



exapta<sup>®</sup>

solutions, inc.

2024 Catalog  
& Idea Book

## Improve the Performance of Your Existing Equipment with Products from Exapta

“Thanks for doing a good job at Exapta, appreciate your dedication to the no-till system. We used the drill last season (2021), very pleased with the improvement. I have many variations in my field plane so I need the consistent down pressure. Had a better stand because of better seed to soil contact, also improved yield. I would recommend the [UniForce] system to others.”

Ed Meng, Oregon, MO • Exapta customer since 2008  
(UniForce, Thompson wheels, Ninjas, DuraLoks installed  
on a 15' JD 750 Box Drill)



FREE SHIPPING ON ANY ORDER OVER \$2,500.00.\*

(\*Contiguous US orders)

## Exapta—committed to your success

Exapta was launched 26 years ago to serve the needs of you, the producer. We rely on the necessity-driven innovation of many farmers & researchers to find solutions for high-performance planting and production.

To honor you, our valued customers, we're continuing FREE shipping on any order over \$2,500.00.\* (\*Contiguous US orders).



We strive not to sell you some device, but to provide useful information to help you get the most from your seeding equipment—more acres, better emergence, higher yield, and greater profit. Once armed with knowledge, we hope you'll see the value and wisdom of our products.

### Gone But Never Forgotten...

My brother, Matt Hagny, founded Exapta Solutions in 1998 after a decade of providing custom no-till and agronomy services in Kansas. His hands-on work experience provided both challenges and insights, which led him to seek solutions to achieve a better way of no-till seeding, and birthed the beginning of Exapta Solutions, which has grown in the past 26 years to become a full-fledged knowledge-based team of innovators.

Matt Hagny's legacy lives boldly at Exapta Solutions within our twelve employees, who are committed and devoted to passing on Exapta's no-till expertise and services.

At Exapta Solutions, our purpose is, "Providing innovative solutions to improve overall sustainability for generations." We are committed to being on the leading edge of helping producers find solutions to their seeding challenges.

We strive to be your Number One source of top-shelf no-till seeding products and information. Thus, we'd like to share our 2024 Idea Book & Catalog which we hope you'll find filled with useful thoughts, and a resource you'll eagerly consult on your journey to still greater seeding success.



— Emilie Hagny Downs, CEO & President, Exapta Solutions, Inc.



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## Tech tips for planters:

*The planter toolbar and row units must run level (ignore the planter tongue's angle) with the terrain. Nose-down results in too little down-pressure available on the row units, and causes the closing brackets to be tipped incorrectly (lousy closing action), as well as the seed tube not being vertical enough. If in doubt, slightly nose-up is the lesser of the evils.*



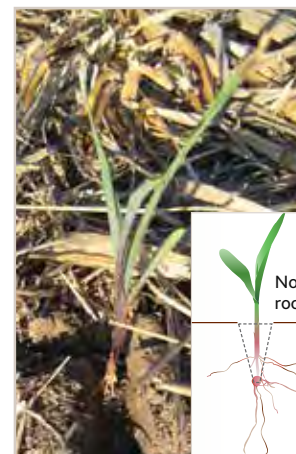
**Step 1, Cut:** Avoid disturbing the path of the opener. If your planter has coulters, run them really shallow—like 6" above the soil! ☺ Fertilizer openers should run approx. 4" to the side, and no deeper than the seed openers (preferably shallower).

Row cleaners shouldn't move soil, and should only move a portion of the residue.

Opener blade flex results in a furrow of variable shape and depth, often with the lower portion becoming a pinched unusable slit (zero blade flex would create a 5/16-inch-wide furrow bottom on JD/Kinze/White planters). Blade flex can be reduced by replacing the 3mm disks with 3.5mm blades (standard on most newer planters). Note that thicker discs cannot be shimmed as tightly together as the more flexible 3mm blades. Avoid 4mm blades—too blunt too quick. Heavy-duty bearings also reduce blade flex, but the seed-tube guard being up-to-spec is crucial. See p 10.

**Step 2, Place:** Sidewalls should remain intact until the seed is placed. Indented gauge tires (Reduced Inner Diameter) allow more lifting, which may adversely affect placement and firming. Use adequate down-pressure & frame weight (don't trust the monitor—dig). For more on auto downforce, see our newsletters: [exapta.com/newsletters](http://exapta.com/newsletters)

**Step 3, Firm:** A separate firming device such as a Keeton (or Flo-Rite) is crucial, even with closing wheels that do a lot of packing (see p 6 – 7). Keetons & Flo-Rites should be set to the maximum tension, if adjustable. Keetons often need to be replaced annually, since the material weakens from sunlight and moisture. Check pressure by comparing the "snap" to a new firmer. The Mojo Wire provides up to 3x more pressure on a new Keeton—an advantage in nearly all no-till conditions.

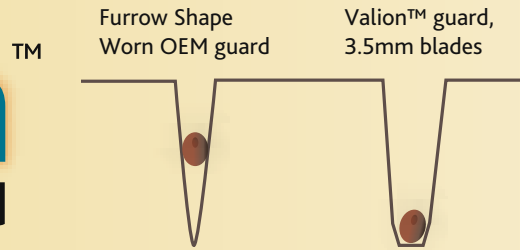


**Step 4, Close:** Furrow closing should shatter *both* sidewalls, and cover the seed adequately and consistently: This requires 2 spoked wheels/row, since the furrow was created by openers prying the soil outward in both directions. To get maximum root development, both sidewalls must be chewed up by spoked closing wheels. Since the seed has already been firmed by the Keeton, it's desirable that the fill be loose, not packed. Thoroughly embedding the seed with a Mojo allows more aggressive crumbling of the sidewalls without pulling seeds loose.

*Failure to break sidewalls adequately severely restricts roots. Crown roots—the main root system—must grow through the sidewall. If sidewalls are overpacked, "rootless" or tomahawk roots are the result.*



# Valion™ seed tube guard



Prevent blade flex • Avoid pinched furrows • Get consistent seed depth  
2x – 4x wear life of OEM • Doesn't drag below blades

Valion™ seed-tube guards will eliminate seed tube wear and greatly reduce blade flex to create a consistent furrow for improved planting depth control. The Valion doesn't form the furrow by pushing soil—it doesn't drag below the blades, which would be very undesirable. Instead, the Valion keeps the lower edges of the blades at the optimum distance from each other so that the blades create a furrow of useful width, consistently, for uniform timing of emergence. Without a full-width guard, it's the amount of blade flex determining the width of the furrow, and this varies along the length of row because soil density changes every foot or two, so effective depth is always changing.

Valions are perfect for no-till or high-wear conditions, or anyone who is simply tired of replacing guards so often. While intended to limit blade flex, standard OEM seed-tube guards can wear substantially in just a few hours of use (esp. older John Deere & Kinze). Our chrome Valions will outlast OEM guards by 2 to 4x, so that furrows are properly shaped and seeds placed at the correct depth continuously down the row, and all the way through the planting season.



Better than ever!

Valion™ on Kinze 3000. New! Improved design for consistent performance!

"I run the Valions on my planter and I can confirm they will outlast JD guards 3:1. I can't even get a full season out of the OEMs. I refer a lot of people to Exapta because of the Valions."



Stan Claybaker, Claybaker Custom Planting, Blackwell, OK  
Exapta customer since 2014  
(Valions on JD 1770 24 row)



"Shoutout to Exapta for their Valion seed tube guard. It's on its 3rd set of opener discs. Used to change the John Deere ones every year and discs every other year."



Kevin Swenson, Concordia, KS  
Exapta customer since 2021  
(Valions, Keetons & Mojos on JD 7200)

## Chrome Valion for Kinze 3000-series

#V350 SKU: 04-10276 Improved design! User-friendly hex-head bolts included.

Chrome Valion for Deere XP, ME5 #V450 SKU: 04-10277  
(Not for ExactEmerge's brush-belt tube, or Speed Tubes) Twist-on style.

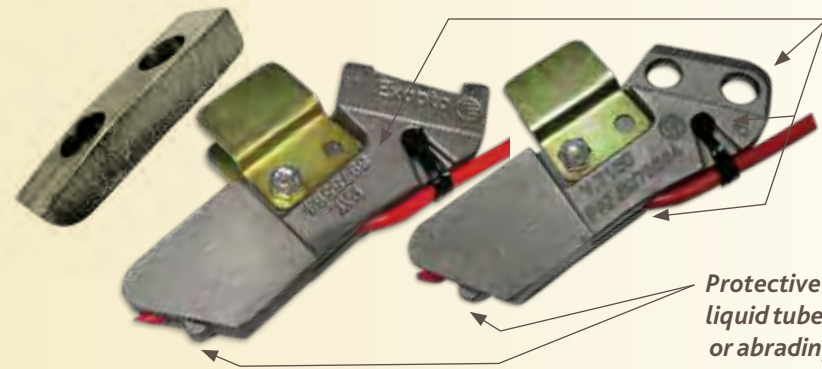
Chrome Valion for pre-XP and Kinze 2000s #V150 SKU:04-10275  
"Bolt-on," for JD 7000, 7200, & heavy-duty welded shank on 1700s ('03 & '04).  
Also available with oversize bolt, bushings for shank holes that've been drilled out:



\$43.37

\$52.22

\$53.59



Beefed up to handle extreme conditions

Better than Ever!

Protective bulge to prevent liquid tube from smearing shut or abrading away

US Patent No 8,978,564

## Liquid Capability

Valions are also a slick way to apply liquids into the seed furrow (not available on Kinze 3000 Valions). To make this setup as trouble-free as possible, and more affordable and durable than competitor systems, we offer our steel tube holders and heat-resistant plastic tubing.

- No drilling—installs with existing bolt holes
- Secures plastic 1/4" line for liquids
- Keeps the small plastic line out of the blades
- Prevents damage from stalks
- Thick-wall pipe



"We used to fight our [competitor guards with tubes welded on]. We switched to Valions and have solved a lot of problems we used to fight. Plus, the Valions don't wear as fast. No more [competitor guards] on our farm. Planting has been much more enjoyable since we switched to Valions. Love your product!!"



Eric Decker, Hitchcock, SD  
Exapta customer since 2015  
(Valions on 24-row JD 1700 XP)

"The JD seed-tube guards are terrible—mine lasted about 300 acres before they were completely wore out the first year. I replaced them [in 2013] with Valions—these are great and show almost no wear with around 550 acres on them [after one year]. [He ended up getting 5 yrs out of them.] I switched to running [my pop-up] out the bottom of the Valion—this has been much better, with no plugging or kinked lines to speak of."

