

# CONVERSION

INSTALLATION & OPERATION MANUAL



## 6/7xxFD DRAPER SPEED KIT

09040117e



HEADSIGHT.COM | 574.546.5022



# About Headsight

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# About this Manual

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## How to use this manual

The instructions in this manual are in the order that they should be completed for new installations. Complete all applicable instructions in each section before proceeding. Note that some sections are labeled to indicate they only apply to certain machines or applications. An index is available in the front of the manual to help find technical information for previously installed systems.



This icon designates information of which you should take note.



This icon indicates a special tool needed for a given task.



This icon designates an important instruction.

## Suggestions

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

## Disclaimers

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# Table of Contents

<b>Installation</b>	<b>01</b>
<b>Header Adapter Harness Mounting</b>	<b>02</b>
For John Deere 60 Series	03
For CNH and JD 50 Series	03
For Lexion	03
<b>Draper Speed Controller and PWM Harnesses</b>	<b>04</b>
For John Deere (50 Series and Up)	05
For CNH	05
For Lexion	05
<b>Calibration</b>	<b>06</b>
<b>Combine Ground Calibration</b>	<b>06</b>
JD 50 & 60 Series	06
JD 70 Series	07
<b>Settings</b>	<b>08</b>
<b>Combine Settings</b>	<b>08</b>
70 Series combines	08
60 Series STS combines	08
50 Series & 60 Series Non-STs combines	09
<b>Operation</b>	<b>10</b>
<b>Enabling Height Control</b>	<b>10</b>
50/60/70 Series	10
<b>Belt Speed Controller Operation</b>	<b>11</b>
Belt Speed Adjustment	11
Belt Speed Readings	11
Belt Slippage Warnings	12
<b>Harness &amp; Connector Guide</b>	<b>13</b>
HP0-JD63-31Q - Header adapter harness	13
HT9891 - Reel Lift Update	14
HT9306 - Power Adapter Harness, Typical	15
<b>Diagnostics</b>	<b>16</b>
<b>Troubleshooting by Symptom</b>	<b>17</b>
<b>Schematics</b>	<b>18</b>
<b>Header Adapter harness</b>	<b>19</b>
<b>Reel F/A harness</b>	<b>20</b>
<b>Parts</b>	<b>21</b>
<b>Statement of Limited Warranty</b>	<b>23</b>

# Installation



Before working on combine or under header always:

1. Perform all combine and header manufacturer safety precautions for servicing header.
2. Insert stop to prevent movement of header.
3. Set combine parking brake.
4. Turn off combine and remove key from ignition.
5. Disconnect all drive shafts from the header.



JD heads 2016 & up have a check valve block added in the Reel F/A circuit on the head. Older heads may also have this block retrofitted. This check valve must be removed for proper operation on any other combine. The symptom is a “jerky” motion of the Reel F/A circuit.



Make sure the 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 harness details, see Advanced Info/Harness & Connector Guide.



This kit allows 600FD header to operate on 60 and 70 Series combines.

## Header Adapter Harness Mounting

1. Remove the C clip holding the OEM header electrical connector in the JD single-point plate.

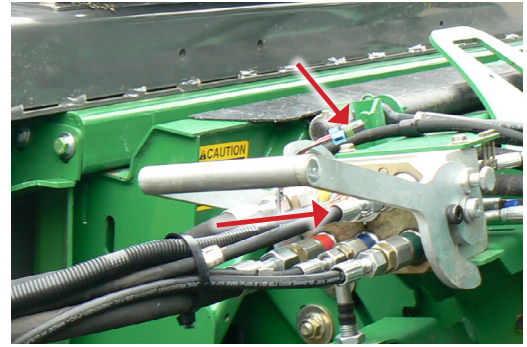


2. Remove the connector from the plate, and connect to Y202 on the adapter harness. Press the two connector bodies together; secure with the HT2259 bracket & zipties.
  - Adapter harness varies dependent on application
  - JD60/70: HP0-JD63-31Q
  - CNH: HT9806-H
  - Lexion: See conversion manual



