



**No-till
Farming for
a Brighter
Future**

"The residue was so bad (thick) this year, that if we hadn't installed Exapta's upgrades, we wouldn't have been able to use the air seeder."



Bruce Favinger, Minden, NE
(UniForce, Niaux blades, Leaf Springs, Ninjas, DuraLoks, T-whls, & Aricks bushing kits on 40ft 1990 CCS)

Exapta—committed to your success

Exapta Solutions was created by farmers and agronomists to fulfill a need for better seeding technology and methods. Our products and educational efforts are brought to you by the people who live in your industry every day.

Exapta relies on the necessity-driven innovation of many farmers & researchers to find solutions for high-performance planting and production. To this day, Exapta's forte is understanding how plants grow, and how the no-till seed-installation process can be more effectively accomplished. 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.

Matt Hagny's primary occupation for the past 25 years was crop consulting for no-till. Long before he founded Exapta Solutions, he was convinced of the value of low-disturbance no-till, and the need for accomplishing seed firming and furrow closing as discrete steps.



Matt passed away August 24, 2019. He was the life and blood of Exapta and will be tremendously missed. His knowledge and expertise immensely impacted many producers worldwide. Matt was also an incredible teacher, sharing his vast knowledge and resources with the Exapta team. Exapta is devoted to continuing to pass on our no-till expertise.

At Exapta Solutions, we strive to be your Number One source for top-shelf no-till seeding products and information. Thus, we'd like to share our 2020 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.



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"I appreciate everything you and the Exapta guys do for us as we try to keep moving forward in no-till while fighting machinery that is still largely being designed for conventional or minimum-till."

Dietrich Kastens, Herndon, KS.

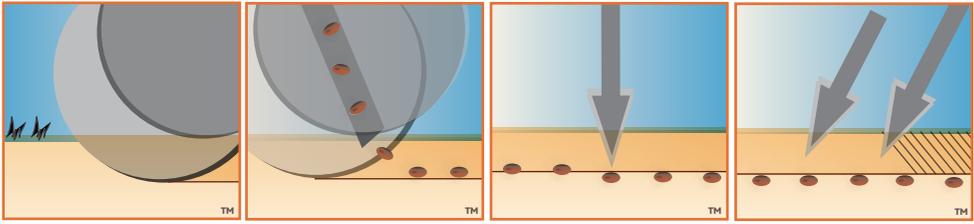
"Thank you for the information and the service you provide!! It makes a difference!"

Clyde Strotheide, Carlyle, IL

Fundamentals of seed placement



Profits inside—install with care



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.

“Loose material over the seed keeps the seed zone from drying, allows oxygen exchange, and encourages warming in the area where the growing point will occur.”



Dwayne Beck, PhD, manager, Dakota Lakes Research Farm

Read more by visiting www.exapta.com/working-knowledge/no-till-seed-placement

Perfect seed placement in no-till. Loose material over the seed is easily brushed away to reveal the seed embedded in the bottom of the furrow. The sidewalls created by the opener blades have been disrupted by the closing wheels, but the bottom of the furrow is undisturbed. Planter with 3.5mm opener blades, hardened seed-tube guards, Keetons, Mojo Wires, and Thompson closing wheels.



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. (More on this in our DVD, p 31.)



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 disks 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 6.

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

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 8 – 9). 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.



Introducing Forges de Niaux for Planters!

Sharper, Stronger, Proven Technology
Double-row larger bearing, bigger rivets
30 – 40% more wear-life
Finish-machined for precise bearing fit
Unique steel & special heat-treated process



You asked. We deliver! Forges de Niaux 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 Forges de Niaux takes it to the next level with a unique steel and special heat-treat process. Same dimensions as OEM. Uses Peer double-row larger 205 bearings, whereas OEM and other aftermarket are double-row 204 bearings (smaller diameter). They also use 5/16" rivets instead of 1/4". Great blade for Pre-XP and Kinze even without the larger bearing.

And, finally, the stamped hub is finish-machined, unlike any other brand. The finish machining creates a very precise fit. 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), ensures everything is exactly centered so the bearing doesn't fail prematurely from misalignment.

Forges de Niaux 205 blade for JD planters: XP & ME5

\$36.46

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

New

Forges de Niaux 204 blade for JD Pre-XP & Kinze

\$32.87

Peer double-row 204 bearing and 1/4" rivet.

MudSmith Gauge Wheels

40% thicker, for 20 – 80% longer life

Super-rugged rim and hub • Semi-pneumatic, and pliable



MudSmith gauge tires are 40% thicker, for 20 – 80% longer life. Gauge tires are semi-pneumatic, and pliable compared to some of the rock-hard ones on the market (more sidewall compaction). Super-rugged rim and hub. Available in 4.5" and 3" widths. 2.5" are available, but are not semi-pneumatic, and only for use with twin-row planters.

MudSmith has become the go-to brand of open-rim gauge wheels in North America because of their highly robust, quality construction. Their open-rim design has proven to be excellent for shedding mud. The rubber in MudSmith tires is thicker and lasts longer than other brands, yet they still have a softness or pliability to cushion the soil (unlike some brands that are rubber but have little or no air cavity, and are hard as a rock). MudSmith gauge wheels are available with 3 different bearings to match your planter: bolt-thru, roll-pin, and set-screw types. Gauge-wheel drills, such as JD's 50/60/90/Pro, Case's PD-500, New Holland's P-2080/2085, and Case' SDX, use bolt-thru type bearings.

"Without the MudSmith gauge wheels I don't know if I would have got all my beans planted this year [extreme wet conditions, spring 2019]."

Kevin Suderman, K&N Farms,
 Hillsboro, KS • Exapta customer since
 2015 (MudSmiths on Case P-500 drill)



"I'll never go without spoked gauge wheels again. I've gone through so much 'crap' this fall, I should have had to clean the drill a million times. But because of the MudSmith gauge wheels, I've been able to keep going—saving hours of downtime."

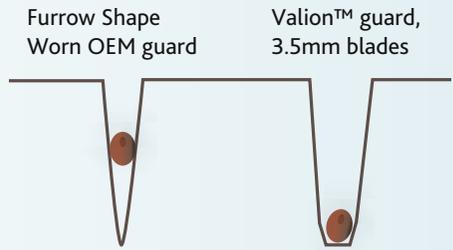
Trent Lanie, Manchester, OK
 Exapta customer since 2011
 (MudSmiths on JD 1890 60' drill)

MudSmith gauge wheels *see pg 27 for details*

\$140.00

New

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.



Valion™ on Kinze 3000

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 thru the planting season.

