



exapta<sup>®</sup>

solutions, inc.

# 2025 Catalog Idea & Book



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

“The soils we farm vary from light sandy loam to medium clay, and like many farmers, our moisture during the planting season can vary greatly. **Precisely controlling down pressure at the opener, using UniForce, allows us to consistently place seed without compacting the seed trench.** Whether crossing terraces, areas where the combine did not evenly distribute straw in our windy country or seeding over tram lines, **we get uniform emergence.**”



Sam Wilkins, Roosevelt, WA • Exapta customer since 2020  
(UniForce, Main pins & bushings, DuraLok, T-whls, FDN blades, Ninjas, Weight brackets on 43-ft JD 1895s)



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

(\*Contiguous US orders)

# Exapta—committed to your success

Exapta was launched 27 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 27 years to become a full-fledged, knowledge-based team of innovators.

Matt Hagny's legacy lives boldly at Exapta Solutions within our 10 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 2025 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)

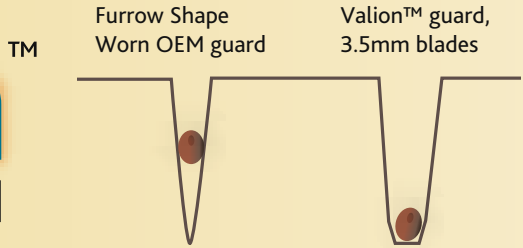
**Step 3, Firm:** A separate firming device such as a Keeton (or Flo-Rite) is crucial, even with closing wheels that do a lot of packing (see p 6 – 7). Keetons & Flo-Rites should be set to the maximum tension, if adjustable. Keetons often need to be replaced annually, since the material weakens from 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, 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, which ensures that furrows are properly shaped and seeds placed at the correct depth continuously down the row, and all the way through the planting season.



Now Available:  
Valion™ for Kinze 4000/5000.

"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."

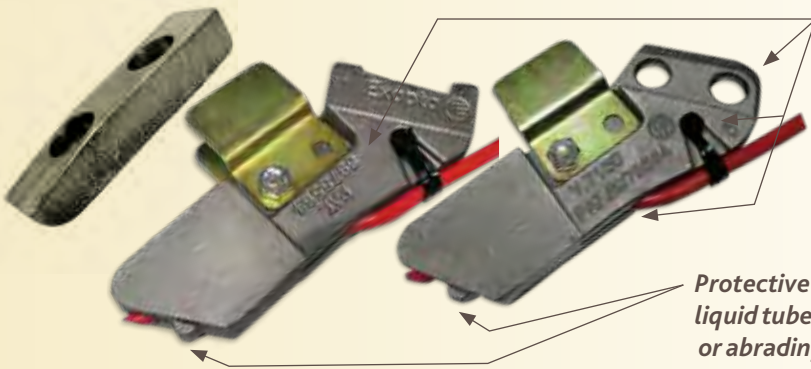


Stan Claybaker, Claybaker Custom Planting, Blackwell, OK  
Exapta customer since 2014  
(Valions on JD 1770 24 row)

"We've run over 6000 acres through these chrome valions over the last 10 years on our bean planter and still have some life left before we need to replace them. They have been well worth the money."

Patrick Linder, Hickman, KY  
Exapta customer since 2012 (Valions on Kinze 2600 12/23 planter)

<b>Chrome Valion for Kinze 3000-series</b> #V350 SKU: 04-10276 Improved design! User-friendly hex-head bolts included.	<b>\$36.00</b>
<b>Chrome Valion for Deere XP, ME5 #V450 SKU: 04-10277</b> (Not for ExactEmerg's brush-belt tube, or Speed Tubes) Twist-on style.	<b>\$52.22</b>
<b>Chrome Valion for pre-XP and Kinze 2000s #V150 SKU:04-10275</b> "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:	<b>\$53.59</b>
<b>Chrome Valion for Kinze 4000/5000s SKU:04-11016</b> For Kinze 4000/5000-series row units. (Not for Kinze Truespeed or Speed tubes)	<b>\$55.00</b>



Beefed up to handle extreme conditions

Better than Ever!

