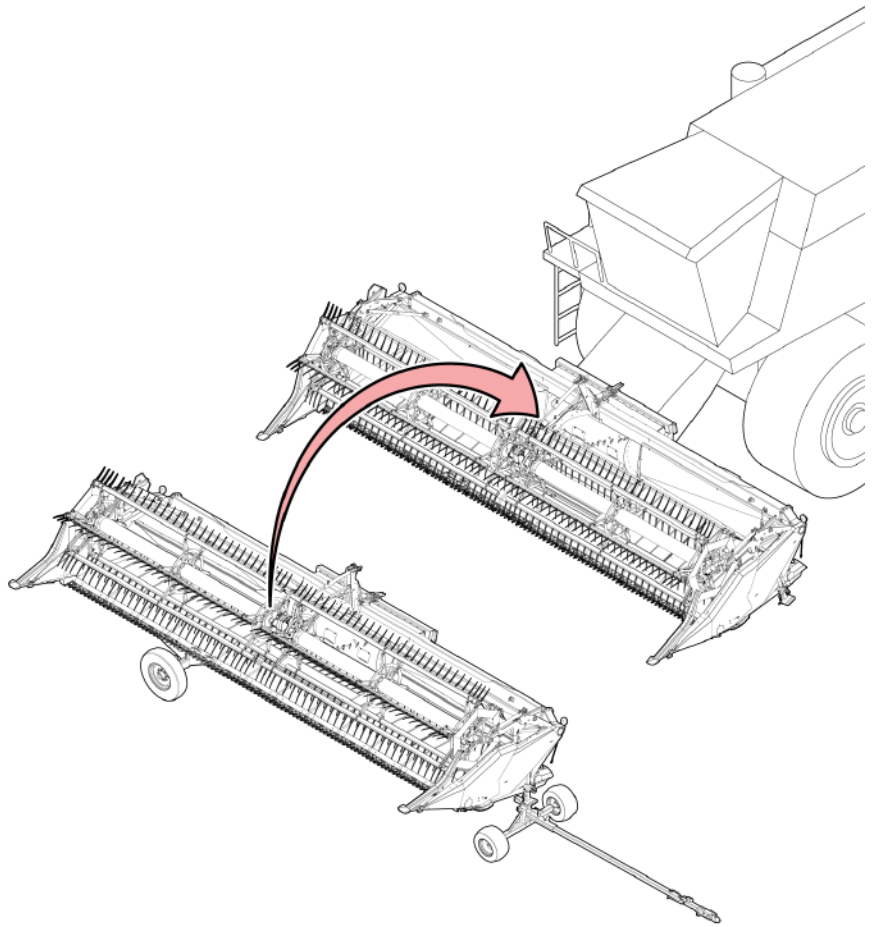


# 2018

# AirFLEX

Quick Start Guide



## IMPORTANT!

This guide is a supplement to the operators manual, do not attempt to operate your equipment without first reading and understanding the full operator manual.



## DANGER!

When you exit the combine, shut off the combine, engage the parking brake, and wait for all moving parts to come to a complete stop before approaching the header.

If working on a raised header, ensure the feeder house cylinder locks are in place.

Do not wear loose clothing or jewelry around moving parts.

Avoid high pressure hydraulic spray. Seek medical attention immediately if it punctures your skin.

Ensure all equipment is secured against sudden drops.

Read and understand all safety instructions in the operator manual before proceeding.

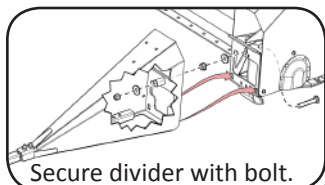
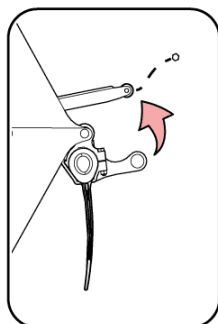


**Honey Bee®**

Document Revision History			
Revision	Author	Date	Description
2.6	AD	02/08/2018	Added Gleaner S9 page, removed old JD page, added step 4 to Lexion page (turn off vario automatics)

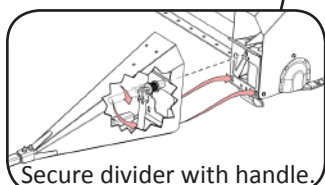
## Header Preparation

Raise front reel bats to operational position and secure to the control arms using the preinstalled nut and bolt.



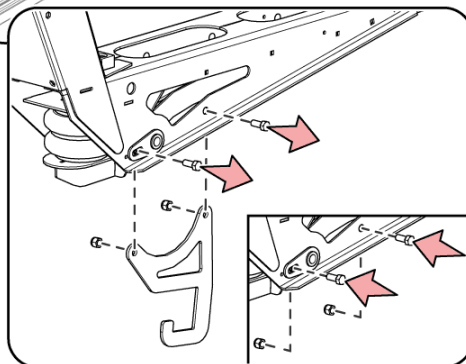
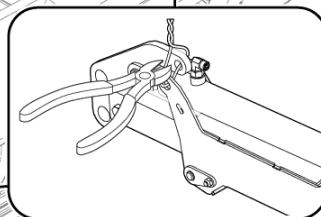
Secure divider with bolt.

Ensure dividers are securely installed



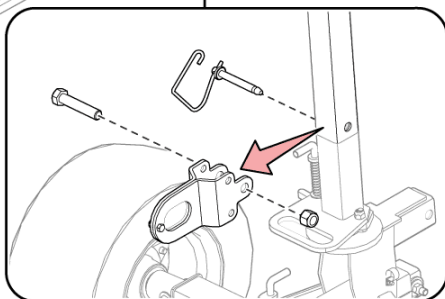
Secure divider with handle.

Remove the wire holding the reel arms and reel in place. Inspect thoroughly as the wires can be in multiple locations.