## For John Deere 60 Series

1. Route Y201 up to the new JD single point adapter and install into the adapter with the C clip removed earlier.
2. Mount the HT9800 2-3 Module to the rear of the head near the above connection.
3. Connect Y237 to the HT9800 Module.
4. To operate in flex mode:
  - Y249 & Y250 must be disconnected
5. To operate in off-ground mode (if equipped with off ground sensors):
  - Connect Y249 & Y250



HT9800



### 60 Series, Standard

6. Y248 will connect to Y247 on the PWM harness.
  - Y247b is not used in the application

### 60 Series w/600D Draper Control Update

7. Connect Y248 to Y247b. The combine will control draper speed, so do not install rest of kit.

## For CNH and JD 50 Series

1. Follow the CNH conversion kit installation manual for all combine components except the Draper speed.
2. Mount the HT2250 bracket and header adapter harness to the rear of the head near the left of the feederhouse.
  - CNH: HT9806-HDR
3. Y248 will connect to Y247 on the HT9806-FH harness.



## For Lexion

1. Follow the Lexion conversion kit installation manual for all combine components except the draper speed.
2. Lexion uses special HT9290 cab harness.
3. Y248 will connect to Y247 on the PWM harness.

## Draper Speed Controller and PWM Harnesses

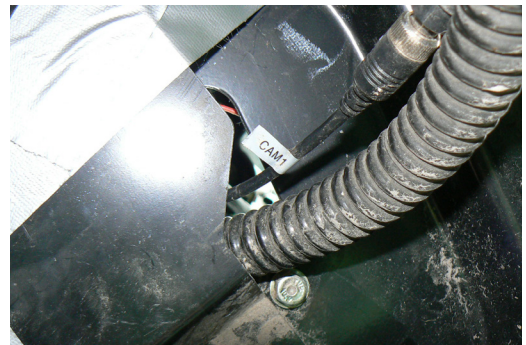
1. Use the included suction mount to attach the Fold Controller to the right cab window above the console.
  - Place it in an easy to see and reach location
2. Connect Y246 on the PWM harness into the controller.
  - HT9891 for JD & CNH
  - HT9290 for Lexion
  - Make sure it is fully seated (clicks)



1. Remove the shields on the left side of the combine feederhouse.



2. Route Y243 out through the cab access point on the right side floor and across under the cab.
  - Cab access is model specific, determine a reasonable access point for your combine
3. Follow existing OEM wiring down the feederhouse to connect to Y248 beside the header connection.





## For John Deere (50 Series and Up)

1. Connect Y569 to Y570 on the power adapter harness.
2. Connectors Y570b not used for this application
3. Connect Y251 to the Power Bar.
  - Located to the right of the operators seat
4. Reinstall the shields on the left side of the combine feederhouse.

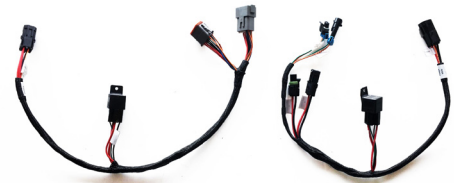


## For CNH

1. Install the included seat switch power adapter inline to the OEM seat switch connector.
  - Varies by combine:
    - Y351-Y354 for all prior to 2013
    - Y571-Y572 for all 2013-->
  - Located behind or to the right of the operators seat



2. Connect Y569, Y570 (power adapter to Cab harness.)



## For Lexion

1. If provided, use HT9313 Power adapter
  - Connect Y569, Y570 (power adapter to Cab harness)
  - Plug into switched power outlet.
2. Otherwise,
  - Attach the red wire Y380 to a clean switched power terminal in the fuse panel.
  - Attach the black wire Y379 to a clean frame ground.

# Calibration

## Combine Ground Calibration




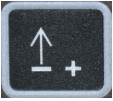




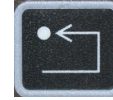


Y249 & Y250 must be disconnected when calibrating in flex mode.



