AMS Applications Generation 4 CommandCenter™ Display



Regulatory Model Number: RE338096



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:



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 Ag Management Solutions



Introduction

Read This Manual

Before operating display/software, familiarize yourself with components and procedures required for safe and proper operation.

HC94949,000020B -19-19MAR13-1/1

www.StellarSupport.com

NOTE: Product functionality may not be fully represented in this document due to product changes occurring after the time of printing. Read the latest Operator's Manual prior to operation. To obtain a copy, see your dealer or visit www.StellarSupport.com

CZ76372,000071F -19-18JUN14-1/1

CZ76372,000071E -19-17JUN14-1/1

Download Software Updates

Ensure display is updated with latest software. Software updates are available for download from:

https://my.deere.com/software-downloads/software-manager/

Generation 4 CommandCenter™ Display Components

The Generation 4 CommandCenter ${}^{\rm T\!M}$ Display contains the following components:

Compliance Name

4600 Processor - Multi-Functional Controller, Integrated Premium Server (IPVS) 4100 Processor - Multi-Functional Controller, Integrated Value Server (IPVS)

CZ76372,0000721 -19-28JUL14-1/1

Contents

Page

Safety

Recognize Safety Information	05-1
Understand Signal Words	05-1
Follow Safety Instructions	05-1
Practice Safe Maintenance	05-2
Use Steps and Handholds Correctly	05-2
Handle Electronic Components and	
Brackets Safely	05-3
Operate Guidance Systems Safely	05-3
Use Seat Belt Properly	
Operating the Tractor Safely	05-5
Operate Implement Automation	
Systems Safely	05-6
Avoid High-Pressure Fluids	05-6
Read Operator Manuals for ISOBUS	
Implements	05-7
Avoid Backover Accidents	05-7
Avoid Exposure to High Radio	
Frequency Fields	05-7

Safety Signs

Safety Warning — AutoTrac™ Detected	10-1
Safety Warning — ISOBUS Controller	10-1
Safety Warning — Improper Operation	10-1
Safety Warning — ISO Aux Configuration	10-2
Safety Caution — System Reboot	10-2
Safety Caution — Software Installation	
Safety Caution — System Rollback	

Display Introduction

Onscreen Help	.15-1
Generation 4 CommandCenter™ Display	.15-2
Generation 4 CommandCenter™ Processor	.15-3
Federal Communications Commission	
and Industry Canada Notification	.15-3
Run Page Structure	.15-4
Status Center	.15-4
Shortcut Softkeys	.15-5
Menu	.15-5
Operating System Applications Overview	.15-5
AMS Applications Overview	.15-8

Basic Setup

Machine Profiles	20-1
Implement Profiles	20-2

Guidance AutoTrac.....25-1

Manual Guidance	
Operate Guidance Systems Safely	
General Information	
Guidance Settings	
Turn Predictor	
Tracking Tones	
Shift Track	
Lightbar Settings	25-3
Curve Track Settings	25-4
Track Spacing	25-5
Steering Sensitivity	
Set Guidance Track	
Straight Track	
Quick Line	
Guide on a Straight Track	
AB Curves	25-7
Guide on an AB Curve	25-7
Record a Straight Path or Navigate	
Around Obstacles	
Adaptive Curves	25-9
Guide on an Adaptive Curve	25-10
Record a Straight Path Within an	
Adaptive Curve	25-10
Navigate Around Obstacles	25-11
Swap Track (Track Set)	25-12
AutoTrac Status Pie	
Enable AutoTrac	
Disable AutoTrac When Not In Use	
Activate AutoTrac	
Resume Switch	
Reactivate AutoTrac on Next Pass	25-15
Deactivate AutoTrac	
Minimum and Maximum Speeds	
AutoTrac Deactivation Message	
Steering Optimization	
Troubleshooting	25-20

Page

-- -

Fields

Fields					 30-1
Manage	Clients,	Farms,	and Fie	elds	 30-2

File Manager

File Manager	35-1
USB Drive	35-2
Capture Screen Shots	35-2

StarFire Receiver

StarFire™	GPS Receiver	
-----------	---------------------	--

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.

COPYRIGHT © 2014 DEERE & COMPANY Moline, Illinois All rights reserved. A John Deere ILLUSTRUCTION ® Manual

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.

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.



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.



T81389

Practice Safe Maintenance

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

On towed implements, disconnect wiring harnesses from tractor before servicing electrical system components or welding on machine.

Use Steps and Handholds Correctly

Prevent falls by facing the machine when getting on and off. Maintain 3-point contact with steps, handholds, and handrails.

Use extra care when mud, snow, or moisture present slippery conditions. Keep steps clean and free of grease or oil. Never jump when exiting machine. Never mount or dismount a moving machine.



DX,SERV -19-17FEB99-1/1



Handle Electronic Components and Brackets Safely

Falling while installing or removing electronic components mounted on equipment can cause serious injury. Use a ladder or platform to easily reach each mounting location. Use sturdy and secure footholds and handholds. Do not install or remove components in wet or icy conditions.

If installing or servicing a RTK base station on a tower or other tall structure, use a certified climber.

If installing or servicing a global positioning receiver mast used on an implement, use proper lifting techniques and wear proper protective equipment. The mast 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.

Operate Guidance Systems Safely

Do not use guidance systems on roadways. Always turn off (disable) guidance systems before entering a roadway. Do not attempt to turn on (activate) a guidance system while transporting on a roadway.

Guidance systems are intended to aid the operator in performing field operations more efficiently. The operator is always responsible for the machine path. Guidance systems do not automatically detect or prevent collisions with obstacles or other machines.

Guidance Systems include any application that automates machine steering. This includes, but may not be limited to, AutoTrac[™], iGuide[™], iTEC[™] Pro, AutoTrac[™] Universal (ATU), RowSense[™], and Machine Sync.

To prevent injury to the operator and bystanders: • Never get on or off a moving machine.

AutoTrac is a trademark of Deere & Company iGuide is a trademark of Deere & Company iTEC is a trademark of Deere & Company RowSense is a trademark of Deere & Company

- - DX,WW,RECEIVER -19-24AUG10-1/1
- Verify the machine, implement, and guidance system are set up correctly.
 - If using iTEC[™] Pro, verify accurate boundaries have been defined.
 - If using Machine Sync, verify the follower's home point is calibrated with sufficient space between the machines.
- Remain alert and pay attention to the surrounding environment.
- Take control of the 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 the machine path.
- Consider field conditions, visibility, and machine configuration when selecting machine speed.

JS56696,0000ABC -19-02DEC13-1/1

Use Seat Belt Properly

Avoid crushing injury or death during rollover.

This machine is equipped with a rollover protective structure (ROPS). USE a seat belt when you operate with a ROPS.

- Hold the latch and pull the seat belt across the body.
- Insert the latch into the buckle. Listen for a click.
- Tug on the seat belt latch to make sure that the belt is securely fastened.
- Snug the seat belt across the hips.

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,



DX,ROPS1 -19-22AUG13-1/1

Operating the Tractor Safely

You can reduce the risk of accidents by following these simple precautions:

- Use your tractor only for jobs it was designed to perform, for example, pushing, pulling, towing, actuating, and carrying a variety of interchangeable equipment designed to conduct agricultural work.
- This tractor is not intended to be used as a recreational vehicle.
- · Read this operator's manual before operating the tractor and follow operating and safety instructions in the manual and on the tractor.
- Follow operation and ballasting instructions found in the operator's manual for your implements/attachments, such as front loaders
- Make sure that everyone is clear of machine, attached equipment, and work area before starting engine or operation.
- Keep hands, feet, and clothing away from power-driven parts

Driving Concerns

- Never get on or off a moving tractor.
- Keep all children and nonessential personnel off tractors and all equipment.
- · Never ride on a tractor unless seated on a John Deere approved seat with seat belt.
- · Keep all shields/guards in place.
- Use appropriate visual and audible signals when operating on public roads.
- Move to side of road before stopping.
- Reduce speed when turning, applying individual brakes. or operating around hazards on rough ground or steep slopes.
- Couple brake pedals together for road travel.
- Pump brakes when stopping on slippery surfaces.

