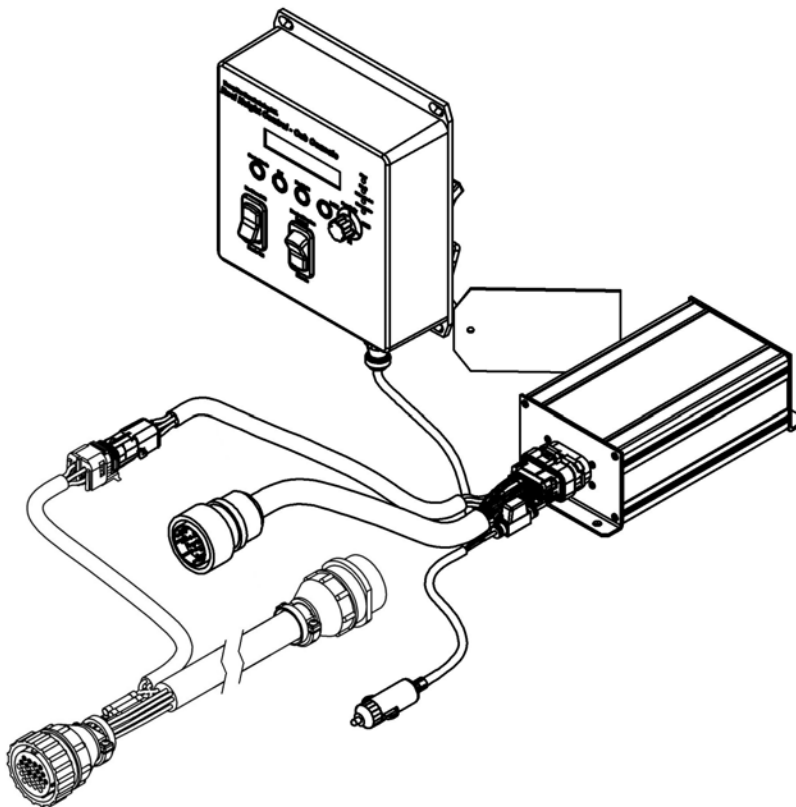




**John Deere  
Automatic Reel Height Controller  
Installation**





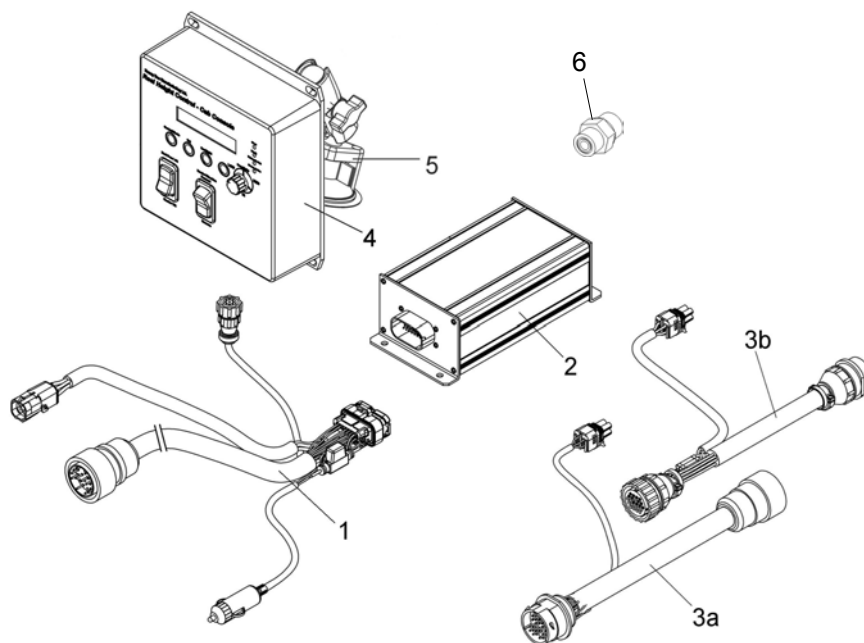


## Preparation

Unpack the unit, and check the parts supplied against the packing list enclosed.  
Organize the components, and plan the best locations for the readout, and controller.