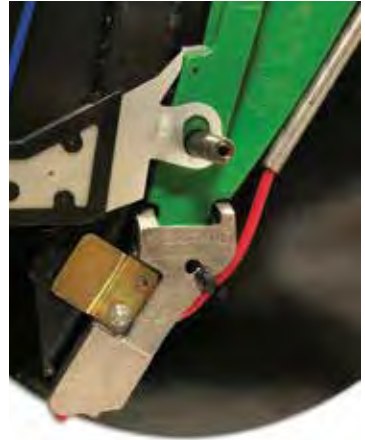
Protective bulge to prevent liquid tube from smearing shut or abrading away

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.”



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



“Shoutout to Exapta for their Valion seed tube guard. It’s on its 3rd set of opener discs. [I] used to change the John Deere ones every year and discs every other year.”

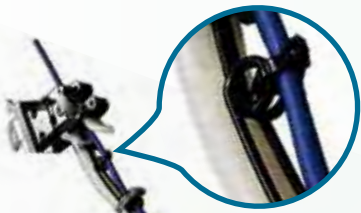


Kevin Swenson, Concordia, KS  
Exapta customer since 2021  
(Valions, Keetons & Mojos on JD 7200)

*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 #07-10683 For JD 7000 / Kinze 2000; #07-10682 for JD 7200 / Pre-XP; #07-10689 for JD 7000/Kinze 2000, 4000, 5000	<b>\$25.00</b>
Liquid tube holder SKU: 07-10681 for XP, MaxEmerge 5	<b>\$26.30</b>
Heat-resistant tubing 28" length Special high-temp semi-rigid plastic.	<b>\$8.23</b>





# mojo wire™

**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**

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 is 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.”**

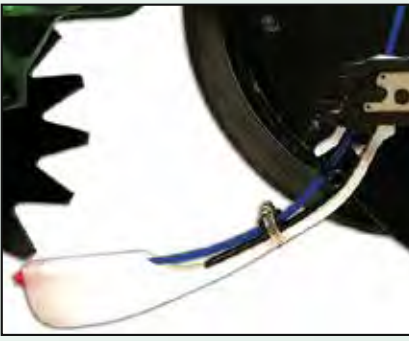
Justin Baresich, Newbury, ON • Exapta customer since 2020  
(24-row Kinze planter)



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



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



**Keeps the Keeton clean and working even in tough conditions.**

“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)

“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’ve been using the Mojo Wires on my Keetons for years. **I would not run Keetons without the added pressure to push the seed in the bottom of the furrow.**”



Russell Hedrick, Hickory, NC  
Exapta customer since 2016  
(Valions, Keetons, Mojo wires installed on JD 7240 planter)

“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:

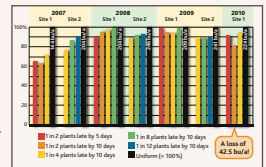
“Uniform emergence is even more critical as individual plant competition for resources becomes greater, such as **in droughty conditions.**”

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.

785-820-8000 [www.exapta.com](http://www.exapta.com) 7

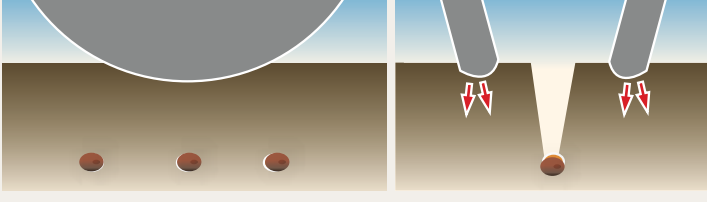
# Why Spoked Closing Wheels?

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.