“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
(chrome Valions on 16-row JD 7200)

“The Valions worked out great. **Hardly any wear** on my 12/24 row planter with about 2100 acres on them—I would highly recommend them. **The seed trench was shaped nicer, and no fertilizer tubes plugged.**”



Dan Gentrup, Waterbury, NE
Exapta customer since 2014
(chrome Valions on JD 1790)

chrome Valion for Kinze 3000-series <i>See p 25 for details.</i>	\$27.50
chrome Valion for Deere XP, ME5	\$33.50
chrome Valion for pre-XP and Kinze 2000s	\$38.50
Rivet tool <i>For installing pre-XP and Kinze 2000s only</i>	\$89.00

US Patent No 8,978,564



Beefed up to handle extreme conditions

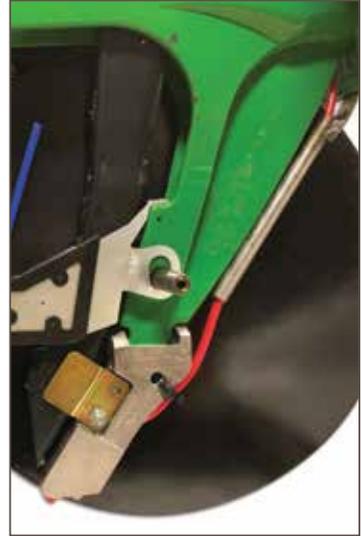
Better than Ever!

New protective bulge to prevent liquid tube from smearing shut or abrading away

Liquid Capability

Valions are also a slick way to apply liquids into the seed furrow (n/a on Kinze 3000 Valions). To make this setup as trouble-free as possible, and more affordable and durable than competitor systems, we offer our stainless-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
- Stainless steel for low corrosion
- Thick-wall pipe
- Premium, bulletproof



“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)

“I hate changing those seed tube guards on a 7000 planter—rivets, etc. I only farm 600 acres but can destroy a Deere factory guard in 1 year on a 12-row—[it gets] as narrow as the seed tube. I put Valions on before last year—can’t even tell they were in the ground. I expect they will last the life of the opening disc. Those things are awesome!”

Paul Butler, Macon, IL • Exapta customer since 2013 (chrome Valions on JD 7000)

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.

Stainless tube holder XP, MaxEmerge 5 & JD 7200, see pg 25 for details

\$35.00

Stainless tube holder For JD 7000 / Kinze 2000

\$38.00

Heat-resistant tubing with beveled end

\$5.69



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

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.

“Between Exapta’s Mojo wires and the Valion Seed Tube Guards, I am getting the best seed placement and emergence since switching to a planter for grain sorghum and soybeans. In NW Oklahoma, our soils require fast emergence to combat crusting and your products deliver that.”

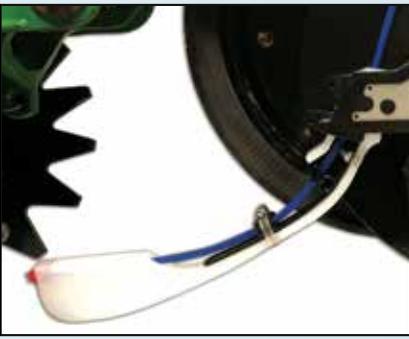
Trent Milacek, Enid, OK
Exapta customer since 2019 (JD, 12 row planter)



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.



More robust design since 2018:
With torsion loops to maintain pressure for a longer lifespan

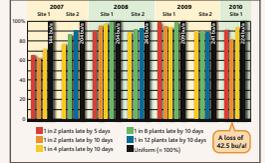
Uniform timing of emergence trumps uniform spacing for yield effect:

“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.) 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.



“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)

“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

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). See p 26 for details on various models

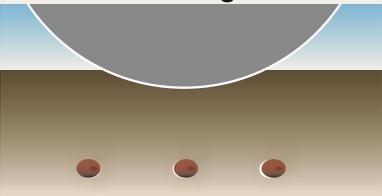
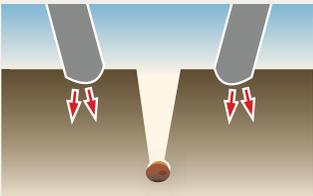
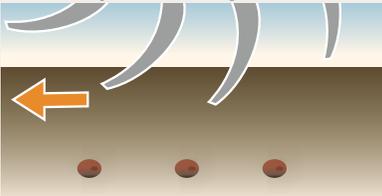
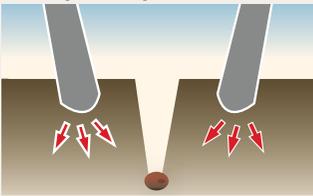
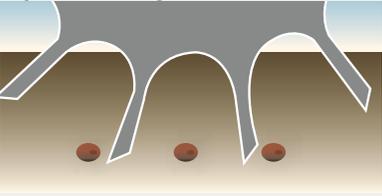
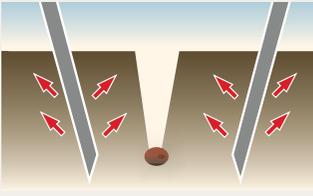
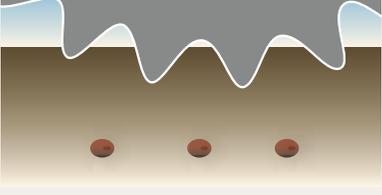
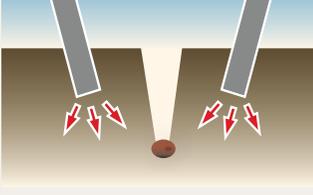
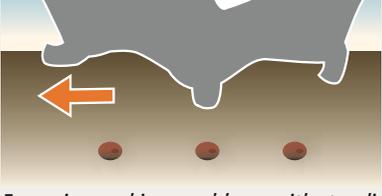
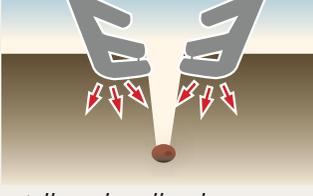
Keeton seed firmers (most planters)

\$34.00–38.50

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

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:[†]

	Poor 1 2 3 4	Fair 5 6 7	Good 8 9 10
Smooth OEM closing wheel			
		Sidewall Shatter	1
		Avoids Packing	1
		Mud/Stalk Cleaning	8
		Depth-limited	10
<i>Excess packing, poor closing</i>			
Curved-spoke closing wheel, with wide spoke tips			
		Sidewall Shatter	7
		Avoids Packing	3
		Mud/Stalk Cleaning	3
		Depth-limited	5
<i>Usually good closing, but excessive packing (intermittent)</i>			
"Spike" closing wheel			
		Sidewall Shatter	10
		Avoids Packing	10*
		Mud/Stalk Cleaning	8
		Depth-limited	1
<i>No packing, but spikes may pull seeds out</i>			
Notched spoked wheel with thick spokes			
		Sidewall Shatter	9
		Avoids Packing	6
		Mud/Stalk Cleaning	6
		Depth-limited	9
<i>Can overpack</i>			
Cage-type closing wheel: horizontal feet			
		Sidewall Shatter	2
		Avoids Packing	4
		Mud/Stalk Cleaning	4
		Depth-limited	10
<i>Excessive packing; problems with standing stalks and small rocks</i>			

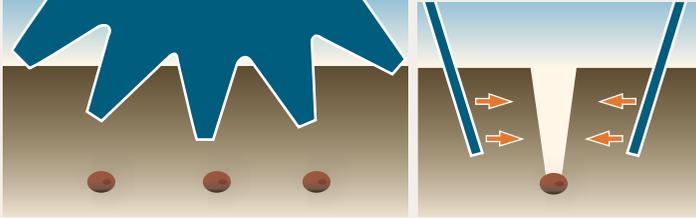
[†] From numerous observations by 3rd-party scientists and farmers.

