

INSTALLATION

of

Exapta[®]s Valion[™] seed-tube guards for planters

Assembly for Valion guards for Deere XP & MaxEmerge 5 planter row units (cast shanks) (not for ExactEmerge):

- 1) Remove both gauge wheel arms, opener blades, seed tube. Remove OEM guard by rotating, then sliding forward. (if a Keeton Universal ‘wrap-around’ bracket is already installed, remove only the front screw and the plastic wedge).
- 2) Install wings on Valion guard using hex-head bolt & locknut. Tighten.
- 3) Install Valion by sliding it into position (if tight, twist Valion back & forth, or scrape some paint off the stud). **Don't hammer on Valion!** If installing liquid tube, see below & p 2. Otherwise, reinstall screw & wedge in Keeton bracket. Reinstall seed tube, etc. You're done!

Assembly for Valion for Deere pre-XP (7000, 7200, early 1700s w/ sheet-metal shanks) & Kinze 2000s:

- 1) Remove both gauge wheels, opener blades, seed tube. Remove seed-tube guard by grinding off the roll pins, bolts, or rivets holding it onto shank, then driving them out with a punch. Clean out dirt & rust from between the sheet-metal flanges of shank; *if the roll pins have distorted the sheet metal on the inside (between flanges), use a die-grinder or file to remove this*. Flanges that have bent may require straightening. Egged-out holes are usually still usable, if the front rivet is *tight*.
- 2) Install wings on Valion guard using the hex-head bolt (5/16 x 5/8") and locknut. Tighten.
- 3) Slide Valion guard into position with bushings (see photo). If flanges are tight at the back, use a pry bar to flare them slightly to accept the bushings. If the front is tight (especially JD 7200s), recheck that no burrs are between the flanges of shank; if it's still tight, grind a *teeny* bit on front edges of Valion where it is tight against the sheet metal. **Don't hammer on Valion!** *Use a punch to align the holes; if much force is needed, then something needs a smidge more grinding.* *Valion should be able to float side-to-side slightly* (bushings wider than Valion). Install the button-head allen capscrew (5/16 x 7/8") & dimple-lock jam-nut (thin locknut) in rear hole. Insert rivet in front hole. Tighten rear bolt. Use a vice-grips to pinch the row unit flanges together during crimping of rivet **with air hammer (needle scaler), sickle-bar rivet tool (preferred method), or by placing a larger hammer on head of rivet and hitting the other end with the round end of smaller ball-peen hammer**. Clench rivet tightly. Carefully grind off any part of rivet butt protruding more than 1/16".



- 4) If installing liquid tube, see below & p 2. Otherwise, reinstall seed tube, opener blades & gauge wheel arms. **Important:** You may need to re-shim the blades. Do not mash the blades too tightly together, especially with the thicker 3.5mm blades—these should contact each other for a distance of 0.75 – 1.75" along the forward lower edges (definitely not the 3" used for thin 3mm blades). Blades may contact the wear block of the guard, but should still turn without much effort. If blades turn hard, double-check that the nut holding the rear of the guard isn't dragging on the blade.

Operation & Maintenance: ► The furrow shape created by the Valion will allow larger seeds to consistently reach the bottom of the furrow. *You may need to set the depth shallower than what you are accustomed to.* ► Replace opener blades at 14.63 – 14.75" diameter. If you commonly wear the blades below 14.75" and plant in very rocky fields, you might want to grind off more of the lower rear corner of the chrome-alloy Valion.

Installation of Exapta's stainless-steel tube holders & 1/4" plastic tubing for liquids:

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 them clean can be more challenging when liquids are applied ahead of them—although this is entirely dependent on liquid rate & stickiness, and soil properties. However, many people get along just fine, year after year, applying liquids ahead of Keetons. If you choose to use the liquid feature of the Valion, here are guidelines for using Exapta's stainless-steel tube holders, L.133 & L.433.

- 1) Remove OEM curved shield that covers the upper front of the opener blades. It is held by two small carriage bolts.
- 2) **Dislodge any sand particles from internal channel of the Valion** using a long narrow-tip screwdriver, especially in the channel's bend.

