INSTALLATION MANUAL
Agra-GPS CNH-JD Bridge for AFS/PLM Machines

AGRA-GPS LTD

Contact information
Agra-GPS Ltd.
Box 2585
Stony Plain, AB
T7Z 1X9
CANADA
001 780 990 4052 Phone
www.agra-gps.com

Release Notice
This is the March 2021 release (Revision A) of the CNH-JD Bridge Installation Manual.

Disclaimer

While every effort has been made to ensure the accuracy of this document, Agra-GPS Ltd assumes no responsibility for omissions and errors. Nor is any liability assumed for damages resulting from the use of information contained herein. Agra-GPS Ltd shall not be responsible or liable for incidental or consequential damages or a loss of anticipated benefits or profits, work stoppage or loss, or impairment of data arising out of the use, or inability to use, this system or any of its components.

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

Important Safety Information

Read this manual and the operation and safety instructions carefully before installing the CNH-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 CNH-JD Bridge, observe the following safety measures:

- Be alert and aware of surroundings.

- Do not operate the CNH-JD Bridge system while under the influence of alcohol or an illegal substance.

- Always remain in the operator's position when the CNH-JD Bridge system is engaged.

- Determine and remain a safe working distance from other individuals. The operator is responsible for disabling the CNH-JD Bridge system when the safe working distance has been diminished.

- Ensure the CNH-JD Bridge is disabled prior to starting any maintenance work on the machine or parts of the CNH-JD Bridge system.

- Follow all safety instructions from the CNH system as well as the JD system.

- The CNH-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.

Step 1: Installing the CNH-JD Bridge

IMPORTANT: The CNH machine must have the 3rd party steering unlock from CNH applied!

First, find the following panel located to the right of the operator's seat.

The Agra-GPS CNH-JD bridge will be installed into the 9-pin ISO connector at the top right of the panel.

Connect the smaller 9-pin female connector of the Agra-GPS bridge to machine adapter into the 9-pin male ISO connector of the machine.

The next connector will be installed into a diagnostic port located under the passenger seat of the machine.

First, open the buddy seat exposing the compartment area below, then remove the insert compartment to reveal the diagnostic ports (shown right).

Insert the larger 9-pin female connector of the Agra-GPS bridge to machine adapter into the middle 9-pin male diagnostic port labelled, 'VEHICLE BUS 2' 'VEHICLE BUS 3' Next, attach the 12-pin male Deutsch of the Agra-GPS bridge to machine adapter into the 12-pin female Deutsch of the Agra-GPS CNH-JD Bridge.	
To install the Agra-GPS bridge to monitor adapter, connect the 12-pin female Deutsch end of the cable into the 12-pin male Deutsch end of the Agra-GPS CNH-JD Bridge. Attach the other end of the same cable into the JD monitor.	

Step 2: Mounting the JD Equipment

The John Deere GPS receiver **MUST** be mounted at the front of the cab.

Use the Agra-GPS machine to GPS adapter to connect the JD GPS directly to the machine.

Connect the 12-pin Deutsch female connector into the built-in 12-pin male connector of the machine located on top of the roof, at the front of the machine. Connect the 12-pin Deutsch male end of the same cable into the 12-pin Deutsch female end of the JD GPS.

Mount the JD Monitor somewhere sturdy inside the cab and connect it to the CNH-JD cable.

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)

http://www.rammount.com/part/RAM-270U

Operating notes for the Agra-GPS CNH-JD Bridge

For autosteer activation you must follow the "normal" JD steps to be autosteer ready:
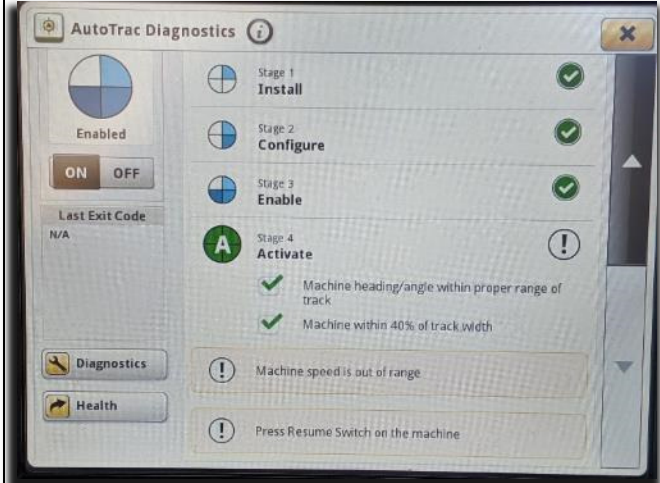
- Create an AB-line
- Move from "Steer OFF" to "Steer ON"
(3 sections of the guidance 'pie') on the JD display.

NOTE: In order to go from "Steer OFF" to "Steer ON" the user must satisfy all guidance requirements for the John Deere monitor. This includes being close to the AB-line.

Your machine must also be in "autosteer ready" mode, which means you must have a field gear selected, drive at a minimum speed and have moved your steering wheel at least once after engine start.