*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).



Aggressive furrow closing with self-limiting depth
Creates ideal zone for crop emergence & rooting
Heavy-duty bearing with 5-yr guarantee • Doesn't overpack
Military-grade armor plating for even longer wear life

Thompson wheel



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

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.

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**.

“The Thompson wheels really worked well—just like you said. With the complete rebuild of the planter...including Keetons and Mojo Wires, all the plants came up at the same time.... With the Thompson wheels, and everything you said, it's made a world of difference in how the planter performed—even the previous owner was really impressed with what I'd done with it. I'd think anyone using this setup would be overwhelmingly satisfied.”

Leon Schneider, Caldwell, KS • Exapta customer since 2010 (Thompson wheels, toe-out wedges, and Mojo Wires on 16-row Kinze planter)

2010 comment: “We are sold on Thompson wheels. We've used them for 4 years on over 7,000 acres, no breakdowns. Planting beans in Missouri-River-bottom gumbo, we could never get much over 15 bu/a, no-till or full-till. However, when we installed the Thompson wheels, we have raised 40-bu beans every year with no-till. **Wet or dry, they do a good job of covering the seed.**” [Feb 2014 update:] “**The bearings last forever**; we've never had one fail. Last spring was very wet. The Thompson wheels worked, and **never balled up in wet soil conditions.**” [Jan 2019 update: Finally had one T-whl brg fail.]



Kersten Farms (Myron, Mark & Karl), Malta Bend, MO • Exapta customers since '07 (T-whls, toe-out on all rows of 12/23 Kinze split-row planter)

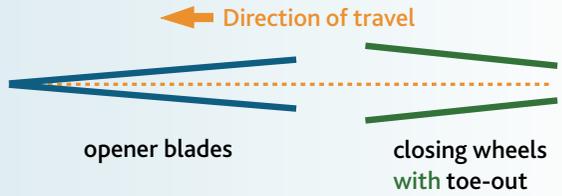
T2z & T3z wheel (fits 5/8" or metric #16 bolt)

\$136.00 each

*New 'z'-series is made from military-grade armor plating, for even longer wear life.
 Fits most JD, Kinze, AGCO White, Great Plains and Monosem planters*

**Better
 than
 Ever!**

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 wedges simply slip onto the bolt attaching the closing wheel on most planter models.

"We run a JD 1760 for corn and a JD 1780 for beans. No-till 80% of our acres. The 4 biggest things we found [for no-till success] is you need adequate down-pressure, sharp blades, run Valions—OEM seed-tube protectors wear out really fast in no-till, causing inconsistent seed depth—and a good closing system. We run Keetons with Mojo Wires and Exapta Thompson closing wheels with wedges set at 3 degrees. Another big help is running pop-up through Valions and banding some 28% over the back next to the row [behind/ beside closing wheels]."

Shawn Waterman, Coleman, MI • Exapta customer since 2014

"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
(Thompson wheels on JD
1700-series planter)

"We planted hundreds of acres of corn into killed CRP sod in the spring of 2010. The Thompson wheels and toe-out wedges did an excellent job of getting the furrow closed in those really tough conditions."



Jack Schmitt, Scott City, KS
Exapta customer since 2010
(T-whls on 16-row JD planter)

"I tried 2 rows of Thompson wheels and wedges, and the rest of the planter was [competitor] spike closing wheels. When I did stand counts, the two rows with Thompson wheels had 1,000 – 2,000 higher final populations than the other rows. It was easy to see which rows had the Thompson wheels." [Four years later, Thompsons & Mojos on all rows] "I think I have the best stands around of corn-on-corn in no-till."



Steve Litwiller, Parnell, IA
Exapta customer since '08
(Thompsons, toe-out, Mojos on
Kinze 3200)



Toe-out wedge **\$6.50 each**
JD 1700 (all), White 6000 thru 9000; Kinze 3000 & 4000 closing brkts



Tappet wrench **\$9.00**
Wrench to hold wedges in position while tightening nut & bolt for T2z/T3z installs on planters.



Closing bracket spring **\$7.25 each**
Now with higher quality wire to prevent stretching and breaking.
(Replaces OEM heavy spring) See p 27 for details.

Better
than
Ever!

Tech tips for gauge-wheel drills:

Some drill opener designs cannot adequately perform Steps 1–4 (see page 3) 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). Aricks shoulder bolts for JD 60/90 boot repair eliminate slop in the boot attachment. Upgrade to Ninja seed bounce flaps on back of 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). Read more at: 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.



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

Aricks 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 an **9-year 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.*



Aricks firming arm kit (sleeve, bushings, seals) JD 50*/60/90	\$42.00
Aricks closing arm kit (sleeve, bushings, seals) JD 50*/60/90	\$42.00
Special washer and nut, closing rebuild (both grade 8)	\$4.68
Install tool for firming & closing kits	\$15.00
Removal tool for firming & closing kits	\$15.00



Removal tool for main-pin bushings

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. If these get sloppy, the furrow gets narrower and the boot and firming wheel no longer fit, and seed placement is awful. Aricks' front pin kits have been in the field for 6 years, and proven to last at least as long as OEM, sometimes significantly longer. Aricks front pin bushings are steel with a Teflon inner layer, and the pin has a hard chrome finish.



"The only greaseless bushing I know of that can be used on the closing joint that does not shift. Worry free maintenance. Equal and beyond longevity to OEM. I've been installing these bushings for 3 years and haven't yet had a call to come out and replace any."

Ross Hack, Kansas Air Seeder Service

Aricks main opener pin kit (pin, bushings)	\$36.00
Removal tool for main-pin bushings	\$38.00



NINJA™

Seed Bounce Flap

Forward-bending flap keeps more seed in the furrow

For 50 & 90-series drill boots • Flexible

Doesn't break off • At least 5x wear life vs others

Ninja seed-bounce flap for JD 50 & 90 drill boots:

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.

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/products/ninja



“Ninja seed flaps are great. I put half Ninjas and half [competitor’s] on to start the 2015 season. Probably did about 3,500+ acres that year with a 30’ drill. The [competitor’s] get pretty worn after a couple hundred acres, but I left them on all year for the PITA factor.” Feb 2019 update: “My Ninjas now have nearly 13,000 acres on them and are in real good shape yet.”



Jordan Reimnitz, Armour, SD
Exapta customer since 2009 (JD 1860 w/ 90-series boots)

“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 Ninjas still don’t show any signs of wear after 4 seasons and 24,000 acres between the two drills.”



Roger Neshem, Berthold, ND
Exapta customer since 2012
(Ninjas, DuraLoks & T-whls on 40' & 60' JD 1890s)

“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.”