3A) For Exapta's high-temp 1/4" tubing (semi-rigid, white), use a 21" length if you want the connector *alongside* the shank; **or** a 28" length if you want the connector *above* the shank, i.e., just ahead of the seed meter (Note: on JD 7200s & early 1700s w/ sheet metal shanks, the tubing can be routed *inside* the shank for extra protection – see pics on p 2). Insert the beveled end of tubing into *front* of Valion (**don't push the tubing up from the bottom, since it scratches the tubing which may then leak at connector**); tubing will go easily for ~ 0.5". Then, **bend the tube towards the base of the Valion** while vigorously shoving on it (**see pic, p 2**). If it won't go, try scraping the channel further with a screwdriver.



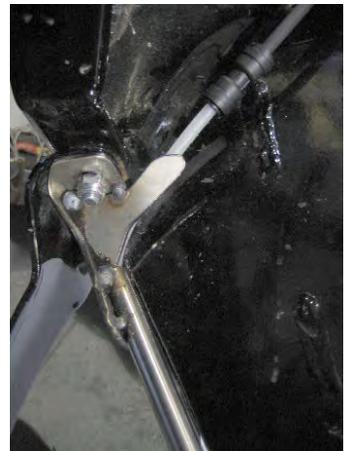
(cont'd) For tube insertion, dish soap doesn't help much—and you need max grip on the tubing for pushing. Don't use petroleum-based lubricants. Push it thru till ~5/8" is below lower edge of Valion (will be trimmed later).

Next, take the upper end of tubing hanging out of the Valion, and slide it thru the gap at the front of Keeton wrap-around bracket (if installed), then thru stainless tube holder.

For Kinze 2000s & JD 7000s (L.133 bracket), the tubing will be outside the shank on the LH side (when viewing shank from rear). Insert carriage bolt thru shank & shield, then push the tube holder up onto the bolt and secure with locknut (see photo at right). For Deere XP, tubing & connector may go on either side of shank; secure shield & stainless tube holder with carriage bolts. For Deere 7200s & early 1700s (sheet metal shanks, not cast), the plastic tubing can go thru the shank itself (see photo, below left). Connect tube into system.



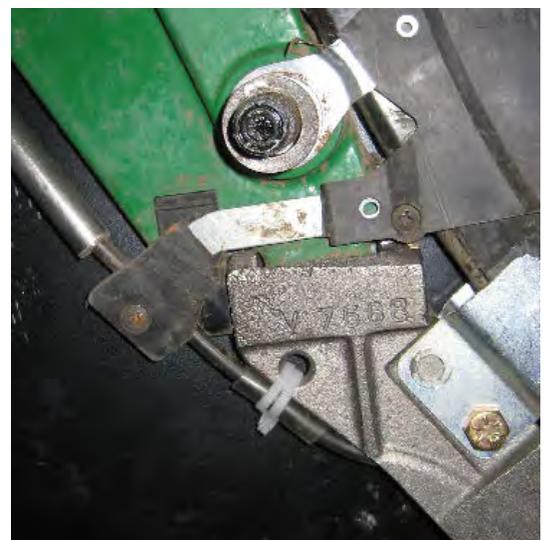
3B) For ordinary 1/4" OD plastic tubing (often red, blue, black; more flexible, but prone to melting from the heat generated by the Valion), route the tubing thru or alongside the row unit first—see 3A for different planter models. Route the 1/4" line thru row unit from the top, as shown, then into the top of stainless tube holder, **being careful to avoid kinking the tubing.** Don't use any lubricants except dish soap. Continue pushing the 1/4" line thru the stainless pipe until you have about 10" sticking out, which then goes into the front of the Valion, slowly cinching the pipe into place but **preventing kinking the tubing by supporting the tubing with your hand as it makes an arc below the lower end of the pipe (see pic below left).**



(Black tubing is far less likely to kink than is red or blue tubing, due to thicker walls and un-dyed material.) **Note: tubing passes thru the Keeton wrap-around bracket where the wedge once was.** When finished, any extra of the 1/4" tubing has been taken out below and above the stainless pipe, by either pushing it lower into the Valion, or pushing it up thru the row unit. Reinstall the curved shield so that the stainless tube's flange is sandwiched between the shield and the shank (see pic below right). Tighten bolts.



