

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.



My primary occupation for the past 22 years has been crop consulting for no-till. Long before I founded Exapta Solutions, I was convinced of the value of low-disturbance no-till, and the need for accomplishing seed firming and furrow closing as discrete steps.

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 2016 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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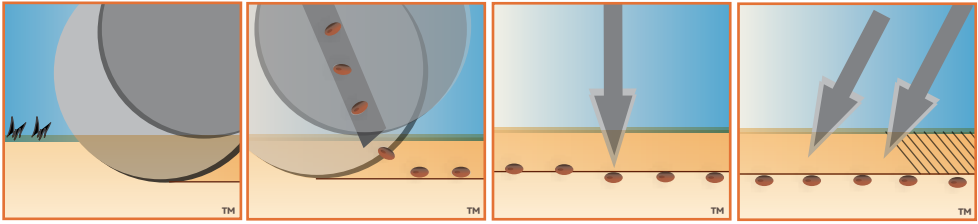
"I appreciate everything you and the Exapta guys do for us as we try to keep moving forward in no-till while fighting machinery that is still largely being designed for conventional or minimum-till."

Dietrich Kastens, Herndon, KS.

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 23.)



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.

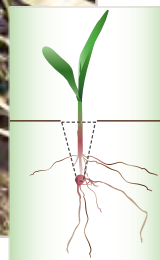
Opener blade flex results in a furrow of variable shape and depth, often with the lower portion becoming a pinched unusable slit (zero blade flex would create a 5/16-inch-wide furrow bottom on JD/Kinze/White planters). Blade flex can be reduced by replacing the 3mm disks with 3.5mm blades (already standard on some 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 5.

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).

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. 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 or Flo-Rite—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.



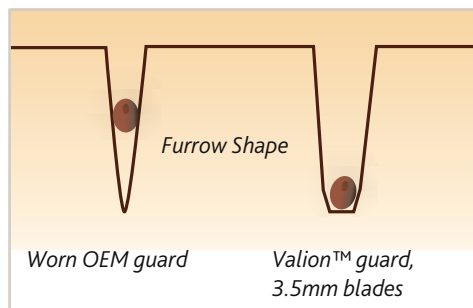
Valion™

seed tube guard

EXTREME DURABILITY

- Prevent blade flex
- Avoid pinched furrows
- Get consistent seed depth
- Doesn't drag below blades

Valion™ seed-tube guards will eliminate seed tube wear and greatly reduce blade flex to create a properly shaped furrow and improved planting depth control.



Valion™ Ultra on Deere XP



chrome Valion™ on Kinze 3000

“I am very pleased with the Valion performance. I get **consistent seed depth and therefore uniform emergence**. I am very happy with them! We are 100% no-till and double crop or cover crop everything.”

Don Risser, Bainbridge, PA
Exapta customer since 2013
(Valions on 6-row JD 1750)

“I run the Valions, heat-resistant tubing, and stainless steel protector—putting fertilizer thru them. I used to run [competitor product: OEM guards with tubing welded on]. I didn't have any problems with plugging and they wear so much slower than [competitor guards], so I don't have to replace the entire system every season.”

Nathan Kuntz, Covington, OH
Exapta customer since '09
(Valions on 16-row JD XP planter)



Valion Ultra
for Kinze 4900
Limited production

Chrome Alloy: 2x – 5x wear life of OEM



US Patent No 8,978,564

Valion (chrome alloy)

\$23.50–33.50

For Deere XP, pre-XP, ME5 (except ExactEmerge), Kinze 2000 & 3000-series. See p 17 for details.

Lifetime durability with premium Valion™ Ultra with tungsten carbide inlays for a permanent fix.



US Patent No 8,978,564

Valion Ultra (tungsten carbide)

\$73.00–78.00

For Deere XP, pre-XP, ME5 (except ExactEmerge), and Kinze 2000s & 4900s. See p 17 for details.

Lock seed in place with the Mojo Wire

“For my dollar, the Mojo Wire was the most effective product purchased for my planter. I get more uniform emergence due to better seed-to-soil contact.”



Dean Stevens, Falls City, NE
Exapta customer since '08
(Mojo Wires on a 12-row Kinze 3650)

Ensures fast,
uniform
germination

mojo
WIRE™



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

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. A new brand of sliding seed firmer, the Flo-Rites for 2014 had more pressure, but changed for 2015 & 2016 to have no more pressure than a Keeton.

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 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.



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



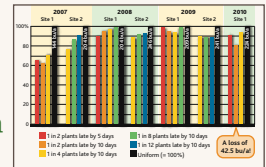
Nearly perfect corn stand with Mojo Wires. All plants are the same size.