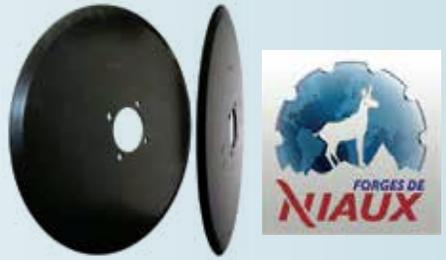
Ken Gardner, Williston, ND • Exapta customer since 2017
(Ninja seed bounce flaps on JD 1890)

Ninja™ flexible seed-bounce flap for JD 50 & 90 drill boots

\$5.68

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

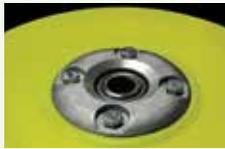


Perhaps because of the light we shed on the matter, JD and some aftermarket companies have improved their game with higher quality offerings. We have too, with the **Forges de Niaux 200**—which is even stronger and has 20 – 30% more wear-life than the next-best—our old standby, the Ingersolls. The general 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. Exapta brings you the best of the best.

Forges de Niaux 200 blade for JD 50/60/90/Pro drills	\$34.87
Forges de Niaux 200 blade for CIH P-500/NH2080	\$33.17
Ingersoll (Canada) opener blade, JD 50/60/90/Pro drills	\$29.36



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. **Since 2018, we now use the exact same Peer bearing that JD uses in 90-series firming wheels.**

“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)

“I highly recommend to pull off the JD wheels and put DuraLoks on. They are thin enough to fit perfectly in the seed 'v' and have flexibility. I've never seen mud buildup on them either.”



John Heermann, Haxtun, CO
Exapta customer since 2015
(JD 1890 drill)

DuraLok seed-lock wheel also fits Case SDX

\$55.00

Leaf Springs for Seed Boots JD 50/60/90

- 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. Special ultra-durable paint process prevents rust. 60-series boots require spring to be trimmed.



Leaf Spring for seed boot on JD 50/60/90 drills

\$5.25

Aricks row cleaners for JD 50/60/90/Pro drills

- Dramatically reduced hairpinning
- Minimal soil disturbance
- More consistent seed placement
- Great for shallow seeding or heavy mulch
- No waiting for straw to dry
- Proven: 11-year track record in Australia
- Extremely robust design



Sharktooth is trademark of Yetter

Another top-notch product from Aricks of Australia, where ruggedness is taken to an extreme: These row cleaners have a proven, 11-year track record, and we're proud to be the exclusive distributor in N. America. Now with Sharktooth™ wheels for more controlled cleaning action and less chance of wrapping.

While sharper opener blades and seeding only when the mulch is dry can take you a long way in preventing hairpinning (as can our UniForce hydraulic downforce system), a row cleaner helps you out if the mulch is simply too thick to cut, or waiting for it to dry isn't practical. Also, in very cold climates, a bit of soil warming from clearing some mulch out of the row can be beneficial.

Aricks row cleaners are also a big advantage when seeding very shallow, such as alfalfa or canola, where it's difficult to make the opener blades cut the straw (18-inch blades cut best when seeding 2.5 – 3" deep). Marginal in heavy or tall corn stalks (Corn Belt or irrigated). They do handle hemp, field pea, soybean, faba bean and flax straw without much issue, as well as stripper-harvested cereals. A jacker bolt allows control of max down-stroke. When not needed, the wheel is easily locked up.

"I've had them on my 1895 for 7 or 8 years, covering 40,000 – 50,000 acres. They work. I couldn't imagine not having them. They extend the number of days we can work—we can get on soft fields sooner [when cutting would be a problem]. We can also start earlier each morning and go later in the evening.... I'm impressed the condition they are in after so many acres."



Robert Stevenson, Kenton, Manitoba • Exapta customer since '07 (Aricks row cleaners & T-whls on both seed ranks of 43-ft JD 1895)

"We like them very much. We farm irrigated land and deal with heavy residue. The row cleaners enabled us to avoid all pre-seeding tillage which was an economic benefit as well as a benefit to our soil."

Ty Sears, Lethbridge, Alberta
Exapta customer since 2019
(72 Aricks cleaners on 60' 1895)

Financing Available 6.75% APR, 24 months. Offer good thru 9/30/2019

Aricks row cleaner for JD 50/60/90/Pro drills

\$595.00

10-week lead time for delivery. Note: Box drills require installation of a bar ahead of each rockshaft (call us for prints and weld-on pieces to build your own). 50-series requires different model.

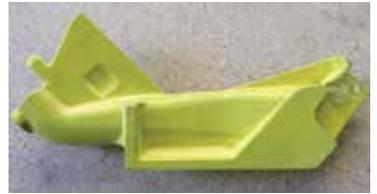
Aricks seed boot for JD 90-series drills

- Best fix for eliminating boot slop
- Extended wear: high-quality chrome alloy
- Easy installation
- No need for drilling or bushings



For proper seed placement inspect your drill for up/down slop in the seed boot attachment point. Even on a brand-new drill, this play is excessive and should be reduced (note that you don't want to eliminate all movement—there needs to be a little for the boot to align flush with the blade, and to let straw clear out).

The Aricks seed boot uses a specially designed shoulder-bolt, to eliminate the problematic vertical slop in the attachment holes. The shoulder bolt transfers the pivot from the worn holes in the arm to the shoulder, cutting the up/down movement to 1/8". Aricks seed boots are genuine extended wear and manufactured to last using a high-quality chrome alloy.



Aricks seed boot for JD 90-series drills

\$125.00

Includes shoulder bolt. Also fits 60-series if seed tubes are updated.

Available Spring 2020. Preorder today!

New

Aricks shoulder bolts for JD 60/90 seed-boot repair

\$12.00

Clamps tight against shank ears; boot swivels on bolt. Eliminates slop in boot attachment for better seed placement. Requires drilling out existing boot mounting holes.



Primary and 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!



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 black, 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.

Primary Hose (sold in 100ft rolls)

\$680.00 (6.80/ft)

New

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

Secondary Hose (sold in 100ft rolls)

\$250.00 (2.50/ft)

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

Thompson closing for gauge-wheel drills

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.

“Based on the effectiveness on the Thompson wheel, I had the best stand of soybeans with my JD 750 drill that I’ve ever had. And, I never had to change a bearing! I used to spend the majority of my time changing out bearings on the old cast iron wheels. Not this year. Even planting in our extreme wet conditions this spring, I had moderate to very little problems closing the trench. **The T-whls did the job: closed the furrow beautifully.** I think they even worked better in my double-crop soybeans.”



Steve Isaacson, Cecilton, MD
Exapta customer since 2014
(T-whls on JD 750 drill)

Comparing aftermarket spoked closing wheels: “As I get into more moist soils and heavier/bigger residue, the Thompson wheel is the only one to accomplish the job. The stock JD wheels bounce terribly, and try to smash the seed trench closed, so furrow closing is poor. The [competitor spoked wheel] is an improvement since it has dimples instead of being round like the stock wheel. Bounces less and does a better job of crumbling instead of smashing, but still smashes—much better furrow closing versus the stock wheel but still leaves furrow unclosed some. The Thompson because it’s thinner and more aggressive, crumbles the furrow closed and I don’t notice bouncing or the furrow being left unclosed.... I would never run the current version of the JD stock wheels again. I’m also confident that I would buy Thompsons only next go ’round.”



