1. Temperature Calibration

Temperature calibration should be performed when the sensor has not been in direct sunlight or filled with grain, such as first thing in the morning. The reading should be an accurate reading of the surrounding air temperature. To be performed each season.

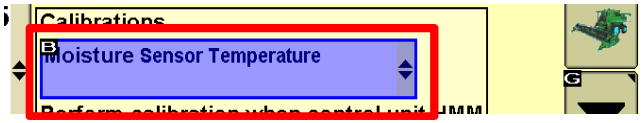
1

Select Button “B” from the combine main run page.

2

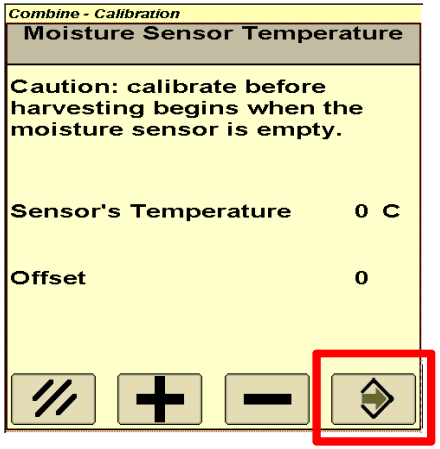
Select Button “G” for user calibrations.

3



Select “Moisture Sensor Temperature” from the list of calibrations and select the “accept” button.

4



Use the “+“ and “-” buttons to accurately identify the offset between the air temperature and the moisture sensor temperature. Change until Sensor’s Temperature matches the surrounding temperature.

Select the “accept” button when complete.

2. Mass Flow Vibration Calibration

Be certain to select the correct crop in the combine setup prior to completing this calibration. This calibration will be saved under the crop identified in the combine setup. This calibration must be performed with the correct head on the combine and with the head in the operational position for harvest. To be completed with each crop.

1

Select Button “B” from the combine main run page.

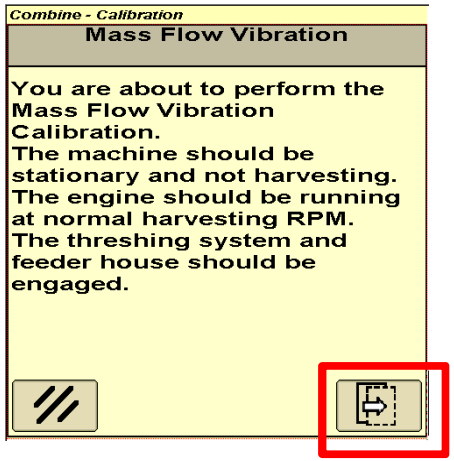
2

Select Button “G” for user calibrations.

3

Select “Mass Flow Vibration” from the list of calibrations and select the “accept” button.

4



With the combine running and empty of grain, engage the separator and header. While sitting still at full engine RPM and the correct header in the operating position (but not resting on the ground), select the accept button.

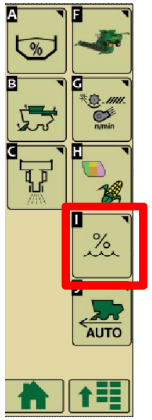
The calibration will take up to 60 seconds and a confirmation screen will appear when complete. Press the “accept” button again to accept the final calibration.

3. Moisture Sensor Correction

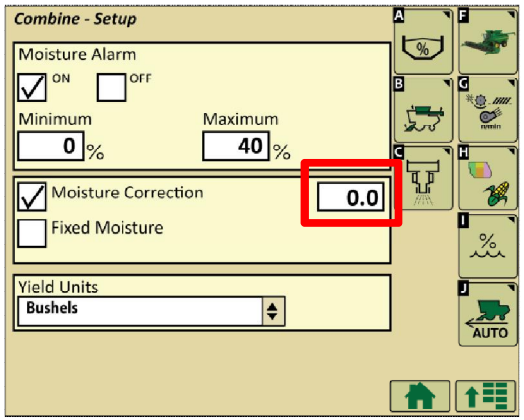
- Temperature calibration should be completed before this correction.
- Calibrate for each crop type, at the beginning of the season.
- Possibly avoid confusion by following steps 3 and 4 to set the moisture correction value to 0.0, and ensure the moisture correction box is checked before beginning this process.
- Take time to thoroughly clean the moisture sensor metal plates at the beginning of each season with glass cleaner or water.
- If moisture readings become erratic while harvesting high moisture grain, clean the moisture sensor with glass cleaner or water to remove buildup on metal capacitance plates.

1. Harvest one Grain tank of grain with "Moisture Correction" checked (see Step 4), and note the average moisture displayed on the Harvest Monitor/Doc display.