For CNH & Lexion combine calibration and settings, please follow the appropriate conversion manual.

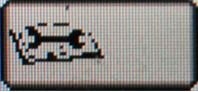

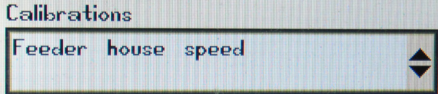





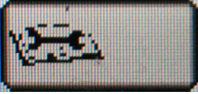

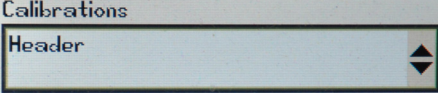





### JD 50 & 60 Series

1. Press  Diagnostics button on cornerpost.
2. Press  Up until the screen reads “CAL”.
3. Press  Enter.
4. Press  Up until the screen reads “Hdr”.
5. Press  Enter – screen will read “Hdr – dn”.
6. Lower the header completely to the ground.
7. Press  Cal – screen will read “Hdr – up”.
8. Raise the header to the top of its stroke.
9. Press  Cal – screen will read “EOC”.
10. Press  Enter.
11. Press  Esc until returned to the main screen.

# JD 70 Series



The following calibrations must be done in the correct order as listed below!

1. Rotate knob until  diagnostic is highlighted on screen and press  until it shows calibrations.
2. Rotate knob until  Feeder house speed is highlighted in calibrations box and press 
3. Rotate knob until  is highlighted and press 
4. Follow calibration instructions and press  after every step and at end of calibration to save.
5. Only press  to cancel or quit calibration.
6. Rotate knob until  diagnostic is highlighted on screen and press  until it shows calibrations.
7. Rotate knob until  header is highlighted in calibrations box and press 
8. Rotate knob until  is highlighted and press 
9. Follow calibration instructions and highlight  after every step and at end of calibration to save.
10. Only press  to cancel or quit calibration.

# Settings

## 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 sensitivity setting by increasing till header bouncing occurs then decreasing till header becomes stable.

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

### 70 Series combines

1. Set the AHHC height and tilt sensitivity.



- Press the header button repeatedly until AHHC sensitivity or contour master sensitivity displays (70 series shown).
- Use scroll knob to adjust sensitivity.

### 60 Series STS combines

#### Set the automatic drop rate

- Use the knob under the operator's right-hand armrest.



## 50 Series & 60 Series Non-STS combines

To test the automatic drop rate – you must disconnect the wiring to the auto drop rate bypass valve. Reconnect the wire after testing.



### Set the Automatic Drop Rate

- Use the adjustment on the valve block.
- Turn in all the way then out ½ turn for initial guess.
- If the speed is too fast – hunting will occur.
- If the speed is too slow – the system will not be responsive enough.
- Common range is 6-8 seconds from header full up to full down in automatic mode.

### Set the Hydraulic Accumulator

- Close the accumulator valve all the way
- Open the accumulator valve 1 full turn (from closed position).
- Opening the accumulator too far will give a sloppy response.
- Not opening the accumulator far enough will give a jerky response.
- Close the accumulator valve all the way, then open it 1 full turn.





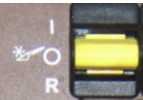





For CNH & Lexion combine calibration and settings, please follow the appropriate conversion manual.

# Operation

## Enabling Height Control

### 50/60/70 Series

1. Press  on cornerpost to enable the  icon.
2. Press  on cornerpost to enable the  icon.
3. Engage  header clutch.
4. Ensure that the header float option is disabled .
5. Press 2 or 3  resume button on hydro handle to engage AHHC.
6. Turn the  AHC dial on the armrest with header control engaged.
  - Clockwise = higher
  - Counter-clockwise = lower



For CNH & Lexion combine calibration and settings, please follow the appropriate conversion manual.

