i4M Spreader Troubleshooting – All Machines
Tablet Type iPad
Version 06

Maps and iPad

Self Checks
- From the main app menu HELP->SELF CHECKS
- Self Checks highlight potential app issues (Red Dots). Follow the prompts on the self checks screen to resolve potential issues.

iPad app
- Any issues not resolved by **Self Checks**
- Examples: The app freezes, the app closes, no controller info, wifi drops out, loadcell freeze etc • Uninstall the app, restart the iPad, install the latest i4M Spreader app

iPad SIM Card and network signal
- The i4M app will work without phone signal
- It also works without a SIM card
- A sim card and phone signal is required if you want to download maps in the field
- You can connect the iPad to any internet wifi to download maps
- After downloading maps, you can connect to the i4M controller on the spreader

Cannot download maps to the iPad
- Check that you are logged in under the user tab
- Check that you have an internet connection
- If you have a SIM card in the iPad, check it has phone signal
- If you don't have a SIM card, disconnect from the i4M controller wifi, and connect to your phone wifi hotspot, or office wifi etc
- Check that you have maps ready for download, on the i4M cloud

Username and Password
- The username and password is the same for the iPad and the online i4M maps server
- To reset your password email PAA support admin@precisionag.com.au

Uploading prescription maps to the cloud
Each map is a shapefile in a single zip folder. It must contain these files:
.shp
.shx
.dbf

Controller Startup and Connecting

Startup
The i4M controller takes 60 seconds to boot up. Check the diagnostic LED on the controller.
- LED off = no power
- LED red = booting up, please wait
- LED green = controller is running and wifi is available

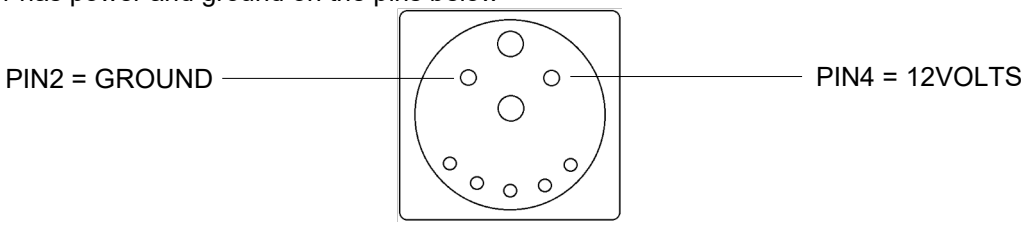
Connecting to Controller
- The controller has a wifi hotspot
- Use an iPad or Android Tablet to connect to MACHINE WIFI
- Ignore the 'No Internet' warnings (the controller is not connected to the web)
- The i4M app will automatically access the controller menu pages
- If you don't have the app, you can open a web browser and enter this address: 192.168.50.50 • The i4M app shows the connection status on the Work Screen

Power and Fuses

Power Check
Controller has a LED to show power, on the connector face
- LED off = no power

• LED red = booting up, please wait
• LED green = controller is running and wifi is available

Power From the Tractor ISO Socket
• Use the tractor ISO socket if equipped (It does NOT use ISOBUS, it uses power and ground only)
• Check the tractor has power and ground on the pins below



View: Looking into the tractor ISO socket

Power From the Battery or Cab
• Other power supplies should be 12volts capable of 20amps
• Power should be taken after the battery isolator (so the controller turns off when the isolator is off)
• If wired direct to battery, the connector at the front of the spreader should be unplugged when not using the spreader

Blown Fuses
If the supply harness goes to the isolator or battery, the main fuse is on the positive connection. If the supply harness goes to the ISO socket, the fuse is part of the tractor wiring.
• Check the power harness and spreader harnesses for damage or shorts
• Unplug the controller and actuator, power up the harness

The door actuator fuse (if installed) is located at the rear of the machine, on the actuator harness.
• Check for jammed or sticking door
• Check wiring into actuator
• Possible actuator fault

Spinner Speed

Spinner Speed always zero or jumping around
• The sensor on the spinner shaft must be 2mm away from the metal tag
• Check the light on the sensor turns on, each time the tag passes the sensor
• Check connector pin A has ground
• Check connector pin B has 12 volts
• Check connector pin C has 5 volts

Ground Speed

Ground Speed is always zero or jumping around
• Ground drive has a sensor on the gearbox drive wheel
• Hydraulic drive has a sensor on the spreader axle
• All sensors must be 2mm away from the tooth or metal surface
• Check the light on the sensor turns on for each passing tooth
• Check connector pin A has ground
• Check connector pin B has 12 volts
• Check connector pin C has 5 volts

Ground Speed too low or too high (doesn’t match the tractor speed)
• Tap SETTINGS > MACHINE and adjust the Distance Cal

Hectares

Hectares always zero or jumping around
• Controller software must be later than V10.01.33, and update the iPad app
• Ground drive has a sensor on the gearbox drive wheel
• Hydraulic drive has a sensor on the spreader axle

