

# Your Planter, **UPGRADED** PRECISION UPGRADES

*Boost your current planter's performance with Precision Upgrades from John Deere. They can help you make the most of your yield potential, inputs, and time in the field.*



Learn more about planter upgrades from John Deere.



## Ultimate Planter Upgrades

This complete solution includes new factory MaxEmerge™ 5e or ExactEmerge™ row units and replaces worn components, providing improved reliability in the field. Plus, you can customize your planter by adding optional features to meet specific needs.

- One-year factory warranty<sup>1</sup>
- New serial number plate
- New decals to recognize your planter as an official member of the ExactEmerge or MaxEmerge 5e family
- Updates your planter electrical architecture to the latest SeedStar™ 5 monitoring system
- Enables compatibility for new planting technology like ExactShot™ and FurrowVision™

### Available Optional Features

- Active pneumatic downforce
- Mechanical and pneumatic closing wheel systems
- Rubber, cast iron, or Yetter Twister® closing wheels
- Central Commodity System (CCS™) conversion kit
- Color-coded hydraulic grips
- And more...

## Meter Upgrades

A flexible solution that can benefit any operation that wants to upgrade to MaxEmerge 5e or ExactEmerge electric-drive meters but doesn't need new iron with a full row unit upgrade, such as shanks, parallel arms, and gauge wheels.

## Core Upgrades

These planter upgrades help you work smarter, not harder by boosting efficiency, reducing input costs, and arming the operator in the cab with tools to improve planting quality, which ultimately leads to better crop stands and yields.

- Individual Row Hydraulic Downforce
- ExactShot™ Liquid Fertilizer System
- ExactRate™ Liquid Fertilizer System
- FurrowVision™
- Frame Weight Distribution
- Ultimate LED Lighting Kit
- ExactChem™ Granular Insecticide

<sup>1</sup> John Deere Precision Upgrade Kits are sold as complete good from John Deere dealers. Precision Upgrade Kits come with a 1-Year factory warranty. Terms, conditions, exclusions, and warranty limitations apply. Contact your dealer for more information.



# Electric Drive Upgrades

## ExactEmerge Ultimate Planter Upgrade

*Ships as a complete row-unit for faster installation time.*

- Plant more than 100 additional acres per day with pinpoint population and spacing accuracy<sup>1</sup>
- Gain over \$10 more per acre compared to a traditional planter<sup>2</sup>
- Maintain accurate seed placement at speeds up to 10 mph (16.1 km/h)
- Proven to deliver a 7% higher soybean survival rate on average compared to Precision Planting SpeedTube<sup>3</sup>
- Industry exclusive BrushBelt™ uniformly carries seed from the meter to the trench, reducing seed roll in the furrow
- Dual 56-volt electric motors provide infinite seed placement
- 20% improvement in population accuracy with curve compensation<sup>4</sup>
- Unlocks additional optional features like Easy Adjust row cleaners, Individual Row Hydraulic Downforce, and pneumatic closing wheels
- Exclusive upgrade: 1.6 bu or 2.7 bu hoppers available for non-CCS planters
- Requires tractor implement ethernet and a G5 Display



<sup>1</sup> Calculation assumes traditional planting technology productivity of 200 acres per day at 5 mph versus ExactEmerge productivity of 320 acres per day at 8 mph.

# EXACTEMERGE<sup>TM</sup>

## UPGRADED



<sup>2</sup> Claim based on anonymized John Deere Operations Center<sup>(TM)</sup> data collected with grower consent from 2016 to 2024 across IA, IN, IL, SD, MN, WI, OH, MI, MO, ND and NE. Claim based on assumed commodity prices at \$10 per bushel of soybeans and \$4.20 per bushel of corn.

<sup>3</sup> 2020 Iowa State University High Speed Planting Technology Study (<https://crops.extension.iastate.edu/cropnews/2020/03/high-speed-planting-technology>).

<sup>4</sup> As compared to non-curve compensated planter John Deere internal study, Illinois.