The autosteer is then enabled by pressing the built-in resume button on the throttle control lever.

Autosteer settings can be adjusted within the JD display.

Enabling Machine Side Steering

Locate the following panel. It is located on the headliner to the right of the operator's seat. To enable autosteer, toggle the roadmode switch/autosteer switch (rightmost bottom picture) into the off-roadmode position. This will take the Agra-GPS bridge out of roadmode.

Next, hold down the upper part of the ISOBUS auto switch (leftmost bottom picture) for at least a second to enable assignment requests and allow autosteering.

If all conditions are met, the steering 'pie' on both systems should be 3/4, and the user can use the built in engage button located on the throttle to engage autosteering.
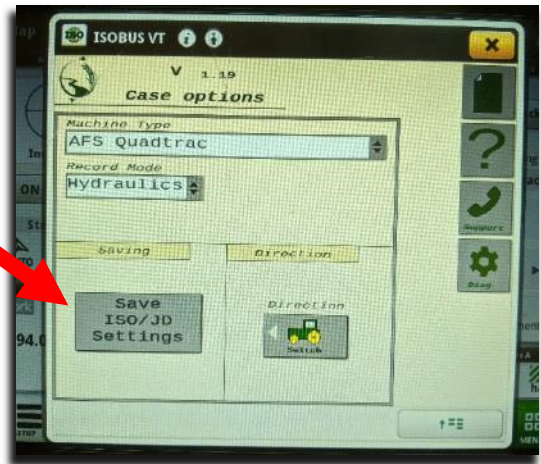
Saving Settings and Resetting Steering System

Due to the nature of the steering system, the saving of settings can interrupt the steering system operation. Due to this, whenever JD settings or Agra-GPS ISO application settings are changed, the user must manually save their changes at an appropriate time. To do this, the user must navigate to the Agra-GPS ISO application press the save settings button.

In the event that the saving of settings interrupts the steering system operation, the steering system may go into automation faulted mode (shown right).

To re-enable automation, simply hold down the upper part of the ISOBUS auto switch for at least a second. The user will also be prompted to perform this action when the saving of settings results in an automation timeout.
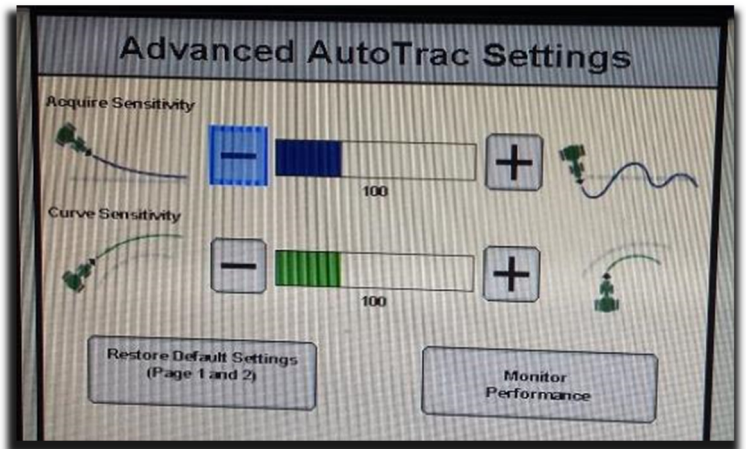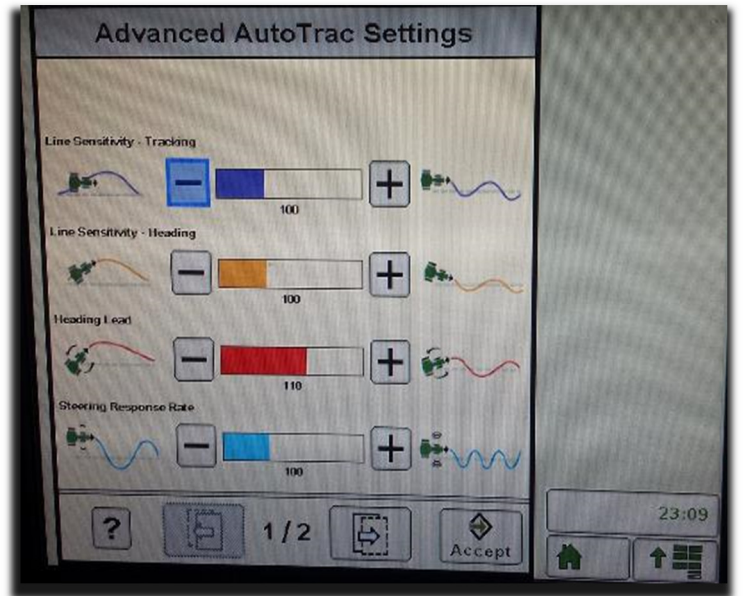

