce the possible risk and eliminate the potential injury.

Warning: To avoid bodily harm, do not place yourself between the tire and table while raising table.

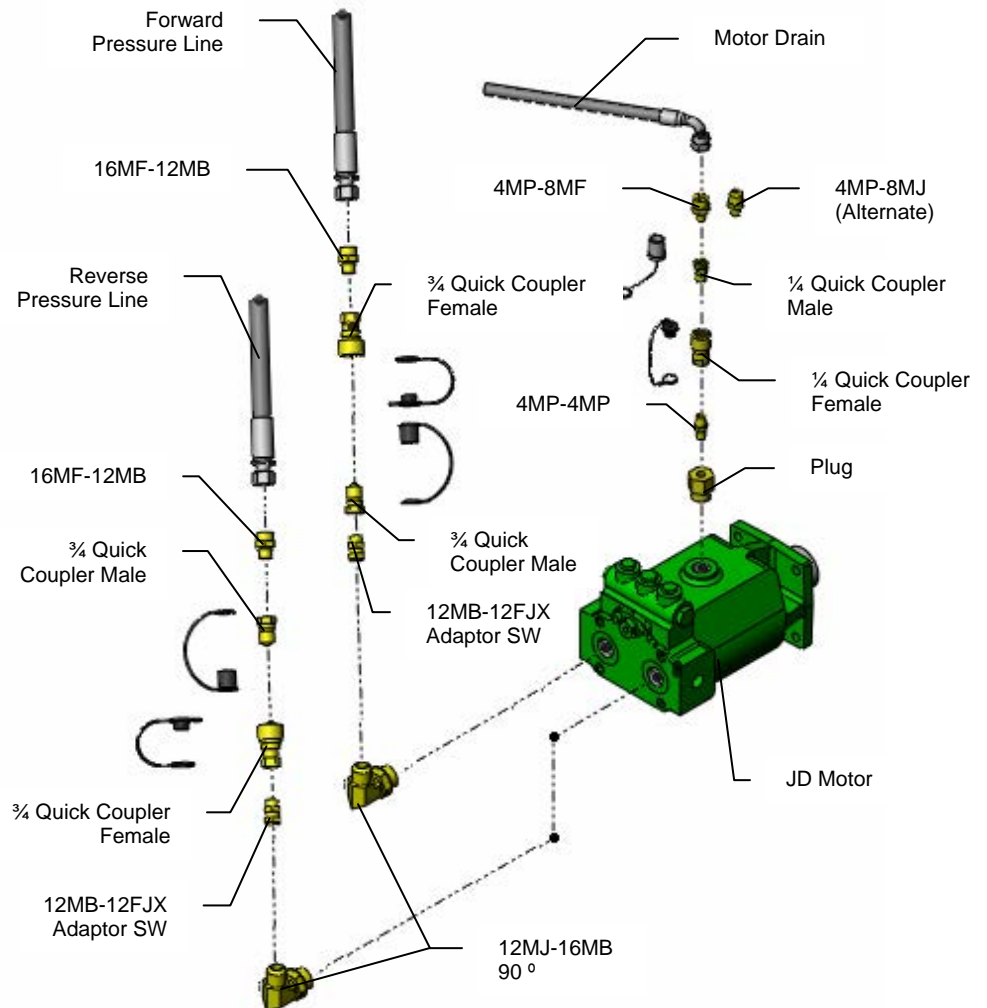
If entering area, lower table to the ground or engage the table lift lock-out lever prior to entry.

POWER UNIT PREPARATION JD 4990 / 4995 INSTALL QUICK COUPLERS

Note: Mark hoses before removing them from the motor

NOTE: USE A THREAD SEALANT ON ALL FITTINGS WITH PIPE THREADS. DO NOT USE THE THREAD SEALANT ON FITTINGS THAT HAVE AN "O" RING, A FACE SEAL OR A JIC SWIVEL.

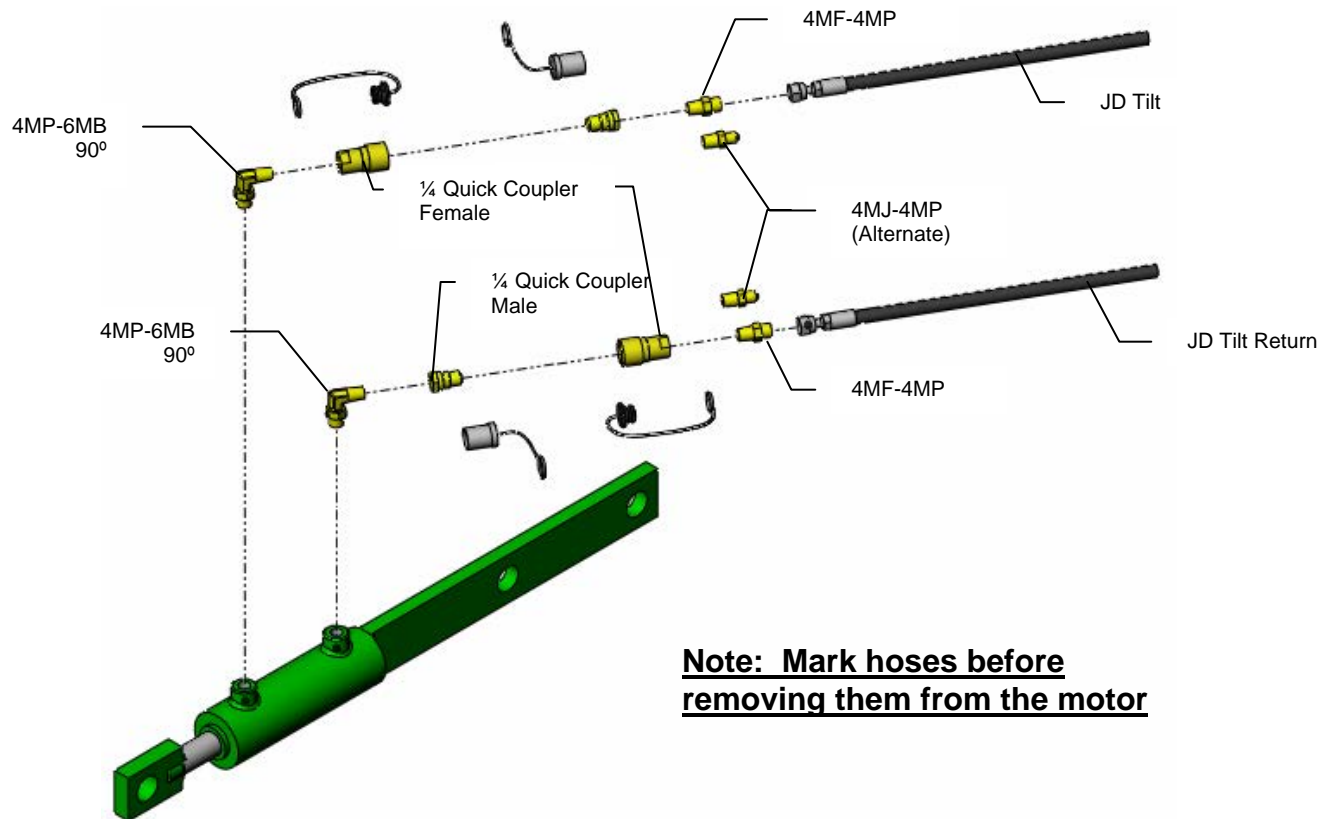
The John Deere hydraulic motor will not be used on the Honey Bee swather. If you own an auger platform, the motor with the newly installed quick couplers can be stored on the platform. Otherwise store the motor in a clean, safe and convenient location.



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 - 90° elbows from the motor, and install 16MB - 12MJ - 45° elbows in place of. Install the 12MB - 12FJX swivel adaptors, with applicable dust caps to the 3/4" quick couplers; Male on the forward pressure side and female on the return.
4. To the reverse pressure hose assemble a 16MF - 12MB, dust cap, and 3/4" male quick coupler.
5. To the forward pressure hose assemble a 16MF - 12MB, dust plug, and 3/4" female quick coupler.

INSTALL QUICK COUPLERS TO THE TILT CYLINDER.

Mark hoses before removing from the cylinder.



Note: Mark hoses before removing them from the motor

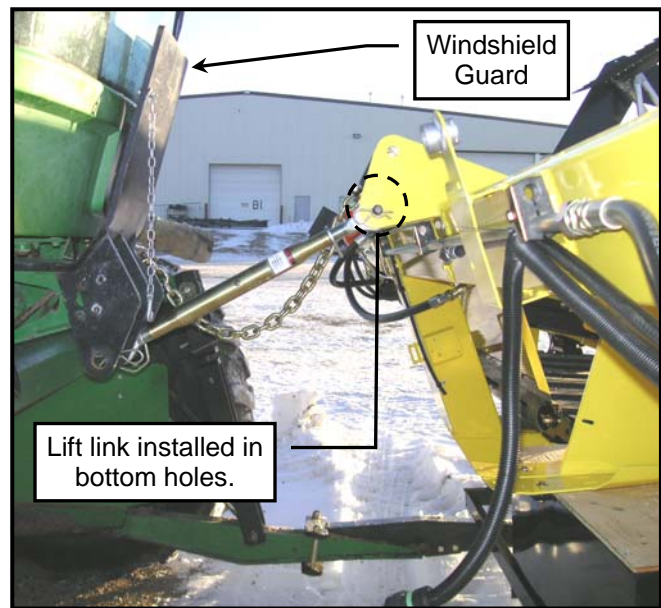
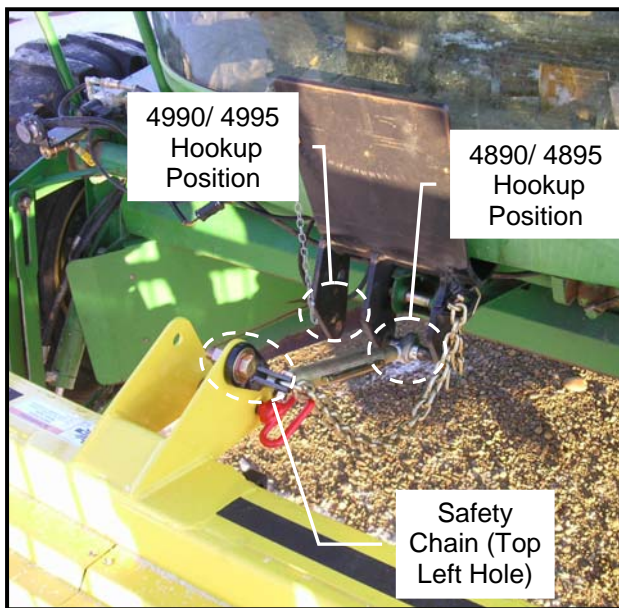
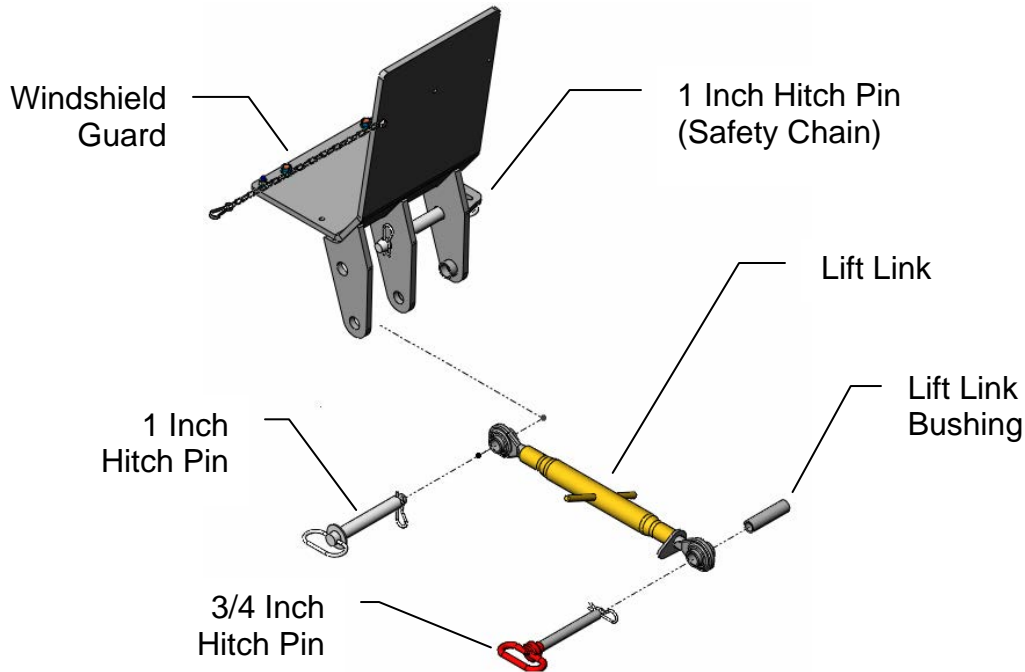
1. On the tilt pressure hose, install a 1/4" male quick coupler, dust cap, and a 4MP - 4MF nipple (alternate fitting 4MJ - 4MP).
2. On the return side, install a 1/4" female quick coupler, dust plug, and a 4MP - 4MF nipple (alternate fitting 4MJ - 4MP).
3. Install a 4MP - 6MB 90° elbow to the rod end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

NOTE: 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 screw quick coupler.

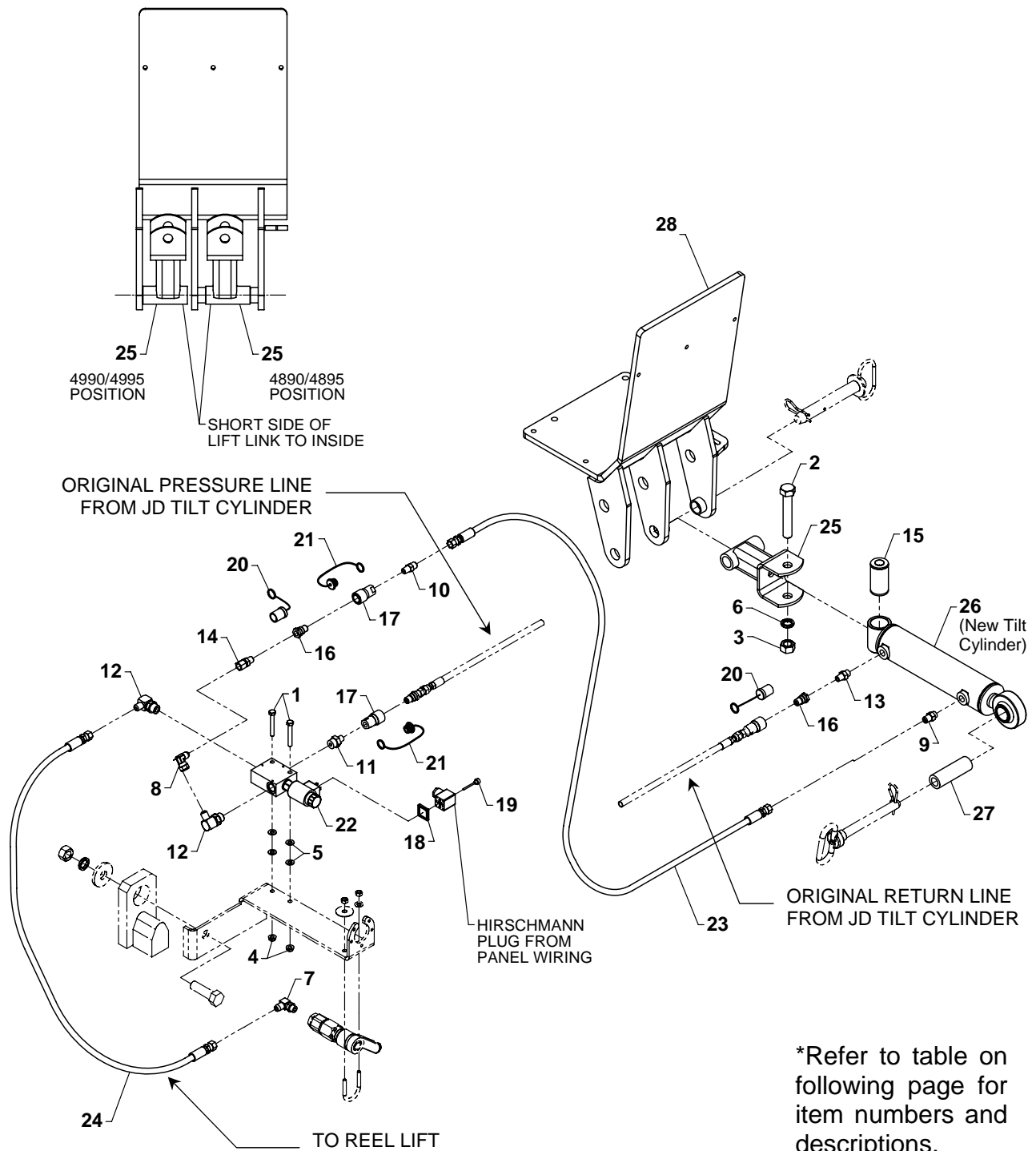
If reel lift does not work check to see if hoses are connected to the proper hoses, and the couplers are fully engaged.

INSTALL THE MANUAL LIFT LINK (STANDARD)

The manual lift link comes standard on the JD 4990/ 4995 windrowers. To install the manual lift link, first refer to “**INSTALL WINDSHIELD GUARD**” on page 18 of this manual. Then complete the installation of the manual lift link using the following diagram and pictures.

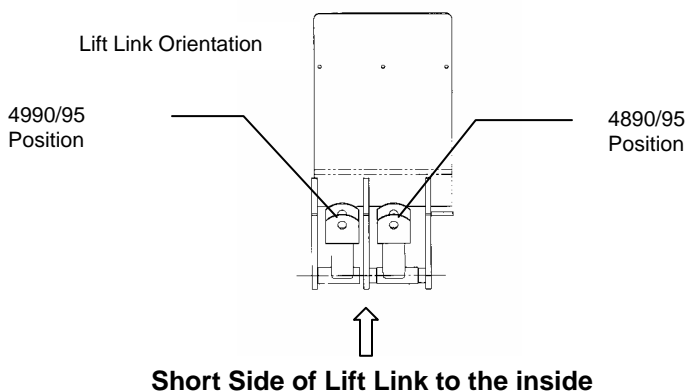


INSTALL THE OPTIONAL TILT CYLINDER TO THE POWER UNIT



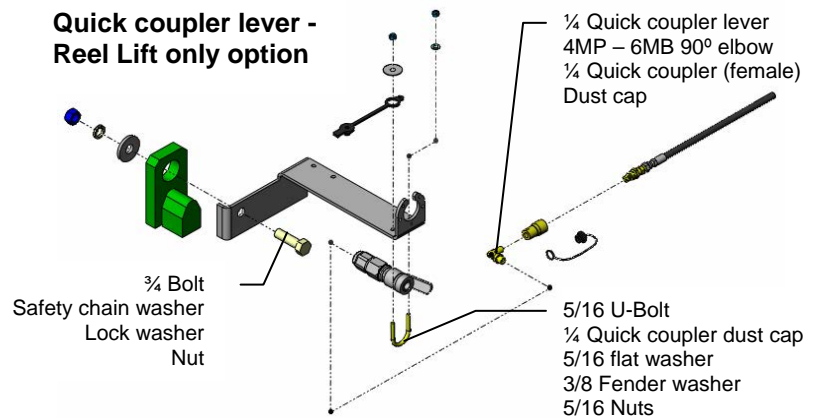
ITEM #	QTY	DESCRIPTION
1	2	BOLT 5/16 X 2-1/4 UNC
2	1	BOLT 3/4 X 4-1/2 UNC
3	1	NUT 3/4 UNC
4	2	NUT 5/16 UNC FLANGE LOCK
5	4	WASHER FLAT 5/16 PLTD
6	1	WASHER LOCK 3/4 PLTD
7	1	ELBOW 6MB- 6MJ -90°
8	1	ELBOW SWIVEL 6MJ- 6FJX-90°
9	1	NIPPLE 6MB - 6MJ
10	1	NIPPLE 4MP - 6MJ
11	1	NIPPLE 4MP - 8MB
12	2	ELBOW 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-HYDR. HEADER TILT
23	1	HH04 66 6FJX- 6FJX
24	1	HH04 13 6FJX- 6FJX
25	1	LIFT LINK-CYLINDER 2-1/2 X 8
26	1	CYLINDER 2-1/2 X 8 - 3000 PSI
27	1	BUSHING - LIFT LINK CYLINDER
28	1	GUARD - WINDSHIELD 3 LUG 06

1. Connect the lift link to the windshield guard using the 1 inch hitch pin. **Ensure that the lift link is in the proper position and the short side of the lift link is to the inside,** as shown:



2. Install the tilt cylinder to the lift link using the 3/4 inch hardware supplied (4-1/2 bolt, lock washer, and nut) and the RB-58 bushing. When not in use, use the chain supplied with the windshield guard to hold the cylinder in the storage position. Insert the 3/4 inch hitch pin and bushing into the other end of the cylinder when in storage.

3. Install the bracket mount to the power unit using the $\frac{3}{4}$ inch hardware (2-1/2 bolt, washer, lock washer, and nut). Connect the quick coupler lever under the bracket using the 5/16 u-bolt, $\frac{1}{4}$ quick coupler dust cap, 5/16 and 3/8 fender washer, and c/lock nuts



4. If the tilt cylinder option (previous page) has been ordered, install the valve assembly to the mount using 5/16 hardware supplied (2-1/4 bolt, flat washers (2), and nut). The Hirschmann plug should also be installed at this time using the gasket and screw provided.
5. On the tilt pressure hose, install a $\frac{1}{4}$ 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 $\frac{1}{4}$ 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 $\frac{1}{4}$ 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.

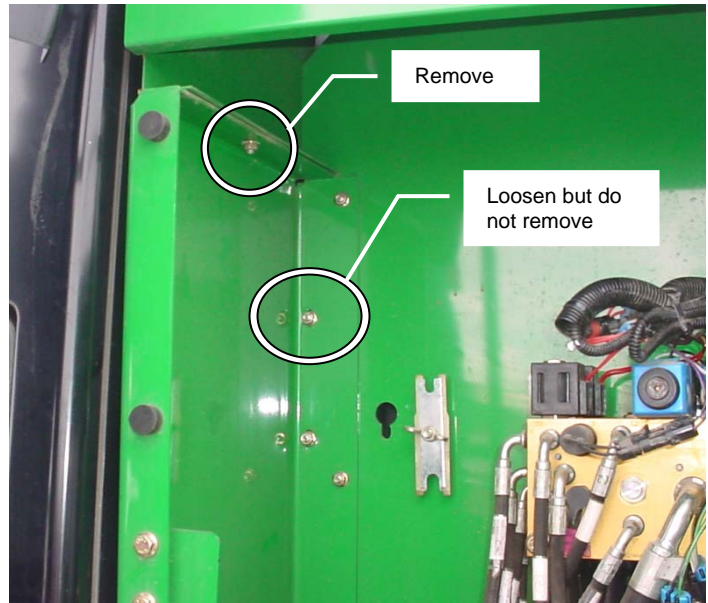
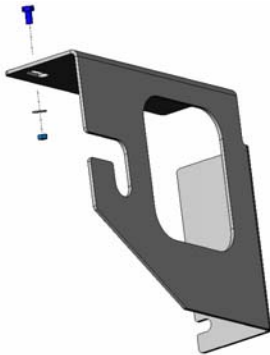


MOUNTING BRACKET INSTALLATION

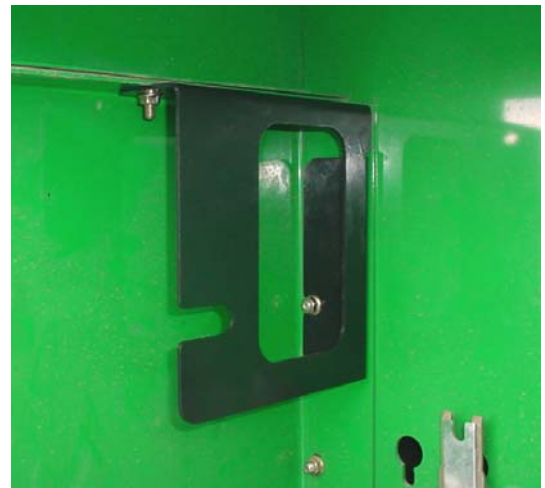
On the left side of the power unit at the top of the stairs, access the compartment door behind the cab.



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 and reinstallation will be difficult).



Slide the bracket between the previously loosened nut and frame. Insert a 5/16 bolt (included) through the top hole of the frame, then the bracket, washer and nut. Tighten the nuts to secure.

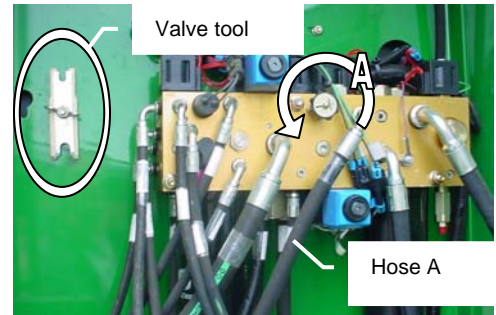


HOSE INSTALLATION

Start the power unit and lower the table to the ground.

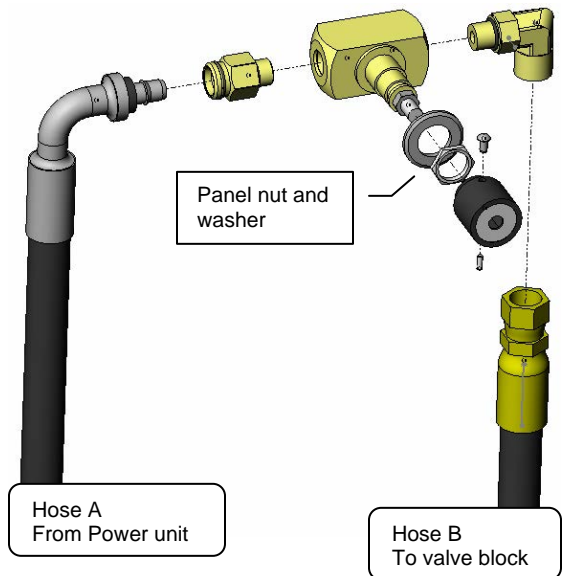
To locate the manual float release valve (A), open the side panel on the left side of the power unit at the top of the stairs (see bracket installation) and relieve the pressure by opening the valve (counter clockwise).

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

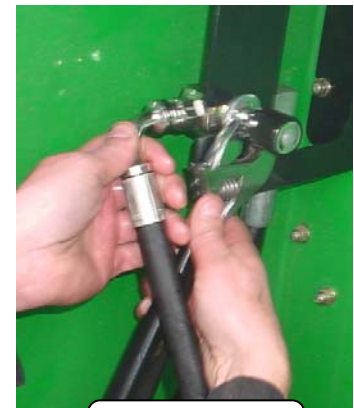


Disconnect the platform lift hose (Hose A) at the block (using the valve tool on the power unit) and connect the supplied hose (Hose B) to the block using the fitting supplied.

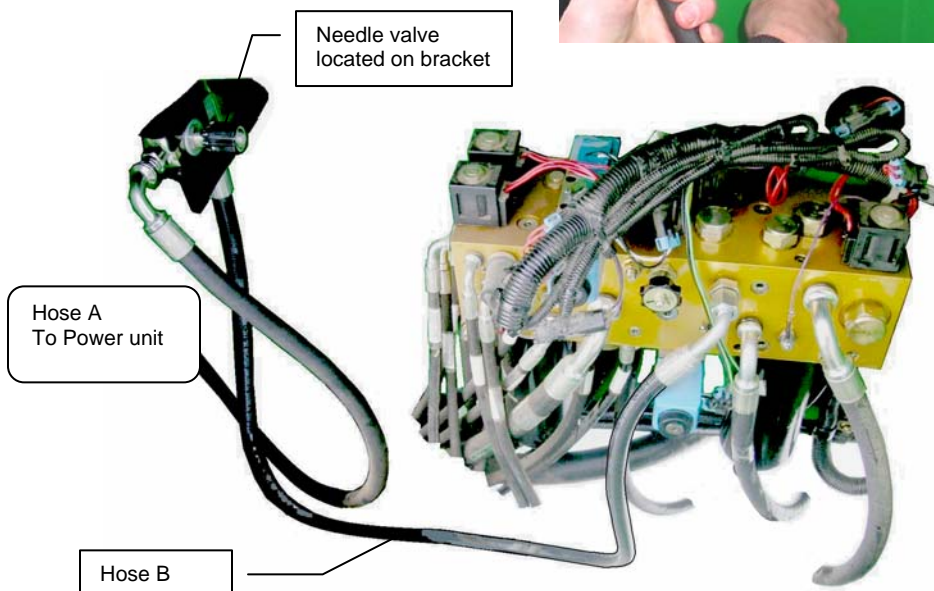
Disassemble the needle valve knob from the body and reassemble using the panel nut and washer (as shown). Install to the needle valve, the supplied hose (Hose B) using the elbow (supplied), and the power unit hose (Hose A) with the adapter fitting (supplied).



Slide the needle valve onto the mounting bracket and tighten to secure. Close the manual float release valve (clockwise) and set your flow rate through the needle valve.



Tighten to secure

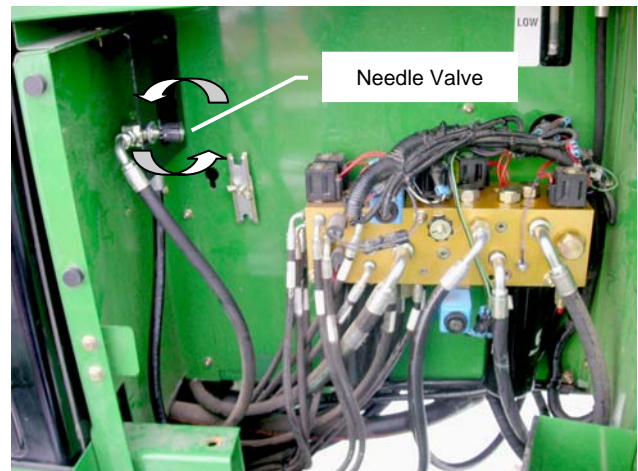


NEEDLE VALVE OPERATION

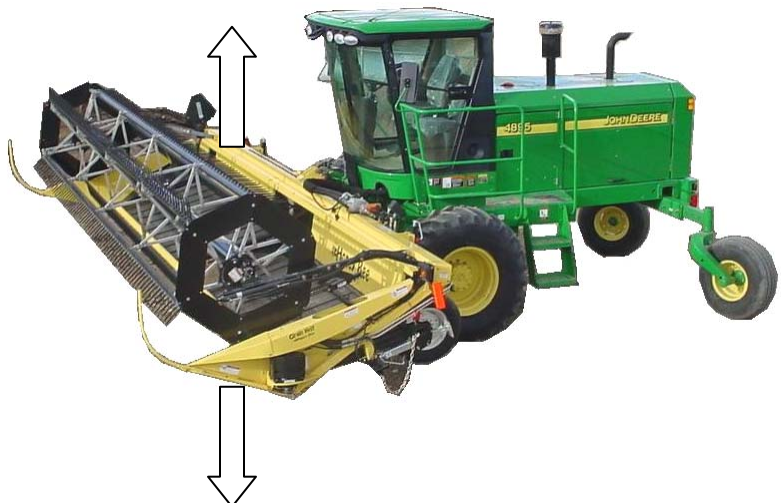
To locate the needle valve that regulates the platform lift and drop circuit, open the compartment door on the left side of the power unit at the top of the stairs.



To begin with a slow and safe table drop rate, turn the needle valve clockwise to limit the oil flow going to the lift arms (do not turn the valve completely closed).



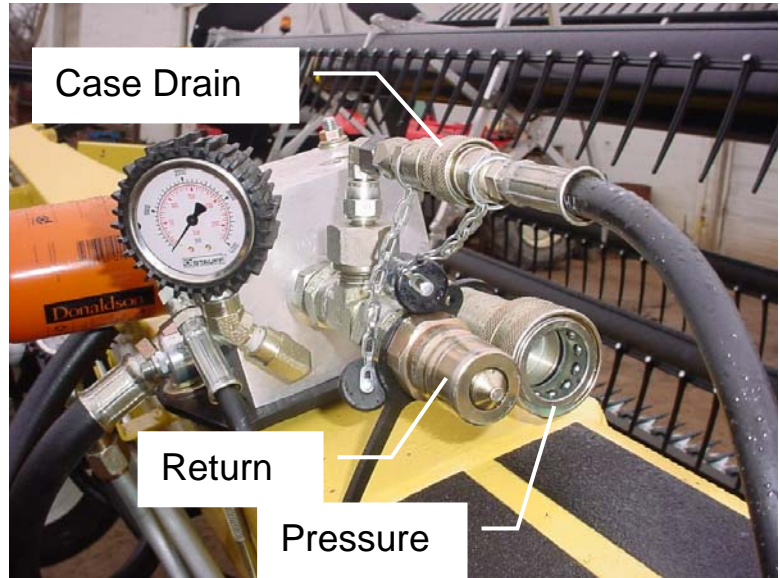
Raise and lower the table a few times to find the rate of speed that allows ease of operation, while ensuring full control. If the rate is too slow, turn the needle valve counter - clockwise at discretionary increments and test the drop rate speed at each interval.



CHANGES TO THE TRACTOR HYDRAULICS

The Swather receives power from the reverse side of the tractor platform pump. Connect the Pressure, Return and Case Drain hoses to the table.

ATTENTION: WHEN THE TABLE IS IN STORAGE, THE CASE DRAIN HOSE MUST BE RECONNECTED. THIS IS TO RELIEVE PRESSURE IN THE CLOSED HYDRAULIC SYSTEM. OTHERWISE DAMAGE TO SYSTEM COMPONENTS MAY OCCUR.



HOSE HOLDER

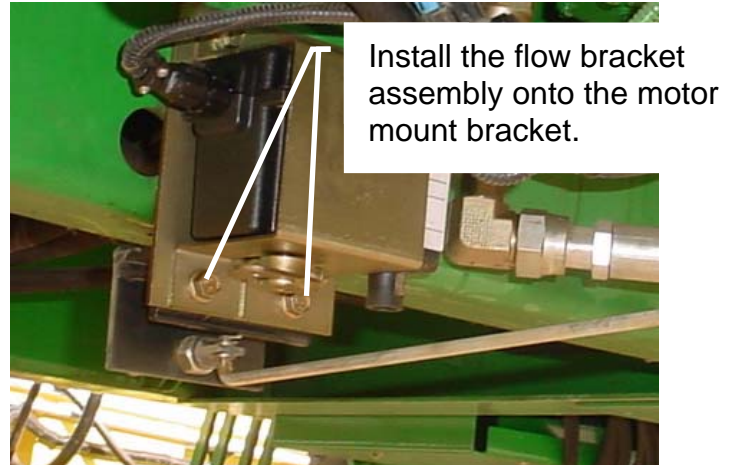
To ensure that the hose lines are not lying in a position to get run over, there is a holder that connects to the railing of the power unit.



ADJUST PUMP OUTPUT 4990 / 4995

NOTE: To properly adjust pump output, high idle on the tractor should be set at 2100 RPM.

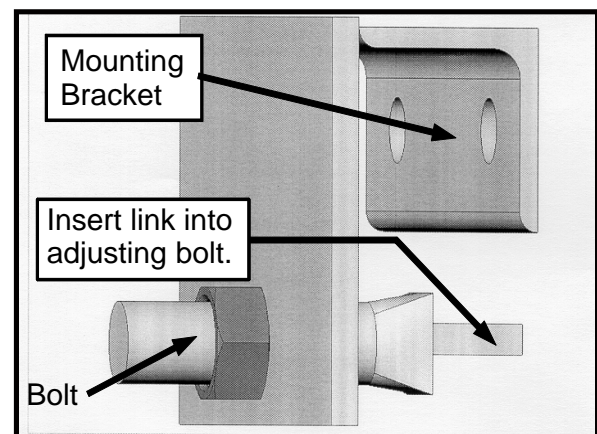
The output of the pump on the power unit is 45 gpm (170 lpm). The volume output will need to be adjusted to **19 gpm (72 lpm)** to run the Honey Bee header.



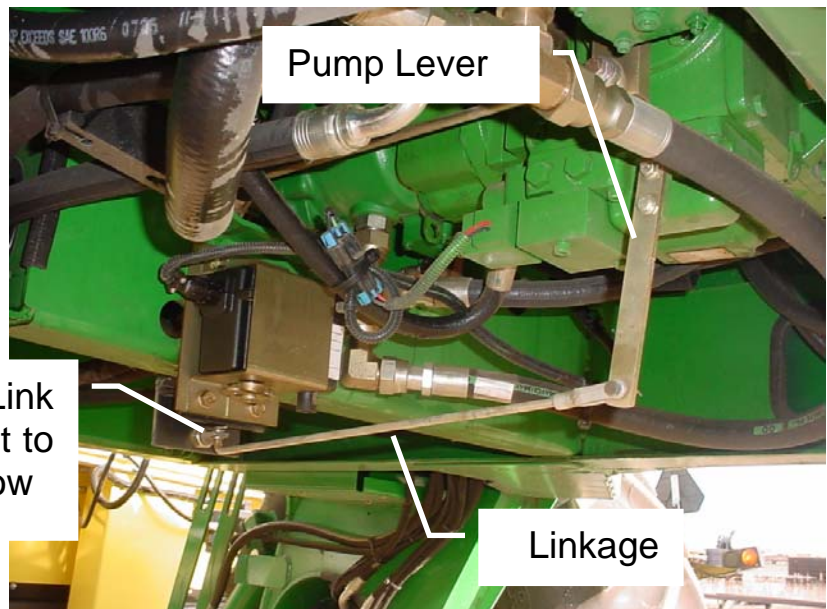
View from under power unit

Install the flow bracket assembly onto the motor mount bracket under the JD 4990 / 4995 power unit as shown in figure above.

1. Remove the nuts from the two bolts that hold the bottom of the electric header pump output control.
2. Install the flow bracket assembly using the two bolts of the electric output control. Secure with nuts.
3. Remove the link from the electric motor and install the link into the pump link adjusting screw. Install cotter pin in link to secure. Use adjusting screw to adjust the output volume of the pump.



NOTE: When installing the link into the mount plate do not rotate link. This is important because the adjustment of this link will affect the output of the pump when re-installed onto the electric motor to run the disc mower/windrower.



POWER UNIT PREPARATION

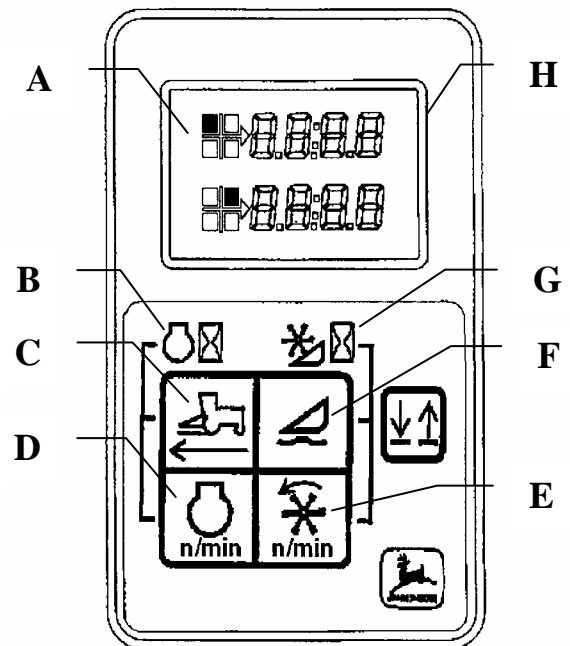
Setting Output Control:

Connect a flow meter to the output and return hoses and set the output to 19 gpm (72 litres/per/minute) by adjusting the screw on the flow bracket assembly. An alternate method of setting the output volume is by using a photo electric tachometer on the knife drive. With the power unit at operating rpm, the knife drive rpm should be between 710 and 730 rpm.

PROGRAM TACHOMETER

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

1. Move key switch to "OFF" position.
2. Press and hold the Ground Speed (C) and Float Pressure (F) buttons while turning the key switch to "RUN" position to enter the "Setup" mode. The upper left quadrant will be displayed in the function selected display (A) and the primary machine code will be displayed in the digital display (H).
3. Press the Ground Speed (C) or Engine Speed (D) buttons to increment the machine type code up or down until the code reads "13".
4. Press the Reel Speed (E) and Float Pressure (F) buttons at the same time to store the code and move to the next step.
5. The upper right quadrant will then be displayed in the "function selected" display (A), this is not used, press the Ground Speed (C) or Engine Speed (D) to increment this reading to "0". The secondary code is "1" for 4895 (the difference is input range for reel speed/platform speed).
6. Press the Reel Speed (E) and Float Pressure (F) buttons at the same time to store the code and move to the next step.

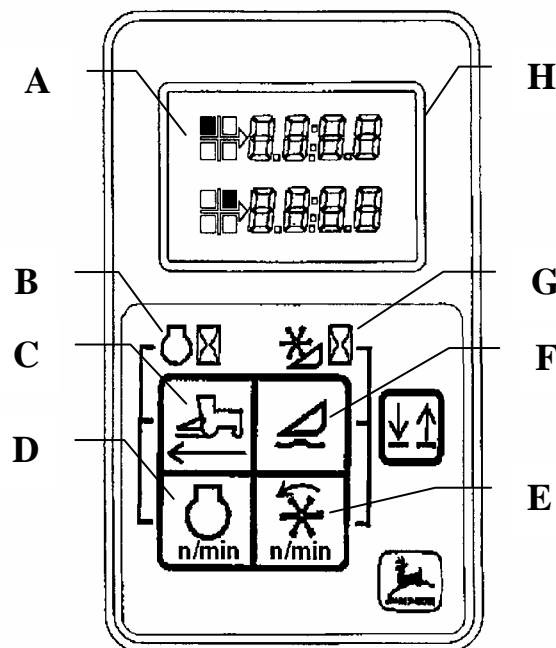


- | | |
|---|----------------------------|
| A | - Function Selected |
| B | - Engine Hours |
| C | - Ground Speed (mph) |
| D | - Engine Speed (rpm) |
| E | - Reel Speed (knife drive) |
| F | - Float Pressure (psi) |
| G | - Platform Hours |
| H | - Digital Display |

NOTE: IF THE DISPLAY DOES NOT READ CORRECTLY WITH CODE "1" TRY CODE "0" AS AN ALTERNATE NUMBER.

PROGRAM TACHOMETER – continued

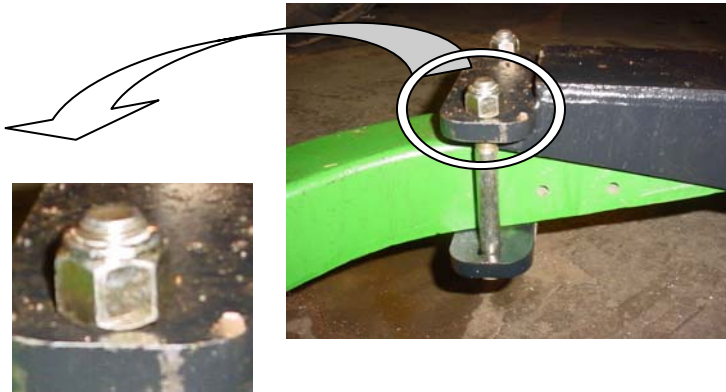
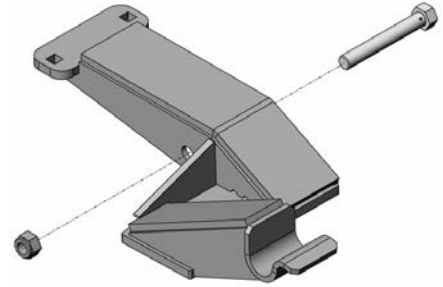
7. The lower right quadrant will then be displayed in the “function selected” display “A”. Press the Ground Speed (C) or Engine Speed (D) to increment this reading to “26”. Beginning with 2002 model year, this number is “24.5” because of the final drive ratio change.
8. Press the Reel Speed (E) and Float Pressure (F) buttons at the same time to store the code and move to the next step.
9. The lower left quadrant will then be displayed in the “function selected display (A) and the number of pulses per engine revolution will be displayed in the digital display (H).
10. Press the Ground Speed (C) or Engine Speed (D) to increment this reading to “30”.
11. Press the Reel Speed (E) and Float Pressure (F) buttons at the same time to store the code.
12. Turn key switch to “OFF” position to exit “Setup” mode.



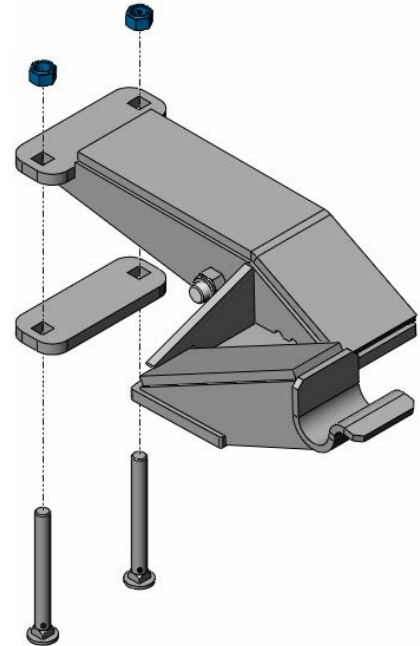
- A - Function Selected
- B - Engine Hours
- C - Ground Speed (mph)
- D - Engine Speed (rpm)
- E - Reel Speed (knife drive)
- F - Float Pressure (psi)
- G - Platform Hours
- H - Digital Display

INSTALL LIFT ARM EXTENSIONS

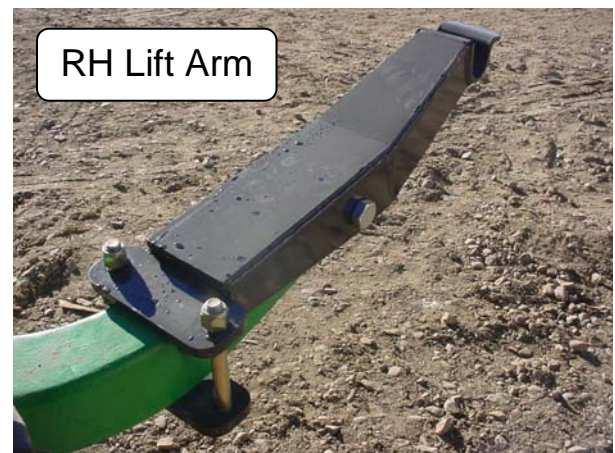
Place the lift arm extensions on the power unit lift arms. Secure using a M24 grade 10.9 bolt and nut.



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. Secure the bolt only 2 or 3 threads past the nut.



Note: Do not secure the $\frac{3}{4}$ inch bolts all the way. The extensions are designed to act as a lever (or hinge) between the table and the lift arms.

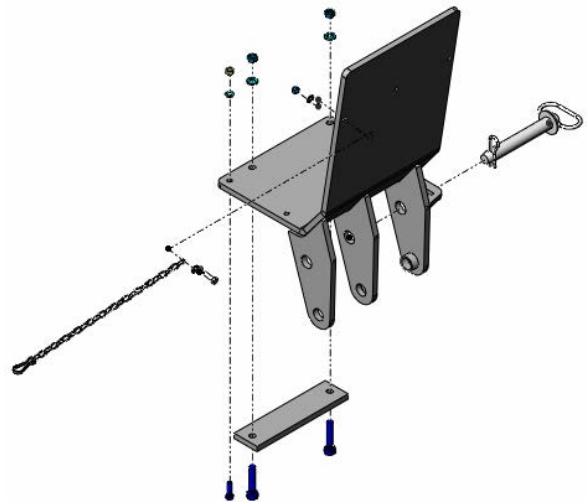


INSTALL WINDSHIELD GUARD

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

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 a clamp plate and $\frac{1}{2}$ x 2-1/2 in bolts.

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.



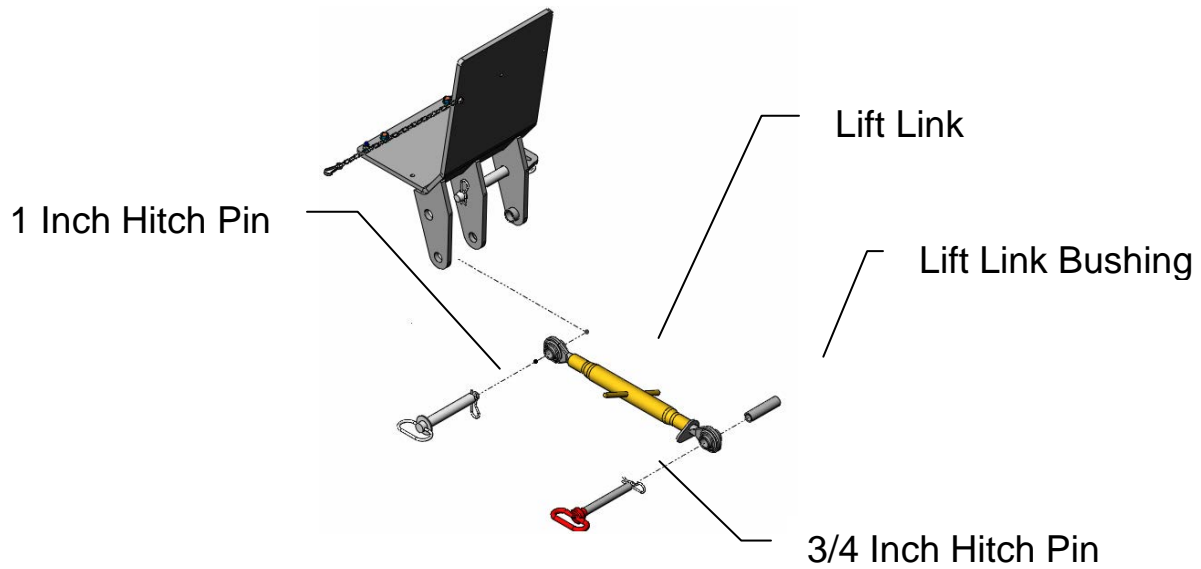
An extra hole is located on the guard to bolt the existing clamp to the guard and keep the electrical lines in order.



The windshield guard shown with the optional tilt cylinder in the storage position.



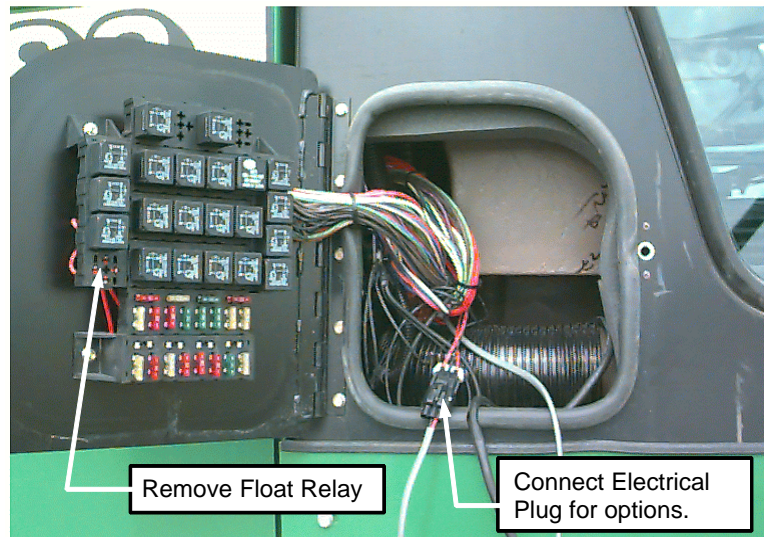
Connect the top link to the windshield guard and secure until fit up to the table.



ELECTRICAL MODIFICATIONS

1. Open the electrical access panel on the right side of the power unit. Remove float relay from electrical panel. When relay is removed, the lift and lower mode changes so that the table will stop when the switch is released.
2. If the optional deck shift, draper speed (now standard), fore and aft, and/or header tilt was purchased, connect the plug from control console to the additional power source plug.

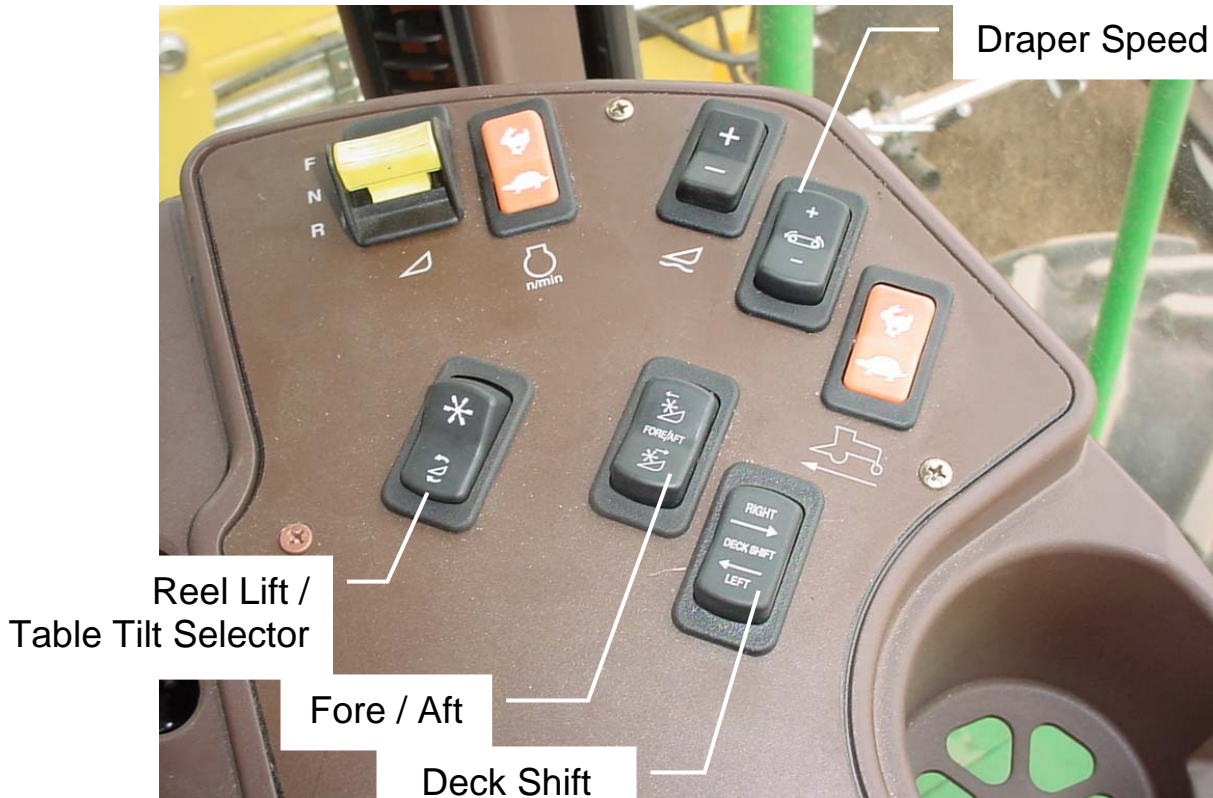
NOTE: The swather can be operated with the float relay left in. When the switch is activated up, the table will rise all the way to the top. When the switch is activated down, the table will drop to the preset float height.



CONTROL CONSOLE 4995

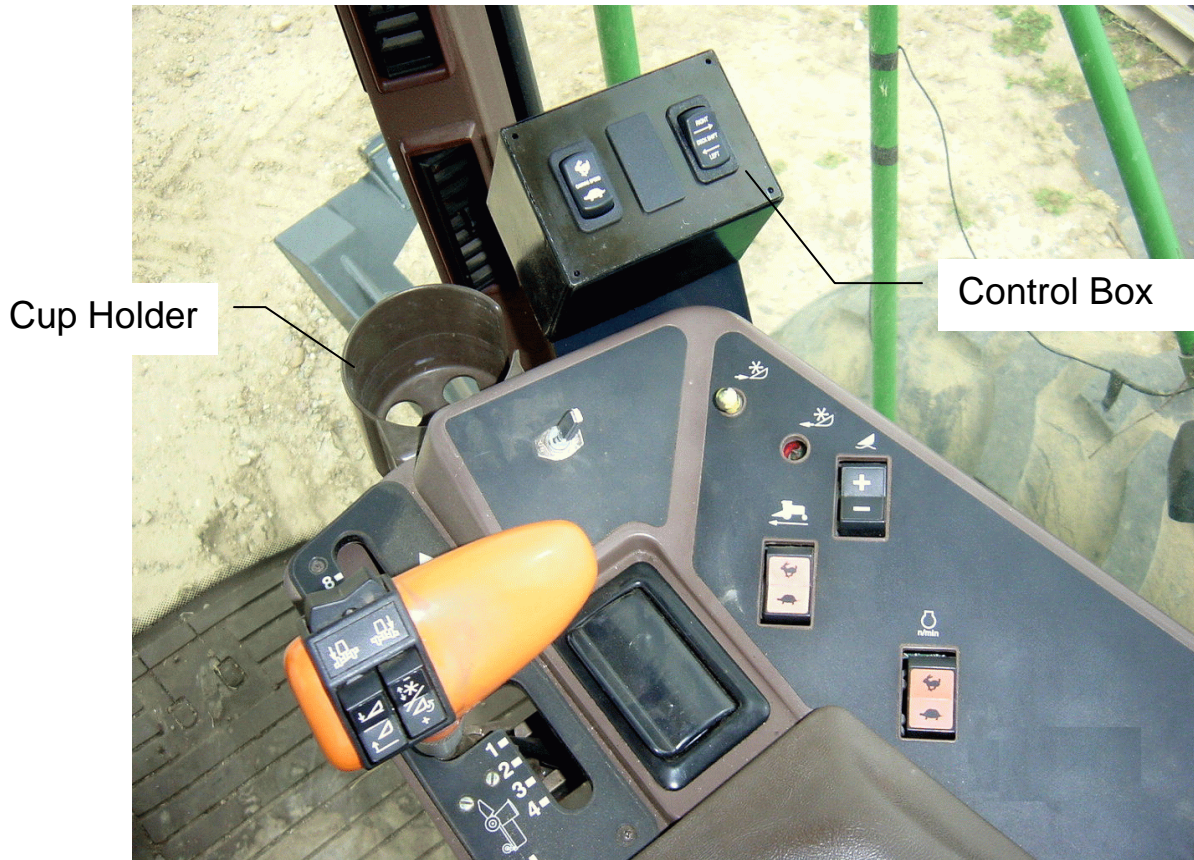
A draper header with standard configuration will not require any additional switches to be added to the control console. Reel Speed and table (header) tilt is controlled with the standard switch supplied in cab, located on the FNR lever.

The switches for the standard draper speed control, optional shifting decks, fore/aft reel options and the table tilt/reel lift options are installed into the control console. Run wires into electrical access panel.



CONTROL CONSOLE 4990

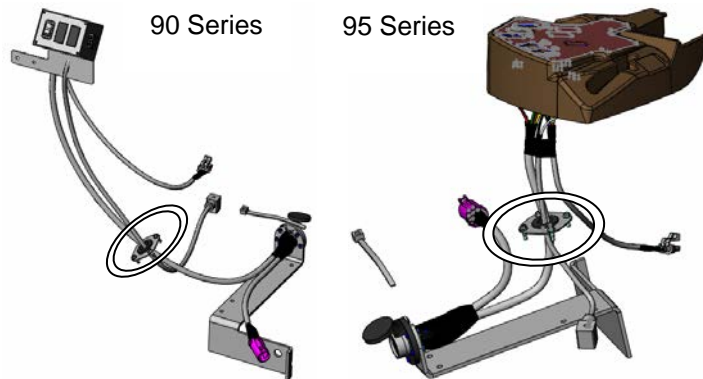
For the 90's series (4990) power units, Install the standard draper speed control, optional shifting decks, fore/aft reel options and the table tilt/reel lift options into the control console, if optional packages were purchased. Remove the two screws that hold the cup holder, and mount the control panel bracket in place behind the cup holder. Run wires into electrical access panel.



CONTROL CONSOLE – WIRING LOCATION

Wiring for the console should be located through the floor on the right hand side in the cab.

The location of the hole to be made will be identified by an existing plate located under the mat in the cab. The hole diameter should be at least 2 1/2" to ensure that the wires can be fed to the outside since the wires are already assembled.



After the hole is made, insert the 7 way connector, 21 pin plug, and the Hirschmann connector through the floor and cover with the plate using the 4 teck screws supplied.



CONTROL CONSOLE – ELECTRICAL INSTALLATIONS (4995)

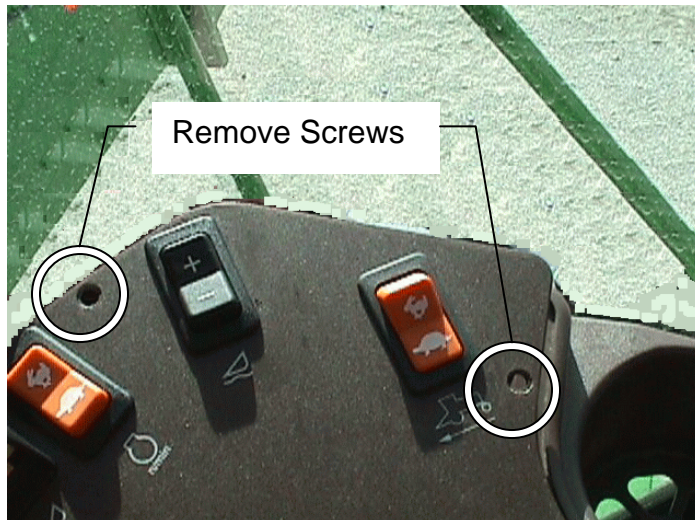
A draper header with standard configuration will not require any additional switches to be added to the control console. Reel Speed is controlled with the standard switch supplied in cab, located on the FNR lever.

If you have **ONE** option: There is space in the control console for adding one option. A control cable and switch will need to be installed.

PANELS WITH ONE OPTION:

Installation of switch and control cable.

1. Remove the three screws that hold the control console panel cover.
2. Lift cover, unplug cables to the switches. Locate the knock out from the back side.
3. With a sharp knife, cut the vinyl cover along the edge of the knock out.
4. The metal tab can be cut with a metal cutting jig saw blade or knocked out with a punch. File any burrs smooth.
5. Insert function switch into control panel from the top side, snap it into place. Leave cover off until control cable has been installed.
6. Install control cable. See Figure 21.