Josh Lloyd, Oak Hill, KS • Exapta customer since '05 (Thompson wheels on one rank of JD 1890 air drill)

Another drill with a true gauge wheel is the **new Case Precision 500 / New Holland P-2080**. Once you overcome their lack of seed firming by adding a Keeton + Mojo (see p 28), the next order of business is improving the closing action—which 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 T3z to be ran at a 7-degree toe-out, along with lighter spring pressure. **Avoid stand failures! Do firming & closing as separate steps, and do them well.** (T-whls are also a good option for Case SDX drills with seed-lock wheels installed.)

“Overall, your products did a great job. I’m satisfied that I installed Exapta’s complete row upgrade [Keetons, Mojos, T-whls]. We probably had the best stands I’ve seen in a while.”

Jason Stoffer, Abilene, KS, • Exapta customer since 2015 (Exapta’s complete firming and closing upgrade on Case P-500 air drill)



THOMPSON
WHEEL

Thompson wheel T4z

(with stub shaft, for JD 60, 90 & Pro-series drills)

'z' = Tougher than ever, made from military-grade armor plate

Thompson wheel T2z & T3z

(with 5/8" bolt or metric spindle, for JD 50-series, Case SDX, P500 & NH2080)

Case P-500/NH 2080 closing bracket upgrade

For more info, see p 29

\$83.00

\$136.00

\$78.00

Better
than
Ever!

UniForce™

Hydraulic Downpressure

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 • 3-year warranty on cylinders (some restrictions apply)

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 Patents Pending

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.

"Before installing UniForce the drill openers looked like a piano board being played. Now that UniForce is installed, it is 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, so 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)

"In marginally dry conditions, it's a big advantage. The row units hold depth better—it's impressive to look back there and see the row units not bouncing [like they would with OEM springs]."



Scott Arthaud, Keyes, OK
Exapta customer since '07
(UniForce, T-whls on 60-ft JD 1890)

"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!"

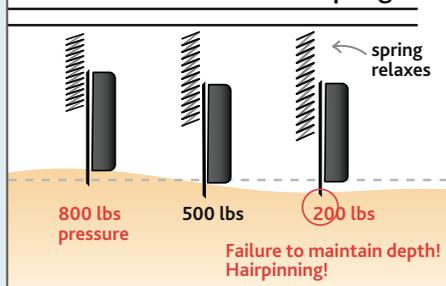


Glen Sebok, Taber, Alberta
Exapta customer since 2012
(UniForce on two 43-ft JD 1895s)

Choose 0% financing for 24 months, or 6.5% cash rebate.

UniForce hydraulic down-pressure system	\$380/row (60/90/Pro), or \$405/row (50-series)
plus base price: box drills pulled individually	\$2,450
all single-rank (15") CCS drills	\$4,180
other air drills or 2 box drills pulled together	\$7,380

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 much 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.)

"We are very pleased with the UniForce system. We noticed our openers run a lot smoother through the ground, and no longer bounce as much. The seed placement is excellent, and emergence has never been better than the last two years. It's especially impressive with small-seeded crops. All plants emerge at the same time, and we see that right through to harvest with very even maturity. We have just experienced two drought years in a row. This past year [2018] was the worst in 18 years. With the Exapta system (UniForce, Thompson wheels, DuraLoks, Ninjas, Ingersolls) on our drills, we seem to be seeing some yield advantage at harvest time."



Chet Dykshoorn, Foremost, Alberta • Exapta customer since 2012 (UniForce, etc on two 42' JD 1895s)



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

\$3,250.00

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

\$4,400.00

In-cab adjustment see p 22 for details

Options for Hydraulic Down-Force



Motorized control valve for in-cab adjustment of any hydraulic system including JD OEM.*

Want to change pressure on-the-go? For example, lightening the pressure in soft areas on each pass, or cranking it up in hard areas. Our in-cab manual control switch works great for the OEM rockshaft downforce on JD 50/60/90/Pro-series drills & 2510H applicators, as well as Exapta's UniForce down-pressure system (see pp 20 – 21). The switch activates a motorized control valve that simply screws into the valve block in place of the knob.

In-cab adjustment for hydraulic systems: UniForce (all)	\$650.00 – \$890.00
JD box drills & 3-section* air drills (w/o UniForce)	\$890.00
<i>(includes motorized control valve, wiring harnesses, switch box)</i>	
<i>*Not available for John Deere 5-section air drills with OEM downforce</i>	

Hydraulic oil overheating from air drill?

Even if it's not overheating to the extent of shutting down the tractor, high temps break down hydraulic oil faster, and shorten the life of pumps, seals, etc. — you really want it to stay below 185 F. Here are some ways to keep hydraulic oil cool.

First, re-route the fan return for certain cart makes/models (see our newsletter on this exapta.com/newsletters).

For a robust “heat exchanger” that’s designed specifically for this, check out our Smallaire unit. With a flexible duct that connects to the fan intake, it fits most air cart models, and allows the unit to be mounted anywhere on the drill (higher up prevents it from sucking in as much dust and chaff). Don’t get sidelined with hot oil!



Exapta's Smallaire Heat Exchanger is designed by air movement specialists and has a proven track-record. When cleanout is needed, there's easy access with the hinged cover. The Smallaire unit has a huge radiator (24" x 28", and extra thick), and a plenum to utilize the full extent of the radiator area, so you get maximum cooling of oil and maximum warming of air in the system — great for tough conditions. (Ducting not yet installed in photos.)

“All in all, the Heat Exchanger did its job. It was noticeably warmer, drier air running through the system. Last year, some farmers had to stop seeding at times in the hot conditions due to hydraulic oil overheating, whereas I was able to keep going, even with an older tractor.”

Greg Morrical, Beverly, KS • Exapta customer since '07 (Exapta Smallaire Heat Exchanger on JD 1910 air cart)



Smallaire Heat Exchanger mounted on a SeedHawk using flexible ductwork. Usually, the heat exchanger is mounted in a convenient spot on frame tubing using U-bolts.

Smallaire Heat Exchanger complete kit for JD 1910 TBH & TBT cart	\$4195.00
'Remote mount' for other carts*	\$2475.00

**includes steel ring to attach ducting to fan, and 10" hose clamps (no hoses, ducting, or bracket/stand)
Hoses and ducting are available for purchase separately*



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 air drills

\$260.00 – 305.00

fits late-model JD (rubbery heads/'pods'); Case-IH / New-Holland Flexi-coil EZ Flow heads; Seed Hawk; Salford; Seed Master & other drills updated to Smallaire heads. See p 29 for details.

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. See p 29 for Smallaire & SeedVU products: Exapta is proud to be the exclusive distributor for their ag 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) (Stainless \$138)

\$119.00

Smallaire conversion head

7 outlets

\$225.00

8 outlets (other outlet numbers available)

\$250.00



IntelligentAg Wireless Blockage & Flow Monitor

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.

On air drills, the OEM pin-style or optic sensors only tell you if something is flowing past, not whether it’s full flow or not. Using *acoustics*, Intelligent Ag’s sensor system tells you the rate each primary is getting (as a % of full-flow), so you know right away if either fertilizer or seed stop flowing, or are flowing intermittently, or at a partial rate (except when one product rate is tiny compared to the other product rate). **No more skips!**



1. As the seed leaves the manifold, it passes through the acoustic sensor.



2. The seed impacts a stainless steel membrane, creating a small pulse of sound that travels out through an auditory tube.