Matt Swanson, La Harpe, IL  
Exapta customer since 2013  
(Valions on 16-row JD 7200)

Note: We prefer applying liquids via Keetons. We view Keetons (or in-furrow "seed-lock" wheels) as crucial for consistent stand establishment in no-till, and keeping those devices clean can be more of a challenge when liquids are applied ahead of them—although this is entirely dependent on liquid rate, stickiness of the liquid, and soil properties. However, many people get along just fine year after year applying liquids ahead of Keetons.

Liquid tube holder #L.133 SKU: 07-10683 For JD 7000 / Kinze 2000,  
#L.433 SKU: 07-10682 for JD 7200 / Pre-XP

\$25.00

Liquid tube holder #L.454 SKU: 07-10681 for XP, MaxEmerge 5


\$26.30

Heat-resistant tubing with beveled end 28" length  
Special high-temp semi-rigid plastic.

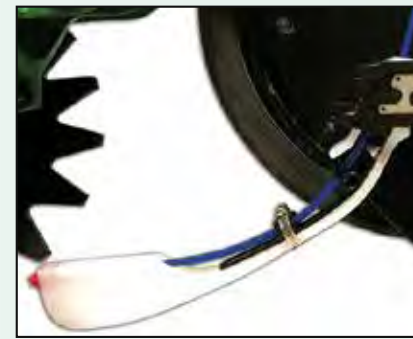
\$8.23

Beveled end for easier insertion through Valion. (see photos on main Valion web page)



Ensures fast, uniform germination • Lock seed in place  
2x to 3x pressure of standard QA Keeton tail  
Large payback potential, especially in resilient no-till soils  
With torsion loops to maintain pressure for a longer lifespan



Keeps the Keeton clean and working even in tough conditions.

In loose tilled soil, planter “press” wheels could easily pack the soil from the surface all the way down to the seed. But this method is seriously flawed for no-till’s firm (structured) soils, since enormous pressure must be applied at the surface to do any seed firming: Averaging 5 lbs of pressure at seed depth might require 50 to 150 lbs applied to a wheel at the surface, and certainly won’t be consistent at seed depth. This severely packs the sidewalls and soil over the seed, to your detriment. Why not apply a precise pressure exactly where it’s needed—at the seed’s location?

The Keeton seed firmer was a good idea, but often isn’t enough—applying only a few ounces to (at most) ~ 2 lbs of pressure. (Compare *in-furrow* ‘seed-lock’ wheels supplying 10 – 20 lbs of pressure on a similar surface area, precisely at the bottom of the furrow.) Furthermore, Keetons lose their tension fairly quickly.

The Mojo Wire solves this by supplying up to 3x more pressure to the Keeton or Flo-Rite. Customers are frequently amazed at the magnitude of improved germination—in higher percentages of seeds emerging, and in uniformity of timing of emergence. (An independent study in Illinois in 2011—the only independent study we know of—found a 6.4% increase in corn ear counts with Mojo Wires, and yield gains are often even greater in tough conditions—from our experience, and what customers report.) Plus, increased tension on the Keeton greatly reduces mud accumulation by creating self-cleaning scrubbing against the sidewalls.

Struggling to get good emergence with your planter in no-till? —Inadequate seed firming is often the culprit. Seeds should be securely embedded into the bottom of the furrow. You might be pleasantly surprised at how well your crops emerge with the Mojo Wire—you owe it to yourself to try them.

“Our corn stand has improved from the Valion seed tube guard and Mojo Wires. Can’t say if one did more than the other as they were both installed at the same time, but our corn used to look ragged, just like the picture in your booklet on page 6 [below]. That is why we purchased them.”

Justin Baresich, Newbury, ON • Exapta customer since 2020 (24-row Kinze planter)



Ragged corn stand due to inadequate Keeton pressure: poor seed-to-soil contact, erratic emergence. Late-emerging plants are weeds.

“The Mojo Wire is the best thing that ever happened to the Keeton....The last two years [’09 & ’10] were the wettest ever for us, and, shoot, we never had mud balling up like we used to [without the Mojos]. I sure wouldn’t run a Keeton without a Mojo Wire.”



Ralph Holzwarth, Gettysburg, SD • Exapta customer since ’08 (Mojos & Keetons on 8-row JD 1700-series CCS planter)



Nearly perfect corn stand with Mojo Wires. All plants are the same size.

“Without the Mojo Wires, I would have fertilizer all over my closing wheels. So, I knew the Keetons were riding out of the furrow—not firming the seeds. After I installed the Mojo Wires, they kept the Keetons down in the furrow and they were doing what they were actually designed to do. I was really happy with them.”



John Ankerman, St. Marys, OH  
Exapta customer since 2016  
(JD 1770 NT, 12 row)

“Between the Mojo Wires & Valions, I am getting the best seed placement and emergence since switching to a planter for grain sorghum and soybeans. Our soils require fast emergence to combat crusting and your products deliver that.”

Trent Milacek, Enid, OK  
Exapta customer since 2019  
(JD, 12 row planter)

“I’ve seen an 8 - 9 bu/a advantage of using the Keetons with Mojo Wires during testing for Precision Planting on my farm. The seed-to-soil contact is more consistent. I hear of guys complaining about Keetons dragging in mud and I used to have a little bit of that issue, but that’s due to not having enough pressure on the Keeton. I now do not have any issues with dragging due to the added downpressure provided by the Mojo Wires.”

Jared Nordick, Rothsay, MN  
Exapta customer since 2015

“I was impressed with the Keetons & Mojos! I have better stands in cotton this year. Side-by-side with my neighbor, same day same model planter. I got a good stand with Keetons & Mojos; he had a poor stand with his stock setup. I’m putting Keetons & Mojos on my drill this fall because of what I saw this spring.”

Tad & Lloyd Williams, Merkel, TX  
Exapta customers since 2020  
(Mojos & Keetons on 1770 planter)

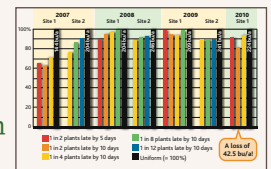
## Uniform timing of emergence trumps uniform spacing for yield effect:

“Uniform emergence is even more critical as individual plant competition for resources becomes greater, such as in droughty conditions.”

Paul Jasa, planter & no-till expert, Univ. of Neb.-Lincoln



Numerous studies prove this. Indeed, loss from non-uniform timing of emergence is about 4x greater than uneven spacing. (Full details at [www.exapta.com/working-knowledge/library-links/](http://www.exapta.com/working-knowledge/library-links/)) And when it comes to making sure all the seeds experience the same conditions (crucial for uniform timing of emergence), no one has emphasized this more than Exapta—everything we do is focused on improving seed placement.



### Mojo Wire kits for Keetons & Flo-Rites (most planters)

\$11.00–23.00

The redesigned Quick Attach Keeton and Mojo Wire solve most of the problems associated with prior designs (including the Universal).

Keeton seed firmers (most planters) See page 12 and the website for details and pricing.

\*Keeton is a registered trademark of Precision Planting, Inc.

Prices subject to change.



## Why spoked closing wheels?

Planters and drills were engineered for tilled seedbeds. For instance, **smooth closing wheels overpack** the furrow in no-till, especially when soils are damp—reducing emergence and hindering root penetration of the sidewall. With the soil structure of no-till, smooth wheels **struggle to close the furrow**. An honest assessment.<sup>†</sup>

<sup>†</sup> From numerous observations by 3rd-party scientists & farmers.

Poor	Fair	Good
1 2 3 4	5 6 7	8 9 10

### Smooth OEM closing wheel *Excess packing, poor closing*

Sidewall Shatter	1
Avoids Packing	1
Mud/Stalk Cleaning	8
Depth-limited	10

### Curved-spoke closing wheel, wide spoke tips *Usually good closing; excessive packing (sporadic)*

Sidewall Shatter	7
Avoids Packing	3
Mud/Stalk Cleaning	3
Depth-limited	5

### "Spike" closing wheel *No packing, but spokes may pull seeds out*

Sidewall Shatter	10
Avoids Packing	10*
Mud/Stalk Cleaning	8
Depth-limited	1

### Notched spoked wheel with thick spokes *Can overpack*

Sidewall Shatter	9
Avoids Packing	6
Mud/Stalk Cleaning	6
Depth-limited	9

### Cage-type closing wheel: horizontal feet *Excessive packing; issues w/ upright stalks & small rocks*

Sidewall Shatter	2
Avoids Packing	4
Mud/Stalk Cleaning	4
Depth-limited	10

### Thompson wheel

Sidewall Shatter	10
Avoids Packing	10*
Mud/Stalk Cleaning	8
Depth-limited	8

\*Closing wheels that don't pack the soil above the seed (a good thing) shouldn't be used without a separate in-furrow firming device (Keeton seed firmer or seed-lock wheel).

US Patent No 6,907,833



Same proven spoke design we've used for 20 years.

**NEW: Bolt-on star wheel = cost-effective replacement stars**  
**Aggressive furrow closing with self-limiting depth**  
**Creates ideal zone for crop emergence & rooting**  
**Heavy-duty bearing with 5-yr guarantee**  
**Zinc plating for even longer wear life • Doesn't overpack**



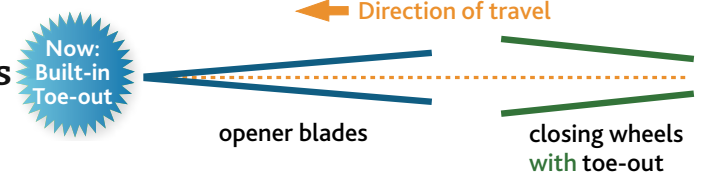
## How is the Thompson wheel better?

Before introducing the Thompson wheel in '02, we did a massive amount of testing to arrive at this particular combination of design features. The result: Dramatically improved performance. The thin spokes allow easy soil entry, for **excellent crumbling of the sidewall**. The thinness also **reduces mud accumulation**. The blunt spoke tip, tapering sides of the spoke, and optimal spoke spacing further enhance sidewall shattering, but with **self-limiting depth**. Plus, the Thompson wheel **avoids the pitfall of excessive weight**—when conditions are damp, too much packing over the seed can be hazardous to your crop. In addition, it “self-sharpen” as it wears for consistent closing performance. Also, the Thompson wheel has **proven durability**: High-carbon steel, a truly robust bearing with a triple-lip seal, and our exclusive steel shroud for superior bearing protection—plus, our **5-year warranty on the bearing**.

