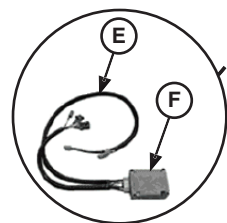
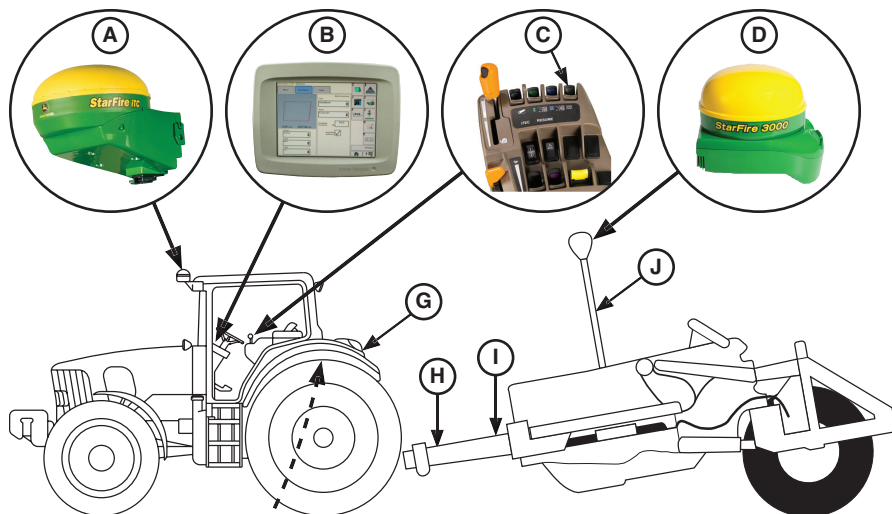


GreenStar™ 2 iGrade QUICK REFERENCE GUIDE

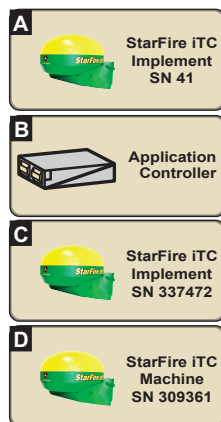
Getting Started

Common Setup



- A. StarFire RTK GPS Receiver
- B. Display
- C. SCV Control Lever
- D. StarFire RTK GPS Receiver with Deluxe Shroud
- E. UCC Harness
- F. Application Controller
- G. Constant Power Harness
- H. CAN Front Extension Harness
- I. Center Extension Harness
- J. Implement Receiver Application Harness

- Each StarFire Receiver needs to have the TCM turned on and calibrated for iGrade.
- For Dual Scrapers there will be two separate implement receiver softkeys.
- Machine Receiver only required for Load Limiting, Distance Trip, and SWPro+.
- Dual scraper- Lower S/N receiver of the two implement receivers should be mounted on front scraper which should be connected to SCV 1. Higher S/N receiver will be on rear scraper which should be connected to SCV 3.

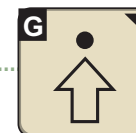


Control Selection

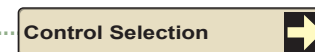
1. Application Controller Softkey



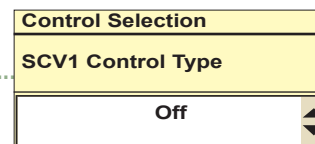
2. Select Setup Menu



3. Select Control Selection



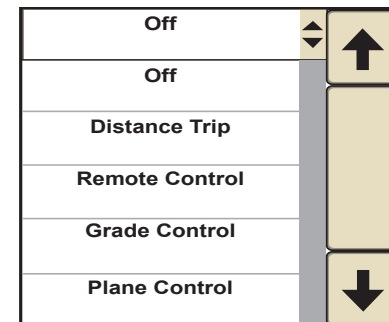
4. Select control type for each SCV



Note: If only using one scraper or implement for active control be sure to set the SCV not in use to off.