3. Information arrives via WiFi and is displayed on an Apple iPad.

“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”)

0% Financing

for 12 months available (1/2 down, final 1/2 at 12 months). Or 3 annual payments at 2.99% rate, call for details.



Intelligent Ag monitoring system (iPad not included)

for 48-rows, 6 primaries, TBH cart \$7,965.00
*TBT cart, add \$50.

Any number of rows up to 156 is possible, and 20 primaries.
Box drills: Call for info.

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



Have extra ballast ready when you need it
Ideal location on frame (over rear transport wheels)
Easy installation
Virtually eliminates bolt breakage at this spot

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).

Weight Brackets for JD 50/60/90 air drills

Weights Free shipping for 10 or more

\$1680.00

\$90.00 ea



Shop for Exapta products online



Forges de Niaux 205 blade for JD planters: XP & ME5 **\$36.46**
Same dimensions as OEM. Uses Peer double-row 205 bearings & 5/16" rivets

Forges de Niaux 204 blade for JD Pre-XP & Kinze **\$32.87**
Bearing is 204 and rivets are 1/4". See p 5 for details.

US Patent No 8,978,564
9,820,427

Better than Ever!



Valion for Kinze 3000-series **\$27.50**
#V.300. Chrome alloy. Easy to install, great wear-life. User-friendly hex-head bolts included (no more allen-heads!) For more info on Valions, see pp 6-7.

US Patent No 8,978,564
9,820,427

Better than Ever!



Valion for Deere XP, ME5 **\$33.50**
#V.450. Chrome alloy. (Not compatible with ExactEmerge's brush-belt tube, nor Speed Tubes) Twist-on style. Now with protective bump on the bottom and beefed up overall. Tubing not included. For more info on Valions, see pp 6-7.

US Patent No 8,978,564
9,820,427



Valion for pre-XP and Kinze 2000s **\$38.50**
#V.150. Chrome alloy. 'Bolt-on,' for JD 7000, 7200, & heavy-duty welded shank on 1700s ('03 & '04). Now with protective bump on the bottom and beefed up overall. For more info on Valions, see pp 6-7. Also available with oversize bolt, rivet & bushings for shank holes that've been drilled out: #V.153. Tubing not included.

Valion Ultra (tungsten carbide), pre-XP & Kinze 2000s **\$88.00**
Close Out - Limited quantity remaining. #V.200. 'Bolt-on,' for JD 7000, 7200, & heavy-duty welded shank on 1700s ('03 & '04). For more info on Valions, see pp 6-7. Also available with oversize bolt, rivet & bushings for shank holes that've been drilled out: #V.203.



Rivet tool **\$89.00**
With wide die (bit), makes crimping the rivet easier on Valion "bolt-on" installs.



L.454 stainless tube holder **\$35.00**
For use in applying liquids in-furrow thru Valions on XP & MaxEmerge 5 shanks (not for ExactEmerge)

L.433 stainless tube holder **\$35.00**
JD 7200 & 'Pro' shanks ('03 & '04).



L.133 stainless tube holder **\$38.00**
For JD 7000 & Kinze 2000. (Not for Kinze 3000-series)



Heat-resistant tubing w/ beveled end **\$5.69**
Special high-temp semi-rigid plastic. Beveled end for easier insertion through Valion. (see photos on main Valion web page)



Mur-lok Quick Connect, auto-lock **\$2.17**
#L.2200. Union connector for 1/4" OD tubing, push ring to release



Bullseye seed tubes **\$16.50**
Ordinary seed tubes have catch points causing seeds to bounce/ricochet, leading to erratic spacing and skips that result in lost yields. The Bullseye seed tube eliminates the interferences! Bullseyes are made out of a special nylon that speeds the seed on its way. And even better, Bullseyes have tungsten carbide tips (the highest wear point) to ensure longer wear life.

Shop for Exapta products online



Keeton, Quick Attach: Tail \$20.00, Bracket \$15.00
*The best choice for most planters including JD 7000 thru XP, JD MaxEmerge 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.***



New
Keeton, QA bracket for ExactEmerge \$75.00
*Quick Attach Keeton for John Deere ExactEmerge row units. Design allows the tail to be snapped into place and be changed without removing seed openers or gauge wheels. Kit includes green tail piece extension, bracket and tail with single liquid tube. **Will move the closing system 5.4" rearward.** Replacement Tails are \$20.00. Bracket and tail piece extension are \$55.00.*



Keeton, QA Scrapper-Mount Tail \$20.00, Bracket \$18.50
Quick Attach, but uses the scrapper 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) whenever possible. New design (no hole-drilling required).



Keeton, dual-tube w/ Universal bracket \$34.00
*#KTN115011 Recommended for White 6000s & 8000s, since QA doesn't fit these planters. Brackets now pre-cut by Exapta for full Mojo compatibility & fast install. Also available with Dry tails. Univ. brkt fits Deere 7000s thru MaxEmerge 5 (except ExactEmerge), Kinze 2000s & 3000s, White 9000s **although we strongly recommend Quick Attach for these.***

Dual-tube or Dry replacement tail \$29.00
 (No bracket)



Liquid tube holster \$4.50
#L.501 For external routing of liquid tube on Keeton Universal & Universal Scrapper-Mount brackets. See our instruction sheet at www.exapta.com/instructions. Recommended with K.211 Mojos.



Better than Ever!
Mojo Wire kit, Liquid/Dry, for "Quick Attach" Keeton \$17.00
K.315 Liquid-ready. Now with torsion loops for more pressure and longer life.



Mojo Wire kit, Dry Keeton tails for Universal wrap-around & Universal Scrapper-Mount \$11.00
 (planters) #K.212
Streamlined for better residue flow.



Mojo Wire kit, Liquid Keeton tails for Universal wrap-around & Universal Scrapper-Mount \$20.00
 #K.211
*Fits dual-tube tails *Do not use on Low-Profile tails.**



Mojo Wire kit, fits planter Flo-Rite for Universal & Universal Scrapper-Mount Brackets \$11.00
 (WaveVision-ready) #K.215

Shop for Exapta products online

For these items *and more*, visit www.exapta.com

New



MudSmith gauge wheels

\$140.00

Gauge tires are 40% thicker, for 20 – 80% longer life. Gauge tires are semi-pneumatic, and pliable compared to some of the rock-hard ones on the market (more sidewall compaction). Super-rugged rim and hub. See p 5 for info.



Gauge-wheel bearing

\$9.25

M.4887. KYE double-row ball bearing: fits gauge wheels on many planters (JD '92 & newer, Kinze '93 & newer, White 6000-9000), gauge wheels on drills (JD 50/60/90 & Case P-500), and closing arm on JD 60 & 90-series drills.

Better than Ever!



T2z & T3z wheel (metric or 5/8" sleeve/shroud)

\$136.00

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 29. Includes snap-ring & bearing (installed), steel shroud, dustcap, bearing sleeve. Military-grade armor plating. For more T-wheel info, see pp 10-11 and 19.

US Patent No. 6,907,833



Toe-out wedge for closing wheels

\$6.50 ea

For JD 1700 (all), White 6000 thru 9000, Kinze 3000 & 4000 closing brackets. For more info on toe-out, see p 12.