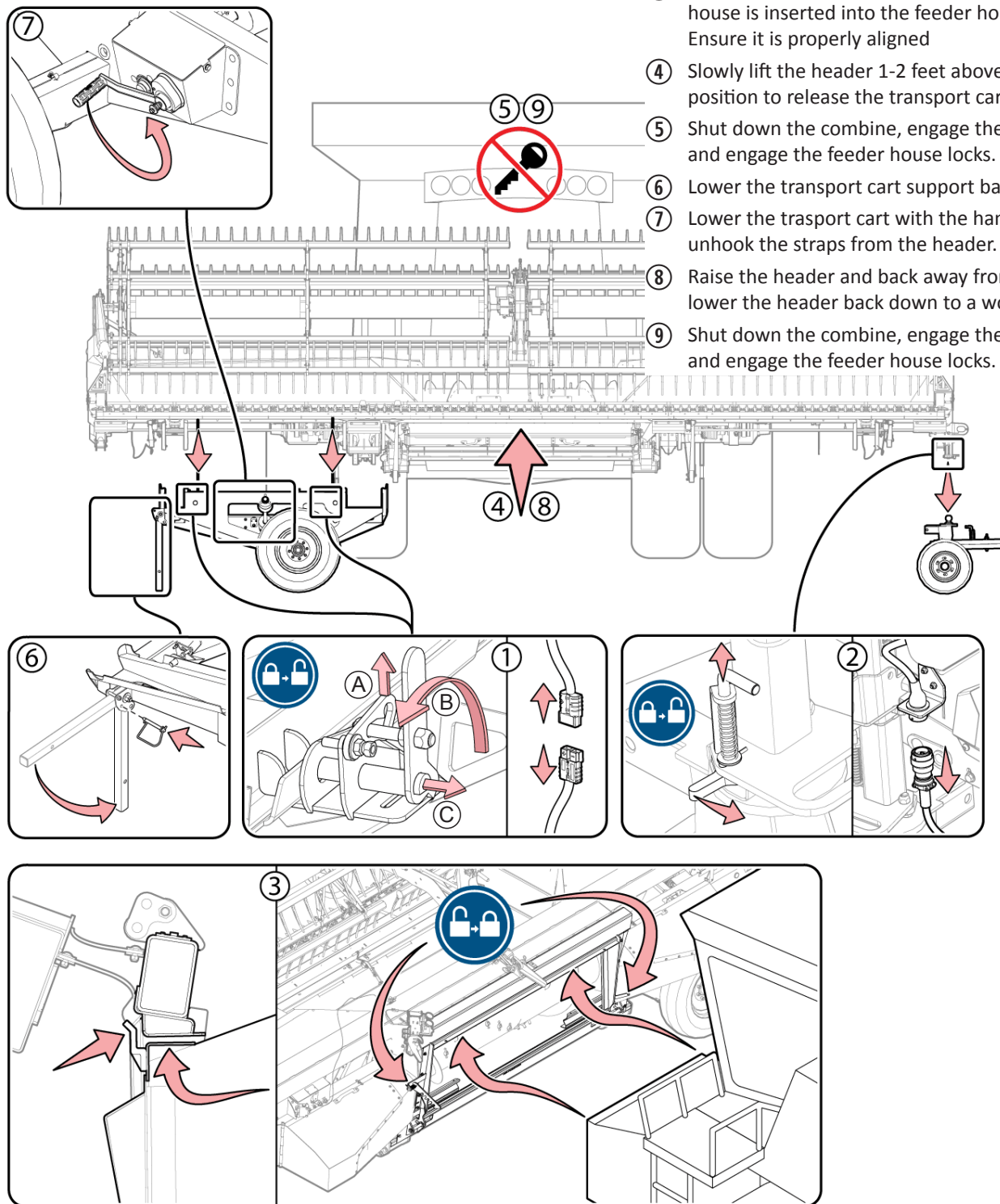
Remove and store the tie-down brackets located on the transport mounting bracket and strut on the left side of the header.

Reinstall the fittings which secure the paddle pivot pin.

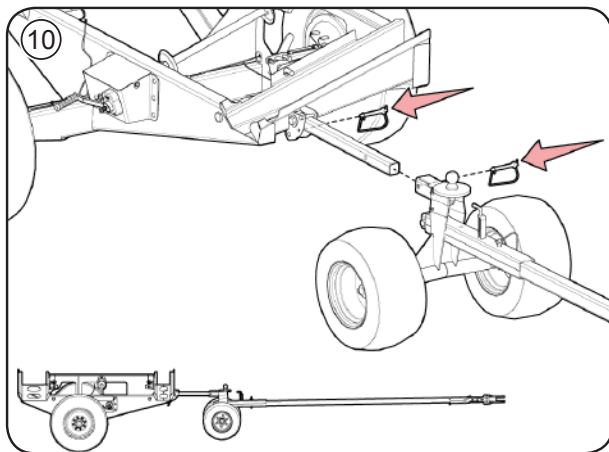


## Mounting the Header

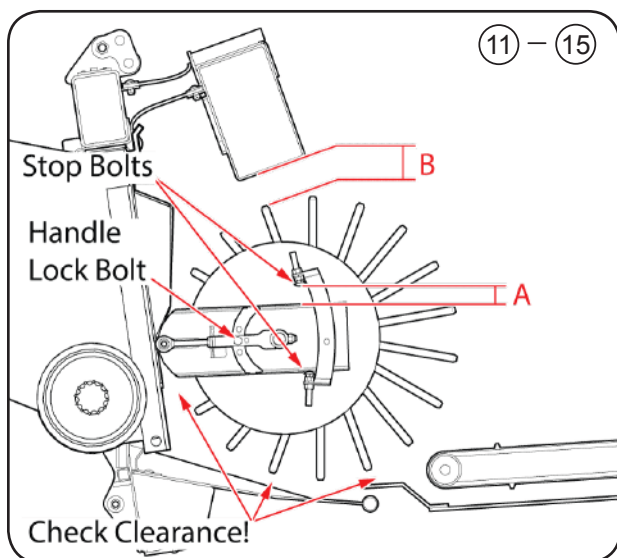
- ① Release the two transport cart locks and disconnect the cart's electrical harness.
- ② Release the draw bar lock and disconnect it's electrical harness.
- ③ Slowly drive the combine forward until the feeder house is inserted into the feeder house opening. Ensure it is properly aligned
- ④ Slowly lift the header 1-2 feet above its current position to release the transport cart & drawbar.
- ⑤ Shut down the combine, engage the parking brake and engage the feeder house locks.
- ⑥ Lower the transport cart support bar and secure pin.
- ⑦ Lower the trasport cart with the hand crank and unhook the straps from the header.
- ⑧ Raise the header and back away from the cart, lower the header back down to a working height.
- ⑨ Shut down the combine, engage the parking brake and engage the feeder house locks.



