AFS Pro 300
AFS Pro 700
Task Controller

SOFTWARE OPERATING GUIDE

*Software Version 30.6.**

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CASE IH AGRICULTURE

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1 - GENERAL

Manual scope

This manual covers the “Task Controller” software application for the AFS Pro 300 and AFS Pro 700 displays. The manual assumes that you have read and understood the contents of the display manual in preparation for this manual.

This manual also assumes that the Global Positioning System (GPS), Differential GPS (DGPS), or Real Time Kinematic (RTK) system is fully functional and ready for use with the “Task Controller” application. If not, see the AFS Pro 300 or AFS Pro 700 display software operating guide and perform the steps necessary for proper GPS reception before proceeding. The display software operating guide explains how to change the GPS setup and how to monitor GPS performance.

The “Task Controller” application allows you to:

- Use task data in the ISO Extensible Markup Language (ISO XML) format to communicate job information (e.g. grower/farm/field, crop setup, prescriptions, field boundaries) through the display to an **ISO 11783**-compliant (ISOBUS) implement
- Turn section clutches or nozzles OFF automatically based on field boundaries and previously worked areas
- Log ISOBUS Task data from the implement to the memory stick

The ISOBUS Task data can be exported to the Universal Serial Bus (USB) memory stick by a Farm Management Information System (FMIS or “desktop software”) or it can be created with the screens provided by the “Task Controller” application on the display.

NOTE: *A USB memory stick, part number 84398840, must be inserted into the display regardless of the source of the ISOBUS Task data. The “Task Controller” application only logs data to the USB memory stick—not to the internal memory of the display.*

The “Task Controller” application currently supports three levels of functionality:

- Task Controller Basic (TC-BAS): for summary data logging of work performed by the implement (i.e. totals)

- Task Controller Geo (TC-GEO): for planning and logging location-based data (i.e. variable rate control using prescription maps and logging of “as applied” data)

- Task Controller Section Control (TC-SC): for operating with section control based on overlap and field boundaries

NOTE: *The screens depicted in this manual are from the AFS Pro 700 display. Screens on the AFS Pro 300 display are similar.*

ISOBUS Tasks

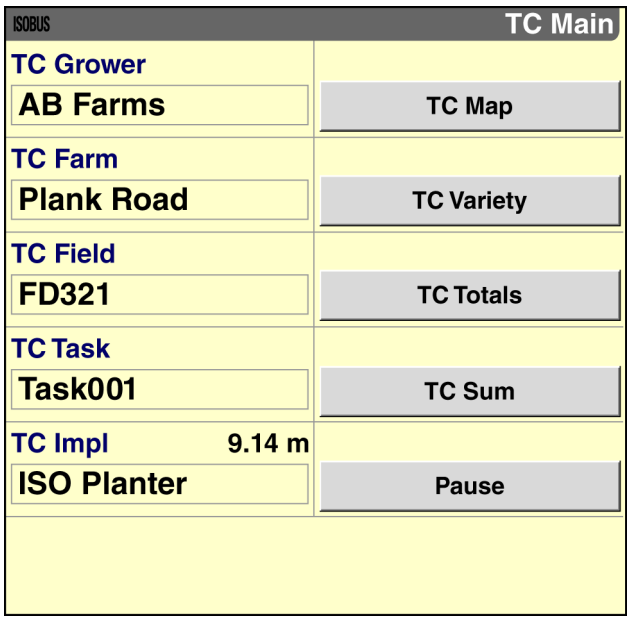
“Precision Farming” tasks, which are traditionally used for Case IH-specific applications, consist solely of information about work that has already been performed. Mapping, layers, and prescription assignment in these “Precision Farming” tasks rely on work conditions in the display (i.e. the “Work Condition” window). This is not true of ISOBUS Tasks.

The ISOBUS Tasks that are used by the “Task Controller” application are better understood as assignments or work orders for ISOBUS implements. The details of the specific work to be accomplished should originate primarily in the desktop software rather than the display. Data about the work being performed is logged to the ISOBUS Task for analysis in the desktop software.

NOTE: *It is possible to create and define parameters of an ISOBUS Task within the “Task Controller” application on this display, but a much greater degree of detail can be accomplished with the desktop software. Furthermore, you cannot create prescriptions directly on the display.*

NOTE: *The “Task Controller” application cannot edit any data that is provided by the desktop software. It can, however, add data to an existing ISOBUS Task before you start or resume the ISOBUS Task.*

Use the “Virtual Terminal” screens (Home > ISOBUS > VT), which are provided by the implement, to change settings for the implement or to monitor work while using an ISOBUS Task. See the operator’s manual for your ISOBUS implement for more information about settings and performance monitoring functions that are available to the “Virtual Terminal” application.



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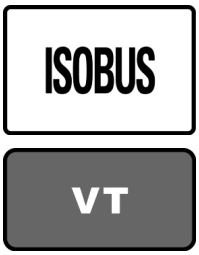
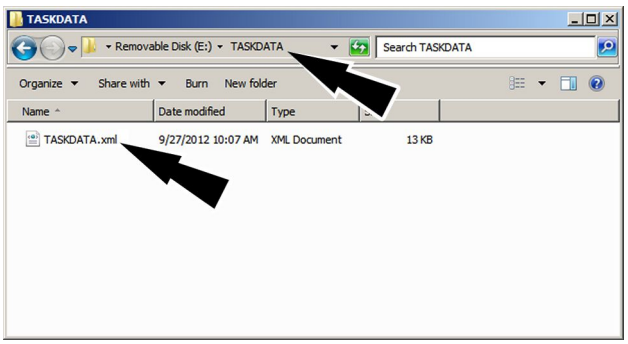


ISO Extensible Markup Language (XML) data format

The “Precision Farming” application, with which operators of CASE IH implements may already be familiar, uses the proprietary Voyager 2 format for data storage on the memory stick. The “Task Controller” application, however, uses a form of Extensible Markup Language (XML) that is defined by the **ISO 11783** (ISOBUS) standard. It is important to understand that these are distinct data formats that use different approaches to data storage.



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After an ISOBUS Task is created in the desktop software, the data must be exported to the memory stick as an ISO XML file in its own folder: \TASKDATA\TASKDATA.XML. From this location, the display can read the ISOBUS Task data, add new data to it (if desired), and log information about the work that is subsequently performed.

When you power the display OFF after recording data to an ISOBUS Task, the “Task Controller” application must write any unsaved ISO XML data to the memory stick. The “Recording to Memory Stick” icon displays in the status and warning icon area.

NOTE: *If you wish to perform the ISOBUS Task with the assistance of guidance lines, you must either export the lines from the desktop software to the memory stick in the Voyager 2 format using the same grower/farm/field as the ISOBUS Task OR start/resume the ISOBUS Task on the display and then record new guidance lines with the “Swath Recorder” window. See the* ***AFS AccuGuide™*** *software operating guide for information about creating and using guidance lines.*

NOTE: *When exporting a field boundary from the desktop software to the memory stick, only export the boundary to a single format: Voyager 2 or ISO XML. DO NOT export a field boundary in both formats on the same memory stick.*

2 - SETUP

Activate the "Task Controller" application

You must activate the “Task Controller” application in your display before you can use the features of this application. Contact your CASE IH dealer for activation codes for your display.

If you attempt to use the “Task Controller” screens before you activate the application, an error message displays: “Task Controller is not activated.”

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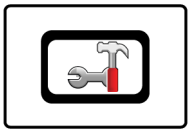
From the “Home” screen, press the “Toolbox” icon to access the “Toolbox” screens.



Press the “Activate” icon on the navigation bar to access the “Feature Activation” screen.

Use the “Feature Activation” screen:

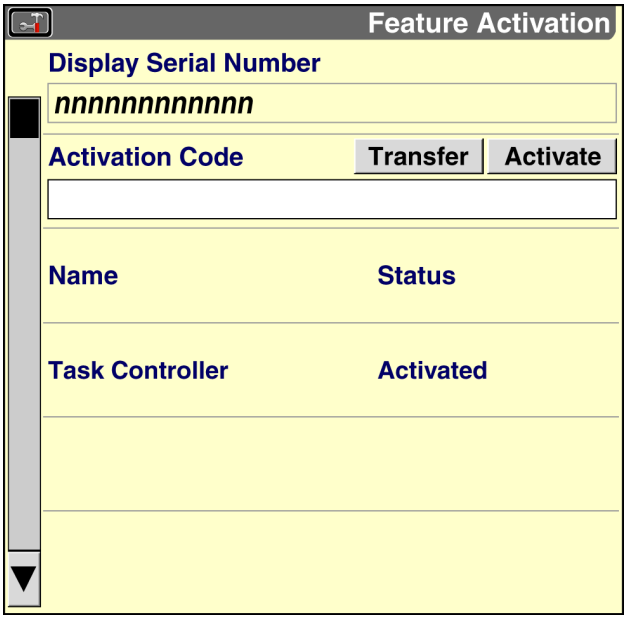
- to import an activation code from a text file provided by your CASE IH dealer

  OR

- to manually input an activation code provided by your CASE IH dealer

The first window on the “Feature Activation” screen contains the serial number of your display. Because each activation code is unique to a single display, you must provide this serial number to your CASE IH dealer when you request an activation code.

See the AFS Pro 300 or AFS Pro 700 display software operating guide for more information about feature activation.



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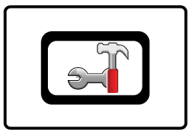
Enable the "Task Controller" application

The “Task Controller” application must be set up as “Installed” before the display will read and write ISO XML data on the memory stick.

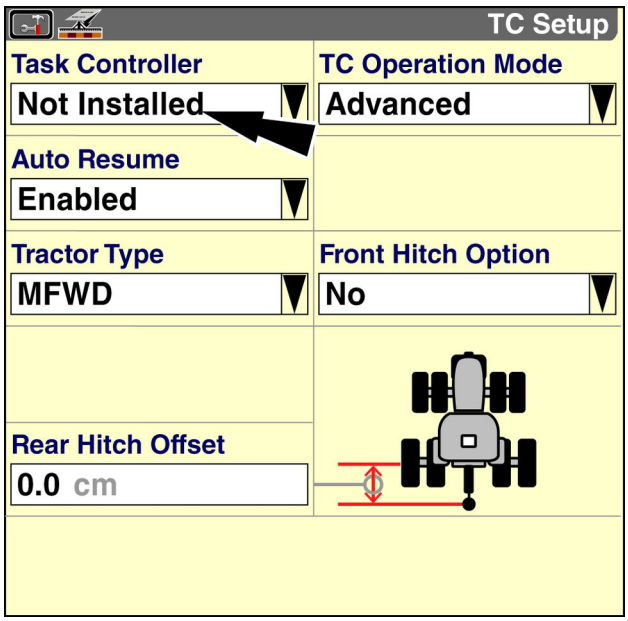
NOTE: *Complete all implement configuration before enabling the “Task Controller” application. This includes physical implement configuration as well as any required setup in the “Virtual Terminal” screens—e.g. display language, units of measurement, row width, number of rows, etc.*

From the “Home” screen, press the “Toolbox” icon to access the “Toolbox” screens.



Press the “TC” icon on the navigation bar to access the “TC Setup” screen.

Press the “Task Controller” window to access the pop-up options window.



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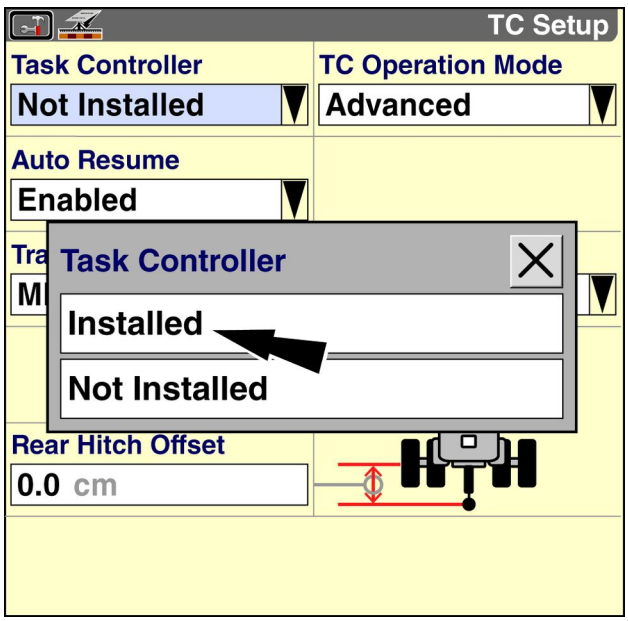
Press “Installed” in the pop-up window to enable all “Task Controller’ screens.



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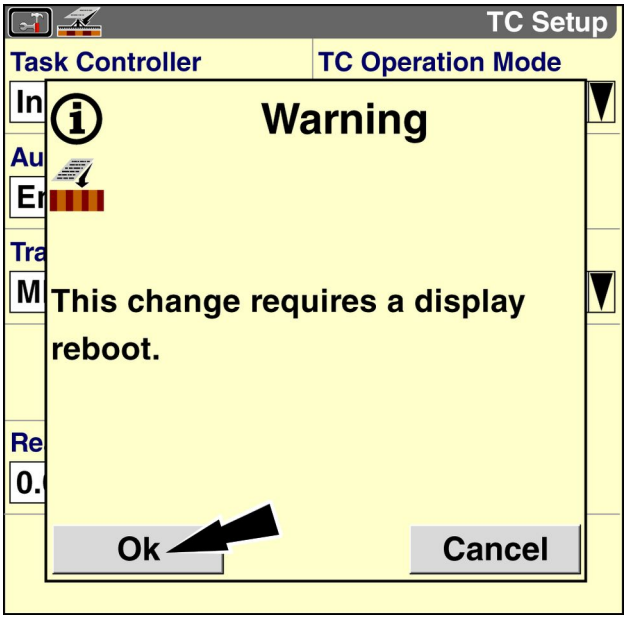
A pop-up message displays: “This change requires a display reboot.”

Press the “Ok” button to save the change and reboot the display.

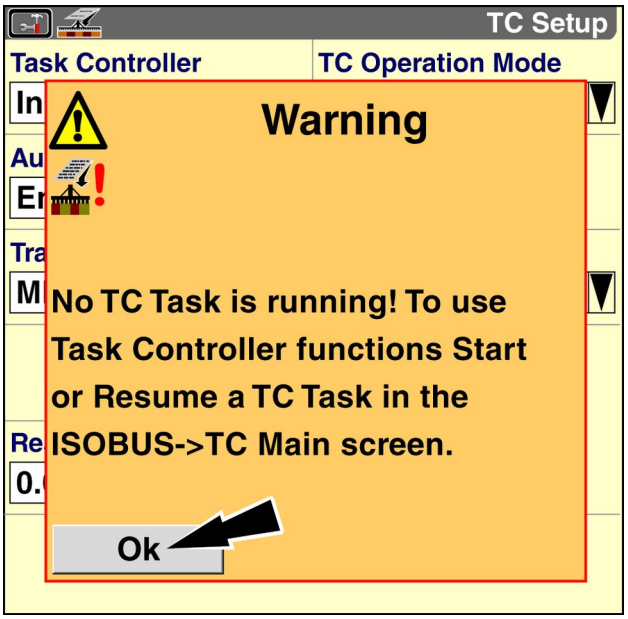


RAIL15DSP1688BA 3

After the display reboots, the “Task Not Running” icon displays in the status and icon warning area to indicate that no ISOBUS Task is running.

Press the icon to view a pop-up warning message: “No TC Task is running! To use Task Controller functions Start or Resume a TC Task in the ISOBUS->TC Main screen.”

Press the “Ok” button to dismiss the message.



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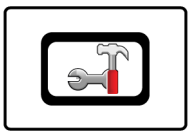
Choose an operation mode

A simplified “Section Only” operation mode is available for operators who wish to use the “Task Controller” application only for automatic overlap control. When “Section Only” mode is selected, data logging and prescription rate control are disabled. As a result, the setup requirements for “Section Only” mode are minimal. “Section Only” mode does not require the selection of a grower, farm, or field.

The default operation mode is “Advanced.” “Advanced” mode enables the full range of features provided by the “Task Controller” application. If you wish to log data and/or use prescription rate control, leave the setting in the “TC Operation Mode” window unchanged.

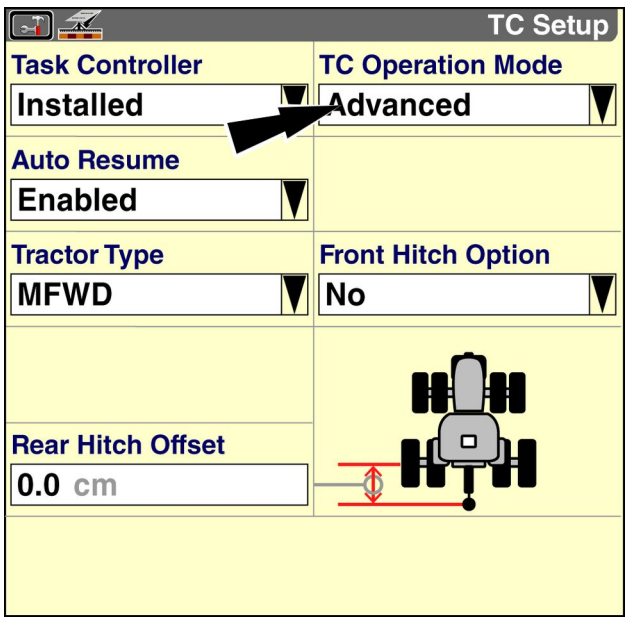
NOTE: *“Section Only” mode is available only when one implement is connected to the tractor. Use “Advanced” mode if you intend to operate with more than one implement.*

From the “Home” screen, press the “Toolbox” icon to access the “Toolbox” screens.



Press the “TC” icon on the navigation bar to access the “TC Setup” screen.

Press the “TC Operation Mode” window to access the pop-up options window.



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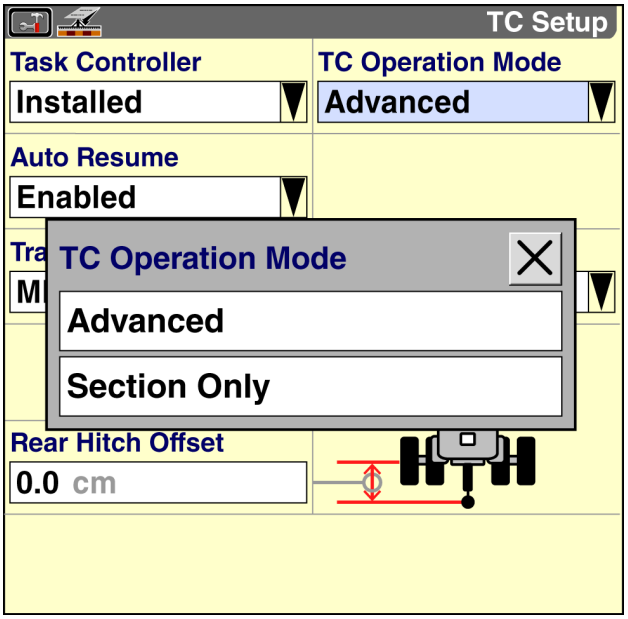
Press the desired option in the options window.



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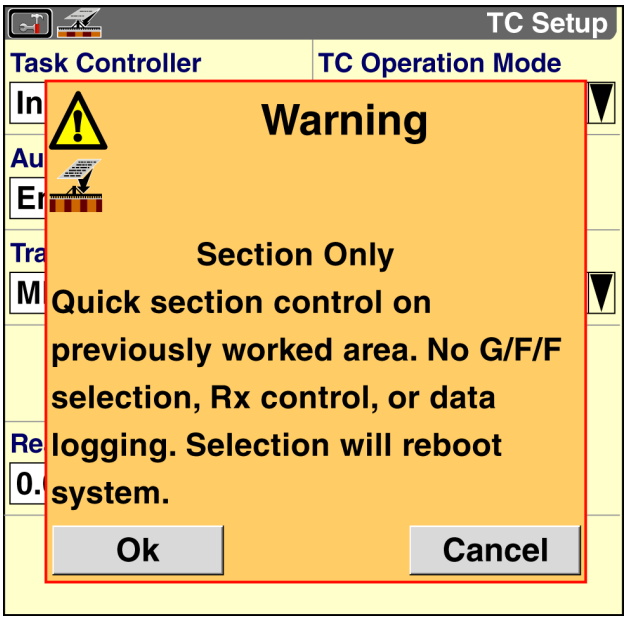
- If you set the “TC Operation Mode” window to “Section Only,” a pop-up warning message displays: “Section Only: Quick section control on previously worked area. No G/F/F [grower/farm/field] selection, no Rx [prescription] control, and no data logging. Selection will reboot system.”

  Press the “Ok” button to change the operating mode to “Section Only.” The display reboots immediately to apply the change in operation mode.

  NOTE: *After the display reboots, the “TC Clear Coverage” window becomes available on the “Run Layout” screen (Home > Toolbox > Layout). Other windows of the “Task Controller” application are not available in “Section Only” mode. See* ***3-33*** *for information about operating in “Section Only” mode.*



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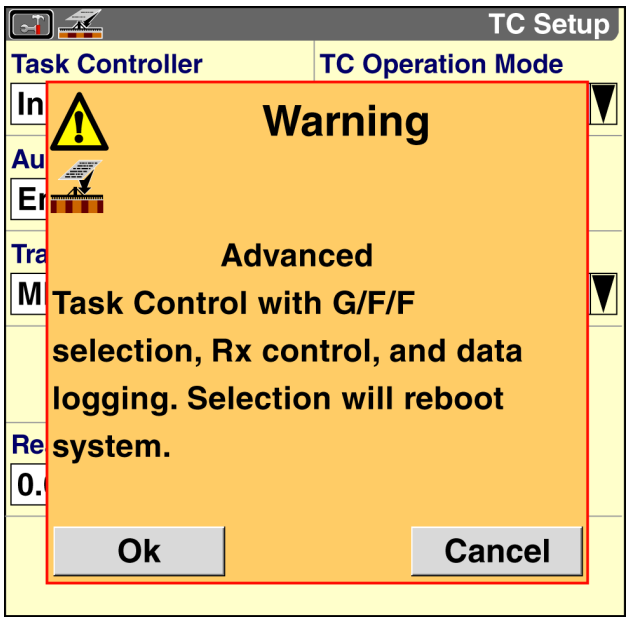
- If you set the “TC Operation Mode” window to “Advanced,” a pop-up warning message displays: “Advanced: Task Control with G/F/F [grower/farm/field] selection, Rx [prescription] control, and data logging. Selection will reboot system.”

  Press the “Ok” button to change the operating mode to “Advanced.” The display reboots immediately to apply the change in operation mode.



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Choose whether an ISOBUS Task resumes automatically after a power cycle

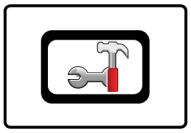
The “Auto Resume” window determines whether the selected ISOBUS Task resumes automatically after power to the system is cycled.

The default setting is “Enabled.”

- If you want to automatically resume the selected ISOBUS Task when you power ON the system, leave the setting in the “Auto Resume” window unchanged.
- If you want the selected ISOBUS Task to automatically pause when you power ON the system, you must change the setting in the “Auto Resume” window.

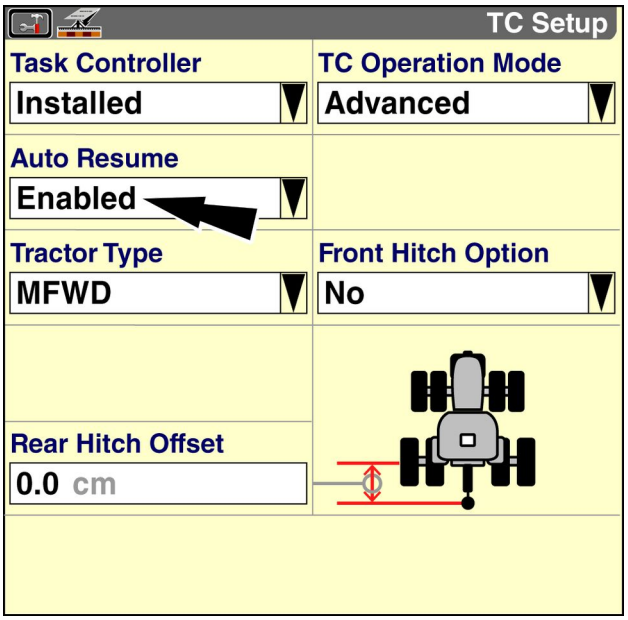
NOTE: *The “Auto Resume” window is not available when “Section Only” is selected in the “TC Operation Mode” window.*

From the “Home” screen, press the “Toolbox” icon to access the “Toolbox” screens.



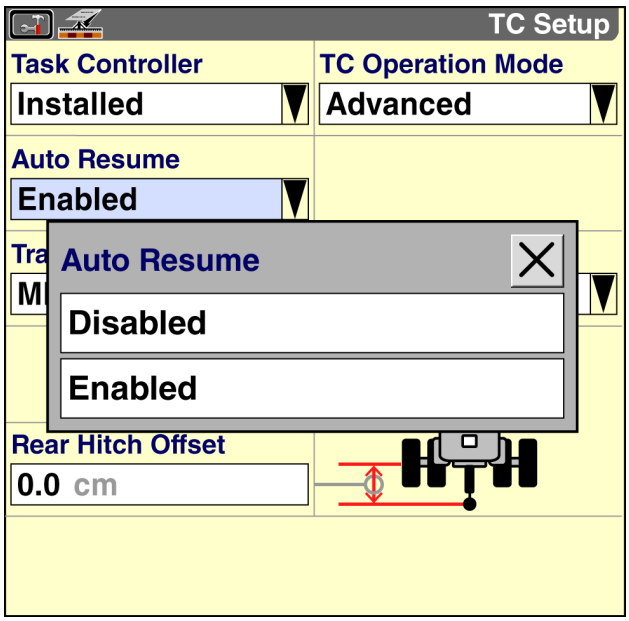
Press the “TC” icon on the navigation bar to access the “TC Setup” screen.

Press the “Auto Resume” window to access the pop-up options window.



RAIL15DSP1690BA 1

Press the desired option in the options window.

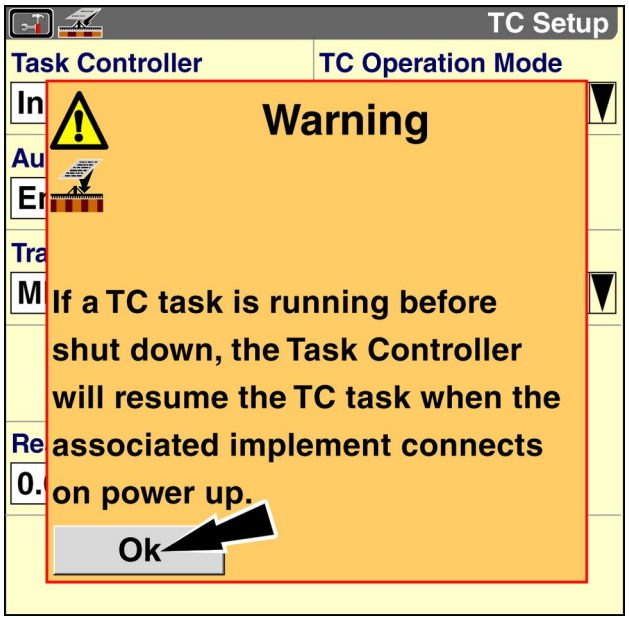


RAIL15DSP1693BA 2

- If you set the “Auto Resume” window to “Enabled, a pop-up warning message displays: “If a TC Task is running before shut down, the Task Controller will resume the TC Task when the associated implement connects on power up.”

  Press the “Ok” button or the “Cancel” button to dismiss the message.

  The ISOBUS Task that is running when you power OFF the system will automatically resume when you power ON the system with the same implement connected to the tractor.

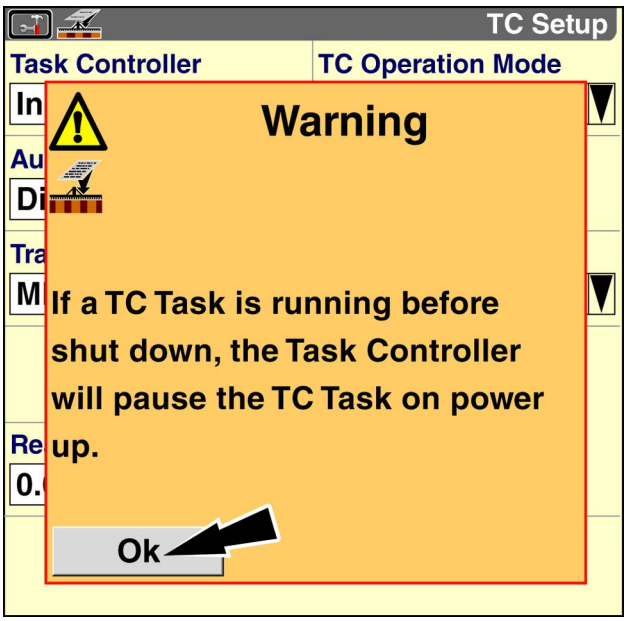


RAIL15DSP1760BA 3

- If you set the “Auto Resume” window to “Disabled,” a pop-up warning message displays: “If a TC Task is running before shut down, the Task Controller will pause the TC Task on power up.”

  Press the “Ok” button to dismiss the message.

  The next time you power ON the system, you must resume the selected task or start a different task on the “TC Main” screen (Home > ISOBUS > TC Main).

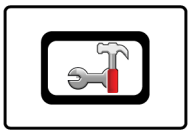


RAIL15DSP1761BA 4

Choose your tractor type

The “Task Controller” application requires hitch offset values to perform various calculations for reporting and mapping. The type of steering system on your tractor determines how you should measure hitch offsets.

From the “Home” screen, press the “Toolbox” icon to access the “Toolbox” screens.