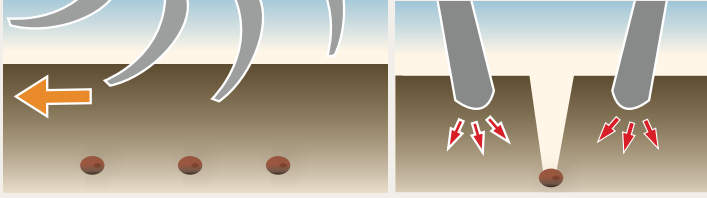
Poor	Fair	Good
1 2 3 4	5 6 7	8 9 10

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



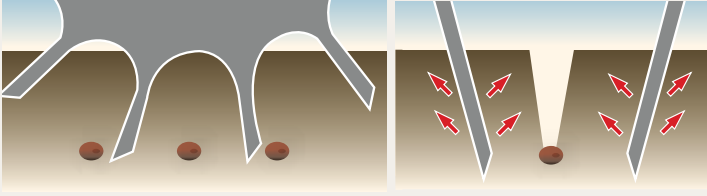
Sidewall Shatter	1
Avoids Packing	1
Mud/Stalk Cleaning	8
Depth-limited	10

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



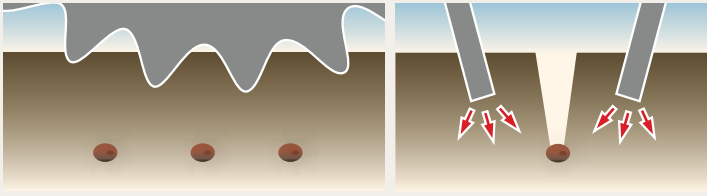
Sidewall Shatter	7
Avoids Packing	3
Mud/Stalk Cleaning	3
Depth-limited	5

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



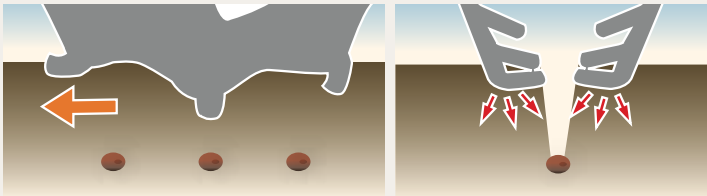
Sidewall Shatter	10
Avoids Packing	10*
Mud/Stalk Cleaning	8
Depth-limited	1

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



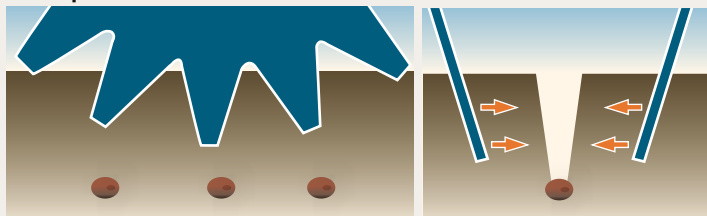
Sidewall Shatter	9
Avoids Packing	6
Mud/Stalk Cleaning	6
Depth-limited	9

## 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).





**THOMPSON  
WHEEL™**

Better  
than  
ever!

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**



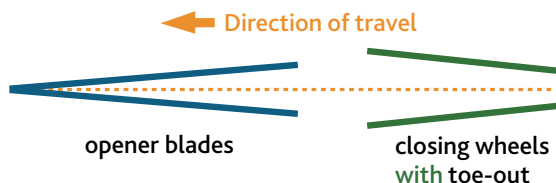
## How is the Thompson Wheel Better?

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-sharpens” as it wears for consistent closing performance. The Thompson wheel also 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 competitor’s 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.

“The Thompson wheels consistently closed the best in our highly varied soils. With liquid fertilizer on our planter we have happily not had any bearing issues over the years.”

Eric Brooks, New Marshfield, OH  
Exapta customer since 2016 (Valions  
& T-wheels on Kinze 3600)



### 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.

## Forges de Niaux for Planters

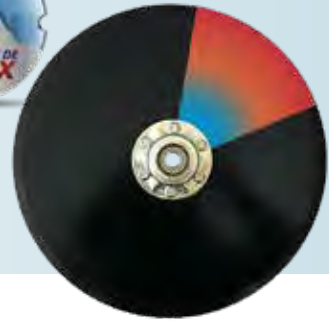
Sharper, stronger, proven technology

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. Narrower tolerances at 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).