Towing Loads

- Be careful when towing and stopping heavy loads. Stopping distance increases with speed and weight of towed loads, and on slopes. Towed loads with or without brakes that are too heavy for the tractor or are towed too fast can cause loss of control.
- Consider the total weight of the equipment and its load.
- Hitch towed loads only to approved couplings to avoid rearward upset.

Parking and Leaving the Tractor

 Before dismounting, shut off SCVs, disengage PTO, stop engine, lower implements/attachments to ground



and securely engage park mechanism, including the park pawl and park brake. In addition, if tractor is left unattended, remove key.

- Leaving transmission in gear with engine off will NOT prevent the tractor from moving.
- Never go near an operating PTO or an operating implement.
- Wait for all movement to stop before servicing machinery.

Common Accidents

Unsafe operation or misuse of the tractor can result in accidents. Be alert to hazards of tractor operation.

The most common accidents involving tractors:

- Tractor rollover
- Collisions with motor vehicles
- Improper starting procedures
- Entanglement in PTO shafts
- Falling from tractor
- Crushing and pinching during hitching

DX.WW.TRACTOR -19-21AUG09-1/1

Operate Implement Automation Systems Safely

Do not use implement automation systems on roadways. Always turn off (disable) implement automation systems before entering a roadway. Do not attempt to turn on (activate) an implement automation system while transporting on a roadway.

Implement automation systems are intended to aid the operator in performing field operations more efficiently. The operator is always responsible for the machine path.

Implement automation systems include any application that automates implement movement. This includes, but may not be limited to, iGrade[™] and Active Implement Guidance.

To prevent injury to the operator and bystanders:

- Verify the machine, implement, and automation systems are set up correctly.
- Remain alert and pay attention to the surrounding environment.
- Take control of the machine, when necessary, to avoid field hazards, bystanders, equipment, or other obstacles.

iGrade is a trademark of Deere & Company



 Stop operation if poor visibility conditions impair your ability to operate the machine or identify people or obstacles in the machine path.

CF86321,0000366 -19-19DEC13-1/1

Avoid High-Pressure Fluids

Inspect hydraulic hoses periodically – at least once per year – for leakage, kinking, cuts, cracks, abrasion, blisters, corrosion, exposed wire braid or any other signs of wear or damage.

Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar



Read Operator Manuals for ISOBUS Implements

In addition to GreenStar Applications, this display can be used as a display device for any implement that meets ISO 11783 standard. This includes capability to control ISOBUS implements. When used in this manner, information and implement control functions placed on the display are provided by the implement and are the responsibility of the implement manufacturer. Some of these implement functions could provide a hazard either to the Operator or a bystander. Read the operator manual provided by the implement manufacturer and observe all safety messages in manual and on implement prior to use.

NOTE: ISOBUS refers to the ISO Standard 11783

DX,WW,ISOBUS -19-19AUG09-1/1

Avoid Backover Accidents

Before moving machine, be sure that all persons are clear of machine path. Turn around and look directly for best visibility. Use a signal person when backing if view is obstructed or when in close quarters.

Do not rely on a camera to determine if personnel or obstacles are behind the machine. The system can be limited by many factors including maintenance practices, environmental conditions, and operating range.

Avoid Exposure to High Radio Frequency Fields

Prevent injury from exposure to high radio frequency fields at the antenna. Do not touch antenna while the system is transmitting. Always disconnect power to the antenna before installing or servicing.

The antenna should always be separated from the operator or nearby persons by a minimum distance of 2.5 cm (1 in.).



CZ76372,0000722 -19-29JUL14-1/1

Safety Signs

Safety Warning — AutoTrac™ Detected	
	Automatic Guidance System Detected. Activating a guidance system on roadways may cause loss of vehicle control.
	To avoid death or serious injury, disable the guidance system before entering roadways.
	07JUL14
	PC19768 – 19
	CZ76372,0000607 -19-08JUL14-1/1

Safety Warning — ISOBUS Controller	
	ISOBUS Controller Detected. Improper operation can cause unintended machine movement.
	To avoid death or serious injury to a bystander, understand how this display operates the functions of the machine.
	Read the ISOBUS controller's Operator Manual.
	CZ76372,000608 -19-08JUL14-1/1

Safety Warning — Improper Operation	
	Improper operation can cause unintended implement movement.
	To avoid the risk of death or serious injury to a bystander, ensure: - Users know which function is mapped to each control - Controls are properly labeled Select ACCEPT to enable ISO Aux.
	Select ACCEPT to enable ISO Aux.
	BA31779,00006E1 -19-08JUL14-1/1

Safety Warning — ISO Aux Configuration	Iso Aux configuration changed. Go to the Controls Setup page to review configuration. Improper operation can cause unintended implement movement. To avoid the risk of death or serious injury to a bystander, ensure: • Users know which function is mapped to each control • Controls are properly labeled
Safety Caution — System Reboot	During system reboot: 0.1000 applications will be shut down without notice. 0.1000 applications will be displayed Disperent injury, ensure the machine is in Park during the reboot process. Belect ACCEPT to initiate system reboot.
Safety Caution — Software Installation	
	During software installation:

-All	applicat	tions will	be sh	ut dow	n
-No	system	message	s will	be disp	layed

To prevent injury, ensure the machine is in Park and maintain electrical power throughout the installation process.

CZ76372,0000605 -19-08JUL14-1/1

Safety Signs				
Safety Caution — System Rollback				
	During system rollback: -All applications will be shut down -No system messages will be displayed To prevent injury, ensure the machine is in Park and maintain electrical power throughout the system rollback process.			
	HC94949,00003A9 -19-08JUL14-1/1			

.

Onscreen Help

Generation 4 CommandCenter[™] displays are equipped with detailed help information in the software. Onscreen help is available in Help Center or by pressing Information (i) buttons at the top of most pages. Information buttons link directly to help information for that page. Reading both the operator's manual and onscreen help information is recommended.

Navigate to Help Center

- 1. Select Menu.
- 2. Select System tab.

CommandCenter is a trademark of Deere & Company

PC15300 -UN-19MAR13



Help Center Application & Information Button

3. Select Help Center application.

HC94949,00002A6 -19-11DEC13-1/1

Generation 4 CommandCenter™ Display

The John Deere Generation 4 CommandCenterTM is designed for maximum ease of use and productivity. One software system provides commonality while hardware options provide a range of price and functionality. The CommandCenterTM display is attached to the CommandARMTM. There are 7 and 10 inch display options available.

NOTE: Software in Generation 4 CommandCenter™ is on processor, not display.

7 Inch CommandCenter™ Display

- Run Page Modules same as 10 inch display
- Shortcut Keys must be expanded to view.

10 Inch CommandCenter™ Display

- Title Bar displays currently viewed Run Page
- Large Status Center provides more information
- Shortcut Keys are always visible.



CommandCenter is a trademark of Deere & Company CommandARM is a trademark of Deere & Company

Generation 4 CommandCenter™ Processor

Generation 4 CommandCenter™ software runs on a processor separate from the display. There are two processor options available.

NOTE: Maximum capabilities for each processor are listed. Depending on machine configuration, some functions may not be available.

4600 Processor

- 4 Video Camera Inputs
- 4 USB Inputs
- 2 Display Outputs
- Upgradable for future applications

4600 Processor Wi-Fi Capabilities

The CommandCenter[™] 4600 processor contains a non-enabled wireless (Wi-Fi) transmitter. Hardware is present to enable future functionality.

