Sloan Implement Combine Quick Guide

JOHN DEERE

70 Series Combine

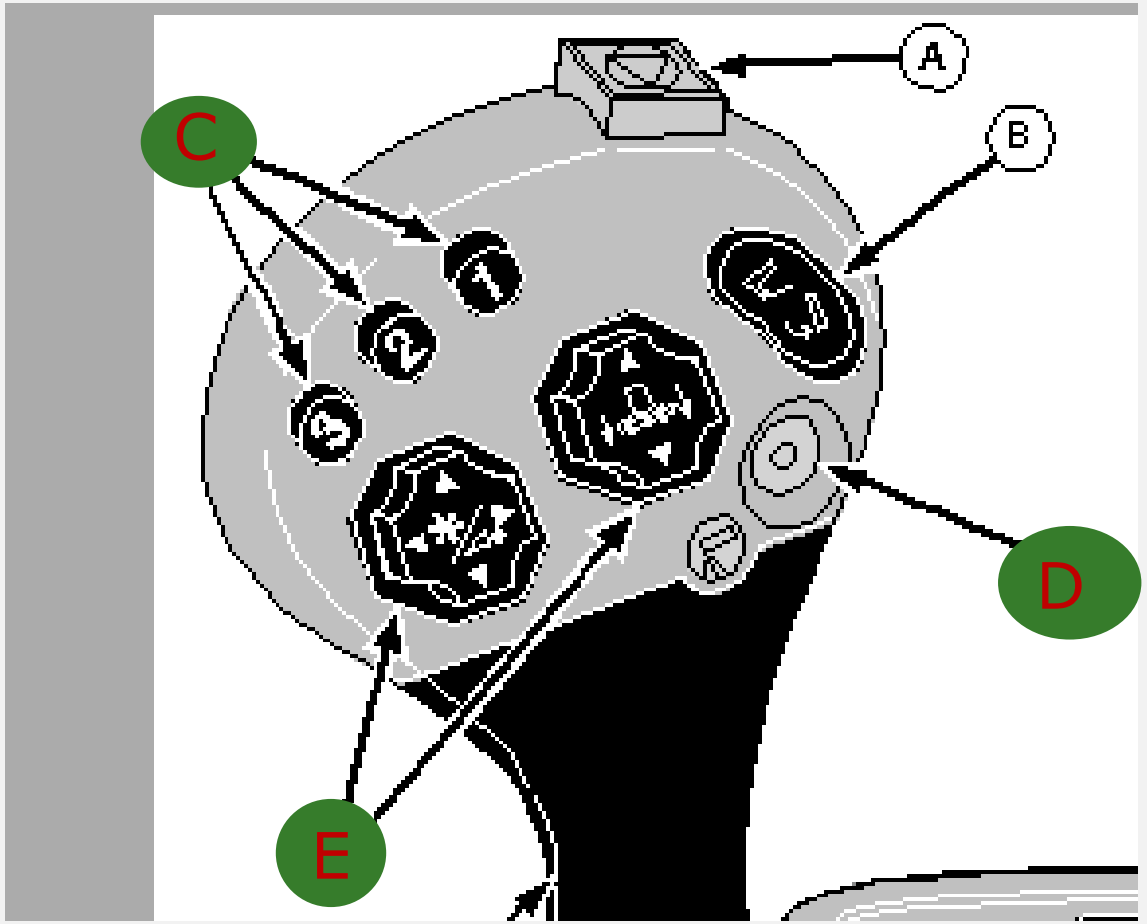
By

SLOAN IMPLEMENT

Call Center help line #
217-693-6209

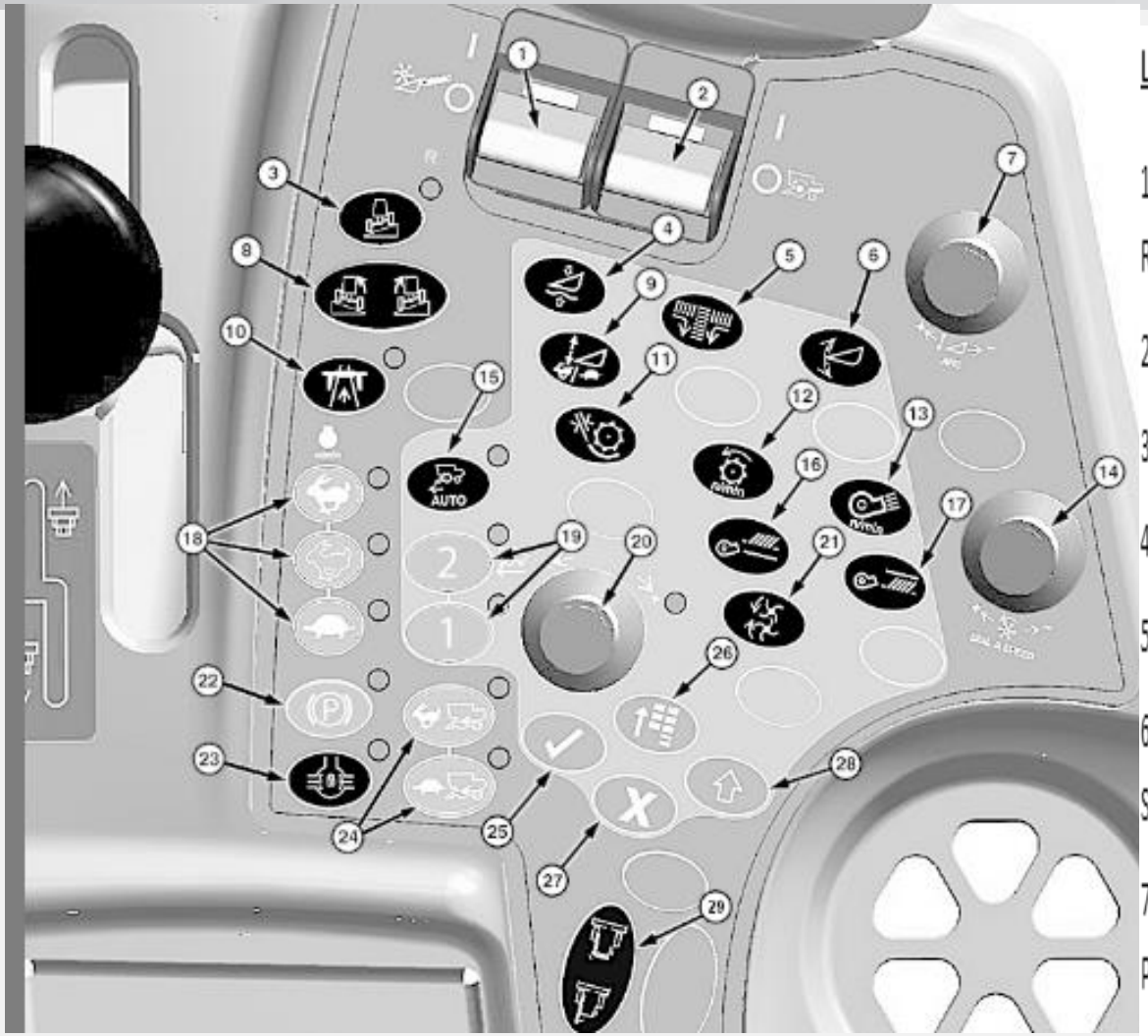
Table of Contents

Hydro Handle



- A = Quick Stop Button
  - Will shut off header and unload auger in emergency
- B = Unloading Auger Swing
  - 5 position button
    - Swing in/out manual
    - Swing in/out auto
- C = Auto Header Activation
  - 1 = Header raise
  - 2 & 3 = header return to cut
- D = Unloading auger engage and disengage
- E = Header function switches
  - Left switch: up/down is reel up/down and FH speed up/down
  - Left switch: right/left is reel f/a and deck plate open/close
  - Center switch: is header up down and tilt right left

Armrest Controls



LEGEND:

1 - Header Engage and Feeder House Reverser Switch

2 - Separator Engage Switch

3 - Not Used

4 - Cutterbar Pressure Adjust Switch

5 - Draper Belt Speed Adjust Switch

6 - Draper Cutterbar Tilt Adjust Switch

7 - Header Height/ HydraFlex™ Pressure Control Dial

8 - Not Used

9 - Feeder House Rate/Sensitivity Adjust Switch

10 - Road Transport Disconnect Switch

11 - Threshing Clearance Adjust Switch

12 - Threshing Speed Adjust Switch

13 - Cleaning Fan Speed Adjust Switch

14 - Dial-A-Speed™ Dial

15 - Harvest Smart™ Feed Rate Enable Switch (Optional)

16 - Chaffer Adjust Switch (Optional)

17 - Sieve Adjust Switch (Optional)

18 - Engine Speed Switches

19 - Pro Drive Range

20 - Selection Dial

21 - Spreader Speed Adjust Switch

22 - Park Brake

23 - Diff Lock

24 - Four Wheel Drive Switches (Optional)