2. Randomly sample the grain from several location in the grain tank to collect an average moisture sample, then measure the moisture of this sample using and accurate/trusted moisture tester.

3. 

Select the "moisture setup" button from the combine main setup page.

4. 

Ensure there is a check mark in the moisture correction box. Then select the correction value, and enter the correct offset between the actual measured value and the displayed value, and accept. This can be a positive or negative number, and needs to be added to any existing offset.

Example: elevator moisture (13%) minus combine measured moisture (12%) = moisture offset (+1%.)

4. Weight Calibration

Note: Mass Flow Vibration and Moisture Sensor Temperature calibrations need to completed before weight.

- Calibration loads must be uniform in size and over 3,000 lbs.
- Weight calibration can be completed at any time during the season, it will not impact already harvested data. It is recommended to calibrate early in the season.
- Harvest each calibration load at a different flow rate. Grain Flow can be altered by changing ground speed.
- Harvest at a constant flow rate during each calibration load target speed, the performance monitor flow rate (Bu/Hr) can be used to monitor this. Avoid headland turns if possible.

Calibration load	1	2	3	4	5	6	7
Harvest Speed	+½ MPH	Normal Harvest Speed	- ½ MPH	- 1 MPH	-1½ MPH	-2 MPH	-2½ MPH

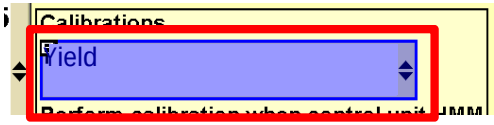
- A maximum of 13 cal loads can be used for each crop, but for most accurate results, use 5-7 calibration loads for each crop. If high accuracy isn't desired, 1-3 loads can be performed near the normal flow rates.
- Make note of the speed, moisture and flow rate (bu/hr) of each calibration load for future reference These loads do not need to be in any specific order.
- In corn it is possible to use up to 6 calibration loads for dry or wet corn ,and one replacement calibration load.

1. 

Select Button "B" from the combine main run page.

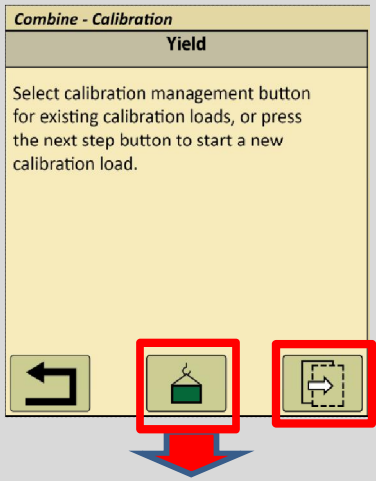
2. 

Select Button "G" for user calibrations.

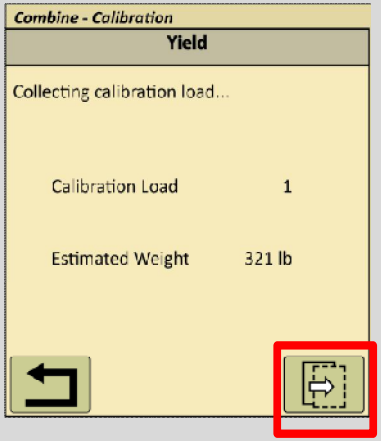
3. 

Select "Yield" from the list of calibrations and select the "accept" button.

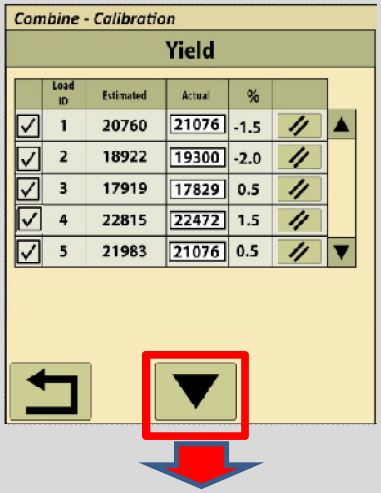
Weight Calibration Screen Overview



Selecting the “next” button will start the next available calibration load



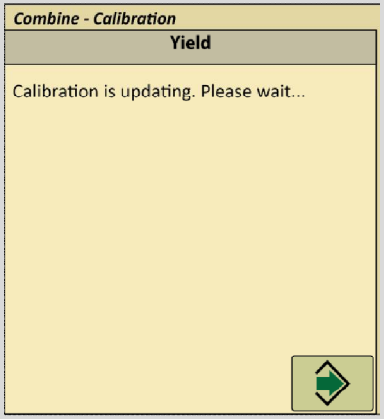
Selecting the “next” button again will complete the calibration load, scale weights will be entered in the calibration management screen

