The Trimble CFX-750 can import prescription files that are used to control rates with compatible third party controllers or with Field-IQ. Compatible third party controllers include the Raven 400 and 600 series with the serial connection on the back. This document will only cover VRA with Field-IQ and compatible Raven controllers.
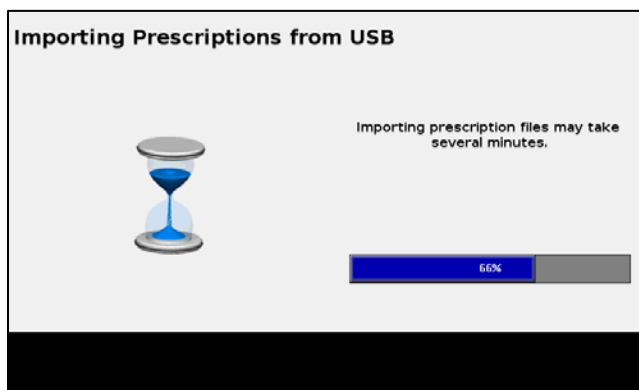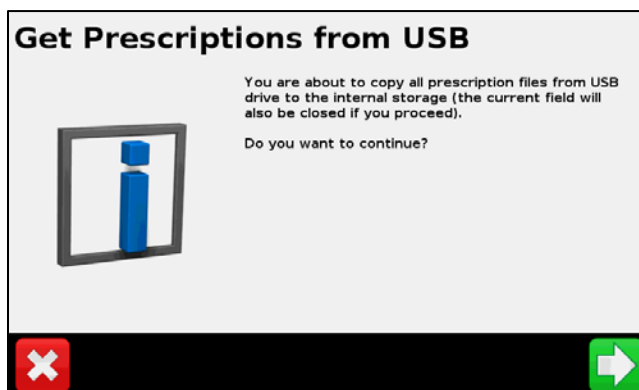
1. Verify that the CFX-750 is setup for Field-IQ operation or is connected to the compatible third part controller.   The setup for a Raven controller is on page 8 of this document.

2. Verify that the VRA unlock is installed on the CFX-750. If Variable Rate is not unlocked, contact Triangle Ag-Services with the serial number of your CFX-750 to purchase an unlock. Tap *Settings / System / Status / Upgrade Options.*
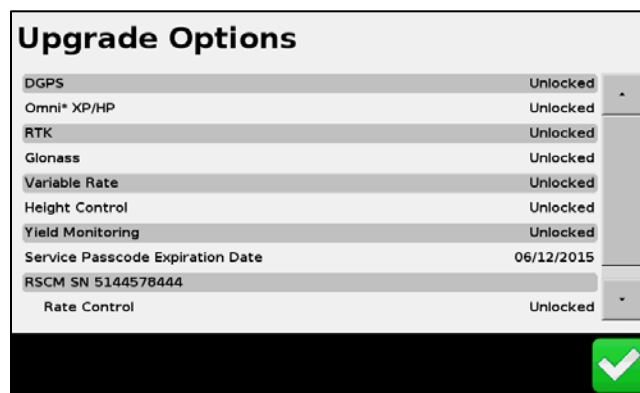
3. Load prescription files into the *AgGPS/Prescriptions* folder on the USB.
    a. The prescription files must be in Shapefile format, there will be at least three files with the same name but different extensions.
    b. If your USB doesn't have an *AgGPS/Prescriptions* folder, the easiest way to create the folder structure is to insert the USB into the CFX-750, wait a few seconds and pull it back out. The folders will be created for you. If the prescription files are not in the correct folder the CFX-750 will not load them.
    c. The prescription files cannot be zipped. Unzip the files before putting them in the *AgGPS/Prescriptions* folder.
    d. On your desktop computer the files in the USB will look similar to this:

www.triangleag.com
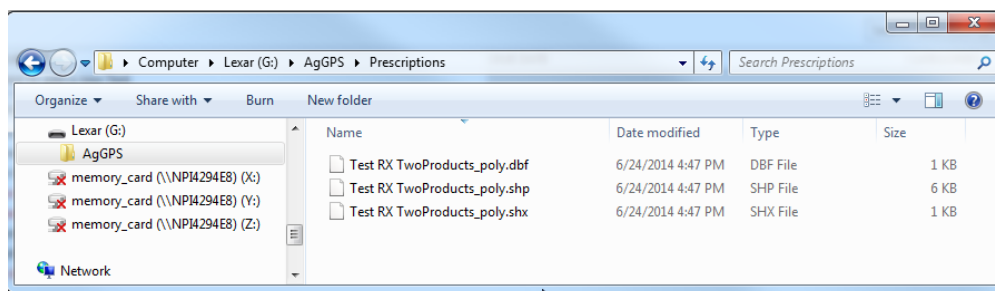
4. Import the prescription maps into the CFX-750.
   a. Insert the USB into the CFX-750, if the display isn't on the turn it on. It doesn't matter if the CFX-750 is turned on or off when you insert the USB.
   b. Tap *Settings / Data / Manage Data / USB / Retrieve Data / Get Prescriptions from USB.*   Tap ➡ and all the prescriptions on the USB will be copied to the CFX-750.