“I’m really sold on the Mojo Wire and Thompson wheel combination: I had nearly perfect emergence this year [2012]. I think the excellent early stand—**vigorous plants with solid roots**—**saved us** when it quit raining and then started again two months later. Each plant got off to a good start partly because of the Keeton + Mojo combination pressing each seed firmly into the slot and the Thompson wheels providing a loose crumbled soil cover. When the water turned off, no plant out-competed its neighbor for resources. They all stopped growing, waiting for water. When the spigot opened, they all started growing again. Had the stand been non-uniform, the strong plants would’ve cannibalized their neighbors. **Our yields, 148 bu/a over our entire farm, were 20% to 100% over the reported yields for our area.**”

Chuck Zumbrun, Churubusco, IN • Exapta customer since 2010
(Mojos, T-wheels & toe-out wedges on JD 1750 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.) 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.



External routing of plastic tubing on Universal brackets makes life easier—if tethered in a particular way (see instructions online). Exapta now offers the little “holster” to keep tubing away from blades. See p 18.

The Keeton places the seed at the bottom of the trench and then presses it into the soil for **excellent seed-to-soil contact**. There were some situations where I had trouble with the Keetons building up with dirt, and the Mojo Wire completely fixed that for me. **I won’t plant without the Keeton and Mojo Wire.**”



Aaron Easton • Remsen, IA
Exapta customer since 2011
(Mojos on JD 1770)



Streamlined, low-cost Mojo Wire for Dry Universal Keeton tails.

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

\$9.00–23.00

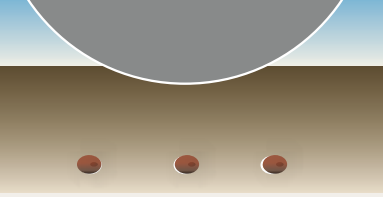
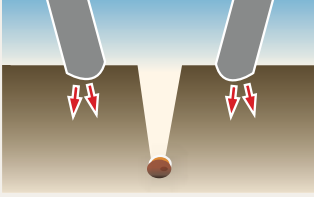
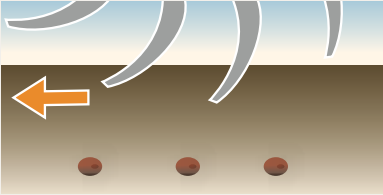
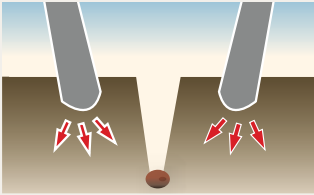
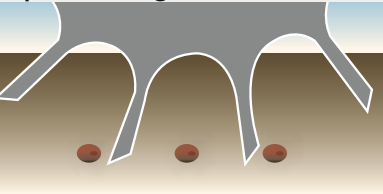
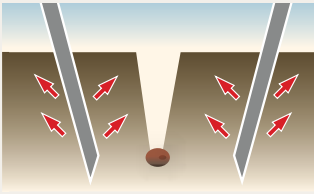
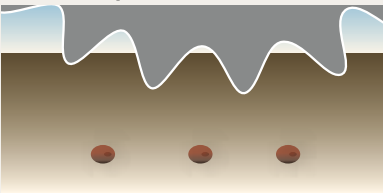
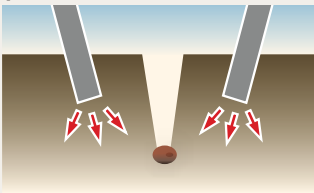
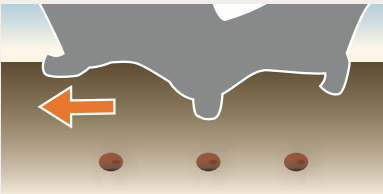
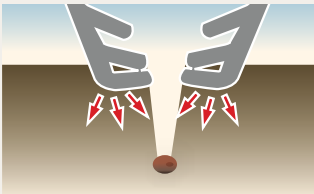
See p 18 for details on various models

Keeton seed firmers (most planters)

\$34.00–35.00

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**. Spoked closing wheels first appeared in the early '90s with more designs being added each year. 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
Excess packing, poor closing			
Curved-spoke closing wheel, with wide spoke tips			
		Sidewall Shatter	6
		Avoids Packing	3
		Mud/Stalk Cleaning	3
		Depth-limited	5
Usually good closing, but excessive packing (intermittent)			
"Spike" closing wheel			
		Sidewall Shatter	10
		Avoids Packing	10*
		Mud/Stalk Cleaning	8
		Depth-limited	1
No packing, but spikes may pull seeds out			
Notched spoked wheel with thick spokes			
		Sidewall Shatter	9
		Avoids Packing	6
		Mud/Stalk Cleaning	6
		Depth-limited	9
Can overpack			
Cage-type closing wheel: horizontal feet			
		Sidewall Shatter	4
		Avoids Packing	4
		Mud/Stalk Cleaning	4
		Depth-limited	10
Excessive packing; problems with standing stalks and small rocks			

† 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, Flo-Rite, or seed-lock wheel).

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.

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**.

“I love those Thompson wheels and wedges—they’re wonderful. I have some clay soils along the river, and I’ve tried a bunch of different types of closing wheels, and nothing else comes close to closing the furrow. Fabulous.”