Single Option

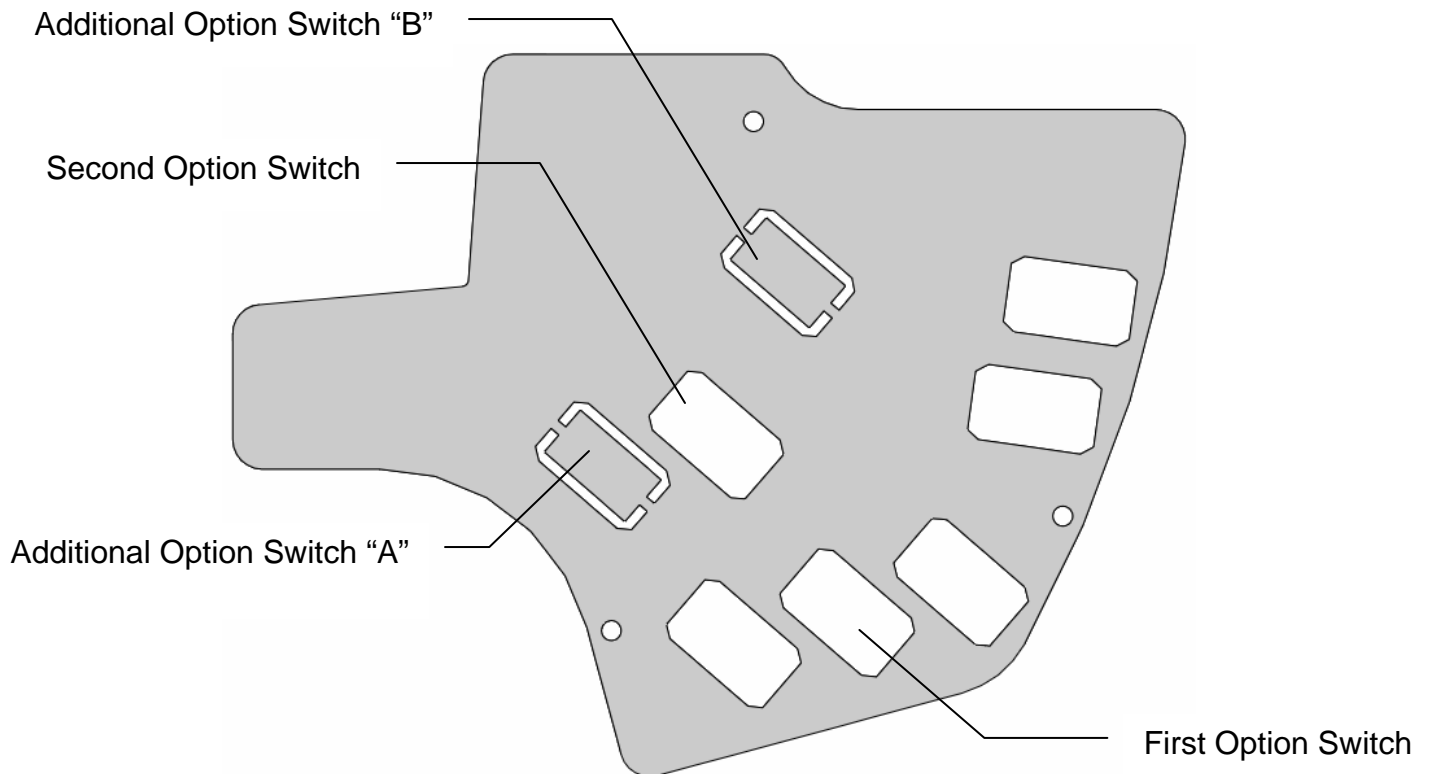


PANELS WITH TWO OR MORE OPTIONS:

Require the following parts.

Control console template
Decal template
Control switches
Control cable

1. Cut out the correct number of holes for the switches that will be installed.
2. Remove the original JD switches from the old control panel and install them in the new panel.
3. Insert additional function switches into control panel from the top side, snap it into place.
Leave cover off until control cable has been installed.

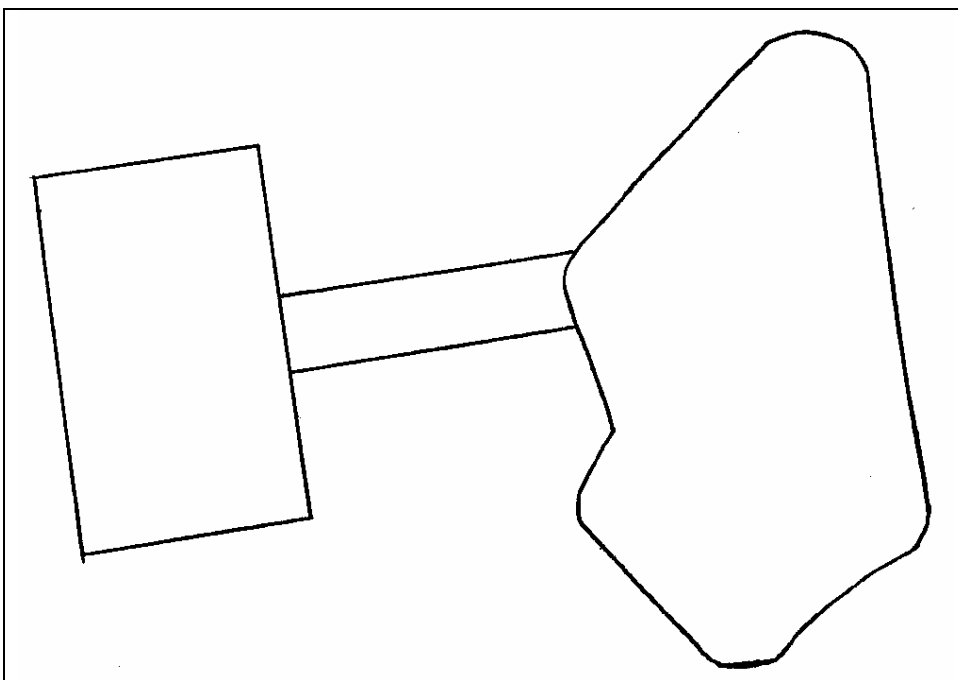
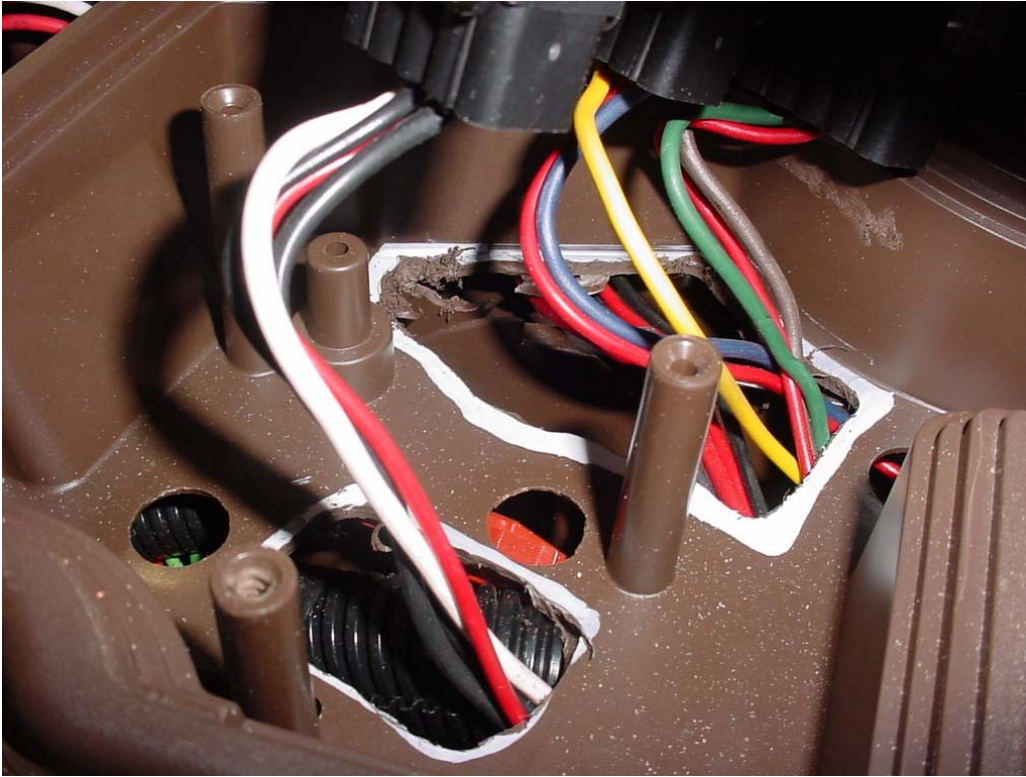


If not all options are being used, cut out additional option switch "A" first, before cutting "B".

If only one option is installed, no modifications to the control console base are necessary.

With two or more options though, the following modifications will be required.

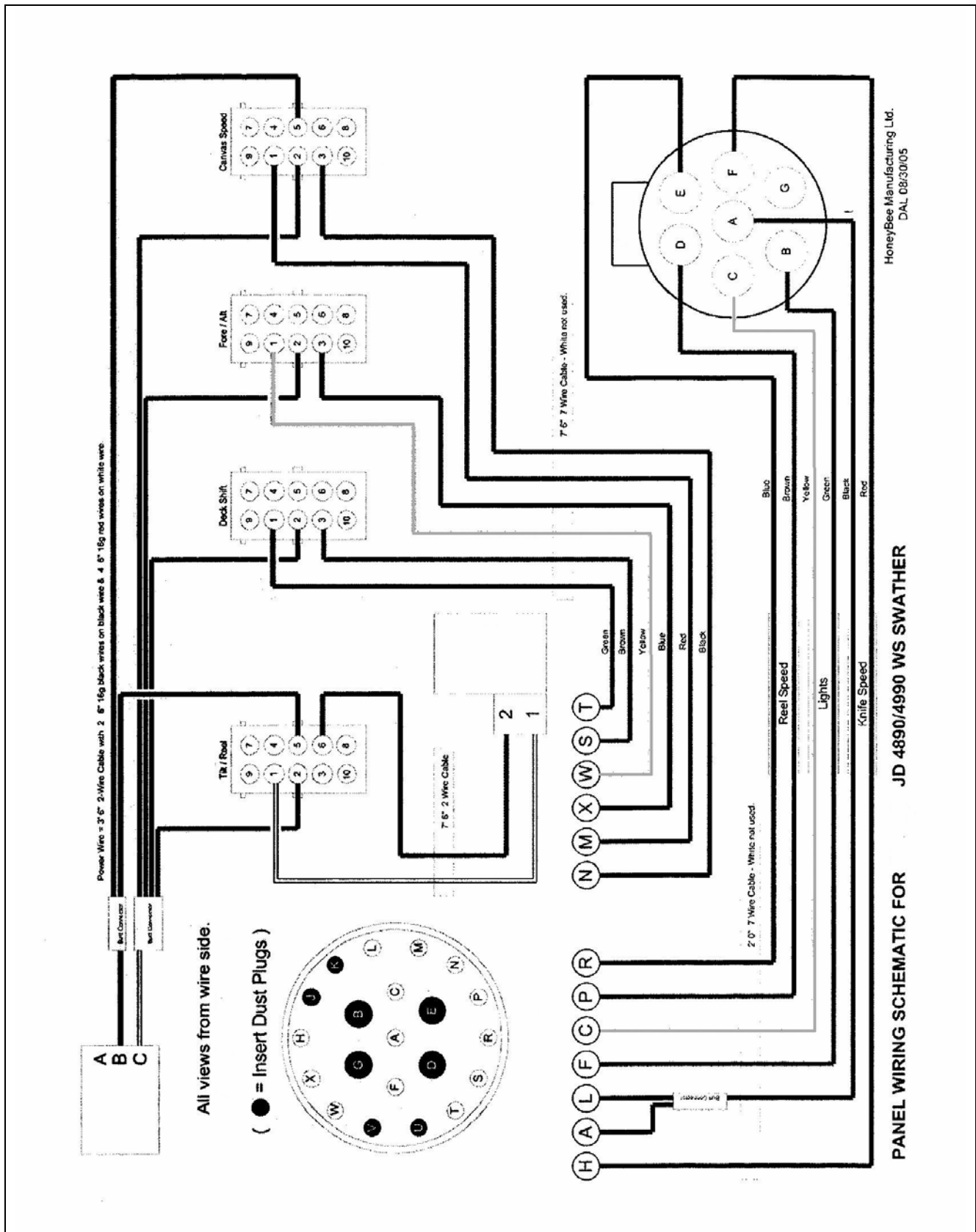
- Running the wires through to the control console requires a hole to be cut in the bottom of the panel base where the switch will be inserted. Use the template at right to trace the hole to be cut. Use a die grinder with a sharp cutting blade.



Cutting Template

The wires should already be connected to the switches. In case of disconnection or question of switch placement, refer to the following schematics for orientation of wires.

4990



HoneyBee Manufacturing Ltd.
DAL 08/30/05

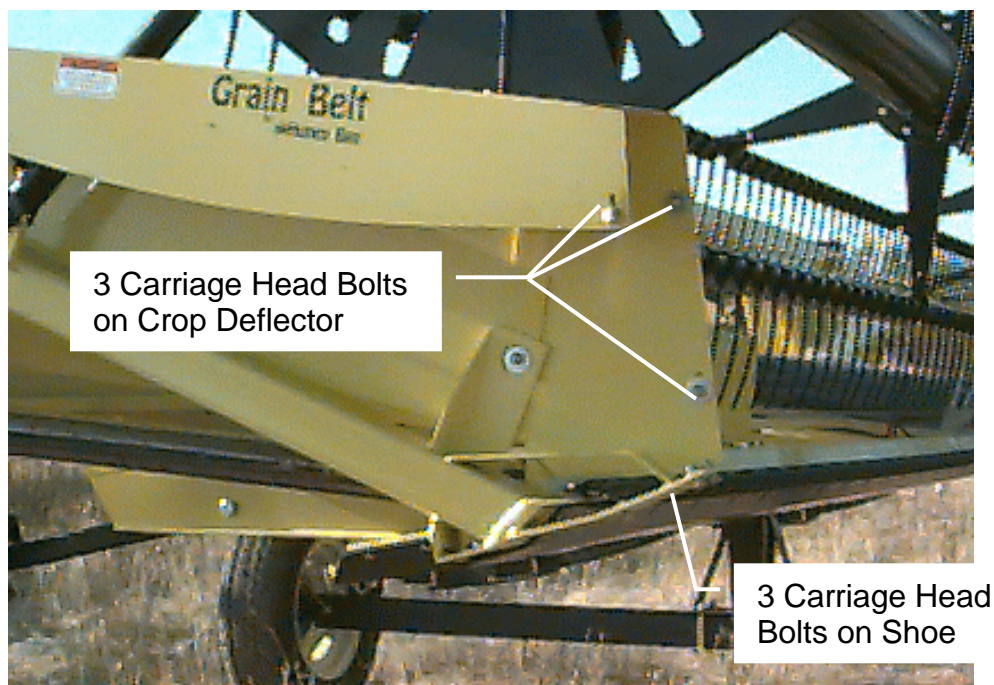
JD 4895/4995 WS SWATHER

PANEL WIRING SCHEMATIC FOR

SWATHER PREPARATION

1. Park the Grain Belt Swather on flat, hard, and level ground. Support the hitch end of the swather by lowering 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 or pipes are not installed at the factory. **Operators should be aware of the transport width of the table and should check local regulations.**
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 crop divider, through the table shoes, at each end of the table, and are held in place by flat washers and crimp lock nuts. The crop divider overlaps the outside of the crop deflector to provide a smooth transition for the crop. The other three carriage head bolts are installed from the inside of the formed sheet metal portion of the crop divider, into the crop deflector. The bolts are held in place with flat washers and crimp lock nuts.

NOTE: The inside edge of the crop divider and pipe should be aligned so that they are approximately 90 degrees to the cutter bar. This will allow the crop to be separated well and helps prevent crop from plugging in the corners.

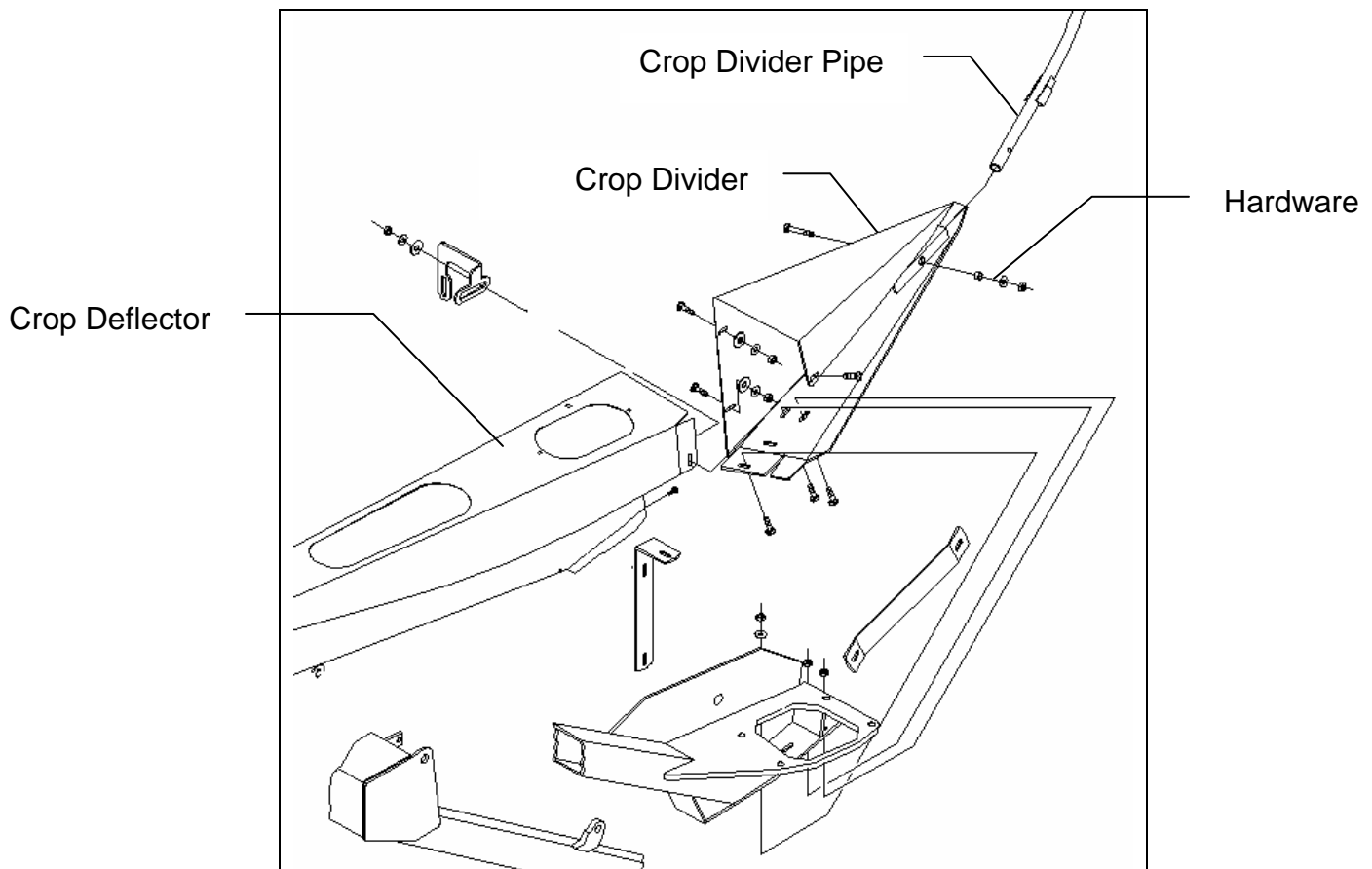


SWATHER PREPARATION (continued)

4. Side view of header showing deflector, divider and crop divider pipe in place.



5. Install the crop divider pipe into the crop divider using a 3/8" x 2" carriage head bolt. After the bolt is inserted through the divider and pipe, install a bushing-spacer onto the bolt followed by a flat washer and a lock nut. The bushing-spacer should press tightly against the crop divider pipe to hold it firmly in place.



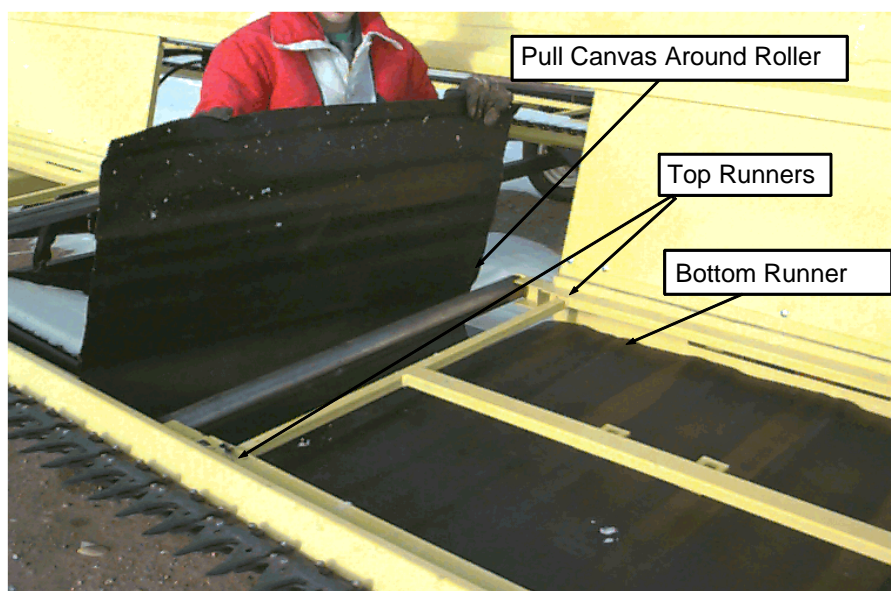
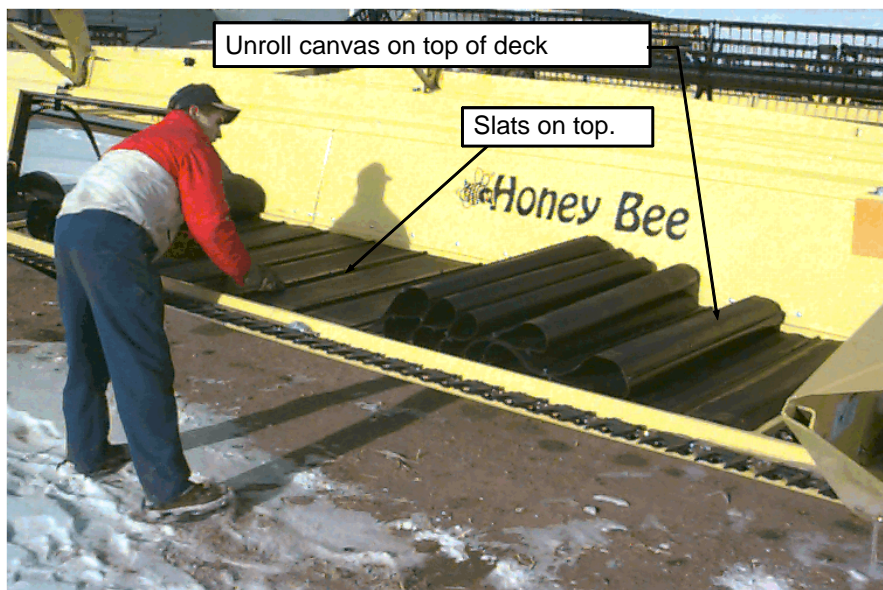
SWATHER PREPARATION (continued)

6. Install draper belts onto the decks if not installed.

Depending on how the header is equipped there may be two or three lateral drapers on the header. The lateral draper moves the material from the cutter bar to the center opening. All drapers must be set properly and maintained in good condition to perform well. Quick release adjusters with spring tensioning have been installed to allow for easier cleaning of internal parts and to maintain proper draper tension.

Draper Installation:

Unpack draper, and check size so that it corresponds to the size of the deck. Place draper bundle on the top of deck runners. Unroll draper with the slats facing up. From one end, wrap draper around one of the rollers and pull draper along the top side of the lower runner of the deck. On the underside of the deck, the lower runners should support the draper, to prevent it from hanging down.



Continue to pull draper until it can be wrapped around the other roller. Pull the ends of the draper together. Install a connector bar to the draper joint using the pre-punched holes. The heads of the screws should be installed from the center deck opening side.

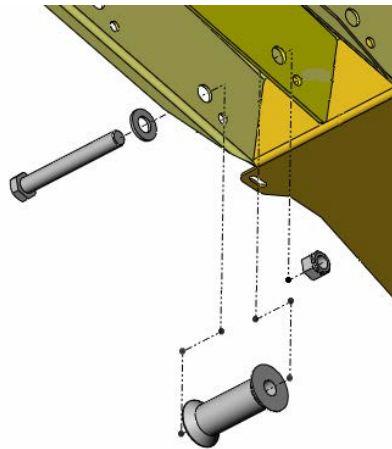
This helps to prevent the crop from being caught on the screws.

Complete installation by adjusting tension and tracking.

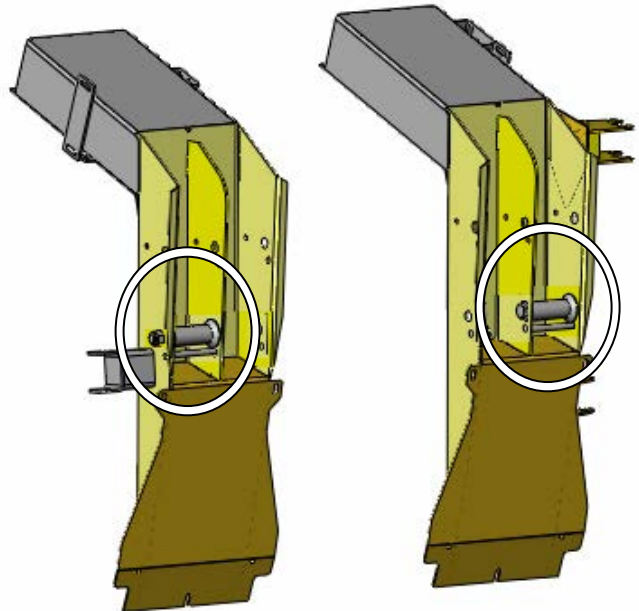
SWATHER PREPARATION (continued)

Prior to mounting the table to the power unit, ensure that the lift arm rollers are securely fashioned to the proper hole locations on the inside sections of the wide struts.

Ensure that the 5/8 hitch pin is not in the struts at this time.



Install the roller using a 1 x 8 UNC bolt.



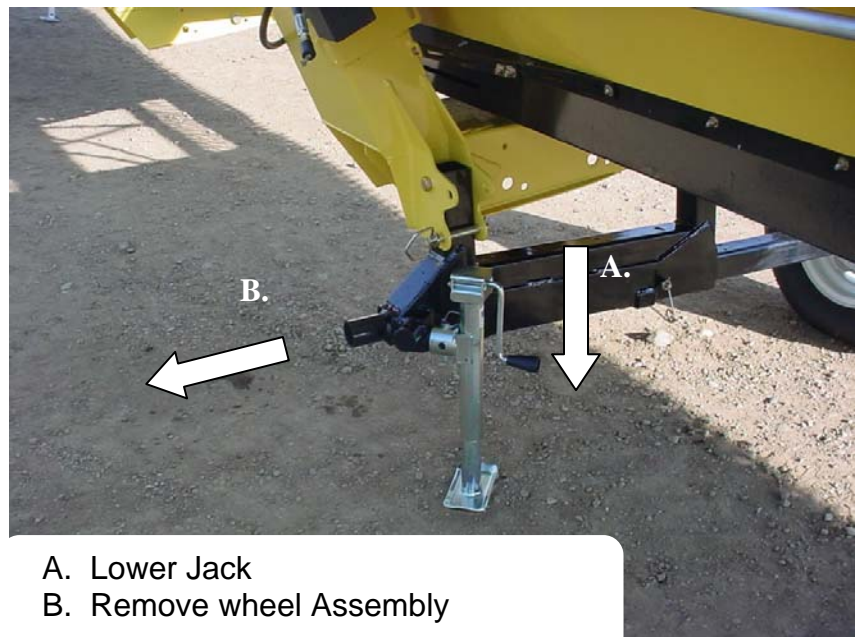
LH Strut

RH Strut

MOUNTING


1. Prepare the swather table for mounting by removing transport wheel from power unit side of table. In order to do this, lower the screw jack which is mounted to the side of the transport axle to raise the tire off the ground. Remove the quick pin that secures the hub and spindle, and remove wheel assembly from axle.

If gauge wheel option has been purchased, install the tire assembly into left hand gauge wheel bracket.



MOUNTING (continued)

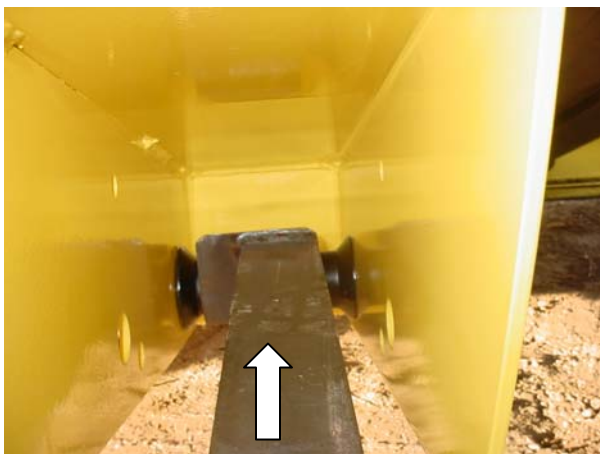


Align the Lift Arms with the Struts and lift to engage the Rollers.

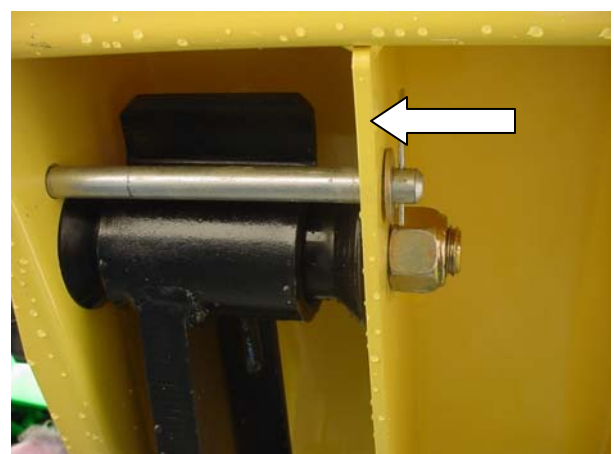


Note: Ensure that the lift arm rollers are located on the outsides of the wide struts.

2. The position of the power unit should be directly in behind the swather table with the lift arms lined up with the table struts.
3. Carefully approach the table with the lift arms low enough to go under the table struts. Lift the extension arms to grab the lift arm rollers in the table struts.



A. Raise the Lift Arm



B. Insert Hitch Pin and secure

4. Slowly raise the lift arms until the extensions are firmly set on the rollers.

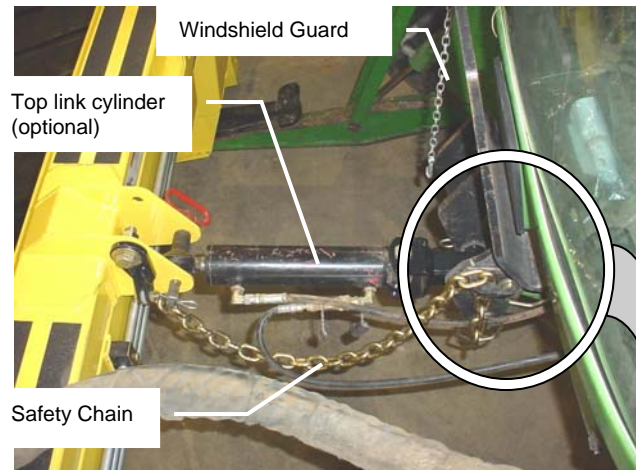
Important

5. Insert the 5/8 hitch pin into the struts to secure the extensions to the struts.

MOUNTING (continued)

***Safety Chain Installation:**

When connecting the power unit to the table, install the safety chain to the windshield guard prior to installing the top link or optional hydraulic tilt cylinder and lifting the table off of the ground.



The safety chain comes with a bolt inserted into the links, to ensure that you can not limit the range of the top link.

Do not remove the bolt.



The safety chain is designed to stop the table from tilting forward and causing an incident during operation or connection to the power unit.



MOUNTING (continued)

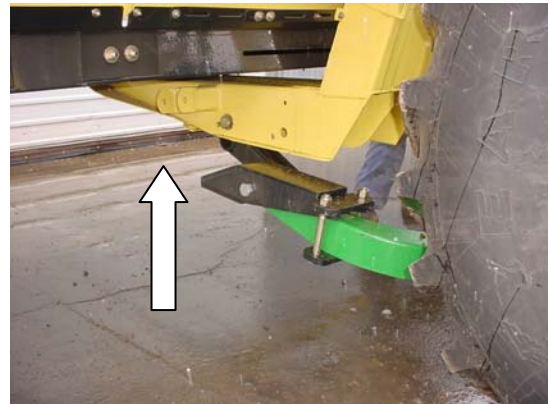
WARNING: DO NOT LIFT TABLE OFF THE GROUND UNTIL AFTER TOP LINK HAS BEEN CONNECTED.

Before lifting the table to install the top link, secure the safety chain to ensure the table does not fall forward.

The upper hole of the tower is used for the safety chain connecting the windshield guard to the table.



Once the extensions are in place, carefully and slowly lift the table to align the swather top link bracket with the top link cylinder.



Connect the top link from link mount on the tractor to the swather frame. Insert a spacer inside the tilt mount bracket, followed by a 3/4" x 6 1/2" hitch pin through spacer and top link as shown. Secure pin. Connect other end of top link to tower on table. The top link should be mounted in the lower hole of the tower.



MOUNTING (continued)

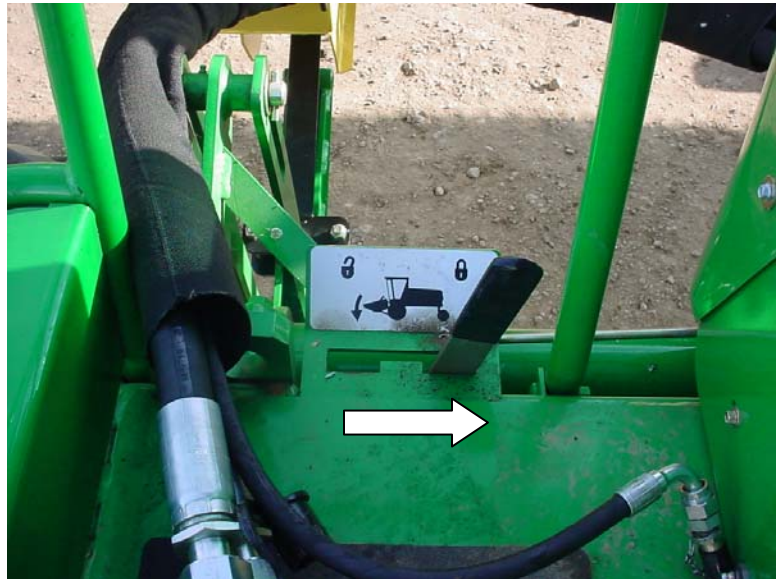
When working under the swather, engage the platform lift lockout lever to prevent accidental lowering of the table.



WARNING! Lock the lift arms in the fully raised position by engaging the platform transport lock.

LIFT SWATHER TABLE

Raise the lift arms and lift swather table to its fully raised position; then engage the platform transport lock.



AXLE FIELD USE

Remove the tire from the cutter bar side of the table and insert onto the gauge wheel mount (if the gauge wheel option has been purchased), or store in an accessible location.

Remove the pin holding the extension in place, and retract the extension into the axle



Secure the extension inside the axle by reinserting the pin.



Remove the pin securing the axle in the transport position and swing the axle up and secure using the pin through the strut and the leg of the axle.

Be careful, axle is heavy and may swing back down if not lifted properly.



CONNECT ELECTRICAL LINES & REEL LIFT/ TILT CYLINDER HOSE

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

Note: Both pictures show the optional tilt cylinder set up connection.

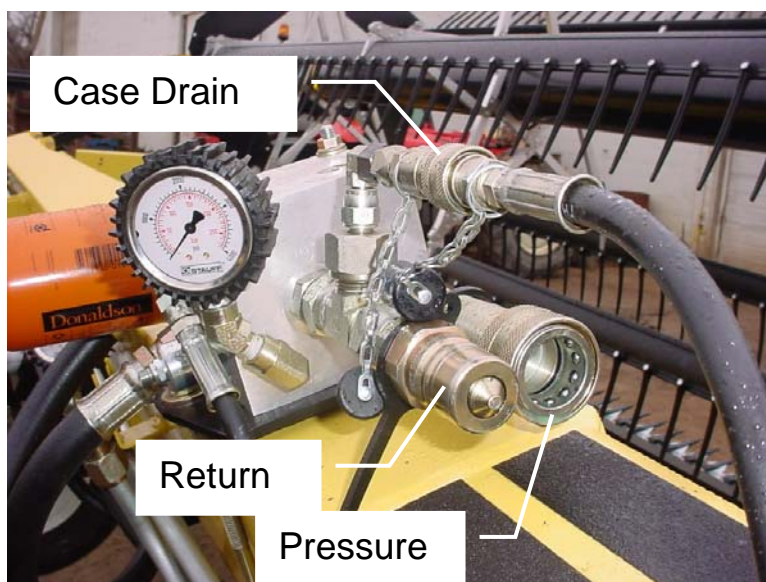


Open the valve to the hydraulics on the reel lift / tilt cylinder.



CONNECT HYDRAULIC HOSES

Connect hoses from the power unit to the swather, Pressure, Return and Case Drain.



HYDRAULIC SCHEMATICS

***NOTE:** For all hydraulic schematics, please refer to “**HYDRAULICS**” chapter in the **Operator’s Manual**.

SELF STORING HITCH

To convert the hitch from transport to storage mode, start by lifting the swather off of the ground.

Ensure the table is locked in position.

Jack the leg up, and collapse the lower section to the first hole.

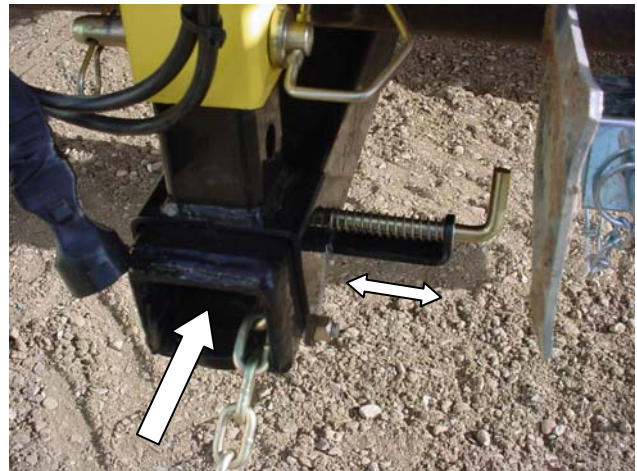
Loosen the locking lever on the jack mount and remove jack mount from the draw bar tube.

Place the jack on the storage bracket.



Pull lock pin on hitch tube.

Collapse the hitch tube into the hitch tube sleeve and secure with the lock pin.



Store the hitch jack in the storage position by tightening the locking lever and attaching the safety chain to storage stub.

If excessive vibration occurs on the jack mount, you can reduce this by extending the jack until it contacts the transport tube.



LEVELING

Adjusting the table for further Leveling

If the table needs further leveling, you have 3 different options that can be done alone or in conjunction with each other.

Option 1

Remove transport hitch



IMPORTANT! PARK THE POWER UNIT ON A HARD, LEVEL SURFACE, AND THEN ENGAGE THE PARK BRAKE.

1. Raise the swather to its fully raised position.

ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING THE CAB.

2. Lock platform in fully raised position as described in your Power Unit Operator's Manual.
3. Remove the hitch from the draw bar tube.
4. Lower the hitch tube by removing the pin securing the hitch to the table (Figure B).
5. Carefully, remove the pin on the strut holding the other end of the transport to the table (Figure C).

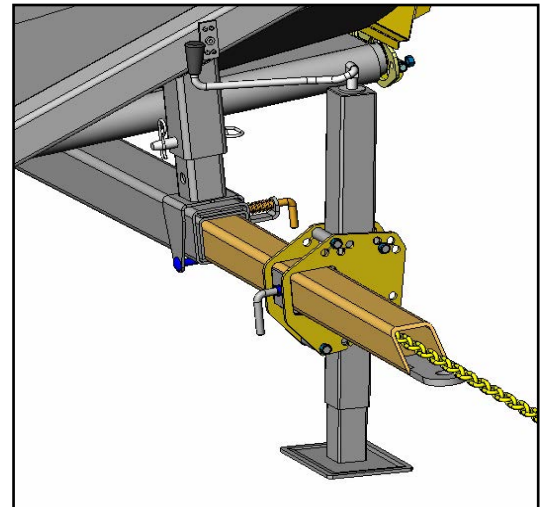
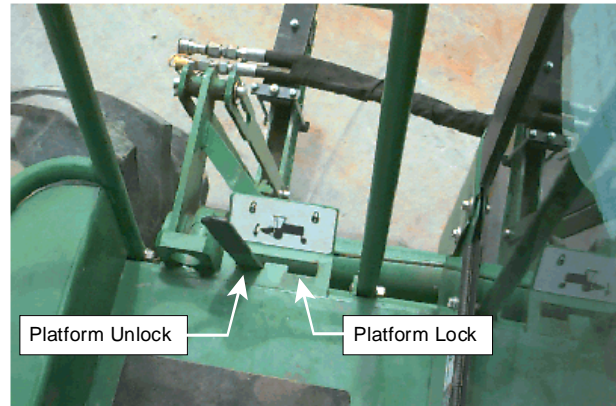


Figure A

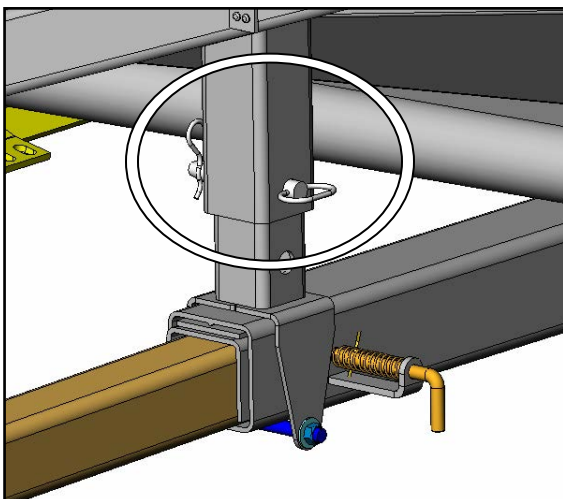


Figure B

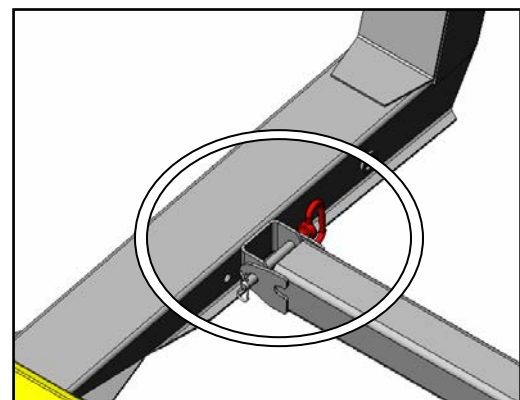


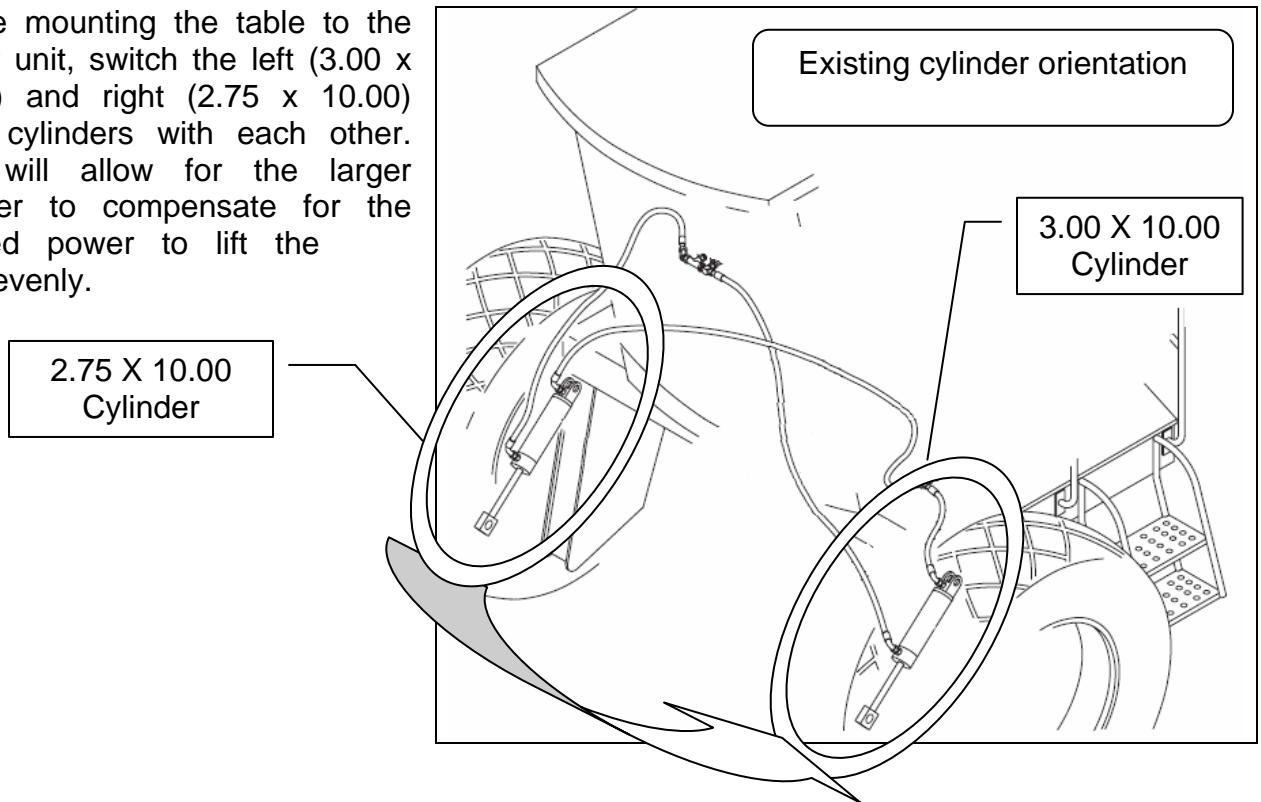
Figure C

LEVELING

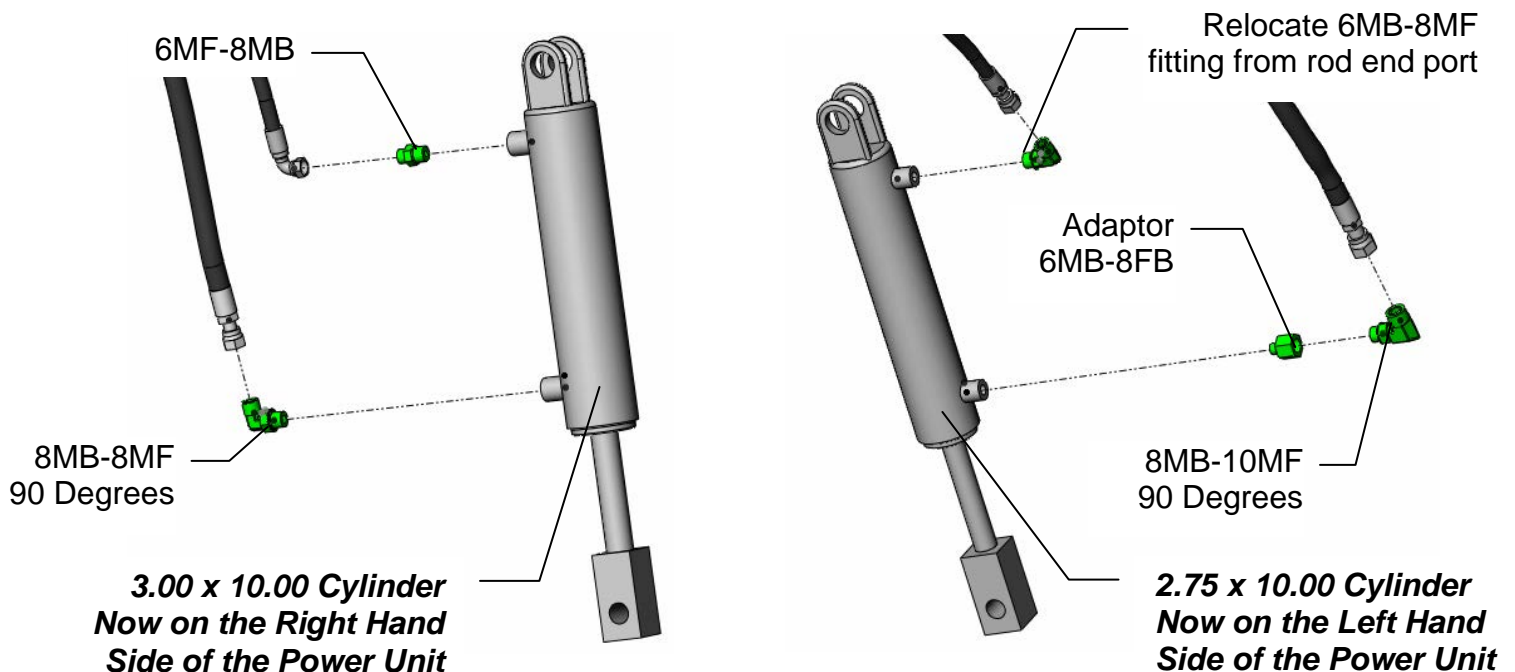
Option 2

Switch the lift arm float cylinders

Before mounting the table to the power unit, switch the left (3.00 x 10.00) and right (2.75 x 10.00) hand cylinders with each other. This will allow for the larger cylinder to compensate for the needed power to lift the table evenly.



Since the cylinders have different size of hoses flowing to and from the power unit, fittings will have to be added in order to allow for the change.



LEVELING

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

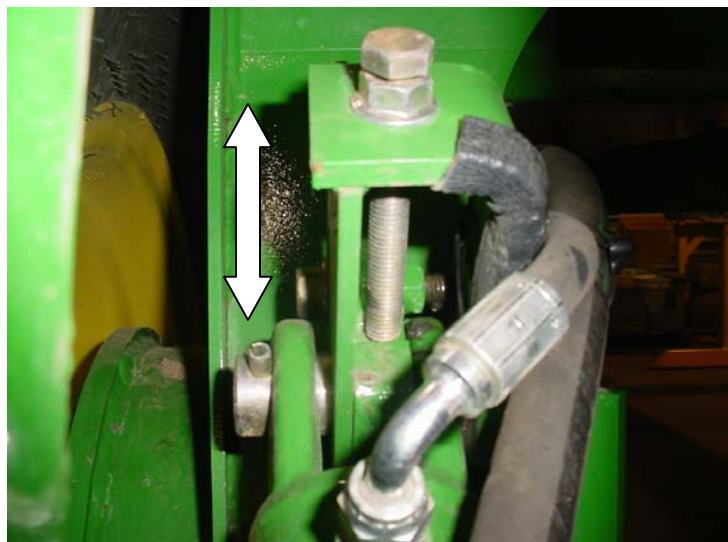
	No Hitch	Hitch	Float Pressure
18'	n/a	n/a	
21'	Swap cylinders	No change	Approximately 1250 psi at cutting height
25'	Swap cylinders	No change	Approximately 1500 psi at cutting height
30'	Swap cylinders	No change	Approximately 1700 psi at cutting height
36'	n/a	n/a	

***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.

Option 3

Adjust the set screw on the float cylinders

At the top of the float cylinders on both lift arms is a bolt that is used to set the distance the cylinder lifts from on the power unit in relation to the arms themselves.



IMPORTANT NOTICE

ADJUSTMENT SETTINGS ON
LEVELLING AND TABLE HEIGHT
SHOULD BE REVIEWED
BEFORE OPERATING THE
SWATHER.

SEE LEVELING - SECTION 70

WITHOUT PROPER
ADJUSTMENTS DAMAGE TO
SWATHER MAY BE
ENCOUNTERED.



PLEASE WASH EQUIPMENT AFTER TRANSPORTING.

Honey Bee Manufacturing Ltd. will not be responsible for any paint deterioration from salt or harsh chemical corrosion if this equipment is not properly washed after transporting.

Use a mild soap solution, and then rinse.

If equipment is stored through the winter months near salted streets or highways, then it should be cleaned each spring.

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GRAIN BELT HEADER

PURCHASE INFORMATION

Dealers Name: _____

Address: _____

Phone: () _____

Purchase Date: _____

Model: _____

Serial Number: _____

Delivery Date: _____

MODIFICATION RECORD

DATE	MODIFICATION

IMPROVEMENTS

Honey Bee Manufacturing Limited is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

Honey Bee Manufacturing Ltd.

Grain Belt Header

WARRANTY

Honey Bee Manufacturing Ltd. (Honey Bee) warrants your new Grain Belt Header to be free of defects in material and workmanship, under normal use and service. Obligations under this warranty shall extend for a period of 1 year (12 months) following the date of delivery to the original purchaser and shall be limited to, at the option of Honey Bee, replacement or repair of any parts found, upon inspection by Honey Bee, to be defective.

WARRANTY CLAIMS

The purchaser claiming under this warranty shall report a warranty claim to his Authorized Dealer. The dealer shall complete the claim, on the prescribed form, for inspection by an authorized company representative. Warranty claims must be made within 60 days of warranty expiration.

LIMITATIONS OF LIABILITY

This warranty is expressly in lieu of all other warranties expressed or implied and all other obligations or liabilities on our part of any kind or character, including liabilities for alleged representations or negligence. We neither assume nor authorize any person to assume, on our behalf, any liability in connection with the subsequent sale of the Grain Belt Header.

This warranty shall not apply to any Grain Belt Header which has been altered outside the factory in any way so as in the judgment of Honey Bee to affect its operation or reliability, or which has been subject to misuse, neglect, or accident.

OPERATOR'S MANUAL

The purchaser acknowledges having received training in the safe operation of the Grain Belt Header and further acknowledges that Honey Bee does not assume any liability resulting from the operation of the Grain Belt Header in any manner other than described in this manual.

SAFETY

In this manual the convention used on direction, particular words and names are as follows:

SAFETY TERMS:

WARNING: Whenever this sign is seen in this manual or on the machine, possible personal injury or death may occur if instructions are not followed.

Shields are meant for your safety - make sure that they are in place before starting the machine.

The following are definitions on how the word is used in this manual:



CAUTION: Gives instructions for safe behavioral practice in operating, maintaining and common safety practice, which will protect the operator and others from accidents.



WARNING: To bring to the operator's attention hidden hazards that could cause serious injuries to the operator or to others if proper operating practices are not followed to avoid the hazards.



DANGER: Used to tell of a forbidden practice in connection with serious injury.

MACHINE DAMAGE TERMS

ATTENTION: When the word "Attention" is used it warns of potential machine damage.

IMPORTANT: When the word "Important" is used it warns of possible minor damage to the machine.

**NAMES USED FOR PARTS OF THE HEADER ARE GIVEN AT THE TIME OF DESIGN.
THEY CAN VARY FROM TIME TO TIME.**

SAFETY

WARNING



THIS MACHINE IS POWERED AND RUN BY HYDRAULICS. CAUTION MUST BE TAKEN AROUND THE MACHINE BECAUSE HIGH PRESSURED HYDRAULIC FLUID CAN PENETRATE THE SKIN CAUSING SERIOUS INJURY AND POSSIBLY DEATH. WHEN LOOKING FOR A LEAK ALWAYS USE A PIECE OF CARDBOARD TO FIND THE LEAK, NEVER USE YOUR HANDS TO FEEL FOR THE LEAK, AND ALWAYS WEAR EYE PROTECTION, GLOVES AND LONG SLEEVE CLOTHING WHEN WORKING ON HYDRAULICS. SOME SMALL LEAKS CAN BE INVISIBLE, SO CAUTION SHOULD BE TAKEN AROUND HYDRAULICS.

	 WARNING
	<p>HIGH PRESSURE FLUID HAZARD TO PREVENT SERIOUS INJURY OR DEATH:</p> <ol style="list-style-type: none">1. RELIEVE PRESSURE IN SYSTEM BEFORE REPAIRING, ADJUSTING OR DISCONNECTING2. WEAR PROPER HAND AND EYE PROTECTION WHEN SEARCHING FOR LEAKS. USE WOOD OR CARDBOARD INSTEAD OF HANDS.3. KEEP ALL COMPONENTS IN GOOD REPAIR. 64871

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

Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.

SAFETY

IMPORTANT

YOU are responsible for the safe operation and maintenance of your Honey Bee Header. YOU must ensure that you and anyone else, who is going to operate, maintain or work around the Header be familiar with the operating and maintenance procedures and related SAFETY information contained in this manual.

Remember YOU are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

Operating instructions for this header should be reviewed by each operator at least once a year per OSHA regulations 1928.57. The meaning and location of each decal should be known prior to operating the header.



Watch for this symbol in this manual and on the header.

It will draw your attention to hazards that could cause injury or death.

GENERAL SAFETY

1. Keep the hydraulic components and motors clean of all chaff and straw to prevent any possibility of fire.
2. Carry a multipurpose fire extinguisher in the power unit in case of fire and know how to use it.
3. Provide a first aid kit in the cab for emergencies and know how to use it.
4. Do not wear loose clothing or jewelry around moving parts.
5. Wear appropriate protective gear. This list includes but is not limited to:
 - A hard hat
 - Protective shoes with slip resistant soles
 - Protective glasses or goggles
 - Leather gloves
 - Hearing protection
 - Respirator or filter mask
6. Do not allow any one to ride on the header while it is in motion.
7. Make certain that the park brake is engaged, and the power unit is in neutral before starting the engine.
8. Clear the area of bystanders, especially small children before starting the power unit.
9. Do not allow anyone to operate the header who has not been instructed in how to operate the machine.
- 10 All operators should familiarize themselves with the SAFETY section in the Power unit Operators Manual.
- 11 Some pictures or illustrations may not show protective shields in place. Make certain that all protective shields are in place before operating the machine.

SAFETY

OPERATING SAFETY

1. STOP the power unit, engage the parking brake, place the power unit in neutral, remove the key, and wait until all the moving parts to stop before leaving the cab.
2. Either lowers both the table and the reel or raise the header to its full height and use the platform lock before leaving the power unit or servicing the header. If working under reel, use reel cylinder locks. A sudden loss of hydraulic pressure could cause the header and reel to fall.
3. NEVER operate the power unit and the header while tired, sick or impaired.
4. DANGER - DO NOT stand between the power unit and the header while raising or lowering the header.
5. Do not operate the header in crowded or confined areas.
6. Remember that some models of the header are not centered on the power unit feeder housing, it may be offset to the right. This may distort your judgment.

MAINTENANCE SAFETY

1. Before doing any maintenance, shut off the engine of the power unit, engage the park brake, lower the reel and either lower or block up the header using the platform lock. Also make sure that there is no pressure in the hydraulic lines.
2. Hydraulic leaks can penetrate the skin causing serious injuries. Small leaks can be invisible and are the most dangerous. Use some kind of object, such as cardboard, to find the leak -- DO NOT USE YOUR HAND.
3. Ensure that all the pressure is released from the hydraulic lines before repairing. Replace or repair damaged hoses immediately.
4. Care should be taken when maintaining the knife. The sickle sections are very sharp and can easily cause injury. Use heavy leather or canvas gloves when working with the knife.

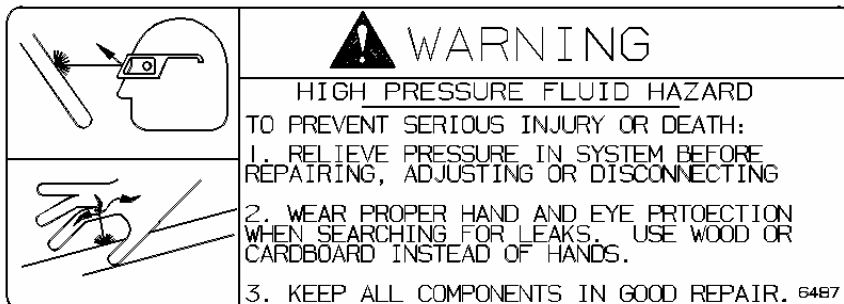
SAFETY

HYDRAULIC SAFETY

WARNING

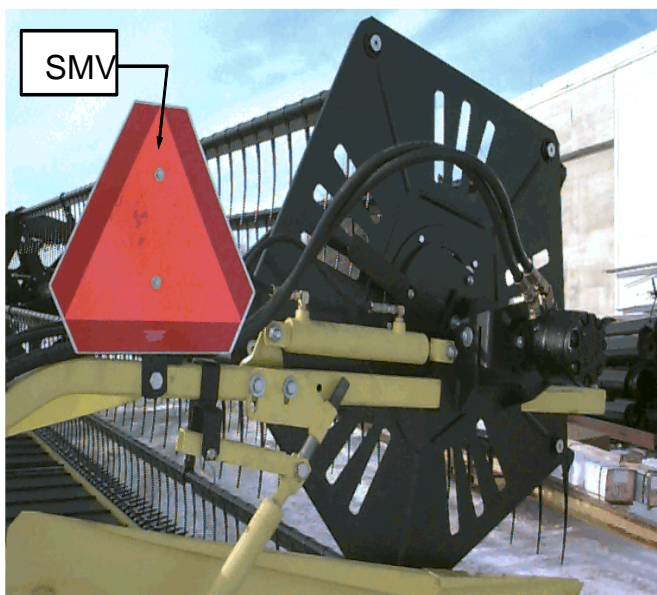


This machine is powered and run by hydraulics. Caution must be taken around the machine because a small leak can be invisible and can penetrate the skin causing serious injury and infection. Use a piece of cardboard to find the leak -- NEVER USE YOUR HANDS TO FEEL FOR A HYDRAULIC LEAK. Always wear eye protection, gloves and long sleeve clothing when repairing hydraulics.



TRANSPORT SAFETY

1. Transport the header with the SMV (Slow Moving Vehicle) sign displayed on the rear of the header and use your hazard lights if the law permits. Check local road laws before transporting.
2. When transporting the header on the roads are aware of the width of the header.
3. For long - distance transporting put the header into full transport (see dismount section).
4. Do not transport the machine at night, at dawn, or at dusk.
5. Ensure hitch is firmly attached and secured with hitch pins before moving.
6. Attach the safety chain before moving.
7. Do not exceed 40 kph (25 mph) during transport.



STORAGE

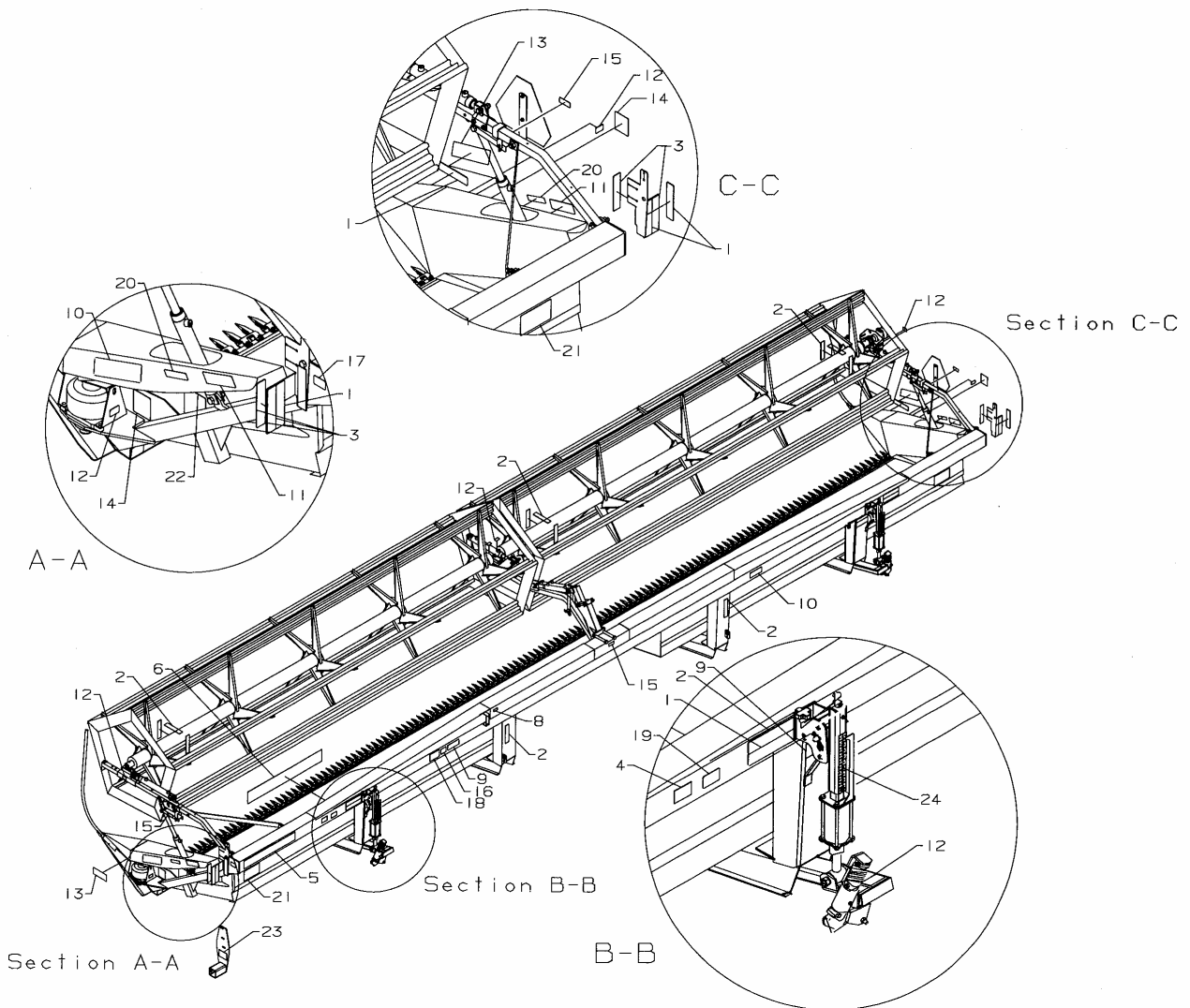
Store the header on firm ground away from areas of human activity. The header may be stored in the quick dismount position or in the full transport position.