25 - Confirm Switch

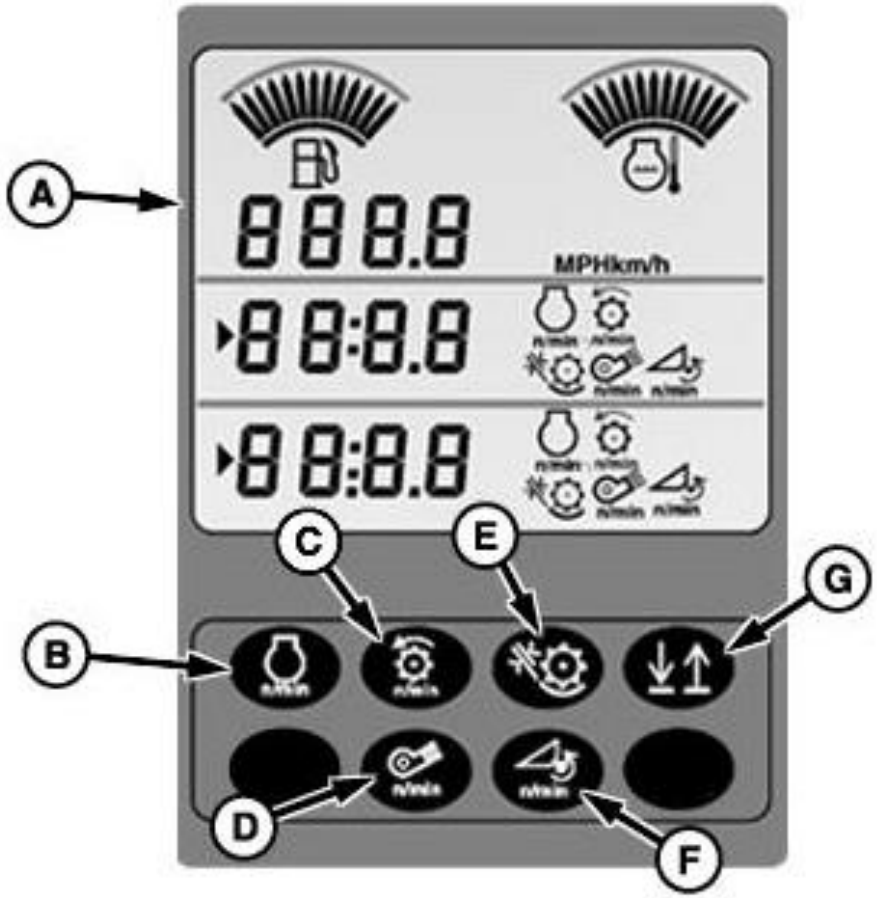
26 - Main Menu Switch

27 - Cancel Switch

28 - Display Select Switch

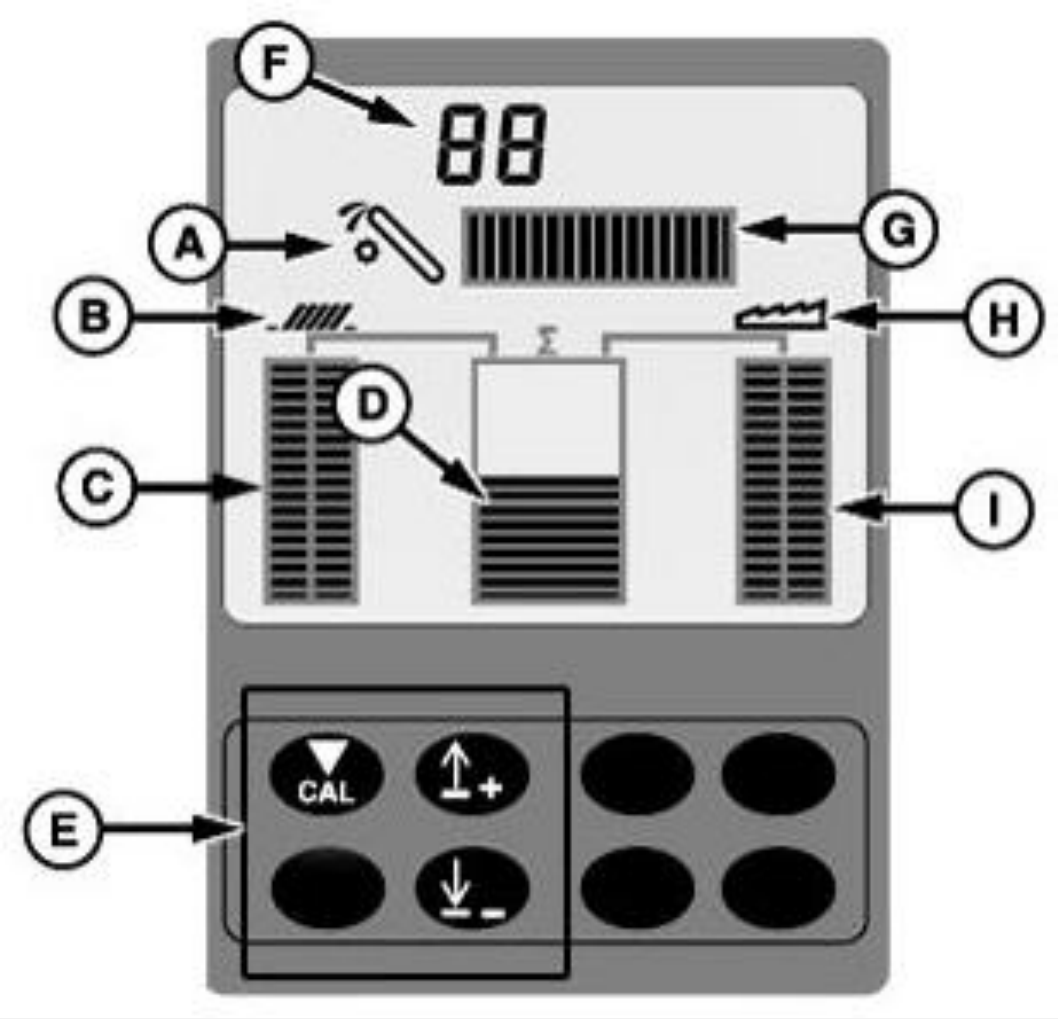
29 - Folding Unloading Switch (Optional)

Lower Cornerpost Display



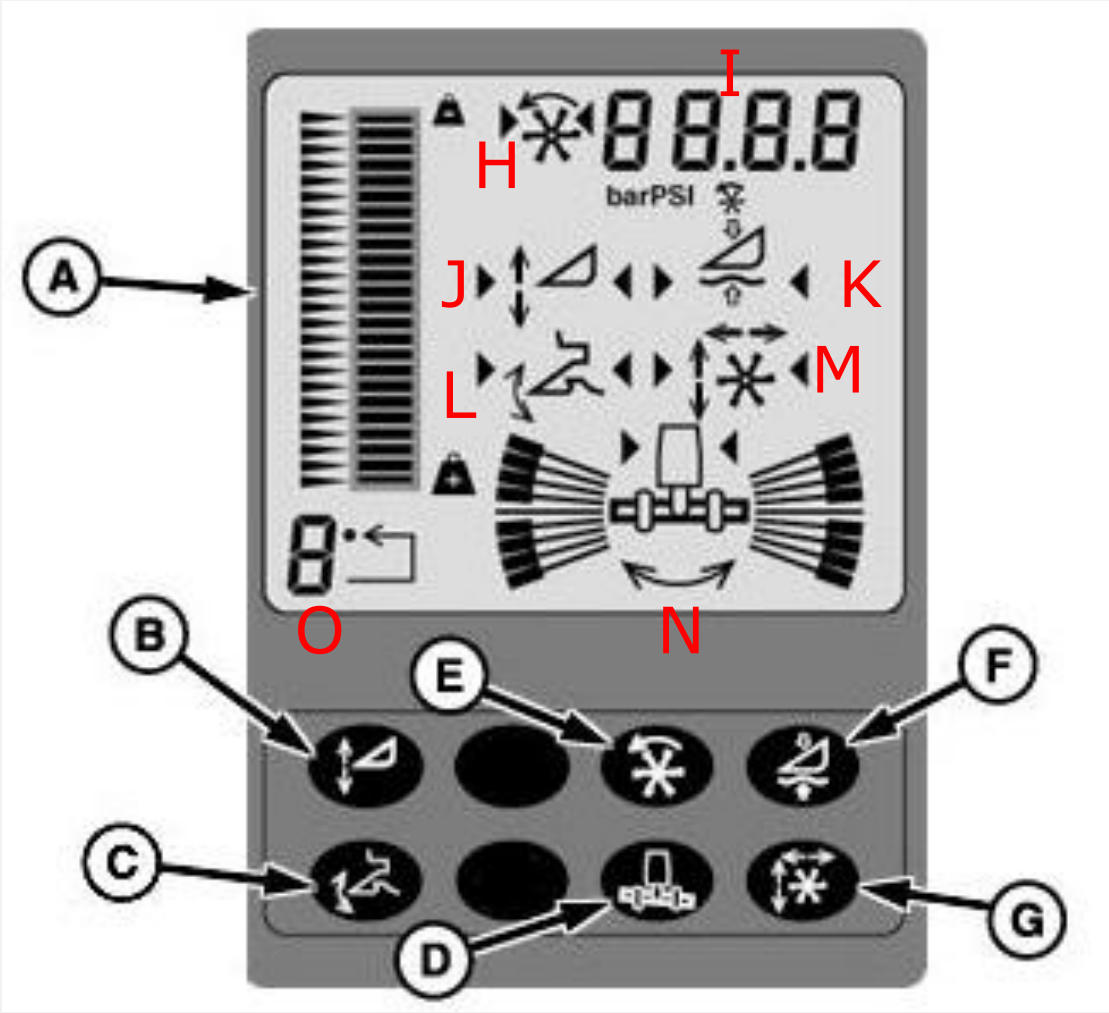
A. Lower Cornerpost Display
B. Engine Speed
C. Cylinder Speed
D. Fan Speed
E. Concave Clearance
F. Backshaft Speed
G. Line Selection Button

2nd Cornerpost Display-Grain Loss Monitor



A. Tailings Volume Icon
B. Shoe Loss Icon
C. Shoe Loss indicator Bar Graph
D. Composite Loss Indicator Bar Graph
E. Navigation and CAL Buttons
F. Grain Loss Sensitivity Value
G. Tailings Volume Indicator Bar Graph
H. Separator Loss Icon
I. Separator Loss Indicator Bar Graph

Top Cornerpost Display-Header Control



A. Header Position Bar Graph

B. Header Height Sensing Enable Button

C. Header Height Resume Enable Button

D. Contour Master Enable Button

E. Automatic Reel Speed Enable Button

F. Rigid Float Mode (Never used)

G. Automatic Reel Position/Deck Plate Enable Button

H. Automatic Reel Speed Enabled Icon

I. Header Height/Hydraflex Pressure Indicator

J. Header Height Sensing Enabled Icon

K. Rigid Float Enabled Icon (Never Used)

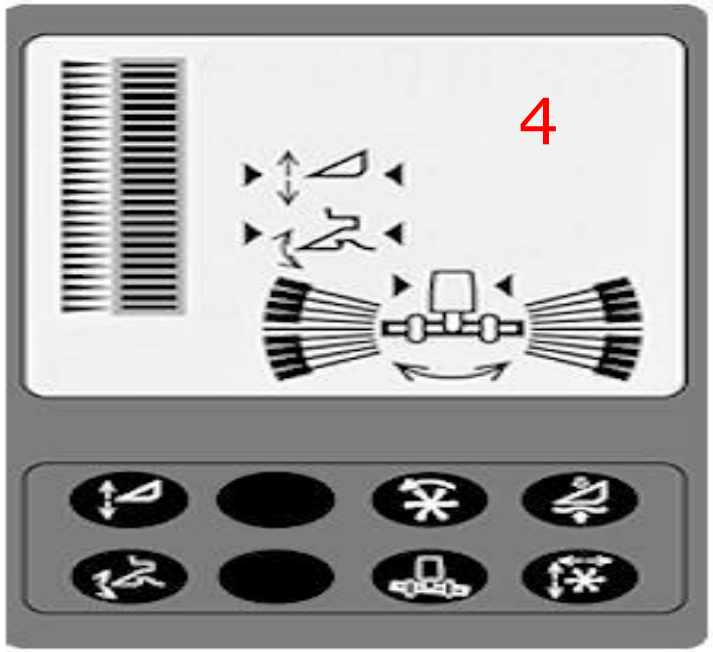
L. Header Height Resume Enabled Icon

M. Automatic Reel Position/Deck Plate Enabled Icon

N. Contour Master Enabled Icon (Double Arrow)

O. Hydro Handle Button Currently in Use

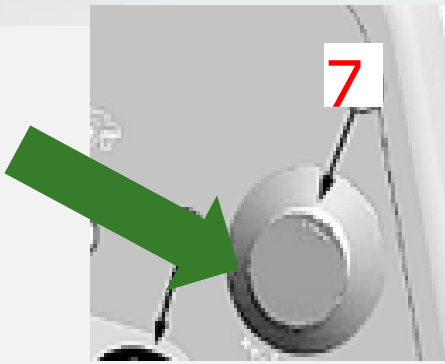
Header Control Operation



Header Raise (Use front right armrest dial (7) to adjust)

Return to Cut High (Use front right armrest dial (7) to adjust)

Return to Cut Low (Use front right armrest dial (7) to adjust)



Make sure all three icons are on as depicted in the top left picture. Turn on the header engage switch with the engine running. Press the #1 hydro handle button and the header should raise. Turn the front right hand dial on armrest (7) to adjust up or down for end turn height. Press #2 hydro handle button. The header will go to the ground. If it is a hydraflex platform the pressure will appear in the upper right corner (4). Turn the Dial (7) to adjust pressure. Higher pressure is lighter ground contact. If it is a non-hydraflex header the header cut height will appear at the upper right corner of the display (4). Do the same with #3 hydro handle button. Set #3 to a second desired pressure or cut height using the #7 dial.

Initial Crop Settings-Corn

Corn over 25% moisture

- Concave – 30
- Cyl Speed – 400
- Fan – Wide open (1200+)
- Chaffer – 22
- Sieve – 12
- Feed Accelerator – Slow (Belt outside postion)
- FH Drum – Up
- Chopper – Slow w/ knives out
  - Chopper belt-inside postion = slow

Corn under 25% moisture

- Concave – 30
- Cyl Speed – 350
- Fan – 1200
- Chaffer – 22
- Sieve – 12
- Feed Accelerator – Slow (belt outside postion)
- FH Drum – Up
- Chopper – Slow w/knives out
  - Chopper belt-inside postion=slow

Setting the combine in corn

- With engine off, raise the chopper, put belt on top of top belt shield to prevent movement. Connect chopper speed sensor bypass connector to disable the alarm with chopper raised.
- Set combine to initial settings listed on previous page or preferred starting combine settings.
- Begin harvesting at a speed that will keep the engine around 2250 rpm while going through the field. Note the loss monitor indicators and the tailings monitor.
- Perform a power shut down. To do this, press the low idle button and then quickly shut off the separator switch and pull the hydro handle to neutral. Allow engine to cool and shut down.
- Check behind the header for losses. Inspect deck plate settings. Should be wide enough for stalk to enter put tight enough to reduce ear shelling.
- Check to make sure that the corn head auger is not damaging grain on the ear. Raise auger until it will not engage singular ears.
- Check around the combine for other leaks or losses before the rear of the combine.
- Look at the cob condition. Cobs should be fully round and not "split". Broken in ½ or by 1/3 is ok. There should be no kernels left on the cob. If kernels remain on a round cob, tighten the concave. If cobs are split then concave is too tight.
- Look for free grain on the ground behind the machine. Remember to factor in the header loss and reduce the overall loss by this number. Losses equal to one bushel per acre with the chopper raised and not turning:
  - 8 row – 8 kernels per square foot = 1 bu/acre loss
  - 12 row- 10 kernels per square foot = 1 bu/acre loss

Setting the combine in corn continued

- Look on the chaffer to see if free grain is present. If so open the chaffer or increase fan speed.
- Check the grain tank for trash. If grain tank has excessive trash, reduce sieve clearance if tailings volume was not overly high or increase the fan speed.
- Remember to use the loss monitor indicators to determine whether more loss is from the cleaning system or the cylinder. Make adjustment accordingly.
- If tailings volume is high and the grain tank condition is acceptable, open the sieve.
- If kernel condition is not acceptable, consider installing feed accelerator slow down kit and smooth feed accelerator bars.
- If rotor loss has excessive free grain, increase rotor speed.
- If this does not reduce rotor loss to acceptable levels, install tailings return cover plates (BH84535) in right side of machine.
- Make sure that the spacers are between the separator grates and the top cover channel in every other separator grate. This will reduce the corn cob bits in the tank and let the crop fluff and provide turbulence in the crop flow to help grain to separate from trash.
- Repeat until losses are acceptable
- Once losses are acceptable, lower chopper, re-install belt, and re-connect the chopper speed sensor. Remember to operate the machine with engine rpm around 2250. Running for extended periods below this will increase losses and reduce grain tank cleanliness.