Leo Vojta, Mobridge, SD
Exapta customer since '08
(T-whls, toe-out, Keetons w/ Mojos on 24-row Kinze 3800 planter)



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



Howard G Buffett, Decatur, IL
Exapta customer since '04
(T-whls on JD 1700-series)

“The bearings last forever; we’ve never had one fail.”



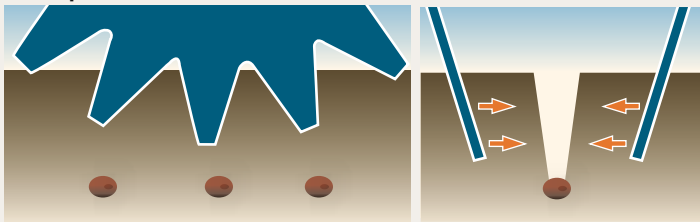
Myron Kersten, Malta Bend, MO
Exapta customer since '07 (T-whls, toe-out on all rows of 12/23 Kinze)

“We farm clay knobs, sandy loams, and high-organic muck soils, often all on the same day. We tried a number of different closing wheels and found the Thompson wheel performed well across all those conditions. I run them toed-out about 3 degrees.”

Chuck Zumbrun, Churubusco, IN • Exapta customer since 2010
(T-wheels, toe-out & Mojos on JD 1750 planter)



Thompson wheel



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



- Aggressive furrow closing with self-limiting depth
- Creates ideal zone for crop emergence & rooting
- Heavy-duty bearing with 5-yr guarantee
- Low mud and stalk accumulation

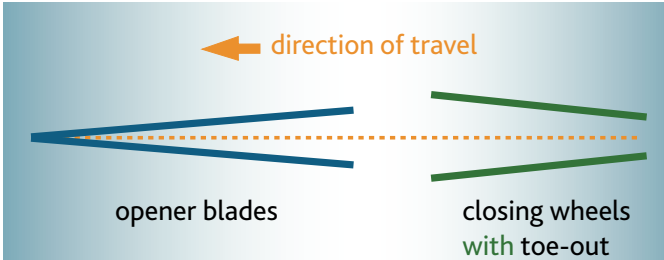


T2X & T3X wheel (with 5/8" or metric bearing) \$115 each
Fits most JD, Kinze, AGCO White, Great Plains and Monosem planters

US Patent No 6,907,833

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-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.

"I've used the Thompson wheels and toe-out wedges for about five years. I've found them to be far superior to any other closing systems I have tried. They're very versatile in the fact that they don't wrap in tall cover crops like green cereal rye, and will close in hay sod where the furrow wants to open back up. Thompson wheels also shatter the sidewall, helping to reduce sidewall compaction in less-than-perfect conditions in corn or soybean stubble. They also work well in varying soil and moisture conditions in the same field. I would recommend the Thompson wheels to anyone who wants to improve their soil by using cover crops and no-till."



Chris Broyan, Berwick, PA • Exapta customer since '09
(T-whls & toe-out wedges on 12-row JD 1770)

"Your products help me make money. I did a trial with different spoked closing wheels and yours were by far the best wheels I've seen. I have Thompsons on my 16-row JD planter and am converting my 750 drill to them. They really make a difference in covering the seed and emergence. They break up the sidewall compaction and do a great job closing the seed trench. I appreciate you guys."



Dave Meyer, Arcanum, OH • Exapta customer since 2014 (T-wheels, toe-out, Valions, Mojos on 16-row JD 1760 XP planter)

"I've tried rubber closing wheels, cast closing wheels, and several other brands of spoked wheels on planters, and without a doubt, the Thompson wheels are the best for all of my conditions."

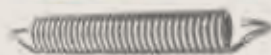
Steve Edger, Greenville, OH
Exapta customer since '07
(T-whls, toe-out, Keetons w/ Mojo Wires on 32-row planter)



Toe-out wedge

\$5.50 each

JD 1700 (all), White 6000 thru 9000;
Kinze 3000 & 4000 closing brackets



55% rate

Closing bracket spring

\$5.75 each

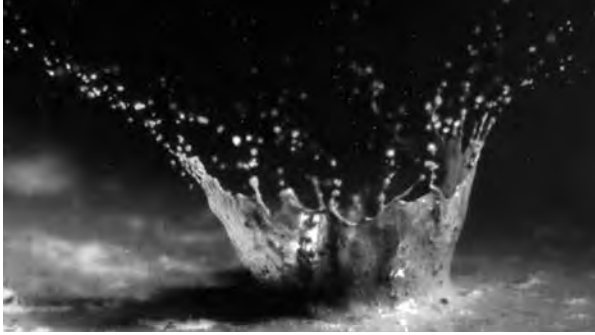
(Replaces OEM heavy spring) Since spoked closing wheels have a much smaller footprint on the soil, a lighter spring is useful on the closing bracket. Our medium 55% spring is for tougher soils (low OM, eroded, high-clay or sod). The light 33% spring is best in loose soils when ran in 2nd - 4th notch.



1/3 rate

What about coulters and strip-till?

