INSTALLATION & ADJUSTMENT
of

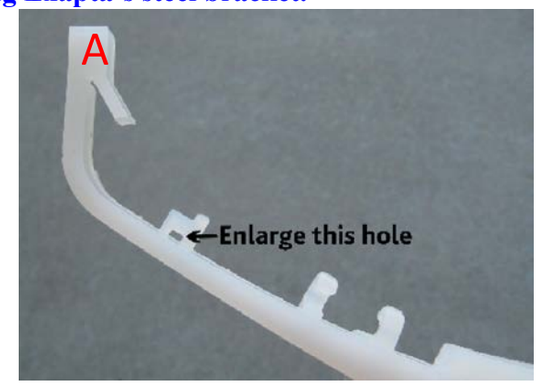
Exapta®s K.600, K.607* Mojo Wire™

for drill Keetons

***K.607 for Case-IH Precision 500 / NH P2080 / 2085 drills only**

(K.600 also fits 'Great Plains Narrow' Keeton for GP twin-row planters)

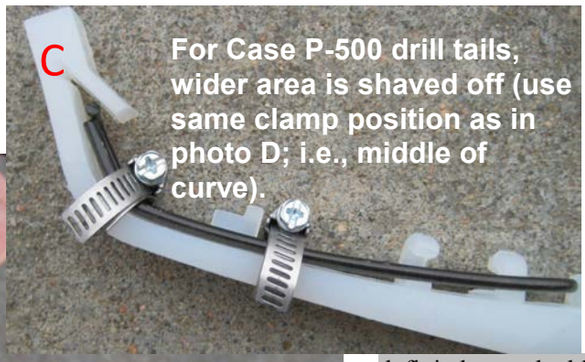
Assembly for all drill Keetons w/ replaceable tails (not for older single-piece drill Keetons). Also, special instructions for installs on Case Precision-500 drills using Exapta's steel bracket.



1A) Remove liquid tubing from upper portion of Keeton (plastic holder/'receiver'). Partially remove liquid tubing from tail by snipping the small zip-tie from the molded 'loop,' then unwind tubing from the opposing hooks and a couple inches of the groove. If you're not using the liquid feature, remove tubing completely.

1B) If you plan to use the liquid feature now *or in the future*: drill out the loop (see Photo A) to easily accept a larger zip-tie. Next, using a pliers, gently bend the two opposing hooks into a more open position—approx 20 – 30º more open.

2A) Slide hose clamp(s) & Mojo Wire onto tail (see Photo B; **Note: K.607 uses *two* hose clamps**). Mojo Wire will seat over the opposing hooks on tail, and U-shape (trailing) end of wire will butt up against the 'wall' where the groove begins. Secure wire with hose clamp(s) as shown in Photo D **(or C)**—*upper clamp's location fore/aft is important, **since hose clamp must be able to go up inside plastic receiver as tail flexes to the max.*** Also keep the upper wire ends somewhat away from centerline of Keeton tail by placing your thumb between the wires while tightening hose clamp (tensioning screw of plastic receiver will get screwed down onto tail *between* wire ends). Keep clamp's worm-screw approx. centered on midline of tail as you tighten (start out with it rotated 20º towards the head side, and it will crawl into position as the clamp begins to grip the tail). When nearly tight, gently tap the bottom of hose clamp to conform it to bottom edges of tail. Finish tightening, *gently* (*don't overtighten—**the small worm-screw can't handle much torque***—ideally, use a nut-driver rather than a ratchet). The straight end (no L-bend) of the wire remains loose under the hose clamp. **Snip off end of hose clamp.**



2B) For Case's Precision 500 /NH 2080 /2085 only *(for all other drills, go to Step 3)*: Install second hose clamp just behind the loop (photo C). Snip off end of hose clamp.

3) If using Keeton to apply liquids: Reinstall liquid tubing, by pressing the tubing back into the groove, then winding around the hooks—hold the Mojo wire down while doing this, and definitely use the black tubing, not the flimsy red or blue tubing which crushes/creases/cracks too easily. *Insert zip-tie into loop hole that was enlarged in Step 1B, but above both sides of the Mojo Wire (Photo E).* Then zip together around tubing so as to secure the tubing to the loop, ***but not overly tight*** (Photo F).