Initial Crop settings for Soybeans

- Concave-15
- Cyl Speed-550
- Fan Speed-1000
- Chaffer-16
- Sieve-8
- Feed Accelerator-Slow in dry stems(can help with seed quality)-Fast in green stems (belt outside position is slow, inside is fast)
- FH Drum-Down
- Chopper Speed-High-Insert knives as necessary to size residue(belt outside postion)
- Make sure to remember to slow variable speed FH belt all the way down

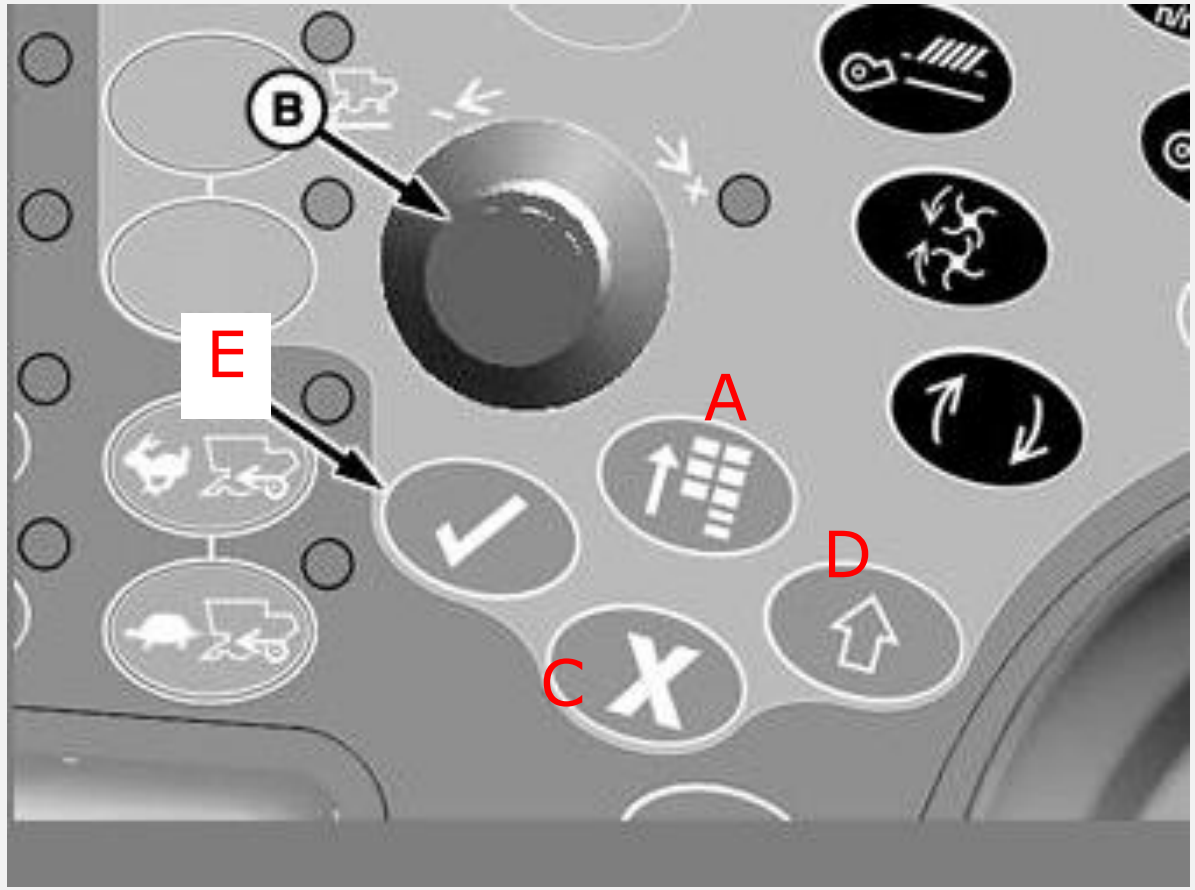
Setting the combine in soybeans

- Raise the chopper, remove belt and install belt on upper belt shield, plug in chopper speed sensor bypass harness to disable the alarm.
- Set the combine to the initial settings on the previous page or to other preferred settings.
- Begin harvesting at a speed that keeps the engine rpm around 2250. Running consistently lower than this could increase losses and decrease grain tank cleanliness. Note the loss monitor and the tailing monitor volume
- Perform a power shut down. To do this, press the low engine speed button and quickly shut off the separator switch and pull the hydro handle to neutral. Allow engine to cool and shut down.
- Inspect behind the header and determine header loss. Remember to account for this when determining total loss behind the machine.
- Inspect around machine for leaks or other losses before the rear of the combine.
- Check on the ground behind the machine for bean pods that are not threshed. If you have pods that are not threshed tighten the concave.
- Look for free grain on the ground behind the machine. Seeds per square ft =1bu/acre loss with chopper raised and not running
  - 30’ header=24 seeds per square foot=1 bu loss
  - 35’ header=30 seeds per square foot=1 bu loss
- Remember to account for the loss behind the header in this calculation
- If you have excessive free grain loss, use the loss monitor as a guide to indicate if losses are rotor loss or cleaning shoe loss
- Continued on next page

Setting the combine in soybeans continued

- If losses are indicated on the cleaning shoe then look on the shoe for free grain. Open the chaffer if you have this condition. If free grain is entangled in trash increase fan speed.
- If you have free grain indicated on the rotor, increase rotor speed.
- Make sure that you have the spacers in every other separator grate. This will help provide turbulence in the grain flow and increase separation of free grain.
- It will be difficult to thresh the green "butter beans" and get all of the unthreshed butter beans out of the grain tank. Trying to do so can affect grain quality.
- A combine that is set properly should have the pods fully threshed but the pod is still attached to the stem
- Over-threshing (too tight and too fast) can cause overloading of the shoe and make keeping a clean grain tank difficult to achieve. It can also lead to excessive free grain entangled in the trash in the rotor resulting in unacceptable losses.
- Once losses are acceptable lower the chopper, re-install the belt, re-connect the chopper speed sensor harness.

Armrest Display Navigation Buttons



A. Menu Button

B. Armrest Display Encoder (Use to scroll around armrest display)

C. Cancel Button

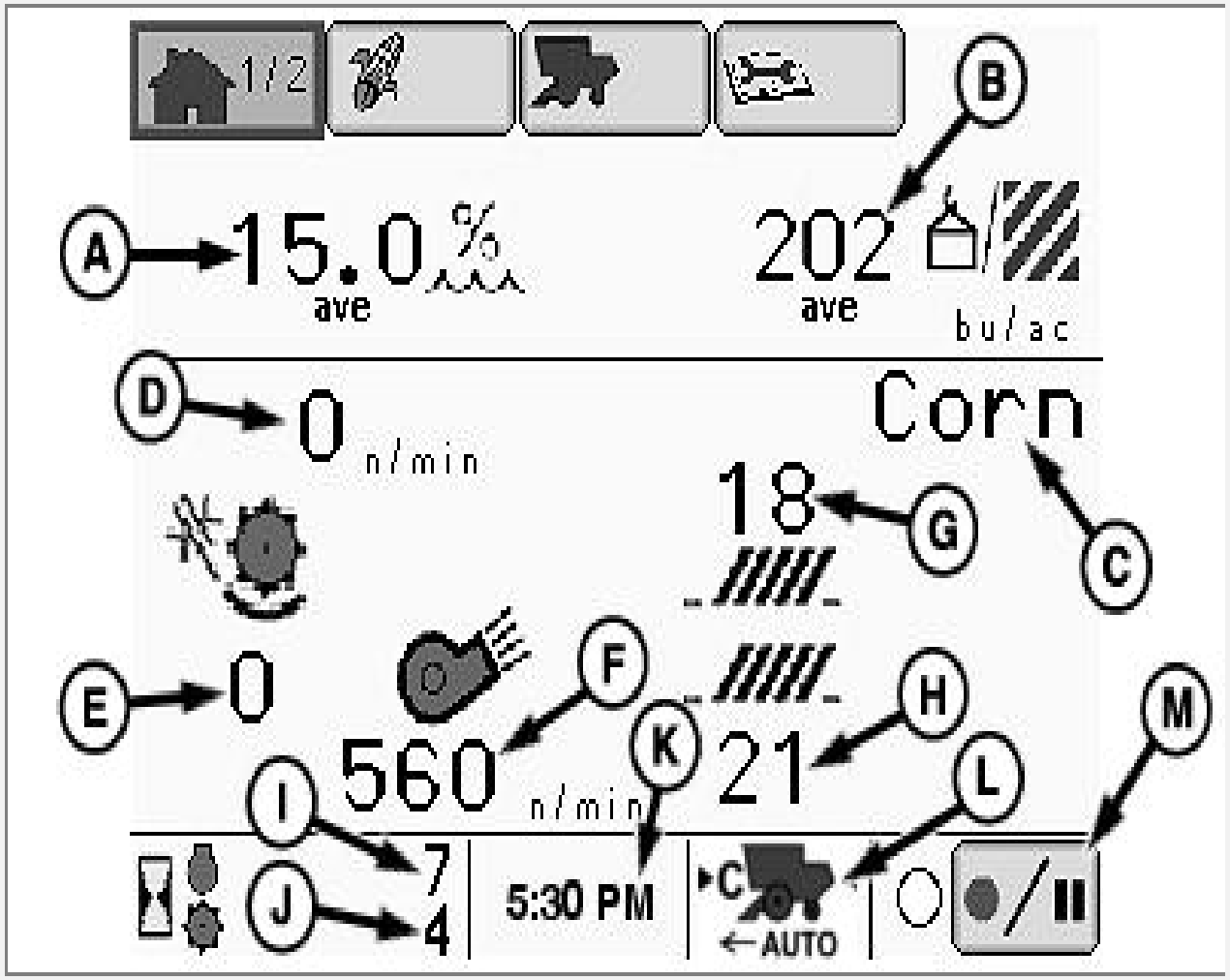
D. Not Used

E. Accept or Confirm Button

Armrest Display Layout

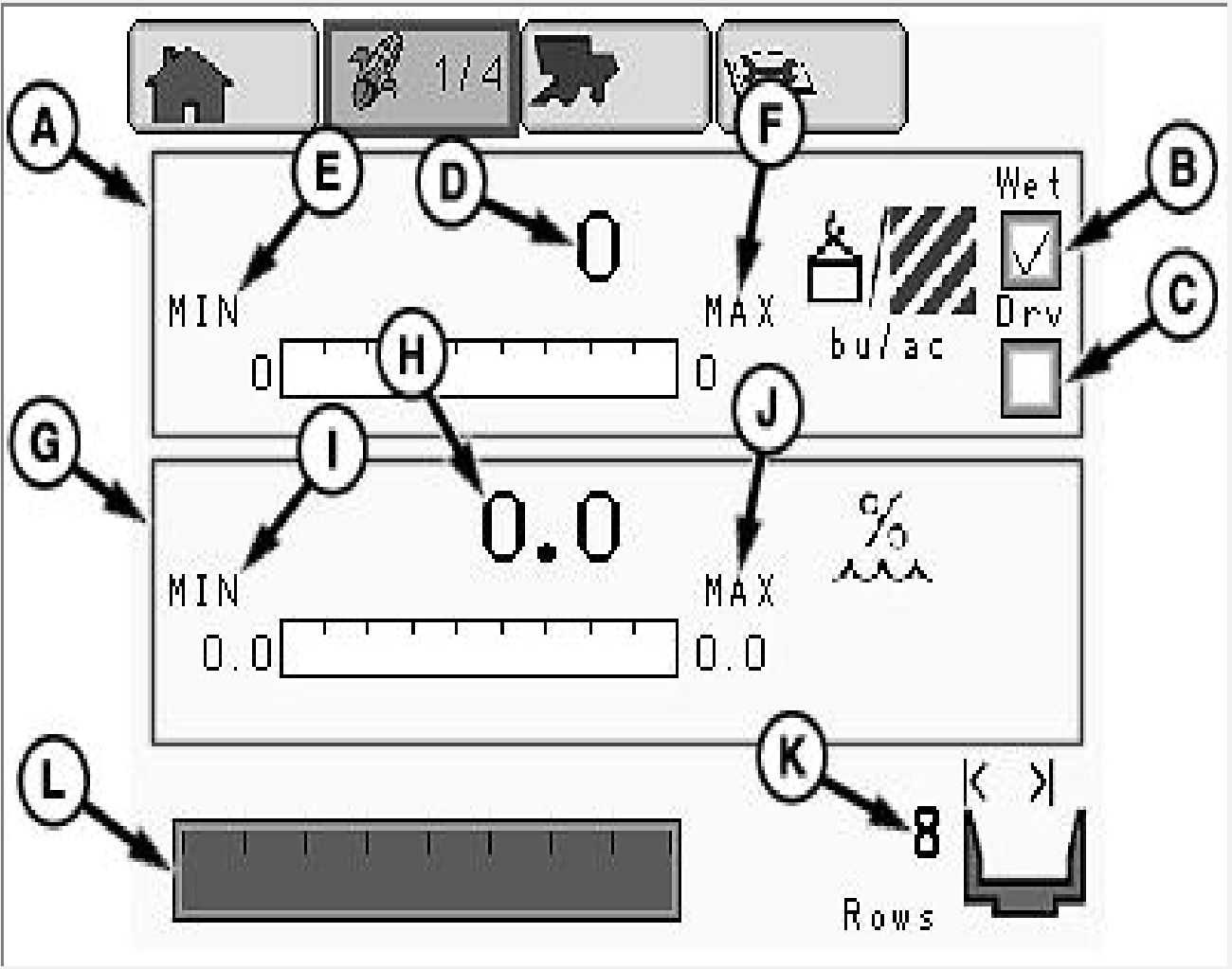
A. Home Button and Icon
B. Crop Totals Button and Icon
C. Combine Setup Button and Icon
D. Diagnostic Button and Icon
E. Button E is not used and has no functionality