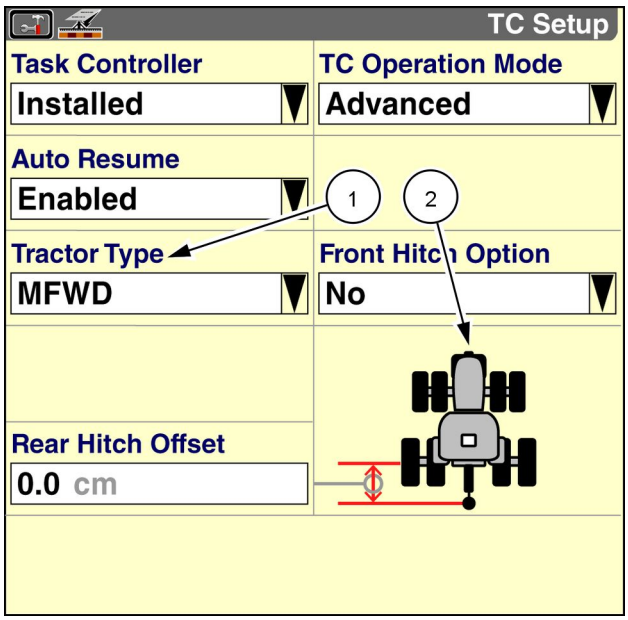


Press the “TC” icon on the navigation bar to access the “TC Setup” screen.

Use the “Tractor Type” window **(1)** to choose your tractor type.

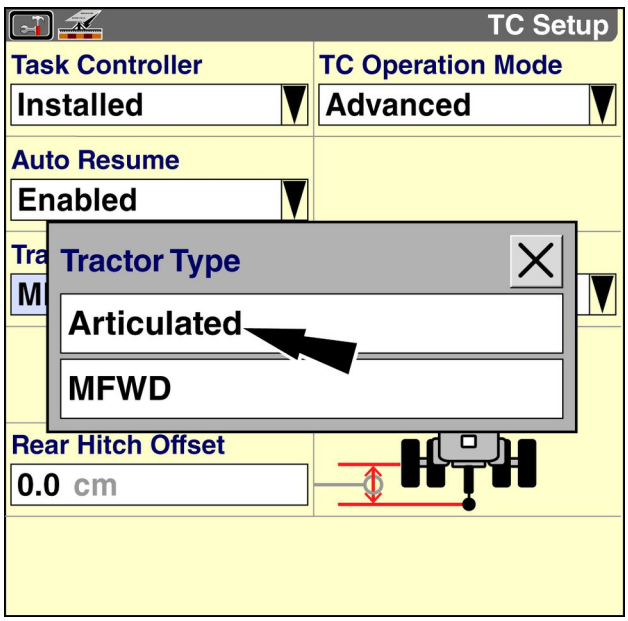
The default setting is “MFWD” (Mechanical Front Wheel Drive). The tractor image **(2)** shows where to measure offsets on an MFWD tractor.

- If your tractor is an MFWD tractor, leave this window unchanged.
- If your tractor is an articulated steer tractor, press the “Tractor Type” window to access the pop-up options window.



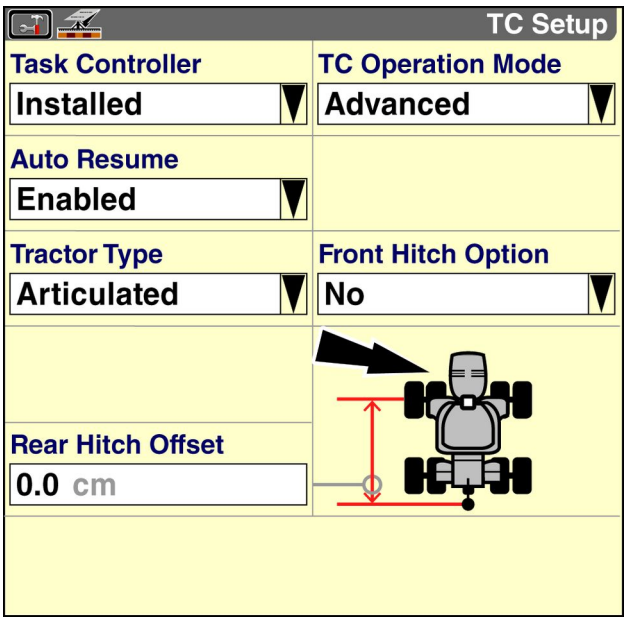
RAIL15DSP1690BA 1

Press “Articulated” in the options window.



RAIL15DSP1696BA 2

The tractor image updates to show an articulated steer tractor.

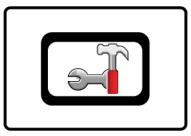


RAIL15DSP1697BA 3

Enter hitch settings

The “Task Controller” application supports a rear hitch and an optional front hitch. The “Task Controller” application requires hitch offset values to perform calculations for reporting, mapping, automatic section control (if applicable), and variable rate application (if applicable).

From the “Home” screen, press the “Toolbox” icon to access the “Toolbox” screens.

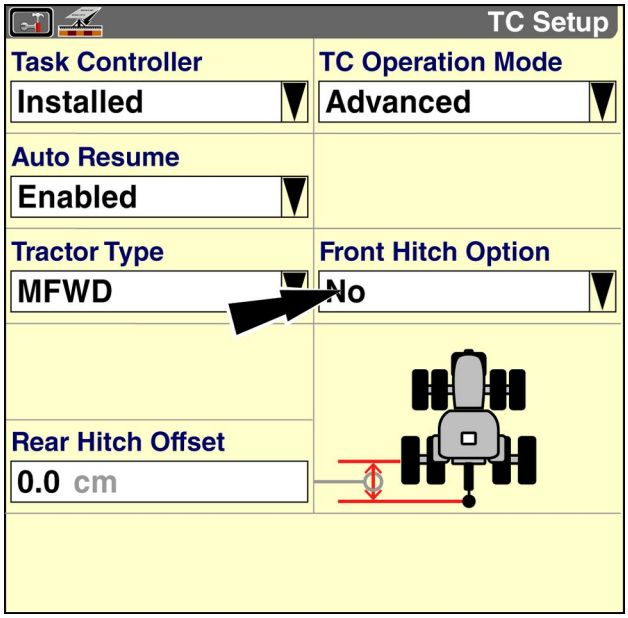


Press the “TC” icon on the navigation bar to access the “TC Setup” screen.

Use the “Front Hitch Option” window to establish whether your tractor has a front hitch.

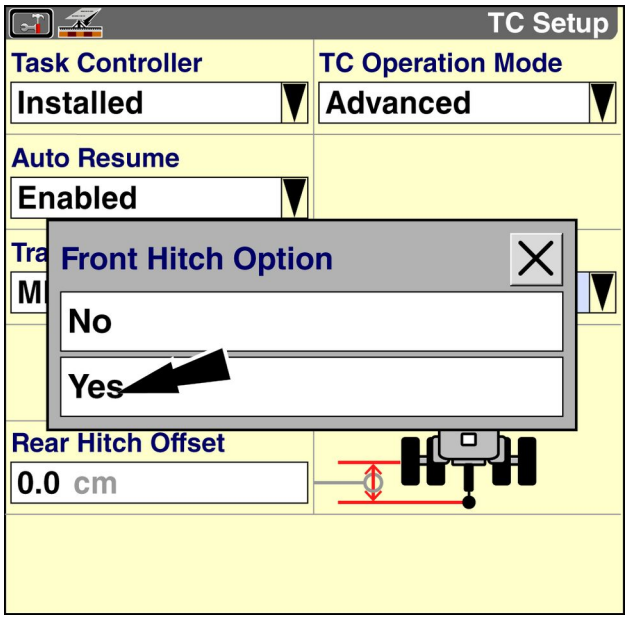
The default setting is “No.”

- If your tractor does not have a front hitch, leave this window unchanged.
- If your tractor has a front hitch, press the “Front Hitch Option” window to access the pop-up options window..



RAIL15DSP1690BA 1

Press “Yes” in the options window to enable the “Task Controller” application to work with front hitch implements.

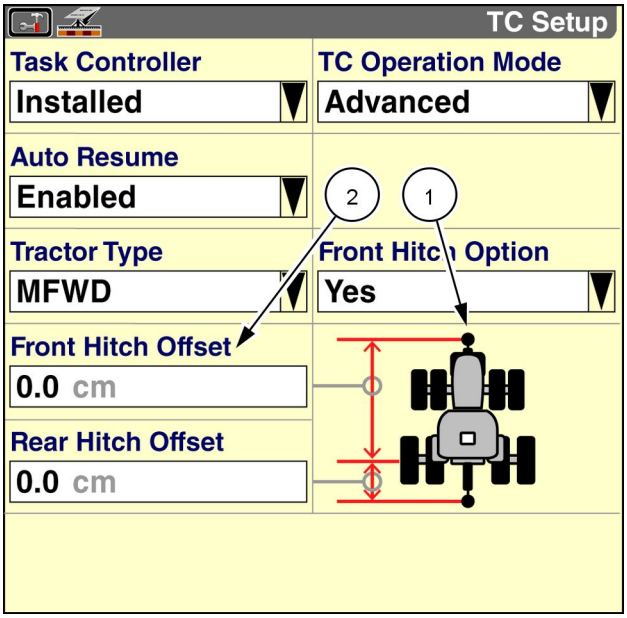


RAIL15DSP1698BA 2

The tractor image **(1)** updates to show a tractor with a front hitch.

The “Front Hitch Offset” window **(2)** displays.

MFWD tractor



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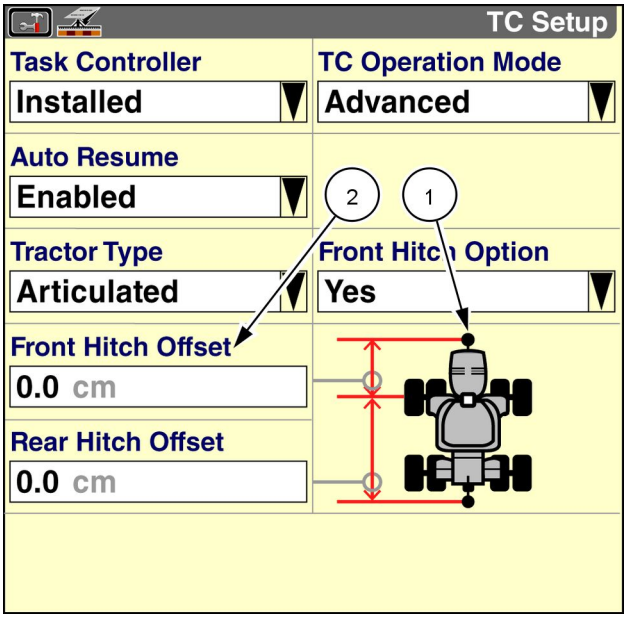
Articulated steer tractor



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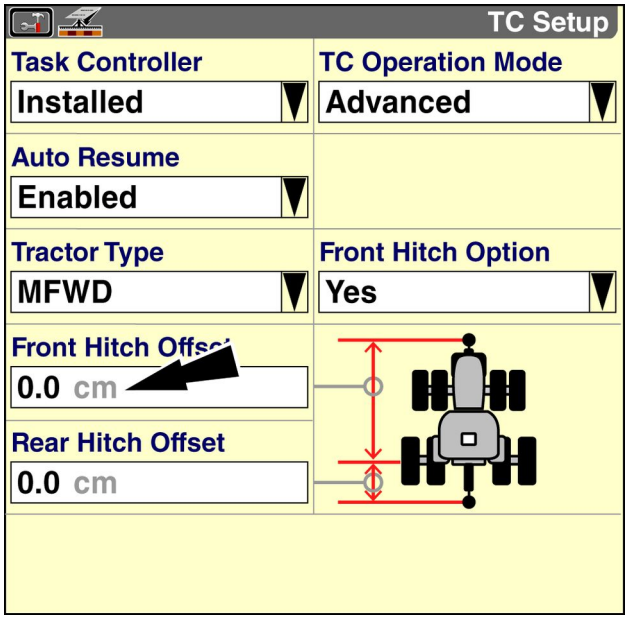
If your tractor has a front hitch, use the “Front Hitch Offset” window to enter the distance from the front hitch to the vehicle reference point.

- On MFWD tractors, the vehicle reference point is the ground below the center of the rear axle.
- On articulated steer tractors, the vehicle reference point is the ground below the center of the front axle.

The tractor image shows where to measure for your tractor type.

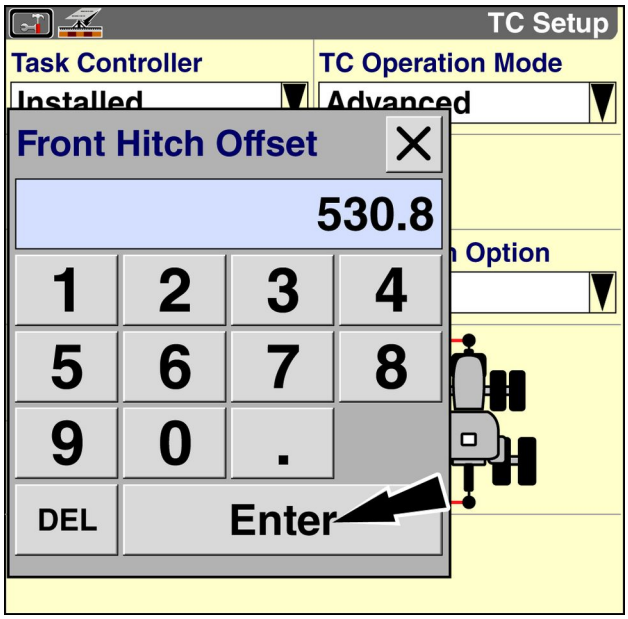
Press the “Front Hitch Offset” window to access the numeric keypad.



RAIL15DSP1699BA 5

Use the keypad to enter the distance from the front hitch to the vehicle reference point in centimeters or inches.

Press the “Enter” button to save the value and close the keypad.



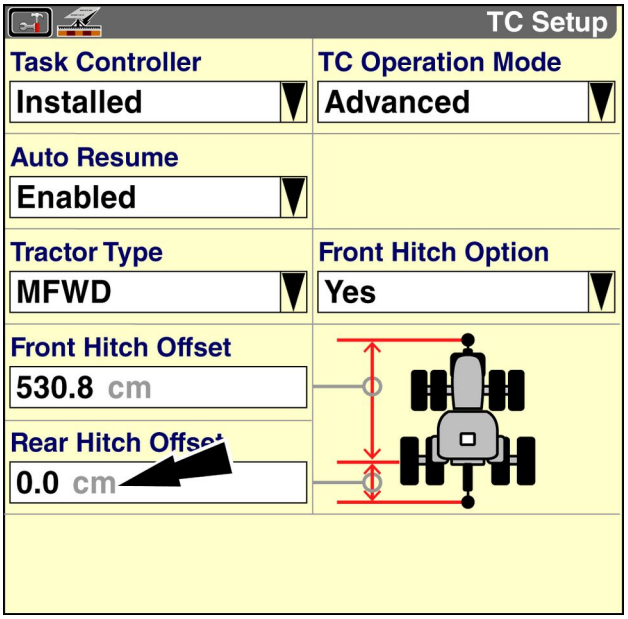
RAIL15DSP1701BA 6

Use the “Rear Hitch Offset” window to enter the distance from the rear hitch to the vehicle reference point.

- On MFWD tractors, the vehicle reference point is the ground below the center of the rear axle.
- On articulated steer tractors, the vehicle reference point is the ground below the center of the front axle.

The tractor image shows where to measure for your tractor type.

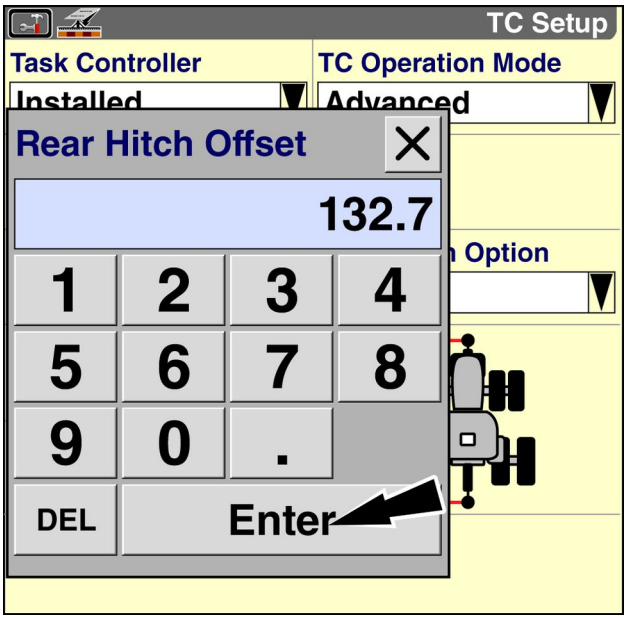
Press the “Rear Hitch Offset” window to access the numeric keypad.



RAIL15DSP1702BA 7

Use the keypad to enter the distance from the rear hitch to the vehicle reference point in centimeters or inches.

Press the “Enter” button to save the value and close the keypad.



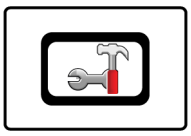
RAIL15DSP1703BA 8

Set up automatic overlap control

This section explains how to set up overlap control for the “Task Controller” application.

Use this screen to enable the automatic section control functionality of the “Task Controller” application (TC-SC). The “Task Controller” window on the “TC Setup” screen (Home > Toolbox > TC) must be set to “Installed.” See **2-2**.

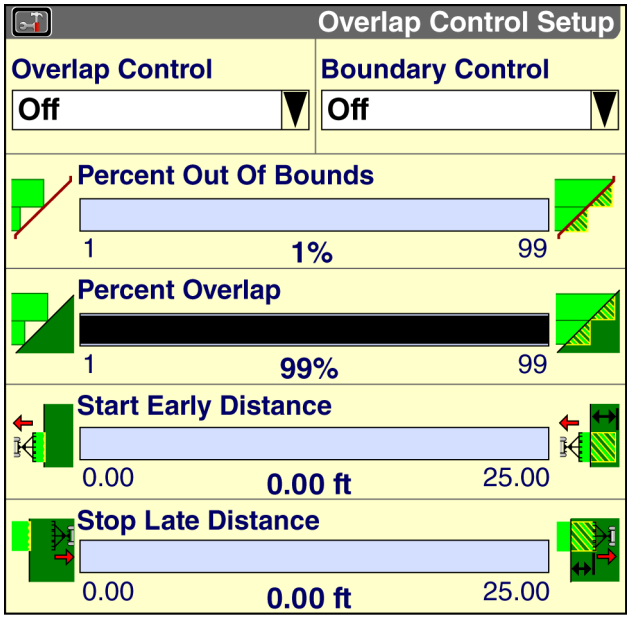
From the “Home” screen, press the “Toolbox” icon to access the “Toolbox” screens.



Press the “Overlap” icon on the navigation bar to access the “Overlap Control Setup” screen.

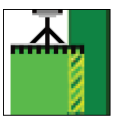
The “Overlap Control Setup” screen determines:

- whether the vehicle uses overlap control with coverage mapping to automatically turn OFF the appropriate sections when the implement enters an area where product application has already occurred
- the percent of overlap to detect before sections are turned OFF
- whether the vehicle uses boundary control to automatically turn OFF the appropriate sections when the implement leaves a field boundary
- the percent out of bounds before a section turns OFF
- the start early distance in meters (feet) added before the product drives are turned ON when leaving an applied area
- the stop late distance in meters (feet) added before the product drives are turned OFF when entering an applied area



RAIL15DSP1704BA 1

Overlap control uses the coverage map for the field to determine when vehicle sections are crossing an area of the field where product application has already occurred. The appropriate implement section or sections are turned OFF as the implement enters an applied area and turned ON again if the implement travels into an area where no product application has occurred.



The “Overlap Control” icon appears in the status and warning icon area to indicate when overlap is detected.

“Overlap Control”

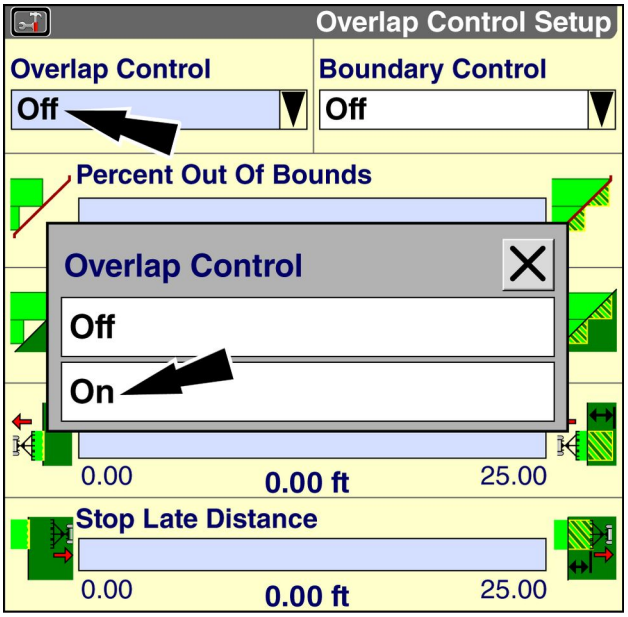
Use the “Overlap Control” to enable or disable automatic overlap control for areas where product has already been applied.

Press the “Overlap Control” window to change the default setting for automatic overlap control.

The pop-up options window displays.

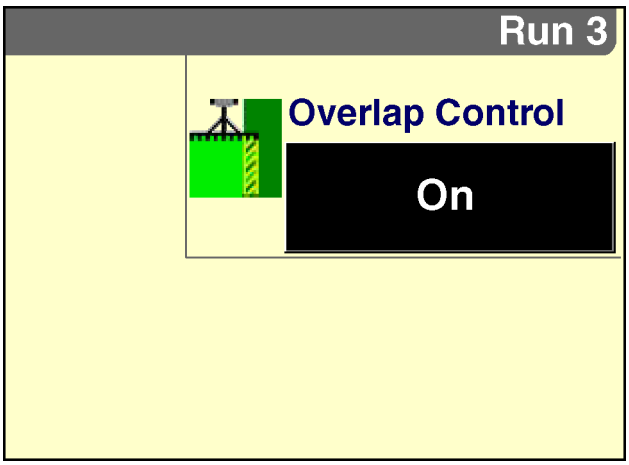
Press “On” to enable automatic overlap control.

Press “Off” to disable automatic overlap control.



RAIL15DSP1705BA 2

NOTE: *When overlap control is enabled on the “Overlap Control Setup” screen, you can temporarily enable and disable overlap control as required with the “Overlap Control” window on the “Run” screens.*



RCIL10DSP296BBG 3

“Percent Overlap”

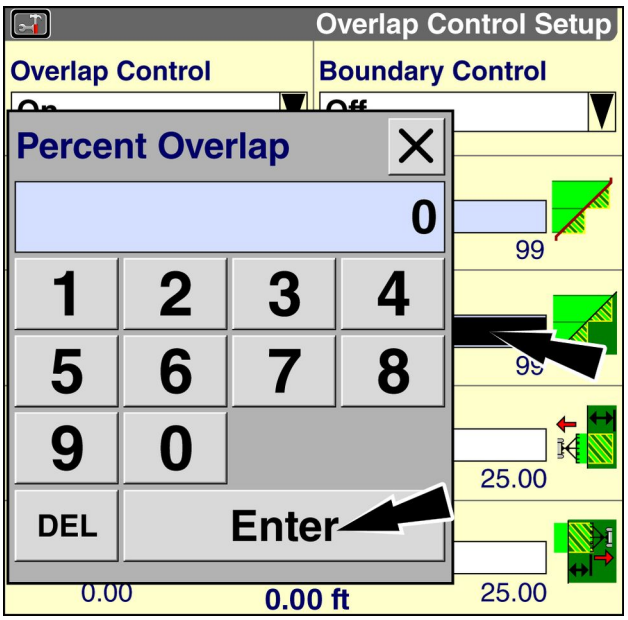
Press the “Percent Overlap” window to change the default setting for automatic overlap control.

The numeric keypad displays.

Use the keypad to enter a percentage for how much overlap must be present before a section or sections are turned OFF. The acceptable range is **1 - 99 %**.

The default setting is **99 %**.

Press the “Enter” button on the keypad to save the new value.



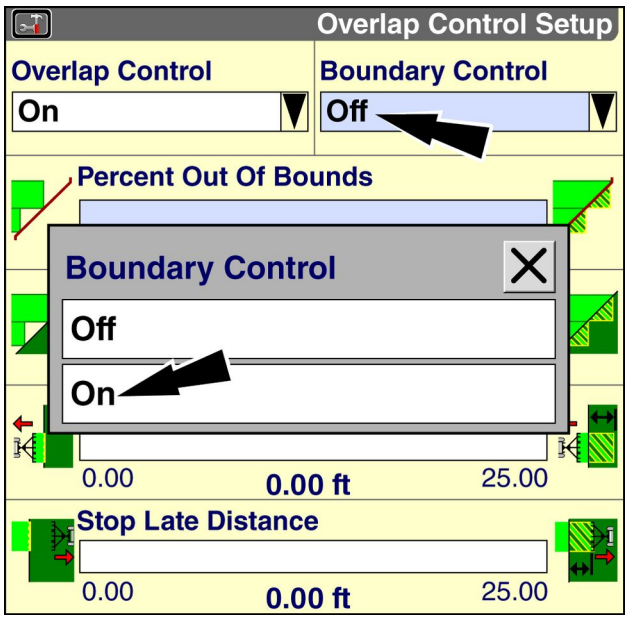
RAIL15DSP1706BA 4

“Boundary Control”

Use the “Boundary Control” window to enable or disable boundary control. Boundary control uses field boundary data—exported from the desktop software or recorded on the display—to prevent sections from turning ON outside of a field boundary.

NOTE: *Automatic boundary control can use ISO or non-ISO field boundaries. Boundaries of either type must be created for the field that is selected in the "TC Field" window on the “TC Main” screen (Home > ISOBUS > TC Main).*

NOTE: *If you record a field boundary while “Section Only” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC), you can use automatic boundary control for the current work session. However, the display discards the field boundary data when you clear the coverage map for the current session. See* ***3-33****.*



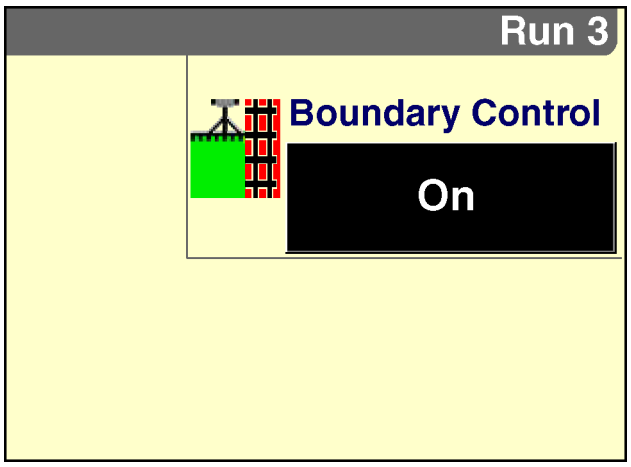
RAIL15DSP1707BA 5

Press the “Boundary Control” window.

The pop-up options window displays.

Press “Off” to turn boundary control OFF. Press “On” to turn boundary control ON.

NOTE: *When boundary control is enabled on the “Overlap Control Setup” screen, you can temporarily enable and disable boundary control as required with the “Boundary Control” window on the “Run” screens.*



RCIL10DSP298BBG 6

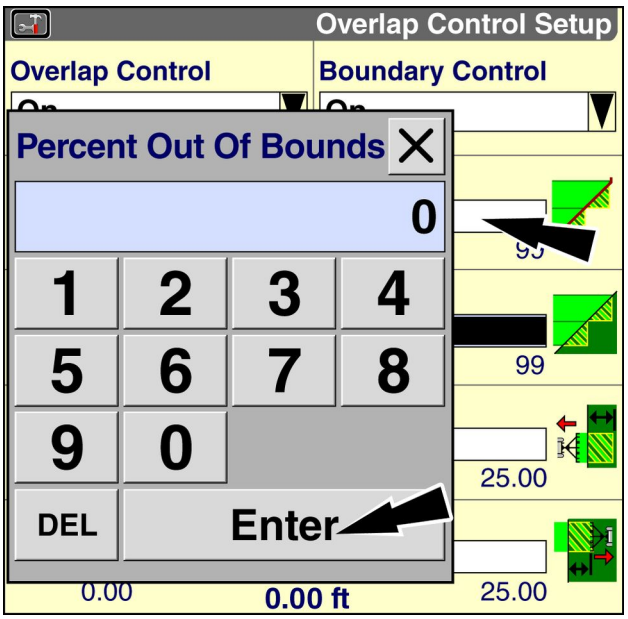
“Percent Out Of Bounds”

Press the “Percent Out Of Bounds” window to enter a percentage that a section can be outside of a boundary before it is turned OFF.

The numeric keypad displays.

Use the keypad to enter a percentage for how much out of bounds spraying is allowed.

Press the “Enter” button on the keypad to save the new value.



RAIL15DSP1708BA 7

“Start Early Distance”

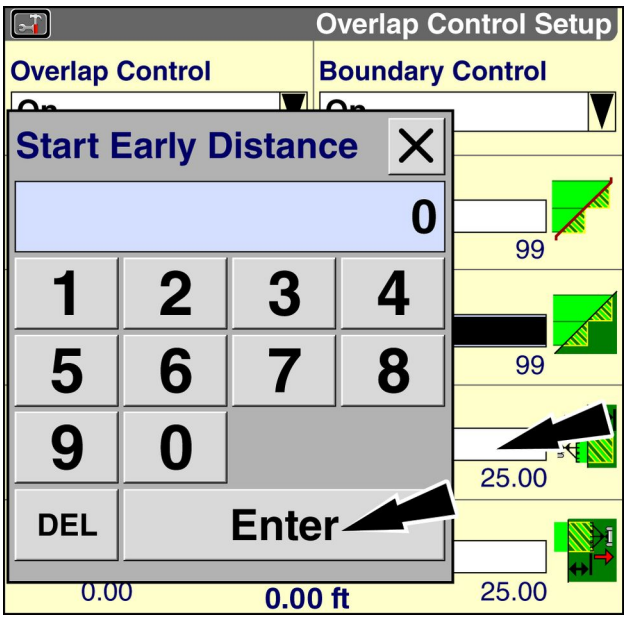
Use the “Start Early Distance” window to change the default setting for when the product drives are started relative to the applied field area. In general, this is the time it takes for a product to move fromt he product drives to the point of application—seed furrow, crop, etc.