4) For Case's Precision 500 /NH 2080 /2085 only *(for all other drills, go to Step 5)*: Top of Keeton's plastic receiver should already be chopped as shown in Photo G on p 2 (*you need the Keeton specific for these drills from Exapta or S.I. Distr.: add'l modifications have been done.*)

5) All drills: Insert tail into plastic receiver, making sure the 'thumb'/prong jutting from tail is above tensioning/retaining screw as you tighten. Screw should be between wires (if not, revisit Step 2). Tighten screw until rattle (free play) is eliminated and is just beginning to push on tail—further adjustment will be done in-field. **Don't overtighten!** If using the liquid feature, *keep 1/4" tubing outside of plastic receiver of Keeton* (see photo G). (OVER)

Instr. revised 13 Mar. 2015.

6A) For all drills <u>except</u> Case P500 / NH P2080: bolt entire Keeton assembly onto drill, using Precision Planting's steel brackets & hardware for your drill model that should be included in Keeton box. Refer to their instructions for details.

If using the liquid feature, attach tubing to uppermost hole in plastic receiver with a zip-tie to keep it from rubbing on blade(s), but *leave zip-tie as loose as possible (see photos) so that tubing doesn't kink when tail flexes to the maximum.* Above the Keeton (above the opener), protect 1/4" tubing with oversize anhydrous or other hose. For fewer leaks, throw away the chunk of clear splicer tubing included in Keeton box and instead use a Mur-Lok or similar quick-connector (auto-lock, push inner rings on each end to release), or route a continuous piece of tubing from manifold all the way thru the Keeton.

6B) <u>For Case P500 / NH P2080 only:</u>

i) Remove the two stud bolts attaching "scraper" (a.k.a. boot) to opener, paying attention to any spacer washers. The shield above the boot also is held by these bolts. These bolts will be used again to reinstall.

ii) Insert 2 bolts (provided by Exapta) into the pair of smaller holes in Exapta's steel bracket from what will be the *front* of bracket (inside the L-bend) (see Photo G). Using these bolts, attach plastic Keeton receiver to steel bracket as shown, and secure with locknuts. Tighten.

iii) Using the front bolt that holds boot/scraper on, align all the pieces and insert bolt (with the drill unfolded, it's much easier to do this while lying under the opener (*for safety: make sure opener ranks are locked in transport position*). The steel Keeton bracket is the outermost 'layer' (scraper is innermost, then shield, then Exapta Keeton bracket). When aligning stud bolt and getting it started, remember that stud angle is 90-degrees to blade & hub, and not main opener arm (visually deceptive). Do not tighten this bolt yet—only a couple turns. Then, get ready to install rear bolt. Rotate scraper, shield, and Keeton bracket into position. If any spacers came out, put them back (underneath the scraper), using special 'finger-magic' ☺ —seriously, just hold the spacer washer up from the bottom in the approx spot (using thumb and index finger), and finagle the bolt until it captures the hole in spacer washer(s). Tighten bolts—note that one of them cranks down the top part of the scraper until it's against the blade, while the other cranks the bottom of the scraper over. Both need to be tight, but if the scraper doesn't realign against the blade, this means you might've lost a spacer, or were on the verge of needing one. Scraper must be flush against blade to prevent plugging.

iv) If using the liquid feature (w/ full-length Keetons that are compatible only with Exapta's closing system for the P-500; i.e., Case / NH & other aftermarket closing systems that don't move the packer / closing wheel rearward will need the shortened Keeton tail, which eliminates the liquid feature): Attach tubing to uppermost hole in plastic receiver with a zip-tie to keep it from rubbing on the blade, but *leave the zip-tie as loose as possible (see Photo G) so that tubing doesn't kink when tail flexes to maximum. Then zip-tie farther up the opener but as loose as possible (see Photo H, towards bottom of pic).* Finally, secure tubing farther forward (for instance, front of depth-adjust notches) and these should be zipped tight.

Adjustment of Keeton tension (all drills):

After adjusting opener down-pressure, frame weight (ballast) (make sure the drill frame isn't lifting), and depth, check to see how much pressure the Keeton tail has on it. It should resist being pulled out of the furrow by your thumb and index finger, and vigorously 'thump' back into the furrow when released. Or, better yet, adjust with a fish scale hooked into the loop at far trailing end of tail, aiming to obtain 5 – 10 <u>pounds</u> (*not* ounces) of pressure for no-till conditions (when doing this measurement, pull the Keeton up out of the furrow a bit, so that it isn't stuck (tractor may have rolled back a smidge or whatever), then let tail relax again and measure as the tail is pulled upward slightly (moving the loop of the tail upward no more than 0.5" from where it was on the bottom of the furrow).

During the drilling season, you'd be wise to recheck this pressure on a few rows (spot-check) every 20 hrs, at least initially, until you get an idea of how fast they're losing tension from stretch and/or wearing off the bottom edge. Periodically check for missing or badly damaged Keetons & Mojos.