SAFETY

SAFETY DECAL LOCATIONS

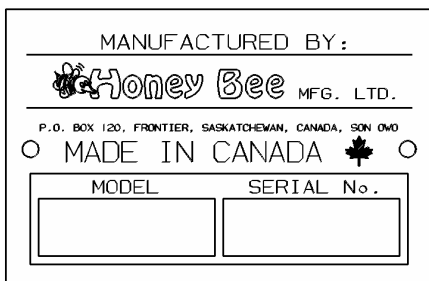
The following safety decals have been placed on your machine in the areas indicated. They are intended for the personal safety of you, and those working with you. Please take this manual, walk around your machine and note the content and location of these warning signs. Review these decals and the operating instructions in this manual with your machine operators. Keep decals legible. If they are not, obtain replacements from your Honey Bee dealer.

1. Keep them clean.
2. Know the location and meaning of all decals.
3. Replace damaged safety decals immediately. You may purchase the decals from your dealer.



SAFETY

- 1 – 26379 Red Reflector (2x9)
- 2 – 26380 Yellow Reflector (2x9)
- 3 – 27360 Red – Orange Reflector (2x9)
- 4 – 62016 Serial Number Plate



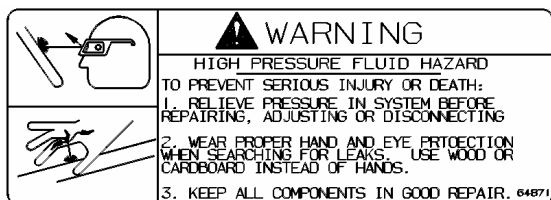
- 5 – 62637 Honey Bee Logo 4x30
- 6 – 62638 Honey Bee Logo 6x44



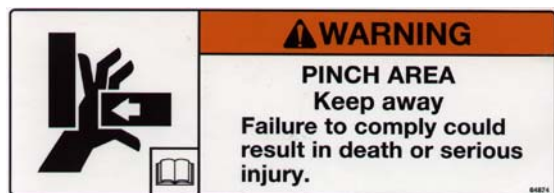
- 7 – 62668 Canvas Speed



- 8 – 64871 WARNING – High Pressure Fluid



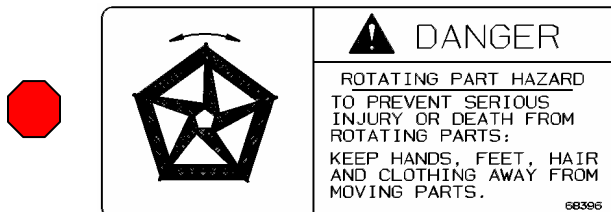
- 9 – 64874 WARNING – Pinch Points Area



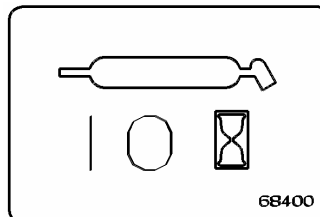
- 10 – 66605 Grain Belt by HB



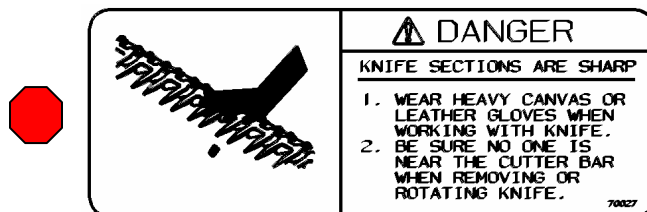
- 11 – 68396 Danger – Rotating Parts



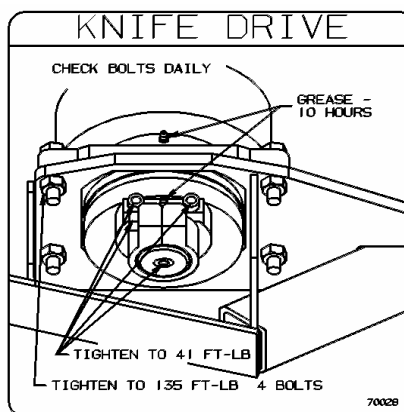
- 12 – 68400 Grease 10 HR



- 13 – 70027 DANGER – Sharp Knife Sections



- 14 – 70028 Knife Drive

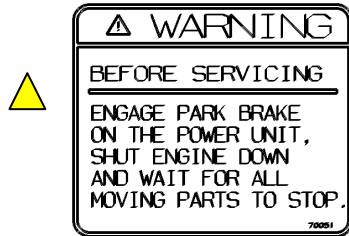


- 15 – 70050 WARNING – Engage Cylinder Locks



SAFETY

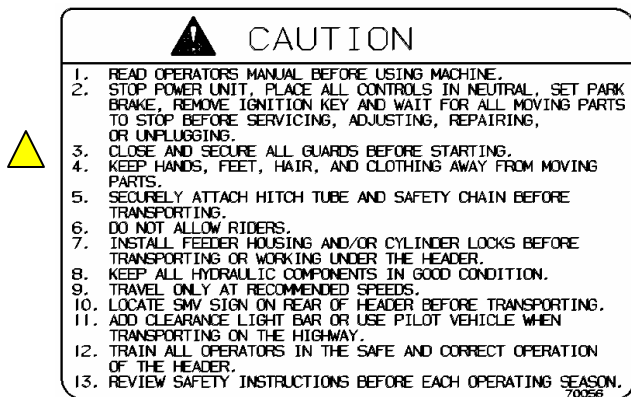
16 – 70051 WARNING – Before Servicing



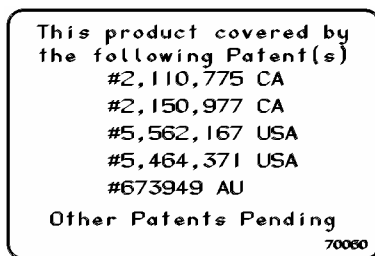
17 – 70055 ATTENTION – Secure Reels



18 - 70056 CAUTION – Read Operators Manual



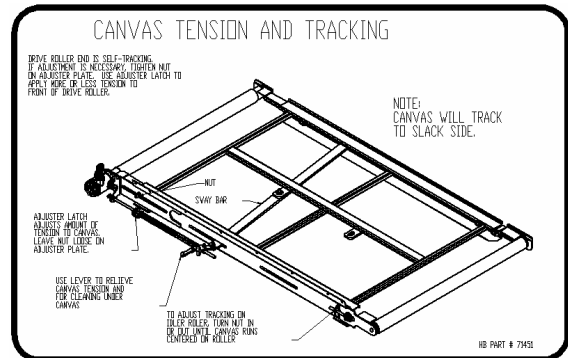
19 – 70060 Product Patents



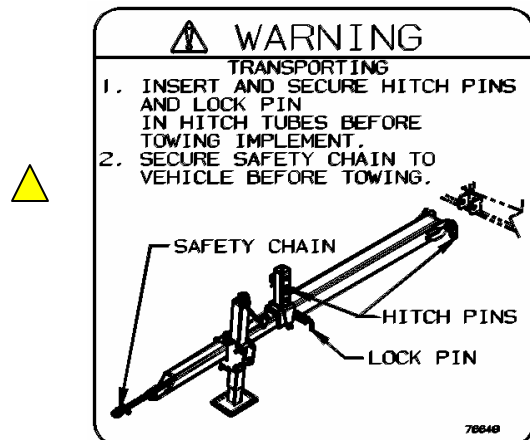
20 - 71365 WARNING – Cylinder Locks



21 – 71451 Canvas Tension and Tracking



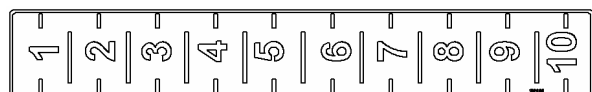
22 – 76648 WARNING – Transport Hitch



23 – 77230 WARNING – Transporting Unit



24 – 78120 Gauge Wheel Height Indicator



SAFETY

BEFORE TRANSPORTING

1. Do a complete walk-around visual check to be sure there are no loose parts or components.
2. Do a hand check on all reel mounting, reel drive and adapter assembly bolts to be sure no bolts/nuts are loose.
3. Check wheel bolts to make sure they are tight.
4. Check transport tire pressure. Recommended pressure is 50 psi (345 kPa) for 225/75R15 radial and 50 psi (345 kPa) for 8.00 - 16 10 ply bias tire.
5. Check spindle and hitch lock pins to make sure they are in place and securely fastened.
6. Do a visual check of all hoses to make sure they are securely tied so they will not pinch or drag during transporting.
7. Ensure hitch tongue and safety chain are securely fastened securely to the header and to the transporting vehicle.

TRANSPORTING CHECKS

1. If you are towing your header, stop after the first 5 to 10 kilometers (2 to 6 miles) and check to make sure the wheel bolts are tight and the wheel hubs are not hot. Periodic checks 50 to 60 km (31 -37 miles) should be made if towing the header long distances.
2. Check the hitch bolt and safety chain periodically to make sure they are secure.

FIELD CHECKS

Sections 30 through 110 in your operator's manual cover all the adjustments which may be required on your Grain Belt swather. Read this section carefully before using your Grain Belt swather. Make the necessary adjustments before operating your swather and periodically as required.

GENERAL INFORMATION - JD 4890/4895

MOUNTING INSTRUCTIONS

These mounting instructions are to help you mount your Grain Belt Swather on the power unit in a safe and easy way. Follow the instructions in the order that they are given, or possible difficulties may arise.

Use the check list 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 power unit.
 - BACK OR REAR -** Engine end of the power unit.
 - 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 power unit.



Figure 20.1

GENERAL INFORMATION – JD 4890/4895

HAZARD POSITION

To avoid possible injuries, be aware of your surroundings and the people working around the power unit and the table.

If you are the **power unit operator**, ensure that you can see all people around the power unit and table. At the same time ensure the people understand your intended direction of movement.

If you are the **person on the ground**, ensure that you do not put yourself in a position of possible harm from sudden movement of the power unit, or table. (see Figure 20.2 for an example of dangerous positioning)



Figure 20.2

If you are the person on the ground, you may want to follow these steps in avoiding possible injuries;

1. Ensure a **safe path of exit**. Look around to ensure that you will not trip over any objects when needing a quick exit. An example of this would be when removing the tire from the transport; place the tire away from the work area.
2. Ensure **proper footing**. Steel toed boots, or proper grips on the soles. An example of this case would be taking special care when working in mud.
3. **Visually check your surroundings**. Prior to entering an area of caution, look for possible hazards. An example may be keeping your hand (in a safe location) on the power unit tire if hooking up to the table.
4. Ensure that the **power unit operator has seen you** in the area and **has acknowledged** that he is aware of your presence. A good way to acknowledge the presence is by giving each other a “thumbs up”.

Reduce the possible risk and eliminate the potential injury.

Warning: To avoid bodily harm, do not place yourself between the tire and table while raising table.

If entering area, lower table to the ground or engage the table lift lock-out lever prior to entry.

GENERAL INFORMATION - JD 4890/4895

CHANGES TO THE TRACTOR HYDRAULICS

The Swather receives power from the reverse side of the tractor platform pump. Connect the Pressure, Return and Case Drain hoses to the table.

ATTENTION: WHEN THE TABLE IS IN STORAGE, THE CASE DRAIN HOSE MUST BE RECONNECTED. THIS IS TO RELIEVE PRESSURE IN THE CLOSED HYDRAULIC SYSTEM. OTHERWISE DAMAGE TO SYSTEM COMPONENTS MAY OCCUR.

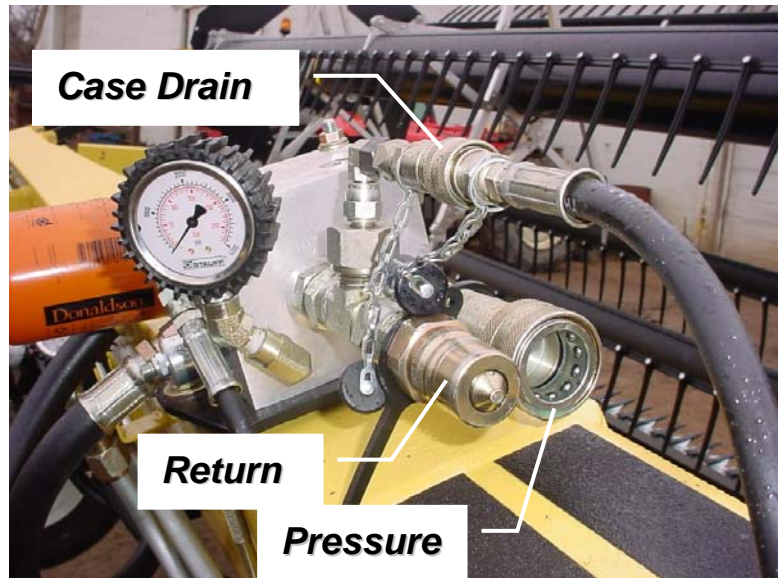


Figure 20.3

Locate the charge pressure valve in the access panel on the left side of the power unit. Mark the wires on solenoids S1 (Platform Forward) and S2 (Platform Reverse). Disconnect the control plugs to these two solenoids. Take the control wire for solenoid S1 (forward) and connect it into the solenoid S2 (reverse). This allows the reverse side of the pump to be used with the forward switch. **Do not connect the other wire and solenoid.** If switching back to a mower-conditioner, switch the wiring on the solenoids back to original settings.

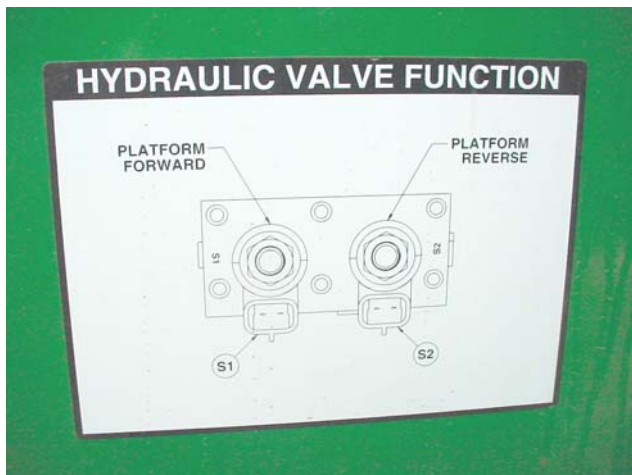


Figure 20.4



Figure 20.5

GENERAL INFORMATION - JD 4890/4895

CHANGES TO THE TRACTOR HYDRAULICS (continued)

In order to supply 19 gpm (72liters) of oil to the Honey Bee table, the reverse mode of the pump is used. Locate the pump under the engine access panel on the right hand side of the power unit.

Locate the adjusting screw for the reverse flow of the pump. Loosen the lock nut, and back off the setscrew until 19 gpm (72 liters) is obtained. It may be necessary to use needle nose pliers to adjust set screw.

Start the power unit, engage the header drive, and operate machine at full rpm.

Read the knife drive speed from the reel drive display, screw the Allen screw out until the display reads 700 rpm. This reading will be approximately 19 gpm (72 liters) to the knife drive.

Caution: Damage to knife, knife heads and other related components (like the knife drive) may occur if knife is allowed to exceed recommended speed. Excessive knife speed will void all warranty.

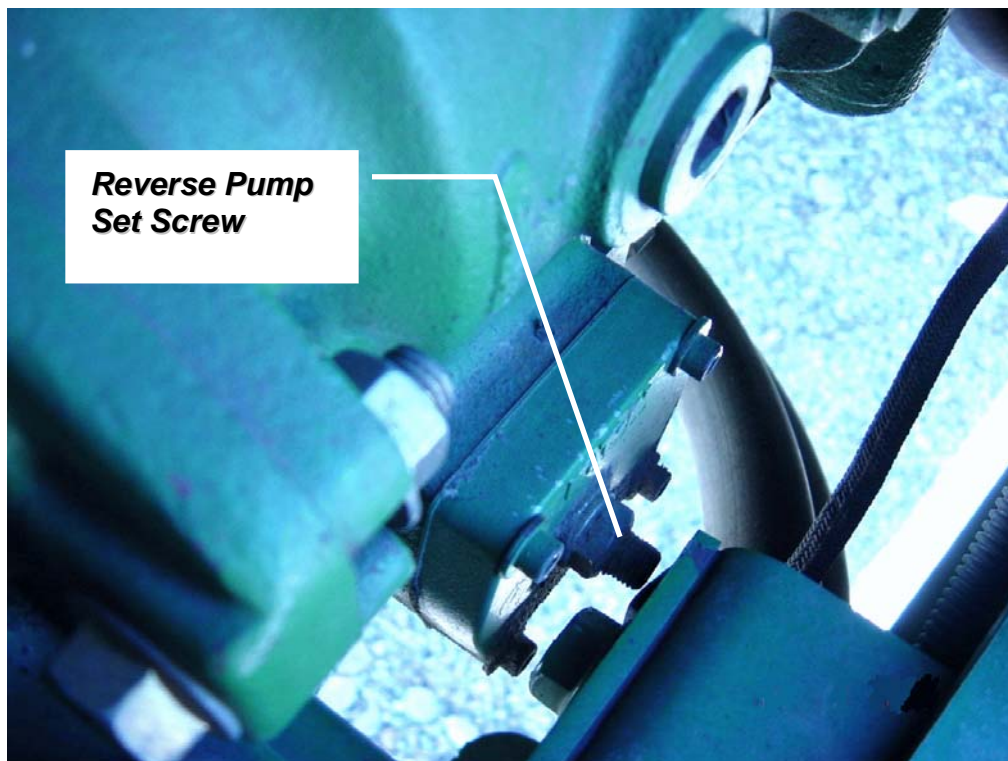


Figure 20.6

GENERAL INFORMATION - JD 4890/4895

MOUNTING BRACKET INSTALLATION

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



Figure 20.7

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 and reinstallation will be difficult).

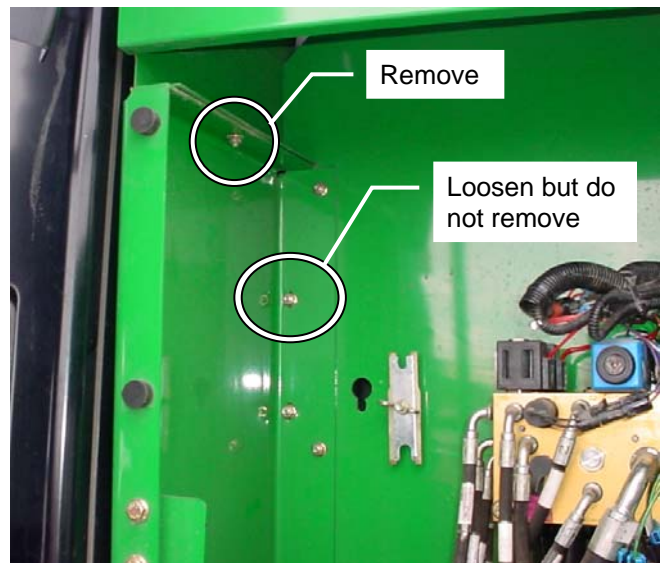
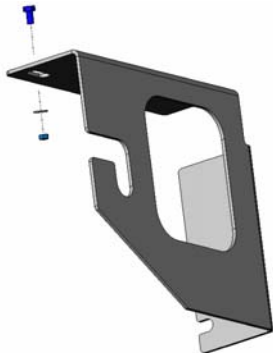


Figure 20.8

Slide the bracket between the previously loosened nut and frame. Insert a 5/16 bolt (included) through the top hole of the frame, then the bracket, washer and nut. Tighten the nuts to secure.



Figure 20.9

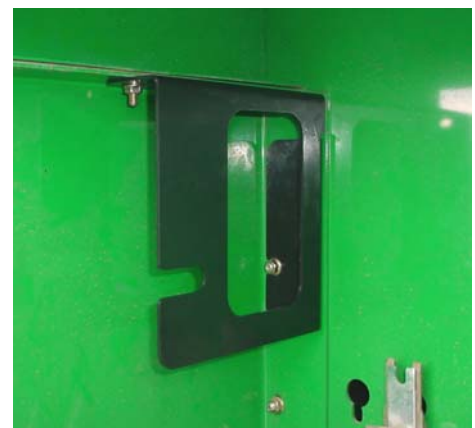


Figure 20.10

GENERAL INFORMATION - JD 4890/4895

HOSE INSTALLATION

Start the power unit and lower the table to the ground.

To locate the manual float release valve (A), 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 harm from heated oil.



Disconnect the platform lift hose (Hose A) at the block (using the valve tool on the power unit) and connect the supplied hose (Hose B) to the block using the fitting supplied.

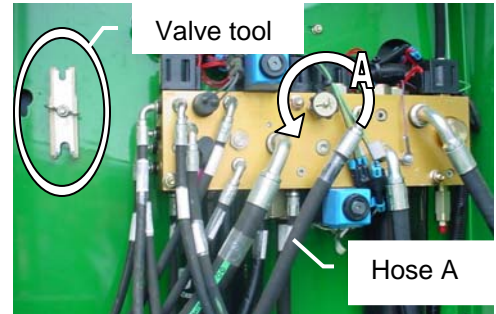


Figure 20.11

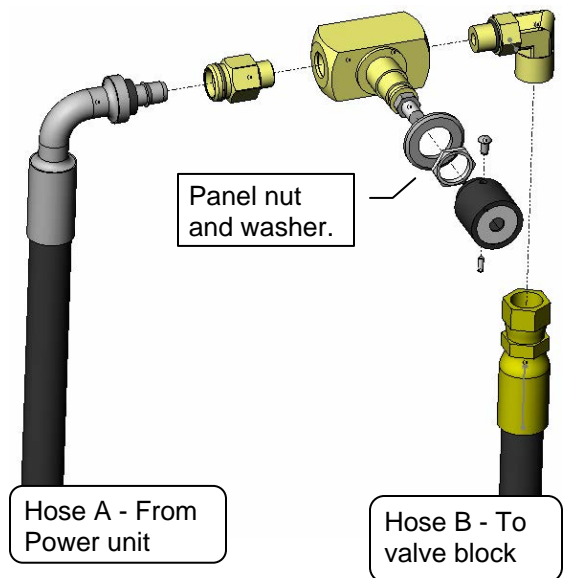


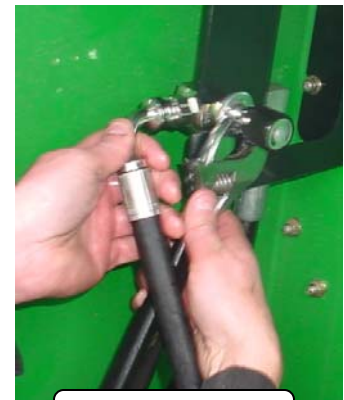
Figure 20.12

Disassemble the needle valve knob from the body and reassemble using the panel nut and washer (as shown). Install to the needle valve, the supplied hose (Hose B) using the elbow (supplied), and the power unit hose (Hose A) with the adapter fitting (supplied).

Slide the needle valve onto the mounting bracket and tighten to secure. Close the manual float release valve (clockwise) and set your flow rate through the needle valve.



Figure 20.13



Tighten to secure

Figure 20.14

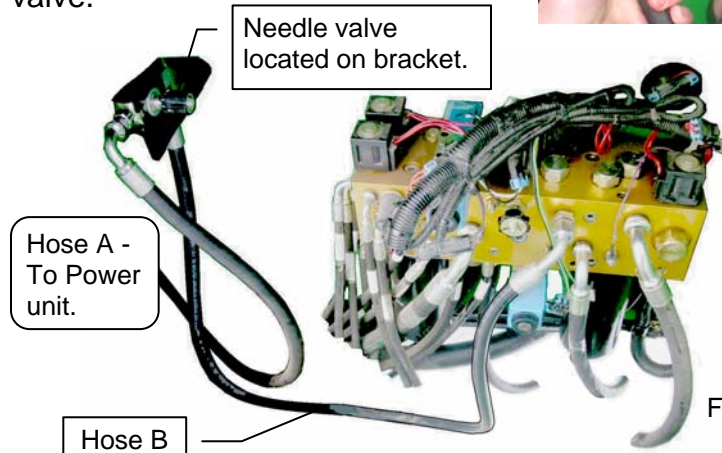


Figure 20.15

GENERAL INFORMATION - JD 4890/4895

NEEDLE VALVE OPERATION

To locate the needle valve that regulates the platform lift and drop circuit, open the compartment door on the left side of the power unit at the top of the stairs.



Figure 20.16

To begin with a slow and safe table drop rate, turn the needle valve clockwise to limit the oil flow going to the lift arms (do not turn the valve completely closed).

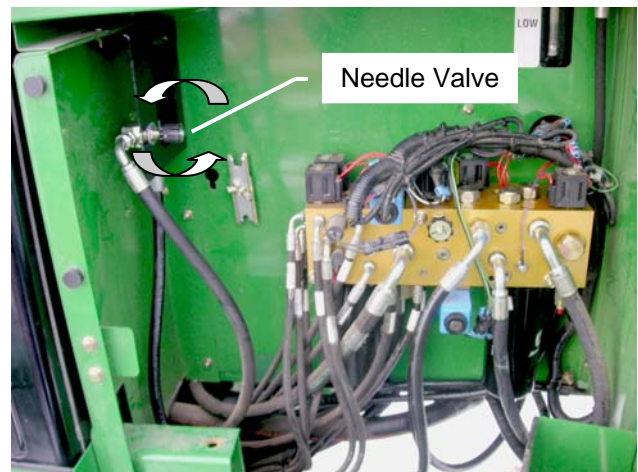


Figure 20.17

Raise and lower the table a few times to find the rate of speed that allows ease of operation, while ensuring full control. If the rate is too slow, turn the needle valve counter-clockwise at discretionary increments and test the drop rate speed at each interval.

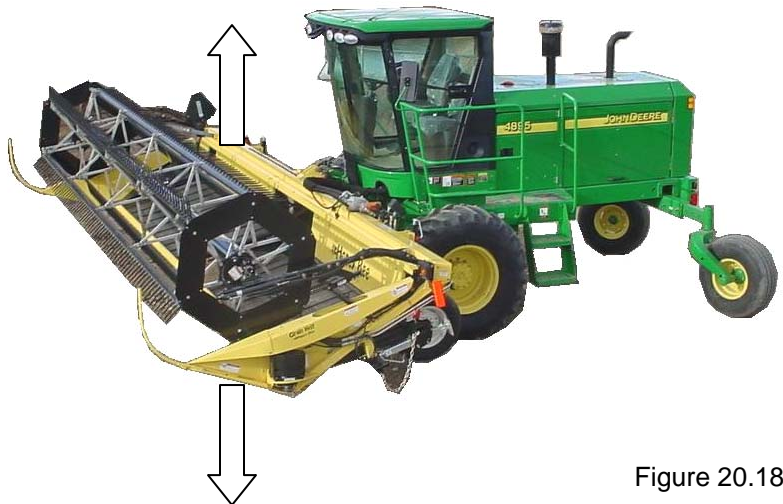


Figure 20.18

GENERAL INFORMATION – JD 4890/4895

INSTALL LIFT ARM EXTENSIONS

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. Secure the bolt only 2 or 3 threads past the nut.

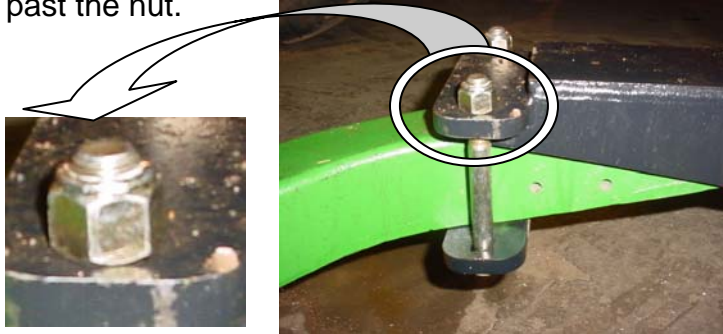


Figure 20.19

Install the stoppers to both sides of each clamp plate and secure using a $\frac{1}{2}$ x 2-1/4 inch bolts, washers and nuts.

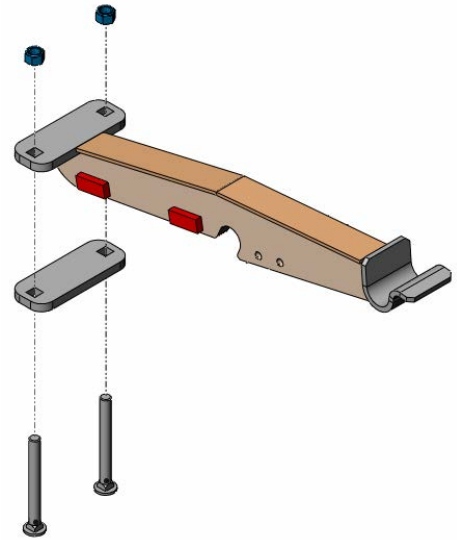


Figure 20.20

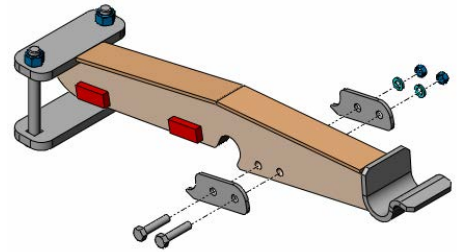


Figure 20.21

Note: Do not secure the $\frac{3}{4}$ inch bolts all the way. The extensions are designed to act as a lever (or hinge) between the table and the lift arms.



Figure 20.22

GENERAL INFORMATION – JD 4890/4895

INSTALL WINDSHIELD GUARD

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

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 a clamp plate and $\frac{1}{2}$ x 2-1/2 in bolts.

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.

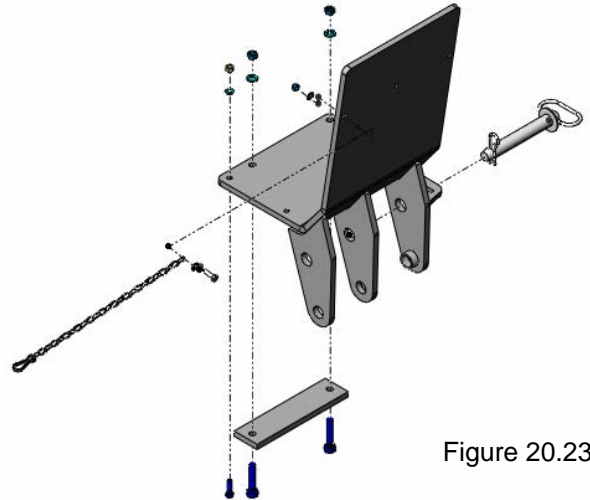


Figure 20.23

An extra hole is located on the guard to bolt the existing clamp to the guard and keep the electrical lines in order.



Figure 20.24

The windshield guard shown with the optional tilt cylinder in the storage position.



Figure 20.25

GENERAL INFORMATION – JD 4890/4895

INSTALL WINDSHIELD GUARD (continued)

Connect the top link to the windshield guard and secure until fit up to the table.

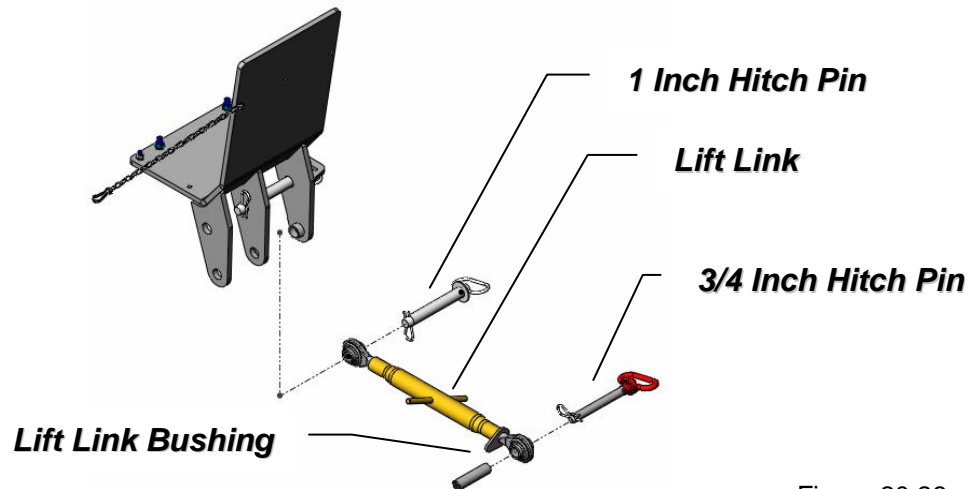


Figure 20.26

Prior to mounting the table to the power unit, ensure that the lift arm rollers are securely fashioned to the proper hole locations on the inside sections of the wide struts.

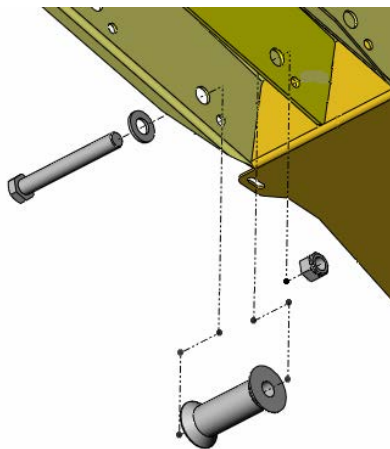


Figure 20.27

Install the roller using a 1 x 8 UNC bolt.

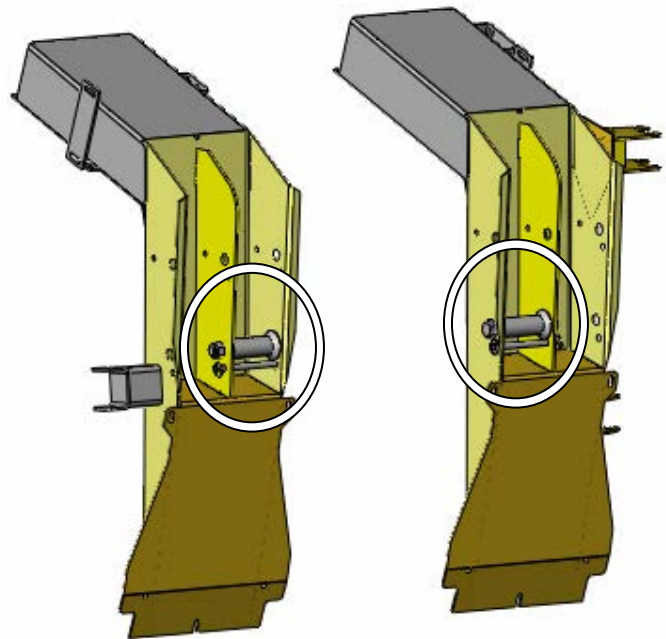


Figure 20.28

GENERAL INFORMATION - JD 4890/4895

MOUNTING



Figure 20.29

1. Prepare the swather table for mounting by removing transport wheel from power unit side of table. In order to do this, lower the screw jack which is mounted to the side of the transport axle to raise the tire off the ground. Remove the quick pin that secures the hub and spindle, and remove wheel assembly from axle.

If gauge wheel option has been purchased, install the tire assembly into left hand gauge wheel bracket.



Figure 20.30

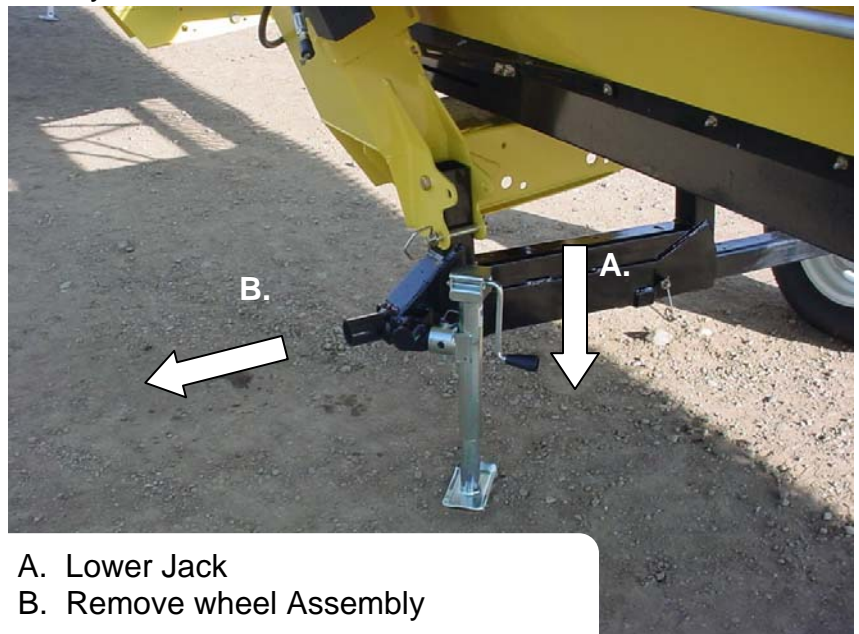


Figure 20.31

GENERAL INFORMATION - JD 4890/4895

MOUNTING (continued)

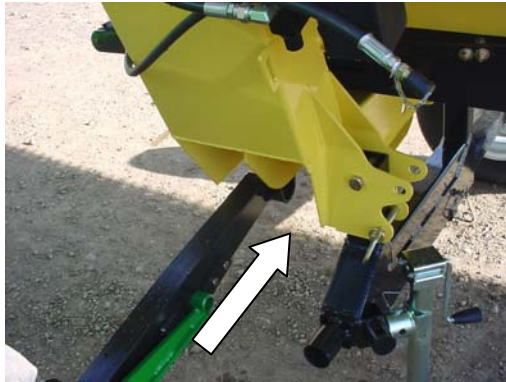


Figure 20.32

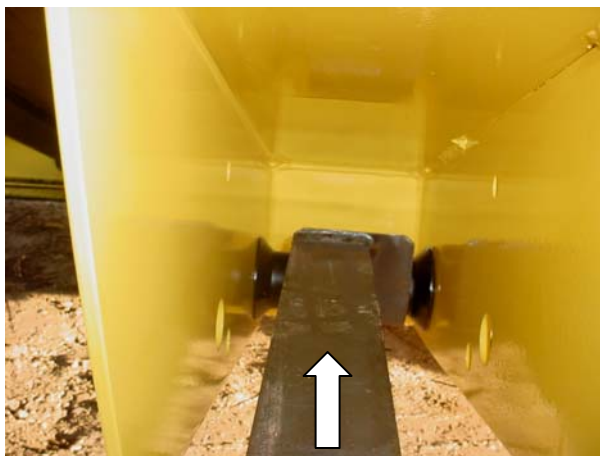
Align the Lift Arms with the Struts and lift to engage the Rollers.



Figure 20.33

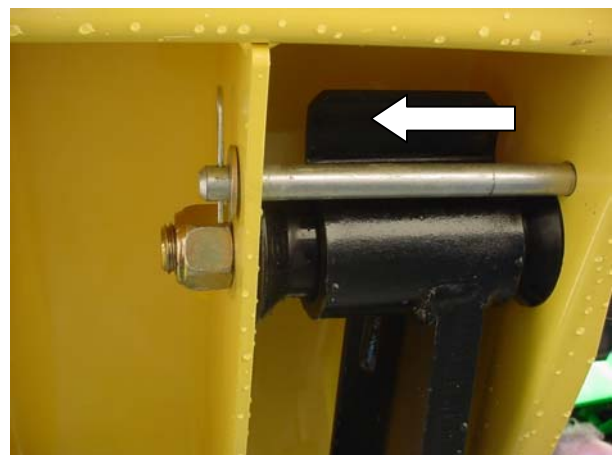
Note: Ensure that the lift arm rollers are located on the insides of the wide struts.

2. The position of the power unit should be directly in behind the swather table with the lift arms lined up with the table struts.
3. Carefully approach the table with the lift arms low enough to go under the table struts. Lift the extension arms to grab the lift arm rollers in the table struts.



A. Raise the Lift Arm

Figure 20.34



B. Insert Hitch Pin and secure

Figure 20.35

4. Slowly raise the lift arms until the extensions are firmly set on the rollers.

IMPORTANT!

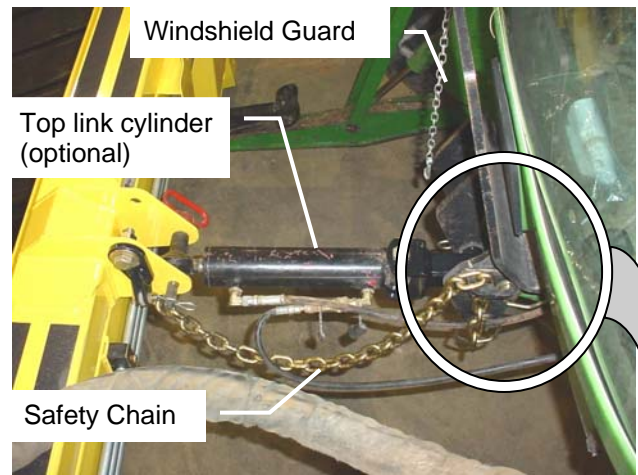
5. Insert the 5/8 hitch pin into the struts to secure the extensions to the struts.

GENERAL INFORMATION - JD 4890/4895

MOUNTING (continued)

Safety Chain Installation:

When connecting the power unit to the table, install the safety chain to the windshield guard prior to installing the top link or optional hydraulic tilt cylinder and lifting the table off of the ground.



The safety chain comes with a bolt inserted into the links, to ensure that you can not limit the range of the top link.

Do not remove the bolt.

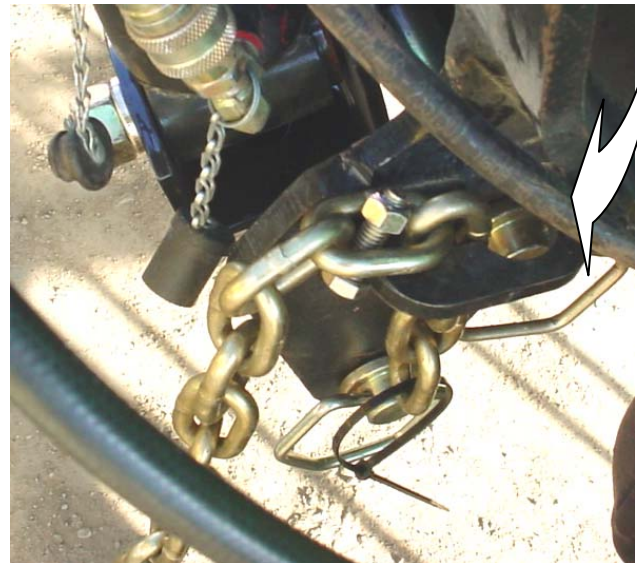


Figure 20.36

The safety chain is designed to stop the table from tilting forward and causing an incident during operation or connection to the power unit.



Figure 20.37



Figure 20.38

GENERAL INFORMATION - JD 4890/4895

MOUNTING (continued)



WARNING: DO NOT LIFT TABLE OFF THE GROUND UNTIL AFTER TOP LINK HAS BEEN CONNECTED.

Before lifting the table to install the top link, secure the safety chain to ensure the table does not fall forward.

The upper hole of the tower is used for the safety chain connecting the windshield guard to the table.



Figure 20.39

Once the extensions are in place, carefully and slowly lift the table to align the swather top link bracket with the top link cylinder.

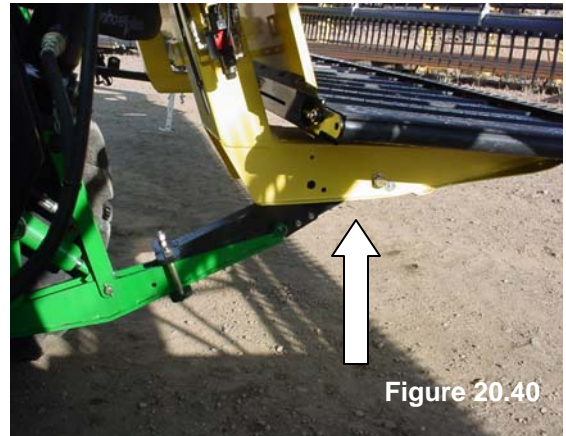


Figure 20.40

Connect the top link from link mount on the tractor to the swather frame. Insert a spacer into each side of the tilt mount bracket. Insert a 3/4" x 6 1/2" hitch pin through spacers and top link as shown. Secure pin. Connect other end of top link to tower on table.

The top link should be mounted in the lower hole of the tower.



Figure 20.41

GENERAL INFORMATION - JD 4890/4895

MOUNTING (continued)

When working under the swather, engage the platform lift lockout lever to prevent accidental lowering of the table.



WARNING! Lock the lift arms in the fully raised position by engaging the platform transport lock.

LIFT SWATHER TABLE

Raise the lift arms and lift swather table to its fully raised position then engage the platform transport lock.

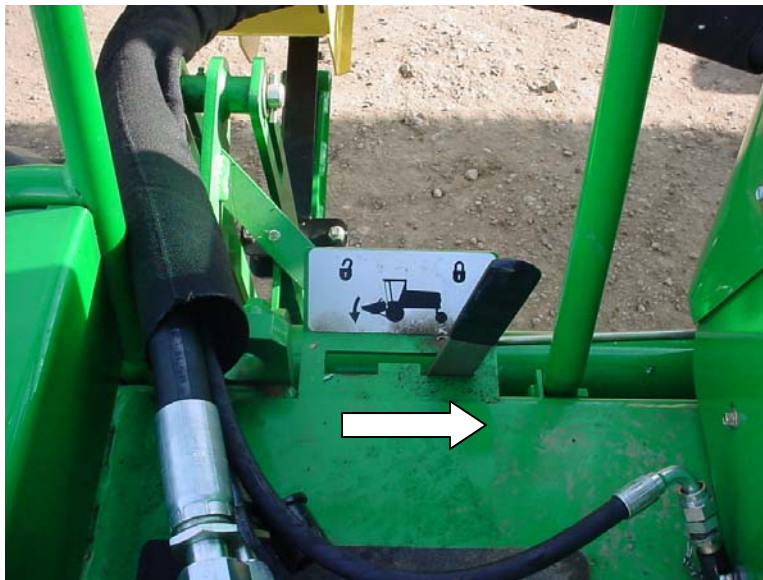


Figure 20.42

GENERAL INFORMATION - JD 4890/4895

CONNECT ELECTRICAL LINES & REEL LIFT/ TILT CYLINDER HOSE

Connect the electrical lines and the hydraulic reel lift / tilt cylinder hose that is standard on all tables at the plug mount to the left of the cab.

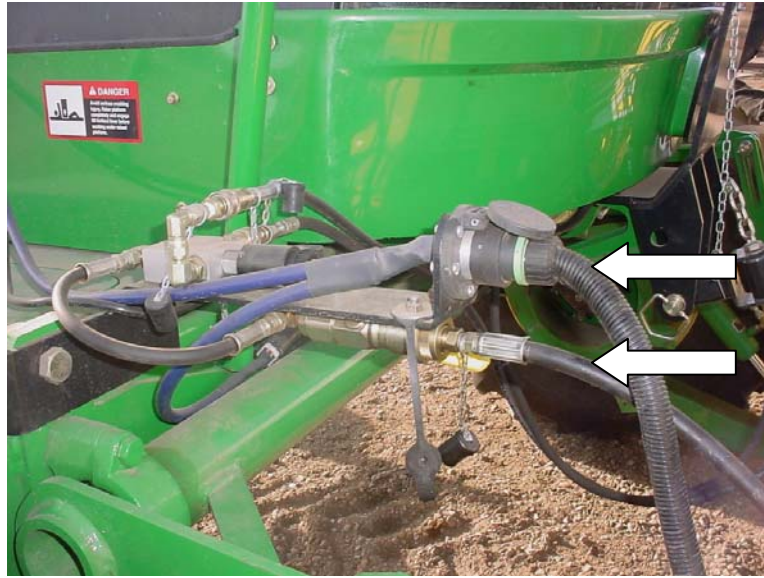


Figure 20.43

Open the valve to the hydraulics on the reel lift / tilt cylinder.



Figure 20.44

GENERAL INFORMATION - JD 4890/4895

CONNECT HYDRAULIC HOSES

Connect hoses from the power unit to the swather, Pressure, Return and Case Drain.



Figure 20.45

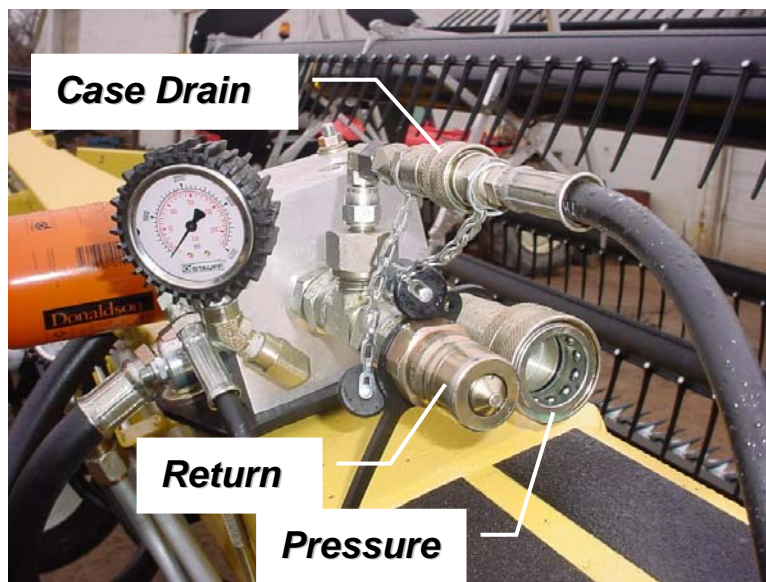


Figure 20.46

GENERAL INFORMATION - JD 4890/4895

SELF STORING HITCH

To convert the hitch from transport to storage mode, start by lifting the swather off of the ground.

Ensure the table is locked in position.

Jack the leg up, and collapse the lower section to the first hole.

Loosen the locking lever on the jack mount and remove jack mount from the draw bar tube.

Place the jack on the storage bracket.



Figure 20.47

Pull lock pin on hitch tube.

Collapse the hitch tube into the hitch tube sleeve and secure with the lock pin.

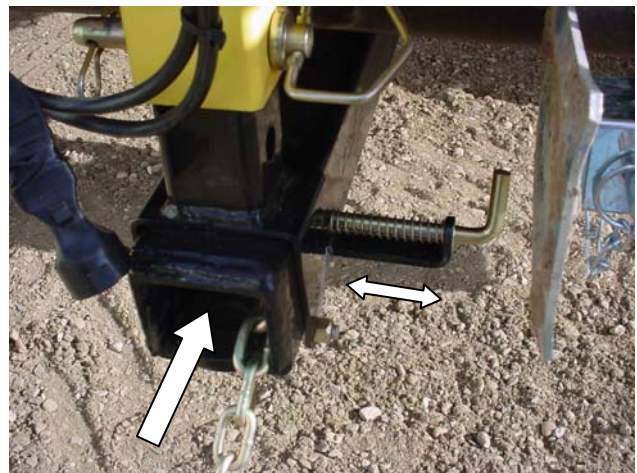


Figure 20.48

Store the hitch jack in the storage position by tightening the locking lever and attaching the safety chain to storage stub.



Figure 20.49

GENERAL INFORMATION - JD 4890/4895

AXLE - FIELD USE

Remove the tire from the cutter bar side of the table and insert onto the gauge wheel mount (if the gauge wheel option has been purchased), or store in an accessible location.



Figure 20.50

Remove the pin holding the extension in place, and retract the extension into the axle



Figure 20.51

Secure the extension inside the axle by reinserting the pin.



Figure 20.52

Remove the pin securing the axle in the transport position and swing the axle up and secure using the pin through the strut and the leg of the axle.

Be careful, axle is heavy and may swing back down if not lifted properly.



Figure 20.53

GENERAL INFORMATION - JD 4890/4895

MOUNTING CHECK LIST

- ☐ Are the lift arm assemblies properly aligned and fitted to the lift arms of the power unit?
- ☐ Have all the lift arm and top link lock pins, and/or bolts been put in place and properly locked and/or tightened?
- ☐ Has the transport axle and hitch tube been stowed in the storage (field) position?
- ☐ Have the transport parts been properly stored for future use?
- ☐ If the swather is equipped with gauge wheels have they been installed and secured?
- ☐ Have all hydraulic lines (quick couplers) been connected?
- ☐ Has reel lift hose been connected to the tilt circuit?
- ☐ Has the electrical connection been made?
- ☐ Has float relay been removed?
- ☐ Has the reel tie down strap been removed?
- ☐ Is the swather table level? (for adjustments see Section 70 of this manual)

GENERAL INFORMATION - JD 4990/4995

MOUNTING INSTRUCTIONS

These mounting instructions are to help you mount your Grain Belt Swather on the power unit in a safe and easy way. Follow the instructions in the order that they are given, or possible difficulties may arise.

Use the check list 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 power unit.
 - BACK OR REAR -** Engine end of the power unit.
 - 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 power unit.



Figure 25.1

GENERAL INFORMATION – JD 4990/4995

HAZARD POSITION

To avoid possible injuries, be aware of your surroundings and the people working around the power unit and the table.

If you are the **power unit operator**, ensure that you can see all people around the power unit and table. At the same time ensure the people understand your intended direction of movement.

If you are the **person on the ground**, ensure that you do not put yourself in a position of possible harm from sudden movement of the power unit, or table. (see Figure 25.2 for an example of dangerous positioning)



Figure 25.2

If you are the person on the ground, you may want to follow these steps in avoiding possible injuries;

1. Ensure a **safe path of exit**. Look around to ensure that you will not trip over any objects when needing a quick exit. An example of this would be when removing the tire from the transport; place the tire away from the work area.
2. Ensure **proper footing**. Steel toed boots, or proper grips on the soles. An example of this case would be taking special care when working in mud.
3. **Visually check your surroundings**. Prior to entering an area of caution, look for possible hazards. An example may be keeping your hand (in a safe location) on the power unit tire if hooking up to the table.
4. Ensure that the **power unit operator has seen you** in the area and **has acknowledged** that he is aware of your presence. A good way to acknowledge the presence is by giving each other a “thumbs up”.

Reduce the possible risk and eliminate the potential injury.

Warning: To avoid bodily harm, do not place yourself between the tire and table while raising table.

If entering area, lower table to the ground or engage the table lift lock-out lever prior to entry.

GENERAL INFORMATION - JD 4990/4995

CHANGES TO THE TRACTOR HYDRAULICS

The Swather receives power from the reverse side of the tractor platform pump. Connect the Pressure, Return and Case Drain hoses to the table.

ATTENTION: WHEN THE TABLE IS IN STORAGE, THE CASE DRAIN HOSE MUST BE RECONNECTED. THIS IS TO RELIEVE PRESSURE IN THE CLOSED HYDRAULIC SYSTEM. OTHERWISE DAMAGE TO SYSTEM COMPONENTS MAY OCCUR.

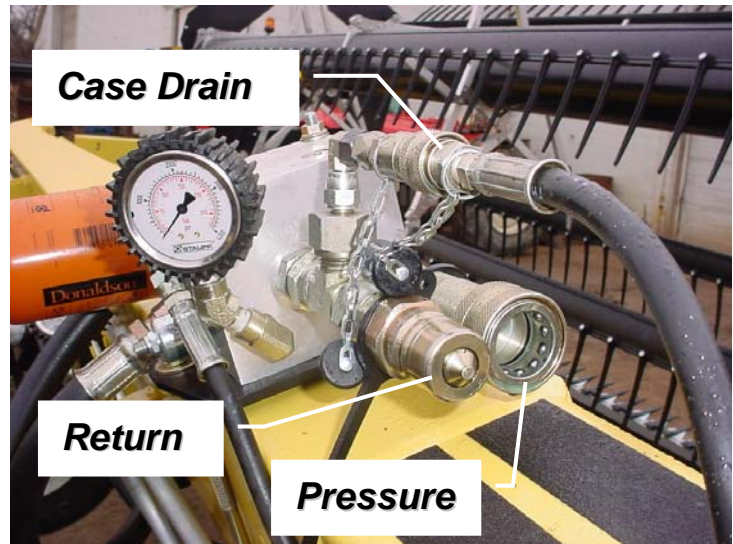


Figure 25.3

HOSE HOLDER

To ensure that the hose lines are not lying in a position to get run over, there is a holder that connects to the railing of the power unit.



Figure 25.5



Figure 25.4



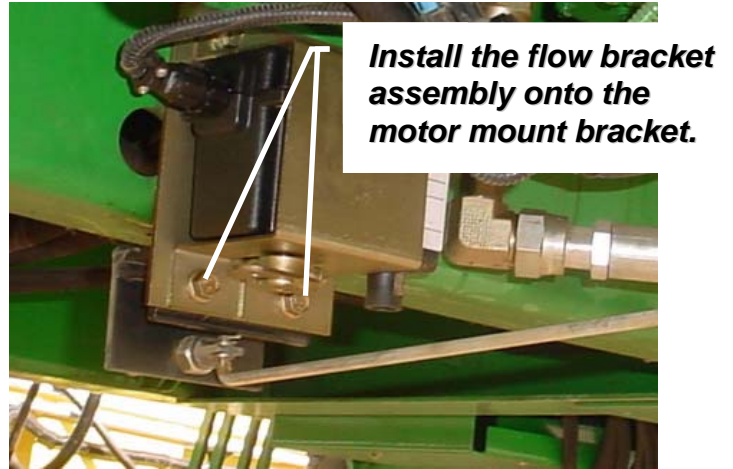
Figure 25.6

GENERAL INFORMATION - JD 4990/4995

ADJUST PUMP OUTPUT 4990/4995

NOTE: TO PROPERLY ADJUST PUMP OUTPUT, HIGH IDLE ON THE TRACTOR SHOULD BE SET AT 2100 RPM.

The output of the pump on the power unit is 45 gpm (170 lpm). The volume output will need to be adjusted to **19 gpm (72 lpm)** to run the Honey Bee header.



View from under power unit Figure 25.7

Install the flow bracket assembly onto the motor mount bracket under the JD 4990/4995 power unit as shown in figure above.

1. Remove the nuts from the two bolts that hold the bottom of the electric header pump output control.
2. Install the flow bracket assembly using the two bolts of the electric output control. Secure with nuts.
3. Remove the link from the electric motor and install the link into the pump link adjusting screw. Install cotter pin in link to secure. Use adjusting screw to adjust the output volume of the pump.

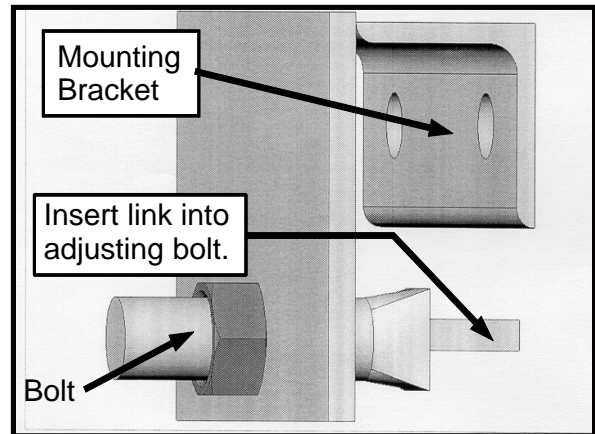


Figure 25.8

NOTE: When installing the link into the mount plate do not rotate link. This is important because the adjustment of this link will affect the output of the pump when re-installed onto the electric motor to run the disc mower/ windrower.

GENERAL INFORMATION - JD 4990/4995

ADJUST PUMP OUTPUT 4990/4995 (continued)

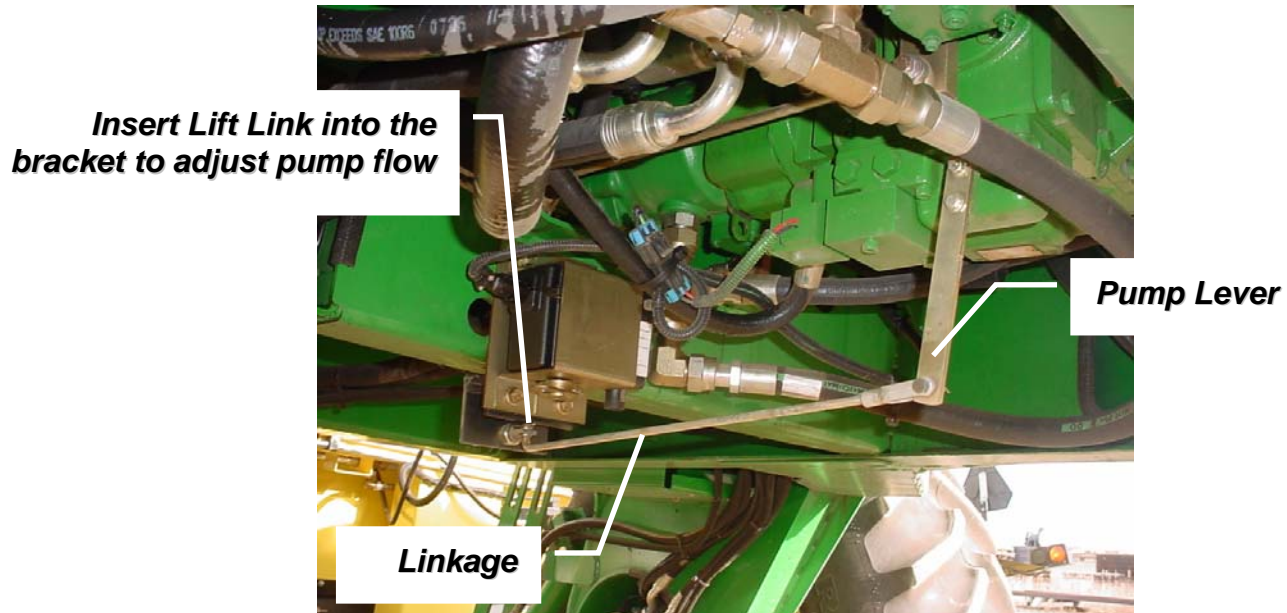


Figure 25.9

POWER UNIT PREPARATION

Setting Output Control

1. Connect a flow meter to the output and return hoses and set the output to 19 gpm (72 litres/per/minute) by adjusting the screw on the flow bracket assembly. An alternate method of setting the output volume is by using a photo electric tachometer on the knife drive. With the power unit at operating rpm, the knife drive rpm should be between 710 and 730 rpm.

GENERAL INFORMATION - JD 4990/4995

MOUNTING BRACKET INSTALLATION

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



Figure 25.10

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 and reinstallation will be difficult).