NOTE: *The GPS receiver location and product drive information must be accurate.*

Press the “Start Early Distance” window to access the numeric keypad. If the product drives are starting before leaving an applied field area, decrease start early value. If the product drives are starting after leaving an applied field area, increase the start early value.

Use the keypad to enter the start early value. The acceptable range is **0.00 - 7.62 m** (**0.00 - 25.00 ft**). The default setting is 0 (zero).

Press the “Enter” button on the keypad to save the new value.



RAIL15DSP1709BA 8

“Stop Late Distance”

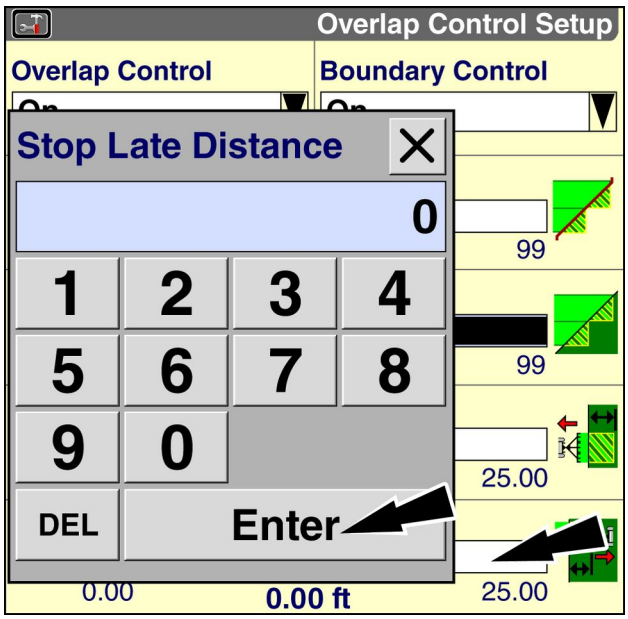
Use the “Stop Late Distance” window to change the default setting for when the product drives are stopped when entering an applied area.

NOTE: *The GPS receiver location and product drive information must be accurate.*

Press the “Stop Late Distance” window to access the numeric keypad. If the product drives are stopping before entering the applied field area, increase the stop late value. If the product drives are stopping after entering an applied field area, decrease the stop late value.

Use the numeric keypad to enter the Stop Late value. The acceptable range is **0.00 - 7.62 m** (**0.00 - 25.00 ft**). The default setting is 0 (zero).

Press the “Enter” button on the keypad to save the new value.

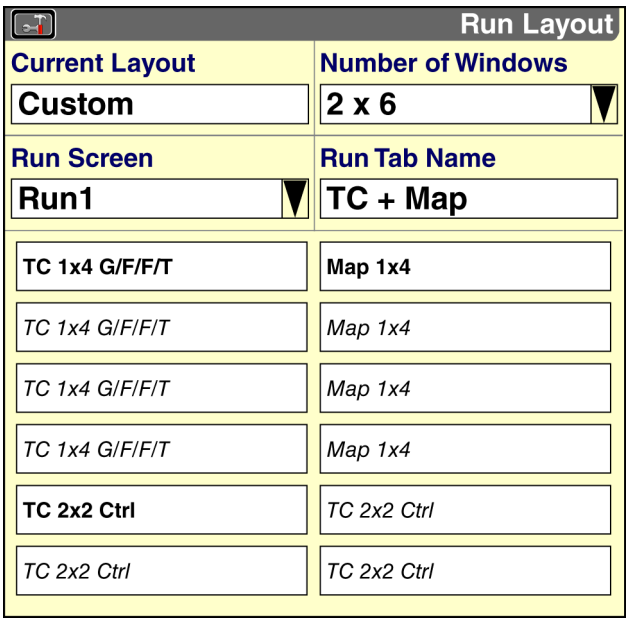


RAIL15DSP1710BA 9

Customize your "Run" screen layout

The windows below from the “Task Controller” application can be placed on any of the “Run” screens. See the AFS Pro 300 or AFS Pro 700 display software operating guide and its explanation of the “Run Layout” screen in the “Toolbox” screens to review window placement.

NOTE: *The “Task Controller” application must be activated and enabled before the following windows become available on the “Run Layout” screen. See* ***2-1*** *and* ***2-2****.*



RAIL15DSP1757BA 1

“TC Control + Grower/Farm/Field/Task”

Placement label: TC 2x4 Ctrl+G/F/F/T
Placement location: “Run” screens

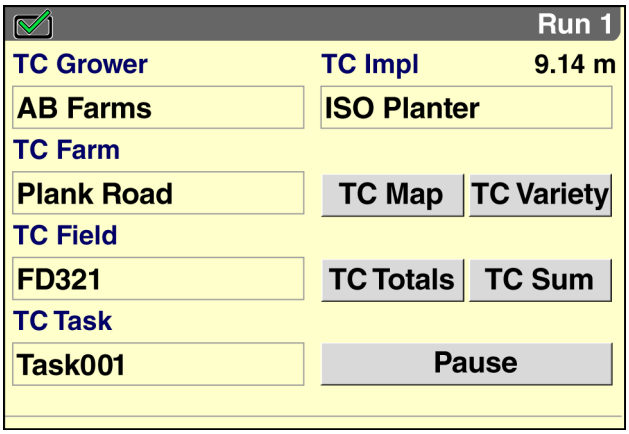
The “TC Control + Grower/Farm/Field/Task” window includes all of the functionality of the “TC Main” screen (Home > ISOBUS > TC Main) in a 2-column by 4-row window.

Use the “TC Control + Grower/Farm/Field/Task” window:

- to select or create a grower
- to select or create a farm
- to select or create a field
- to select or create an ISOBUS Task
- to select the primary implement
- to access the “TC Control Points” screen
- to access the “TC Variety Tracking” screen
- to access the “TC Totals” screen
- to access the “TC Summary” screen
- to start, pause, or resume the current ISOBUS Task

When you change the selections in the “TC Control + Grower/Farm/Field/Task” window, the corresponding windows on the “TC Main” screen automatically update with the new selections.

NOTE: *The “TC Control + Grower/Farm/Field/Task” window is available only when “Advanced” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC). See* ***2-4****.*



RAIL15DSP1669BA 2

“TC Grower/Farm/Field/Task”

Placement label: TC 1x4 G/F/F/T
Placement location: “Run” screens or left-hand area

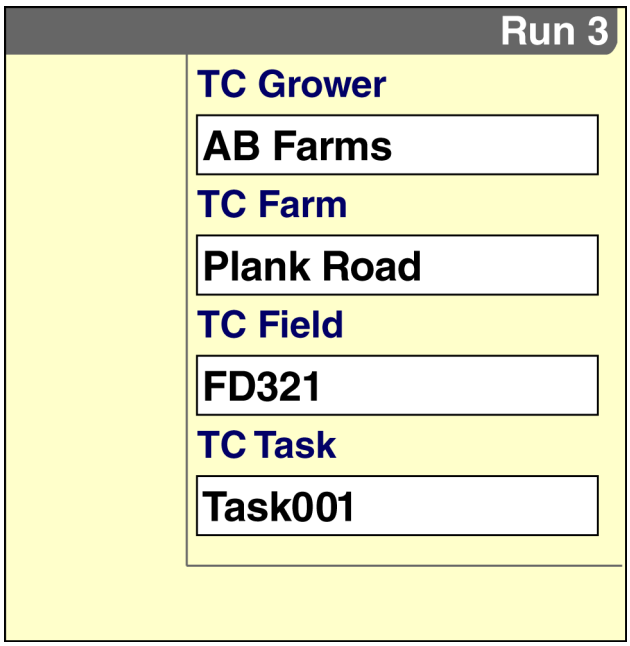
The “TC Grower/Farm/Field/Task” window includes all of the ISOBUS Task management functionality of the “TC Main” screen (Home > ISOBUS > TC Main) in a 1-column by 4-row window.

Use the “TC Grower/Farm/Field/Task” window:

- to select or create a grower
- to select or create a farm
- to select or create a field
- to select or create an ISOBUS Task

When you change the selections in the “TC Grower/Farm/Field/Task” window, the corresponding windows on the “TC Main” screen automatically update with the new selections.

NOTE: *The “TC Grower/Farm/Field/Task” window is available only when “Advanced” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC). See* ***2-4****.*



RAIL15DSP1672BA 3

“TC Control”

Placement label: TC 2x2 Ctrl
Placement location: “Run” screens

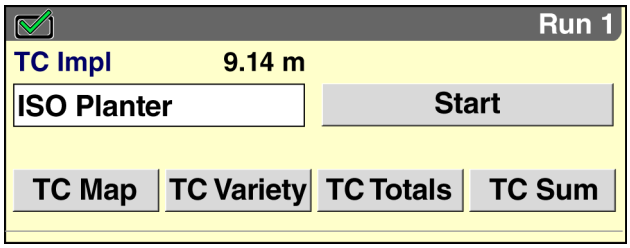
The “TC Control” window includes all of the functionality of the “TC Main” screen (Home > ISOBUS > TC Main) except for ISOBUS Task management in a 2-column by 2-row window.

Use the “TC Control” window:

- to select the primary implement
- to access the “TC Control Points” screen
- to access the “TC Variety Tracking” screen
- to access the “TC Totals” screen
- to access the “TC Summary” screen
- to start, pause, or resume the current ISOBUS Task

When you change the implement in the “TC Control” window, the “TC Implement” window on the “TC Main” screen automatically updates with the new selection.

NOTE: *The “TC Control” window is available only when “Advanced” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC). See* ***2-4****.*



RAIL15DSP1668AA 4

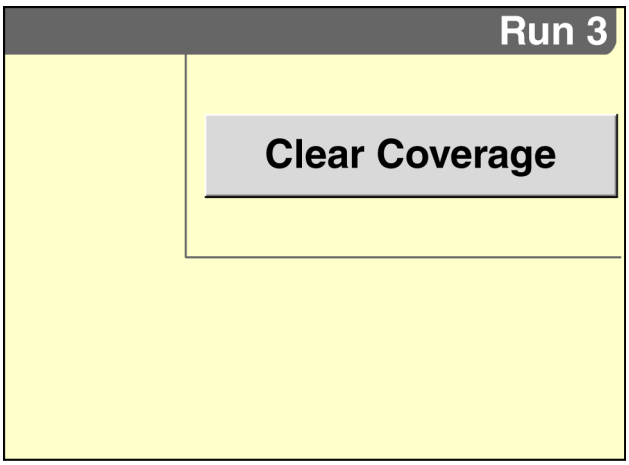
“TC Clear Coverage”

Placement label: TC Clear Coverage
Placement location: “Run” screens or left-hand area

Use the “TC Clear Coverage” window when you wish to begin a new operation in “Section Only” mode.

Press the “Clear Coverage” button to delete all accumulated coverage data.

NOTE: *The “TC Clear Coverage” window is available only when “Section Only” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC). See* ***2-4****.*



RAIL15DSP1673BA 5

“TC Section Status Bar”

Placement label: TC Section Status Bar
Placement location: “Run” screens

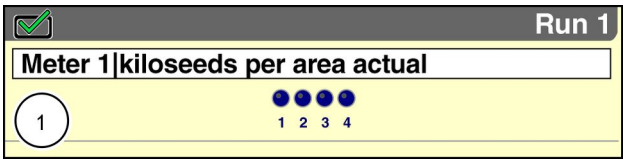
Use the “TC Section Status Bar” window to view the section ON/OF status of any mapped control point in a 2-column by 1-row window.

Press the window to access the pop-up list of control points.

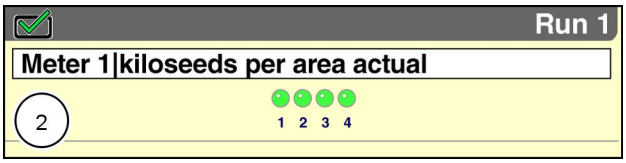
Virtual Light Emitting Diodes (LEDs) indicate the ON/OFF status of each section:

- The virtual LED is dark blue when the section is not applying product **(1)**.
- The virtual LED is green when the section is applying product **(2)**.

NOTE: *The “TC Section Status Bar” window is available only when “Advanced” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC). See* ***2-4****.*

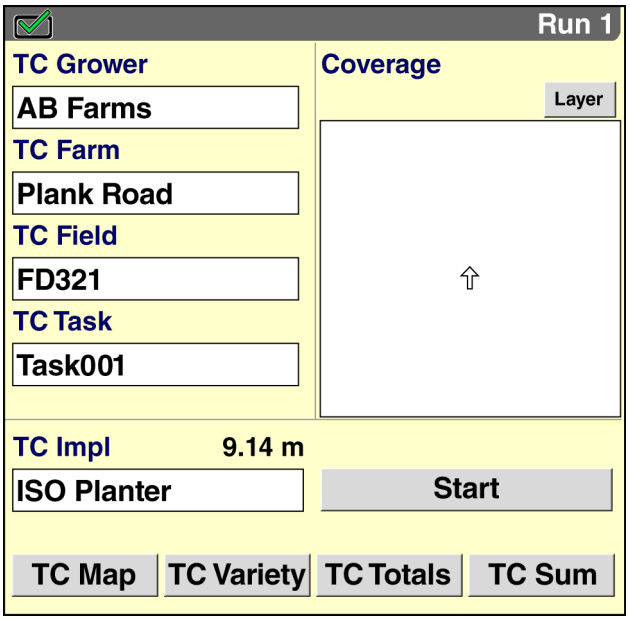
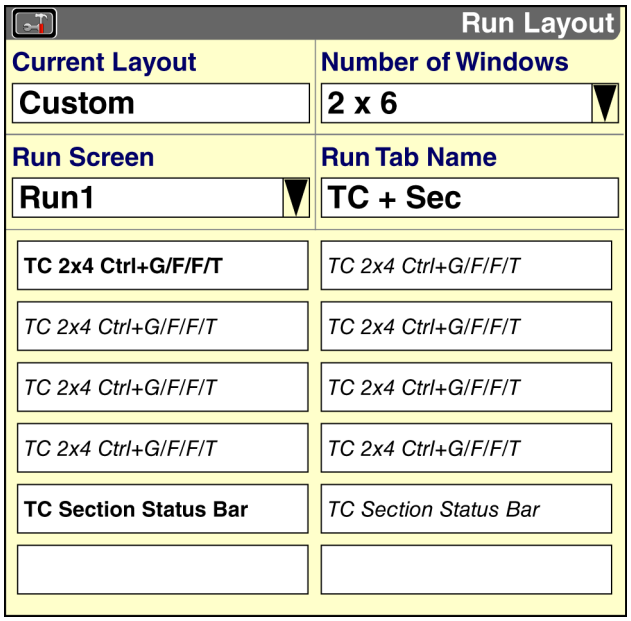
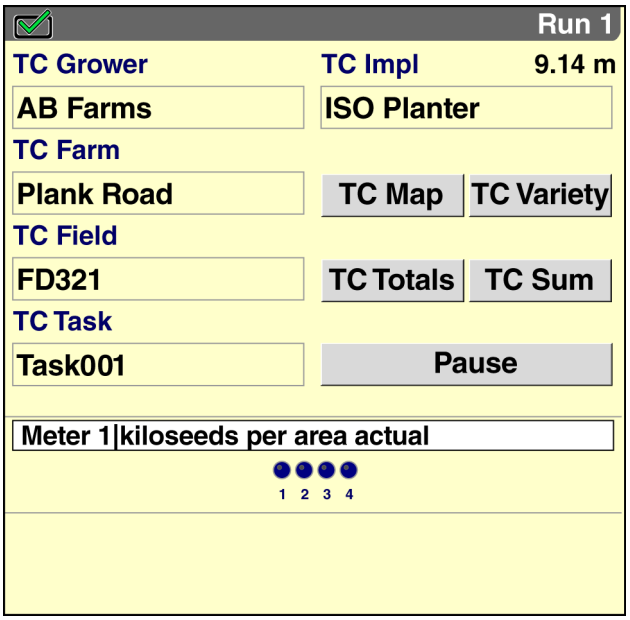


RAIL15DSP1677AA 6



RAIL15DSP1678AA 7

Recommended “Run” screen layouts

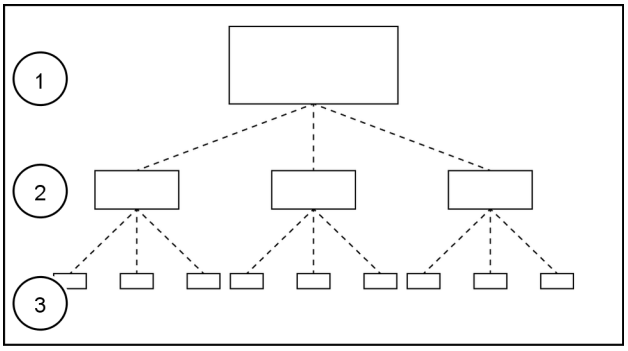
“Run Layout” screen	“Run” screen
	
RAIL15DSP1757BA 8	RAIL15DSP1664BA 9
	
RAIL15DSP1758BA 10	RAIL15DSP1685BA 11

NOTE: *Place the “Map 1x4” window in the left-hand area (not shown).*

3 - OPERATION

Select or create an ISOBUS Task

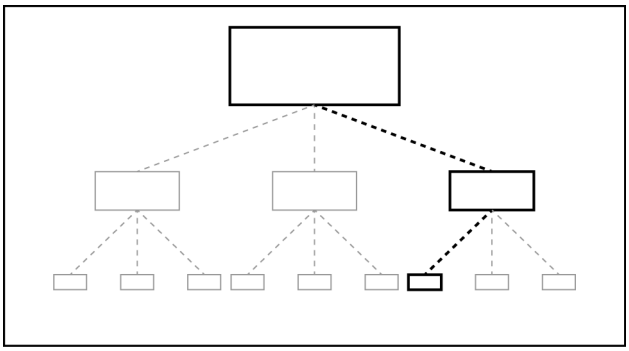
From the perspective of the operator, the “Task Controller” application manages ISOBUS Task data with a grower-farm-field hierarchy that is similar to that of the “Precision Farming” application.



RAIL15DSP0048AA 1

A grower **(1)** is an independent agri-business. A grower may work a single farm or many farms. A grower may also provide contract services – for example, planting or spraying – to other growers. A farm **(2)** is a large geographical entity that is composed of smaller entities called fields **(3)**.

Although the **ISO 11783** standard does not enforce the grower-field-farm structure on ISOBUS Task data – recall that ISOBUS Task data is separate and distinct from “Precision Farming” task data – the grower-farm-field hierarchy is essential to effective data management.



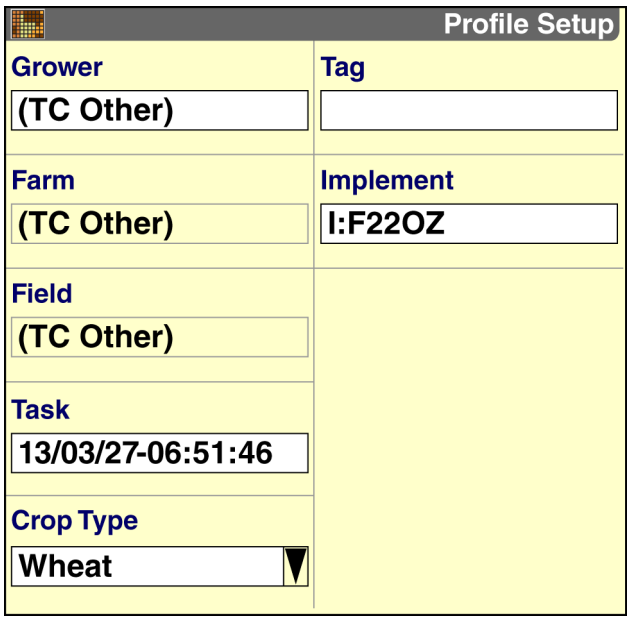
RAIL15DSP0052AA 2

Furthermore, the display uses the grower-farm-field structure to filter which ISOBUS Tasks are user-selectable.

- When you select a grower in the “TC Grower” window, the farms that are linked to other growers become unavailable to the “TC Farm” window.
- When you select a farm in the “TC Farm” window, the fields that are linked to other farms become unavailable to the “TC Field” window.
- When you select a field in the “TC Field” window, the ISOBUS Tasks that are linked to other fields become unavailable to the “TC Task” window.

It is possible, but not advisable, to create an ISOBUS Task that does not have a corresponding grower, farm, or field. In the case of an ISOBUS Task that lacks a grower, farm, or field, the display uses the terms, “<NoGrower>,” <NoFarm>,” and “<NoField>,” respectively, in the corresponding windows on the “TC Main” screen. This approach can complicate data management and analysis, so you should ensure that every ISOBUS Task has a meaningful value for each of these windows.

NOTE: *"Section Only" mode does not require you to set up an ISOBUS Task. The "Task Controller" application creates a "Precision Farming" task for the purpose of recording coverage temporarily. The "Grower" window, the "Farm" window, and the "Field" window are all set to "(TC Other)." See* ***3-33*** *for information about operating in "Section Only" mode.*



RAIL15DSP1640BA 3

From the "Home" screen, press the "ISOBUS" icon to access the "ISOBUS" screens.

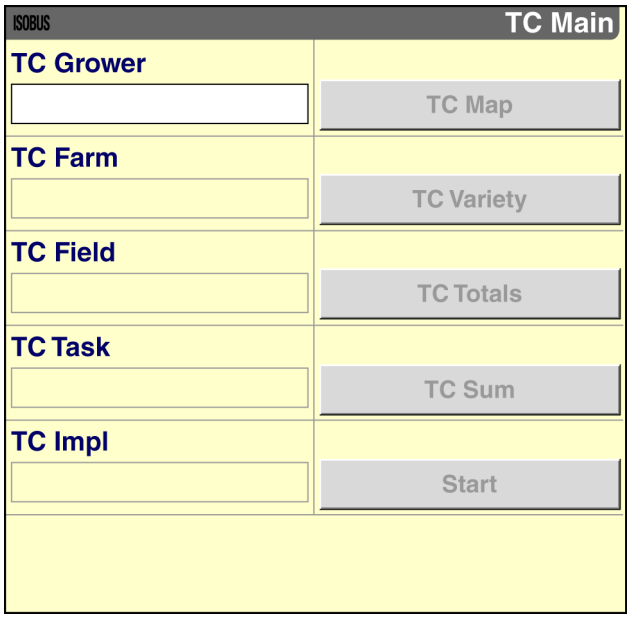
Press the "TC Main" icon on the navigation bar to access the "TC Main" screen.

NOTE: *The "TC Main" screen is not available when "Section Only" is selected in the "TC Operation Mode" window on the "TC Setup" screen (Home > Toolbox > TC).*

Use this screen to select or create an ISOBUS Task.

NOTE: *You can also use the "TC Grower/Farm/Field/Task" window or the "TC Control + Grower/Farm/Field/Task" window on a "Run" screen to select or create an ISOBUS Task. See* ***2-21****.*

NOTE: *Prescription maps can only be created in the desktop software. Tasks that are created on the display will log work performed by the implement and can take advantage of automatic section control, but rate control must be done manually. See your implement operator's manual for information about manual rate control.*



RAIL15DSP1762BA 4

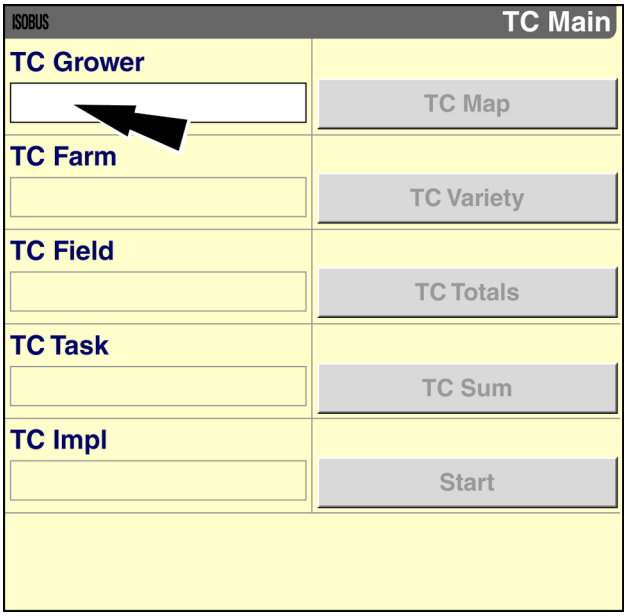
Select an ISOBUS Task

NOTE: *A Universal Serial Bus (USB) memory stick, part number 84398840, must be present in the display. The "Task Controller" application only logs data to the USB memory stick—not to the internal memory of the display.*

The "TC Grower" window is the only active window on the "TC Main" screen.

Press the "TC Grower" window to access the pop-up options window.

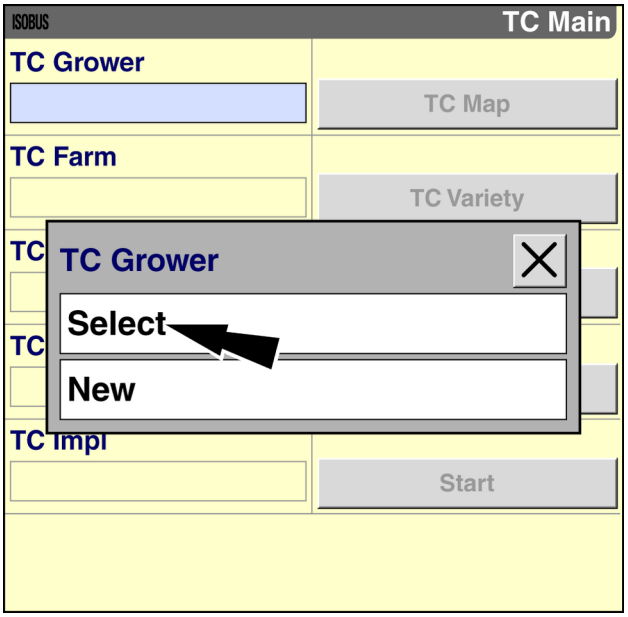
NOTE: *If an ISOBUS Task was selected before the last power cycle, the previous selections are automatically selected on the "TC Main" screen.*



RAIL15DSP1762BA 5

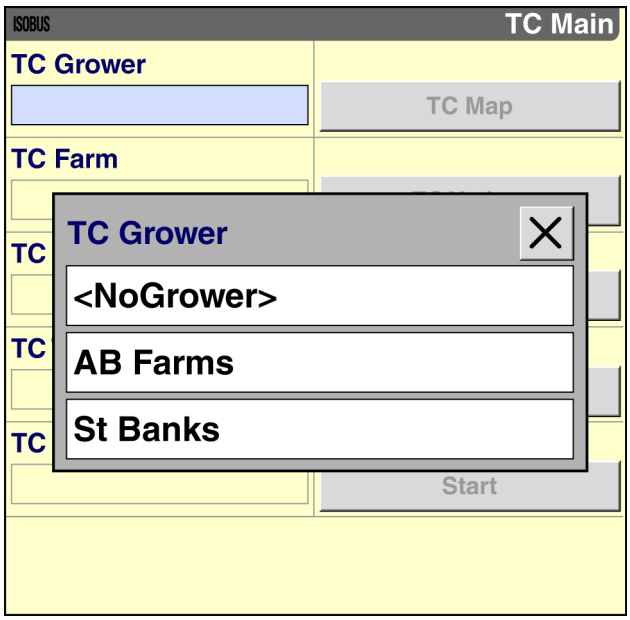
If grower data exists on the memory stick, the available options are "Select" and "New."

Press "Select" to access a pop-up list of growers that were previously created in the desktop software or on the display.



RAIL15DSP1763BA 6

Press the desired grower name in the list.

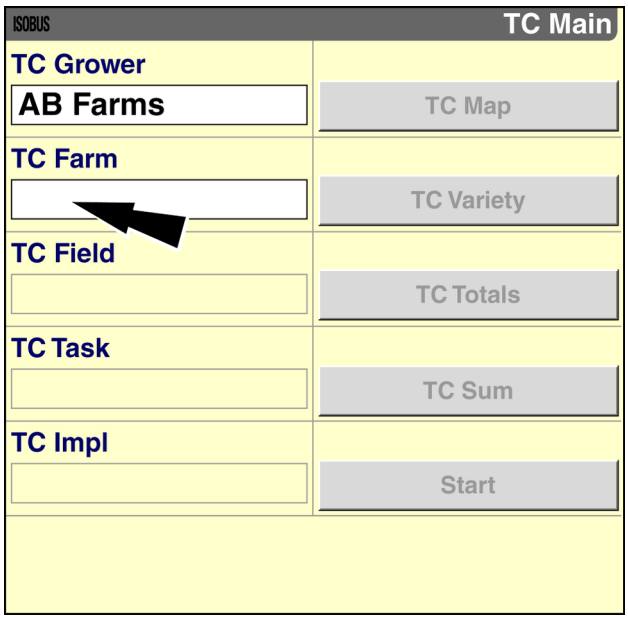


RAIL15DSP1764BA 7

The “TC Farm” window becomes active.

NOTE: *If the memory stick contains data for only one farm of the selected grower, the “Task Controller” application automatically selects that farm in the “TC Farm” window.*

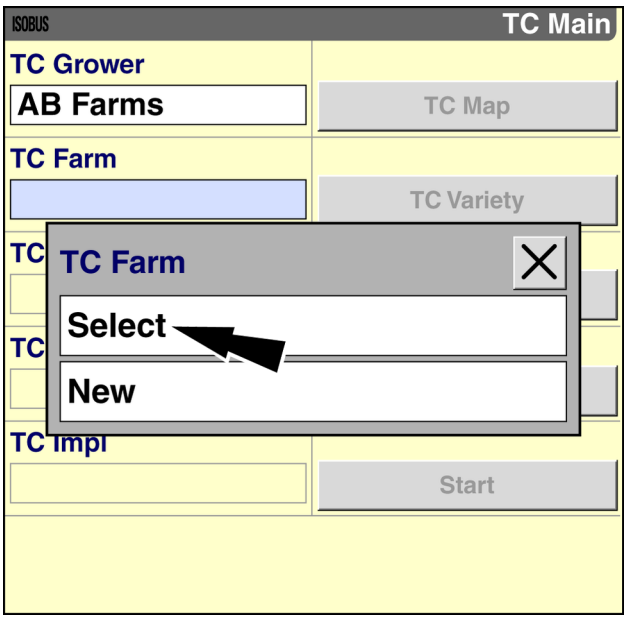
Press the “TC Farm” window to access the pop-up options window.



