

# GreenStar™ 2 iSteer™ QUICK REFERENCE GUIDE

## iSteer – Set Up

### Start-Up Settings Guidelines

#### Select SCV Control Type

Under the SCV that will control the implement steering mechanism, select desired control type (Off, Implement Steering, or Implement Shifting).

Control Selection	
SCV1 Control Type	
Implement Steering	▲▼
SCV3 Control Type	
Off	▲▼
Setup Menu	◀

### Tune SCV Threshold

SCV Threshold Setup	
SCV1 Threshold Setup	▲▼
Wheel Angle Sensor Voltage	-1933 0.0
Extend Threshold	250
Retract Threshold	250
Valve Test Off	▲▼

If the implement steers significantly faster in one direction, under steers, or over steers, iSteer may not perform as expected due to hydraulic limitations.

This speed difference makes it difficult for iSteer to maintain an off-track error of 0.

While driving greater than 0.5 kph and SCV is in "AC", adjust each THRESHOLD Value to lowest possible setting that still produces a steady, consistent motion.

**Note:** AutoTrac is not to be engaged at this step.

### Set Wheel Angle Sensitivity

This is a coarse adjustment to indicate the size of the steering cylinder.

Small Cylinder = 500  
Large Cylinder = 5000

Wheel Angle Sensitivity	2500
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### Adjust SCV Flow



Select SCV # and Turn flow knob on tractor RHD to adjust (Range 0.1 to 10).

Turn SCV flow up on tractor RHD until steer mechanism is unstable or banging. From this point back flow off until steer mechanism stabilizes.

### Calibration Guidelines

#### Calibrate wheel angle sensor voltage:

Manually move steered axle to the steered right limit and select SET MAX RIGHT POSITION.

Manually move steered axle to the steered left limit and select SET MAX LEFT POSITION.

Manually move steered axle to center position and select SET CENTER POSITION.

The voltages can range from just less than 5 volts down to just more than 0.1 volts. The voltages should vary equally above and below the center voltage. (If the voltages ranges is less than 1 voltage up and down consider changing the potentiometer installation to give it a more exaggerated range of movement).

Set Max Right Position

Set Max Left Position

Set Center Position

**Important** that center position is properly calibrated. Will have an effect on how the system acquires lines.

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## iSteer – Set Up (cont)

### Recommended Starting settings

These recommended settings are a good starting point for most vehicles. Each setting can be adjusted to try and optimize performance. SCV flow may have been adjust during setup.

Control Type	Line Sensitivity Tracking	Line Sensitivity Accumulated	SCV Flow
Implement Steering	3000	300	3.0
Implement Shifting	3000	NA	3.0

### Implement Receiver Calibration

Implement receiver TCM must be turned ON and calibrated for iSteer to function. TCM calibration pages have images to guide operators through calibration procedure. Use the implement axle as the calibration point.

### Implement Receiver Lateral Offset

On equipment where the implement receiver cannot be mounted in the center line of the implement, a Lateral Offset can be entered to account for the shifted location.

iSteer GPS Offset	
Position Shifted Left	▲▼
Left/Right Shift (in)	0

### Operating Guidelines

**Setup guidance lines on GS2 and turn Steer ON.**

**Detent SCV forward:** Should transition from “EC” to “AC” on RHD.

EC = Manual SCV Control

AC = Auto SCV Control

**Press AT resume switch to engage system.**

Machine and Implement should steer to line.

**NOTE: AutoTrac in reverse will disengage after 45 seconds.**

### Follow Mode

Follow Mode sets the implement guidance path in the same path as the machine receiver. This allows iSteer to operate without a guidance line defined and the operator driving the machine. This is especially useful during the first pass through a field when the guidance line is being defined.

Tractor Follow Off	▲▼
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### Sensitivity Adjustments

#### Line Sensitivity Tracking:

Line Sensitivity can be set in range of 10 to 10000.

Typically 1500 to 5000.

#### Line Sensitivity Accumulated:

Line Sensitivity can be set in range of 10 to 1000.

Typically 150 to 500.

Implement Steer Main	
Implement Steering Status	SCV1 No GPS
Track Error (in)	0
Wheel Angle	-1937
Line Sensitivity Tracking	1500
Line Sensitivity Accumulated	300
Tractor Follow Off ▲▼	

### Optimizing iSteer Performance

#### Step 1 – Tune tractor SCV flow

Turn scv flow up on tractor RHD until steer mechanism is unstable or banging. From this point back flow off until steer mechanism stabilizes.

#### Step 2 – Tune Line Sensitivity Tracking

Determines how aggressively the vehicle acquires the track.

*This setting affects performance while acquiring the track only.*



Sensitivity too High

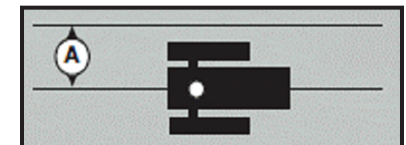
Sensitivity too Low

#### Step 3 – Tune Line Sensitivity Accumulated

Determines how aggressively iSteer responds to tracking errors while the vehicle is on the track.

*This setting affects performance while on track only. See pictures below.*

Sensitivity too Low on steep slopes when implement doesn't track on line.



Sensitivity too Low

Sensitivity too High

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## iSteer – Diagnostic

### Information on iSteer can be found under the status line

<table border="1"> <tr> <td>Implement Steer Main</td> <td></td> </tr> <tr> <td>Implement Steering Status</td> <td>SCV1 No GPS</td> </tr> </table>	Implement Steer Main		Implement Steering Status	SCV1 No GPS	Status Code	Description	Indicates
Implement Steer Main							
Implement Steering Status	SCV1 No GPS						
	No GPS	No GPS visible on system at location specified in control selection area for this SCV.	Change control selection for GPS to correct location or Install GPS.				
	Cycle Power	Controller needs to be restarted to communicate with new function.	Turn tractor off and on again.				
	No RTK	No RTK correction seen on selected GPS or RTK not currently available.	No RTK activation on implement GPS and/or machine GPS.				
	Update GPS SW	Incompatible software loaded.	Software needs to be updated on GPS receiver for it to be compatible.				
	OK	System is ready to be operated. Any faults still occurring are likely to be independent of iSteer control system and on tractor or implement itself.	System is working properly.				

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## iSteer – Troubleshooting

Symptom	Problem	Solution
Monitor screen not readable on hook up to machine.	No communications with machine control unit.	Must turn power off, check connections and power up to reboot system.  Check 4-pin Deutsch connector at back of ISO implement connector on tractor for cleanliness and proper attachment.
Implement steers away from line when AT resume button is pressed.	SCV hoses are reversed.  Implement Steer calibration was done reversing right and left.  Wheel angle sensor is connected to the wrong SCV feedback source.	Switch hoses in SCV outlets.  Perform implement steer calibration the opposite of first calibration.  Manually steer implement and make sure wheel angle or sensor voltage changes on display. Switch wheel angle sensor connection to proper SCV feedback connector if necessary.
Steering mechanism steers significantly faster in one direction than the other, or steers in the wrong direction.	iSteer may not perform as expected due to hydraulic limitations.	Move the hydraulics from SCV3 to SCV1, with an oil flow setting of 5.0 observe if the time taken to manually cycle equal distances in each direction. If they are more similar than on SCV3 you could use SCV1 for iSteer, perform SCV threshold setup or have your dealer recalibrate the SCV as per service advisor guidelines.  IF the steering mechanism still takes different times to travel in each direction verify steering mechanism is functioning properly.



**JOHN DEERE**