Software Update

Generation 4 OS installation time: Approximately 20 minutes, with no existing data. Installation time will vary depending on the amount of existing data and the software version currently on the display.

The latest packages for the Generation 4 Displays below can be downloaded and installed over-the-air or using a USB drive and John Deere Software Manager, available on StellarSupport.com within the "Software Updates" page. If using online software updates on the Generation 4, over-the-air download time will vary based on cellular coverage or wireless internet connection strength. Reference "Download Instructions" for more help.

Over-the-air reprogramming - https://youtu.be/XSG7O3_9KGI?list=PL1KGsSJ4CWk4fhvFOaBZz261XGwPfXvqk

Note: Generation 4 OS software updates will automatically install the correct corresponding Generation 4 OS Help. One update cannot be separated from the other.

	Package	Version
	Generation 4 OS	10.16.1400-91
	Generation 4 OS Help	10.4.63-10
	AMS Applications	10.16.1400-91

Machine Application Software Updates
Machine applications are located under Machine Settings in the Generation 4 Display menu. A John Deere dealer will be required to install any required updates to machine application software using Service ADVISOR™.

Release Notes Content

New Features and Improvements
General Information
Training

New Features and Improvements

Onscreen Operators Manual-

- A copy of the Generation 4 display operators manual will now be available on the display within the Help Center application. This content will continue to be updated with future software updates as needed. Supplemental onscreen help pages will continue to be available from Help Center.
  NOTE: *Always read the latest Operator's Manual prior to operation. To obtain a copy, see your dealer or visit* techpubs.deere.com.

Guidance-

- Operators are now able to create a duplicate track in the guidance application for straight tracks and AB curves. Duplicate track creates a copy of the active guidance track. The new duplicate track name defaults to the name of the original track plus (1). For example, a duplicate of "West" defaults to "West(1)". Select the track name entry box to modify the track name. The new track can be centered on the machine or shifted left or right. If the original track was created using the A + Heading method or the Lat/Lon + Heading method, the new track heading can be modified by selecting the heading entry box.

  NOTE: *Track spacing for the duplicate track cannot be modified. If a new track spacing is required, ensure that the correct track spacing has been set up in the Guidance application before making the new track.*