RAIL15DSP1765BA 8

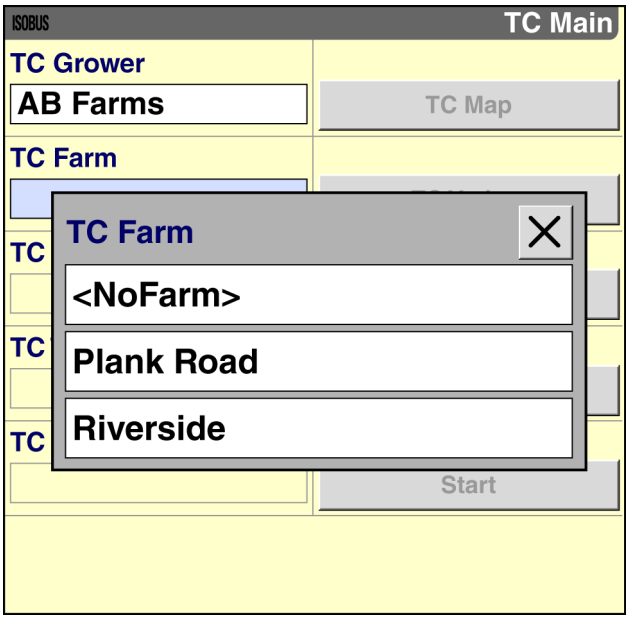
If farm data exists for the selected grower, the available options are “Select” and “New.”

Press “Select” to access a pop-up list of farms that are linked to the selected grower.



RAIL15DSP1766BA 9

Press the desired farm name in the list.

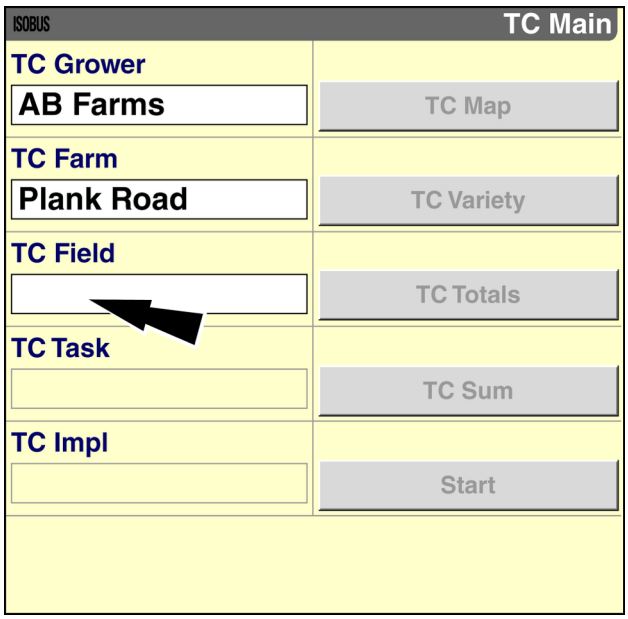


RAIL15DSP1767BA 10

The “TC Field” window becomes active.

NOTE: *If the memory stick contains data for only one field in the selected farm, the “Task Controller” application automatically selects that field in the “TC Field” window.*

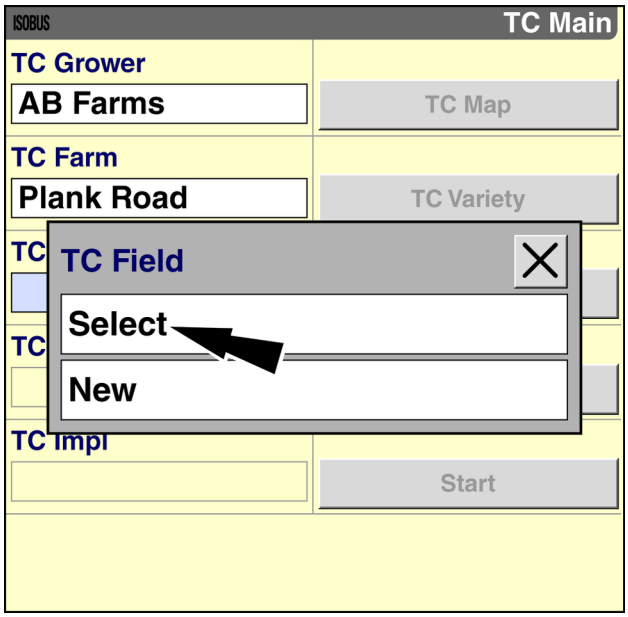
Press the “TC Field” window to access the pop-up options window.



RAIL15DSP1768BA 11

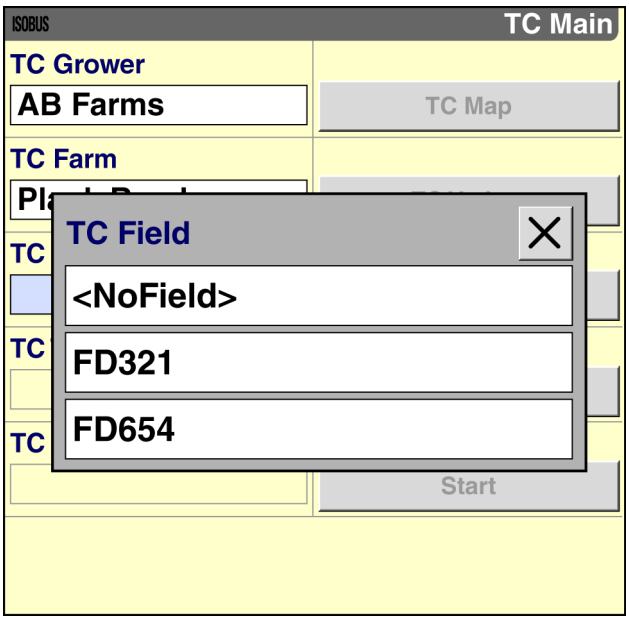
If field data exists for the selected farm, the available options are “Select” and “New.”

Press “Select” to access a pop-up list of fields that are linked to the selected farm.



RAIL15DSP1769BA 12

Press the desired field name in the list.

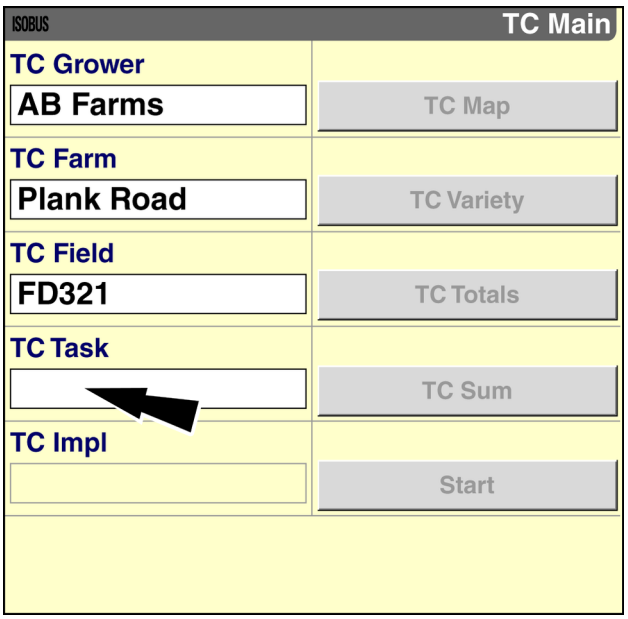


RAIL15DSP1770BA 13

The “TC Task” window becomes active.

NOTE: *If the memory stick contains data for only one task in the selected field, the “Task Controller” application automatically selects that task in the “TC Task” window.*

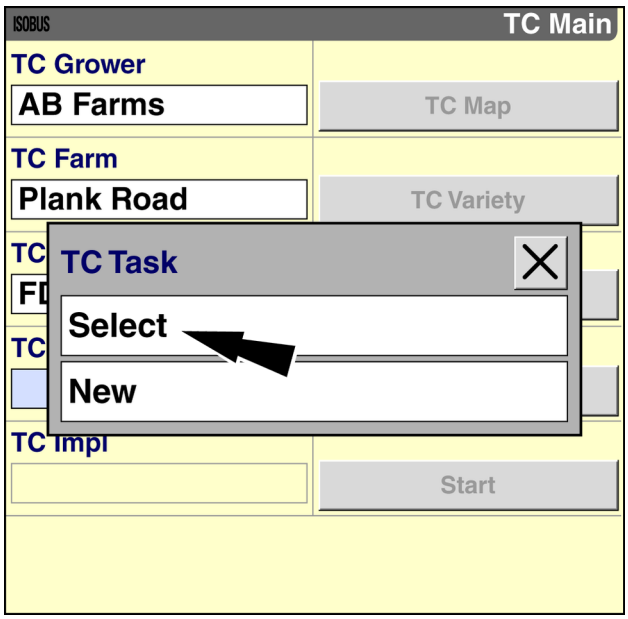
Press the “TC Task ” window to access the pop-up options window.



RAIL15DSP1771BA 14

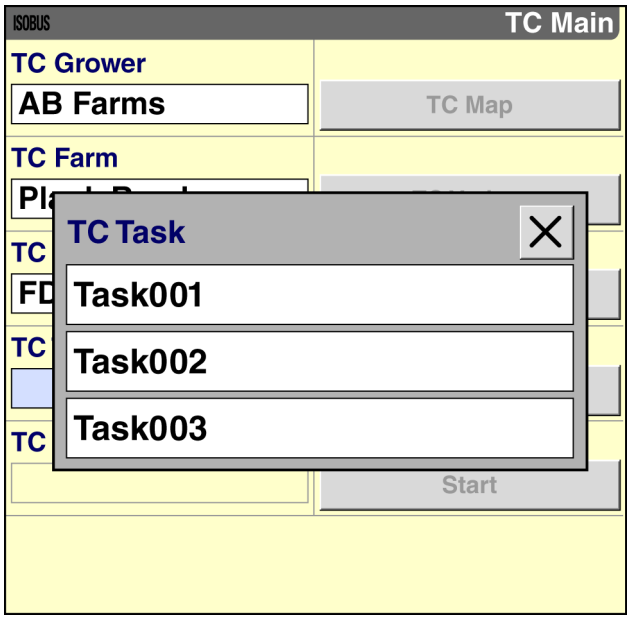
If ISOBUS Task data exists for the selected field, the available options are “Select” and “New.”

Press “Select” to access a pop-up list of ISOBUS Tasks that are linked to the selected field.



RAIL15DSP1772BA 15

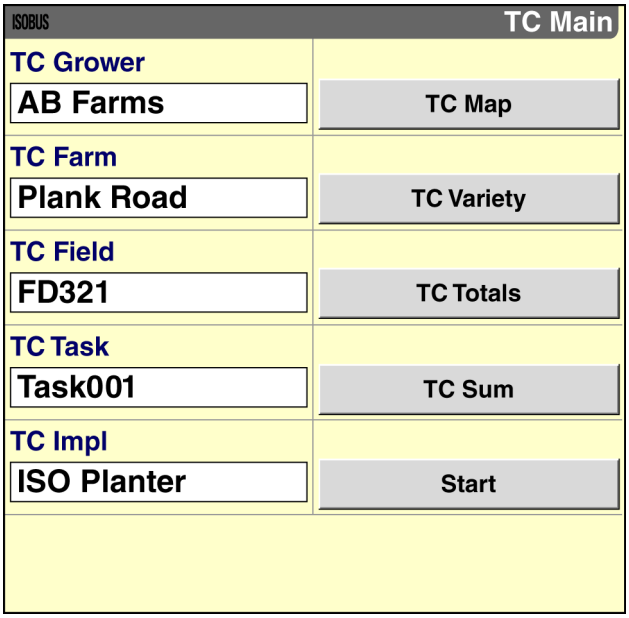
Press the desired ISOBUS Task name in the list.



RAIL15DSP1773BA 16

- If no work was previously performed for the selected ISOBUS Task, the “Start” button and the shortcut buttons on the right-hand side of the “TC Main” screen become active. Use the shortcut buttons to perform prescription setup and variety setup, if applicable, before you start the ISOBUS Task.

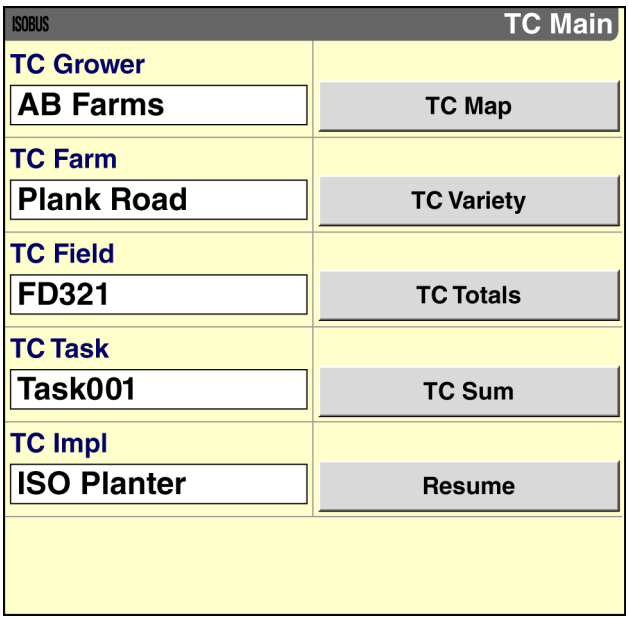
  NOTE: *The width of the primary implement displays in the “TC Implement” window after you press the “Start” button.*



RAIL15DSP1774BA 17

- If work was previously performed for the selected ISOBUS Task, the “Resume” button and the shortcut buttons on the right-hand side of the “TC Main” screen become active. You must resume the ISOBUS Task to re-enable data logging and/or prescription operation after each power cycle.

  NOTE: *The width of the primary implement displays in the “TC Implement” window.*



RAIL15DSP1775BA 18

Create an ISOBUS Task

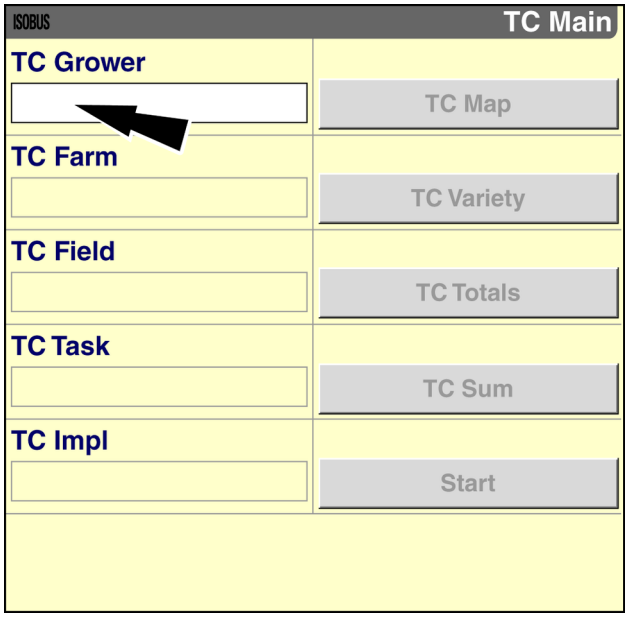
NOTE: *A Universal Serial Bus (USB) memory stick, part number 84398840, must be present in the display. The "Task Controller" application only logs data to the USB memory stick—not to the internal memory of the display.*

NOTE: *Prescription maps can only be created in the desktop software. Tasks that are created on the display will log work performed by the implement and can take advantage of automatic section control, but rate control must be done manually. See your implement operator's manual for information about manual rate control.*

The "TC Grower" window is the only active window on the "TC Main" screen.

Press the "TC Grower" window to access the pop-up options window.

NOTE: *If an ISOBUS Task was selected before the last power cycle, the previous selections are automatically selected on the "TC Main" screen.*



RAIL15DSP1762BA 19

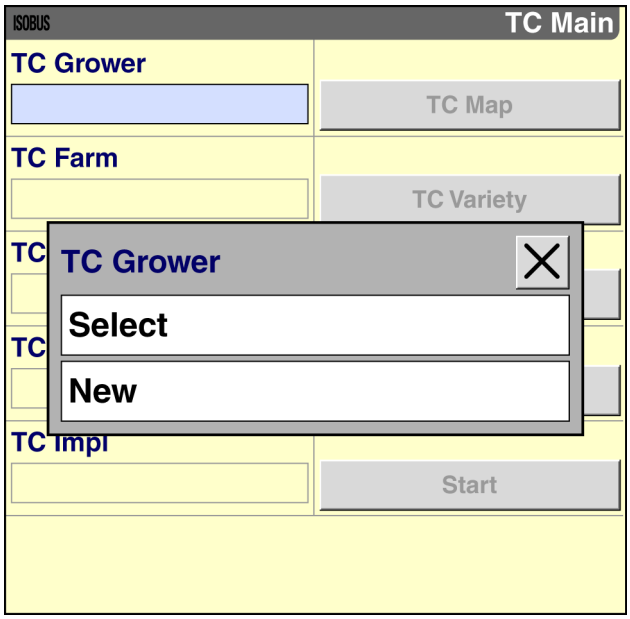
If grower data exists on the memory stick, the available options are "Select" and "New."

- Press "Select" to access a pop-up list of growers that were previously created in the desktop software or on the display. Press the desired grower name in the list.

  OR

- Press "New" to access the alphanumeric keypad and enter a new grower name. Press the "Enter" button on the keypad to save the name and close the keypad.

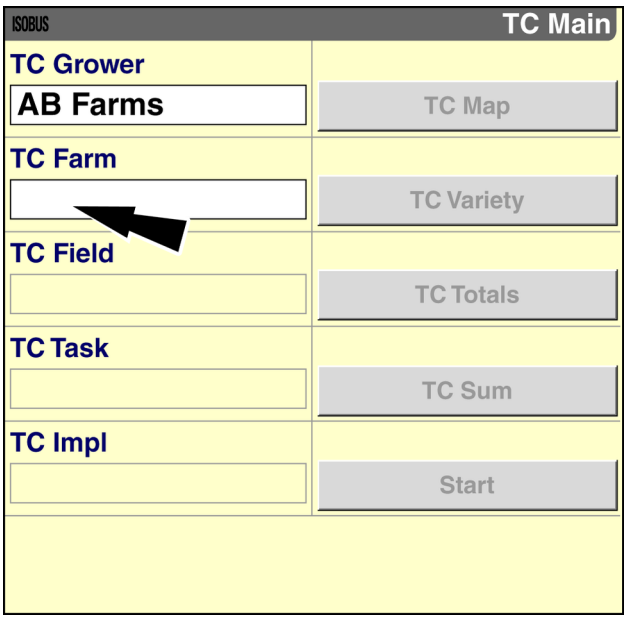
NOTE: *Use a meaningful name in the "TC Grower" window.*



RAIL15DSP1763BA 20

The “TC Farm” window becomes active.

Press the “TC Farm” window to access the pop-up options window.



RAIL15DSP1765BA 21

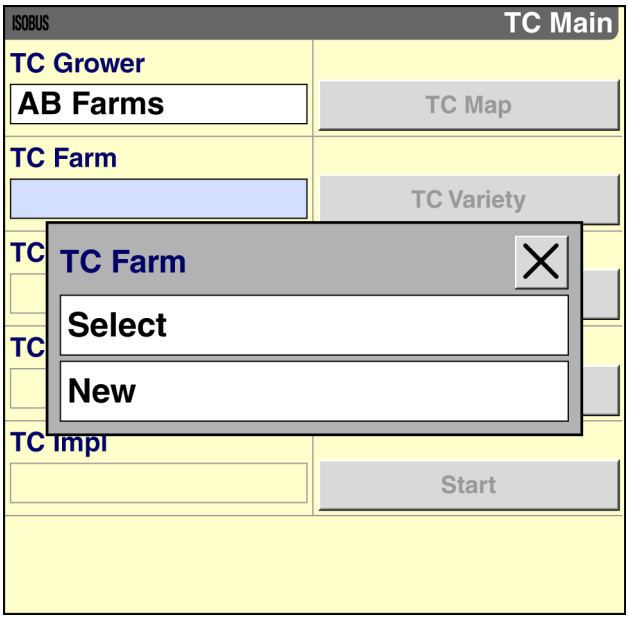
If farm data exists for the selected grower, the available options are “Select” and “New.”

- Press “Select” to access a pop-up list of farms that are linked to the selected grower. Press the desired farm name in the list.

  OR

- Press “New” to access the alphanumeric keypad and enter a new farm name. Press the “Enter” button on the keypad to save the name and close the keypad.

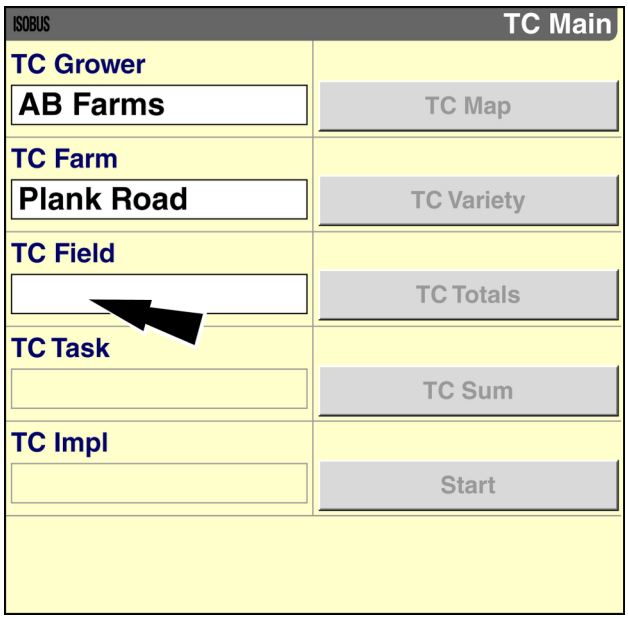
NOTE: *Use a meaningful name in the “TC Farm” window.*



RAIL15DSP1766BA 22

The “TC Field” window becomes active.

Press the “TC Field” window to access the pop-up options window.



RAIL15DSP1768BA 23

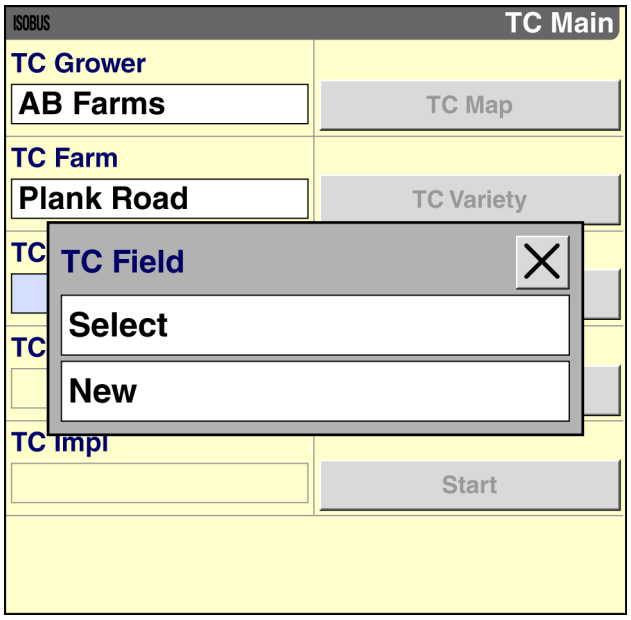
If field data exists for the selected farm, the available options are “Select” and “New.”

- Press “Select” to access a pop-up list of field that are linked to the selected farm. Press the desired field name in the list.

  OR

- Press “New” to access the alphanumeric keypad and enter a new field name. Press the “Enter” button on the keypad to save the name and close the keypad.

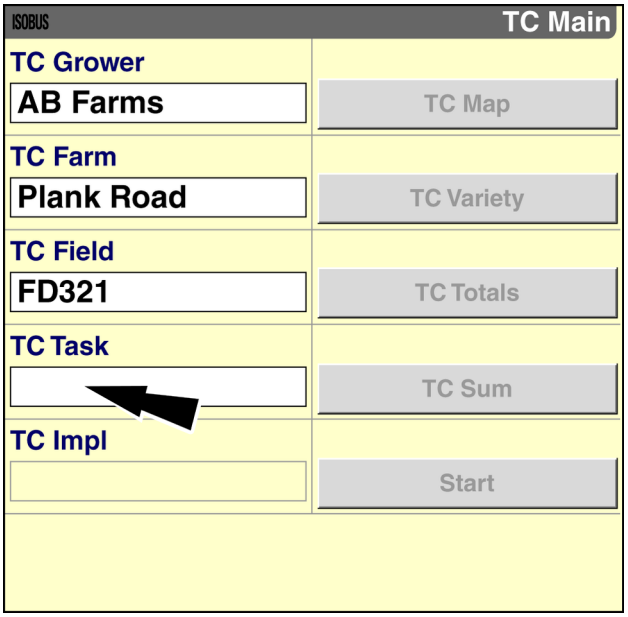
NOTE: *Use a meaningful name in the “TC Field” window.*



RAIL15DSP1769BA 24

The “TC Task” window becomes active.

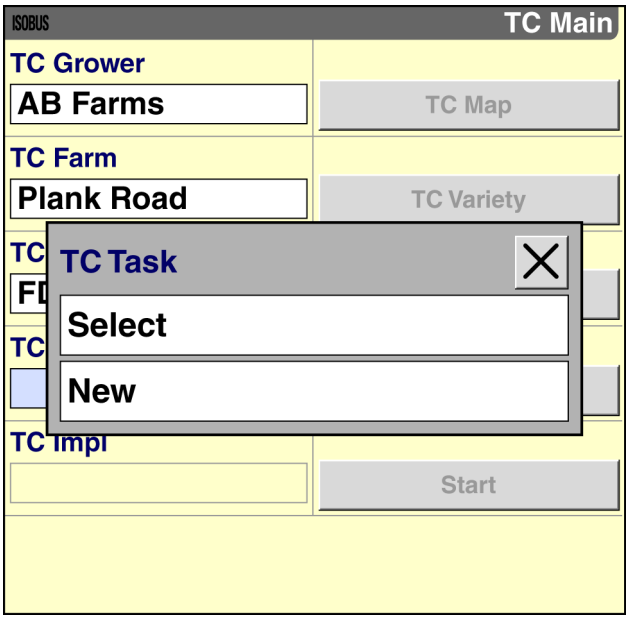
Press the “TC Task” window to access the pop-up options window.



RAIL15DSP1771BA 25

If ISOBUS Task data exists for the selected field, the available options are “Select” and “New.”

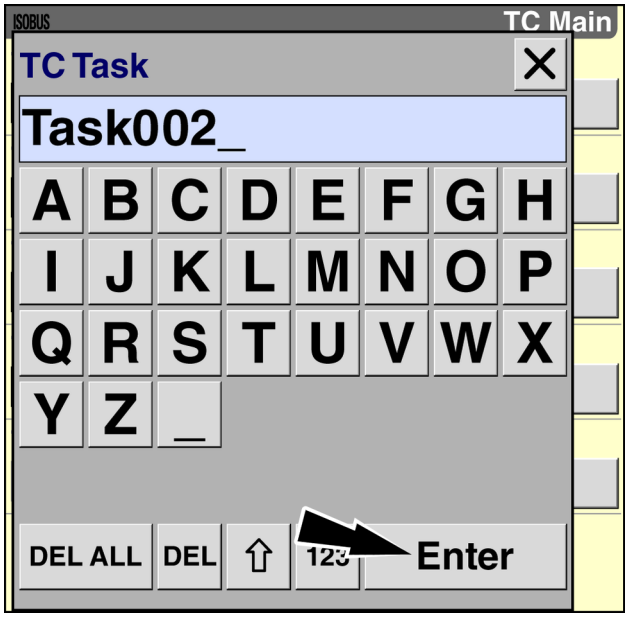
Press “New” to access the alphanumeric keypad.



RAIL15DSP1772BA 26

Use the keypad to enter a name for the ISOBUS Task.

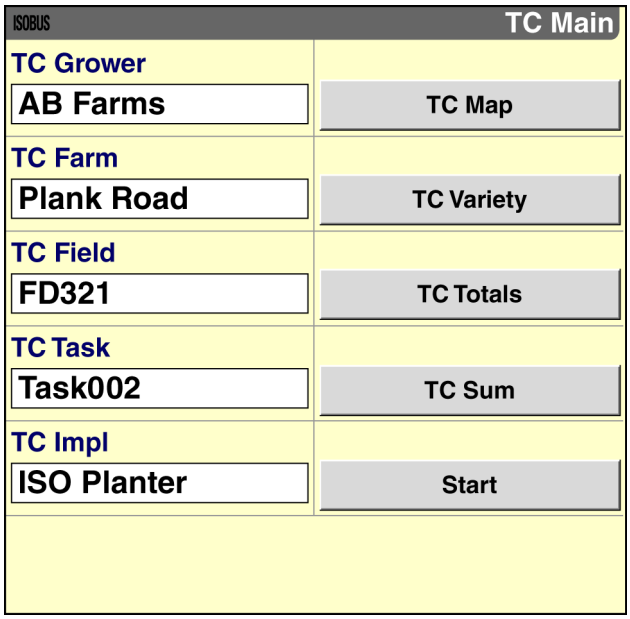
Press the “Enter” button to save the name and close the keypad.



RAIL15DSP1776BA 27

If the “Task Controller” application detects a single ISOBUS implement, the implement name automatically populates the “TC Implement” window.

The buttons on the right-hand side of the screen become active. If applicable, use the “TC Map” shortcut button and the “TC Variety” shortcut button to perform prescription setup and variety setup before you start the ISOBUS Task.



