



12V ONLY!

! IMPORTANT

MUST BE TESTED

CALL TO TEST GPS TRACKING DEVICE BEFORE CLOSING UP DASH

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY DAMAGE EQUIPMENT AND VOID ITS WARRANTY

CALL NOW

1.780.391.3800

TOLL-FREE 1.855.287.4477 (CTS4GPS)

CERTIFIED TRACKING SOLUTIONS

STEP 1: Determine Spreader Controller and Plow Types

There are numerous spreader controller types. Some of these types require specific hardware and/or optional equipment.

- Determine the spreader controller type and refer to "Supported Spreader Controllers" at the end of this document for specific instructions
- Determine which plows the asset is equipped with (Left/Right/Belly/Front etc)
- Ensure you have all hardware necessary to complete the installation

STEP 2: Plow Sensor Testing and Calibration

- Determine state of each plow sensor when the plows are down (if applicable)
- The sensors will be one of three states when plow is down (ground (-), positive (+) or neutral)
- Some sensors are neutral and an additional relay will be needed. See Type 2 diagram for wiring information.
- The sensors should change state when plow is raised 25% off of the ground. If not, sensor calibration is required.
- Some spreaders including Accucast 7000 and Rexroth CS550 are data based and do not require analog plow input connections.

STEP 3: Complete wiring connections

Ensure that all connections between the TT33003G and TTMEBRIDGE2 are complete and match the "Wiring Harness & Diagram" on page 3. Please refer to the wiring colours below;

a) Connect Serial Cables

- Securely connect the supplied 6 foot Serial Cable to the spreader control/AVL cable located inside the vehicle
- Connect the 6 foot Serial Cable to TTMEBRIDGE2 serial cable adapter
- See "Supported Spreader Controllers" page at the end of this document for common controller/AVL cable locations

STEP 3: continued

b) Plow Sensor Wires

- Connect applicable wire from TTMEBRIDGE2 to each plow sensor (If applicable)
- The sensors will be one of three states when plow is down (ground (-), positive (+) or neutral)
- If sensor shows neutral when down, an additional relay will be required. See Type 2 diagram for wiring information.
- The sensors should change state when plow is raised 25% off of the ground (if not, the sensor will need to be calibrated)

c) Main TT33003G Harness Connections

- Connect 12 volt constant power to RED wire
- Connect BLACK wire to chassis ground (with any paint removed)
- Connect WHITE to Ignition (+). A "True Ignition" connection should NOT drop to zero voltage during vehicle start.

d) Billing Wire

Depending upon the application, this wire will either be connected to a physical switch to determine billable hours OR to a true ignition source.

Option 1): Billing Switch

- Connect source wire to billing switch in such a way that the PINK billing wire receives a positive signal with the switch ON.
- Ensure that the billing switch is connected so that if the switch is left on, it will be turned off automatically if the vehicle is turned off

Option 2): Ignition

- Connect billing wire to a true ignition source in the asset

Primary Wire connections

The supplied harness comes pre assembled to give power to both the TT33003G and the TTMEBRIDGE2.

TT33003G	TTMEBRIDGE2
Black: Ground	Black: Ground
Red: 12 Volts (Constant)	Red: 12 Volts (Constant)
White: Ignition (MUST be a true ignition source)	

GROUND MUST BE CONNECTED DIRECTLY TO THE CHASSIS WITH PAINT REMOVED

For Live Tech Support:
Call Certified Tracking Solutions at 1-780-391-3800.
8AM to 5PM Monday to Friday MST
titangps.ca

TTMEBridge Plow Input Detection and Monitoring

	Positive*	Negative
Input 1 Front Plow	Black/Brown	Grey
Input 2 Belly Plow	Black/ Green	Grey/Black
Input 3 Left Wing	Black/ Yellow	Green
Input 4 Right Wing	Black/Blue	Black/White
Input 5 Billing or Ignition	Pink	

* Not Compatible with Dickey John Spreader's

STEP 4: Position the TT33003G and TTMEBRIDGE2 in an Optimal Location

Failure to adhere to these suggestions will result in a weak cellular and/or GPS signal and will affect the performance of the device.

