

AutoTrac™ RowSense™ Forage Harvester



DCY

OPERATOR'S MANUAL AutoTrac™ RowSense™ SPFH OMPFP10199 ISSUE E0 (ENGLISH)

CALIFORNIA Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

If this product contains a gasoline engine:

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.

Additional Proposition 65 Warnings can be found in this manual.

John Deere Werke Zweibrücken
European Version
LITHO IN U.S.A.



OMPFP10199

Introduction

Foreword

READ THIS MANUAL carefully to learn how to operate the system correctly. Failure to do so could result in personal injury or equipment damage. This manual and safety signs on your machine may also be available in other languages. (See your John Deere dealer to order.)

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your system and should remain with the system when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners. Metric and inch fasteners may require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing in the direction the machine will travel when going forward.

WARRANTY is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual. The GreenStar hardware warranty is explained on the warranty certificate which you should have received from your dealer.

This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty. Should the system be abused or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied.

KR43067,00000A2 -19-10NOV08-1/1

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Original Instructions. All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

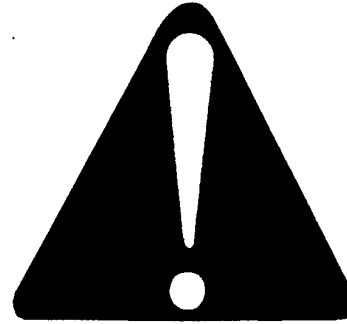
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Safety

Recognize Safety Information

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



T81389 —UN—07DEC88

DX,ALERT -19-29SEP98-1/1

Understand Signal Words

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

 **DANGER**

 **WARNING**

 **CAUTION**

TS187 —19—30SEP88

DX,SIGNAL -19-03MAR93-1/1

Follow Safety Instructions

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.



TS201 —UN—23AUG88

If you do not understand any part of this manual and need assistance, contact your John Deere dealer.

DX,READ -19-16JUN09-1/1

Handle Global Positioning Receivers and Brackets Safely

Falling while installing or removing a global positioning receiver can cause serious injury. Use a ladder or platform to easily reach a mounting location.

Use sturdy and secure footholds and handholds. Do not install or remove the receiver in wet or icy conditions.

The receiver mast used on implements is heavy and can be awkward to handle. Two people are required when mounting locations are not accessible from the ground or from a service platform. Use proper lifting techniques and wear proper protective equipment.



TS249 —UN—23AUG88

DX,WW,RECEIVER -19-08JAN08-1/1

Operate Guidance Systems Safely

Do not use AutoTrac system on roadways.

- Always turn off (Deactivate and Disable) AutoTrac system before entering a roadway.
- Do not attempt to turn on (Activate) AutoTrac system while transporting on a roadway.

The AutoTrac system is intended to aid operator in performing field operations more efficiently. Operator is always responsible for machine path. To prevent injury to operator and bystanders:

- Remain alert and pay attention to surrounding environment.
- Take control of steering wheel when necessary to avoid field hazards, bystanders, equipment, or other obstacles.
- Stop operation if poor visibility conditions impair your ability to operate the machine or identify people or obstacles in machine path.

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Read The Guidance Manual

Before attempting to operate AutoTrac, fully read the Guidance manual to understand components and procedures required for safe and proper operation.

The Guidance manual is for AutoTrac guidance systems applications.

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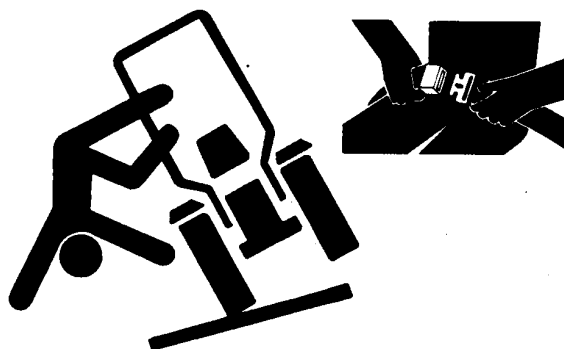
Use Seat Belt Properly

Use a seat belt when you operate with a roll-over protective structure (ROPS) or cab to minimize chance of injury from an accident such as an overturn.

Do not use a seat belt if operating without a ROPS or cab.

Replace entire seat belt if mounting hardware, buckle, belt, or retractor show signs of damage.

Inspect seat belt and mounting hardware at least once a year. Look for signs of loose hardware or belt damage, such as cuts, fraying, extreme or unusual wear, discoloration, or abrasion. Replace only with replacement parts approved for your machine. See your John Deere dealer.



TS205 —UN—23AUG88

DX,ROPS1 -19-29OCT07-1/1

AutoTrac™ RowSense™ SPFH

Overview

AutoTrac RowSense is comprised of the following components

- Integrated AutoTrac installed and activated on forage harvester, with upgraded AutoTrac RowSense software programmed into Steering System Unit (SSU), AutoTrac SF1 or SF2 activation.
- AutoTrac RowSense SF1 or SF2 activation
- Row Sensors mounted to approved Harvesting Unit
- GS2 2600 display
- StarFire receiver with SF1, SF2, or RTK activation

AutoTrac RowSense works with all existing tracking patterns and most standard harvesting patterns.

AutoTrac works in the following modes:

- Adaptive Curves
- AB Curves
- Circle Track
- and Straight Track

AutoTrac RowSense is an enhancement to integrated AutoTrac on the GS2 display. The row sensors mounted to the middle row point detect cornstalks to know where row is. Signals provided by the row sensors is integrated



AutoTrac RowSense Sensors

with existing AutoTrac signals to help keep forage harvester on rows. When there is no signal coming from row sensors (e.g. driving through a waterway), normal GPS guidance will apply. Most other characteristics of AutoTrac remain unchanged. Row sensors are simply another position input for steering the forage harvester. All tracking modes are set up the same way as they are with GPS based AutoTrac.

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Setup and Calibrate System

Setup AutoTrac RowSense

Before using this product, the following steps must be completed in addition to setting up AutoTrac:

On GS2 display, navigate to Original GreenStar Display
>> SETUP >> AUTOTRAC

1. Activate Center Track Resume (see Center Track Resume Activation section).
2. Define the row guidance mode (see Setup Row Entry—Resume Button Assignment section).
3. Calibrate Row Sensors (see Row Sensor Calibration Procedure section).
4. Calibrate the Wheel Angle Center (see SSU Control Unit Calibration Procedure section).

A—Steer Sensitivity (50-200)

B—AutoTrac Calibration

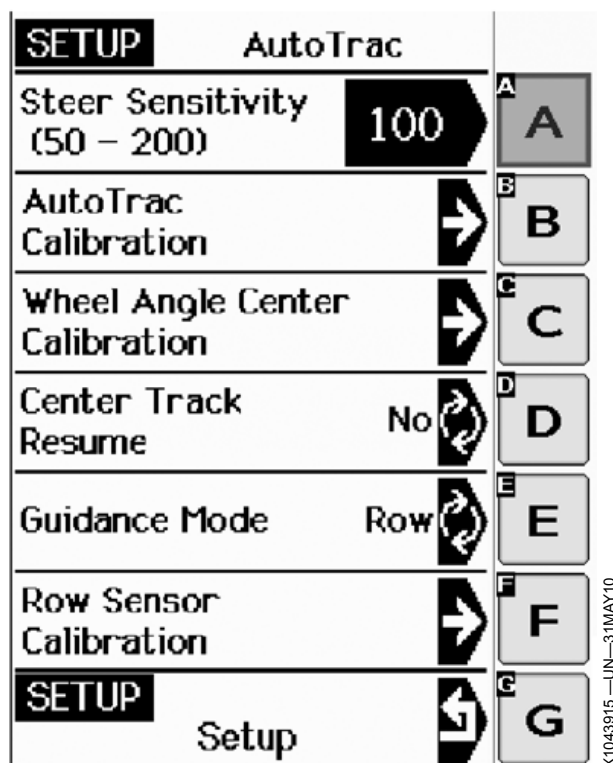
C—Wheel Angle Center Calibration

D—Center Track Resume

E—Guidance Mode

F—Row Sensor Calibration

G—Return



Calibration Set Up

OUC002,0002DC4 -19-03MAY10-1/1

Center Track Resume Activation

Navigate to Original GreenStar Display >> SETUP >> AUTOTRAC.

Make sure that Guidance Mode button (E) is set to GPS then press Center Track Resume button (D) to select YES.

NOTE: Under all other Guidance Mode (Row, RowGPS and GPSRow), press Center Track Resume (D) to select No.

A—Steer Sensitivity (50-200)

B—AutoTrac Calibration

C—Wheel Angle Center Calibration

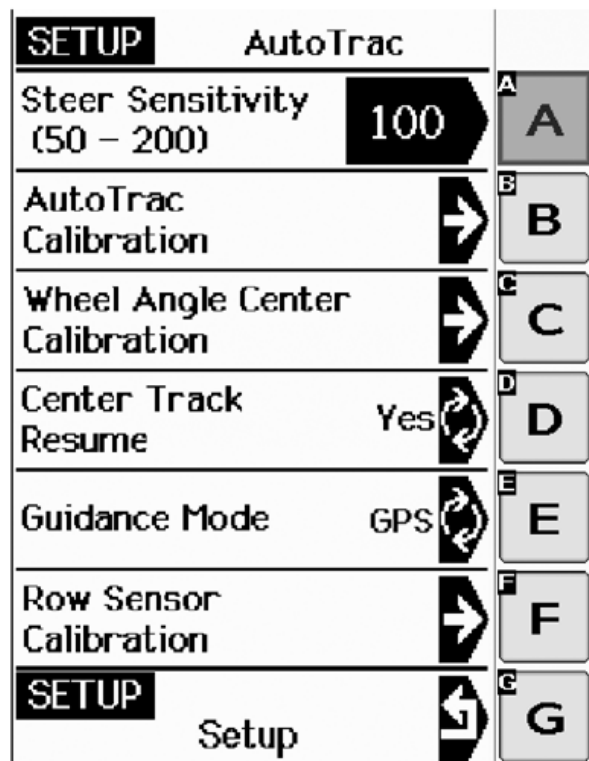
D—Center Track Resume

E—Guidance Mode

F—Row Sensor Calibration

G—Return

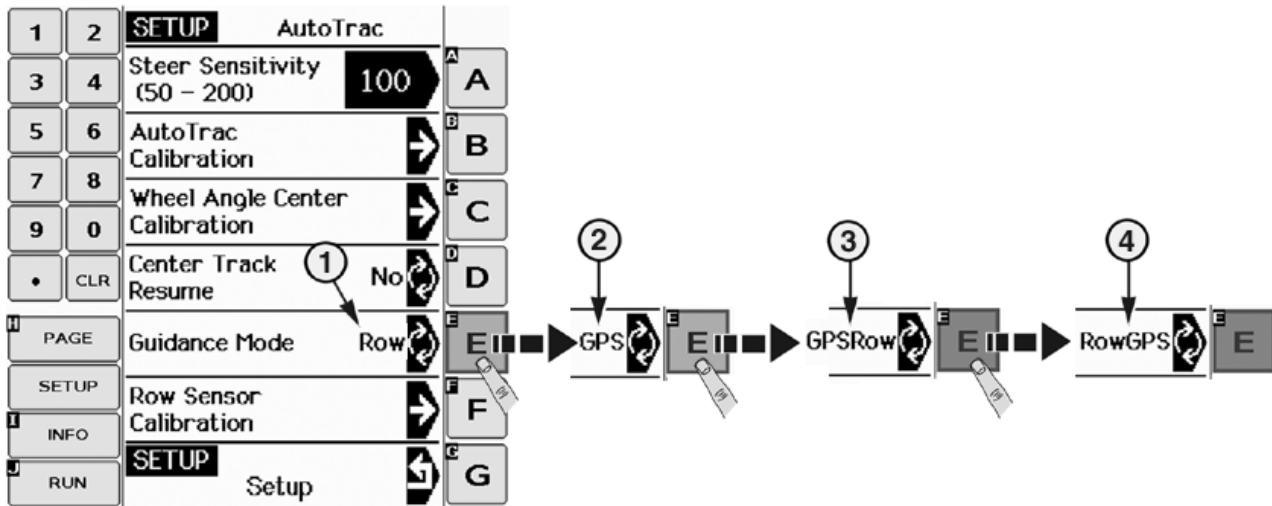
H—Sensor Arm



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Setup Row Entry—Resume Button Assignment



IMPORTANT: Prior to setting up resume button assignment, make sure that button (H) is selected as row guidance switch—Armrest Control Unit address ARC 107 calibration is set to 4 (factory setting). Refer to Calibration Procedures section of Forage Harvester Operator's Manual.