“Initially I ran the standard closing wheels and then a competitors curve tine closing wheel. The curve tines dug out rocks and we were not pleased with the way they also dug out corn seeds. **The Thompsons have none of those issues and work in all conditions, wet or dry.**”

Cole Holubec, Melvin, TX  
 Exapta customer since 2020  
 (T-wheels on JD XP planter)

## Toe-out for closing wheels (planters)



“Toe-out” means the front edge of the wheel tracks a bit wider than the rear: Our wedge creates up to a 6-degree toe-out on planter closing brackets, which have zero initially (planters running “nose-down” actually have toe-in, resulting in no closing action at all). Toe-out causes closing wheels (all types) to more actively engage and pull soil back into the furrow—the reverse of the opener blades prying soil apart to create the furrow. (Note: JD 50/60/90/Pro-series drills have toe-out built into the closing arms.) The need for toe-out is greater in high-clay, low-OM soils, or in soddy conditions.



Exapta's toe-out wedge is built into the shroud for easy adjustment.

“In wetter conditions, the Thompson wheels help close up the seed furrow. They help break up the dirt to get better cover over the seed.”

Howard G Buffet, Decatur, IL  
 Exapta customer since '04  
 (T-wheels on JD 1700-series planter)



### T32 wheel (metric or 5/8" sleeve/shroud)

**\$145.00**

SKU: 06-10288 Fits most JD, Kinze, AGCO White, and Great Plains planters. Also fits JD 50-series drills; Case SDX (with seed-lock wheels); and Case P-500 drill using special bracket & torsion spring from Exapta—see p 27. Includes snap-ring & bearing (installed), steel shroud with built-in toe-out, dustcap.

## Independent Closing Wheel Study

### 2021 Corn Closing Wheel Study

**Date Planted** - 06/06/21  
**Date Harvested** - 11/2/21  
**Rows Harvested** - (2) 30" Rows  
**Harvested Row Length** - 170 Feet  
**Population (s/ac)** - 24,500  
**Tillage Type** - No-till  
**Previous Crop** - Soybeans  
**Dryland/Irrigation** - Dryland




2021 Corn Closing Wheel Study			
Closing Wheel	Stand Count	Yield (13% RM)	Yield % of Mean
Schlagel Posi	23,600	200.4	101%
Tompson 	24,125	198.6	100%
Mohawk	23,500	198.3	100%
Copperhead Furrow Cruiser	23,300	198.0	100%
Yetter Twister	23,500	197.9	100%
Solid Rubber	23,583	197.8	100%
Plot Avg.		198.5	

### Soybean Closing Wheel Study

**Date Planted:** - 6/6/21  
**Date Harvested** - 10/18/21  
**Rows Harvested** - 2 - 30" row  
**Harvested Row Length** - 170 Feet  
**Population (s/ac)** - 130,000  
**Tillage Type** - No-till  
**Previous Crop** - Corn  
**Dryland/Irrigation** - Dryland



Soybean Closing Wheel Study			
Closing Wheel	Stand Count	Yield (13% RM)	Yield % of Mean
Copperhead Furrow Cruiser	112,500	52.7	102%
Mohawk	112,625	52.4	101%
Tompson 	113,100	51.9	100%
Yetter Twister	109,625	51.8	100%
Solid Rubber	110,800	51.7	100%
Schlagel Posi	110,875	50.4	97%
Plot Avg.		51.8	

Reprinted with permission from Ohlde Seed Farms.

## Newsletter: Older planters can be refurbished at much lower cost than new.

As we arrive at the beginning of another year, the same question arises of what needs updated in the machinery fleet. There are dozens of planter attachments that claim to improve planter performance, but it's easy to over complicate simple operations. In fact, the 4 steps Exapta has described (*see page 14*) to make no-till planting successful will keep you focused on what's needed most.

Sharp opener blades, proper down pressure, a seed firmer, and spike closing wheels are all that's really needed to get good emergence in a no-till field. Challenges arise when trying to deal with residue and root mass, which is when row cleaners can be helpful to clear a path for the blades to cut a furrow. Hydraulic downforce has not only helped to make planting depth more consistent, but it also keeps row cleaners from furrowing down and moving too much soil. Most people would be surprised what sharp blades, and enough downforce can cut through, without using row cleaners. Planting deeper than normal will make cutting through tough residue much easier, along with the added benefits of less fluctuation in soil moisture and temperature, helping to keep germination more even.

Most new attachments are actually old designs with a spin on easier adjustment. Air bag down pressure is now in place of closing bracket springs as an example of easy in-cab adjustments on larger planters with more rows to adjust. Because the original JD max-emerge row unit hasn't changed much to today's max-emerge 5 row unit these basic principles are the same. Electric drives eliminate a lot of mechanical parts and give value with row shut offs built in. Older mechanical planters, however, when chains, idlers and meters are given yearly attention, can bring excellent yields. This goes along with our long-standing advice that uniform seed depth should get more attention than uniform seed spacing. *See page 7 for more on this topic.*

Rebuild cost, John Deere XP row unit:	Cost:
Valion seed tube guard	\$52.22
Forges de Niaux disc opener (2)	\$110.16
Keeton QA seed firmer w/ Mojo Wire	\$59.00
Thompson closing wheels (2)	\$290.00
<b>Cost to Rebuild One Row</b>	<b>\$511.38</b>

*(JD, Kinze, and White will be close to this figure) for one row unit.*

A rebuild should also involve wear points in the parallel arms, gauge wheel arms, and closing arm. GBGI and Exact Align Pro offer both improved bushing design as well as bearing replacements in these areas to make the row unit greaseless. Replacing these 3 points can add another \$500 a row replacing with all new cast pieces. A final step in a row unit rebuild would be indexing each row's depth setting, making sure that the notch you are using for planting depth is truly 3". A tight row unit will do much better to accurately place seeds where they need to be. Keep this in mind when debating your next planter purchase.

**For more on this topic & others, read Exapta's newsletters.**  
[exapta.com/newsletters](http://exapta.com/newsletters)



## Forges de Niaux for Planters

Sharper, Stronger, Proven Technology  
Double-row larger bearing, bigger rivets

30 – 40% more wear-life

Powder coated for increased quality

Unique steel & special heat-treated process



Forges de Niaux (FDN) offers a longer life, stay-sharp blade with a hub, bearing and rivets that hold up! 30 – 40% more wear life than competing openers. The FDN takes it to the next level with a unique steel and special heat-treat process. Uses Peer double-row, 205 bearings, whereas OEM and other aftermarket are 204 bearings (smaller diameter). Uses 5/16" rivets instead of 1/4". Great blade for Pre-XP, Kinze, White and Case even without the larger bearing.

The stamped hub is finish-machined, unlike any other, creating an improved fit over all other brands. FDN narrowed the tolerances to 50 thousandths axial runout and 1/16" radial runout, whereas industry tolerances are 80 thousandths axial runout and 1/8" radial runout. The bearing is never loose in the hub, nor too tight (which shortens bearing life). The order of the finish machining (rivet holes after the centerline is established), along with the powder coat painted blade, ensures everything is within tolerances and the bearing doesn't fail prematurely from misalignment.

"In our tough, northwest Kansas dryland conditions, we've never had openers last a full season. We put the 205 bearing FDN blades on half our planter and new JD openers on the other half. We have since done 4,500 acres, where approximately half the JD openers failed compared to zero problems with the FDN openers. We are very satisfied."

Daniel Leebrick Atwood, KS • Exapta customer since 2011 (JD 1770 24 row)



**Forges de Niaux 205 blade for JD planters: XP & ME5 \$55.08**

Same dimensions as OEM. Uses larger Peer double-row 205 bearings & 5/16" rivets.

**Forges de Niaux 204 blade for JD Pre-XP & Kinze \$47.92**

Peer 204 bearing and 1/4" rivet. CALL TO PRICE OTHER MODELS

## Keeton Seed Firmers



**Keeton, Quick Attach Tail \$20.00, Bracket \$20.00**

The best choice for most planters including JD 7000 thru XP, JD ME 5, Kinze 2000s & 3000s (non-EdgeVac prior to 2013). White 9000 uses slightly different bracket, same style. Compatible with Speed Tubes on these planter models. QA brackets are much sturdier and easier to install than Universals. Single liquid tube goes all the way through tail. [We highly recommend Quick Attach over the Universals.](#) QA Keeton w/bracket (for JD) #05-10790 \$40; Bracket only #05-10548; QA tail only #05-10545.



**Keeton, QA bracket for White 9000 \$40.00**

Keeton Quick Attach bracket and standard tail with single liquid tube for White 9000s (doesn't fit White 6000s & 8000s—use Universals instead for those planters). #05-10791 Keeton QA for White 9000 Bracket only #05-10529, QA Tail only #05-10545



**Keeton, QA Scraper-Mount Tail \$20.00, Bracket \$28.50**

Quick Attach, but uses the scraper mounting holes (not compatible w/ rotary scrapers, nor Air Design). The only model that fits Kinze 4900. Also for Kinze 3000-series with oversize seed tubes (2013 & newer; EdgeVacs prior to 2013). We recommend the standard QA (wrap-around) where possible. (No hole-drilling required). QA Keeton w/Scraper mount brkt for Kinze 3000/4000 #05-10795 \$48.50, Brkt only #05-10550; Tail only #05-10545



# PolyFlex™

## Flexible Gauge Wheel

The Ultimate package: PolyFlex tire mounted on a 2-piece, bolt-on rim with cast hub & spokes.



Cross-section of Exapta's PolyFlex tire: polyurethane with a hollow core, that can flex.

- Long lip life
- Flexible to shed mud and follow the ground contour
- Durable, cast spokes offer the widest opening possible to shed mud and debris
- Sturdy cast hub holds bearing securely
- Common bearing held with snap ring for easy replacement
- Complete, mounted, bolt-on assembly for easy, fast installation

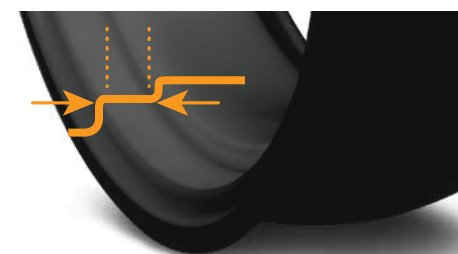
We now offer our PolyFlex™ gauge wheel as a complete assembly. The only polyurethane tire on the market with an air cavity that allows it to flex.

At higher downforce, rubber tires can collapse and bottom out, while solid tires have little to no flex and cannot conform to contours in the ground.