### Parts

1. Wire Harness
2. Controller
3. Interrupt Harness
  - a. For Combines with serial numbers before 715401
- OR**
- b. For Combines with serial numbers including and after 715401
4. Readout
5. Suction Arm
6. Nipple 6mf-8mb

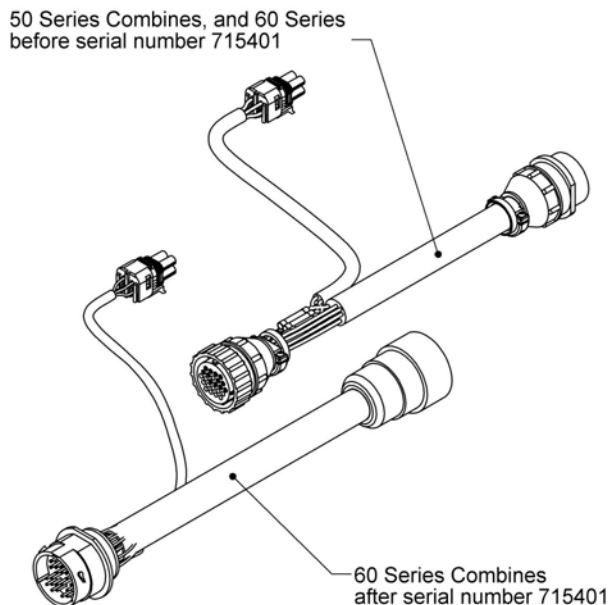




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## **Assembly**

1. Examine the Interrupt harness, and identify the components shown here. For simplicity, the lead lengths shown here do not represent the actual harness lengths, but the appearance of the plugs is accurate.



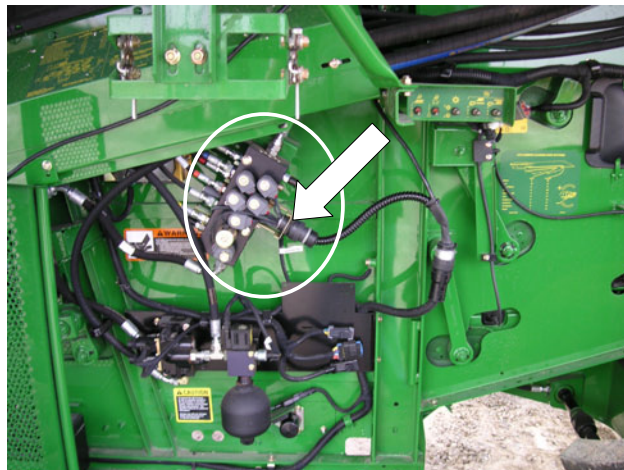
*Illustration 1: Interrupt Harness*

2. Open the safety panels on the left side of the combine to expose the main hydraulic control block.



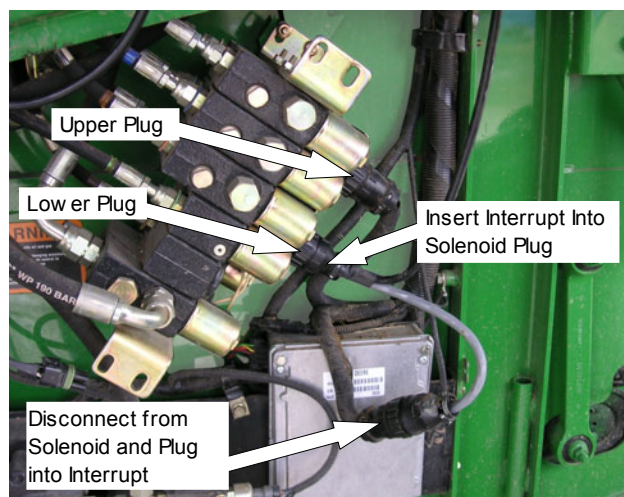
*Illustration 2: Main Hydraulic Block Access Panel*

3. The hydraulic control block is located just in front of the rear wheel on the left side of the combine. Locate the plug on the lower side of this block.



**50 Series Combines, and 60 Series before serial number 715401**

1. Disconnect the lower female plug from the hydraulic block.
2. Plug the female end of the interrupt harness into the hydraulic block.
3. Plug male end of the harness into the female plug that you disconnected from the hydraulic block.

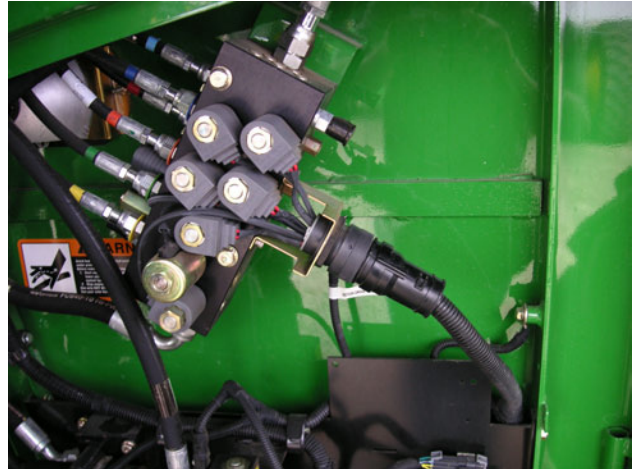


*Illustration 3: Locations of Interrupt Plugs*

4. Run the remaining wire from the interrupt harness up into the cab of the combine, securing with zip-ties along the way. Ensure you run the wire in such a way that it does not come into contact with any moving parts or locations where it may become damaged.

