

INSTALLATION MANUAL

Agra-GPS Versatile-JD Bridge



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Release Notice

This is the January 2017 release (Revision A) of the Versatile-JD Bridge Installation Manual.

Disclaimer

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DO NOT USE THE Versatile-JD Bridge IF YOU DISAGREE WITH THE DISCLAIMER.

Important Safety Information

Read this manual and the operation and safety instructions carefully before installing the Versatile-JD Bridge.

- Follow all safety information presented within this manual.
- If you require assistance with any portion of the installation or service of your equipment, contact your Agra-GPS for support.
- Follow all safety labels affixed to the system components. Be sure to keep safety labels in good condition and replace any missing or damaged labels. To obtain replacements for missing or damaged safety labels, contact Agra-GPS.

When operating the machine after installing the Versatile-JD Bridge, observe the following safety measures:

- Be alert and away of surroundings.
- Do not operate the Versatile-JD Bridge system while under the influence of alcohol or an illegal substance.
- Remain in the operator's position in the machine at all times Versatile-JD Bridge system is engaged.
- Determine and remain a safe working distance from other individuals. The operator is responsible for disabling the Versatile-JD Bridge system when a safe working distance has been diminished.
- Ensure the Versatile-JD Bridge is disabled prior to starting any maintenance work on the machine or parts of the Versatile-JD Bridge system.
- Follow all safety instructions from the Versatile system as well as the JD system!
- The Versatile-JD Bridge must only be used in the field, never on the street!

Electrical Safety

- Always verify that the power leads are connected to the correct polarity as marked. Reversing the power leads could cause severe damage to the equipment.
- Verify that all cables and connectors are not going over sharp edges and are not pinned, as this could cause power shortages and/or malfunctions.

Introduction

Congratulations on your purchase of the Versatile-JD Bridge. The Versatile-JD Bridge is designed to bridge the communication between a Versatile tractor (autosteer ready) and a John Deere display (1800, 2600, 2630, or 4640). This allows a JD display to create maps in the John Deere format and also provides straight AB-Line autosteer.

The operator used the JD display to create AB-lines. The current position is determined by a John Deere receiver and all this information is used by the Versatile-JD Bridge to create steering instructions for the tractor. All conditions for autosteer such as minimum speed, steering enabled etc. Must be met by the Versatile system before the autosteer engage option in the tractor can be activated.

NOTICE

This manual is not intended to replace the manuals for the tractor or the John Deere system. The operator must read and understand the manuals and instructions of these systems, before using the Versatile-JD Bridge.

Parts overview

1. Versatile-JD Bridge
2. Cable for outside cab connections
3. Cable for inside cab connections
4. Cable to JD components



Installation of the Versatile JD Bridge

Step 1: Outside the cab

Locate the existing Sauer Danfoss valve, the wheel angle sensor plug and the transducer plug.



Find the green 12-pin deutsch under the cab. It is located in the center back of the cab.

Connect the "cable for the outside cab connections" here.



Find the 3-pin deutsch for the wheel angle sensor.

Open the 3-pin connection and insert the male/female 3 pin connections from the "cable for the outside cab connections" cable.



Find the Sauer Danfoss valve with its 4-pin valve connection and the 3-pin transducer connection.

Connect "cable for the outside cab connections" to the valve (1) and transducer (2).

Once all connections are made, secure the cable with cable ties so it cannot be damaged.

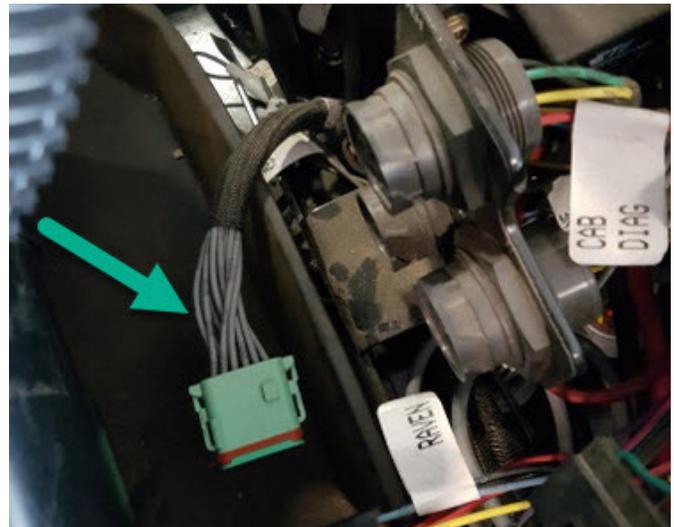
NOTE: If the tractor had a Trimble or Outback steering system installed, the transducer was changed and must be changed back to the factory transducer sensor: 422-0000-086 Raven XDCR Pressure Transducer 0-3000 PSI