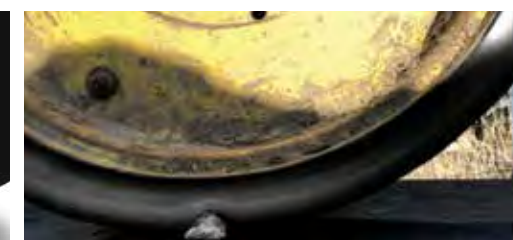
PolyFlex™ remains flexible in order to maintain performance in varying ground conditions. Engineered for balanced deflection to prevent excessive mud buildup and soil compaction. PolyFlex™ gives the benefits of traditional rubber tires and solid core tires without the drawbacks.

Flex is needed to keep the row unit running smoothly without excessive down-pressure, which can cause sidewall compaction and can contribute to "Tomahawk" roots.

Lip wear-life and lip integrity are arguably the most important part of your gauge wheel. If there isn't a snug fit, the gauge wheel will not be in the proper position, against the blade in order to make the needed seal.



Available in 3/8" or 7/8" inner lip



Pliable enough to absorb variations on the soil surface, from small stones to thick stalks, plus, these tires shed mud better due to their flexible nature.

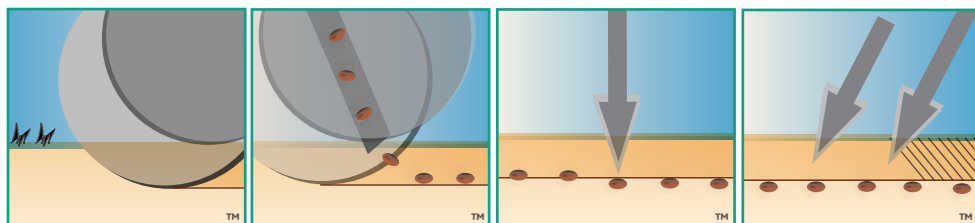
**PolyFlex™ Complete Assembly, 4.5" cast hub and tire \$179.53**

Fits most planters and single-disc gauge wheel drills using 5/8" or 16mm mounting bolt (JD 50, 60, 90 & N series, Case P500 & NH 2080 drills).

**PolyFlex™ replacement gauge wheel tire, 4.5" width \$79.95**

Fits most OEM gauge wheel assemblies. Available in 3/8" or 7/8" lip on inner gauge wheel half.

## Fundamentals of seed placement



- 1** Cut residue & soil to create the furrow of the proper depth™
- 2** Place the seeds consistently into the bottom of the furrow™
- 3** Firm the seeds by applying the right amount of pressure exactly where it's needed™
- 4** Close the furrow by chopping the sidewall, to prevent drying and allow good root exploration™

Vigorous crops depend on you. In addition to controlling depth and spacing, *your seeding equipment determines the uniformity of seed-to-soil contact and the condition of the soil placed over the seed.* These influence the rate of air and water exchange during germination and early growth, as well as the resistance the seedling encounters during emergence and while developing roots.

Emergence, early growth, yield, and profit all hinge on proper seed placement—seeds are pressed (embedded) into the moist furrow bottom at a consistent depth, and the furrow sidewalls are shattered to cover seeds uniformly with loose fractured soil. With the seed securely firmed into the surrounding soil, it draws moisture easily for germination and establishment. Mulch cover prevents drying out of the seed zone prematurely. The Exapta No-till Planting System accomplishes these things most effectively. Read more by visiting [www.exapta.com/working-knowledge/no-till-seed-placement](http://www.exapta.com/working-knowledge/no-till-seed-placement)

## About the Matt Hagny No-Till Scholarship Foundation



Our mission is to provide experiences and learning opportunities to those interested in traveling to further their education about no-till farming practices. We see the world as bigger than us. We seek to follow Matt Hagny's example, as he was a life-long learner, and a challenger of majority thinking, processes and practices. We strive to assist others on their journey of learning and growing. We recognize the value found in the combination of travel and study. Our 2023 recipient is Natalie Sturm, a soil

science PhD student at Washington State University, studying no-till cropping system solutions to degraded soil physical properties (particularly soil compaction).

Check out Sam Ireland, our 2022 recipient's, findings on the benefits of intercropping and relay cropping, as well as the practicality for farmers to adapt these techniques. Watch at the link below!

For more information on the application process, or to make a donation, visit [www.exapta.com/matt-hagny-scholarship](http://www.exapta.com/matt-hagny-scholarship)



The Matt Hagny No-Till Scholarship Foundation is an endowed fund managed by the Greater Salina Community Foundation, a qualified section 501(c)(3) organization.

## Tech tips for gauge-wheel drills:

Some drill opener designs cannot adequately perform Steps 1–4 (see page 14) because they are hangovers from the tillage era. One design that fulfills Steps 1, 2, 3, & 4 is the John Deere 50, 60, 90 & Pro-series single-disc, gauge-wheel opener. Some comments to help them function:

**Step 1, Cut:** Opener blades should be replaced when they've lost 5/8" off of original diameter (bevel is too shallow and the blade is dull by this point). Because the boot is wider than the furrow being cut (except Pro-series), it is very difficult to push the boot into the soil. Generally, the lower edge of the boot should be approximately at the soil surface (Pro-series can run below the surface, which is a good thing. Note, however, they may plug with oats or garbanzos due to narrower channel). Replacing blades frequently cuts down on boot wear. Maintain the big pin & bushings at front of opener to prevent furrow from getting too narrow.

**Step 2, Place:** Seed boots should be inspected and maintained—the wear is not obvious from casual inspection. When the bottom outside edge of the boot is no longer straight across, performance is seriously compromised (see photo). The 60-series drills had a poorly designed seed boot and should be upgraded to the 90-series boot. Maintain leaf springs to keep the boot against the blade. Leaf springs weaken with age, and eventually break.



If boot attachment hole becomes too worn, boot drags out of position, causing more seeds to bounce out of the furrow. There are several attachment-hole repair kits on the market (avoid repair kits that don't let boots set flush and cause major plugging problems). We recommend Pro-Stitch boot stabilizers to eliminate slop in the boot attachment. Upgrade to Ninja seed bounce flaps on back of boot: These help keep seeds in the furrow bottom.



Inadequate down-pressure causes shallow furrows and more misplaced seeds. The only meaningful indicator of down-pressure is compression of the big coil spring.

The gauge wheel should be firmly on the soil surface during seeding, which holds the sidewall together while the blade exits the soil. Also, for this reason, Reduced Inner Diameter (indented) gauge tires can adversely affect seed placement. Air drills especially may require additional frame ballast (sometimes a lot). Read more at: [www.exapta.com/working-knowledge/tech-tips-for-drills](http://www.exapta.com/working-knowledge/tech-tips-for-drills).

**Step 3, Firm:** Use a good seed-lock wheel, preferably a narrow, semi-flexible urethane wheel. A flexible wheel self-aligns for consistently good performance. (The JD firming wheel runs on a rigid, overly wide rim.) Properly shaped firming devices will engage all the seeds and push them securely into the bottom of the furrow, without the firming device getting hung up on the sidewall.

**Step 4, Close:** Close the furrow by shattering the sidewall and pulling loose material into the furrow. Avoid packing soil above the seed.

For more on this topic & others, read Exapta's newsletters.

[exapta.com/newsletters](http://exapta.com/newsletters)  
[exapta.com/working-knowledge/tech-tips-for-drills](http://exapta.com/working-knowledge/tech-tips-for-drills)



# UniForce™

## Hydraulic Downpressure

Study proves 2.68 bu/ac increase in soybeans with UniForce!†

Get your JD 50/60/90/Pro-series drill to work the way it should.

Uniform pressure on all openers • Reduce/eliminate hairpinning • Less sidewall compaction  
Get consistent depth! • Better use of frame weight • Less frame stress  
Greater up/down travel on openers

The biggest downfall of the JD 50/60/90/Pro-series drills is how down-force is applied—the rockshaft twists to compress a big coil spring on each opener. Because the spring is nearly parallel to the arm, the opener has almost no down-stroke—i.e., the spring is applying the correct amount of down-force for only about 1/4" of its range. Had the spring been oriented differently, the problem wouldn't be nearly so bad.



US Patent No 11,291,155 B2; US Patent No 9,930,822


So, you must have fields that are laser level for these openers to work correctly. Even 1/2" depressions give them fits. The spring starts to relax as the opener goes into these miniscule depressions, and you lose down-force—the opener loses depth, and starts hairpinning. To compensate, everyone cranks the pressure way up—so that the majority of openers have far too much pressure, just to keep those passing thru mild depressions working halfway decent. You end up with excessive sidewall compaction on most of the rows, while some aren't even holding depth. Not to mention it takes a bunch of extra ballast on the frame.

†Harvested with a full header in the UniForce planted beans versus full header in beans planted by OEM springs. JD 1890, 42ft on 10" spacing. Trial conducted on a real farm, under real farm conditions, by an actual farm operator, not a cherry picked 1/4 acre test plot.

"We have been very happy with the UniForce system over the years. **Planting wheat and beans our stands are much more consistent as the openers go up and down terrain through the field.** We've yet to have any issues with the system."

Jeff Billenstein, Ansonia, OH  
Exapta customer since 2017  
(UniForce on JD 1990 CCS)

"We have about 1200 acres on our UniForce system and are really happy with it! **Every time I dig the seed is right where you want it!**"

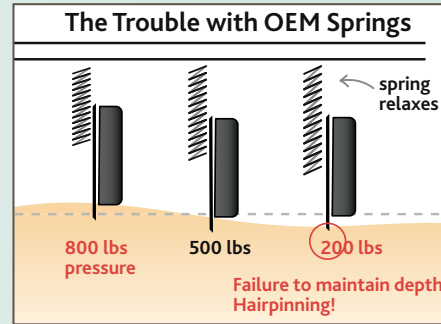
 Ed Heczko, Green Sums LTD,  
Smithville ON • Exapta customer  
since 2016 (UniForce, DuraLoks,  
Ninjas, T-wheels on 1890 drill)

"Before installing UniForce the drill openers looked like a piano board being played. **Now that UF is installed, it's amazing to see how no opener bounce occurs. The entire drill has consistent down-pressure, giving us uniform depth.** We are now obtaining what we set out to accomplish." [2019 update]  
"Since adding UniForce, I've been able to reduce my soybean seed population from 165,000 to 140,000, a savings of 25,000/acre. This saves me about \$8/acre."