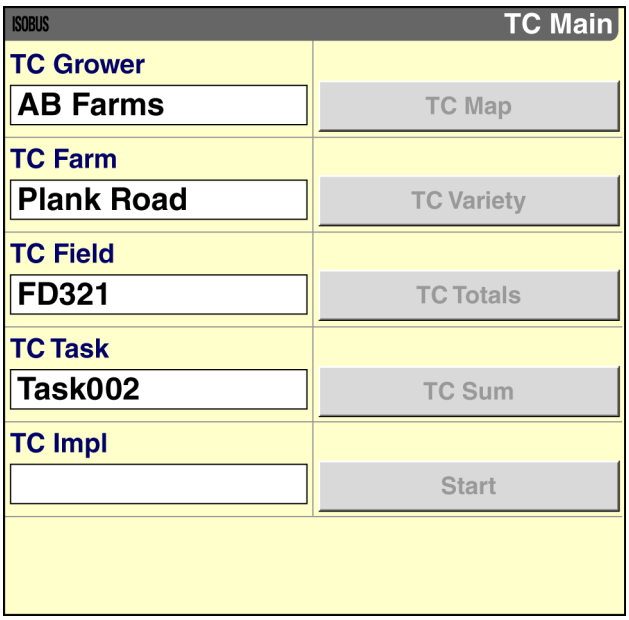
RAIL15DSP1777BA 28

If the “Task Controller” application detects more than one ISOBUS implement, you must select the primary ISOBUS implement in the “TC Implement” window.

The selection in the “TC Implement” window determines:

- the overall implement width used by the “Task Controller” application
- the swath width for use with autoguidance

NOTE: *Use the “Virtual Terminal” screens to ensure that all connected ISOBUS implements have the same working width. If you must use more than one ISOBUS implement with different widths, select the ISOBUS implement with the greatest width in the “TC Implement” window.*



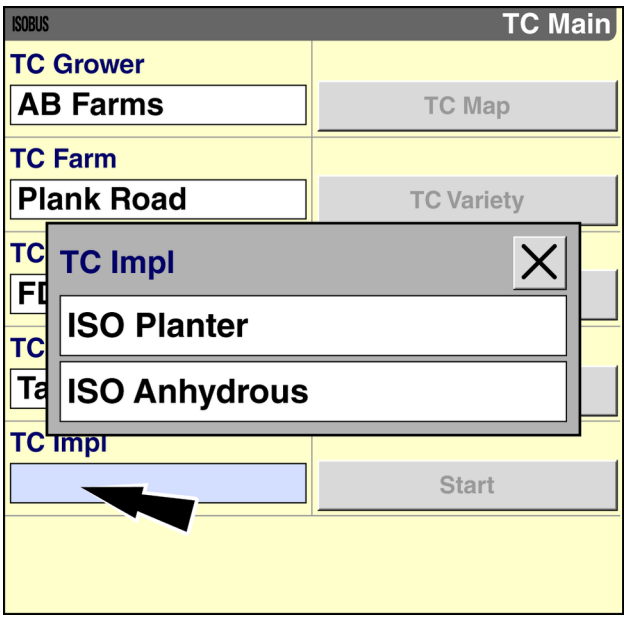
RAIL15DSP1798BA 29

Press the “TC Implement” window to access the pop-up options window.

Press an implement name in the list to select it as the primary implement.

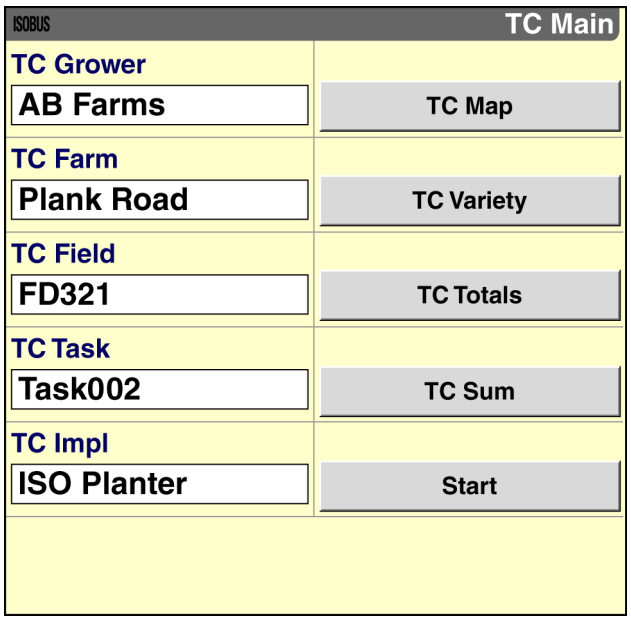
NOTE: *Each ISOBUS implement name is defined by the implement manufacturer. You cannot change ISOBUS implement names.*

NOTE: *If no ISOBUS implement names are available when you press the “TC Implement” window, the “Task Controller” application is unable to communicate with the connected ISOBUS implement or implements. Check any connections to the implement controllers and ensure that operation with the “Task Controller” application is enabled in the controller settings (if applicable).*



RAIL15DSP1797BA 30

The buttons on the right-hand side of the screen become active. If applicable, use the “TC Map” shortcut button and the “TC Variety” shortcut button to perform prescription setup and variety setup before you start the ISOBUS Task.



RAIL15DSP1777BA 31

Select a prescription for each map layer

Use the windows on the ”TC Control Points” screen:

- to view the control points on the connected implement or implements that you can use for on-screen map layers (coverage and variable rate)
- to select a prescription, saved in the ISOBUS Task by the desktop software, for each control point as required

NOTE: *The windows on the “TC Control Points” screen do not affect data logging or automatic section control. These features are functional for the appropriate control points regardless of whether you select prescriptions on this screen.*

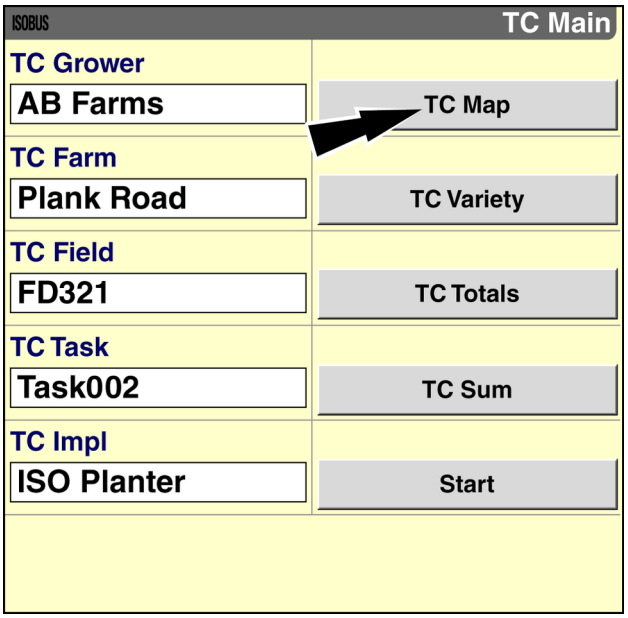
From the “Home” screen, press the “ISOBUS” icon to access the “ISOBUS” screens.

Press the “TC Main” icon on the navigation bar to access the “TC Main” screen.

NOTE: *The “TC Main” screen is not available when “Section Only” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC).*

The “TC Main” screen displays.

Press the “TC Map” button on the “TC Main” screen to access the “TC Control Points” screen.

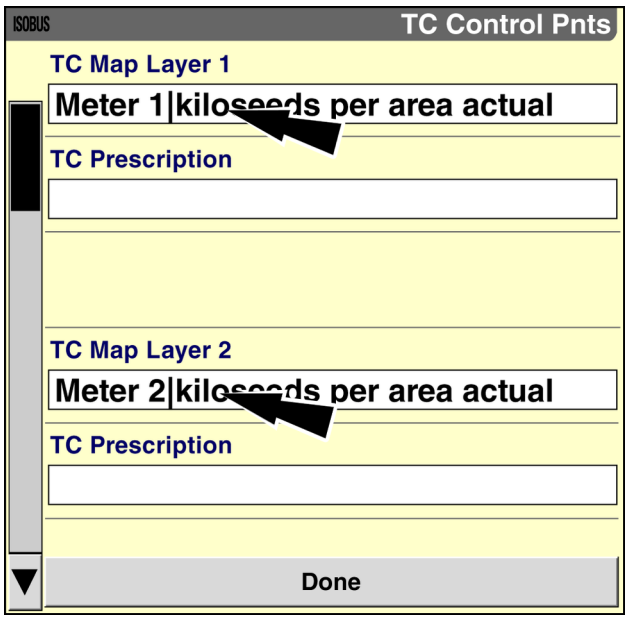


RAIL15DSP1777BA 1

The “TC Control Points” screen displays.

Each “TC Map Layer” window, up to seven on the AFS Pro 700 display or five on the AFS Pro 300 display, automatically populates with an appropriate control point for mapping.

NOTE: *The control point names and the units of measurement associated with each control point are provided by the ISOBUS implement. See the operator’s manual for your implement.*

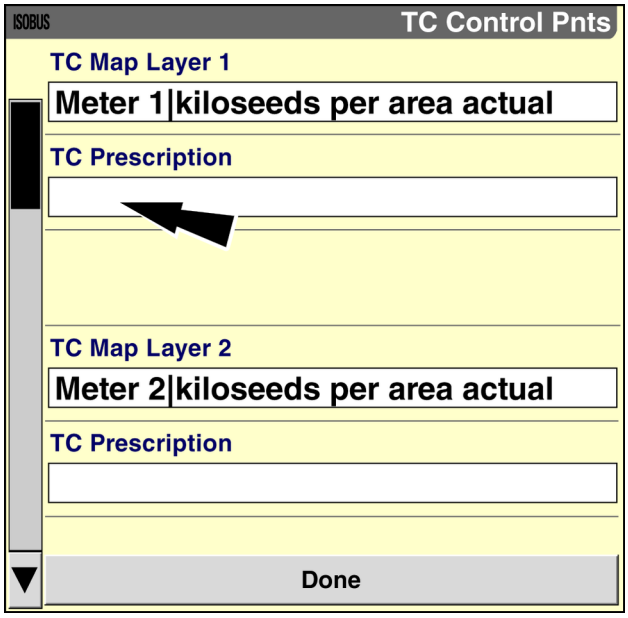


RAIL15DSP1778BA 2

To view prescription maps on the display while applying product, you must select a prescription from the ISOBUS Task for each control point as required.

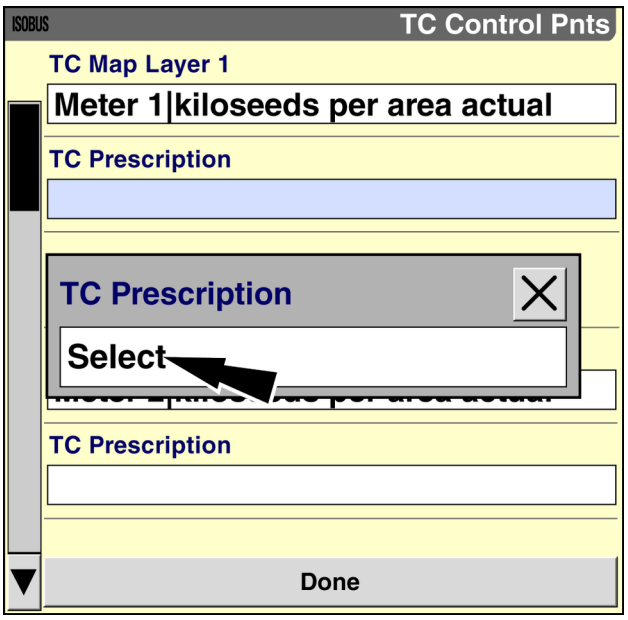
NOTE: *If you select “None” for a “TC Prescription” window or leaves the window blank, automatic rate control is disabled. You must perform rate control manually. See the operator’s manual for your implement.*

Press the “TC Prescription” window to access the pop-up options window.



RAIL15DSP1778BA 3

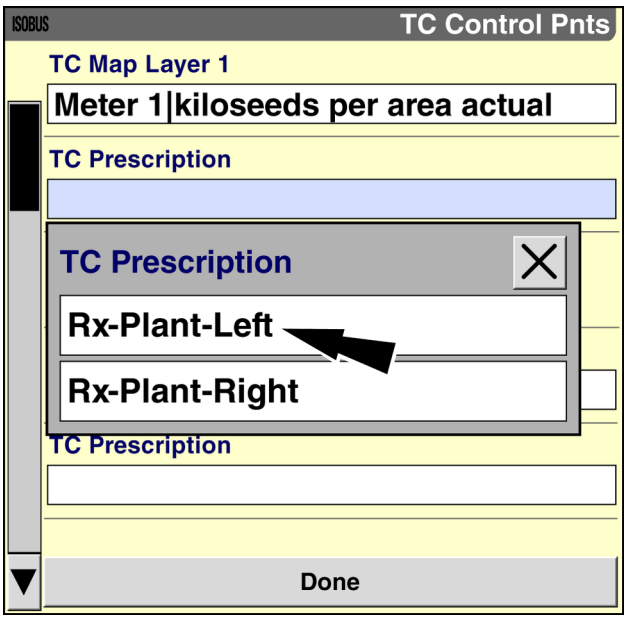
Press “Select” to choose a prescription for the map layer.



RAIL15DSP1779BA 4

Press the desired prescription in the list.

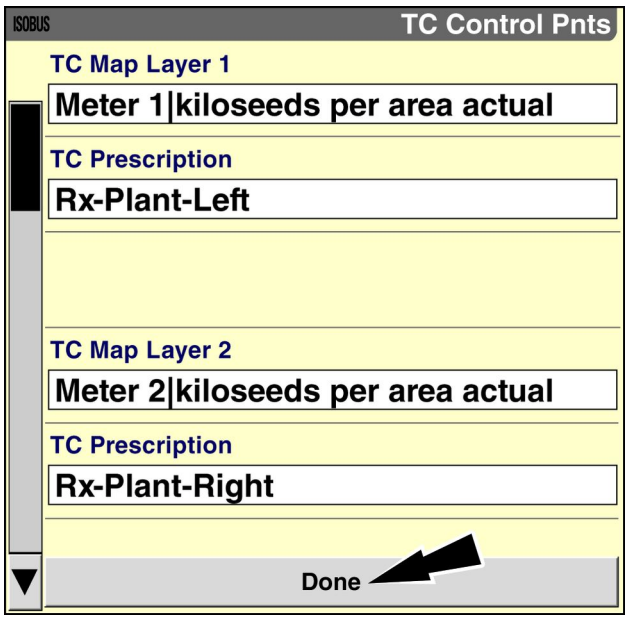
NOTE: *The prescription names appear as they were defined in the desktop software.*



RAIL15DSP1780BA 5

Repeat this process for up to a maximum of seven map layers on the AFS Pro 700 display or five on the AFS Pro 300 display

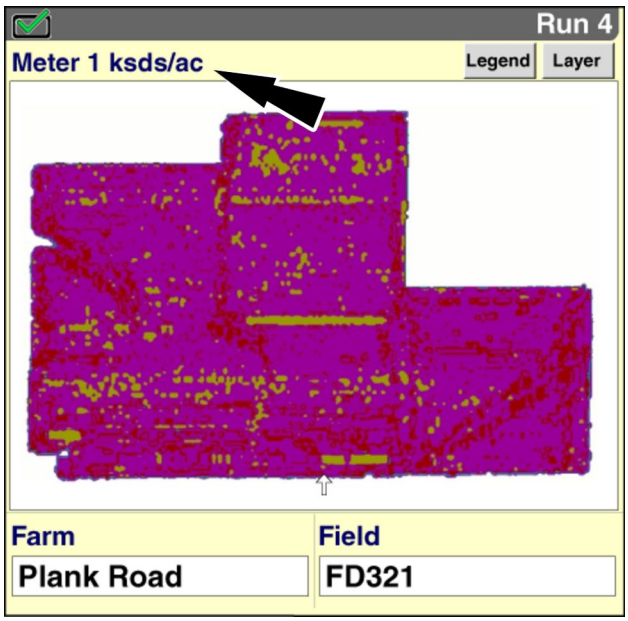
Press the “Done” button to return to the “TC Main” screen.



RAIL15DSP1781BA 6

A prescription map is now available in the “Map” windows for each map layer that has a prescription assigned to it.

See the display software operating guide for information about using “Map” windows.



RAIL15DSP0086BA 7

Set up variety tracking

Use the windows on the ”TC Variety Tracking” screen for planting or seeding operations:

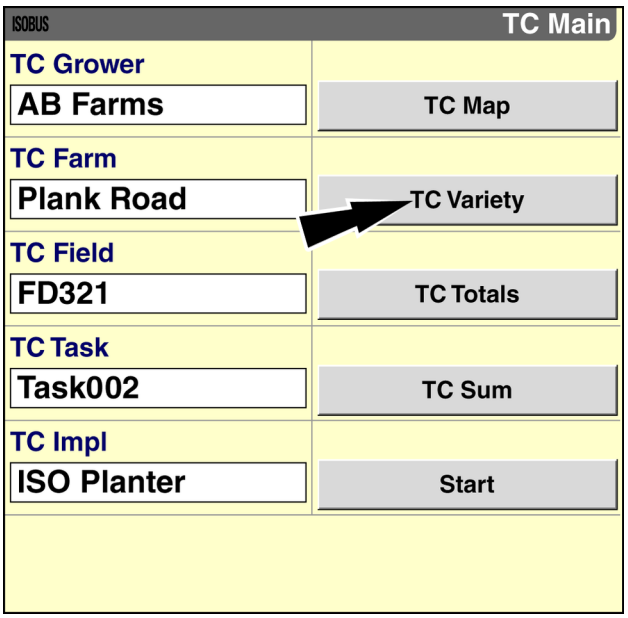
- to select or create crop types for use with the “Task Controller” application
- to create crop varieties for the available crop types
- to select the level of variety tracking detail for the selected ISOBUS Task
- to select a variety or varieties for the selected ISOBUS Task

From the “Home” screen, press the “ISOBUS” icon to access the “ISOBUS” screens.

Press the “TC Main” icon on the navigation bar to access the “TC Main” screen.

NOTE: *The “TC Main” screen is not available when “Section Only” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC).*

Press the “TC Variety” button on the “TC Main” screen to access the “TC Variety Tracking” screen.



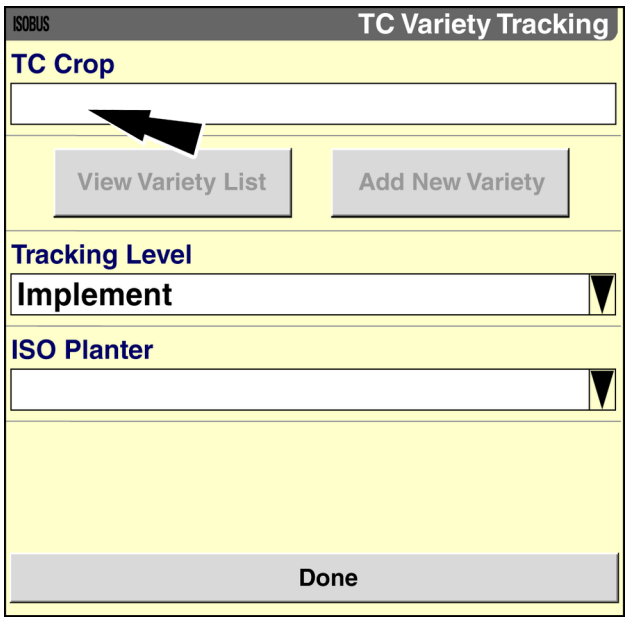
RAIL15DSP1777BA 1

Use the “TC Crop” window to select or create a crop type for your planting operation.

NOTE: *You may wish to create crop types and varieties in the desktop software. If you export your existing crop types and varieties with the ISOBUS Task, they will be available on this screen.*

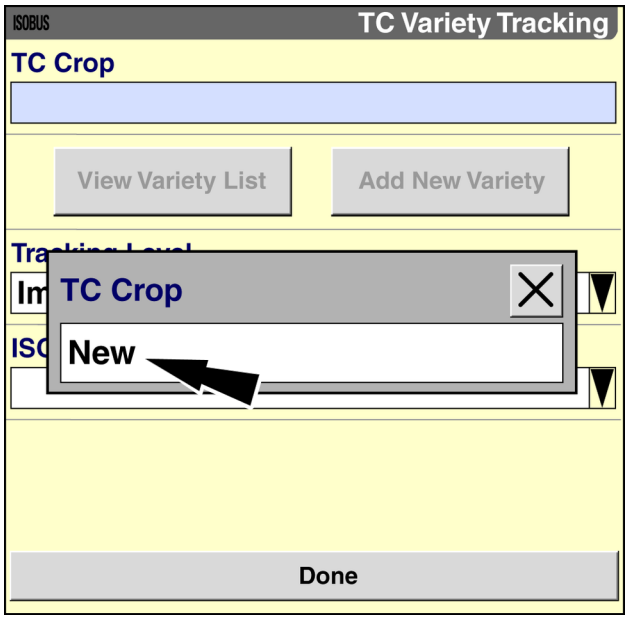
Press the “TC Crop” window to access the pop-up options window.

If no crop data exists in the selected ISOBUS Task, the only option is “New.”



RAIL15DSP1782BA 2

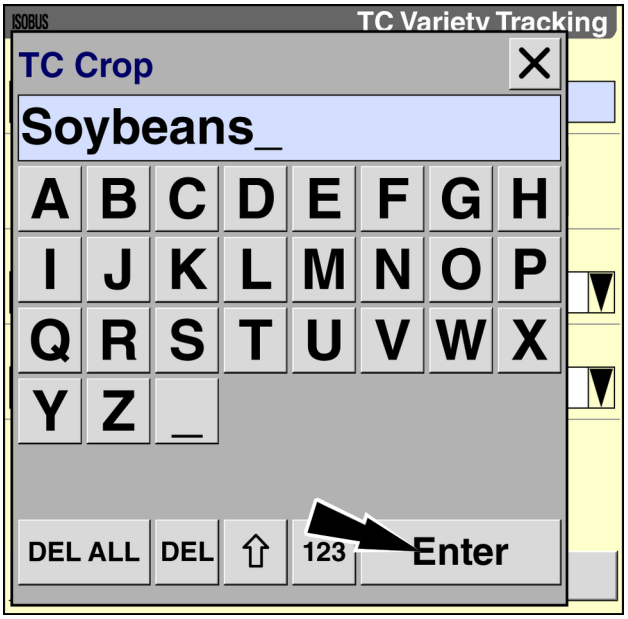
Press “New” to access the alphanumeric keypad.



RAIL15DSP1783BA 3

Use the keypad to create a new crop type for use with the ISOBUS Task.

Press the “Enter” button on the keypad to save the name.

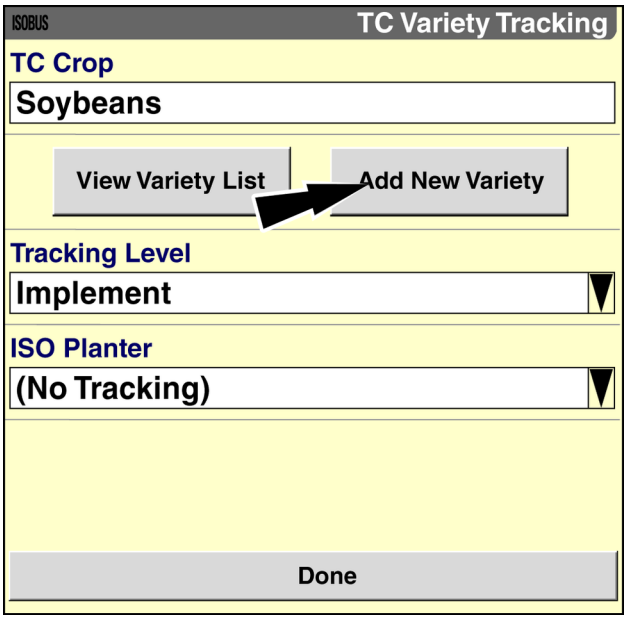


RAIL15DSP1784BA 4

After you create or select a crop type, the “View Variety List” button and the “Add New Variety” button become active.

Use the “Add New Variety” button to create varieties for the selected crop type.

Press the “Add New Variety” button to access the alphanumeric keypad.

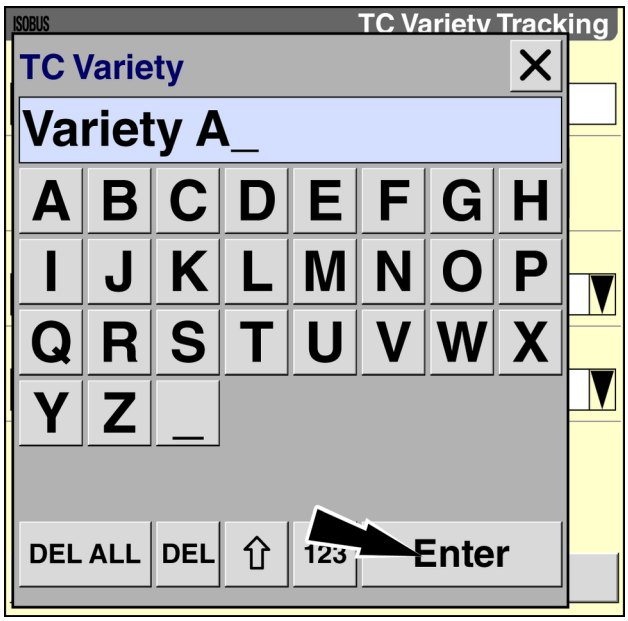


RAIL15DSP1785BA 5

Use the keypad to create a new variety of the selected crop type.

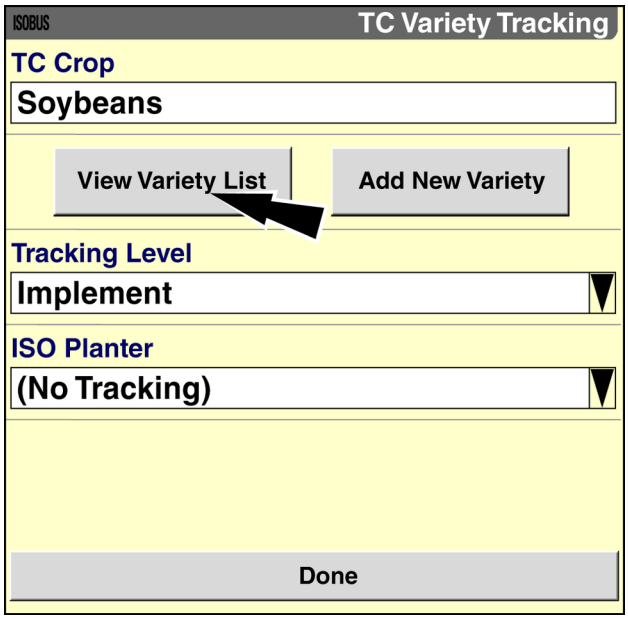
Press the “Enter” button on the keypad to save the name.

Use the “Add New Variety” button to create additional varieties as required for your planting operation.



RAIL15DSP1786BA 6

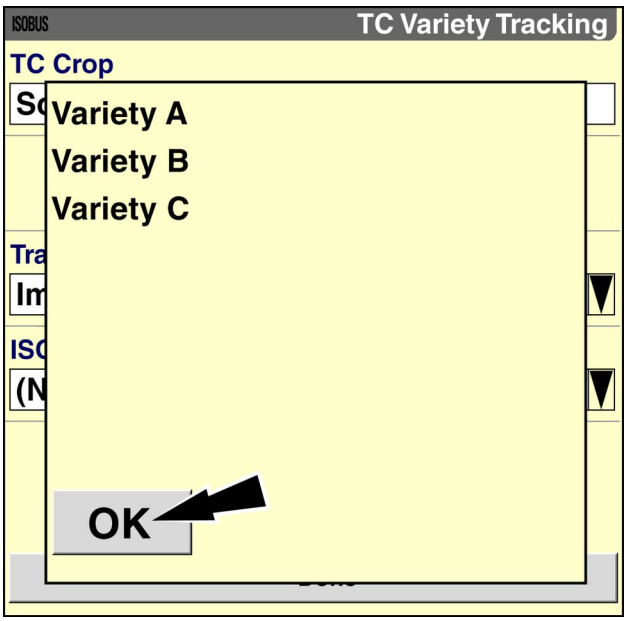
Press the “View Variety List” button at any time to view the list of varieties that are available for the selected crop.



RAIL15DSP1785BA 7

A pop-up window displays the names of all varieties for the selected crop.

Press the “OK” button to dismiss the pop-up window.



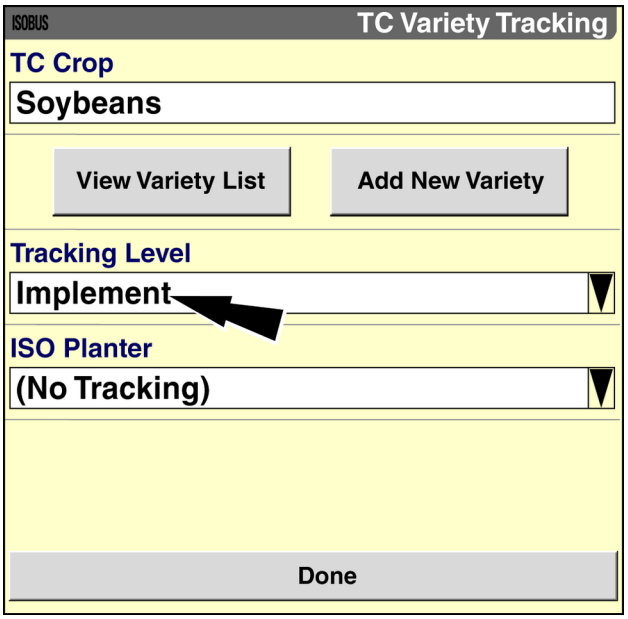
RAIL15DSP1787BA 8

Use the “Tracking Level” window to select the level at which variety tracking occurs:

- “Implement” – Track a single variety across the entire implement.
- “Boom” – Track more than one variety for two or more multi-row groupings on an implement that supports this level of tracking.
- “Section” – Track more than one variety for individual rows on an implement that supports this level of tracking.