Get Prescriptions from USB

You are about to copy all prescription files from USB drive to the internal storage (the current field will also be closed if you proceed).

Do you want to continue?

Importing Prescriptions from USB

Importing prescription files may take several minutes.

66%

Get Prescriptions from USB

Get Prescriptions has succeeded.
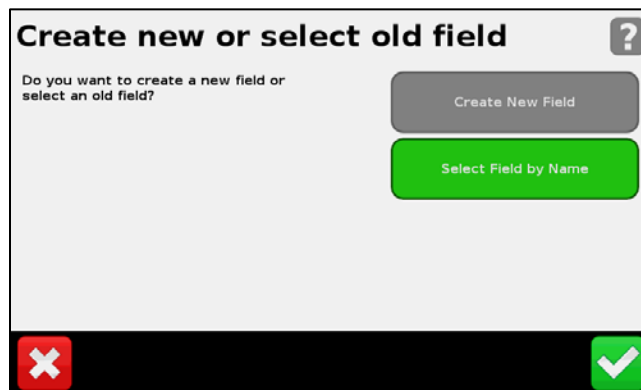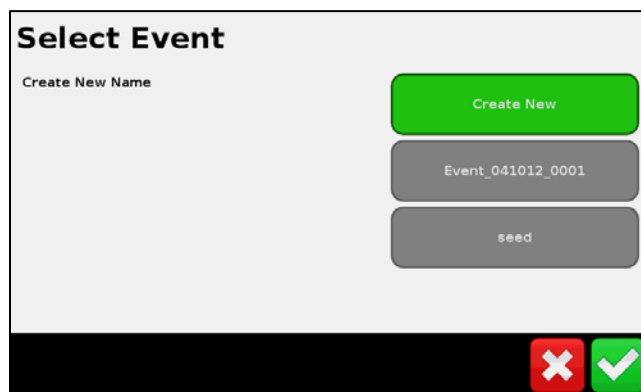
TRIANGLE
AG-SERVICES

www.triangleag.com

5. Return to the Home screen and start the field selection by tapping Field.

6. Create a New Field or Select Field by Name.

7. Select or create the Event.
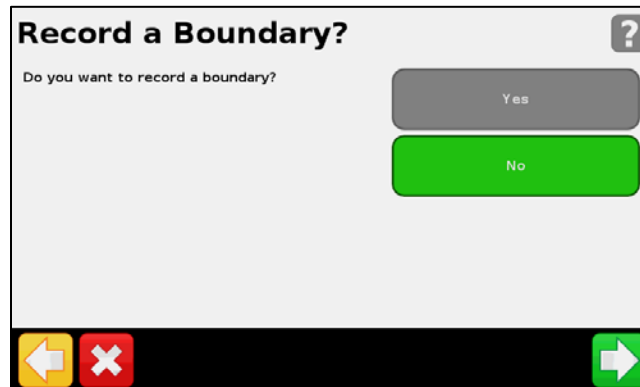
www.triangleag.com

8. Tap ➡️ to confirm the Implement Setup.

Select Field by Name

Edit settings by pressing each one individually.

Press the green accept button to continue.

Implement Setup   100' 00"

9. Select No and tap ➡️ to continue.

Record a Boundary?   ❓

Do you want to record a boundary?

Yes

No

10. Confirm the Record Keeping items and tap ➡️ to continue.

Record Keeping   ❓

Edit settings by pressing each one individually.

Press the green accept button to continue.