Step 2: Inside the cab

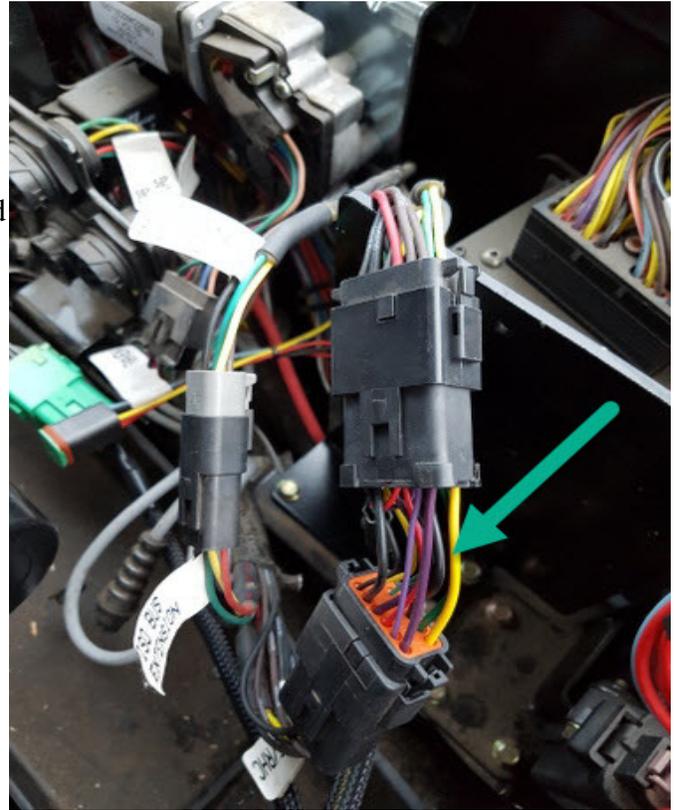
Find the green 12-pin deutsch connector inside the cab. It is located behind the seat under the plastic cover.

Connect the "cable for inside cab connections" here.

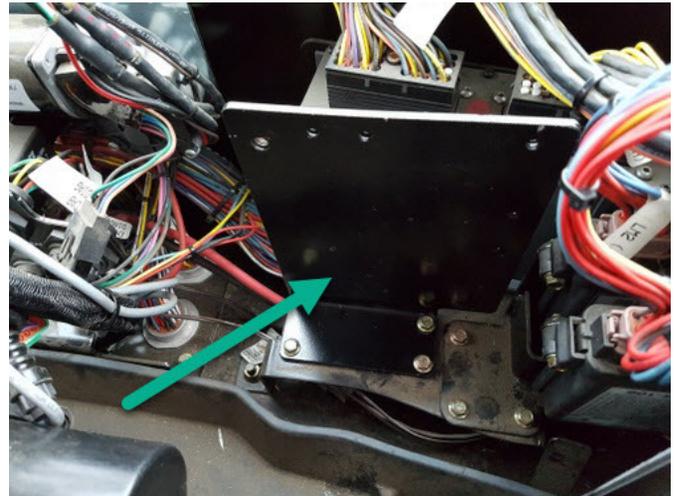


Also connect it to the "Armrest" 12-pin black deutsch connector by opening that connection and inserting the male/female part of the adaptor.