 David Hoar, Campbellsburg, IN  
Exapta customer since 2016 (43-ft  
JD Single rank 1690 CCS,  
32 openers on 15" spacing)

### UniForce hydraulic down-pressure system

Call for UF pricing and to receive a free quote. All of our Exapta team members have hands-on experience with UF. They can answer your questions and work up a quote for you.



UniForce cylinders are made from top-quality materials and have extra packing rings for a very long life.


Our UniForce hydraulic system fixes Deere's design debacle. Now, you can get uniform pressure on every single opener throughout its full stroke. The result is better cutting, less hairpinning, holding blade depth much more accurately, less premature sidewall blowout (from gauge wheel not being firmly on the soil surface), and far less sidewall compaction. Another problem with springs is that they bounce: Hydraulics don't have this problem. **Drive faster and greatly improve precision of placement.**



UniForce uses single-action cylinders along with the OEM rockshaft, which is still used to raise and lower the openers. Both can run on a single tractor remote, or they can be kept entirely separate.

Large 3/4" header hoses\* allow oil to move quickly from one end of the drill to the other, and between the front & back ranks. This keeps pressure almost perfectly constant even while going over steep terraces or through swales at high speed. Special brackets support the header hose on most air drill sections. Large 1/2" drop hoses let oil move in & out of cylinders very rapidly. But don't be fooled by the size of the hoses: The flow requirements are relatively low—for 48 rows, the UniForce takes only 4 GPM (for comparison, the air cart fan needs 25 GPM). (\*Box drills use 1/2" header hoses.)

"The openers run a lot smoother and they don't bounce around like they used to [before installing UniForce]. **Seed placement is definitely better, therefore obviously emergence is better.** We have faced a couple drier years than normal, but I've been quite surprised with some of the yields!"

 Glen Sebok, Taber, Alberta  
Exapta customer since 2012  
(UniForce on two 43-ft JD 1895s)

"UniForce gives me the peace of mind that I'm doing a better job seeding, from the more consistent pressure on every opener it provides."

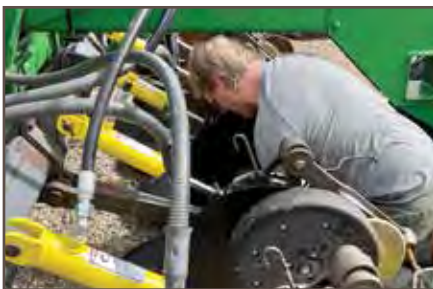
 Martin Seemann, Kensington, KS  
Exapta customer since 2010  
(UniForce on 30' JD Pro 1890)



For farming over terraces, especially when using only a single rank of openers, Exapta offers an optional 2.5-gallon accumulator for UniForce on air drills. For 2 box drills together on a hitch in terraces, we have 1-gallon accumulators (one for each drill). When hitting terraces square-on (angle isn't a problem), even the highest-capacity tractors can't supply enough oil flow to keep the pressure perfectly constant, but our accumulator helps minimize fluctuations.

Optional Accumulator, 2.5 gallon  
Optional Accumulators, pair of 1-gallon with brackets, hoses, fittings

Call for Pricing



**Exapta is now offering UniForce install services year-round!**

Our experienced install team will complete the install for you from start to finish.

- Delivery
- OEM spring removal
- UniForce install
- System charge to assure operational success

For many of our customers, the install process has been the biggest hurdle. We are pleased to offer this service so you can prevent the headaches and better utilize your time—as time is money!

Call for pricing!\*




“  
Thanks for doing a good job at Exapta, appreciate your dedication to the no-till system. We used the drill last season (2021), very pleased with the improvement. I have many variations in my field plane so I need the consistent down pressure. Had a better stand because of better seed to soil contact, also improved yield. I would recommend the [UniForce] system to others.”  
Ed Meng, Oregon, MO • Exapta customer since 2008 (UF, T-whls, Ninjas, DuraLoks installed on a 15' JD 750 Box Drill)



\*Offer Terms: Limited geography. We are willing to travel considerable distances for larger installs and/or several systems near each other, so please inquire regardless of location and the sooner the better. The earlier your install is scheduled, the better we can serve you by mapping installs efficiently.

“  
Installation and getting us up and running was a very smooth process. UF took the bounce out of the openers! This was wheat drilled back in corn last fall with UniForce installed.”  
JL Farms, Jess Schwieterman, Syracuse, KS  
Exapta customer since 2012 (UniForce on 60' 1890)



**SeedVU Air Drill Venting Unit**

Is plugging your air drill's primary lines a constant worry?  
Problems with seed bouncing or blowing out of the furrow?  
A simple solution—installs in just a couple minutes for the entire drill (fits on top of distribution head. No modifications needed).

SeedVU® gives you the peace of mind of running your fan where it should be, and not worrying about seed blowing out of the furrow, all while monitoring for primary-line blockages.

The SeedVU® takes unwanted, excess primary-line air pressure and separates it from the seed and fertilizer stream, right where you need it to: the distribution head. This allows seed and fertilizer to travel to the openers by gravity, or assisted by an adjustable volume of air. It's up to you!

“I love the SeedVUs. If you've ever plugged a primary, it takes 2 hours to clean it out. That's a lot of downtime, and costs us money. With the SeedVUs, I can crank the fan speed up and never worry about plugging a primary, and actually do a better job of seed placement by dumping most of the air with the SeedVU.”



Tom Cannon, Blackwell, OK  
Exapta customer since '03 (SeedVUs on JD 1890)



**SeedVU for late-model air drills** **\$215.00 – \$305.00**  
Adjustable air diffuser/venting unit. Fits late model JD outlet heads with twist on lid (rubbery heads/"pods"), late model Case/NH heads, Smallaire conversion heads and more. (Does not fit JD flat top heads with J bolts. Consider updating those to the Smallaire heads).

**Smallaire riser pipes & conversion heads**



Smallaire riser pipes have an enlarged elbow to properly disperse product going up to the distribution head (ordinary mandrel bends cause ricochet and overload one side of the head). Dimples also help this. Tremendous durability. Smallaire are the wizards of air flow. Reap the rewards of a uniform amount of product going to each opener.

For best results, also get rid of inferior distribution heads, such as the Deere steel-lid heads. Exapta is proud to be the exclusive distributor for Smallaire products in North America.

“I didn't think the [Smallaire distribution] head was going to be anything special, but they ended all of our plugging problems and we backed the fan speed off another 200 RPM. Never had a secondary hose come off, either. We got the [Smallaire] stainless risers from you, and they're an undervalued product. Great product, and I will buy again [for my other air drill]. Thanks!”

Jamie Kouba, Regent, ND • Exapta customer since 2016 (Smallaire manifolds & riser pipes on 60-ft SeedMaster air drill)

**Smallaire riser pipe 2.5-inch (black or stainless)** **\$137.50-\$155.00**  
**Smallaire conversion heads** **\$229.00 – 381.00**  
Cone cap included—a \$30 value! Available from 3-16 outlets. Smart upgrade for older JD with J bolt heads. Unique curved design evenly distributes seed to Secondary outlets (no flat spots for seed to deadhead against). Compatible with SeedVU. Zinc plated and powder coated paint.



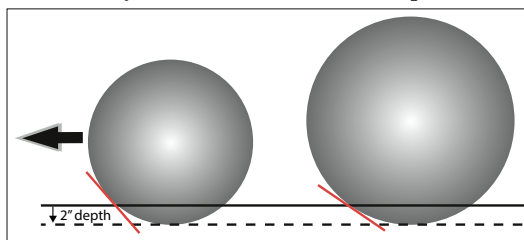
## Opener blades: JD 50/60/90/Pro-series and now P-500/NH 2080:



**Deeper bevel (3/4") vs others (5/8")**  
**Sharper, Stronger, Proven Technology**  
**20 – 30% more wear-life**  
**Protected with a lifetime warranty on breakage**

Forges de Niaux (FDN) offers a longer life, stay-sharp blade! The FDN 200 takes it to the next level with a unique steel and special heat-treat process making it a stronger blade and has 20 – 30% more wear-life than the next-best—our old standby, the Ingersolls. The general hierarchy for wear-life, sharpness, and quality/consistency is Niaux 200 > Ingersoll ≥ Bellota (JD since 2016) > Osmundson (JD 2015 & prior). The Forges de Niaux truly takes it to the next level.

Bigger isn't always better. At least not for opener blades cutting mulch (and soil) in no-till. Too many OEMs and resellers recommend using 20 – 24" opener blades on their drills—even 18 5/8" is not ideal. Mostly so they can tout how long they can go before needing replacement. The problem with larger blades is that the angle of intercepting the soil line (and mulch) becomes too flat (see diagram) at normal operating depth for placing seeds, so they don't cut well—they're more likely to hairpin. It's like a knife or a scissors—they cut well at certain steeper angles, but tend to skate or bend the material rather than cutting when the angle is too shallow. Opener blades have the same issues. Also, it takes more downforce to hold a larger blade in the soil. The thicker the blade, and/or the shallower the bevel, the worse the cutting.



"I am very happy with these. We run across 5000 acres on average a year. I could never get entirely through the year with JD or Ingersoll blades, but with the Forges de Niaux (FDN) blades I can get another 500-1000 acres. We have such hard rocks and soil that we run across, so it's really hard to keep disc up-to-par. With the FDN openers we can actually make it through the season and then some."



Corey Schumacher, Napoleon, ND • Exapta customer since 2018  
 (Forges de Niaux blades on 42ft on 10" JD 1895 drill)

<b>Forges de Niaux 200 blade for JD 50/60/90/Pro drills</b>	<b>\$51.18</b>
<i>Stack/Stem Special: 90 blades or more (Call a friend, split a stem!)</i>	<b>\$46.18</b>
<b>Forges de Niaux 200 blade for CIH P-500/NH2080</b>	<b>\$57.21</b>

*FDN blades available for other drills – call for pricing!*

## Leaf Springs for Seed Boots JD 50/60/90



**20% stronger than OEM, verified by an independent test**  
**Less breakage for longer service life • Maintains strength**

For the seed boot on JD 50, 60 & 90-series NT drills. Manufactured to Exapta's high-quality specs for longer service life (less breakage, maintains strength). **Same proven design, now with zinc coating to prevent rust.** 60-series boots require spring to be trimmed. We recommend new leaf springs with every other set of blades.

**Leaf Spring for seed boot on JD 50/60/90 drills** **\$6.00**

## Pro-Stitch Seed Boot Stabilizer for JD 50/60/90

Removes up and down play of the seed boot  
 Alternative to labor intensive boot pivot and/or main opener arm drilling & bushing installation  
 Simple to install with no drilling or machining required  
 A practical way to address boot slop when your boots are still good!