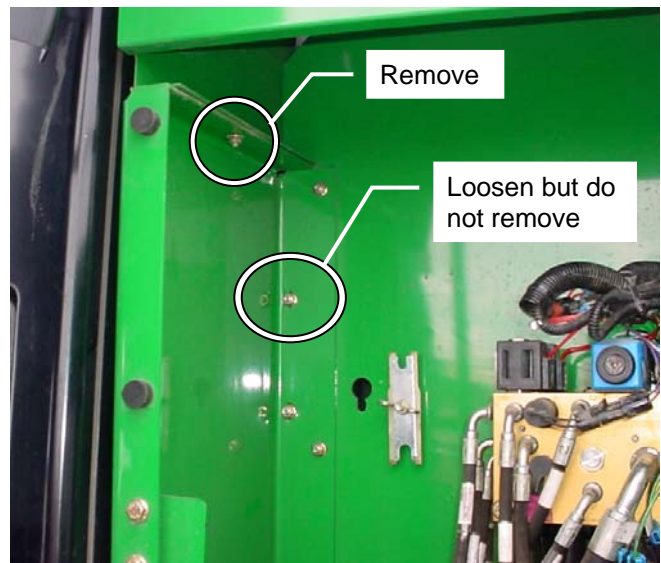
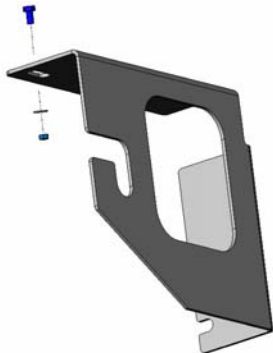


Figure 25.11

Slide the bracket between the previously loosened nut and frame. Insert a 5/16 bolt (included) through the top hole of the frame, then the bracket, washer and nut. Tighten the nuts to secure.



Figure 25.12

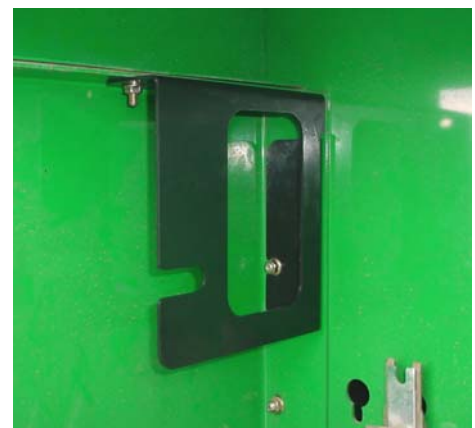


Figure 25.13

GENERAL INFORMATION - JD 4990/4995

HOSE INSTALLATION

Start the power unit and lower the table to the ground.

To locate the manual float release valve (A), 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 harm from heated oil.



Disconnect the platform lift hose (Hose A) at the block (using the valve tool on the power unit) and connect the supplied hose (Hose B) to the block using the fitting supplied.

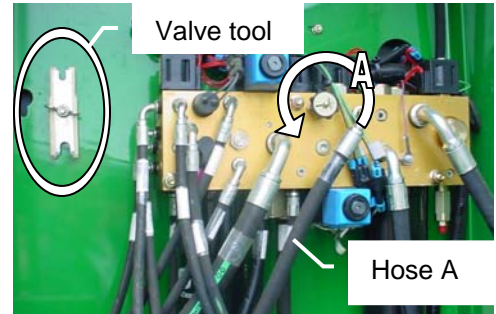


Figure 25.14

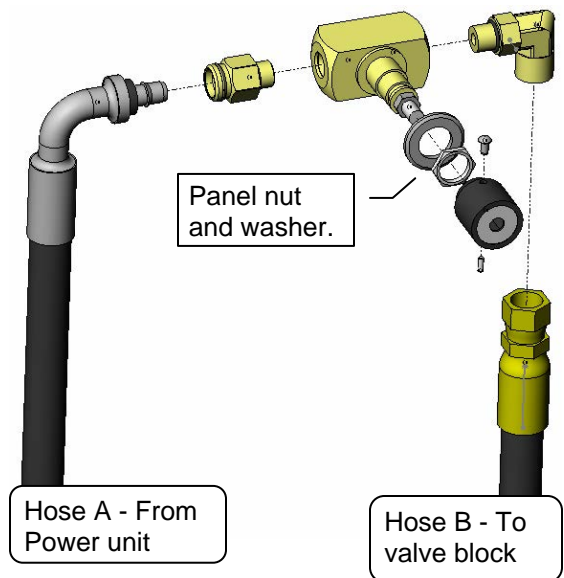


Figure 25.15

Disassemble the needle valve knob from the body and reassemble using the panel nut and washer (as shown). Install to the needle valve, the supplied hose (Hose B) using the elbow (supplied), and the power unit hose (Hose A) with the adapter fitting (supplied).

Slide the needle valve onto the mounting bracket and tighten to secure. Close the manual float release valve (clockwise) and set your flow rate through the needle valve.



Figure 25.16

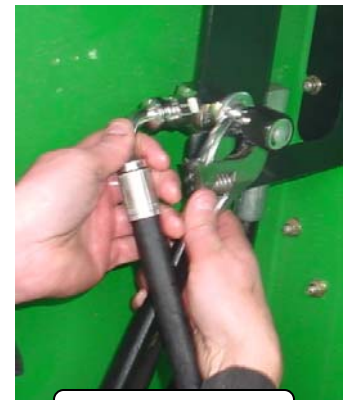


Figure 25.17

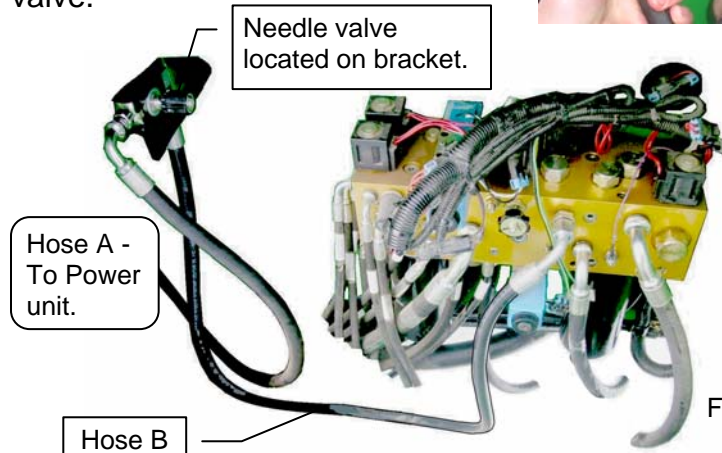


Figure 25.18

GENERAL INFORMATION - JD 4990/4995

NEEDLE VALVE OPERATION

To locate the needle valve that regulates the platform lift and drop circuit, open the compartment door on the left side of the power unit at the top of the stairs.



Figure 25.19

To begin with a slow and safe table drop rate, turn the needle valve clockwise to limit the oil flow going to the lift arms (do not turn the valve completely closed).

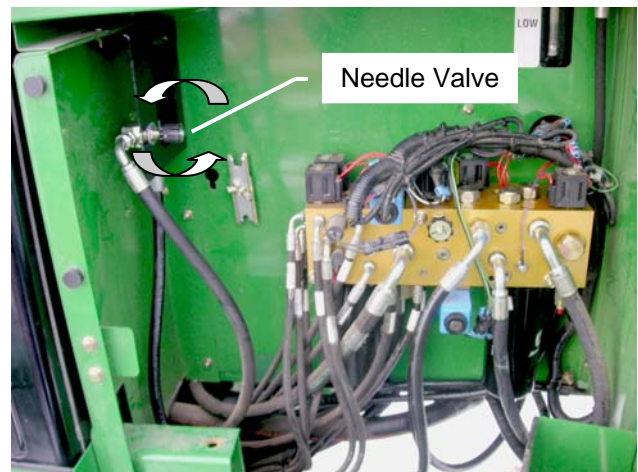


Figure 25.20

Raise and lower the table a few times to find the rate of speed that allows ease of operation, while ensuring full control. If the rate is too slow, turn the needle valve counter-clockwise at discretionary increments and test the drop rate speed at each interval.

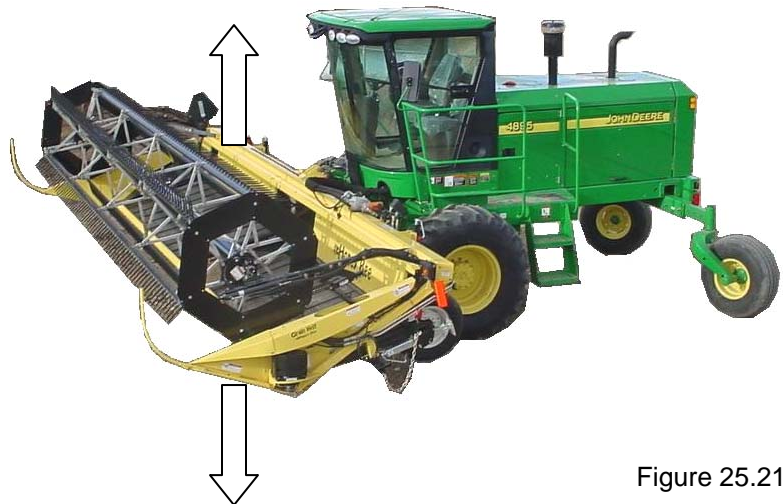


Figure 25.21

GENERAL INFORMATION – JD 4990/4995

INSTALL LIFT ARM EXTENSIONS

Place the lift arm extensions on the power unit lift arms.
Secure using a M24 grade 10.9 bolt and nut.
Figure 25.23

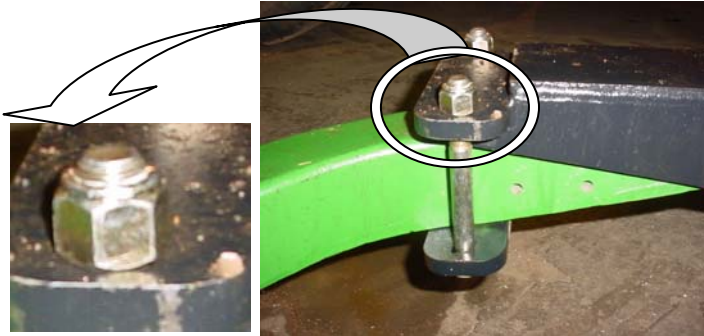


Figure 25.22

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. Secure the bolt only 2 or 3 threads past the nut.

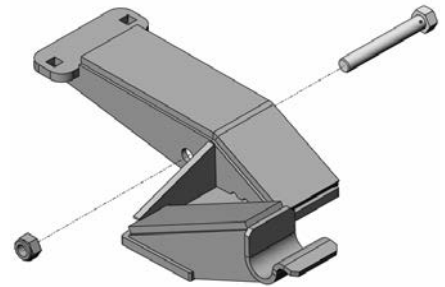


Figure 25.23

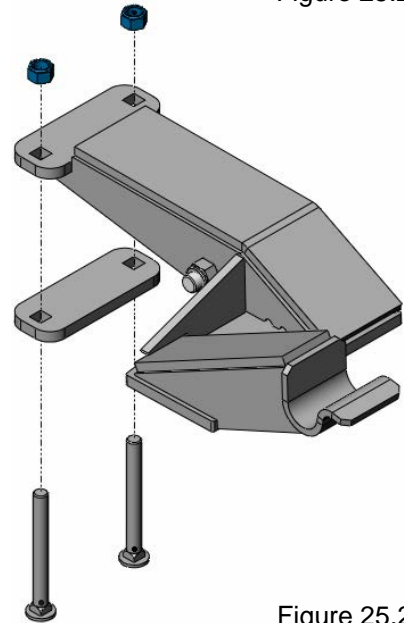


Figure 25.24

Note: Do not secure the $\frac{3}{4}$ inch bolts all the way. The extensions are designed to act as a lever (or hinge) between the table and the lift arms.



Figure 25.25

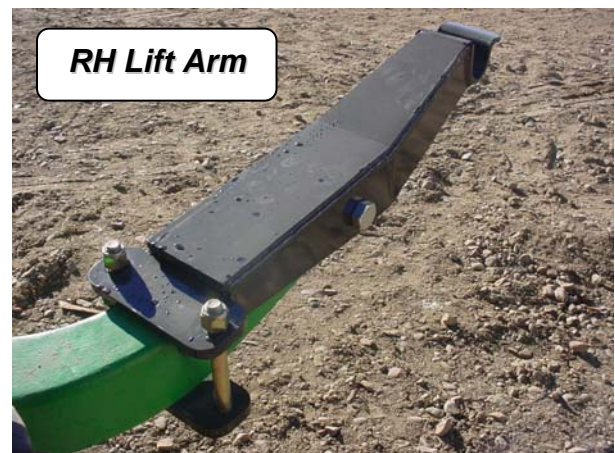


Figure 25.26

GENERAL INFORMATION – JD 4990/4995

INSTALL WINDSHIELD GUARD

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

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 a clamp plate and $\frac{1}{2}$ x 2-1/2 in bolts.

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.

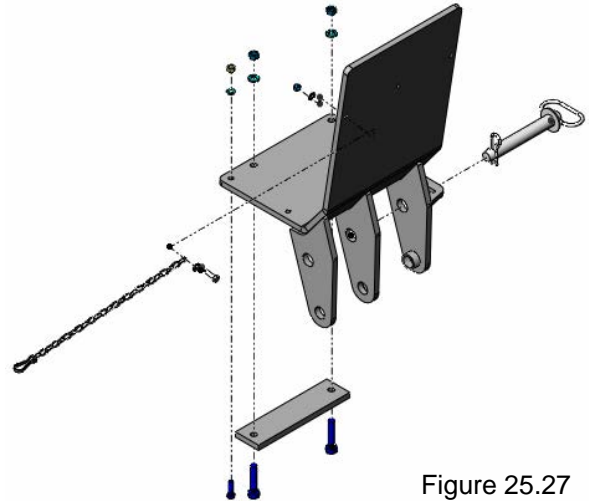


Figure 25.27

An extra hole is located on the guard to bolt the existing clamp to the guard and keep the electrical lines in order.



Figure 25.28

The windshield guard shown with the optional tilt cylinder in the storage position.



Figure 25.29

GENERAL INFORMATION – JD 4990/4995

INSTALL WINDSHIELD GUARD (continued)

Connect the top link to the windshield guard and secure until fit up to the table.

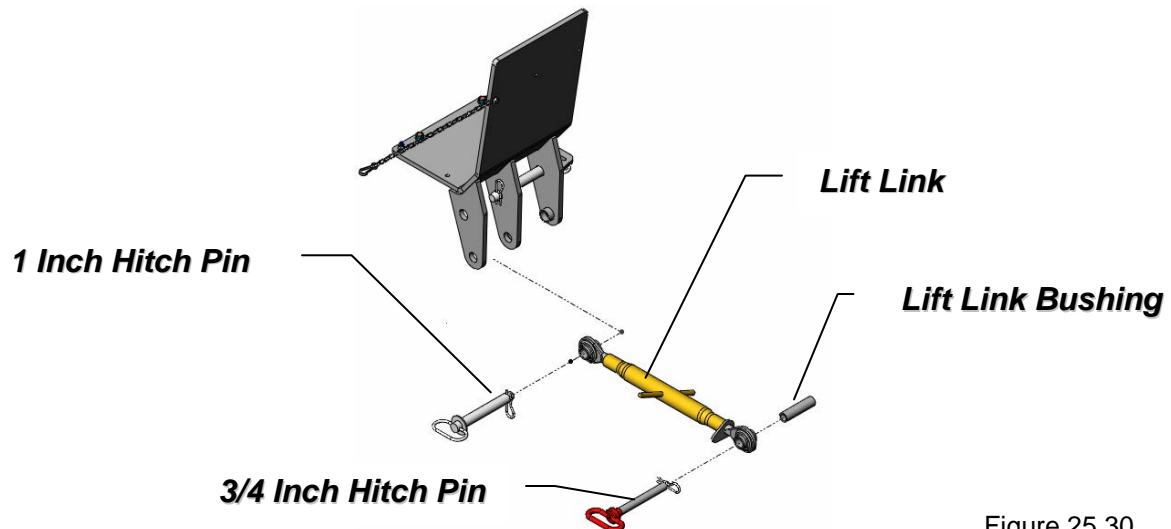


Figure 25.30

Prior to mounting the table to the power unit, ensure that the lift arm rollers are securely fashioned to the proper hole locations on the inside sections of the wide struts.

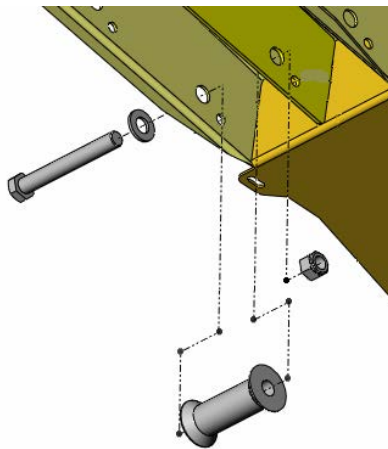


Figure 25.31

Install the roller using a 1 x 8 UNC bolt.

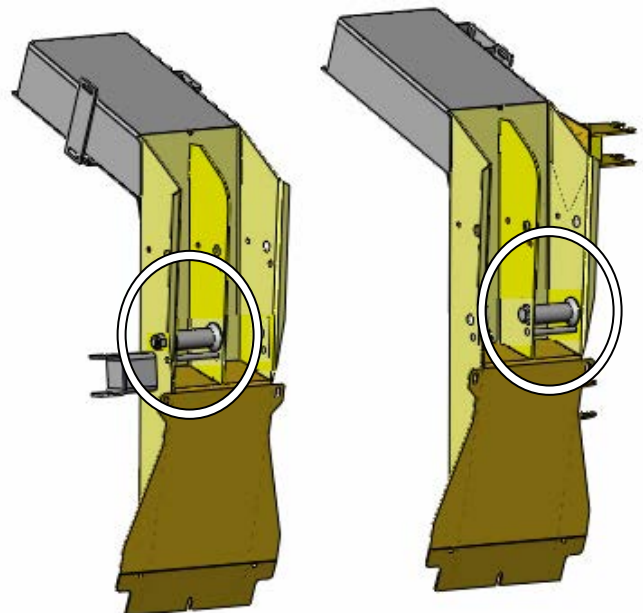


Figure 25.32

GENERAL INFORMATION – JD 4990/4995

MOUNTING



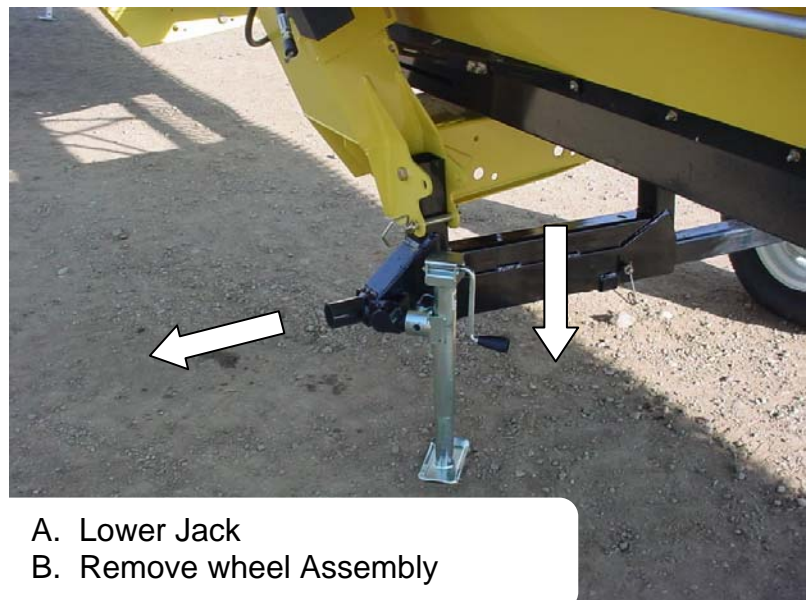
Figure 25.33

1. Prepare the swather table for mounting by removing transport wheel from power unit side of table. In order to do this, lower the screw jack which is mounted to the side of the transport axle to raise the tire off the ground. Remove the quick pin that secures the hub and spindle, and remove wheel assembly from axle.

If gauge wheel option has been purchased, install the tire assembly into left hand gauge wheel bracket.



Figure 25.34



- A. Lower Jack
- B. Remove wheel Assembly

Figure 25.35

GENERAL INFORMATION – JD 4990/4995

MOUNTING (continued)

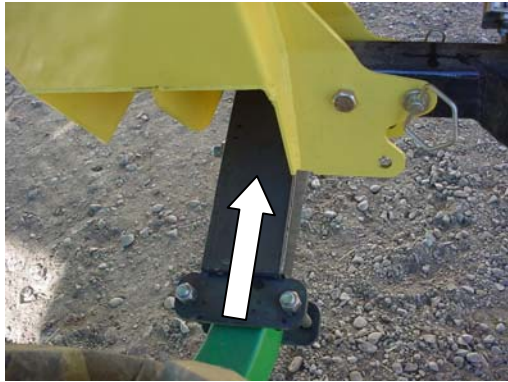


Figure 25.36

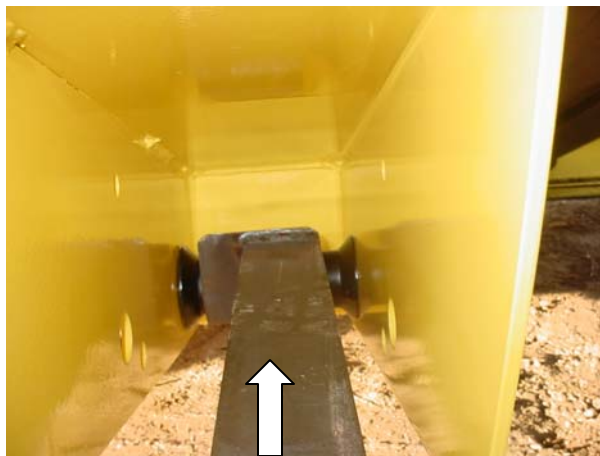
Align the Lift Arms with the Struts and lift to engage the Rollers.



Figure 25.37

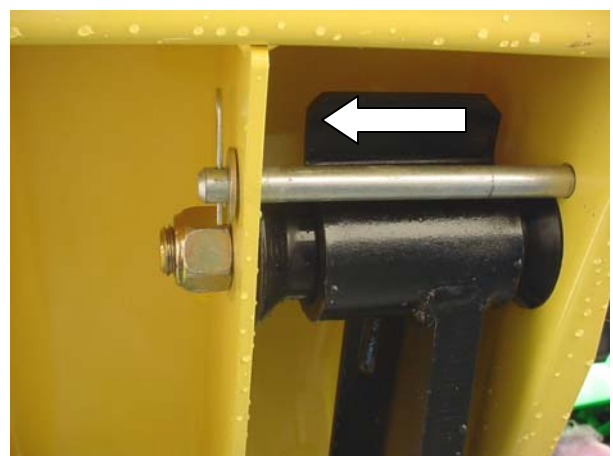
Note: Ensure that the lift arm rollers are located on the outsides of the wide struts.

2. The position of the power unit should be directly in behind the swather table with the lift arms lined up with the table struts.
3. Carefully approach the table with the lift arms low enough to go under the table struts. Lift the extension arms to grab the lift arm rollers in the table struts.



A. Raise the Lift Arm

Figure 25.38



B. Insert Hitch Pin and secure

Figure 25.39

4. Slowly raise the lift arms until the extensions are firmly set on the rollers.

IMPORTANT!

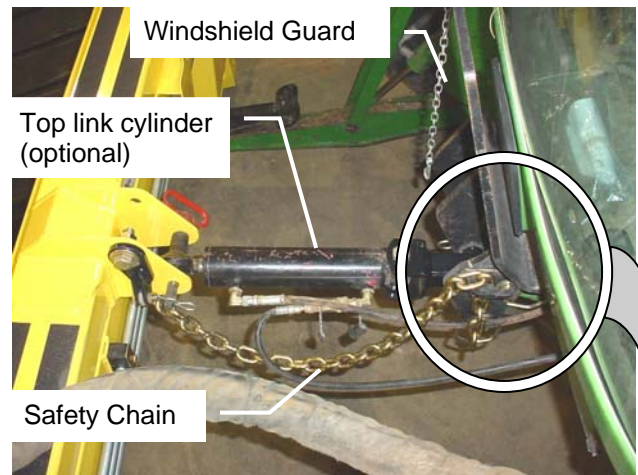
5. Insert the 5/8 hitch pin into the struts to secure the extensions to the struts.

GENERAL INFORMATION - JD 4990/4995

MOUNTING (continued)

Safety Chain Installation:

When connecting the power unit to the table, install the safety chain to the windshield guard prior to installing the top link or optional hydraulic tilt cylinder and lifting the table off of the ground.



The safety chain comes with a bolt inserted into the links, to ensure that you can not limit the range of the top link.

Do not remove the bolt.

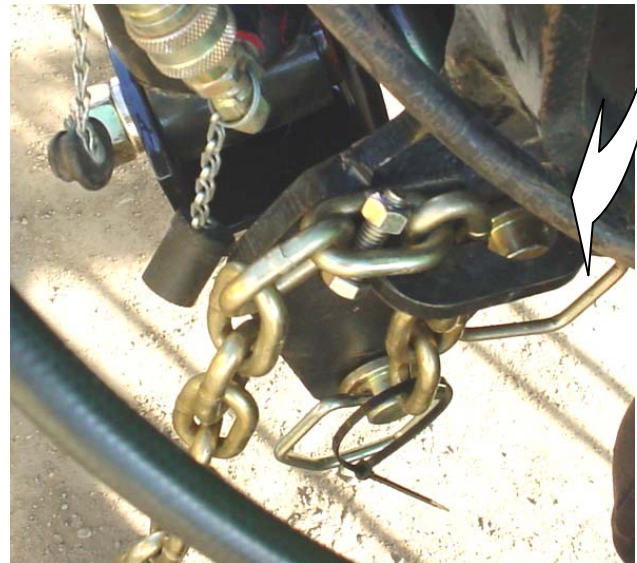


Figure 25.40

The safety chain is designed to stop the table from tilting forward and causing an incident during operation or connection to the power unit.



Figure 25.41



Figure 25.42

GENERAL INFORMATION - JD 4990/4995

MOUNTING (continued)



WARNING: DO NOT LIFT TABLE OFF THE GROUND UNTIL AFTER TOP LINK HAS BEEN CONNECTED.

Before lifting the table to install the top link, secure the safety chain to ensure the table does not fall forward.

The upper hole of the tower is used for the safety chain connecting the windshield guard to the table.



Figure 25.43

Once the extensions are in place, carefully and slowly lift the table to align the swather top link bracket with the top link cylinder.

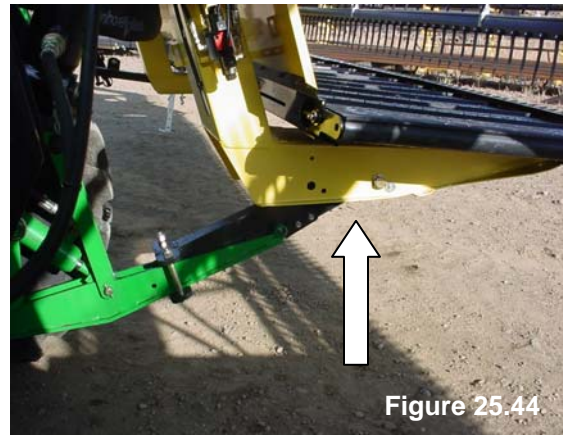


Figure 25.44

Connect the top link from link mount on the tractor to the swather frame. Insert a spacer into each side of the tilt mount bracket. Insert a 3/4" x 6 1/2" hitch pin through spacers and top link as shown. Secure pin. Connect other end of top link to tower on table.

The top link should be mounted in the lower hole of the tower.



Figure 25.45

GENERAL INFORMATION - JD 4990/4995

MOUNTING (continued)

When working under the swather, engage the platform lift lockout lever to prevent accidental lowering of the table.



WARNING! Lock the lift arms in the fully raised position by engaging the platform transport lock.

LIFT SWATHER TABLE

Raise the lift arms and lift swather table to its fully raised position then engage the platform transport lock.

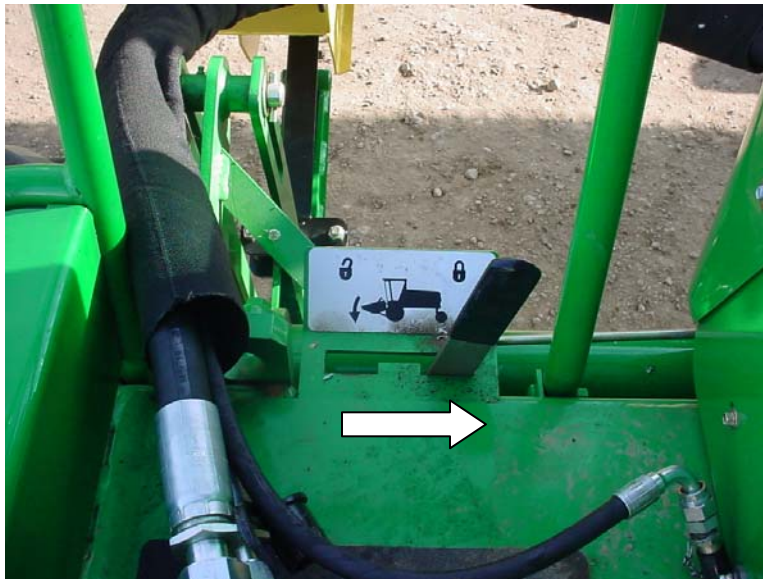


Figure 25.46

GENERAL INFORMATION - JD 4990/4995

CONNECT ELECTRICAL LINES & REEL LIFT/ TILT CYLINDER HOSE

Connect the electrical lines and the hydraulic reel lift / tilt cylinder hose that is standard on all tables at the plug mount to the left of the cab.



Figure 25.47

Open the valve to the hydraulics on the reel lift / tilt cylinder.



Figure 25.48

GENERAL INFORMATION - JD 4990/4995

CONNECT HYDRAULIC HOSES

Connect hoses from the power unit to the swather, Pressure, Return and Case Drain.



Figure 25.49

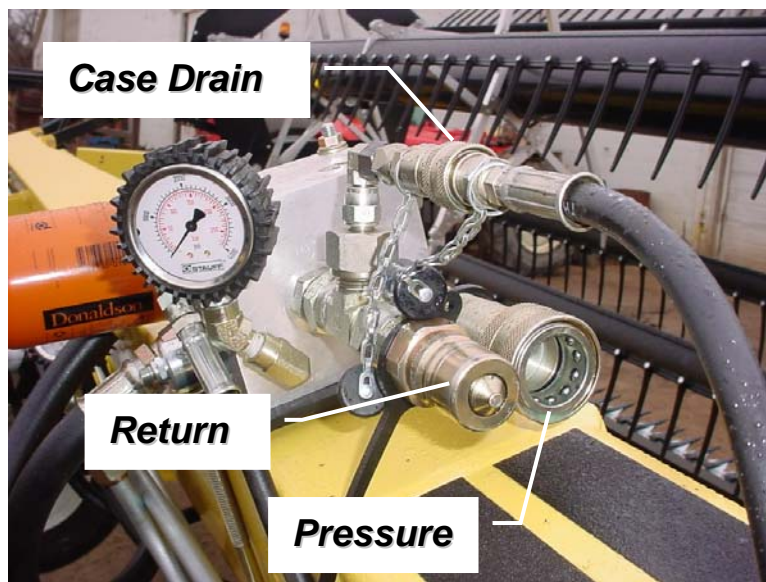


Figure 25.50

GENERAL INFORMATION - JD 4990/4995

SELF STORING HITCH

To convert the hitch from transport to storage mode, start by lifting the swather off of the ground.

Ensure the table is locked in position.

Jack the leg up, and collapse the lower section to the first hole.

Loosen the locking lever on the jack mount and remove jack mount from the draw bar tube.

Place the jack on the storage bracket.



Figure 25.51

Pull lock pin on hitch tube.

Collapse the hitch tube into the hitch tube sleeve and secure with the lock pin.

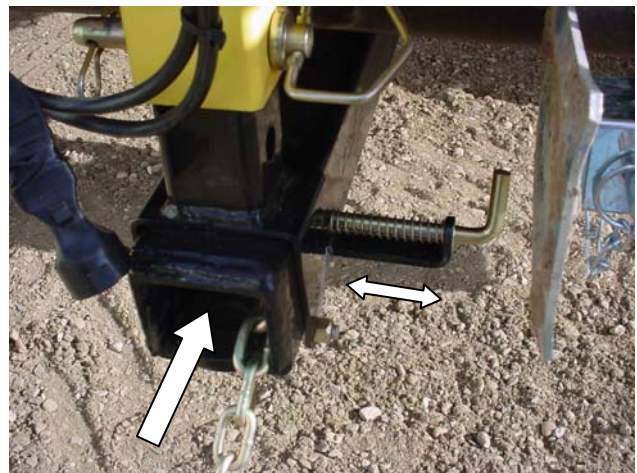


Figure 25.52

Store the hitch jack in the storage position by tightening the locking lever and attaching the safety chain to storage stub.



Figure 25.53

GENERAL INFORMATION - JD 4990/4995

AXLE - FIELD USE

Remove the tire from the cutter bar side of the table and insert onto the gauge wheel mount (if the gauge wheel option has been purchased), or store in an accessible location.



Figure 25.54

Remove the pin holding the extension in place, and retract the extension into the axle



Figure 25.55

Secure the extension inside the axle by reinserting the pin.



Figure 25.56

Remove the pin securing the axle in the transport position and swing the axle up and secure using the pin through the strut and the leg of the axle.

Be careful, axle is heavy and may swing back down if not lifted properly.



Figure 25.57

GENERAL INFORMATION - JD 4990/4995

MOUNTING CHECK LIST

- ☐ Are the lift arm assemblies properly aligned and fitted to the lift arms of the power unit?
- ☐ Have all the lift arm and top link lock pins and/or bolts been put in place and properly locked and/or tightened?
- ☐ Has the transport axle and hitch tube been stowed in the storage (field) position?
- ☐ Have the transport parts been properly stored for future use?
- ☐ If the swather is equipped with gauge wheels have they been installed and secured?
- ☐ Have all hydraulic lines (quick couplers) been connected?
- ☐ Has reel lift hose been connected to the tilt circuit?
- ☐ Has the electrical connection been made?
- ☐ Has float relay been removed?
- ☐ Has the reel tie down strap been removed?
- ☐ Is the swather table level? (for adjustments see Section 70 of this manual)

OPERATION

INITIAL START UP

IMPORTANT! KEEP BYSTANDERS AWAY FROM THE MACHINE, ESPECIALLY SMALL CHILDREN.

CAUTION!



BEFORE PROCEEDING, BE SURE YOU HAVE BEEN THROUGH THE MOUNTING CHECK LIST TO ASSURE THE SWATHER IS SECURELY MOUNTED.

1. Unlock the lift arms by disengaging the platform lock as per Power Unit Operator Manual's instruction.
2. Start the power unit (see operators manual) and lower the swather to the ground.

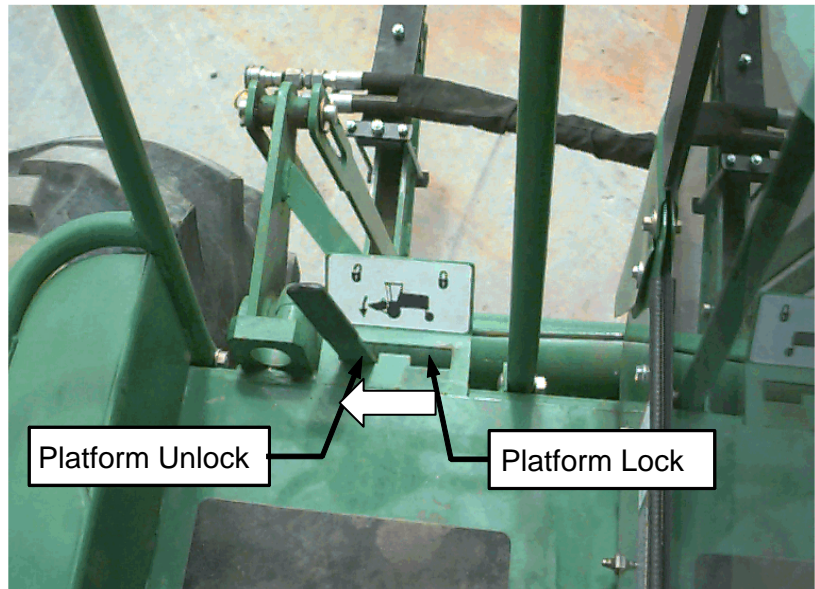


Figure 30.1



ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING THE CAB.

3. With swather in the lowered position (contact the ground) do a visual inspection of the swather for any damaged or loose parts. Repair or replace any such parts immediately.
4. Check that all nuts and bolts are tight and that none are missing. Tighten any that are loose and replace any missing fasteners.
5. Check hydraulic reservoir oil level on the power unit. Fill to recommended level according to instructions in Power Unit owner operators manual.
6. Insure that all protective shields are in place and secured properly.
7. Check that tires are filled to recommended pressure.
 - 50 psi. (345 kPa) for transporting.
 - 24 psi. (166 kPa) for field work.

OPERATION

8. Check all hydraulic hoses and fittings to be sure they are tight and that no hose damage has occurred during mounting. Repair or replace any damaged parts before starting machine.

WARNING!



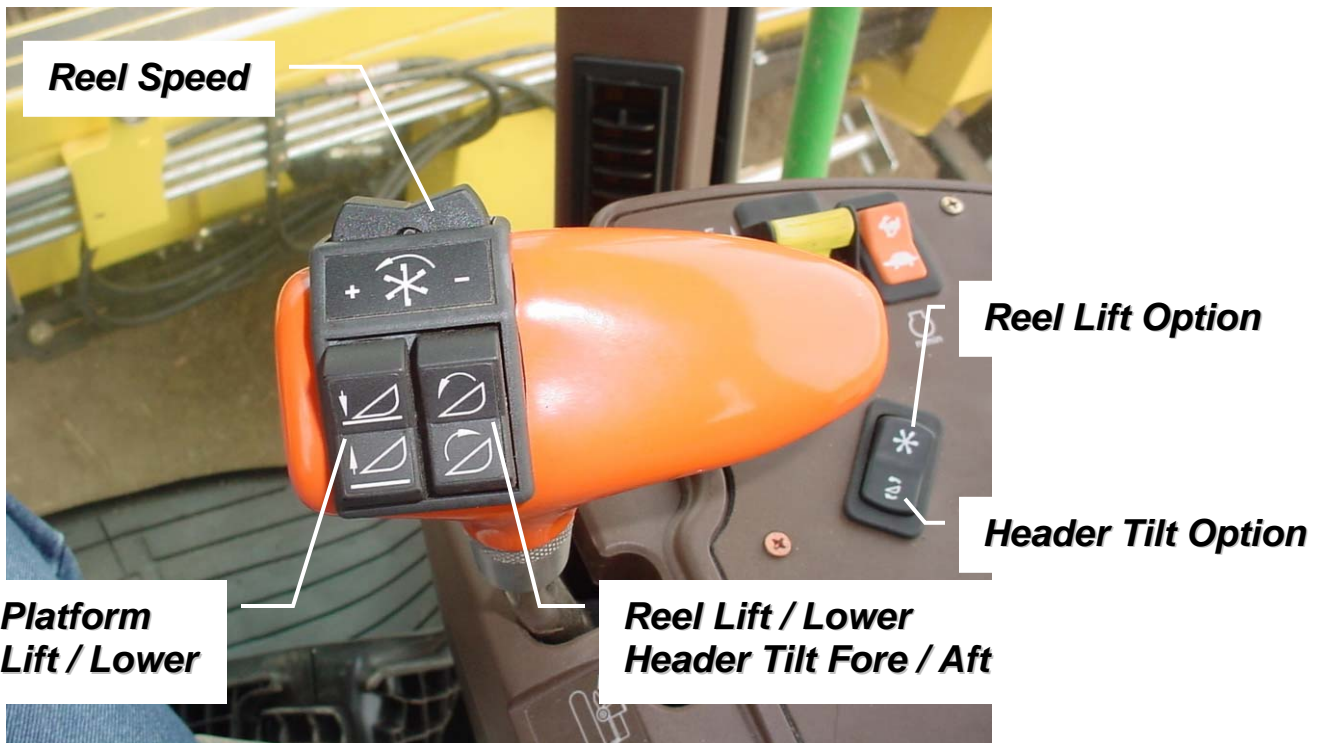
DO NOT RUN WITH DEFECTIVE HOSES OR FITTINGS.

WARNING!



ENSURE THAT THERE IS NO PRESSURE IN THE HYDRAULIC LINES BEFORE CHECKING OR REPAIRING. HIGH PRESSURED HYDRAULICS CAN CAUSE SERIOUS INJURY.

9. LUBRICATE THE SWATHER - see instructions as outlined in Service section of this manual.
10. Restart the power unit (see Power unit Operators Manual). ENGAGE PARK BRAKE.
11. Locate the platform tilt switch on the FNR lever. This switch will be used also as the reel lift/lower control switch.



FNR LEVER SWITCHES

Figure 30.2

OPERATION

11. Continued,

Depress the platform tilt switch to raise the reel to its full height (cylinders fully extended). Hold switch on momentarily at the full height position then drop the reel to its lowest position (cylinders fully retracted). Complete the cycle at least twice to ensure it is working properly.



LIFT REEL TO FULL HEIGHT

Figure 30.3

OPERATION

12. Bleeding Air Out Of Reel Lift Circuit:

If the reel does not go up or down evenly, it may be necessary to bleed the slave cylinder to level the reel. Complete this procedure only when header drive is disengaged and header is on the ground. Lower the reel to the bottom of the cylinder stroke. The reel cylinders have a center to center collapsed length of 18". Fully extended cylinder length is 28" center to center. There are two methods of bleeding the air from the system.

1. Slave Cylinder with Bleed Port.

Cycle the reel up to the top of the stroke, then lower the reel until there is about 2" of cylinder rod is still exposed, and before cylinders reaches the bottom of their strokes. Shut the power unit down. It is best to wait for 10 to 15 minutes so the air bubbles in the oil dissipate. Using screw driver or a crescent wrench (depending on the style of cylinder), loosen the bleed port hex cap on the slave cylinder (far right hand cylinder). Air and oil will escape, and the reel will drop. Tighten the bleed screw (cap) and cycle the reel again. If needed repeat the procedure again if necessary.

2. Alternate method.

Lower the reel to the bottom of its stroke then shut the combine down. Using an appropriate wrench, loosen the cylinder head on the rod end of the slave cylinder. Loosen the cylinder until the "O" ring is fully exposed. Start the power unit and lift the reel until the cylinders are fully extended and air has escaped from the slave cylinder. Lower the reel and shut the tractor down. Tighten the cylinder head on slave cylinder. Cycle the reel and repeat the procedure if necessary.

NOTE: Because of expansion in hydraulic lines, the right hand slave cylinder may lag slightly when lifting the reel.

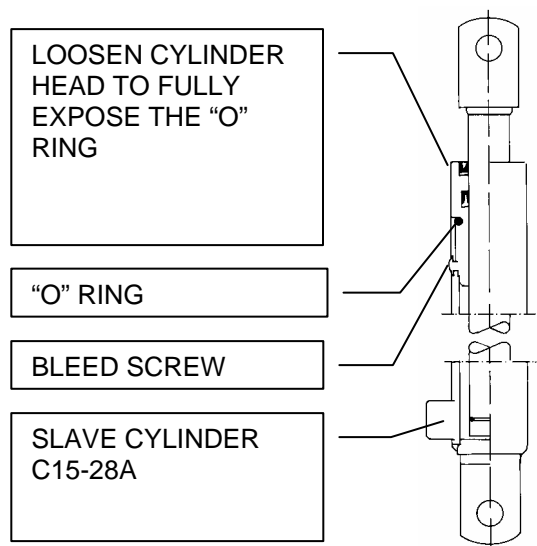


Figure 30.4a

Figure 30.4b

OPERATION

SINGLE REEL LIFT CIRCUIT

Operation: Valve in Power Unit opens forcing oil into the barrel end of the right hand master cylinder (26A), as cylinder piston rises, oil on the top side of the piston is forced out of the rod end port, into the port on the slave cylinder (28A).

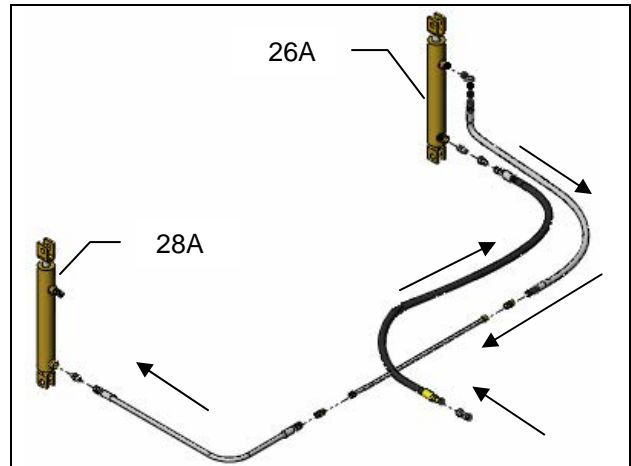


Figure 30.5

DOUBLE REEL LIFT CIRCUIT

Operation: Pressure from the Power Unit feeds barrel end of center cylinder (23A). Rod end feeds barrel end of right cylinder (26A). Rod end of right cylinder feeds barrel end of left cylinder (slave) (28A).

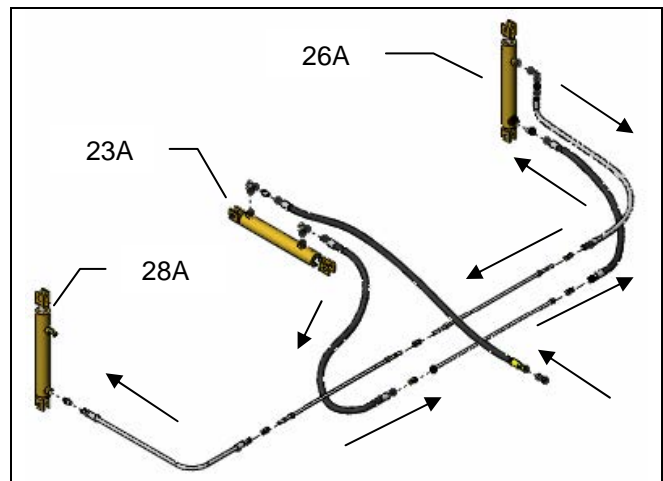


Figure 30.6

SINGLE REEL LIFT 36'

Operation: Valve in Power Unit opens forcing oil into the barrel end of the right hand master cylinder (23A), as cylinder piston rises, oil on the top side of the piston is forced out of the rod end port, into the port on the slave cylinder (27A). Rod end of slave must return into reel drive return. Reel drive hoses from header to combine/ power unit must be connected for reel to lift.

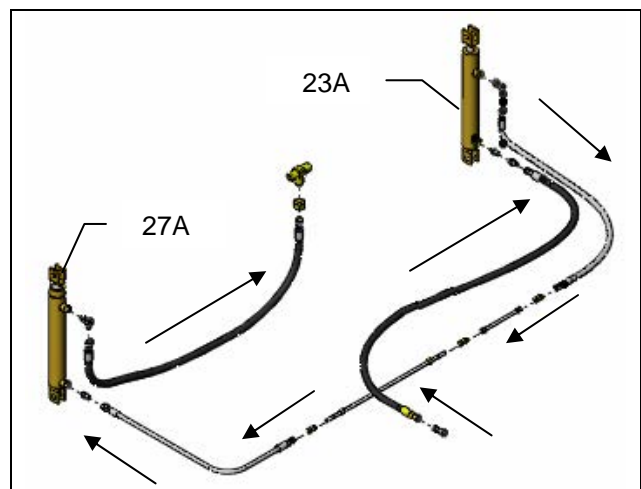


Figure 30.7

OPERATION

UNLOCK PLATFORM BY MOVING LEVER TO THE UNLOCK POSITION.

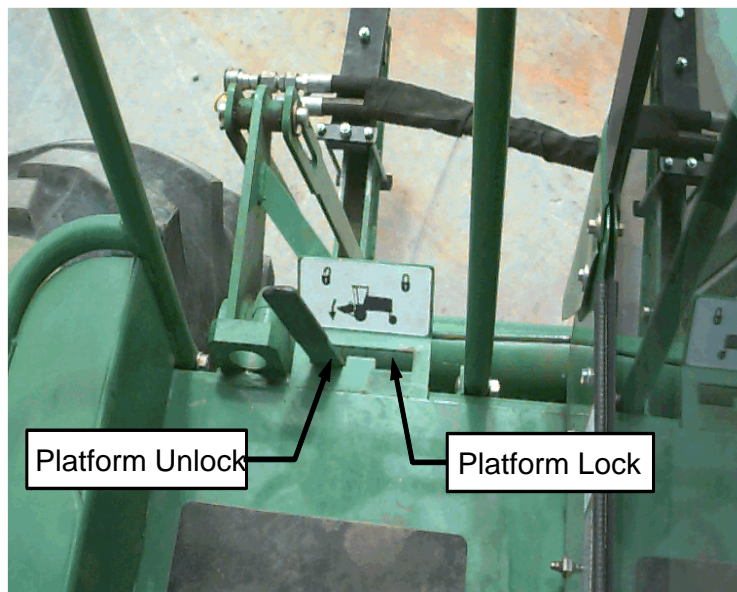


Figure 30.8

13. Raise and lower the swather table to check that lift cylinders are working properly.

IMPORTANT! IF POWER UNIT WILL NOT RAISE THE SWATHER, SEE THE TROUBLE SHOOTING INSTRUCTION SECTION OF THIS MANUAL.

WARNING!



BE SURE NO ONE IS STANDING NEAR THE MACHINE WHILE RAISING OR LOWERING THE SWATHER.

14. With swather lowered to the ground and power unit engine shut down check the tension on each canvas. If adjustments are required see Section 50 of this manual.

OPERATION

15. **RESTART THE POWER UNIT, ENGAGE THE PARKING BRAKE.** Engage platform drive switch (see Power Unit Operator's Manual for instruction) with power unit at an idle. The platform canvas, knife and reel should begin to turn.

WARNING!



IF ANY OIL LEAKS APPEAR, SHUT SWATHER AND POWER UNIT DOWN IMMEDIATELY AND REPAIR BEFORE RESTARTING.

16. Increase engine speed. When power unit is at maximum engine rpm, idle check and set the following:
- a. Reel speed.
 - b. Canvas speed.
 - c. Canvas tracking.

If adjustments are required see adjustment section of this manual.

17. With swather lowered to approximately 2 inches (5 cm) from the ground, STOP POWER UNIT, SHUT ENGINE DOWN and check the following:
- a. Swather leveling (end to end).
 - b. Swather cutting angle.
 - c. Gauge wheel height.
 - d. Reel mount bolts.
 - e. Knife head section bolts and bearing block bolt.
 - f. Knife head bearing bolt.
 - g. Knife drive support/crank bolts.
 - h. Connector bar bolts on knife back.
 - i. Knife drive mounting bolts.

18. Problems encountered during start-up and break in period.

High Hydraulic Pressures - Cold Oil
Sticky Canvas
Sticky or Tight Knife
Canvas Too Tight

Reel Will Not Raise - Low Oil Volume from Power unit
Defective Cylinders
Line Restriction
Valve not open

OPERATION DISMOUNTING

IMPORTANT! KEEP BYSTANDERS AWAY FROM THE MACHINE, ESPECIALLY SMALL CHILDREN.

INTRODUCTION: It is very important to correctly dismount the swather from the power unit for a number of reasons:

1. Safe storage.
2. Ease of remounting.
3. Readiness for transport.
4. To avoid damage to the swather and power unit.

TWO METHODS OF DISMOUNTING SWATHER FROM POWER UNIT

1. **QUICK DISMOUNT** without using the transport axle package.
2. **FULL DISMOUNT** which utilizes the transport axle package.

QUICK DISMOUNT

IMPORTANT! PARK THE POWER UNIT ON A HARD, LEVEL SURFACE, THEN ENGAGE THE PARK BRAKE.

1. With the power unit running, lower the reel to its lowest possible position. Raise the swather to its fully raised position.



ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING CAB.

2. To remove the two hitch pins from the table struts ensure that the arms are raised to a suitable height. Fig. 30.9
3. Lock platform in fully raised position as described in your Power unit Operator's Manual.
4. Uncouple hydraulic lines connecting the swather to the power unit. Tie or lay the hydraulic hoses in such a fashion that they will not interfere with the power unit or the swather when the power unit is being backed away from the table.
5. Uncouple all wires running from the power unit to the swather.
6. Set platform lock in the unlocked position.



Figure 30.9

OPERATION

Quick Dismount

7. Lower the swather table until it is about 12" above the ground. STOP Power Unit, engage parking brake.
8. Lay two (2) blocks (recommend 4"x 4" x 16") directly under the cutter bar, aligned with the two table struts located closest to the end of the swather. See Figures 30.8 & 30.9

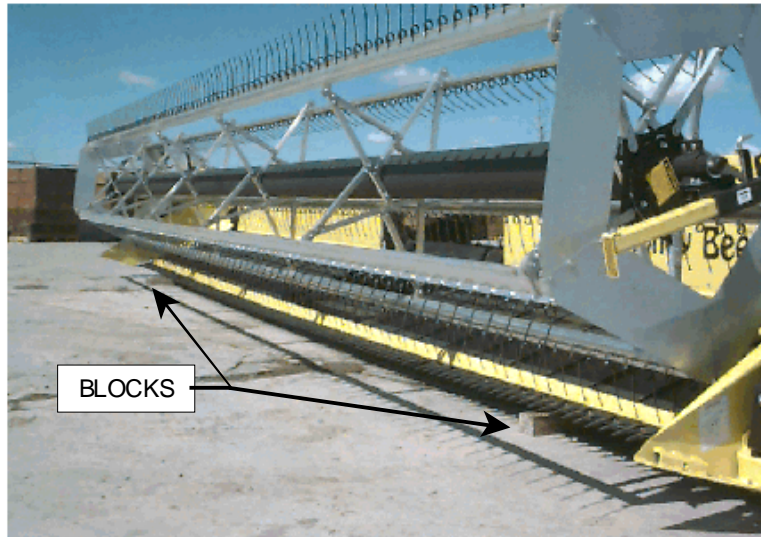


Figure 30.10

PLACE BLOCKS UNDER CUTTER BAR

9. If gauge wheels were not purchased, lower the transport axle and extend the jack to the ground. If necessary place a 2" x 6" x 12" block under the jack to ensure level ground.



Figure 30.11

WITH NO GAUGE WHEELS, LOWER TRANSPORT AND JACK

OPERATION

Quick Dismount

10. If swather table is equipped with gauge wheels, lower the swather on the preset gauge wheel jack.
11. Start power unit and lower lift arms until full weight of swather is resting on the blocks.



Figure 30.12



ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING CAB.

12. Adjust top links until no pressure is on the links. When links are loose, remove retaining pin from the cylinder to the frame. On the windshield guard, a chain is used to hold the cylinder against the guard plate.
13. Open the accumulator float pressure valve, which is located on the high pressure valve. Start power unit and lower the lift arms.
14. When lift arm extensions are free of lift pockets in the struts, back up power unit slowly.
15. Check swather to be sure it is placed firmly on blocks and that it will not slide off.



Figure 30.13

OPERATION

FULL TRANSPORT DISMOUNT

IMPORTANT! PARK THE POWER UNIT ON A HARD, LEVEL SURFACE, THEN ENGAGE THE PARK BRAKE.

1. With the power unit running, lower the reel to its lowest position. Raise the swather to its fully raised position.



ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING THE CAB.

2. Lock platform in fully raised position as described in your Power Unit Operator's Manual.
3. Remove the two hitch pins from the table.
See Fig. 30.9

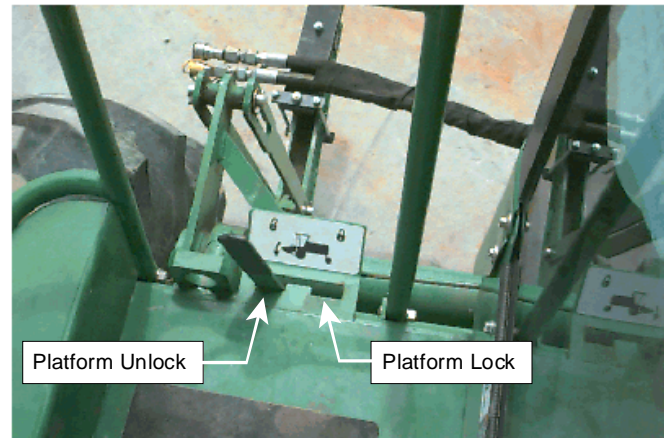


Figure 30.14

4. Uncouple hydraulic hoses connecting swather to the power unit. Tie or lay hydraulic hoses in such fashion that they will not interfere with the power unit or the swather when the power unit is being backed away from the swather.
5. Uncouple all wires running from the power unit to the swather (21 pin connector).



Figure 30.15

OPERATION

Self Storing Hitch – Transport Position

To convert the hitch from storage to transport mode, begin by remove the safety chain from the storage stub. Loosen the locking lever, and slide the jack off of the stub.



Figure 30.16

Pull the lock pin on hitch tube sleeve, and then pull the hitch tube out of the hitch tube sleeve. Reinsert the lock pin to secure the tube.

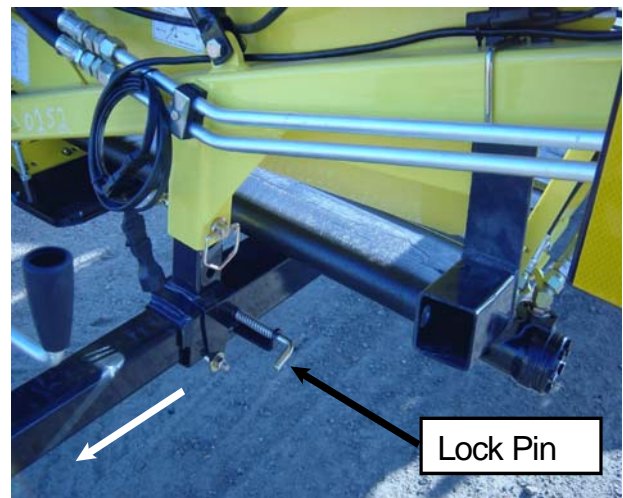


Figure 30.17

Install the jack onto the hitch tube, and tighten the locking lever on the jack mount. Extend the lower leg of the jack to a suitable hole. Further adjustment to the height can be made with the jack.

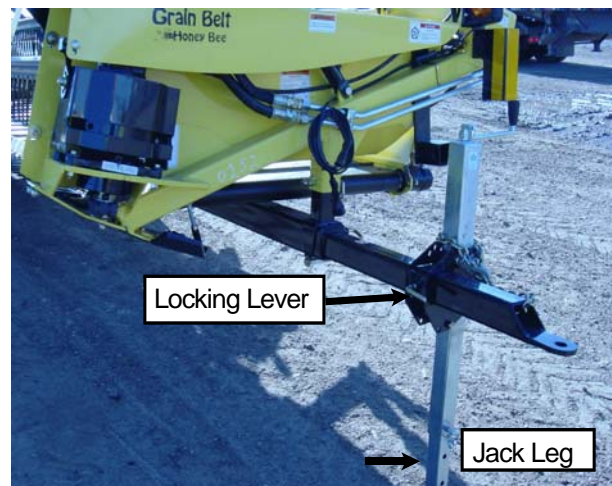


Figure 30.18

OPERATION

Full Dismount

6. Install Transport Axle

Carefully lower the axle from the field position to the transport position. Ensure the hitch pin has been inserted back onto the strut in the transport position.

Remove the hitch pin locating the extension inside the axle. Pull out the extension and relocate the pin to secure for transport.



Figure 30.19

7. Install Wheel/Tire Assemblies

Install the wheel assembly onto the extension, insert lock pin into spindle mount and secure with safety clip.

Lower the transport axle jack to support the weight of the table as the wheel assembly can not be installed when the lift arms are still connected.



Figure 30.20

8. Place the platform lock in the unlock position. See Fig. 30.1

9. Restart the power unit. Lower the swather until the front transport axle wheel, transport screw jack and hitch tube jack just touch the ground.

10. Remove the two hitch pins from the table struts. Fig. 30.9

11. Disconnect the top link.

OPERATION

Full Dismount



ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING THE CAB.

12. Dismount from power unit and check the height of the hitch jack. If necessary adjust the height of the hitch jack so swather is level when set on the ground.



Figure 30.21

13. Restart power unit and slowly lower swather until the full weight of the swather is on the transport axle and hitch jack.



ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING THE CAB.

Block transport axle tires so swather will not move once power unit has been removed from swather. Adjust the top link until all pressure is relieved from link. Disconnect the link from the mounting bracket, replace quick pin for storage.

14. Restart the power unit. When lift arms are free of the rollers, back the power unit slowly away from the swather. Be sure that swather does not move backwards with the power unit. If it does, shut power unit down completely and recheck to be sure all pins hydraulic hoses and electrical wires have been removed.

Install the wheel subassembly onto the axle and lower the axle jack. Remove the jack or reposition on the axle stub.

REEL

REEL POSITION

The reel should be located directly above or slightly ahead of the knife to move the crop material to the canvases and sweep the cutter bar clean. To adjust the reel, use the following procedures.

IMPORTANT! CLEAR THE AREA OF BYSTANDERS AND SMALL CHILDREN BEFORE MAKING ANY OF THE FOLLOWING ADJUSTMENTS TO THE HEADER.

1. Lower the reel to its lowest position.



ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING THE CAB.

2. Measure the amount the reel needs to be moved, either fore or aft or up or down.
3. **Fore/Aft Adjustment** - Pull vertical lock pins in both reel mount brackets until the pins are removed from the lock hole (see Figure 40.1). Tip pins to the side of the hole until the hole is fully visible. Reel is then free to slide either forward or backward. Try to slide both ends of the reel at the same time to prevent the reel from binding. If binding occurs, loosen the four centering bolts on the reel arm braces this should relieve pressure from brackets. If necessary tap reel mount with a block of wood and a hammer. Lock pin holes are located 2" apart on the reel arm.

After reel has been located in the desired position, insert lock pins through the hole in mount bracket and reel arm, making sure they are securely locked into reel arm. Set reel mount brackets in the same hole on each reel arm. Tighten any bolts that were loosened.

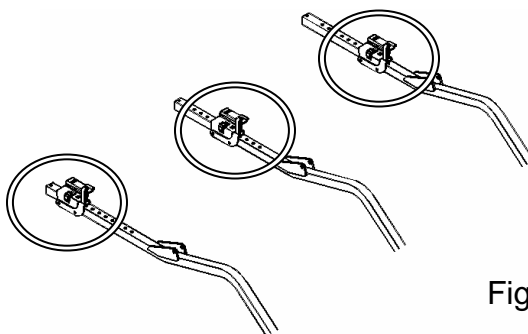


Figure 40.1a

Figure 40.1b

REEL

Reel Arm Leveling and Height Adjustment (see Figure 40.2)

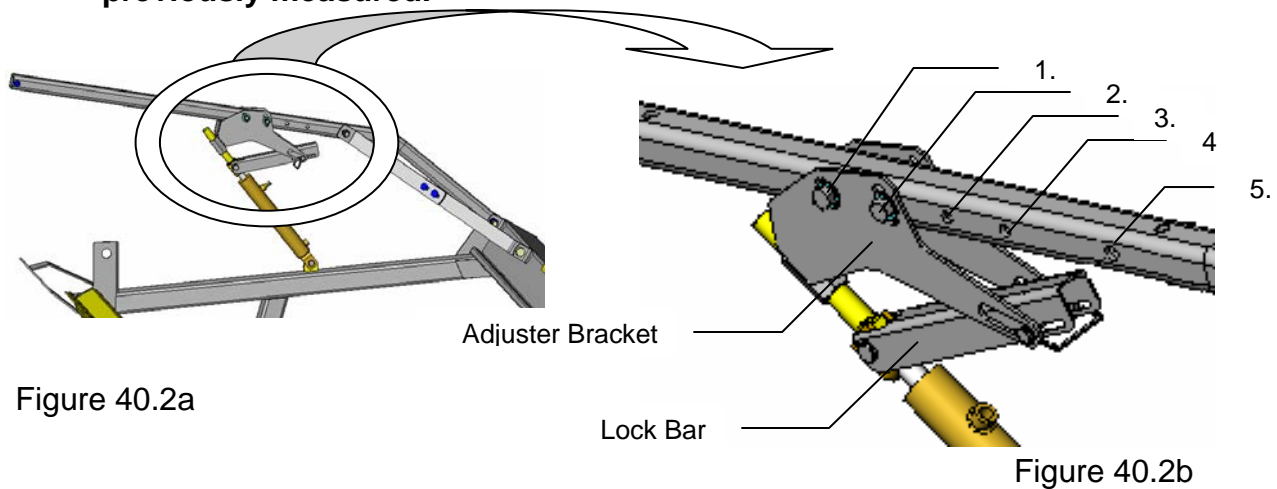
To level reels correctly, the reel adjustment brackets (adjuster nut) must be mounted in the proper position on the reel arms.