### 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.*

### Bolt Kit longer bolts for 205 blade on Kinze 3000 & 4000

**\$8.00**

### 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, 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.*

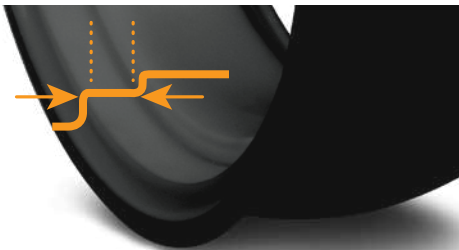
- Long lip life
- Flexible to shed mud and follow the ground contour
- Durable, cast spokes offer the widest opening possible to shed mud and debris
- Complete, mounted, bolt-on assembly for easy, fast installation

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.

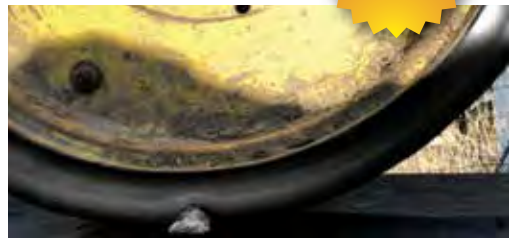
At higher downforce, rubber tires can collapse and bottom out, while solid tires have little to no flex and cannot conform to contours in the ground. PolyFlex™ remains flexible in order to maintain performance in varying ground conditions. Engineered for balanced deflection to prevent excessive mud buildup 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.

**3" Now  
In Stock!**



**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, 3", 4.5" cast hub & tire**

**\$179.53**

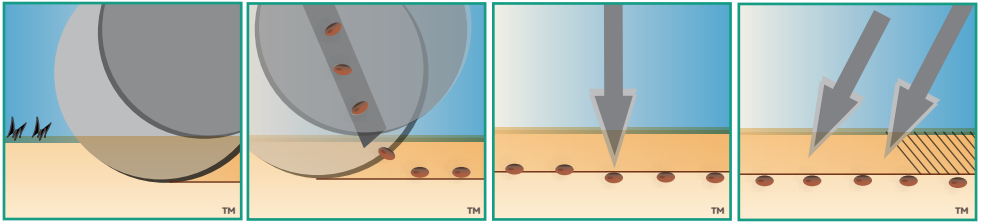
*Fits most planters and single-disc gauge wheel drills using 5/8" or 16mm mounting bolt (JD 50, 60, 90 & N series, Case P500 & NH 2080 drills).*

**PolyFlex™ replacement gauge wheel tire, 3", 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)



## Recon Blockage Plus

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

“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.”

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™, 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 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!**



Micah Tice,  
Beloit, KS  
Exapta customer  
since 2016 (on 42’  
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. Call for Quote.*

## Tech Tips for Gauge-wheel Drills:

Some drill opener designs cannot adequately perform Steps 1–4 (see page 12) 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, the 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 the boot: These help keep seeds in the furrow bottom.

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).

**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.



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

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

[exapta.com/newsletters](https://exapta.com/newsletters)  
[exapta.com/working-knowledge/  
tech-tips-for-drills](https://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 downforce 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 downstroke—i.e., the spring is applying the correct amount of downforce for only about 1/4" of its range. Had the spring been oriented differently, the problem wouldn't be nearly so bad.



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 downforce—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 in 2021, not a cherry picked ¼ acre test plot.*

**“Everything [Exapta] offers is an upgrade. UniForce made a huge difference with our emergence on milo and as we do more with cover crops. Exapta fixed any issues we had and we will continue to look to them for drill improvements.”**



Briggeman Farms, Iuka, KS • Exapta customer since 2022 (UniForce, T-whls, Ninja flaps on 42' 1890)

**“We are in an extreme drought right now, with no significant rain since May. Thanks to a little shower here & there, I will have a perfect stand of wheat. This year with the UniForce the depth control was amazing. To get an even 1" of depth across the board was easy. I have never planted with any drill (Great Plains, Crustbuster, etc.) that can achieve depth control that the JD can with UniForce, even over terraces.”**

Cole Holubec, Melvin, TX • Exapta customer Since 2020 (T-Whls, UniForce, Ninja flaps on 50' JD 1890)



