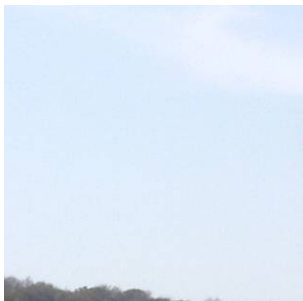


# JD600F-CIHx010

Conversion Manual  
09040104



**HEADSIGHT INC.**  
HARVESTING SOLUTIONS



# About Headsight

## Headsight Contact Info

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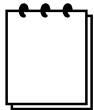
## Technical Assistance

Phone: 574-220-5511

# About this Manual

## How to use this manual

For new installations, follow all applicable instructions in each of the numbered sections (1, 2, etc) in the order that they are presented in this manual. The information in the lettered appendices (A, B, etc) is for service or advanced settings which you will not need for most installations, but may want to reference in the future.



This icon designates information of which you should take note.



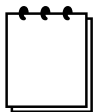
This icon designates an important instruction.

## Disclaimers

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## Suggestions

If you have any suggestions to improve this manual –please call 574-546-5022 or email [info@headsight.com](mailto:info@headsight.com).



Portions of this product are protected by US Patents 6202395, 6833299, 7310931, and other US and international patents, issued and pending.

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# 1. Installation



Make sure a cable routing is done so no wiring can bind or pinch. Tie up all loose cabling. Properly installed wiring is the most critical aspect of a trouble-free installation. For more information on the harnesses, see A5, Wiring

## 1.1. Header Adapter Harness Mounting

1. Mount the HT2250 bracket and the Header adapter harness (short harness) to the rear of the head near the left of the feederhouse. If possible, use existing holes.



2. Remove the C clip holding the OEM header electrical connector in the JD single-point plate. Remove the connector from the plate, and press fit the two loose connector bodies together. Connectors may be ziptied together if necessary.

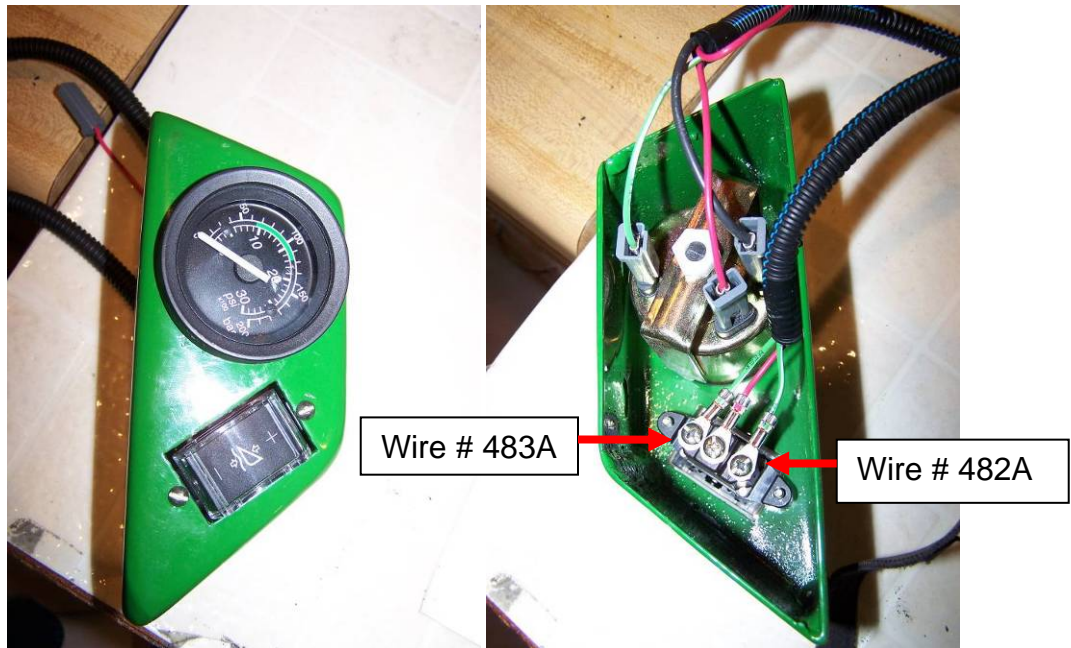


3. Make sure a Header Recognition Module is installed on the 6 pin connector.
4. Tie 4 pin connector so it is easy to connected during header hookup



If you are installing the JD single point on your CIH combine, simply insert the Header adapter harness into the combine half and secure it with a C-clip. Do not use HT2250 bracket, let header adapter harness stay with combine when unhooking single point.