Federal Communications Commission Part 15.21 Statement:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CommandCenter is a trademark of Deere & Company



Federal Communications Commission and Industry Canada Notification

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

RF Exposure Guidance: This equipment complies with FCC and Industry Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 2.5 cm (1 in.) between the radiator and persons. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC and Industry Canada multi-transmitter product procedures.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

RF Exposure orientation: Cet équipement est conforme aux normes FCC et les limites d'exposition aux rayonnements Industrie Canada énoncées pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimale de 2,5 cm (1 in.) entre le radiateur et les personnes. Cet émetteur ne doit pas être co-localisées ou opérant en conjonction avec une autre antenne ou un autre émetteur, sauf en conformité avec la FCC et Industrie Canada Procédures de produits multi-émetteurs.

CZ76372,0000671 -19-16JUN14-1/1

Run Page Structure

 ${\bf Menu}~({\rm A})$ lists all applications installed on display and machine.

Shortcut keys (B) provide quick access to frequently used applications and functions. On 7 in. display, select expand button to display shortcut keys.

Next and Previous Run Page buttons (C) cycle through multiple run pages.

Select the area indicated (D) to display **Status Center**. Important information for display functions is highlighted, such as GPS signal strength and available data storage.

Run page (E) is configured using Layout Manager application.

Only on 10 in. display, press **title bar** (F) to display **Run Page Selection** page. Choose desired run page from list of available pages.

(Refer to Layout Manager application for information about customizing the run page.)





7 Inch Display Run Page

CZ76372.0000649 -19-08JUL14-1/1

Status Center

Status Center highlights important information for display functions, such as GPS signal strength and notifications. It is located in title bar on 10 inch displays, and in lower left corner on 7 inch displays.

Select Status Center to display additional information in a drop down window. The expanded Status Center provides quick access to notifications and settings.

NOTE: Date and Time and Data Storage are always displayed in Status Center.

Additional information is displayed depending on machine configuration and notifications.











Guidance

PC16676 -UN-18MAR13

- The Guidance application is used for steering machines through the field along guidance tracks. This can be done manually or automatically using AutoTrac™.
- It can be found on Applications tab of the display menu.

AutoTrac is a trademark of Deere & Company

Guidance

HC94949,000038C -19-02OCT13-2/2

Machine Profiles

Machine Profiles allow the operator to configure machine dimensions and GPS offsets. These offsets and dimensions are important for accurate performance.

Machine Settings

If display detects machine, some settings are automatically populated. Otherwise, select list box to choose machine type.

Machine dimensions are required for Articulated and Track tractors. Machine dimensions are not needed for Row Crop tractors.

• Articulated Tractor

Front Axle

- Distance from articulation point to center of front axle. Articulation point is pivoting point of machine when making a turn.
- Rear Axle
- Distance from articulation point to center of rear axle. Articulation point is pivoting point of machine when making a turn.
- Track Tractor
 - Center of Rotation
 - Distance from pivot point of machine to rear axle.

GPS Offsets

• GPS Lateral Offset

- Lateral distance (left or right) from center line of machine to center of GPS receiver. This value is

PC16679 -UN-18MAR13



Machine Profiles

usually set to 0.0 unless GPS receiver is offset left or right of machine center line. Guidance and Mapping applications require GPS Lateral Offset settings.

• GPS Inline Offset

- Inline distance from center of non-steering axle on machine to center of GPS receiver. Mapping application requires GPS Inline Offset settings.
- GPS Height
 - Vertical distance from GPS receiver to ground.

Connection Offsets

• Inline distance from center of non-steering axle to connection point. Connection point is location where implement connects to machine. Mapping application requires Connection Offset settings.

Use Help Center onscreen help for more information about Machine Profiles.

HC94949,0000387 -19-16DEC13-1/1

Implement Profiles

Use Implement Profiles to configure Implement Connection Type, Working Width, Dimensions, and Recording Triggers. These offsets and dimensions are important for accurate performance.

Connection Types

• Describes how implement is attached to machine and determines trailing actions of implement being towed. Connection Type should reflect the connection type of the current implement. It should also match one of the machine connection types specified in the Machine Profiles section. Mapping application requires Connection Type setting.

• Pivoting Hitch

- Some configurations have implement mount to machine's rear 3-point hitch and pivot at a different location on implement. For these implement types, a Pivot Offset setting is required. This option only appears if Rear 3-Point is selected as a machine connection type.

Working Width

 Working Width is the width of the area tilled, planted, sprayed, or harvested on each pass through the field. It is used to create coverage maps and calculate area worked. Guidance, Mapping, and Area Totals applications require Working Width.

Dimensions

- Lateral Offset
- Lateral distance from center point of machine to center point of working width of implement. Guidance and Mapping applications require Lateral Offset setting.





Implement Profiles

• Center of Rotation

- Inline distance from connection point to implement's center of rotation while in working position. Usually, this is where load bearing parts of implement make contact with ground. Mapping application requires Center of Rotation setting.

• Work Point

 Inline distance from connection point to point where the operation occurs. For example, where seed or product is dropped, a crop is harvested, or ground is tilled. Mapping application requires Work Point setting.

Work Recording

• Recording Triggers determine when map recording and Work Monitor totals are turned ON and OFF. Not all recording triggers are available for all machines types.

NOTE: In Manual mode, operator must push Record or Pause button to turn Coverage Map recording ON or OFF.

Use Help Center onscreen help for more information about Implement Profiles.

HC94949,0000388 -19-02DEC13-1/1

Guidance

AutoTrac

AutoTrac[™] is an assisted steering system that allows operators to take their hands off the steering wheel as the machine travels down the created guidance line in the field. Operators still have to turn the machine around on the end rows. By pressing the resume button, AutoTrac regains control and steers machine down the adjacent pass.

AutoTrac is a trademark of Deere & Company

Manual Guidance

Information about guidance tracks and operating in each Tracking Mode is given later in SET GUIDANCE TRACK and in tracking mode sections.

After creating a guidance track, drive machine onto track. The closest track is highlighted with a thicker white line. Off Track error distance is shown in the path accuracy indicator. This number shows the distance from machine to closest track. Error number will count up until machine

Operate Guidance Systems Safely

Do not use guidance systems on roadways. Always turn off (disable) guidance systems before entering a roadway. Do not attempt to turn on (activate) a guidance system while transporting on a roadway.

Guidance systems are intended to aid the operator in performing field operations more efficiently. The operator is always responsible for the machine path. Guidance systems do not automatically detect or prevent collisions with obstacles or other machines.

Guidance Systems include any application that automates machine steering. This includes, but may not be limited to, AutoTrac[™], iGuide[™], iTEC[™] Pro, AutoTrac[™] Universal (ATU), RowSense[™], and Machine Sync.

To prevent injury to the operator and bystanders: • Never get on or off a moving machine.

AutoTrac is a trademark of Deere & Company iGuide is a trademark of Deere & Company iTEC is a trademark of Deere & Company RowSense is a trademark of Deere & Company reaches point halfway between two tracks. After reaching midpoint, error number will count down as machine approaches next track.

Track number is displayed below the path accuracy indicator and is automatically updated by the system as a new track is approached. Track number changes when machine is half way between two tracks. Tracking Tones alert the operator when machine is close to a track. Adaptive Curves does not display track numbers.

HC94949,00003A0 -19-25SEP13-1/1

HC94949,00003AC -19-23SEP13-1/1

- Verify the machine, implement, and guidance system are set up correctly.
 - If using iTEC[™] Pro, verify accurate boundaries have been defined.
 - If using Machine Sync, verify the follower's home point is calibrated with sufficient space between the machines.
- Remain alert and pay attention to the surrounding environment.
- Take control of the 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 the machine path.
- Consider field conditions, visibility, and machine configuration when selecting machine speed.

JS56696,0000ABC -19-02DEC13-1/1



General Information

IMPORTANT: AutoTrac system relies on global positioning system (GPS) operated by the United States government, which is solely responsible for its accuracy and maintenance. System is subject to changes that could affect accuracy and performance of all GPS equipment.

Operator must maintain responsibility for machine and must turn at end of each track. This system will not turn at end of a track.