Operator   Default_Operator

EPA License Number   Default_EPA

Harvest Year Default_HarvestYear

Farm Location Default_Location

TRIANGLE
AG-SERVICES

www.triangleag.com
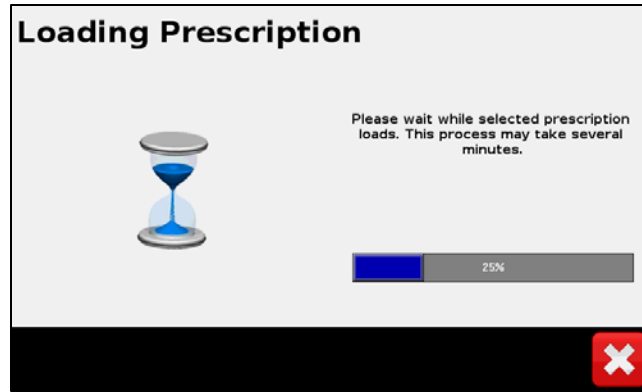
11. Select the prescription from the list.
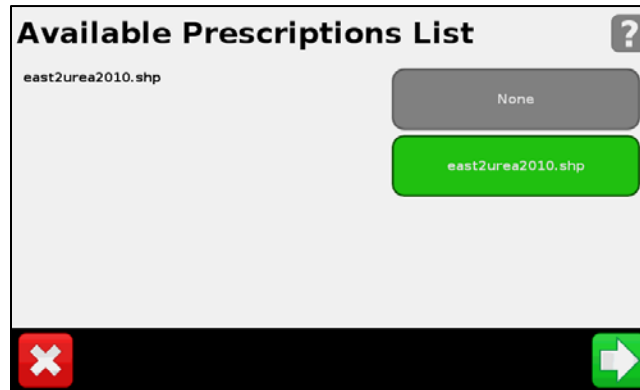
12. Check that the Prescription Parameters are correct and tap ➡️ to continue.

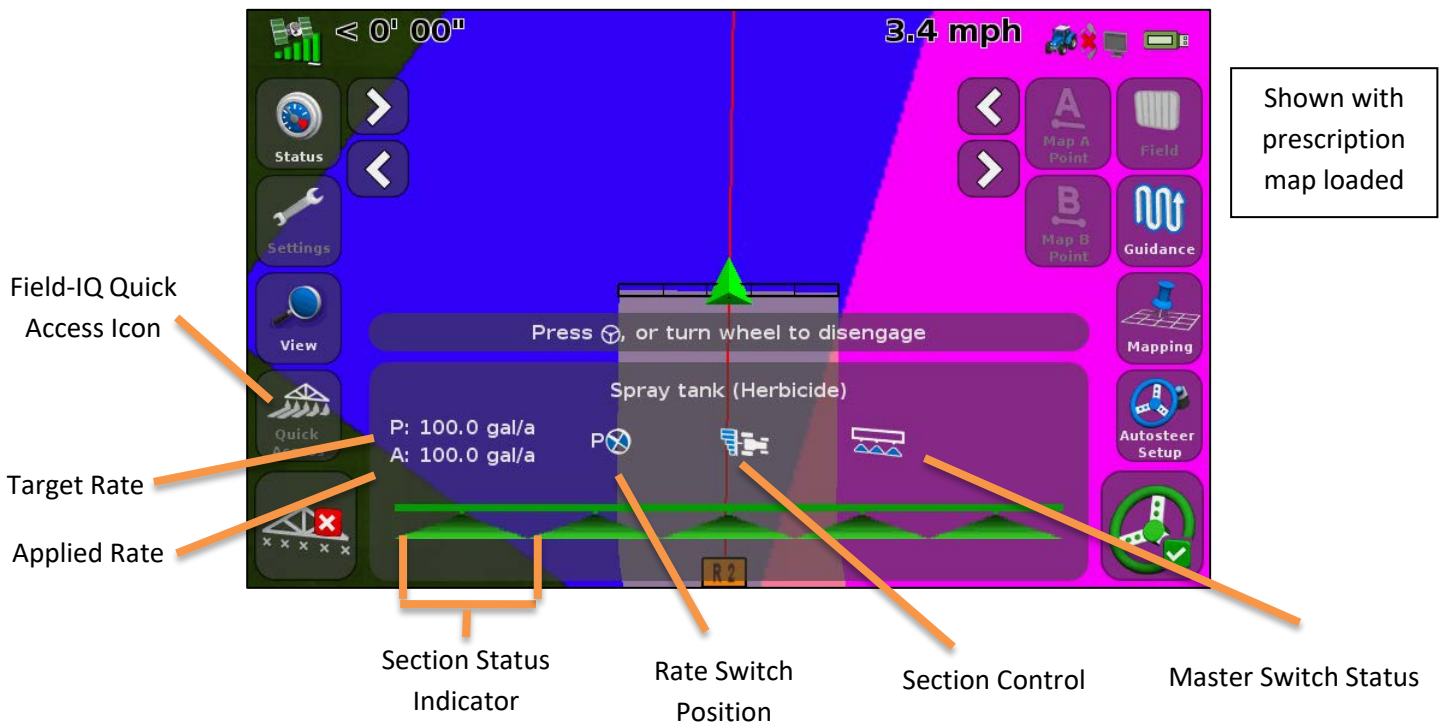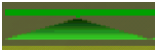| Item	Description
Rate Column	Column in the prescription .dbf file containing the rate information.
Rate Units	Units that the rate information is stored in. *One exception to this is when the CFX-750 is sending rates to a Raven controller. The Raven controller is 'unit-less' and the Rate Units may read gal/acre or Custom even when the rates are lbs/acre. The Raven controller will apply whatever rates are sent to it regardless of the units specified on the CFX-750.*
Scale Factor	Applied to the rate information to scale the application. For example, to apply half or double the specified application rate.
Rate Outside Polygon	Rate applied when the vehicle moves to an area not covered by an application rate polygon. There are two options: Zero – a zero rate will be sent to the controller Last rate – keep applying the last rate