Control Types

- Distance Trip – Cycles hydraulically controlled implements off of GPS distance.
- Remote Control – Enables Surface Water Pro Plus Automation.
- Grade Control – Automatically controls to grade regardless of travel direction. Great for simple or linear ditching operations.
- Plane Control – Controls blade elevation to a single or dual sloped plane. Perfect for most land leveling.



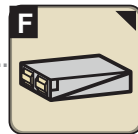
GreenStar™ 2 iGrade – DISTANCE TRIP

Setup

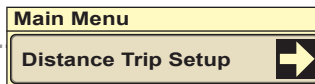
1. Select Application
Controller Softkey



2. Select Application Controller
Main Menu

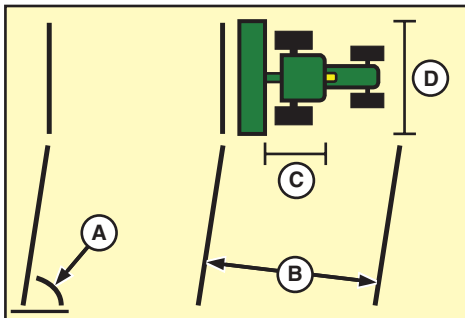


3. Select Distance
Trip Setup



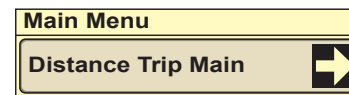
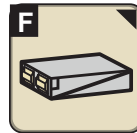
4. Distance Trip
Setup Settings

Distance Trip Setup	
Furrow Heading (deg)	75 A
Interval Distance (ft)	32.293 B
GPS Offset to implement (ft)	11.000 C
Implement Width (ft)	15.000 D



Operate

1. Select Application
Controller Main Menu



3. Select the Furrow Position



- 1.



Place SCV 1 in detent

- 2.

Distance Trip Main	
Distance Trip Status	SCV1 Cycle Power
Furrow Heading (deg)	75
Interval Distance (ft)	32.293
Trigger First Trip	
Manual Trip	
Furrow Position - Right	

Trigger First Trip at desired location

- 3.

Distance Trip Main	
Distance Trip Status	SCV1 No GPS
Furrow Heading (deg)	75
Interval Distance (ft)	32.293
Stop Tripping	
Trip Earlier	
Trip Later	

Stop Tripping when finished

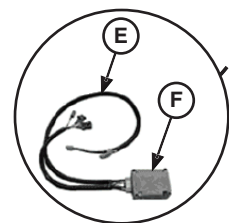
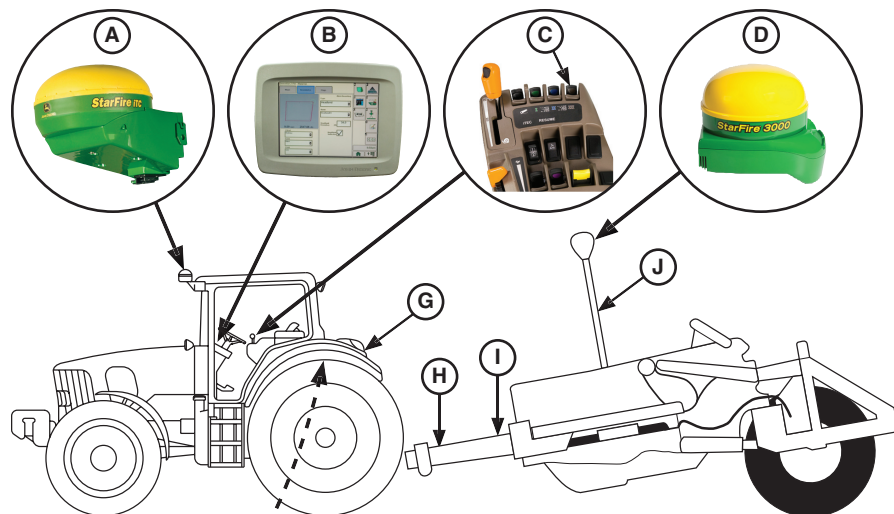
NOTES

- Requires machine receiver only.
- Trip distance based off of furrow heading and distance between furrows, not travel direction.
- Trip Earlier/Later shifts each furrow by ~2 in. or 5 cm.
- Manual Trip option allows user to complete trips as needed.