## Finish Mounting



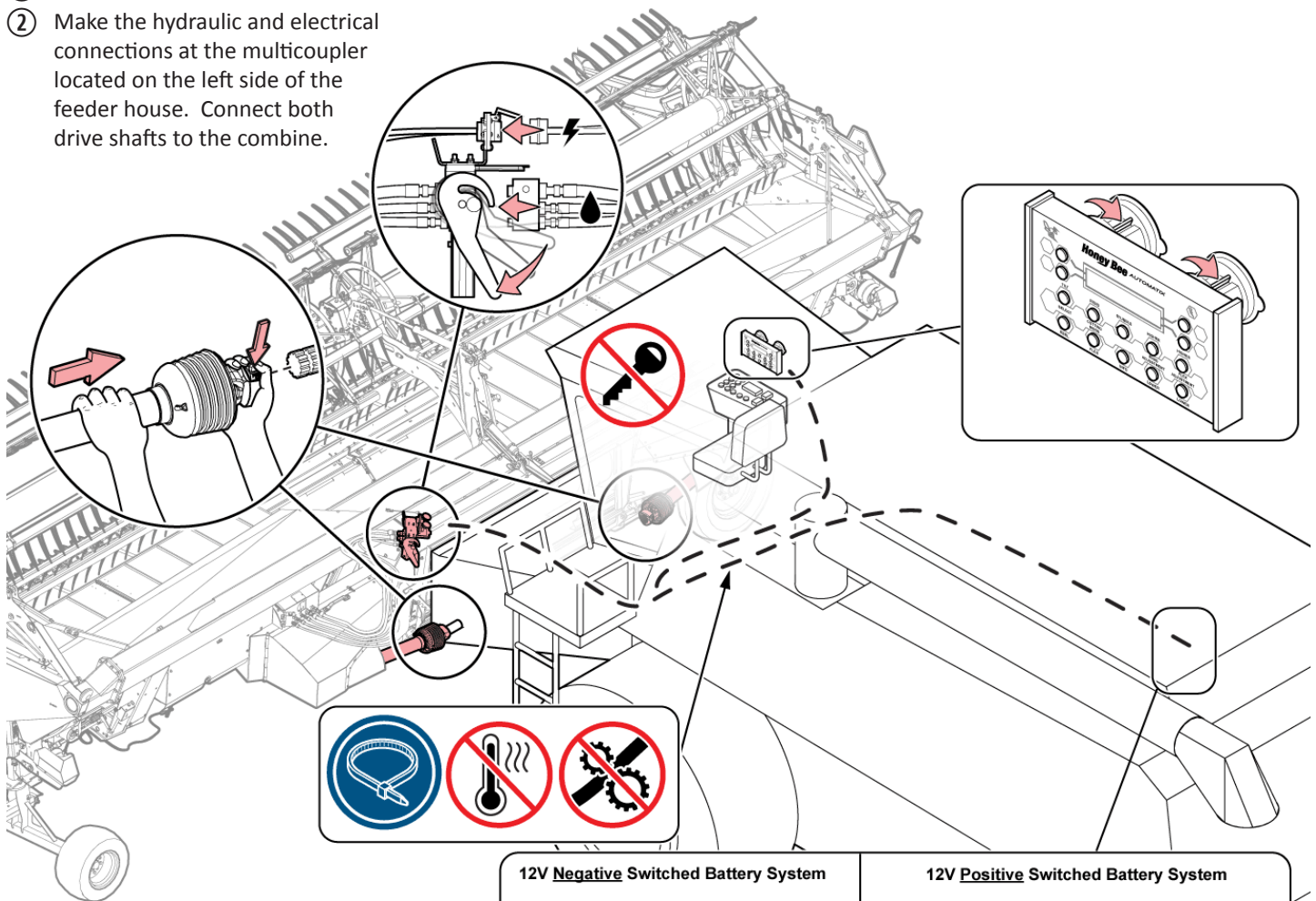
- ⑩ Secure the transport cart and draw bar cart together, secure with pins as illustrated and place in a storage location.
- ⑪ Evenly adjust the left and right eye bolts on the feed auger drum so it is moved to within 1/2" (1.3 cm) of the combine feeder house protrusions.
- ⑫ Set the feed auger drum upper and lower stop bolts to prevent the drum from contacting the rest of the header (ensure distance A is less than distance B).
- ⑬ Rotate the auger drum by hand to ensure it will not contact the protrusions, tighten the lock nuts on the eye bolts.
- ⑭ Set Feed Auger finger timing so the feed auger fingers maintain adequate clearance from the components surrounding the feed auger drum.
- ⑮ Check All Clearances around the feed auger drum and adjust accordingly.





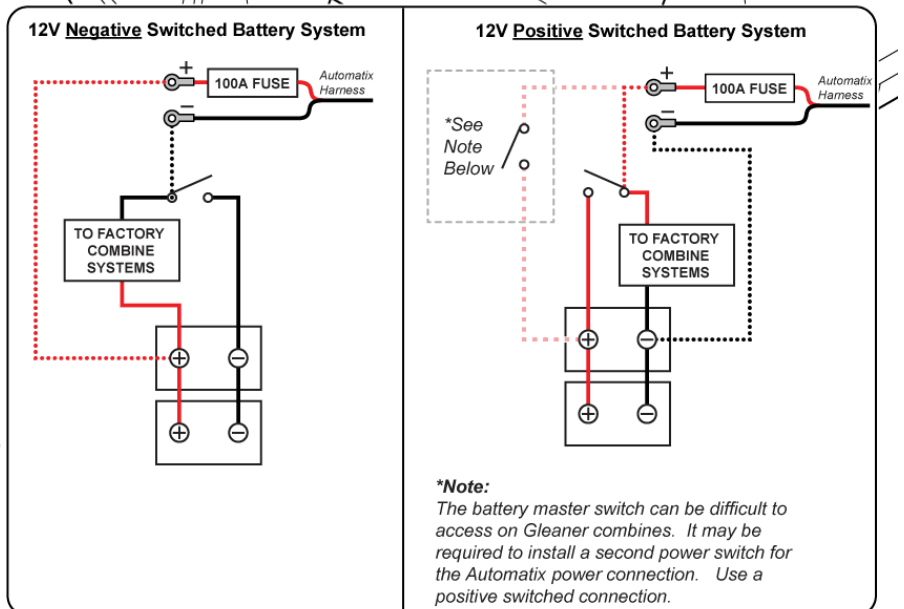
## Make Connections

- ① Turn off the combine's master battery switch.
- ② Make the hydraulic and electrical connections at the multicoupler located on the left side of the feeder house. Connect both drive shafts to the combine.



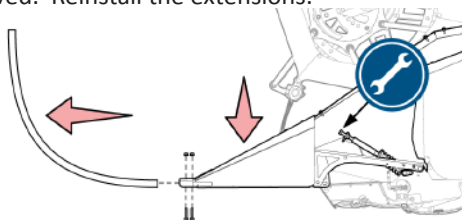
- ③ Starting at the front of the combine, route the automatix harness under the combine cab and inside. Connect to the automatix display. Route the remaining portion of the harness to the combine's battery. Connect the harness to the power system after the power switch to ensure the Automatix does not drain the battery when the combine is turned off.

Ensure enough slack is left in the electrical harness at the feeder house pivot for it to go through its full range of motion.

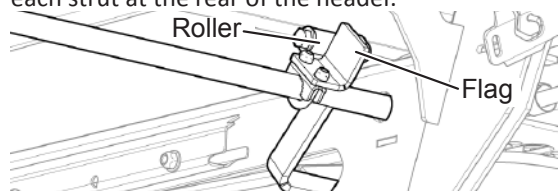


## Header Calibration Overview

1. Tighten/Loosen the indicated adjuster bolt on the left and right hand dividers so the dividers are 'heavy' enough to rest at the bottom of their travel with the divider extensions removed. Reinstall the extensions.

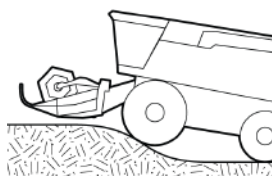


2. Ensure each sensor 'flag' contacts its roller at the 'heel' of each strut at the rear of the header.



The header must be in RIGID mode for this step!