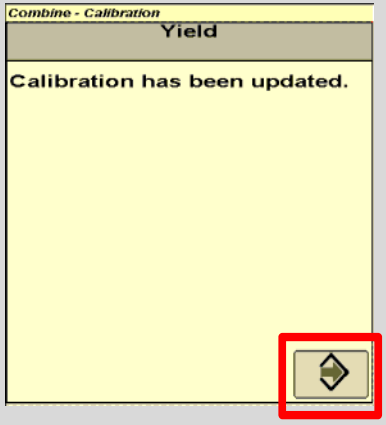


Calibration Management Screen

This is the main screen for interacting with calibration loads. Calibration occurs when a cal load with actual pounds is ‘checked’, and the calibration button at the bottom center of the screen is pressed. The “Actual” column is where the scale weight for the given calibration load is entered, then a % error will be displayed in the “%” column.

For best accuracy, make sure 5 -7 loads are ‘checked’, then press the “calibration” button. If % error is too high (greater than 2 or 3%), ‘uncheck’ that load and do another cal load at the same flow rate (from step #4 above). ‘Check’ the new load, and press the calibration button again. Press the (delete button) to permanently delete a cal load.

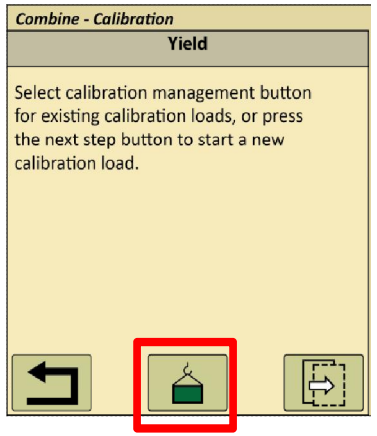




Selecting the “accept” button will complete the weight calibration process.

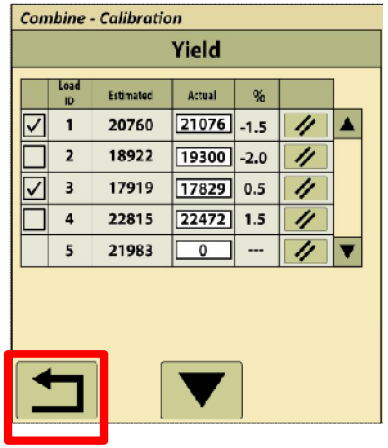
4. Weight Calibration Continued

4



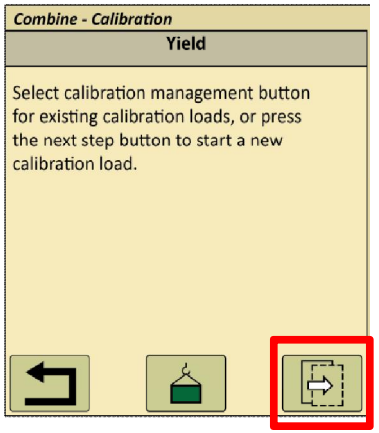
Selecting the “calibration load management” button and be sure to have enough clear calibration loads for the desired number of calibrations you intent to perform at different grain flow rates. Make room by deleting old or unwanted calibration loads.

5



Return to the main calibration page by selecting the “back” button.

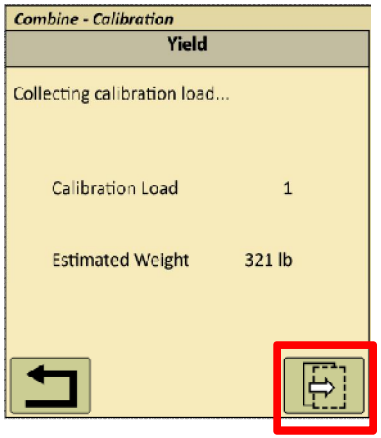
6



Select the “next” button to begin the first calibration. Ensure that the combine grain tank is empty.

4. Weight Calibration Continued

7

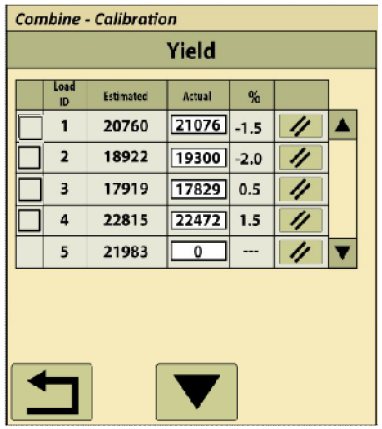


The display will select the first open calibration load number in the "calibration load management" list each time a calibration is initiated. As the grain is harvested the combine estimated weight will increase. Be certain to keep speed (grain flow rate) constant during the calibration load, harvest at least 3,000 pounds. Select the "next" button to complete the calibration load.