Link to feature demonstration video: https://youtu.be/IzkxxgGSEA0

2
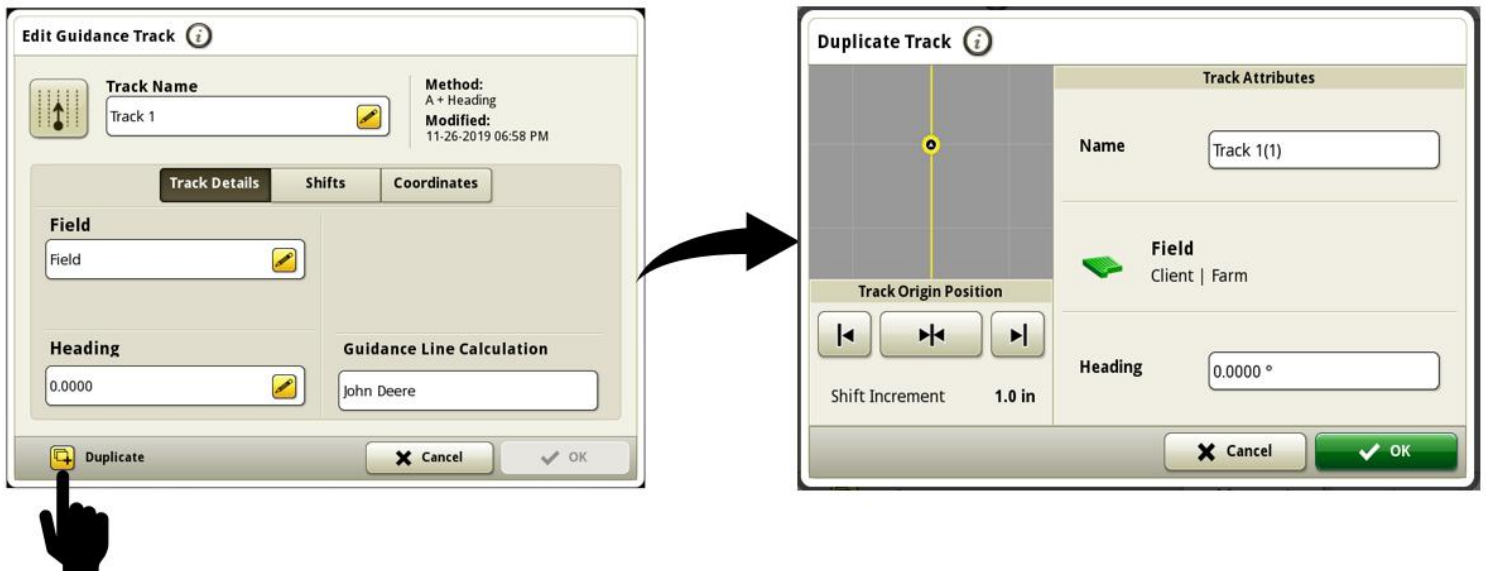
- AutoTrac™ Health page is now available in diagnostics center to monitor tracking performance, conditions, GPS health and resume switch status. Tracking performance and conditions values are continuously calculated when AutoTrac™ is active (4/4 status pie) and tracking on the line. The values do not update when AutoTrac™ drops to 3/4 or 2/4 status pie, and the values change to "---" in 1/4 status pie. Tracking performance values are displayed as a 95th percentile value, meaning that 95% of the time, the real time value has been equal to or less than the value displayed.
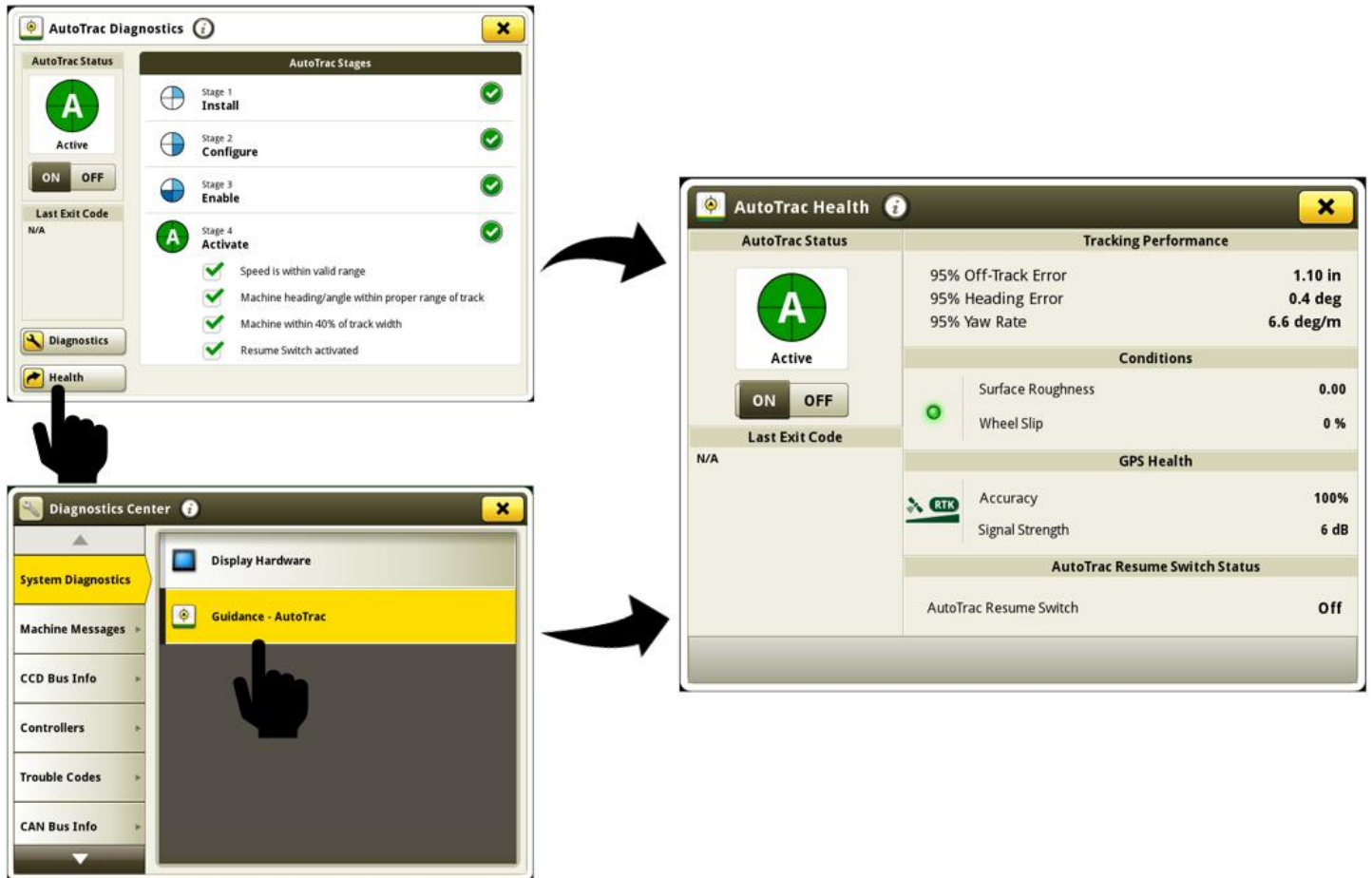
Information available on AutoTrac™ Health page:
AutoTrac™ Status - Displays the AutoTrac™ pie chart and steering on and off toggle.
Last Exit Code – Indicates why AutoTrac™ most recently deactivated or why it does not activate
95% Off-Track Error - Distance from the closest track to the machine. Error increases until the machine reaches halfway between two tracks, then error counts down as the machine approaches the next track. In good conditions these values should be equal to or less than:

	3-8 mph (4.8-12.9 km/h)	8-12 mph (12.9-19.3 km/h)	12-15 mph (19.3-24.1 km/h)
Off-Track Error (All Track Types)	1.6 in (4 cm)	3.2 in (8 cm)	4.7 in (12 cm)

95% Heading Error - Relationship of the machine direction relative to the current track. In good conditions, these values should be equal to or less than:

	3-8 mph (4.8-12.9 km/h)	8-12 mph (12.9-19.3 km/h)	12-15 mph (19.3-24.1 km/h)
Heading Error (Straight Track)	.8 degree	1.0 degree	1.2 degrees
Heading Error (Curve/Circle Track)	1.6 degrees	3.0 degrees	3.6 degrees

95% Yaw Rate - Machine rate of turn, which affects tracking performance. In good conditions, these values should be equal to or less than:

	3-8 mph (4.8-12.9 km/h)	8-12 mph (12.9-19.3 km/h)	12-15 mph (19.3-24.1 km/h)
Yaw Rate (Straight Track)	1 degree per second	1.5 degrees per second	1.8 degrees per second
Yaw Rate (Curve/Circle Track)	2 degrees per second	4.5 degrees per second	5.4 degrees per second

Surface Roughness - Measurement of the surface where the machine is operating. It is calculated using pitch, roll, and speed inputs from the StarFire™ Receiver. A value greater than 50 indicates that the surface may be negatively impacting AutoTrac™ performance. Values outside of the optimal range display a yellow LED status indicator. Values within the optimal range display a green LED status indicator.

Wheel Slip - Percentage of wheel slip is measured by comparing the wheel speed reading from the machine to the GPS speed. A value greater than 6% indicates that wheel slip may be negatively impacting AutoTrac™ performance. Values outside of the optimal range display a yellow LED status indicator. Values within the optimal range display a green LED status indicator.

Accuracy - Position accuracy of the receiver that is displayed as a percentage. To achieve advertised accuracy and repeatability, 100% accuracy is required.

Signal Strength - Quality of StarFire™ correction signal received by the receiver.

AutoTrac™ Resume Switch - Indicates On when the AutoTrac™ resume switch is pressed and Off when the resume switch is released.

- Operators are now able to temporarily adjust the position of a single guidance line, left or right, without affecting the location or shape of the original track or any other lines around it. At the end of a turn or when a new line is selected, the single-line shift resets to zero. The single-line shift can be applied up to 40% of track spacing and AutoTrac™ will remain active. A new single-line shift run page module is available under the guidance application and can be added to run pages using Layout Manager. Single-line shift option is available for straight tracks and AB curves.
  Link to feature demonstration video: https://youtu.be/2k_aeR4mFEw
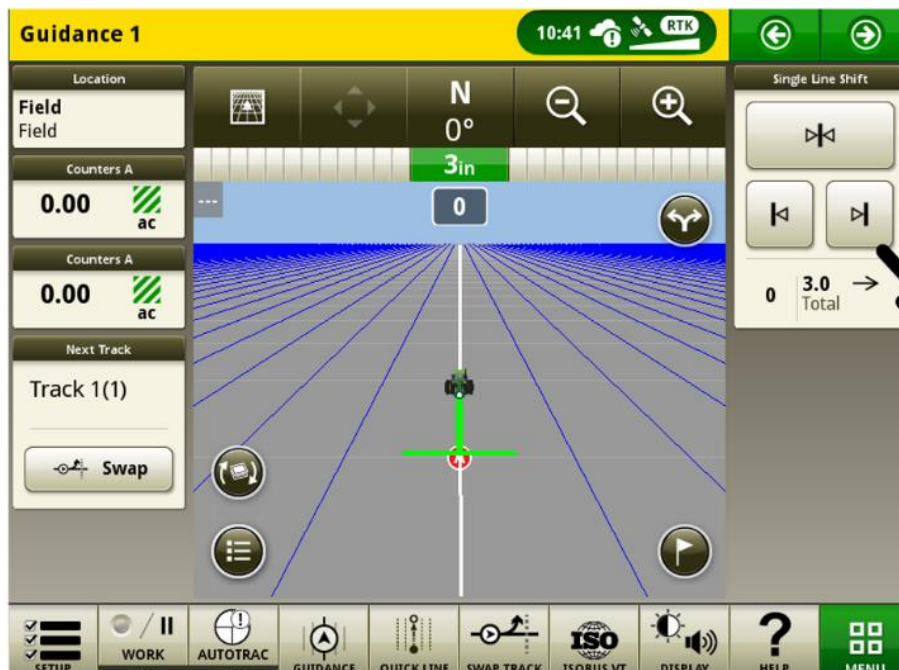
COM Port Settings-