3. Set combine settings required for header calibration.
  - **FLOAT** - Set to OFF
  - **HEADER TYPE** - Draper, Rigid, Platform (or similar), do not select Flex type unless specifically instructed.
  - **AUTO HEADER HEIGHT** - Set to ON
  - **AUTO TILT/LATERAL/CONTOUR** - Set to ON
4. Park the combine in a ditch with the header in the air over the road. Engage the parking brake. (Remain in this position through header & combine calibration)
5. Select combine make via the Automatix menu (last option).
6. Set header to FLEX mode prior to calibrating (this calibrates both RIGID & FLEX modes).
7. Fully extend the hydraulic tilt cylinder.
8. Select 'H/H CALIBRATION' via Automatix main menu. Follow onscreen instructions.



The header calibration is complete when the calibration done message appears on the screen with no errors.

**Note:** Refer to operator manual for detailed instructions.

**IMPORTANT:** Don't make assumptions, don't skip steps, fix all errors that occur before continuing.

## Combine Calibration

Ensure the combine-specific settings are entered as described in the make-specific sections at the end of this document.

1. The combine must be run at maximum RPM (harvest speed) and the hydraulic oil must be up to operating temperatures during calibration.
2. Check the oil level to ensure there is no air in the system (normally heard as a whining noise).
3. Set the AirFLEX to RIGID mode via the Automatix control panel.
4. Set combine hydraulic header raise rate so it takes 6 seconds to lift the header from the lowest position to the highest position.
5. Set combine hydraulic header drop rate so it takes 7 seconds to lower the header from the highest position to the lowest position.
6. Calibrate the combines header height settings as described in the combine's operator manual.
7. Slowly increase header height sensitivity via combine controls until the header starts hunting up and down. Decrease sensitivity by 10-20% until the header stops hunting. Set the tilt sensitivity to half the height sensitivity minus 10%, so if the header height sensitivity is set to 200, the tilt sensitivity should be set to approximately 90 ( $200/2 = 100$ ,  $100 - 10\% = 90$ ).
8. When the combine calibration is done, lower and run the header and combine rotor so automatic header height is enabled. Record a set-point for header height on the combine (i.e. 4" (10 cm)). Raise the table all the way up and laterally tilt it all the way to the left or right. Press the return to set point button on the combine. The header should lower back to the set point AND level out automatically. If this fails, it may indicate a combine software problem.



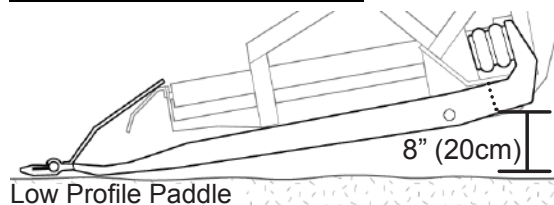
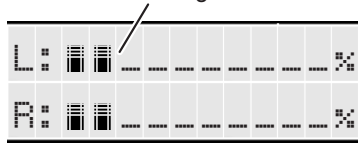
## NOTE:

The combine specific settings listed on the following pages are recommendations only. Optimal settings will vary by equipment configuration and conditions. It is the equipment operator's responsibility to ensure they operate their equipment in a safe, efficient manner.

### Set combine feeder house angle.

1. Move the combine away from the slope (as discussed in the previous section) and park it on a firm level surface.
2. Start the combine and activate FLEX mode by pushing the FLEX button, then tilt the header back by retracting the hydraulic tilt cylinder.
3. Press 'INFO' button until the header height live view is displayed.
4. Slowly lower the header until the cutter bar is pushed all the way up (no bars showing on live view)
5. Slowly raise the header until 2 bars are showing on the live view.
6. Measure the distance from rear of the end paddles to the ground. Adjust the faceplate angle then remeasure until the measurements listed below are achieved.
  - If the low profile paddle is installed, it should be 8" from the ground at the indicated location (see illustration).

Raise header until 2" (2 bars) show on FLEX Header Height Live View



### Reel Setup

Set the pitch of the reel fingers via the adjuster at the end of the reel. The middle position is a good place to start. If crop is wrapping around the reel, set a less aggressive finger pitch.

Ensure the reel is level and that the reel fingers maintain a minimum distance of 1-1/2" (3.8cm) from the cutter bar. Adjust the reel height adjustment bolts located on the underside of the reel arms if necessary.

### Calibration Troubleshooting:

Access the header height sensor raw voltage view by pressing the INFO button. Ensure the sensor output voltage varies by at least 1.5V through its full range of operational motion.

Check that the combine is receiving the correct sensor voltages from the Automatrix. Access diagnostics screen on Combine display, compare voltage values to the HH Values shown on the sensor info screen on the automatrix display. The values should be similar (usually not identical).

Verify the correct combine settings have been entered.

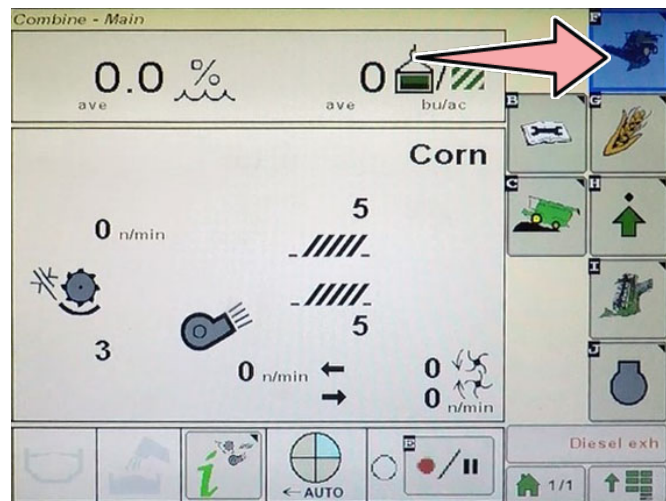
Inspect crop dividers, metal should contact metal if they are lifted and dropped. If the springs are too tight, the dividers will ride up.

If header is not reacting quick enough, sensitivities may need to be increased. If header is hopping or jumping then sensitivities may need to be decreased.

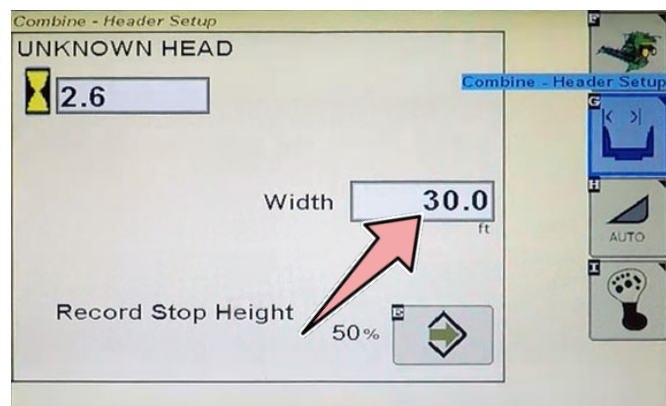


## John Deere 'S' Series Combines

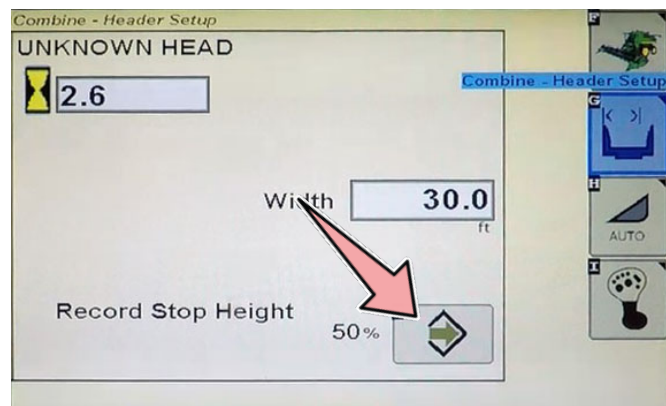
1. Enter the combine's header setup screen by selecting the header icon.