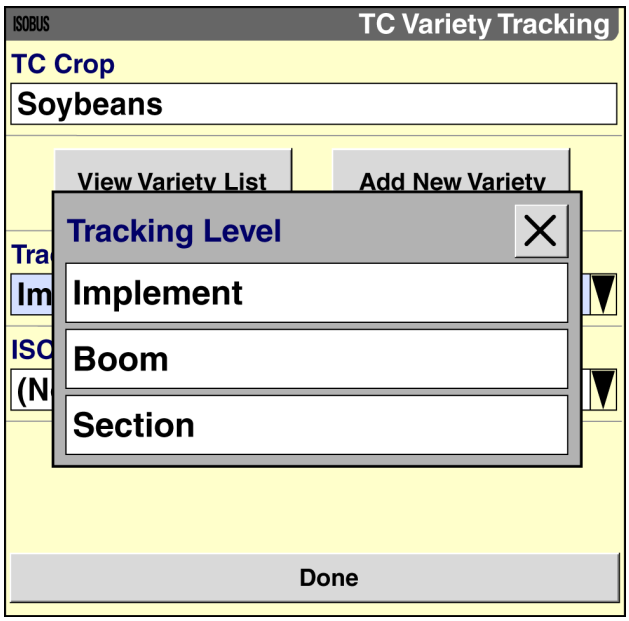
NOTE: *Use the same tracking level for the full duration of any ISOBUS Task.*

Press the “Tracking Level” window to access the pop-up options window.



RAIL15DSP1785BA 9

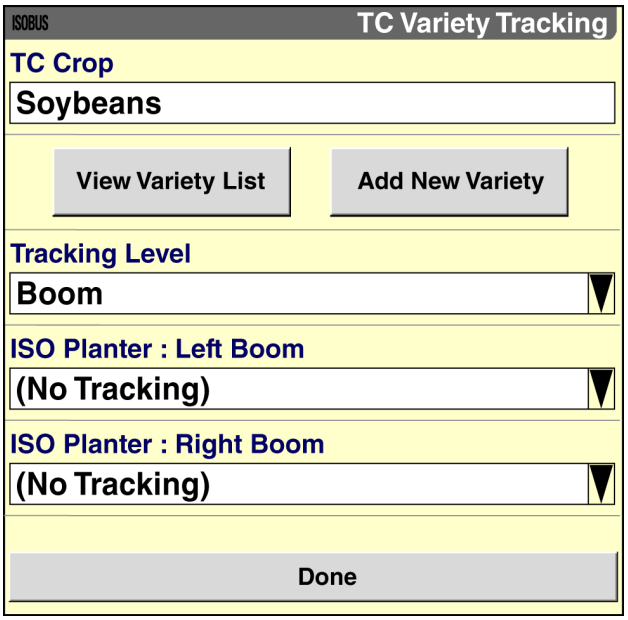
Press the desired level of variety tracking in the options window.



RAIL15DSP1788BA 10

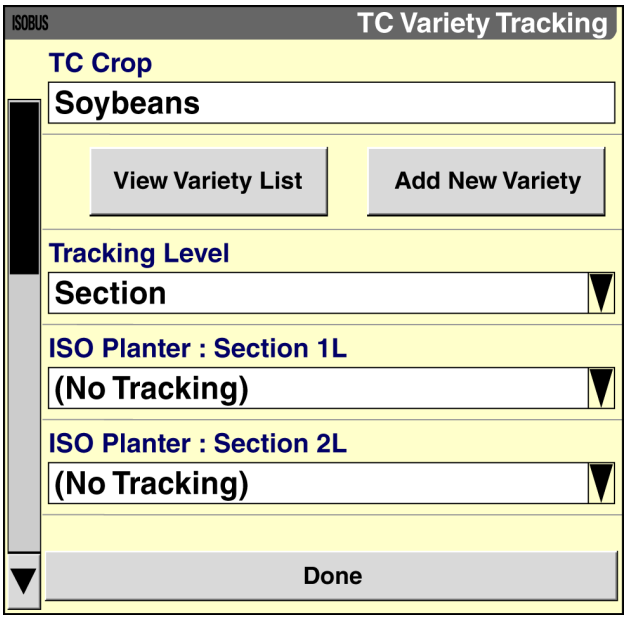
If you select “Boom” or “Section” in the “Tracking Level” window, a new window displays for each boom or section on the implement.

Boom example



RAIL15DSP1789BA 11

Section example

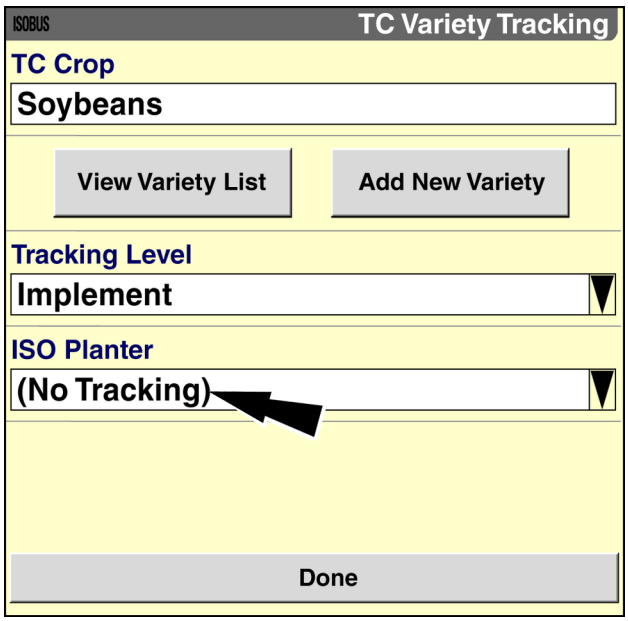


RAIL15DSP1790BA 12

Use each window below the “Tracking Level” window to select the varieties that you wish to track. The example shows a single variety for the whole implement, but the windows for boom level tracking and section level tracking function in the same manner.

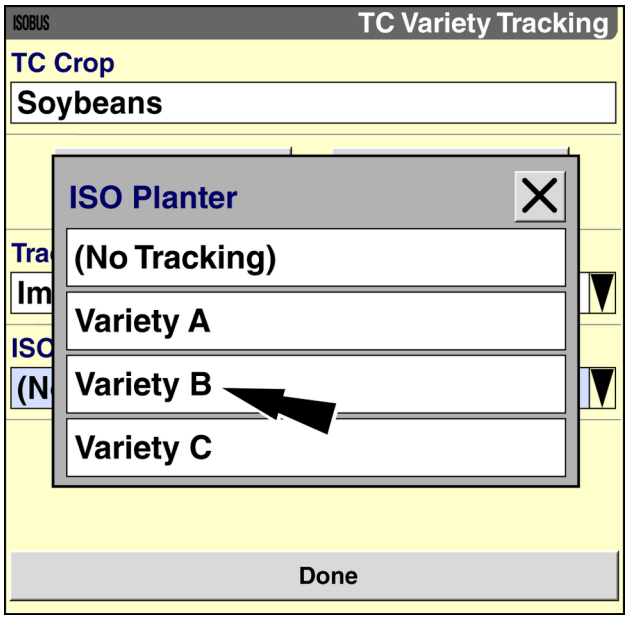
NOTE: *For your convenience, you can change the varieties to be tracked at any time within the same ISOBUS Task. You do not need to start a new ISOBUS Task or pause the ISOBUS Task that is currently running.*

Press the window to access the pop-up options window.



RAIL15DSP1785BA 13

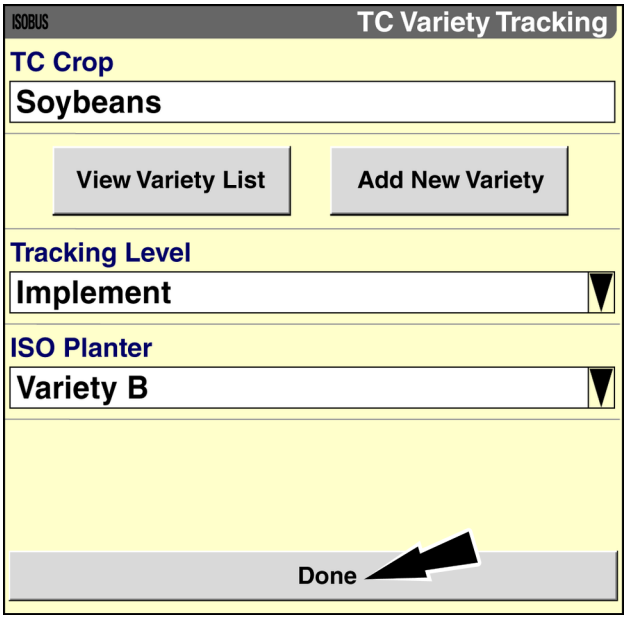
Press the desired variety in the options window.



RAIL15DSP1791BA 14

Press the “Done” button to return to the “TC Main” screen.

The ISOBUS Task will track the selected variety or varieties for your planting operation.



RAIL15DSP1792BA 15

Start the ISOBUS Task

When “Advanced” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC), you must start the ISOBUS Task to enable data logging, prescription operation, and/or automatic section control.

From the “Home” screen, press the “ISOBUS” icon to access the “ISOBUS” screens.

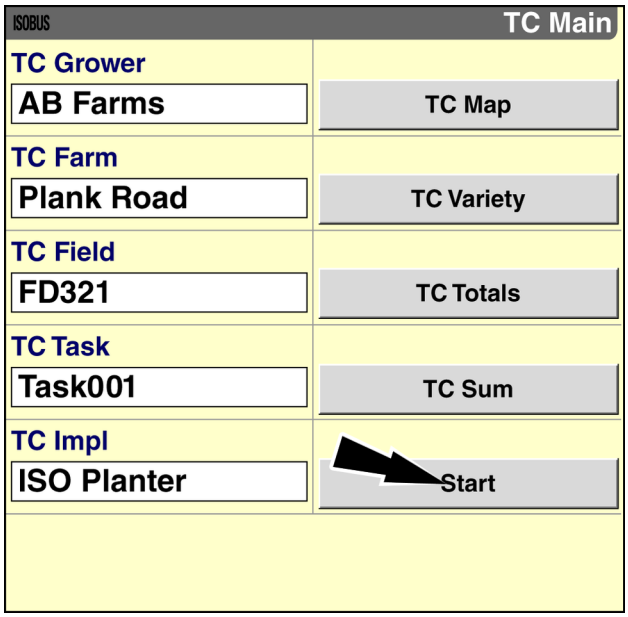
Press the “TC Main” icon on the navigation bar to access the “TC Main” screen.

NOTE: *The “TC Main” screen is not available when “Section Only” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC).*

The “TC Main” screen displays.

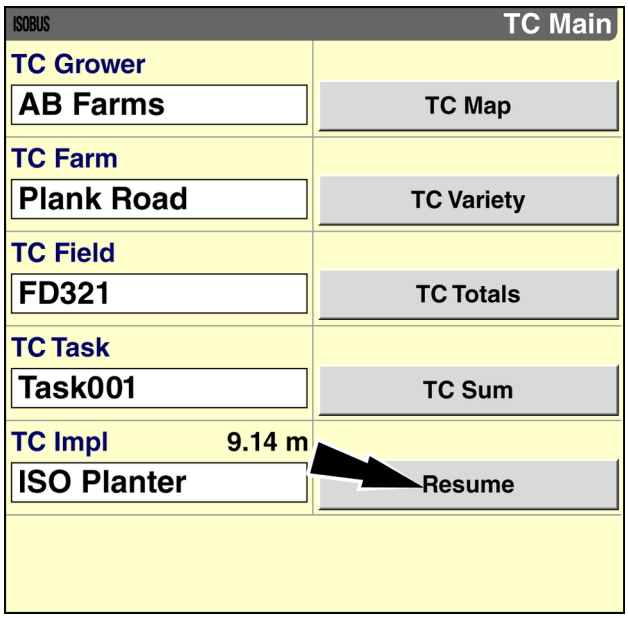
NOTE: *You can also use the “TC Control” window or the “TC Control + Grower/Farm/FieldF/Task” window on a “Run” screen to start an ISOBUS Task. See* ***2-21****.*

Press the “Start” button to start the selected ISOBUS Task.



RAIL15DSP1774BA 1

NOTE: *If an ISOBUS Task was selected before the last power cycle, the ISOBUS Task is automatically selected in the “TC Task” window. The setting in the “Auto Resume” window (Home > Toolbox > TC) determines whether you must resume the ISOBUS Task to re-enable data logging and/or prescription operation after each power cycle. See* ***2-7*** *for more information.*



RAIL15DSP1800BA 2

The “Task Not Running” icon no longer displays in the status and icon warning area.

A “Precision Farming” task is automatically created—or recalled if the ISOBUS Task was resumed—to initiate non-ISO XML storage for mapping and guidance.

To verify this, navigate to the “Profile Setup” screen (Home > Performance > Profile).

- The “Grower” window is populated by the name in the “TC Grower” window.
- The “Farm” window is populated by the name in the “TC Farm” window.
- The “Field” window is populated by the name in the “TC Field” window.
- The “Task” window is populated with a timestamp.

NOTE: *The “Crop Type” window is not linked to the “TC Crop” window on the “TC Variety Tracking” screen. The ”Crop Type” window has no effect on the ISO XML data logging.*

You can now begin work.

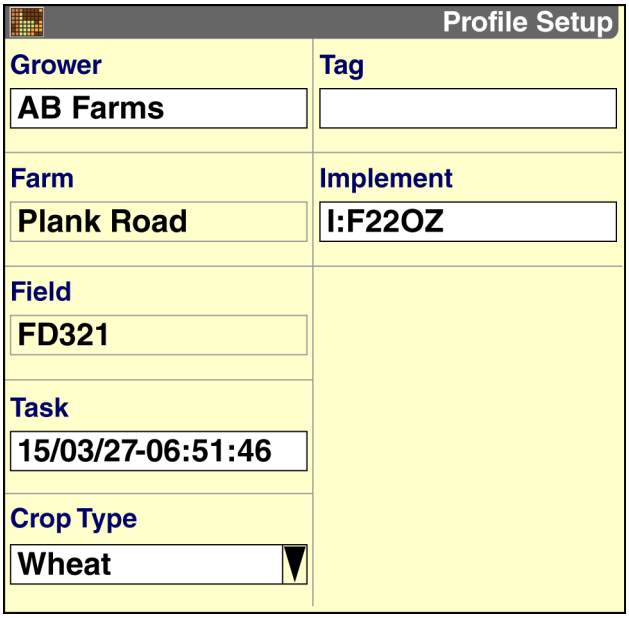
- If desired, create and/or select guidance swaths before beginning work. See the AFS AccuGuide software operating guide for more information.

  NOTE: *If you wish to use swaths that were already created for the current field, they must be present on the memory stick in Voyager 2 format and have the same grower, farm, and field names as the selected ISOBUS Task.*

- If prescriptions were exported from the desktop software to the memory stick and assigned on the “TC Control Points” screen, they are in effect until the ISOBUS Task is paused or the display is powered OFF.

  NOTE: *The “Task Controller” application currently supports Grid Type 1 and Grid Type 2 prescription data.*

- Implement work and location data are logged to the ISOBUS Task until the ISOBUS Task is paused or the display is powered OFF.
- Use the “Virtual Terminal” screens provided by the implement to monitor and/or control implement functions.



RAIL15DSP0107BA 3

Pause the ISOBUS Task

The selected ISOBUS Task must not be running if you wish to make any changes on the “TC Main” screen or the “TC Control Points” screen. You must pause the ISOBUS Task before changing or adding data.

NOTE: *You can change your selections on the “TC Variety Tracking” screen at any time regardless of whether an ISOBUS Task is running.*

NOTE: *The “Task Controller” application automatically pauses the active ISOBUS Task when the display is powered OFF. The setting in the “Auto Resume” window (Home > Toolbox > TC) determines whether you must manually resume the ISOBUS Task to re-enable data logging and/or prescription operation after each power cycle. See* ***2-7*** *for more information.*

From the “Home” screen, press the “ISOBUS” icon to access the “ISOBUS” screens.

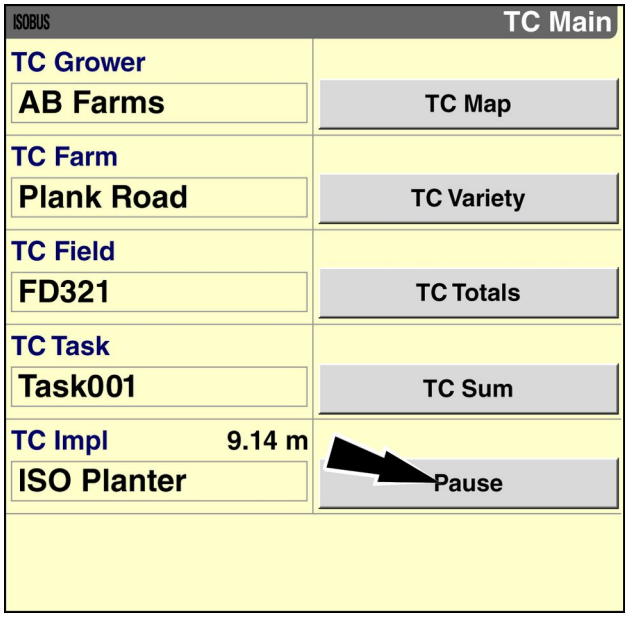
Press the “TC Main” icon on the navigation bar to access the “TC Main” screen.

NOTE: *The “TC Main” screen is not available when “Section Only” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC).*

The “TC Main” screen displays.

NOTE: *You can also use the “TC Control” window or the “TC Control + Grower/Farm/FieldF/Task” window on a “Run” screen to pause an ISOBUS Task. See* ***2-21****.*

Press the “Pause” button to pause the ISOBUS Task.



RAIL15DSP1799BA 1

Data logging and location-based implement control cease.

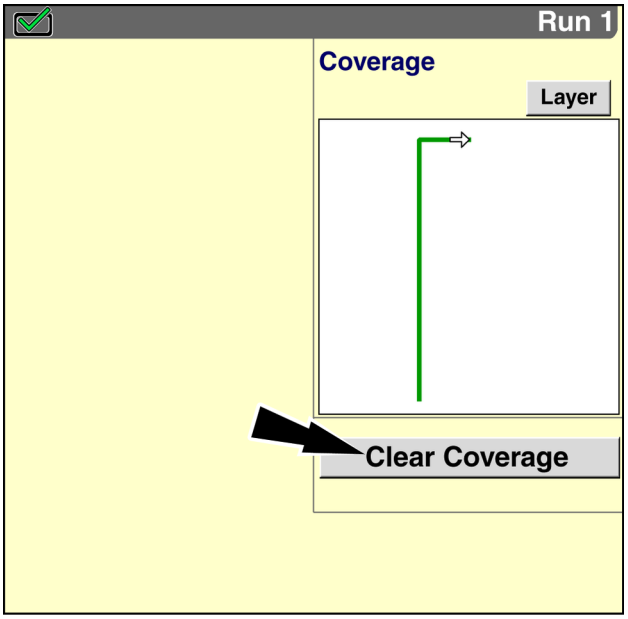
Make the required changes to the ISOBUS Task data.

Press the “Resume” button to re-enable data logging and/or prescription operation.

Operate in "Section Only" mode

When “Section Only” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC), the functionality of the “Task Controller” application is limited to automatic section control. “Section Only” mode is ideal for operators who wish to operate with automatic section control but do not require data logging or prescription rate control. To enable “Section Only” mode, see **2-4**. To enable automatic section control, see **2-16**.

1. Enter the field where you wish to perform work.
2. Press the “Clear Coverage” button in the “TC Clear Coverage” window to delete all accumulated coverage data.



RAIL15DSP1712BA 1

When you press the “Clear Coverage” button, a pop-up message displays: “Existing coverage data will be no longer used for overlap control and [will be] removed. Confirm clear coverage.”

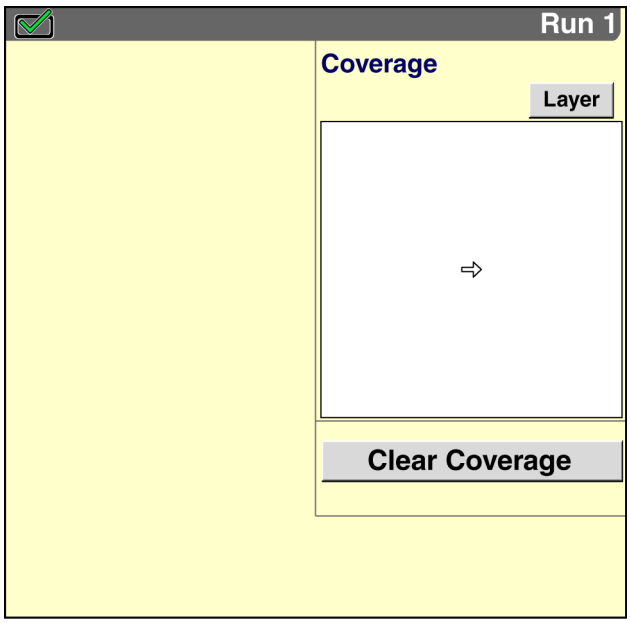
3. Press the “Ok” button to delete all existing coverage data.

   NOTE: *The “Clear Coverage” button also deletes field boundaries, obstacles, and autoguidance swaths. If you wish to operate with field boundaries, obstacles, or autoguidance swaths, record them after you press the “Clear Coverage” button and before you begin work.*

RAIL15DSP1713BA 2

The “Task Controller” application discards all accumulated coverage data.

4. Begin work.
5. Use the “TC Clear Coverage” window as needed to discard coverage data between different operations.



RAIL15DSP1714BA 3

4 - TROUBLESHOOTING

View ISOBUS Task totals

Use the “TC Totals” screen to view total values for all control points on the connected ISOBUS implement or implements.

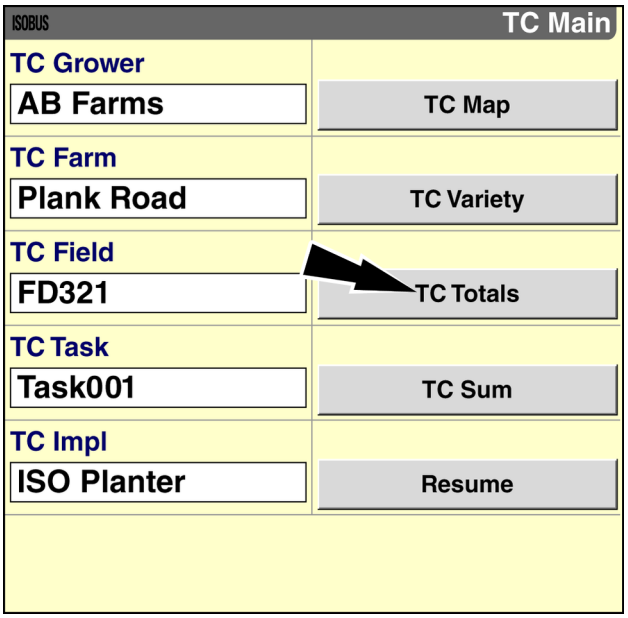
From the “Home” screen, press the “ISOBUS” icon to access the “ISOBUS” screens.

Press the “TC Main” icon on the navigation bar to access the “TC Main” screen.

NOTE: *The “TC Main” screen is not available when “Section Only” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC).*

The “TC Main” screen displays.

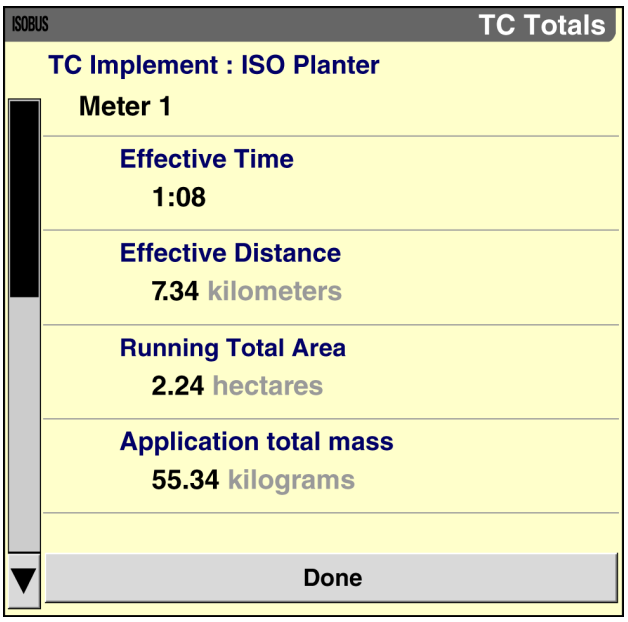
Press the “TC Totals” button on the “TC Main” screen to access the “TC Totals” screen.



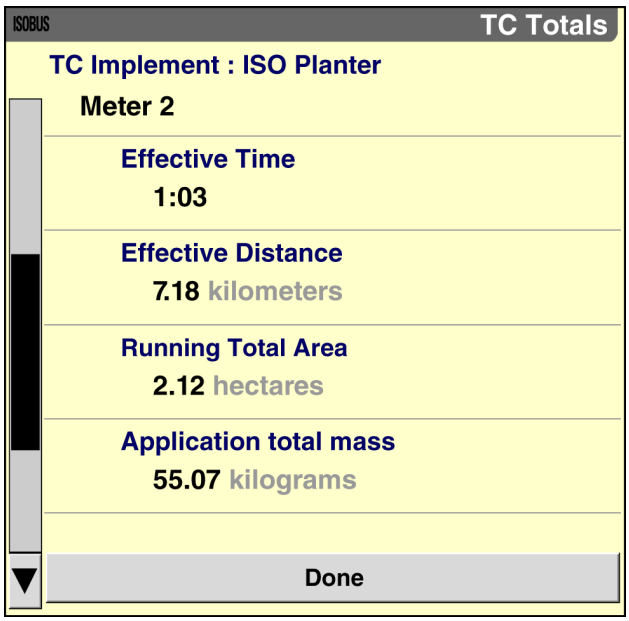
RAIL15DSP1775BA 1

A set of values displays for each control point.

NOTE: *The manufacturer of the ISOBUS implement determines what information displays on the “TC Totals” screen, including the information labels and the units of measurement.*

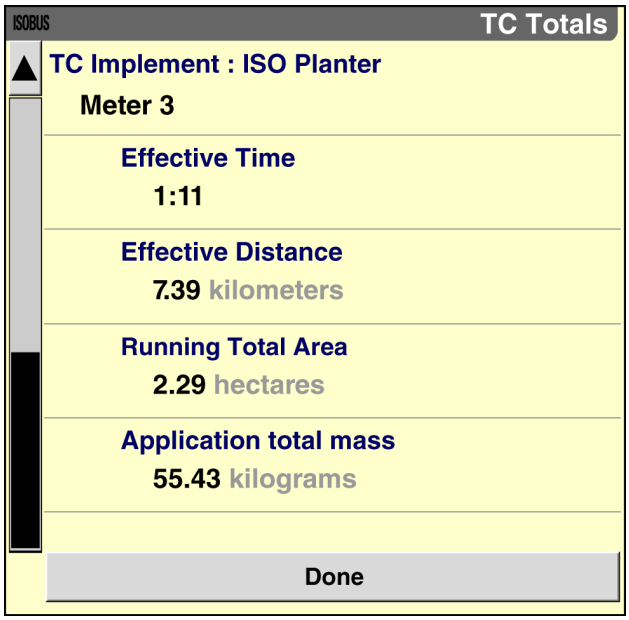


RAIL15DSP1793BA 2



RAIL15DSP1794BA 3

Press the “Done” button to return to the “TC Main” screen.



RAIL15DSP1795BA 4

View a summary of "Task Controller" settings

Use the “TC Summary” screen to view a summary of your “Task Controller” settings.

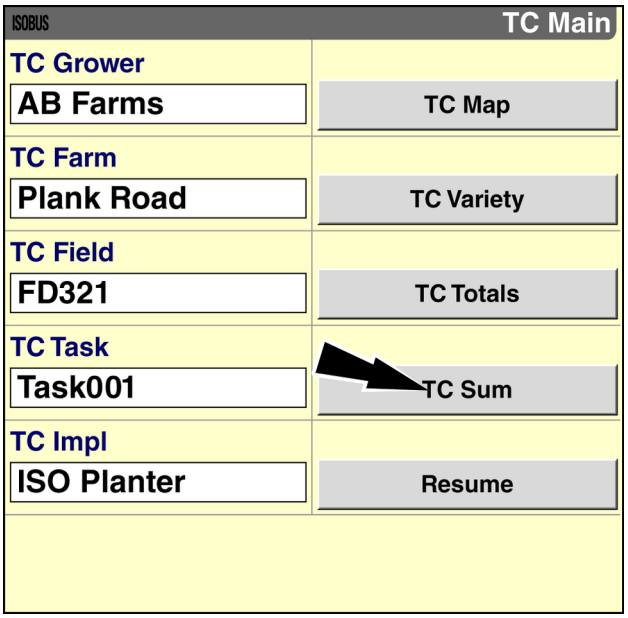
From the “Home” screen, press the “ISOBUS” icon to access the “ISOBUS” screens.

Press the “TC Main” icon on the navigation bar to access the “TC Main” screen.

NOTE: *The “TC Main” screen is not available when “Section Only” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC).*

The “TC Main” screen displays.

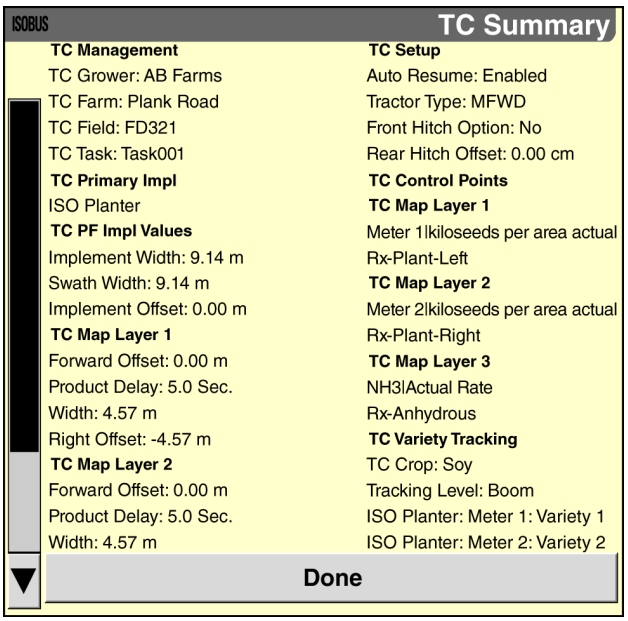
Press the “TC Sum” button on the “TC Main” screen to access the “TC Summary” screen.