8

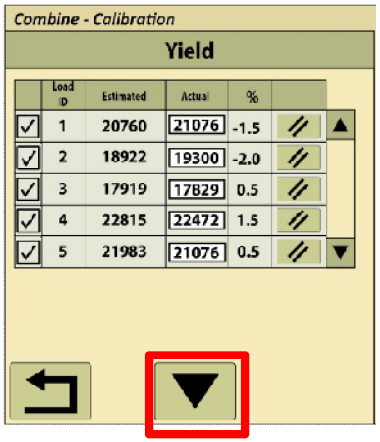
Repeat steps 6 and 7 for a minimum of four calibration loads at different flow rates (speeds).

9



Enter the actual scale weight of each calibration load. This is done by selecting the open box in the "Actual" column next to the corresponding calibration load. A number entry pad will appear enter the weight and select "accept " button. This can be done after each load or later when all of the loads have been collected.

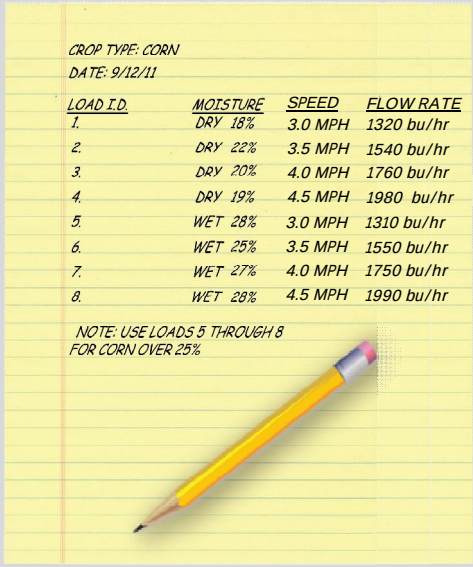
10



Place a check mark next to each of the calibrations that are recently completed at the different grain flow rates, have an error of less than 3.0%, and are to be used to generate the multi-point calibration. Select the "calibration" button and accept the final calibration when successful , this calibration will be saved under the crop identified in the combine setup.

Weight Calibration Helpful Hints

•Keep a log of your calibrations, this will be helpful in identifying them later. If using combine yield maps as part of your crop insurance practices, be certain to fill out the calibration log from your crop insurance agent.


CROP TYPE: CORN
DATE: 9/12/11

LOAD I.D.	MOISTURE	SPEED	FLOW RATE
1.	DRY 18%	3.0 MPH	1320 bu/hr
2.	DRY 22%	3.5 MPH	1540 bu/hr
3.	DRY 20%	4.0 MPH	1760 bu/hr
4.	DRY 19%	4.5 MPH	1980 bu/hr
5.	WET 28%	3.0 MPH	1310 bu/hr
6.	WET 25%	3.5 MPH	1550 bu/hr
7.	WET 27%	4.0 MPH	1750 bu/hr
8.	WET 28%	4.5 MPH	1990 bu/hr

NOTE: USE LOADS 5 THROUGH 8 FOR CORN OVER 25%

•Calibrate all loads at the same time, once per season per crop – Treat wet corn and dry corn as separate crops.

•Calibrate in as uniform of crop as possible, avoid calibrating when opening a field.

•Check/confirm calibrations from time to time during the season.

•Re-Calibrate/confirm calibration with dramatic changes in grain (i.e. test weight changes more than 6 - 8 pounds, or moisture changes more than 8-10 points on average).

•Calibrate to an accurate reference scale.

•Do not dump on the go while calibrating.

•Clean moisture and mass flow sensors before calibration.

•If after final calibration the error is over 3%, uncheck the load the the maximum error and re-perform the final calibration, You must still have over 4 loads checked to perform a full calibration.

•The greater the variability in the crop the more calibrations loads at varying grain flow rate (speeds) are recommended, up to 13 are possible, 5 to 7 are recommended

•Less than 4 calibration loads will result in a linear calibration, it is recommend to always utilize more than four calibration loads for the greatest accuracy.

• Complete as much of the documentation setup in the display as possible before season.

•When preparing the combine, setting up the monitor, and make a test run in the barn yard for a few feet and check data, 0 bu./ac. yield data is still data. Unload date frequently.

•After harvesting part of the first field, or at least after harvesting the first field, Download data into Apex to verify that the data will transfer correctly.

•Update software prior to each season.