One popular idea from the **early days of no-till** was to put some sort of tillage device (e.g., coulters) out in front to **make the old-style (tillage-era) planter opener halfway functional again**. Coulters create many problems, including pulling up mud (which clogs gauge wheels), planting weed seeds, compacting the root zone, creating air pockets, destroying too much stubble over the seed row (think soil crusting & erosion), and increasing horsepower requirements. The tillage occurs immediately ahead of the opener—so in damp soils, the results were mediocre at best.



Raindrop impact on bare soil causes crusting. Retaining adequate mulch in the seed row prevents this.

Then the idea was to do tillage earlier so the soils could dry—so **strip-till** became all the rage, despite requiring another trip across the field, owning another piece of equipment, planting even more weed seeds than coulters, creating tremendous seedbed irregularities (clods, air pockets, etc), and causing even more erosion and crusting potential. *However, both coulters & strip-till were using localized tillage merely to address the symptom, rather than the underlying problem—an opener not designed to work in no-till conditions.*



Devastating erosion and loss of stand due to strip till.



This perfect stand in low-disturbance no-till resulted from attention to detail and the use of Keetons & Thompson wheels, with no rain occurring after planting until the 3-leaf stage. If high-vigor seeds are consistently well placed, no rain is required for marvelous stands—every time.

No-till soils already are the ideal seedbed—generally having adequate moisture,* good structure (aggregation) for natural rates of aeration and crop development, a mulch on top, etc.—*if only* our seeders were engineered to handle these conditions. To obtain the full benefits of no-till, dress your planter for success!

*If excess moisture often plagues your no-till seedbeds (muddy planting conditions, poor early growth), consider changing the crop sequence, adding well-chosen cover crops, delaying corn planting by 10-20 days (use an earlier RM corn & thicker population, if need be), running pop-up fertilizer with micros, etc. Use only high-vigor seed (test it! see www.exapta.com/seed-vigor-reap-the-rewards). Pattern tiling may be needed.

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. In North America, one design that fulfills Steps 1, 2, 3, & 4 is the John Deere 50, 60 & 90-series single-disc, gauge-wheel opener. Some comments to help them function:

Step 1, Cut: Opener blades should be replaced at ~ 17.4" diameter. Because the boot is wider than the furrow being cut, 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. If attempting to continue running worn blades, move the seed boot to the upper mounting hole (return it to the middle hole when installing new blades).

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. Maintain or upgrade 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.



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



DuraLok™: Not too narrow, not too wide, not too rigid, not too soft, but just right.

Sleek, narrow hub stays clean.

Step 3, Firm: Use a good seed-lock wheel, such as Exapta's new DuraLok™ flexible wheel, or Case's SDX firming wheel, or Needham's V8. (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 getting hung up on the sidewall. The flexible DuraLok™, SDX & V8 wheels self-align for consistently good performance. The V8 is half the price of the SDX but gathers more mud due to lack of clearance between the hub and arm.

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

Exapta's UniForce™

Our new hydraulic down-pressure system for Deere 50/60/90 drills.

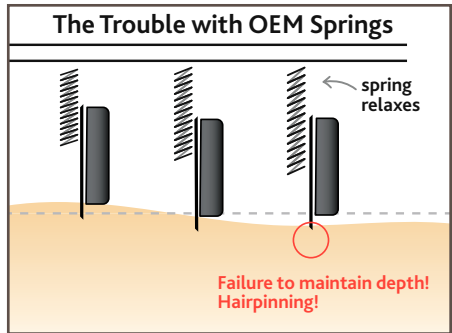
- Reduce/eliminate hairpinning
- Get consistent depth
- Better use of frame weight
- No loss of transport clearance

New



US Patent Pending

The big coil spring on JD 50/60/90 drill openers is a major downfall of that design. If the spring relaxes when the opener goes into the slightest depression, it loses down-pressure and fails to cut the straw & stalks (hairpinning!) and the furrow may be shallower if soil is hard. To compensate, everyone runs (or should run) extra pressure on the JD system to torque the rockshaft harder and compress the springs more. This results in excessive pressure on the gauge wheels & soil of many of the drill's openers, just to keep the ones passing through the slightest depressions in the ground at (hopefully) the proper depth.



Exapta's new hydraulic down-pressure system cures this design pitfall. Single-action cylinders maintain a completely uniform pressure across *all* the openers of the drill.

Deere 50/60/90 upgrades: Cut and Place



"Night and day difference between your Ingersolls and the JD blades. I really like how sharp your blade stays."

Dennis Erickson, Vida, MT • Exapta customer since 2014

"Your Ingersoll blades were 1/8" larger diameter than JD blades after one season on the same drill."



Tim Willms, Grassy Lake, AB • Exapta customer since '07 (JD 1890 & 1895 drills)

Sharper, Stronger, Proven Technology: The very best blades available anywhere for JD 50/60/90 drills.

Our Ingersoll-Canada opener blades are dramatically sharper when new, and stay sharp longer than JD and other aftermarket blades for these drills.