**“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.”**

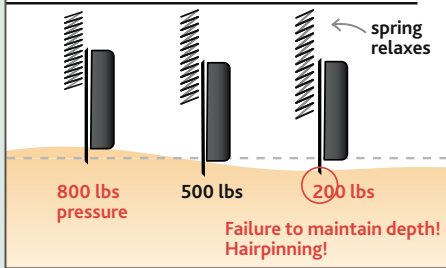
David Hoar, Campbellsburg, IN  
Exapta customer since 2016 (43-ft JD Single rank 1690 CCS, 32 openers on 15" spacing)

### UniForce Hydraulic Down-pressure system

Call for pricing. All of our Exapta team members have hands-on experience with UF. They can answer your questions and provide a quote.

**Financing Available!**  
Call for terms.

## The Trouble with OEM Springs



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 and 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 and 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.)

**2024 on-farm side-by-side trial: 1.8 bu increase in soybeans.** Harvested with a full header in the UniForce planted beans versus full header in beans planted by OEM springs. 15ft JD 750 box drill, beans planted on 15" spacing back rank with UniForce, front rank with springs. Trial conducted on a real farm, under real farm conditions, by an actual farm operator.

"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)

"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.



### 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!\*

\*Offer Terms: Limited geography.



“

Your two-guy crew was really good to work with. Great about communications. I was really impressed.”

Adam Rozell, Elk Point, SD  
Exapta customer since 2014  
(UniForce on 1990 CCS 40' w/ 15" spacing 32 rows Single rank)

## Free Inspections; Rebuild Services NEW



No-tillers achieving consistently high yields are meticulous in maintaining and adjusting their seeding equipment. We can identify wear points, conduct checks, and provide a free estimate for necessary parts and labor.

Our equipment experts cover KS, OK, NE, SD, ND, MN, IA, WI, IN, OH, and IL. Don't see your state? Call to inquire—we're willing to travel for larger rebuilds or clusters of systems in close proximity. Don't wait—Availability is determined by the order of inquiry.

“

You guys didn't really push parts at me which I appreciate. You came out and didn't charge me a dime, told me what was wrong, didn't push your parts. I ended up buying my parts from you guys because I like your parts. You climbed all over it, measured each disc, opener, closing wheel. I thought it was very thorough.”

Chris Worl, Geneseo, KS • Customer since 2010  
(Inspection on JD 1890 30' 10", FDN openers, DuraLoks, Main pins, Closing & firming pivots)





## Stainless Seed Tubes

- Ease of hose installation/removal with new design
- Stainless steel for far less corrosion on air seeders with fertilizer capability
- One-piece, formed tubes with Sabre™ clamp

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 \$42.95 rights & lefts \$47.96

*One-piece, formed tubes. Comes with stainless steel bolt to attach to seed boot and a Sabre™ tooth hose clamp for easy attach/removal of secondary hose (no more fighting hose barbs to remove hose)! Available in Front Right (RM-JAS4739K), Front Left (RM-JAS4738K) and Rear Straight (RM-JAS4740K)*

## Riser Pipes, Conversion Heads, Meter Housings

Our riser pipes are dimpled to properly disperse product going up to the distribution head. Stainless steel for tremendous durability. Reap the rewards of a uniform amount of product going to each opener. For best results, upgrade from older style Deere J-bolt riser pipes and steel lid outlet heads.



**Cone Cap  
Included!**

### Riser pipe/Secondary Tower 2.5-inch stainless RM-JAS0915

**\$160.00**

*Dimpled to help disrupt any bunching of seed after coming through the elbow.*

### Conversion heads *Cone cap included!* Available from 4-12 outlets.

**\$213.86 – 250.94**

*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).*

### Meter Housing

*for John Deere 1910, C650 and C850 w/ OEM Section Control (RM-JAS0006A)*

**\$4,676.00**

*Regular, for John Deere 1900, 1910, C650 and C850 (RM-JAS0001A)*

**\$4,176.20**

### Manifold Assembly Single Shoot with insert (RM-JAS4732A)

**\$1,763.32**

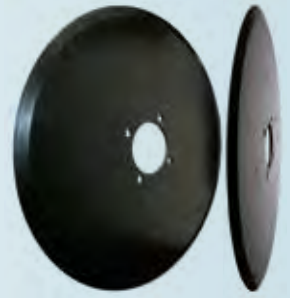
## Opener blades: JD 50/60/90/Pro-series and now P-500/NH 2080:

**Deeper bevel (3/4" vs others (5/8"))**

**Sharper, Stronger, Proven Technology**

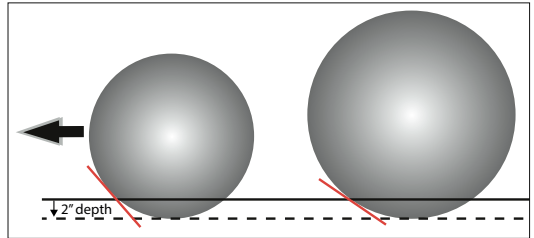
**20 – 30% more wear life**

**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)

**Forges de Niaux 200 blade for JD 50/60/90/Pro drills**

**\$51.18**

*Deeper bevel (3/4") vs others (5/8") Sharper, Stronger, Proven Technology*

**Forges de Niaux 200 blade for CIH P-500/NH2080**

**\$57.21**

*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, allowing for a consistent furrow and more even seed placement. *For Pro-series openers we recommend replacing the Flag Pin often, before the seed boot holes can start to wear. Pro-Stitch will not remove play if the seed boot holes already have wear.*

**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

Longest-Lasting On the Market!

2-3x 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!



Our primary hoses are the best on the market, lasting 2-3x longer than any other hose during internal sandblast testing. Constructed with a urethane lining in place of the "blended" materials used by OEM and competitor hoses. UV protection to withstand sunlight decay. Transparent with black 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 with black bands 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."

"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!"



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

**Primary Hose** (100ft roll) #04-10685 2.5"

**\$795.00** (7.95/ft)

2x - 3x wear life of OEM and competitors. Urethane lining for longest-lasting hose on the market.

**Secondary** (100ft roll) #04-10684 1" **\$245.00** (2.45/ft), #04-10688 1.25" **\$260.69** (2.6069/ft)

Up to 2x wear life of OEM. Transparent with black spirals—see when product is flowing or plugged.

# NINJA™

Seed Bounce Flap



## 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. 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 2008  
(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**

*Fits Standard and Extended Wear boots; with “U” clip*

**\$7.40**

**Ninja™ flexible seed-bounce flap for JD Pro-Series boots**

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

**\$15.00/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, Ninjas, T-wheels,  
bushing kits on JD 1895 43ft  
with a 1910 TBH cart)

"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.*

"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)



**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.

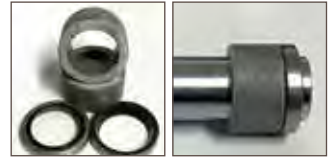
**DuraLok Pro seed-lock wheel** #05-10267

**\$55.00**

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

# Bushing Kits

Keeping the firming and 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 greaseless bushing kits, these pivots will run smoothly and **you'll never have to grease them again!** The 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—and these 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).



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



*\*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.*



Firming arm kit (sleeve, bushings, seals) JD 50*/60/90 #50-10496	\$45.00
Closing arm kit (sleeve, bushings, seals) JD 50*/60/90 #50-10493	\$48.00
Special washer and nut, closing rebuild (both grade 8) #06-10781	\$4.68
Install tool for firming & closing kits #50-10508	\$45.00
Removal tool for firming & closing kits #50-10507	\$45.00



The main pin and 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. These front pin kits have been in the field for many years. Front pin bushings are steel with a Teflon inner layer, and the pin has a hard chrome finish.



Removal tools: manual & air hammer versions.