Each adjuster nut should be placed in holes #2 and #3 from the front for the **Universal Harvester Ull Pickup Reel**, **Hart Carter Pickup Reel** and **Honey Bee Bat Reel**.

If the reel arms need more adjusting, each reel arm can be adjusted separately by turning the reel adjuster screws.

1. Remove pin holding cylinder lock in place. Pivot cylinder lock downward so it can be rotated easily.
2. Measure the amount the reel needs to be adjusted.
3. Rotate cylinder lock clockwise if the arm needs to be lowered, and counter clockwise if it needs to be raised.
4. Pin cylinder lock back into the storage position when the reel is level.

Hint: If the reel is lifted all the way up, leveled, then dropped down to half way, it will be easier to rotate the cylinder lock. Adjust the reel by the amount previously measured.



FORE AND AFT BRACKET

Mount the fore and aft bracket in hole #5 on the drive motor end. The left hand end requires mounting the cylinder to the front of the reel arm. Detailed instructions are included in the kits.

REEL

Hydraulic Fore & Aft Optional (Figure 40.3)

Headers that are equipped with optional hydraulic fore and aft are operated using power unit controls. Power unit must have fore/aft option or optional hydraulic solenoid kit must be installed to operate fore & aft cylinders.



Figure 40.3a

The hydraulic circuit for the fore and aft should be plumbed according to the schematics on the right. On the single reel circuit, the pressure from the power unit goes to the barrel end of the 78A master cylinder on the right side. Oil from the rod end will pressure the rod end of the 78A cylinder on the left side. Oil from the barrel end of the left cylinder then returns to the power unit. Oil for retracting cylinder is reversed.

Figure 40.3b

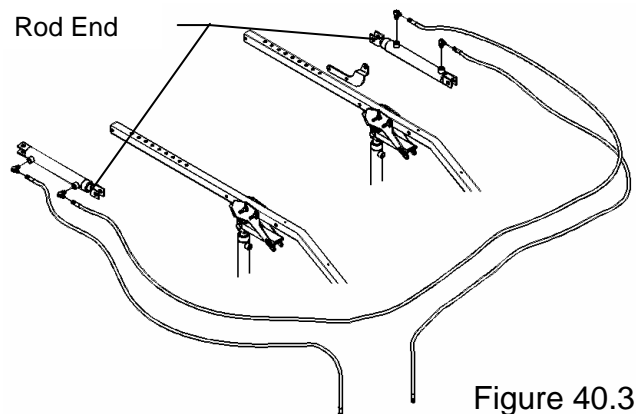


Figure 40.3b

The double reel fore and aft circuit uses three cylinders that are the same. The pressure from the power unit goes to the barrel end of the right hand cylinder. Oil from the rod end goes to the rod end of the center cylinder. Oil from the barrel end of the center cylinder goes to the barrel end of the left hand cylinder. Oil from the rod end will return to the power unit. To retract reel, oil flow is reversed.

Figure 40.3c

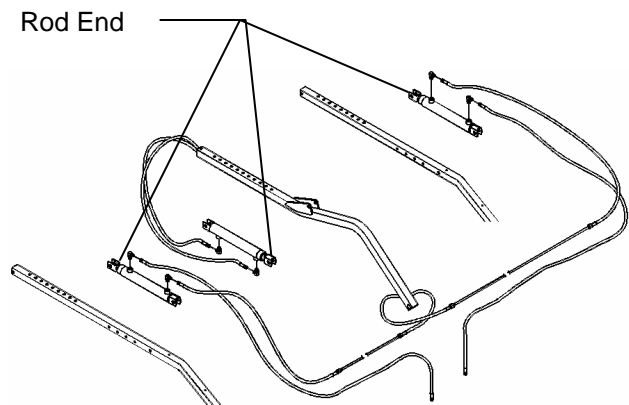


Figure 40.3c

REEL

To level the center reel arm on swathers with dual reels adjust as follows.

- A. Loosen the lock nut.
- B. Turn bolt to adjust height.
- C. Re-tighten lock nut.

Figure 40.4

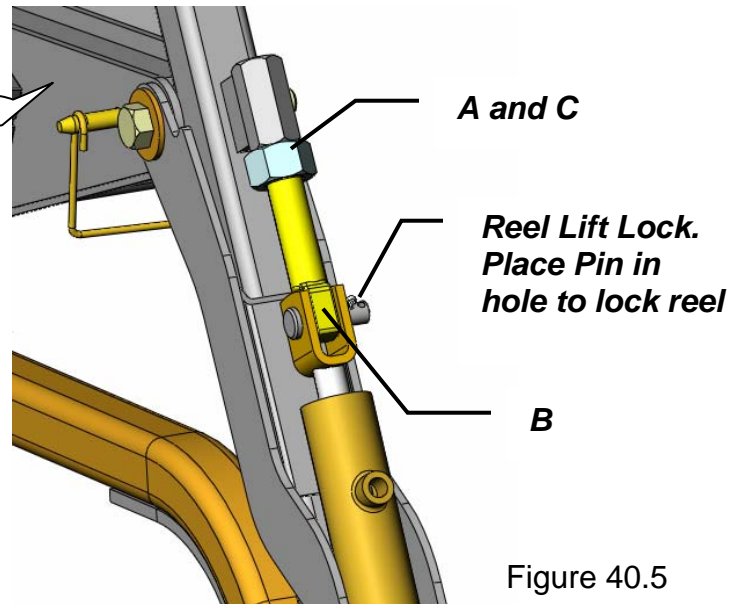


Figure 40.5

Reel Centering – Measure the clearance from the end shield on the reel to the crop divider on each end of the swather. If the reel is not centered on the swather, loosen the two bolts on both the left and right reel arm braces. Push the reel arms left or right to center the reel. Re-tighten all bolts (see Figure 40.6)



Measure the end clearance, adjust reel until it is centered. Figure 40.6

REEL

Reel Centering - continued

Loosen the carriage bolts securing the reel arm braces on both ends of the reel. Push the arms until reel is centered. Tighten bolts when finished.

Adjust Carriage Bolts

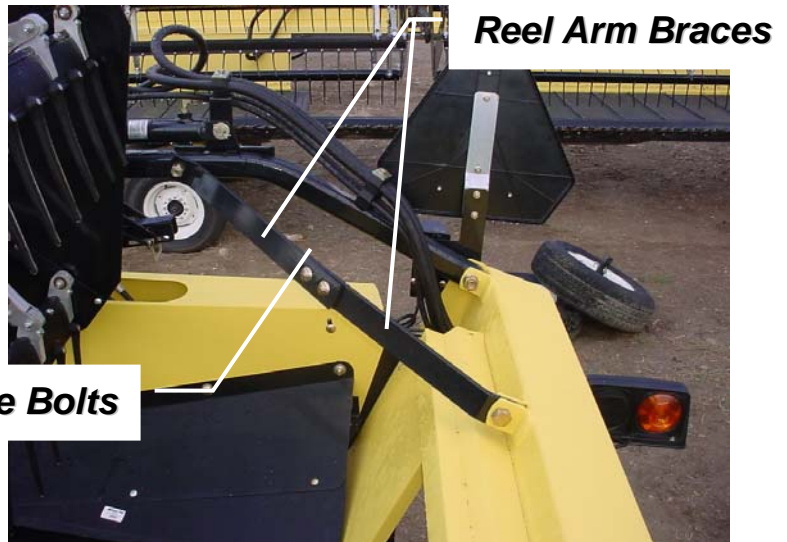


Figure 40.7

Reel Drive - (Figure 40.8)

The reel is driven by a hydraulic motor with a direct drive coupler to the reel. Check coupler bolts and motor mount bolts regularly for tightness. Check alignment of motor to reel tube, shim mounting bolts if required.

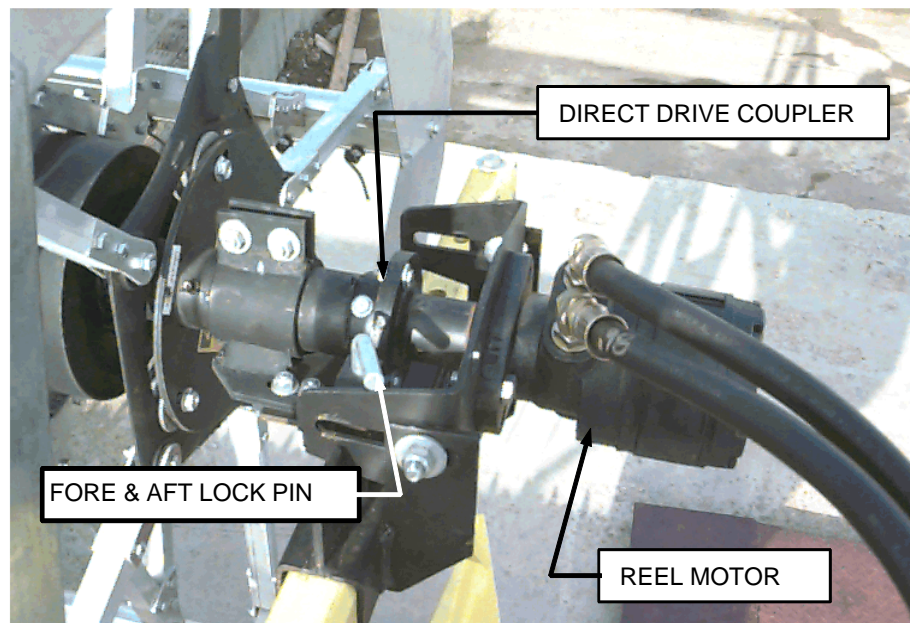


Figure 40.8

REEL

Reel Speed Adjustment

Normally reel speed is 10% to 20% faster than the ground speed of the power unit. The reel speed is dependant on the setting of reel speed control in the power unit.

The power unit is equipped with standard reel speed control. The swather hydraulics is configured with a flow control valve and a remote motor control on the table. The flow control regulates the speed of the reel. The flow control is also equipped with a relief valve which is factory set at 2200 psi. Do not set higher or damage to reel or reel motor may result. If a squealing noise can be heard, the relief will need to be set higher. Figure 40.9

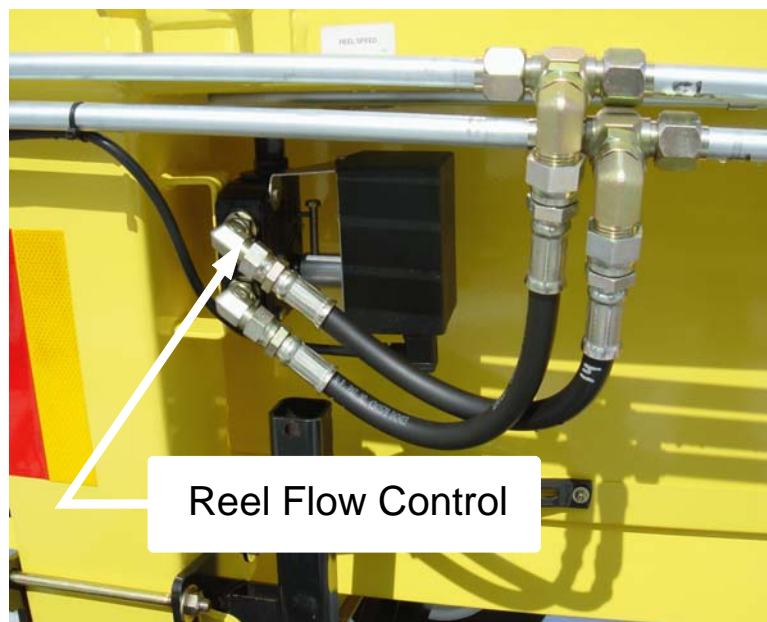


Figure 40.9

FLOW CONTROLS, HEADER DRIVEN REEL

The flow control is equipped with a relief valve. The relief is factory preset at 2200 psi (104 bar). If the operating pressure is consistently at or near this range, oil will bypass over the relief to the EF port. When oil is bypassed over the relief, an audible squeal may be heard and the reel may stall in crop.

If adjustment of the relief is required, remove the cap over the relief adjustment screw, loosen the lock nut and turn screw clockwise to increase the pressure. Check reel operation after adjusting relief 1/4 turn. Do not adjust relief by more than 1/4 turn increments. Figure 40.9a.

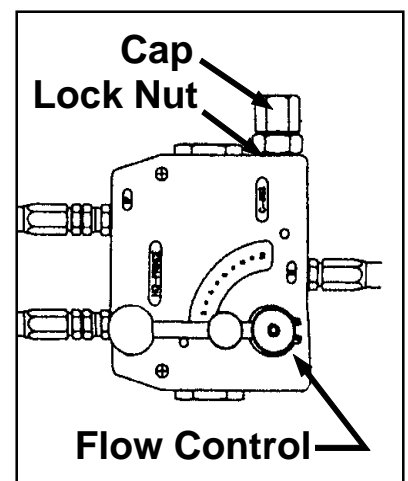


Figure 40.9a

REEL

UNIVERSAL UII PICK UP REEL TINE PITCH ADJUSTMENT

The pitch of the tines may be adjusted by loosening bolts (1) at BOTH ends of the reel and inserting a suitable tool in tube (2) and partially rotating the control ring assembly.

Figure 40.10

To increase the pitch of the tines, turn in direction of reel rotation.

To decrease the pitch of the tines, turn in opposite direction to reel rotation.

Adjust tine pitch initially so tines are perpendicular to the cutter bar. Too great a pitch causes the reel to carry the cut crop around the reel, because the tines do not release the crop after it is cut.

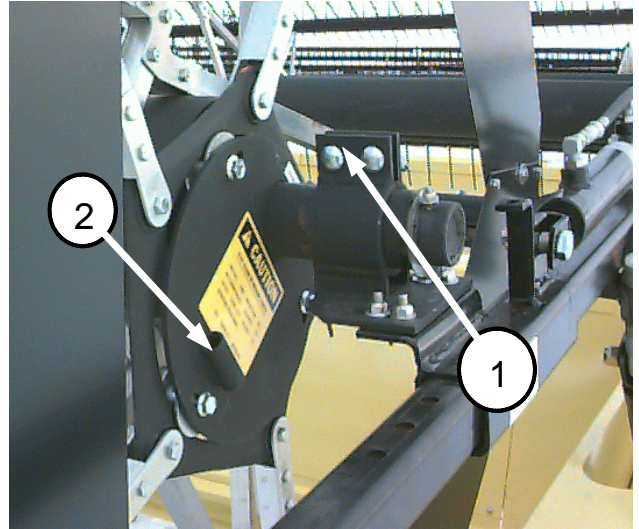


Figure 40.10

IMPORTANT: The pitch **MUST** be adjusted the **SAME** at **BOTH** ends of the reel.

The tine pitch is critical to the operation of the header. Adjust the tines to suit your individual needs and make note of what works best for your conditions and crops.

In crops that are down or lodged, adjust reel so that center of reel is ahead of cutter bar. Adjust tines to be aggressive, lifting crop and dropping it onto the canvas decks. If crop starts to wrap around reel, adjust tines to make them less aggressive.

Figure 40.11

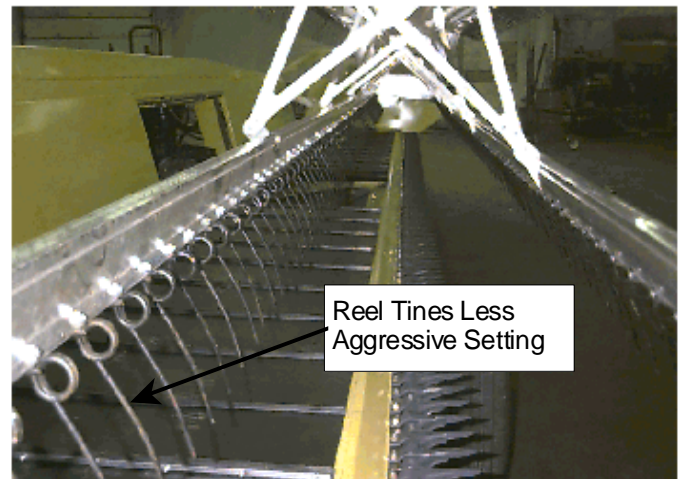


Figure 40.11

REEL

MINIMUM REEL HEIGHT

The minimum reel height is determined by the position of the reel lift cylinders on the header, the minimum (retracted) length of the reel lift cylinders, and the length of the adjusting screws on the lift cylinders.

IMPORTANT: A 2" (50mm) minimum clearance between the tips of the pickup reel tines and the cutter bar **MUST** be maintained with the reel lift cylinders in their fully retracted position. Inadequate clearance can result in damage to knife sections, guards, and reel tines.

REEL POSITION IN DOWN CROPS

The pickup reel height in down crops should be low so the tines can lift the crop up and onto the cutter bar. The tines should be adjusted so they pick up the crop and lift it onto the cutter bar with a minimum of the crop carrying around the reel.

The fore and aft position of the reel should be adjusted so the reel center tube is about 12 inches (300mm) in front of the cutter bar so the crop is lifted before it gets to the cutter bar.

IMPORTANT:

Care must be taken to assure that the reel tines do not come in contact with the cutter bar. Tine contact will cause damage to the knife sections, guards, and other cutter bar parts. At no time should the reel tines contact the ground. Contact with the ground or with rocks will cause damage to the tines, pivot points and stars.

REEL POSITION IN STANDING CROPS

The reel height on standing crops is usually correctly adjusted when the bats of the reel touch the crop about midway between the cutoff point and the top of the crop.

The fore and aft position of the reel should be adjusted so the reel center tube is slightly ahead of the cutter bar.

If the reel is too far forward, the crop will not be pushed against the cutter bar and a portion of the cut crop will fall to the ground.

If the reel is too far back, the crop is pushed down too low when it is cut and some of the heads will be missed.

REEL SPEED

Reel speed must be adjusted according to ground speed. The reel should turn approximately 10% - 20% faster than the power unit is traveling. Adjust the reel speed so it looks like the reel is pulling the power unit through the field.

If the reel speed is too slow, the crop will not be pushed against the cutter bar and a portion of the cut crop will fall to the ground because the reel doesn't push it onto the canvas.

If the reel speed is too fast, the crop may be shattered by the impact of the reel. The crop also may be pushed down before it can be cut and the uncut grain will be left in the field.

REEL

LUBRICATION - REEL SHAFT BEARINGS

Lubricate every 10 hours of operation (or daily) with multi-purpose lithium base type grease.

Lubricate the grease fitting at each end of the reel shaft. On 36', 39', and 42' headers additional grease fittings are on the center reel arm mounts.

Yearly, remove and examine the polymer liners in the control plate tubes and replace if worn.

Figure 40.12

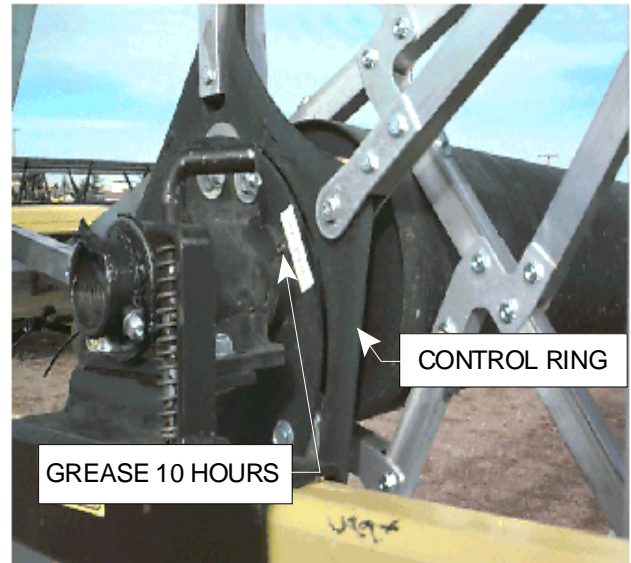


Figure 40.12

REEL TINES

Reel tines are attached to the leading side of the reel bats with 1/4" bolts and nuts. Either spring steel or plastic (Delrin) tines may be installed on the bats. Figure 40.13

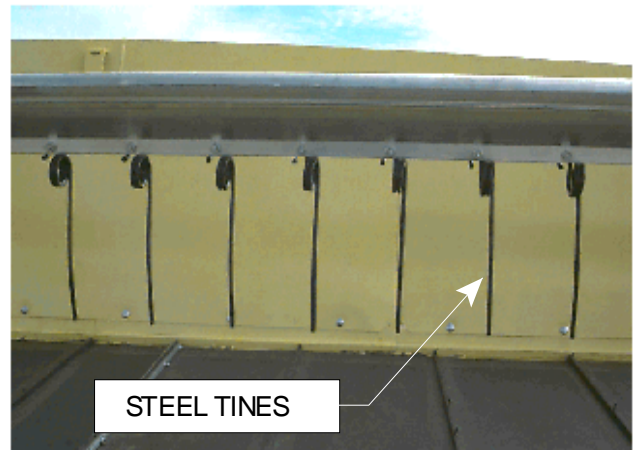


Figure 40.13

CONTROL RINGS

The control ring assemblies each have three rollers mounted in adjusting slots. To compensate for wear to the control ring, the rollers may be adjusted outward in the slots so that all three rollers are lightly in contact with the control ring.

All three rollers at each end of the reel must be moved the same amount so that all three roller bolts are in the same position in the slot. Do not take up the slack by moving only one roller.

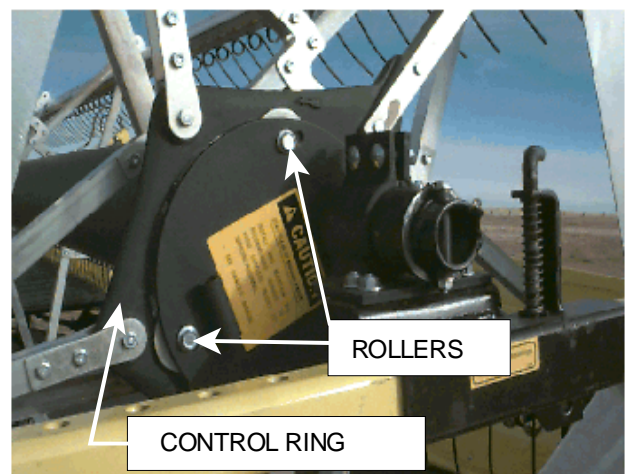


Figure 40.14

REEL

HART CARTER REEL (HCC)

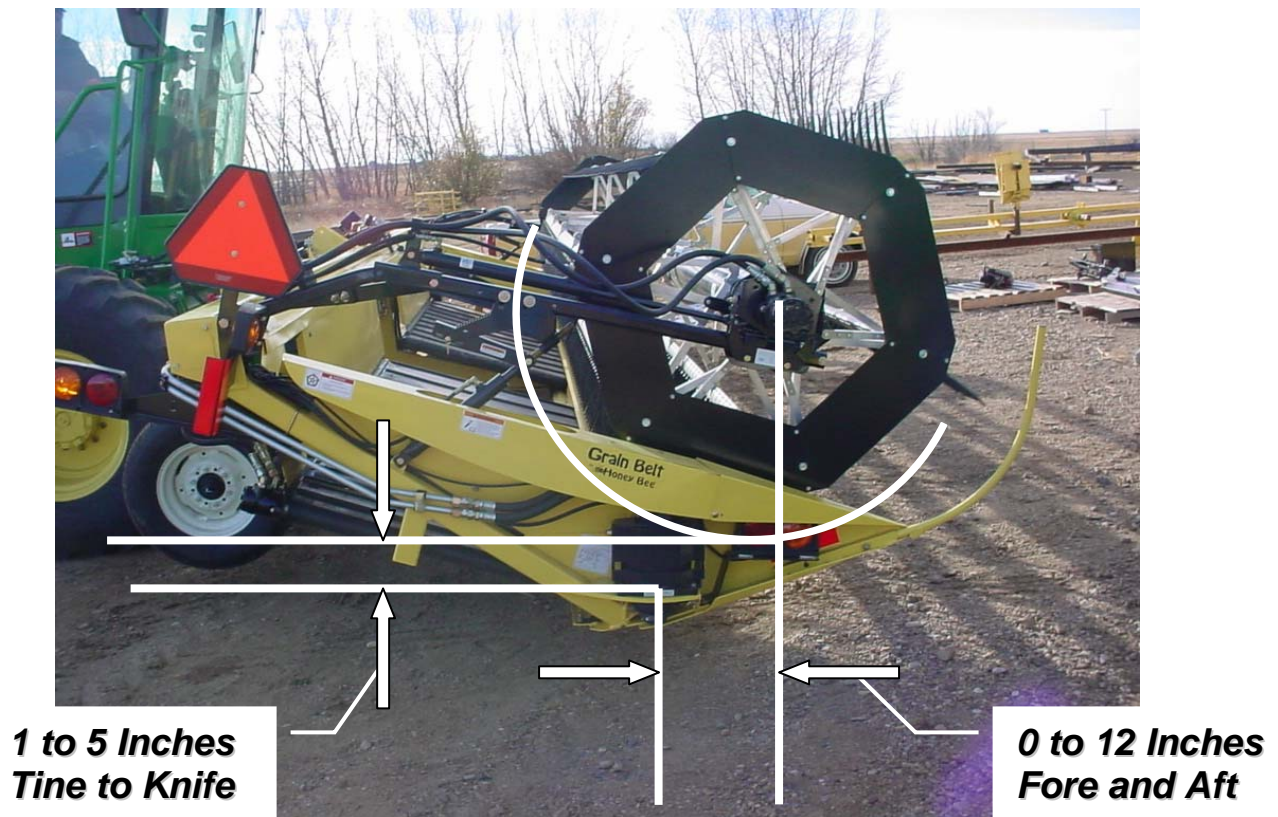
PLACEMENT OF REEL ON HEADER

The distance from the tip of the knife section to the center of the reel can be adjusted from 0" to 12" (300mm) depending on the crop. Figure 40.15

1. Normally the more "down" the crop, the further ahead the reel must be set.
2. Do not set reel ahead more than 12" (300mm) as reel will not hold the crop while being cut or delivering it onto the canvas.
3. Set reel center forward the same on both ends.
4. For hay crops, the reel center should normally be over the cutter bar.

Adjust the reel arms so that the tine tips will miss the guards and sickle by 1" (25mm) to 5" (127mm).

1. Normally the more "down" the crop; the closer the tines should be placed to the cutter bar.
2. Set reel center vertically the same on both ends.
3. For hay crops, the tines should have minimum clearance with the cutter bar.



PLACEMENT OF REEL ON HEADER

Figure 40.15

REEL

HCC CHECK POINTS BEFORE OPERATION

CAUTION



Always engage reel lift cylinder locks and table lift cylinder locks before working under or around raised pickup reel. Do not rely on the power unit hydraulic system for support. A rupture or a leak in any part of the system will allow the table to lower if the proper stops are not in place.

1. Be sure all bolts are tight.
2. Manually rotate reel. Check tine clearance with sickle.
 - Check auxiliary finger clearance with side shields.
 - Be sure the reel arms have been aligned so that there is no bow in the bat shaft or pivot bracket bat assemblies.
 - Be sure the reel turns freely, without binding.
3. Ensure the pitch adjustment bolt is in the same location on both sides (for double eccentric reels). Single eccentric reels will have only one pitch adjustment bolt.

LUBRICATION

1. Grease fittings on each end, and at the center on double reels.
2. Initial lubrication of the plastic bat bearings with a light film of oil will improve break-in and service life of the bearings.

TINE PITCH ADJUSTMENT

1. Start reel with pitch of about 5 degrees as shown below.
2. Too great a pitch causes reel to wind with cut crop because the tines do not release the crop after it is cut.
3. For hay crops, the tines should be perpendicular to the cutter bar.

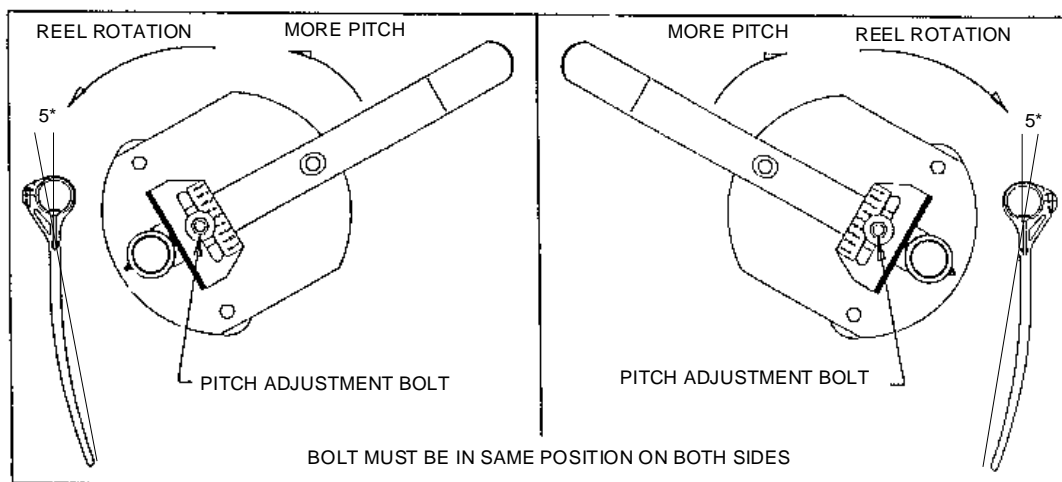


Figure 40.16

REEL

REEL SPEED

1. The reel speed for a 42" diameter reel should be between 10 and 12 RPM for every mile per hour of machine ground speed. A 52" diameter reel should rotate at 8 to 10 RPM for every mile per hour of machine ground speed. The reel speed should be somewhat higher for down crops than for standing crops.
2. Too great a reel speed causes winding of reel with cut crop. Reel does not get a chance to let crop loose. High reel speeds also causes stripping and shelling of uncut crop.
3. Too slow a reel speed can also cause wrapping of the reel with cut crop. Cut grain falls forward instead of onto the draper.
4. For hay crops, the reel speed should be increased for general use.

CROP CONTROL AT ENDS OF HEADER

1. It is very important that the crop is completely divided before it contacts the cutter bar; otherwise the crop will lodge on the ends of the header and eventually be wound up on the ends of the reel.
2. Auxiliary end fingers are standard equipment and will control crop lodging and wrapping at the ends of the reel.
3. If crop is building up between the center shields on a split reel, the fingers may be heated and slightly bent to ensure crop does not enter the gap.

CANVAS DRAPER

DRAPER

Depending on how the swather is equipped there may be two or three lateral drapers on the table. The lateral drapers move the material from the cutter bar to the center opening. All drapers must be set properly and maintained in good condition to perform well. Quick release adjusters with spring tensioning have been installed to allow for easier cleaning of internal parts and to maintain proper draper tension.

DRAPER INSTALLATION

Unpack draper, and check size so that it corresponds to the size of the deck. Place draper bundle on the top of deck runners. Unroll draper with the slats facing up.

From one end, wrap draper around one of the rollers and pull draper along the top side of the lower runner of the deck. On the underside of the deck, the lower runners should support the draper, to prevent it from hanging down.

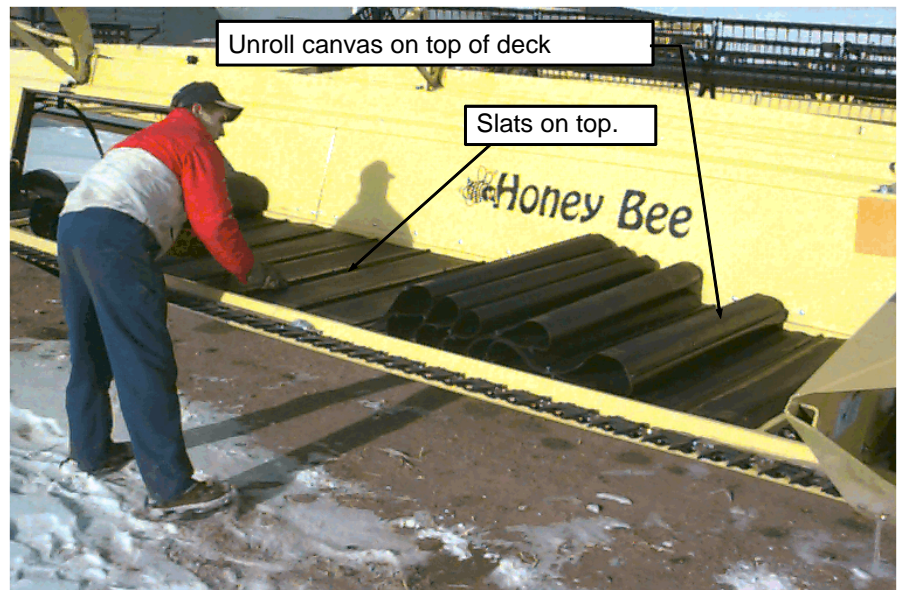


Figure 50.1

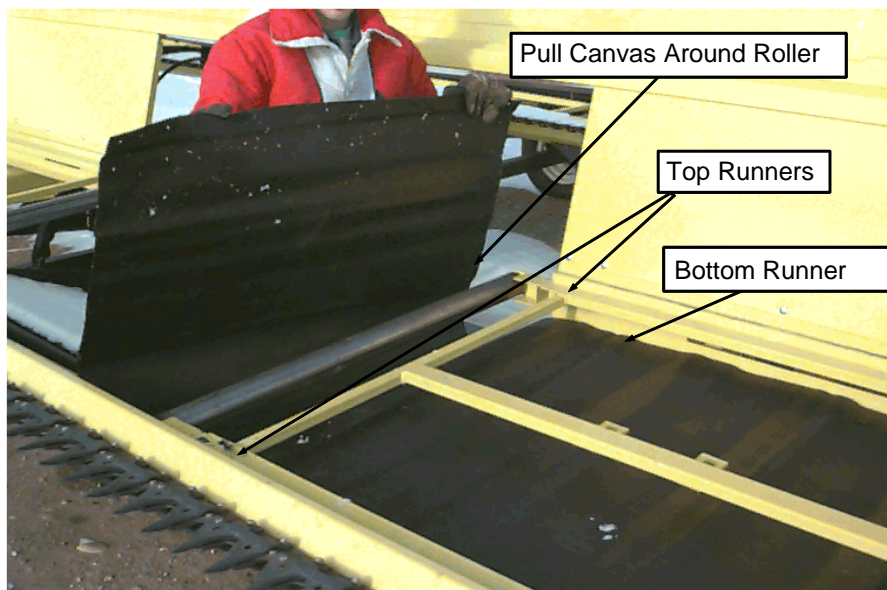


Figure 50.2

Continue to pull draper until it can be wrapped around the other roller. Pull the ends of the draper together. Install a connector bar to the draper joint using the pre-punched holes. The heads of the screws should be installed from the center deck opening side. This helps to prevent the crop from being caught on the screws. Complete installation by adjusting tension and tracking.

CANVAS DRAPER

LATERAL CANVAS

TENSION

Proper tension must be maintained on the canvas to prevent slipping on the drive rollers. The canvas tension is changed by adjusting the drive roller of each deck.

ATTENTION! Canvas tension should be just enough to prevent slipping. **Do not over-tighten** as it may cause failure to the bearings, canvas rollers and/ or canvas belts.

1. Lower the header to the ground.
2. Raise the reel to its maximum height and place the locks on the reel lift cylinders to prevent reel from falling.
3. To adjust the canvas tension, loosen the lock nut. Release the tension with the quick release lever. Pull the roller from side of header to stretch the canvas. Slide the adjuster clevis to compress the tension spring. Complete tightening by over-centering the quick release lever. If tracking is good, leave the lock nut on the motor mount plate loose.

NOTE: When adjusting the canvas tension and tracking, check the clearance between the canvas deck and the end strut. Problems may be encountered if canvas or deck parts contact the end strut. A minimum of 2" (50 mm) clearance is recommended. If necessary loosen the deck restrainer and slide deck over.

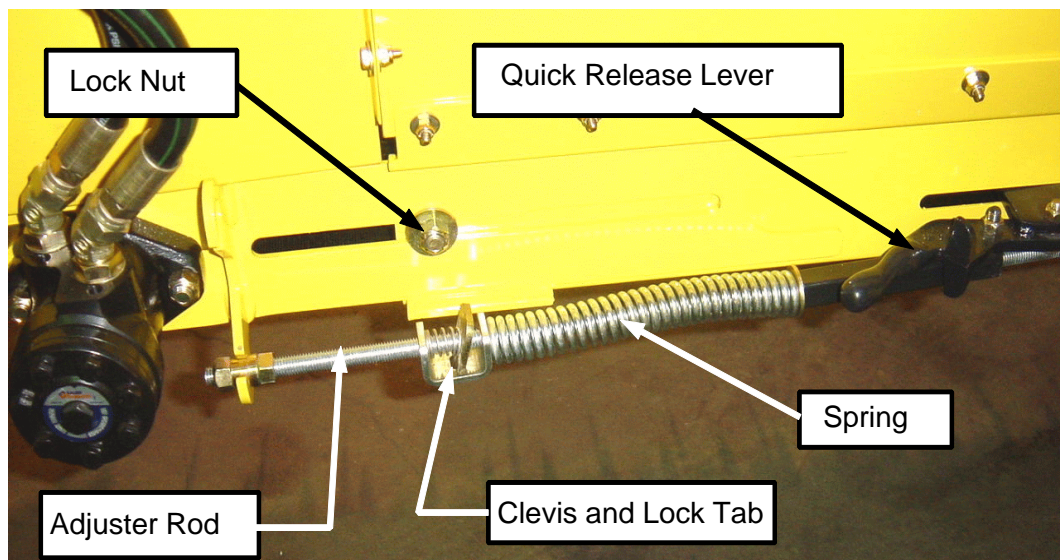


Figure 50.3

CANVAS DRAPER

ALIGNMENT

The draper must track properly on the rollers to avoid damage to the draper. The decks allow approximately 1/4" of clearance on each side. Draper tracking can be adjusted at the drive or idler end of the deck by adjusting the adjuster screw on the motor mount plate of the draper drive roller or the eye bolt tightener on the idler roller mount plate. Tracking of draper should first be attempted at the idler end of the deck.

1. Lower the header to the ground.
2. Raise the reel to its maximum height and place the locks on the reel lift cylinders to prevent the reel from falling.



ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING CAB.

3. **IDLER ROLLER END** - The idler roller is fixed at the cutter bar end and adjustable at the back panel end. If draper is tracking too high or towards the back panel, tighten the nut on the eye bolt (shorten the eye bolt). This action will push the idler mount plate and idler roller at the back panel end out, creating slack in the draper at the cutter bar. Draper should move towards the cutter bar. If draper is tracking too low or towards the cutter bar, loosen the nut on the eye bolt (lengthen the eye bolt). This action will pull the idler mount plate and idler roller in, creating slack in the draper at the back panel end. Draper should move towards the back panel.

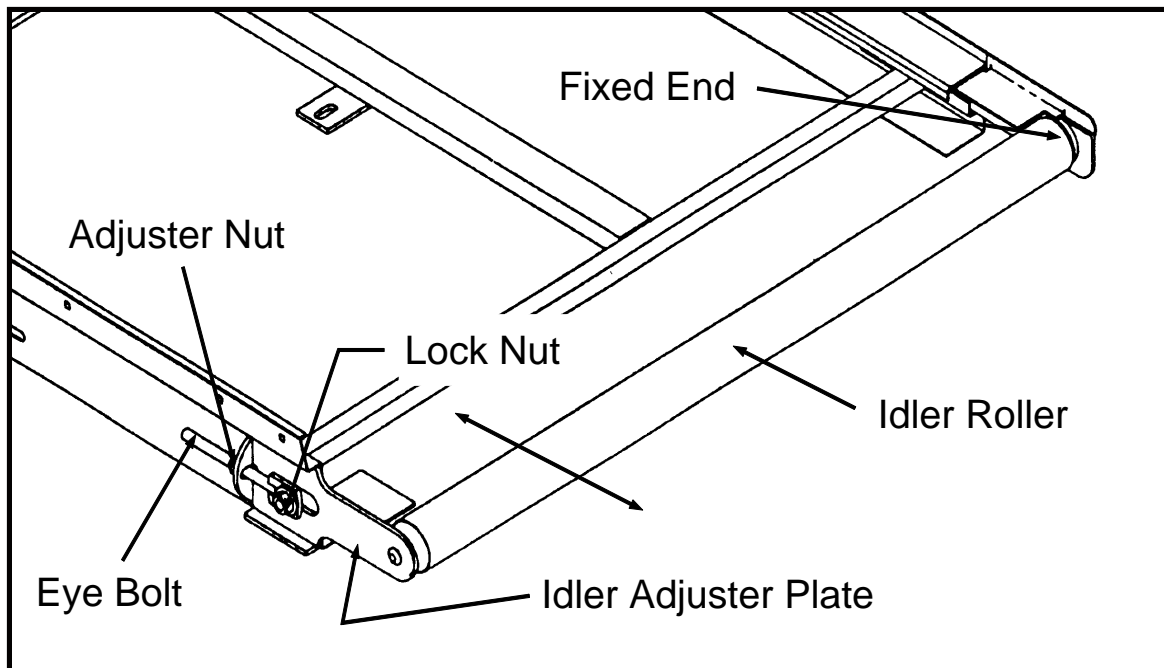


Figure 50.4

CANVAS DRAPER

Draper Adjustments - Continued

4. **DRIVE ROLLER END** - With quick release tensioning, the motor mount plate is normally left loose. To adjust the tracking at this end the lock nut holding the motor mount plate in place will need to be tightened. When the motor mount plate is tight, the back panel end of the drive roller will be fixed and the cutter bar end will be adjustable. The adjusting screw is connected to the cutter bar end by a sway bar and a push rod. Turning the screw clockwise, (shortening the screw) will pull the push rod in, creating slack at the cutter bar end. This will make the draper track lower or towards the cutter bar. Turning the screw counter-clockwise, (lengthening the screw) will push the push rod out creating slack at the back panel end. This will make the draper track higher or towards the back panel.

Note: DRAPER WILL NORMALLY TRACK TO SLACK SIDE.

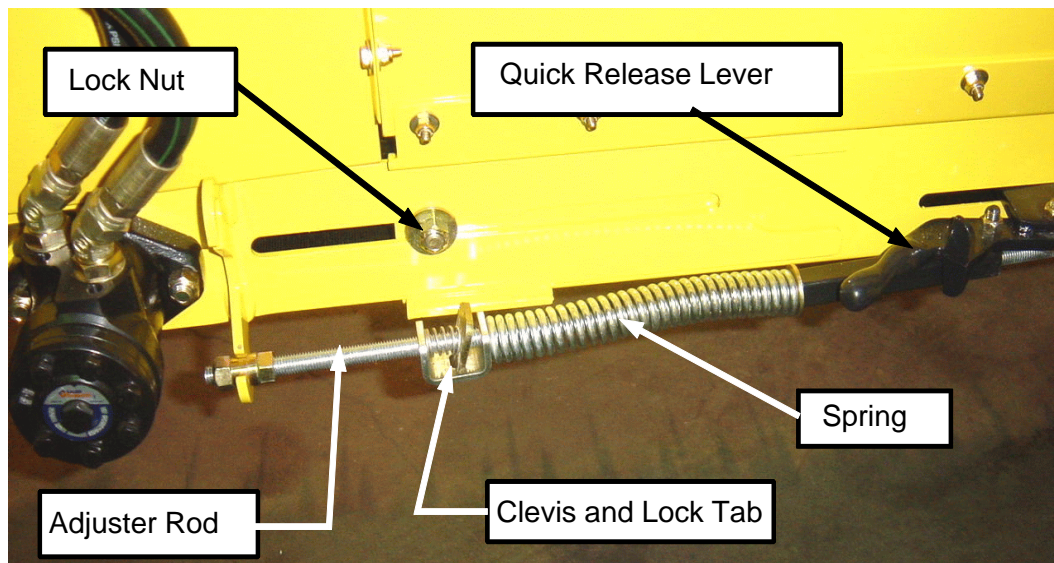


Figure 50.5

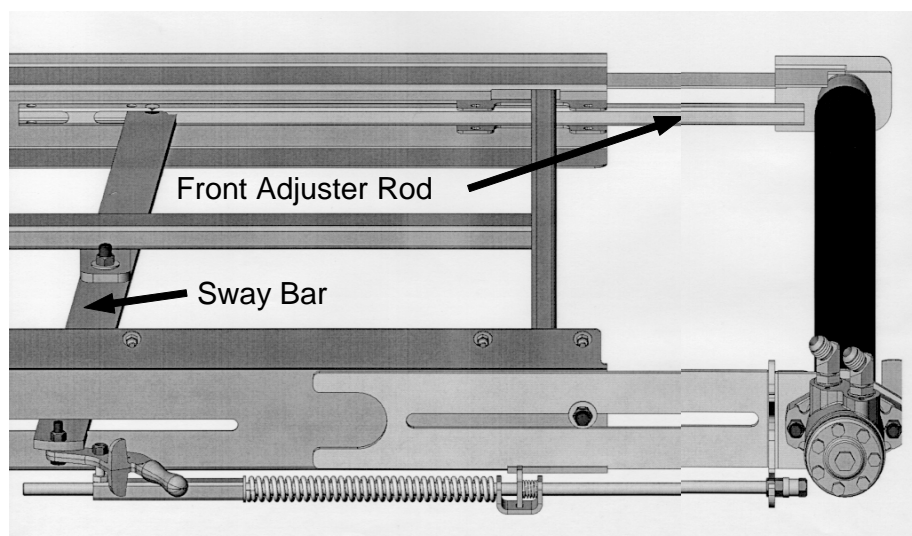


Figure 50.6

CANVAS DRAPER

DRAPER SPEED

Proper draper speed is critical to the performance of your Grain Belt Swather. The draper speed should be set to match the field speed of the swather and to deliver the material smoothly to the center opening. The speed of the lateral draper is controlled by an adjustable flow control. Adjusting the flow control will affect all decks. The plumbing configuration will determine how the flow divider diverts the flow (see hydraulic schematics section 80).

Double Swath Option: The spool flow divider splits the oil flow between the draper motors and the reel motor. The short end deck receives oil from the reel circuit. A fine adjustment screw on the flow divider can be used to set the speed of the drapers or the reel to suit the conditions. Remove cap, turn adjustment screw with a flat blade screw driver. **As one circuit increases the other will decrease.**

Center Single Swath: Draper motors are plumbed on one side of the flow divider. The other side is plumbed to the reel motor.

When swathing, the draper speed should be set to form a good windrow, to remove material from cutter bar and to deliver the material smoothly to the opening.

Try different draper speeds to determine the best swath formation for the cutting conditions. It may be necessary to adjust the speed as conditions change.

ATTENTION: DO NOT OVER-SPEED THE DRAPER. EXCESSIVE SPEED MAY CAUSE ABNORMAL WEAR AND SHORTEN THE LIFE SIGNIFICANTLY OF THE CANVAS

NOTE: The flow divider has a fine adjustment screw which can be used to adjust the flow to a limited degree. As one circuit increases the other will decrease.

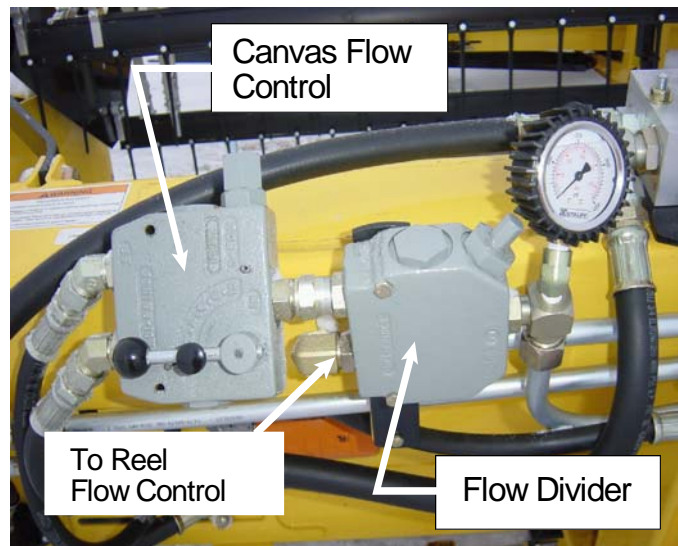


Figure 50.7

CANVAS DRAPER

DRAPER SPLICING

Honey Bee Mfg. strives to use top quality drapers or draper material on their headers and swathers. Our draper is made from rubberized polyester with fiberglass reinforced slats. Maintaining the draper regularly will provide good life of your draper. Checking tension and tracking are very important. If material is allowed to get inside the deck it tends to wrap around the idler and drive rollers causing the draper to tighten. As the draper tightens, stress is put on the motor and the draper. Failure of the motor or tearing of the draper will result. Tearing of the draper can result from poor tracking, mechanical failure, or damage from careless use. If only a portion of draper is damaged a splice can be installed to repair the damage.

1. Before making any repairs you will need a connector bar set and a length of draper 2 ½" longer than the piece to be removed.
2. Raise header table and install lift cylinder locks. If table height is too high for working, table can be set on blocks or on the ground.
3. Raise reel and place the locks on the reel lift cylinders to prevent reel from falling in the event of a hydraulic failure.



ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING THE CAB.

4. Loosen the tension on the draper.
5. Remove draper connecting bar.
6. Correct condition that caused draper failure.
7. Squareness of cut is critical to the tracking of the draper. The draper should be cut between two slats. With a measuring tape, measure and mark a line six inches from a slat on a good portion of the draper. Place a board under the draper. With a utility knife and a straight edge cut the draper along the marks. Repeat this procedure on the other side of the damaged area, cutting this section out.
8. Lay the cut pieces flat and measure the width of each piece to the holes then add one inch to each piece. Add both figures together then add 2 ½" to come up with the total length of spliced section.
9. Mark draper pieces for connector bar holes. From the end of each draper measure and mark a 1" line parallel to the end cut. On each line mark the first hole 1-1/8" from the edge. Drill 3/16" holes through each of these marks. Placing back sides of draper together line up drilled holes, place a connector bar on each side and secure with machine screw. Line up the edges of the draper and drill a hole at the opposite end on the 1" line using the connector bar as a template. Insert a screw and secure in place. Drill the rest of the holes, insert screws and secure.
10. Repeat procedure for other piece of draper.
11. Adjust draper tension. Trim draper lip to 1/2" above connector bar.
12. After starting power unit adjust tracking.

NOTE: If the splice is not near a connector bar, you will need 2 connector bar sets and a piece of draper 5" longer than the damaged piece to be removed.

CANVAS DRAPER

Draper Splicing - continued: Mark draper for holes and drill.

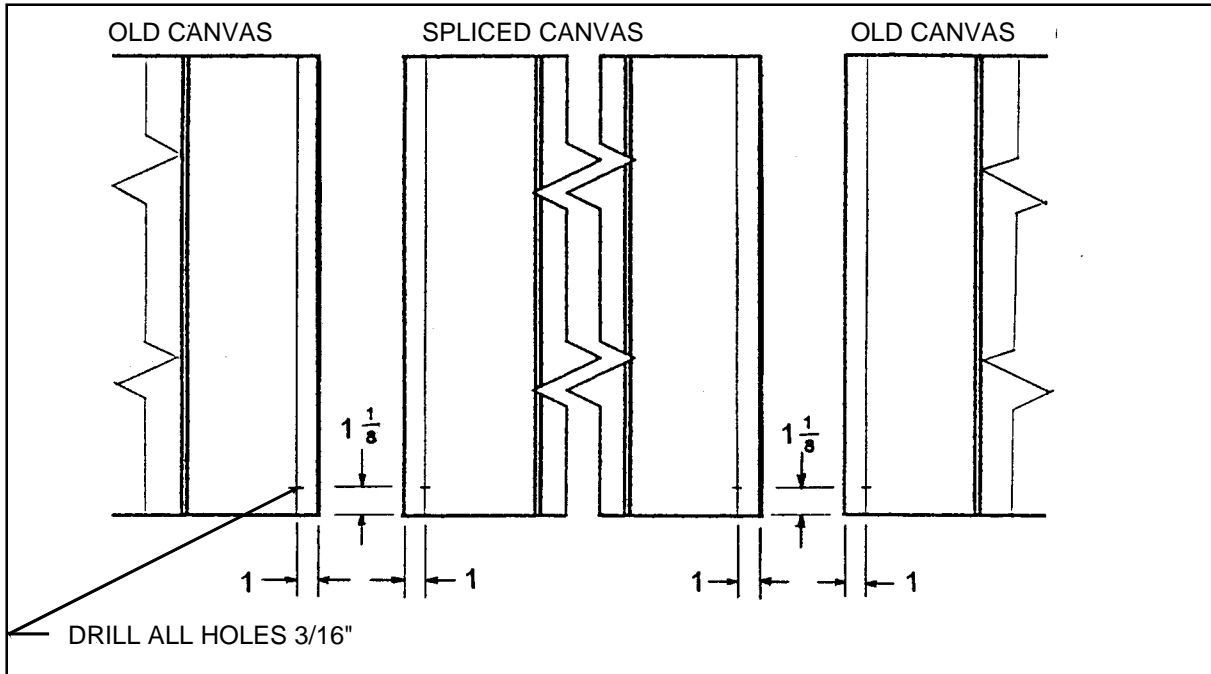
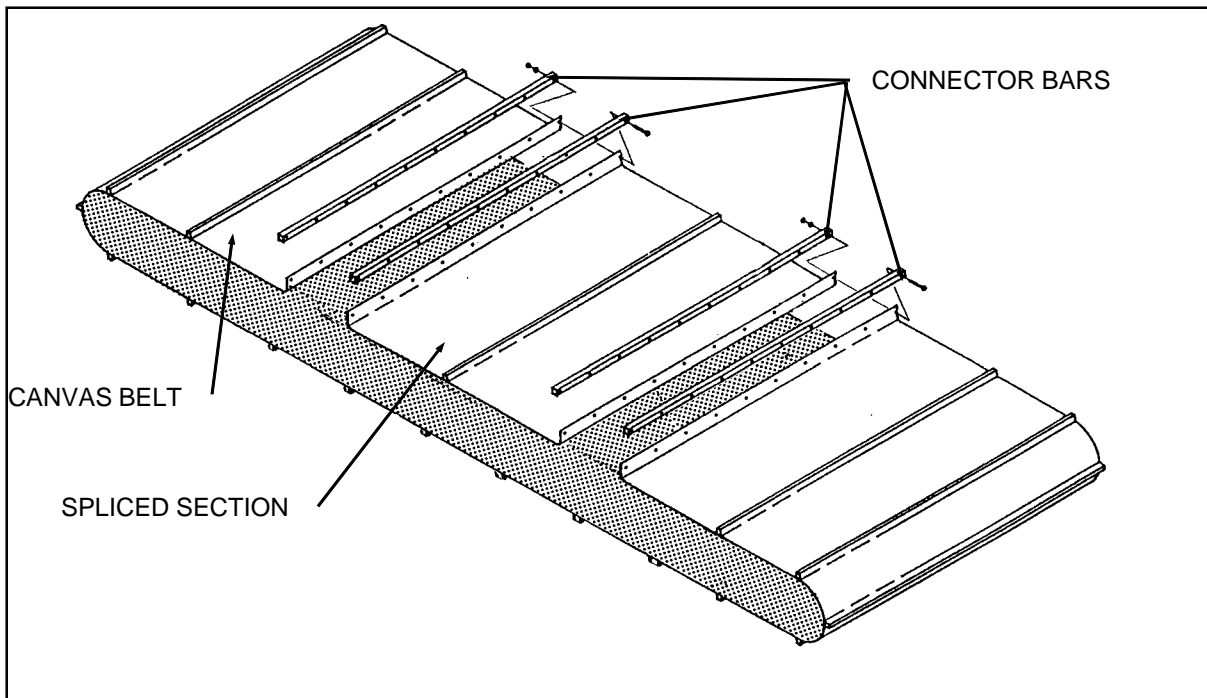


Figure 50.8

Secure the connector bars to draper with machine screws, lock washers and nuts.



CANVAS DRAPER

IDLER ROLLER REMOVAL

To remove an idler roller, to check the bearings, or to clean material from the roller.

1. Relieve the tension from the draper.
2. Remove the nut that holds the eye bolt and the draper idler plate in place.
3. Remove idler plate from deck.
4. Remove spacer from bolt.
5. Pull idler roller out of deck.
6. Check bearings on each end and remove any material build up on roller.
7. Re-assemble in reverse order.

NOTE: Spacer must be re-installed for idler plate to function properly.

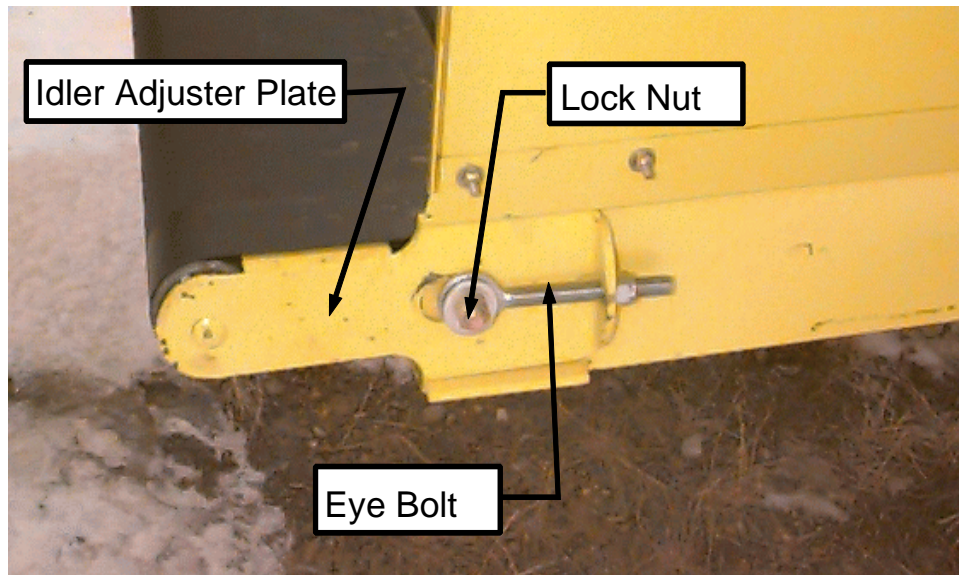


Figure 50.10

VIEW FROM BACK OF TABLE LOOKING AT IDLER PLATE

CANVAS DRAPER

DRIVE ROLLER REMOVAL

To remove a drive roller, check bearings, or to clean material from the roller

1. Check lock nut on the motor mount adjuster plate to see that it is loose.
2. Relieve tension from draper with quick release tension lever.
3. Loosen lock nuts on adjuster screw. Back off nuts about 3/4". Slide sleeve and spring down adjuster screw. Lift adjuster screw out of adjuster plate.
4. Mark hydraulic hoses on draper motor. Remove hoses. Insert plugs into hoses and caps on the motor to reduce oil loss and to prevent contamination.
5. Remove the lock nut from the adjuster plate.
6. Pull adjuster plate, motor, and drive roller out of deck.
7. Check bearing in end of roller, and remove any build up of material on roller.

NOTE: Check and remove any build up of material from the draper deck runners. If necessary, split draper at connector bar to gain access to the inside of the deck.

To re-install drive roller, reverse above procedure. Adjust tension and tracking.

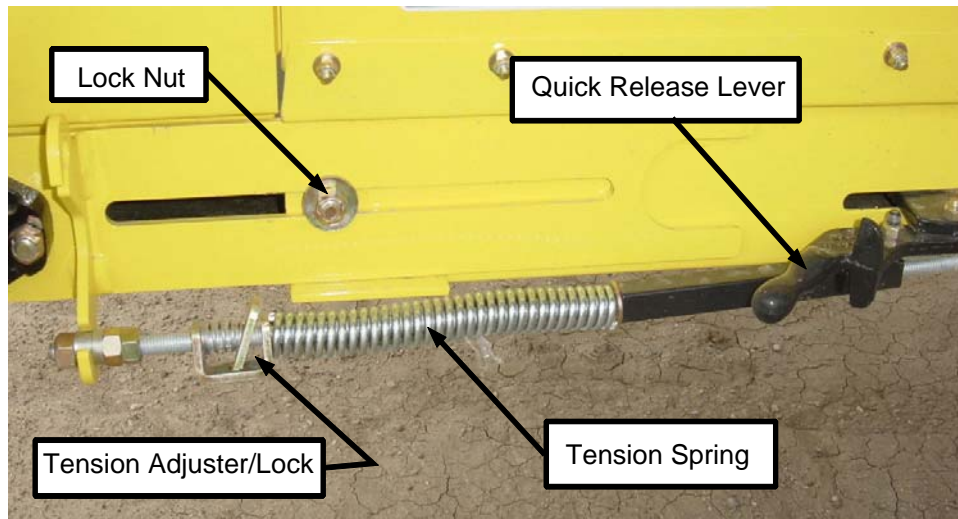


Figure 50.11

CANVAS DRAPER

Removing Draper motor

1. Remove set screws.
2. Insert two pry bars one on each side of motor, and pry motor out of drive roller. **Do not hammer on the housing flanges of the motor. Damage to motor will void warranty.**
3. If motor does not move, insert a 7/8" or 3/4" rod through the center of drive roller and apply force to the shaft of the motor.

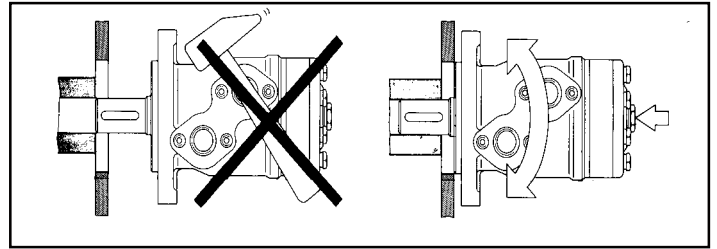


Figure 50.12

Installing Draper Motor

4. Clean motor shaft and hub of drive roller. Apply anti-seize to shaft.
5. Insert key in motor shaft.
6. Insert motor into hub. **Do not use a hammer on housing flange; damage to motor will void warranty.** Use a soft blow or rubber hammer to apply force to end of motor.
7. Tighten set screws.

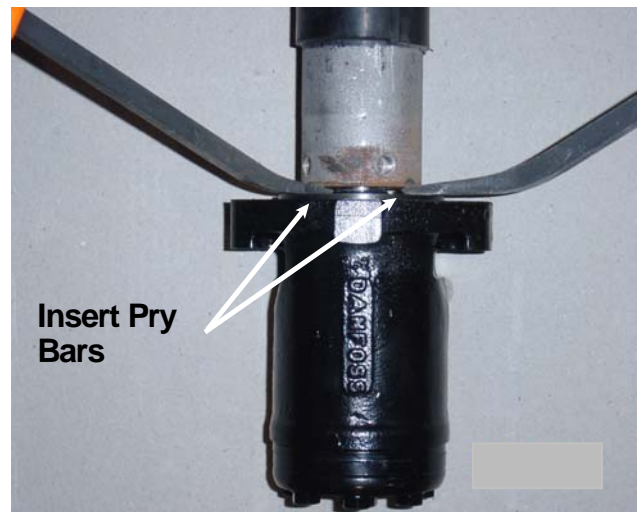


Figure 50.13

Draper Deck Maintenance:

- Remove draper connector bar.
- Remove draper - clean draper of debris, both sides.
- Clean debris from rollers.
- Clean debris from deck channels and runners.
- Check and bend down corners of deck runners so draper does not get caught.
- Clean adjusters; lubricate guide tubes and adjuster tubes. Adjusters should be able to move freely inside the guide tube.
- Check idler roller bearings, they should spin freely.
- Check drive roller bearings.
- Check bearing stubs.
- **If storing header outside with draper installed on decks, position the connector bar on the underside to allow water to drain from decks. Water build up may cause draper to stretch and pop out of the lower runner, on start up damage may occur to draper.**

CUTTING SYSTEM

All cutter bar components must be maintained in good condition to obtain acceptable field performance. Inspect the cutter bar daily for damaged and broken parts before starting work. Repair or replace parts as required.