# MAXEMERGE 5E

UPGRADED

## MaxEmerge 5e Ultimate Planter Upgrade

Ships as a complete row-unit for faster installation time.

- 20% improvement in population accuracy with curve compensation<sup>4</sup>
- 2-4% reduction in seed overlap with Individual Row Shutoff<sup>5</sup>
- Fewer mechanical parts compared to ExactEmerge
- Seed tube seed accuracy starts to diminish as field speed exceeds 5 mph in most conditions
- Unlocks additional optional features like Easy Adjust row cleaners, Individual Row Hydraulic Downforce, and pneumatic closing wheels
- Requires tractor implement ethernet and a G5 Display



## Downforce

### Individual Row Hydraulic Downforce

- Increase even plant emergence due to increased contact of the row unit to the ground
- Consistently place seed at desired depth regardless of soil conditions
- Closed loop downforce system reacts quickly on an individual row basis to changing soil conditions
- Adjusts up to five times per second
- 58% faster than pneumatic systems<sup>6</sup>
- Electric drive planters only



### COMPATIBILITY:

- 1700/05, 1720/25 (CCS and non-CCS), 1750/55, 1770/75NT (Flex, CCS, and non-CCS), and 1790/95; model years 2005 and newer
- DB44 up to DB90, model years 2012 and newer

<sup>5</sup> Calculation compares a 60-foot 24R MaxEmerge 5e planter versus a ground drive planter with mechanical shutoff half planter disconnect. Seed savings will vary depending on field shape and conditions.

<sup>6</sup> Compared to pneumatic system. John Deere internal study, Illinois.

## ExactEmerge™ Meter Upgrade

With a Meter Upgrade, you gain all the benefits of an ExactEmerge planter at a lower up-front cost, compared to buying a new planter or rebuilding your planter with an Ultimate Planter Upgrade. It's simple – keep your existing row units and we'll help you upgrade your metering system to ExactEmerge, so you can get in and out of the field quickly with pinpoint population and spacing accuracy.

### COMPATIBILITY:

- 1700/05, 1720/25 (CCS and non-CCS), 1750/55, 1770/75NT (Flex, CCS, and non-CCS), and 1790/95; model years 2017 and newer
- DB44 up to DB90, model years 2017 and newer<sup>1</sup>
- MaxEmerge 5e planters
- Pre-Assembled Meter and BrushBelt™ for faster installation
- Requires tractor implement ethernet and a G5 Display<sup>3</sup>



<sup>1</sup> Not compatible with 1705/1755/1775 Flex, model years 2017 to 2021.

<sup>2</sup> As compared to non-curve compensated planter John Deere internal study, Illinois.

<sup>3</sup> 2022 to 2024 MaxEmerge 5e planters retain the original SeedStar 4 Monitoring System.