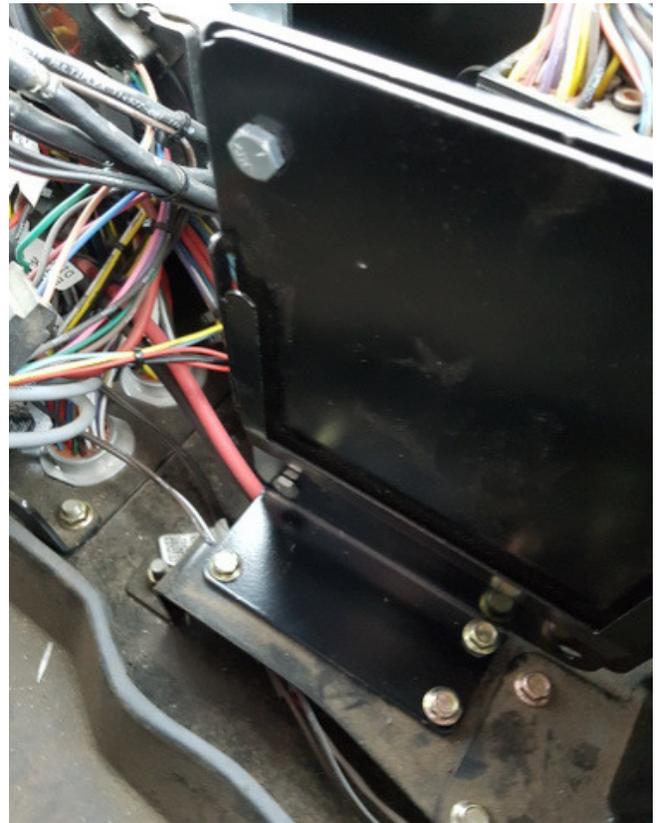
The other 12-pin gray connector must be connected to the Versatile-JD Bridge module.



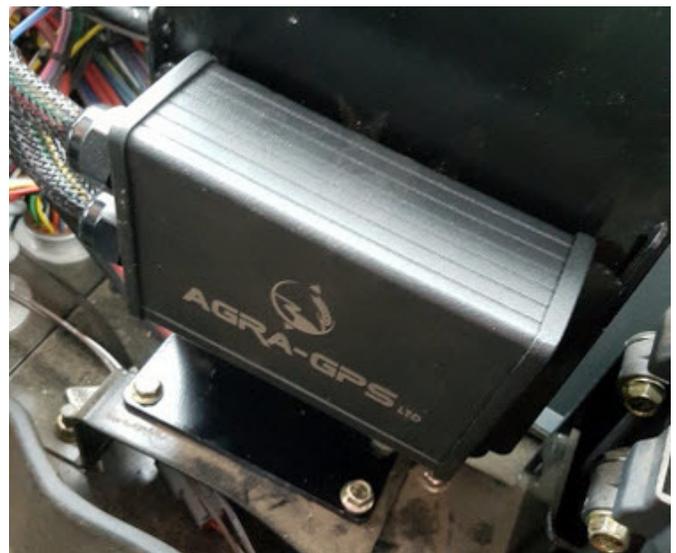
Use the existing mount panel and add the Agra-GPS mounting plate.



Bolt our optional mounting plate to the existing mount to simply slide the Versatile-JD Bridge in.



Installed Versatile-JD Bridge module.



Step 3: Mounting the JD Display

The mounts for the JD display are NOT part of the Versatile-JD Bridge, however they can either be ordered as an optional item from AgraGPS or directly from RAM.

