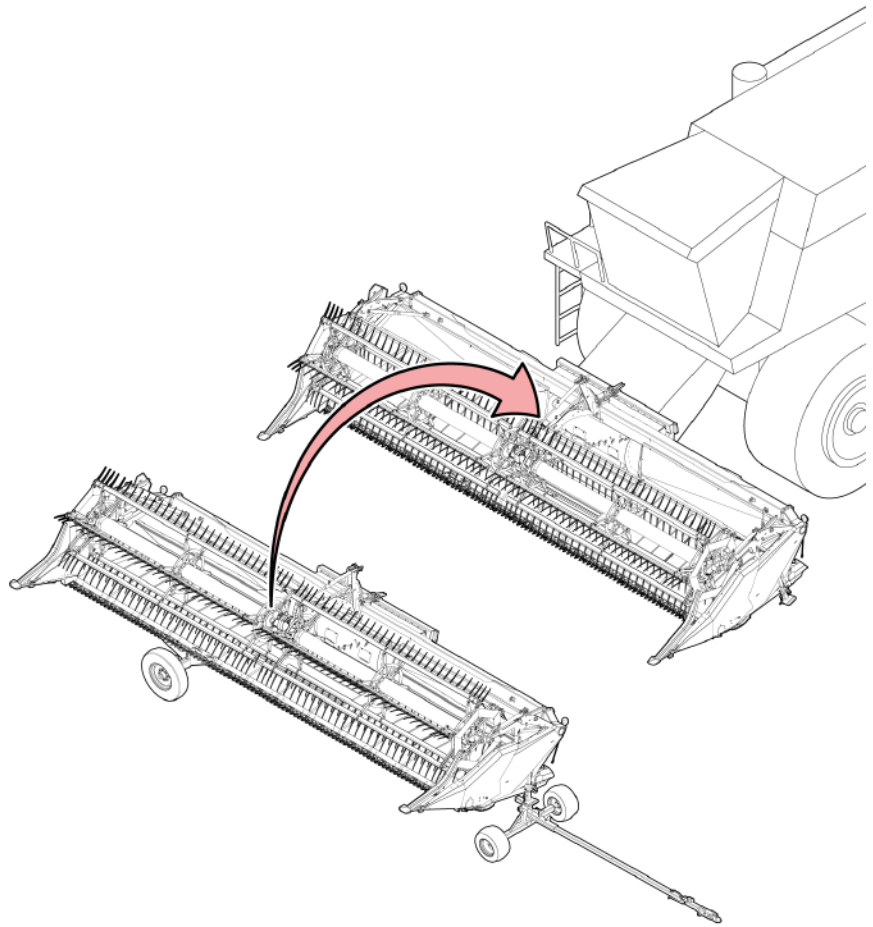


2019

AirFLEX

200 Series & SDX 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.

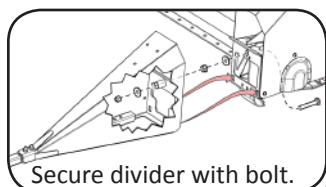
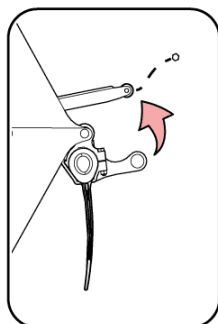


Honey Bee®

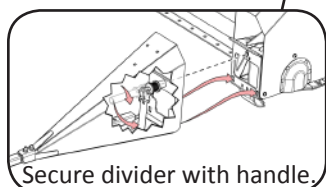
Document Revision History			
Revision	Author	Date	Description
1.0	AD	05/26/2019	Document Created
1.1, 1.2	AD	05/29/2019	Spelling corrected, removed mention of upper stop bolt on auger drum.

Header Preparation

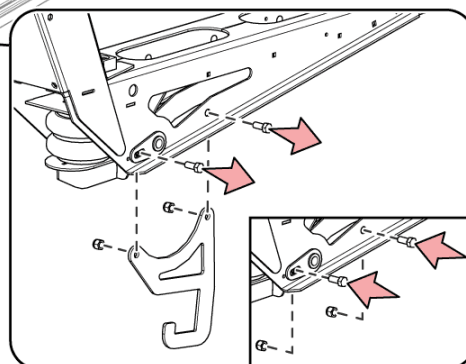
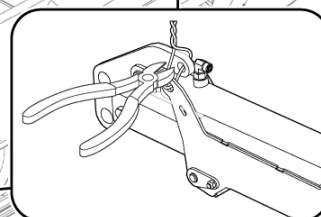
Raise front reel bats to operational position and secure to the control arms using the preinstalled nut and bolt.



Ensure dividers are securely installed

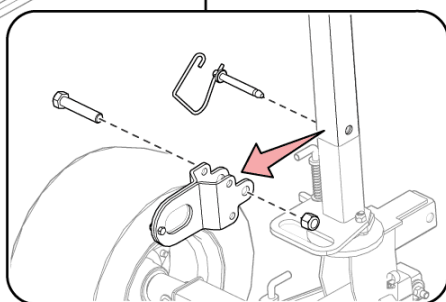


Remove the wire holding the reel arms and reel in place. Inspect thoroughly as the wires can be in multiple locations.

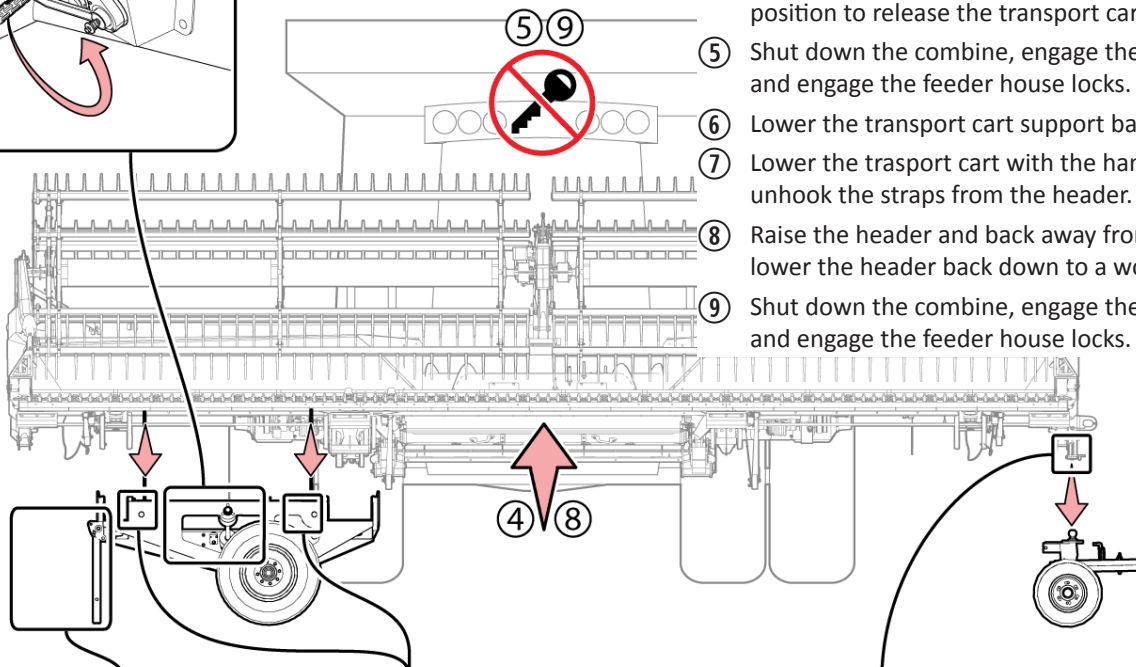
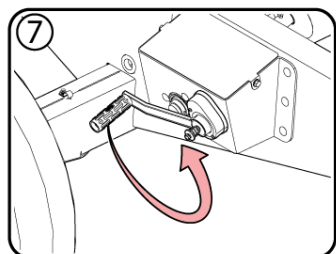


Remove and store the tie-down brackets located on the transport mounting bracket and strut on the left side of the header.