AutoTrac basic system is intended to be used as an assistance tool to mechanical markers. Operator must evaluate overall system accuracy to determine specific field operations where assisted steering may be used. This evaluation is necessary because accuracy required for various field operations may differ depending on farming operation. AutoTrac uses StarFire differential correction network along with GPS. Slight shifts in position may occur over time.

HC94949,000039F -19-23SEP13-1/1

Guidance Settings

Select SETTINGS icon at the top of the guidance application to configure guidance settings.

Guidance Master

Guidance Master toggle turns Guidance application ON or OFF.



HC94949,00003AD -19-02OCT13-1/1

Turn Predictor

Turn Predictor alerts operator by predicting the end of pass and displays the distance to the end of pass in the map view.

NOTE: Turn Predictor defaults to ON

Turn predictor is intended to predict only the turn point of a machine using Parallel Tracking or AutoTrac while in Straight Track mode. It is NOT a headland alert. Turn predictions are based solely on previous turn behavior of machine. Turn points are also defined when AutoTrac is deactivated and heading error exceeds 45 degrees. Turn predictions will not coincide with field boundary if field boundary is not linear and continuous, or if operator makes turns before or after field boundary.

Distance will count down to predicted turn, and tones will sound when machine is 10 seconds from intersecting turn point. This happens again when predicted turn point has been reached.

Visual indicator will change to yellow within 10 seconds of predicted turn, and then red after passing the predicted turn location. A white intersection line marks turning location.



AutoTrac

PC15305 -UN-19MAR13

Turn Predictor will default to ON after every power cycle or after every seat switch time-out. Turn Predictor cannot be turned off on machine without an operator presence switch tied to CANBUS. Once turned OFF, it will remain off only until next power cycle, seat switch time-out, or if manually turned back on by operator.

Whenever Turn Predictor resets back to ON after a seat switch time-out (operator out of seat for 7 seconds on tractors), it will display an alert indicating Turn Predictor has been reset to ON due to operator leaving seat. An option will be available to turn it OFF again from the turn predictor symbol on the map.

HC94949,000038B -19-23SEP13-1/1

Tracking Tones

Tracking tones can be used as an audible indication of steering direction. If the track is right of machine, two low beeps sound. If left of machine, a single high beep

sounds. The alarm repeats while off-track error between machine and guidance track is 10—40 cm (4—16 in.).

NOTE: Tracking Tones default to ON.

HC94949,00003AE -19-23SEP13-1/1

Shift Track

Lightbar Settings

guidance track.

Accuracy Indicator.

each box on the lightbar represents.

Shift Track is used to adjust the position of guidance tracks left or right to compensate for GPS drift. Shift Track moves Track 0 and all tracks associated with it left or right the distance specified in Shift Increment with each press of the SHIFT LEFT or SHIFT RIGHT buttons.

NOTE: Shift Track master defaults to ON.

- To move tracks to left, select SHIFT LEFT.
- To move tracks to right, select SHIFT RIGHT.
- To center the closest track on the machine's current location, select SHIFT CENTER.

The maximum value allowed with AutoTrac active is 30 cm (12 in.). Inactive AutoTrac allows operator to shift up 914 cm (360 in.).

IMPORTANT: Drift is inherent to any satellite based, differentially corrected GPS system.

> When using SF1 or SF2 differential correction (or when using RTK Quick Survey Mode) the track may drift over time or at power cycles. Shift Track can be used to compensate for GPS drift.

> Anytime the North American RTK radio is reconfigured or changed, power must be cycled at the GPS receiver before continuing.

Power to the RTK radio must be turned off before unplugging RTK radio.

NOTE: Lightbar is also referred to as Path





Track Spacing

Track Spacing is used in the Guidance application to determine how far each pass is from the last pass. Track Spacing is similar to Implement Width, but Track Spacing is only used for guidance and the two values are independent of each other. For "perfect" guess rows, set Track Spacing the same as Implement Width. To ensure some overlap for tillage or spraying, or to account for some GPS drift, make the Track Spacing less than the Implement Width.

Steering Sensitivity

Steering sensitivity adjusts aggressiveness of AutoTrac steering system. A high steering sensitivity setting is more aggressive. This setting allows system to handle tough manual steering conditions, such as integral implements with a heavy draft load. A low steering sensitivity setting is less aggressive, and allows system to handle lighter draft loads and higher speeds.

Enter a number from 50 through 200. Default value is 70. Value may change based on steering controller

- Too Low: If steering sensitivity is too low, a slow wandering track error pattern can be observed on display. This track error pattern (C) takes approximately 10 seconds (A) to go from side to side. If excessive track error is occurring, increase steering sensitivity by small increments until desired accuracy is achieved.
- Too High: Setting steering sensitivity to highest level will not result in maximum tracking accuracy. If steering sensitivity is too high, excessive front wheel motion will be observed which reduces accuracy and causes unnecessary front axle component wear. At extreme high levels, machine motion will become large enough to cause steering sensitivity to be momentarily changed to default level. Wheel motion to watch for when determining if aggressiveness is too high occurs at an interval of approximately 1 second (B) from side to side. If excessive wheel motion is observed, lower steering sensitivity by small increments until desired performance is achieved.



HC94949,0000377 -19-26SEP13-1/1

Set Guidance Track

- 1. Select SET TRACK on the main guidance page.
- 2. On the Guidance Track List, either select an existing guidance line, or create a guidance line.

Use Help Center onscreen help for information about creating different guidance tracks.

(A) (B)	9Q
A—SET TRACK Button B—Add Guidance Track	C—Filter/Sort Guidance Tracks

HC94949,00003B0 -19-23SEP13-1/1

HC94949,0000265 -19-23SEP13-1/1

Guidance

Straight Track

Straight Track mode assists operator in driving straight parallel paths by using display and audible tones to alert operator when machine is off track.

Straight Track allows the operator to create an initial straight track for the field using a variety of Track 0 options. Once the Track 0 (reference path) has been defined, all passes for the field are generated. Each pass is identical to the original driven pass to ensure that steering errors are not propagated through the entire field. Generated passes can be used to operate Parallel Tracking or AutoTrac.

The methods of defining Track 0:

- A + B Define Track 0 by driving it with the vehicle.
- A + Auto B Define Track 0 by driving it with the vehicle.
 A + Heading Define Track 0 by driving the vehicle to point A and entering a predefined Heading value.
- Lat/Long Define Track 0 by entering predefined Latitude and Longitude coordinate values for the A and B points.



- Lat/Long + Heading Define Track 0 by entering predefined Latitude and Longitude value for the A point and entering a predefined Heading value.
- NOTE: Track 0 may be defined during an operation (for example, planting), but some buttons are not available while it is being created.

Use Help Center onscreen help for more information about creating straight tracks.

OUICK

Quick Line Softkey

HC94949,00003D2 -19-23SEP13-1/1

CZ76372.000071D -19-15JUL14-1/1



A Quick Line softkey can be added to the shortcut bar using the Layout Manager application.

Select the Quick Line softkey to create a guidance line using Auto B method without setup information. Track is automatically named. Use softkey again to overwrite existing Quick Line. To save Quick Line, open guidance track list, select edit button, and rename track.

Guide on a Straight Track

When operating Straight Track it is not necessary to drive tracks in a specific order. The closest track is highlighted with a thicker white line. The track number is displayed below the path accuracy indicator and is automatically updated by system as a new track is approached. Track number changes when machine is half way between two tracks. The number indicates lines away from Track 0, followed by the direction of Track 0. Track direction is shown relative to Track 0, North, South, East, and West.

Off Track error distance is shown in the path accuracy indicator. This number shows how far from the machine

is from the closest track. Error number will count up until machine reaches point halfway between two tracks. After reaching midpoint error number will count down as machine approaches next track.