RAIL15DSP1775BA 1

The “TC Summary” screen displays a summary of information from the following screens:

- “TC Main” (Home > ISOBUS > TC Main)
- “TC PF Implement Values” (Home > Diagnostics > TC > TC PF)
- “TC Setup” (Home > Toolbox > TC)
- “TC Control Points” (Home > ISOBUS > TC Main)
- “TC Variety Tracking” (Home > ISOBUS > TC Main)



RAIL15DSP1796BA 2

View information about the "Task Controller" application

From the “Home” screen, press the “Diagnostics” icon to access the “Diagnostics” screens.

Press the “TC” icon on the navigation bar to access the “Task Controller” diagnostics screens.

Press the “About” icon on the navigation bar to access the “About TC” screen.

The “About TC” screen displays with the following information:

- Copyright information
- Version number
- Software build date
- Memory usage
- Agricultural Industry Electronics Foundation (AEF) certification label

RAIL15DSP1662BA 1

View XML data elements

Use the “TC XML” screen to view the XML data elements that are associated with the connected implement or implements.

From the “Home” screen, press the “Diagnostics” icon to access the “Diagnostics” screens.

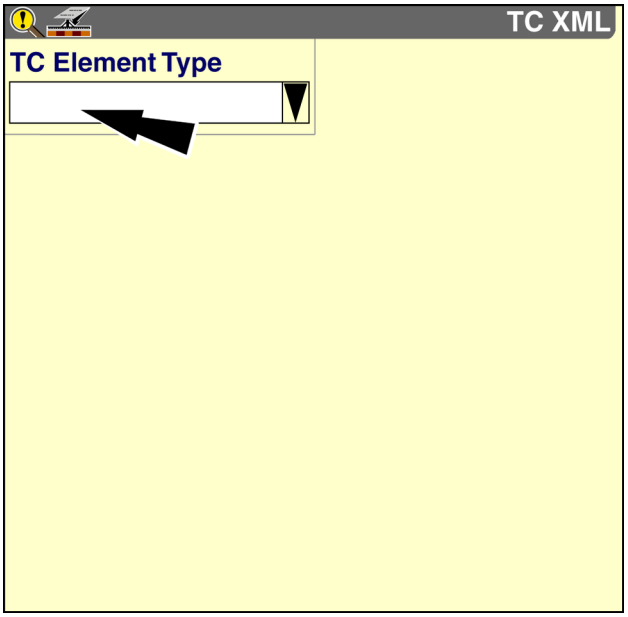
Press the “TC” icon on the navigation bar to access the “Task Controller” diagnostics screens.

Press the “TC XML” icon on the navigation bar to access the “TC XML” screen.

NOTE: *The “TC XML” screen is not available when “Section Only” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC).*

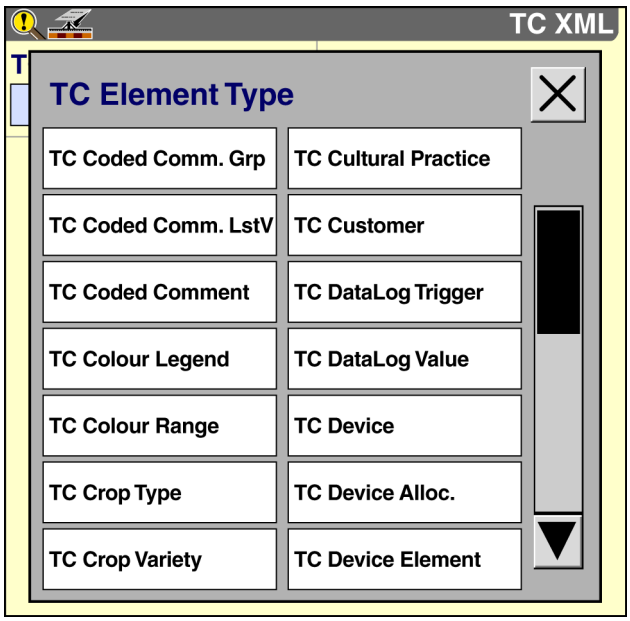
The “TC XML” screen displays.

Press the “TC Element Type” window to access the pop-up list.



RAIL15DSP1679BA 1

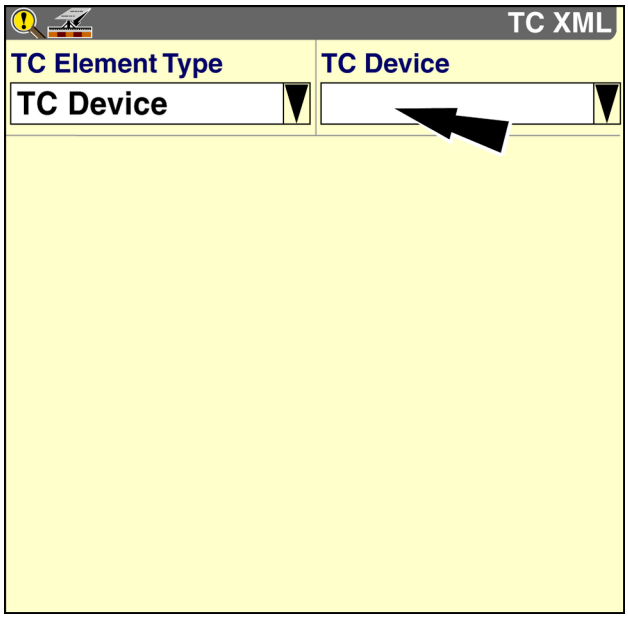
Press an item in the list to select an element type.



RAIL15DSP1680BA 2

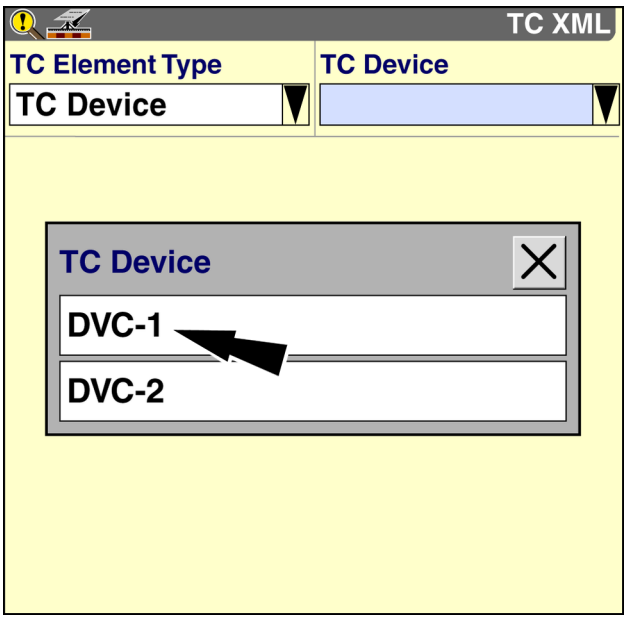
A new window, which is named after the selected data element type, displays.

Press the new window to access the pop-up list of data elements.



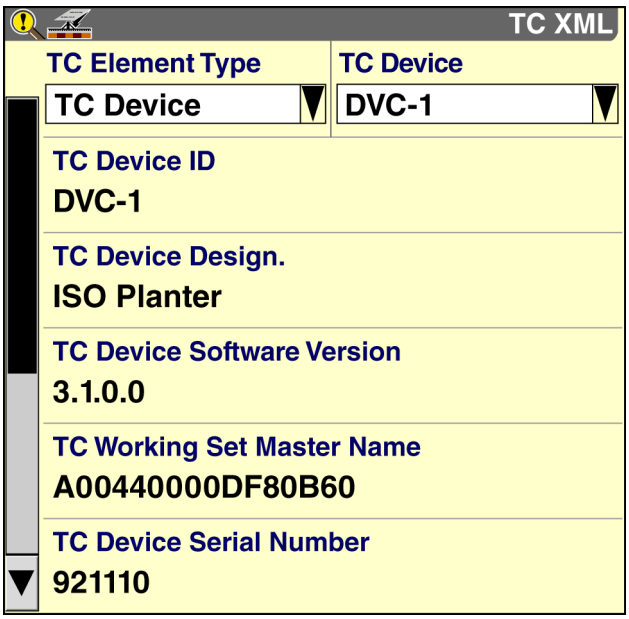
RAIL15DSP1681BA 3

Press a data element in the list.



RAIL15DSP1682BA 4

Information about the selected data element displays on the “TC XML” screen.



RAIL15DSP1684BA 5

Confirm and update implement values (width, offset, product delay)

Use the windows on the ”TC PF Implement Values” screen:

- to view or change the “Implement Width,” “Swath Width,” and “Implement Offset” values for the connected implement or implements
- to view or change the “Forward Offset,” “Product Delay,” “Width,” and “Right Offset” values for each control point on the connected implement or implements

Use the “TC Implement Values” screen to fine-tune implement settings as required.

The “Task Controller” application saves your changes to the memory stick. The “Task Controller” application does NOT update the settings on the implement controller or controllers.

NOTE: *If you wish to save changes to the implement controllers, use the “Virtual Terminal” screens. See the operator’s manual for your implement.*

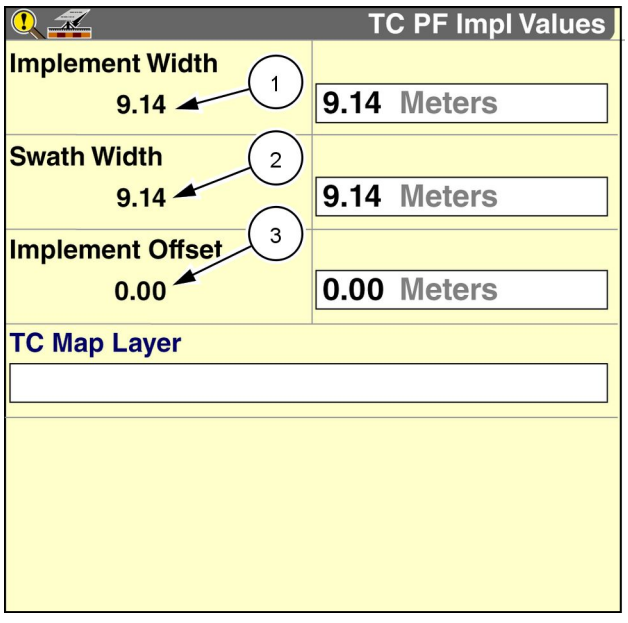
From the “Home” screen, press the “Diagnostics” icon to access the “Diagnostics” screens.

Press the “TC” icon in the navigation bar to access the “Task Controller” diagnostics screens.

Press the “TC PF” icon on the navigation bar to access the “TC PF Implement Values” screen.

NOTE: *The “TC PF Implement Values” screen is not available when “Section Only” is selected in the “TC Operation Mode” window on the “TC Setup” screen (Home > Toolbox > TC).*

The “TC PF Implement Values” screen displays.



RAIL15DSP1654BA 1

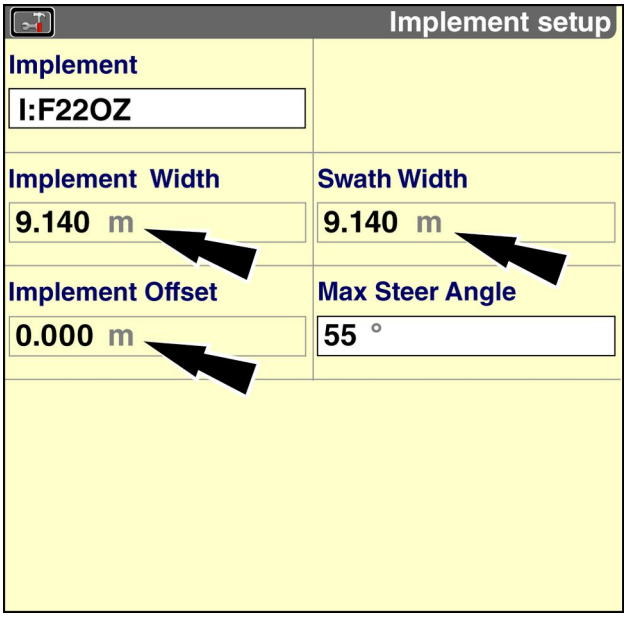
The ISOBUS implement provides the values that populate the left-hand side of the screen.

The first three windows in each column pertain to the entire implement.

- The value in the “Implement Width” window **(1)** is the physical width of the implement.
- The value in the “Swath Width” window **(2)** is the working width of the implement, and is used for the distance between field passes during autoguidance operation.
- The value in the “Implement Offset” window **(3)** is the distance that the implement centerline is offset from the vehicle centerline when operating in the field. A negative value indicates that the implement is offset to the left of the vehicle centerline. A positive value indicates that the implement is offset to the right of the vehicle centerline.

If required, press any of the windows in the right-hand column to change the value that the “Task Controller” application uses.

NOTE: *The values in the "Implement Width" window, the "Swath Width" window, and the "Implement Offset" window immediately populate the windows of the same names on the "Implement setup" screen (Home > Toolbox > Implement).*

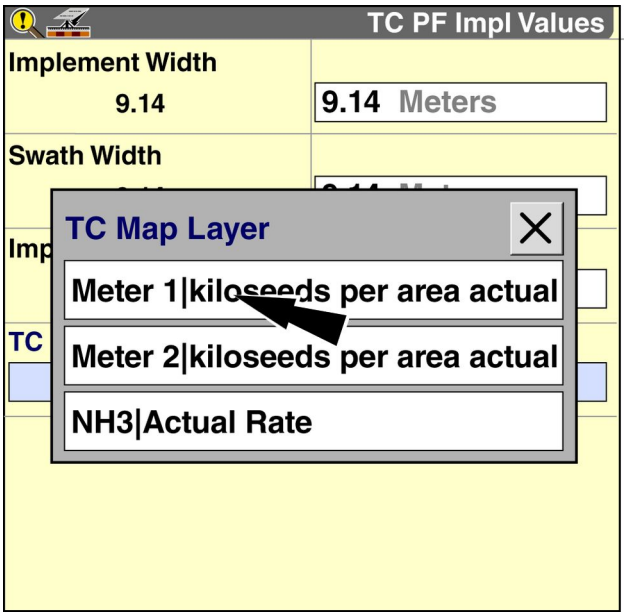


RAIL15DSP0109BA 2

Use the "TC Map Layer" window to select a control point on the connected ISOBUS implement or implements.

Press the "TC Map Layer" to access the pop-up options window.

Press the desired control point.



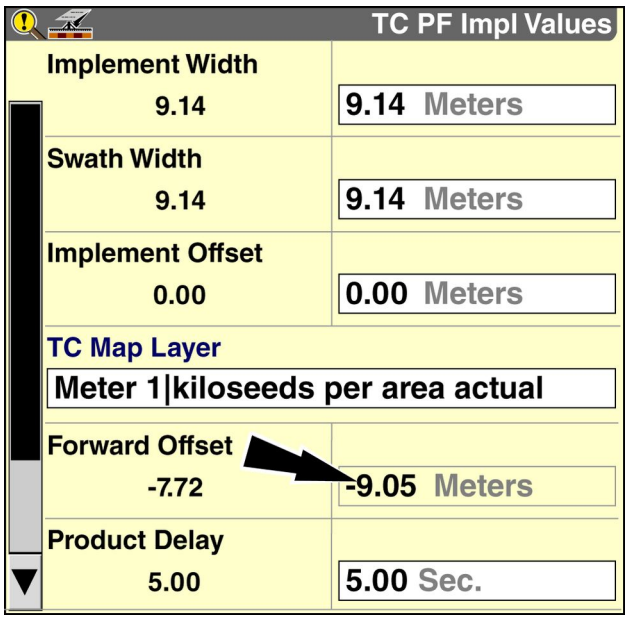
RAIL15DSP1655BA 3

The windows that display below the “TC Map Layer” window pertain only to the selected control point.

The “Forward Offset” value is the distance from the vehicle reference point to the selected control point.

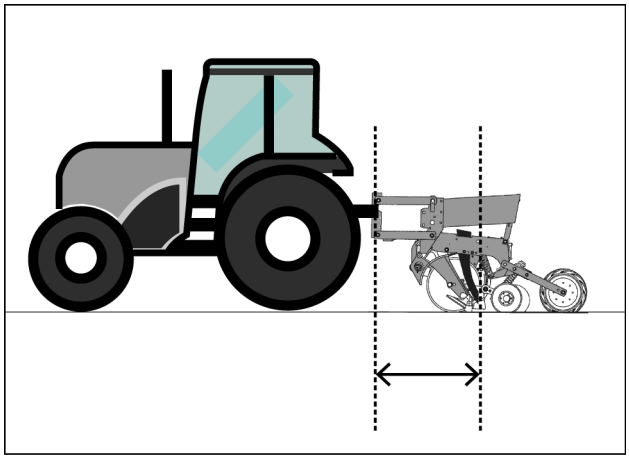
The “Forward Offset” value reflects the sum of two distances:

- the distance from the control point on the ISOBUS implement to the connection at the tractor hitch
- the distance from the tractor hitch to the vehicle reference point

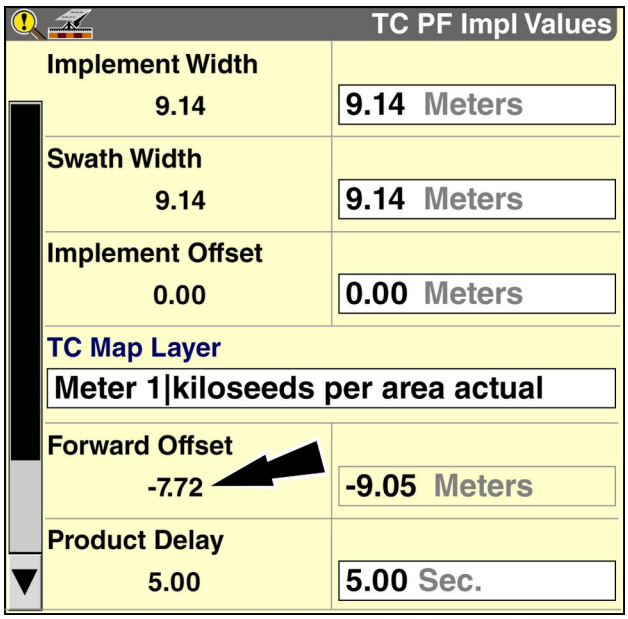


RAIL15DSP1644BA 4

The ISOBUS implement provides the distance from the control point to the connection at the tractor hitch. This is the distance that displays in the left-hand column of the screen. In this example, the distance is **7.72 m** (**25.33 ft**).



RAIL13DSP0042BA 5



RAIL15DSP1644BA 6

You provide the distance from the tractor hitch to the vehicle reference point in the “Front Hitch Offset” window and/or the “Rear Hitch Offset” Window on the “TC Setup” screen (Home > Toolbox > TC). See **2-12**. In this example, the distance is **1.33 m** (**4.36 ft**).

The ISOBUS implement communicates to the display where the control point is in relation to the vehicle: in front of the vehicle (i.e. on the front hitch) or behind the vehicle (i.e. on the rear hitch).

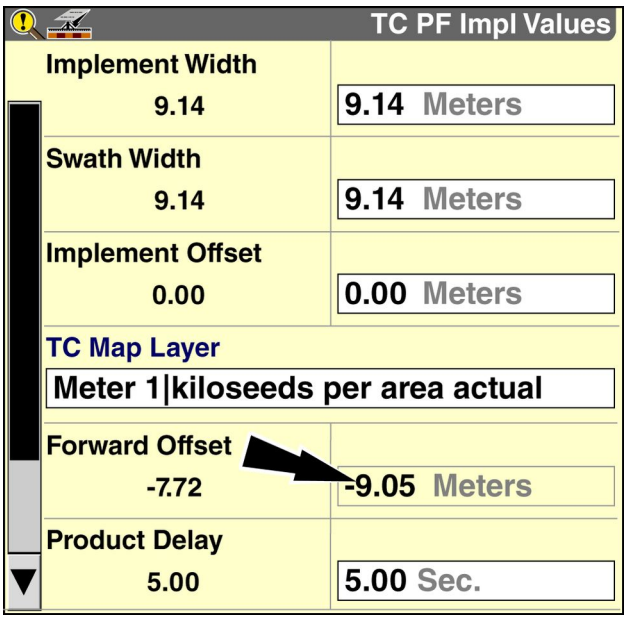
- When the control point is in front of the vehicle, the “Forward Offset” value is a positive number.
- When the control point is behind the vehicle, as in this example, the “Forward Offset” value is a negative number.

Therefore, in this example the display calculates the “Forward Offset” value as follows:

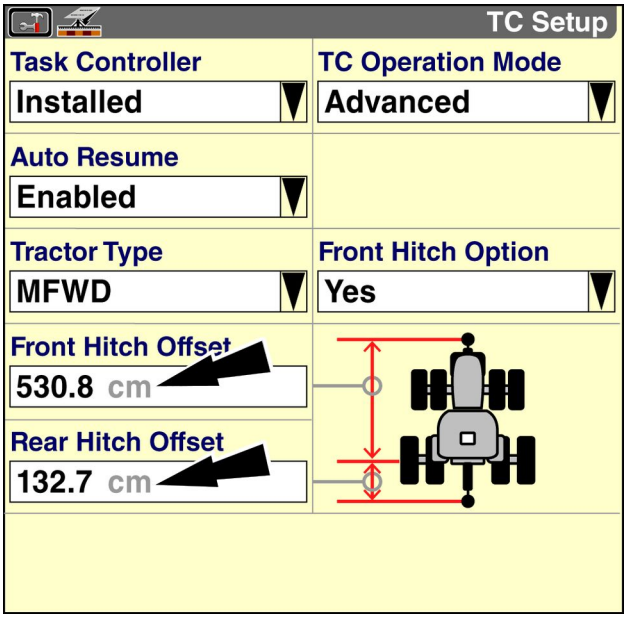
- (**1.33 m** + **7.72 m**) = **-9.05 m** (or **-29.69 ft**)

The calculated “Forward Offset” value displays in the right-hand column of the screen. When one ISOBUS implement is connected to the tractor, you cannot edit the value in this window.

If the overall forward offset distance is not accurate, confirm your hitch offset measurements. Change the appropriate hitch offset value on the “TC Setup” screen (Home > Toolbox > TC).



RAIL15DSP1644BA 7



RAIL15DSP1711BA 8

If more than one implement is connected behind the tractor, the sum of the rear hitch offset value and the offset value provided by the ISOBUS implement is not sufficient for any ISOBUS implement that is not connected at the tractor rear hitch (i.e. any ISOBUS implement that is connected to an implement that is in front of it). The overall forward offset must also account for the length of any implement that is connected between the ISOBUS implement and the tractor rear hitch.

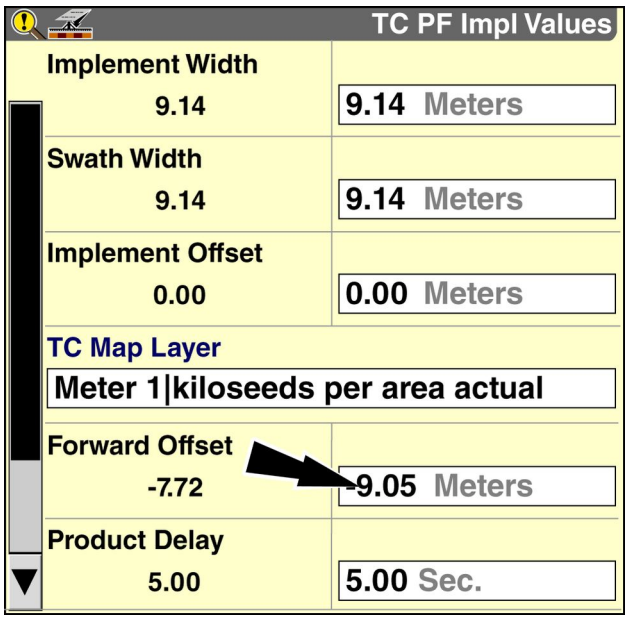
In this case, you must manually measure the distance from the tractor rear hitch to the control points on any ISOBUS implement that is connected behind another implement.

When the “Task Controller” application detects more than one implement, the window for the overall forward offset is editable.

Press the window to access the pop-up keypad.

Use the keypad to enter the overall forward offset of the selected control point.

Press the “Enter” button on the keypad to save the value.



RAIL15DSP1648BA 9

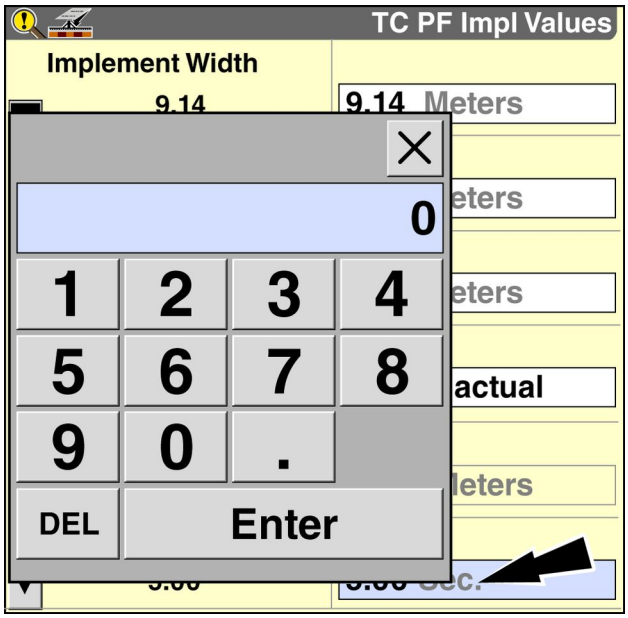
The “Product Delay” value is the amount of time that typically elapses between the time that you start the product drives and the time that product actually reaches its destination. This value must be accurate because it allows the system to compensate for the delay when automatically turning product drives ON and OFF.

The default value may or may not be appropriate for your unique hardware configuration and operating conditions.

Press the window next to the “Product Delay” window to access the numeric keypad.

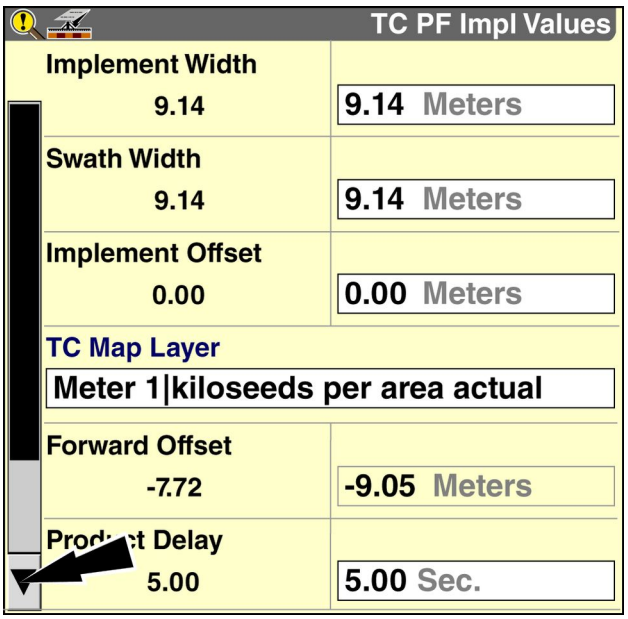
Enter a new “Product Delay” value for the selected control point.

Press the “Enter” button on the keypad to save the new value.



RAIL15DSP1649BA 10

Press the down arrow on the scroll bar to view the remaining windows for the selected control point.

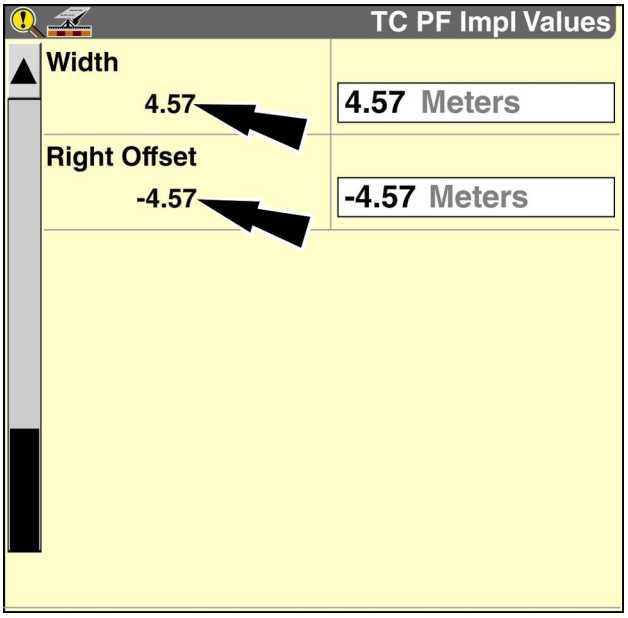


RAIL15DSP1644BA 11

The “Width” and “Right Offset” values for the control point display. These values are provided by the ISOBUS implement.

- The value in the “Width” window is the physical width of the selected control point. For a planter section, this value is the distance from the leftmost row on the section to the rightmost row on the section. For a sprayer boom, this value is the distance covered by all nozzles on the boom or section.
- The value in the “Right Offset” window is the distance between the left side of the control point and the implement centerline. A negative value indicates that the left side of the control point is to the left of the implement centerline. A positive value indicates that the left side of the control point is to the right of the implement centerline.