## MaxEmerge™ 5e Meter Upgrade

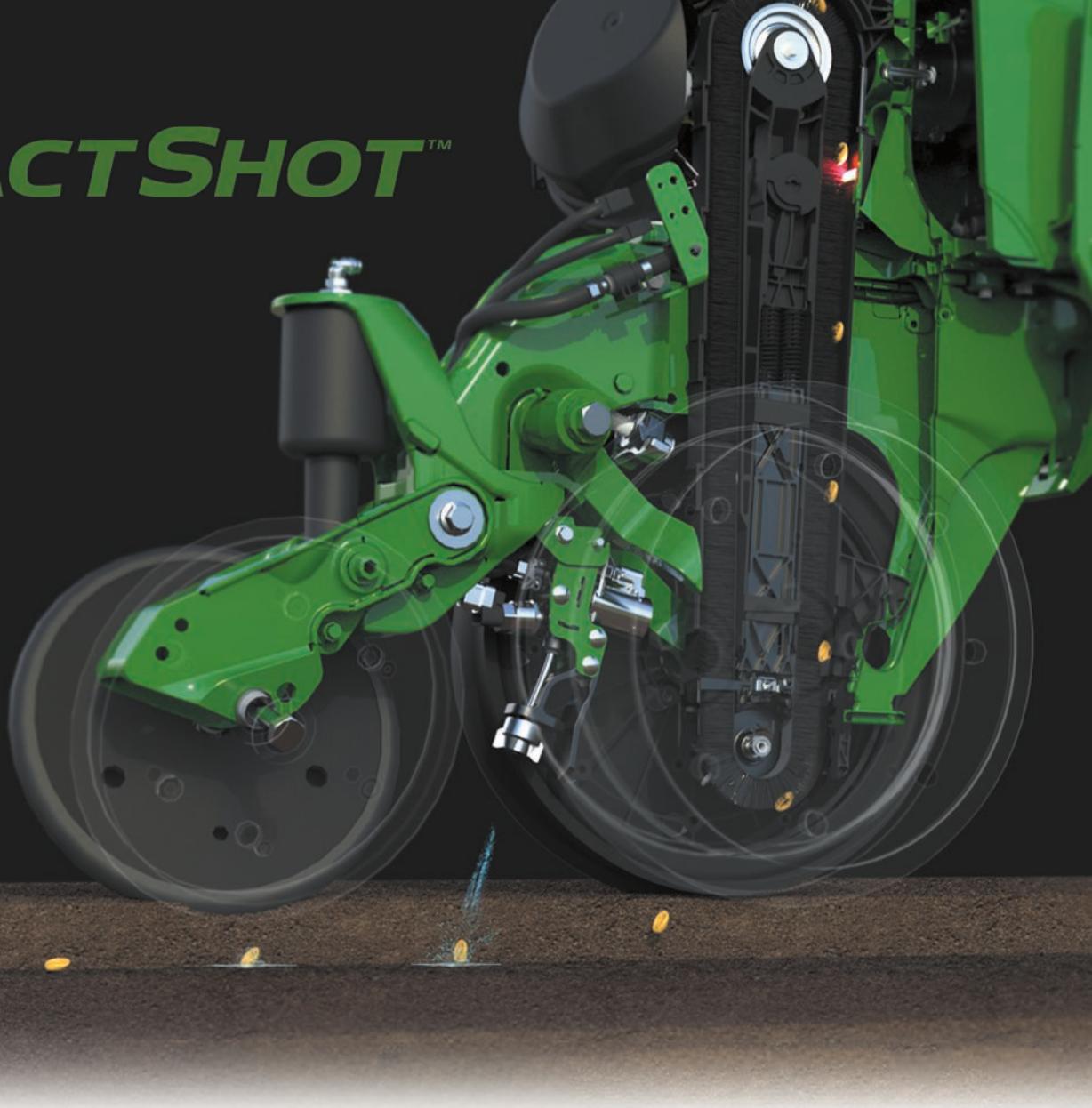
*Meter Upgrades help you easily turn your existing mechanical drive planter into a MaxEmerge 5e electric drive planter. You'll say goodbye to time-consuming maintenance on chains, clutches, shafts, and bearings and hello to precise seed placement and input cost savings. You keep your existing shanks, and we'll help you upgrade your metering system.*

- Planting speeds up to 5 mph (8.05 km/h)
- Row-by-row control to give you precise planting rates for each row, based on specific field conditions
- Individual row shutoffs to reduce seed waste by shutting off seed flow in areas where it's not needed
- Turn compensation that automatically adjusts seed metering on curved rows to achieve up to 20% population accuracy improvement<sup>2</sup>

### COMPATIBILITY:

- MaxEmerge 5 Planters
- 1700/05, 1720/25 (CCS and non-CCS), 1750/1755, 1770/75NT (Flex, CCS, and non-CCS), and 1790/95; model years 2015 and newer
- DB44 up to DB90, model years 2015 and newer
- Updates planter to SeedStar™ 5 Monitoring System
- Compatible with many crops including corn, soybeans, cotton, peanuts, and small grains
- Requires tractor implement ethernet and a G5 Display

# EXACTSHOT™



## Fertilizer Upgrades

### ExactShot

- Save up to 60% of in-furrow nutrient input<sup>1</sup>
- Switch between Dosing and Continuous mode from cab
- Apply nutrients directly on seed where they are used most efficiently
- In-furrow option only
- Easy to setup, monitor, and change rates using G5 Display
- Option to convert an existing ExactRate system to ExactShot

<sup>1</sup> Based on internal tests of a prototype ExactShot system performed across 21 farms in six Midwestern states applying a 5.1-cm (2-in.) dose on seeds with 15.2-cm (6-in.) in-row seed spacing.