JD & other aftermarket blades have dull edges when new, and they only get duller with use, which hinders the cutting of straw and stalks—resulting in hairpinning, as well as poor cutting of the soil itself. Attempting to overcome this requires more down-pressure and frame weight, sometimes a great deal more. Now you can improve this situation considerably with Exapta's blades. Same dimensions as OEM.

Ingersoll (Canada) opener blade, JD 50/60/90 drills

\$28.61

Price Slash!

Exapta's new UniForce™ hydraulic down-pressure system

Call for info

Limited production for Spring 2016

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

Forward-bending flap keeps more seed in the furrow

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 brittle—often snapping off in the field. **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 have superior wear characteristics.



US Patent Pending



Gap with OEM flap

“The Ninja seed tabs made a huge difference to our seed placement and accuracy—before, we had a lot of seed near and on top of the soil. Also finding we don’t need to run the discs as deep to achieve optimum seed depth and placement.”

Ben Wilson, Tocumwal, NSW, Australia
Exapta customer since 2015. (JD 1895)

After 5,000 acres: “There’s hardly any wear. They’ll easily go another season, unlike the [competitor] tabs that needed replacing every season. We’re very happy with them.”



Darin Brunk & Joe Swanson, Windom, KS • Exapta customers since '99
(Ninjas & Ingersoll-Canada blades on 40-ft JD 1890)

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 into distribution heads).

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!



“We spend so much money on precision seed placement but ignore the consequences of too much air at the seed boot. SeedVU is simple and does the job.”



Craig Shaw, Lacombe, Alberta
(3 years experience with SeedVUs on Salford air drill)

SeedVU for air drills
See p 21 for details.

\$240.00 – 275.00

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

\$4.63

Mojo Wires for drill Keetons

Most grain drills (except JD 50/60/90s, 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.



New design!
More pressure, more resistant to bending. Uses specially milled Keeton. Tab & screw to hold trailing end in position.

So we've adapted our highly successful Mojo Wire to fit all current Keeton models for grain drills (i.e., any that are 2-piece, with a replaceable tail snapping into an upper plastic holder/receiver—i.e., the only style sold in recent years). By **applying 2x to 5x more pressure onto the Keeton** with the Mojo, the Keeton will wear out faster—but at least it's doing some good at that point! It's important to do consistent seed firming *at the seed's location*—and sometimes this is the difference between achieving a decent stand, or not.

The Mojo Wires are **compatible with the liquid feature** of these drill Keetons,* although the liquid tubing is routed behind the upper receiver, instead of inside.

Our specially milled Keetons & Mojos will fit most Sunflower, Crustbuster, Great Plains, Marliss and certain other double-disc drills. The new Case-IH Precision 500 / New Holland P2080-series gauge-wheel drills (which lack an OEM firming device) can use a drill Keeton + Mojo by installing Exapta's steel bracket for this. (* Note: for Case P-500, the Keeton's liquid capability is retained if using Exapta's closing upgrade; otherwise tail is shortened.)



Keetons + Mojos greatly enhance Case's Precision-500 drill performance.

Keetons for drills (and GP twin-row planters)
depending on drill brand/model (some contain extra hardware)
Please see our website shopping for all the details

\$27.50 – 35.50

Mojo for drill Keeton
Requires specially-milled Keeton by Exapta

\$12.00

Steel bracket for Keeton on Case P-500 & New Holland P2080-series drills



\$10.75 ea

Thompson closing for gauge-wheel drills

Thompson closing wheels are an excellent upgrade for JD 50, 60, and 90-series drills, and bolt easily onto the original closing arms. The OEM 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.

“By far the best closing wheel I’ve ever run. I was having trouble covering the seed in dry conditions, and in wet conditions the OEM wheels would smear and overpack. The Thompson wheels work the best in my conditions and do a tremendous job of closing the seed trench.”

Greg Kratzer, Warren, IN
Exapta customer since 2012 (JD 750 drill)

“No problems at all with wrapping of cover crops.”

Steve Groff, Holtwood, PA
Exapta customer since '05
(T-wheels on 1590 drill)



“I ran a Thompson wheel next to the stock cast closing wheels on our JD 1990 CCS drill for one season [’09]. **In heavy residue, the stock wheels simply bounce over the top while the T-wheel runs smoothly and gets the slot closed.** You can’t beat the T-wheels on the JD 1990 drill when planting in muddy field conditions as they get the slot closed and keep the drill running.” [2012 update:] “Basically, we wouldn’t run a drill without them. In other words, **T-wheels are standard equipment for us.**”



Dietrich Kastens, Herndon, KS • Exapta customer since '08
(Thompson wheels on two 42-ft JD 1890 air drills)


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 15), 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 T3X 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 that have seed-lock wheels installed.)



“We have a customer, 100% no-till, who was ready to return [his Case-IH] P500 until he came across Exapta. The customer later called to say how pleased he was with the Exapta setup. He was able to plant an additional 400 acres of custom work because others weren’t able to close the seed slot [excessively wet]. His drill is working great because of Exapta’s products. We are pleased with the experience and look forward to recommending Exapta products in the future.”