## 1.2. Cab Control Assembly



The included pictures show a properly assembled Hydraflex cab control and Cab Control Harness. While good instructions are available in the JD manual, please note:

- You **MUST** mount the housing before installing the gauge into the housing as you cannot get to the bolts after the gauge is in place.
- Picture shows a possible mounting location.
- Be **VERY** careful with the gauge, as it can be easily damaged. Do not over tighten the plastic nut holding it in place. A new gauge is expensive!
- The position of the wires as pointed out in the assembly pictures. Reversing these wires reverses the switch action.
- Make sure the wires do not touch each other or the housing.



### 1.3. Adapter Main Harness

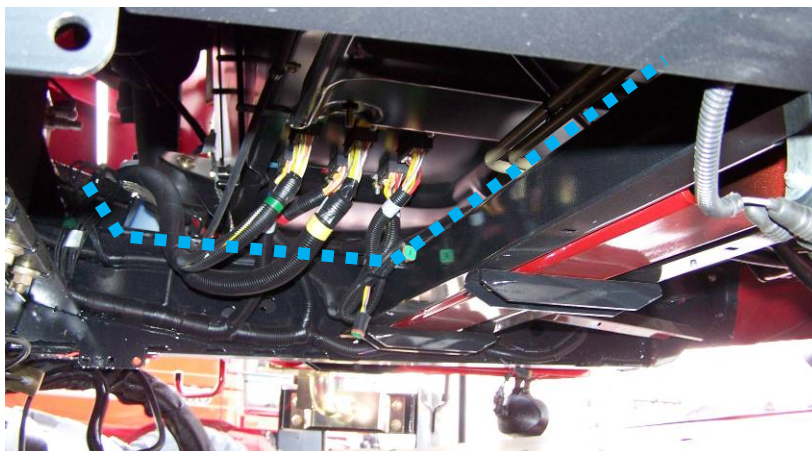
1. Identify the connector labeled X021 on the left side of the feederhouse.
  - Disconnect X021. Connect the T connection on the adapter main harness into both connectors.



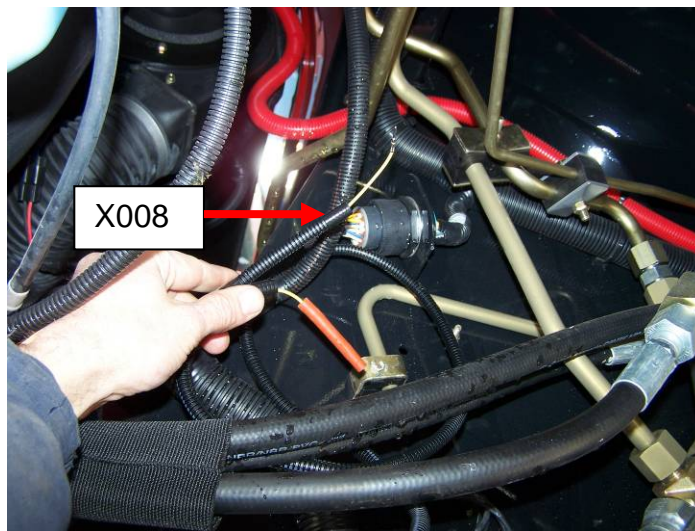
2. Route the shorter end of the adapter main harness with the 4 pin plug forward with the existing feederhouse harness. Tie up this connection parallel to the OEM Header connector.



3. Route the “long” end of the adapter harness back along the feederhouse, and around the pivot, always following existing harnessing.
4. Route the end of the adapter main harness with the 5 position plug over the frame rail and across under the cab the right side with OEM harnesses and piping. Make sure to allow the yellow wire with loose pin to remain on left side of combine.