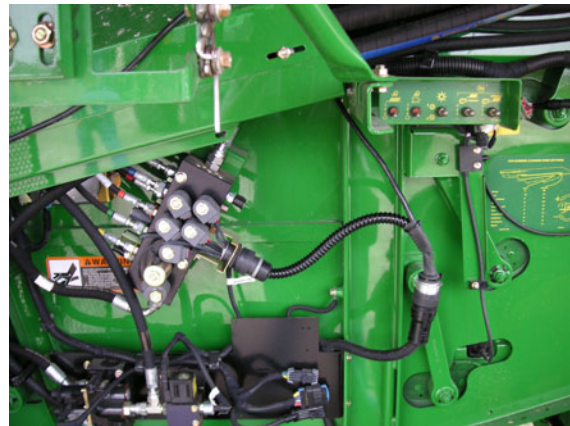
**60 Series Combines, after serial number 715401**

1. Disconnect the male plug from the hydraulic block.
2. Plug the male end of the interrupt harness into the hydraulic block.



*Illustration 4: Before Modification*

3. Plug female end of the harness into the male plug that you disconnected from the hydraulic block.

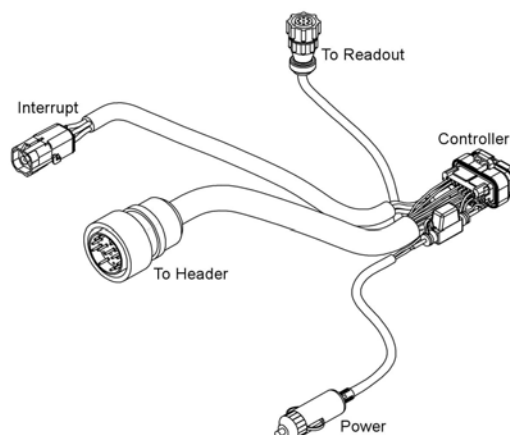


*Illustration 5: After Modification*

4. Run the remaining wire from the interrupt harness up into the cab of the combine, securing with zip-ties along the way. Ensure you run the wire in such a way that it does not come into contact with any moving parts or locations where it may become damaged.



5. Mount the Readout and Controller in safe and clean locations. The readout comes with a suction cup mount for attaching to the windshield, moisten the suction cup to ensure a good hold.



*Illustration 6: Wire Harness*

6. Connect the interrupt plug to the Wire Harness. Connect the wire harness to the controller, readout, 12v power plug, and to the multi coupler on the header.
7. The plugs are designed to fit in only one way, with some care in aligning them, they should connect easily, and snap, or lock into position with a slight turn. Take care to align the plugs correctly.



*Illustration 7: Readout Connection*



*Illustration 8: Controller Connection*



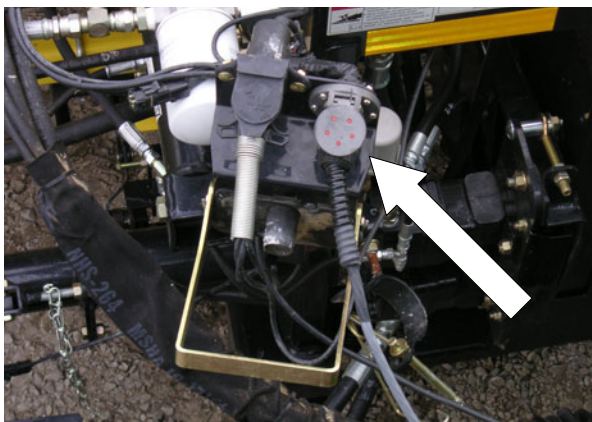
*Illustration 9: Power Connection*



8. Ensure that when you run the connector to the header, that you secure the wire in such a way that it does not come into contact with any moving parts.