- Secure in upper portion of dash in a hidden location with correct side pointing skyward (label will indicate proper orientation). Example: Above instrument cluster
- Do not cover with metal or position near any source of interference (Vehicle Radio, BCM etc). Keep a safe distance of at least 24".

STEP 5: Call Certified Tracking Solutions to test

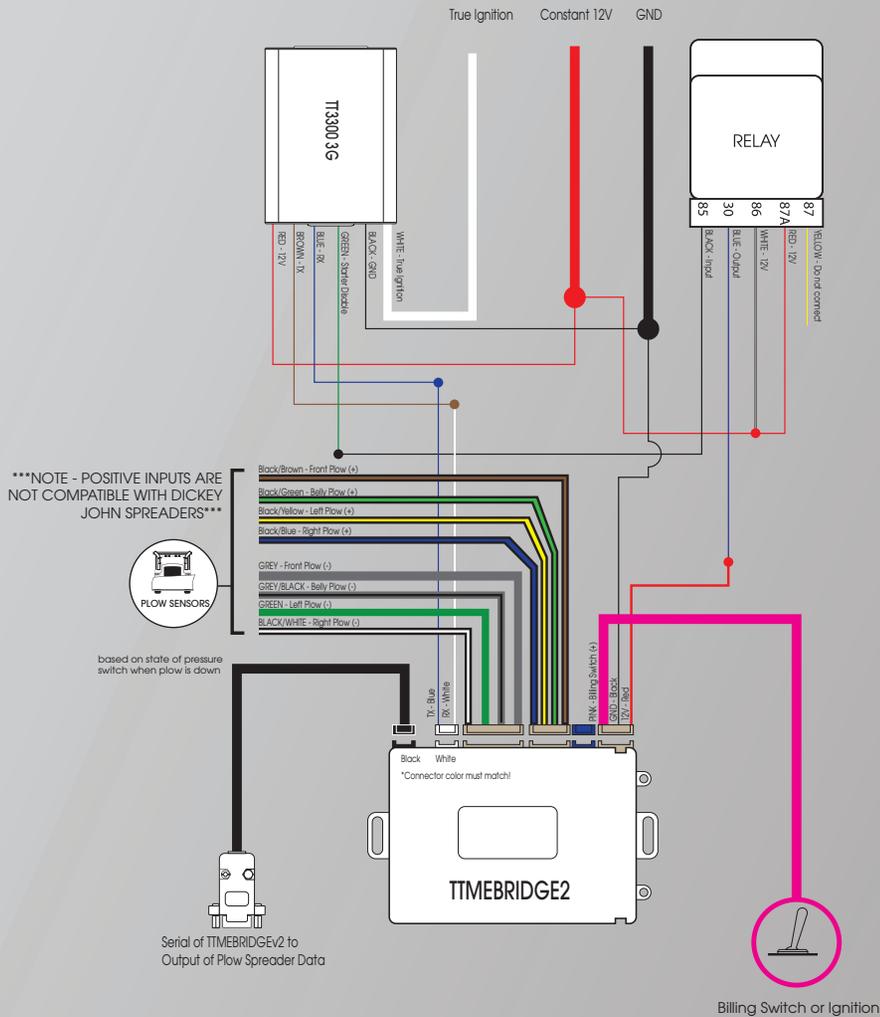
Call Certified Tracking Solutions at **780-391-3800** to test all plow functions. This **MUST** be done to ensure proper operation.

Confirm LED Status

LED Color	Type	LED Action	Description
Blue	Cellular	Double Blinks	Indicates device has connected to the cellular network
Green	GPS	Blinking	Indicates device has obtained a valid GPS signal

Type 1 Negative or positive when plow is down.