Tappet wrench

\$9.00

Wrench to hold wedges in position while tightening nut & bolt for T2z/T3z installs on planters.

Better than Ever!



55% rate

Closing bracket spring

\$7.25 ea

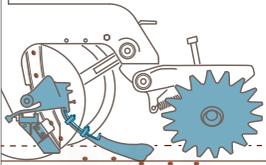
Now with higher quality wire to prevent stretching and breaking. (Replaces OEM heavy spring) Since spoked closing wheels have a much smaller footprint on the soil, a lighter spring is useful on the closing bracket. Our medium spring (#M.4466) is for tougher soils (low OM, eroded, high-clay or sod). Stouter than our old 1/3-rate spring, M4433.



Complete closing upgrade for planters

\$292.25

Fits most JD, Kinze, AGCO White, and Great Plains planters. Includes 2 Thompson wheels (T2z or T3z: metric or 5/8" sleeve/shroud) 2 wedges, and a medium closing spring.



Complete row-unit upgrade, planters

\$364.75 – \$428.46

Exact price depends on planter model and options selected. Includes Valion, Keeton, Mojo, and the Complete T-wheel closing upgrade (see above).



Replacement hub/star

\$107.00

#M.4501z. For T2 or T3 owners, this hub/star (with bearing and snap-ring installed) is a replacement for worn-out wheels. Doesn't include shroud, sleeve, or dustcap.



Closing bracket & T-handle

\$54.16

PLT120730, # PLT120740. Updates JD 7000, 7200 to bolt-on closing wheel configuration. Spring not included. Also available in black.



Primary Hose (sold in 100ft rolls)

\$680.00 (6.80/ft)

2x – 3x wear life of OEM & competitors. Transparent black spirals.

Secondary Hose (sold in 100ft rolls)

\$250.00 (2.50/ft)

Up to 2x wear life of OEM. Transparent black spirals. See p 18 for more info.

New

Shop for Exapta products online



Aricks firming arm kit **\$42.00**
 (sleeve, bushings, seals) JD 50*/60/90
 *50-series requires arm modification. Doesn't fit earliest 750s.

Aricks closing arm kit **\$42.00**
 (sleeve, bushings, seals) JD 50/60/90 (Doesn't fit earliest 750s).
 See p 14 for install and removal tools; special washer and nut.

Aricks main opener pin kit **\$36.00**
 (pin, bushings) fits all 50/60/90/Pro-series. See p 14 for bushing removal tool.



In-cab adjustment of hydraulic down-pressure
 for UniForce (on any JD 50/60/90/Pro) **\$650.00 – \$890.00**
 JD box drills & 3-section* air drills (w/o UniForce) **\$890.00**

For Deere drills (OEM downforce, except John Deere 5-section air drills), 2510H (OEM downforce), or UniForce. Includes wiring and switch.



Forges de Niaux 200 blade for JD 50/60/90/Pro drills **\$34.87**
 J.5070. Even stronger with 20 – 30% more wear-life.

Forges de Niaux 200 blade for CIH P-500/NH2080 **\$33.17**

Ingersoll-Canada opener blade, JD 50/60/90/Pro drills **\$29.36**
 All are same dimensions as OEM. See p 16 for more info.



Leaf Spring for seed boot on JD 50/60/90 drills **\$5.25**
 Manufactured to Exapta's high-quality specs for longer service life (less breakage, maintains strength). Ultra-durable paint process prevents rust. Plus a splotch of blue for visibility. Replaces N284055 & N280485. See p 17.

Coil Spring for CIH P500/NH2080 **\$5.81**
 20% stronger. Reduces boot/scrapper plugging.



Aricks shoulder bolts for JD 60/90 seed-boot repair **\$12.00**
 Clamps tight against shank ears; boot swivels on bolt. Eliminates slop in boot attachment for better seed placement. Requires drilling out existing boot mounting holes. See p 18.



Ninja™ flexible seed-bounce flap, JD 50 & 90 drill boots **\$5.68**
 Unique forward bend to put more seeds in the bottom of the furrow. Incredible wear life; doesn't break off like OEM and aftermarket flaps. Fits Standard and Extended Wear boots. At least 5x wear life vs others. See p 15.



DuraLok™ seed-lock wheel **\$55.00**
 Fits JD 50/60/90/Pro-series drills and Case's SDX. Narrow, sleek hub to shed mud better than OEM & aftermarket firming wheels w/ wide brgs/hubs. DuraLok™ is much like the SDX firming wheel, but narrower, less than half the price, and with a replaceable bearing! Wheel dimensions are 0.45" x 9" — the narrowest on the market because that's what fits the furrow the best. See p 16 for details. Now with same Peer bearing as JD 90-series.



Keeton for grain drills **\$27.50 - 35.50**
 Modern 2-piece design with replaceable tail. Various bracket models to fit most Sunflower, Great Plains, Crustbuster, Tye, Marliss, and other drills. Also fits Case Precision 500 using special Exapta bracket (see below). Also fits GP twin-row planters. Mojos highly recommended—use our milled version of tail.



Mojo Wire for drill Keeton **\$13.00**
 # K.608. Fits 2-piece drill Keetons that have milled tops by Exapta. For Case P-500/NH 2080, other drills, GP twin-row planters.



Steel bracket, Keeton on Case P-500/NH 2080 drill **\$10.75**
 #C.101L/R. (each)

US Patent Pending

Shop for Exapta products online

For these items *and more*, visit www.exapta.com.

Better
than
Ever!



Thompson wheel T4z

\$83.00

With stub shaft, for JD 60/90/Pro-series drills. 'Z'-series is made from military-grade armor plating, for even longer wear life than our previous x-series. For more info, see pp 10-11 & 19.



Thompson wheel T2z & T3z

\$136.00

(mount on 5/8" bolt or metric spindle, for JD 50-series, Case SDX & CIH P500/NH2080 drills)



Bracket kit for T-wheels, Case P-500/NH 2080 drill

\$78.00

#C.201L/R. Bracket to hold Thompson wheels at correct position & angle (creates 7° toe-out) to replace packer wheel. For use only in conjunction with Keetons (see p 28), since the T-wheel does no packing. Also included is a lighter torsion spring for the closing arm. *The only closing option for these drills that allows full-length liquid Keetons to be used.*



Aricks row cleaner for JD 50/60/90/Pro-series drills

\$595.00

Note: Box drills require installation of a bar ahead of each rockshaft (call us for prints & weld-on pieces available to build your own) See p 17 for info. *Note: 10-week delivery time (North America)*



SeedVU for late-model air drills

\$260.00 – \$305.00

Adjustable air diffuser/venting unit. Easy, fast installation (no modifications needed). Fits late model JD outlet heads with twist on lid, 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) See p 23 for details.



Smallaire conversion heads

\$219-319.00

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.



Smallaire riser pipe

2.5-inch

\$119.00

Also available in stainless steel, \$138.00. Other sizes available. If you need taller pipes to improve gravity flow thru the secondaries, or just looking to replace rusted-out pipes or older pipes that lack dimples & enlarged elbows to distribute seed & fertilizer more uniformly as it goes up into head.

