

CFX-750™ Display with Boom Height Control

Quick Reference Card

RUN SCREEN

The Trimble® CFX-750™ display is a touchscreen display that is configured and run by tapping the icons that appear on the display screen. The image below shows the run screen when using Boom Height Control.



Description	Notes
Height Control - Engage	 Enabled height control zones are engaged. Tap to disengage.  Some zones have been enabled and are ready to engage. Tap to engage any enabled zone.  Zones are not enabled, not calibrated, or have sensor errors.
Height Control - Zone Enable/Disable (left control zone shown here)	 Boom Height Control Zone is engaged. Tap to disengage zone.
	 Boom Height Control Zone is disabled. Tap to enable zone.  Tap to enable all Boom Height Control Zones.  Tap to disable all Boom Height Control Zones.
<p>Note: If you are currently engaged on other zones, any additional zones are automatically engaged once they are enabled.</p>	
Switching buttons	 Tap to switch to the Boom Height Control panel.  Tap to switch to the Field-IQ™ control panel.  Tap to switch to the Control panel.
Control panel	 Set the target height to the current height of the boom.  Adjust the target height of the Boom Height Control system.  Adjust the aggressiveness of the Boom Height Control system.

Quick Start Wizard

By default, the Quick Start Wizard appears every time you turn on the CFX-750 display. It enables you to easily confirm or change important system settings before you begin working.

Setup and Configuration

Features can be set up or configured manually from the Run screen by tapping the  button.

Help

The CFX-750 display has built-in, context-sensitive Help that lets you quickly find information you need. To access Help from any configuration screen, tap . When you are finished with the Help screen, tap .

Note - For more information on how to use this product, refer to the *CFX-750 Display CD*.

Installing the Boom Height Control hardware

For information on installing the Field-IQ™ Boom Height Control system, refer to the *Field-IQ Boom Height Control Platform Installation Instructions*.

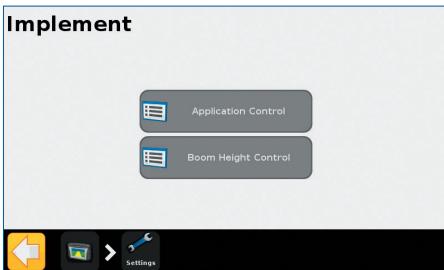
For the latest versions of these documents, go to www.trimble.com/agriculture.

Setting up the Boom Height Control system

During the setup, different options appear at the bottom of the screen; you can either:

- Tap  to go back and check the previous screen(s).
 - Tap  to continue to the next screen.
 - Tap  to accept and save all changes.
 - Tap  to discard all of the changes and start again.
1. In the guidance screen, tap  and then tap **Implement**.
 2. In the *Implement* screen, tap **Boom Height Control**:

3. In the *Boom Height Control* screen, tap **Boom Height Control Setup Wizard**.
4. In the next screen, tap **Enable**:



The steps in the wizard are described on the following page.

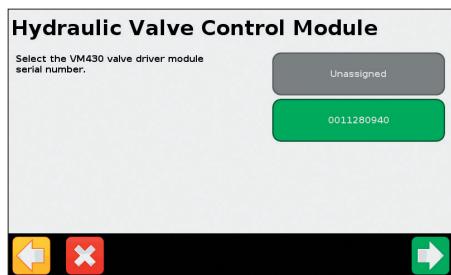
Setting up Boom Control

In the *Boom Control Option* screen, set:

- **Monitor Only:** Auto-height control is not used. The SS100 sensors are used to monitor the height above the crop or ground.
- **Left and Right Booms:** Auto-height control is used for the wings only.
- **Booms + Center Section:** Auto-height control is used for the wings and the center section.

Selecting the Hydraulic Valve Control Module

In the *Hydraulic Valve Control Module* screen, select the serial number of the Hydraulic Valve Control module:



Setting up the Height Sensor

1. In the *Height Sensor Setup* screen, tap **Number of Sensors**.
2. Select a sensor and then set the following:

Item	Description
Sensor Module	Select the serial number of the sensor installed in this location.
Enable Sensor	Enable or disable the sensor.
Side Offset	Enter the distance from the center line of the sensor to the hinge point of the boom.
Nozzle Offset	Enter the distance from the bottom edge of the sensor cone to the outlet of the spray nozzle tip.