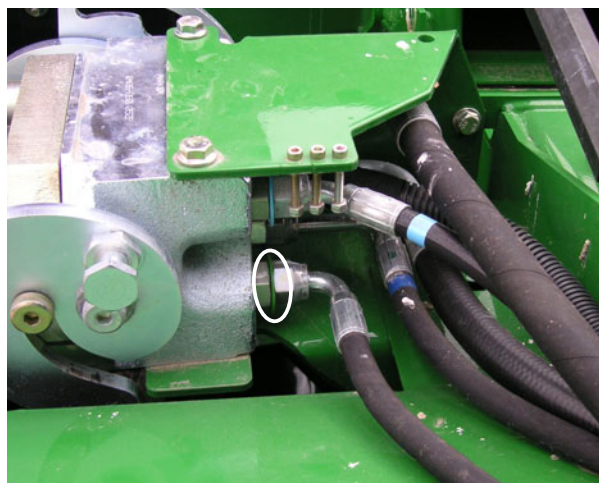


*Illustration 10: In-Cab Interrupt Connection*



*Illustration 11: Harness To Header Connection*

9. The Reel Lift Orifice on the combine side of the multi coupler needs to be replaced to allow greater hydraulic flow for faster response for reel tine protection. Remove the hose and the fitting. Replace the old nipple with the new nipple provided. The old nipple has a small opening on one end and a larger one on the other end. The new nipple has equal sized holes on either end.



*Illustration 12: Fitting Replacement*



Pay close attention to the orientation of the washers when removing the original nipple and duplicate this orientation when installing the new nipple.

Store the old fitting in a clean, safe location if it is required in the future.

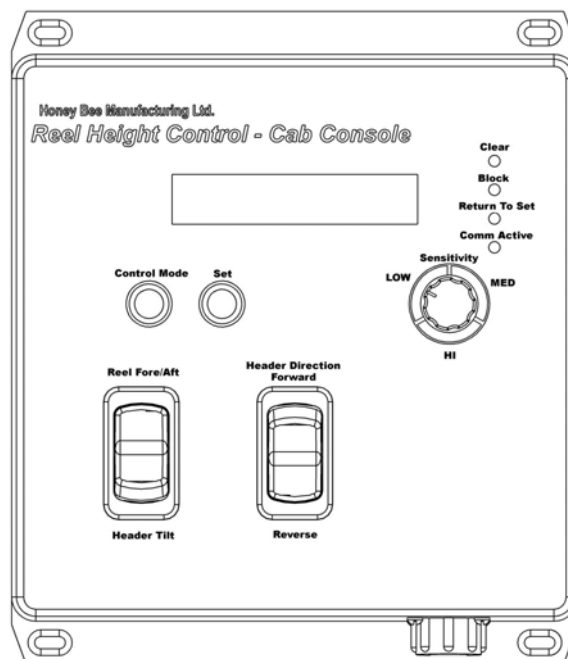
## **Configuring Reel Height Control**

After the interrupt harness, readout and controller are properly installed:

1. Start the combine and turn on the reel height controller.
2. The display on the readout should say “HoldAuto”. Press the “Control Mode” button so the display reads “Manual”.
3. Lift/Lower the table to regular cutting height, and lift the reel to your safety point (operating height).
4. Press and hold “Set” until “Set Point Stored” is displayed on the readout.
5. Press “Control Mode” once more so the display reverts back to “HoldAuto”
6. The light labeled “block” should be on at this time, raise the reel slightly and it will turn off.



The “block” light indicates that the auto reel height sensors are tripped.



*Illustration 13: Automatic Reel Height Control Readout*



## **Operation**

If the cutter bar lifts above the set height, the reel should automatically raise up to avoid touching the cutting system. **For this reason, the cutter bar must not be locked in a stationary position and must be 'floating' for the automatic reel height control to function.** The closer the reel is to the cutter bar, the higher the sensitivity should be set on the readout.

## **Note:**

Always turn off the controller when the combine is not in use, as it will be using power from the battery even if the combine is turned off.

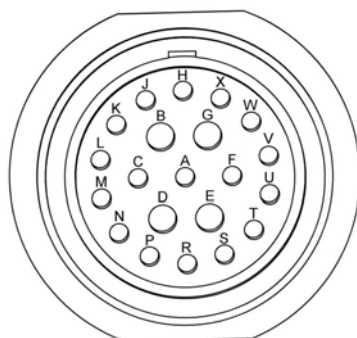
The Automatic Reel Height Control will not function until the knife drive is running at a minimum of 20 rpm. This is to ensure that it does not trigger when someone is working on the unit.

## **Testing**

Start the unit, and calibrate the sensor as detailed in the Combine Operator's Manual. Test, and accustom yourself to, the operation of the controls.

## **Diagnostics**

Refer to the following pin-out diagram for testing of specific circuits:



Electrical Plug Pin Layout  
(Female End)

- A - Signal From LH Sensor (LH Green)
- C - Signal From RH Sensor (RH Green)
- P - Positive (White LH & RH)
- S - Negative (Black LH & RH)

NOTE: The Pin layout on the male plug is a mirror image of the female plug.