The row entry (Resume Button Assignment) is selectable on GS2 display. Navigate to Original GreenStar Display >> SETUP >> AUTOTRAC. Press Guidance Mode key (E) to select the guidance activation mode (1 to 4) to be assigned to the resume button (H), that is:

1-Row mode (Default):

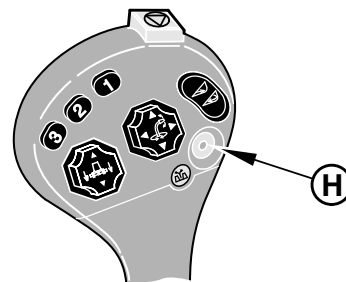
1. Drive forage harvester into the row.
2. Press resume button (H) first time to activate row sensors only.

NOTE: Press resume button (H) second time has no effect.

2-GPS mode:

1. Drive forage harvester into the row.
2. Press resume button (H) first time to activate AutoTrac guidance only.

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Resume Button

- | | |
|----------------------------------|-----------------|
| A—Steer Sensitivity (50-200) | G—Return |
| B—AutoTrac Calibration | H—Resume Button |
| C—Wheel Angle Center Calibration | 1—Row Mode |
| D—Center Track Resume | 2—GPS Mode |
| E—Guidance Mode | 3—GPSRow Mode |
| F—Row Sensor Calibration | 4—RowGPS Mode |

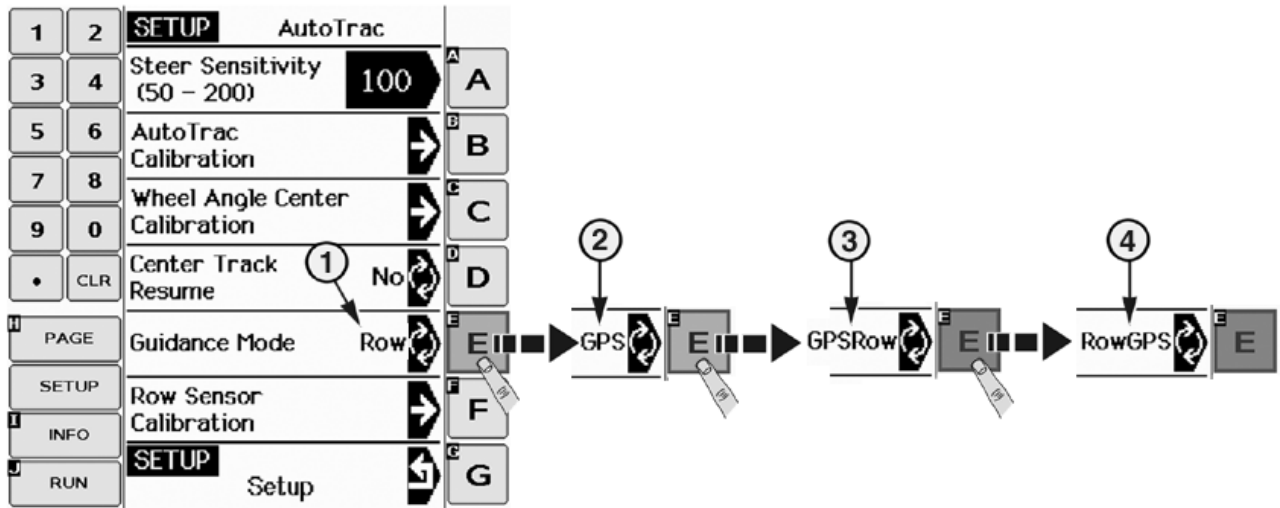
NOTE: Press resume button (H) second time has no effect.

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3-GPSRow mode:

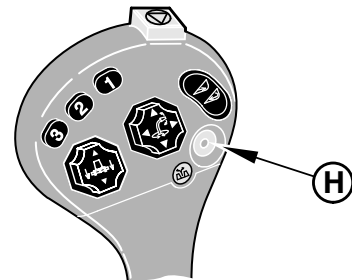
1. Drive forage harvester into the row.
2. Press resume button (H) first time to activate AutoTrac guidance only.
3. Press resume button (H) second time to activate AutoTrac guidance and row sensors, with priority to AutoTrac guidance (fusion).

Automatic Switch Between AutoTrac Guidance and Row Guidance: Press resume button (H) twice -> Row Guidance & AutoTrac Guidance is activated.

- If system loses GPS signal, system goes automatically back to Row Guidance due to sensors are still active (e.g. appears at the headland when StarFire™ receiver is under shading conditions). Once GPS signal is back, the system goes automatically back to Row Guidance & AutoTrac Guidance.
- If system loses the row sensor signal, the system goes automatically back to AutoTrac Guidance (e.g. appears when crossing water way or there are row gaps). Once Row Guidance sensor signal is back the system goes automatically back to Row Guidance & AutoTrac Guidance.

Manual Switch: Press resume button (H) once -> AutoTrac Guidance is activated.

- If you press resume button (H) a 2nd time the system goes to AutoTrac guidance and Row guidance. You can switch between: - single AutoTrac Guidance and



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Resume Button

- | | |
|----------------------------------|-----------------|
| A—Steer Sensitivity (50-200) | G—Return |
| B—AutoTrac Calibration | H—Resume Button |
| C—Wheel Angle Center Calibration | 1—Row Mode |
| D—Center Track Resume | 2—GPS Mode |
| E—Guidance Mode | 3—GPSRow Mode |
| F—Row Sensor Calibration | 4—RowGPS Mode |

- AutoTrac and Row Guidance with every subsequent resume button (H) press.

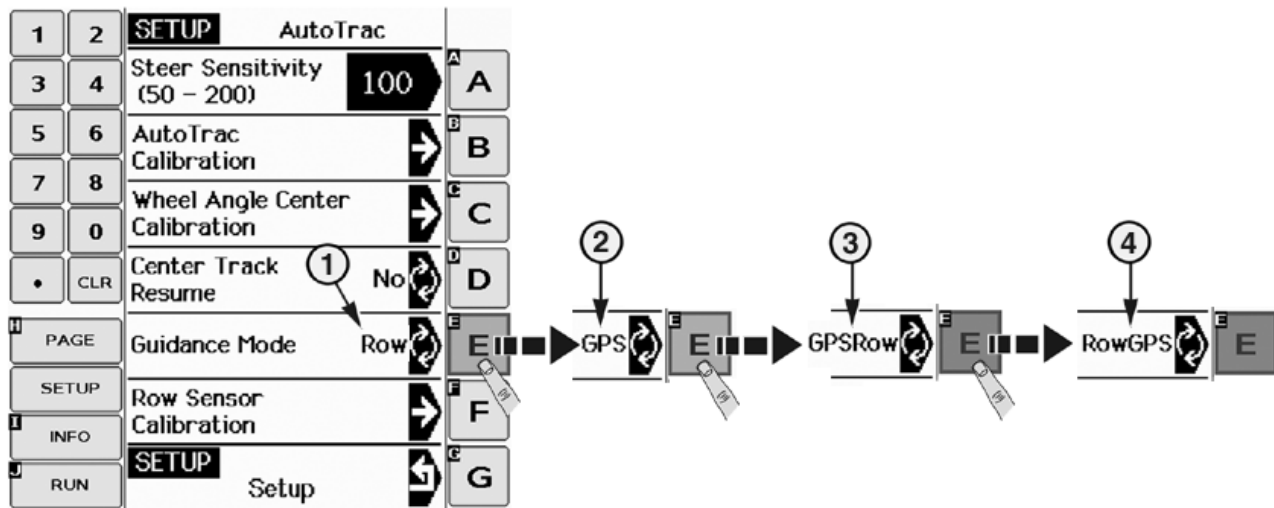
NOTE: Manual switch can be used, when bad/worse row sensor signal is available (e.g. rows crossing at the headland). This allows to directly switch off Row Guidance.

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ZX1043914 —UN—31MAY10

4-RowGPS mode:

1. Drive forage harvester into the row.
2. Press resume button (H) first time to activate row sensors and guidance, with priority to the row sensors (fusion).
3. Press resume button (H) second time to activate AutoTrac guidance only.

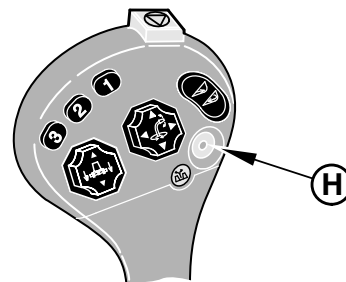
Automatic Switch Between AutoTrac Guidance and Row Guidance: Press resume button (H) once -> Row Guidance and AutoTrac Guidance is activated.

- If system loses GPS signal, system goes automatically back to Row Guidance due to sensors are still active (e.g. appears at the headland when StarFire™ receiver is under shading conditions).
- If system loses the row sensor signal, the system goes automatically back to AutoTrac Guidance (e.g. appears when crossing water way or there are row gaps). Once Row Guidance sensor signal is back the system goes automatically back to Row Guidance & AutoTrac Guidance.

Manual Switch: Press resume button (H) once -> Row Guidance and AutoTrac Guidance is activated.

- If you press resume button (H) a 2nd time the system goes to AutoTrac Guidance.

NOTE: Manual switch can be used, when bad/worse row sensor signal is available (e.g. rows



Resume Button

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ZX1043913 —UN—30APR10

A—Steer Sensitivity (50-200)
B—AutoTrac Calibration
C—Wheel Angle Center Calibration
D—Center Track Resume
E—Guidance Mode
F—Row Sensor Calibration

G—Return
H—Resume Button
1— Row Mode
2— GPS Mode
3— GPSRow Mode
4— RowGPS Mode

crossing at the headland). This allows to directly switch off Row Guidance.

OUCC002,0002DF1 -19-03JUN10-3/3

Prior to Calibrating Row Sensor—Clean Row Sensors

⚠ CAUTION: Shut OFF engine, set parking brake and remove key.

Row sensors should be checked daily to see if cleaning is necessary.

Additionally check and if necessary adjust height of crop divider tip to avoid too much material accumulation on the sensors.

If material has accumulated on sensors it may prevent free movement and affect calibration procedure. To clean row sensors, remove debris from sensors and surrounding area at both sides (see arrows).



Check that sensors move freely without obstruction.

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Row Sensor Calibration Procedure

This procedure is performed when system is installed or after system is repaired. Row sensors must be installed and positioned against at-rest stops.

Prepare for calibration: Verify row sensors are correctly installed with spring loaded feelers (H) in at-rest position, as shown.

IMPORTANT: Make sure that no material as accumulated at row sensor areas that would prevent both feelers (H) being in their at-rest position (see arrows).

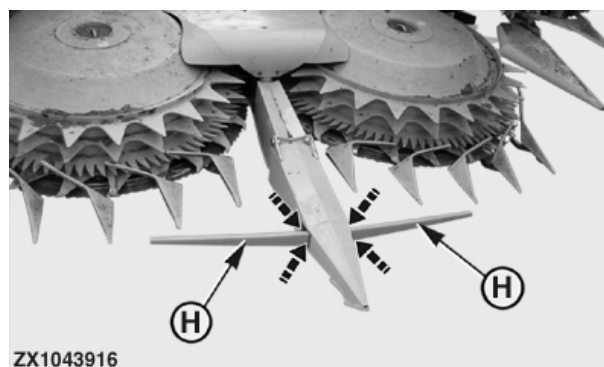
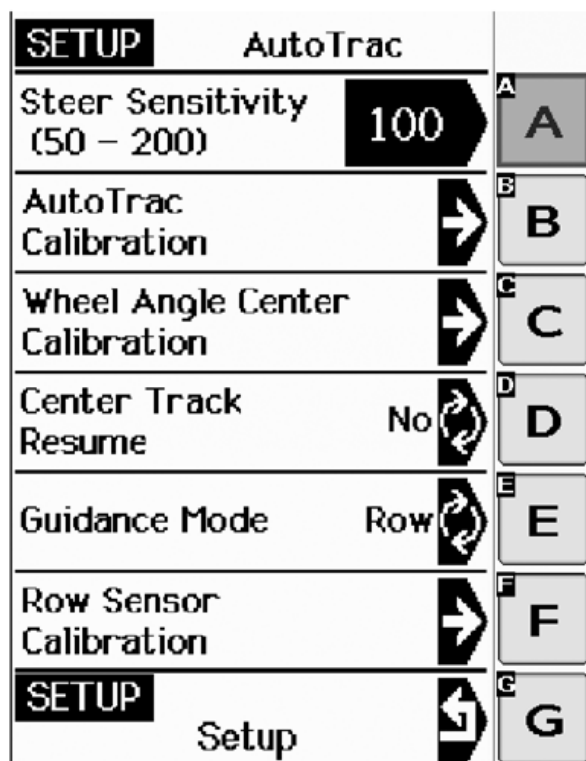
Upmost cleanness must be observed when calibrating row sensor, especially near the sensor to avoid improper calibration (wrong calibration values).