WARNING



WHEN WORKING WITH OR AROUND THE KNIFE, THE FOLLOWING PROCEDURES SHOULD BE TAKEN TO PREVENT SERIOUS BODILY INJURY OR DEATH TO YOURSELF OR OTHERS AROUND YOU.

- RAISE THE HEADER TABLE, RAISE THE REEL, STOP THE ENGINE, SET THE PARK BRAKE AND REMOVE THE IGNITION KEY BEFORE DISMOUNTING.
- INSTALL LIFT CYLINDER LOCKS & REEL LIFT CYLINDER LOCKS.
- CLEAR THE AREA OF BYSTANDERS, ESPECIALLY SMALL CHILDREN.
- WEAR HEAVY CANVAS OR LEATHER GLOVES WHEN WORKING WITH THE KNIFE.

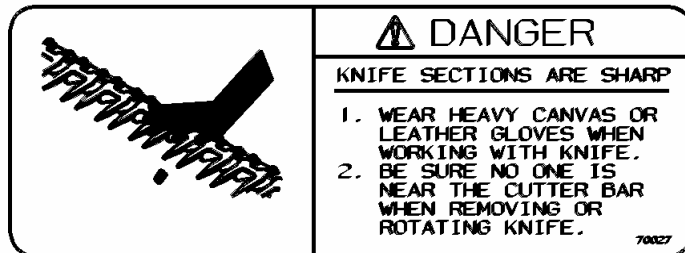


Figure 60.1

KNIFE REMOVAL

1. Remove the two socket head cap screws (1) on the knife head block (see Figure 60.2). Slide the knife out of the cutter bar.
2. Reverse the procedure when installing the knife. Apply a small amount of thread lock solution to cap screws (1) before installation. Torque to recommended specifications - 41 ft-lb (55 Nm)

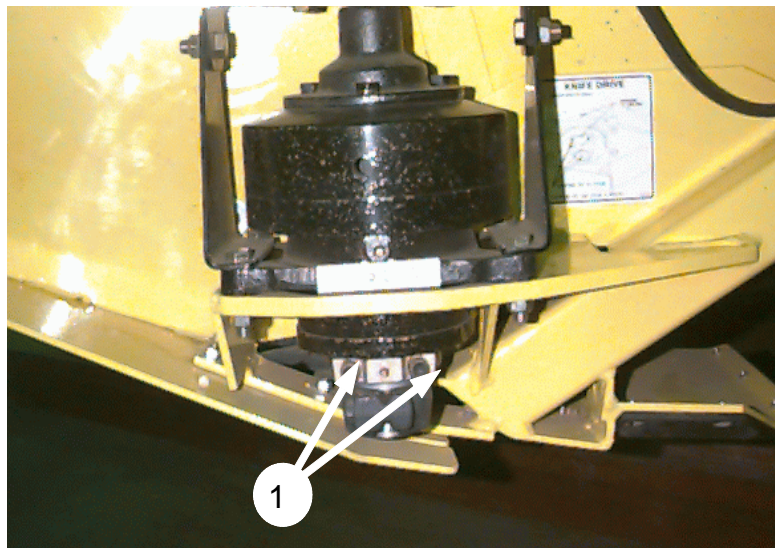


Figure 60.2

CUTTING SYSTEM

Guards

EasyCut guards are manufactured from heat treated spring steel. The guards have beveled cutting edges at the top and bottom making the guards cut well and last longer.

1. When replacing guards always mount the new guard with the **SCH** stamp to the top. Be sure the spacer bar is on top of cutter bar. The crimp lock nut on the guard bolt should always be on the top.
2. Alignment of the guards is critical. Before tightening the guard bolts, push the spacer bar as far back on the cutter bar as possible and pull the guard ahead as far as possible. Sight down the cutter bar to be sure the guards are aligned. Tighten guard bolts.

Sickle Sections

The sickle sections of the knife are installed to alternate the cutting surfaces. One section will have the cutting surface on the top and the next one, with the cutting surface on the bottom. They must be in good condition to obtain proper cutting. Figure 60.3

1. Replace a Section:

Remove the guard to expose the section. Unbolt the section and install a new one. Tighten the section bolts and nuts. Install the guard.

OR

Turn the knife by hand until one section bolt is exposed. Remove the bolt. Turn the knife until the other bolt is exposed. Remove it and install a new section. Turn knife back to install other bolt. Tighten section bolts and nuts.

IMPORTANT Remember when installing sections to rotate the serrations, one facing up and the next one facing down (see Figure 60.3)

VIEW OF ALTERNATING SECTIONS AND A SIDE VIEW OF A GUARD AND CUTTER BAR

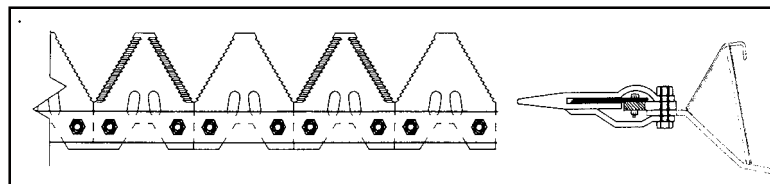


Figure 60.3

CUTTING SYSTEM

Knife Drive/Knife Head

Proper care and maintenance of the knife drive and the knife head is critical to the performance of your Grain Belt Header. See the Servicing section of this manual for proper lubrication procedures. Figures 60.4 and 60.5 below illustrate the critical check points.

1. Check the tightness of the knife drive hold down bolts daily. Tighten to the specified torque.
2. Check the knife head bearing daily. If the bearing is loose, check the tightness of the bolt. If the bolt is tight, check the condition of the bearing and nylon sleeve. If any parts are defective, replace them immediately to avoid damage to the drive.
3. Check the knife head locking bolt and the socket head cap screws daily. Rotate the knife drive by hand after tightening the knife head bolt to be sure the bearing is rotating freely.

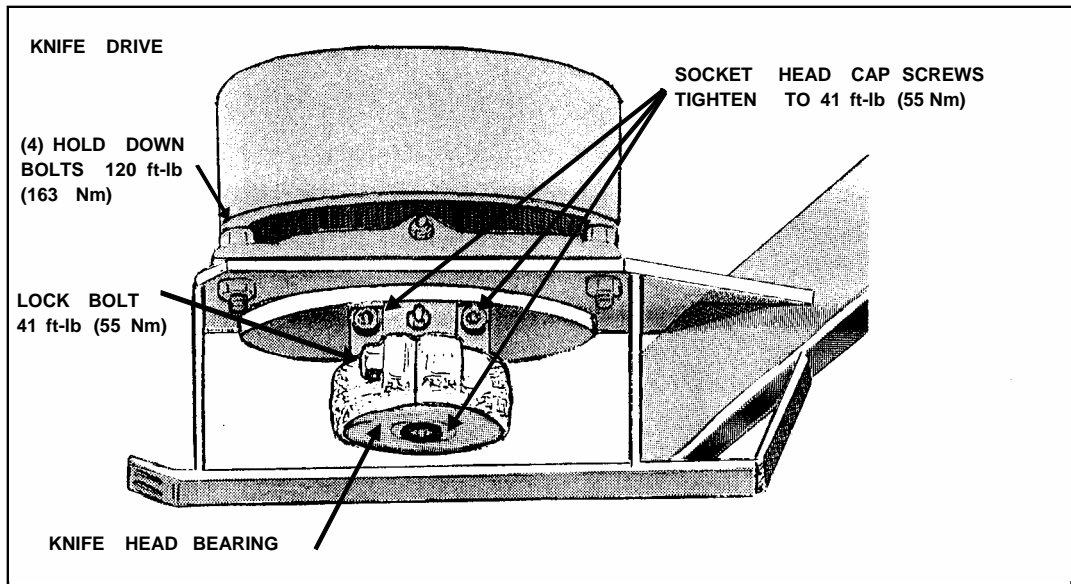


Figure 60.4

4. Check the knife head bolts which attach the knife head to the knife back daily. The bolts should be tightened to 120 in lbs., (13.5 Nm), (9.96 ft lbs.)

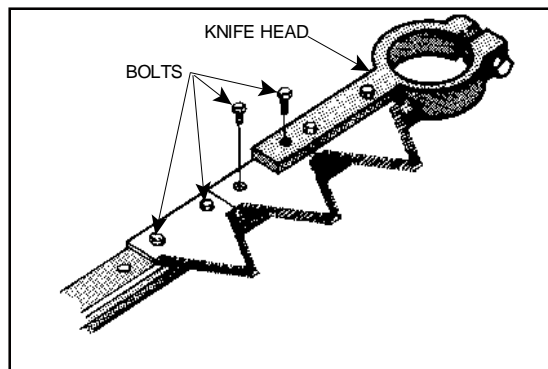


Figure 60.5

CUTTING SYSTEM

Connector Bar

On some models of Honey Bee headers a connector bar is used to connect two sections of knife back. The knife back is the part of the knife that the sickle sections are bolted to. The connector bar is installed on the underside of the knife back. The connector bar has eight threaded inserts installed into the bar and protrudes slightly on the side that contacts the knife back. The knife back is punched with holes to accommodate the sickle sections and the holes are slightly tapered on the bottom side. The knife sections must be installed on the top side of the knife back (they will be stamped "TOP" on the proper side) so that the protruding inserts of the connector bar will fit snugly into the tapered section holes. As the section bolts are tightened, the inserts in the connector bar are drawn into the knife back forcing the threads to tighten on the bolt. The bolts should be tightened from 120 - 150 in-lbs, (13.5 - 17 Nm). Figure 60.6

DO NOT GRIND THE INSERTS OFF; THIS WILL MAKE THEM INEFFECTIVE IN SECURING THE KNIFE TOGETHER. FAILURE OF THE KNIFE MAY RESULT.

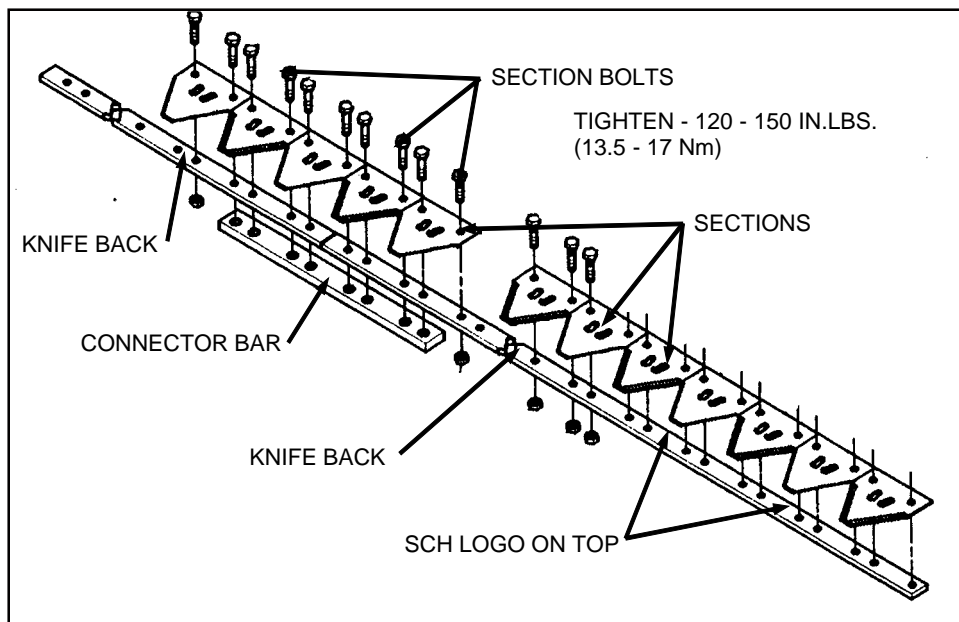


Figure 60.6

Cross section of shoulder insert, connector bar, knife back, sickle section, and bolt. Notice how the shoulder insert protrudes into the backup bar. **Check tightness of bolts daily; replace broken and worn sections as required.** Figure 60.7

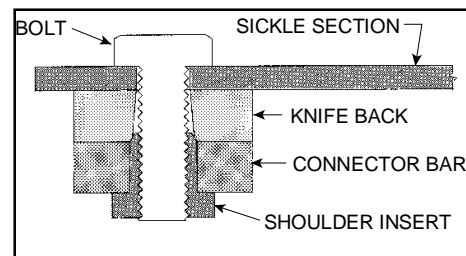


Figure 60.7

CUTTING SYSTEM

Overlap Kit

The overlap kit is used on headers that are equipped with double knife drives. The knife sickle sections that overlap each other are countersunk to provide a smooth cutting surface. The overlap guards are open on the top side and are specially designed to provide for the extra thickness in the knife. The overlap strap bolted to the left-hand knife will offset the countersunk sections to allow the knives to overlap. If knives are noisy or are over heating, check to see if the overlap guards have been properly installed. Figure 60.8

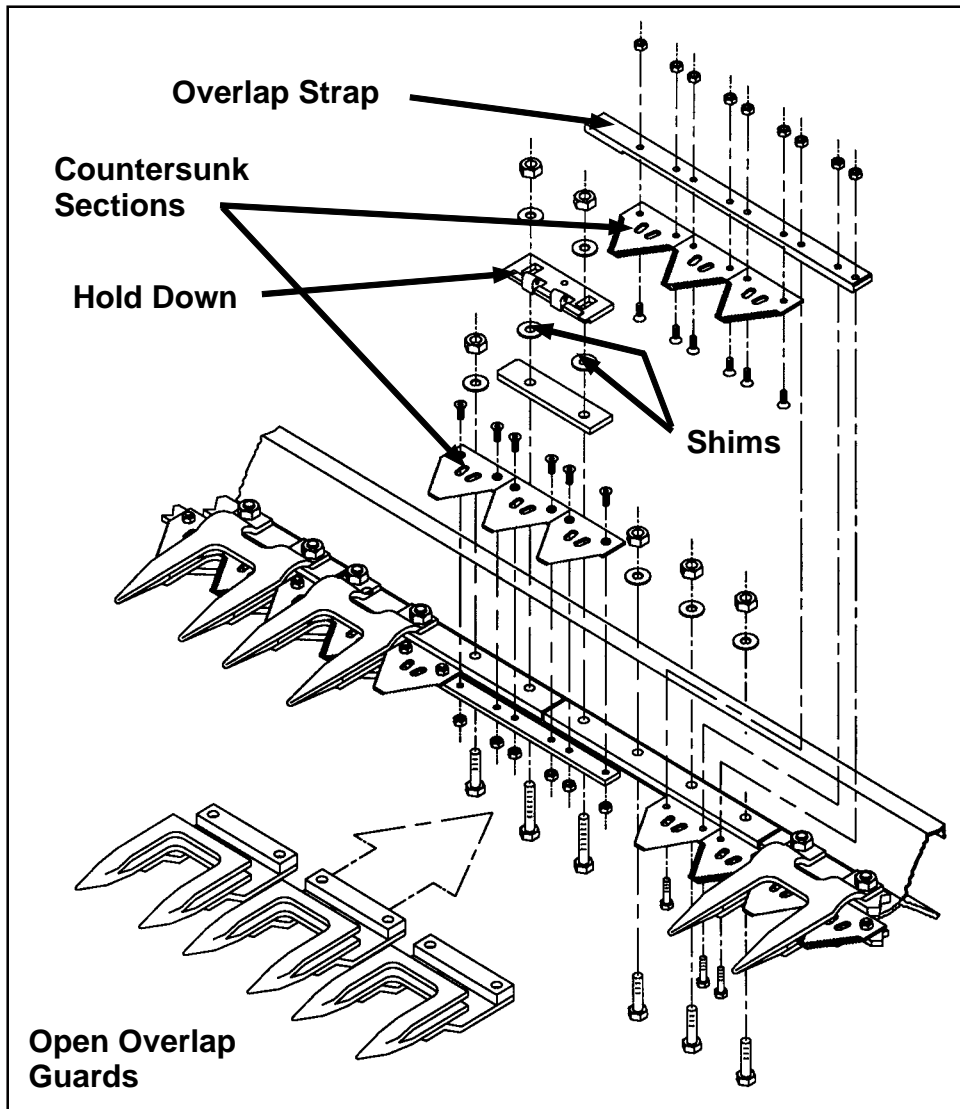


Figure 60.8

OVERLAP KIT AND OVERLAP GUARDS WITH CUTTER BAR

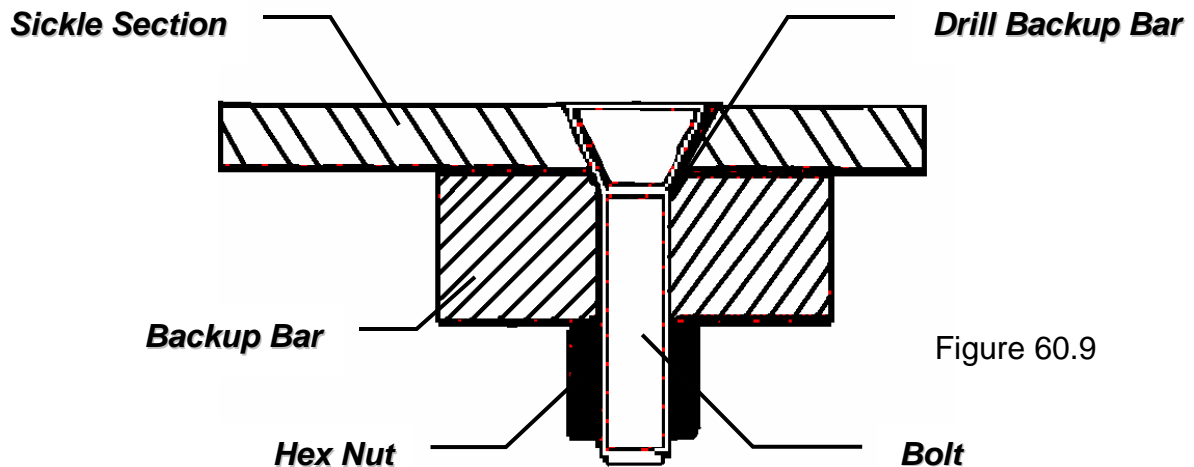
CUTTING SYSTEM

OVERLAP KIT - Continued

The overlap sections that are on the overlap strap and the right hand knife back should be tight when the countersink bolts are tight.

If the sections are loose:

1. Remove the countersink bolts.
2. Inspect the knife back or overlap strap for a countersink depression to allow for the thickness of the head of the countersink bolt.
3. If depression is not there, insert a drill bit (9/32") into a hand drill and make a slight indentation into the bar about 1/32" deep. Figure 60.9

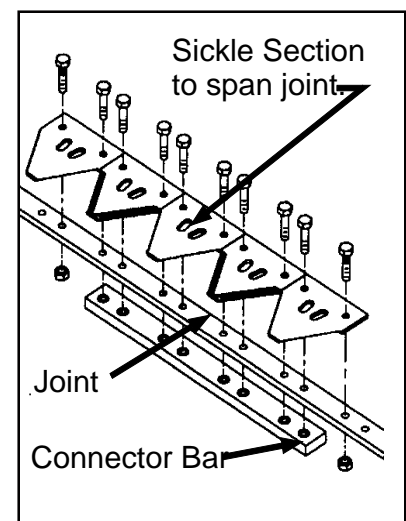


Repair Broken Knife Back

If the knife breaks during use, repairs can usually be made with a connector bar. Most often the knife back will break across a bolt hole that holds a sickle section in place. To use the connector bar properly, the damaged section needs to be cut out and/or a section of knife removed. If the knife breaks close to the knife head end, remove that section of knife, reconnect the knife head, and then add another piece to the far end of the knife where there is less cutting stress on the knife. Figure 60.10

The joint in the two knives must be directly under a full sickle section, not where two sickle sections join.

Check the knife for dull/damaged guards and sections.



CUTTING SYSTEM

Knife Speed Sensor

The table is also equipped with a sensor, which allows for the proper calibration of the knife speed and allows one to monitor that speed when cutting.

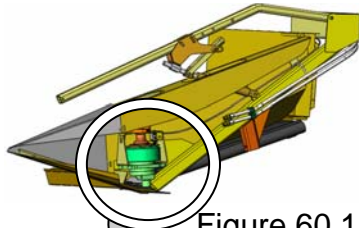


Figure 60.11

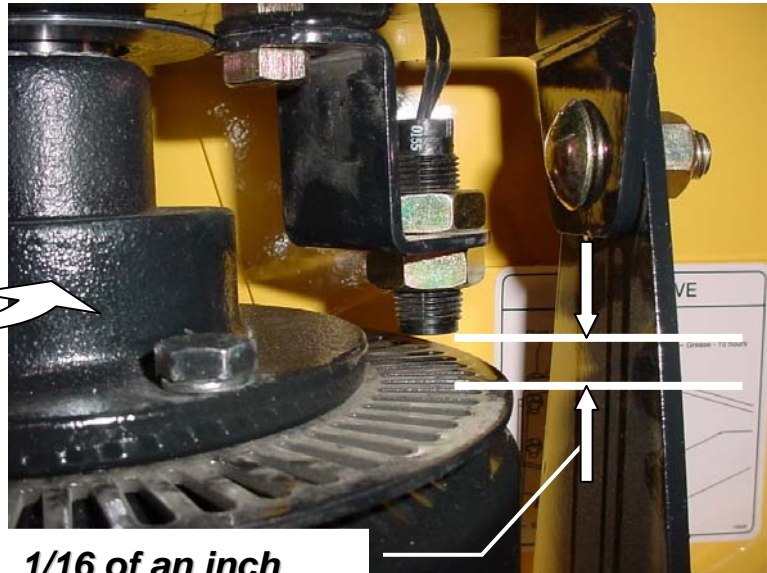


Figure 60.12

1/16 of an inch

The sensor should be positioned so that there is a gap of 1/16 of an inch between the pulse wheel and the sensor.

Monitoring Knife Speed

Monitoring of the Knife speed is done on the control panel in the cab of the power unit.

The reel speed option on this panel is now used for the knife speed.

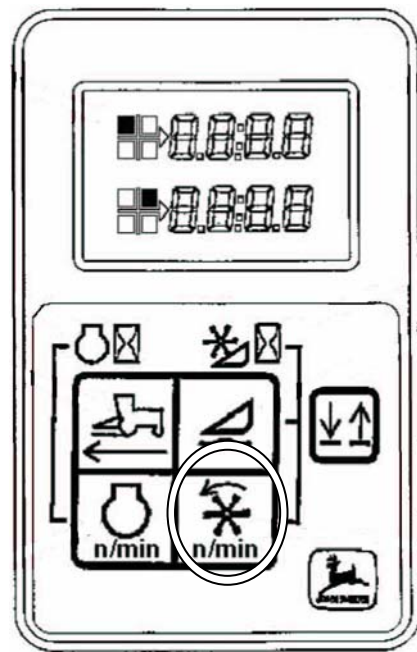


Figure 60.13

LEVELING

SWATHER LEVELING

The swather is attached to the power unit by one upper suspension link (Top Link) and two lift boot assemblies which slide onto the lift arms of the power unit. The top link adjusts the forward angle of the table. This adjustment affects the angle of the cutter bar in relationship to the ground.

FORWARD ANGLE ADJUSTMENT

1. Loosen lock tab on the top link. Turn top link clockwise to tilt swather back, turn counter-clockwise to tilt swather forward. Adjust both top links.
2. Re-tighten lock tab once desired swather angle has been reached.

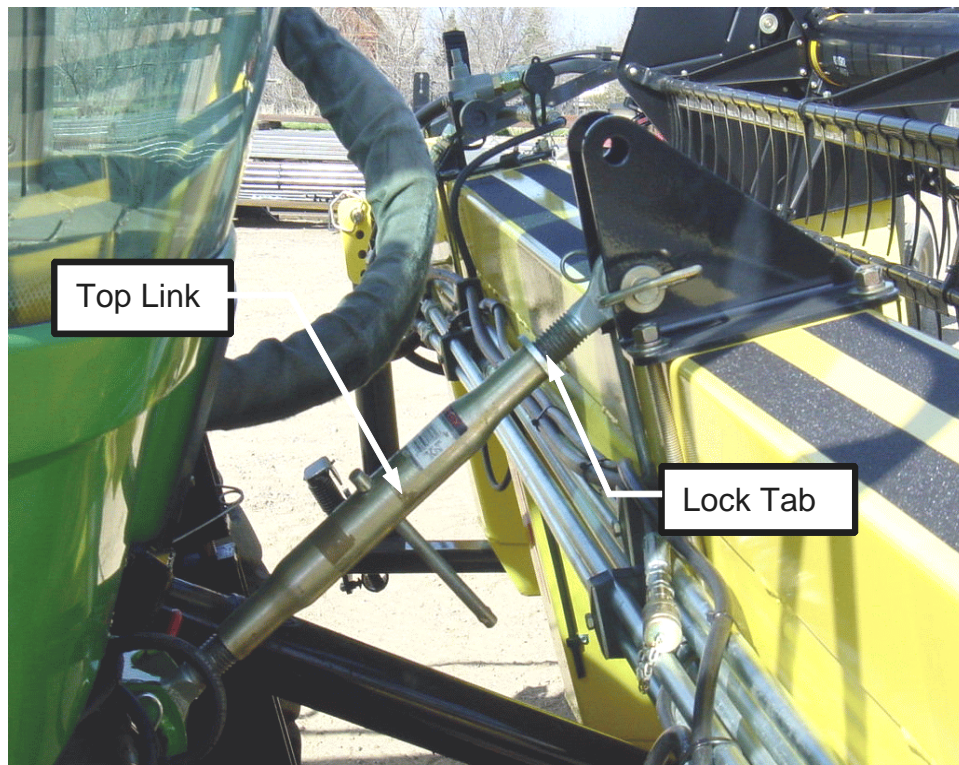


Figure 70.1

ADJUSTING TOP LINK TO CHANGE ANGLE OF TABLE

LEVELING

TABLE ANGLE

The following side views of the Power unit and table are presented to give a visual picture of what happens when adjustments are made to the top link.

- A. The first example shows the top links fully retracted. This action will cause the table to be tipped back, decks will run flatter.

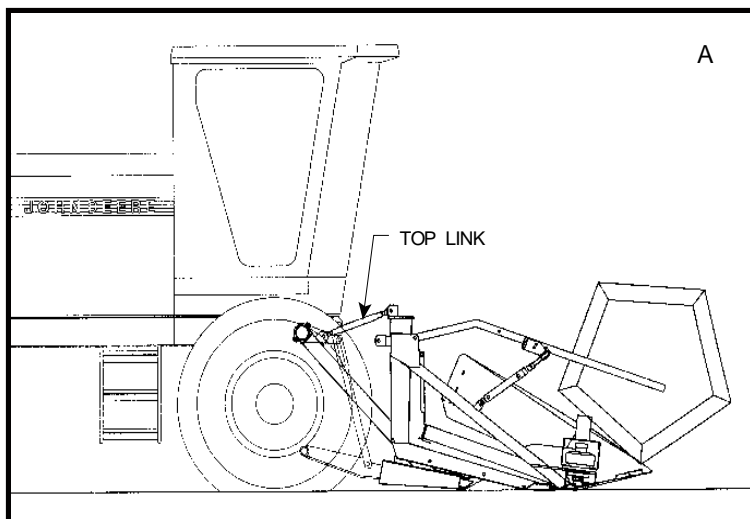


Figure 70.2

- B. Example B shows the top links fully extended. This action will cause the table to be tilted forward. The decks will run at a steeper angle.

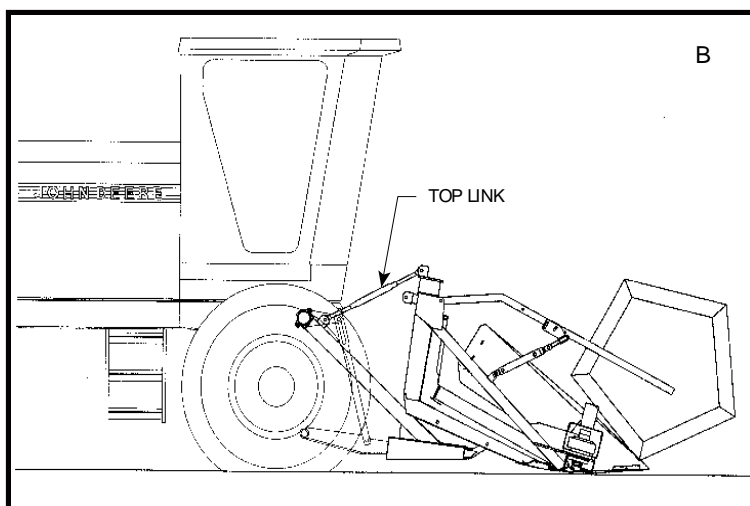


Figure 70.3

DO NOT EXPOSE MORE THAN 3.25" OF THREAD ON EACH END OF TOP LINK. TOP LINK MAY COME APART.

FULLY RETRACTED LENGTH IS 17 1/2". FULLY EXTENDED LENGTH IS 24".

Remember that these examples are extremes. Experiment with the settings to determine which setting is right for your conditions and the type of swath you want to lay.

- IE: In rocky conditions with a short crop you may want to keep the guard tips up. Try shortening the top link.
- IE: In bushy crops such as mustard you may want to tip the header forward with the top links to maximize the opening. **Care should be taken not to over extend top link, it may come apart causing table to drop suddenly.**

LEVELING

TABLE LEVELING

Prior to any preliminary float adjustments, further Leveling can be accomplished by modifying the angle of the extensions on the lift arms.

Increasing or decreasing the number of threads will allow for the table to rise or lower at a specified height in relation to the lift arms themselves.



Figure 70.4

To level with this method, begin by exposing approximately $\frac{1}{2}$ inch of thread past the nut on all four bolts. As the table needs adjusting, you can increase or decrease the thread numbers required on all bolts.

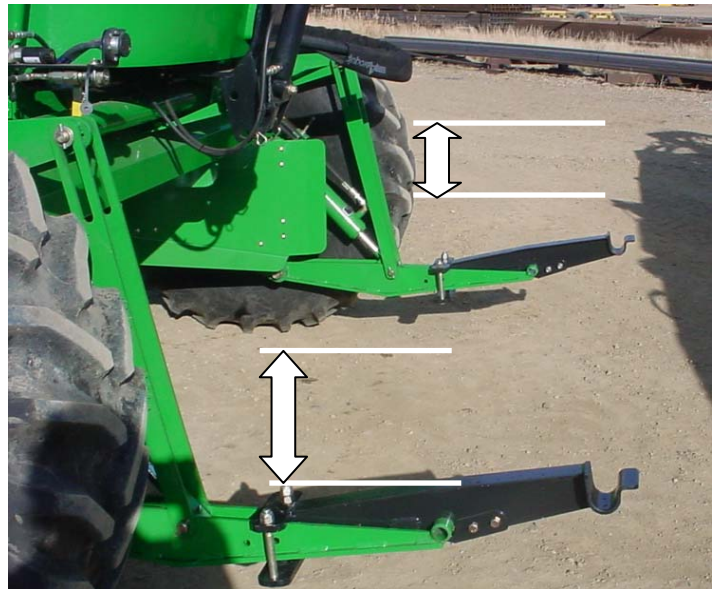


Figure 70.5

IMPORTANT!
ENSURE THAT A MINIMUM OF 2 BOLT THREADS ARE EXPOSED PAST THE NUT AT ALL TIMES.

LEVELING

ADJUSTING PLATFORM (TABLE) FLOAT JD 4890/95 AND JD 4990/95

Use the lightest float setting, which will allow the platform to remain firmly on the ground without bouncing and follow uneven ground without gouging or scraping.

NOTE: If the platform has been in the raised position for any length of time, when lowered, the platform may lower slowly or may not lower all the way to the ground. This is due to the temperature difference in the accumulator. Once the platform has been lowered and operation has begun, the float function will act normally.

NOTE: If power unit does not hold float pressure check the needle valve on the side of the high pressure valve, it must be closed. Refer to owner operators manual.

1. Park swather on level ground, lower platform and set engine speed at operating rpm.

CAUTION: When transporting the swather, be sure the platform is completely raised and locked to prevent the platform from bouncing.

NOTE: Once the platform has been set, the system will keep the setting after the swather has been stopped.

- * The float pressure is displayed in increments of 100 psi.
- * On later models, pressure is displayed in increments of 10 psi.

2. Press platform float function (B) on the digital tachometer.
3. Press and release '+' on the float switch until platform starts to move upward.
4. Back off the psi reading, on the digital display (A), 100 psi by pressing and releasing '-' on the float switch.
5. Raise and lower the swather table several times.
6. With the swather table on the ground, stop the engine.
7. Check the platform float by lifting at each end of the table. Normally it should require less than 150 lbs. (68kg) to lift the end of the table.
8. Adjust float pressure as needed and repeat steps 5 thru 7 until desired float pressure is attained.

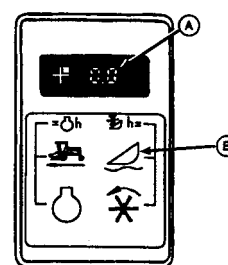


Figure 70.6

NOTE: Refer to your owner operator's manual Part # OME87943 for more information on the operation of the JD 4890 Self Propelled Windrower.

LEVELING

Adjusting the table for further Leveling

If the table needs further leveling, you have 3 different options that can be done alone or in conjunction with each other.

Option 1

Remove transport hitch



IMPORTANT! PARK THE POWER UNIT ON A HARD, LEVEL SURFACE, AND THEN ENGAGE THE PARK BRAKE.

1. Raise the swather to its fully raised position.

ENGAGE PARKING BRAKE ON THE POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING THE CAB.

2. Lock platform in fully raised position as described in your Power Unit Operator's Manual.
3. Remove the hitch from the draw bar tube.
4. Lower the hitch tube by removing the pin securing the hitch to the table (Figure 70.9).
5. Carefully, remove the pin on the strut holding the other end of the transport to the table (Figure 70.10).

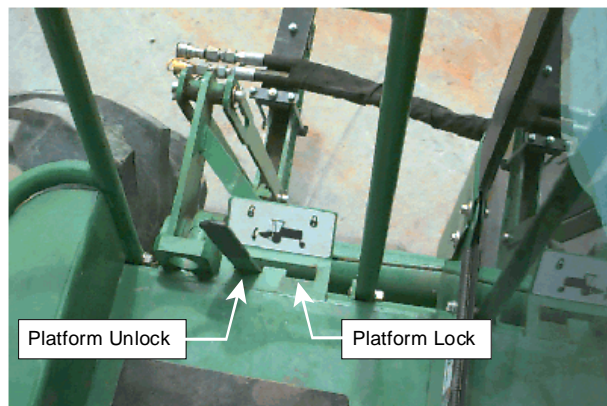


Figure 70.7

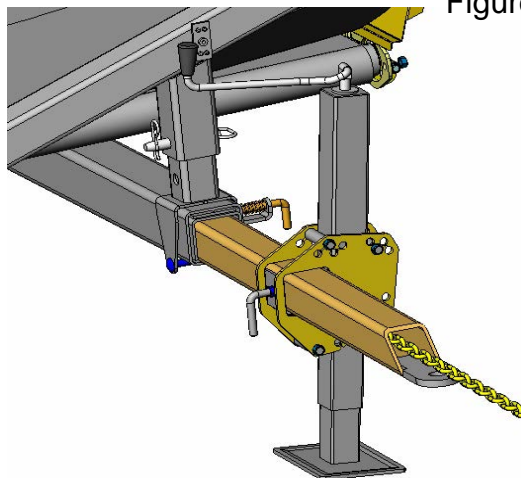


Figure 70.8

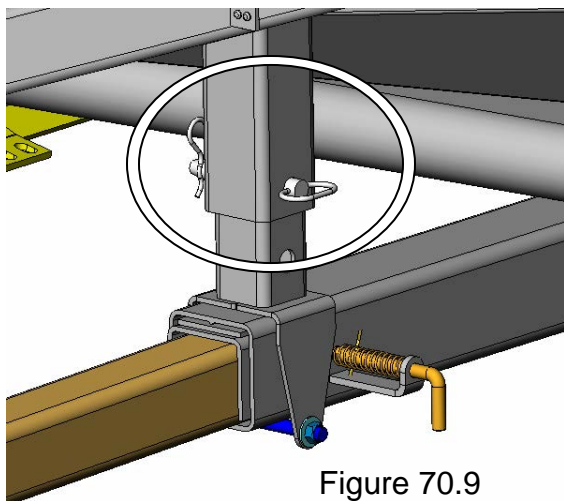


Figure 70.9

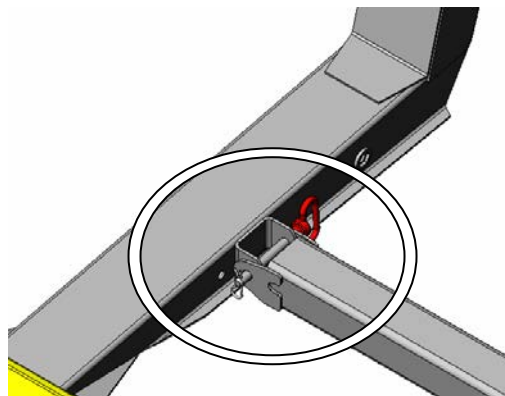


Figure 70.10

LEVELING

Option 2

Switch the lift arm float cylinders

Before mounting the table to the power unit, switch the left (3.00 x 10.00) and right (2.75 x 10.00) hand cylinders with each other. This will allow for the larger cylinder to compensate for the needed power to lift the table evenly.

2.75 X 10.00
Cylinder

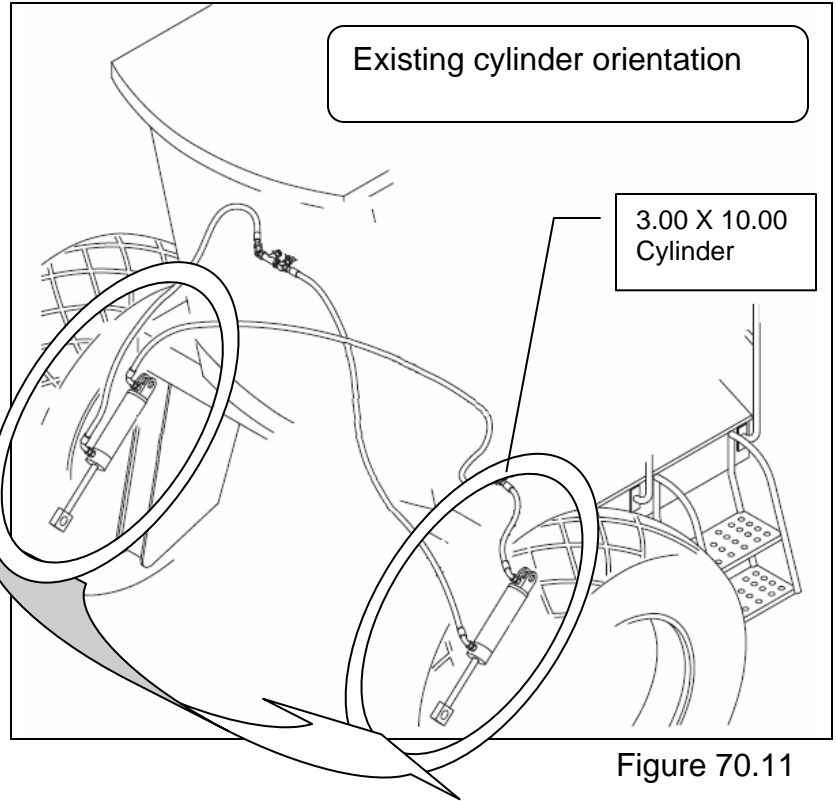


Figure 70.11

Since the cylinders have different size of hoses flowing to and from the power unit, fittings will have to be added in order to allow for the change.

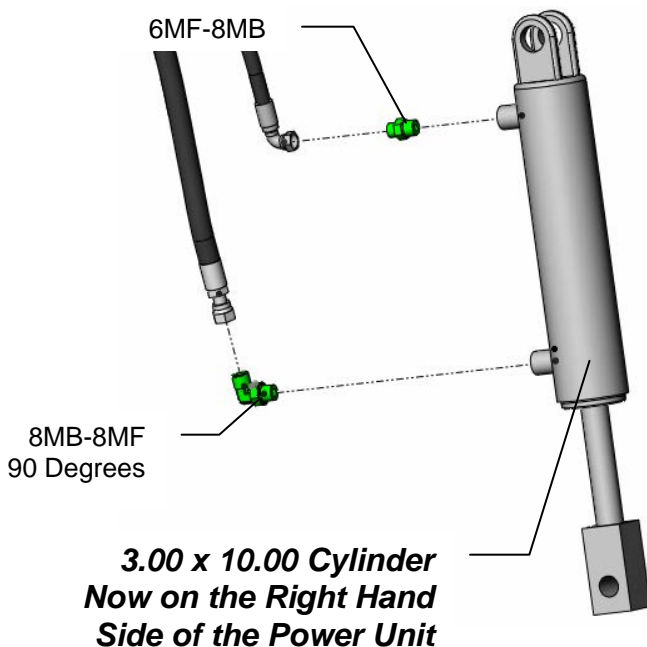


Figure 70.12

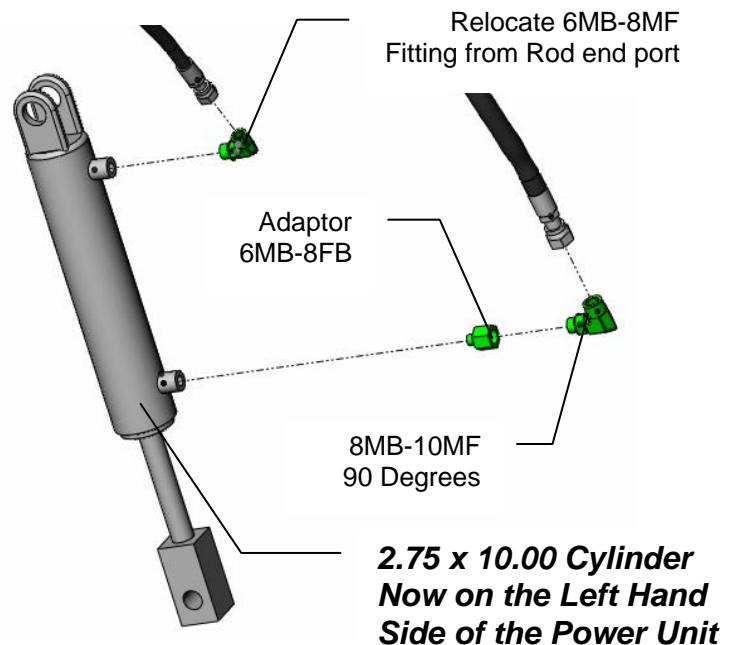


Figure 70.13

LEVELING

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	
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'	n/a	n/a	

*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.

Option 3

Adjust the set screw on the float cylinders

At the top of the float cylinders on both lift arms is a bolt that is used to set the distance the cylinder lifts from on the power unit in relation to the arms themselves.

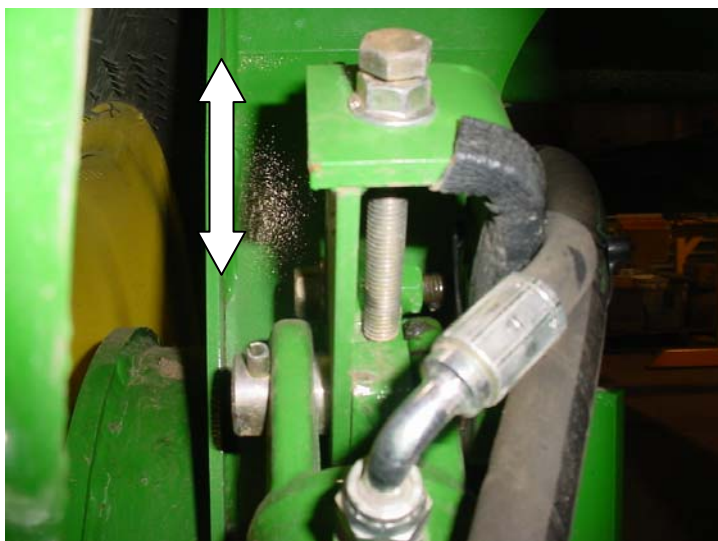


Figure 70.14

HYDRAULICS

SYSTEM HYDRAULICS

The Grain Belt Swather uses the Power Unit hydraulics to provide power for the various systems. The oil flow from the tractor requires flow adjustment before the swather can be attached. Reduce flow to 19 gpm (72 lpm). The hydraulic oil from the power unit flows to the knife drive, to a flow divider. The flow divider splits the flow to the canvas circuit and reel drive circuits. The system is protected with a pressure relief valve which should be set at 3000 psi. The return oil passes through a filter before returning to the tractor.

NOTE: The JD 4890/4895 requires the reverse side of pump to be used and set to 19 gpm (72 lpm) see page 20-3 for details.

NOTE: The JD 4990/4995 requires the pump to be de-stroked to pump 19 gpm (72 lpm) see page 25-3 for details.

1. Oil flow from the tractor goes to the knife drive motor. Oil returning from the knife drive motor goes to the flow divider.
2. Spool Flow Divider - On a standard two deck, no swath option configuration, one side of the flow divider will control both canvases with a 10 gpm (37.8 lpm) flow control and the other side will go to a 20 gpm (75 lpm) flow control with a remote speed control motor, to control the reel speed. The CF (control flow) port of the reel flow control goes to the reel motor then returns to tank. The EF (excess flow) port (of reel flow control) returns oil directly to the return line and to tank.

WARNING: THE POWER UNIT RELIEF IS SET AT 5000 PSI. CARE MUST BE USED WHEN CHECKING HYDRAULIC COMPONENTS. QUICK COUPLERS MUST BE SECURELY COUPLED BEFORE POWER UNIT IS STARTED, DAMAGE TO THE SWATHER EQUIPMENT OR SERIOUS INJURY MAY RESULT.



**HYDRAULIC COMPONENTS
VIEWED FROM BACK OF
TABLE**

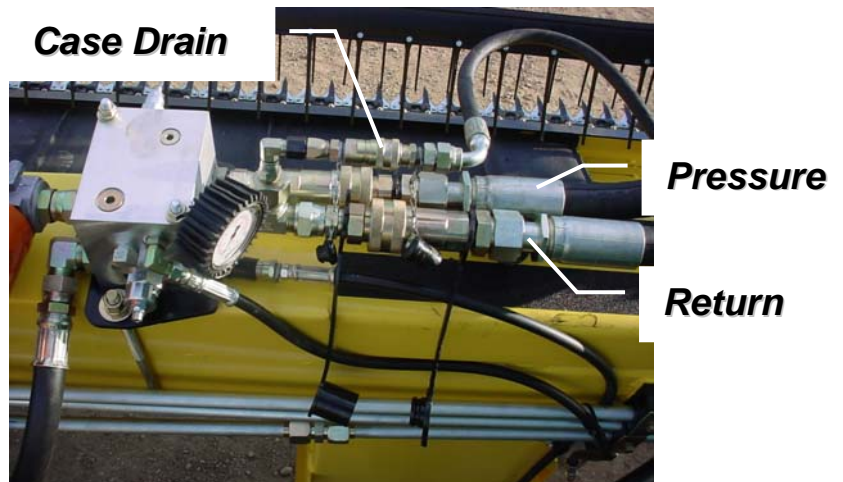


Figure 80.1

HYDRAULICS

OPERATING PRESSURE, KNIFE CIRCUIT

The pressure gauge, on the relief valve (see figure 80.2) indicates the total hydraulic pressure required to run the knife, and canvas circuits. While operating the swather in high idle position, with the oil warm, the pressure gauge should be in the 1500 to 2000 psi range. The pressure will increase during normal cutting operations depending on crop conditions, the condition of the cutting system and the ground speed. To find out the knife operating pressure, subtract the canvas/reel pressure (see figure 80.3) from the pump pressure. An alternate way would be to shut canvas flow control and reel flow control to zero and read the pressure at the main pressure gauge. This reading will be slightly higher because of back pressure in the flow controls.

NOTE: Double drive knife systems will run approximately 500 psi higher.

CHECKING OR ADJUSTING KNIFE RELIEF PRESSURE

BE SURE ALL BYSTANDERS ARE AWAY FROM THE MACHINE PRIOR TO ENGAGING PUMP. ONLY STALL KNIFE LONG ENOUGH TO GET ACCURATE READINGS.



ENGAGE PARKING BRAKE ON POWER UNIT, SHUT ENGINE DOWN AND WAIT FOR ALL MOVING PARTS TO STOP BEFORE LEAVING CAB.

1. Jam a wood block tightly in the knife, between a guard and a cutting section.
2. Restart power unit, engage the hydraulic pump drive and check the pressure on the gauge. If the relief pressure is at 3000 psi do not adjust the relief valve. If adjustments are required, **shut power unit down** and proceed with following steps.
3. Locate the relief valve on the main flow control. Adjust the relief screw; turning it clockwise will increase the pressure and counter clockwise will decrease the pressure. Adjust the relief screw to the retaining ring; this should give the max relief of 3000 psi.
4. Jamming the knife as described in (1) above, restart the power unit, engage the hydraulic pump drive and check the pressure on the gauge.

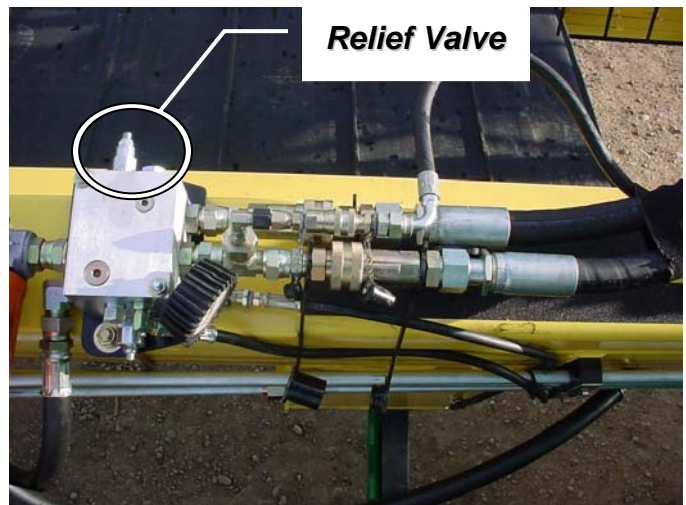


Figure 80.2

HYDRAULICS

CANVAS OPERATING PRESSURE

The flow control on the canvas circuit, for adjusting the canvas speed is equipped with a relief valve. The relief is factory preset to 2200 psi (151.5 bar). If oil is leaking over the relief a squealing noise may be heard and stalling of canvas motors may occur, adjust relief setting on flow control valve.

Adjusting relief: SEE FIGURE 80.6

Remove the cap (acorn nut) over the relief adjustment screw, loosen the lock nut and turn the screw clockwise to increase the relief pressure. Check canvas operation after adjusting relief 1/4 turn. Do not adjust relief by more than 1/4 turn increments.

NOTE: Normal operating pressure for canvas circuit, with warm oil and control set at 8, should be approximately 1200 - 2000 psi (124 - 137 bar).

Caution: Setting the canvas relief too high may cause damage to canvas if canvas gets caught on an object.

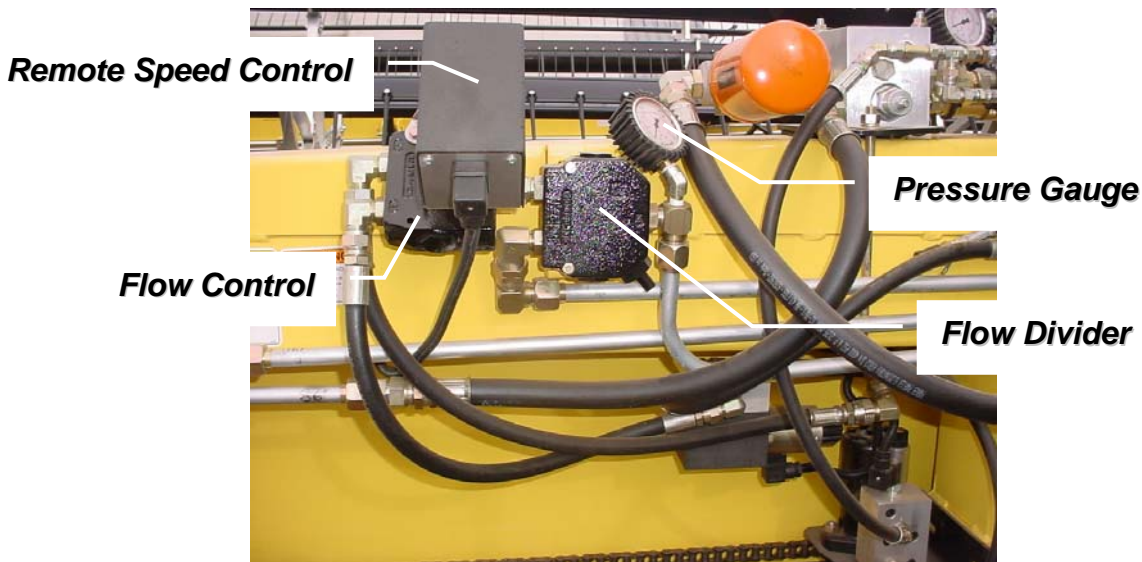


Figure 80.3

CANVAS FLOW CONTROL & DIVIDER

If canvas pressure is high check:

- Canvas tension.
- Canvas tracking.
- Idler roller bearings.
- Drive roller bearings.
- Material under draper.

HYDRAULICS

REEL SPEED CONTROL

The reel speed is controlled by an electric motor mounted on a 20 gpm (75.7 lpm) flow control. The motor is operated by a switch in the cab. The reel flow control is plumbed into one of the discharge ports of the spool flow divider. The CF (controlled flow) port goes to the reel motor, and the EF (excess flow) port returns oil to the return line and back to the power unit.

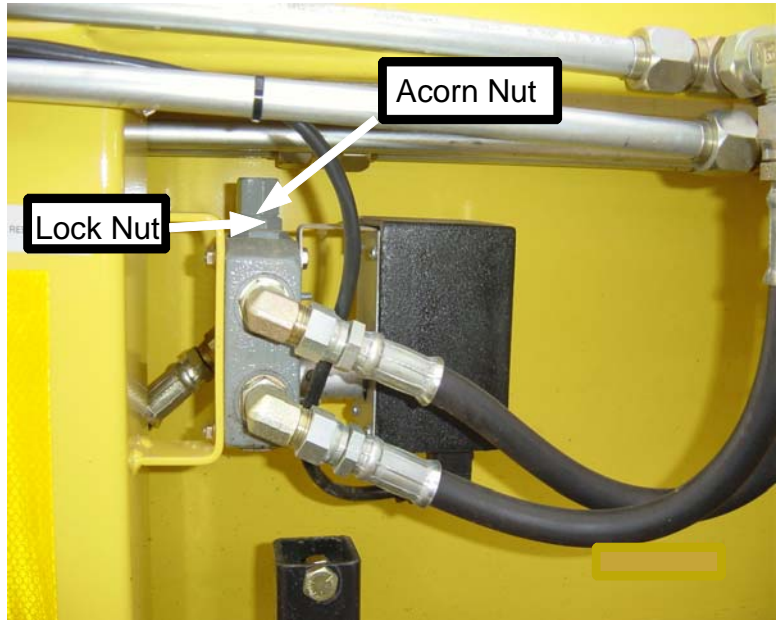


Figure 80.4

FLOW CONTROL REEL (Right side of table strut)

Additional Reel Speed Control

The flow of oil for the reel speed comes from the 50/50 spool flow divider.

If more reel speed is required, check reel speed control, to see if it is fully open.

Then if necessary adjust the spool flow divider to increase the oil flow to the reel circuit.

Remove the acorn nut on the spool flow divider. With a screw driver, turn the adjusting screw to adjust the flow. As the reel speed increases the canvas speed will decrease. Adjust the reel speed as required.

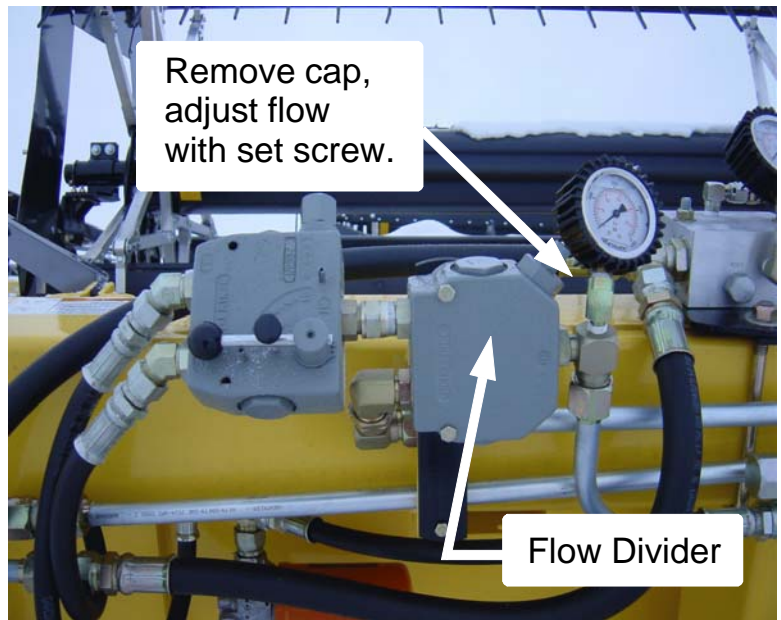


Figure 80.5

HYDRAULICS

Reel Speed/Canvas Speed Relief

The flow control on the reel circuit, for adjusting the reel speed is equipped with a relief valve. The relief is factory preset to 2200 psi (124 bar). If oil is leaking over the relief a squealing noise may be heard or stalling of the reel may be experienced. Increasing the relief pressure may be required.

Adjusting relief:

Remove the cap over the relief adjustment screw, loosen the lock nut and turn screw clockwise to increase the relief pressure. Check reel operation after adjusting relief 1/4 turn. Do not adjust relief by more than 1/4 turn increments. Increasing the relief pressure does not increase the reel speed.

Caution: Setting the reel relief too high may cause damage to reel if confronted with an object.

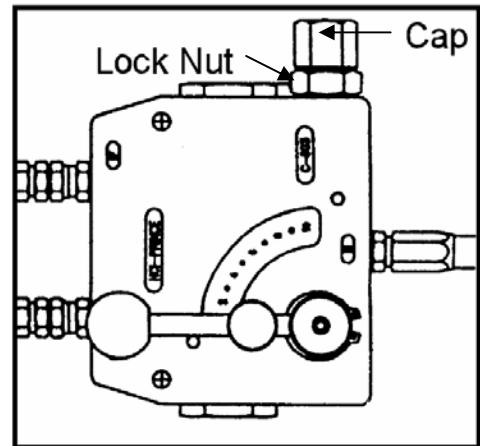


Figure 80.6

RETURN FILTER

Return line filter cleans hydraulic oil before returning to the tractor.

CHANGE THE FILTER AFTER THE FIRST 50 HOURS OF OPERATION, AND SEASONALLY THERE AFTER.

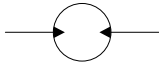


Return Filter Cartridge

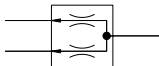
Figure 80.7

HYDRAULICS

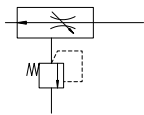
Hydraulic Schematic Symbols - Canvas Drive



Hydraulic motor – fixed displacement, reversible. ***Note:** All our motors are reversible, but in instances where motor rotation is indicated with a single arrow - head, they are intended to run in one direction only due to uni-directional oil flow.



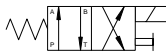
Flow – divider (Prince - RD510P)



Flow control valve (Prince RDRS110 - 10 gallons per minute, with relief)



4 port, 2 position, solenoid operated directional control valve.



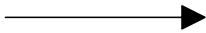
4 port, 2 position, solenoid operated directional spool valve with manual override.



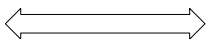
Steel line end – cap.