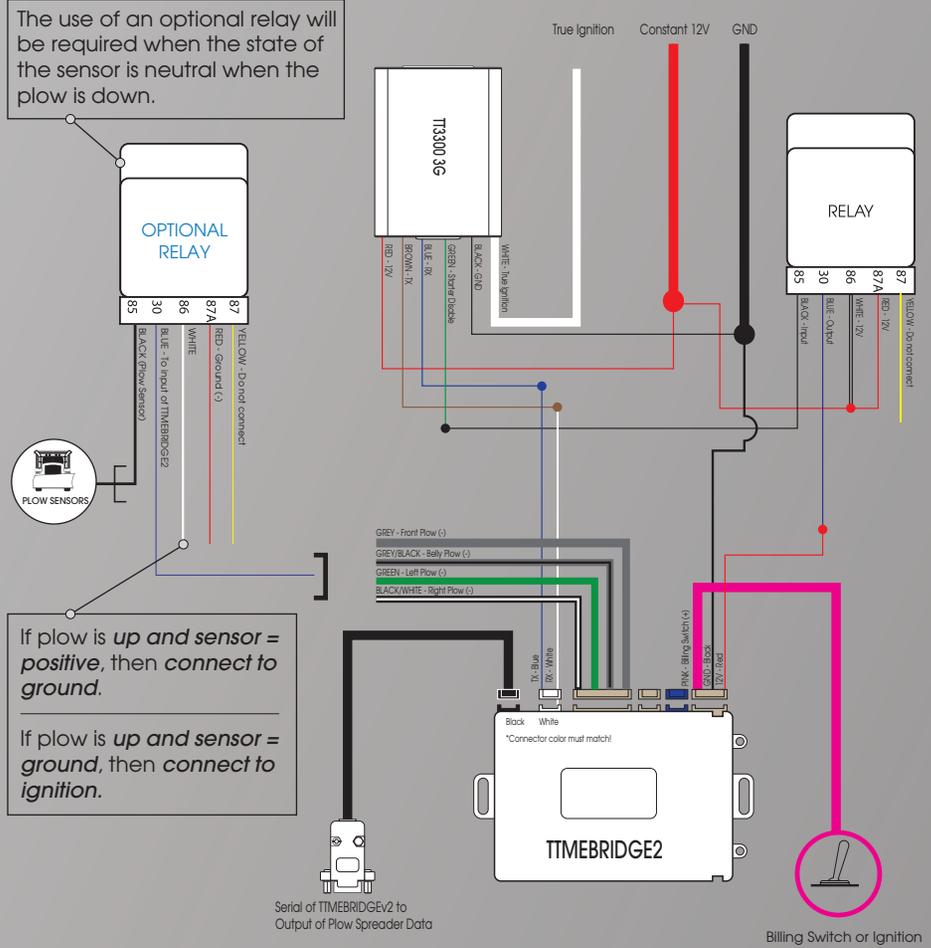
Sections in diagram that are enlarged need to be connected



Type 2 Negative or Positive when plow is up and Neutral when down

Sections in diagram that are enlarged need to be connected

Positive plow inputs are not used



Supported Spreader Types

The information below lists additional hardware required to complete an installation for each supported spreader type. Some hardware may need to be obtained from the spreader manufacturer. Please ensure you have all necessary hardware before beginning the installation. We have also listed "Common" controller/AVL cable locations. Actual locations can vary widely.

ACCUCAST

3000 Model

Plow inputs: Analog
 Additional hardware required: None
 Controller/AVL Cable location: Commonly found at the rear of the vehicle cab near Accucast labeled junction box. Otherwise, the control box itself will have a physical female serial port to connect with.
 Spreader Controller AVL Setup: No special setup required
 Final Testing: Ensure vehicle is outside and in an area where the plows can be used.

5000 Model

Plow inputs: Analog
 Additional hardware required: None
 Controller/AVL Cable location: Unused female lead is commonly found coming out of or near the Accucast labeled junction box at rear of vehicle or a physical female serial port located below the AC5000 control box on right hand side if looking from above control box downward.
 Spreader Controller AVL Setup: No special setup required
 Final Testing: Ensure vehicle is outside and in an area where the plows can be used.

7000 Model

Plow inputs: Data (no analog connections required)
 Additional hardware required: None
 Controller/AVL Cable location: Physical female serial cable lead commonly located at ground level, near rear of vehicle cab
 Spreader Controller AVL Setup: No special setup required
 Final Testing: Ensure vehicle is outside and in an area where the plows can be used.