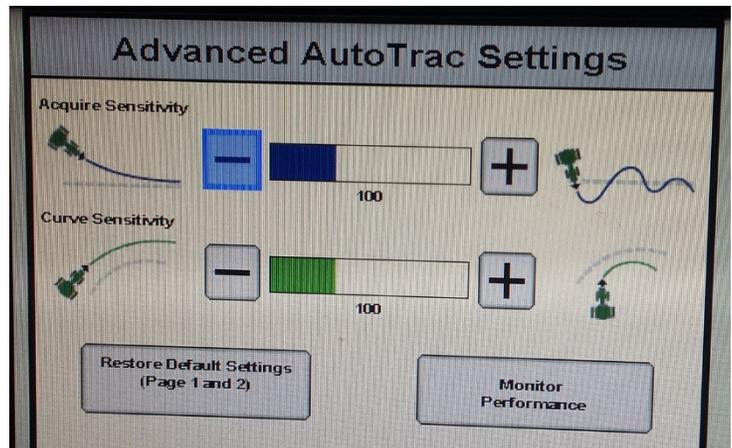
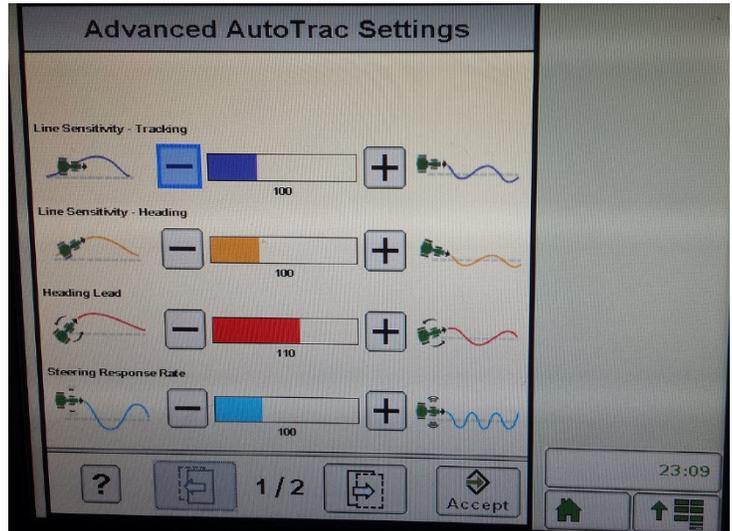
The JD-display may be mounted many different ways.

You may use the standard JD mounts or a RAM mount. RAM-270U + 2 * 1.5" balls (RAM-202U) + 4" double socket arm (RAM-201U). It fits JD displays 2600 and 2630.

Use the "cable to JD components" cable to connect JD display and JD GPS receiver.

Step 4: Adjusting steering

Using the JD display you may adjust your steering performance. Most machines will perform optimally with all JD settings at 100. If a change is required, find an open area where you can travel at target speed and adjust one parameter at a time until you are satisfied with the steering performance.



Step 5: ISO Application

The Versatile bridge comes with an ISO application that will be loaded onto the John Deere monitor. The app should automatically store itself on the monitor after the first few minutes of the initial startup. On subsequent runs the app will load itself from memory as soon as possible. The Versatile app includes:

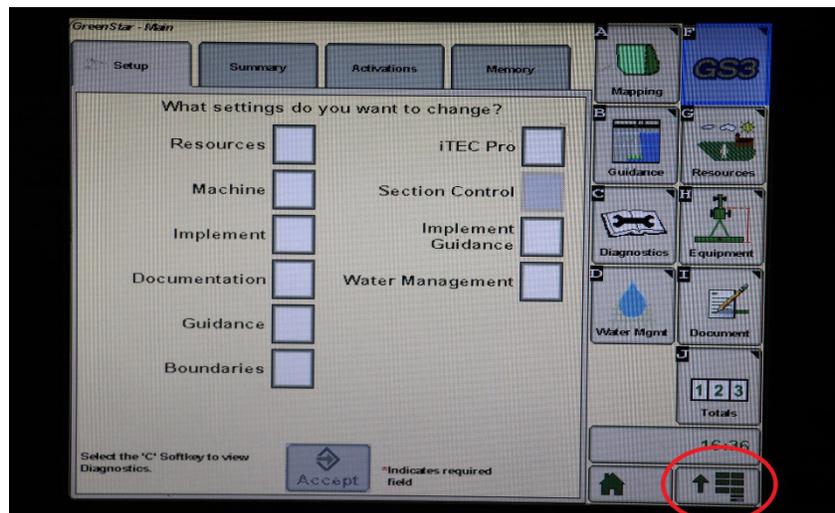
- Calibration
- Option to change work recording mode
- Option to change the machine type
- Help page

Where to find the Versatile ISO application on the John Deere monitor:

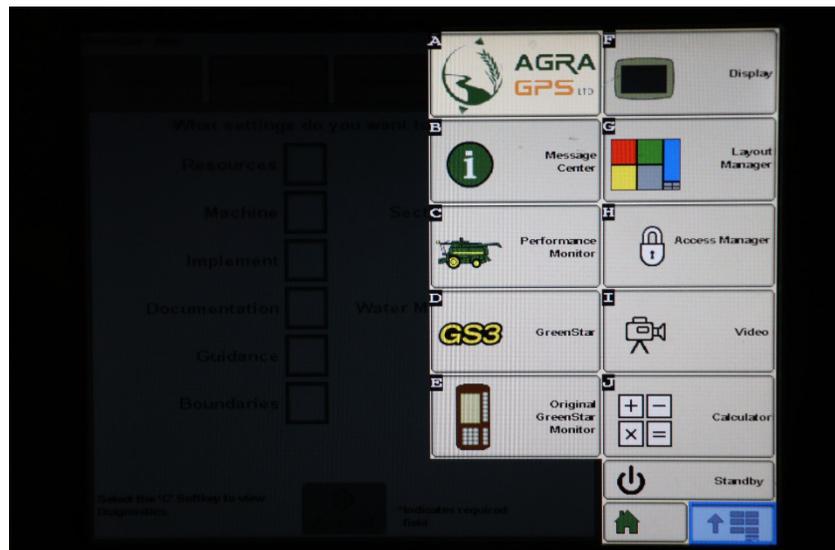
- On a John Deere 4640 the application will be loaded in the ISOBus VT section on the main page of the display.



- On John Deere 1800, 2600, 2630 the application will be shown in the side menu of the John Deere display. The side menu is opened by clicking the button on the bottom right of the display.



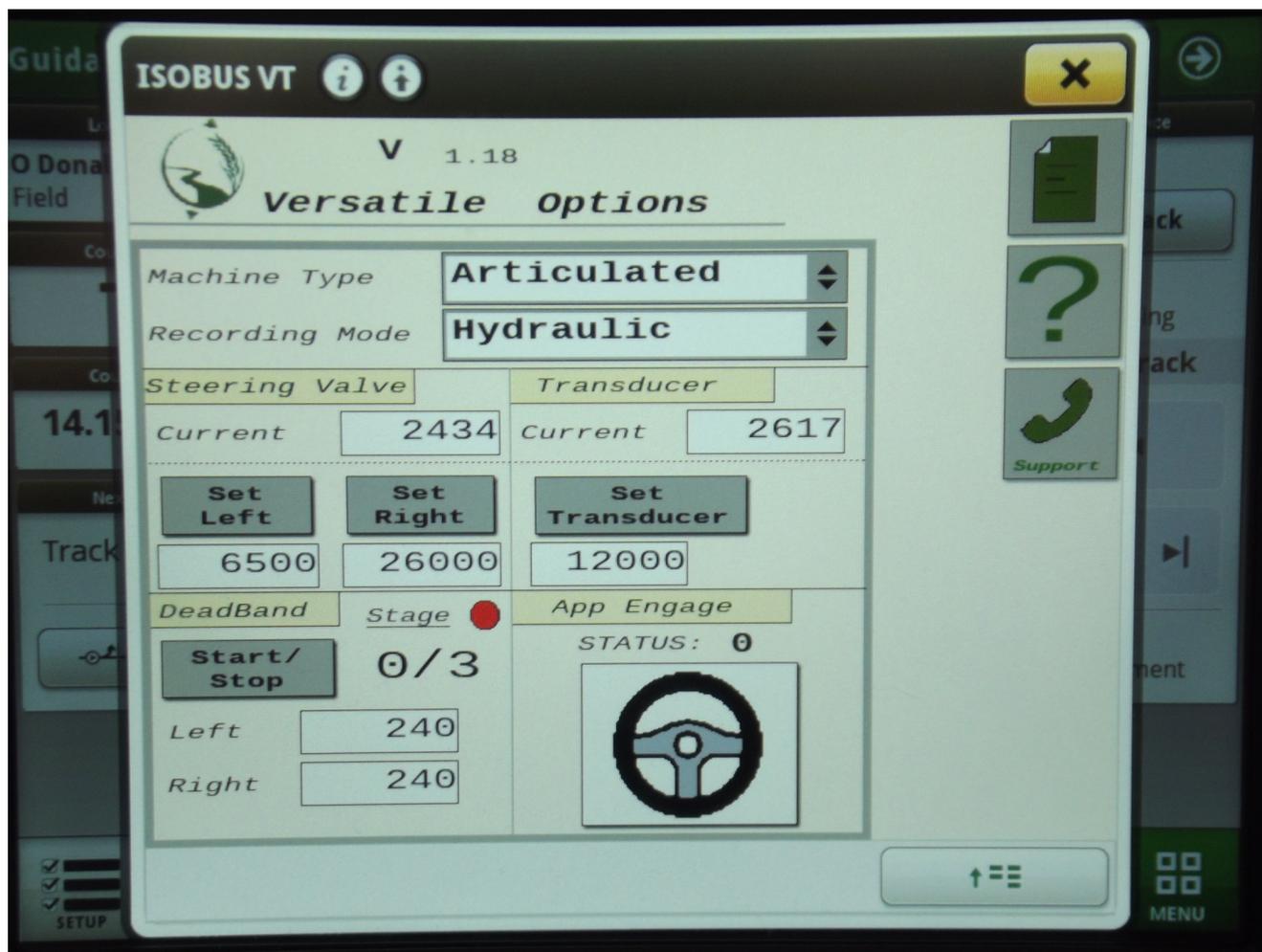
- **NOTE:** John Deere 1800 and 2600 monitors do not show a loading bar for ISO applications, while 2630 and 4640 monitors do.