Scott Messick, of Messick’s Case-IH & New Holland dealership, Elizabethtown, PA



- | | | |
|--|---|-----------------|
| Thompson wheel T4z
<i>(with stub shaft, for JD 60 & 90-series drills)</i> |  | \$77.00 |
| Thompson wheel T2X & T3X
<i>(with 5/8" or metric bearings, for JD 50-series, Case SDX & Case Precision 500 drills)</i> | | \$115.00 |
| Case P-500/NH 2080 closing upgrade
<i>For more info, see p 20</i> | | \$65.00 |

Shop for Exapta products online



Valion (chrome alloy) for Kinze 3000-series **\$23.50**
 #V.300. Easy to install, incredible wear-life.
 User-friendly hex-head bolts included (no more allen-heads!)
 For more info on Valions, see p 5.

New



Valion Ultra (tungsten carbide) for Kinze 4900 **\$73.00**
 #V.400



Valion (chrome alloy) for Deere XP, ME5 **\$28.50**
 #V.450. (Not compatible with ExactEmerge's brush-belt tube) Twist-on style.
 For more info on Valions, see p 5.



Valion Ultra (tungsten carbide) for Deere XP, ME5 **\$73.00**
 #V.500. (Not compatible with ExactEmerge's brush-belt tube) Twist-on style.
 For more info on Valions, see p 5.



Valion (chrome alloy) for pre-XP and Kinze 2000s **\$33.50**
 #V.150. 'Bolt-on,' for JD 7000, 7200, & heavy-duty welded shank on 1700s ('03 & '04). For more info on Valions, see p 5.
 Also available with oversize bolt, rivet & bushings for shank holes that've been drilled out: #V.153.



Valion Ultra (tungsten carbide), pre-XP & Kinze 2000s **\$78.00**
 #V.200. 'Bolt-on,' for JD 7000, 7200, & heavy-duty welded shank on 1700s ('03 & '04). For more info on Valions, see p 5.
 Also available with oversize bolt, rivet & bushings for shank holes that've been drilled out: #V.203.



Rivet tool **\$60.00**
 With wide die (bit), makes crimping the rivet easier on Valion "bolt-on" installs.



L.433 stainless tube holder **\$26.00**
 For use in applying liquids in-furrow thru Valions on JD 7200 & all 1700-series, except ExactEmerge brush-belt tube.



L.133 stainless tube holder **\$26.00**
 For use in applying liquids in-furrow thru Valions on JD 7000 & Kinze 2000. (Not for Kinze 3000-series) Tubing not included.



Heat-resistant tubing w/ beveled end **\$3.85**
 For use with Valions, 21", 1/4" OD. Beveled end for easier insertion through Valion. Special high-temp semi-rigid plastic.
Also available in 28" length for \$5.21. 28" puts connector above shank; 21" is alongside. (see photos on main Valion web page)













Mur-lok Quick Connect, auto-lock **\$1.95**
 #L.2200. Union connector for 1/4" OD tubing, push ring to release

US Patent No 8,978,564

US Patent No 8,978,564

Shop for Exapta products online

	<p>Keeton, dual-tube w/ Universal bracket \$34.00</p> <p>#KTN115011 The Universal Bracket is the preferred mounting system for most planters. It secures the firmer to row unit shank and surrounds the seed tube. It fits Deere 7000s thru Max-Emerge 5 (except ExactEmerge), Kinze 2000s, White 6000s – 9000s, & some Kinze 3000s (non-EdgeVac, prior to 2013). Two liquid application tubes for split or high-volume applications. (Kinze EdgeVac & all 2013 & newer models need Scraper-Mount bracket instead—see below). Brackets now pre-cut by Exapta for full Mojo compatibility & fast install. Also available with Dry tails. WaveVision-ready</p>
	<p>Keeton, dual-tube, 'Kinze Gold' Scraper-Mount brkt \$34.00</p> <p>#KTN115014 For all Kinze 3000-series (including 2013 & later) row units, using the scraper mounting holes (not compatible w/ rotary scrapers, nor Air Design). New design (no more hole-drilling for EdgeVacs). WaveVision-ready.</p>
	<p>Keeton, Quick Attach: Tail \$20.00, Bracket \$15.00</p> <p>The only Keeton model that fits JD Max-Emerge 5 w/ ExactEmerge brush-belt tube, and the best choice for Kinze 4900. The Quick Attach also fits many other planter models, but we prefer to stay with the Universal Ktns for 2016 until we have more testing on this new Ktn (and Mojo). These brackets appear to be much sturdier & are definitely easier to install than the Universals.</p>
	<p>Keeton, dual-tube replacement tail \$29.00</p> <p>#KTN115013 Replacement tail only, for Universal bracket, or Scraper-Mount bracket. Two liquid application tubes. 'Dry' tails also available. WaveVision-ready</p>
	<p>Liquid tube holster \$4.50</p> <p>#L.501 For external routing of liquid tube on Keeton Universal & Scraper-Mount brackets. See p 7, and our instruction sheet at www.exapta.com/instructions. Recommended with K.211 Mojos.</p>
	<p>Mojo Wire kit, Dry Keeton tails for Universal & Scraper-Mount \$9.00</p> <p>(Wave-ready) (planters) #K.212 Streamlined for better residue flow.</p>
	<p>Mojo Wire kit, Liquid Keeton tails for Universal & Scraper-Mount \$20.00</p> <p>(Wave-ready) #K.211 Fits dual-tube tails *Do not use on Low-Profile tails.*</p>
	<p>Mojo Wire kit, Liquid, for "Quick Attach" Keeton \$20.00</p> <p>K.311 Use this kit when applying liquids via the Ktn. Not field-tested.</p>
	<p>Mojo Wire kit, Dry, for "Quick Attach" Keeton. \$9.00</p> <p>K.312 Doesn't use liquid feature of Ktn. Not field-tested.</p>
	<p>Mojo Wire kit, fits planter Flo-Rite for Universal & Scraper-Mount Brackets \$9.00</p> <p>(WaveVision-ready) #K.215</p>