Raise header to ensure row sensors are not contacting ground. Forage Harvester must not be moving.

1. Press SETUP button on original GreenStar monitor. Press letter button pointed to by AutoTrac.

A—Steer Sensitivity (50-200)
B—AutoTrac Calibration
C—Wheel Angle Center Calibration
D—Center Track Resume

E—Guidance Mode
F—Row Sensor Calibration
G—Return
H—Sensor Feeler



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2. Calibrate sensor at-rest voltages.

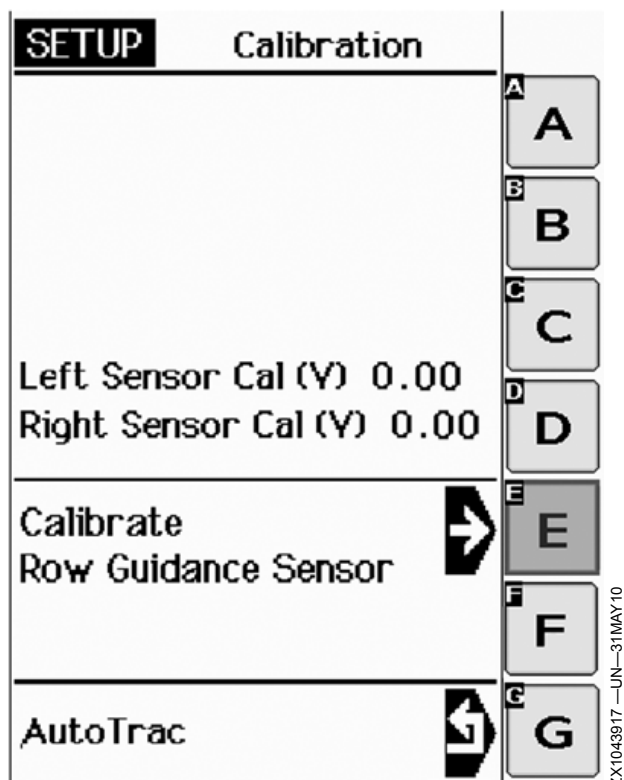
Press Row Guidance Sensor calibration button (E) to store sensor at-rest voltages into AutoTrac RowSense (SSU) control unit memory.

NOTE: GSD screen will now display left sensor and right sensor voltages. Right and left sensors at-rest voltage should be as close as to 0 volts.

3. End of calibration, exit row sensor calibration mode.

A—Not Used
B—Not Used
C—Left Sensor Cal (V)
D—Right Sensor Cal (V)

E—Calibrate Row Guidance Sensor
F—Not Used
G—Return



OUC002,0002DA6 -19-31MAY10-2/2

SSU Control Unit Calibration Procedure

CAUTION: During calibration of the AutoTrac RowSense™ system the rear wheels will steer automatically. To avoid injury, verify no bystanders are in the vicinity prior to calibration.

Operate the foot brakes during complete calibration procedure.

NOTE: The easier the rear wheels can be steered the more accurate the calibration of the hydraulic steering valve will be. Therefore it is sensible to keep the rear axle load as low as possible. This can be achieved by attaching a header that is as heavy as possible.

If, during steering valve calibration (i.e. when in step 7 the rear wheels are steering), one of the rear wheels is hard to steer in one direction (caused e.g. by uneven ground), this will lead to a rough and inaccurate steering performance when AutoTrac RowSense is activated.

Before calibrating, it is essential to delete all the SSU diagnostic trouble codes.

Proceed as follows to properly carry out the AutoTrac RowSense (SSU) control unit calibration:

1. Prior to calibrating, make sure that:
 1. Multi-function lever is in NEUTRAL position.
 2. Engine running at low idle.
 3. Road safety switch is in FIELD position.
 4. Hydraulic system oil temperature is above 20°C (68° F).
 5. Steering wheel has been successively turned to right and left stop.
 6. Operator remains seated.
 7. AutoTrac RowSense button (A) is ON.

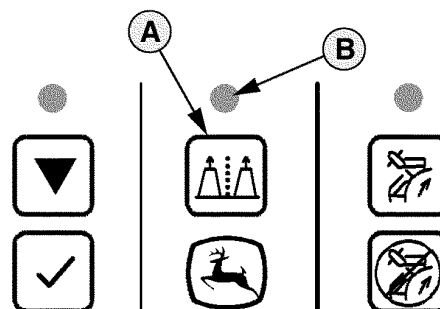
NOTE: AutoTrac RowSense enable indicator light (B) will flash on and off.

On GS2 display, navigate to Original GreenStar Display >> SETUP >> AUTOTRAC

2. Press key next to **Wheel Angle Center Calibration** segment.

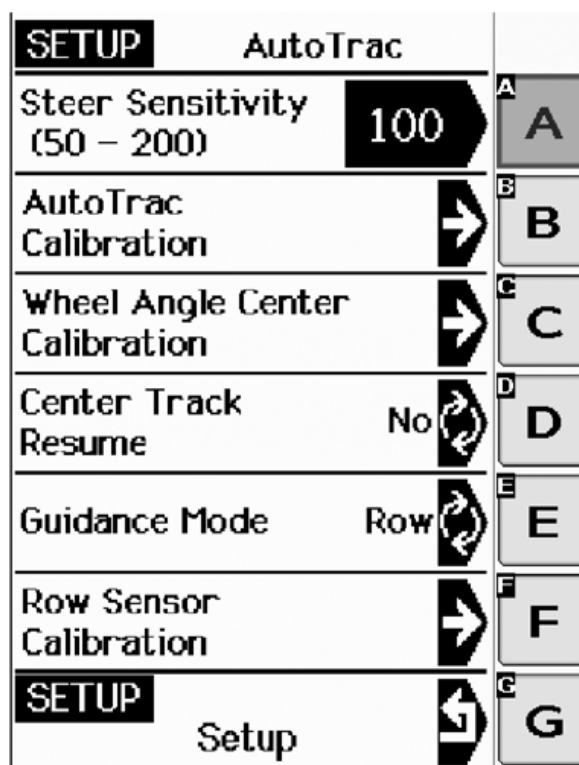
Turn steering wheel until rear wheels are in center position. Press key next to **Enter Wheel Center Position** then key **G** to store this setting.

NOTE: The only purpose of this calibration procedure is to supply the SSU control unit with a plausible approximate value. While machine is in motion, the position of the rear wheels is checked continuously and the value for the center wheel angle is updated. The system operates as follows: In intervals of 0.2 seconds the GPS sensor determines position and ground speed of the vehicle. If for a certain period of time a number of these values indicate the



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A—AutoTrac RowSense Button B—AutoTrac RowSense Enable Indicator Light

same direction, the SSU control unit will interpret this as travelling straight ahead and the wheel angle sensor is calibrated accordingly.

3. Press key next to **AutoTrac Calibration** segment then press key next to **Begin System Calibration** to start calibration.
4. Once **Steer Full Left** appears on screen, slowly and fully turn steering wheel to the left.

NOTE: While turning steering wheel, the Steer Angle indicator should increase.

Continued on next page

OUC002,0002DC2 -19-31MAY10-1/3

5. As soon as the steering wheel bottoms at its utmost left position, press key **E** next to **Steer Full Right** segment.
6. Once **Steer Full Right** appears on screen, slowly and fully turn steering wheel to the right.

NOTE: While turning steering wheel, the Steer Angle indicator should decrease.

7. As soon as the steering wheel bottoms at its utmost right position, press key **E** next to **Steer Full Right** segment.

OUC002,0002DC2 -19-31MAY10-2/3

CAUTION: The system will automatically act on the steering system of the forage harvester. To avoid injury, verify no bystanders are in the vicinity prior to calibration.

8. Once **Push and Hold Resume Sw to Calibrate Left Valve** appears on screen, press and hold AutoTrac RowSense activation button (A).

IMPORTANT: Do not touch steering wheel while system is calibrating left valve automatically.

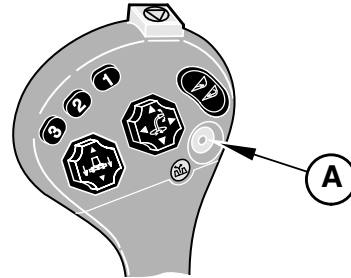
NOTE: AutoTrac RowSense enable indicator light (B) will now light continuously.

The system will turn the steering wheel up to its utmost left position. Keep on pressing activation button (A) while **Push and Hold Resume Sw to Calibrate Right Valve** appears on screen.

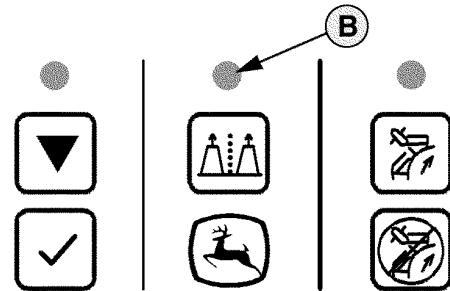
NOTE: This step determines how strong the PWM signal must be to just cause the rear wheels to move. If the rear wheels are hard to steer because e.g. the rear axle is loaded too heavily or the rear wheels stand on uneven ground, a too high value will incorrectly be determined leading to rough performance. If rough steering performance occurs, therefore always reduce steering response only after the present calibration step has been carried out accurately!

Keep on pressing activation button (A) until **End of Calibration** appears on screen.

9. Release activation button (A). The calibration values of **Left Valve Deadband** and **Right Valve Deadband** are then displayed. Press key **G** to finish calibration.



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10. Set engine speed to low idle then stop engine.

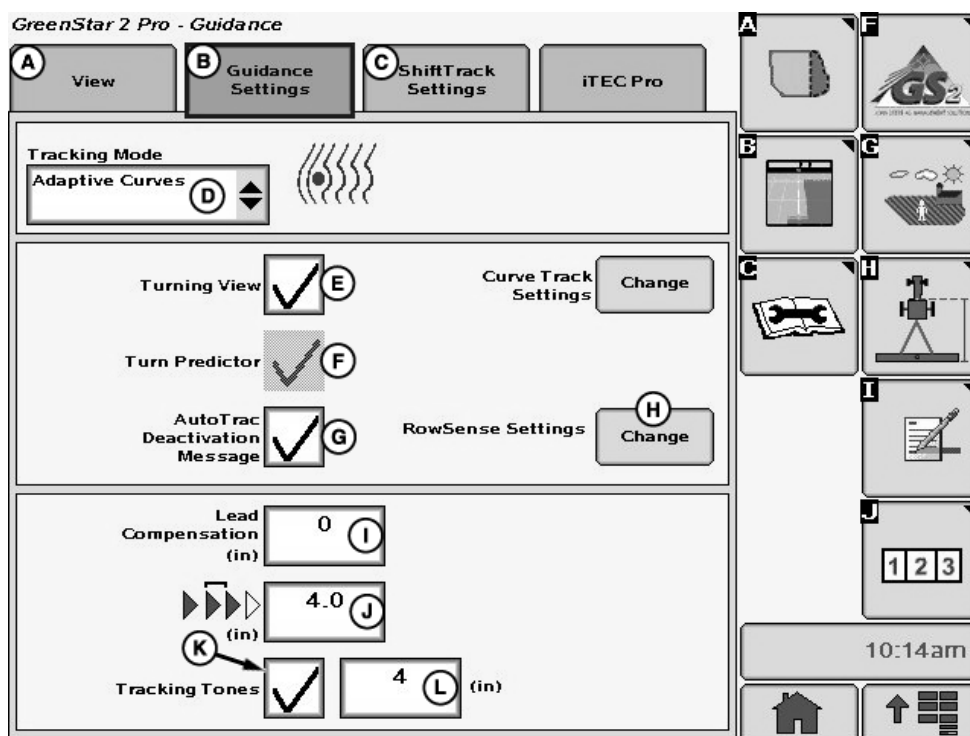
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Enabling the System

Prior to Enabling the System



MENU >> GREENSTAR2 PRO softkey >> GUIDANCE softkey >> GUIDANCE SETTINGS tab.