- Diagnostics page for RS232 devices is now available under com port settings to help customers and dealers diagnose RS232 communication issues faster.
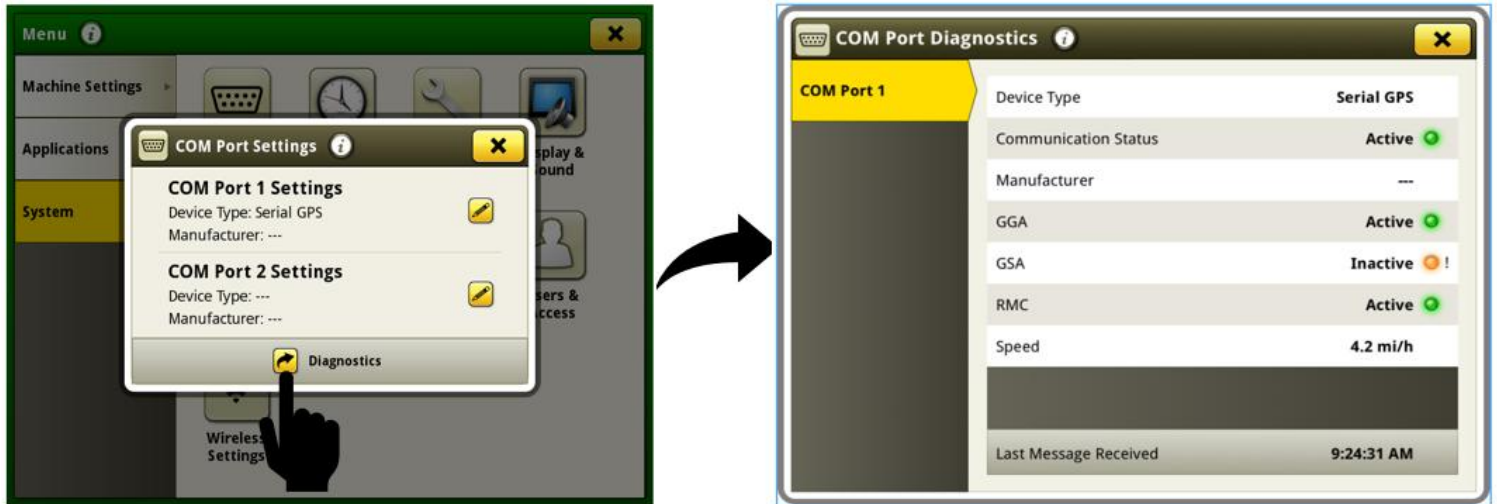
Information available on the COM port diagnostics page:

Device Type - Value selected by user in COM port settings. Options are Serial GPS, GreenSeeker®, N-sensing, and Field Doc™ Connect.

Manufacturer - Value selected by user in COM port settings.

Communication Status - Status indicates whether the COM port device is sending messages. Status changes to inactive if no message is received within the last 10 seconds.

GGA - Essential fix (position) data providing 3D location and accuracy data. Active status indicates that the display is receiving this data from serial GPS.

GSA - GPS dilution of precision (DOP) and the number of satellites currently used in the solution. Active status indicates that the display is receiving this data from serial GPS.

RMC - NMEA version of essential GPS data that consists of position, velocity, and time information. Active status indicates that the display is receiving this data from serial GPS.