# Belt Speed Controller Operation

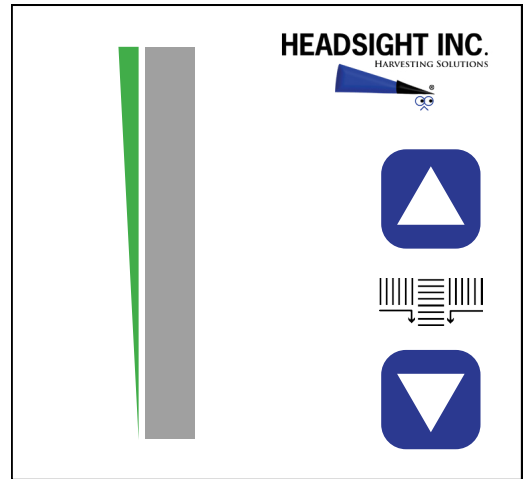
## Belt Speed Adjustment

### Draper Belt Speed Increase

To increase belt speed press  until desired speed is reached.

### Draper Belt Speed Decrease

To decrease belt speed press  until desired speed is reached.



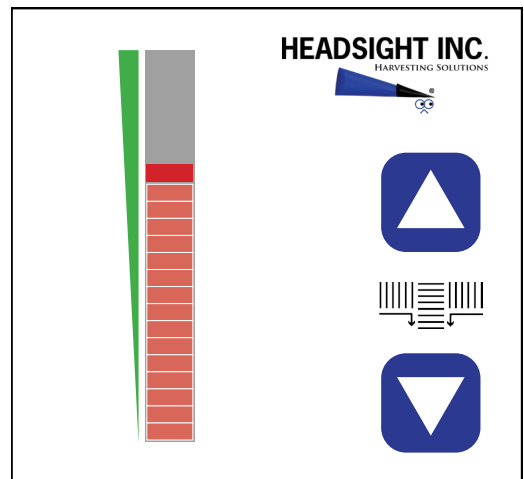
## Belt Speed Readings

### Speed Setting

Brightest LED

### Speed Reading Reference

Dim LED's



## Belt Slippage Warnings

### Belt Slippage

When belt slippage is detected, the whole LED graph blinks rapidly then blinks displays section of belt slippage.

- Right belt indicated on graph

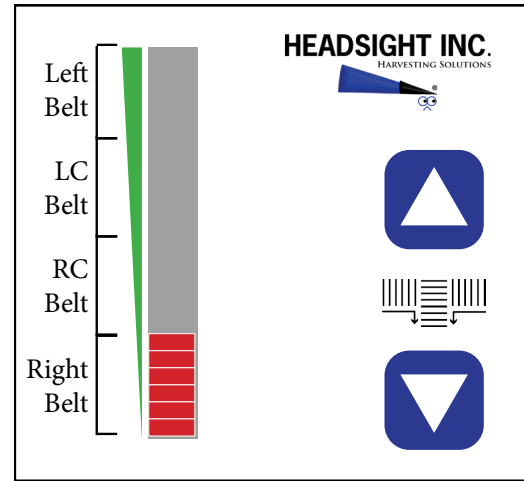
### Recall Last Belt Slippage Warnings

To display last error code, press



and

at same time.





# Harness & Connector Guide

## HP0-JD63-31Q - Header adapter harness



<b><u>Connector</u></b>	<b><u>Description</u></b>	<b><u>Connects to</u></b>
<b>Y201</b>	31 pin Deutsch	Combine
<b>Y202</b>	31 pin Deutsch	Header
<b>Y237</b>	6 pin Deutsch	HT9800
<b>Y247B</b>	3 pin Weatherpack	Belt Speed
<b>Y248</b>	3 pin Weatherpack	Belt Speed
<b>Y249</b>	3 pin Deutsch	Drag Rods
<b>Y250</b>	3 pin Deutsch	Drag Rods