5. Route the tail of the harness with the bare socket and orange jiffy splice to connector X008 right behind cab on left side sheet.
  - Using the included blue tool, remove blue wire number 1119 from position 2 in X008 (remove socket from plug side of connection). This wire is near the center of the plug. The tool slides into the plug from the back over the wire.
  - Insert wire 1119 into the open cavity on the jiffy splice on the adapter harness and press in until it clicks.
  - Insert yellow wire with bare socket into X008 p2.
  - If you have any problem inserting these, disconnect the plugs first, reconnect when complete.
  - When you are done, the original wire 1119 should go into the jiffy splice, and the yellow wire should then go to X008, p2.



6. Either drill a hole in the bottom of the cab, or route the cable in the right side door as an access point to the cab. Make sure the cable end with the 2 pin connector is inside the cab.
7. Route the adapter main harness up to the cab control harness and plug 5 pin connectors together.
8. A power cable is included. Route this cable to any clean 15A switched power source (an accessory outlet). The cable has a clip on the end to snap over an existing minifuse if you wish to go to the fuse box. Make sure to only connect it to the fused side of the fuse. It can also be cut to length with your own adapter. Make sure Red goes to power.
9. If not already done, attach the Black wire to any good Ground.

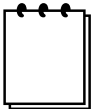
## 2. Calibration

### 2.1. Combine Ground Calibration



A full-combine calibration must be completed if a component of the header control system on the combine is changed. See combine operators manual for details.

1. Start Combine
2. Stop forward motion of machine
3. Disengage header clutch
4. Lower header to ground and hold down button for 2 seconds after header contacts ground
5. Raise header all the way without releasing the raise button

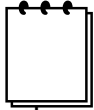


If calibration is done correctly, the header will pause momentarily before reaching the top – continue to hold the raise button until reaching the top of the stroke

6. If the header does not pause or if a header sensor error is displayed on the combine screen
  - Use combine monitor to diagnose sensor errors

## 3. Settings

### 3.1. Combine Settings



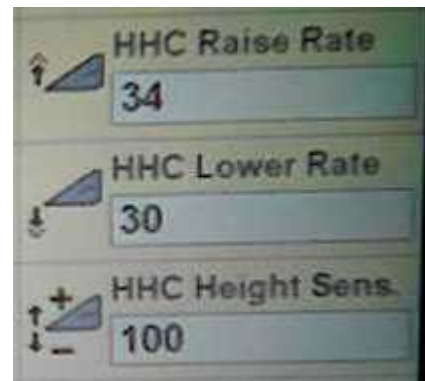
Properly setting the combine is essential to having responsive header control. You should become very familiar with the steps in this section.



ALWAYS perform the combine ground calibration before adjusting settings. Set each of the following settings as high as you prefer without causing head “hunting”. If the head “hunts”, decrease the appropriate setting.

- Set the automatic drop rate
  - Common range is 6-8 seconds from full up to full down in auto mode
- Set the automatic raise rate
  - Common range is 5-7 seconds from full down to full up in auto mode
- Open the hydraulic accumulator
- Set height sensitivity
- Set tilt sensitivity

#### 3.1.1. Color “600” Monitor



1. Find the HHC settings on one of the run screen tabs.
2. Touch the setting you want to adjust.

### 3.1.2.

### B/W Monitor



HHC Raise Rate	50	Height Sensitivity	100
HHC Lower Rate	30	Tilt Sensitivity	200

3. Go to >>USER>>HARV or >>USER>>ADJUST in the combine menu
4. Choose the appropriately titled area for the setting you want to adjust.

## 4. Operation



Operate the Headsight system exactly like you would use a CIH system.

1. Engage header and separator clutch



2. Manually lower header to the desired height.
3. Press “Set#1” or “Set#2” button to store setpoint.
  - Adjust the height setpoint slightly up or down by using the “+” and “-“ button.



4. Press “Resume” button on hydro handle.
  - Press “Resume” again to toggle between setpoint #1 and #2.



# A Technical Information

## 1 Theory of Operation

A review of the following points will help the service technician to understand the complete system which will help when diagnosing specific problems.

1. Each sensor returns a variable voltage depending on its height.
  - high height = high voltage (approximately 4 volts)
  - low height = low voltage (approximately 1 volt)
2. Each sensor has 3 wires
  - 5V power
  - ground
  - signal returned to the combine
    - varies between approximately 1.0 and 4.0 volts
3. The voltages the combine sees are exactly like what it would see with an OEM system. All existing combine controls and settings may be used.