### COMPATIBILITY:

- 1770/75NT CCS, 1790/95, DB44 to DB90 up to 36 rows
- 1725C model year 2023 and newer
- ExactEmerge only
- Must have or upgrade to SeedStar 5

Please see Ag Sales Manual for more details around compatibility requirements for ExactShot and ExactRate upgrades. Electric drive row units are required to operate ExactShot or ExactRate fertilizer upgrades. ExactShot is not compatible with planters using FurrowVision.

## ExactRate

- Average of 4.3% (up to 12%) reduction in input (fertilizer)<sup>2</sup>
- Performance up to 16.1 km/h (10 mph)
- Variable rate prescriptions
- Turn compensation
- Row-by-row section control
- Flow detection
- As-applied documentation
- In-furrow or 2x2 application methods available

### COMPATIBILITY:

- 1770/75NT CCS, 1790/95, and DB44 up to DB90; model years 2018 and newer

<sup>2</sup>Runge, Max, et al. "Automatic section control technology for row crop planters." Extension Alabama A&M & Auburn Universities ANR-2217, Oct. 2014. <https://www.aces.edu/blog/topics/crop-production/automatic-section-control-technology-for-row-crop-planters/>

## ExactChem

- Granular electric-drive insecticide solution
- Compatible with electric meter systems
- Precise single-product rate control
- Dispensing at rates of 1.1 – 13.1 lb/acre
- Planting speeds of 1.2 – 10 mph
- Row-by-row section control
- Easy set-up and calibration via comfort of cab



In-furrow application



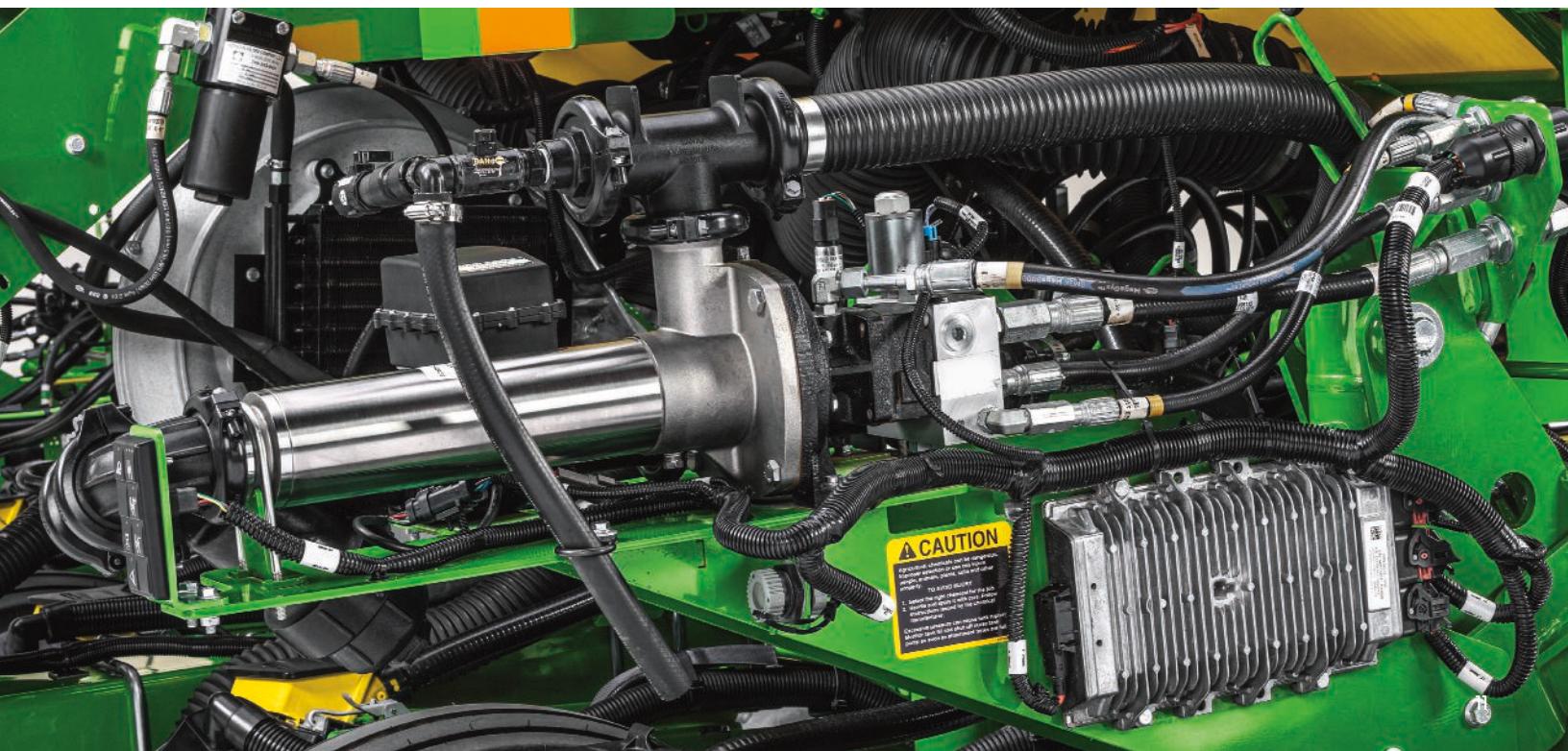
Frame mounted fertilizer opener  
(sold separately)