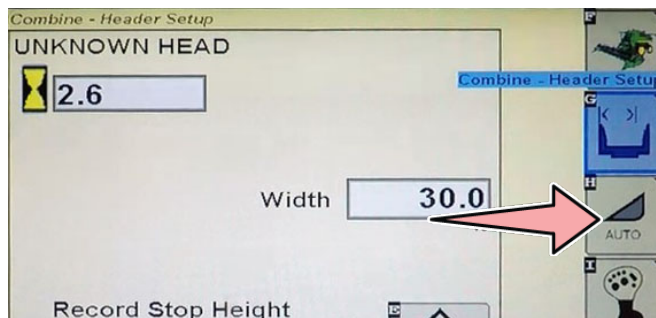
2. Set the header width.



3. Raise the header to 60% of it's maximum height and press the enter button to save the value.

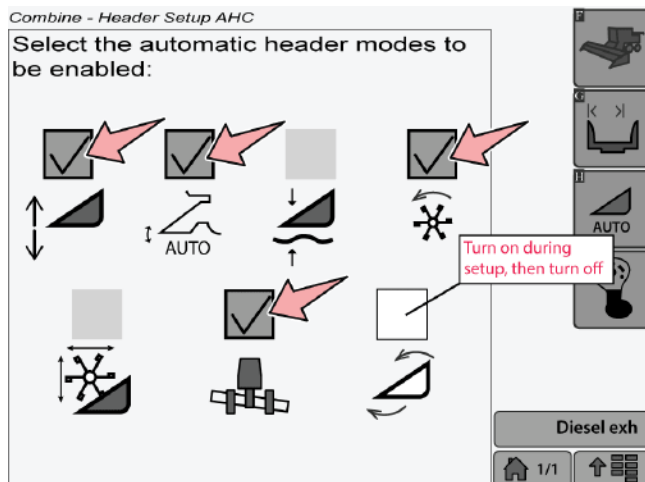


4. Select the Auto Header screen via the AUTO button.



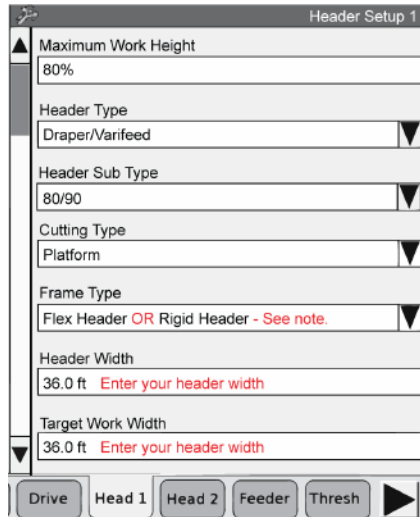
5. Ensure the following boxes are checked:

- Header Height Control
- Auto HHC
- Auto reel speed
- Auto tilt
- During setup, faceplate angle must be set.



## New Holland Combine Calibration/Settings

1. Enter the following settings on the Head 1 screen of the combine systems. Enter the width of your header in the Header Width field and Target Work Width field.



Header Setup 1

- Maximum Work Height: 80%
- Header Type: Draper/Varfeed
- Header Sub Type: 80/90
- Cutting Type: Platform
- Frame Type: Flex Header OR Rigid Header - See note.
- Header Width: 36.0 ft Enter your header width
- Target Work Width: 36.0 ft Enter your header width

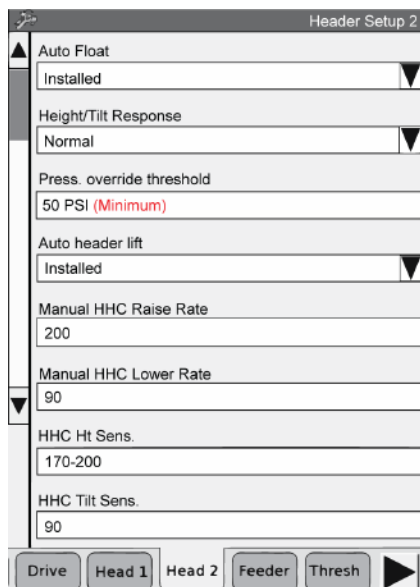
Drive Head 1 Head 2 Feeder Thresh



### NOTE:

For Frame Type, enter Flex header when operating in FLEX mode, and Rigid header when operating in RIGID mode.

2. Ensure the following settings are entered in the Head 2 screen of the combine systems. Use all the values below as a starting point, adjust as necessary to suit your conditions.



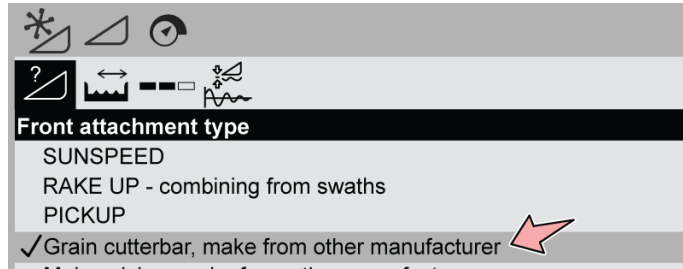
Header Setup 2

- Auto Float: Installed
- Height/Tilt Response: Normal
- Press. override threshold: 50 PSI (Minimum)
- Auto header lift: Installed
- Manual HHC Raise Rate: 200
- Manual HHC Lower Rate: 90
- HHC Ht Sens.: 170-200
- HHC Tilt Sens.: 90