Armrest Display Home Page



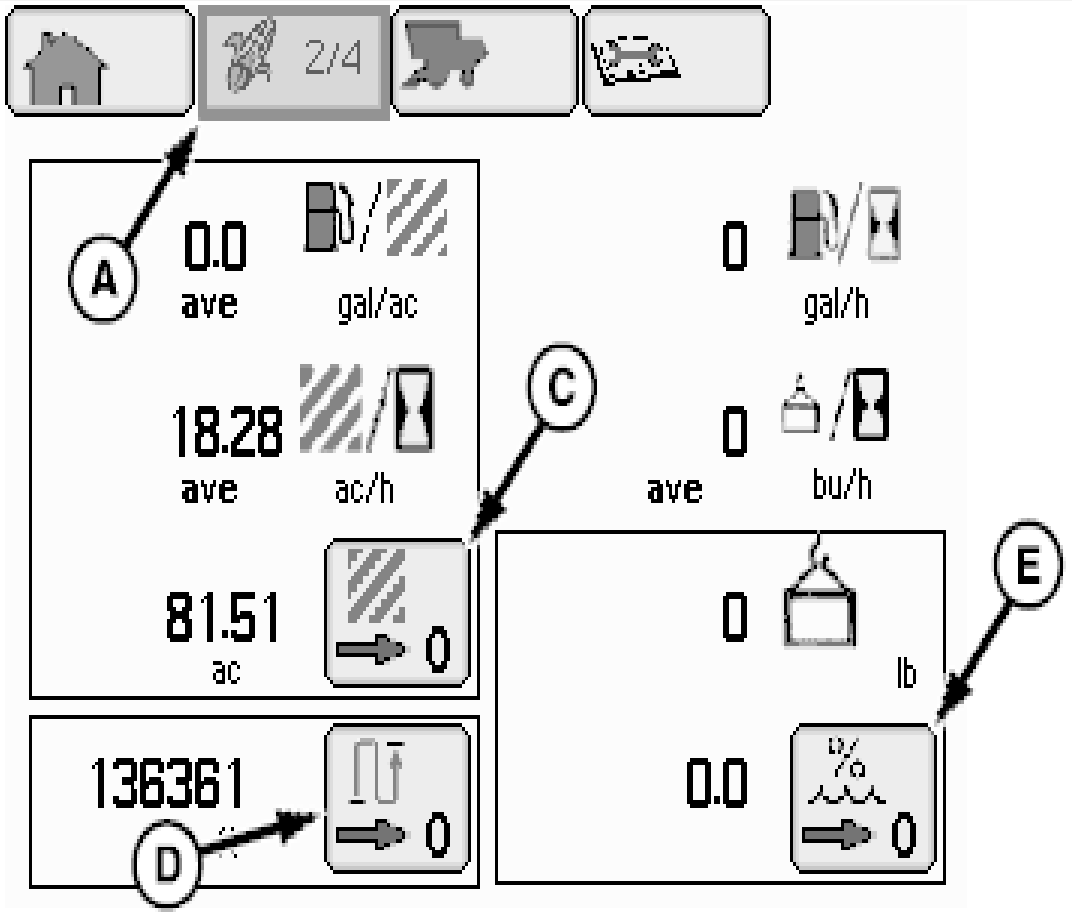
A. Crop Moisture
B. Crop Yield
C. Crop Type
D. Cylinder Speed
E. Concave Setting
F. Fan Speed
G. Chaffer Setting
H. Sieve Setting
I. Engine Hours
J. Separator Hours
K. Time
L. Harvest Smart Option
M. Recording Status

Armrest Display Crop Page 1



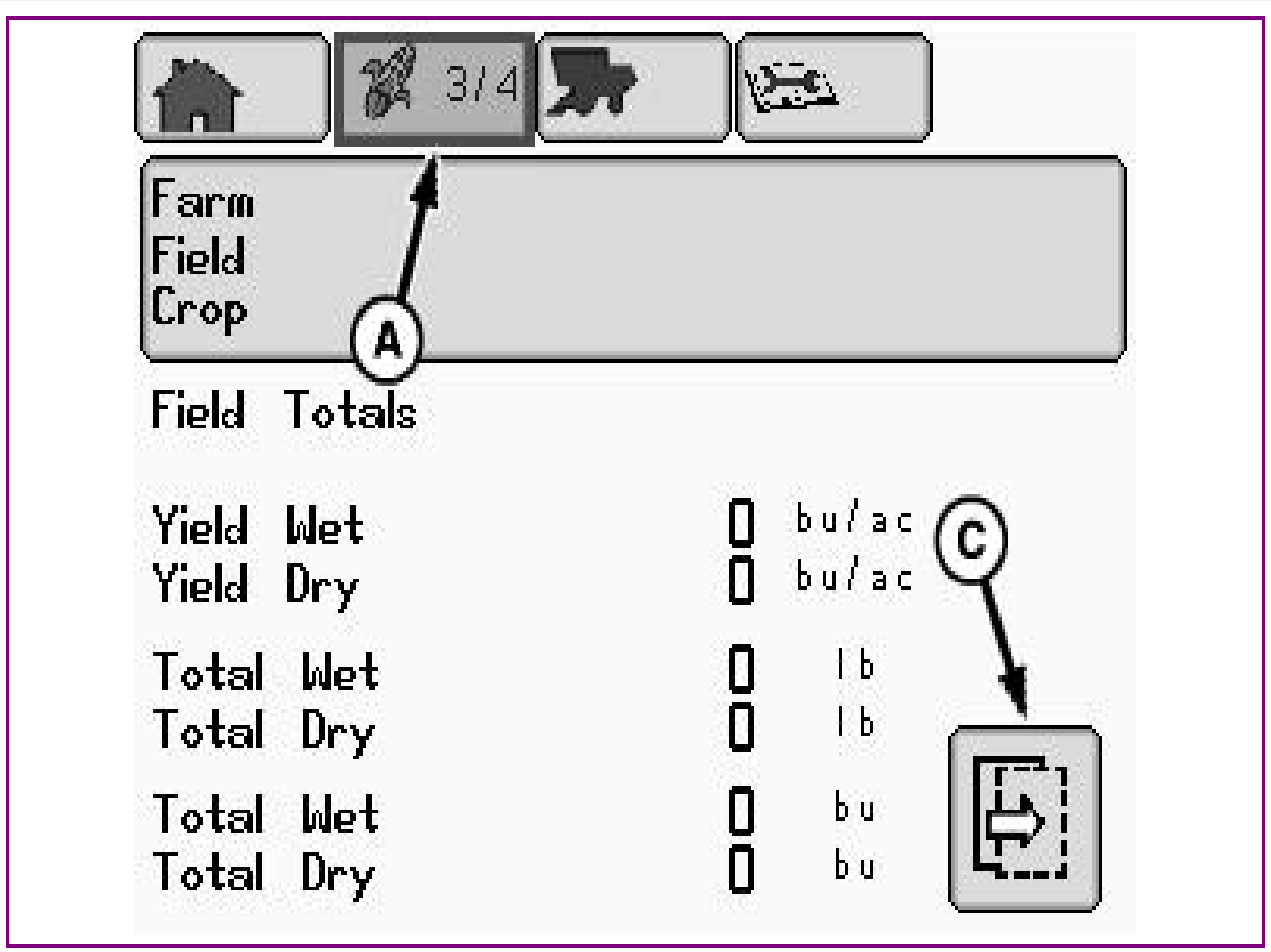
A. Yield Sector
B. Wet Yield selection box
C. Dry Yield selection box
D. Yield
E. Minimum Field Yield
F. Maximum Field Yield
G. Moisture Sector
H. Moisture
I. Minimum Field Moisture
J. Maximum Field Moisture
K. Header width
L. Header width reduction tool

Armrest Display Crop Page 2



A. Crop page 2
B. Clear Distance Counter
C. Clear Performance Monitor
D. Clear Weight and Moisture

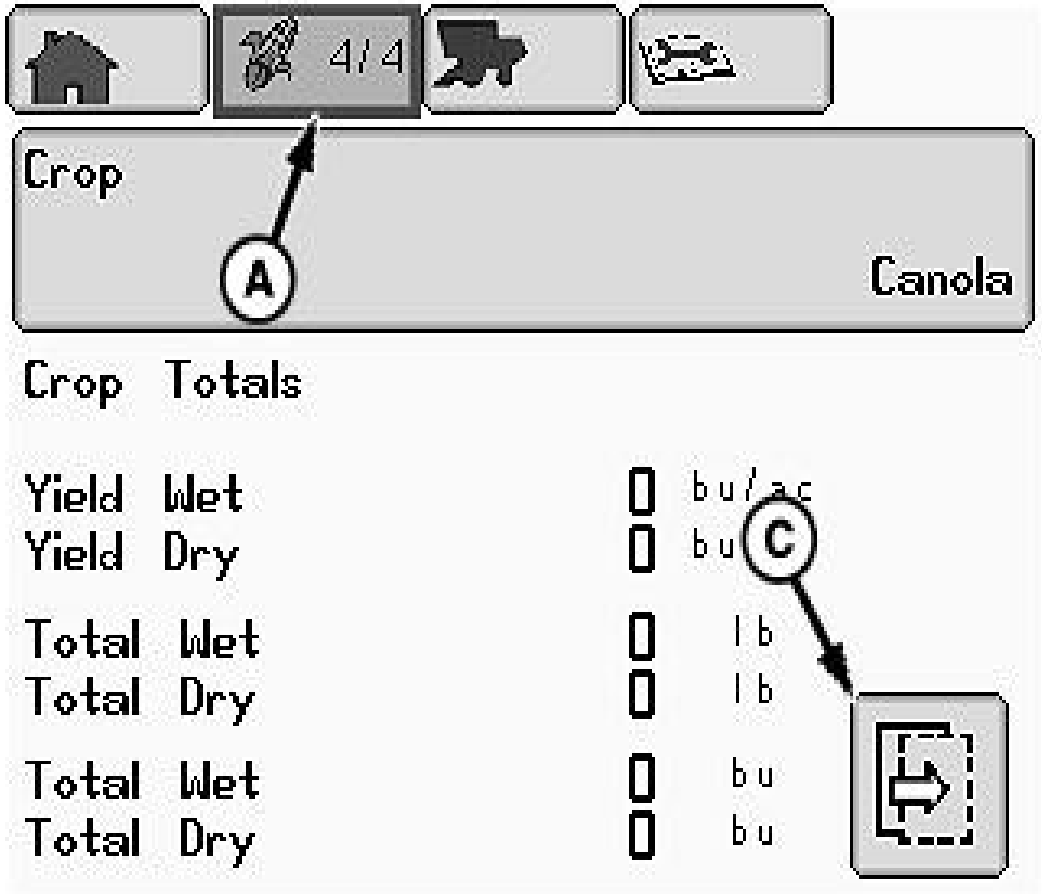
Armrest Display Field Totals (Page 3)