"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)

Main opener pin kit (pin, bushings) JD 50/60/90 drills #50-10492	\$44.00
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 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 axle, will never become loose again.**

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*



*Kit contains axle, spindle and seal.*



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

"Had multiple row units that would not adjust at all and the others were very hard to move. For two years prior I would remove whole arm, press out stuck axles, clean up & reassemble to get to free up. All said and done the time it took to replace all the axles was about the same as if I would have just cleaned half of them. I can now make a depth change across whole drill in about 15 minutes instead of an hour."



Kurt Abrahamson, Bowman, ND • Exapta customer since 2023  
 (Gauge wheel axle kit, FDN blades on JD 1890 30' on 7.5")

## 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

**Heavy-duty 'T' Handles** (for 60/90 series only) #03-10495

**Gauge Wheel Axle**, (60/90-series) #03-10497 (L), #03-10498 (R)

**Depth control arms** Right or left, #03-10503 (L), #03-10502 (R)

High Tensile casting stud is up-sized for added strength where the stud leaves the casting.

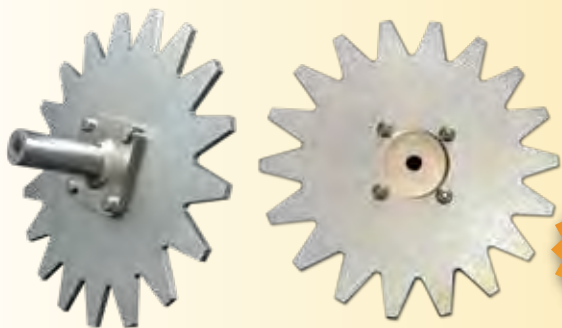


\$35.00

\$35.00

\$195.00

\$72.50



**BETTER  
THAN  
EVER!**



The **new T44 wheel** updates include a zinc plate finish and a bolt on star wheel. The wheel uses four 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.

"I was extremely pleased with how the Thompson wheels worked in wet conditions. We were planting some camelina late in the season and the rains hit us. It was questionable whether we should have been in the field, but the T-wheels still did a great job of closing the furrow. I have a good stand. They worked through the residue well. I think they were a good investment."

Scott Ellwood, Little River, KS • Exapta Customer Since 2024 (Thompson Wheels, Closing Arm Pivots, FDN Openers, Cover Plates/T-Handles on a JD 1890)

"We have two - 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-wheels, 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  
(1,500 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)



"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)

"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)



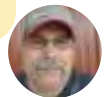
The new T32 wheel updates solves the problem of the bearing issues with 50-series drills. Also, the Thompson wheel has proven durability: High-carbon steel, a truly robust bearing with a triple-lip seal, and our exclusive steel shroud for superior bearing protection—plus, our 5-year warranty on the bearing.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



<b>Thompson wheel T44</b>	<b>\$98.00</b>
#06-10283 Tougher than ever, zinc plate finish (with stub shaft, for JD 60, 90 & Pro-series drills)	
<b>Thompson wheel T32</b>	<b>\$145.00</b>
#06-10286 (with 5/8" bolt or metric spindle, for JD 50-series, Case SDX, P500 & NH2080)	
<b>Bracket kit for T-wheels, Case P-500/NH 2080 drill</b>	<b>\$78.00</b>



Seed in humid/wetter conditions  
 Keep blockage sensors clean  
 Lowers oil temperature  
 Reduce buildup on fan screens  
 Keep dust / snow out



## Hydraulic Oil Coolers & Snorkel Kits

Hydraulic oil coolers function by circulating oil through a radiator connected to a fan, which forces air over the radiator. This process cools the hydraulic oil while simultaneously warming the air entering the lines, helping to prevent clogging from sticky fertilizers and seed treatments.

When run with a snorkel, it helps remove humidity by pulling drier air from higher up, which is also cleaner air, so you reduce the amount of dust and debris that could cover the radiator. Snorkel kits are available with or without the oil coolers, for air carts and air boom applicators.