### COMPATIBILITY:

- 1775NT – 12R, 16R, and 24R/30
- 1720/1725C – 12R/30, 12R/36, 12R/38, 12R/40
- DB60 – 24R/30
- Not Compatible with ExactShot, FurrowVision, DB60 Tracks, or 2.7/3.0 bu hoppers

### Requirement:

- SeedStar 4 or SeedStar 5 software
- Gen4 or Gen5 Display





# Technology

## FurrowVision

- Live camera feed into actual planter furrow, streamed on the G5 display
- Validate seed depth accuracy across planter sections
- Adjust row cleaners and downforce based on observations without leaving cab

### Requirements:

- Must have, or upgrade to, SeedStar 5 planter monitoring software
- G5 display and implement ethernet
- Not compatible on machines with ExactShot installed
- Not compatible with seed firmer or in-furrow press wheels
- Corn, soybean, crops only

### COMPATIBLE PLANTER PUK MODELS:

- 1775NT, 12R30, 16R30, 24R30
- 1795, 23/24R15, and 31/32R15 (front rank only)
- DB44, 24R22
- DB60, 24R30, 36R20, 47/48R15 (front rank only)
- DB66, 36R22

*Please see Ag Sales Manual for more details around compatibility and requirements for FurrowVision upgrades. Compatibility subject to change.*

# Precision Technology



## In-Cab Touchscreen Displays

Manage guidance lines, application rates, input placement, and more; G5 Displays offer more screen space, faster processing, and 1080p HD quality<sup>1</sup>.



## StarFire™ 7500 Receiver

SF-RTK signal gives RTK accuracy without the need of a radio.



## JDLink™ Connection

Streams machine and field data to your Operations Center account.



## John Deere Operations Center™

- Single, secure place to setup, plan, monitor, analyze, and share your farm data – anytime or anywhere



Whether you're tilling, seeding, applying, or harvesting, Work Planner gives you everything you need to create exact work plans that detail variety, guidance lines, prescriptions, and more.