Speed - Speed value that the display is receiving from serial GPS.

AR Message - Message required from the Field Doc™ Connect control unit for proper operation. Active status indicates that the display is receiving this data from the control unit.

RC Message - Message required from the GreenSeeker® control unit for proper operation. Active status indicates that the display is receiving this data from the control unit.

D2 Message - Message required from the nitrogen sensor for proper operation. Active status indicates that the display is receiving this data from the control unit.

*GreenSeeker® is a trademark of Trimble Navigation Limited Corporation*
Yara N-Sensor™ is a trademark of Yara International ASA

Activations-

- Installation of 20-1 software will transition the Data Sync activation into the base functionality. Any display that installs 20-1 software will receive the Data Sync activation during the installation.

Fields & Boundaries –

- Base station settings for John Deere RTK radio 869 can now be saved to each field and automatically recalled for use. This feature works by saving the RTK settings that are entered in the StarFire™ VT page to the field that is currently selected. The saved RTK base station settings will be automatically recalled for use when the field is selected in the future. If required, RTK settings can still be manually changed through the StarFire™ VT page when using this feature. This feature must be enabled by navigating to Fields & Boundaries application, then Advanced Settings. Saved RTK settings can be imported and exported between Generation 4 Displays with a USB. This feature is already available for John Deere RTK Radio 450 or 900 with 19-2 or newer display and receiver software.

    (Requires: StarFire™ 6000 receiver with 20-1 or newer software, John Deere RTK Radio 869, and Generation 4 display with 20-1 software.)

- The most recently used boundary offset values from the GPS offset point for driven boundary creation will now be persisted on Generation 4 displays. If the value is modified, the operator must select the "Start Recording" button for this change to be saved. These values will only be reset to default if a factory data reset is performed. This removes the need to manually enter the values each time that a new boundary will be recorded. This change does not affect boundary offset values from the offset point associated with the implement/work point.
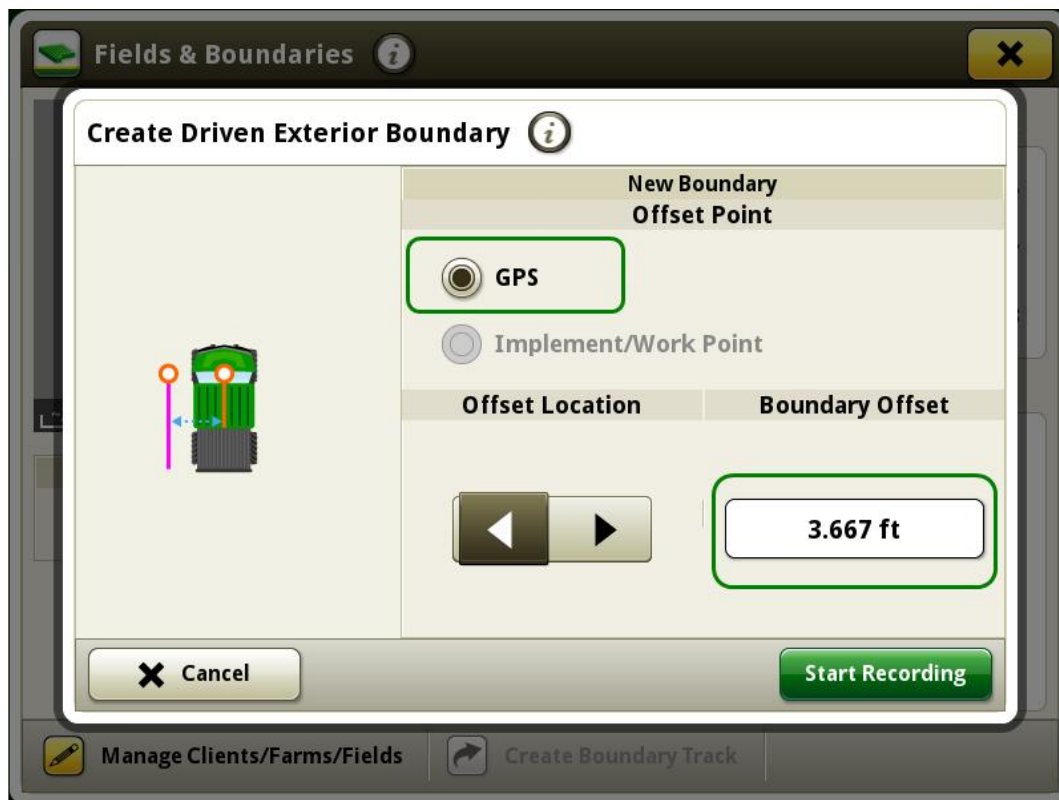
Overlap Control –