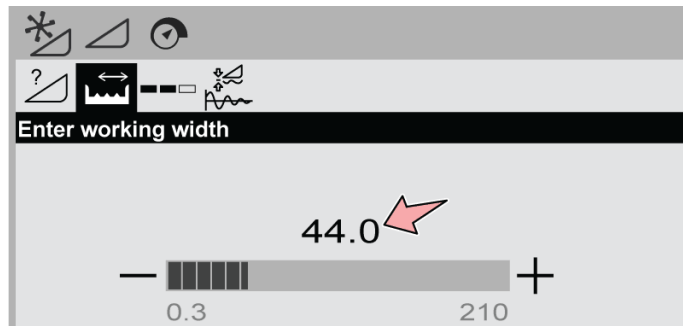
Drive Head 1 Head 2 Feeder Thresh

## LEXION Combine Calibration/Settings

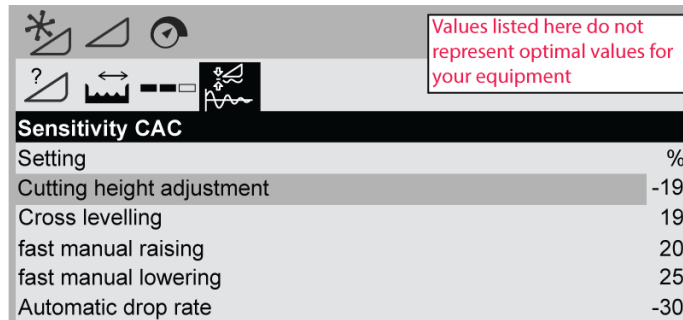
1. Select the front attachment type "Grain cutterbar, make from other manufacturer"



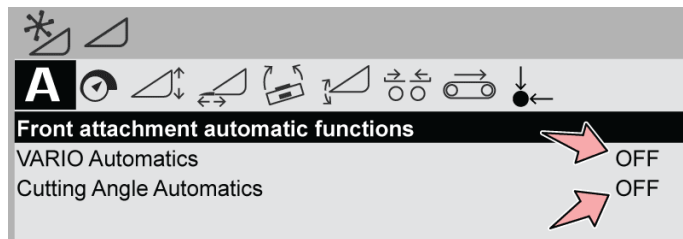
2. Enter the width of your header minus your intended overlap (the example below is the value entered for a 45ft header with 1ft overlap)



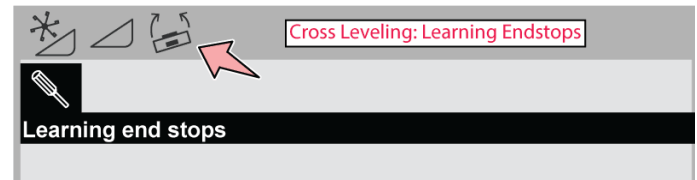
3. Ensure the settings listed below are entered into the sensitivity screen.



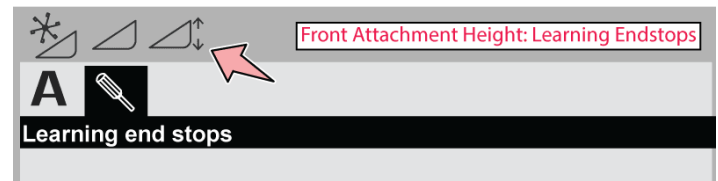
4. Ensure VARIO Automatics and Cutting Angle Automatics are turned OFF.



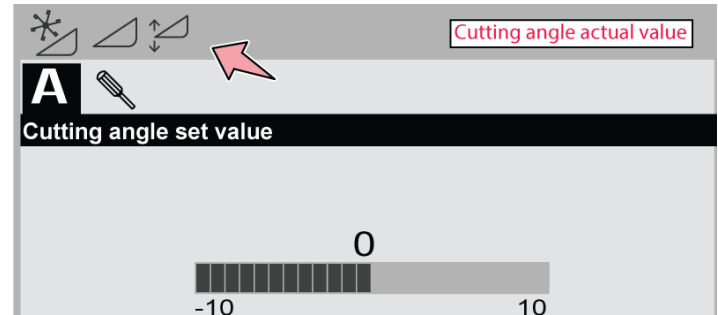
5. Run the learning endstops procedure in the Cross Leveling section of the menu.



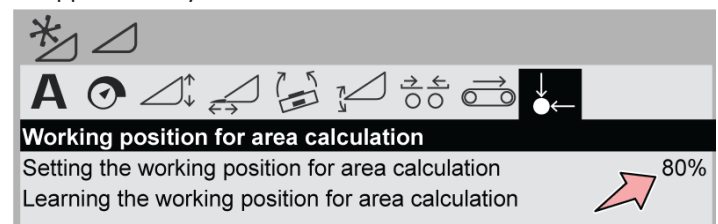
6. Run the learning endstops procedure in the Front Attachment Height section of the menu.



7. Set the feeder house angle for the combine to 0 as shown below. This value may require further adjustment depending on your equipment configuration.



8. Set the Working position for area calculation to approximately 80%.

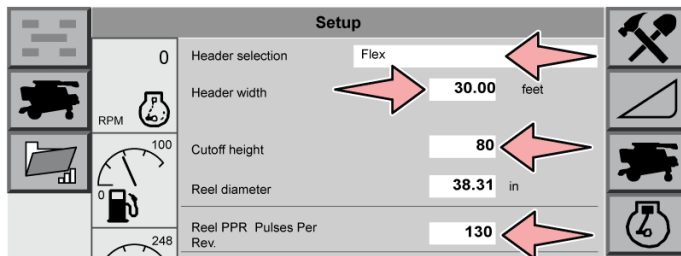


## Massey Ferguson Combine Calibration/Settings

NOTE: In order for header height control to function on a Massey Ferguson combine, a ball valve must be installed on the accumulator and closed.

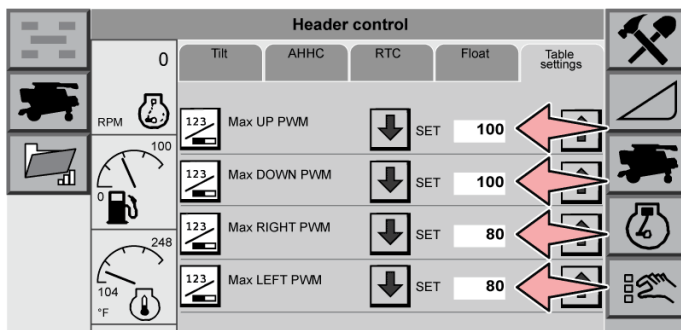
### 1. In the combine setup screen:

- Select the “Flex” header type
- Enter the width of your header under “Header Width”
- Set the “Cutoff Height” to 80%.
- Ensure the Reel PPR matches the value in the Automatix system (accessible via the automatix system menu). This value should automatically match when the combine type is selected in the main Automatix menu.



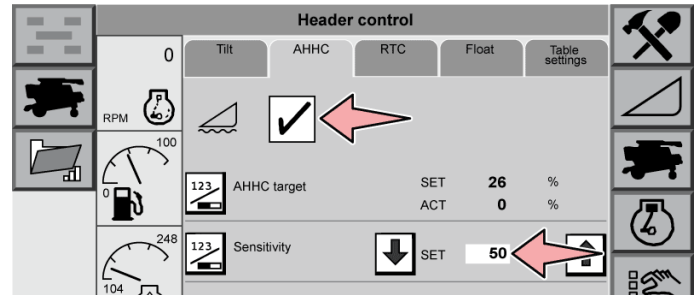
### 2. In the Header Control Table settings tab:

- Set both Max UP PWM and Max DOWN PWM to 100.
- Set both Max RIGHT PWM and Max LEFT PWM to 80.