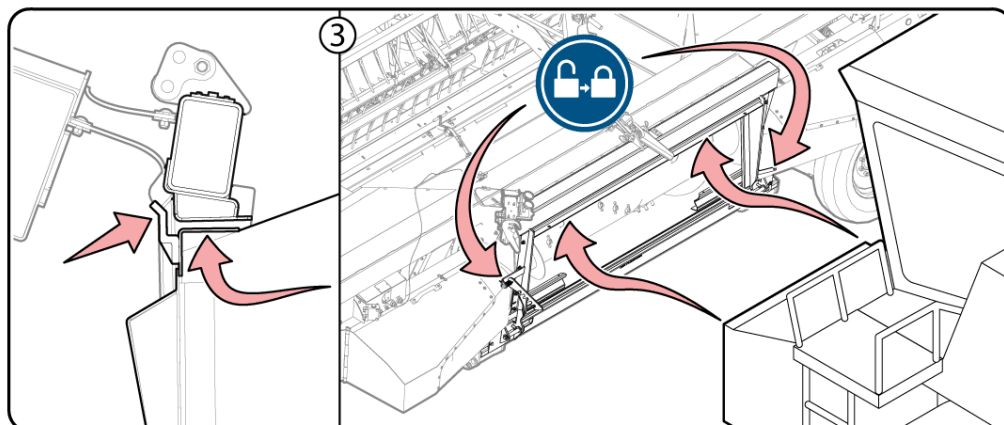
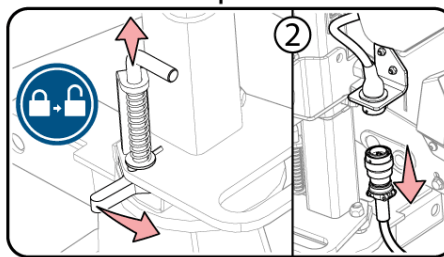
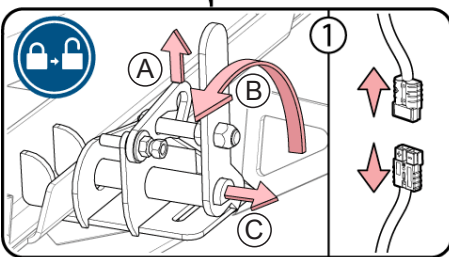
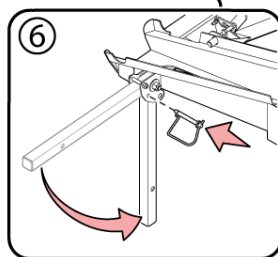
Reinstall the fittings which secure the paddle pivot pin.



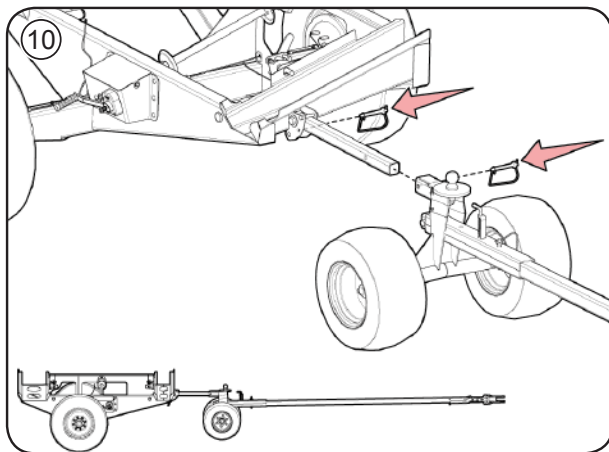
Mounting the Header



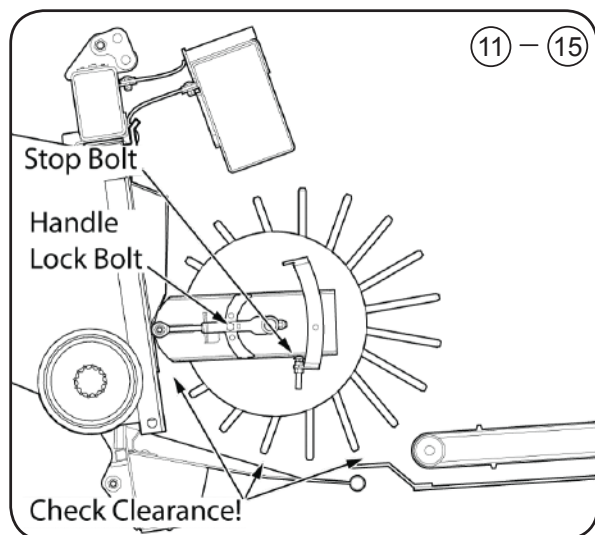
- ① Release the two transport cart locks and disconnect the cart's electrical harness.
- ② Release the draw bar lock and disconnect it's electrical harness.
- ③ Slowly drive the combine forward until the feeder house is inserted into the feeder house opening. Ensure it is properly aligned
- ④ Slowly 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