Far left: seed boot holes are 'egged' out, causing boot slop.

Left: Pro-Stitch Seed Boot Stabilizer installed on a 50-series boot.



Pro-Stitch Seed Boot Stabilizer is a patented, simple, bolt-on device designed to fit between the main opener arm boot pivot flanges and the seed boot, eliminating the up and down movement of the seed boot and allowing for a consistent furrow and more even seed placement.

**Pro-Stitch Seed Boot Stabilizer for JD 50 & 90 drills** **\$40.00**  
 04-10573 for 90; 04-10574 for 50-series boots. Includes hardware & new seed boot pivot pin.

## Primary & Secondary Hoses for Air Drills

**2x – 3x wear life of OEM & competitor primary hoses**  
**Urethane lining: longest-lasting hose on the market**  
**UV protection for extended wear life—no cracking**  
**Clear spirals, see when product is flowing or plugged!**



Longest-lasting on the Market!

Our primary hoses are the best on the market, lasting 2x – 3x longer than any other hose during internal sandblast testing. Constructed with a urethane lining in place of the "blended" materials used by OEM & competitor hoses. UV protection to withstand sunlight decay. Transparent, see-through spirals in material allows you to detect/locate blockages immediately.

Our secondary hosing is made from PVC blended with polyurethane for up to 2x the wear life of OEM. UV protection for longer wear life in the field. Plus, our secondary hose is the same clear black as Primary Hose, allowing you to see when product is flowing or locate a blockage.

"I love this air seeder hose! This is the first hose I didn't have to heat to get it to slide on to the fitting. The hose I bought from Case only lasted 1 1/2 years."



Rob Laubach, Grand Camp, Inc., Carter, MT  
 Exapta customer since 2020 (SeedVU & Primary Hose, Case 700 drill)



Caleb Nine, Lavern, OK •  
 Exapta customer since 2020

"I covered 9-10K acres with the hoses & didn't see much, if any wear. Comparing to the OEM hoses on their second season & I think I used an entire roll of duct tape to finish my sorghum!"

<b>Primary Hose (100ft roll) #04-10685 2.5"</b>	<b>\$795.00 (7.95/ft)</b>
<i>2x – 3x wear life of OEM and competitors. Urethane lining for longest-lasting hose on the market.</i>	
<b>Secondary (100ft roll) #04-10684 1" \$227.00 (2.27/ft), #04-10688 1.25" \$248.00 (2.48/ft)</b>	
<i>Up to 2x wear life of OEM. Transparent spirals—see when product is flowing or plugged.</i>	





## Ninja seed-bounce flap for JD 50, 90 & Pro-series drill boots:

**Forward-bending flap keeps more seed in the furrow**  
**For 50, 90 & Pro-series drill boots**  
**Flexible • Doesn't break off**  
**At least 5x wear life vs others**



US Patent No 9,668,402

The flap on the seed boot is what keeps seeds from bouncing out of the furrow, and this is even more critical on air drills, since the air stream is also trying to escape and may carry seeds along with it. However, JD & aftermarket flap suppliers use a straight flap, made from materials that are too stiff—often breaking or warping up. The issue with straight flaps is that it leaves a triangular gap (see photo) for seeds to escape, and this gap gets larger when the straight flaps bend upward during use, due to riding on the sidewall.



Our Ninja flap has a 20-degree forward bend to help close this gap, thus keeping more seeds in the furrow. The forward bend helps deflect seeds downward into the furrow bottom before dust and chunks of sidewall fall in ahead of the seed. The flexible material and tapered end prevent the Ninja flap from riding on the sidewall. The result is better seed placement. Ninjas also shed mud better than OEM and competitors, and proven to outlast any other flap/tab by at least 5x.



NEW Pro-series Ninjas have the same 20-degree forward bend for the best seed placement possible.



We are setting the record straight on seed bounce flaps with our 20-degree forward bend and a tab that outlasts all the rest! Watch the videos at [www.exapta.com](http://www.exapta.com).

“The Ninjas hardly wore at all. They fit down in the furrow so much better than other flaps on the market. I really appreciate what you guys are doing for the farmer.”



Ed Meng, Oregon, MO • Exapta customer since '08 (Ninjas on JD 750)

“The Ninja seed bounce flaps put the seed at the bottom of the trench better than the other flaps available. I've ran OEM and competitor brands, but the Ninja is the best. I have been impressed to say the least.”

Ken Gardner, Williston, ND • Exapta customer since 2017 (Ninjas on JD 1890)

“The Ninja tabs are the best by far that's out there. We've covered 15–20,000 acres with them and they are showing very little wear!”

Dale Nelson, Homestead, MT  
Exapta customer since 2015  
(Ninjas on JD 60ft on 10")

**Ninja™ flexible seed-bounce flap for JD 50 & 90 drill boots** **\$7.30**

*Fits Standard and Extended Wear boots.*

**Ninja™ flexible seed-bounce flap for JD Pro-Series boots** **\$15.00/pair**

*Product enhancement includes a new “U” clip (\$2 value). #04-10572 Sold as a pair*



## DuraLok™ seed-lock wheel



### DuraLok™ for JD 50/60/90/Pro-series drills

**Superior firming • Easier furrow closing • Stays clean vs others**  
**Not too narrow, not too wide, not too rigid, not too soft, but just right.**  
**Narrower to fit the furrow better • Easily replaceable bearing**  
**Highly wear-resistant material • “Tire” won't pull out of the rim**

Narrower to provide more consistent seed-to-soil contact. (Wider firming wheels also pack the sidewalls more, making the furrow harder to close.) Flexible to self-align during slight turns or when drill is drafting downhill. Tremendous wear life.

The sleek shape of the DuraLok™ allows it to stay clean\* when OEM and competitor (aftermarket) firming wheels are clogging with mud, pulling seeds out, and dragging against the gauge wheel. (\*Depends on soil type.) Now with UV-resistance to hold a bright yellow color for many years.

“We love the DuraLok wheels! They have performed just as advertised, they work in all conditions. I had problems with the OEM wheels coming apart on the outside rows when turning and these flex and stay in the row and they shed mud (when we have mud, very rare in this part of the country). The DuraLok wheels are the only wheels we will use from now on.”



Kory Hastings, Great Falls MT  
Exapta customer since 2017  
(DuraLoks, Ninja flaps, T-whls, bushing kits on JD 1895 43ft with a 1910 TBH cart)

“Really like them...seed firming wheels set down in the slot nicely. Emergence seems to be quite a bit better! Sure they both [Ninjas & DuraLok] play a part in that! Overall seems like money well spent!”



Justin Shelor, Minneola, KS  
Exapta customer since 2019  
(DuraLoks, Ninjas, on JD 1990)

“Get the DuraLok from Exapta. That puppy sheds mud and won't cause plugging issues like OEM when it's sticky and wet out. Those DuraLoks flat out work—an excellent product. Try one and you'll see what I mean.”



Roger Neshem, Berthold, ND  
Exapta customer since 2012  
(DuraLoks, T-whls on 60-ft & 40-ft JD 1890s)



*A great many of our customers report that no other seed-lock wheel even comes close to staying as clean as the DuraLok. We'll keep you running when all the others are clogged up.*

**DuraLok seed-lock wheel** Fits JD 50/60/90 & Case's SDX #05-10642 **\$50.00**

*Narrow, sleek hub to shed mud better than OEM & aftermarket firming wheels w/ wide brgs/hubs. Wheel dimensions are 0.45" x 9". The narrowest on the market because it fits the furrow the best.*

**DuraLok Pro seed-lock wheel #05-10267** **\$55.00**

*Fits 1890 and 1890 drills with Pro Series row units and the N-series drills.*



## Bushing Kits

Keeping the firming & closing arm pivots working properly can be a real hassle on the JD 50/60/90 drills. Even after Deere upgraded them circa '09 to include seals, they still have a habit of packing full of dirt and not taking grease. But with the Aricks bushing kits from Australia, these pivots will run smoothly and **you'll never have to grease them again!** The Aricks seals for the firming & closing pivots have a Teflon coating on the seal contact lip and are **designed to run dry**, unlike a competitor product from USA—and these Aricks kits have a **long track record** to prove their durability and trouble-free nature. The bushings themselves are fiber-wound Teflon impregnated, and the steel sleeve has a hardened chrome finish, for smooth action, and proven to last at least as long as OEM (significantly longer in some conditions).

These kits are hugely popular in Australia.

*\*Note: On 50-series (except earliest 750s), the firming arm has a pin welded in—this must be removed and a hole drilled in the arm at that spot, and requires a 50-series bushing kit as the sleeve length is longer than the 60/90-series.*



The seals now have a heavy duty steel outer edge with a Teflon lipped seal.



Aricks firming arm kit (sleeve, bushings, seals) JD 50*/60/90 #50-10496	\$40.00
Aricks closing arm kit (sleeve, bushings, seals) JD 50*/60/90 #50-10493	\$40.00
Special washer and nut, closing rebuild (both grade 8) #06-10781	\$4.68
Install tool for firming & closing kits #50-10508	Call for Pricing
Removal tool for firming & closing kits #50-10507	Call for Pricing



The main pin & bushings at the front of the opener on JD 50/60/90 drills (where the arm attaches to the rockshaft) is another wear item, and it's critical to maintain furrow width. As these wear, the furrow gets narrower and the boot and firming wheel no longer fit, thus seed placement is awful. Aricks' front pin kits have been in the field for many years. Aricks front pin bushings are steel with a Teflon inner layer, and the pin has a hard chrome finish.



**NEW**

"I installed the bushing kits last spring and have not had one row give me any problems! I love not having to grease 104 fittings! Keeping the press arm and closing arm free of seizing up makes everything else work on these 90-series openers."



Kory Hastings, Great Falls, MT  
Exapta customer since 2017  
(JD 1895 43ft with a 1910TBH cart)

Removal tools: manual & air hammer versions.