TRIANGLE
AG-SERVICES

www.triangleag.com

13. The Prescription will load and be visible on your screen when you are in or near the field. It is a good practice to carry a paper copy of your prescription map to check that the rates on the paper are the same rates that the controller is applying.

www.triangleag.com

Operation with the CFX-750 and Field-IQ

Shown with prescription map loaded

- Field-IQ Quick Access Icon
- Target Rate
- Applied Rate
- Section Status Indicator
- Rate Switch Position
- Section Control
- Master Switch Status

Item	Description
Quick Access icon	Access common Field-IQ settings *Note: The only settings that are saved when entered using Quick Access are the Tank/Bin Setup. All other settings will revert when the display is turned off and then back on.*
Target Rate	The target application rate for the current rate switch position. This is the amount of prudct that you want to apply. When a prescription map is loaded P indicates the prescription rate for the current area.
Acutal Rate	The actual amount of product that is currently being applied.
Section Status	A red section status indicates that the section is manually turned off with either the master switch or the corresponding section switch. The boom section is enable but not currently spraying, usually because that section was automatically turned off. A green section status is an active flowing section.
Rate Switch Position	The rate switch on the master switch box must be in Rate 1 to apply the prescription rate. The P on the screen indicates a Prescription map is loaded. Spinning wheel indicates flow.
Section Control	Shows the current mode for section control. Automatic Section Control: Manual Section Control:
Master Switch Staus	Master switch on: Master switch off: Jump Start on:

TRIANGLE
AG-SERVICES

www.triangleag.com

Connecting a Raven compatible controller to the CFX-750

Connect the cables as shown in the diagram. *NOTE: Cable 69729 has labels on each end signifying whether it should be connected to the CFX-750 or Raven.*
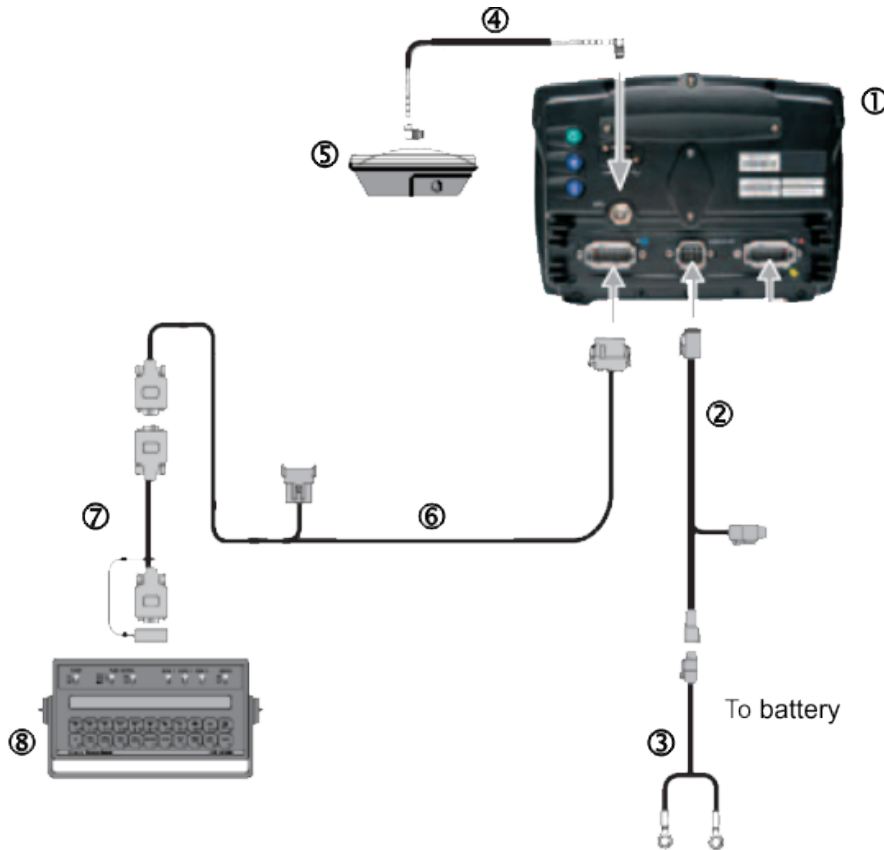
Item	Description	Trimble Part Number
1	CFX-750 Display	94100-01
2	CFX-750 power cable	77282
3	CFX-750 basic power cable	67258
4	Coax cable	50449
5	Ag25 GNSS antenna	77038-00
6	CFX-750 to DB9, RS232	67091
7	CFX-750 / EZ-Guide 500 to Raven variable rate adaptor	69729
8	Raven 400 / 600 controller	