If the ISO application is not loaded:

- Try clearing the monitor's memory. On 2630 monitors this can be done in the Message Center in the side menu. Go to the Cleanup tab, check controllers, then Begin Cleanup. On 4640 monitors this can be done in the info page of the ISOBus VT. Navigate to the ISOBus VT window and click the info button at the top of the page, then press Clean Up ISO Bus VT.
- Do a hard reset of the John Deere monitor (Unplug it, then plug it back in).
- Do a full restart of the machine. Remember the app may take a few minutes to load.

Calibration of the Versatile JD Bridge | ISOApp



Section – Steering Valve: Allows the user to set the left and right max of the Versatile machine. To calibrate, steer as far left as possible and press, “Set Left”. Then, steer as far right as possible and press, “Set Right”.

Section – Transducer: Allows the user to set the steering wheel movement detection. While the machine is running, ensure the wheel angle is straight and the machine is in park. Then, press, “Set Transducer”.

Section – Deadband: Allows the user to calibrate the deadband of the valves. Ensure the perimeter around the machine is clear and press the Start/Stop button to begin. An indicator will blink yellow while calibration is in progress and will take approximately five minutes.

Appendix

Notes: Machines prior to 2015 may or may not have the wheel angle sensors!

Machines without diff-lock do not have the wheel angle sensor which is required for autosteer.

Versatile partno for the wheel angle sensor:

With PTO 86057019SRV

Without PTO 86056401SRV

Notes for ISO connectivity

Versatile tractor may or may not be equipped with the ISO connector at the back of the tractor. Many customers however use ISO compliant implements and with the JD-Bridge and a JD-display have a display which can handle ISO compliant implements. The harness provided with the Versatile-JD Bridge is therefore already prepared to integrate to an ISO harness!

Option 1: If your tractor is equipped with the factory ISO harness and has an external ISO connector. You will find 2 * 4-pin deutsch connectors in the back of the tractor. These are connected to the outside ISO connector and the 2 * 4-pin deutsch connectors of the AgraGPS harness simply insert into this connection. Open the Versatile 4-pin connectors, remove the termination plugs in the AgraGPS harness and insert the now open 4-pin connectors to the split 4-pin connectors of the Versatile. That is it, the AgraGPS harness is now integrated to the Versatile tractor harness.

Option 2: Your tractor does NOT have an external ISO connector at the back of the tractor. On the AgraGPS Versatile harness the 2 * 4-pin deutsch with the terminators represent the 2 ends of the ISO cable. By removing ONE terminator, you can extend this end of the harness to an ISO connector at the end of the tractor. Most customers use a John Deere RE174726 ISO cable to extend the AgraGPS harness to the end of the tractor. By connecting the AgraGPS 4-pin deutsch to the RE174726s 4-pin deutsch the ISO or canbus lines are connected! As per the JD install manual of the RE174726 you must now provide 12V power to the setup. Please check the JD manual for more details.

The new ISO connector at the rear of the tractor becomes the end of the ISO line and provides the required 120 ohm termination.