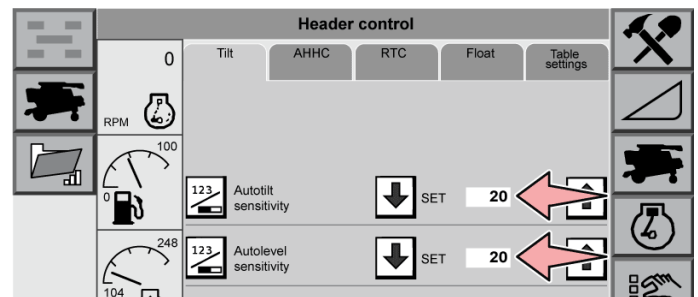
### 3. On the AHHC tab:

- Ensure Automatic Header Height Control is enabled (check mark)
- Set the sensitivity to 50% as a starting point.



### 4. On the Tilt tab:

- Set the Autotilt sensitivity to 20%
- Set the Autolevel sensitivity to 20%

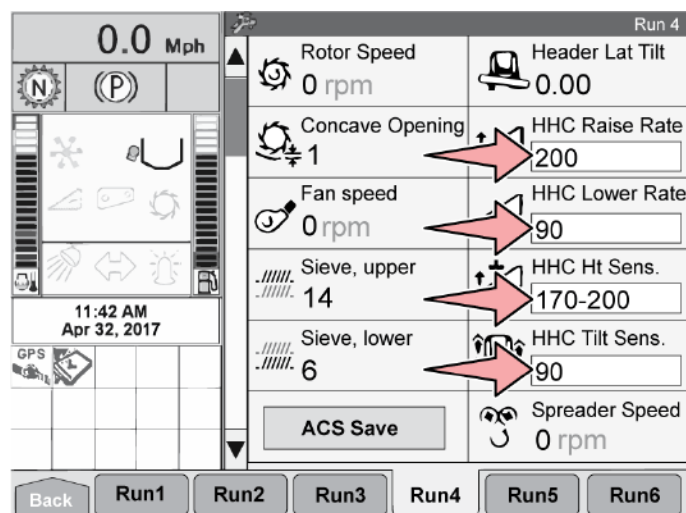


Note: The optimal lateral tilt sensitivity value is directly related to the auto header height control sensitivity and can be found using the following equation:

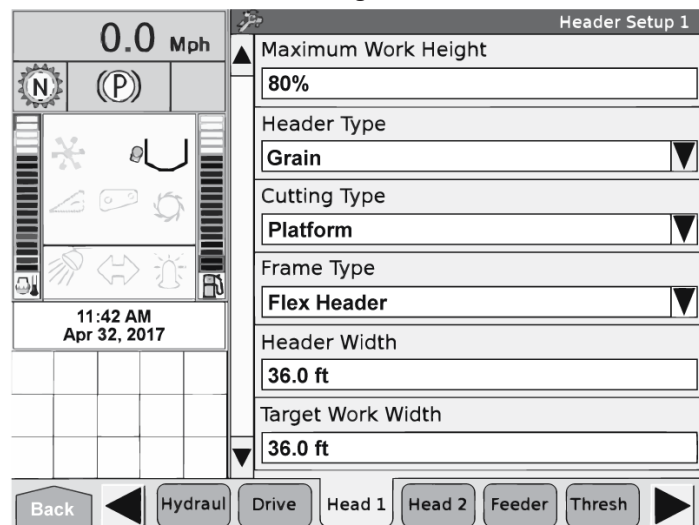
$$\text{Lateral Tilt Sensitivity} = \left( \frac{\text{AHHC Sensitivity}}{2} \right) - 10\%$$

## CASE Combine Calibration/Settings

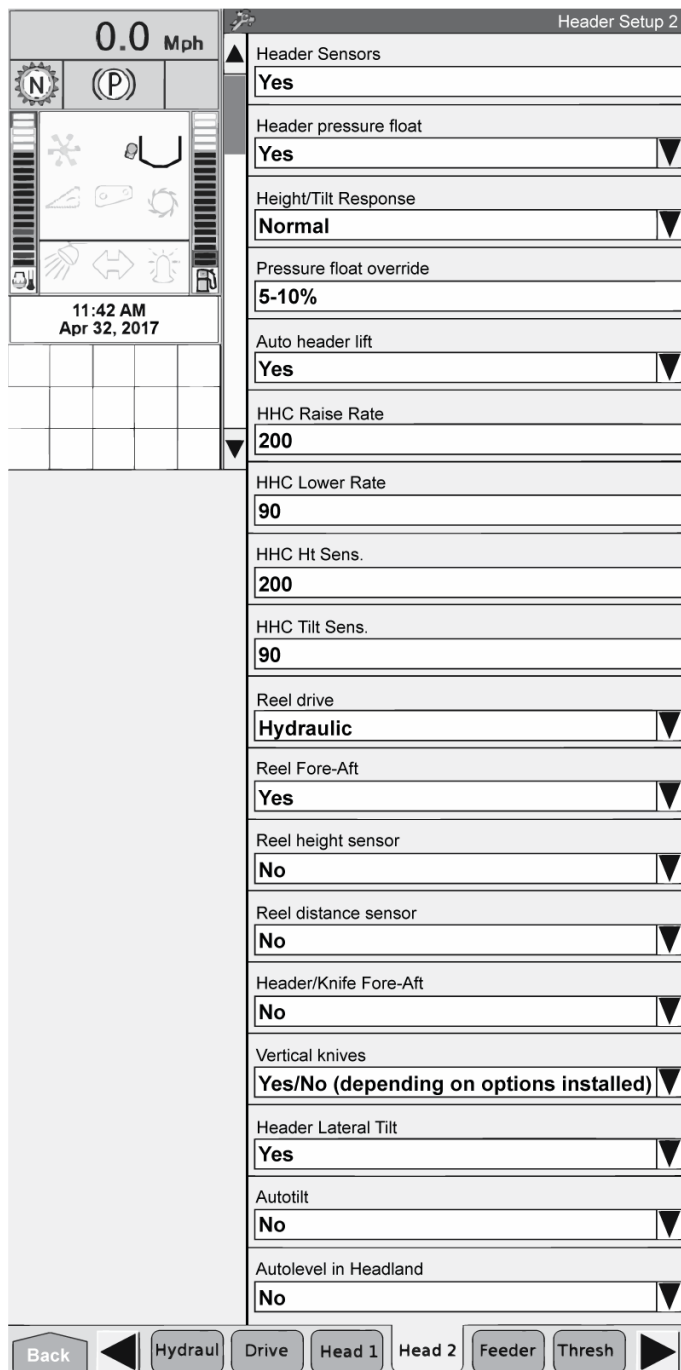
- Enter the following settings in the Run4 screen in the combine system. These values are recommendations and may be adjusted to suit conditions. The tilt sensitivity must always remain lower than the height sensitivity.
  - The header height raise rate and lower rate should be adjusted so the header takes 7 seconds to lower from its highest position to its lowest position and 5 seconds to raise from the lowest position to the highest position.