## AutoPath™<sup>2</sup>

- Uses crop row data from your first pass to create accurate guidance lines for secondary passes such as planting, spraying, and harvest

## John Deere Section Control

- Reduce overlap and minimize skips ensuring precise placement of crop protectants and nutrients

## Mobile Row-Unit Runoff

- Setup and check rows from your mobile device
- Reduce chances of doubles and skips

## SeedStar 5

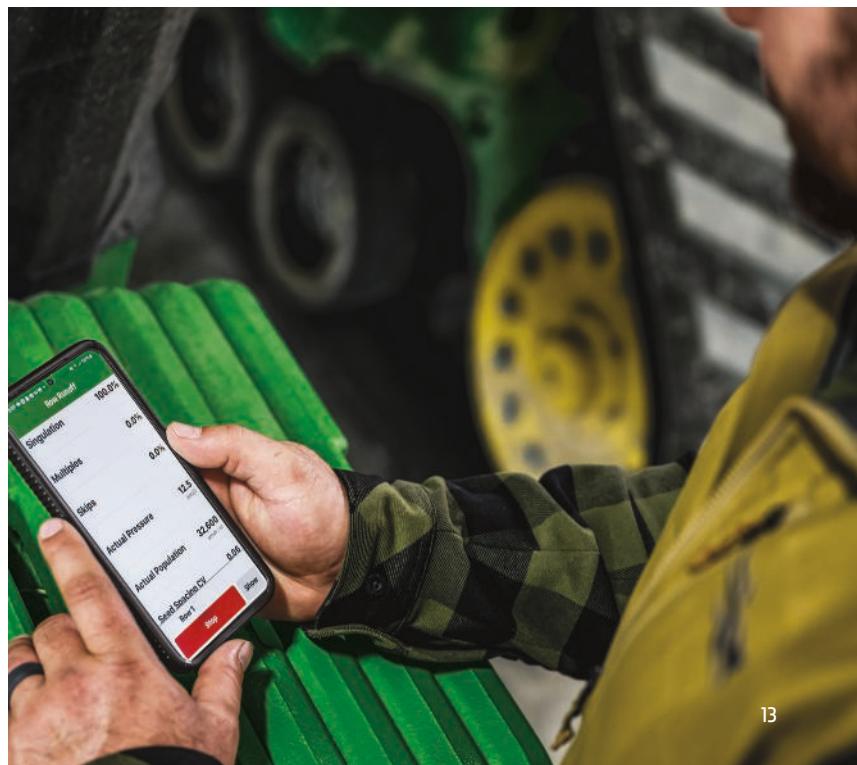
- The latest monitoring software for John Deere Planters. Paired with a G5 Display and Implement Ethernet to provide high-definition documentation, faster data speeds, and more information in the cab to help improve planting job quality

## AutoTrac™ Turn Automation (ATTA)<sup>2</sup>

- Automatically complete accurate, hands-free, end-of pass turns

## Implement Guidance<sup>2</sup>

- Increased pass-to-pass accuracy on curved passes and sloped terrain using a second StarFire receiver on your implement



<sup>1</sup> Compared to previous display.

<sup>2</sup> Available as part of the Automation 4.0 Package and G5 Advanced Package.

# Compaction Management Upgrades

## Frame Weight Distribution

- Redistributions weight to wings where it can be used to increase downforce on row units
- Reduces compaction in center section of CCS planters
- Factory-ready solution available for planters that chose the “less” option when ordering from factory
- Bolt-on solution available for planters that did not have a Frame Weight Distribution option when ordered from the factory

## COMPATIBILITY:

- 1770/75NT, model years 2005 and newer
- Factory-ready 1775NT 24R30 kits for model year 2016 and newer planters; bolt-on solution for model years 2005-2015
- 1790/95, model years 2005 and newer
  - Kits only available for 31R15 and 32R15 models
- DB60, model years 2017 and newer; factory-ready kits



## Ultimate LED Lighting Kit

- LED lights match the color temperature used in the lighting for Premium and Ultimate Visibility packages on John Deere tractors
- Lights mounted on the front hitch to fill the area between the tractor and planter with light, accommodating tractors that may not have enough lighting to fill this void
- In-tank mounting for full tank illumination for seed level monitoring