Main opener pin kit (pin, bushings) JD 50/60/90 drills #50-10492	\$39.00
Removal Tool: Main-Pin Bushings, Air Hammer	\$80.20
Kit includes stainless tube brush to clean out dirt & rust. #01-10265	
Removal Tool: Main-Pin Bushings, Manual Tool	\$175.42
Kit includes stainless tube brush to clean out dirt & rust; includes lubricant. #01-10266	

## Non-greasing Gauge Wheel Axle Kit

**Makes your disc opener greaseless!**  
**Axles won't seize • Holds cast arms tight**

The gauge wheel axle kit from Aricks is the final piece in making your disc opener completely non-greasable! Gauge wheel depth adjustment, via the axle rotation, is a common point for seizing on the John Deere openers. In dry, dusty conditions, grease and dirt pack together, becoming rock-hard, inhibiting rotation of the axle and rendering the depth adjustment arm useless. **These new axles won't seize, allowing for smooth operation of the depth adjustment arm.**

Farmers face enormous difficulties trying to unseize their axles in order to adjust seed depth. Most resort to removing the entire disc opener and placing it in a hydraulic press to force out the seized axles.

Another issue is once these cast arms get a little movement in the connection to the gauge wheel axle, it is very difficult to keep them tight. Now those **worn cast arms, combined with a new Aricks axle, will never become loose again.** Sold as a kit to give you maximum flexibility in replacing several components at once.

Uses high quality bushing material in the axle spindle and an extremely effective, durable seal to keep the axle shaft dust-free and running smoothly for many acres to come. The solid axle shaft attachment point has been beefed up for greater surface contact, allowing you to reuse the worn depth adjustment arms, for even more savings.



Depth adjustment axle



Gauge Wheel Axle Kit complete with axle, spindle and seal.



No need to replace worn depth adjustment arms with the new solid axle shaft.

"I put the Greaseless Depth Axles on in 2020 and I've had zero problems after 10,000 acres. Everybody needs to go that way. They are a great product and well worth the investment. I also put on the Cover Plates & T-Handles and love those. They're awesome."



Caleb Nine, Lavern, OK • Exapta customer since 2018 (cover plates, depth axles, FDN blades, DuraLoks, Main pins on a JD 1890 drill, 50 openers)

## Heavy-duty Cover Plates & 'T' Handles



**Solid straight lugs won't wear/break like OEM pins**  
**2x thickness of OEM • 'T' handle won't stick or jam**  
**Straight-across depth selection for easy adjusting**  
**Same depth increments as OEM**



A durable, logical replacement for the light-duty, inferior criss-cross depth adjuster that rattles and wears out. A robust cover plate and 'T' handle improves reliability and reduces maintenance costs. A much-needed redesign of the traditional diagonal slotting for a simpler, heavy-duty system that will withstand tough conditions better than the OEM.

Heavy-duty Cover Plates (for 60/90 series only) #03-10494	\$35.00
Heavy-duty 'T' Handles (for 60/90 series only) #03-10495	\$35.00
Gauge Wheel Axle, (60/90-series) #03-10497 (L), #03-10498 (R)	\$156.31
Depth control arms Right or left, #03-10503 (L), #03-10502 (R)	\$53.33
High Tensile casting stud is up-sized for added strength where the stud leaves the casting.	





**BETTER THAN EVER!**

The new **T44 wheel** updates include a zinc plate finish and a bolt on star wheel. The wheel uses 4 bolts to attach it to the spindle so when you wear down the wheel in the future, you can just purchase the star, and not have to buy the whole assembly. You'll spend far less money to replace a worn out Thompson wheel in the future with the new replaceable star.

Thompson closing wheels are an excellent upgrade for JD 50/60/90/Pro-series drills, and bolt easily onto the original closing arms. The OEM 50/60/90 cast closing wheels on the Deere drills have a ridiculous tendency to hop because of their weight and smoothness, and the angle of the arm's pivoting, and really hammer the soil when they land after being airborne. Even when running smoothly with low spring pressure, heavy cast closing wheels tend to seriously over-pack the soil, reducing emergence and early growth. Thompson wheels completely avoid the problem, since they weigh far less than JD and certain aftermarket wheels, and actively pull themselves into the soil.

"Thompson wheels close so much better than OEM cast wheels, especially in heavy residue. We had some really tall soybeans this year that left a mat of residue behind the combine. The Thompsons did a great job of closing the seed slot!"

Chad Huffman, Cunningham, KS • Exapta customer since 2019 (T-wheels on JD 1890)

"We have 2 - 40' JD 1890 Air Seeders. One with Thompson wheels and one without. We had great stands on beans this year from the drill with Thompsons. We ordered T-wheels for the other one because the stands were noticeably poorer due to crusting from the solid wheels."



Craig & Rodney Doane, Downs, KS • Exapta customer since 2014 (Ninjas, DuraLoks, T-whls, main pins)

"The Thompson wheel is doing very well. I've had a couple of neighbors and the rep from my seed company look at the field after planting, and they were really very impressed with the seed coverage. I have an older JD 750, but I rebuilt the entire lower end. Your Thompson wheels were the icing on the cake. Performs better than new. Thanks again!"

Tom Faitz, Swansea, IL • Exapta customer since 2018 (Thompson wheels on JD 750 drill)

"We had much better stands on the back rows where the new Thompson wheels were installed. We were able to drill beans in soil where the front rank (without T-wheels) were not getting closed. They were a big improvement in our double crop soybeans. I've been happy with all the products from Exapta."

Ben Stork, Waterloo, IL • Exapta customer since 2019 (1500 acres so far on NEW replaceable Thompson wheels on 30' JD 1990 CCS)



## Thompson closing for gauge-wheel drills

Zinc plate finish

Bolt-on star wheel = cost-effective replacement stars

Aggressive furrow closing with self-limiting depth

Low mud and stalk accumulation

Same, proven spoke design, durable and trouble-free, we've used for 20 years

Creates ideal zone for crop emergence & rooting in a wide array of conditions

Heavy-duty bearing with 5-year warranty (on bearing-type wheels)



"We bought two [competitor] wheels and two Thompsons [black old design] and run them side by side before we bought a full set. We choose the Thompsons. We like the new design even better!"

Bill Love, Partridge, KS  
Exapta customer since 2021  
(Thompson wheels on JD 1990 CCS)



"Worth the money! Really does a nice job of closing the seed trench especially in corn stalks."

Brad Pagenkopf, Lost Springs, KS  
Exapta customer since 2022 (Twhls on JD 1890)



The new T32 wheel updates solves the problem of the bearing issues with 50-series drills. Also, the Thompson wheel has proven durability: High-carbon steel, a truly robust bearing with a triple-lip seal, and our exclusive steel shroud for superior bearing protection—plus, our 5-year warranty on the bearing. Includes a zinc plate finish and a bolt-on star wheel.



The closing action on the Case Precision 500 / New Holland P-2080 is rather pitiful in long-term no-till with their smooth packer wheel. Exapta's closing bracket is the ideal upgrade in allowing our Thompson T32 to be ran at a 7-degree toe-out, along with lighter spring pressure. Avoid stand failures! Do firming and closing as separate steps, and do them well. (T-whls are a good option for Case SDX drills with seed-lock wheels installed.)

"I love the Thompson Wheels! They work great! They crumble the sidewall, no sidewall compaction. The wheat comes up faster on the back rank (with T-wheels) then the front rank with the OEM rubber wheels. Definitely does a better job of closing the seed trench!"

Jonathan Quin, Kennedyville, MD • Exapta customer since 2019 (Exapta upgrade: T-wheels, Keetons & Mojos on back rank 30' Case P-500 drill 7.5")



- Thompson wheel T44** **\$94.00**
- #06-10283 Tougher than ever, zinc plate finish (with stub shaft, for JD 60, 90 & Pro-series drills)
- Thompson wheel T32** **\$145.00**
- #06-10286 (with 5/8" bolt or metric spindle, for JD 50-series, Case SDX, P500 & NH2080)
- Bracket kit for T-wheels, Case P-500/NH 2080 drill** **\$78.00**

**Improved!**



## John Deere Air Seeder Owners: Put Money Back in your Pocket.

At Exapta, we're confident a 60 or 90-series John Deere air seeder or box drill can be completely rebuilt and perform better than a brand-new N-series drill.

Table 1, Part ID:	Cost:
Thompson Closing Wheel	\$94.00
Closing Arm Greaseless Bushing Kit	\$35.00
Special Closing Locknut & Washer	\$4.68
DuraLok Firming Wheel	\$50.00
Firming Arm Greaseless Bushing Kit	\$ 35.00
4.5" PolyFlex Spoked Gauge Wheel	\$180.95
Depth Control Arm	\$53.33
Greaseless Depth Axle Kit	\$156.31
Cover Plate & T-Handle	\$ 70.00
Forges de Niaux Disc Opener	\$ 51.18
Disc Opener Leaf Spring	\$6.00
Seed Boot	\$125.00
Pro Stitch Seed Boot Stabilizer	\$ 40.00
Main Pin & Bushing Kit	\$39.00
Ninja Seed Bounce Flap	\$7.30
Stainless Seed Tube	\$42.50
Labor	\$275.00
<b>Cost to Rebuild One Row</b>	<b>\$1,275.25</b>
<b>Additional Expenses (Air Seeders):</b>	
1890 30' - 42' 7.5" Air System	\$3,000 - 4,500

When considering a rebuild, we are including all wearable parts of the opener and all of the air delivery system including hoses up to the meter housing on the cart. The exact cost to rebuild one opener of a 60 or 90-series drill with Exapta products is shown in Table 1 (left). This number, along with other data, was used to determine the exact parts needed to update the air system and give an exact rebuilding cost for each of the drills listed in Table 2. This table also compares rebuilding costs for older machines to new air seeders and box drills on Deere's website. Prices in the furthest right column include 4.5" spoked gauge wheels and spiked closing wheels as factory options.

Drill:	Total Rebuild Cost:	\$\$ Saved/Purchase Budget:	Retail Cost:	Drill:
1590 10' 7.5"	\$19,564.00	\$43,185.00	\$62,749.00	1590 10' 7.5"
1590 15' 7.5"	\$29,346.00	\$53,696.00	\$83,042.00	1590 15' 7.5"
1590 20' 7.5"	\$39,128.68	\$81,487.00	\$120,615.00	1590 20' 7.5"
1890 30' 7.5"*	\$63,767.57	\$222,192.43	\$285,960.00	N530 30' 7.5"***
1890 36' 7.5"*	\$ 76,651.57	\$234,602.43	\$311,254.00	N536 36' 7.5"***
1890 40' 7.5"*	\$85,044.37	\$246,384.63	\$331,429.00	N540 40' 7.5"***
1890 42' 7.5"*	\$90,386.04	\$252,331.96	\$342,718.00	N542 42' 7.5"***

\*All Drills configured with TBH cart

\*\*Includes 270 Bu. TBH 1910 Commodity Cart

Some serious savings can be realized when rebuilding drills. If you can find a good rebuild or are up to the challenge yourself, it can be a very good investment for your operation. Not only is this a good tool for finding how many dollars you kept in your pocket, it's helpful in determining what to pay for a used drill that might need a lot of work, or what your current drill's value might be. This is also assuming a drill is totally shot and needs everything replaced—which isn't always the case. You could slowly rebuild the drill, incrementally improving it each year. This way, you can pay to improve an existing machine instead of paying interest on a loan for a new drill that will need more money put into it once you are done paying it off. Saving money with a rebuild helps justify extras like stainless meter housings, an Intelligent Ag Blockage System, or a UniForce system, all of which will take seeding performance to the next level. For more on this topic & others, see our newsletters [exapta.com/newsletters](http://exapta.com/newsletters).