Reminder: The CFX-750 cannot control the status of the Raven controller master or boom switches. This means that the operator must remain in control of the sprayer, the CFX-750 cannot automatically turn off the sprayer when going outside headlands, across exclusion zones, or previously sprayed areas.

www.triangleag.com

Raven Controller / CFX-750 Communication Setup

On the Raven controller, configure the following Data Menu settings:

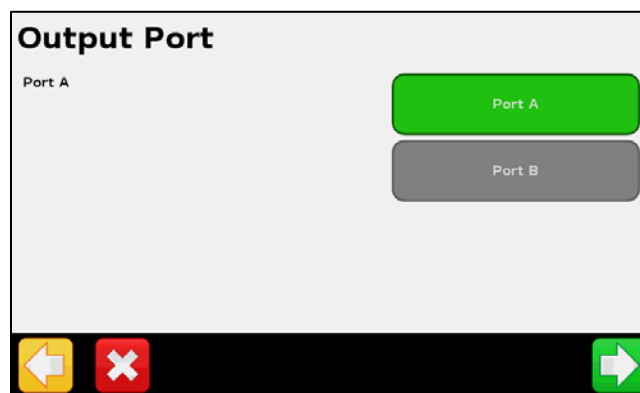| Item	Setting
BAUD or BAUD RATE	9600
GPS	Inac
DLOG or DATA LOG	ON
TRIG or DATA LOG TRIGGER VALUE	1
UNIT or DATA LOG TRIGGER UNITS	sec

Note: In the GPS group, if Send time, Time acknowledge or Close file appears, change them to GPS Inac. Otherwise, the DLOG or DATA LOG option won't appear.

TRIANGLE
AG-SERVICES

www.triangleag.com

On the CFX-750 tap *Settings / Implement / Application Control / Initial Setup*
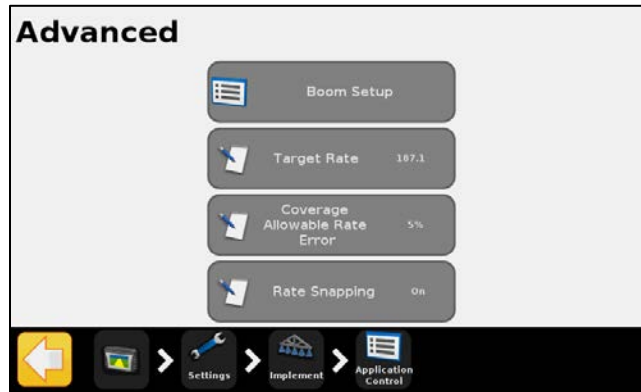
1. Select Raven and tap ✅ to continue.
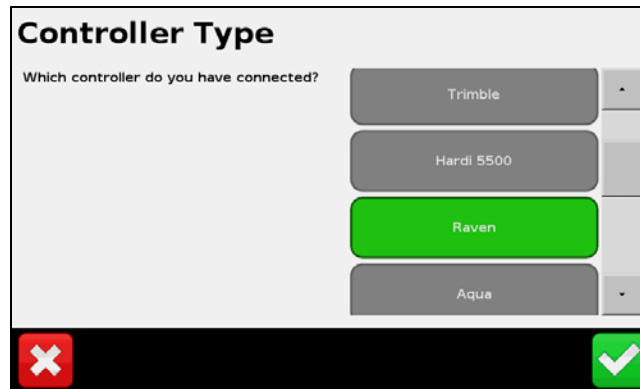
2. Select the port where the Raven cable is connected and tap ➡ to continue.
   Do not configure the display to output NMEA messages on the same port that your controller is connected to.

