# New Holland 76C Pick-Up Header
Auto Header Height Control – Sensor Bracket Upgrade Kit
INSTALLATION INSTRUCTIONS

This kit contains a modified design for the Auto Header Height Control (AHHC) sensor mount bracket (A) and sensor pivot arm (B) for units where calibration has proven difficult.

Install the new components using the illustration below.

Instructions follow for combine configuration and calibration of the sensor.
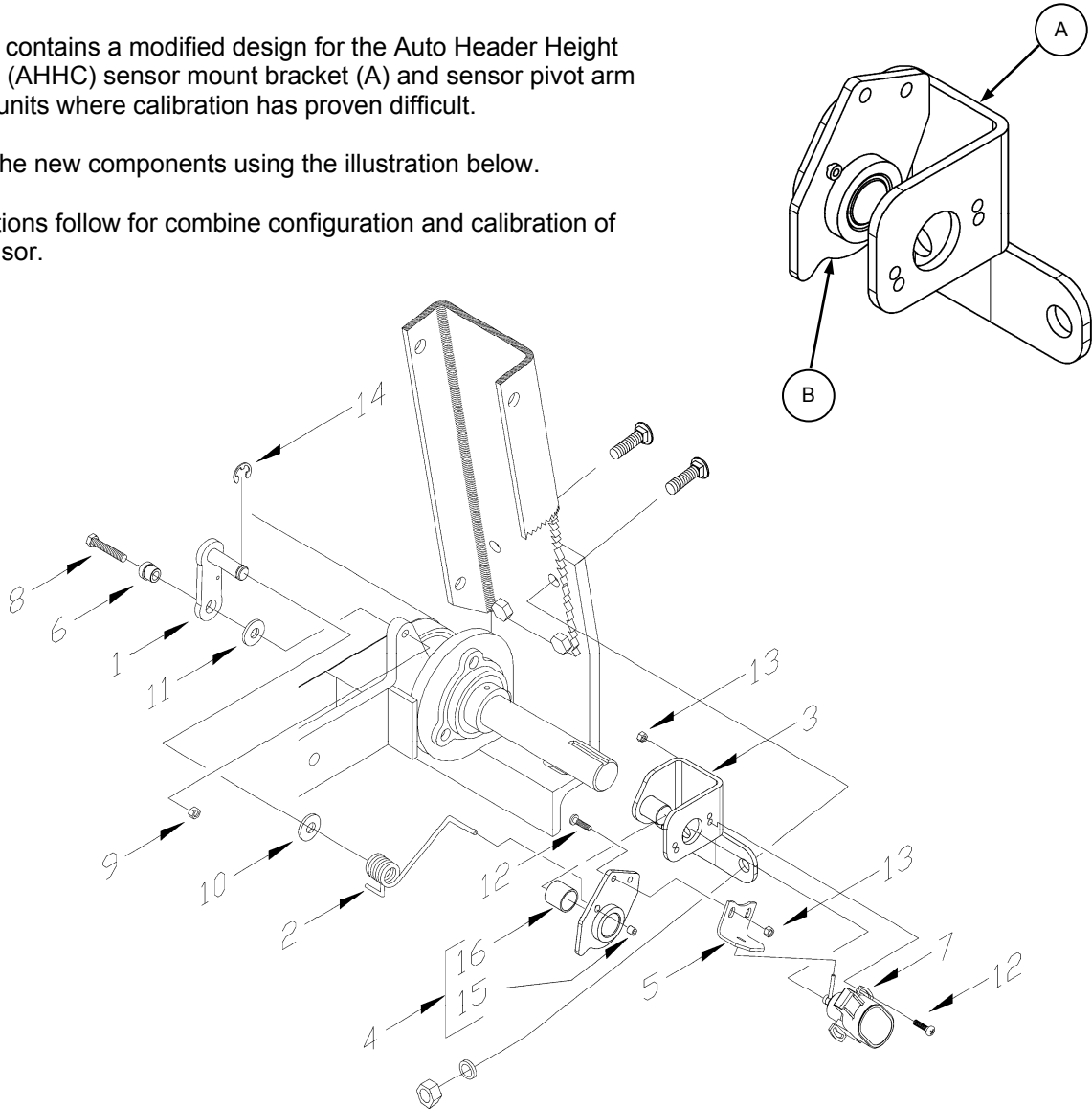
ITEM	DESCRIPTION	QTY
1	SPRING MOUNT LEVER	1
2	TORSION SPRING, HEIGHT CONTROL	1
3	SENSOR MOUNT BRACKET	1
4	SENSOR PIVOT ARM CW BUSHINGS	1
5	BRKT- CNH HGHT CONTROL PAINTED	1
6	BSHG, 5/16 ID X 1/2 OD X 3/8 L	1
7	HEIGHT CONTROL SENSOR 76C	1
8	1/2 X 2 UNC BOLT	1
9	NUT, 5/16 UNC UNITORQUE PLATED	1
10	1/2 SAE FLAT WASHER, PLATED	1
11	WASH 7/8 OD X 17/32 ID X 18 GA	1
12	MACH SCREW, #10 UNC X 5/8, HEX	4
13	NUT, NYLOCK, #10 UNC	4
14	SNAP RING, EXT, RADIAL, 1/2"	1
15	BSHG, 1/8 ID X 1/4 OD X 1/4 L	REF
16	BUSHING, SPLIT PLASTIC	REF