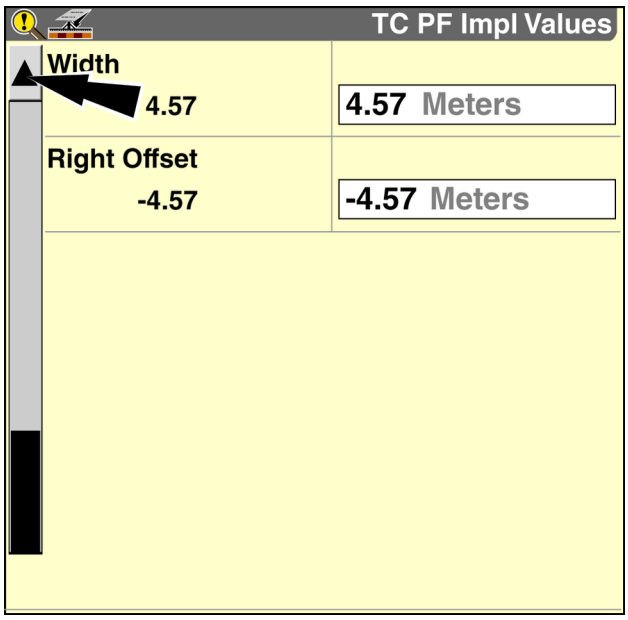
These values should remain unchanged unless you are using a nonstandard implement configuration. See the operator’s manual for your implement.



RAIL15DSP1657BA 12

If required, press any of the windows in the right-hand column of the screen to update the corresponding value.

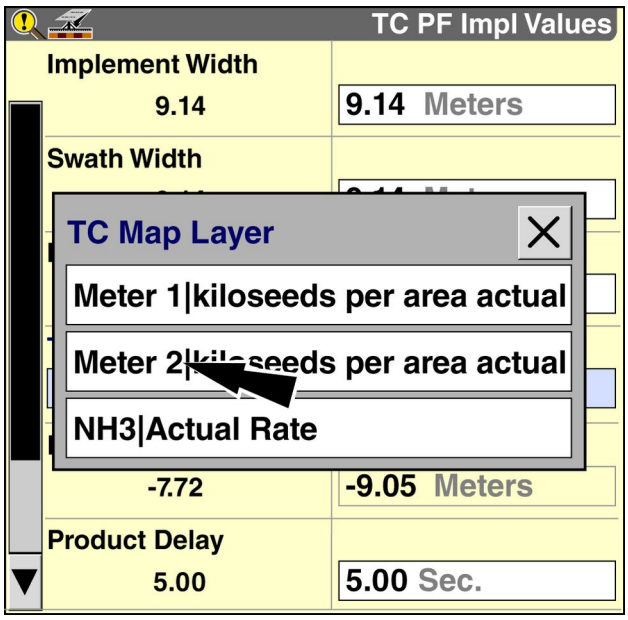
Press the up arrow on the scroll bar to return to the first screen and select other control points as required.



RAIL15DSP1657BA 13

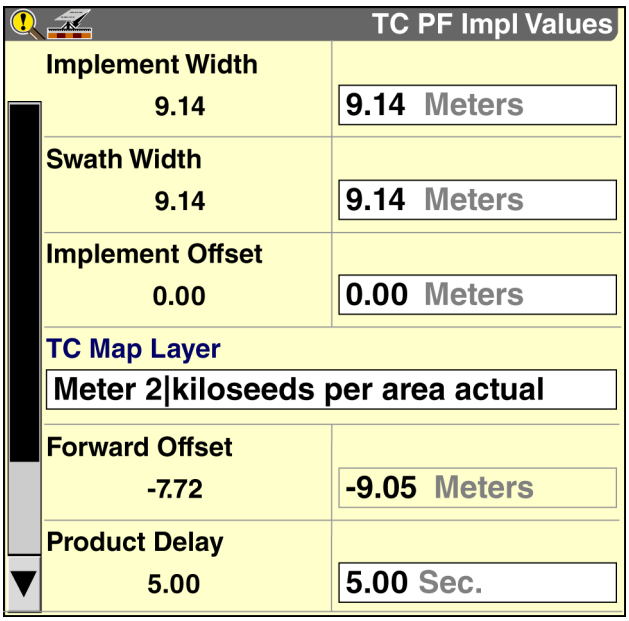
Press the “TC Map Layer” window to access the pop-up options window.

Press the desired control point.

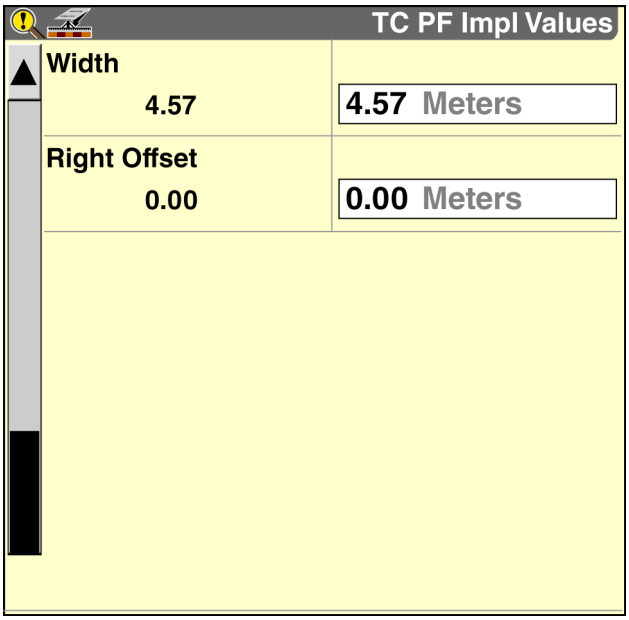


RAIL15DSP1656BA 14

Adjust the values for the selected control point and any remaining control points as required.



RAIL15DSP1652BA 15



RAIL15DSP1653BA 16

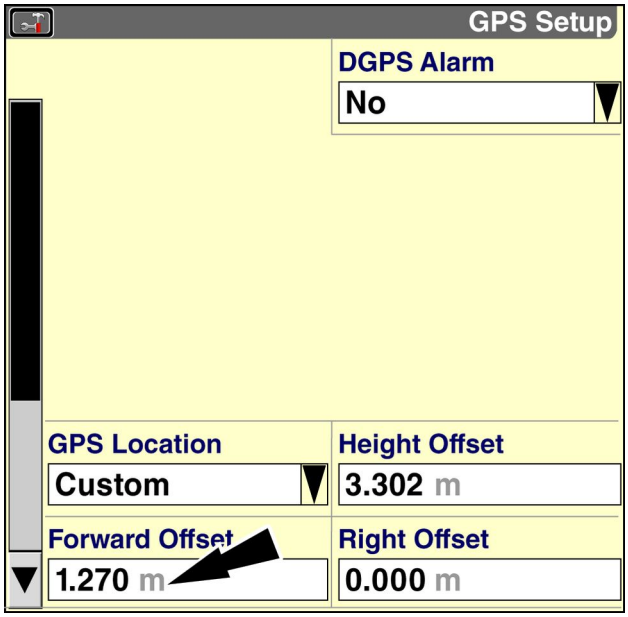
Boundary and overlap dial-in

NOTE: *Do not perform this procedure until all implement setup has been completed. For best results, use your typical operating conditions, speeds, "Run" screen layouts, guidance settings, and field boundaries.*

1. Ensure that the GPS "Forward Offset" value is measured correctly. This is the distance from the GPS receiver to the vehicle reference point.

   Confirm the GPS offset values on the "GPS Setup" screen (Home > Toolbox > GPS).

   See the display manual for more information about measuring GPS offsets.

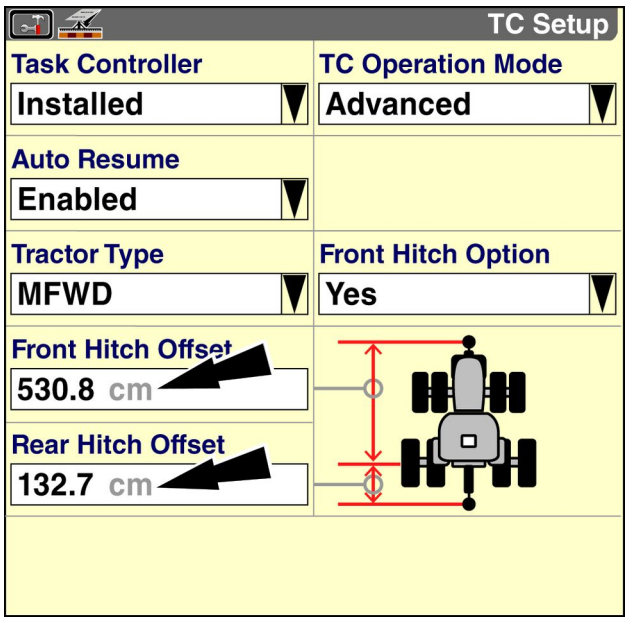


RAIL15DSP0111BA 1

2. Ensure that the hitch offsets are measured correctly. These are the distances from the front and/or rear hitch to the vehicle reference point.

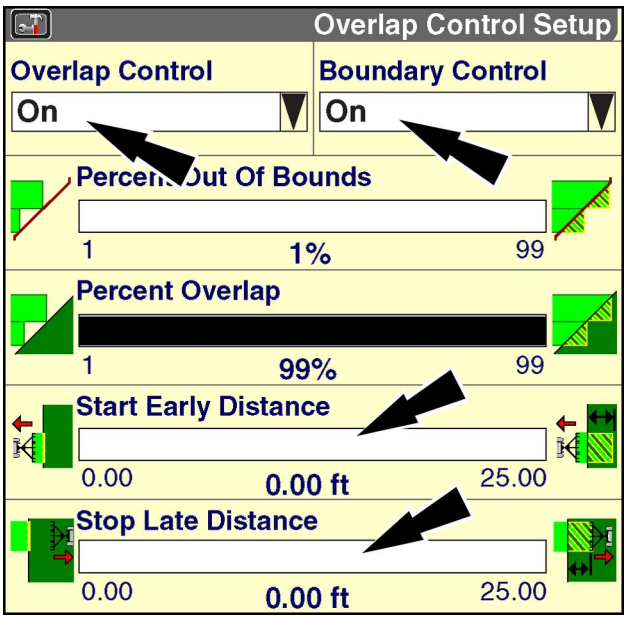
   Confirm the hitch offsets on the "TC Setup" screen (Home > Toolbox > TC). See **2-12**.

   NOTE: *If more than one implement is connected behind the tractor, you must manually measure the distance from the tractor rear hitch to the control points on any ISOBUS implement that is connected behind another implement. Enter this offset distance for each control point in the "Forward Offset" window on the "TC PF Implement Values" screen (Home > Diagnostics > TC > TC PF). See* ***4-8****.*



RAIL15DSP1711BA 2

3. Navigate to the “Overlap Control Setup” screen (Home > Toolbox > Overlap). Set the “Overlap Control” and “Boundary Control” windows to “On.” Set the “Start Early Distance” and “Stop Late Distance” windows to 0.00.



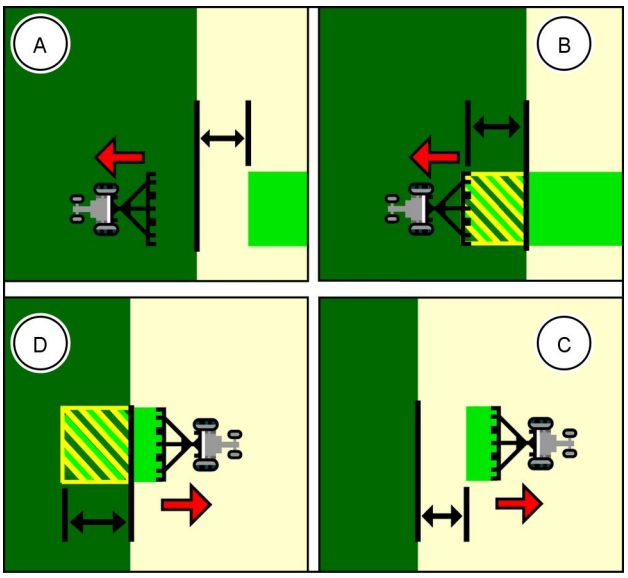
RCIL10DSP315BBG 3

4. Test overlap control in headlands at normal operating speeds and observe product application to measure performance.
5. Measure the amount of error (centimeters or inches) and determine whether the overlap decision was made too early or too late:
   - Too early – The implement **(A)** leaves a gap when entering a headland (or exiting the field at a boundary) and **(D)** over-applies when leaving a headland (or entering the field at a boundary).
   - Too late – The implement **(B)** over-applies when entering a headland (or exiting the field at a boundary) and **(C)** leaves a gap when leaving a headland (or entering the field at a boundary).

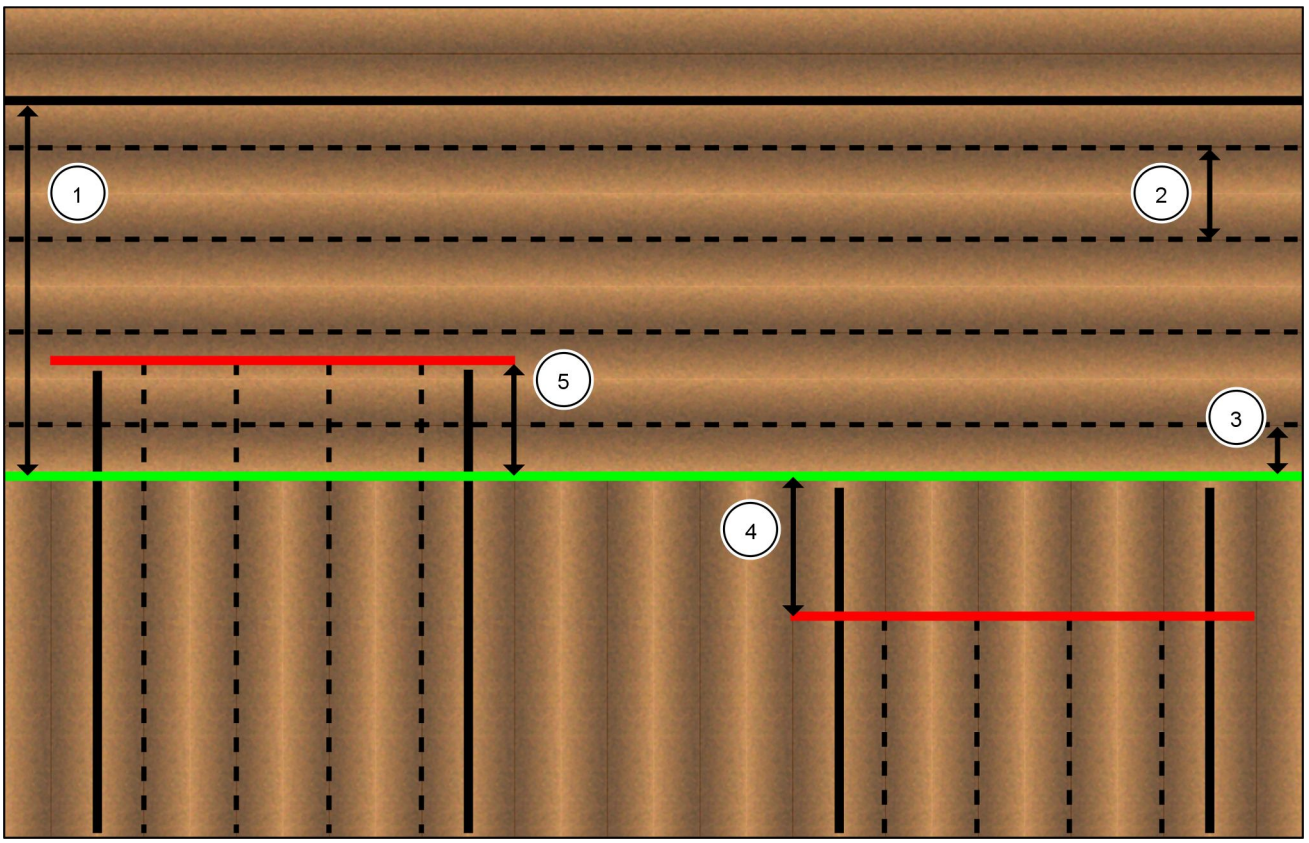
   NOTE: *Perform this measurement several times and use the average error for more accurate results.*

   For planters and seeders, use the example in Figure **5**, below, as a guide.

   For other types of implement, it may not be possible to calculate the error precisely. Use an observer at a safe distance from the implement to estimate the amount of error. You may need to repeat the process more than once to achieve the desired result.



RAIL13DSP1670BA 4



RAIL14DSP0007FA 5

Overlap error measurement

Dashed lines = seed furrows	Red lines = actual start or stop	Green line = desired start or stop
(1) Toolbar width	**(2)** Row width	**(3)** ½ of the row width outside of the last headland row furrow
(4) Overlap error (gap)	**(5)** Overlap error (double application)	

Measure the overlap error **(4)** or **(5)** from a point ½ of the row width outside of the last headland row furrow **(3)**.

For example, for a planter with **76.2 cm** (**30.0 in**) rows, measure from a line that is **38.1 cm** (**15.0 in**) outside of the row furrow.

6. Use the following formula to determine how much to change the “Product Delay” value on the “TC PF Implement Values” screen (Home > Diagnostics > TC > TC PF):

Change in product delay: metric units

$$\frac{\text{amount of error (cm)}}{\text{vehicle speed (km/h) x 27.78}} = \text{change in product delay}$$

Change in product delay: US units

$$\frac{\text{amount of error (inches)}}{\text{vehicle speed (mph) x 17.60}} = \text{change in product delay}$$

7. Update the “Product Delay” value for the control point on the “TC PF Implement Values” screen (Home > Diagnostics > TC > TC PF). See **4-8**:
   - If the overlap decision was too late, increase the “Product Delay” value for the appropriate control point. For planters and seeders, increase the value by the amount calculated in Step 6.
   - If the overlap decision was too early, decrease the “Product Delay” value for the appropriate control point. For planters and seeders, decrease the value by the amount calculated in Step 6.

   For example, if the overlap decisions were made too late with an average error of **171.1 cm** (**67.4 in**) at a speed of **7.7 km/h** (**4.8 mph**):

Product delay example: metric units

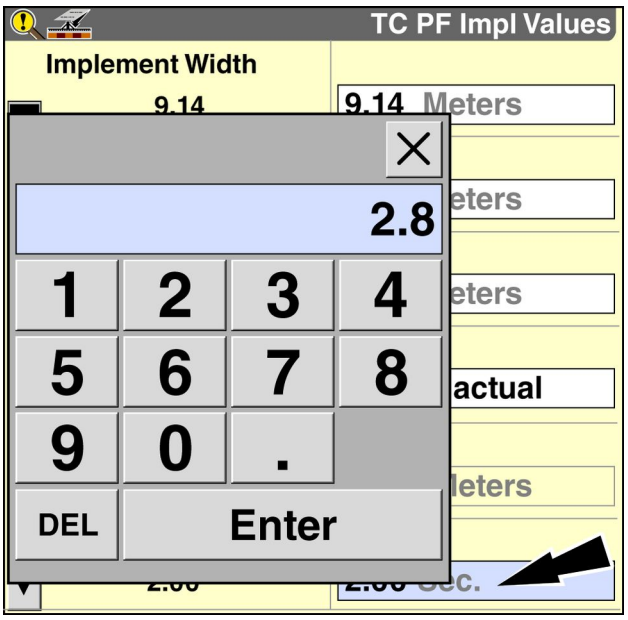
$$\frac{\textbf{171.1 cm}}{\textbf{7.7 km/h} \times 27.78} \approx \textbf{0.8 s}$$

Product delay example: US units

$$\frac{\textbf{67.4 in}}{\textbf{4.8 mph} \times 17.60} \approx \textbf{0.8 s}$$

   Because the decision was too late, increase the current “Product Delay” value for the control point by **0.8 s**.

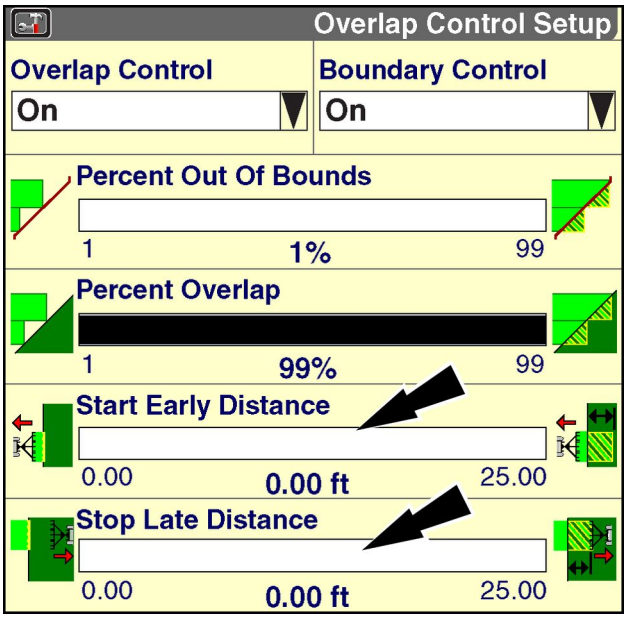
   NOTE: *If necessary, round your adjustment to the nearest tenth of a second.*



RAIL15DSP1801BA 6

8. Use the “Start Early Distance” and “Stop Late Distance” windows on the “Overlap Control Setup” screen to set the amount of intentional overlap:
   - Use the “Start Early Distance” window to set an amount of intentional overlap when going out of headlands or coverage areas
   - Use the “Stop Late Distance” window to set an amount of intentional overlap when going into headlands or coverage areas

   NOTE: *These settings only apply to overlap control at coverage areas and not to boundary control. Product delay, adjusted in steps 4 through 7 above, controls performance at boundaries.*

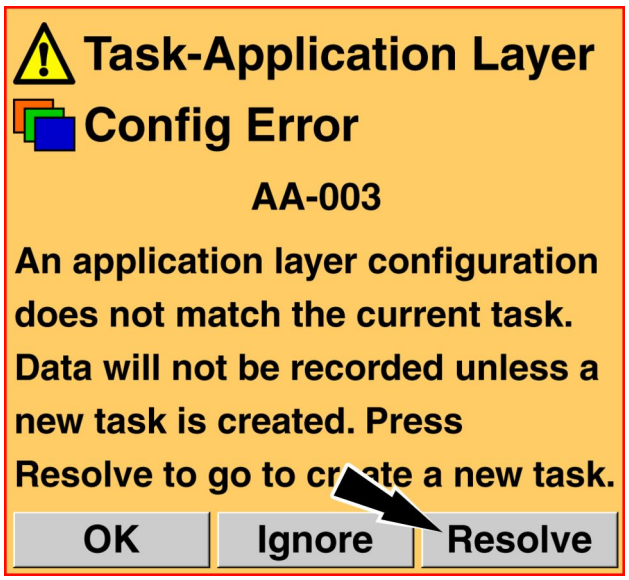


RCIL10DSP315BBG 7

Error conditions and special considerations

“Task-Application Layer Config Error” message (AA-003)

The “Task-Application Layer Config Error” pop-up warning message advises the operator: “An application layer configuration does not match the current task. Data will not be recorded unless a new task is created. Press Resolve to go to create a new task.”



RAIL13DSP0045BA 1

This message can display in the following situations while the “Task Controller” application is in use:

- An ISOBUS Task has been started or resumed, work has been performed for the ISOBUS Task, and you change the value in the “Forward Offset” window for a control point on the “TC PF Implement Values” screen (Home > Diagnostics > TC > TC PF).

  NOTE: *You can change the value in the “Forward Offset” window directly only if more than one implement is connected. However, the value in the “Forward Offset” window is based on the value in the “Rear Hitch Offset” window and/or the “Front Hitch Offset” window on the “TC Setup” screen (Home > Toolbox > TC). As such, changes to the “Rear Hitch Offset” window or the “Front Hitch Offset” window can also trigger the pop-up warning message.*

  OR

- The implement is actively working (i.e. application is taking place), GPS speed is present (i.e. the vehicle and implement are moving), and you start a new ISOBUS Task (or automatically resume an ISOBUS Task that was used before the system was last powered OFF).

You must resolve this error condition before actual rate information will display on the map’s “Rx” (prescription) layer.

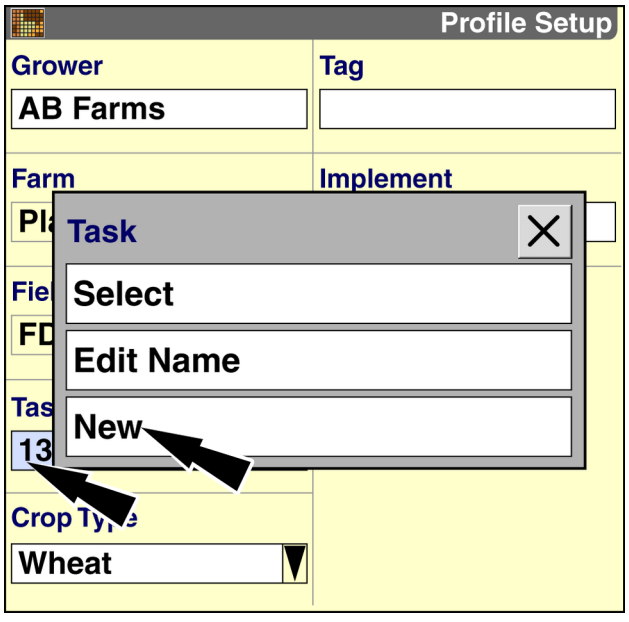
To dismiss the “Task-Application Layer Config Error” message and continue working:

1. Press the “Resolve” button on the pop-up window.

   The “Profile Setup” screen displays.

2. Press the “Task” window to access the pop-up options window.
3. Press “New” to create a new “Precision Farming” task.
4. If desired, press the “Task” window again and press “Edit Name” to give the “Precision Farming” task a meaningful name.

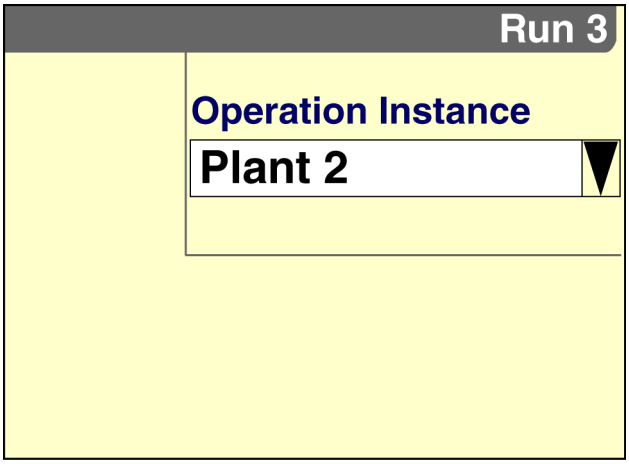
Resume field operation.



RAIL13DSP0046BA 2

Using the “Operation Instance” window with ISOBUS Tasks

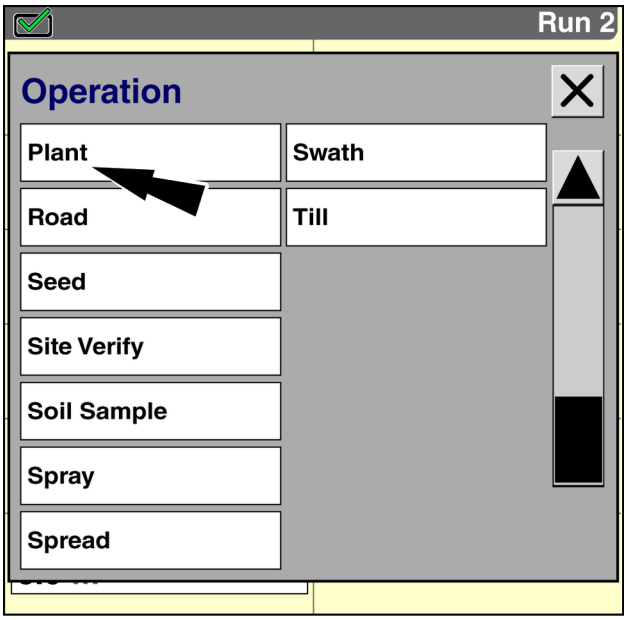
The “Operation Instance” window is available on the “Run” screens for an operator to reset coverage data for instances of an operation beyond the first. The “Operation Instance” window is functional when the “Task Controller” application is in use, but requires some additional steps to function correctly.



RAIL15DSP0254BA 3

- The “Operation” window, which determines the text that appears in the “Operation Instance” window, is not available when the “Task Controller” application is active. To select an operation for your field activities:
  1. Power OFF the display.
  2. Remove the USB memory stick.
  3. Power ON the display.
  4. Use the “Run Layout” screen (Home > Toolbox > Layout) to add the “Operation” window to one of the “Run” screens.
  5. Use the “Operation” window to select the desired operation.
  6. Power OFF the display.
  7. Insert the USB memory stick into the display.
  8. Power ON the display.

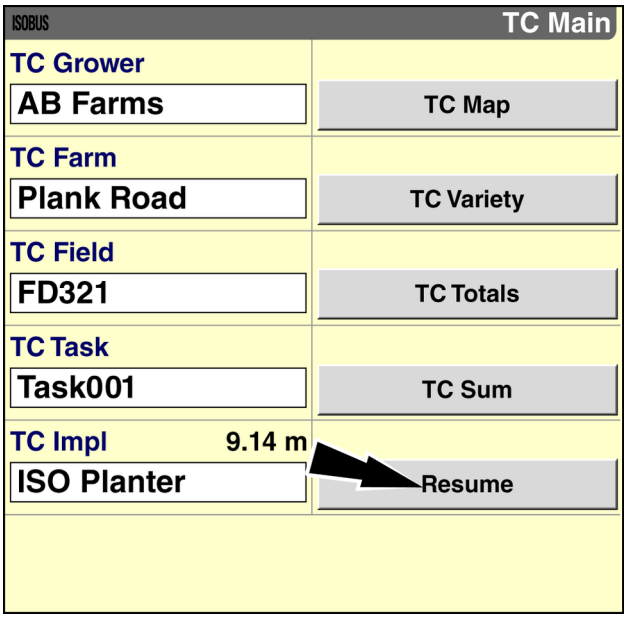
  The “Operation Instance” window now indicates the operation that you selected in the “Operation” window.



RAIL15DSP0255BA 4

- After you use the “Operation Instance” window to increment the instance, always pause and resume the active ISOBUS Task. This will ensure that all boundary and prescription information is loaded properly before work begins.

  Resume field operation.



RAIL15DSP1800BA 5

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Dealer's stamp

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