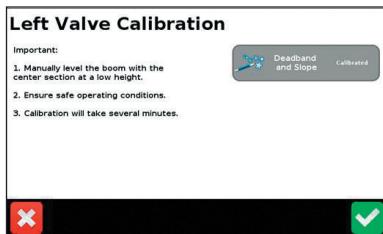
Setting up the Height Control Operation Settings

In the *Height Control Operation Setup* screen set the following:

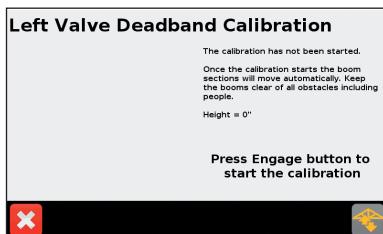
Item	Description
Sensing Mode	Ground: Target height based on the surface of the ground. Select this option to sense the ground surface through low coverage vegetation, such as stubble or young crops. Ground mode is susceptible to unwanted reflectance on hard or wet surfaces, such as bare ground. If this is an issue, select Canopy mode. Canopy: Target height based on the height of the crop canopy. Select this option to sense the closest object seen. This is used to sense bare ground or high-coverage broad leaf crop canopy.
Target Height	Enter the required height above the ground or crop canopy, depending on the sensing mode.
Boom Down Rate	Lowering the setting reduces the Maximum Downward Speed.
Boom Roll Stabilizer	Raise this setting to increase the boom roll stability. Note: Raising this setting decreases the downward speed of the boom.
Height Error Indication Band	The screen indicates that you are on <i>Target Height</i> based on this setting. Note: This setting is for on-screen indication and does not affect performance.
Maximum Target Height	The maximum height <i>Target Height</i> can be set to.
Minimum Target Height	The minimum height <i>Target Height</i> can be set to. On a multi-sensor control zone, this setting is used as a minimum height for the average of the system. For quicker performance, set this value close to the <i>Target Height</i> setting.
Target Height Step	The distance that the target height will move when you tap Increase or Decrease .
System Aggressiveness	The aggressiveness for the Boom Height Control system. A higher number is more aggressive and a lower number is less aggressive.

Calibration

1. In the *Height Control* screen, tap **Hydraulic Valve Calibration**.
2. In the *Hydraulic Valve Calibration* screen, tap the zone you want to select.
3. In the *Calibration* screen (in this example the *Left Valve Calibration* screen), tap **Deadband and Slope** to enter the calibration:



4. In the *Deadband Calibration* screen, tap  to start the calibration process:



5. Repeat Step 2 through Step 4 until all zones are calibrated and then tap .

Operation

Enabling control zones

To enable a control zone, tap the individual control zone button.

To enable all zones, tap the center **Enable All** button.



Note: The **Enable All** button is available only when the system is not engaged and all zones are disabled.

Engaging enabled zones

The Engage button is yellow when all zones are enabled.

The buttons for the enabled zones are also yellow.

To engage the system, tap the Engage button .



Note: If all zones are enabled, but not engaged, for 30 seconds, Boom Height Control will disable the zones as a safety measure. Before engaging the system, you must re-enable the zones.

The first time that you tap the Engage button after the display is turned on, the following safety message appears:

Pressing the engage button will cause movement of the boom.
Proper care should be taken to ensure safe operation at all times. Press the green check mark to continue or the red "X" to abort.



In the safety message screen, do one of the following:

- Tap  to engage the enabled zones.
- Tap  if you do not want to engage the zones.

With any zones engaged:

- The buttons for the engaged zones turn green.
- The *Engage* button changes to green.



A symbol on the buttons (for example, a red arrow ) indicates the direction that the zone is from the target height:

- Green bar: Zone is close to the target height.
- Yellow arrow: Zone is slightly off the target height.
- Red arrow: Zone is considerably off the target height.

Disengaging zones

- To disengage individual zones, tap the green button for each zone separately.
- To disengage all zones at once, tap the green Engage button .

Controls

To change the *Target Height* and *Aggressiveness*, tap the **Controls** button .

The following control panel appears:



You can now do the following:

- To adjust the target height, tap the increase or decrease arrows below the *Target Height* heading.
- To adjust the aggressiveness of the system, tap the increase or decrease arrows below the *Aggressiveness* heading.
- To set the *Target Height* to the current height, tap the **Use Current** button.
- To return to the sections view, tap the **Boom** button .

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Vehicle Boom Switch Operation

If the system is ...	To ...	Do the following
Armed	Engage all armed zones	Double tap down on left, right, or center button
Armed and Engaged	Disengage Left Boom	Single tap down on left boom Single tap up on left boom
	Disengage right boom	Single tap down on right boom Single tap up on right boom
	Disengage all zones	Single tap up on center Double tap up on left, right, or center button

Preparing the system for transporting the vehicle or for folding the booms

Note: If the center boom section is raised for 3 seconds using joystick input, Boom Height Control is disabled as a safety feature for folding the boom.

1. Disable all sections. Either tap each section individually or tap  (if it is available).
2. Push the **E-Stop** button to disable the system.
3. Close the field—tap . When asked if you are finished with the current field, tap **Yes**.
4. Follow the equipment manufacturer's recommendations to fold the booms or transport the vehicle.



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