Shop for Exapta products online

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

US Patent No. 6,907,833



T2X & T3X wheel (5/8" or metric sleeve/shroud)

\$115.00

Fits most JD, Kinze, AGCO White, and Great Plains planters. Also fits JD 50-series drills; Case SDX (with seed-lock wheels); and Case Precision 500 drill using special bracket & torsion spring from Exapta—see pp 16 & 20. Includes snap-ring & bearing (installed), steel shroud, dustcap, bearing sleeve. For more info on T-wheels, see pp 9 and 16. Five-year warranty on bearings.



Toe-out wedge for closing wheels

\$5.50 ea

For JD 1700 (all), White 6000 thru 9000, Kinze 3000 & 4000 closing brackets. For more info on toe-out, see p 10.

New



55% rate

Closing bracket spring

\$5.75 ea

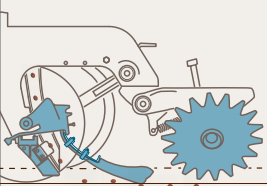
(Replaces OEM heavy spring) Since spoked closing wheels have a much smaller footprint on the soil, a lighter spring is useful on the closing bracket. Our medium spring (#M.4466) is for tougher soils (low OM, eroded, high-clay or sod). Stouter than our old 1/3-rate spring, M4433.



Complete closing upgrade for planters

\$246.75

Fits most JD, Kinze, AGCO White, and Great Plains planters. Includes 2 Thompson wheels (T2X or T3X: metric or 5/8" sleeve/shroud) 2 wedges, and a medium closing spring.



Complete row-unit upgrade, planters

\$313.25 – \$401.91

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

\$85.50

#M.4501X. For T2X or T3X 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

PLT120740. Updates JD 7000, 7200 to bolt-on closing wheel configuration. Spring not included.



Gauge-wheel bearing

\$8.75

M.4887. KYY 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.

Shop for Exapta products online

U.S. Patent Pending



New

UniForce™

Call for info

Fits all JD 60 & 90-series box drills & air drills. Overcomes the biggest limitation of these drills, which is lack of down-stroke as the coil spring relaxes slightly (only a teeny range of optimum spring pressure—like, 0.25"). See p 13.

Price
Slash!



Ingersoll-Canada opener blade, JD 50/60/90 drills

~~\$31.57~~

\$28.61

J.5069. Dramatically sharper when new, and stay sharp longer than JD and aftermarket blades for these drills—Exapta's are made with a stronger proprietary steel formulation by Ingersoll. Proven technology, proven durability. Exapta brings you only the very highest quality. Same dimensions as OEM. See p 13 for more information.

Better
than
Ever!



Thompson wheel T4z

\$77.00

With stub shaft, for JD 60 & 90-series drills. New 'z'-series is made from military-grade armor plating, for even longer wear life than our previous x-series. For more info, see p 16 .



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

\$5.25

M.4714. Manufactured to Exapta's high-quality specs for longer service life (less breakage, maintains strength) and 20% more force applied to the boot. Special ultra-durable paint process prevents rust. Plus a splotch of blue for visibility.

*"Exapta seed boot springs are absolutely brilliant compared to the JD springs, and less expensive."
—Tom Robinson, Hoyleton, South Australia*



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

\$4.63

#M.4708. Unique forward bend to put more seeds in the bottom of the furrow. Superior wear life; doesn't break off like OEM and aftermarket flaps. Fits Standard and Extended Wear boots. See p 13 for details.

Coming
Soon!



DuraLok™ seed-lock wheel

\$51.50

Fits JD 50/60/90 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! Although our custom-built triple-lip-seal bearing by NTN is so durable you may never need to do so. Available in early April 2016.



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.

New



Mojo Wire for drill Keeton

\$12.00

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. For more info on Mojo Wires for drills, see p 15.