• All sensors must be 2mm away from the tooth or metal surface
• Check the light on the sensor turns on for each passing tooth
• Check connector pin A has ground
• Check connector pin B has 12 volts
• Check connector pin C has 5 volts

Hectares too low or too high
• Tap SETTINGS > HECTARES and enter the correct hectares
• Check that your spread width is correct in PRODUCT

Rate Problems

Actual Rate always zero or jumping around when belt is turning
• Ground drive has a sensor on the gearbox drive wheel
• Hydraulic drive has one sensor on the hydraulic motor, and one sensor on the spreader axle
• All sensors must be 2mm away from the tooth or metal surface
• Check the light on the sensor turns on, for each passing tooth
• Check connector pin A has ground
• Check connector pin B has 12 volts
• Check connector pin C has 5 volts

Product is going out too heavy
• Check that the hectares are counting correctly
• Check the spread width is correct, tap PRODUCT
• Check sensor pulses is correct in SETTINGS > MACHINE (see Technote 19006 online)
• Increase the Calibration Factor, tap PRODUCT
    If product is 10% too heavy, increase the Calibration Factor by 10%

Product is going out too light
• Check that the hectares are counting correctly
• Check the spread width is correct, tap PRODUCT
• Check sensor pulses is correct in SETTINGS > MACHINE (see Technote 19006 online)
• Decrease the Calibration Factor, tap PRODUCT
    If product is 10% too light, decrease the Calibration Factor by 10%

Door Actuator

Door Actuator height problem or won't move
• The door actuator requires high power, bad connections and low voltage will cause random issues
• Tap SETTINGS > MACHINE confirm 'Door Actuator is Installed'
• Check for jammed door
• Check the actuator fuse (if installed on the actuator harness)
• Do the 'Reset Actuator' steps in CHECKS > DOOR

Checking the height sensor and motor
• Tap CHECKS > DOOR
• Tap open, door should open fully, Door Sensor = approx 0mV, Actual Height = approx 240mm
• Tap close, door should close to 10mm, Door Sensor = approx 10000mV, Actual Height = approx 10mm

Hopper kilograms (with Loadcells)

Kilograms always show zero
• Check the loadcells have been calibrated
    Tap SETTINGS > HOPPER
    Empty the hopper, tap EMPTY
    Dump a known amount of weight in the hopper, type in the kg

Kilograms drift up and down slowly
• Unused inputs must be turned off

Tap SETTINGS > HOPPER
Most machines have 3 loadcells, check channel 0 1 2 are ticked
If machine has 4 loadcells, tick all channels
• A loadcell might be unplugged or has broken wires

Kilograms jumping around quickly
• Select the correct filter to smooth the reading
Tap SETTINGS > HOPPER
OFF = the kg reading will jump around a lot, only use this setting for troubleshooting
WEIGHT TRACKING = this suits most paddock conditions
MOVING AVERAGE = this displays the average kg over the last 10 seconds

Loadcell electrical checks
• Check the loadcell signals
Tap CHECKS > LOADCELLS
Check the Loadcell readings, less than 50 000 is faulty, greater than 100 000 is faulty
Check the power to each loadcell, deutsch 4pin connector, Pin3=Ground Pin4=5volts
Check the signals from the each loadcell, deutsch 4pin connector, Pin1=2.5volts Pin2=2.5volts

Hopper kilograms (without Loadcells)

Machines without loadcells
• The readout is a kg countdown, if the speed or rate is wrong, this countdown will be wrong
• Check the ground speed is reading correctly, tap CHECKS > BELT look for Ground Speed km/h
• Check the output rate is reading correctly when spreading

Alerts on Screen

Spinner speed is low
• Check the spinners are turning (greater than 200rpm)
• The sensor on the spinner shaft must be 2mm away from the metal tag
• Check the light on the sensor turns on, each time the tag passes the sensor
• Check connector pin A has ground
• Check connector pin B has 12 volts
• Check connector pin C has 5 volts

The rate does not match your desired rate
• Check the belt is turning when spreading
• Check the ground speed is reading correctly, tap CHECKS > BELT look for Ground Speed km/h
• Check the belt speed is reading correctly, tap CHECKS > BELT look for Belt Speed RPM
• Ground drive has a sensor on the gearbox drive wheel
• Hydraulic drive has one sensor on the hydraulic motor, and one sensor on the spreader axle
• All sensors must be 2mm away from the tooth or metal surface
• Check the light on the sensor turns on, for each passing tooth
• Check connector pin A has ground
• Check connector pin B has 12 volts
• Check connector pin C has 5 volts

• Hydraulic drive machines
With door actuator, tap CHECKS > DOOR, check that Target Height and Actual Height are similar
Without door actuator, check the door height setting, tap PRODUCT
Check the hydraulic flow is set to 70% in the tractor
Confirm the machine has the correct settings, tap SETTINGS > MACHINE
If slowing down fixes the problem, tap PRODUCT and increase the door height