A. Page 3

C. Page Button to see additional information

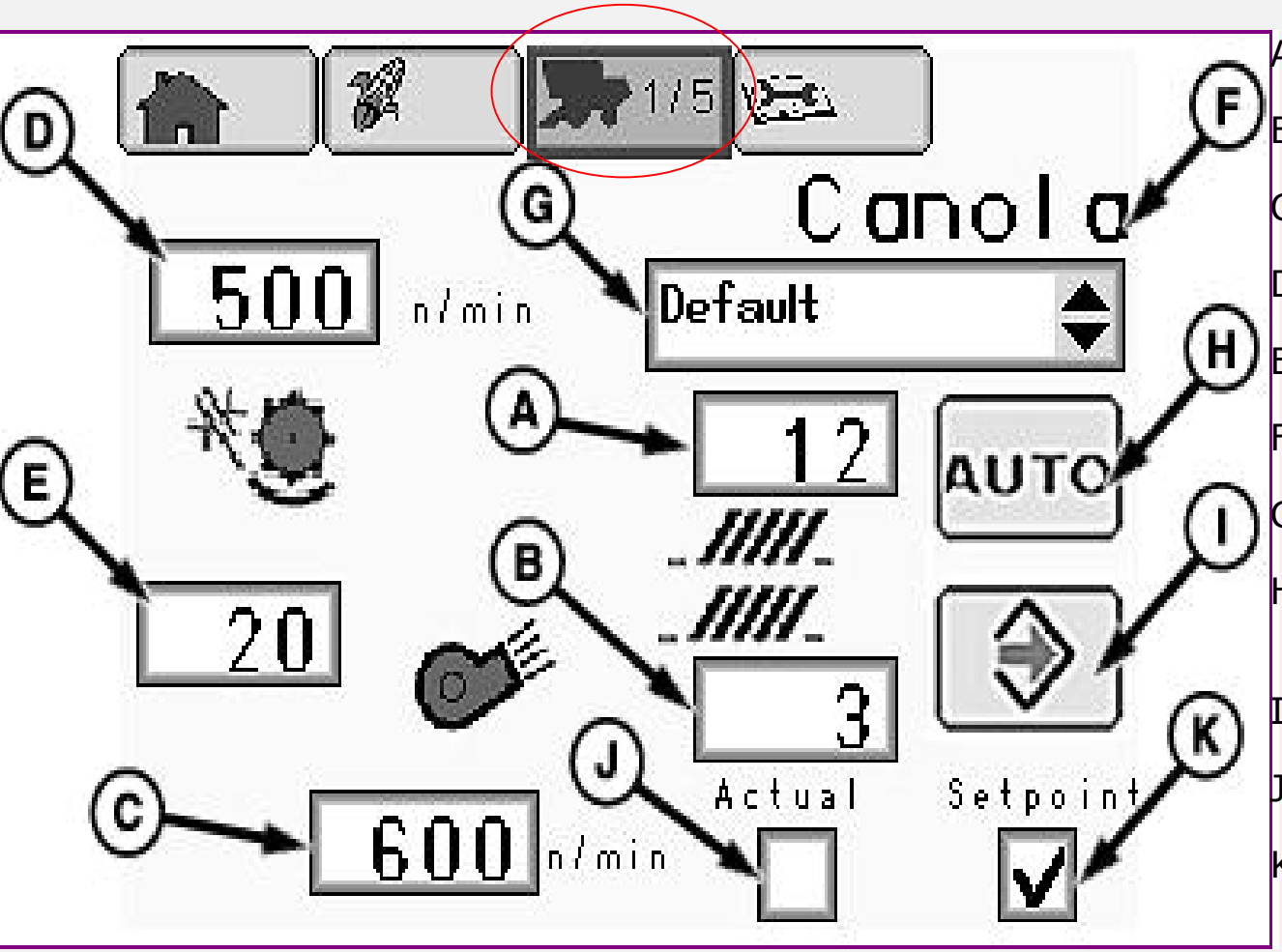
Armrest Display Crop Totals (Page 4)



A. Page 4

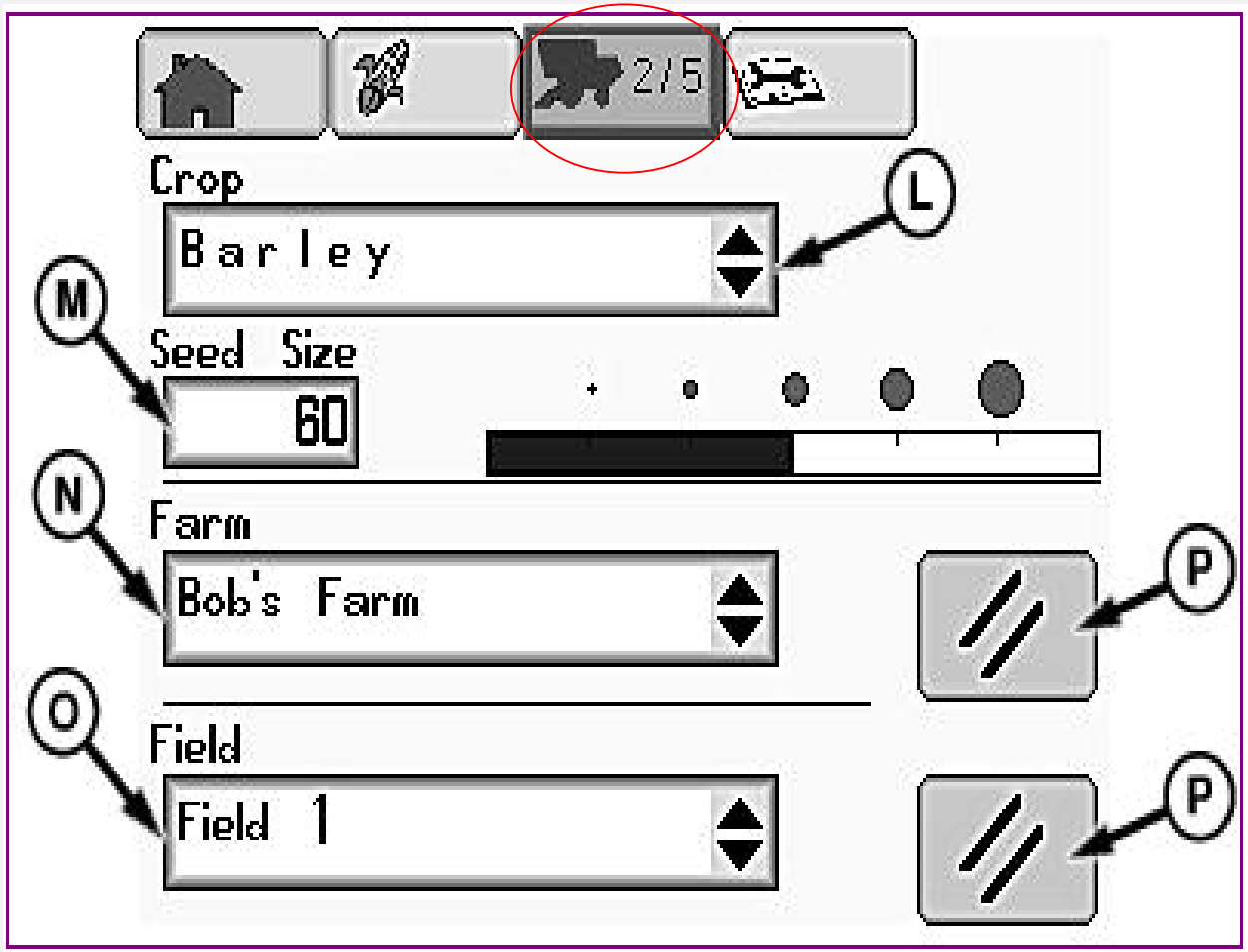
C. Page Button to see additional information

Combine Setup-Combine Button Icon (Page 1)



A. Chaffer Setting
B. Sieve Setting
C. Fan Speed (RPM)
D. Cylinder Speed (RPM)
E. Concave Clearance
F. Selected Crop
G. Setting mode (default, dry, wet, clean out, etc)
H. Auto Set Button (must have separator running and be at full throttle to activate)
I. Save button
J. Auto Disable Check box (Actual)
K. Auto Enable Check box (Setpoint)

Combine Setup-Combine Button Icon (Page 2)



L. Crop Type

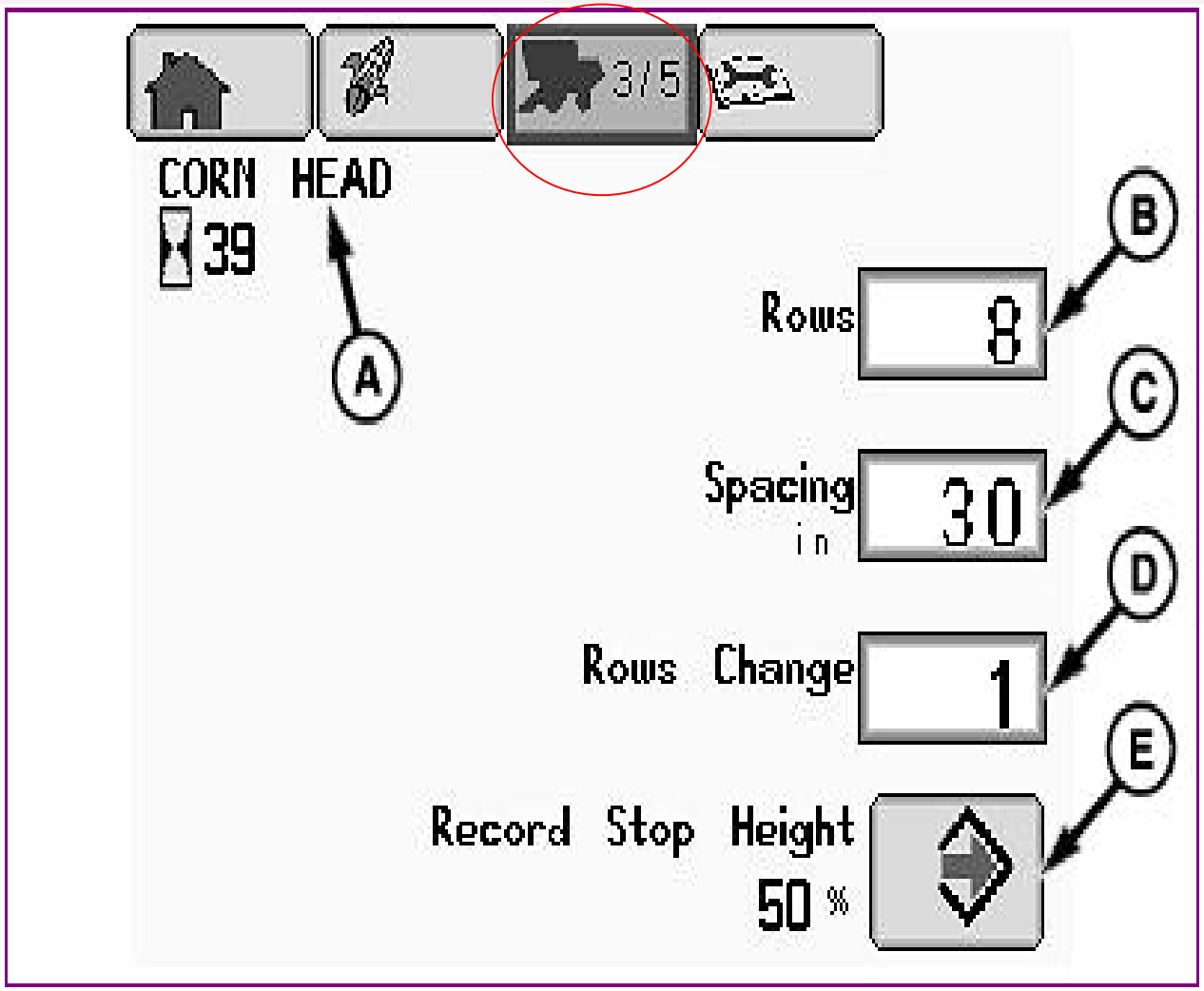
M. Seed size (loss monitor-should be automatically entered when crop is selected)

N. Farm Name (will not be present if greenstar display is installed. Must be filled out if no greenstar display is installed or yield and moisture will not be displayed)

O. Field Name (will not be present if greenstar display is installed. Must be filled out if no greenstar display is installed or yield and moisture will not be displayed)

P. Clear Name

Combine Setup-Combine Button Icon (Page 3)