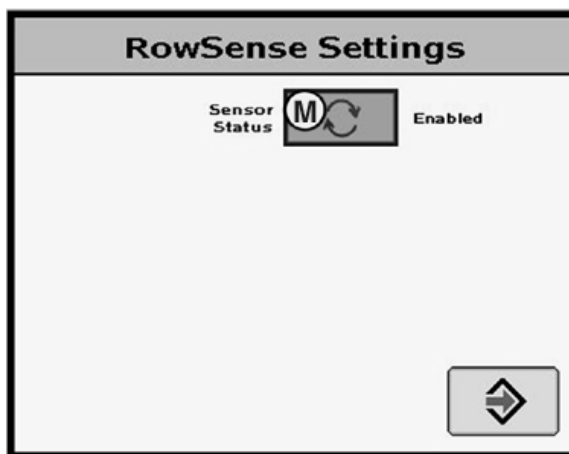
- Select one of the following tracking pattern from TRACKING MODE drop-down menu (D).
 - Adaptive Curves
 - AB Curves
 - Circle Track
 - and Straight Track

NOTE: To select the correct tracking mode, see Operating the System section.

- Check Row Sensors status. RowSense Settings Change button (H) brings up configuration screen with Sensor Status ENABLED/DISABLED button (M).

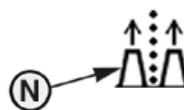
IMPORTANT: Do not toggle SENSOR STATUS to DISABLED.

With Sensor Status ENABLED, the AutoTrac RowSense Icon (N) appears on Guidance Page under VIEW tab.



A—View tab
B—Guidance Settings Tab
C—Shift Track Settings Tab
D—Tracking Mode Drop-down Menu
E—Turning View Check Box
F—Turn Predictor Check Box
G—AutoTrac Deactivation Message Check Box

H—RowSense Settings Change Button
I—Lead Compensation Input Box
J—Shift Track Input Box
K—Tracking Tones Check Box
L—Tracking Tones Input Box
M—Sensor Status Toggle Button



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ZX1043918 —UN—30APR10

OUCC002,0002DBE -19-04MAY10-1/1

Enable the System

CAUTION: Do not use AutoTrac RowSense system on roadways. Always turn off (disable) AutoTrac RowSense system before entering a roadway. Do not attempt to turn on (activate) AutoTrac RowSense system while transporting on a roadway.

When system is activated, stay alert and pay attention to surrounding environment. Take control of steering when necessary to avoid field hazards, bystanders, equipment or other obstacles. Stop operation if poor visibility conditions impair your ability to operate and steer machine safely.

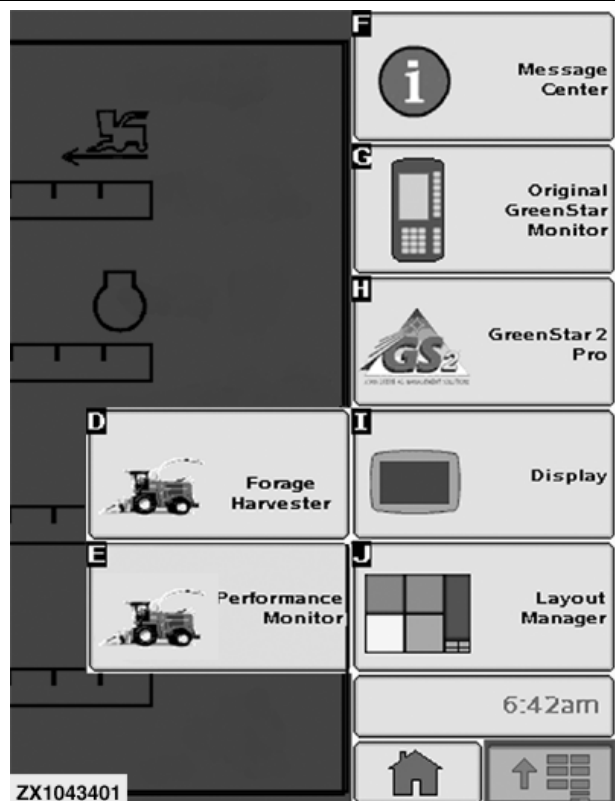
IMPORTANT: The AutoTrac RowSense system is intended to aid operator in performing field operations more efficiently. Operator is always responsible for machine path and must continue to pay attention to surrounding environment while operating machine. Stop operation if poor visibility conditions impair your ability to identify people or obstacles in machine path.

Always operate machine from operator's seat. If provided, always use seat belt.

Read and understand GS2 Display—Guidance Operator's Manual.

The AutoTrac RowSense system is accessible using the display main screen interface. Select GreenStar 2 Pro button to reach the relevant AutoTrac RowSense screens then refer to the Operating the System section for a proper setup and operation of AutoTrac RowSense system.

The AutoTrac RowSense system has three possible statuses: ENABLED, ACTIVE, or INACTIVE.



Main screen



GreenStar 2 Pro button

Continued on next page

OUC002,0002DB7 -19-03JUN10-1/4

Enable AutoTrac RowSense

Press the steer on/off button (C) to toggle between enable/disable AutoTrac™. For more information refer to GS2 Display—Guidance and GS2 Display—Basic Applications Operator's Manuals.

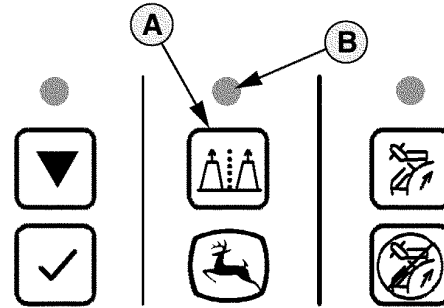
To enable system, the following conditions have to be met:

- AutoTrac RowSense control unit (SSU) has been detected
- Tracking has been setup
- Tracking is ON
- SSU is in normal operating mode
- TCM is turned ON
- The main clutch is switched ON
- AutoTrac RowSense guidance button (A) is ON
- Press the steer on/off button (C) to toggle between enable/disable AutoTrac™.

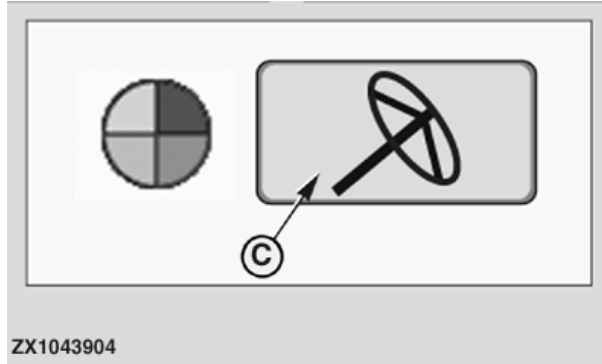
NOTE: For more information, refer to GS2 Display—Guidance Operator's Manual.

Once the system is under ENABLED status, AutoTrac RowSense enable indicator light (B) will flash on and off.

- | | |
|---|------------------------------|
| A—AutoTrac RowSense Guidance Button | C—Steer On/Off Button |
| B—AutoTrac RowSense Enable Indicator Light | |



ZX1039663



ZX1043904

ZX1039663 —UN—03OCT06

ZX1043904 —UN—31MAY10

Continued on next page

OUC002,0002DB7 -19-03JUN10-2/4

Activate AutoTrac RowSense

After system has been ENABLED, operator must manually change system to ACTIVE status when steering assistance is desired.

Press AutoTrac RowSense activation button (A) on the multi-function lever to activate AutoTrac RowSense. This will initiate assisted steering under the default row guidance mode (see Setting up Row Entry).

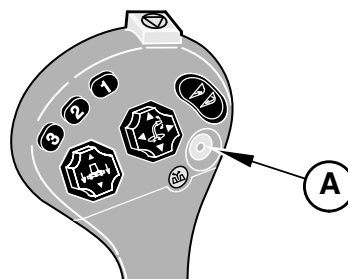
IMPORTANT: If default guidance mode (Row Guidance) is not desired, refer to **Setup Row Entry—Resume Button Assignment in Setup and Calibrate System Section** to choose another guidance mode.

To activate system, the following conditions have to be met:

- Road safety switch in field operating mode
- Main clutch is switched ON
- Header is engaged
- AutoTrac RowSense activation button needs to be turned ON
- Forward ground speed greater than 0.5 km/h (0.3 mph) or reverse ground speed is less than 10 km/h (6.0 mph).
- Forward ground speed less than 22 km/h (13.2 mph).
- Machine heading within 80° degrees of desired track if speed is less than 10 km/h (6.0 mph)
- Machine heading within 45° degrees of desired track if speed is higher than 10 km/h (6.0 mph)
- Off track error is within 40% of track spacing
- Operator seated
- TCM turned ON

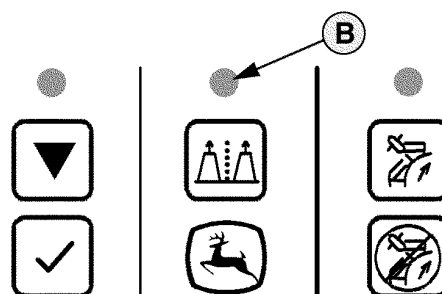
CAUTION: Always turn off (disable) AutoTrac RowSense system before entering a roadway. Do not attempt to turn on (activate) AutoTrac RowSense system while transporting on a roadway.

Once the system is under ACTIVATED status, AutoTrac RowSense enable indicator light (B) will light on continuously.



ZX1040787

ZX1040787 —UN—25JUL07



ZX1039664

ZX1039664 —UN—03OCT06

A—AutoTrac RowSense Activation Button

B—AutoTrac RowSense Enable Indicator Light

NOTE: While under ACTIVATED status, whenever a malfunction is detected by the control unit, the AutoTrac RowSense enable indicator light (B) will flash twice.

Continued on next page

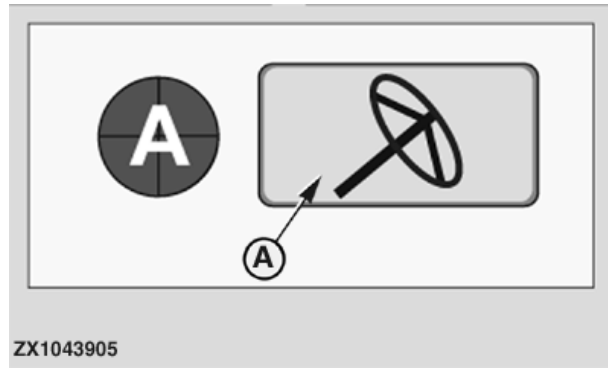
OUC002,0002DB7 -19-03JUN10-3/4

Disable AutoTrac RowSense

CAUTION: Always turn off (disable) AutoTrac RowSense system before entering a roadway. To disable AutoTrac from GUIDANCE VIEW tab, toggle STEER ON/OFF button (A) until STEER OFF is displayed..

AutoTrac RowSense system can be made INACTIVE by the following methods:

- Press the steer on/off button (A) to toggle between enable/disable AutoTrac™.
- Turn steering wheel more than 30 degrees.
- Switch OFF main clutch.
- Switch field/road safety switch to road mode.
- Decrease ground speed to less than 0.5 km/h (0.3 mph) longer than 30 seconds.
- Increase forward ground speed to more than 15 km/h (9.3 mph).
- Operate in reverse operation.