New



Weight brackets for JD 50/60/90 air drills

\$1680.00

Pair of brackets for wings. Hardware included. (Doesn't include weights, nor shipping.) Holds up to 12 JD suitcase weights per bracket. We also can get weights for you —\$90/ea.

New



Aricks seed boot for JD 90-series drills

\$125.00

(also fits 60-series if seed tubes are updated) uses the same high-chrome alloy that JD uses in their Extended Wear boots. Uses a unique shoulder-bolt to eliminate the problematic slop in the attachment holes—this is the best fix available. The ultra-high-quality you've come to expect from Aricks of Australia. (includes shoulder bolt) See p 18 for details. *Available Spring 2020. Preorder now!*

Educational Products

Confused yet? Not sure where to start? Feeling intimidated? Relax, we can help. From thousands of hours spent methodically adjusting and examining seed placement, Exapta has created the **No-till Seed Explained™ DVD** to help you along each step of the way. Our **Seeding School Videos** are available for additional learning.

We encourage you to **keep in mind Steps 1 – 4 (p 3)** for the most effective no-till stand establishment. We encourage a systems approach, not all that different from the drivetrain on a truck or tractor. Which piece can be neglected? None. If you only replace the tires on the truck, but don't take care of the engine, you will have a lot of issues. **Exapta products complement each other, giving you the advantage of the System.** One part may not give you all the results you are hoping for. While the components of a truck or tractor were engineered to work together across a range of conditions, your seeding equipment was designed for *tilled* seedbeds. Which is why there is a need for modifications.

More questions? Instructions for all of our products can be found on our website. Or give us a call! Our knowledgeable crew serves up only straight answers, and **can walk you through which items to tackle first**—even if it's not our product. Our mission is to make sure you have the equipment and know-how for ultimate success in no-till seeding on your farm. For further reading, **check out our free newsletters at exapta.com/newsletters.**



“Great products that are field-tested, and knowledgeable support.”

Steve Groff,
Cedar Meadow Farm,
Holtwood, PA
Exapta customer since '05



“I was the only one able to plant this year because of your theories: Remove the coulter, use the Valion—with a wider seed trench and using the Keeton plus Mojo Wire for seed firming. Everyone else using coulters created a huge mud mess.”

Scott Lambert, Trempealeau, WI
Exapta customer since 2013

“The DVD was also money well spent. It helped us a lot to understand the importance of getting the planter and drill set up correctly. You guys provide great products & service.”

James Snellen, Hodgenville, KY
Exapta customer since 2014

New! 3-yr compilation of stand counts x row from Seeding Schools available at exapta.com/ssresults. See how closing wheels and other attachments affect stands & root growth!

2018 No-till Seeding School Video	\$85.00
2019 & 2018 No-till Seeding School Video	\$115.00
2019, 2018 & 2016 No-till Seeding School Videos	\$145.00

SEEDING SCHOOL **New**

For those who missed out on the school, here's the full 4-hour video. Learn simple, easy adjustments that often provide enormous improvement. An array of adjustments & attachments on planters & drills shown in action. Inspection of corn stands planted a couple weeks prior with the same configurations. Clear explanation of the interactions amongst the components of planters & drills. Suggested: Watch/review our No-till Seeding Explained DVD first.

No-till Seeding Explained™ DVD

- Discussion of what the components & attachments should be doing (or not)
- Fertilizer drill or planter: Where, why, how, & trade-offs
- 'Preparing' the seedbed at harvest of previous crop
- Carefully chosen photos, diagrams, & video clips
- Printed troubleshooting guide for in-field use
- No sales pitches, purely educational



Narrated by the calm, reassuring voice of Ken Root, from a carefully honed script by Matt Hagny, this DVD is aimed at nurturing your understanding of the seed-installation process. We have tried in the utmost to be truthful and objective, and to deliver highly useful insights and tips. We sincerely want no-tillers to succeed, whether they buy any hardware from Exapta or not. (Our products are mentioned very briefly among a wider discussion of aftermarket suppliers & products.) Detailed narrative & visuals to guide you through everything from off-season overhauls of your planter & drill, to exact step-by-step adjustments in the field. Actual footage of Matt Hagny excavating seeds in furrows (both planters & drills); discussion of what good seed placement looks like, and why. Troubleshooting. Maintenance tips. Aftermarket upgrades. Seed vigor. Root growth. How uniform timing of emergence far outweighs uniform spacing for yield influence. For highly effective no-till seeding, this DVD has it covered.

No-till Seeding Explained™ DVD

\$65.00

While we cover no-till seeding in the broadest possible terms, specific recommendations given will apply primarily to the JD/Kinze/White planter design, and to the Deere 50/60/90-series single-disc gauge-wheel drills. Case SDX & Case Precision 500 / NH 2080 gauge-wheel drills are also discussed. (Once you see the explanation of the discrete actions required for proper no-till seed placement, you'll understand why we focus on certain models as being the top choices for no-till seeding in North America. Even if you do not yet own these seeder models, you will benefit from understanding no-till seeding better as explained in this comprehensive DVD.) Includes printed 10-step guide.



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.

The Matt Hagny No-Till Scholarship Foundation, together with a matching donation from Exapta Solutions, Inc. will award a scholar every year with \$1,000 to cover travel and expenses as related to No-till Farming and Agronomy research.

For more information on the application process, or to make a donation, visit

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.

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Valion seed tube guards

- Beefed up to handle extreme conditions.
- New protective bulge to prevent liquid tube from smearing shut or abrading away.



See p 6 – 7

The Thompson Closing Wheel

The spoked closing wheel market gets more flavors every year, and we test them at our Seeding Schools. Nothing performs better all-around than our T-wheels. See pp 10 – 11, 19



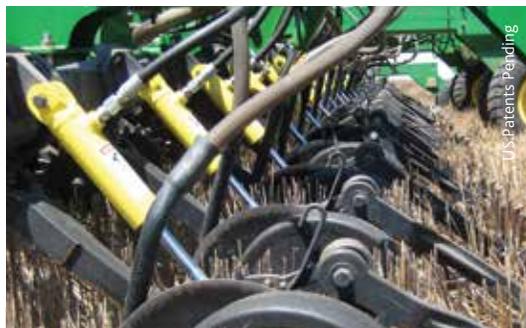
US Patent No 6,907,833

DuraLok[™] seed-lock wheel

Narrower for better seed firming and less sidewall compaction (easier to close the furrow). Urethane for exceptional wear-life.



See p 16



US Patents Pending

UniForce hydraulic down-pressure system See pp 20 - 21.

“Seed placement is beautiful, wet or dry, almost like a planter. In combine tracks, tractor tracks, grain cart tracks—it’s all at the same depth. All the seeds are down in the bottom of the furrow and firmed in, right where they should be, with loose soil over the top...UniForce, along with Thompson wheels, have taken a mediocre drill and turned it into a truly superior-performing seeding tool. It’s not just a slight improvement, it’s night and day. A lot of people will give a testimonial on something just because they’ve spent the money, but *I am impressed*. I was skeptical and dragging my feet about purchasing UniForce, but the results are stark and undeniable.”



Kent Stones, Lebanon, KS
Exapta customer since '99
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See p 5



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