- Added illumination under the bar on each row-unit for better detection of obstacles, plugs, and more<sup>1</sup>
- Added illumination to the ends of the planter bar for better visibility around the entire machine<sup>1</sup>
- Robust rear lighting enables in-field planting quality audits and in-cab monitoring
- Improved visibility during row-unit service<sup>1</sup>

## COMPATIBILITY:

- 1770/75NT and 1795, model years 2005 and newer
- DB planters, model years 2012 and newer



## Optional Features

Available when ordering an Electric Drive upgrade package

### DOWNFORCE

#### Individual Row Hydraulic Downforce (IRHD)

- Increase even plant emergence due to increased contact of the row unit to the ground<sup>2</sup>
- Consistently place seed at desired depth regardless of soil conditions
- Closed loop downforce system reacts quickly on an individual row basis to changing soil conditions
- Adjusts up to five times per second
- 58% faster than pneumatic systems<sup>3</sup>
- Compatibility: Electric Drive Planters

#### Active Pneumatic Downforce

- Maintains margin set from display across sections of planter rows
- Uses air bags to increase/decrease pressure on sections of planter rows



### CLOSING SYSTEMS

#### Pneumatic Closing Wheels

- Improve seed-to-soil contact for uniform emergence and better yield potential
- Adjust settings in seconds from the cab
- Operators are notified when closing pressure is not met, unlike spring systems

#### Mechanical Closing Wheels

- Manually set using handle on each row

<sup>2</sup> Doerge, T., Jeschke, M., and Carter, P. Planting outcome effects on corn yield. *Crop Insights*, Vol. 25, No. 1. DuPont Pioneer.

<sup>3</sup> Compared to pneumatic system. John Deere internal study, Illinois.

<sup>1</sup> Compared to a planter without LED lights



## CLOSING WHEELS

### Rubber Closing Wheels

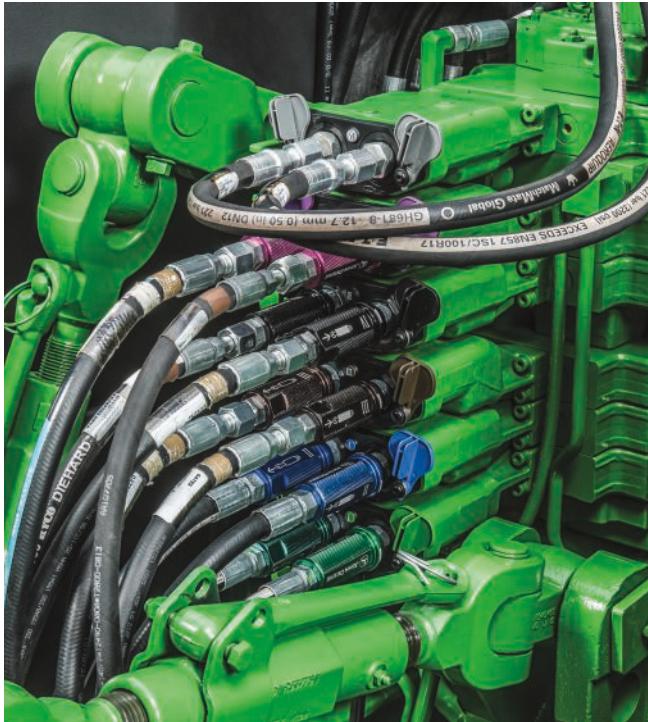
- Standard closing wheel from factory

### Cast Iron Closing Wheels

- Heavier wheel for more aggressive soil contact

### Yetter Twister® Closing Wheels

- Break up soil compaction
- Rounded center-ring design ensures consistent trench closure



## ROW TILLAGE

### Easy-Adjust Row Cleaners

- Helps keep furrow free of debris
- Adjustable from display while planting
- Pneumatic up and down pressure
- Three presets for different field conditions