CALIBRATION: ADJUSTMENT AND OPERATION

1. **NOTE:** For best performance of the Auto Header Height, perform ground calibration with suspension down stop adjusted for a 20" height (rear roller to ground). See "Suspension Adjustment" in Adjustment section of Pickup Operators Manual.

2. Make the following selections for controls in the combine cab. See page 4 or refer to "Configurations and Calibrations" in your Combine Operator's Manual for location and operation of controls:
- Set the "Header Auto Float" to **Installed**.
- Set the "Header Lateral Float" to **Installed**.
- Set the "Header Lower Rate" to **50**.
- Set the "Header Height Sensitivity" to **200**.

3. Complete the header calibration procedure for the combine after initial header installation and after replacement or adjustment of any component of the Auto Header Height system. If the unit does not function, see the Troubleshooting section below.

4. To reduce raise and lower time, press "RESUME" button twice when raising header. (See Combine Operators Manual.)

STUBBLE HEIGHT AND AUTOFLOAT MODE:

In this mode, without autofloat potentiometer sensors, the header operates at a preselected stubble height.
If the autofloat potentiometer sensors are installed, the header will follow the field contours at a preselected stubble height.

1. Engage the threshing mechanism and the feeder with switches, 1 and 2.
2. Set header memory rocker switch 4 in stubble height/autofloat mode position, 1 or 2.
3. Lower the header to the desired cutting height using the header height and header lateral floatation rocker switch, 3.
4. Press automatic header height resume button, 6, for minimum 2 seconds to store. (A beep will confirm setting).

NOTE: It is possible to store two different header height values by using header memory rocker switch 4 in stubble height/autofloat mode position, 1 or 2.
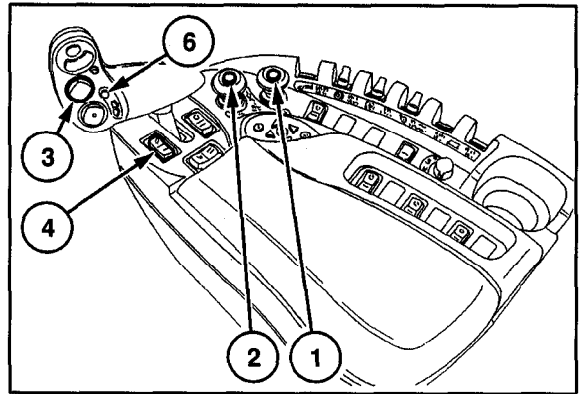
5. To change one of the memorized header height setpoints during working, using the header height and header lateral floatation rocker switch, 3, (slow up/down) to raise or lower header to the desired value. Press the automatic header height control button, 6, for a minimum of 2 seconds to store the new height position. (A beep will confirm setting).