GreenStar™ 2 iGrade QUICK REFERENCE GUIDE

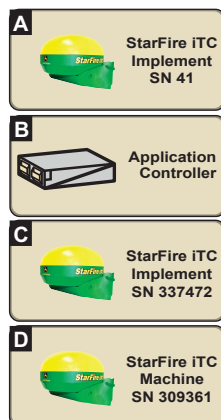
Getting Started

Common Setup



- A. StarFire RTK GPS Receiver
- B. Display
- C. SCV Control Lever
- D. StarFire RTK GPS Receiver with Deluxe Shroud
- E. UCC Harness
- F. Application Controller
- G. Constant Power Harness
- H. CAN Front Extension Harness
- I. Center Extension Harness
- J. Implement Receiver Application Harness

- Each StarFire Receiver needs to have the TCM turned on and calibrated for iGrade.
- For Dual Scrapers there will be two separate implement receiver softkeys.
- Machine Receiver only required for Load Limiting, Distance Trip, and SWPro+.
- Dual scraper- Lower S/N receiver of the two implement receivers should be mounted on front scraper which should be connected to SCV 1. Higher S/N receiver will be on rear scraper which should be connected to SCV 3.

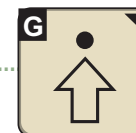


Control Selection

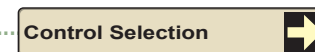
1. Application Controller Softkey



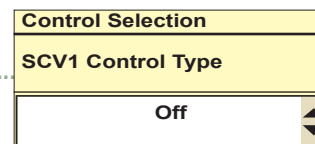
2. Select Setup Menu



3. Select Control Selection



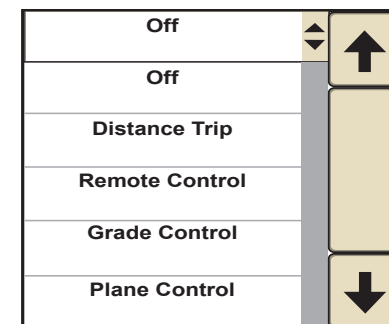
4. Select control type for each SCV



Note: If only using one scraper or implement for active control be sure to set the SCV not in use to off.

Control Types

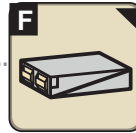
- Distance Trip – Cycles hydraulically controlled implements off of GPS distance.
- Remote Control – Enables Surface Water Pro Plus Automation.
- Grade Control – Automatically controls to grade regardless of travel direction. Great for simple or linear ditching operations.
- Plane Control – Controls blade elevation to a single or dual sloped plane. Perfect for most land leveling.



GreenStar™ 2 iGrade – GRADE CONTROL

Setup

1. Select Application Controller
Main Menu



2. Select Main
Menu

Main Menu	
Grade Control Setup	➔

3. Select Grade
Control Setup

Grade Control Setup	
Grade Control	SCV 3
Status	Cycle Power
Grade Length (ft)	0
GPS Altitude (ft)	0.00
Slope (%)	50.0000
Grade Calculator	➔
Load Limit Setup	➔

4. Select Load Limit Setup

Grade Control Setup	
Load Limit Setup	➔

5. Select Load
Limit Setup

Load Limit Setup	
Load Limiting On	
Engine Speed (rpm)	1500
Threshold	
Slip (%)	15.0
Threshold	

Enable Load Limit* for added machine protection. Adjust engine speed and wheel slip thresholds to optimize Load Limit.

* Does not replace experienced operator.

Use Grade Calculator when slope is not known.

1. Start Grade Calculator.
2. Drive desired ditch or run.
3. Stop Grade Calculator.
4. Set as Grade Control Slope if Grade % and length appear correct.
5. Select direction and repeat recorded path.