ZX1043905 —UN—30APR10

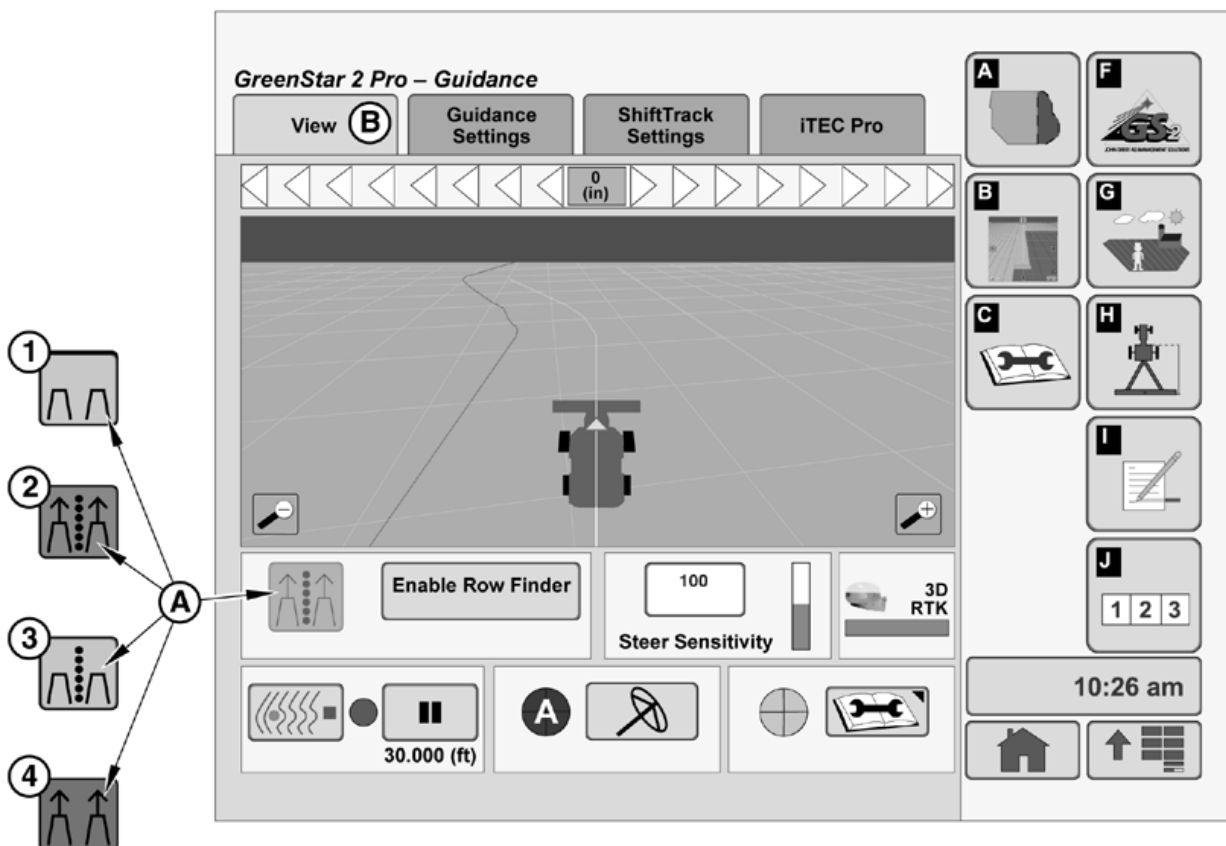
A—Steer On/Off Button

- Operator not seated for more than seven seconds.
- Track number is changed.

OUC002,0002DB7 -19-03JUN10-4/4

Operating the System

Displays and Indicators



ZX1043909

A—Guidance View Tab

B—Guidance Status Icon

When using AutoTrac RowSense, an icon (A) appears on map under GUIDANCE VIEW tab (B) indicating row sensors are available (when SENSOR STATUS button is toggled to enable). Each icon (1, 2, 3 and 4) indicates what is happening on Forage Harvester at that moment.

The guidance status Icon (A) changes from white to colored (green) animated form when row sensors are controlling vehicle, as follows:

1. **System Installed** (Grey Background)

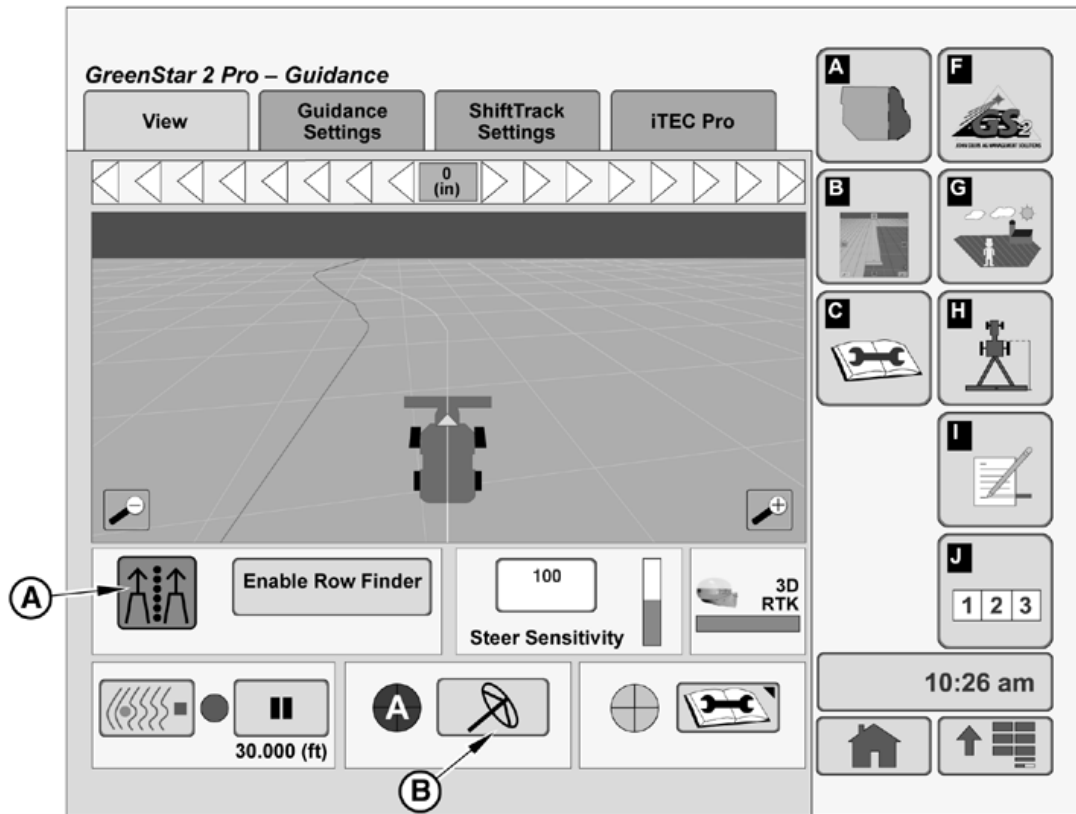
2. **System Active**, operating with both, row sensor and GPS (Green Background)
3. **Lost GPS**, operating with row sensor data only (Yellow Background)
4. **Lost Row Sensor Signal**, operating with GPS only (Orange Background)

NOTE: Guidance accuracy is diminished when operating with icon status 3 or 4.

OUCC002,0002DA9 -19-04MAY10-1/1

ZX1043909 —UN—30APR10

Engage the Row Sensors

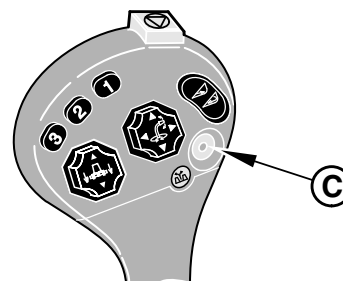


ZX1043910

Row sensors guide forage harvester whenever they can determine a row position. Operator will know row sensors are guiding forage harvester by AutoTrac RowSense icon (A) changing to green and showing motion.

Once initial path has been set (an AB line or initial recorded Curve Track Pass) and steer On/Off button (B) is pressed to activate AutoTrac, then resume button (C) can be pressed when forage harvester is within half the track spacing and at acceptable angle to rows. Row sensors guide forage harvester as soon as there is activity on row sensors.

Making a headland turn: Headland turns are accomplished the same as with GPS based AutoTrac. Operator lines up with path they desire to follow. Pressing resume button (C) will cause AutoTrac to drive to the guidance path. Row sensors then detect position of row and follow it. Line extension feature of Adaptive Curves, Circle Track, and AB Curves can be used to extend adjacent path projection into headlands.



ZX1043911

A—Icon
B—Steer On/Off Button

C—Resume Button

OUC002,0002DAA -19-04MAY10-1/1

ZX1043910 —UN—30APR10

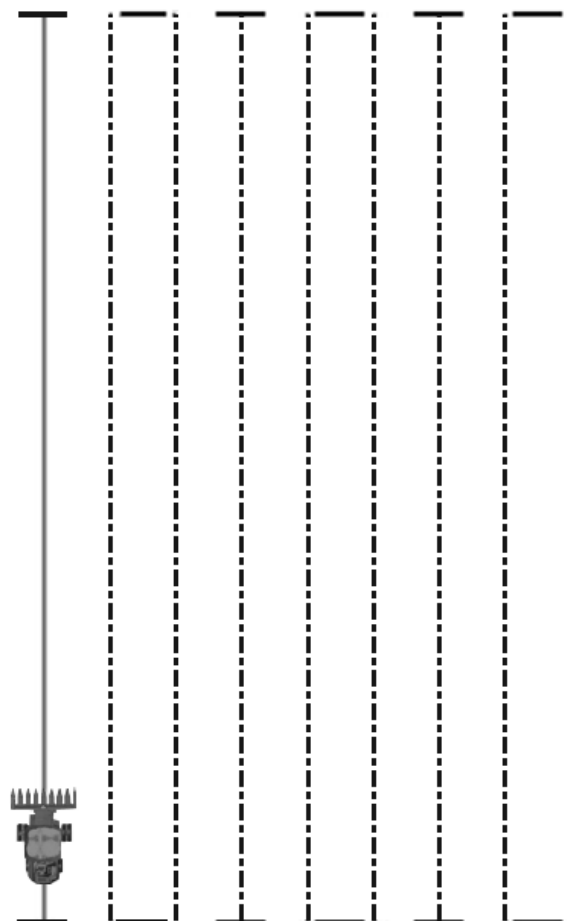
ZX1043911 —UN—30APR10

Straight Track

Straight Track should be used when rows are straight and do not vary by more than approximately 1 m (3-1/4 ft). Straight Track projects all lines off of first path.

If field is relatively straight and heading does not change, using straight track is recommended as this will allow row entry on adjacent paths. Performance with row entry will be improved when field is planted with AutoTrac. Performance will also be improved during periods of row dropout in waterways.

When in Straight Track, GPS line will automatically re-center. This ensures GPS path is properly aligned with corn rows. **This feature is not available in adaptive curves.**



Straight Track

Continued on next page

OUCC002,0002DAD -19-30APR10-1/4

PC10390 —UN—07JAN08

MENU >> GREENSTAR2 PRO softkey >> GUIDANCE softkey >> GUIDANCE SETTINGS tab

Select STRAIGHT TRACK from TRACKING MODE drop-down menu. Select VIEW tab.

NOTE: Pause recording when not harvesting.

Before starting

1. Ensure an SF1, SF2, or RTK signal is present by viewing receiver icon on View page.
2. Verify track spacing is correct. If track spacing is not correct, change track spacing under GUIDANCE tab.

PC8663 —UN—05AUG05



MENU button

PC8661 —UN—02NOV05



GREENSTAR2 PRO softkey

PC8673 —UN—14OCT07



GUIDANCE softkey

OUC002,0002DAD -19-30APR10-2/4

Select SET TRACK 0.

1. Select track name from CURRENT TRACK 0 drop-down menu. If no name exists, create new one by selecting NEW button.
 2. Select track method (A + B) from METHOD drop-down menu.
 3. Drive to start of track and select SET A button.
 4. Drive to end of track and select SET B button.
- A line that projects across field will be created.