**NOTE:** Do not press too hard on header height control button 6 or float mode will be disengaged.

NOTE: It is not necessary to press rocker switch 4, again after adjusting.

# CALIBRATION: ADJUSTMENT AND OPERATION

NOTE: The status bar on the monitor shows in which mode the header works:
There are three different modes.
1. Stubble height mode
2. Autofloat mode **– Must be in this mode for Auto Header Height to work.**
3. Compensation mode

NOTE: The status bar on the monitor shows if touching ground during working in stubble or autofloat mode,
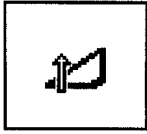
NOTE: This does not indicate that the machine is no longer in auto float mode.
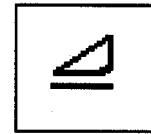
STUBBLE HEIGHT MODE

AUTOFLOAT MODE

COMPENSATION MODE

TROUBLESHOOTING: If optimizer function is not acceptable at the initial settings, it may be necessary to adjust sensor angle.

- Check the sensor voltage output. <u>**10 Volt System:**</u> Output must be within the range of **2.8 to 7.2 volts**. <u>**5 Volt System:**</u> Output must be within the range of **0.7 to 4.3 volts**.
  See "Dealer Diagnostics" section in Combine Operator's Manual to read "Header Stubble Height – Flex Left & Right" voltage from the cab. The voltage output *range* (difference between high and low voltage limits) must stay between 4.1 and 4.4 volts for 10 Volt Systems and over 2.5 volts for 5 Volt Systems.
- Check high voltage limit with pickup 150 mm (6") off ground and resting on down stops. **NOTE:** If pickup is not on down stops, the voltage may go out of range during operation, causing a malfunction of the Auto Header Height. Be sure to take high limit voltage readings with pickup on down stops.
- Check low voltage limit with feeder house fully lowered and pickup floated up off of the down stops.

NOTE: Error code 08 indicates that the voltage range is too wide. Error code 15 indicates that voltage is too low or too high.

NOTE: If adjustment is required to voltage limits, drill a 17/32" (13.5 mm) hole (X) in channel upright at dimensions shown for access to back mounting screw.

- To adjust voltage limits:
  (a) Remove mounting screws from bottom holes (Z). Access back screw through hole (X). Move screws to upper holes (Y) in sensor mount to allow sensor movement. (Screws not shown for clarity.)
  (b) Rotate sensor mount to achieve voltage range specified above.
  (c) Tighten sensor mounting screws.

- To adjust voltage range, change the high end limit by adjusting suspension down stop away from the normal 20" height (rear roller to ground). To reduce the range, shorten the down stop to decrease the height. To increase the range, lengthen the down stop to increase the height. See "Suspension Adjustment" in Adjustment section of Pickup Operators Manual:

ROTATE SENSOR TO ACHIEVE RANGE

X

74 mm

Y

Z

23 mm
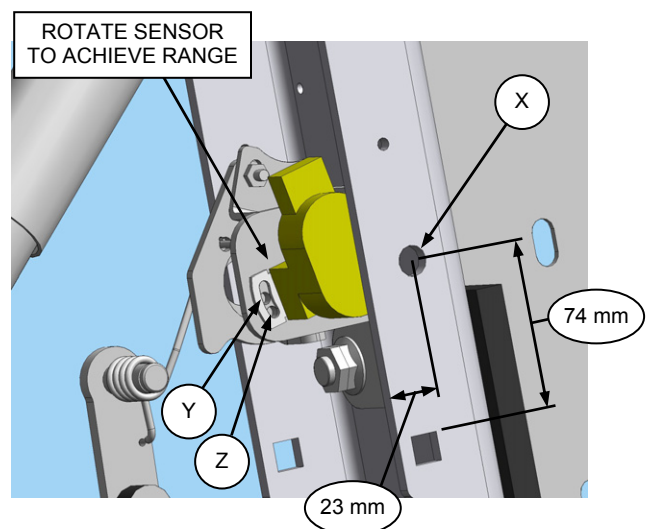
ADJUSTING VOLTAGE LIMITS

COMBINE CONFIGURATION:

SET THE HEADER LOWER RATE: 50

The fast lower speed (the automatic header height control button or second speed on the header height rocker switch of the multi-function handle) can be changed.

Proceed as follows:

1. Select the item "header Lower rate".

2. Use the "+" or "-" buttons to change the setting to 58.

3. Press "enter" to store.

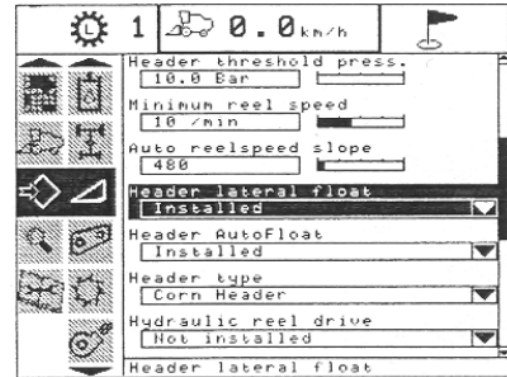**NOTE:** The setting can be changed between 2 and 247% in steps of 7.

Factory-set = 100%
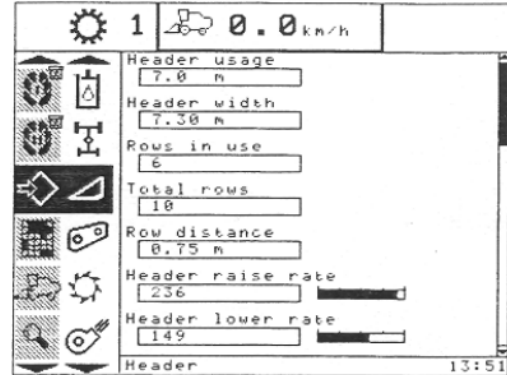
SET THE HEADER LATERAL FLOAT: INSTALLED

Press "enter" when this item is selected, a pop-up screen appears, showing the possibilities "Installed" or "Not installed".

Using the "up" or "down" navigation keys to select and press "enter" to confirm the **installed option**.

SET THE HEADER AUTOFLOAT: INSTALLED

Press "enter" when this item is selected, a pop-up screen appears, showing the possibilities "Installed" or "Not installed".

Using the "up" or "down" navigation keys to select and press "enter" to confirm the **installed option**.

SET HEADER RAISE RATE:

If the header raise rate is not acceptable then adjust as follows:

The manual slow raise (first speed on the header height rocker switch of the multifunction handle) can be changed.

Proceed as follows:

1. Select the item "Header raise rate".

2. Use the "+" or "-" buttons to change the setting. Set to operator's preference.

3. Press "enter" to store.

NOTE: The settings can be changed between 32 and 236 in steps of 34. Factory setting = 100

Once combine configuration values have been set, proceed to combine header calibration procedure.

SET HEADER HEIGHT SENSITIVITY: 200

To change the up and down sensitivity of the feeder house, proceed as follows:

1. Engage threshing and feeder house.

2. Select the item "Height Sensitivity".

3. Use the "+" or "-" buttons to change the setting.
4. Press "enter" to save the setting.

NOTE: Values are changed in increments of 10 from 0 to 250. Factory setting = 100.