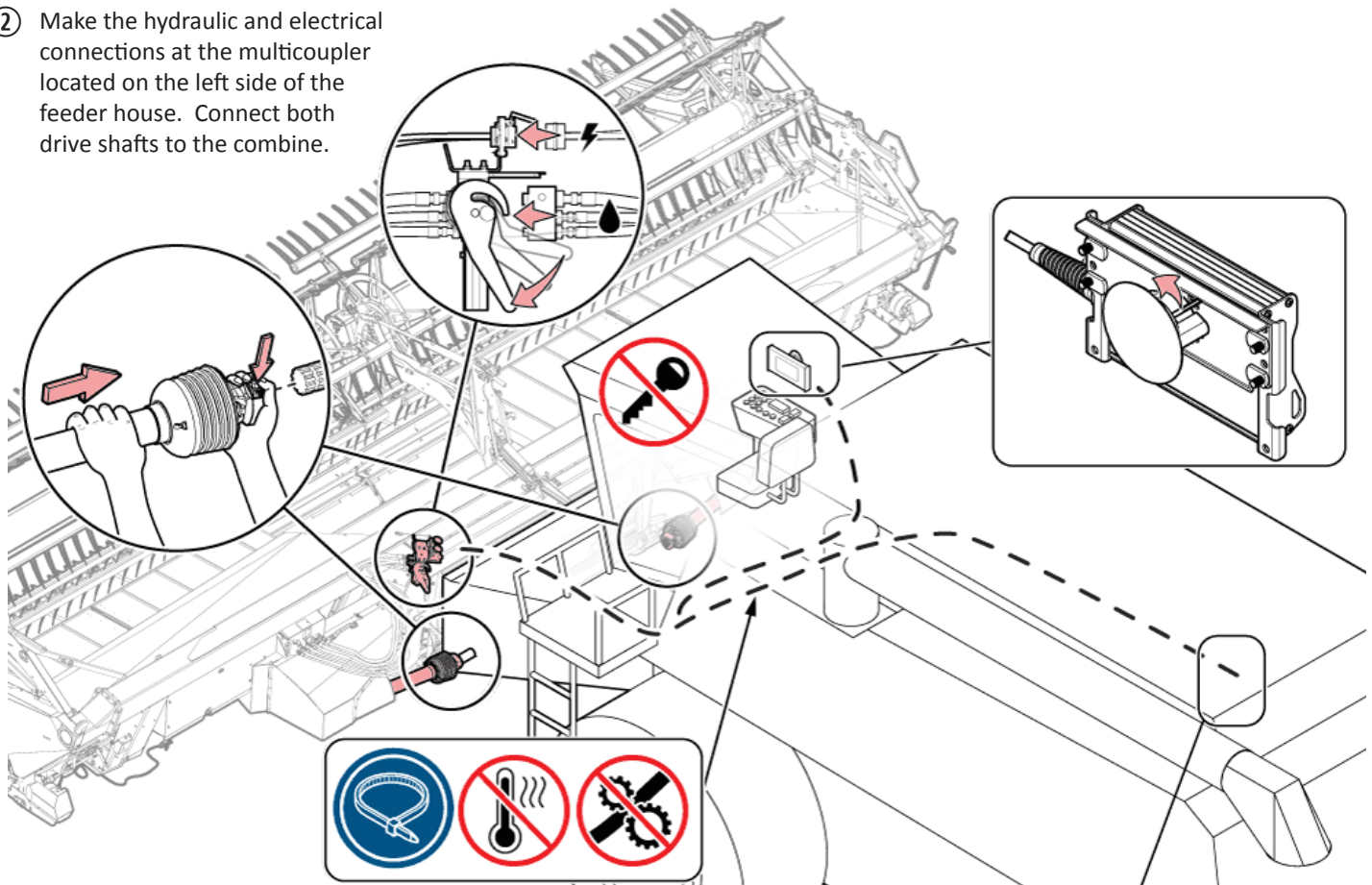


- ⑩ Secure the transport cart and draw bar cart together, secure with pins as illustrated and place in a storage location.
- ⑪ Evenly adjust the left and right eye bolts on the feed auger drum so it is moved to within 1/2" (1.3 cm) of the combine feeder house protrusions.
- ⑫ Set the feed auger drum lower stop bolts to prevent the drum from contacting the rest of the header.
- 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.



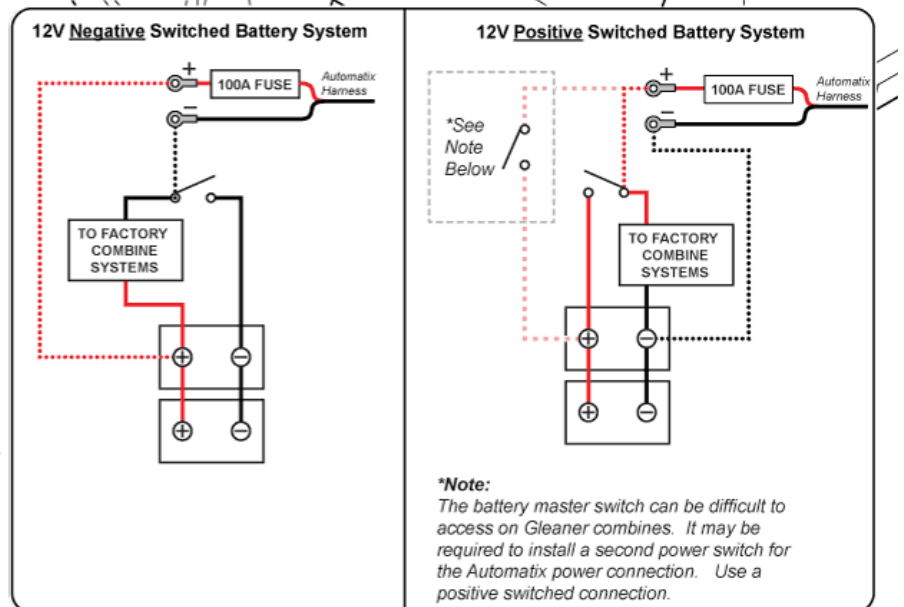
Make Connections

- 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.



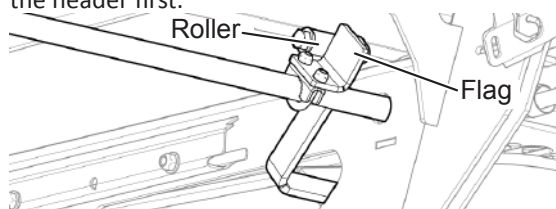
- ③ Starting at the front of the combine, route the automatix harness under the combine cab and inside. Connect to the automatix display. Route the remaining portion of the harness to the combine's battery. Connect the harness to the power system after the power switch to ensure the Automatix does not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

1. Ensure each sensor 'flag' contacts its roller at the 'heel' of each strut at the rear of the header. The Flag should contact the center of the roller. The two outermost sensor tabs should be firmly in contact with their rollers while the remaining tabs should only lightly touch their rollers. This ensures the system reacts to input from the outer ends of the header first.



2. Verify the header height sensor voltages on the AutomatixLite display:

NOTE:

RIGID mode header height control only pertains to the 200 series header. RIGID header height control sensors are not installed on the SDX and therefore information about RIGID sensors in this quick start guide can be ignored for the SDX platform.

- **In FLEX Mode:** With the header air system pressurized to approximately 30 psi, the sensor voltages should range between 1.5 and 3.5 volts through the cutter bar's full range of motion.
- **RIGID Center Subframe Sensing Mode (default from factory):** With the header air system pressurized to approximately 90 psi, the sensor voltages should range between 1.5 and 3.4 volts through the subframe sensor's full range of motion.
- **RIGID Divider Mode (must be activated by swapping sensor wires and unlocking dividers as described in operator manual):** With the header air system pressurized to approximately 100 psi, the sensor voltages should range between 1.5 and 3.5 volts through the divider's full range of motion.

Note: Refer to operator manual for detailed instructions.

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

Set combine feeder house angle.

The Combine Feeder House must be tilted at a specific angle for optimal header operation. To set proper operation angle.

1. Park the combine and header on a firm level surface.
2. Set the header to FLEX mode and lower the air pressure until 30psi is reached.
3. Fully retract the hydraulic tilt cylinder.
4. Lower the table until the cutter bar is fully pushed up.
5. Slowly raise the header until 2.00 volts (8 bars) show on the sensor bar graph on the Automatix Lite display
6. Measure down to the ground from the pivot point of the outer-most paddle. There should be an 6-7" (15.4 - 17.8 cm) space when at the optimal feeder house angle.



- If the paddle 'heel' is more than 6-7" (15.2 - 17.8 cm) above the ground, the feeder house is tilted too far forward and the cutter bar guards will dig into the ground.
 - If the paddle 'heel' is less than 6-7" (15.4 - 17.8 cm) above the ground, the feeder house is not tilted forward enough and the rear of the paddle will drag on the ground. 6-7" (15.2-17.8 cm)
7. Adjust the feeder house angle as necessary and re-test the angle as outlined in the previous steps. Tilt can be adjusted to suit ground conditions and habits of the operator.