A—Current Track 0 Drop-down Menu
B—Method Drop-down Menu
C—New Button
D—Remove Button
E—Track Spacing Button
F—Set A Button
G—Set B Button

Set Track 0

PC10708 —UN—24OCT07

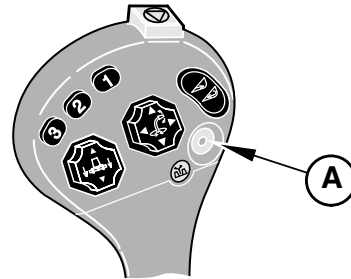
Continued on next page

OUC002,0002DAD -19-30APR10-3/4

5. Press resume button (A) to run AutoTrac RowSense.

Row Dropout—There will not be a corn row in waterway. Since Straight track and AB curves recenters the track, there's a greater chance it will find correct row on other side of waterway.

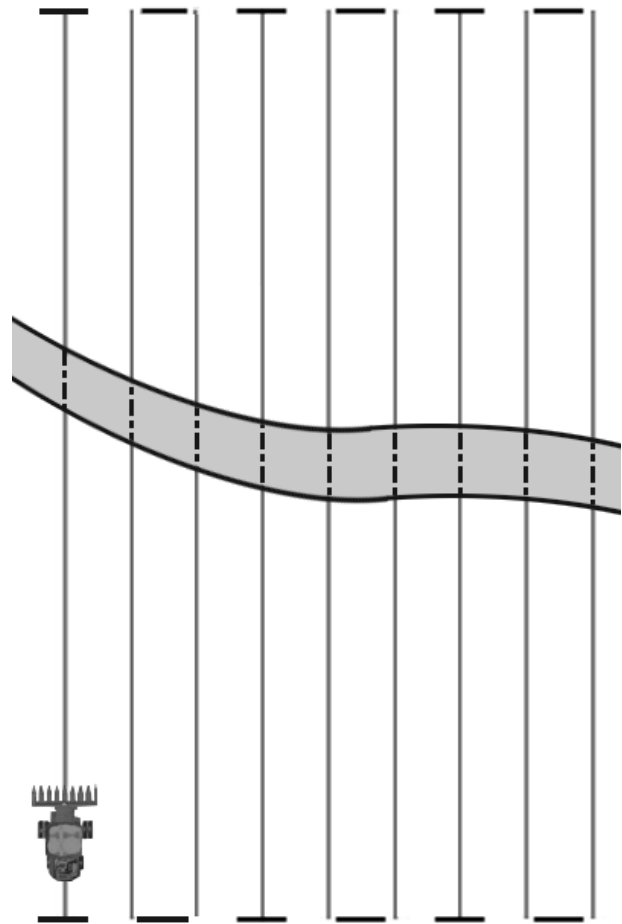
NOTE: If both GPS and Row Sensor data signals are lost, system will not engage until GPS signal is restored or row sensor signal is back. If only row sensor signal is recovered (no GPS signal available) then only the row guidance mode will be activated.



A—Resume Button

ZX1040787

ZX1040787 —UN—25JUL07



Waterway

PC10391 —UN—08JAN08

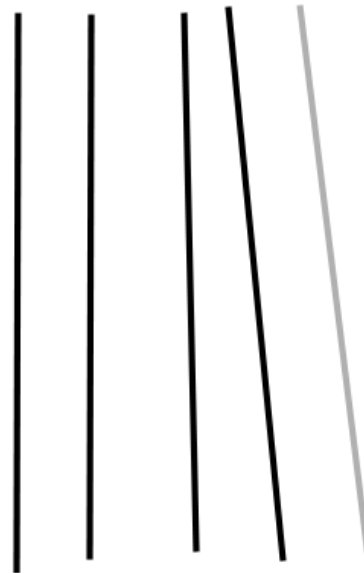
OUCC002,0002DAD -19-30APR10-4/4

Adaptive Curves



Path changes while going through field

PC10399 —UN—04FEB08



Heading changes through field

PC10400 —UN—04FEB08

Adaptive curves can be used in all fields, but is highly recommended when path changes while going through field, heading changes significantly, or curve is U-shaped. Adaptive Curves has an added feature making RowFinder able to be selected with a toggle button (See Row Finder section). Row sensors can be used to steer forage harvester whenever they are engaged on a row. Curve Track Recording must be ON. This will establish first pass, and allow straight line extensions to occur.

Adaptive Curves only get projected to adjacent pass, but have the advantage of handling different curve shapes, and potential guess row errors don't get accumulated throughout field.

If multiple forage harvesters are in field, Adaptive Curves does not allow skipping a pass. Adaptive Curves in this scenario may only work if track spacing of other forage harvester(s) is added to its own. For instance, if a 12 row harvesting unit is following an 8 row harvesting unit on 30 inch rows while harvesting together in same field, each would need a track spacing of 20 rows (50 feet).

Use of adaptive curves is recommended when path will frequently change throughout field. Adaptive Curves only projects next path over.



Curves are U-shaped

PC11000 —UN—04FEB08

Continued on next page

OUC002,0002DAE -19-31MAY10-1/3

MENU >> GREENSTAR2 PRO softkey >> GUIDANCE softkey >> GUIDANCE SETTINGS tab

Select ADAPTIVE CURVES from TRACKING MODE drop-down menu. Select VIEW tab.

Before starting

1. Ensure an SF1, SF2, or RTK signal is present by viewing receiver icon on View page.
2. Verify track spacing is correct. If track spacing is not correct, change track spacing under GUIDANCE tab.
1. Select record button to begin recording path.
2. Drive path through field. After driving through first path, a projection of only the next path will be created.
3. Press resume button (A) to run AutoTrac RowSense.

When in AutoTrac mode, recording shuts off when steering wheel is turned. When in documentation mode, recording shuts off when header is raised.

AutoTrac mode— If operator wants improved row entry for adjacent pass only, tie Adaptive recording to AutoTrac. This is only recommended if field is relatively straight with no extreme curves and AutoTrac is rarely deactivated (due to manual steering or loss of GPS).

Documentation mode— Tie Adaptive Curves to Documentation. This allows operator to grab steering wheel during operation and continue to record path they are on. Line extensions are available on next pass, but they will not be very useful in row entry since there is a delay in picking up the head on end rows. Performance will be marginal in periods of row dropout.

Manual Recording— Operator can tie Adaptive recording to Manual recording. This mode would not allow for line extensions unless operator continually pushed stop button on end row. If operator forgets to turn off recording, it can lead to issues such as incorrect curvature projection. Example: If operator pulls out of the row and doesn't press pause, the path will be recorded. When operator drives down adjacent path, Forage Harvester will be pulled slightly off row since projected line is off.

Field Open— This allows operator to start first line at the field with no track defined but can be used only under

PC8663 —UN—05AUG05



MENU button

PC8661 —UN—02NOV05

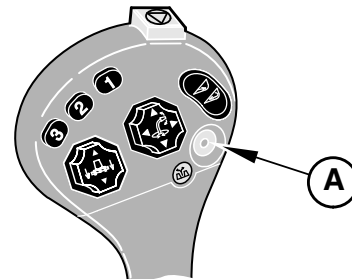


GREENSTAR2 PRO softkey

PC8673 —UN—14OCT07



GUIDANCE softkey



ZX1040787

A—Resume Button

Row Guidance Mode (yellow status icon displayed on View tab—See Display and Indicators section).

Continued on next page

OUC002,0002DAE -19-31MAY10-2/3

ZX1040787 —UN—25JUL07

Curve Track Settings

Curve Track Recording

▲
▼

End of Path Transition

Straight Line Projection

▲
▼

Implement In-Ground Turn Radius (ft)

☒

30.0

Clear Curve Track Data

Clear Data

Smooth Tight Turns

☒

Repeat Mode

☒

Press: Menu button >> GS2 Pro button >> Guidance softkey >> Guidance Settings tab >> Curve Track Settings button >> Curve Track Recording drop-down menu"

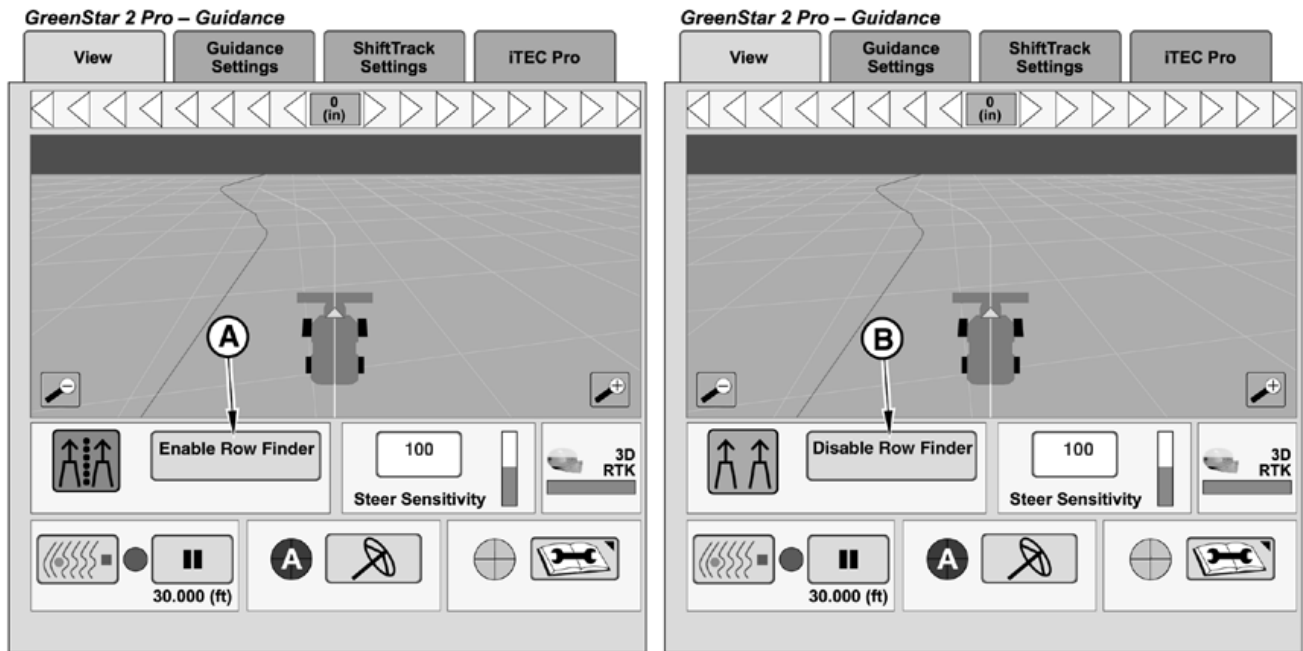
Adaptive Curve modes listed can be changed on screen shown above by using drop-down menu to choose desired mode.

- AutoTrac
- Documetation
- Manual
- Field Open

PC10043E —UN—24MAR08

OUC002,0002DAE -19-31MAY10-3/3

RowFinder



ZX1043912

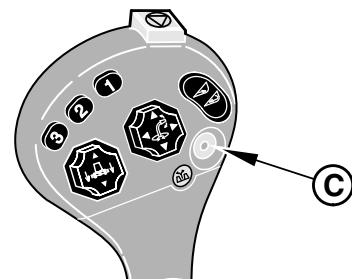
RowFinder can be used when operating in adaptive curves and finding a row that is two or more passes away. When approaching headland in Adaptive Curve mode, select Enable RowFinder button (A). This will record vehicle position and heading.

NOTE: Recorded position and heading will be discarded if AutoTrac is not deactivated within 3 minutes of first selecting the Enable RowFinder button (A).

At end of row, ensure recording is turned off. Display will project parallel rows.

Proceed in headland toward desired row. Enter row and select Disable RowFinder button (B). This will change system back to Adaptive Curves Mode.

Before harvesting is started ensure recording is turned on. **Press resume button (C).** AutoTrac RowSense will then guide forage harvester down row and a new first path will be recorded.