## 2 Basic Requirements



If any sensor does not meet the requirements below you must correct it (to meet the requirements) and then recalibrate. See the header manual for sensor adjustment instructions. Each sensor must meet basic requirements for the combine to accept the calibration.

- Signal must always be between .3 and 4.7 volts.
- Signal must change more than 1.0 volts from raised to lowered position for each sensor.

## 3 Troubleshooting

The following symbols are used in the troubleshooting guide:



**Denotes a problem or symptom.**

- Read through the problems and select the one that most closely represents your problem.

**? A question or condition needed for the following steps that the technician must answer.**

- Read through the possible options and select the one that most closely represents your problem.

**★ A possible answer to the previous question or problem**

- Evaluate each possible answer to determine the cause of the problem.
- Answers are given in order from most to least likely.

**○ Gives further explanation or testing instructions.**



Nearly every problem with the header control system on AFX combines may be resolved by one of the following simple steps:

- Make sure each sensor meets the basic requirements discussed above.
- Properly calibrate the combine.
- Enable the appropriate HHC functions.
- Properly set the combine electronics and/or hydraulics

▪ **...Troubleshooting by Symptom**



**Header is too jumpy or responds too slowly**

- ★ Calibration is not properly completed.
  - Recalibrate combine.
- ★ Combine is improperly set.
  - See Settings section.



**Combine Quick-calibration fails**

- ★ Header is not properly connected
  - Verify all combine harnesses are properly connected
  - Cycle key switch off –on then recalibrate
- ★ Full calibration required
  - Make sure to fully lower the feederhouse
- ★ Combine does not recognize header.
  - Verify that header recognition module is plugged into harness, and read Voltage - Header Type Sensor in the diagnostics menus (see “Reading Voltages”).
- ★ Some early 8010’s (pre-2007) may not operate with the header type selected to “flex”. For these combines, unplug header recognition module, select header manually as “draper,” and retry calibration.



**Cannot operate header low enough**

- ★ Perform combine Full-Cal and Quick Cal



**Cannot operate header high enough.**

- ★ Perform combine Quick-Cal.



**No automatic operation – height or tilt**

- ★ Wiring is not connected properly or calibration has not been completed.
- ★ Some early 8010’s (pre-2006) may not operate with the header type selected to “flex”. For these combines, unplug header recognition module, select header manually as “draper,” and recalibrate.
- ★ Header control is not enabled with cab controls.
  - See Operation section for instructions about how to enable.
- ★ Combine problem
  - Contact your CIH service technician



**Height works but not Tilt**

- ★ Verify wiring is connected as follows

- Read sensor input values to combine in diagnostics menus to determine that sensors are correctly connected (see “Reading Voltages”).
- Pin 7 of JD single-point to pin 1 on CIH header plug.
- Pin 9 of JD single-point to pin 2 on CIH header plug.
- Pin 3 of JD single-point to pins 3 & 4 on CIH header plug.
- ★ Combine software problem
  - Have a CIH technician update/reinstall the combine header control software. If all voltages are correct but tilt will not function, this usually will solve the problem.



**Header is not level with header control engaged.**

- ? If the header tilts completely to one side:
  - ★ Wiring connected improperly
    - Verify that the individual sensor wiring is connected to the main wiring harness at the rear of the header properly.
    - This symptom will occur if the Left and Right sensor wiring are in the incorrect position.
    - See Installation section for details.
- ? If the header runs slightly out of level but functions correctly:
  - ★ Perform the combine Quick-Cal procedure.