Combine Calibration

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 via the AutoMatix Lite monitor to RIGID mode if cutting off the ground or FLEX mode if cutting on the ground.
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. Refer the 200 Series/SDX operator's manual for specific instructions on calibrating in each mode. Calibrate the combine's 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.

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:

Check that the combine is receiving the correct sensor voltages from the header sensors.

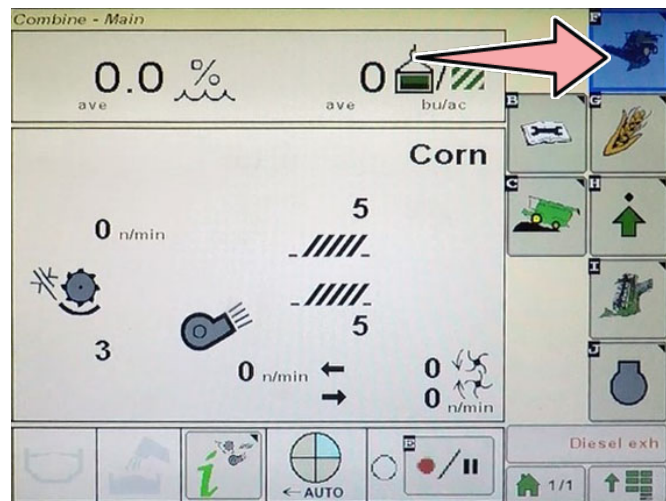
Verify the correct combine settings have been entered.

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

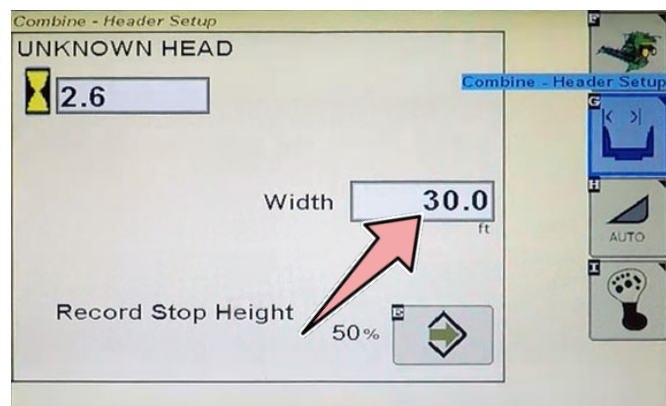
If header is not reacting quick enough, sensitivities may need to be increased. If header is hopping or jumping then sensitivities may need to be decreased.

John Deere S550 and S600 Series Combines

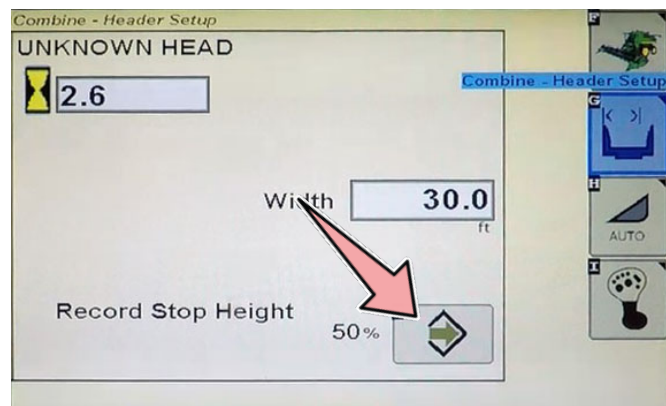
1. Enter the combine's header setup screen by selecting the header icon.



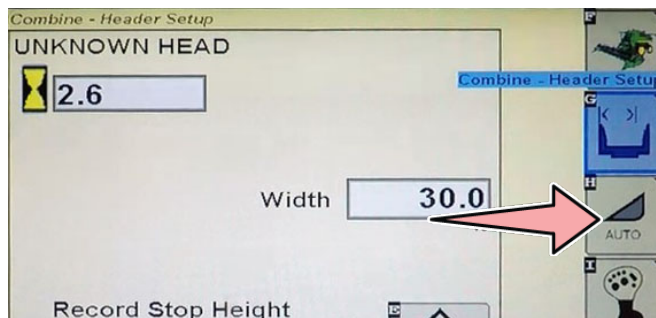
2. Set the header width.



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

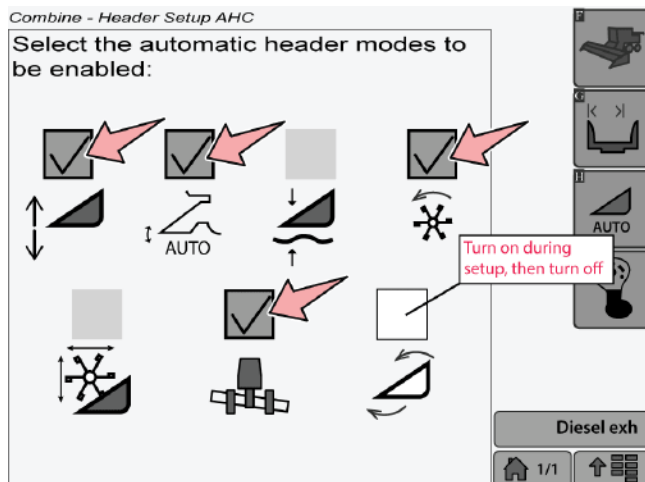


4. Select the Auto Header screen via the AUTO button.



5. Ensure the following boxes are checked:

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

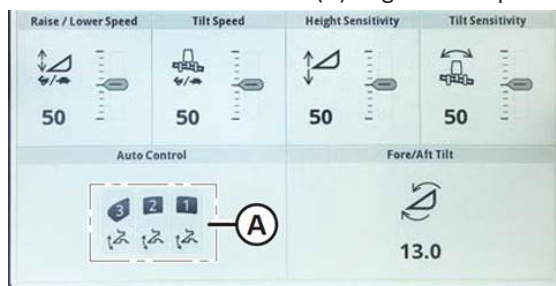


John Deere S700 Series Combines

1. Set the header width via the header screen

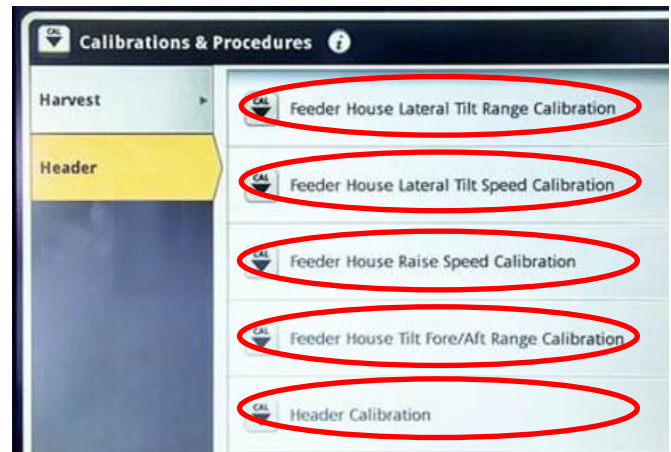


2. Select the Auto Contour icon (A) to get to setup screen.



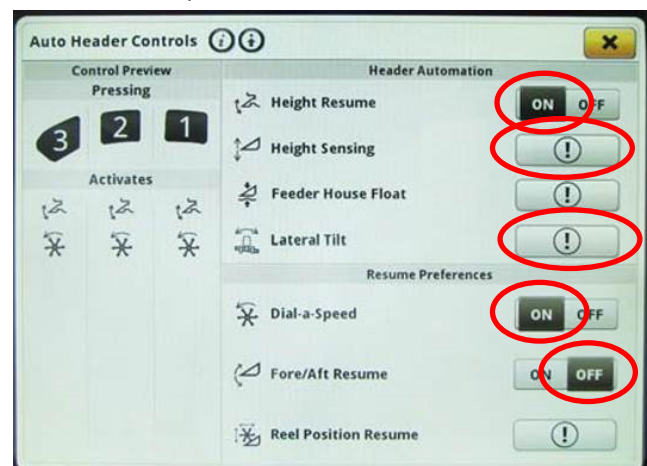
3. The following calibrations must be performed starting at the top of the list and working your way down:

- Feeder House Lateral Tilt Range Calibration
- Feeder House Lateral Tilt Speed Calibration
- Feeder House Raise Speed Calibration
- Feeder House Tilt Fore/Aft Range Calibration
- Header Calibration (Must be performed last)



4. Once all the calibrations are done (including the header calibration) then the Header Automation settings can be set. Then set the following settings on the Auto Header Controls screen:

- Height Resume: On
- Height Sensing: Activate
- Lateral Tilt: Activate
- Dial-a-Speed: On
- Fore/Aft Resume: Off



2018 and Older New Holland Combine Calibrations/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

▲ Width adjust step
----- ft

Hed. Center Offset
0.00 ft

Header Alarm
Off ▼

Header alarm rings
2

Auto Cut Width
Off ▼

Overlap Mode
Manual ▼

Work Width Reset Mode
Manual ▼

Header Setup 1

▲ Header Type
Draper/Varifeed ▼

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



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

▲ Autofloat
Installed ▼

Height/Tilt Response
Normal (Or Fast in rolling hills) ▼

Pressure Override Threshold
290 psi

Auto Header Lift
Installed (Customer choice) ▼

Manual HHC Raise Rate
135 (Should take 5-6 seconds to raise header)

Manual HHC Lower Rate
135 (Should take 7-8 seconds to lower header)

HHC Height Sensitivity
150 (Responsiveness to height control, lower = more stable)

HHC Tilt Sensitivity
100 (Responsiveness to tilt sensors)

▲ Hydraulic Reel
Installed ▼

Reel Speed Sensor
Not Installed ▼

Reel Speed Minimum
2.2 mph

Reel Speed Offset
0.0 mph

Reel Speed Slope
133 (The speed increase gain as the combine speed is increased)

Reel Sensor Vertical
Not Installed ▼

HHC Height Sensitivity
150 (Responsiveness to height control, lower = more stable)

HHC Tilt Sensitivity
100 (Responsiveness to tilt sensors)

(Continued on following page)

▲	Reel Sensor Vertical	Not Installed ▼
	Reel Sensor Horizontal	Not Installed ▼
	Knife Fore-Aft	Not Installed ▼
	Knife Position Sensor	Not Installed ▼
	Vertical Knives Type	Not Installed ▼
▼	Hydraulic Reel Reverse	Installed ▼
	Autotilt	Not Installed (Only used in manual or stubble height) ▼
	Autolevel in Headland	Not Installed (Can be installed, levels head in headland mode) ▼

New Holland Header Icons

When in the automatic HHC mode there should be a wavy line under the header in the left hand screen.



If the Pressure Float override is set too low or the header hit the ground hard it will send the header into pressure override. When it does a wavy line plus an up arrow will appear. Depending on the duration it may be possible that pushing the resume button may be needed.



If a straight line is under the header the Automatic HHC has been turned off.

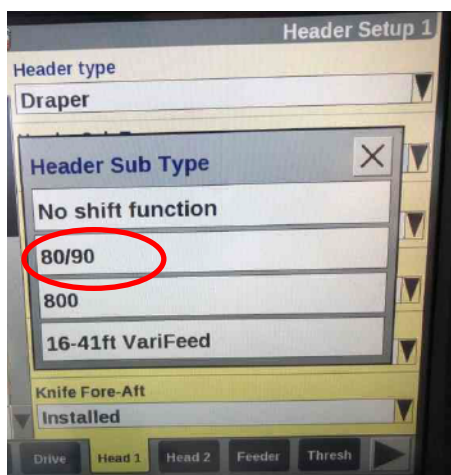


2019 and Newer New Holland Combine Calibrations/Settings

Header type: **Draper**



Header Sub Type:
80/90



Frame type is **FlexHead in FLEX mode and Rigid Head in RIGID mode**. Change this setting when changing between the two cutting modes (RIGID and FLEX).

Vertical Knife: **Not Installed**.

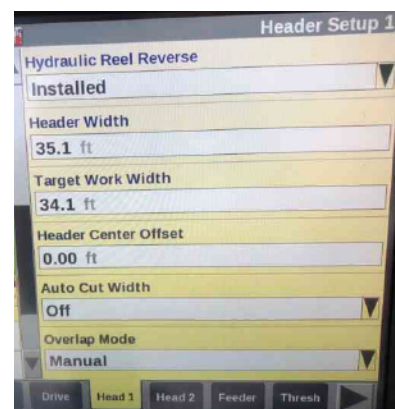
Header Flotation Pressure Sensor: **Not Installed**.

Knife Fore-Aft: **Not-Installed**



Hydraulic Reel Reverse: **Installed**.

Header Width: **the width of your header**.



Hydraulic Reel: **Installed**

Reel speed sensor: **Not Installed**

Reel Horizontal Position Sensor: **Not Installed**

Reel vertical Position Sensor: **Not Installed**

Maximum Work Height: **At least 50%**

Auto Float: **Installed**



Auto Header Lift: **Installed**.

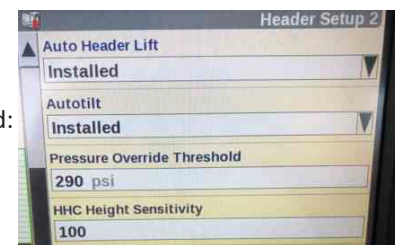
Autotilt: **Installed**

Pressure Override Threshold: **290PSI**

HHC Height Sensitivity: **Set just so the header stops 'hunting' up and down.**

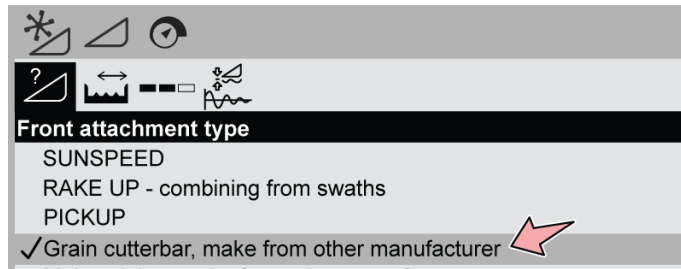
Height/Tilt Response **Normal but the other choice is Fast rate.**

Note the HHC Manual lower and Raise rates can be set depending on the mode of response rate that the combine is set for.