A. Header Type attached to combine

B. Number of rows or width of header

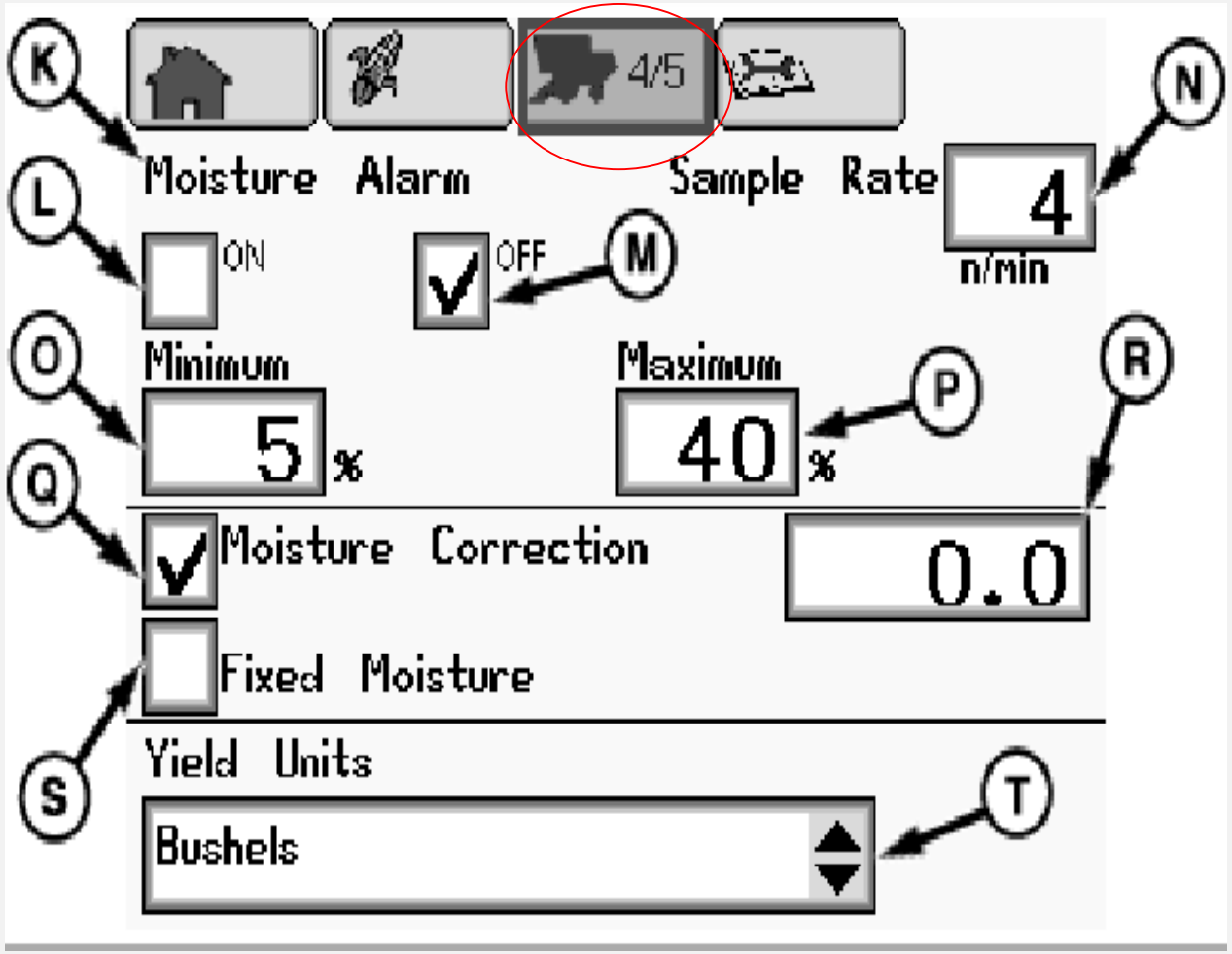
C. Row spacing (corn head/row crop head only)

D. Header width reduction (used to reduce header width when harvesting point rows to maintain yield accuracy)

E. Record Stop Height (Raise header above cut height but below end turn raise height and press button E. This will set the point where yield and moisture recording will turn on and off)

Hours are not to a specific header but are hours that a specific header type have been connected to the combine.

Combine Setup-Moisture Correction (Page 4)



K. Moisture alarm indicator

L. Moisture Alarm on selection box

M. Moisture Alarm off selection box

N. Moisture sensor sample rate (samples/minute)

O. Low Moisture Alarm Setting

P. High Moisture Alarm Setting

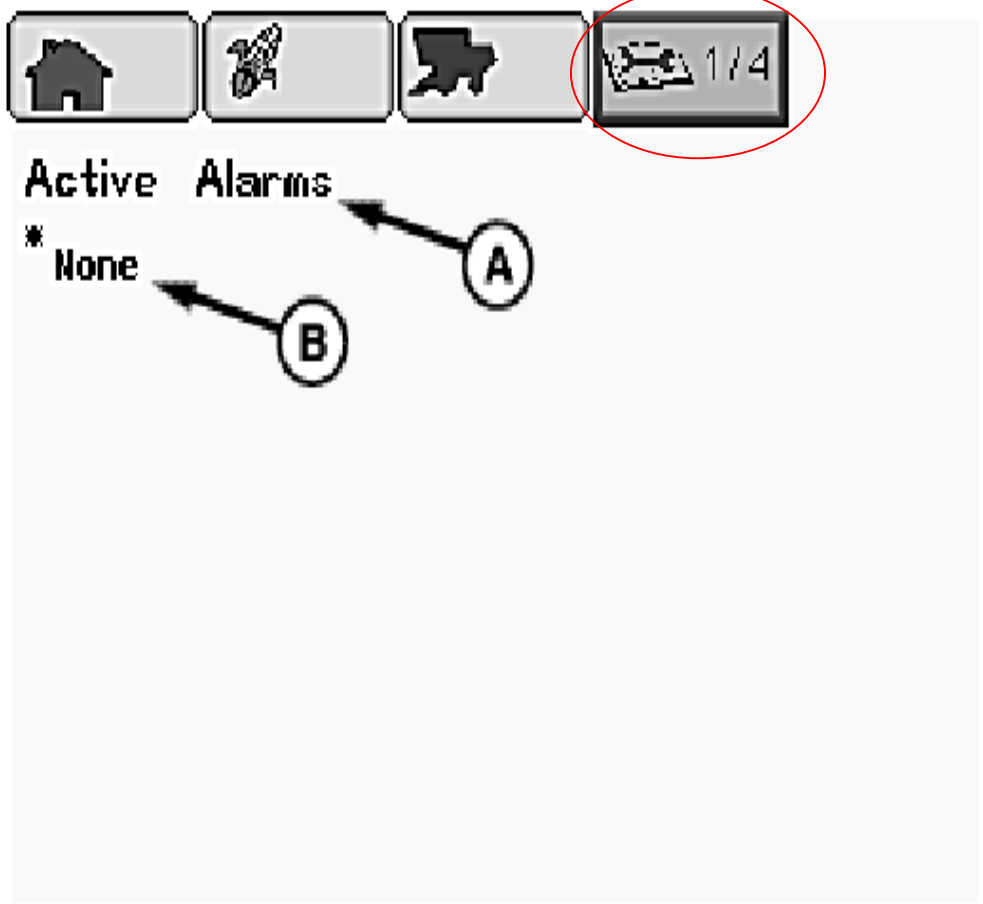
Q. Moisture Correction Selection box (always checked)

R. Moisture correction value (pos+ numbers raises displayed moisture value by number in box. Neg- lowers)

S. Fixed Moisture (only checked if sensor fails)

T. Units (Make sure bushels is selected)

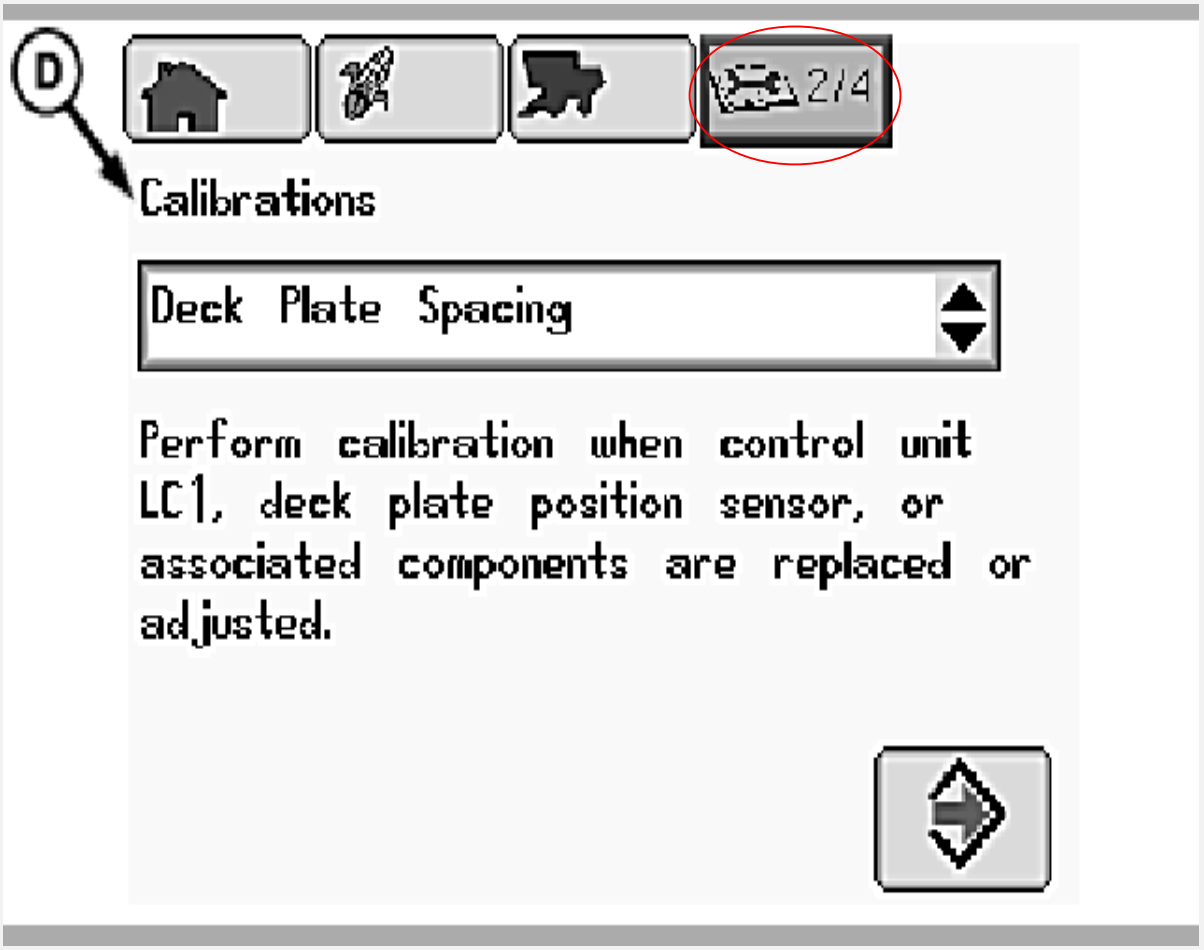
Diagnostics/Calibrations Button (Page 1)



A. Active Alarms

B. (Active Codes-if any)

Diagnostics/Calibrations Button (page 2)



D. Calibrations

Select the calibration you wish to perform from the drop down box

See Calibration Section for more details

All header calibrations, yield calibration, etc are done via this page

Diagnostics/Calibrations (page 3)

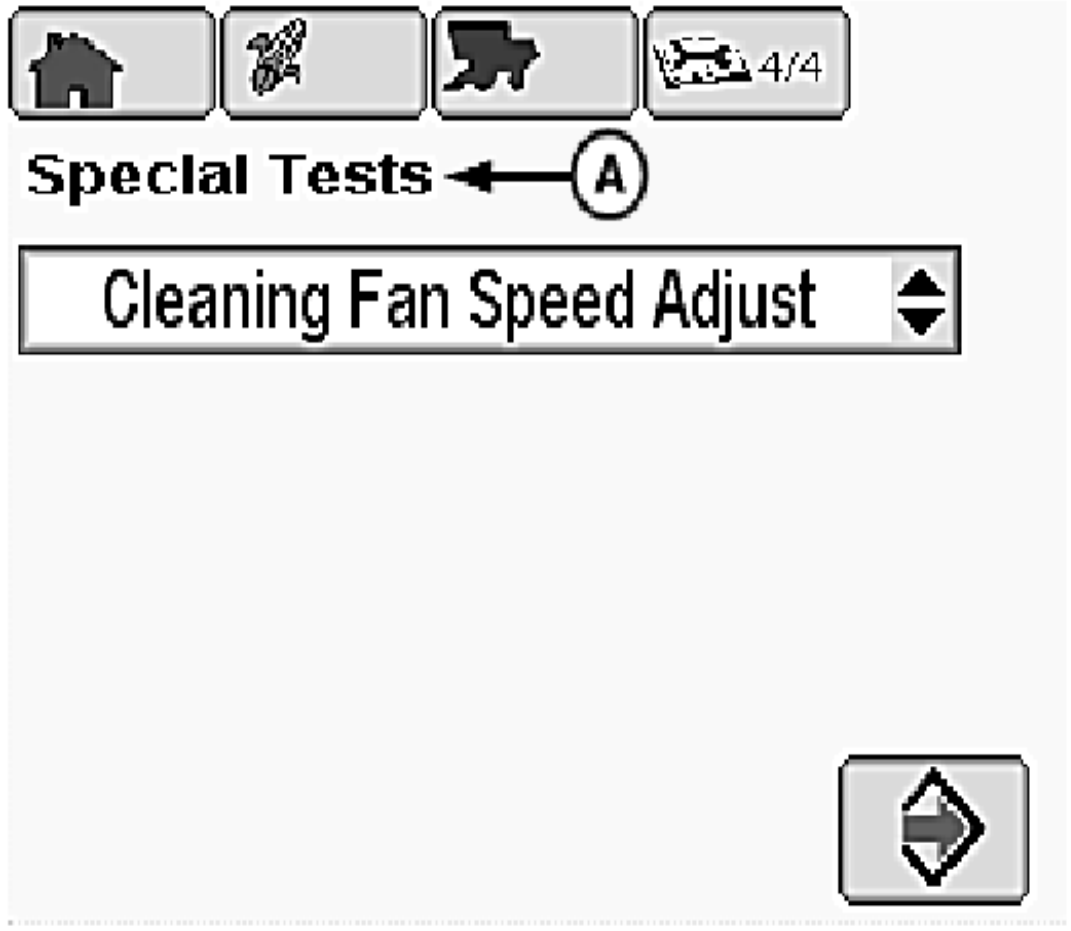
Diagnostic Readings:

Select the system you want to diagnose from the drop down box

This is a handy spot to look at voltages and switch status for a given system

Can be faster than looking through diagnostic addresses when troubleshooting the system

Diagnostics/Calibrations (Page 4)

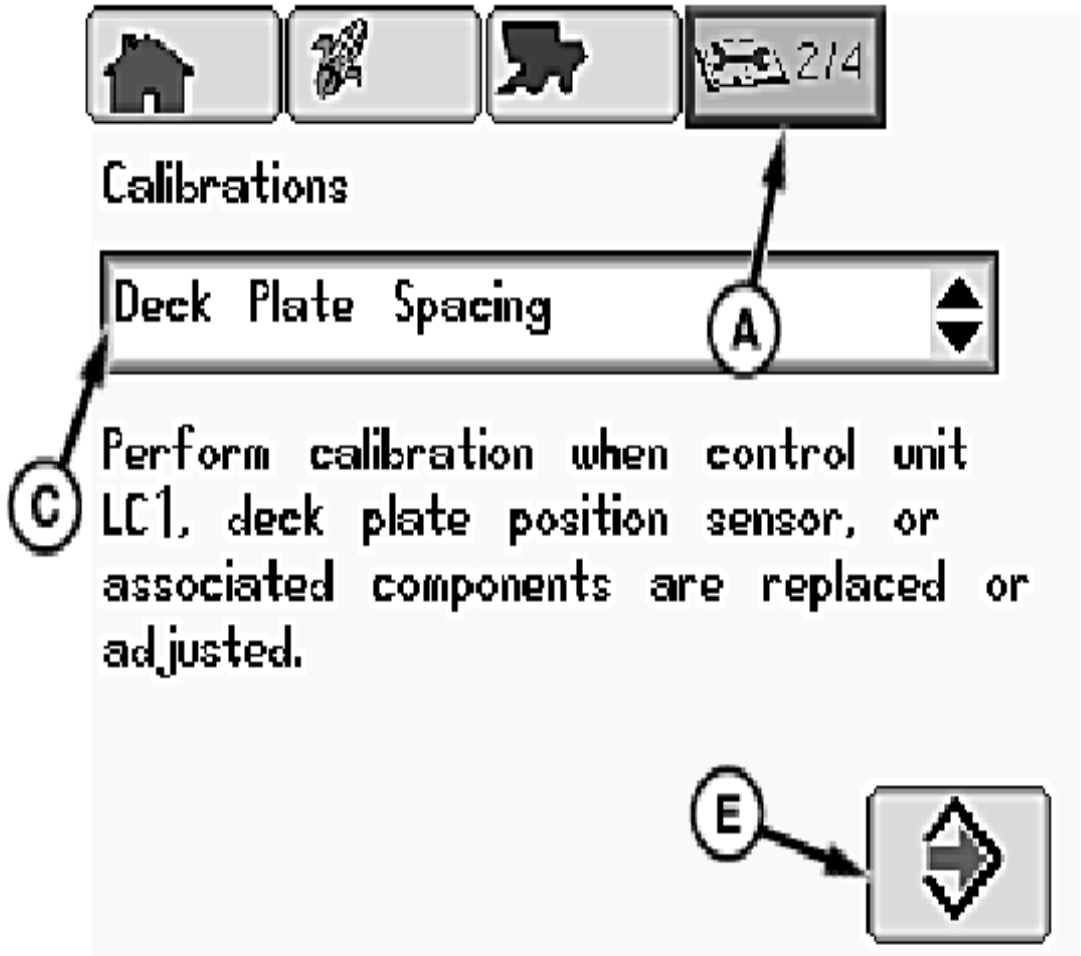


Special Tests

Use this button to test a system when trying to trouble shoot

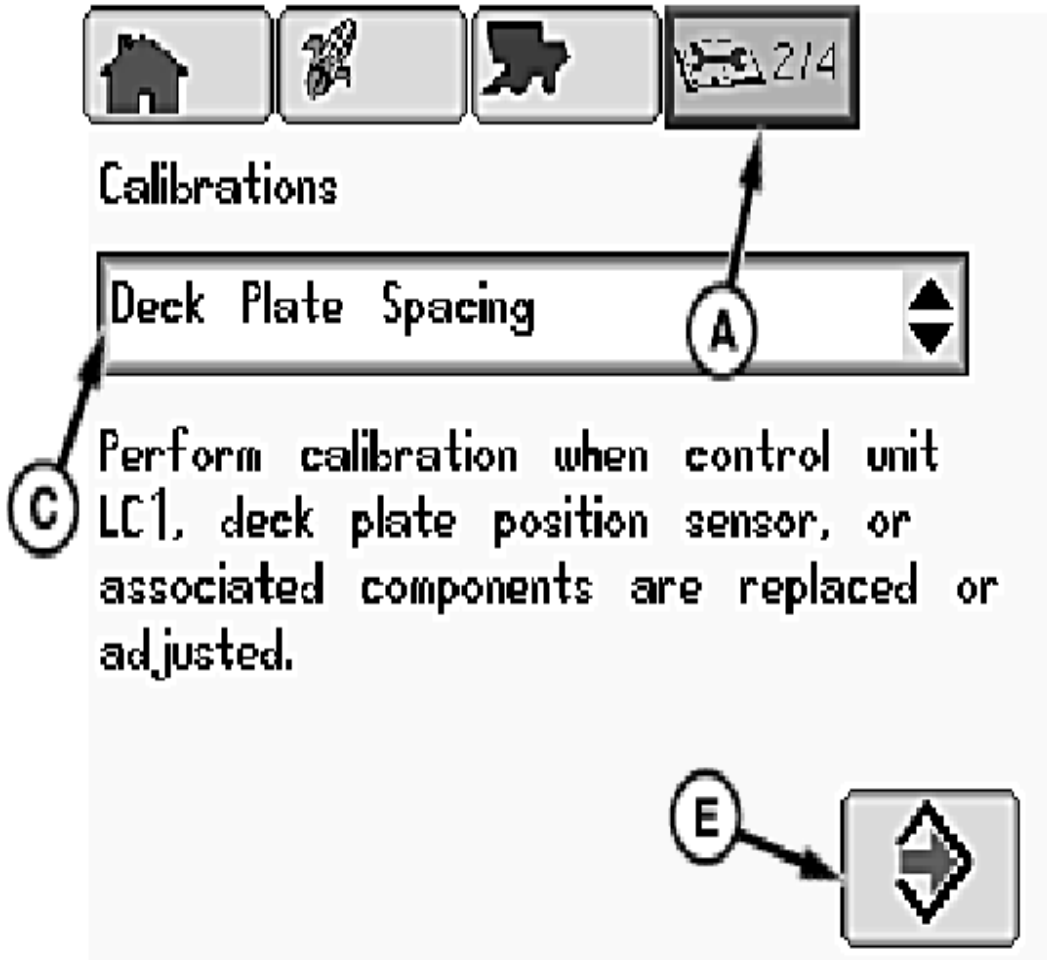
Header, cleaning fan, etc tests can be performed to assist with diagnosis of problems.

Feeder House Speed Calibration



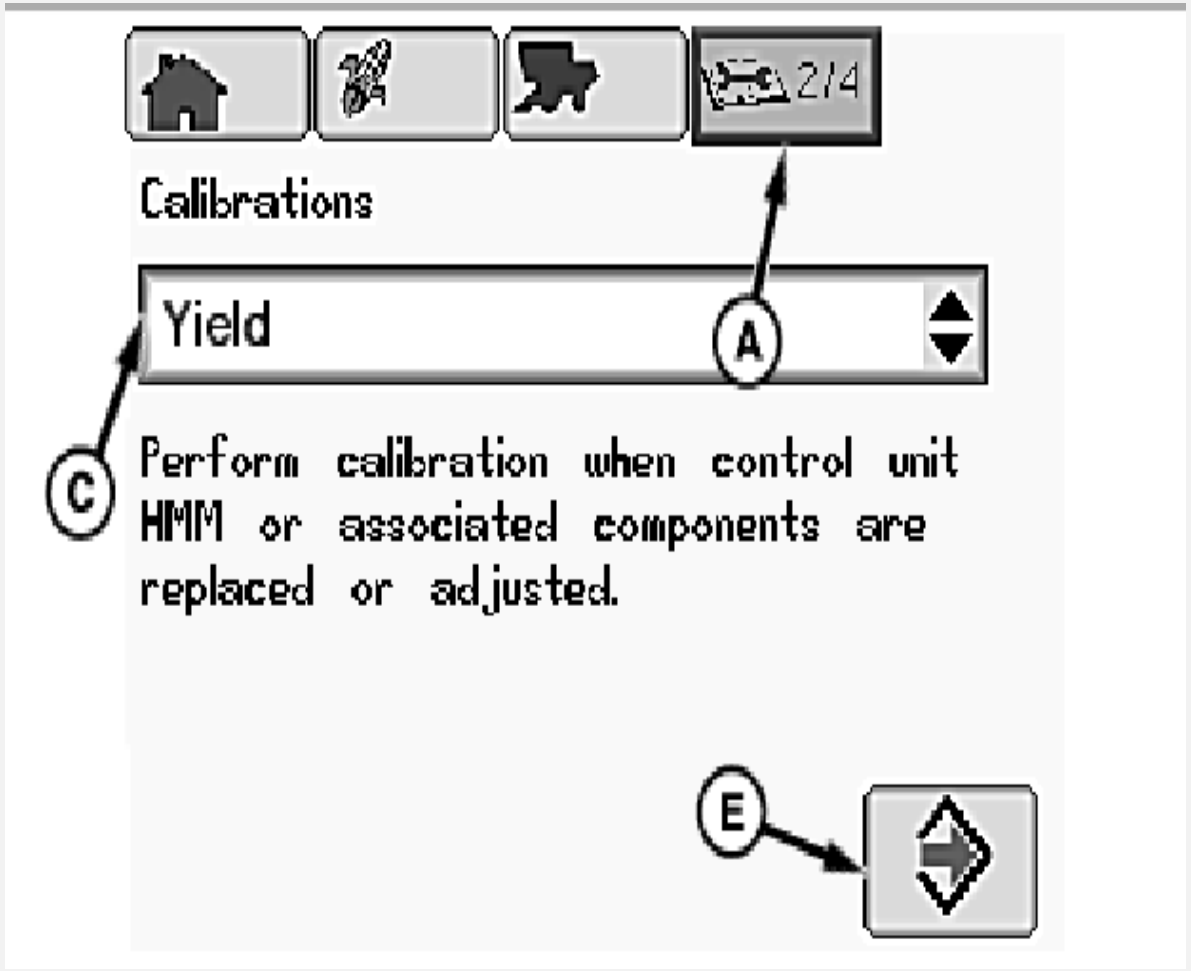
- Press the Diagnostics Button (fourth from the left)on the top of the screen to get to page 2/4 (A)
- Select “Feeder House Speed” from drop down menu “C”
- Press Enter (E)
- Follow the on screen instructions