4) If using 1/4" line all the way up to a manifold, protect it from stalks above the shank—with "oversize" tubing (3/8" ID anhydrous or similar plastic tubing). Measure out the length of oversize tubing needed, and slide it over the 1/4" line (Note: to help hold the oversize tubing in place, and keep out dirt, use a short segment of 1/4" ID x 3/8" OD "medium" tubing (slit along its length) pushed into the gap between the 1/4" line and oversize tubing. With the correct size of medium tube, it wedges everything into place. Secure the oversize tubing as it comes thru the parallel links, using large zip-ties. (This is important when running in corn, milo, cotton, or sunflower stalks, although a good 'stalk catcher' or shielding is also highly recommended.)



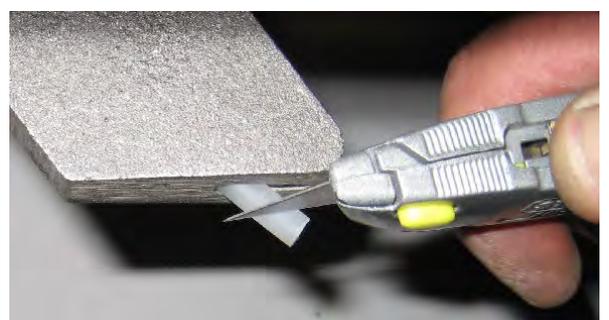
L.433 on XP cast shank.

5) If applicable, reinstall front screw in Keeton bracket (the bracket's wedge gets discarded; the bracket is just fine without it). Install zip-tie around 1/4" line and hole in Valion. Use a double-wrap of the zip-tie.



L.433 stainless-steel tube holder (painted blue here) on early 1700-series sheet-metal shank. Oversize NH₃ tubing protects the 1/4" line, routed in from top of the shank (cannot do this on JD 7000 & Kinze—it's welded shut: Use our L.133 tube holder instead.) Shield removed in photo.

6) Cut off tubing below the Valion. There should be ~0.25" of tubing extending below the Valion, and the front edge of tubing should extend below the rear (see photo).



Exapta Solutions now offers its proven chrome-alloy Valions for Kinze 3000s:



Seed-tube guards for Kinze 3000-series planters

OEM

Valion



Same planter, same acres on the two guards in the middle, with same new blades installed & all other settings the same, and neither running in wheel tracks. OEM lost 0.30" thickness at lower front corner, and is beyond worn-out for opener functionality. Further, it is now wearing into the hollow part of the OEM casting, which will accelerate the rate of wear and may destroy the attachment area on the shank if not caught and replaced soon. The Valion lost only 0.15" thickness at its corresponding point, and its wear will actually be slowing down as more blade contacts untouched areas of the guard (and also because these prototypes from 2013 were considerably wider than OEM, putting even more wear on them than will occur now that we've narrowed the Valion to be exactly the same width at that spot as OEM).

- The Kinze 3000-series Valion's tough chrome alloy and 60% more surface area in contact with the blades, for a wear life that's well beyond 2X of the OEM guard. Why does this matter? As you are likely well-aware, the OEM guards on the 3000s are notorious for quickly wearing out in firm soil conditions, which allows the blades to pinch together excessively from the pressure (the guard has worn down and no longer provides a backstop at the correct location). The pinching of the blades creates a furrow that may be no thicker than a credit card at the bottom, and is far too narrow for seeds the size of soybeans or corn to get to the bottom. Since the blade flex varies as the opener goes along (due to variations in soil firmness), the actual seed depth is all over the map, even with seed firmers installed.
- Excessive opener blade-flex may cause early bearing failure, and seed tube ruination.
- Worn-out guards, if ran too long, will allow the blades to destroy the shank itself (the spot where the guard bolts on).

By contrast, the Valion for Kinze 3000s (# V.300):

- allows for easy installation and removal with *hex-head bolts* (not annoying allen-heads that get packed with dirt and rust).
- Compatible with EdgeVac seed tubes
- groove to keep the seed tube centered between the blades
- Limits blade flex to properly shape the furrow.
- Keeps blades apart to properly form a consistent furrow.
- Doesn't drag below the blades.

Valion V.300 for Kinze 3000-series is now available for \$23.50 from Exapta. Call your Exapta Sales Rep to place an order, or dial Exapta's main line at 785-820-8000. For small quantities (including drop-shipping), you may also shop online at www.exapta.com. Our Valion for Kinze Two-thousand series is also quite an improvement over OEM.



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