- Enter the following settings on the Head 1 screen of the combine systems. Enter the width of your header in the Header Width field and Target Work Width field.



- Ensure the following settings are entered in the Head 2 screen of the combine systems. Use all the values below as a starting point, adjust as necessary to suit your conditions.





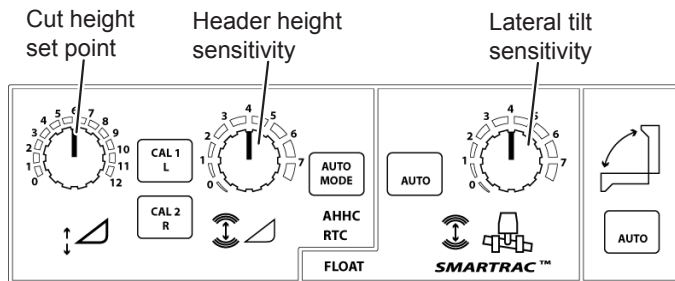
## S8 & Earlier Gleaner Combine Calibration/Settings

Because Gleaner combines are equipped with 'Bang-Bang' style control valves, an aftermarket modification must be made to the combine so the Automatic Header Height Control system can operate effectively. There are two options:

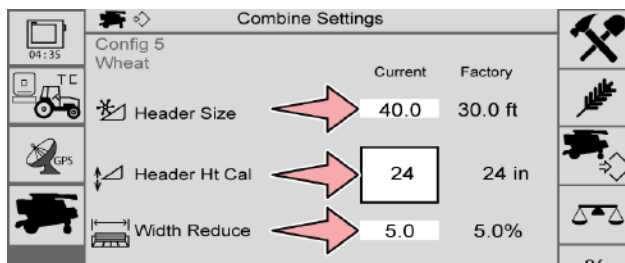
- From AGCO dealer: Pulse Width Modulated Proportional Valve Upgrade Kit (Headsight)
- From Honey Bee: BeeBox

If neither of these kits are installed, the Automatic Header Height Control system will not function correctly.

### Calibration



1. Close the ball valve on the accumulator to disable it during the calibration process. The ball valve can be partially opened after calibration to allow partial flow (up to 30%). Do not fully open the valve when operating the AirFLEX.
2. Open the combine settings screen and enter the following values:
  - Enter the header width in the Header Size field.
  - Set your cut height in the Header Ht Cal field.
  - Set the Width Reduce value to the amount you will overlap your swaths. If you are running a 40ft AirFLEX, and you want 2ft of overlap, then you would enter 5% (2ft is 5% of 40ft).



3. Start combine and bring engine rpm to just over 2000 RPM.
4. Press hold Cal1 until lights flash on the combine control panel.

5. Lower the header all the way to the ground, then press the Cal 2 button.
6. Raise the header to highest position, then press the Cal 2 button.
7. Tilt header down to the left, then press the Cal 2 button.
8. Tilt header down to the right, then press the Cal 2 button.
9. All lights should flash, level the header and press the Cal 1 button to exit calibration.
10. If all lights remain off, the combine is calibrated. Refer to your combine operator's manual for further details.
11. Set the header height sensitivity to the highest possible setting for optimal performance. Turn up the sensitivity until the header starts 'hunting' up and down, then turn it down until the 'hunting' stops.
12. The lateral tilt sensitivity must be set to a lower value than the Header Height sensitivity. The optimal lateral tilt sensitivity can be found using the following equation:

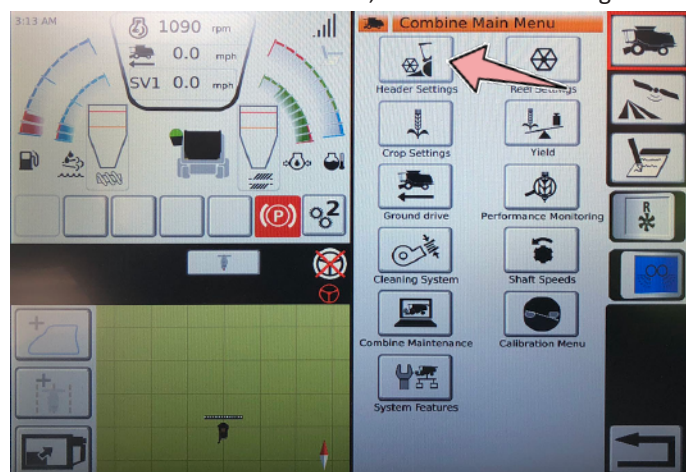
$$\text{Lateral Tilt Sensitivity} = \left( \frac{\text{AHHC Sensitivity}}{2} \right) - 10\%$$

## S9 Gleaner Combine Calibration/Settings

- The two switches shown below are used to turn on automatic header height (left switch) and automatic lateral tilt (right switch). Enable auto lateral tilt before proceeding.

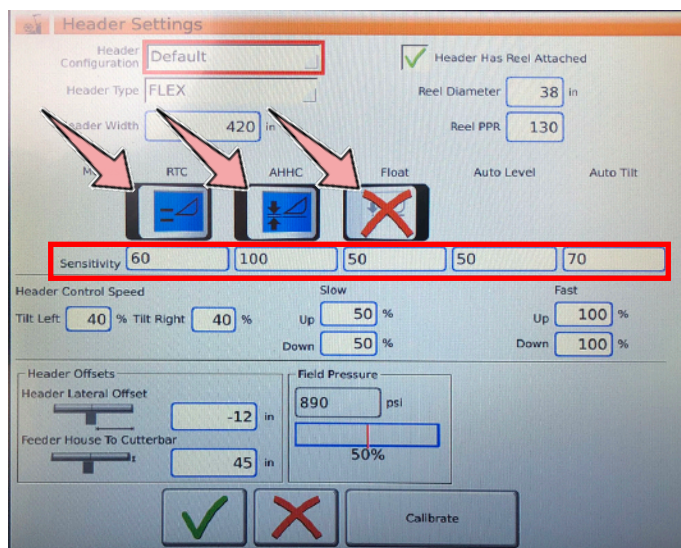


- On the combine Main Menu, select Header Settings.



- Ensure RTC and AHHC is enabled and Float is disabled. Enter the following sensitivity settings to start (these can be modified later as needed)

**RTC:** 60                      **Auto Level:** 50  
**AHHC:** 100                **Auto Tilt:** 70  
**Float:** 50



- Ensure the other settings shown in the illustration above are entered into the Header Settings screen on your combine:

**Reel Diameter:** 38 in.    **Fast Up:** 100%  
**Reel PPR:** 48            **Fast Down:** 100%  
**Tilt Left:** 40%           **Header Lateral Offset:** -12 in  
**Tilt Right:** 40%        **Feeder House to Cutterbar:** 45 in.  
**Slow Up:** 50%  
**Slow Down:** 50%

- Once the above settings are verified, return to the combine Main Menu and select the Calibration Menu, then select Header Calibration. Follow the onscreen instructions