CALIBRATION OF THE HEADER

Check following conditions before starting the header calibration procedure:

1. The header is attached to the combine.

2. Place the combine on level ground, with the engine running and put the header level to the ground.

3. The engine is running.

4. No faults received from the Header Height Controller (HHC) module.

5. Header/Feeder disengaged.

6. Lateral floatation buttons NOT pressed.

7. The combine is not moving.

8. ESC key is not pressed.
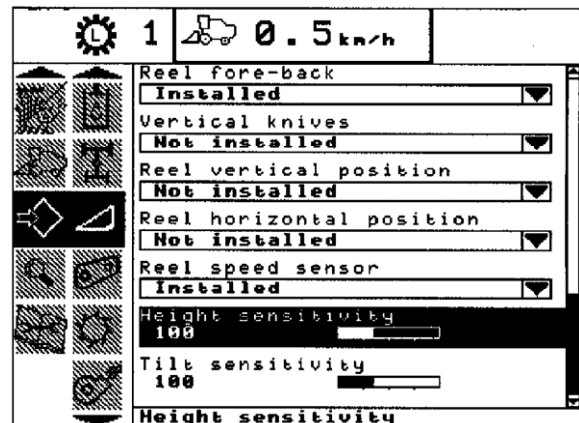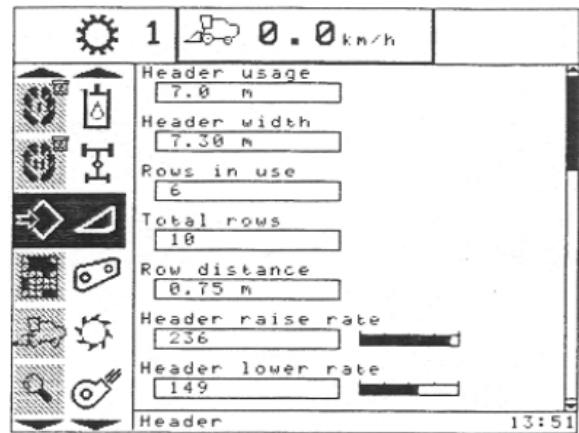
HOW TO ENTER CALIBRATION MODE:

1. Select the calibration sub-menu and press the "right" navigation key to enter the information box.
2. Use the "up" and/or "down" navigation keys to select the item you want to calibrate.
3. Press "enter".
4. The calibration window will appear on the screen.

The calibration window has on top the description of the item to calibrate.
In the middle of the window, a description of the calibration conditions and procedure will appear.
Follow the steps as described in the window.
The display will automatically show the next step.
Pressing the "Esc" key in one of the following steps will cause the calibration procedure to stop.
Not reacting to the system within three minutes, will cause the calibration procedure to stop.
Proceed to the end, which is when "calibration successful" is displayed. Leave the calibration by pressing the "enter" or "esc" key.

TO CALIBRATE PROCEED AS FOLLOWS:

NOTE: Before calibration, ensure that header is on down stops and center link is back.

1. Select the "Header" calibration window.

    Message: "Park the combine with the engine running and header level to the ground".

    Message: "CAUTION": "header will move automatically -stand clear of header".

    Message: "First press enter, then pulse the header down switch".

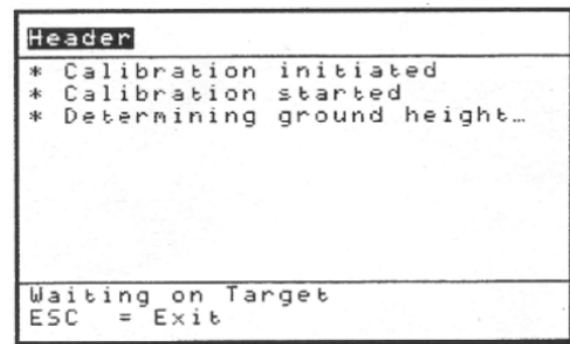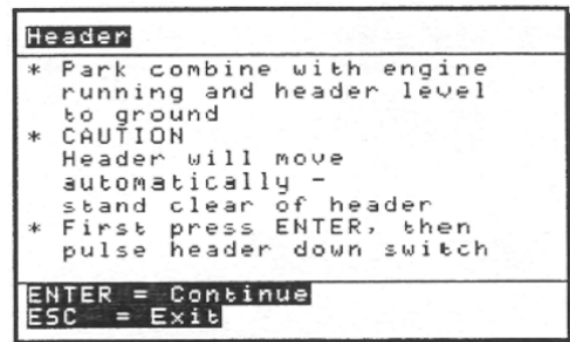2. First press enter, then press the header down key.