- Overlap Control now allows an operator to manually turn a section or group of sections off. This feature can be used to improve documentation accuracy when crop is not being harvested in areas of the field which do not cause Overlap Control to turn sections off automatically. For example, if tramlines or crop damage cause areas of the field to not produce any harvestable crop. For platform headers, an operator can configure 2 to 24 manually controllable groups of sections. If the number of groups selected does not equally divide into the header width, then the smaller groups generated will be placed on the outside edges of the header. For row crop headers, each row will be manually controllable. Number of groups can not be adjusted on row crop headers. If more than 12 groups of sections are configured, then a left/right toggle button is available to allow the operator to toggle between the left side of the header and the right side of the header for manual control of groups. Manual control can be used in conjunction with automatic control of sections. If a group is disabled manually, this will overrule any other section state. Manually disabled groups will display with a black fill color as the group status.

Link to feature demonstration video: https://youtu.be/fBax4FLPB-U
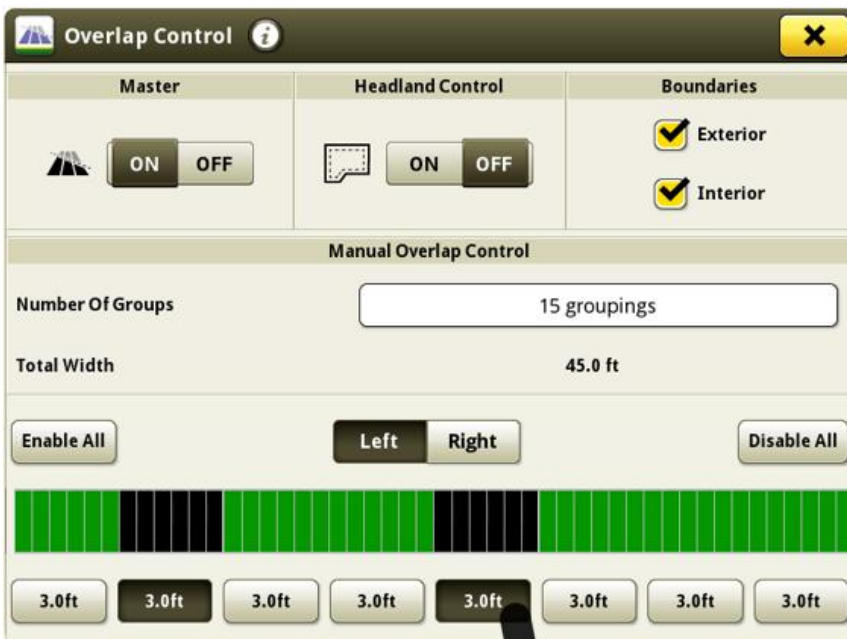
Section Control -