ZX1043911

A—Enable RowFinder Button C—Resume Button
B—Disable RowFinder Button

OUCC002,0002DB0 -19-31MAY10-1/1

ZX1043912 —UN—30APR10

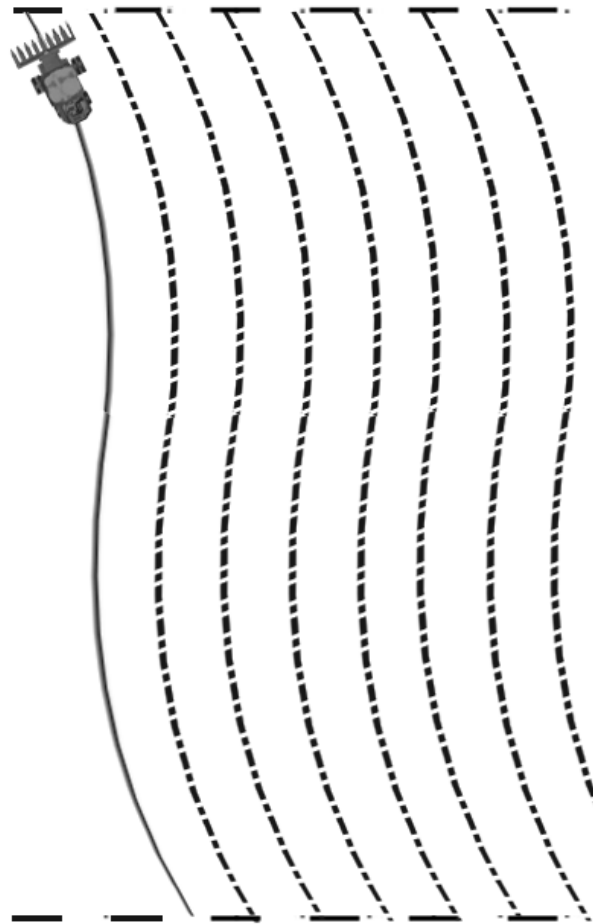
ZX1043911 —UN—30APR10

AB Curves

Use of AB Curves is recommended when there is a continuous curve throughout field. This allows for row entry on adjacent paths. Performance will be improved if field is planted with AutoTrac. AB Curves will also have improved performance through periods of row dropout.

AB Curves have the advantage of projecting a curved track across a field as parallel lines, but shape of the curve is same on each pass.

When in AB Curves, the GPS curve will be automatically re-centered. This ensures GPS path is properly aligned with corn rows. **This feature is not available in adaptive curves.**



PC10393—UN—08JAN08

AB Curves projects all lines off of first pass

Continued on next page

OUC002,0002DB1 -19-23MAR10-1/4

MENU >> GREENSTAR2 PRO softkey >> GUIDANCE softkey >> GUIDANCE SETTINGS tab

NOTE: Please pause recording when not harvesting.

1. Select AB CURVES from TRACKING MODE drop-down menu. Select VIEW tab.
2. Ensure an SF1, SF2, or RTK signal is present by viewing receiver icon on the VIEW tab.
3. Select AB CURVES button.
4. Verify track spacing is correct. If track spacing is not correct, change track spacing under GUIDANCE tab.

PC8663 —UN—05AUG05



MENU button

PC8661 —UN—02NOV05



GREENSTAR2 PRO softkey

PC8673 —UN—14OCT07



GUIDANCE softkey

OUC002,0002DB1 -19-23MAR10-2/4

5. Select an AB Curve name from CURRENT AB CURVE drop-down menu. If no name exists, create new one by selecting NEW button.
6. Select record button (E) at beginning of first pass.
7. Select accept button at end of first pass. Curves will be projected across field.

A—Current AB Curve
Drop-down Menu
B—New Button
C—Remove Button

D—Track Spacing Button
E—Record/Stop Button
F—Pause Button

Set AB Curve

Current AB Curve

A

B
New

C
Remove

Number of Segments 0

Point A Lat. 0.00000000

Point A Lon. 0.00000000

Track Spacing (ft) 30.000 D

E

F

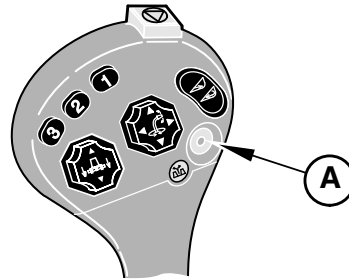
PC10709 —UN—25OCT07

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OUC002,0002DB1 -19-23MAR10-3/4

8. Press resume button (A) to run AutoTrac RowSense.

A—Resume Button



ZX1040787

ZX1040787 —UN—25JUL07

OUC002,0002DB1 -19-23MAR10-4/4

Circle Track

Use of Circle Track is recommended when crop is planted in a center pivot field.

If rows to be harvested are in circles, Circle Track should be used. This allows input from GPS curvature to be applied to row sensors.

MENU >> GREENSTAR2 PRO softkey >> GUIDANCE softkey >> GUIDANCE SETTINGS tab

1. Select CIRCLE TRACK from TRACKING MODE drop-down menu. Select VIEW tab.
2. Ensure SF1, SF2, or RTK signal is present by viewing receiver icon on VIEW tab.
3. Select SET CIRCLE button.
4. Verify track spacing is correct. If track spacing is not correct, change track spacing under GUIDANCE tab.



PC8663 —UN—05AUG05



MENU button

PC8661 —UN—02NOV05



GREENSTAR2 PRO softkey

PC8673 —UN—14OCT07



GUIDANCE softkey

PC10853 —UN—31JAN08

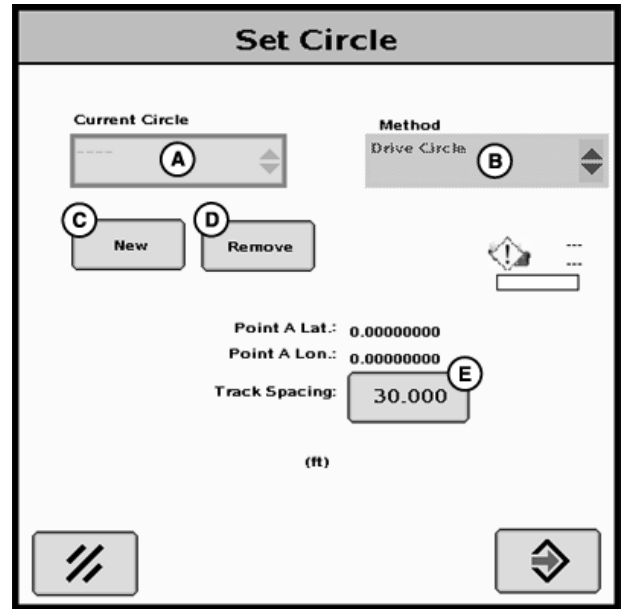
Continued on next page

OUC002,0002DB2 -19-23MAR10-1/3

5. Select circle name from CURRENT CIRCLE drop-down menu. If no name exists, create new one by selecting NEW button.
6. Select drive method from METHOD drop-down menu.
7. Select record button while driving first pass.
8. Select accept button after driving first circle. A circle will be projected in field.

A—Current Circle Drop-down Menu
B—Method Drop-down Menu
C—New Button

D—Remove Button
E—Track Spacing Button

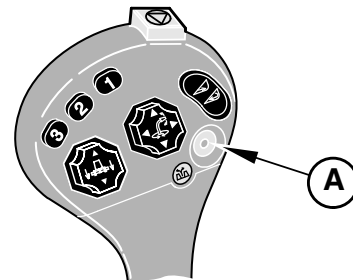


PC10710 —UN—25OCT07

OUC002,0002DB2 -19-23MAR10-2/3

9. Press resume button (A) to run AutoTrac RowSense.

A—Resume Button



ZX1040787

ZX1040787 —UN—25JUL07

OUC002,0002DB2 -19-23MAR10-3/3

Adjust Row Guidance Offset (Row Guidance Control Knob)

Use the potentiometer (A) to bring the machine back on track if it deviates (track adjustment).

Potentiometer (A) allows the row guidance system to move the machine to either side within the same crop row. This offset adjustment allows intermediate rows to be cropped and compensates for sideslip if the machine is operated on a slope. Turn potentiometer (A) to the left or right.

A—Potentiometer



ZX1037983

ZX1037983 —UN—29SEP05

OUC002,0002DC1 -19-29APR10-1/1

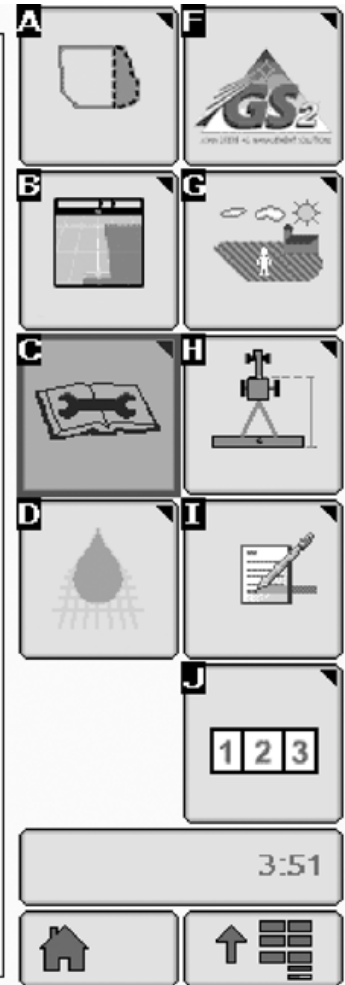
Diagnostics

Diagnostic Screens

GreenStar - Diagnostic Readings

Read the latest Operator Manual prior to operation. To obtain a copy, see your dealer or visit www.StellarSupport.com.

- (A) View **RowSense**
- (B) Row Sensors Available: **Yes**
- (C) RowSense Activation Available: **SF2**
- (D) AutoTrac License: **SF2**
- (E) Row Offset: **100**
(mm)
- (F) Primary Steering Source: **Row Sensors**
- (G) Sensor Coast Mode Time Remaining: **0**
(sec)



A—View
B—Row Sensors Available

C—RowSense Activation Available
D—AutoTrac License

E—Row Offset
F—Primary Steering Source

G—Sensor Coast Mode Time Remaining

NOTE: Possible diagnostic answers given with brief explanation.

Select **RowSense** in View (A) drop-down list.

B-Row Sensors Available:

- Yes
- No

C-RowSense Activation Available:

- Yes (if SF1 row guidance activation is available)
- Yes (if SF2 row guidance activation is available)
- No (if no row guidance activation available)

D-AutoTrac License:

- Yes (SF1)

- Yes (SF2)
- No

E-Row Offset:

- Current row offset value, distance measured in (in.) or (mm).

F-Primary Steering Source:

- None
- GPS
- Row Sensors

G-Sensor Coast Mode Time Remaining:

- Countdown timer when GPS signal is lost, displayed in seconds.

OUC002,0002DB3 -19-07JUN10-1/1

SSU Addresses — AutoTrac RowSense System Control Unit

The following table lists the addresses of the AutoTrac RowSense control unit. For access to all diagnostic

addresses use the GS2 display (Info - AutoTrac - Diagnosis menu).

IMPORTANT: Do not use address 28 or 120 to calibrate the row sensor or the SSU control unit. Instead, refer to Setup and Calibrate System section.