    CAUTION: The header will lower until it is on the ground. If the header was already on the ground, it will raise a little bit.

    Message: "Calibration initiated".
    Message: "Calibration started".
    Message: "Determine ground height".

3. Wait a few seconds until the next message.

TO CALIBRATE (CONT'D):

Message: "Pulse header switch up.

4. Press the header up key.

⚠ **CAUTION: The header raises slowly to the maximum calibrated position and moves fast until maximum position.**

Message: "Determining maximum height...".

5. Wait a few seconds until the next message.

Message: "Pulse header down switch".

6. Press the header down key.

⚠ **CAUTION: The header lowers to a position just above the ground**

Message: "Determining header weight...".

7. Wait a few seconds until the next message.

Message: "Pulse header up switch".

8. Press the header up key.

Message: "Determining pressure difference...".

9. Wait a few seconds until the next message.

Message: "Calibration successful".

10. Press "Enter" or Esc" to close the calibration window.

NOTE: See Combine operator's manual for error codes.

If the unit does not function, see the Troubleshooting section page 5.

If unit does not function properly, conduct the maximum stubble height calibration.

```
Header
* Calibration initiated
* Calibration started
* Determining ground height…
* Pulse header up switch



Waiting on Target
ESC  = Exit
```

```
Header
* Calibration initiated
* Calibration started
* Determining ground height…
* Pulse header up switch
* Determining maximum
  height…
* Pulse header down switch


Waiting on Target
ESC  = Exit
```

```
Header
* Calibration initiated
* Calibration started
* Determining ground height…
* Pulse header up switch
* Determining maximum
  height…
* Pulse header down switch
* Determining header weight…
* Pulse header up switch

Waiting on Target
ESC  = Exit
```

```
Header
* Determining ground height…
* Pulse header up switch
* Determining maximum
  height…
* Pulse header down switch
* Determining header weight…
* Pulse header up switch
* Determining pressure
  difference…

Waiting on Target
ESC  = Exit
```

```
Header
* Calibration successful




Press ESC or ENTER
```

TO CALIBRATE (CONT'D):

MAXIMUM STUBBLE HEIGHT CALIBRATION:

This is necessary to know from which height the area counter should stop or start counting. When the header is raised before this level the area counter assumes you are not cutting crop. You have to put the header at a certain height you will always exceed when not cutting and at a certain height you will always stay below when cutting.

Select the height of the header that corresponds to the description above.

IMPORTANT: If the value is set too low area may be counted since sometimes the header is raised above this threshold although the combine is still cutting.
If the value is set too high the area counter will keep cutting even when header is raised (but below this threshold) and the combine is not cutting crop any more.

To calibrate the maximum stubble height, proceed as follows:

```
Maximum  Stubble  Height
*  Set header to desired maximum stubble height

*  Then press ENTER




ENTER = Continue
ESC    = Exit
```

```
Maximum  Stubble  Height
*  Calibration  successful





Press  ESC  or  ENTER
```

1. Select the "Maximum Stubble Height" calibration window.
   Message: "Set header to desired maximum stubble height".

   Message: "Then press enter".

2. Put header to the correct position using the header up or down control switch on the multi-function handle.

3. Press "enter" to continue.

Message: "Calibration successful".

4. The calibration is done.

5. Press "Enter" or "Esc" to close the calibration window.