## HT9891 - Reel Lift Update



<u>Connector</u>	<u>Description</u>	<u>Connects to</u>
<b>Y246</b>	12 pin Deutsch	PWM Controller
<b>Y247</b>	3 pin Weatherpack	Belt Speed
<b>Y569</b>	4 pin Weatherpack	Power
<b>Y570b</b>	4 pin Weatherpack	Power

## HT9306 - Power Adapter Harness, Typical



<u>Connector</u>	<u>Description</u>	<u>Connects to</u>
Y570	4 pin WeatherPack	Y569, Reel F/A Switch Harness
Y251	Molded 3 terminal	Cab Power Adapter

# Diagnostics



**Before working on combine or under header always:**

1. Perform all combine and header manufacturer safety precautions for servicing header.
2. Insert stop to prevent movement of header.
3. Set combine parking brake.
4. Turn off combine and remove key from ignition.
5. Disconnect all drive shafts from the header.



# Troubleshooting by Symptom

Symptom	Problem	Solution
<b>Draper Speed Diagnostics</b>		
Combine will not calibrate  Center Sensor error Left and Right sensor OK	HT9800 2-3 adapter module not connected or installed	Install and connect HT9800
	HT9800 module has no power	On Y237, Check voltage across pins 1 & 2 for 5V
	HT9800 module defective	Backprobe Y237. Voltage on pin 3 should equal lesser of 4 or 6. I
Display does not light up	Wiring problem	Check for 12v at Pin 6 and ground on Pin 5 at on Y246 controller connector. If bad power or ground repair wiring, if power and ground are good replace controller.
Speed will not adjust	If not at full speed problem is likely a bad PWM controller  IF Draper belt is at full speed follow diagnostics at left	<ol style="list-style-type: none"> <li>1. Check for good ground at Y202 Pin 27 <ul style="list-style-type: none"> <li>-If Ground is good go to next step</li> <li>-If bad ground check continuity between Y202 Pin 27 and Y246 Pin 6</li> <li>-No continuity repair wiring between Y202 Pin 27 and Y246 Pin 6</li> <li>-If good check for good ground at Y246 Pin 6 if not good replace PWM controller</li> </ul> </li> <li>2. Check for voltage at Y202 header main connector Pin 26 <ul style="list-style-type: none"> <li>-If no voltage present go to next step</li> <li>-If voltage was found at Pin 26 repair wiring problem or valve on header.</li> </ul> </li> <li>3. Check for voltage at Y247 Pin A <ul style="list-style-type: none"> <li>-If no voltage present go to next step</li> <li>-If voltage was found at Pin A repair wiring between Y247 and Header connector</li> </ul> </li> <li>4. If no voltage present on Y247 check Y246 Pin 2 for voltage. <ul style="list-style-type: none"> <li>-If no voltage present Replace PWM controller</li> <li>-If voltage was found at Pin 2 repair wiring between Y246 and Y247</li> </ul> </li> </ol>
Speed is not displaying	Wiring problem, header problem or bad controller	Disconnect Y247 and jump Pin A to Pin C Adjust draper speed, If speed follows draper adjustment then controller is good. If not repair wiring or header problem