Distance to end of pass utilizing Turn Predictor is shown in the top right portion of the guidance view. Distance will count down to predicted turn and tones will sound when machine is 10 seconds from intersecting turn point and again when predicted turn point has been reached.

HC94949,0000391 -19-23SEP13-1/1

AB Curves

AB Curves allows an operator to drive a curved line in the field with two end points (beginning and end) and passes parallel to the track in either direction are generated from the original driven pass to ensure that steering errors are not propagated through the entire field.

NOTE: See CURVE TRACK SETTINGS for information about adjusting your system for optimal performance.

The initially recorded AB curve must be at least 10 ft. in length to be a valid AB Curve to use for guidance.

Once AB Curve (Track 0) is recorded, ten additional tracks are generated (five passes on both sides of Track 0). When the machine drives past the fifth track from Track 0, ten additional tracks are generated in that direction. The system continues to generate additional passes when the machine drives past the last pass displayed on screen. The machine must be within 400 m (0.25 mi.) of the last generated line for the system to continue to generate curve paths. If the machine is inside this limit, it may take several minutes to generate a path that shows up on the screen near the machine. During this time, "Calculating Curves" will be displayed on the screen.

NOTE: Skip pass is available in AB Curves mode.

Passes are not identical copies of the original pass. Curvature of the pass changes to maintain pass-to-pass error. With each subsequent pass, curvature of the passes get more convex or concave.

NOTE: Sharp Curve and End of Path messages might appear when in AB curve track mode.

PC16662 --UN--06MAR13

AB Curve paths are generated with a 91 m (300 ft.) straight-line extensions attached to the end of the actual recorded paths. In addition to the 91 m (300 ft.) automatically added, line extensions will extend before and after the recorded line to line up the machine or continue the path.

NOTE: Shift track is not recommended when using AB Curves. When in AB Curve mode, shift track will not compensate for GPS drift.

Use Help Center onscreen help for more information about creating AB curve tracks.

HC94949,0000392 -19-23SEP13-1/1

Guide on an AB Curve

The closest track is highlighted with a thicker white line. The track number is displayed below the path accuracy indicator, and is automatically updated by the system as a new track is approached.

Track number changes when machine is half way between two tracks. Off Track error distance is shown in the path accuracy indicator. This number shows how far from closest track machine is. Error number will count up until machine reaches point halfway between two tracks. After reaching midpoint error number will count down as machine approaches next track.

The number indicates the lines away from Track 0, followed by the direction of Track 0. Track direction is shown relative to Track 0, North, South, East, and West.

HC94949,0000393 -19-23SEP13-1/1



Guidance

Adaptive Curves

Adaptive Curve track allows operator to record a manually driven curved path. Once the first curved pass has been recorded and machine is turned around, operator can Parallel Track or activate AutoTrac once the propagated path appears.

NOTE: See CURVE TRACK SETTINGS for information about adjusting your system for optimal performance.

The machine will be guided along subsequent passes based on the previous recorded pass. Each pass is generated from the previous pass to ensure steering errors are not propagated through the entire field.

NOTE: A Skip Pass allows operator to drive past or skip over the track next to the current track. Skip Pass is not available in Adaptive Curves' recording session.

Generated passes are not identical copies of the original pass. The curvature of pass changes maintains pass-to-pass accuracy. With each subsequent pass, curvature of the passes get more convex or concave. When necessary, operator can change curve path anywhere in the field by steering machine off the propagated path. PC16660 -UN-06MAR13



NOTE: Sharp Curve and End Path messages might appear when in Adaptive Curve track mode.

If not in a curve recording session, line will not project and can only AutoTrac on available lines. When in a recording session, lines will project off of the previous line. This session can be used to record another line manually, or an operator can select AutoTrac in the Curve Recording Triggers and AutoTracking on the projected line.

NOTE: Shift track is not recommended when using Adaptive Curves. When in Adaptive Curve mode, shift track will not compensate for GPS drift.

Use Help Center onscreen help for more information about creating adaptive curve tracks.

HC94949,0000394 -19-30AUG13-1/2

Adaptive Curve Track Mode allows an operator to drive and be guided along various field patterns.

- Simple Curve
- S-Curve
- Boxed
- Race Track
- Spiral
- Circle

A—Simple Curve B—Boxed C—Spiral D—S-Curve E—Race Track ^E—Circle



HC94949,0000394 -19-30AUG13-2/2

Guide on an Adaptive Curve

IMPORTANT: If repeatability is needed with saved Adaptive Curve Track data, it is required that the initial track data and subsequent trips across the field be created using StarFire RTK accuracy. RTK base station should be operating in Absolute Base mode.

NOTE: Track spacing for Adaptive Curve Track data is constant. If a different implement width is used when returning to the field, new data must be recorded.

The closest track is highlighted with a thicker white line. Off Track error distance is shown in the path accuracy

indicator. This number shows how far from closest track machine is. Error number will count up until machine reaches point halfway between two tracks. After reaching midpoint error number will count down as machine approaches next track.

If a curve is not being recorded, lines will not project and you will only be able to AutoTrac on available lines. When recording, lines will project off of the previous line. This session can be used to record another line manually, or an operator can select AutoTrac in the Curve Recording Triggers and AutoTracking on the projected line.

HC94949,00003D3 -19-13SEP13-1/1

Record a Straight Path Within an Adaptive Curve

- 1. Start recording an Adaptive Curve.
- 2. When you would like to record a straight path, select Straight Line button.
- NOTE: A straight segment will "snap" from when the Straight Segment button is pressed until the Curve Segment button is pressed or Done button is pressed to complete the track.
- 3. Select the Curved Line button to finish recording the straight line and resume curved path recording.

This procedure can be helpful when there is a long straight section of path or when navigating around obstacles.

Curve and straight segment buttons can be switched as needed while recording.

- NOTE: The longest straight segment that can be created is a distance of 0.8 km (0.5 mi.) (2,640 ft.). For a greater distance, line segment will not connect resulting in a gap in the path.
 - A-Straight Line selected B-Straight segment is generated to connect two points C-Tractor path not recorded
 - D—Curved Line selected
- E—Path recorded as a straight line between points A and D F—Curved Line Button G—Straight Line Button



Navigate Around Obstacles

When operating Adaptive Curves in a field and an obstacle is encountered, such as a well head, telephone pole, or power line, the operator must drive around these obstacles.

NOTE: Use the straight button to record a straight line around the obstacle. This button avoids a gap in the path.

Recording ON: If recording is left on while driving around an obstacle that deviation to the propagated path will be recorded and become a part of the path. On the next pass that approaches the area in the field, the propagated path for the pass the machine is on will have incorporated the deviation. The machine will steer along the deviation. To straighten out that deviation, the operator must take over manual steering of the machine and straighten out that deviation. Once the operator has driven past the deviation in the field and reacquired the intended path the resume switch may be activated and AutoTrac will take over machine steering.

Recording OFF: If recording is turned off when the obstacle is approached and steered around and then recording turned back on once the obstacle has been navigated around and AutoTrac activated to finish the pass, there will be a gap in the recorded path where the obstacle is. On the next path when the machine approaches the gap, the operator must take over manual steering of machine and navigate through the gap. Once the gap has been navigated and the propagated path is reacquired, AutoTrac can be activated and the gap will not appear in subsequent passes as long as recording is turned on for the next pass.

A—Turned Recording Off B—Turned Recording On C—Gaps Results in Next Pass D—Manually Driven to Re-establish Path



HC94949,0000396 -19-13SEP13-1/1
Guidance

Swap Track (Track Set)

Swap Track, or Track Set, allows operators to switch between guidance lines. A Track Set (group of guidance lines) must be created before using Swap Track. When selected, Swap Track changes the guidance track based on the order of guidance lines in the Track Set.

NOTE: Swap Track works with existing guidance lines. Lines must be created and added to Track Set before using Swap Track.

Swap Track is enabled when a Track Set is selected in the Guidance Track List.

Swap To Next Track

To select the next guidance track, use the following methods:

• Select Swap button in Next Track module.