Grade Calculator	
Start/Stop Grade Calculator	
Set as Grade Control Slope	
Downhill Grade %	0.0000
Grade Length (ft)	0
Max Cut (ft)	0.00
Max Fill (ft)	0.00

Enter Slope into Grade control setup if known; or
Use Grade Calculator to measure slope along desired path.

Tips and Tricks

- Record desired path on display.
- Keep Blade at constant height when using grade calculator.
- Grade calculator only creates a linear ditch, no best fit option.
- Use AutoTrac to increase repeatability of path (if equipped).
- Be sure to select Set as Grade Control Slope if using the Grade calculator. This enters Grade calculator's slope into Grade Control Setup's slope.
- User can switch Direction – Up Hill or Down Hill to work from either direction of Grade or Ditch.

Operate

- 1.



Place SCV 1 in detent

- 2.

Grade Control Main	
Grade Control	SCV 3
Status	Cycle Power
Start Grade	
Pause/Resume	
Direction - Down Hill	
Error (ft)	0.00
Grade Length (ft)	0

Select Start Grade to automate control

- 3.

Grade Control Main	
Grade Control	SCV 3
Status	Cycle Power
Start Grade	
Pause/Resume	
Direction - Down Hill	
Error (ft)	0.00
Grade Length (ft)	0

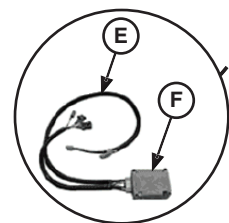
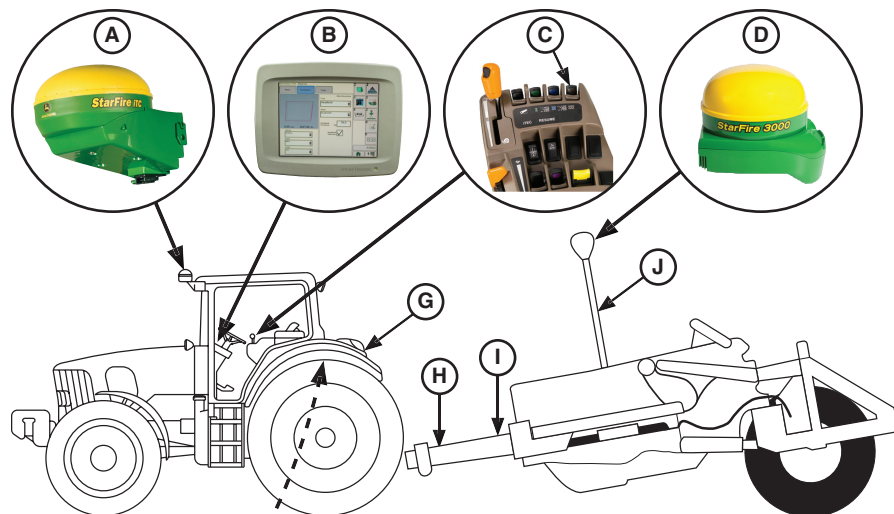
Use Pause/Resume between loads

Note: Manually adjusting blade height with SCV disables Automatic Control. Returning SCV to detent automates control.

GreenStar™ 2 iGrade QUICK REFERENCE GUIDE

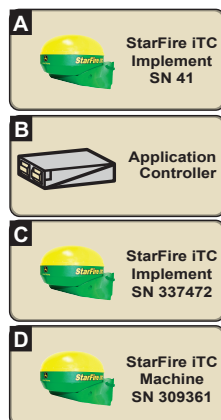
Getting Started

Common Setup



- A. StarFire RTK GPS Receiver
- B. Display
- C. SCV Control Lever
- D. StarFire RTK GPS Receiver with Deluxe Shroud
- E. UCC Harness
- F. Application Controller
- G. Constant Power Harness
- H. CAN Front Extension Harness
- I. Center Extension Harness
- J. Implement Receiver Application Harness

- Each StarFire Receiver needs to have the TCM turned on and calibrated for iGrade.
- For Dual Scrapers there will be two separate implement receiver softkeys.
- Machine Receiver only required for Load Limiting, Distance Trip, and SWPro+.
- Dual scraper- Lower S/N receiver of the two implement receivers should be mounted on front scraper which should be connected to SCV 1. Higher S/N receiver will be on rear scraper which should be connected to SCV 3.