CIRUS

Plow inputs: Analog
 Additional hardware required: None
 Controller/AVL Cable location: Vehicle potentially contains multiple "control" junction boxes on back wall of vehicle cab and as such, will have to locate a female serial cable lead and there could potentially be more than one. Trial and error while on phone with techs may be necessary.
 Spreader Controller AVL Setup: No special setup required
 Final Testing: Ensure vehicle is outside and in an area where the plows can be used. Vehicle may need to be driven to test certain functions.

DICKEY JOHN

Plow inputs: Analog
 Additional hardware required: Requires custom Dickey John TTMEBRIDGE2 serial cable adapter (Available from Certified Tracking Solutions)
 Controller/AVL Cable location: No common location
 Spreader Controller AVL Setup: No special setup required
 Final Testing: Ensure vehicle is outside and in an area where the plows can be used. Vehicle may need to be driven to test certain functions.

EPOKE

Plow inputs: Analog
 Additional hardware required: None
 Controller/AVL Cable location: Female serial cable lead commonly located at rear of vehicle cab toward passenger side
 Spreader Controller AVL Setup: No special setup required
 Final Testing: Ensure vehicle is outside and in an area where the plows can be used.

FORCE AMERICA

FA5100

Plow inputs: Analog
 Additional hardware required: iButton key to enter calibration menu (from spreader manufacturer)
 Controller/AVL Cable location: Female serial cable lead commonly located along back wall of vehicle cab near floor.
 Spreader Controller AVL Setup: The FA5100 requires NUMEROUS controller settings changes in order for data to be sent to the TT33003G device. Please see the FA5100 Setup Guide available from Certified Tracking Solutions for full details.
 Final Testing: Ensure vehicle is outside and in an area where the plows can be used.

Supported Spreader Types - continued

FORCE AMERICA

FA6100

Plow inputs: Analog
 Additional hardware required: Requires an "AVL Event Logging Module" that is specifically keyed to the vehicles VIN. This is only available directly from Force America.

Spreader Controller AVL Setup:

- a) Plug in AVL Event Logging Module to plug on harness (Diagram is available)
- b) Connect serial cable to plug in same location
- c) Slide navigation stick right to calibration
- d) Enter access code (Commonly "111111")
- e) Turn ON "AVL Setting" (Configuration/Enabled Options/Event Logging = AVL)
- f) Enable 30 second interval (Configuration/Enabled Options/Event Logging/Intervals/Enable time – Set to 30 sec)

NOTE: If successful you will see an "AVL" icon at the top right of the screen

Final Testing: Ensure vehicle is outside and in an area where the plows can be used.

REXROTH

Compusread CS440

Plow inputs: Analog
 Additional hardware required: Rexroth Programming Key to enter simulation mode (Available from Rexroth)

Controller/AVL Cable location: Female serial cable lead will be located near floor at back wall of vehicle cab within short distance from control box

Spreader Controller AVL Setup: None

Final Testing: Ensure vehicle is outside and in an area where the plows can be used. IMPORTANT: CS440 needs to be in simulation mode. Refer to CS440 Setup Guide.

Compusread CS550

Plow inputs: Data (no analog connections required)

Additional hardware required:

- a) Rexroth USB Programming Key (Available from Rexroth)
- b) Rexroth GPS / Temp Cable (Part# R987376776). Available from Rexroth.
- c) Null modem connector: This piece plugs into the 6 foot serial cable. Available from Certified Tracking Solutions.

Controller/AVL Cable location: Rexroth proprietary data cable will be threaded into mating port on CS550 controller screen, at bottom left of controller. Proprietary data cable will have two serial cable leads on opposite side from controller connection, one female and one male. They will be labeled as "temp" and "AVL". The null modem adapter best fits between the supplied serial cable and the AVL serial lead as opposed to between the serial lead coming from the TTMEBRIDGE2.

Spreader Controller AVL Setup:

- a) Insert Rexroth USB Programming Key BEFORE controller is powered ON. This is located at the top of the display.
- b) Tap and hold "Gear" icon on bottom right of controller screen (It will enter setup menu)
- c) Check off "AVL" option
- d) Exit setup menu

Final Testing: Ensure vehicle is outside and in an area where the plows can be used.



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