NOTE: Swap Track button is grayed out when a Track Set is not selected.





• Select Swap Track in the shortcut bar.

Select a Track Set

- 1. Select Set Track button or select Next Track module.
- 2. Select a Track Set from Guidance Track List page.

NOTE: Removing a line from a Track Set does not delete it from the display. Deleting a Track Set does not delete the lines in the Track Set from the display.

Configured

Machine in proper operating gear.

More information can be found in the onscreen help files.

HC94949,00003A2 -19-02OCT13-1/1



Tracking Mode has been determined, and a valid Track 0 has been established. Correct StarFire signal level for AutoTrac activation is selected. The following machine conditions need to be met:

- · Guidance system turned ON.
- Guidance Track 0 defined.
- StarFire signal is present.
- Steering controller has no active faults.
- Speed is in range.
- TCM message is currently available and valid.



HC94949,0000397 -19-30AUG13-2/4

3. Enabled

AutoTrac ON/OFF button has been pressed. All conditions are met for AutoTrac to operate and system is ready to be activated.

• Select STEER ON/OFF button to turn "Steer On".



Enabled

Activated

Steer ON/OFF Toggle

To enable AutoTrac, select Steer ON/OFF toggle. This

OF

B—Steer Off

ON

button disables AutoTrac if selected again.

HC94949,0000397 -19-30AUG13-3/4

HC94949,0000397 -19-30AUG13-4/4

4. Activated

PC16648 —UN—26FEB13

A-Steer On

- Resume switch has been pressed and AutoTrac is steering the machine.
- Press Resume switch to activate AutoTrac.

Last Exit Code: Indicates why AutoTrac is deactivated or will not activate. Exit codes show up in a new window shade at top of page.

Enable AutoTrac

The following criteria must be met for AutoTrac to be enabled:

- Machine has an AutoTrac capable steering controller (SSU).
- Valid AutoTrac Activation.
- A guidance track has been created. See CREATE GUIDANCE TRACK later in this section.
- Correct StarFire signal level for AutoTrac Activation is selected (SF1, SF2, or RTK) and a valid GPS signal is acquired.
- AutoTrac with valid GPS signals, including SF1, SF2, or RTK.
- SSU has no active faults.

NOTE: Machine and software version of SSU determines minimum and maximum speeds allowed.

Disable AutoTrac When Not In Use

CAUTION: Always turn off (Deactivate and Disable) AutoTrac system before entering a roadway.

Guidance Master ON/OFF controls the Guidance Application. ON/OFF button on Run Pages only enables or disables AutoTrac, and does not turn off Guidance Application.

NOTE: Guidance application is disabled when Guidance Master is turned off. This includes all display guidance functionality. PC15305 —UN—19MAR13



Settings Icon

Guidance Master can be found in guidance settings. Select SETTINGS icon at the top of the guidance application.

HC94949,0000399 -19-15JUL14-1/1

HC94949.0000398 -19-13SEP13-1/1

Activate AutoTrac

A CAUTION: While AutoTrac is activated, operator is responsible for steering at end of path and collision avoidance.

Do not attempt to turn on (Activate) AutoTrac system while transporting on a roadway.

- 1. Select STEER ON/OFF button to turn "Steer On".
- 2. Drive the vehicle onto a guidance track and a highlighted navigation line will appear in front of the machine icon.
- 3. Manually ACTIVATE AutoTrac when steering assistance is desired by pressing the Resume Switch. This will initiate assisted steering.

HC94949,00003D6 -19-13SEP13-1/1

Resume Switch

Press the Resume Switch to move AutoTrac from the ENABLED stage to the ACTIVATED stage.

A—Resume Switch





HC94949,000039A -19-02OCT13-1/1



Minimum and Maximum Speeds

Machine and software version of Steering Controller determine minimum and maximum speeds.

Feature	Row Crop (Wheels)	Articulated	Tracks
Forward High Speed Limit	30 km/h (18.6 mph) – 6R, 7R, 8R, 9R	30 km/h (18.6 mph)	30 km/h (18.6 mph)
Reverse High Speed Limit	10 km/h (6 mph)	10 km/h (6 mph)	10 km/h (6 mph)
Low Speed Limit (Activate)	0.5 km/h (0.3 mph) – 7R, 8R, 9R 0.1 km/h (0.06 mph) - 6R	0.5 km/h (0.3 mph) 1.5 km/h (0.9 mph) – MST	0.5 km/h (0.3 mph)
Low Speed Limit (Deactivate)	0.5 km/h (0.3 mph)	0.5 km/h (0.3 mph) 1.5 km/h (0.9 mph) – MST	0.5 km/h (0.3 mph)
Neutral Allowable Time	Yes, < 30 Sec.	Yes, < 30 Sec. – PST only	Yes, < 30 Sec.
Reverse and Allowable Time	Yes, 45 Sec.	No	Yes, 45 Sec.

AutoTrac Deactivation Message

AutoTrac deactivation message – Each time AutoTrac is deactivated, two tones are followed by an alert explaining

why it was deactivated. Messages are also displayed as to why AutoTrac did not activate. Deactivation messages display for 7 seconds and then disappear.

AutoTrac Deactivation Message		
Deactivation Message	Description	
Steering wheel moved.	Operator turned steering wheel.	
Vehicle speed too slow.	Vehicle speed is below minimum required speed.	
Vehicle speed too fast.	Vehicle speed is above maximum allowed speed.	
Current gear invalid.	Vehicle operating in an invalid gear.	
AutoTrac could not maintain previous track.	Track number changed.	
GPS signal is not adequate.	SF1, SF2, or RTK signal was lost.	
Steering controller fault. Check for steering controller diagnostic trouble codes.	See John Deere dealer.	
GreenStar Display Message Bad.	Reboot display. If problem persists, see John Deere dealer.	
Select a Guidance Track.	Guidance Track is required to AutoTrac.	
AutoTrac activation required.	AutoTrac activation required.	
Angle of approach too large.	Vehicle is at an angle greater than 45 degrees from track.	
Too far off track.	Vehicle not within 40% of track spacing.	
Operator out of seat.	Out of seat too long for longer than 7 seconds.	
Terrain Compensation (TCM) turned off or not communicating.	Make sure TCM is turned on.	
Steering controller activation invalid.	Need SSU activation code. See John Deere dealer.	
Steering controller in diagnostic mode.	See John Deere dealer.	
Steering controller voltage not stable.	See John Deere dealer.	
AutoTrac active in reverse too long	In reverse gear for more than 45 seconds.	
Guidance track curve too sharp.	Maximum curvature has been exceeded.	
Vehicle not travelling in a forward direction.	Vehicle must be in forward gear to activate.	
Switched power line is low. Display may shut down.	Steering Controller may be shutting down. If problem persists, see John Deere dealer.	
Bad gear data from vehicle.	See John Deere dealer.	
Bad data from AutoTrac resume switch.	See John Deere dealer.	
Keyswitch message is not sending valid data.	See John Deere dealer.	
GPS vehicle speed does not match wheel based vehicle speed.	See John Deere dealer.	
Vehicle is in park.	Vehicle must be in proper gear to AutoTrac.	
Bad data from seat switch.	See John Deere dealer.	
Authorization not permitted.	See John Deere dealer.	

HC94949,000039C -19-26AUG13-1/1

Steering Optimization

Monitor Performance

Monitor performance shows heading error and tracking error. It is designed to aid in tuning of Advanced AutoTrac Settings. Heading error indicates relationship of machine's direction relative to current track. Tracking error displays machine's lateral error or offset relative to current track.

Heading Error Meter

Heading Error indicates relationship of machine's direction relative to current track. Heading Error should be within +/- 1 degree.



Adjustments may be needed if they are outside of this range.

HC94949,00003A7 -19-02OCT13-1/8



Guidance

Heading Lead

Determines impact of yaw rate (machine rate of turn) on tracking performance. Heading lead acts as a look-ahead parameter and can be used to minimize over steering. Large adjustments may result in poor performance.