## CONVENIENCE

### Color Coded Hydraulic Grips

- Easily connect planter hydraulics to proper tractor ports
- Aluminum handles with John Deere logo and extend/retract icons etched into metal



## SEED DELIVERY

### Central Commodity System (CCS) Conversion Kit

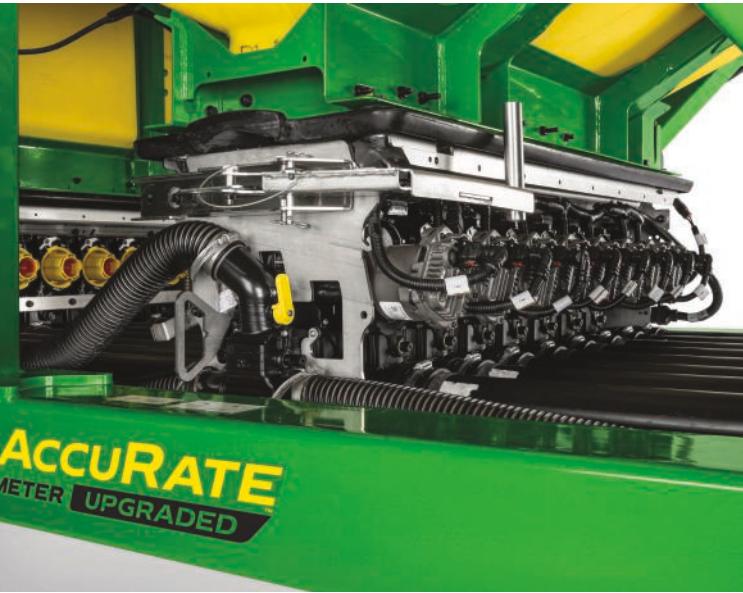
- 55 bu CCS tank
- Only available for 12- and 16-row 1720/25 non-CCS kits adding electric drive row-units

### Hoppers

- 1.6 bu for ExactEmerge and MaxEmerge 5e upgrades
- 3.0 bu for MaxEmerge 5e upgrades
- 2.7 bu for ExactEmerge upgrades

# Your Air Cart, UPGRADED

## PRECISION UPGRADES



### AccuRate Metering System Precision Upgrade

Seed up to 8x more accurately<sup>1</sup> with individually controlled AccuRate stainless steel electric meters. Made of 316-grade stainless steel, AccuRate meters provide better corrosion resistance than 304-grade stainless steel, lowering maintenance and repair costs.

- Start and stop each meter with SectionCommand™ Pro
- Accurately meter the correct amount of product on a curve with curve compensation
- Achieve long-term corrosion resistance with our anti-static composite primary tubes, which also help to minimize crop buildup. This helps provide consistent seed flow to your tools, driving accurate seeding rates
- Available with the industry-exclusive EZCal system that saves time and steps by sending calibration numbers automatically to the cab display

Your Precision Upgrade kit will contain all the components to fully upgrade your air cart, such as, meters, harnesses, controllers, electric power generation, air plumbing, G5e Cart Side display, and optional EZCal system.

### COMPATIBILITY:

- C650 and C850 Air Carts, model years 2017-2024
- 1910 Air Carts, model years 2005-2024



### EZCal™

EZCal is like pressing the easy button on your air cart calibration. With a push of the button on the side of the cart, EZCal automatically calculates and sends the MDV to the cab eliminating user error. This lets you calibrate 75% faster<sup>2</sup> than previous models and 45% faster<sup>3</sup> than the leading competitor's calibration times.



<sup>1</sup>Based off internal testing of a current production bag calibration on a 1910 air cart taking 10 minutes to calibrate compared to a EZCal-equipped air cart taking 2 minutes and 15 seconds.

<sup>2</sup>Based off internal testing of a Bourgault air cart calibration taking 4 minutes compared to a EZCal-equipped air cart taking 2 minutes and 15 seconds.

<sup>3</sup>Based on seeding with an 8 primary run air cart and an 80-foot (24.4-meter) air seeder. Prescription zones would improve from 80-foot zones to 10-foot (3-meter) zones.