www.triangleag.com

TRIANGLE
AG-SERVICES

3. Tap Advanced and check settings.

Boom Setup

| Setting	Notes
Implement Width	Enter a width between 1' 00" – 328' 01"
Number of sections	Enter a number between 1 and 1o

Target Rate

Set the target application rate that will be sent to the Raven controller for manual rate application. Enter a rate between 0.0 and 11000.0.

Rate Snapping

To control how flow inconsistencies appear on your display, turn rate snapping on or off.

Settings	Notes
On	Matches the applied rate to the target rate when within 10% of the value
Off	Shows all fluctuations in the actual applied rate.

Operation with the CFX-750 and Raven controller
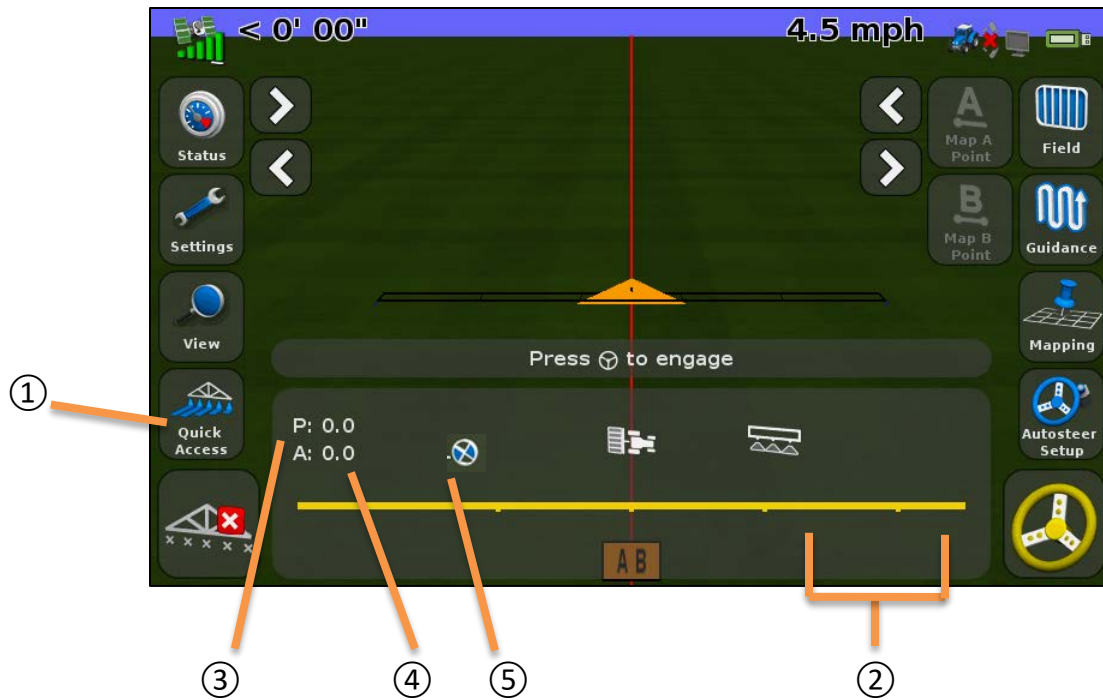
Item	Description	Notes
①	Quick Access icon	Access to Boom Setup, Target rate and Boundaries Setup
②	Boom section status indicators	Shows the current state of each boom section. The CFX-750 cannot control the boom sections with the Raven controller connected, but it can display section status from the Raven.
③	Target rate	If a prescription is loaded P displays to indicate that the prescription rate is being used rather than the target rate.
④	Actual rate	The actual application rate. This is the amount of product that is currently being applied.
⑤	Application indicator	The wheel on the display spins when the Raven master switch is on and the booms are on.

To manually enter a rate to send to the controller:

Tap Settings / Application Control / Advanced. Tap the Target Rate and then adjust the rate that is sent to the controller.

TRIANGLE
AG-SERVICES

www.triangleag.com