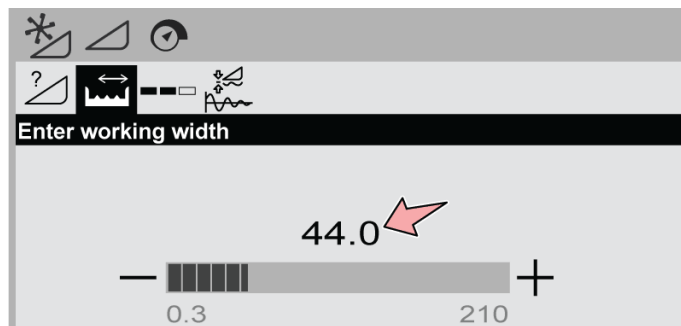


LEXION Combine Calibration/Settings

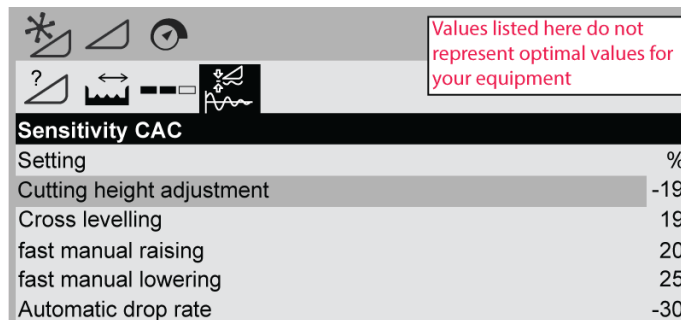
1. Select the front attachment type "Grain cutterbar, make from other manufacturer"



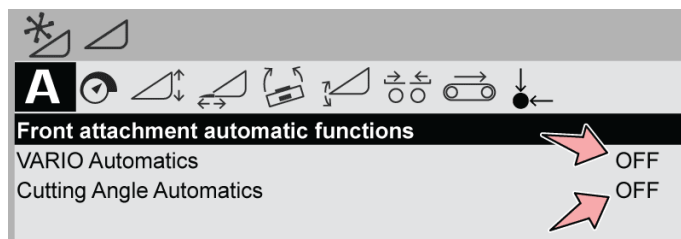
2. Enter the width of your header minus your intended overlap (the example below is the value entered for a 45ft header with 1ft overlap)



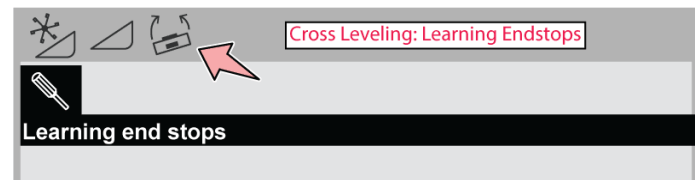
3. Ensure the settings listed below are entered into the sensitivity screen.



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



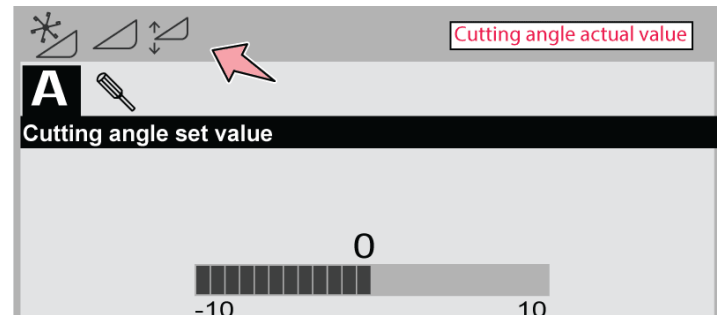
5. Run the learning endstops procedure in the Cross Leveling section of the menu.



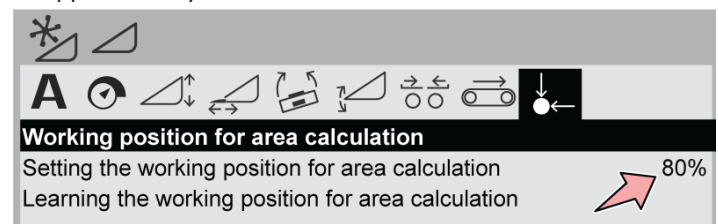
6. Run the learning endstops procedure in the Front Attachment Height section of the menu.



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%.

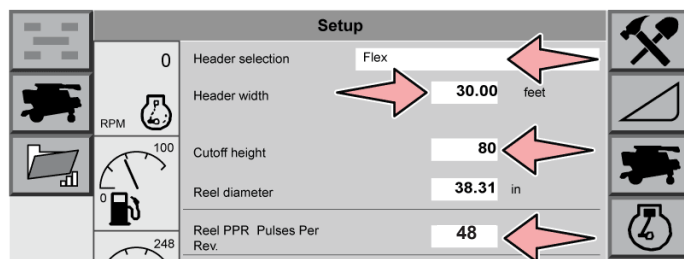


Massey Ferguson Combine Calibration/Settings

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.

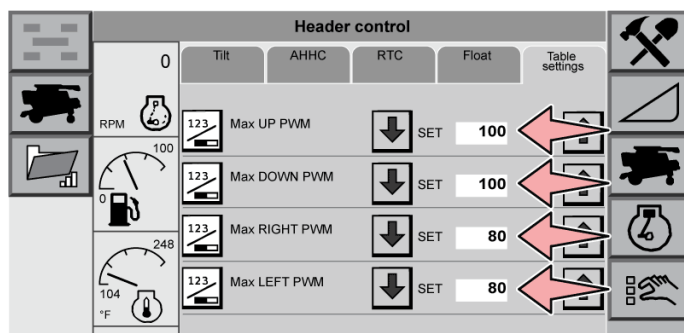
1. In the combine setup screen:

- Select the “Flex” header type
- Enter the width of your header under “Header Width”
- Set the “Cutoff Height” to 80%.
- Reel PPR: 48.



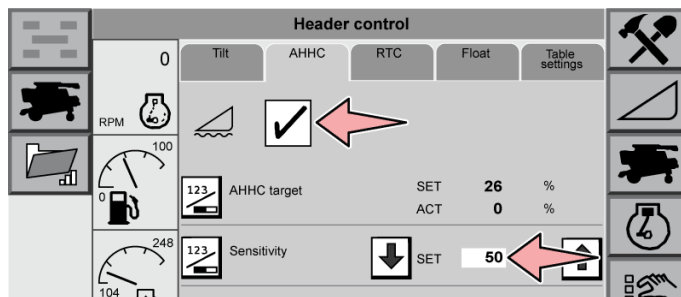
2. In the Header Control Table settings tab:

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



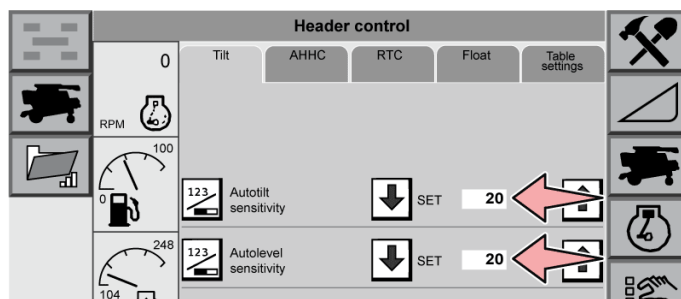
3. On the AHHC tab:

- 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 Flagship Combine Calibration/Settings

This section covers the CaseIH 7120, 8120, 9120, 7240, 8240, 9240, 7250, 8250 and 9250 combines.