• Ground drive machines
Check the hydraulic flow is set to 70% in the tractor
With door actuator, tap CHECKS > DOOR, check that Target Height and Actual Height are similar
Confirm the machine has the correct settings, tap SETTINGS > MACHINE

The desired door height is too low
• Tap PRODUCT
• Hydraulic Drive Machines: Increase the door height
• Ground Drive Machines: Change the gear setting to increase the door height

Door problem, Reset the Actuator in CHECKS DOOR menu
• Tap SETTINGS > MACHINE confirm 'Door Actuator is Installed'
• Check for jammed door
• Check the actuator fuse (if installed on the actuator harness)
• Do the 'Reset Actuator' steps in CHECKS > DOOR

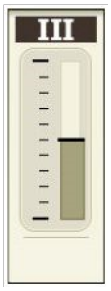
Tractor Hydraulics

Connecting and setup
• Connect to standard remotes, Do not use high flow return, Incorrect return will damage the tractor
• Low engine RPM will cause Spinner and Belt issues – see Operators Guide for details

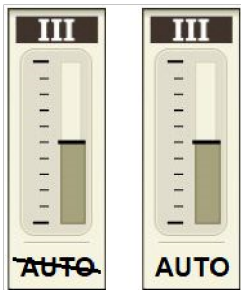
Hydraulic Drive – John Deere tractor Auto Hydraulics

Belt won't move
• Check belt hoses are plugged into remote number 3
• Set the tractor hydraulic flow to 70%
• Push remote 3 lever forward slowly, check the belt turns correctly
(if belt doesn't turn, move lever both ways, remove and reconnect the hoses, try them in a different remote)

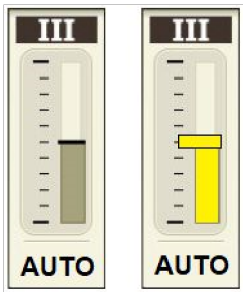
• Check the tractor hydraulic display shows AUTO below remote number 3



AUTO is missing
•Turn tractor off, kill battery isolator
•Unplug the auto hydraulics connector at the front of the spreader
•Start the tractor
•Move remote lever 3 forward for 5 seconds
•Turn tractor off, kill battery isolator
•Plug in the auto hydraulics connector
•Start the tractor, check the display shows AUTO
•If AUTO is still missing, turn tractor off, kill isolator
• Unplug the auto hydraulics connector at the front of the spreader
• Power up the i4M controller
• Check the voltage at the 3pin auto hydraulics connector: PIN B = 2.5v PIN C = ground



AUTO is crossed out
- Quickly click the lever forward and release it
- The line should disappear
- Don't click too far forward, that will engage float



AUTO is showing

- The tractor must be moving (this is a tractor safety feature, cannot be changed)
- On the iPad go to CHECKS > BELT and send a Manual Command of 50
- The tractor hydraulic display must show remote 3 is flowing (yellow bar graph)

Hydraulic Drive – Case or New Holland tractor Auto Hydraulics

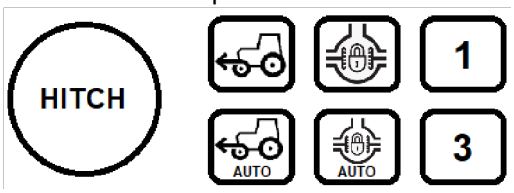
Belt won't move

- Check belt hoses are plugged into remote number 3
- Set the tractor hydraulic flow to 70%

• Push remote 3 lever forward slowly, check the belt turns correctly
(if belt doesn't turn, move lever both ways, remove and reconnect the hoses, try them in a different remote)

• Check the tractor cornerpost display shows AUTO 1 3
If not, follow these steps
Key off
Press the PROG button, do not release it
Key on
Wait 5 seconds
Release PROG button
Cornerpost shows CONFIG MENU
Select AUX/HITCH/PTO option from the list
Select EHR from the list (Electronic Hyd Controller)
Select AUX SETUP from the list
Set the SCRPR option to: 2 LASER
Select EXIT

• Press button 3 to put the remote in auto mode



• The tractor must be moving
• On the iPad tap CHECKS > BELT and send a Manual Command of 50
• The belt should begin moving
• If belt still won't move , turn tractor off, kill isolator
• Unplug the auto hydraulics connector at the front of the spreader
• Power up the i4M controller
• Check the voltage at the 3pin auto hydraulics connector: PIN B = 2.5v PIN C = ground

Hydraulic Drive – using PWM valve on spreader

Belt won’t move

- Set the tractor hydraulic flow to 70% and the time to constant
- On the iPad tap CHECKS > BELT and send a Manual Command of 100
- Warning: do not run the belt backwards
- Engage the tractor remote lever
- If the belt doesn't move
    - Engage the lever the oppostite direction
    - Check for locked couplers (unplug hoses and plug back in) and retry
    - Change hoses to a different hydraulic remote and retry
    - Test the connector on the PWM solenoid, there should be 12 volts when the Manual Command is 100