SSU — Control Unit for AutoTrac RowSense		
Addresses		
Number	Type	Description
001	Standard	Diagnostic trouble codes (read or delete any codes that are stored in the memory)
002	Standard	System beep mode
003	Standard	System voltage Displayed in Volts
004	Display	Sensor supply voltage Vref 4 Displayed in Volts
005	Display	SID 1 Voltage Display in Volts
006	Display	SID 2 Voltage Display in Volts
007	Display	SID 1 Counts
008	Display	SID 2 Counts
009	Display	Primary Steer Angle Sensor Voltage Display in Volts
010	Display	Secondary Steer Angle Sensor Voltage Display in Volts
011	Display	Steer Angle Sensor Bias Voltage Display in Volts
014	Display	WAS Full Left Value Display in Volts
015	Display	WAS Full Right Value Display in Volts
017	Display	Vehicle Direction
018	Display	Wheel speed Display in Kph
024	Display	Hydraulic Oil Temperature Display in °C
028	Interactive Calibration	AutoTrac Calibration
029	Display	Valve Deadband Display
030	Analog Input	Manual Valve Control Mode Display in Counts
033	Display	SID 1 current Display in mA
034	Display	SID 2 current Display in mA
037	Analog Input	AutoTrac Aggressiveness Gain
040	Display	Valve Fault Line Display in Volts
050	Display	Vehicle Configuration
056	Display	AutoTrac Hours
059	Display	Valve Power Status
060	Display	AutoTrac Exit Code
061	Display	Steer Switch - Resume Switch - AutoTrac State
062	Display	Parallel Tracking - Keycard Present - TCM State
063	Display	Seat Switch - Track Number - Frequency
064	Display	SPFH Switch Status
065	Display	Lateral Error Display in m

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OUC002,0002DC9 -19-18MAY10-1/3

SSU — Control Unit for AutoTrac RowSense

SSU — Control Unit for AutoTrac RowSense		
Addresses		
Number	Type	Description
067	Display	Heading Error Display in °
069	Display	AutoTrac Command Display in %
071	Interactive Calibration	Off-Track Lateral Error Integrator
077	Display	Curvature Display in (°/m)/8
078	Display	Yaw Rate Display in °/s
079	Display	Roll Angle Display in °/s
080	Display	SID1 Frequency Display in Hz
081	Display	SID2 Frequency Display in Hz
082	Display	SID1 Duty Cycle Display in %
083	Display	SID2 Duty Cycle Display in %
096	Analog Input	SID Type
100	Analog Input	Derivative Gain
101	Analog Input	Curvature Gain
102	Analog Input	TCM Roll Angle Gain
103	Analog Input	Manual Row Offset Gain
105	Input Calibration	Guidance Mode
106	Input Calibration	Manual Row Offset Gain
110	Display	Left Row Sensor Voltage Display in Volts
111	Display	Right Row Sensor Voltage Display in Volts
112	Display	Left Row Sensor Calibrated Voltage Display in Volts
113	Display	Right Row Sensor Calibrated Voltage Display in Volts
114	Display	Row Guidance Feeler Offset Display in mm
115	Display	Row Guidance Set Point Offset Display in mm
116	Display	Row Guidance Status
120	Interactive Calibration	Row Sensor Calibration
200	Display	Engine model number
201	Display	Engine serial number
219	Display	Customer Configuration Data Part Number
220	Display	Customer Configuration Data Version Number
221	Display	Second Application Part Number (Software)
222	Display	Second Application Version Number (Software)
223	Display	Second EOL Part Number (Software)
224	Display	Second EOL Version Number (Software)
225	Display	Configuration Data Part Number (Software)
226	Display	Configuration Data Version Number (Software)
227	Display	Boot Block Program Part Number (Software)

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OUCC002,0002DC9 -19-18MAY10-2/3

SSU — Control Unit for AutoTrac RowSense

Addresses		
Number	Type	Description
228	Display	Boot Block Program Version Number (Software)
229	Display	EOL Data Part Number (Software)
230	Display	EOL Data Version Number (Software)
231	Display	Operating System Part Number (Software)
232	Display	Operating System Version Number (Software)
233	Display	Software part number
234	Display	Software version number
235	Display	Hardware part number
236	Display	Hardware serial number
237	Display	Software package part number
238	Display	Software Assembly Version Number
245	Display	The number of CAN bus off retries
246	Display	Interval between CAN bus offs
247	Display	Vehicle Model Number (Current Vehicle)
248	Display	Vehicle Serial Number (Current Vehicle)
249	Display	Vehicle Model Number (Original Vehicle)
250	Display	Vehicle Serial Number (Original Vehicle)
251	Display	Thirteen Character John Deere Standard PIN (Current Vehicle)
252	Display	Thirteen Character John Deere Standard PIN (Original Vehicle)

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Service and Maintenance

Clean Row Sensors

⚠ CAUTION: Shut OFF engine, set parking brake and remove key.

Row sensors should be checked daily to see if cleaning is necessary.

Additionally check and if necessary adjust height of crop divider tip to avoid too much material accumulation on the sensors.

If material has accumulated on sensors it may prevent free movement and affect performance. To clean row sensors, remove debris from sensors and surrounding area at both sides (see arrows).

Check that sensors move freely without obstruction.



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SSU - AutoTrac RowSense Control Unit Diagnostic Trouble Codes

SSU - AutoTrac RowSense Control Unit Diagnostic Trouble Codes						
Control Unit	SPN	FMI	Priority	Indicator Light	Description	Effect
SSU	84	9	3	grey	Wheel Speed Message Missing	Function Disabled (off)
SSU	168	3	3	grey	SSU Unswitched Supply Voltage High	Function Disabled (off)
SSU	168	4	3	grey	SSU Unswitched Supply Voltage Low	Function Disabled (off)
SSU	628	2	3	grey	SSU EOL Data Fault	Function Disabled (off)
SSU	628	12	3	grey	SSU Programming	Function Disabled (off)
SSU	629	12	3	grey	SSU Control Unit Fault	Function Disabled (off)
SSU	630	13	3	grey	SSU Calibration Fault/Not Calibrated	Function Disabled (off)
SSU	767	9	3	grey	Transmission Reverse Message Missing	Function Disabled (off)
SSU	1079	3	3	grey	Flowmeter Supply Voltage High	Function Disabled (off)
SSU	1079	4	3	grey	Flowmeter Supply Voltage Low	Function Disabled (off)
SSU	1504	9	3	grey	Operator Presence Message Missing	Function Disabled (off)
SSU	1504	14	3	grey	Operator Not Seated While AutoTrac Active	Function Disabled (off)
SSU	1638	9	3	grey	Hydraulic Oil Temperature Message Missing	Function Disabled (off)
SSU	1807	2	3	grey	Steering Wheel Position Sensors Conflict	Function Disabled (off)
SSU	1807	3	3	grey	Steering Wheel Position Sensor 1 Supply Voltage High	Function Disabled (off)
SSU	1807	4	3	grey	Steering Wheel Position Sensor 1 Supply Voltage Low	Function Disabled (off)
SSU	1807	5	3	grey	Steering Wheel Position Sensor 1 Circuit Current Low	Function Disabled (off)
SSU	1807	6	3	grey	Steering Wheel Position Sensor 1 Circuit Current High	Function Disabled (off)
SSU	1807	10	3	grey	Steering Wheel Position Sensor 1 Signal Mismatch	Function Disabled (off)
SSU	1807	12	3	grey	Steering Wheel Position Sensor 1 Signal Fault	Function Disabled (off)
SSU	1807	14	3	grey	Steering Wheel Position Sensor 1 Signal Fault	Function Disabled (off)
SSU	1807	16	3	grey	Steering Wheel Position Sensor 1 Signal Fault	Function Disabled (off)
SSU	1807	18	3	grey	Steering Wheel Position Sensor 1 Signal Fault	Function Disabled (off)
SSU	1807	20	3	grey	Steering Wheel Position Sensor 1 Signal Fault	Function Disabled (off)
SSU	1807	21	3	grey	Steering Wheel Position Sensor 1 Signal Fault	Function Disabled (off)
SSU	522273	0	3	grey	SSU Steering Valve Control Circuit Command High	Function Disabled (off)
SSU	522273	1	3	grey	SSU Steering Valve Control Circuit Command Low	Function Disabled (off)
SSU	522387	7	3	grey	AutoTrac Wheel Angle Sensor or Steering Valve Fault	Function Disabled (off)
SSU	522394	9	3	grey	TCM Messages Missing	Function Disabled (off)
SSU	522451	0	3	grey	Secondary Steer Angle Sensor Voltage High	Function Disabled (off)
SSU	522451	1	3	grey	Secondary Steer Angle Sensor Voltage Low	Function Disabled (off)
SSU	522451	14	3	grey	Secondary Steer Angle Sensor Redundancy Fault	Function Disabled (off)
SSU	523651	2	3	grey	SSU Control Unit Fault	Function Disabled (off)
SSU	523674	13	3	grey	Row Guidance Calibration Fault/Not Calibrated	Function Disabled (off)
SSU	523675	1	3	grey	Row Guidance Right Sensor Voltage High	Function Disabled (off)
SSU	523675	3	3	grey	Row Guidance Right Sensor Voltage High	Function Disabled (off)
SSU	523675	4	3	grey	Row Guidance Right Sensor Voltage Low	Function Disabled (off)
SSU	523676	0	3	grey	Row Guidance Left Sensor Voltage High	Function Disabled (off)
SSU	523676	3	3	grey	Row Guidance Left Sensor Voltage High	Function Disabled (off)
SSU	523676	4	3	grey	Row Guidance Left Sensor Voltage Low	Function Disabled (off)
SSU	523698	9	3	grey	AMS Display Message Missing	Function Disabled (off)
SSU	523767	9	3	grey	Resume Switch Message Missing	Function Disabled (off)

Continued on next page

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SSU - AutoTrac RowSense Control Unit Diagnostic Trouble Codes

Control Unit	SPN	FMI	Priority	Indicator Light	Description	Effect
SSU	523795	2	3	grey	AutoTrac Steering Valve Workport Connections Backwards	Function Disabled (off)
SSU	523795	11	3	grey	AutoTrac Steering Valve Deadbands Inconsistent	Function Disabled (off)
SSU	523795	12	3	grey	AutoTrac Steering Valve Fault	Function Disabled (off)
SSU	523795	13	3	grey	SSU Calibration Fault/Steering Valve	Function Disabled (off)
SSU	523810	0	3	grey	SSU Steering Valve Supply Voltage High	Function Disabled (off)
SSU	523810	1	3	grey	SSU Steering Valve Supply Voltage Low	Function Disabled (off)
SSU	523821	2	3	grey	Vehicle Mismatch	Function Disabled (off)
SSU	523822	2	3	grey	AutoTrac Wheel Angle Sensor Fault	Function Disabled (off)
SSU	523822	7	3	grey	SSU Calibration Fault/AutoTrac Wheel Angle Sensor	Function Disabled (off)
SSU	523822	10	3	grey	Steering Movement Detected Without Steering Wheel Motion	Function Disabled (off)
SSU	523824	3	3	grey	Steering Wheel Position Sensor 2 Supply Voltage High	Function Disabled (off)
SSU	523824	4	3	grey	Steering Wheel Position Sensor 2 Supply Voltage Low	Function Disabled (off)
SSU	523824	5	3	grey	Steering Wheel Position Sensor 2 Circuit Current Low	Function Disabled (off)
SSU	523824	6	3	grey	Steering Wheel Position Sensor 2 Circuit Current High	Function Disabled (off)
SSU	523824	10	3	grey	Steering Wheel Position Sensor 2 Signal Mismatch	Function Disabled (off)
SSU	523824	14	3	grey	Steering Wheel Position Sensor 2 Signal Fault	Function Disabled (off)
SSU	523824	16	3	grey	Steering Wheel Position Sensor 2 Signal Fault	Function Disabled (off)
SSU	523824	18	3	grey	Steering Wheel Position Sensor 2 Signal Fault	Function Disabled (off)
SSU	523824	20	3	grey	Steering Wheel Position Sensor 2 Signal Fault	Function Disabled (off)
SSU	523824	21	3	grey	Steering Wheel Position Sensor 2 Signal Fault	Function Disabled (off)
SSU	523826	0	3	grey	Primary Steer Angle Sensor Voltage High	Function Disabled (off)
SSU	523826	1	3	grey	Primary Steer Angle Sensor Voltage Low	Function Disabled (off)
SSU	523826	14	3	grey	Steer Angle Sensor Low Motion	Function Disabled (off)
SSU	524221	9	3	grey	Vehicle Yaw Rate Message Missing	Function Disabled (off)
SSU	600006	31	3	grey	Default DTC	None

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Specifications

EC Declaration of Conformity

Deere & Company
Moline, Illinois U.S.A

The undersigned hereby declares that:

Product: TAC Sensor

fulfills all relevant provisions and essential requirements of the following directives:

DIRECTIVE	NUMBER	CERTIFICATION METHOD
Electromagnetic Compatibility Directive	2004/108/EC	Self-certified, per Annex II of the Directive

Name and address of the person in the European Community authorized to compile the technical construction file:

Henning Oppermann
Deere & Company European Office
John Deere Strasse 70
D-68163 Mannheim, Germany
EUConformity@johndeere.com

Place of declaration: Urbandale, Iowa U.S.A

Date of declaration: 01 February 2010

Manufacturing unit: John DeereIntelligent
Solutions Group

Name: John H. Leinart

Title: Engineering Manager, Ag Management Solutions



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