"My drill works better than when it was new."

Bob Berndt, White, SD • Exapta customer since 2015 (Blades, Ninjas, Leaf springs on JD 1590)

## New: Stainless Seed Tubes

- Ease of hose installation/removal with new design
- Stainless steel for far less corrosion on air seeders with fertilizer capability

Plugging issues are more easily dealt with when using this design, as a simple hose clamp is untightened to free the secondary hose from the seed tube, rather than the OEM seed tubes, which often need to be heated in order to remove the hose. These issues with OEM seed tubes are often exacerbated with the use of fertilizer on the drill. These seed tubes work perfectly with the 1" secondary hose from Exapta and are available in 3 different orientations to accommodate openers that have clearance issues with the drill frame. These seed tubes are compatible with all 60/90, and N-series air seeders. Not compatible with Box drills or 1850 air seeders.



### Stainless Seed Tubes

straights \$45.20 rights & lefts \$50.30

Comes with stainless steel bolt to attach to seed boot and a SS hose clamp for easy attach/removal of secondary hose (no more fighting hose barbs to remove hose)! Available in Front Right (04-10778), Front Left (04-10777) and Rear Straight (04-10779)

## Weights & Brackets for JD 50/60/90 air drills



Extra ballast ready when you need it

Easy installation

Ideal location on frame (over rear transport wheels)

Virtually eliminates bolt breakage at this spot

When running both ranks of openers on the 30, 36, 40 & 42ft 1890s, 1860s, and 1850s, it's easy to run short of frame weight when running in firm no-till soils—and this is especially true if you're still running the OEM springs on each opener, rather than hydraulic cylinders (see our UniForce system). The openers don't work well if they're skating out from lack of downpressure, and cranking up

the downpressure without adequate frame weight can make the problem worse by excessively 'rolling under' of the openers (furrow actually gets shallower, because the opener is now riding more on the gauge wheel, since it's located rearward of the blade). Better to prepare now, and have extra ballast ready when you need it—sooner or later, you will.

We've long been advocates of placing additional ballast over the rear transport wheels on the JD 1850/60/90 air drills, as it's the best location to offset the leveraging from the rockshaft torque on the openers. Our brackets are for the wing transport wheels on 3-section drills, where those wheel frames are attached with bolts (see photo). Holds up to 12 JD suitcase weights per bracket. *For air cart drills. May not be compatible with all CCS drills. Call to speak with one of our specialists.*

**Weight Brackets for JD 50/60/90 air drills LS 1000, all hardware included \$1225.00/pair**

**Weights** Free shipping on 10 or more.

#02-10582 (JD R127764), #02-10583 (JD R51680), 02-10584 (JD R58823)

**Tower-to-tower flow variance and blockage detection • Reliable connectivity  
Adaptable to any system • Simple to install & easy to use  
Redesigned ECU to utilize the latest digital microphone technology**

Be proactive—catch drill problems while they’re happening! If you’ve ever been sickened to find out your drill wasn’t seeding or fertilizing for part of each swath across a field, or the entire season, you know firsthand why monitoring product flow is so important.

Real-time blockage detection and seed delivery diagnosis is the only way to ensure seeding accuracy. Recon Blockage Plus™, the next generation of reliable flow monitoring technology, is the industry’s only acoustic blockage monitoring system designed to improve precision in every pass. Upgraded with a wired connection to the ECU for improved connectivity, the Recon Blockage Plus acoustic sensor detects blockages and reduced seed flow instantly—preventing skips and increasing yield.

Unlike traditional optical sensors, you can depend on patented acoustic sensors for accurate readings even if the sensors are dirty. **No more skips!**



“It saved me this year when I had a fertilizer blockage issue. My old system wouldn’t have told me there was a problem because I was still putting on seed.”

Micah Tice, Beloit, KS  
Exapta customer since 2016  
(Intelligent Ag blockage system on 42' JD 1890)



“This system paid for itself within the first day. My seed had a blockage at the air cart that fed two secondary towers, while fertilizer was still passing thru. Half my drill was not seeding. With the OEM sensors, I wouldn’t have known there was a problem because it could not distinguish seed and fertilizer. With Intelligent Ag, I instantly knew something wasn’t right. I saved thousands of dollars, not to mention my time of re-seeding!”



Circle C Ranch, Lance Coker, Shawnee, OK • Exapta customer since 2018 (JD 1890 30ft on 7.5")



“Got a full day of planting in yesterday. To say I am happy with the blockage monitoring system is an understatement! Great product. Thanks to Exapta for offering it.”

Cody Fischer, Hooker, OK  
Exapta customer since 2014,  
(40' JD 1890)

**Intelligent Ag monitoring system (iPad not included)**  
Any number of rows up to 156 is possible & 20 primaries.  
Not compatible with box drills.

**Financing Available!** Call for terms.

### Mojo Wires for drill Keetons

Most grain drills (except JD 50/60/90/Pros, and some SDX drills) completely lack an *in-furrow* seed-firming mechanism to apply a small but consistent pressure directly onto the seed *at the seed’s location* in the bottom of the furrow. Instead, these drills use **trailing packer** or ‘**press**’ wheels that run on the soil surface to compress all the soil above the seed **to try to obtain sufficient seed/soil contact**. As with planters, this method is problematic in the more structured soils of no-till cropping, and often causes **mediocre to poor emergence** if it doesn’t rain right away. Hence, many farmers install Keetons on these drills, which help, but often don’t have enough pressure.

So we’ve adapted our highly successful Mojo Wire to fit Keetons for grain drills (the Mojo does require a specially milled Ktn tail from Exapta). By **applying 2x to 5x more pressure onto the Keeton** with the Mojo, the Keeton will wear out faster—but at least it’s doing some good at that point! It’s important to do consistent seed firming *at the seed’s location*—and sometimes this is the difference between achieving a decent stand, or not.

### Atom-Jet Firming Wheel

New from Atom-Jet: their **Firming Wheel** is another option for these drills, allowing for the benefits of a trailing packer tire as well as in-furrow packing directly on the seed. The firming wheel presses seeds down into the bottom of the furrow to give consistent seeding depth.

This firmer uses existing locations on the shank to mount with no modifications needed and fits directly behind the scraper and ahead of the packer tire. The UHMW material used in the firming wheel itself helps to shed any soil that sticks to it ensuring that the unit does not build up and stop turning. A 12lb spring pushes down with enough force to gently press the seeds into the bottom of the furrow.



“This stuff works awesome. I’ve got the PolyFlex, T-whls, Keetons + Mojos—it’s working great! Drilling beans right now, the seed is in there nice and covered up beautiful. We’re in wheat stubble, corn stalks & conventional. Heck, it’s doing great. [Update, Post Emergence] After doing stand counts, I am truly impressed. It’s honestly how this seeder should be equipped from the factory. I was able to reduce my seed population by 10%. Incredible seed savings.”

Tyler Miller, Bucyrus, OH,  
Exapta customer since 2020 (Case P500 30' with P500 conversion T-whls, Keeton/Mojo & PolyFlex)



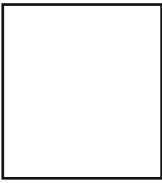
Atom-Jet seed boot/scraper



<b>Keetons for drills (and GP twin-row planters)</b> <i>Depending on drill brand/model (some contain extra hardware).</i>	<b>\$27.50 – 35.50</b>
<b>Mojo for drill Keeton</b> <i>Requires specially-milled Keeton.</i>	<b>\$13.00</b>
<b>Steel bracket for Keeton on Case P-500/NH 2080 drill</b>	<b>\$10.75 ea</b>
<b>Thompson wheel T32</b> <i>(with 5/8" bolt or metric spindle, SDX, P500 &amp; NH2080)</i>	<b>\$145.00</b>
<b>Bracket kit for T-wheels, Case P-500/NH 2080 drill</b>	<b>\$78.00</b>
<b>Atom-Jet firming wheel RH</b> (05-10578), LH (05-10577)	<b>\$240.00 ea</b>
<b>Atom-Jet seed boot/scraper</b> <i>(Case P-500/NH 2080, right or left)</i>	<b>\$135.00 ea</b>







**exapta**<sup>®</sup>  
solutions, inc.  
2475 E Kansas Ave • McPherson, KS 67460  
[www.exapta.com](http://www.exapta.com)



US Patent No. 8,978,564

- Prevent blade flex
- Avoid pinched furrows
- Get consistent seed depth
- 2x – 4x wear life of OEM

**Valion**<sup>™</sup>  
seed tube guard

See pp 4-5



See the independent closing wheel study on p 10!

- Aggressive furrow closing with self-limiting depth
- Creates ideal zone for crop emergence & rooting
- Doesn't overpack



See pp 8-10, 26-27.



# UniForce<sup>™</sup>

## Hydraulic Downpressure

I was very impressed with the install job by Exapta. Complete confidence that it was done properly and explained to me. Overall just really happy with UniForce and working with the good folks at Exapta Solutions! Would recommend to anyone looking to improve drill performance. [2023 update] No-tilling soybeans in cereal rye cover crop. Every seed in the sweet spot. Exapta is awesome.”



Scott Heinemann, Winside, NE  
Exapta customer since 2018  
(UniForce, T-whls, DuraLoks, Ninjas on 1590 JD box drill 15ft on 7.5" spacing)



See pp 14-16.



**FREE**  
SHIPPING

All orders over \$2,500 ship free in the contiguous US!

### New: Stainless Seed Tubes



- Ease of hose installation/removal with new design
- Stainless steel for far less corrosion (includes SS bolt to attach seed boot + SS hose clamp)



Straights \$45.20  
Rights & lefts \$50.30

Call today: 785-820-8000 (Mon-Fri 8AM-5PM CST)

Order online: [exapta.com](http://exapta.com)



Questions? Give us a shout. We serve up only straight answers.