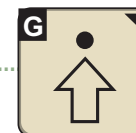


Control Selection

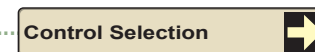
1. Application Controller Softkey



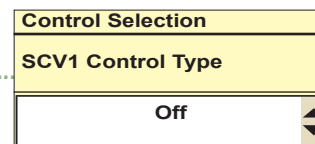
2. Select Setup Menu



3. Select Control Selection



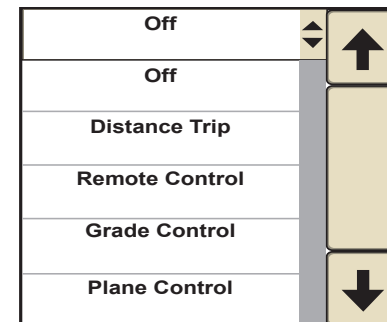
4. Select control type for each SCV



Note: If only using one scraper or implement for active control be sure to set the SCV not in use to off.

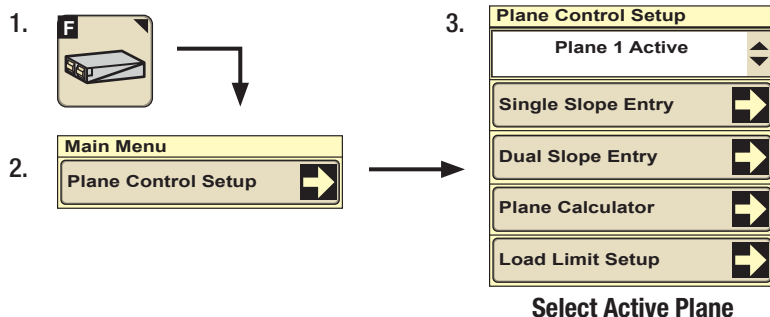
Control Types

- Distance Trip – Cycles hydraulically controlled implements off of GPS distance.
- Remote Control – Enables Surface Water Pro Plus Automation.
- Grade Control – Automatically controls to grade regardless of travel direction. Great for simple or linear ditching operations.
- Plane Control – Controls blade elevation to a single or dual sloped plane. Perfect for most land leveling.

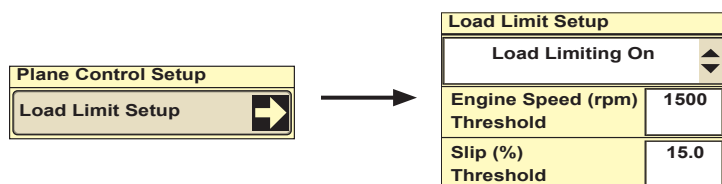


GreenStar™ 2 iGrade – PLANE CONTROL

Getting Started



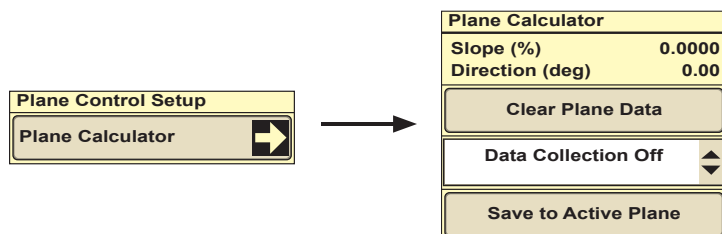
Load Limit



Enable Load Limit* for added machine protection. Adjust engine speed and wheel slip thresholds to optimize Load Limit.

* Does not replace experienced operator.

Plane Calculator



Use Plane calculator when desired slope/s are not known. Plane calculator records elevation data and designs a best fit plane.