- Higher settings: Result in more aggressive response to yaw rate.
- Lower settings: Result in less aggressive response to yaw rate.
- Range: 50–130







Acquire Sensitivity

Determines how aggressively machine acquires track. This setting only affects performance while acquiring track.

- Higher settings: Result in aggressive line acquisitions.
- Lower settings: Result in smoother line acquisitions.
- Range: 50-200





Troubleshooting

NOTE: AutoTrac has been tuned to perform successfully in most field conditions using a variety of implements. For abnormal conditions, Advanced Settings allow the operator to fine tune systems for specific field conditions and implements. Adjusting steering sensitivity should be tried before using the steps in the following scenarios.

Check and fix other problems before tuning. Perform necessary mechanical checks and calibrations through associated machine. If this step is not performed, machine faults may occur or operator wastes time tuning a system that cannot be tuned.

Excessive Wheel Motion: Overall AutoTrac Performance is acceptable, but wheels quickly twitch back and forth.

Aggressive S-ing Motion: Continual back and forth motion is observed by looking over front nose of machine. Motion is observed, but off-track error shown on display (distance away from A–B line) is often relatively small.

Lazy S-ing Motion: Performance of AutoTrac seems sluggish when trying to stay on line and slowly wanders from side to side.

Lazy Line Acquisition: AutoTrac appears sluggish during line acquisition. Tractor remains off to one side of line for a long time before getting lined up.

Aggressive Line Acquisition: AutoTrac overshoots line and continues to overcompensate during acquisition. Results in high frequency, tight S-ing pattern during acquisitions.

Tracking Outside of Curve: AutoTrac is sluggish in curve track, resulting in slow, wandering S-ing about the desired line. This line often tracks to the outside of the desired path.

Tracking Inside of a Curve: AutoTrac exhibits rapid and high frequency corrections in Curve Track Mode, resulting in a tight S-ing pattern, or tracking to the inside of the desired path.

NOTE: For troubleshooting techniques, refer to the onscreen help files.

General Tuning

Adjustment recommendations:

- Steering Sensitivity: Set at 100 before making other adjustments. Adjust in increments of 10.
- Line Sensitivity Tracking: Adjust in increments of 20.
- Line Sensitivity Heading: Adjust in increments of 10.
- Heading Lead: Adjust in increments of 10.
- Steering Response Rate: Adjust in increments of 10.
- Acquire Sensitivity: Adjust in increments of 20.
- Curve Sensitivity: Adjust in increments of 20.

One Value at a Time: Attempt to adjust settings in problem field conditions while AutoTrac is active by performing the following steps:

- Start with factory default settings. Steering Sensitivity value will correlate to value on Guidance View Tap. Attempt to use a value for this setting that is like running conditions (70 for concrete, 100 most conditions, and 120 for soft ground). This number may still need to be modified beyond suggested settings.
- While AutoTrac is active in problem conditions (such as speeds, ground, and tire setup), increase or reduce Line Sensitivity Heading by a factor of 10.
- If change in Line Sensitivity Heading is ineffective at addressing issue, reset Line Sensitivity Heading parameter. Increase or reduce Heading Lead in same manner as previous step.
- 4. If none of the previous steps were effective, reset Heading Lead and increase or reduce Steering Response Rate in a similar fashion to the previous steps.

Combining Settings: If above procedure does not give satisfactory performance and once operator becomes more comfortable with how parameters change AutoTrac performance, try different combinations of parameters while AutoTrac is active.

HC94949,00003C4 -19-02OCT13-1/1

Fields

Field names organize information so it is easier to find and use data, such as guidance lines. Using field names is optional, and a "---" will appear for undefined names.

Use Fields application to:

- Select field name used for all other applications.
- Change the name of a client, farm, or field.
- Associate a field to a different farm or client.
- Delete a client, farm, or field.

A Location module for the Fields application is available in Layout Manager application.

- Select a field in Location module to apply a filter to guidance track list.
- Selections made through the module do no affect Field application.



Fields Application

Navigate to Fields

1. Select Menu

PC17260 -UN-11JUL13

- 2. Select Applications tab.
- 3. Select Fields application.

CZ76372,0000641 -19-08JUL14-1/1

Manage Clients, Farms, and Fields

Field Organization

Use the following hierarchy to help organize data:

- Clients are the highest level of organization.
- Farms are the middle level of organization. A farm can be associated with a client.
- Fields are the basic level of organization. A field can be associated with a farm and a client.

A strict hierarchy is not necessary, though it is possible to use only field names, and leave farm and client names blank. It is even possible not to use field names at all.

These decisions depend on amount of data being kept. More data requires structure to find fields.

NOTE: In previous John Deere displays, maps and guidance lines were saved based on field names. In the Generation 4 display, data is saved as latitude and longitude points. The field name is only needed as a way to filter data.

Select and Filter Names

In the Client, Farm, and Field hierarchy, select clients and farms to find fields.

- 1. Select Client tab.
- 2. From list, select client. Client name is displayed on Client tab.
- 3. Farm tab is automatically displayed. Only farms associated with the client are listed.
- 4. From list, select farm. Farm name is displayed on Farm tab.
- 5. Field tab is automatically displayed. Only fields associated with the client and farm are listed. Select field.

Remove Filter

Remove filter by selecting Clear Selections button.



Create and Edit Names

Client, Farm, and Field names cannot be duplicated. Names associated with different clients and farms must be unique.

Client and Farm Tabs

When Client or Farm tabs are selected, select Edit button at bottom of page to display Edit Client or Edit Farm list.

On either list, select one of the client or farm names to edit it, or select New button at bottom of page to create a name.

Field Tab

When Field tab is selected, highlight field name and select edit button to edit a field. Select New button at bottom of the page to create a name.

Delete Names

To delete a name, edit the client, farm, or field, and select the delete button on the edit page.

- Deleting a client also deletes all farms, fields, and guidance tracks associated with client.
- Deleting a farm also deletes all fields and guidance tracks associated with farm.
- Deleting a field also deletes all guidance tracks associated with field.

CZ76372,0000642 -19-20MAY14-1/1

File Manager

File Manager

Data can be transferred between displays or compatible desktop software using a USB drive. It is also important to backup data to a USB drive periodically.

NOTE: Data can be transferred to Apex[™] and several third-party desktop applications. Update Apex[™] or third-party desktop application if there are issues with transferring data.

Display internal memory is intended to have enough capacity to store all data from a machine per season. A message will appear when 90% of memory is used. Data should be exported and deleted before memory used exceeds 90%.

Apex is a trademark of Deere & Company

PC16671 -UN-18MAR13



File Manager

Navigate to File Manager

- 1. Select Menu.
- 2. Select System tab.
- 3. Select File Manager Application.

CZ76372,0000646 -19-22MAY14-1/2

Import Data

Import data from USB drive. Use this option in the following examples:

- Import field names and guidance lines from a GreenStar™ 3 2630 Display or compatible desktop software.
- NOTE: Choose GS3 2630 card format when exporting from Apex[™]. To use lines from other GreenStar[™] displays, unload lines into Apex[™] and then export in GS3 2630 card format.

Display imports all data profiles on USB drive. For example, if data from three different GS3 2630 displays is on USB drive, data from all three displays is imported.

Client, Farm, and Field Names

When necessary, to avoid conflicts, imported names are changed. For example, "Field1" is renamed "Field1(1)".

Guidance Lines

If guidance lines are in the same field and created with the same tracking method, the display handles the following conflicts.

Different Name, Same Line

• If lines are the same, name of guidance line on display is replaced by name on USB drive.

Same Name, Different Line

• If there are two different lines with the same name, line on USB drive is renamed when imported. For example, "Track1" is renamed "Track1(1)".