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



Header Setup 1

Maximum Work Height
60 %

Header Type
Draper/Varifeed

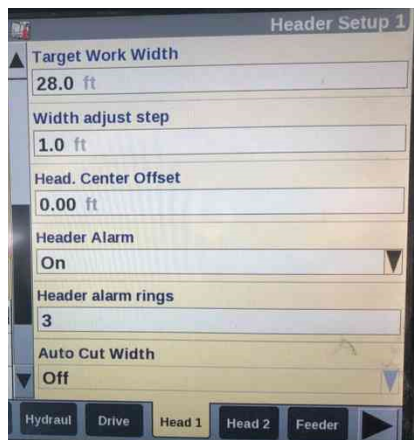
Header Sub Type
No shift function

Cutting Type
Platform

Frame Type
Flex Header

Header Width
30.0 ft

Hydraul Drive Head 1 Head 2 Feeder



Header Setup 1

Target Work Width
28.0 ft

Width adjust step
1.0 ft

Head. Center Offset
0.00 ft

Header Alarm
On

Header alarm rings
3

Auto Cut Width
Off

Hydraul Drive Head 1 Head 2 Feeder

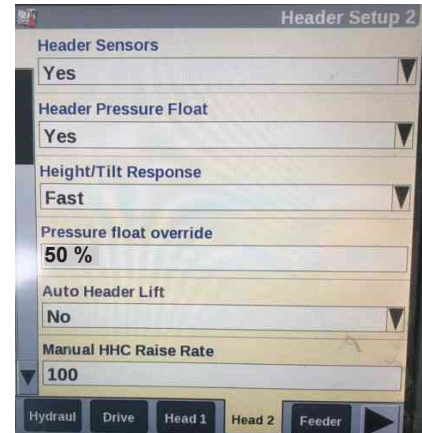


Header Setup 1

Overlap Mode
Auto

Work Width Reset Mode
Auto

2. Ensure the following settings are entered in the Header Setup 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

Header Sensors
Yes

Header Pressure Float
Yes

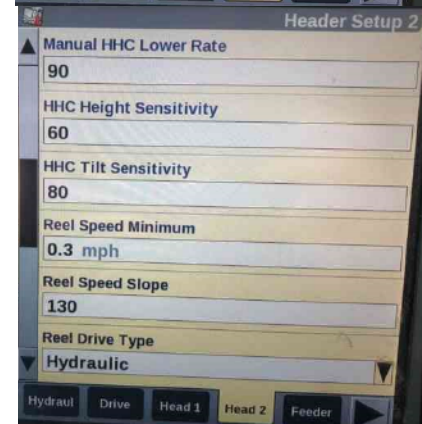
Height/Tilt Response
Fast

Pressure float override
50 %

Auto Header Lift
No

Manual HHC Raise Rate
100

Hydraul Drive Head 1 Head 2 Feeder



Header Setup 2

Manual HHC Lower Rate
90

HHC Height Sensitivity
60

HHC Tilt Sensitivity
80

Reel Speed Minimum
0.3 mph

Reel Speed Slope
130

Reel Drive Type
Hydraulic

Hydraul Drive Head 1 Head 2 Feeder



Header Setup 2

Reel Fore-Aft
Yes

Reel height sensor
No

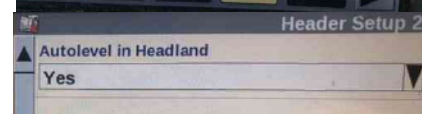
Reel Sensor Horizontal
No

Vertical Knives
No

Header Lateral Tilt
Yes

Autotilt
Yes

Hydraul Drive Head 1 Head 2 Feeder



Header Setup 2

Autolevel in Headland
Yes

CASE IH Header Icons

When in the automatic HHC mode there should be a wavy line under the header in the left hand screen.



If the Pressure Float override is set too low or the header hit the ground hard it will send the header into pressure override. When it does a wavy line plus an up arrow will appear. Depending on the duration it may be possible that pushing the resume button may be needed.



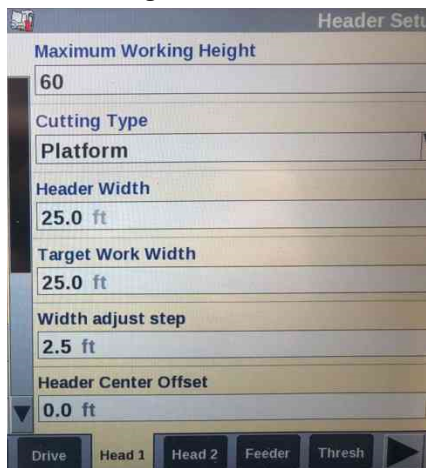
If a straight line is under the header the Automatic HHC has been turned off.



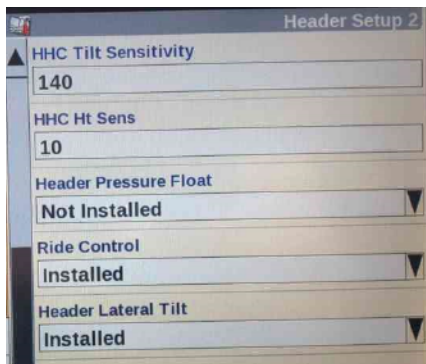
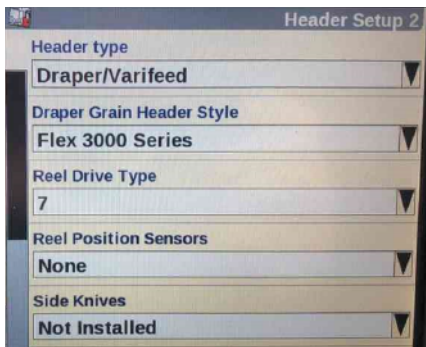
Case Mid-range Combine Calibration/Settings

This section covers CaseIH 5130, 6130, 7130, 5140, 6140, 7140, 5150, 6150 and 7150 combines.

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



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



CASE IH Header Icons

When in the automatic HHC mode there should be a wavy line under the header in the left hand screen.



If the Pressure Float override is set too low or the header hit the ground hard it will send the header into pressure override. When it does a wavy line plus an up arrow will appear. Depending on the duration it may be possible that pushing the resume button may be needed.



If a straight line is under the header the Automatic HHC has been turned off.



Fendt Ideal Combine Calibration/Settings

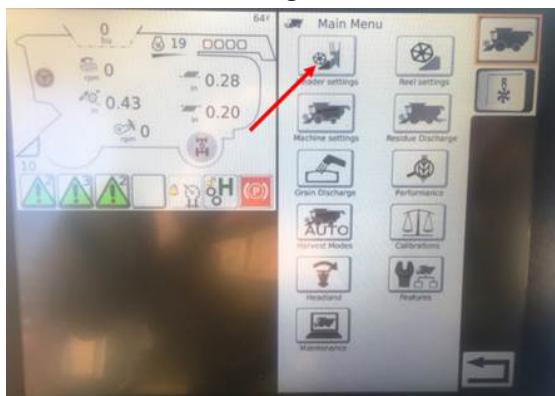
1. Ensure the AutoMatic HHC button and AutoMatic tilt buttons are pressed on the armrest console.



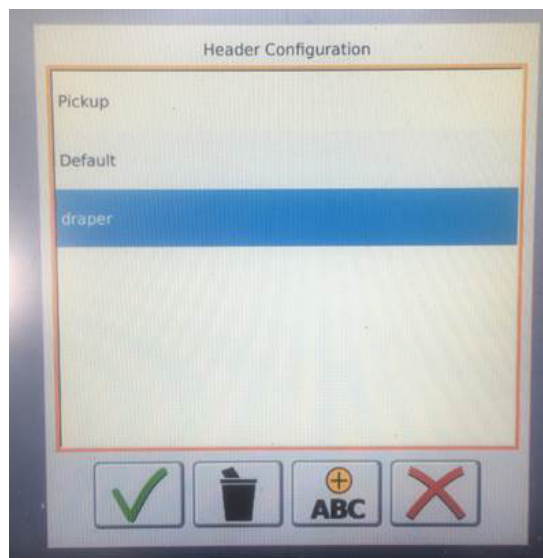
2. Second step is selecting all the header parameters in the combine monitor. Select the combine icon.