1. Clear plane data (if creating new plane).
2. Turn Data collection ON.
3. Drive to collect elevation data from desired locations.
4. Turn Data Collection Off.
5. Analyze Slope % and Direction.
6. Save to Active Plane if slope and direction appear correct.

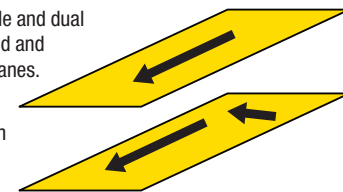
Slope Entry

Single Slope Entry

Slope (%)	2.5495
Down Slope Direction (deg)	78.69
Set Plane Origin	

Slope entry allows for single and dual sloped planes to be defined and saved to selected active planes.

Use Set Plane Origin to set active plane's elevation to a point on the designed plane.



Dual Slope Entry

Dual Slope Input →	
Slope 1 (%)	0.5000
Direction1 (deg)	0.00
Slope 2 (%)	2.5000
Direction2 (deg)	90.00
Set Plane Origin	

Dual Slopes can be placed at any angle to each other.

Dual Slope Input

Slope1 (%)	0.5000
Down Slope Direction1 (deg)	0.00
Slope2 (%)	2.5000
Down Slope Direction2 (deg)	90.00

Operate

Main Menu
Plane Control Main →

Plane Control Main

Plane Control	SCV 3
Status	Cycle Power
Plane 1 Active	▲
Error (ft)	0.00
Plane Offset (ft)	0.36
Shift Offset Up	
Shift Offset Down	

Select Active Plane



Place SCV 1 in detent to automate control

Tips and Tricks

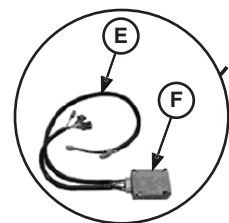
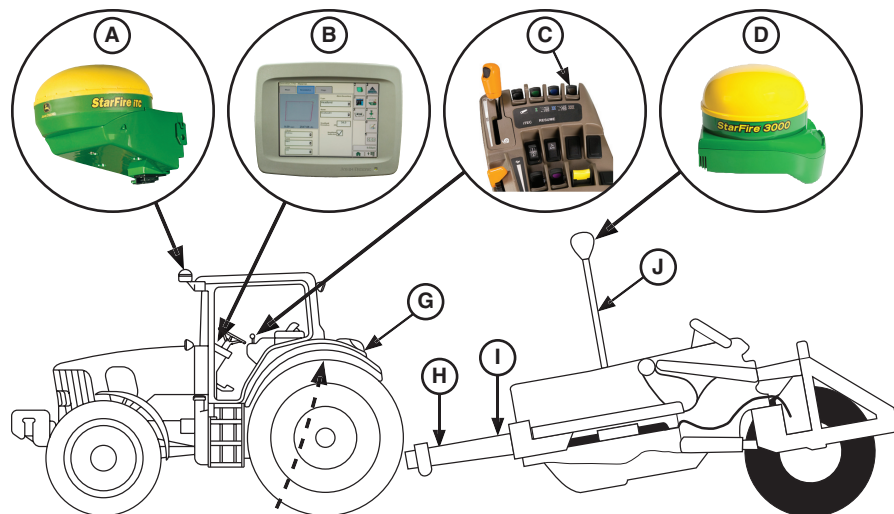
- Use Shifts if cutting too deep or if more fill is needed.
- Switch between Active Planes as needed.
- Reset plane origin to verify elevation if working in one area for an extended period of time or over multiple keycycles.

Note: Manually adjusting blade height with SCV disables Automatic Control. Returning SCV to detent automates control.