GreenStar is a trademark of Deere & Company CommandCenter is a trademark of Deere & Company AutoTrac is a trademark of Deere & Company



Export Data

Data is copied to USB drive. Use this option in the following examples:

- Transfer guidance lines to another Generation 4 CommandCenter™, GS3 2630, or compatible desktop software.
- Transfer screen shots and log files to a USB drive.
- NOTE: If exporting to a USB drive that already has Generation 4 display information, data on USB drive will be overwritten.

Select guidance lines, screen shots, and log files for export. All data in each option is exported when selected.

Remove Data

Select "Delete files after transfer" check box to remove screen shot and error log files from display after they are exported to USB drive.

Setup data and guidance lines are not removed when check box is selected. Use Fields and AutoTrac™ Guidance applications to remove setup data and guidance lines.

CZ76372,0000646 -19-22MAY14-2/2

USB Drive

USB Drive Requirements for John Deere Displays

Only John Deere branded USB drives purchased from John Deere dealers are recommended. Other drives may not be compatible.

Note the following USB drive requirements:

- Format Windows FAT or FAT32. This display will not recognize NTFS format.
- Capacity There are no specific limits to the memory capacity of the drive

- Connectivity USB 2.0
- Maximum Dimensions 9.2 mm thick by 21.7 mm wide

Best Practices

- Wait 10 seconds, because large USB drives may take time to be recognized.
- Use a USB drive that is 4GB or larger, so multiple Backups can be stored.
- Clean all files off the USB drive that are not associated with John Deere displays.

CZ76372,000064E -19-02OCT13-1/1

Capture Screen Shots

Select area highlighted in top left corner of screen. Press and hold until screen flashes and display makes camera shutter sound.

Insert USB drive and select Export Data to transfer screen shots to drive.

A—Screen Shot Area



CZ76372,0000645 -19-02OCT13-1/1

StarFire Receiver

StarFire[™] GPS Receiver

The StarFire[™] GPS receiver acquires global positioning and differential correction signal through a single receiver.

A Terrain Compensation Module (TCM) is integrated into the receiver and corrects for machine dynamics, such as roll and pitch on side-slopes, rough terrain, or varying soil conditions. An accurate TCM calibration is necessary for proper operation.

See the StarFire™ Receiver operator's manual for setup and calibration instructions.

Navigate to StarFire[™] GPS Receiver

StarFire is a trademark of Deere & Company



- 1. Select Menu.
- 2. Select Applications tab.
- 3. Select StarFire[™] application.

HC94949,0000389 -19-15MAY14-1/1

Index

Page

Α

AB Curves	25-7
Obstacles	25-8
Operating	25-7
Settings	
Straight Path	25-8
Adaptive Curves	
Obstacles	25-11
Operating	25-10
Settings	25-4
Straight Path	
AMS Applications	
Applications	
Fields	30-1
File Manager	35-1
Guidance	
Implement Profiles	20-2
Machine Profiles	20-1
StarFire [™] Receiver	40-1
AutoTrac	25-1
Activate	25-14
Deactivate	25-15
Deactivation Messages	25-16
Disable	25-13
Enable	25-13
Reactivate on Next Pass	25-15
Resume Switch	25-14
Status Pie	25-12
Steering Sensitivity	25-5
Turn Predictor	

С

CommandCenter™	
Display Models	15-2
Processor Models	
Create Guidance Track	25-5
Curve Track Settings	25-4

D

Dimensions	
Implement	20-2
Machine	

F

Fields

Create	
Edit	
Filter	
Manage	
File Manager	
Export	
Ścreenshots	
Import	
•	

Page

G	
Generation 4 Display	
Operating System	15-5
GPS Receiver	40-1
Guidance	
AB Curves	25-7
Obstacles	25-8
Operating	25-7
Straight Path	25-8
Adaptive Curves	
Obstacles	
Operating	25-10
Straight Path	
AutoTrac	
Activate	
Deactivate	
Deactivation Messages	
Disable	
Enable	
Resume Switch	
Status Pie	
Create Track	-
Find Track	
Manual	
Maximum Speeds	
Minimum Speeds	
Quick Line	
Settings	20 0
Curve Track	25-4
Lightbar	25-3
Master On/Off	
Shift Track	
Tracking Tones	
Turn Predictor	
Steering Optimization	
Steering Sensitivity	
Straight Track	20-0
Methods	25.6
Operating	
Quick Line Swap Track	
Track Set	
Track Spacing	
Troubleshooting	25-20
1	
I	
Implement Profiles	20-2

Lightbar Settings...... 25-3

L

Continued on next page

	Page	
Μ		U
Machine Profiles Manual Guidance Menu.	25-1	USB Drive Best Practices Requirements
0		
Offsets		
Implement	20-2	
Machine		
Onscreen Help		
Operating System	10 1	
Applications	15-5	
	10 0	
Q		
Quick Line	25-6	
	20 0	
R		
Resume Switch	25-14	
Run Page	15-4	
S		
Safety, Avoid High-Pressure Fluids		
Avoid High-Pressure Fluids	05-6	
Safety, Steps and Handholds	00 0	
Use Steps and Handholds Correctly	05-2	
Screenshots	35-2	
Settings	00 2	
Guidance	25-2	
Guidance Master		
Shift Track		
Shortcut Softykeys		
	10-0	
Software Packages AMS Applications	15.8	
Operating System		
StarFire Receiver		
Status Center		
Steering Sensitivity		
Straight Track	20-0	
Methods	25-6	
Operating		
Quick Line		
т		

Т

Track Spacing	
Tracking Tones	
Troubleshooting	
Guidance	
Turn Predictor	
AutoTrac	25-2

Page

USB Drive	
Best Practices	35-2
Requirements	35-2

Technical Information

Technical information can be purchased from John Deere. Some of this information is available in electronic media, such as CD-ROM disks, and in printed form. There are many ways to order. Contact your John Deere dealer. Call **1-800-522-7448** to order using a credit card. Search online from http://www.JohnDeere.com. Please have available the model number, serial number, and name of the product.

Available information includes:

- PARTS CATALOGS list service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.
- OPERATOR'S MANUALS providing safety, operating, maintenance, and service information. These manuals and safety signs on your machine may also be available in other languages.
- OPERATOR'S VIDEO TAPES showing highlights of safety, operating, maintenance, and service information. These tapes may be available in multiple languages and formats.
- TECHNICAL MANUALS outlining service information for your machine. Included are specifications, illustrated assembly and disassembly procedures, hydraulic oil flow diagrams, and wiring diagrams. Some products have separate manuals for repair and diagnostic information. Some components, such as engines, are available in separate component technical manuals
- FUNDAMENTAL MANUALS detailing basic information regardless of manufacturer:
- Agricultural Primer series covers technology in farming and ranching, featuring subjects like computers, the Internet, and precision farming.
- Farm Business Management series examines "real-world" problems and offers practical solutions in the areas of marketing, financing, equipment selection, and compliance.
- Fundamentals of Services manuals show you how to repair and maintain off-road equipment.
- Fundamentals of Machine Operation manuals explain machine capacities and adjustments, how to improve machine performance, and how to eliminate unnecessary field operations.



John Deere Service Literature Available

John Deere Service Keeps You On The Job

John Deere Parts

We help minimize downtime by putting genuine John Deere parts in your hands in a hurry.

That's why we maintain a large and varied inventory—to stay a jump ahead of your needs.



The Right Tools

Precision tools and testing equipment enable our Service Department to locate and correct troubles quickly . . . to save you time and money.



Well-Trained Technicians

School is never out for John Deere service technicians.

Training schools are held regularly to be sure our personnel know your equipment and how to maintain it.

Result?

Experience you can count on!



DX,IBC,C -19-04JUN90-1/1

Prompt Service

Our goal is to provide prompt, efficient care when you want it and where you want it.

We can make repairs at your place or at ours, depending on the circumstances: see us, depend on us.

JOHN DEERE SERVICE SUPERIORITY: We'll be around when you need us.