Header Calibration



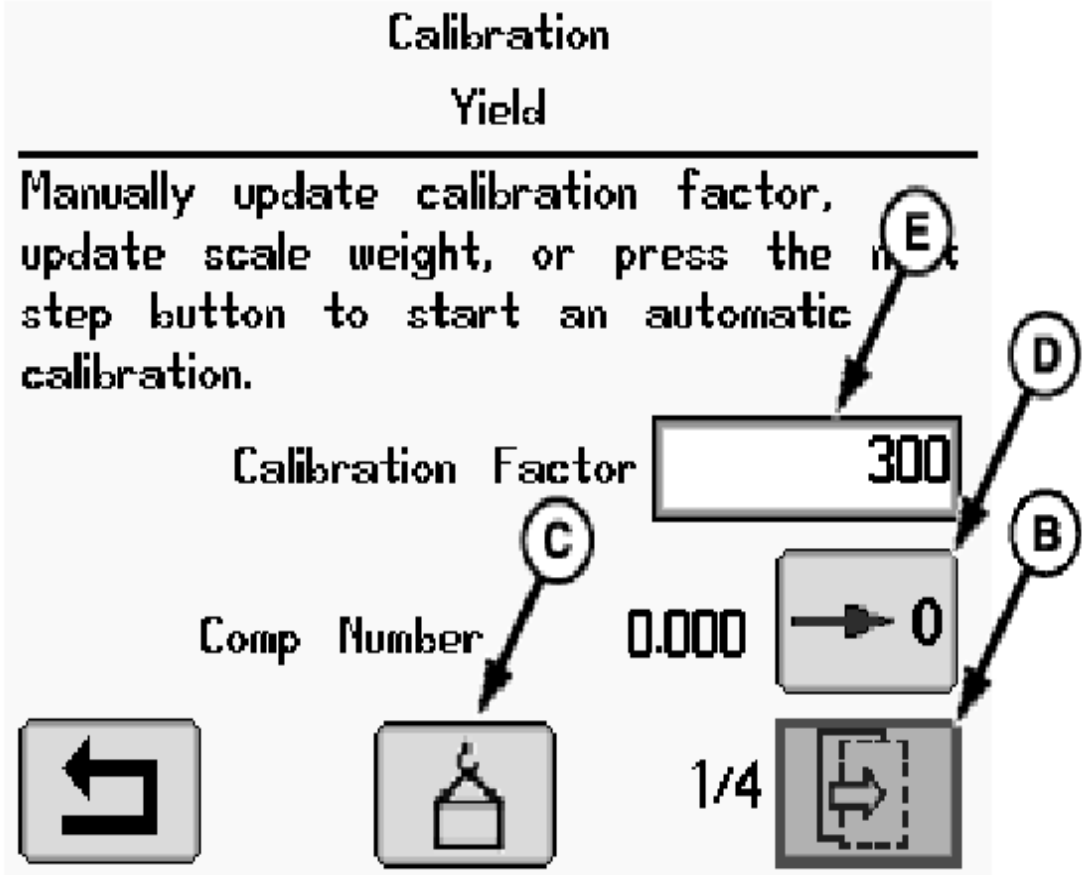
- First Complete the FeederHouse Speed Calibration
- Select the Diagnostic (fourth button from the left) to get to page 2/4. (A)
- Select “Header” from drop down menu (C)
- Press Enter (E)
- Follow the on screen instructions

Yield Calibration



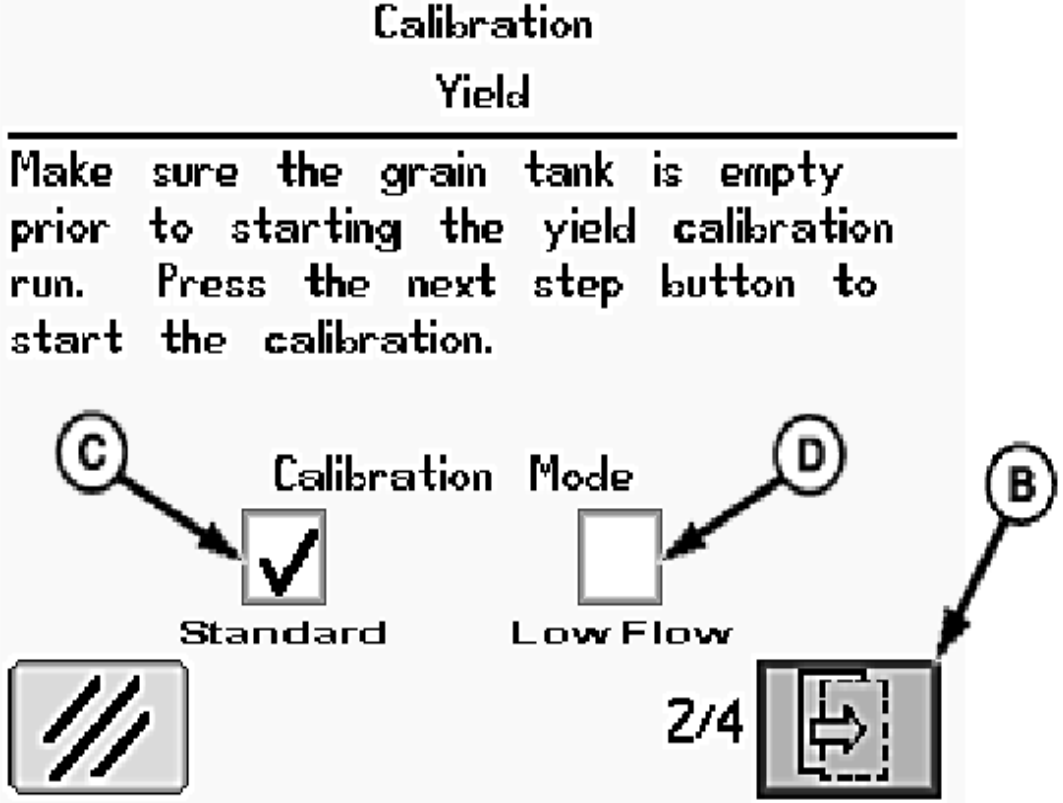
- Select the Diagnostic Button (fourth button from the left) to navigate to page 2/4. (A)
- Select “Yield” from drop down menu “C”
- Press Enter (E)

Yield Calibration continued



- Press letter “B” to begin a new calibration

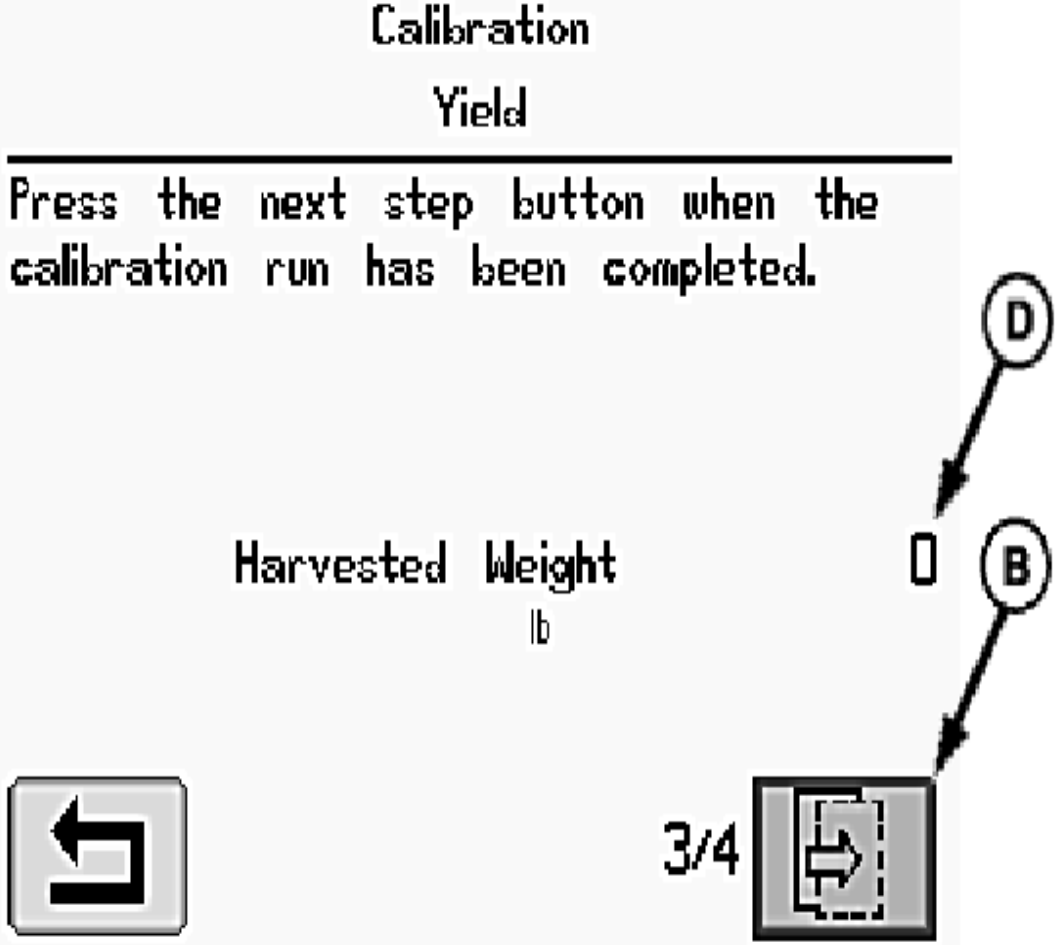
Yield Calibration continued



Select “Standard” by putting a check mark in the box (C)

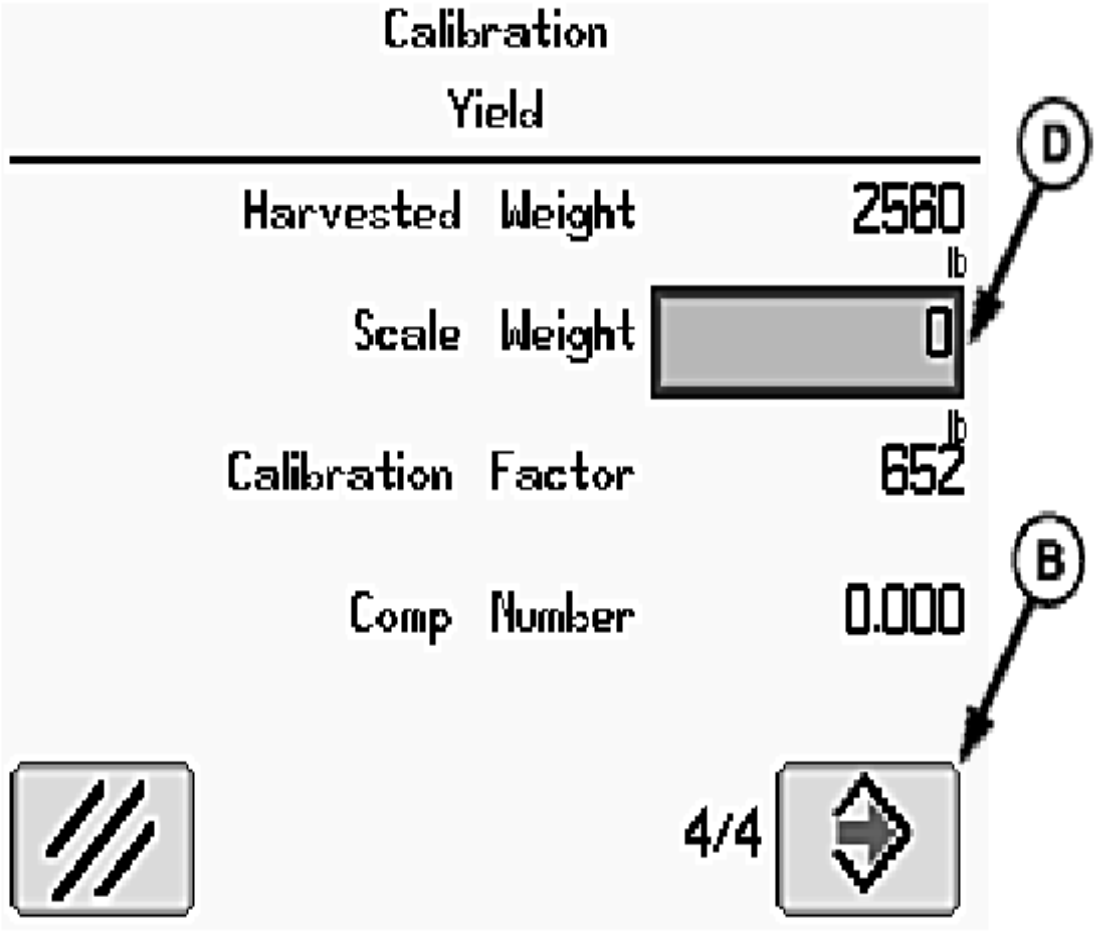
Press letter “B” to go to the next step and continue the calibration

Yield Calibration continued



- Make sure the grain tank is empty
- Begin harvesting the crop
- The harvested weight “D” will begin to count up the weight as it enters the combine
- Once you have completed harvesting the load to be weighed press “B” to continue
- Have the load weighed by an accurate scale

Yield Calibration continued



- Enter the load scale weight into box “D”. This will be the wet lbs
- The system will automatically update the calibration number
- Recommended to do three calibration loads to increase accuracy

Yield Calibration Helpful hints

- Do NOT do calibrations while opening up the field
- Avoid making end turns while calibrating
- Avoid unloading on the go while calibrating
- Maintain even ground speed while calibrating
- A grain cart with scale or seed saleman weigh wagon are very helpful and will reduce delays while waiting on trucks to return from elevator
- Doing a single pass through the field at a consistent speed will produce the best calibration results
- Do at least 3 calibrations to achieve accuracy
- Complete a new set of calibrations if avg moisture changes more than 5% from previous calibration
- Complete a new set of calibrations if avg yield changes more than 15% from previous calibration
- Write down crop conditions (yield, moisture & ground speed) and the associated calibration factor for future reference as a starting point for those given conditions