# Schematics

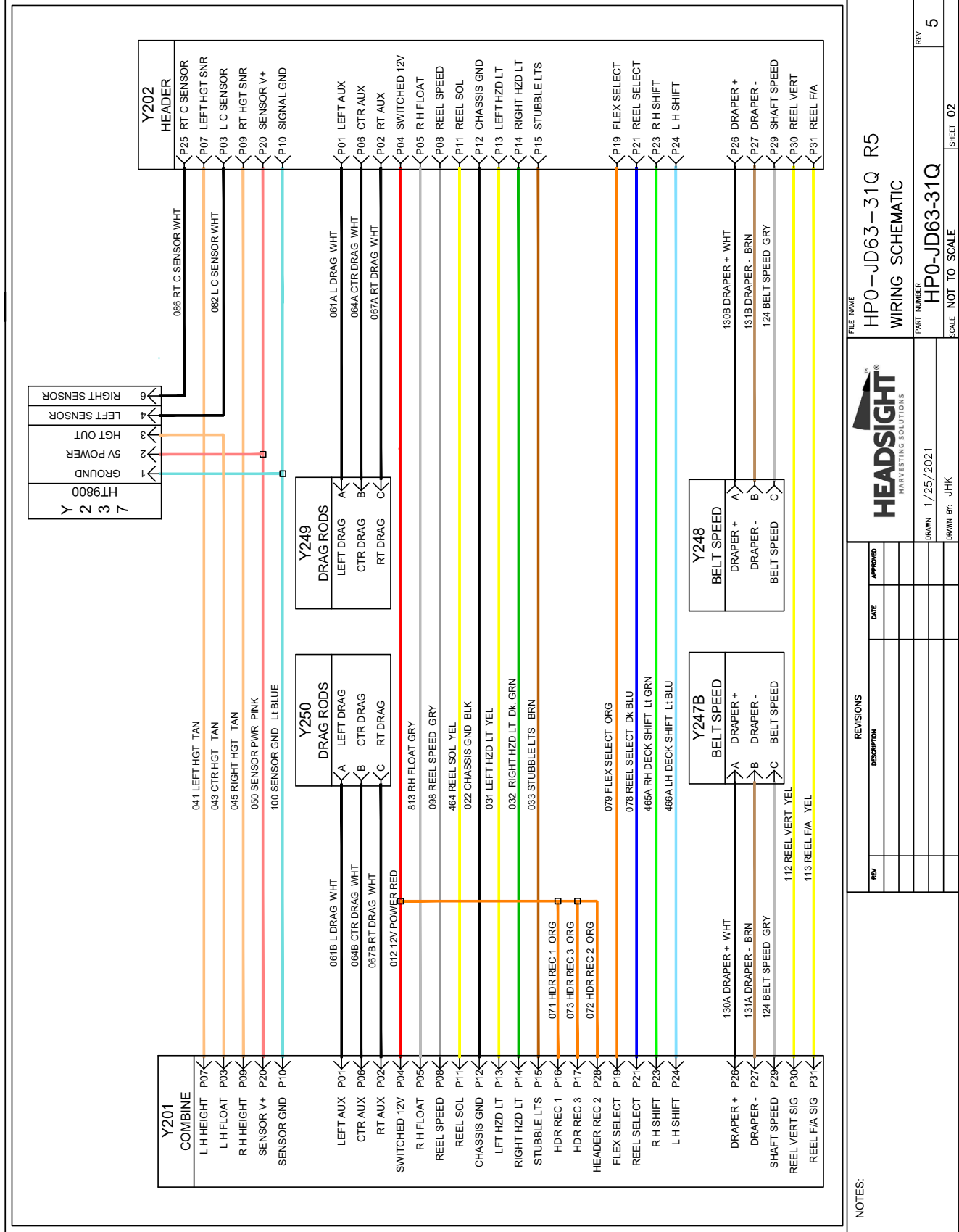


The Harness schematics is the main harnesses used for all applications in this manual, each uses one of the following valve harnesses depending on your steering device.



The following schematics are provided for troubleshooting and installation purposes only. Unauthorized uses, such as using them to replicate harnesses for resale, are strictly prohibited under copyright law.

# Header Adapter harness



NOTES:

REV	DATE	APPROVED	DESCRIPTION

**HEADSIGHT**  
HARVESTING SOLUTIONS

FILE NAME  
HP0-JD63-31Q R5

WIRING SCHEMATIC

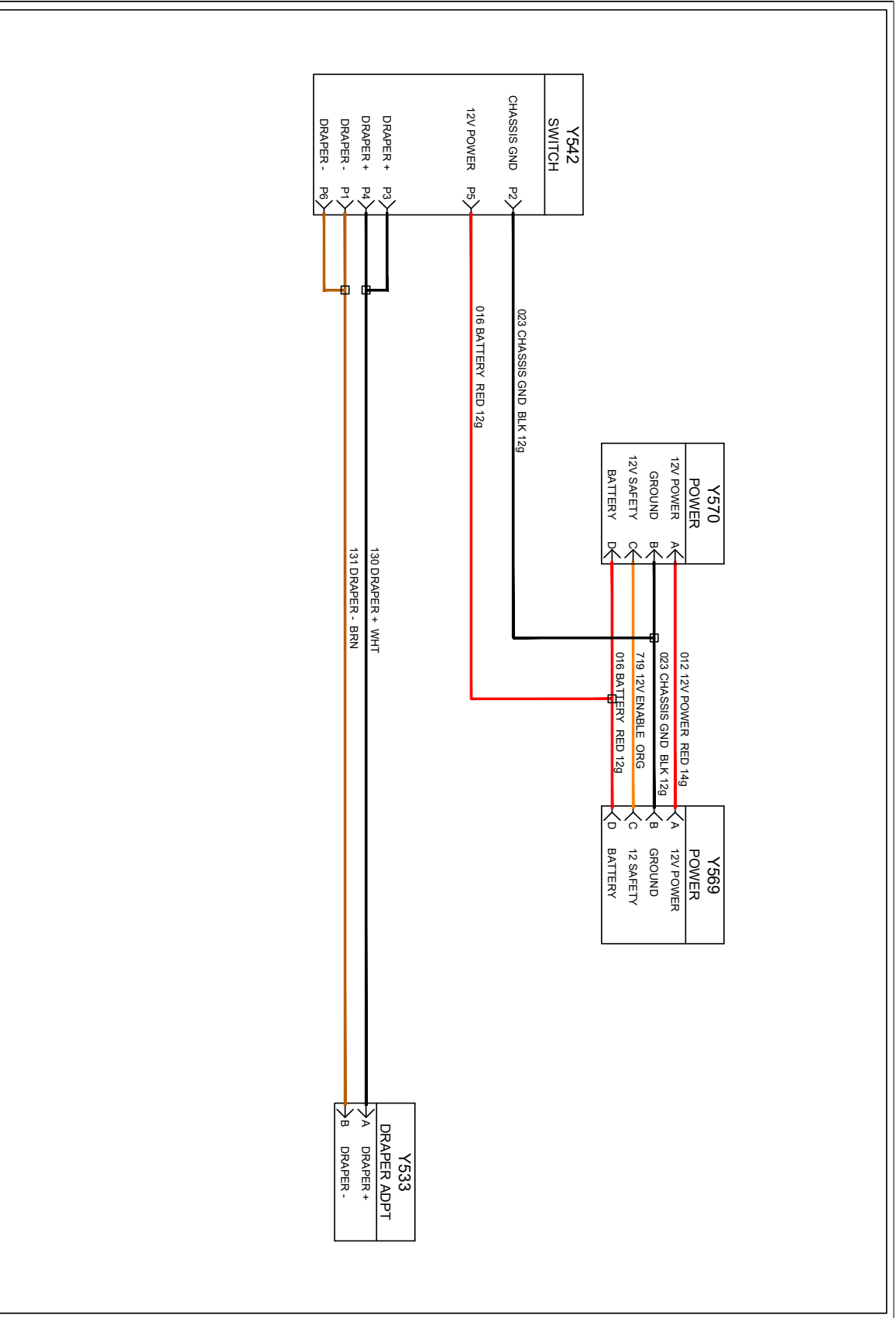
PART NUMBER  
HP0-JD63-31Q

SCALE  
NOT TO SCALE

DRAWN 1/25/2021  
DRAWN BY: JHK

HP0-JD63-31Q R5	REV	5
WIRING SCHEMATIC		
HP0-JD63-31Q		
NOT TO SCALE	SHEET 02	

# Reel F/A harness



NOTES:

REV	DESCRIPTION	DATE	APPROVED



DRAWN 2/4/2021  
DRAWN BY: JHK

FILE NAME: HT9896 R2 REV SW HARNESS  
PART NUMBER: HT9896  
WIRING SCHEMATIC

SCALE: NOT TO SCALE

SHEET 02

REV 2



# Parts



<u>ITEM</u>	<u>QTY.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	1	HT9210	PWM Controller
2A	AR	HP0-JD63-31Q	JD60 Harness
2B	AR	HP0-JD53-31Q	JD50 Harness
3A	AR	HT9891	PWM Harness
3B	AR	HT9290	Lexion PWM Harness
4A	AR	HT9306	JD Power Adapter
4B	AR	(varies)	CNH Power Adapter
5	1	HT2259	Harness Bracket
6	AR	HT9800	2-3 Adapter Module
7	AR	HT2250	Bracket, CNH & 50 Series



# Statement of Limited Warranty

## For Headsight® Products

Precision Planting DBA Headsight Harvesting Solutions (Headsight) warrants its new products to be free from defects in material and workmanship for a period of twelve (12) consecutive months following the date of purchase by the retail purchaser.

Headsight warrants its new corn sensors assemblies for a period of thirty-six (36) months.

Headsight warrants genuine Headsight replacement parts and components to be free from defects in material and workmanship for a period of six (6) consecutive months following the date of purchase or the remainder of the original equipment warranty period, whichever is longer.

Headsight's obligation under these warranties shall be limited to repairing or replacing, free of charge to the original purchaser, any part that, in Headsight's judgment, shows evidence of such defect.

## Limitations to Warranty

This warranty does not cover:

- Warranty claims directly resulting from improper installation of the product.
- Any product damaged by accident, abuse, misuse, or negligence after shipment from Headsight.
- Any unauthorized product alteration or modification.
- Any unauthorized repairs made with parts other than genuine Headsight parts.
- Any repairs performed by anyone other than Headsight or an authorized Headsight dealer unless specifically authorized by Headsight.

## Warranty Procedure

- Troubleshooting should be done between farmer/dealer and Headsight through our technical assistance @ **574.220.5511**.
- Labor reimbursement will occur only pre-arranged through Headsight technical assistance and be scheduled to a flat rate basis or reasonable time allowance in Headsight's judgment.
- There is no mileage reimbursement.
- Diagnostic time will not be reimbursed except in pre-arranged circumstances.
- Warranty claims should be on typical dealer service work order with a number and name to be attached for any future correspondence.
- All warranty work must be performed, and claims submitted, within thirty (30) days of the occurrence of the claim and within the warranty period.
- All parts removed during warranty repair must be returned to Headsight with Headsight's Return Form within thirty (30) days of the occurrence of the claim and within the warranty period.
- Headsight reserves the right to either inspect the product at the original retail purchaser's location or require it to be returned to Headsight for inspection.

## Limitation of Liability

Headsight makes no express warranties other than those, which are specifically described herein. Any description of the goods sold hereunder, including any reference to buyer's specifications and any descriptions in circulars and other written material published by Headsight is for the sole purpose of identifying such goods and shall not create an express warranty that the goods shall conform to such description.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. There are no implied warranties of merchantability or fitness of a particular purpose. This warranty states Headsight's entire and exclusive liability and buyer's exclusive remedy or any claim for damages in connection with the sale of furnishing of Headsight products, their design, suitability for use, installation or operation, or for any claimed defects herein. HEADSIGHT WILL IN NO EVENT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER, NOR FOR ANY SUM IN EXCESS OF THE PRICE RECEIVED FOR THE GOODS FOR WHICH LIABILITY IS CLAIMED.

No representative of Headsight nor any dealer associated with Headsight has the authority to change the items of this warranty in any manner whatsoever, and no assistance to purchaser by Headsight in the repair or operation of any Headsight product shall constitute a waiver of the conditions of this warranty, nor shall such assistance extend or revive it.

Headsight reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligation to owners of units previously sold. Warranty: **1/2022**



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