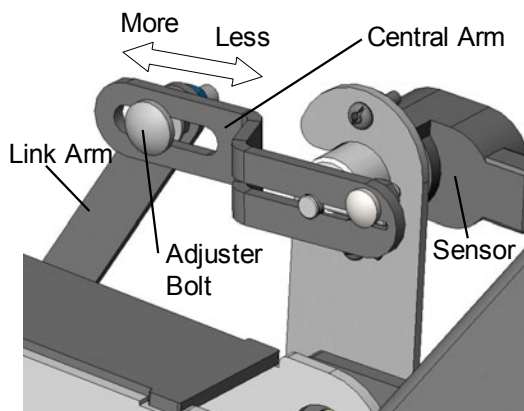
*Illustration 14: Main Connector Pin Usage*

## **Troubleshooting**

### **Reel Not Moving Far Enough and/or Moving Too Far**

If the reel is not moving far enough when the sensors are activated, loosen the adjuster bolt and slide the link arm along the central arm towards the front of the header. Then re-tighten the bolt. This will increase the motion of the reel.

If the reel is moving too far, then loosen the adjuster bolt, slide the link arm back towards the rear of the header and re-tighten the bolt. This will decrease the motion of the reel.



*Illustration 15: Reel Arm Sensor*

### **Reel Will Not Raise and/or Lower**

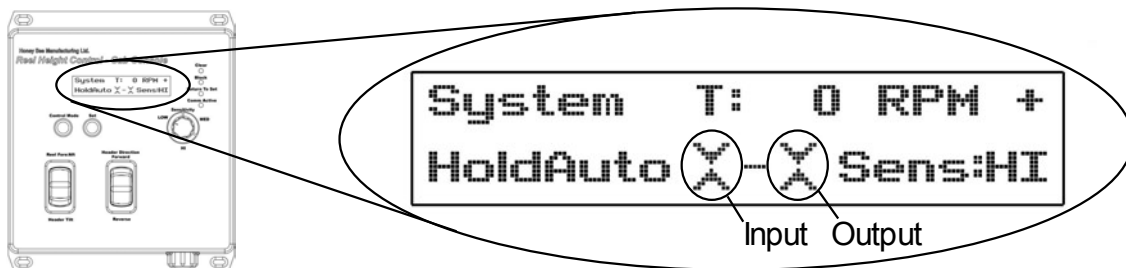
#### **Examining the Readout & Electrical Connections**

The first thing you should troubleshoot is the electrical connections. The easiest way to do this is to monitor the Reel Height Control Readout.

When the **Reel Raise** controls are activated you should see the **up arrow** (▲) displayed for both the input and the output.

When the **Reel Lower** controls are activated you should see the **down arrow** (▼) displayed for both the input and the output.

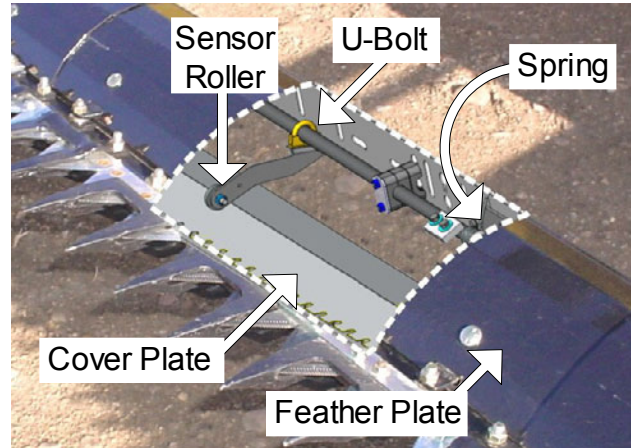
If the arrows do not match, or if only one arrow is shown then there is a problem with the electrical connections. Inspect all electrical connections to ensure they are properly installed. Refer to *Illustration 14: Main Connector Pin Usage* if necessary.



*Illustration 16: Readout Input and Output Locations*

***Adjusting the Springs and Sensor Rollers***

1. Ensure that the automatic reel height control sensor rollers are lightly pressing down on the cover plates on the cutter bar.
2. If the rollers are not touching the cover plates, remove the feather plates, keeping track of the nuts, bolts and washers.
3. Check and make sure that the springs on the Sensor Roller Assembly are properly oriented, so that they are causing the sensor rollers to press down on the cutter bar.



*Illustration 17: Auto Reel Height Sensor Roller*

4. If the spring is properly oriented, but the rollers are still not in the correct position, loosen the U-bolt holding each roller in place and reposition so they are touching the cover plates. Re-tighten the the U-bolt.