Automation faulted

Adjusting JD Steering Settings

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.
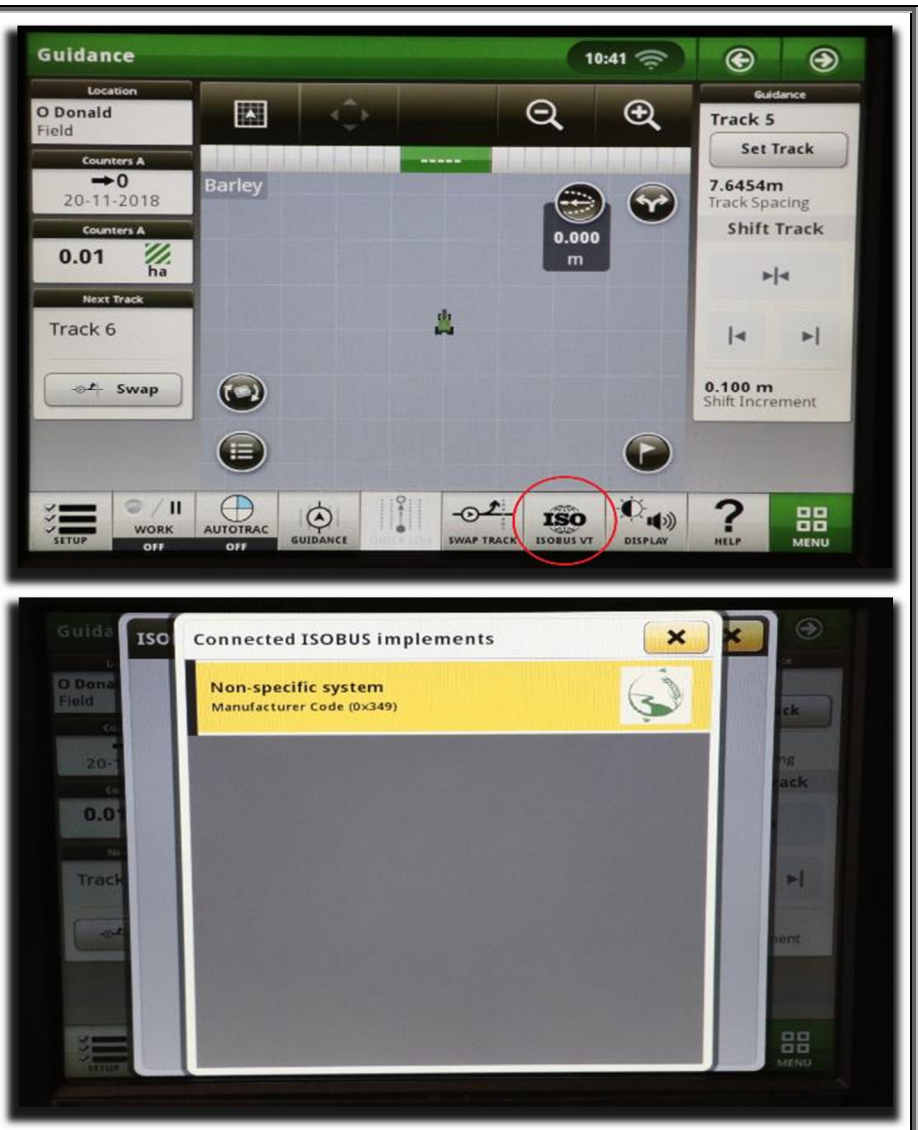
ISO Application

The CNH 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 CNH app includes:
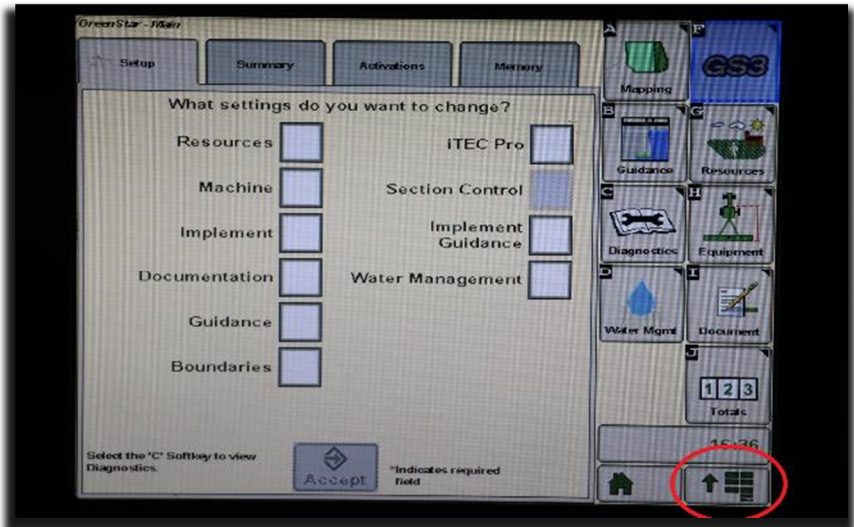
- Option to change the machine type

- Help page

- Support page

- Diagnostic page

Where to find the CNH 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 2630,4240 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.