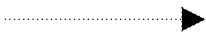
Pressure gauge (0 – 4,000 PSI)



Oil flow (uni – directional)



Oil flow (bi – directional)



Case drain/ bypass flow



Junction/ Intersection

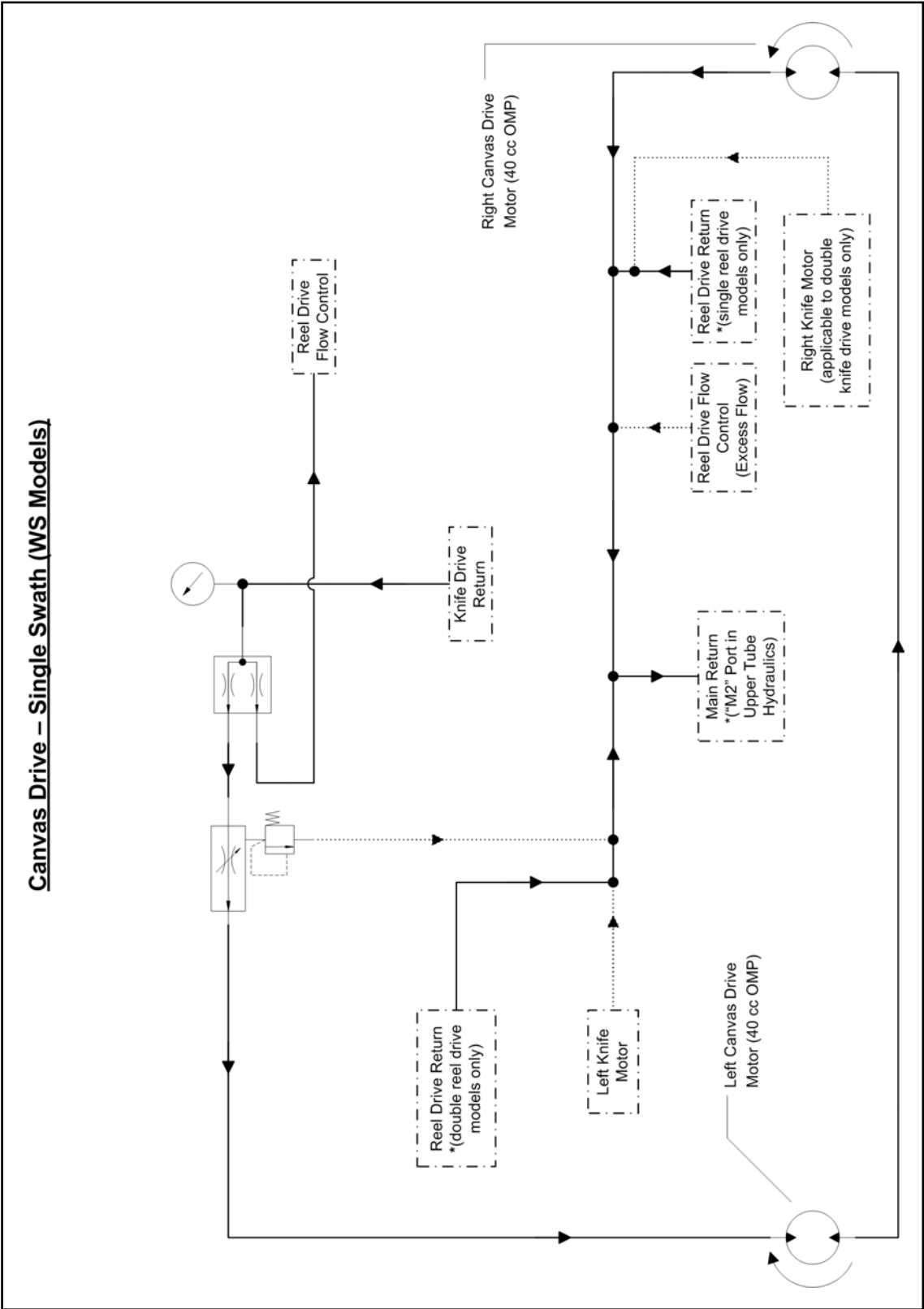


Motor rotation (uni – directional)

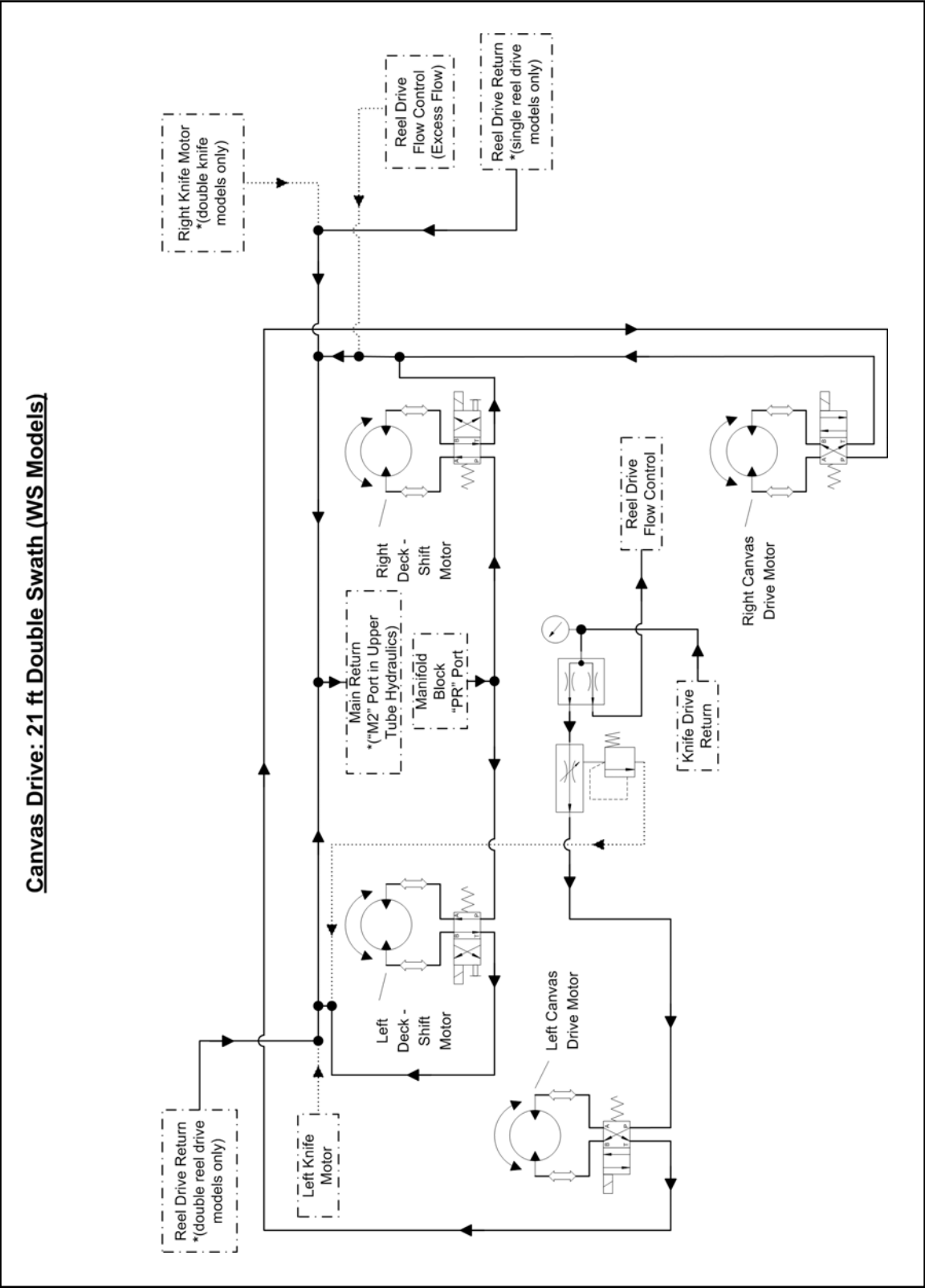


Motor rotation (bi – directional)

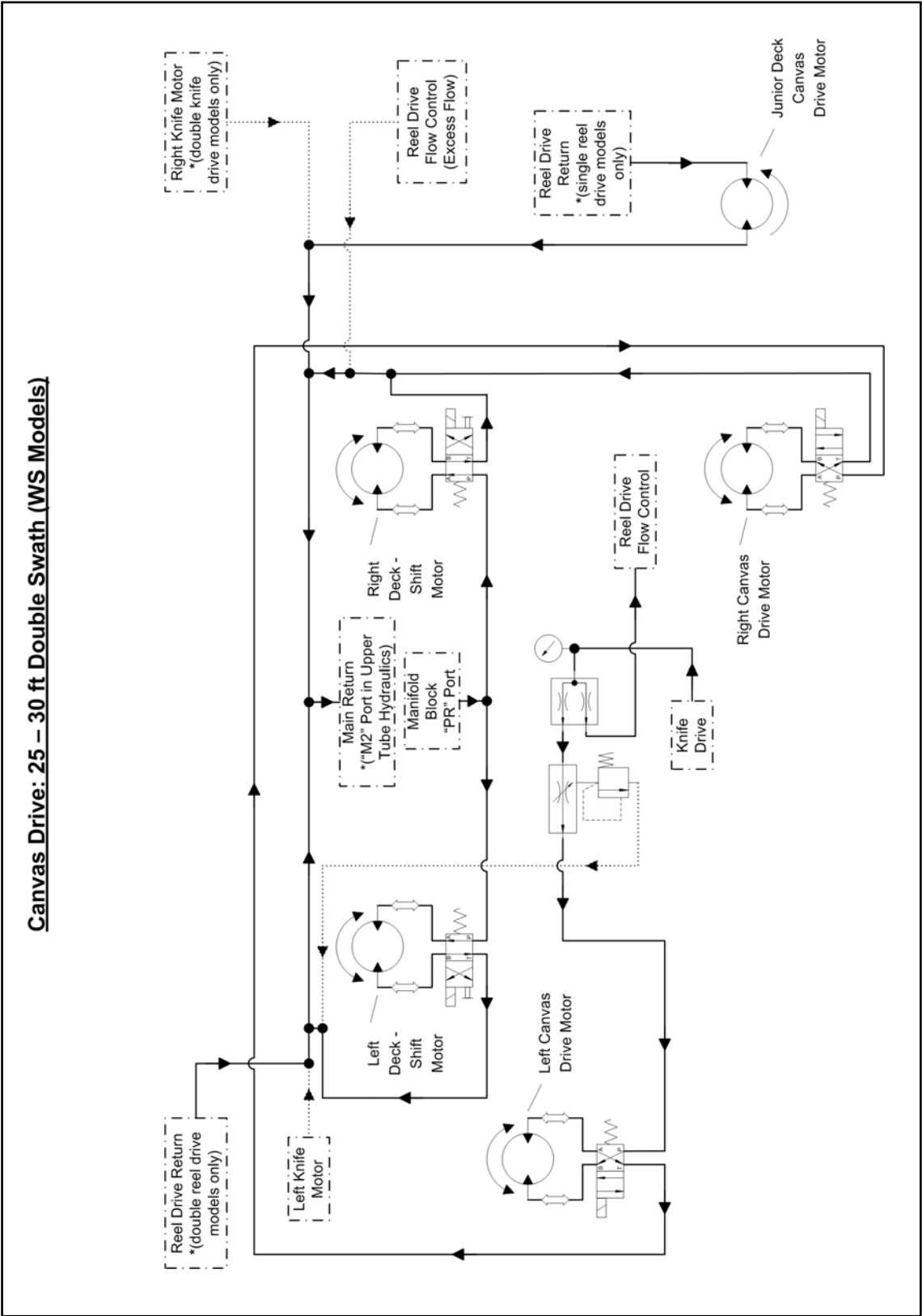
HYDRAULICS



HYDRAULICS



HYDRAULICS



HYDRAULICS

Hydraulic Schematic Symbols – Knife Drive



Hydraulic motor – fixed displacement, reversible.

***Note:** All our motors are reversible, but in instances where motor rotation is indicated with a single arrow - head, they are intended to run in one direction only due to uni-directional oil flow.



Junction/ Intersection



Motor rotation (uni – directional)

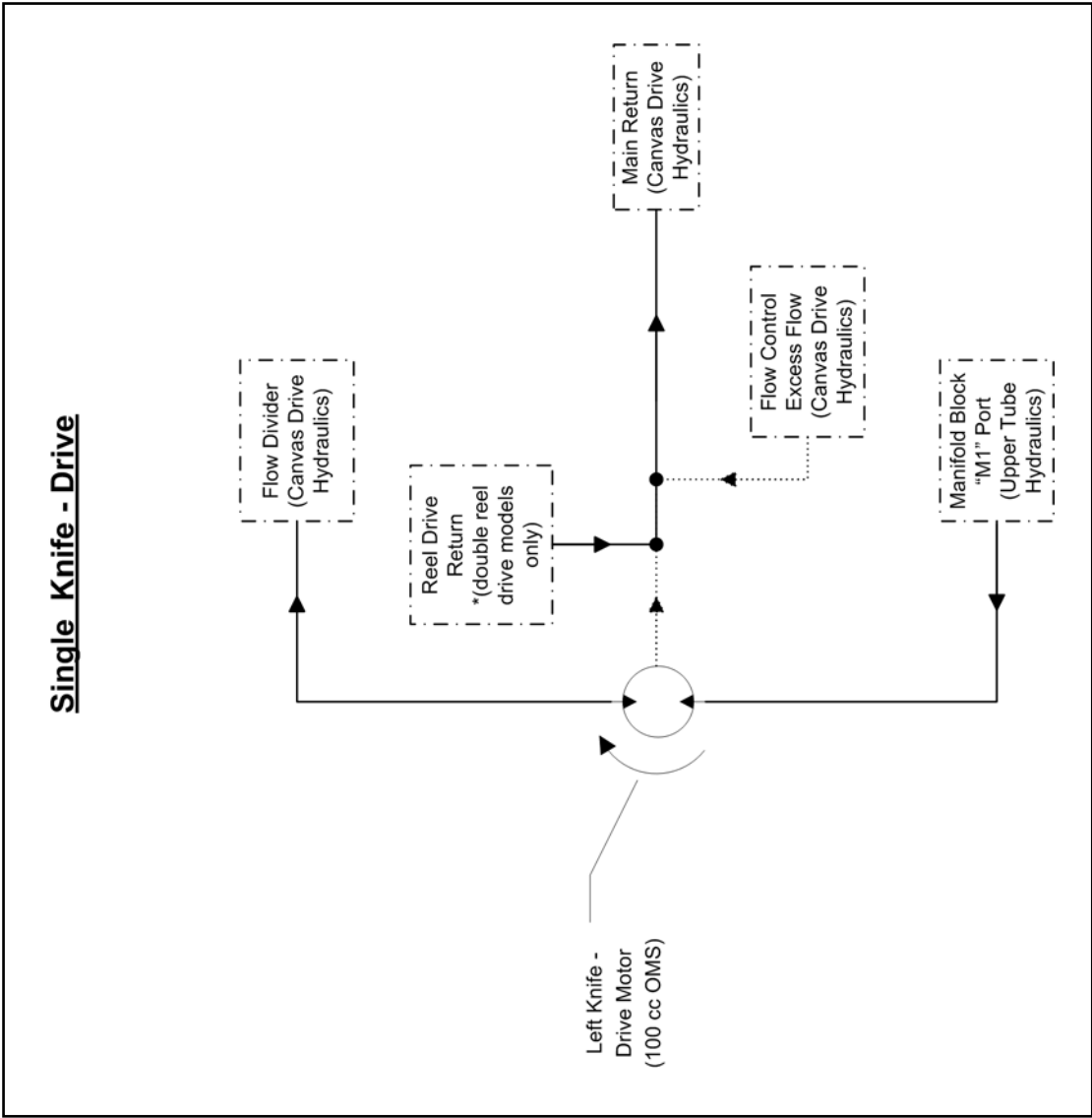


Case drain

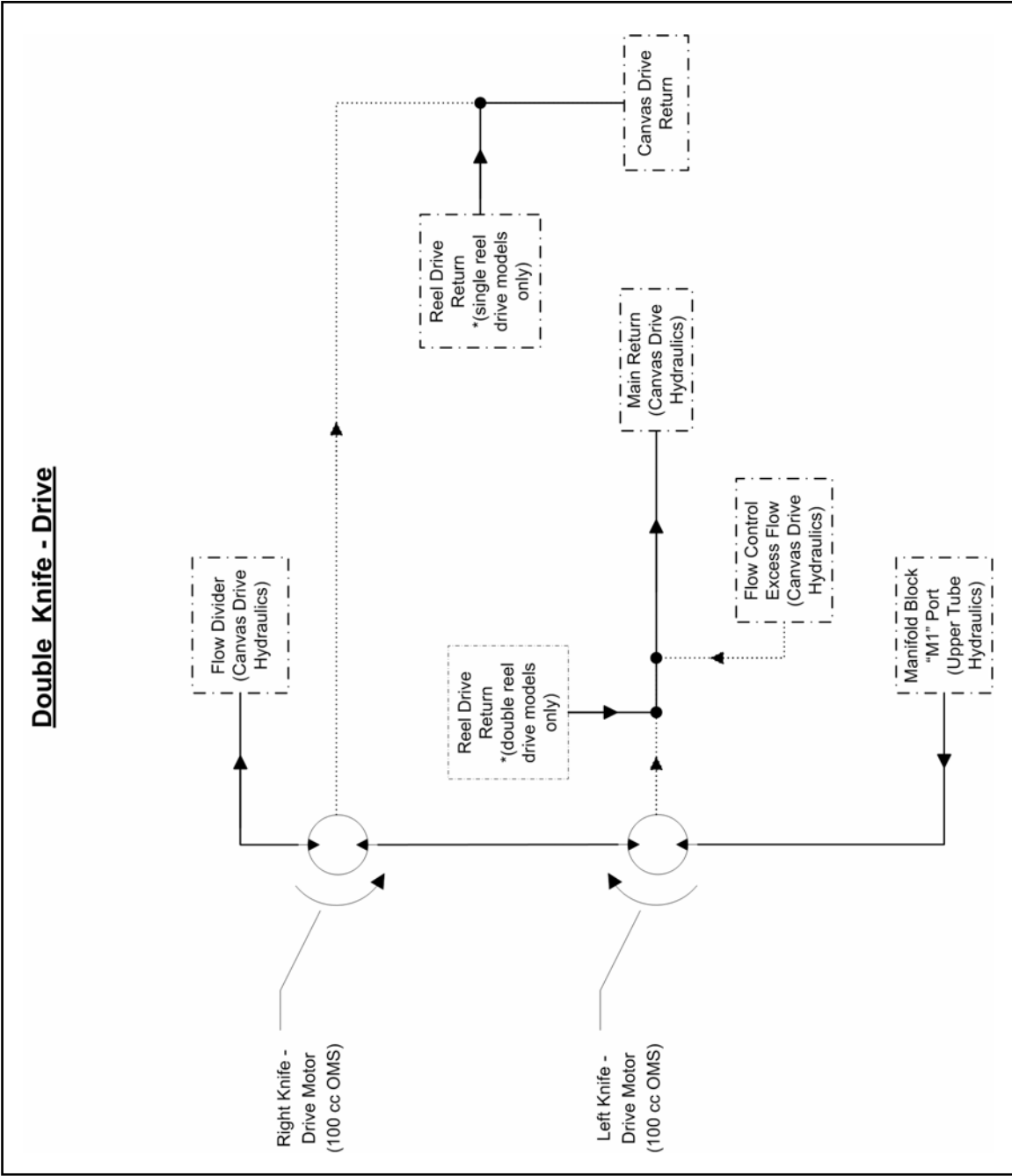


Oil flow (uni – directional)

HYDRAULICS

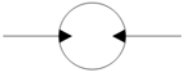


HYDRAULICS



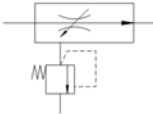
HYDRAULICS

Hydraulic Schematic Symbols – Reel Drive



Hydraulic motor – fixed displacement, reversible.

***Note:** All our motors are reversible, but in instances where motor rotation is indicated with a single arrow - head, they are intended to run in one direction only due to uni-directional oil flow.



Flow control valve (Prince RDRS110 - 20 gallons per minute, with relief)



Oil flow (uni – directional)



Case Drain/ bypass flow



Junction/ Intersection

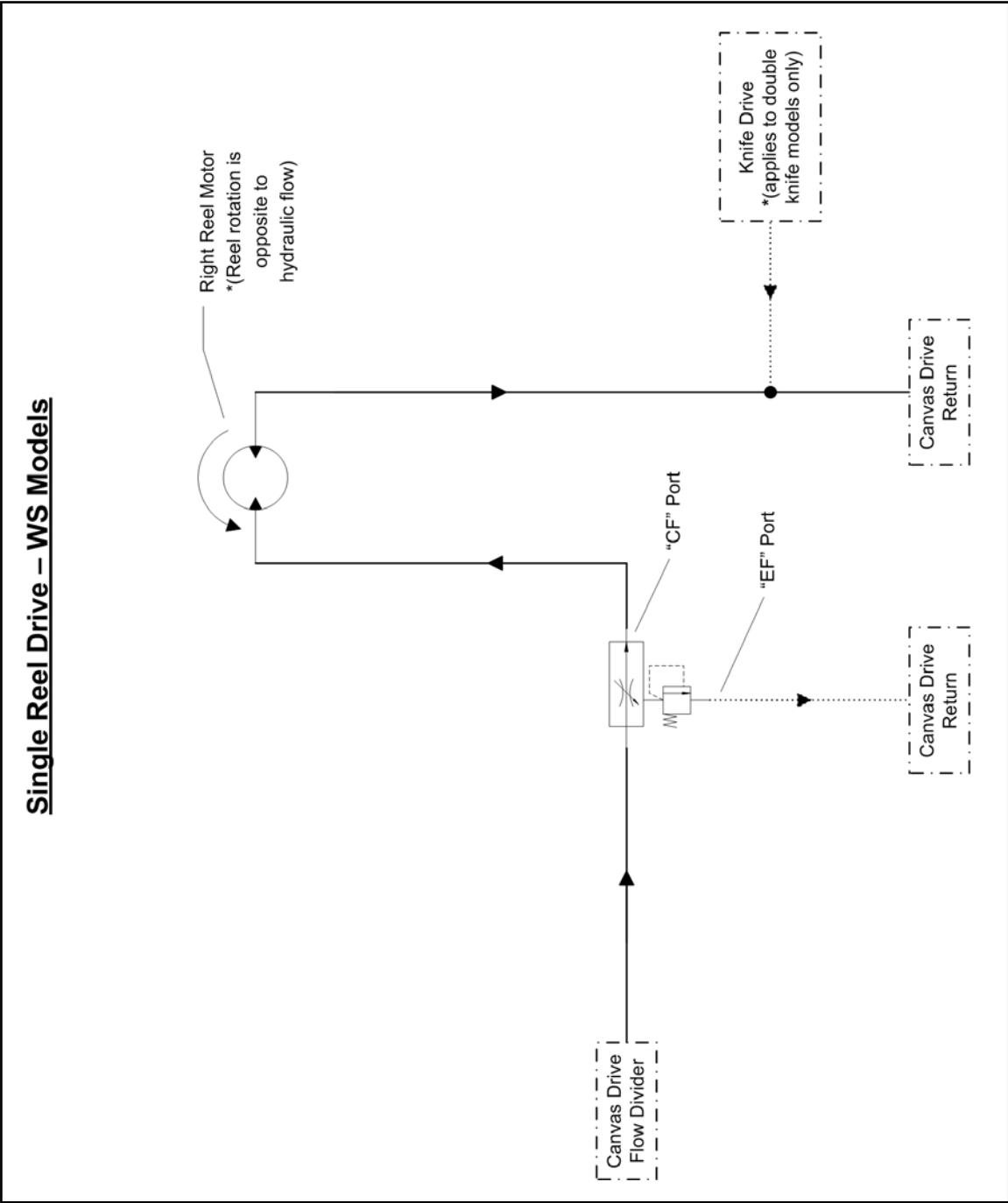


Motor rotation (uni – directional)

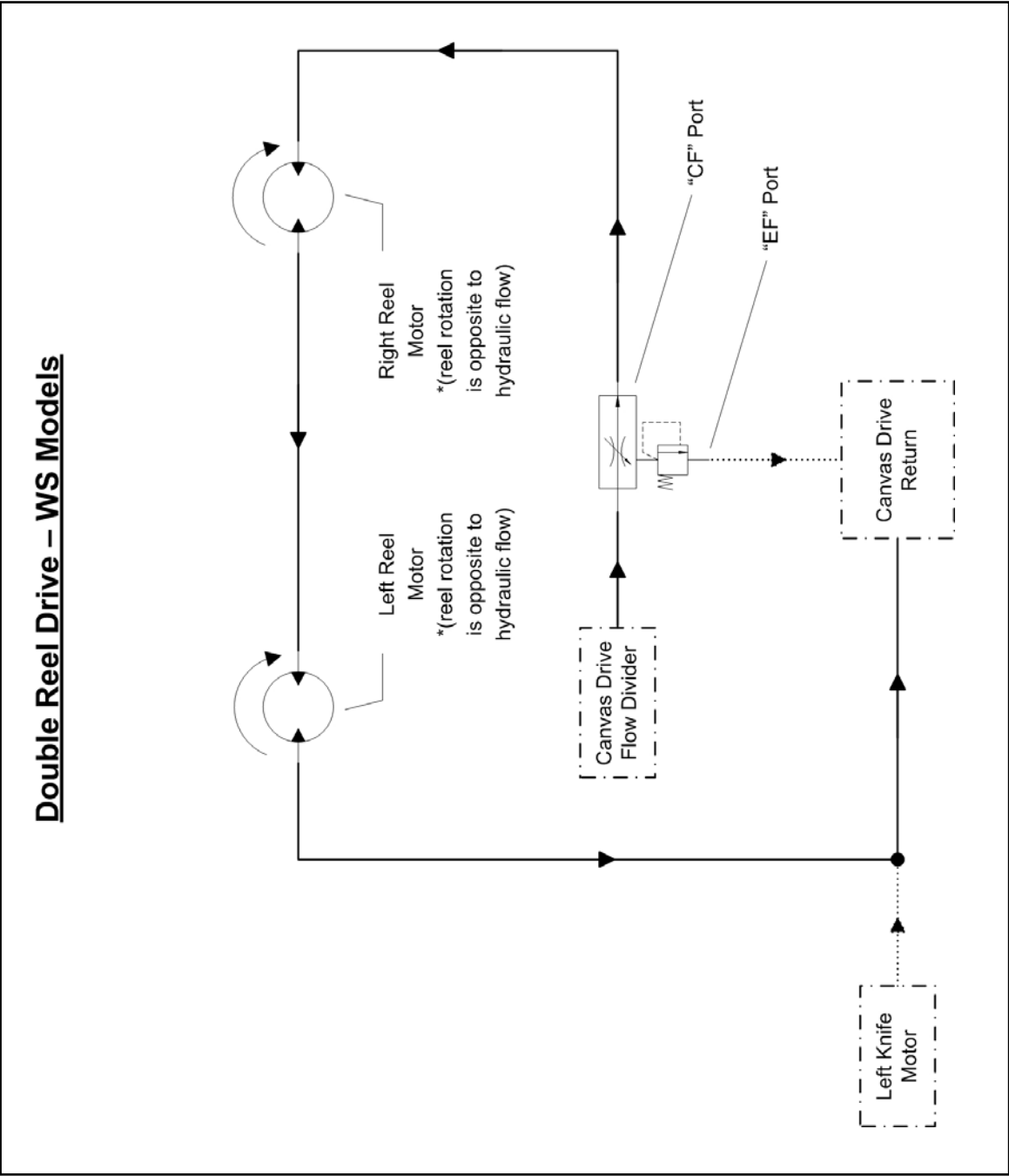


Steel line end – cap.

HYDRAULICS

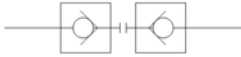


HYDRAULICS



HYDRAULICS

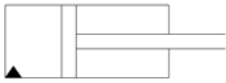
Hydraulic Schematic Symbols – Reel Lift



Hydraulic coupler



Double - acting hydraulic cylinder assembly



Single - acting hydraulic cylinder assembly



Junction/ Intersection



Oil flow (uni - directional)

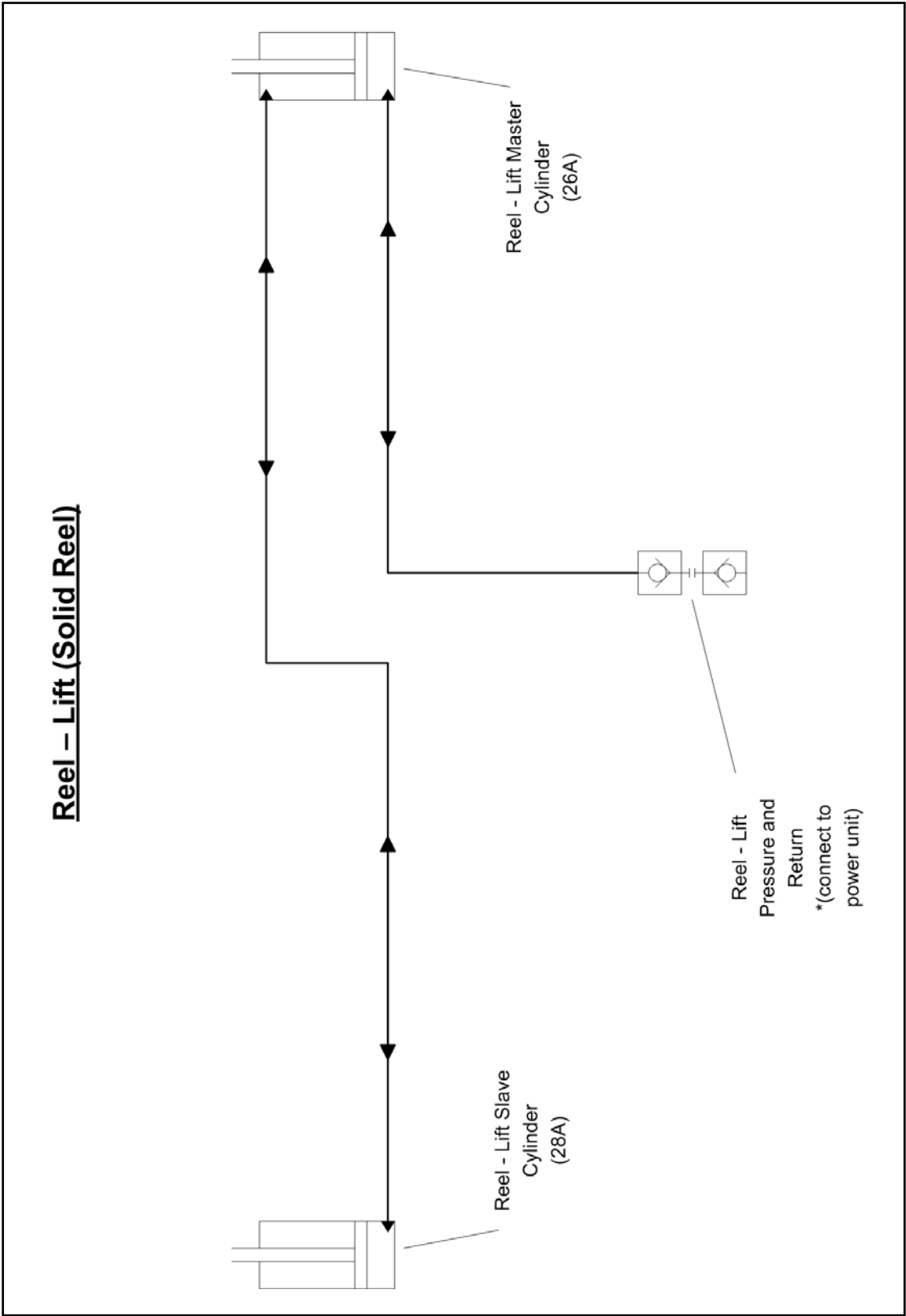


Oil flow (bi - directional)

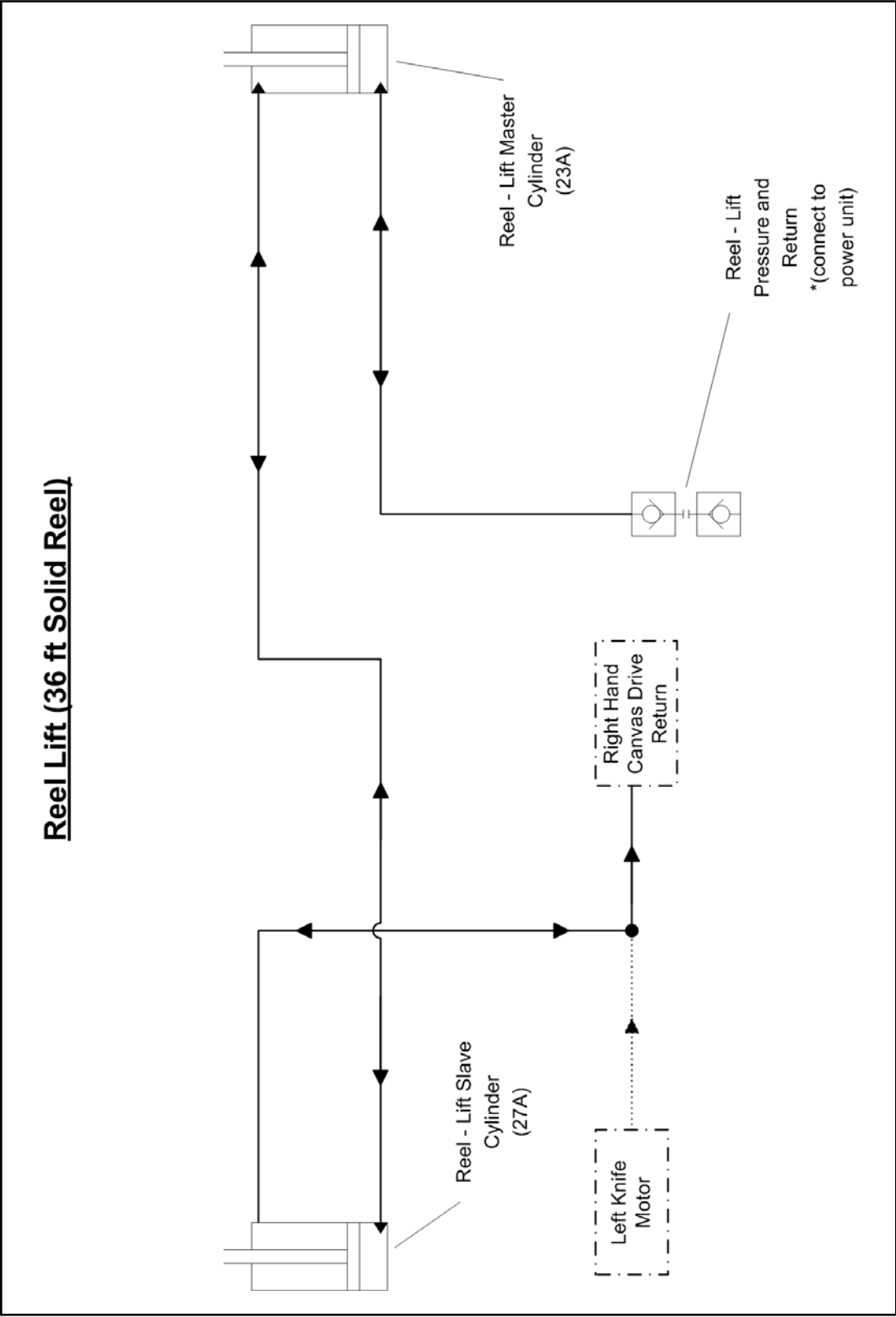


Case drain/ bypass flow

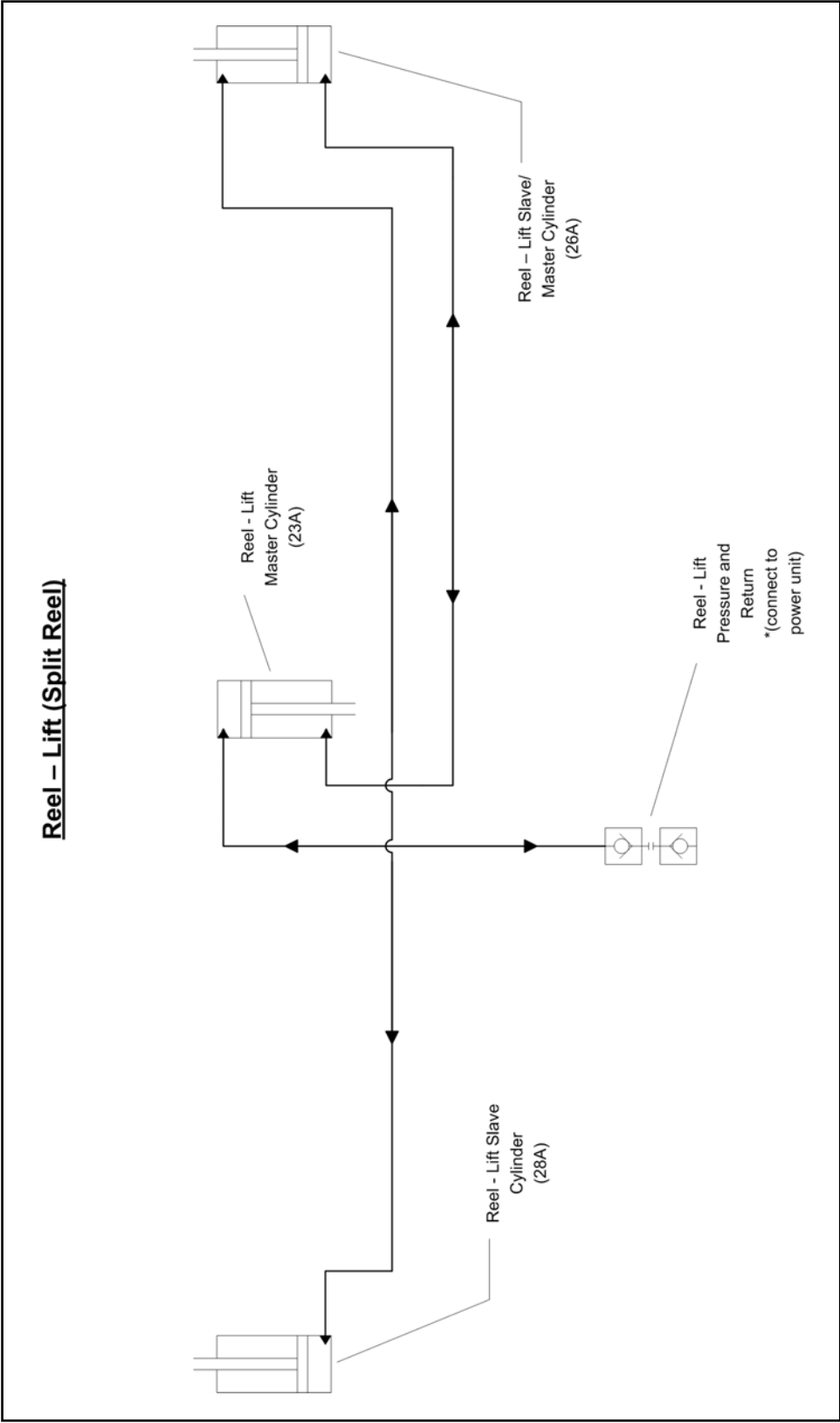
HYDRAULICS



HYDRAULICS

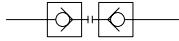


HYDRAULICS

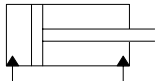


HYDRAULICS

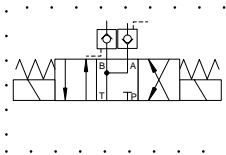
Hydraulic Schematic Symbols – Fore and Aft



Hydraulic coupler



Double - acting hydraulic cylinder assembly



Solenoid – operated directional control valve (4 port; 3 position), with 4 port check valve assembly attached (contains 2 pilot-to-open check valves with standard pilot).



Junction/ Intersection

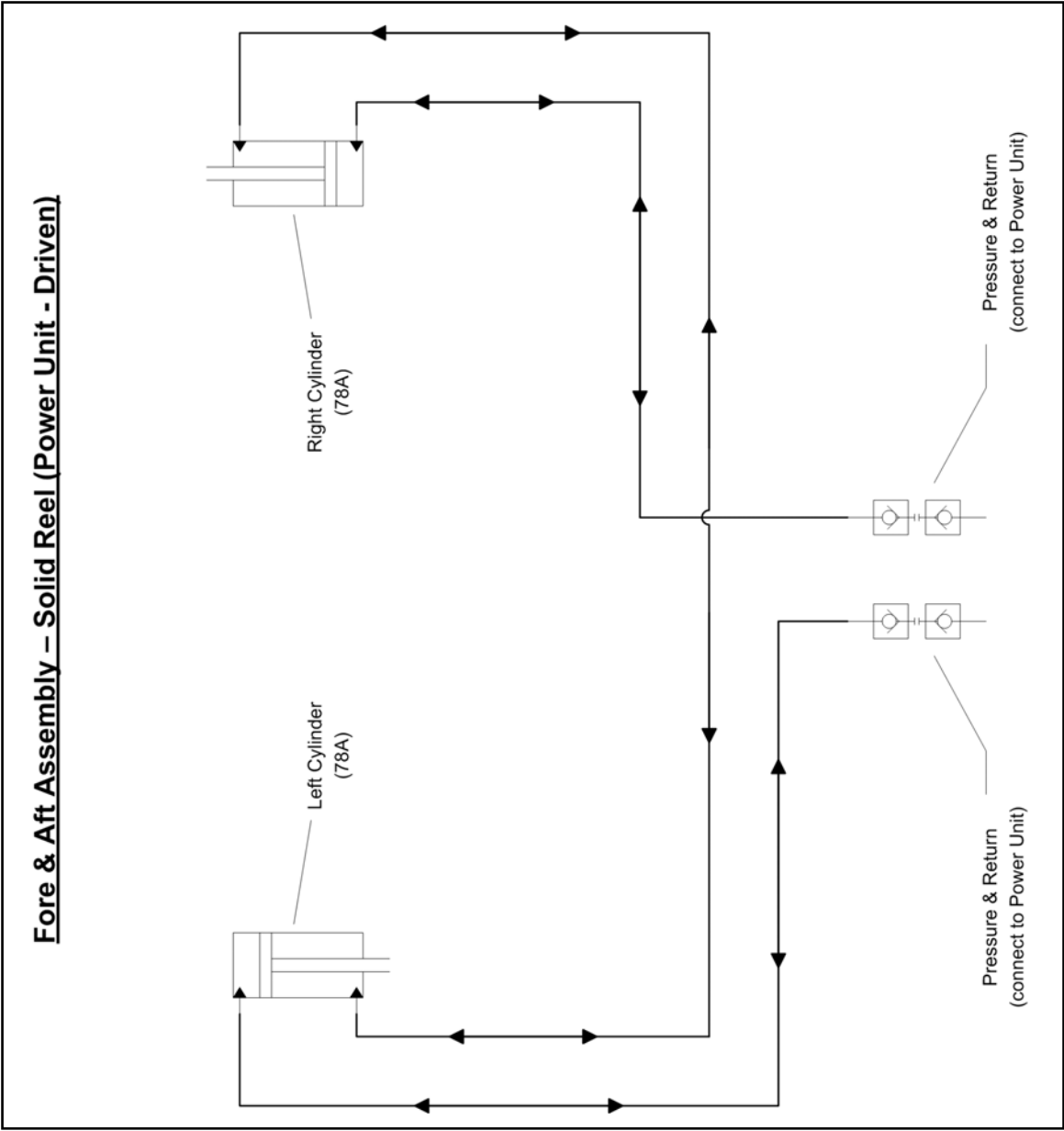


Oil flow (bi - directional)

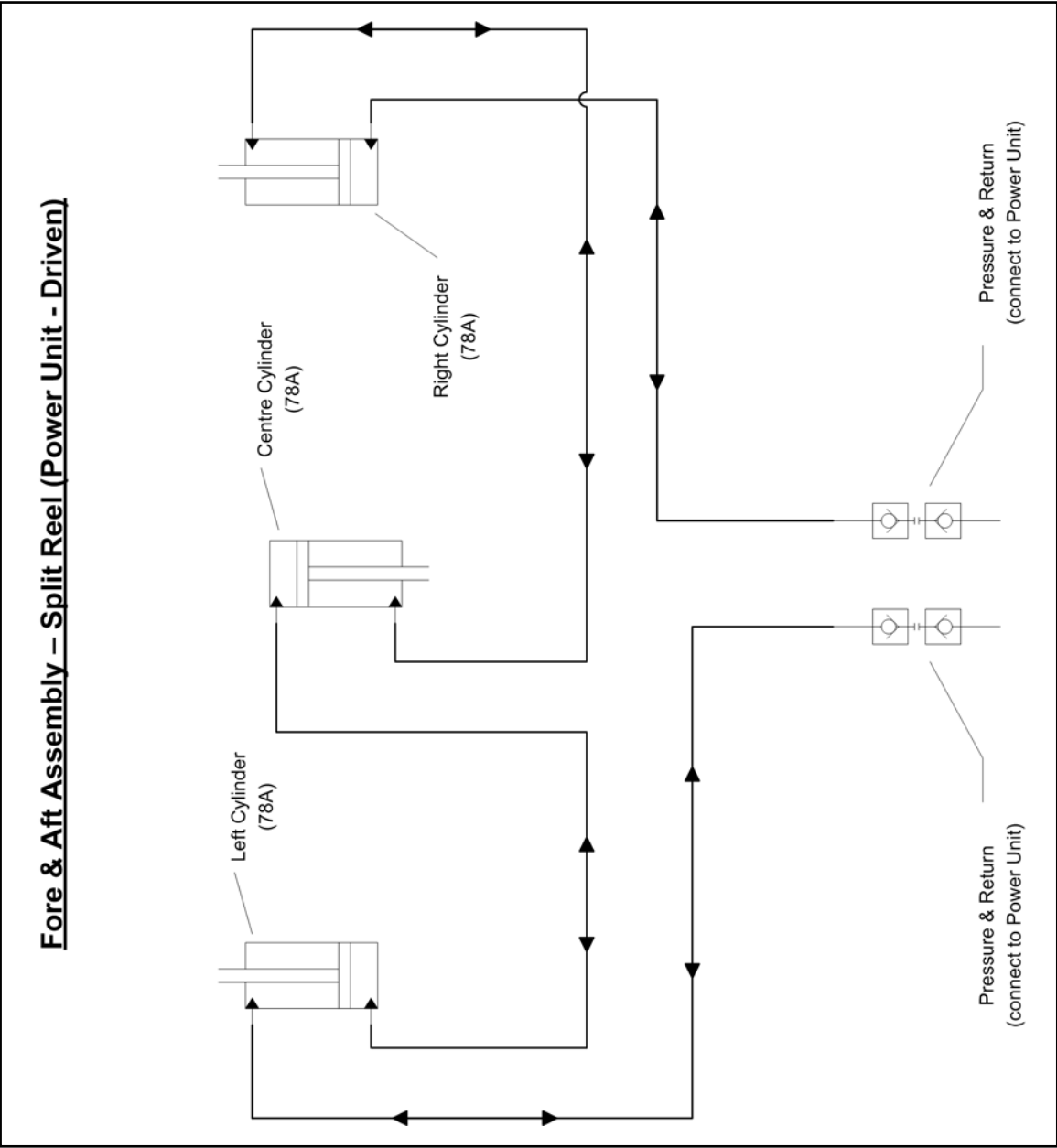


Oil flow (uni - directional)

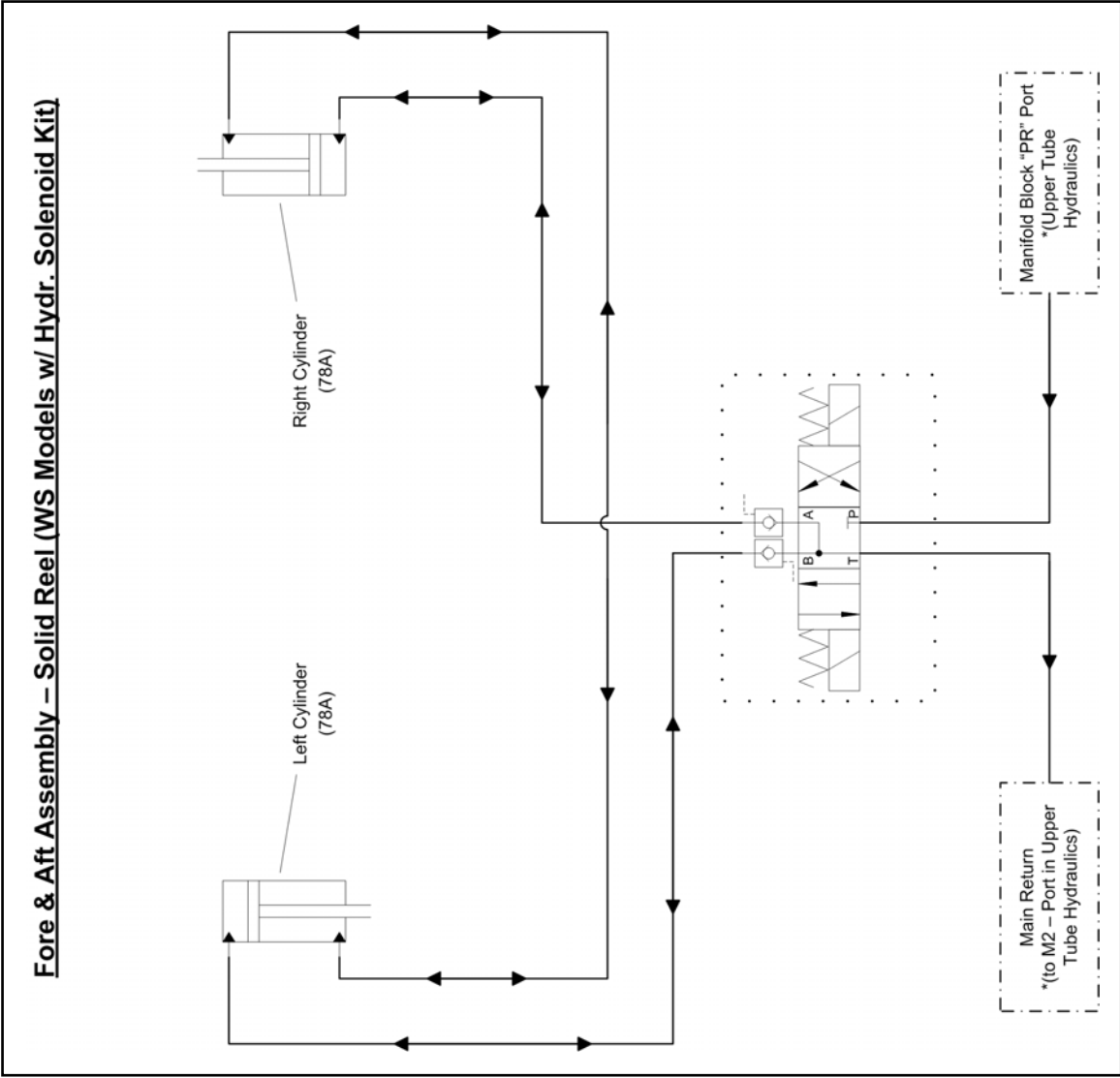
HYDRAULICS



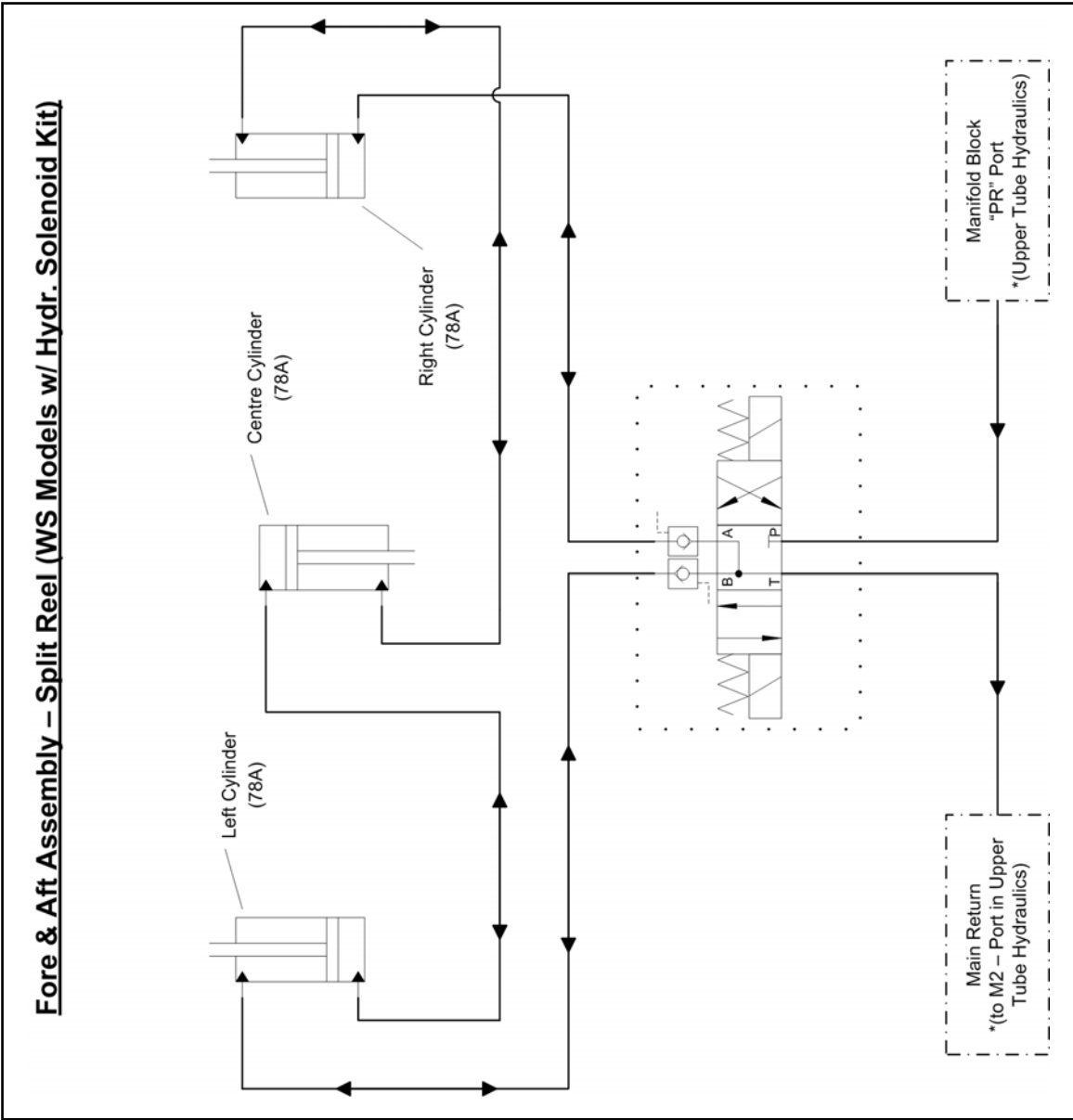
HYDRAULICS



HYDRAULICS



HYDRAULICS



HYDRAULICS

Hydraulic Schematic Symbols – Upper Tube Hydraulics



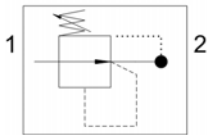
Oil Filter (Donaldson – 10 HMK)



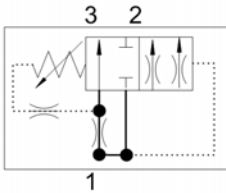
Pressure gauge, liquid filled; 0 – 4000 PSI (“G” Port)



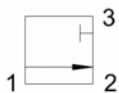
“CXDA” 2 port free – flow, nose to side check valve (“CXDA” Port)



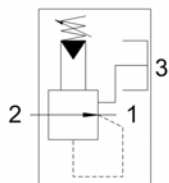
“A508 299 F02” 2 port direct acting pressure - relief valve; 2800 PSI (“A508 299” Port)



“A508 269 F02” 3 port, fixed orifice, bypass/ restrictive, priority flow control valve; 16.5 GPM (“A508 269” Port)



“XEOA” 3 port cavity plug: port 1 to 2 open, port 3 blocked (“T-11A” Port) *applies to single – swath WS models and all TV140/ TV145 models



“PBDB” 3 port pilot – operated pressure reducing valve: port 2 to 1, port 3 bypass; 1500 PSI (“T-11A” Port) *applies to double – swath WS models only



Hex – head cavity plug, with rubber o-ring seal (6MB/ FPS valve – “PR” port)



Junction/ Intersection

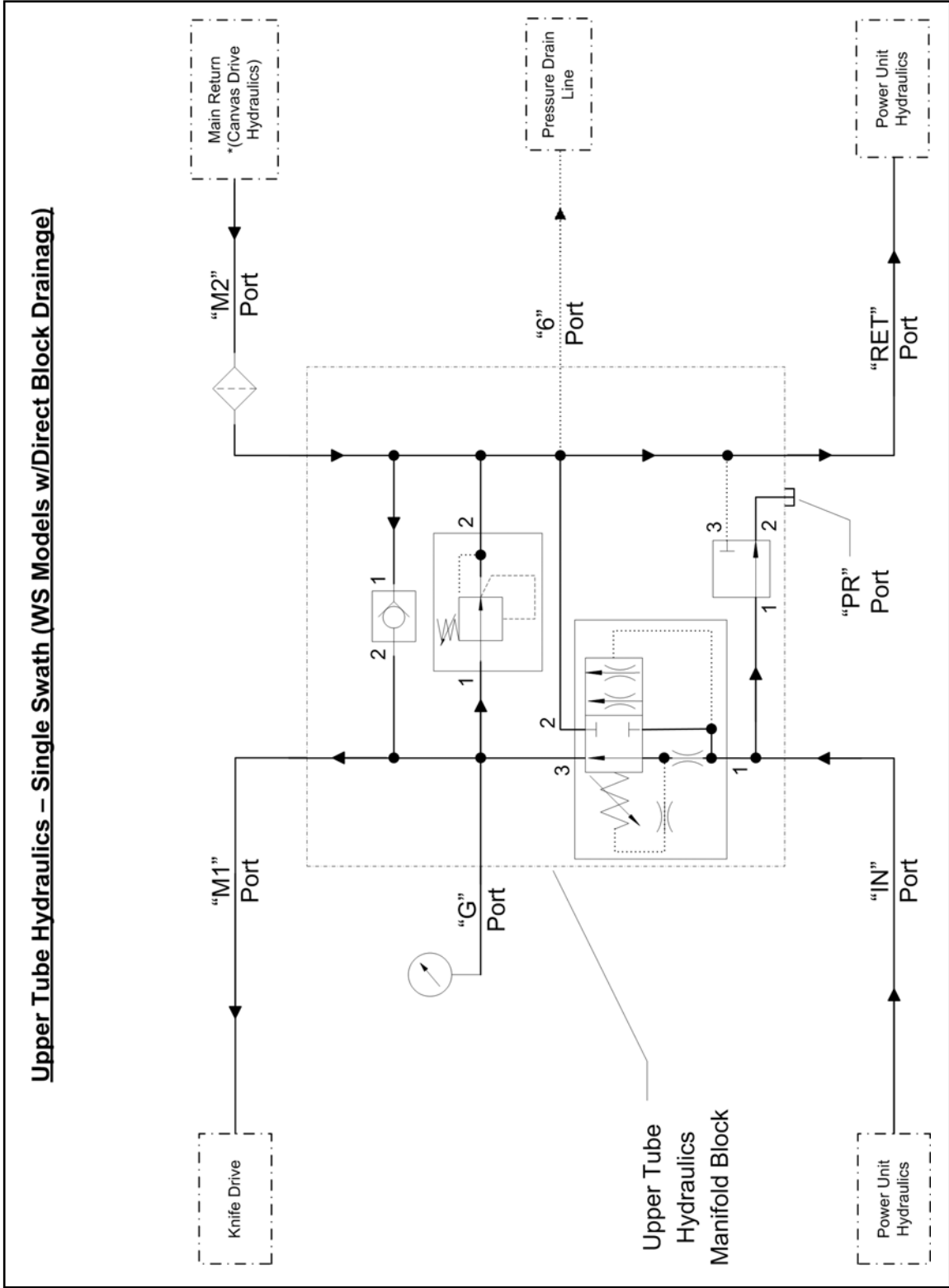


Oil flow (uni - directional)

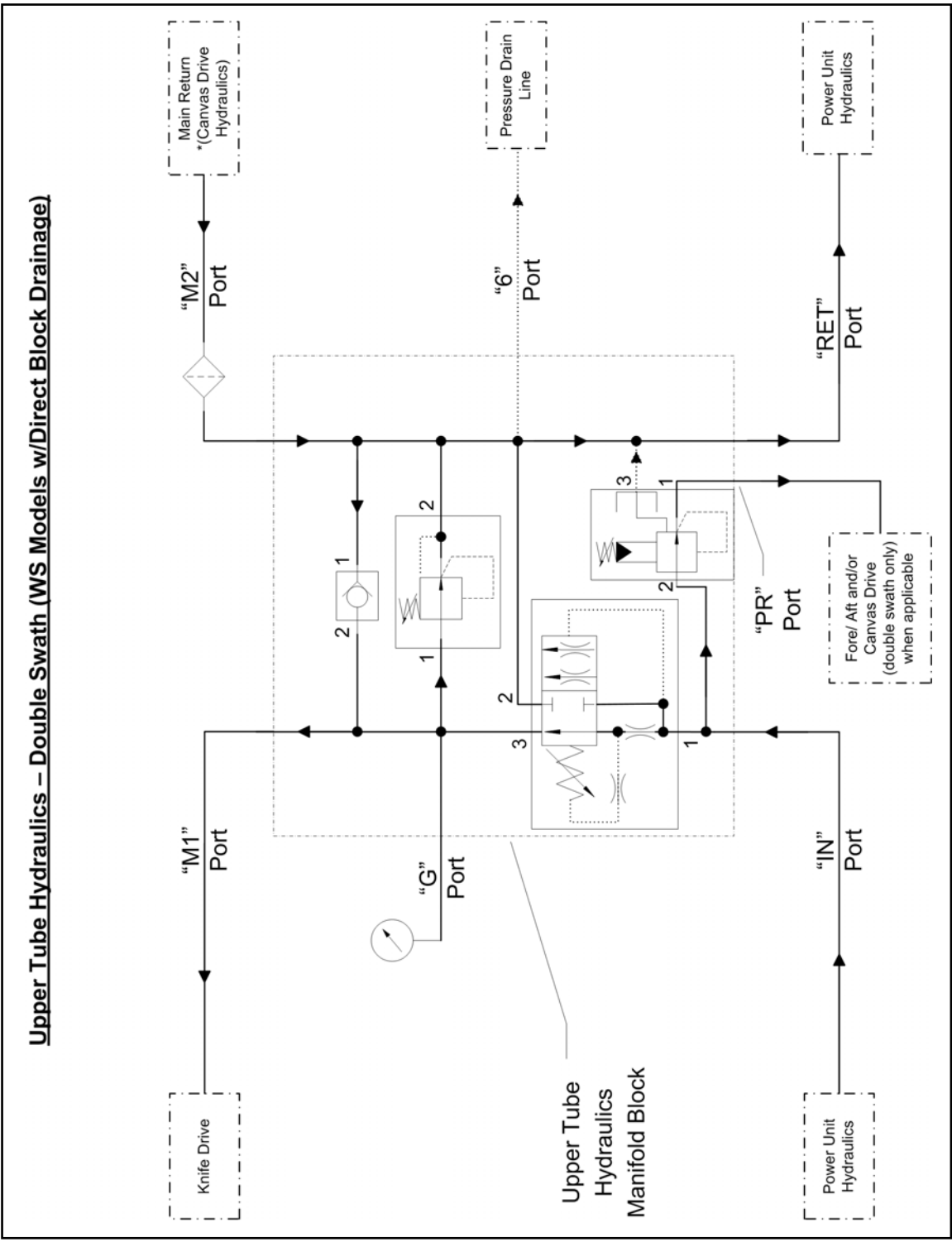


Bypass flow/ drainage line

HYDRAULICS



HYDRAULICS



OPTIONAL EQUIPMENT

Caster Gauge Wheels

The gauge wheels are designed to sustain the table with the profile of the ground while in the cutting position and provide improved lateral flotation of the header in rough and uneven ground conditions. The gauge wheels are designed to caster, so it is normally not necessary to raise the header when cornering. The correct height adjustment of the gauge wheel assembly relative to the cutting height is essential to proper gauge wheel performance.

Attention: Damage to the caster wheels could result if header table and gauge wheels are not lifted off the ground when backing up the power unit. Damage to castor wheels can also result from making sharp turns with the power unit. The sharp turning radius of the power unit can cause one of the wheels to be dragged backwards causing damage to the wheel.

Note: Header should be leveled and parked on level ground before adjusting gauge wheel height.

Gauge wheels must be adjusted relative to the height at which the header will be operated in the field. Normal adjustment would allow the weight of the header to compress the spring shaft of the gauge wheel assembly approximately 1.5" (38mm) to 2.0" (50mm). Two adjustment locations are incorporated into the design of the gauge wheel assemblies.

- 1) Adjustment lugs on the back of the header frame.
- 2) Screw type Jack with height indicator.

HEIGHT ADJUSTMENT - Figure 90.1 & Figure 90.2

1. Retract the gauge wheel jack to its lowest position, dial should be above the "1" mark.
2. Set the gauge wheel into one of the mounting holes on the table (preferably the second hole from the top).
3. Adjust the header table height until the cutter bar is at an average cutting height for the crop being cut. ie. stubble height.
4. Lower the gauge wheel assembly to the ground by releasing the screw jack.
Repeat this procedure on the other gauge wheel assembly.
5. Check the amount of compression on the spring shaft of the gauge wheel assembly, if incorrect, repeat steps (1) thru (4) as described above.

IMPORTANT: TOO MUCH COMPRESSION ON THE SPRING TUBES WILL CAUSE STRESS ON THE TOP LINK. TOP LINK MAY WEAR PREMATURELY.

Note: Adjustments to table tilt, spring floatation, and pitch may affect the amount of compression in the spring tubes. Further adjustments may be necessary.

The Gauge Wheels are NOT designed to support the weight of the table!

OPTIONAL EQUIPMENT

Caster Gauge Wheels

The adjustment lugs on the header frame allow for additional adjustment when cutting crops high, leaving lots of stubble, or cutting low with the table tilted far forward. The bolt spacing on the lugs is 1-1/2" (38mm) apart. Primary adjustment though should be done by the float spring jack. Adjustment of the jack depends on your header tilt and types of crops that you are cutting.

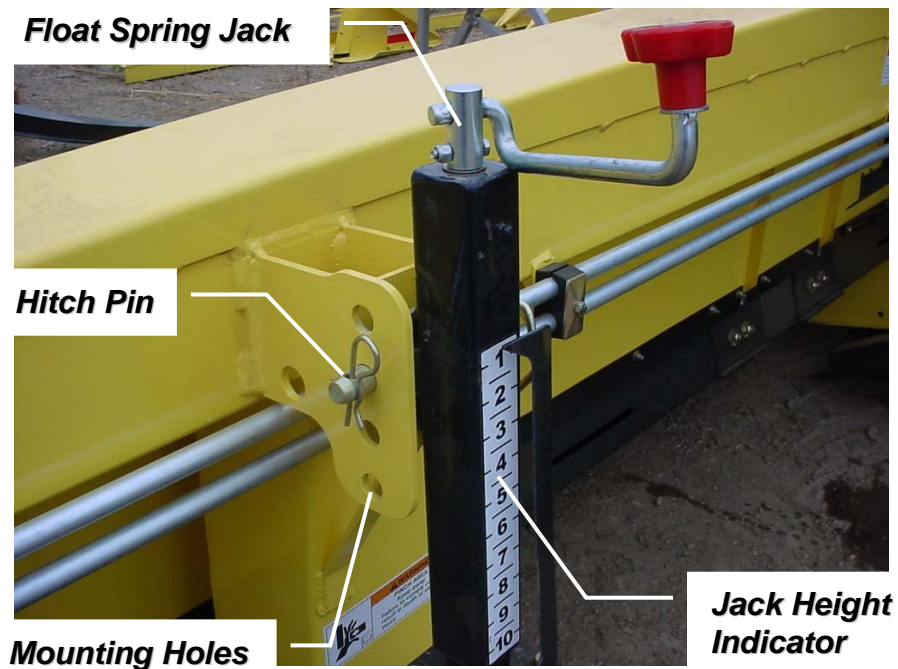


Figure 90.1

At the bottom of spring tube, no adjustment is necessary.