Steel bracket, Keeton on Case P-500/NH 2080 drill

\$10.75

#C.101L/R. For more info, see p 15.

(each)

U.S. Patent Pending

Shop for Exapta products online

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

Now optimized for smartphones & tablets, plus major overhauls to make online shopping much easier.



Bracket kit for T-wheels, Case P-500/NH 2080 drill \$65.00
*#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 20), since the T-wheel does no packing. Also included is a lighter torsion spring for the closing arm. Easy installation. **The only closing option for these drills that allows full-length liquid Keetons to be used.***

New



Coil spring, for boot/scrapper on CIH P-500 / NH 2080 \$5.81
#C.4300. 25% more force than OEM to reduce straw tucking between boot & blade. Special ultra-durable paint process prevents rust.



SeedVU for late-model Deere air drills \$275.00
Venting unit, fits into top of JD distributor head (divider/"pod"/manifold) in place of OEM plastic twist-on lid. (Doesn't fit older JD head with metal lid, long J-bolt, and wing nut – but those old heads should be upgraded anyway; you'll find a lot more convenient access & less plugging by getting rid of the J-bolt, and less seed damage & smoother product flow). See p 14 for details.



SeedVU, Case-IH / NH Flexi-coil ('EZ Flow' head) \$250.00
Diffuser / venting unit, fits all New Holland / Flexi-coil air drills built in the past 15+ years in North America, and most modern CIH air drills. See p 14 for details.



SeedVU, for Smallaire distribution head \$240.00
New 2015 SeedMaster drills; older Amity drills; and other drills converted to Smallaire heads (see below). See p 14 for more information.



SeedVU, for Seed Hawk, Salford drills (Raycol head) \$250.00

SeedVU, late-model Amity/AGCO Sunflower drills \$260.00
Fits plastic distribution head

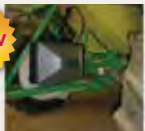


Smallaire conversion head 12 outlets \$230.00
6 outlets \$173.00
Other outlet numbers available, from 3 to 16—call for pricing. Upgrade to use SeedVU on other drills (older Deeres with steel heads/pods, etc.) Zinc-plated. Hammer-coat paint. Top-shelf product. Smallaire is an Aussie company, and these folks know their air flow.



Smallaire riser pipe 2.5-inch \$95.00
Also available in stainless steel, \$110.00. 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



Smallaire heat exchanger \$2,300.00
This unit takes excess heat from your tractor's hydraulic oil and uses it to warm & dry the air stream going thru your air drill, thereby reducing gunk accumulation in all lines, heads, junctures, tubes, and boots. Plus, the benefits of cooling the tractor hydraulics. Large radiator for best performance.

We're here to help

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** (see p 23) to help you along each step of the way. And our **2014 Seeding School DVD** is 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. Our website is now optimized for smartphones and tablets, plus major overhauls to make online shopping much easier.



“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

“We installed Valions, Mojos, and Thompson wheels last year and our stands were substantially better. In the past, we were having a hard time getting the stands and yields that we wanted, but now we are doing better than we ever have. **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



2014 No-till Seeding School DVD

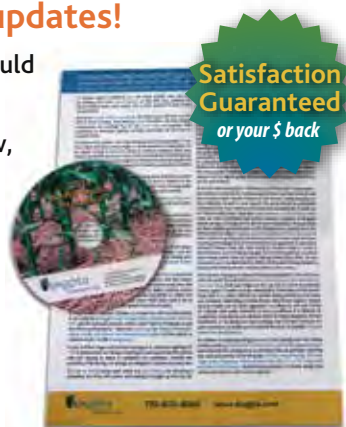
\$75.00

For those who missed out on the school, here's the full 3-hour DVD. 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

2014 edition includes 5 years worth of updates!

- Discussion of what the components & attachments should be doing (or not)
- Any fertilizer with the drill or planter? Where, why, how, and the trade-offs
- 'Preparing' the seedbed at harvest of previous crop
- Carefully chosen photos, diagrams, & video clips
- (Revised/expanded) printed troubleshooting guide for in-field use
- No sales pitches, purely educational

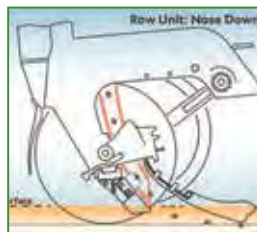


“Thank you for creating this wonderful DVD. It’s the best \$65 I’ve ever spent in farming. I’ve never seen anything like it, certainly not in Australia, and not from the U.S. either.”

—Fraser Pogue, Ardmona, Victoria, Australia

The 2014 Edition surpasses the '09 Edition in clarifying the original message, as well as exploring more recent technology and how it may fit your operation.

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 2014 Edition

\$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 laminated 10-step guide.

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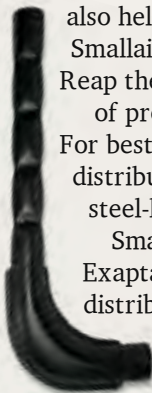
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