GreenStar™ 2 iGrade QUICK REFERENCE GUIDE

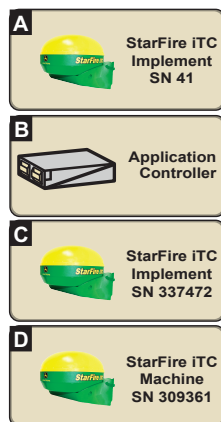
Getting Started

Common Setup



- A. StarFire RTK GPS Receiver
- B. Display
- C. SCV Control Lever
- D. StarFire RTK GPS Receiver with Deluxe Shroud
- E. UCC Harness
- F. Application Controller
- G. Constant Power Harness
- H. CAN Front Extension Harness
- I. Center Extension Harness
- J. Implement Receiver Application Harness

- Each StarFire Receiver needs to have the TCM turned on and calibrated for iGrade.
- For Dual Scrapers there will be two separate implement receiver softkeys.
- Machine Receiver only required for Load Limiting, Distance Trip, and SWPro+.
- Dual scraper- Lower S/N receiver of the two implement receivers should be mounted on front scraper which should be connected to SCV 1. Higher S/N receiver will be on rear scraper which should be connected to SCV 3.

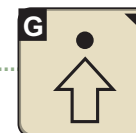


Control Selection

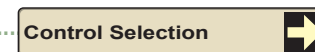
1. Application Controller Softkey



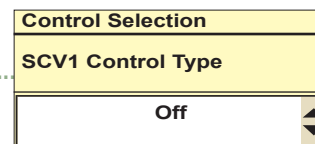
2. Select Setup Menu



3. Select Control Selection



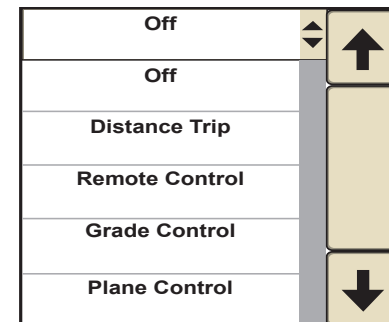
4. Select control type for each SCV



Note: If only using one scraper or implement for active control be sure to set the SCV not in use to off.

Control Types

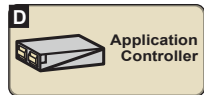
- Distance Trip – Cycles hydraulically controlled implements off of GPS distance.
- Remote Control – Enables Surface Water Pro Plus Automation.
- Grade Control – Automatically controls to grade regardless of travel direction. Great for simple or linear ditching operations.
- Plane Control – Controls blade elevation to a single or dual sloped plane. Perfect for most land leveling.



GreenStar™ 2 iGrade – SWPro PLUS AUTOMATION

Control Type Selection

1. Select Application Controller Softkey
2. Select Main Menu



3. Select Control Selection
4. Select SCV1 Control Type

Control Selection

Control Selection	
SCV1 Control Type	
Remote Control	

Select Remote Control

Load Limit Setup

1. Select Application Controller Main Menu
2. Select Main Menu



Main Menu	
Remote Control Setup	

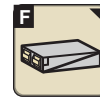
3. Select Load Limit Setup

Load Limit Setup	
Load Limiting Off	
Engine Speed (rpm) Threshold	1500
Slip (%) Threshold	15.0

Enable Load Limit* for added machine protection. Adjust engine speed and wheel slip thresholds to optimize Load Limit.

* Does not replace experienced operators.

Operation



Main Menu	
Remote Control Main	



Place SCV 1 in detent for automatic control

Remote Control Main	
Status	No GPS
Control Error (ft)	0.00
Offset (ft)	0.03
Command (ft)	0.00
Set Offset - Zero Error	
Shift Offset Up	
Shift Offset Down	

- Use Shifts if cutting too deep or if more fill is needed.
 - Use Zero Error to shift designed ditch to current blade height.
 - Use Shift up/down until offset = 0 to return to designed ditch set by SWPro.
- Note: Manually adjusting blade height with SCV disables Automatic Control. Returning SCV to detent automates control.

The Surface Water Pro Plus Automation is enabled by the remote control functionality that automates advanced ditching operations.

This Remote Control feature automatically controls the blade elevation by matching the visual commands on the display used for manual operations.

Elevation Control	
Error (ft) 0.00	
Offset (ft) 0.00	
GPS Accuracy GOOD	
10:36 pm	
3/5	

Tracking Mode	
Ditch Track	
Ditch Track Name West 40	
New Modify	