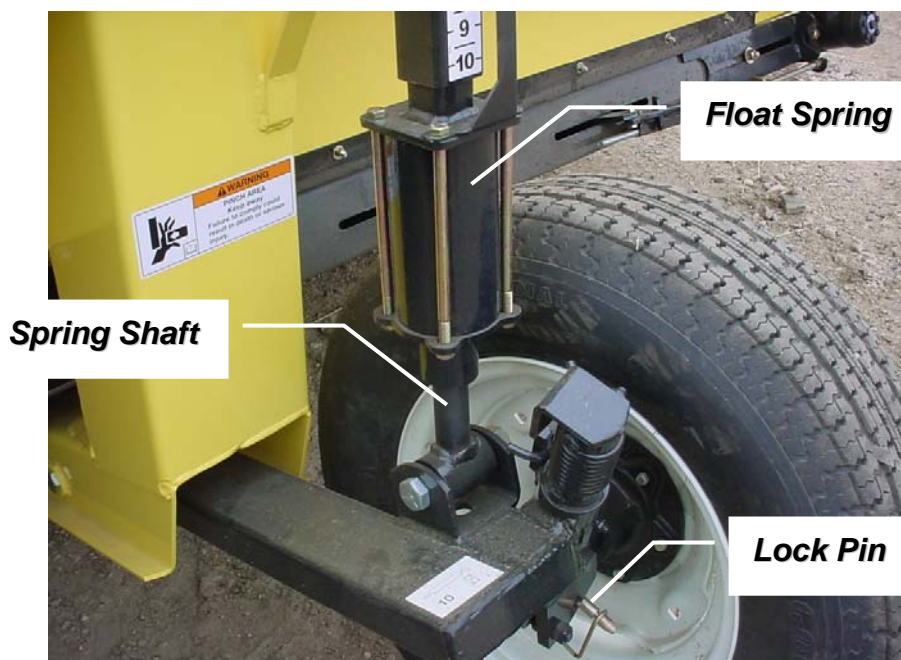
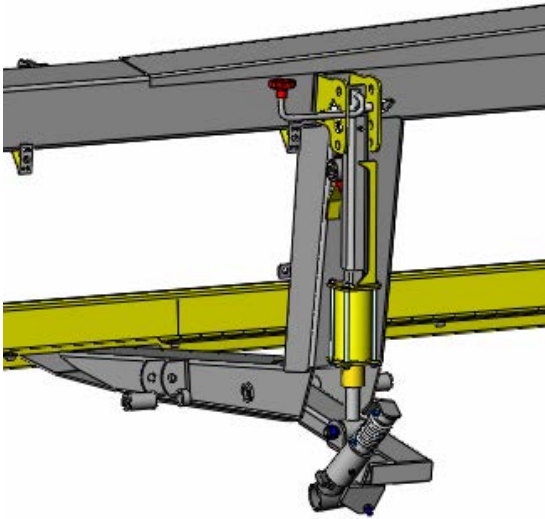


Figure 90.2

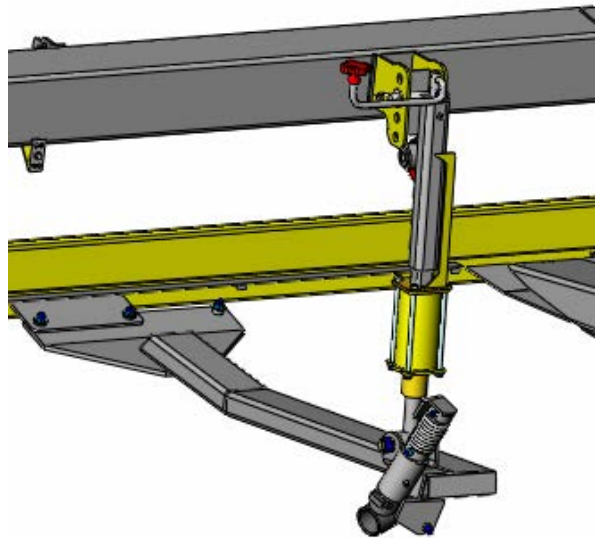
OPTIONAL EQUIPMENT

Caster Gauge Wheels



30 and 36 ft tables

Figure 90.3a



18, 21 and 25 ft tables

Figure 90.3b



OPTIONAL EQUIPMENT

End Strut Gauge Wheels

End strut gauge wheels are mounted to the end struts of the main table frame. Special crop defectors are required for installation. They are useful in allowing the cutter bar to closely follow the contour of the ground.



Figure 90.4

OPTIONAL EQUIPMENT

Cross Auger

The installation of the cross auger can be very beneficial with some of the specialty crops that are grown such as peas, canola, mustard, safflower, and lupins. Many of the specialty crops are not heavy enough to keep them firmly on the canvas. Crops that are bushy or that have vines tend to ride above the canvas as the canvas moves under them. This may cause them to go into the feeder house in bunches or wads.

The left hand and right hand flighting on the cross auger gently pushes the crop down onto the canvas as it moves it along towards the feeder deck and feed auger.

The cross auger is suspended above the decks of the header with special mounting brackets.



Figure 90.5

The cross auger is plumbed into the canvas circuit with a manual speed control (needle valve). The speed of the cross auger should be adjusted only fast enough to keep the crop moving. If the cross auger rotates too quickly, wrapping may occur.

The cross auger can be left in position even if it is not being used, such as when harvesting cereal grains. The cross auger can be turned off by fully opening the needle valve. The speed of the canvas should not be affected.



Figure 90.6

OPTIONAL EQUIPMENT

Double Swath Option – 21, 25 and 30 Foot Tables

Most Honey Bee Grain Belt Swathers can be equipped with a double swath option. This option allows the operator to lay two swaths side by side. The first swath will be delivered to the opening on the right end of the swather. The short end deck (offered on the 25 and 30 foot tables) installed on the right end will move the swath away from the standing crop. (The short end deck is removable for single swath delivery). On the next round, the decks are shifted to the right, and an opening is made on the left end of the swather. This opening will allow the crop to be delivered beside the first swath. This option is useful in light crop conditions.

The decks are shifted with hydraulic motors activated by an electric solenoid on the selector valve. The solenoid selector valve reverses the flow through the output ports when activated. The deck shift motor and the canvas motor are connected in parallel, so that when the deck is shifted to its new position, the deck shift motor stops and the canvas motor runs in the opposite direction.

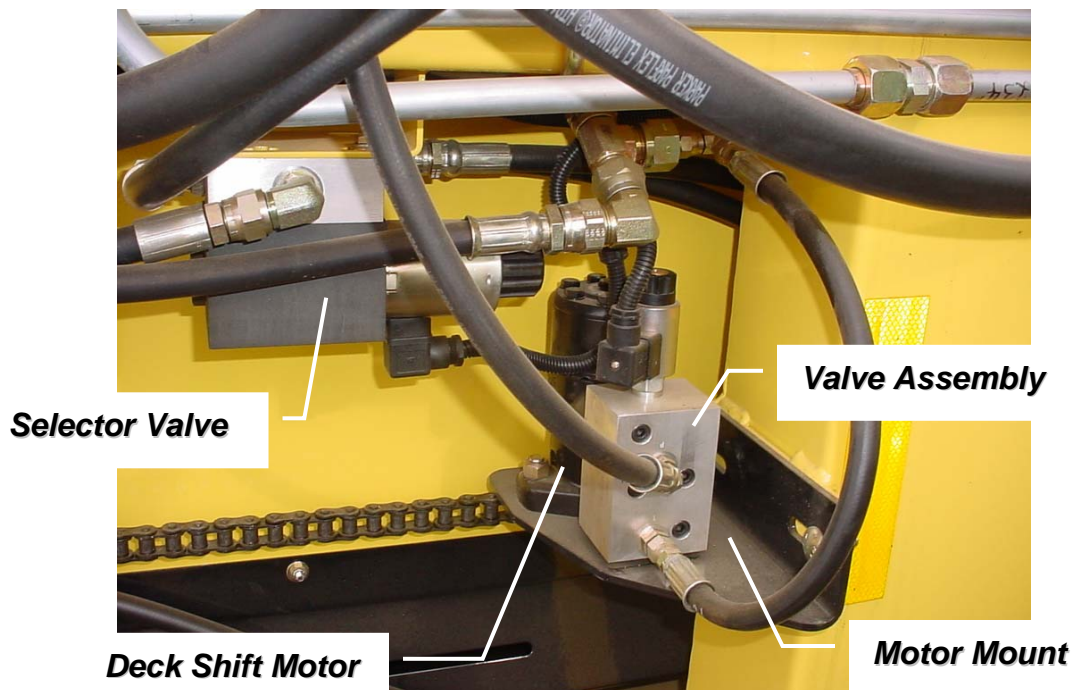


Figure 90.7

OPTIONAL EQUIPMENT

Double Swath Option

The roller chains used for shifting the decks are located on the back side of the back panel. Adjuster bolts at either end of the chain are used to adjust the tension. The chains should not have too much slack or be too tight, so as to cause the decks to warp.



Figure 90.8

Deck shift stops are installed on each chain. Before adjusting the stops, determine how much the deck needs to be shifted. Then move the appropriate stop. To have a deck move further/less to the left, the right hand stop will need to be adjusted. For the deck to move further/less to the right, the left hand stop will need to be adjusted.



Figure 90.9

Short End Deck

NOTE:

The stop should be set so that the deck does not hit against the other canvas decks or the swather frame. Allow approximately 1" of space between the decks.

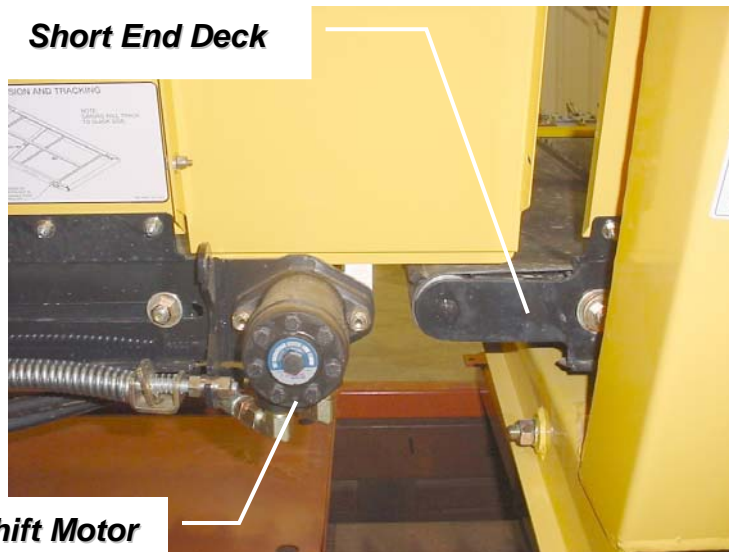


Figure 90.10

Check all hose clearances on hydraulic motors after shifting the deck, to ensure that they are not pinched or stretched.

Check canvas tracking and adjust if required. See Canvas Adjustment section of this manual for assistance.

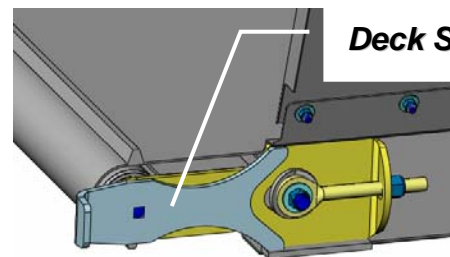


Figure 90.11

OPTIONAL EQUIPMENT

Canvas Extension for Swathing

The Grain Belt Header has a delivery opening of approximately 60 inches. When swathing in light crop conditions, it may be necessary to narrow the opening width in order to lay a tight swath.

One procedure is to extend a deck is to add a 14 inch deck extension kit to the idler end of a deck (figures 90.10 and 90.11).

1. Remove the connector bar and open the canvas to reveal the idler roller. Figure 90.10
2. Remove the nut and washer that hold the idler adjuster plate in place.
3. Remove the idler plate, idler roller, and front adjuster.
4. Install the 14" back panel to the 14" extension deck (figure 90.11)
5. Install extension deck and back panel onto the end of the deck being extended.
6. Install the front connector and the rear deck connector.
7. Install the front adjuster, idler roller, and idler plate.
8. Join the 30" canvas extension to the regular canvas with a connector bar.
9. Wrap canvas around the rollers and connect ends together with the other connector bar.
10. Adjust canvas tension and tracking.

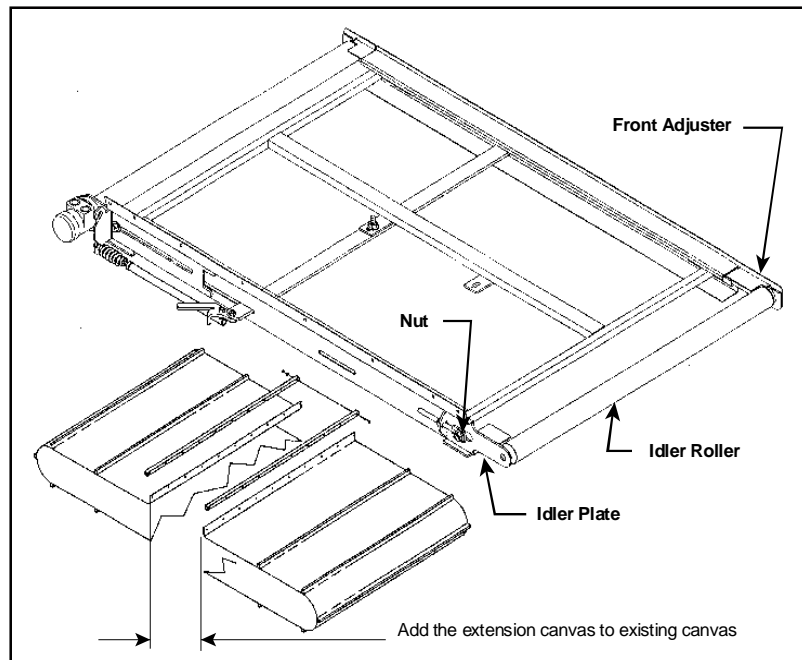


Figure 90.12

The Extension deck can be added to either deck. Left hand shown.

OPTIONAL EQUIPMENT

Hay Guard / Short Crop Guard

The Hay Guard comes pre-punched for easy installation of self tapping (Tech) screws.

1. Lay out Hay Guard starting at the end of the cutter bar. Install the longest section at the ends. The hay guard/ short crop guard butt together end to end.

2. Remove the self tapping screw holding the tab of the crop deflector. The hay guard should fit tight against the rise of the cutter bar leaving approximately $\frac{1}{2}$ " clearance between the top ribs of the canvas the underside of the hay guard.



Figure 90.13

3. Secure tab through hay guard and into the cutter bar. Install remainder of bolts to hay guard. Figure 1
4. Install the next section of Figure 1 hay guard, butting it up to the first section. Install self tapping screws to secure.
5. Continue until all sections of hay guard are installed.

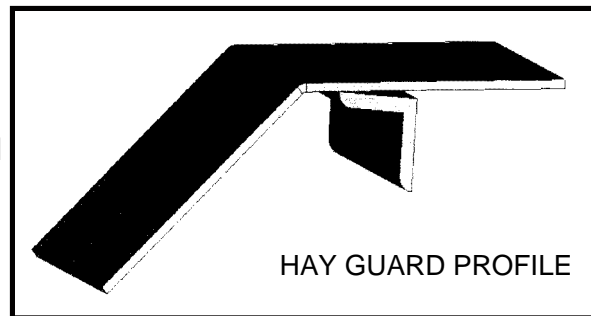


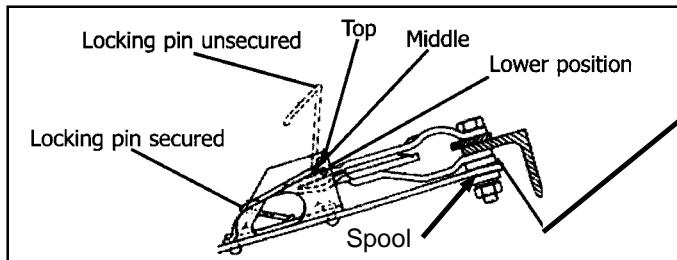
Figure 90.14

6. The hay guard profile is designed so that the draper runs along the angle iron on the underside of the guard. Figure 2

OPTIONAL EQUIPMENT

SCH Crop Lifters

1. Install the lifter spools to the underside of the guards using the longer bolts supplied in the kit.
2. The spools should be spaced equally along the cutter bar, one per foot is recommended.
3. The guard pocket of the lifter has three locking pin positions to allow adjusting the lifter angle.



For additional adjustment, flat washers can be added between the guard and the crop lifter mounting spool.

Figure 90.14

4. Figure 90.14 shows a crop lifter attached to a guard. The lock pin can be placed in either of the three holes, each position resulting in a different angle of the lifter.
5. For crop lifters to work properly the bottom runners must be parallel to the ground when the platform is in cutting position. Figure 90.15 shows the correct position of a standard crop lifter. Figures 90.16 & 90.17 show incorrect positions.

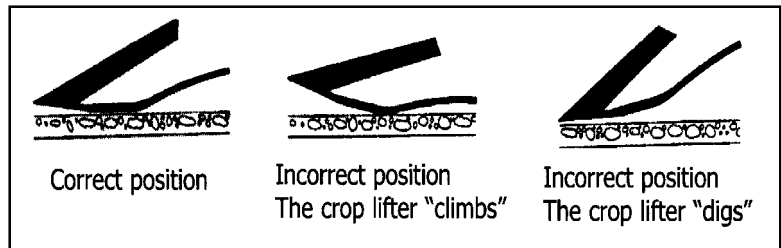


Figure 90.15

Figure 90.16

Figure 90.17

6. The bottom runner of the Special Series lifter should be parallel to the ground Figure 90.18. To find the correct mounting position of the lifters for a given platform, drive the combine on to a flat surface (concrete, asphalt). Mount one lifter in the middle of the platform. Lower platform until crop lifter just touches the ground. The runner of the lifter should be parallel to the ground. If it is not, change lock pin positions and if necessary, vary number of flat washers until the correct position is found.

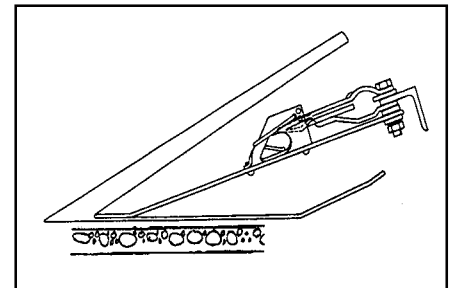


Figure 90.18

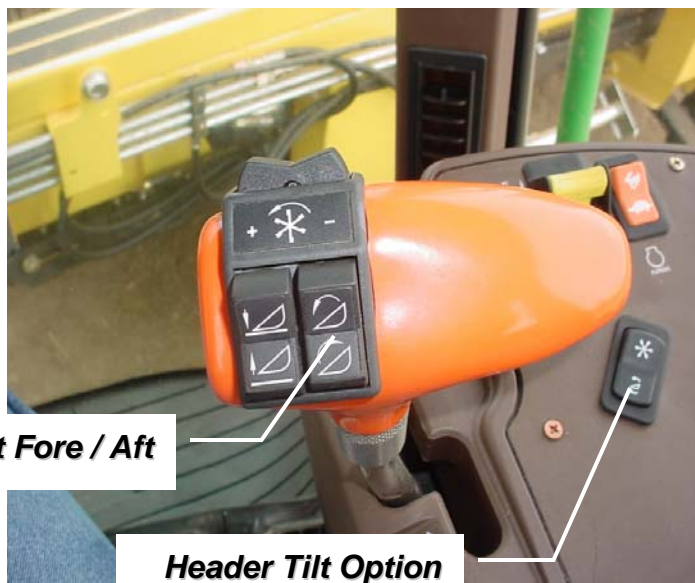
OPTIONAL EQUIPMENT

Hydraulic Tilt Cylinder Assembly

An option to the standard top link is the hydraulic tilt cylinder which you are able to control the table's angle directly from inside the cab of the power unit



Located on the FNR lever and control panel are the switches to control the tilt cylinder.



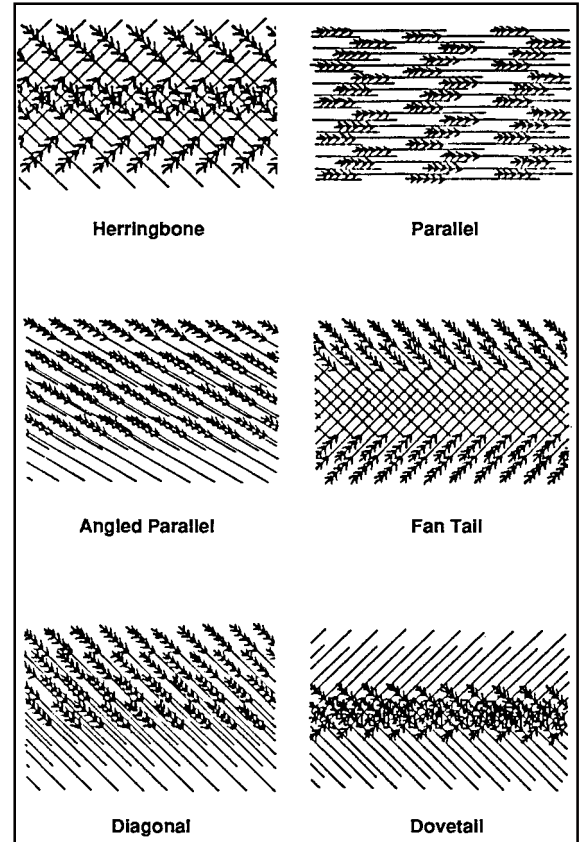
Header Tilt Fore / Aft

Header Tilt Option

WINDROW TYPE

Several factors affect windrow formation: Ground speed, canvas speed, type of crop, reel speed, table angle, and stubble height. This manual will give the operator some guidelines in how machine settings can affect windrow formation. It is the operator's responsibility to adjust the settings to the type of windrow desired.

1. **HERRINGBONE:** Probably the ideal formation for weathering and ease of picking up. The crop needs to be standing straight or leaning in one direction.
2. **PARALLEL:** A good windrow that is probably easier to form.
3. **ANGLED PARALLEL (75 Degree Diagonal):** A good windrow but it is not as good as the parallel.
4. **FAN TAIL:** Has good weather ability and is easy to pick up, but not as good as the first three types.
5. **DIAGONAL (45 Degrees):** This swath is less desirable, because the heads are concentrated on the side of the swath. It is more difficult to pick up and is more easily affected by the wind or rain.
6. **DOVETAIL:** This swath is also less desirable, because heads are concentrated in the middle of the swath. It is more difficult to pick up and is more easily affected by the wind or rain.



GROUND SPEED

Use the windrow quality as a guide to travel speed. Drive at lower speeds when the terrain is rough and when the crops are lodged or tangled. Excessive speed may leave the stubble with a ragged cut.

STUBBLE HEIGHT

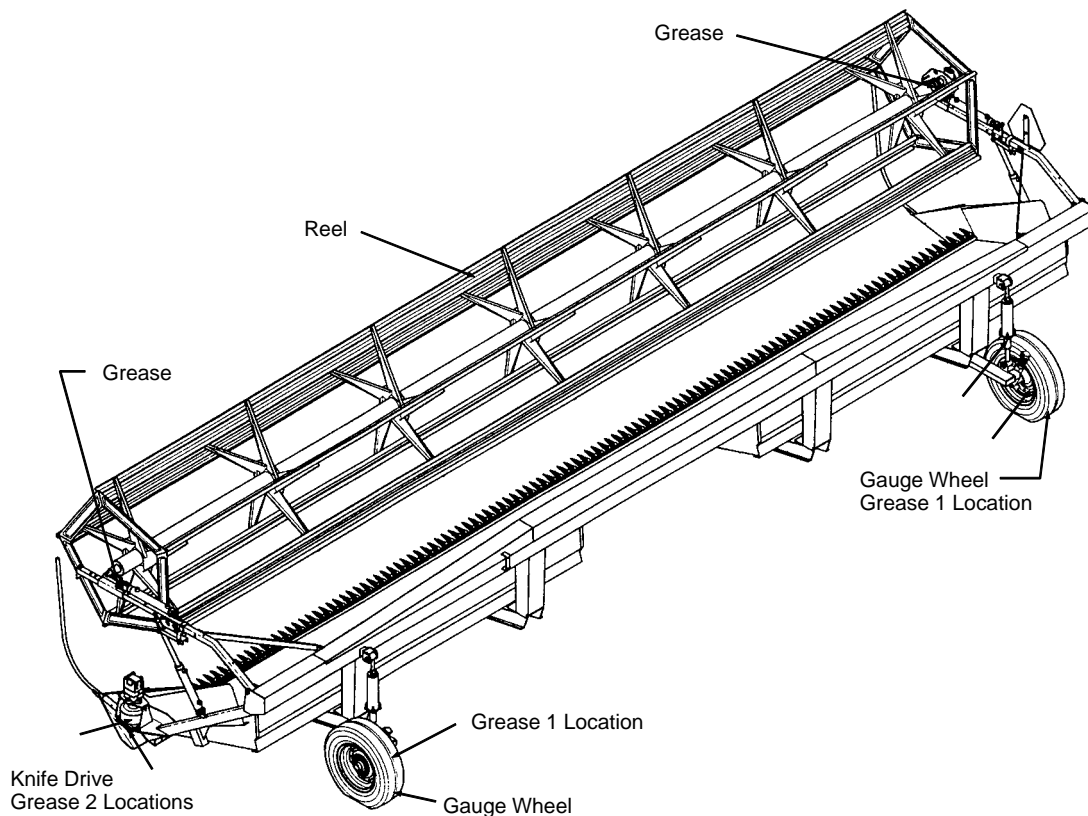
The best results are obtained when the table is operated to give a stubble height of 6" to 8" or (150 to 200 mm). The stubble generally has enough strength to support the windrow and let it dry quickly. The windrow is also easier to pick up.

Check other sections of this manual for other settings that will affect the formation of the windrow.

LUBRICATION

IMPORTANT! USE GOOD QUALITY, GENERAL PURPOSE GREASE.

1. Knife Drives Grease 10 hours
Grease knife head bearing (zerk is on bottom crank shaft).
Grease main bearing and gear (zerk is on side of knife drive).
2. Reel bearings Grease 10 hours
3. Gauge Wheels - King Pin Grease 10 hours
4. Change return line filter after first 50 hours of operation and seasonally thereafter.
Filter 27281 Donaldson - P 163419
5. Wheel Bearings - Disassemble and re-pack yearly.
6. Knife - if knife is gumming, soak with water or diesel fuel.



TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
REEL		
Reel won't hold height.	Leaking hose or fitting. Valve in power unit leaking.	Repair or replace. See Power Unit Manual.
Reel won't hold level.	Leaking hose or fitting. Air in system. Faulty master cylinder.	Repair or replace. Bleed slave cylinder. Repair or replace.
Reel raises or lowers erratically. And/or Reel won't raise.	Reel cylinders binding. Arms bent or binding. Low hydraulic oil. Hydraulic couplers don't match. Valve is not open. Faulty Power Unit hydraulics. Reel not plumbed into tilt circuit.	Replace cylinder. Repair or replace. See Power Unit Manual. Install correct couplers. Open Valve. See Power Unit Manual. Check plumbing schematic.
Damage to center of reel.	Reel set too low.	Adjust height.
Reel hitting at end.	Reel not centered.	Reel tube bent. Adjust centering.
Reel will not turn or turns erratically.	Flow control set too low. Canvas flow set too high. Faulty relief valve. Seized bearing(s). Faulty drive motor. Reel Tied Down.	Advance setting. Reduce canvas speed. Clean or replace. Replace bearing. Replace motor. Release Reel.
REEL SPEED cannot be adjusted.	Poor connection in electrical wires or cable. Defective reel speed motor. Circuit breaker open or burnt out.	Check connections and cable. Replace motor. Reel speed can be adjusted manually if necessary. Check continuity of wires.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
KNIFE		
Knife won't run.	Low hydraulic oil.	Add oil. Determine cause of low oil.
	Cutter bar jammed.	Check for damaged guards or sections.
	Faulty drive motor.	Repair or replace motor.
	Faulty knife drive.	Repair or replace.
	Faulty hydraulic pump.	Repair or replace.
		Clean cutter bar.
Knife stalls easy.	Type of material being cut.	Reduce ground speed.
	Low pressure at knife motor.	Check system pressure.
	Bent guards or cutter bar.	Repair or replace.
	Faulty knife drive.	Check for loose crank shaft.
	Seized knife head bearing.	Replace.
	Knife head out of alignment.	Adjust alignment on knife
	Unloaded system pressure too high.	Check for faulty canvas
		Check that all canvases are running freely.
	Relief valve set too low (3000 psi).	Jam knife and set relief.
	Relief valve stuck open.	Remove and clean cartridge.
		Replace cartridge.
	Wrong type of hydraulic oil.	Change oil in power unit hydraulics.
Knife running too slow. (Recommended Range 700 rpm)	Flow control set low.	Set control higher.
	Low oil level.	Add oil.
	Relief valve stuck open.	Remove and clean cartridge.
		Replace relief cartridge.
	Low oil volume.	Check volume with flow meter
		19 gpm required.
	Wrong motor size.	Check with manufacturer.
	Worn pump or motor.	Repair or replace.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
KNIFE Excessive vibration.	Knife running too fast. Loose bearings in drive. Loose knife head bolts.	Check speed (700 rpm) Check oil volume (19 gpm) Reduce engine RPM. Replace bearings. Tighten.
KNIFE Excessive noise	Loose or damaged sections and/or guards. First guard bent or out of alignment. Knife drive bearing faulty Knife drive loose. Knife drive running too fast. Knife head adjusted too high or too low.	Replace or tighten. Straighten or replace. Replace. Tighten bolts and check for Slow down to 700 rpm. Loosen clamp bolt on knife head bearing and adjust.
Knife leaves strip of crop standing.	Bent or broken guard. Broken knife section. Plugged guard.	Straighten or replace. Replace. Clean.
CONNECTOR BAR BREAKS	Damaged sections or guards. Knife gummed up. Section bolts not tight. Sections on knife back installed on wrong side.	Repair or replace. Soak with diesel fuel. Tighten or replace. Remove sections, turn knife back over and replace sections.
KNIFE HEAD BREAKS	Section bolts not tight. Knife gummed up. Damaged sections or guards. Sickle sections dull. Tough crop. Knife drive running too fast.	Tighten and/or replace bolts. Soak with diesel fuel. Repair and/or replace. Replace sections. Reduce speed. Check speed with photo tach.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
CANVAS		
Canvas not tracking straight.	Drive or idler roller out of alignment. Canvas splice not cut straight. Material building up on rollers.	Adjust canvas tracking. Re-punch connector bar Clean rollers.
Canvas slipping.	Canvas too loose. Canvas is snagging.	Adjust canvas tension. Check alignment.
Canvas not turning.	Canvas is snagged or caught. Flow control is shut off. Oil flow going over the relief.	Check for interference. Adjust flow control. Check relief setting. Remove and clean relief cartridge.
Canvas oil pressure in excess of 2200 psi.	Material build up on rollers. Faulty bearing in roller. Faulty canvas motor.	Clean rollers. Replace bearing. Check motor temperature, check for oil leaking from shaft seal. Replace motor.
DECKS		
Decks creep sideways in the swather.	Restrainer tubes not installed or have fallen off.	Install or replace tubes.
Decks lift out of position.	Deck is not locked under rear edge of cutter bar. Hold down clips on back panels are loose or are not installed.	Place deck in proper position. Tighten or replace.
Decks will not shift.	Poor electrical connections. Electrical cable not plugged into power unit or control box. Decks or back panels jammed or binding.	Check and repair. Check connections. Check decks and clean out debris.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Heads shattering or breaking off.	Reel speed too fast.	Reduce reel speed.
	Ground speed too fast.	Reduce ground speed.
	Crop too ripe.	Cut earlier or late at night when humidity is higher.
Cut grain falling off cutter bar.	Reel set too high.	Lower reel.
	Table set too high.	Lower table.
	Reel too slow for ground speed.	Increase reel speed.
Does not pick up lodged crop.	Table too high.	Lower table.
	Reel too high.	Lower reel.
	Reel too far back.	Move reel forward.
	Ground speed too fast for reel speed.	Reduce ground speed or increase reel speed.
	Bat reel not suitable.	Install optional Pickup Reel.
	Crop lying too flat for guards to pickup.	Install optional SCH Crop Lifters.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Hydraulic Oil Temperature High	Excessive oil going over reliefs. Faulty pump or motors. Canvas too tight or not tracking. Oil too light.	Check reliefs on flow controls. Repair or replace. Adjust canvas alignment. (see owner/operators manual)
LEVELING Swather not level.	Float pressure too low. Offset platform mount.	Adjust float pressure. Install leveling link.
TABLE ANGLE Canvas running too flat or too steep.	Turnbuckle out of adjustment.	Adjust turnbuckle.
RAISING SWATHER Swather will not lift.	Power Unit lift capacity. Check the needle valve, table lift circuit.	Check system pressure. Open needle valve.
Swather table lifts slowly And drops slowly	Check needle valve on lift circuit. Set too low.	Reset valve.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
LIFT AND FLOAT SYSTEM		
NOTE: If float pressure is set too high platform will feel light and bouncy. If float pressure is too low, platform will feel heavy and unresponsive. It should require less than 150 lbs. to lift end of platform.		
Platform Does Not Follow Ground Contour	Platform float pressure too high, making platform feel light. Field - Road switch in the ROAD Position.	Check Power Unit op man. Adjust float pressure. Set switch to FIELD position.
	Faulty Relay.	Replace Relay.
	Accumulator precharge pressure too low.	See your John Deere dealer.
Platform Digs Into Ground and Pushes Hard	Guards digging into ground.	Adjust guard angle, with top link.
	Platform float pressure too low, making platform feel too heavy. Accumulator precharge pressure too high.	Adjust float pressure. See your John Deere Dealer
Platform Drops Too Fast Or Does Not Lower Smoothly	Platform float pressure too low, making platform too heavy.	Adjust platform float. Adjust needle valve.
	Accumulator precharge pressure too high.	See your John Deere Dealer.
Platform Will Not Lift Or Lifts Too Slow	Needle valve closed too much.	Adjust needle valve.
	Binding lift linkage.	Replace bent or worn parts.
	Platform float pressure too low, making platform too heavy.	Adjust platform Float.
	Worn lift pump.	See your John Deere dealer.
	Low Relief valve setting.	See your John Deere dealer.
	Excessive charge oil flow to pumps.	See your John Deere dealer.
	Faulty switch or relay.	
	Faulty solenoid or valve cartridge.	Replace solenoid or valve cartridge.

SPECIFICATIONS / FEATURES

<u>MODEL</u>	<u>SP18</u>	<u>SP21</u>	<u>SP25</u>	<u>SP30</u>	<u>SP36</u>
SIZE	18'	21'	25'	30'	36'
lbs/kg	1792/815	1980/900	2280/1036	2710/1232	3207/1458

WEIGHT: Includes - Swather assembly c/w decks and attached hydraulic components. Does not include double swath decks or lift arms.

LIFT ARMS

lbs/kg	200/91	200/91	200/91	200/91	200/91
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BAT REEL

lbs/kg	300/181	350/159	400/181	502/228	590/266
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PICKUP REEL UII Universal

lbs/kg	490/223	562/255	624/283	720/327	980/446
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PICKUP REEL HCC ML

lbs/kg	502/228	566/257	625/284	718/326	884/401
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TRANSPORT AXLE / HITCH TUBE PACKAGE

lbs/kg	206/93	206/93	206/93	206/93	206/93
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GAUGE WHEEL PACKAGE

lbs/kg	N/A	N/A	136/62	125/57	125/57
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KNIFE DRIVE

Single	standard	standard	standard	standard	standard
Double	optional	optional	optional	optional	optional

SPECIFICATIONS / FEATURES

- Knife Drive - SCH epicyclic 3 5/16" stroke, hydraulically driven, 1400 strokes per minute. (2 strokes = 1 RPM)
- Cutting System - SCH Easy Cut, spring steel guards and bolted sections.
- Draper - 42" rubberized polyester, fiberglass reinforced slats, tie bar connectors.
- Draper Speed - adjustable in cab, 0 - 500 fpm.
- Reel Speed - adjustable in cab.
- Cutting Angle - manually adjustable on all models or optional hydraulic.
- Warning light kit.
- WS18, WS21, WS25, WS30 and WS36 - center mounted.

* **SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE OR OBLIGATION.**

OPTIONS:

- Bat Reel - 5 bat, 54" diameter.
- Pickup Reel - 5 bat, 42" diameter Universal U-II Pickup Reel, wire or plastic fingers.
- Pickup Reel - 6 bat, 44" diameter Universal U-II Pickup Reel, wire or plastic fingers, or HCC ML Pickup Reel, plastic fingers.
- Storage Transport Axle.
- Hitch Kit.
- Tire assemblies P225 x 75R 15 tires.
- Castering Gauge Wheels - compression spring carriers
not available on Center Mount Models WS18/ WS21.
- End Strut Gauge Wheels.
- Poly Skid Plate on cutter bar and skid shoes.
- Steel (skid) Wear Plate on cutter bar.
- Hydraulic fore and aft on the reel.
- Cross auger.
- Swath Delivery Kits - Hydraulic deck shift.
- Crop Lifters for cereals and/or specialty crops.
- Hydraulic Swather Tilt
- Fore/Aft (Reel)
- Double Reel Drive

SPECIFICATIONS / FEATURES

BOLT TORQUE

CHECKING BOLT TORQUE

The tables shown below give correct torque values for various bolts and cap screws. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

UNIFIED TORQUE SPECIFICATIONS

Size	Bolt Torque*			
	SAE 5		SAE 8	
	N.m	(lb-ft)	N.m	(lb-ft)
1/4"12	(9)	17	(12)	M6
5/16"	25	(19)	36	(27)
3/8"45	(33)	63	(45)	M10
7/16"	72	(53)	100	(75)
1/2"110	(80)	155	(115)	M14
9/16"	155	(115)	220	(165)
5/8"215	(160)	305	(220)	M18
3/4"390	(290)	540	(400)	M20
7/8"570	(420)	880	(650)	M22
1"	915	(675)	1320	(970)

METRIC TORQUE SPECIFICATIONS

Size	Bolt Torque*			
	8.8		10.9	
	Nm	(lb-ft)	Nm	(lb-ft)
11	(8.5)	17	(12)	
M8	28	(20)	40	(30)
55	(40)	80	(60)	
M12	95	(70)	140	(105)
150	(110)	225	(165)	
M16	240	(175)	350	(255)
330	(250)	475	(350)	
475	(350)	675	(500)	
650	(475)	925	(675)	
M24	825	(600)	1150	(850)

* Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or cap screws unless otherwise specified in this manual. When using locking elements, increase torque values by 5%

HYDRAULIC FITTING TORQUE

TIGHTENING FLARE TYPE TUBE FITTINGS*

1. Check flare and flare seat for defects that might cause leakage.
2. Align tube with fitting before tightening.
3. Lubricate connection and hand tighten swivel nut until snug.
4. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.

** The torque values shown are based on lubricated connections as in reassembly.

TORQUE TABLE

Tube Size OD	Nut Size	Torque Value **		Turns to Tighten (After Finger Tightening)	
		(N.m)	(lb-ft)	(Flats)	(Turns)
3/16	7/16	8	6	1	1/6
1/4	9/16	12	9	1	1/6
5/16	5/8	16	12	1	1/6
3/8	11/16	24	18	1	1/6
1/2	7/8	46	34	1	1/6
5/8	1	62	46	1	1/6
3/4	1-1/4	102	75	3/4	1/8
7/8	1-3/8	122	90	3/4	1/8

SPECIFICATIONS / FEATURES

HYDRAULIC FITTING TORQUE - continued

TIGHTENING O-RING FITTINGS *

1. Inspect O-ring and seat for dirt or obvious defects.
2. On angle fittings, back the lock nut off until washer bottoms out at top of groove.
3. Hand tighten fitting until back-up washer or washer face (if straight fitting) bottoms on face and O-ring is seated.
4. Position angle fittings by unscrewing no more than one turn.
5. Tighten straight fittings to torque shown.
6. Tighten angle fittings to torque shown while holding body of fitting with a wrench.

* The torque values shown are based on lubricated connections as in reassembly.

Thread Size OD	Nut Size	Torque Value *		Turn to Tighten (After Finger Tightening)	
(in.)	(in.)	(N.m)	(lb-ft)	(Flats)	(Turns)
3/8	1/2	8	6	2	1/3
7/16	9/16	12	9	2	1/3
1/2	5/8	16	12	2	1/3
9/16	11\16	24	18	2	1/3
3/4	7/8	46	34	2	1/3
7/8	1	62	46	1-1/2	1/4
1-1/16	1-1/4	102	75	1	1/6
1-3/16	1-3/8	122	90	1	1/6
1-5/16	1-1/2	142	105	3/4	1/8
1-5/8	1-7/8	190	140	3/4	1/8
1-7/8	2-1/8	217	160	1/2	1/12

ELECTRICAL

Electrical Modifications

1. Open the electrical access panel on the right side of the power unit. Remove float relay from electrical panel. When relay is removed, the lift and lower mode changes so that the table will stop when the switch is released.
2. If the optional deck shift was purchased, connect the plug from control console to the additional power source plug.

NOTE: The swather can be operated with the float relay left in. When the switch is activated up, the table will rise all the way to the top. When the switch is activated down, the table will drop to the preset float height.

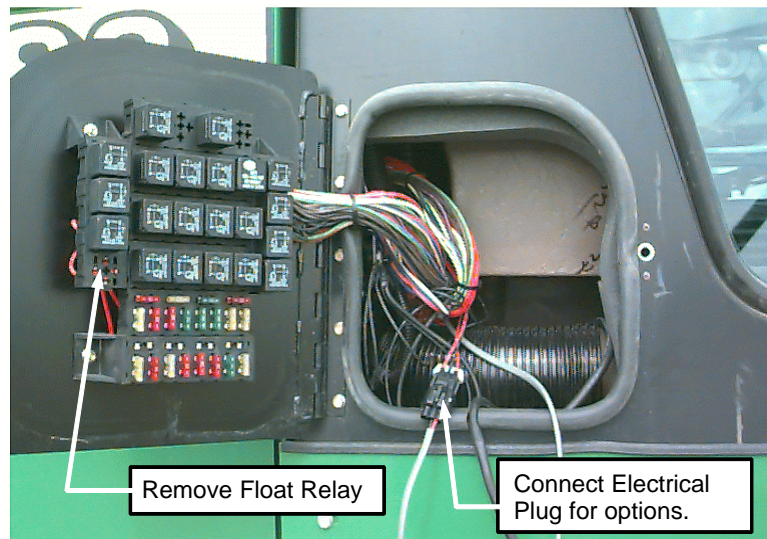


Figure 140.1

ELECTRICAL

Control Console 4895 / 4995

A draper header with standard configuration will not require any additional switches to be added to the control console. Reel Speed is controlled with the standard switch supplied in cab, located on the FNR lever.

The switches for the standard canvas speed control, optional shifting decks, fore/aft reel options and the table tilt/reel lift options are installed into the control console. Run wires into electrical access panel. Connect plug to accessory power plug.

See detailed instructions in set up manual.

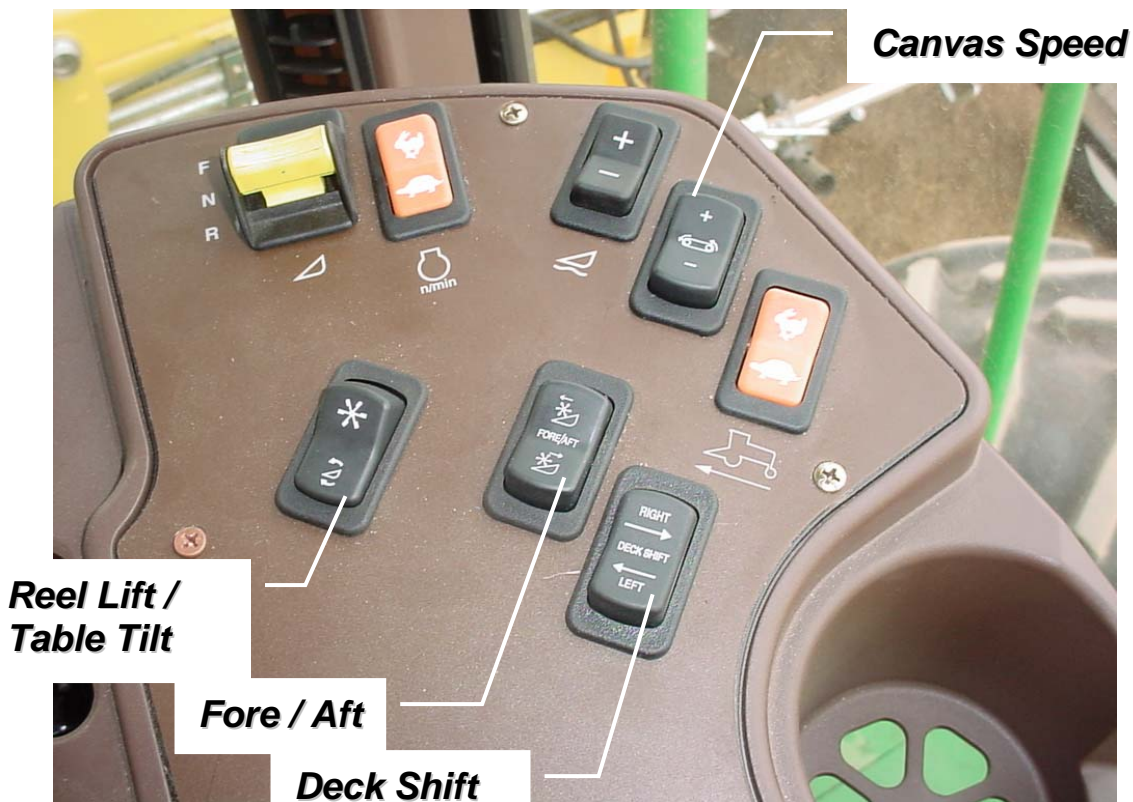


Figure 140.2

ELECTRICAL

Control Console 4890 / 4990

For the 90's series (4890 / 4990) power units, Install control panel with switches for canvas control, shifting decks and reel fore/aft if optional packages were purchased. Remove the two screws that hold the cup holder, and mount the control panel bracket in place behind the cup holder. Run wires into electrical access panel. Connect plug to accessory power plug. See schematic at back of instructions.

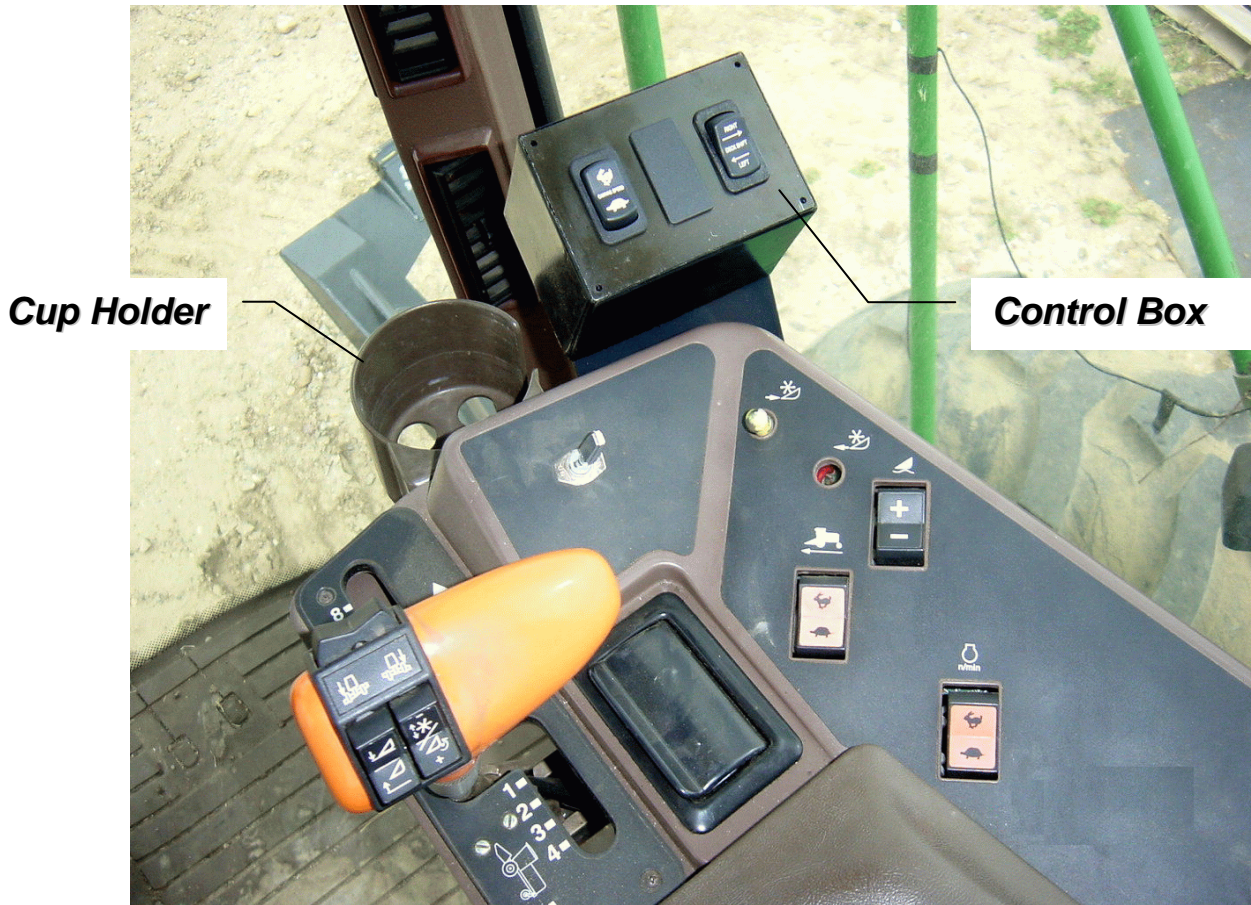


Figure 140.3

ELECTRICAL

LIGHT WIRING

The light wiring incorporates two circuits: Figure 140.4

1. Transport running lights. Items # 3, 4, 6.
2. Warning flashers. Items # 1, 2, 5.

Transport Lights:

1. The transport lights consist of two wiring harnesses and two (tail, signal, and stop) lights.
2. The 46ft (14.03M) Harness extension with a male (Universal Trailer Connector, 4 Pole) that goes to the towing vehicle. It is the transporters' responsibility to ensure proper connection to towing vehicle. Figure 140.7
3. The 6ft (1.83M) Harness wishbone with male (Universal Trailer Connector, 4 Pole) that connects to the female end of the 46 ft (14.03M) extension harness. The plugs on the other end connect directly to the pig tail of the lights. Figure 140.8

Warning Lights:

1. The warning flasher light wiring consists of a 10 ft (3.05M) pigtail harness that attaches from the power unit to the warning flasher harness. The adaptor plug (JD - 7 - way connector) is installed at factory with the reel speed wiring plug. Figure 140.5
2. The warning flasher harness is a total of 45 ft (13.73M) in length and connects the warning flasher lights to the power unit. Figure 140.6

ELECTRICAL

Wiring Schematic: Lights - continued

WIRING SCHEMATIC: LIGHTS

1. Harness 10ft Pigtail
2. Harness Warning Flashers
3. Harness 46ft Extension
4. Harness 6ft Wishbone
5. Amber - Warning Flasher
6. Red - Tail, Signal and Stop

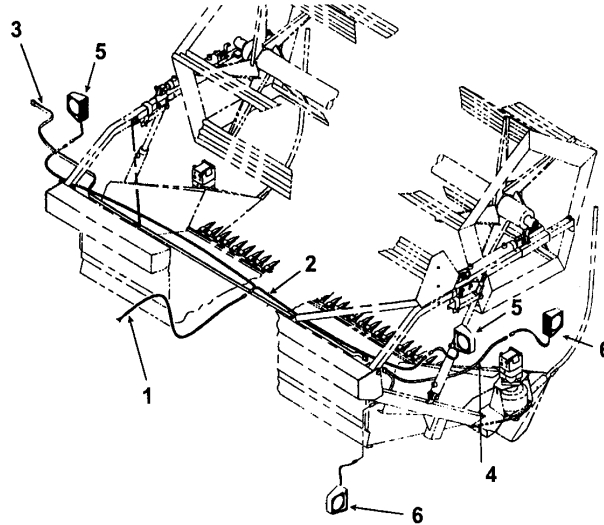
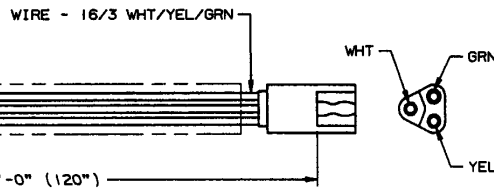


Figure 140.4

WIRING LAYOUT:
WHITE - GROUND
GREEN - RH FLASHER
YELLOW - LH FLASHER

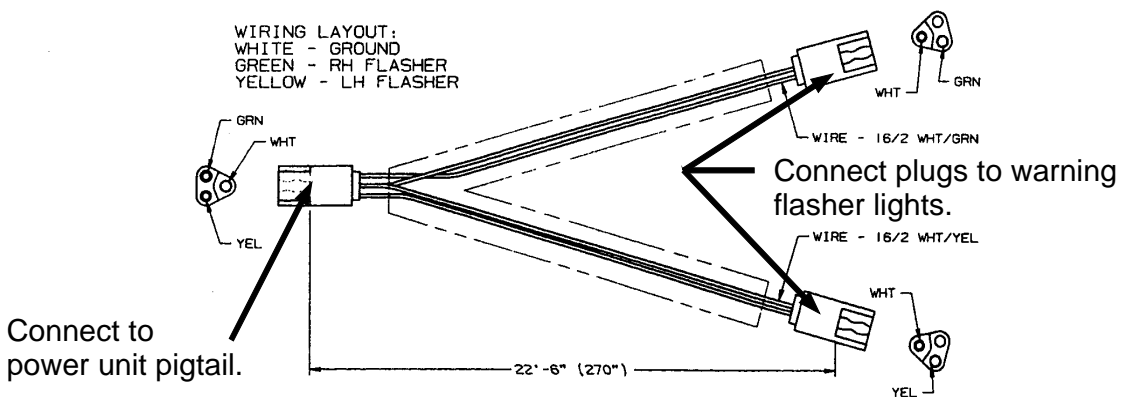
Connect to power unit.
See figure 130.11



Harness 10ft Pigtail

Figure 140.5

WIRING LAYOUT:
WHITE - GROUND
GREEN - RH FLASHER
YELLOW - LH FLASHER

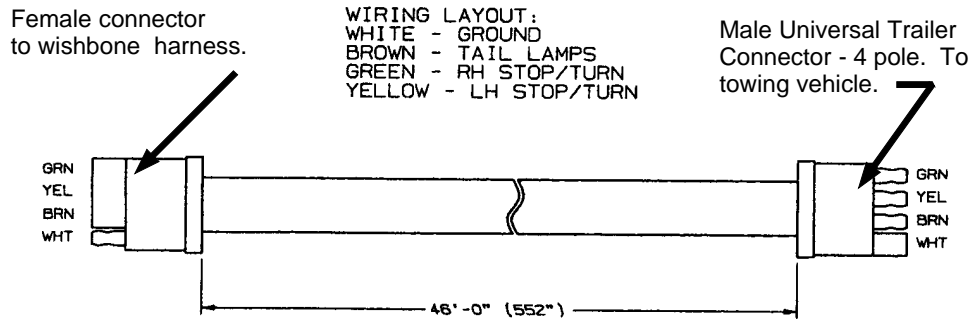


Harness Warning Flashers

Figure 140.6

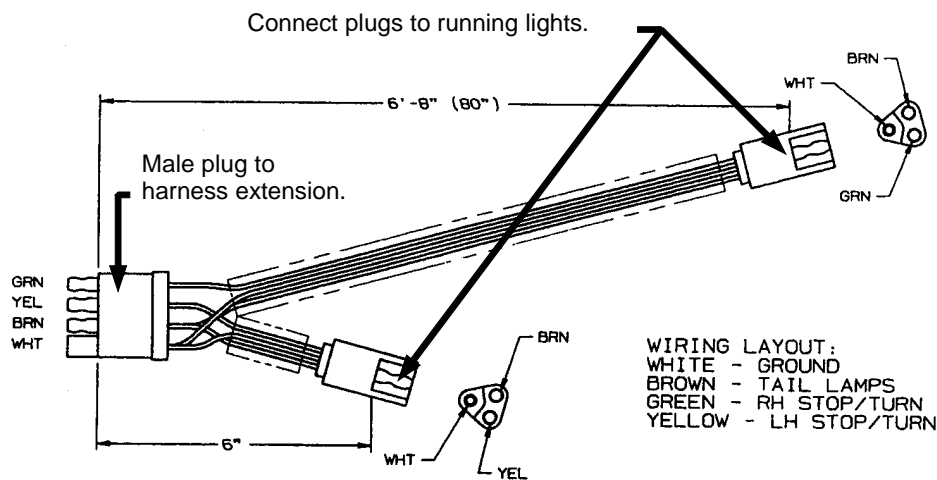
ELECTRICAL

Wiring Schematic: Lights - continued



Harness 46ft Extension

Figure 140.7



Harness 6ft Wishbone

Figure 140.8

ELECTRICAL

REMOTE REEL SPEED DRIVE:

The JD power unit requires the reel to be plumbed into the header hydraulic circuit. To control the speed of the reel, an electric motor is mounted to a hydraulic flow control. A switch will need to be mounted in the cab of the power unit to control the electric motor. The switch is a momentary on, double pole, double throw. When flipped one way, the motor will adjust the flow control to increase the flow to the reel motor. When flipped the other way the current reverses in the switch, reversing the motor. This will decrease the flow to the reel motor slowing the reel down. The switch returns to the neutral position when released.

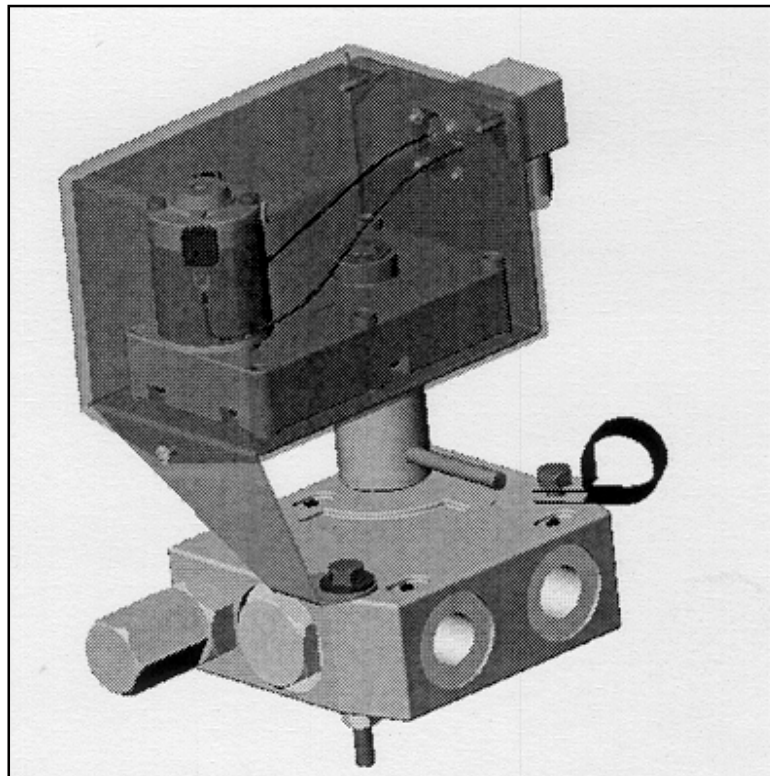


Figure 140.9

ELECTRICAL

LIGHT WIRING

The light wiring incorporates two circuits:

1. Transport running lights.
2. Warning flashers.

TRANSPORT LIGHTS:

The transport lights should be used at all times when the header is transported on public roads. Connect to the towing vehicle with the proper connecting plugs.

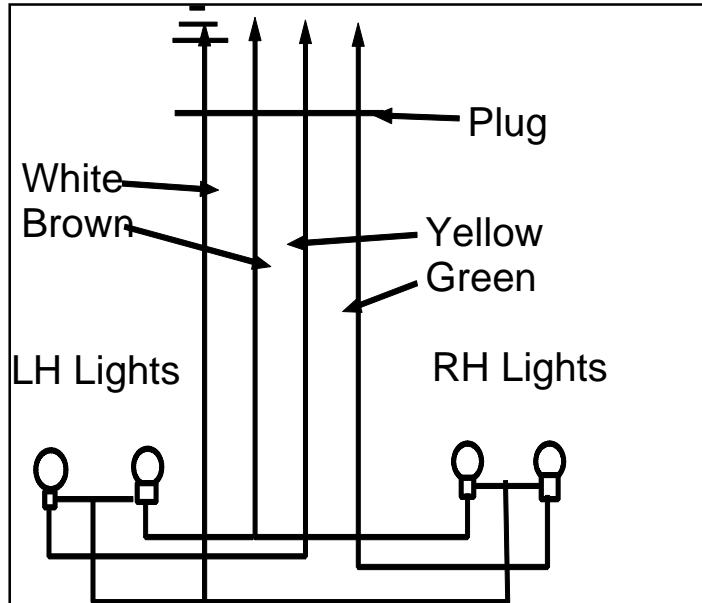


Figure 140.10

Wiring layout:

White - Ground
Brown - Tail Lamps
Green - Right Hand Stop / Turn signal
Yellow - Left Hand Stop / Turn signal

ELECTRICAL

LIGHT WIRING - continued

BE SEEN, BE SAFE!

When transporting the swather when it is mounted to the power unit, the flashing warning hazard lights must be connected and flashing. The flashing amber warning lamps must be visible from the front and the rear.

Warning hazard lights: Connect to the power unit socket.

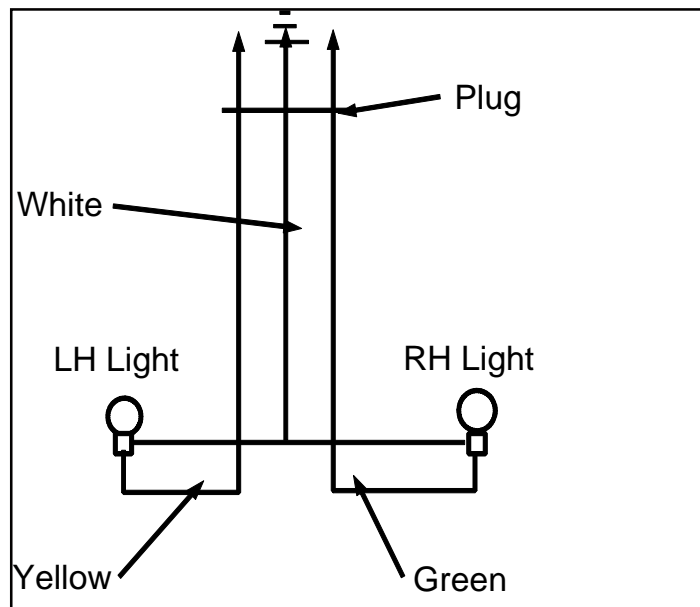


Figure 140.11

Wiring Layout:

White - Ground
Green - Right Flasher
Yellow - Left Flasher

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