3. Then select the header settings icon:



4. Select the proper Header Configuration in drop down menu. So select the drop down menu then hit the "+ ABC" icon and select "PowerFlow" from the menu. Selecting this will allow us to get our hydraulic fore/aft and header tilt to work.



5. Then set the header width, keep the reel diameter the same and change the Reel PPR to 48. Also select the top drop down menu and we will want to select



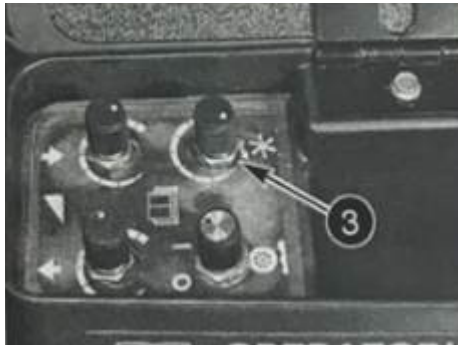
6. Follow the header and reel speed calibrations by following the instructions in the combine operator's manual.

CaseIH 2X88 Series Combine Calibration/Settings

1. Turn off the Accumulator Ride control switch which is under the armrest cover.



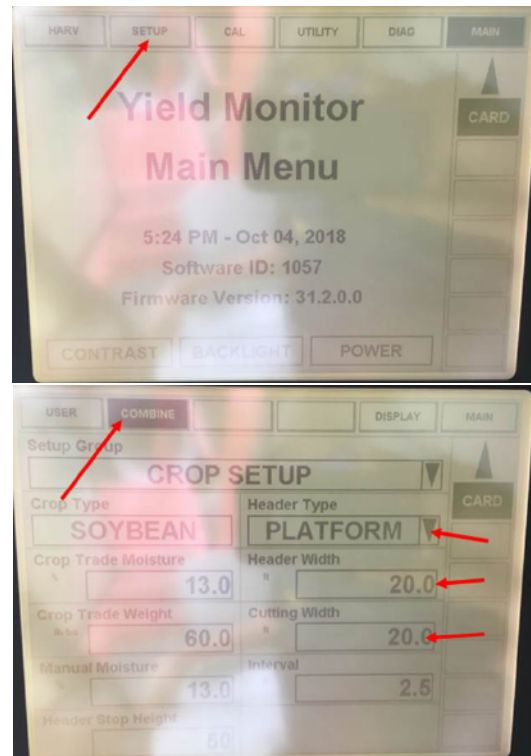
2. If Auto Reel Speed function is desired turn it on. See combine operator's manual for details.



3. Make sure the header height switch is on (HT) and the Lateral tilt button is on.



4. Go into the monitor (if one is installed) and select the setup screen and then go to combine tab and set the header type (platform), header width, cutting width (same as width).



5. After all is setup, calibration the header HHC by following the instructions in the operator's manual.

NOTE: HeadSight kit##HP0IH23-32C-2020 must be installed between header and combine electrical for proper operation.

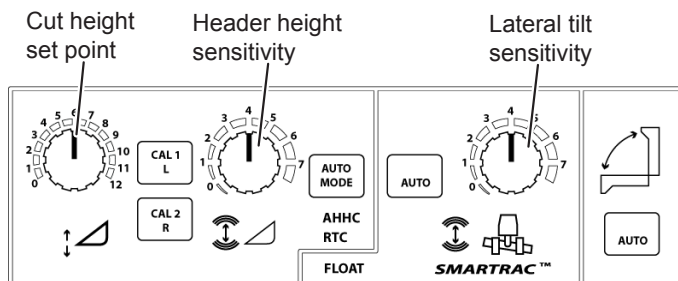
S8 & Earlier Gleaner Combine Calibration/Settings

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:

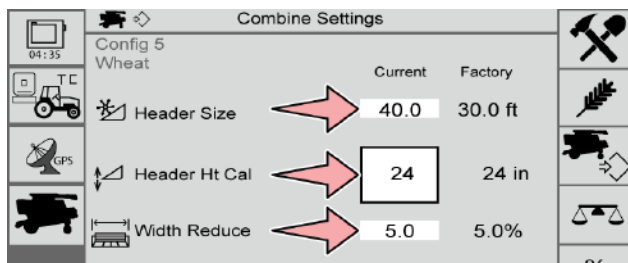
- From AGCO dealer: Pulse Width Modulated Proportional Valve Upgrade Kit (Headsight)
- From Honey Bee: BeeBox

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:

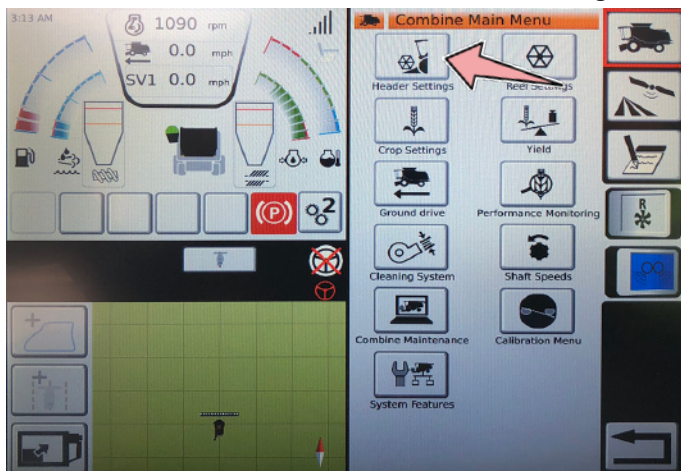
$$\text{Lateral Tilt Sensitivity} = \left(\frac{\text{AHHC Sensitivity}}{2} \right) - 10\%$$

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.

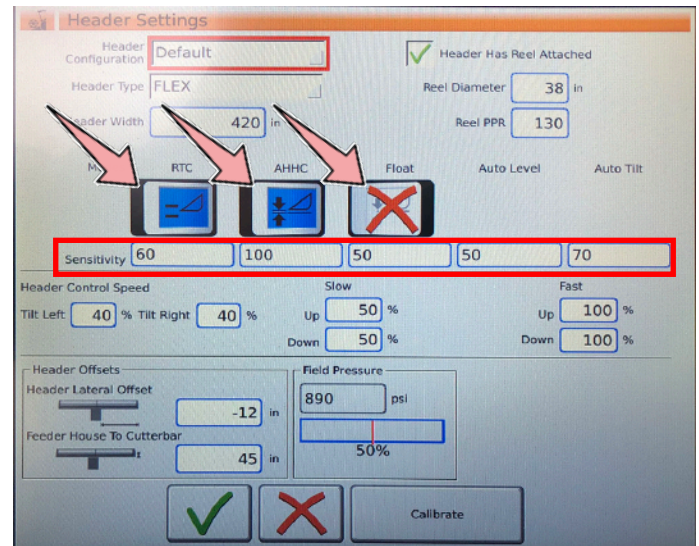


- On the combine Main Menu, select Header Settings.



- 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