<b>Blockage Prevention System (Oil Cooler)</b> <i>John Deere 1900, 1910 Air carts (04-11132)</i>	<b>\$4,706.90</b>
<b>Blockage Prevention System (Oil Cooler)</b> <i>New Holland P4460-P4950 Air carts - (04-11133)</i>	<b>\$4,887.30</b>
<b>Blockage Prevention System (Oil Cooler)</b> <i>New Holland P4460-P4950 Air carts - (04-11134)</i>	<b>\$4,706.90</b>
<b>Blockage Prevention System Snorkel Kit (without Oil Cooler)</b> <i>John Deere 1900, 1910 Air carts (04-11135)</i>	<b>\$2,260.50</b>
<b>Blockage Prevention System Snorkel Kit without Oil Cooler)</b> <i>Case IH 2230 - 3580 Air carts - (04-11136)</i>	<b>\$1,288.65</b>

## Airguard Seed Brakes

Run higher fan speeds to prevent line plugs while venting air to prevent seed from blowing out of the furrow. The spiral tube design further maintains seed uniformity to stop clumps of seeds in the furrow. Adjustable air exhaust port.



<b>Seed Brake 1.25" OD hose for small seed only (04-11077)</b>	<b>\$49.62</b>
<b>Adaptor Kit 38MM to 1.25" OD hose (04-11080)</b>	<b>\$6.65</b>
<b>Adaptor Kit 38MM to 1.125" OD hose (04-11085)</b>	<b>\$6.65</b>
<b>Seed Brake 1.5" &amp; 38MM OD hose; large/small seed (04-11079), call to order</b>	<b>\$58.08</b>
<b>Seed Brake 1.5" &amp; 38MM OD hose; Stainless</b> <i>for large &amp; small seed &amp; fertilizer (04-11084), call to order</i>	<b>\$140.80</b>

## Case P-500 Upgrades

### 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 Keeton tail from Exapta). By **applying 2 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.



mojo  
WIRE™

"This stuff works awesome. I've got the PolyFlex, T-whls, Keetons and 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-wheels,  
Keeton/Mojo & PolyFlex

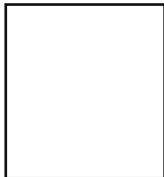


Atom-Jet seed  
boot/scraper

<b>Keetons for drills (and GP twin-row planters)</b>	<b>\$45.80</b>
<i>Depending on drill brand/model (some contain extra hardware).</i>	
<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>\$10.00 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>\$256.00 ea</b>
<b>Atom-Jet seed boot/scraper</b> <i>(Case P-500/NH 2080, right or left)</i>	<b>\$139.00 ea</b>

Prices subject to change.

785-820-8000 [www.exapta.com](http://www.exapta.com) 27



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solutions, inc.  
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[www.exapta.com](http://www.exapta.com)



**NEW**  
US Patent No 8,978,564


- New: Kinze 4000!
- Prevent blade flex
- Avoid pinched furrows
- Get consistent seed depth
- 2 – 4x wear life of OEM

**Valion**<sup>™</sup>  
seed tube guard  
See pp 4-5

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

See pp 8-10, 26-27.

**THOMPSON WHEEL**<sup>™</sup>




**FREE Equipment Inspections**  
see p 16

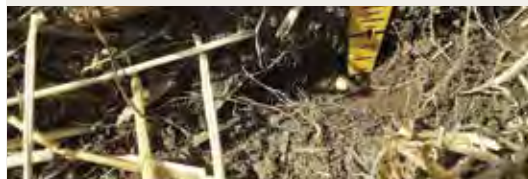


US Patent N6 11,291,155 B2; US Patent No 9,930,822

## 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-wheels, DuraLoks, Ninjas on 1590 JD box drill 15ft on 7.5" spacing)



See pp 14-16.



**FREE SHIPPING**

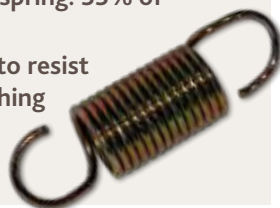
All orders over \$2,500 ship free in the contiguous US!

## Medium Closing Spring

**NEW**

Lighter spring pressures are required for spoked closing wheels. To regain the the fine adjustment range you need, consider our medium spring: 55% of OEM. \$9.50

- Thicker, larger coils to resist breaking and stretching
- Improved for easier install & removal



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.