- Generation 4 displays can now visualize the Section Control look ahead on the map. This look ahead is calculated based on mechanical delay times for the machine and machine ground speed. Essentially, the front line on the look ahead window represents the location that the system needs to send an ON or OFF command in order to accurately start or stop the flow of product at the work point relative to the desired ground location (given current ground speed, mechanical delay, and section heading). This tool can be used to optimize operational behaviors to reduce operator induced error into Section Control performance. For best performance, no changes to ground speed or heading should be made between the time when the front line of the look ahead window starts to cross a command transition area and when the work point has finished crossing the transition area. Examples of command transition areas would be entering or exiting previous coverage or a boundary. When a section is commanded on, the look ahead line in front of that section is orange. When a section is commanded off, the look ahead line in front of the section is white.
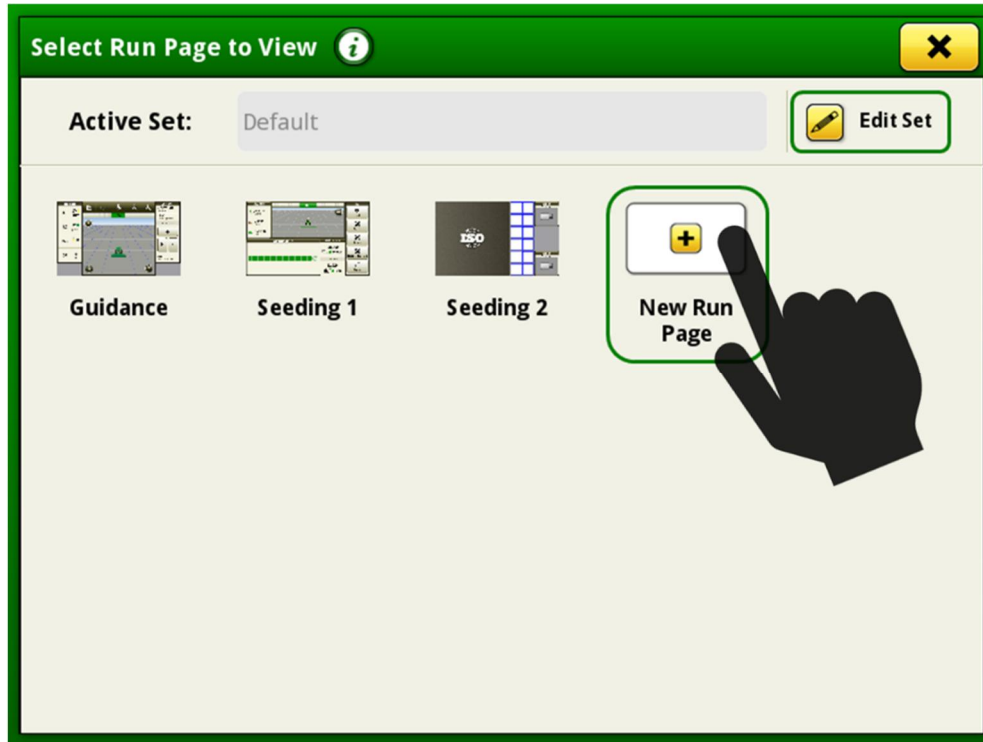
Link to feature demonstration video: https://youtu.be/uD9KjpMp09w
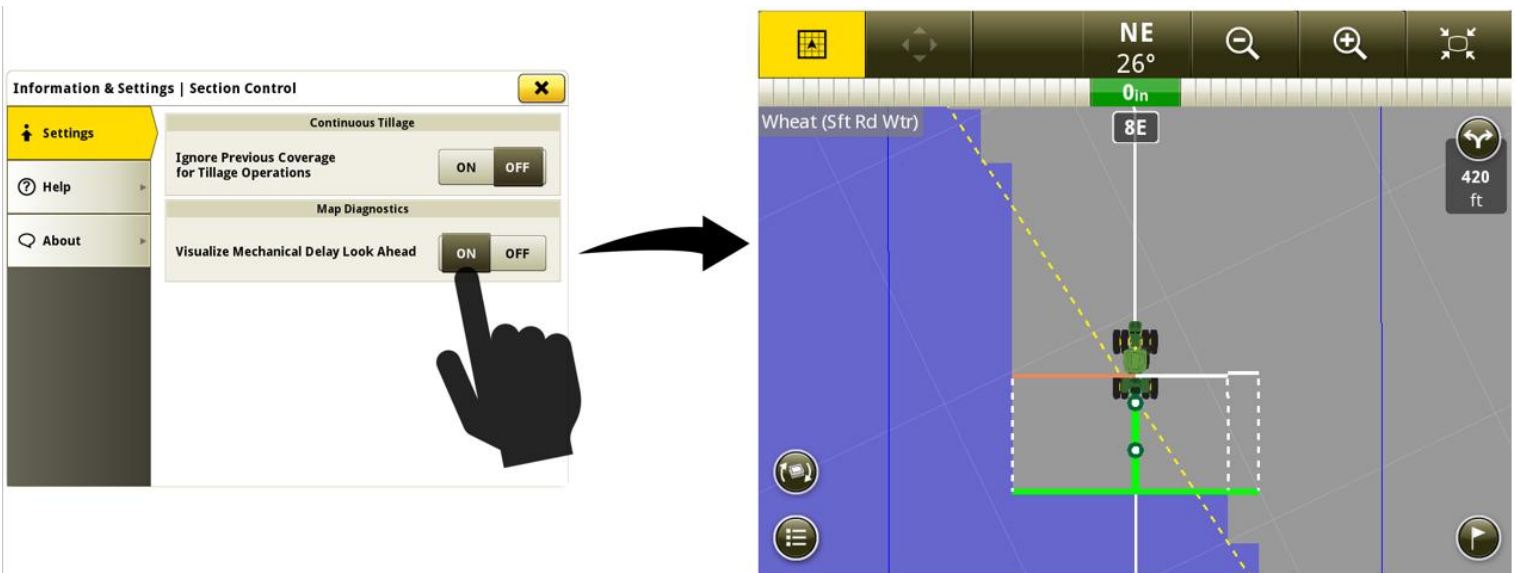
Layout Manager–
- User interface has been improved to allow easier additions and edits to run pages within the active set.