## 4 Reading Voltages

- ...on the Color “600” monitor

1. Start at the Main screen.



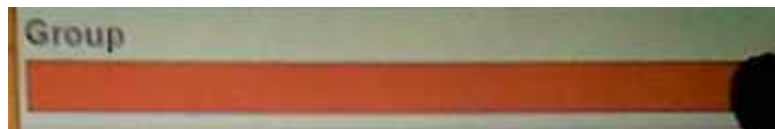
2. Choose Diagnostic



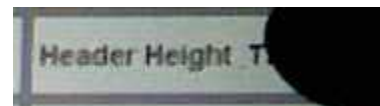
3. Go to the Settings tab



4. Choose the Group drop down menu



5. Select Header Height Tilt

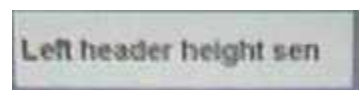


6. Choose the Item tab



7. Scroll down using the side bar and select the sensor you are interested in.

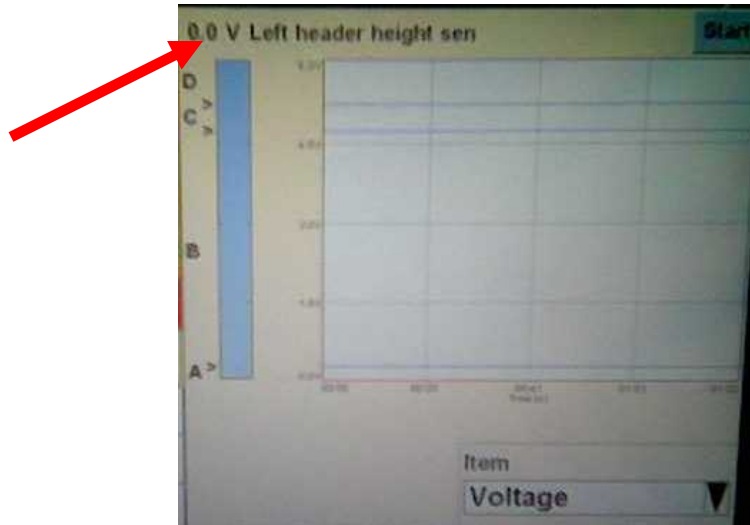
- Left header height sen shown



8. Choose the Graph tab.

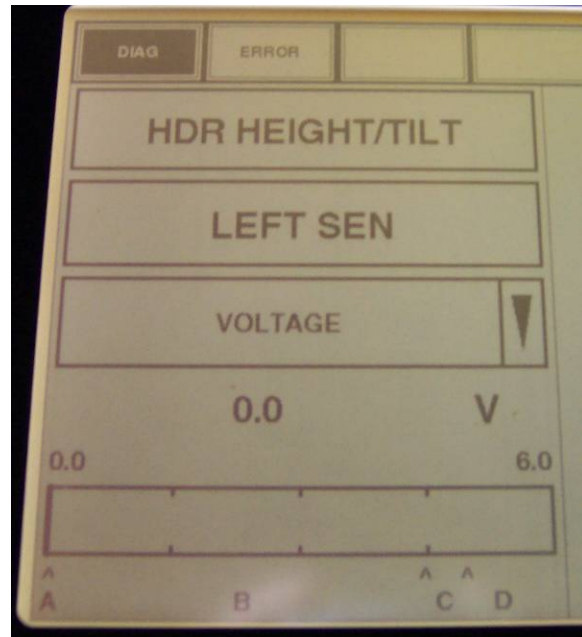


9. Choose Voltage from the Item drop down if needed
10. Read the voltage and voltage history on the screen.



- **...on the B/W monitor**

1. Go to the location shown
  - >>DIAG>>HDR HEIGHT/TILT>>(Sensor of interest)



## 5 Wiring

- **Adapter Header Harness**



<u>Connector</u>	<u>Description</u>	<u>Connects to</u>
S0	31 pin Deutsch	Header connector – header single-point
S1	31 pin Deutsch	Header connector – combine side
Y303	4 pin Amp	Adapter Main harness
Y501	6 pin WeatherPack	Header Recognition Module



▪ **Adapter Main Harness**



<b>Connector</b>	<b>Description</b>	<b>Connects to</b>
X021m,f	24 pin Deutsch	X021 on combine feederhouse valve assm.
Y303	4 pin Amp	Adapter Header Harness
Y401	5 pin Deutsch	Cab Control Harness
X008 p2	Jiffy Splice/socket	X008 p2 on combine lift side
P1	2 pin Deutsch	Power wire



## B Parts



Key#	Part#	Description	Qty	Notes
1	BH84096-IH80-H	Adapter Header Harness	1	
2	BH84096-IH80-M	Adapter Main Harness	1	
3	BH84096-CCW	Cab Control Harness	1	
4	PFB-AG13-P	Power Wire	1	
5	BH84096-JD	JD Cab Control Kit	1	Gauge, Switch, Etc
6	HT2250	BRACKET, HARNESS	1	

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