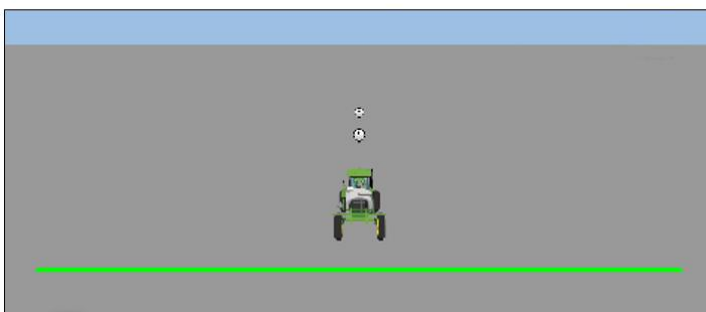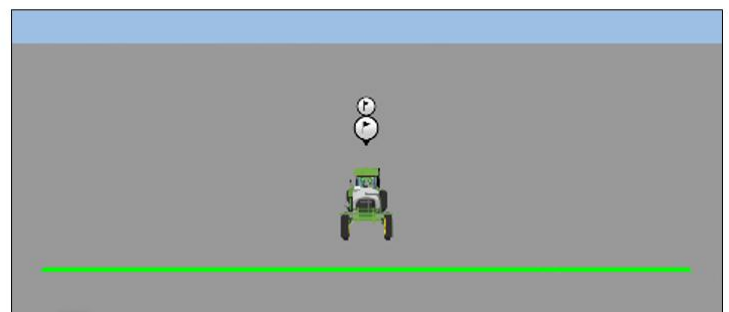Link to feature demonstration video: https://youtu.be/pZvIcrXttP4

Flags –
- Flag icon size has been increased in the perspective map view to allow easier viewing.

19-3 and prior | 20-1

Mapping –

- A map layer for varieties has been added to planting and seeding operations. Up to ten different colors are used to distinguish varieties. If more than ten varieties are used, colors are repeated. This map layer is available if one or more varieties has been used within the current field.

For additional information on any of the above features, contact your John Deere Dealer.
(John Deere Dealer: reference Ag Sales Manual for additional details

General Information

- Software activations are non-transferrable in the event of lost, stolen, or destroyed equipment. It is recommended to insure machines with a Generation 4 CommandCenter™ at full value, including software activations.

- Software for the controllers listed below can be updated using the Generation 4 display. The newest software versions available at the time of this Generation 4 software release are also provided for reference.

Controller	Software Version
Application Controller 1100	2.71 Z
Application Controller 1100 (S.N. PCXL01C201000-)	3.11 I
Application Controller 1120	1.51 Y
Application Controller 1120 (S.N. PCXL02C201000-)	3.11 I
AutoTrac™ Universal 100	1.13 A
AutoTrac™ Universal 200	2.30 A
AutoTrac™ Universal 300	3.23 G
GreenStar™ Rate Controller Dry	2.11 A
GreenStar™ Rate Controller	3.70 K
StarFire™ 3000 Receiver	2.70 A
StarFire™ 6000 Receiver	4.20 N
AutoTrac™ Vision Guidance	4.01 V

Exporting data for use with a GreenStar™ 3 2630 Display

- Setup data exported from Generation 4 displays is not automatically structured as needed by a GreenStar™ 3 2630 Display. Before exporting Generation 4 Display data for use in a GreenStar™ 3 2630:

  o Export data from the GreenStar™ 3 2630 Display with the profile name "JD4600".

  o Using the same USB, export Setup Data from the Generation 4 Display. All data will be merged into the JD4600 profile folder.

  o Import "JD4600" profile into the GreenStar™ 3 2630 Display

Training

Onscreen Help - Onscreen help supplements the information found in the Operator's Manual. Press the Information icon at the top of any page to view relevant help information for that page. When viewing help, press the Book icon under Table of Contents to view all other available content related to the given page. Generation 4 Display Onscreen Help is available on displaysimulator.deere.com.

Training Simulators - To learn more about the Generation 4 Displays, there is an online Training Simulator available for download under the Parts & Service Menu in the Manuals & Training Page in displaysimulator.deere.com.

Release Notice

These are Generation 4 OS and AMS Applications software update release notes for the Generation 4 Displays. Release notes can be found on www.stellarsupport.com. Note: Your use of the software is governed by the End User License Agreement included with the software.

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