

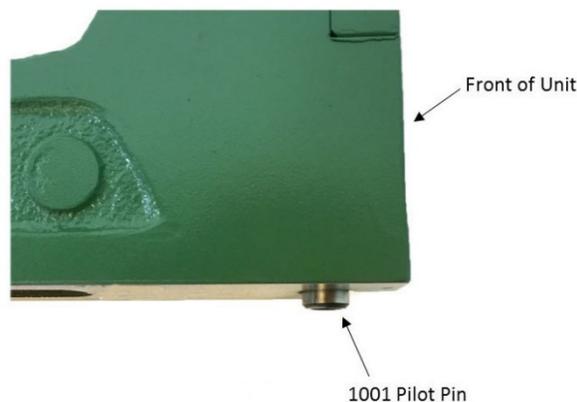
### A-2 ½ Unit (For Round Holes)

#### Assembly and Punch and Die Replacement

##### Lower Arm Assembly

**Pilot Pin Removal:** To remove the pilot pin, thread the ¼-20 x ½ set screw into the holder to back the pilot pin out of its hole.

**Pilot Pin Installation:** Use a brass or aluminum hammer to install the pilot pin assembly (P/N 1001) into the hole on the bottom of the holder under the die. Ensure the pilot pin is perpendicular to the bottom and extends 3/32" from the bottom surface. Thread the 1/4-20 x 1/2 set screw (P/N 91332, supplied with pilot pin), until it touches the bottom of the hole, being careful not to push the pilot pin back out.



**Die Removal:** To remove the die, first use a hex key wrench to remove the ¼-20 x 1 ½" socket head cap screws (P/N 91013) from the die block (P/N 2475) and pull the die block off the front of the lower arm. Remove the die.

**Die Installation:** First make sure the die and die seat are free of debris. Then insert the die (P/N 2420) with the cutting edge on the top, being sure the die is fully seated in the lower arm of the holder and the die block is, itself, fully seated in the lower arm of the holder and securely held in place with the socket head cap screws. (The die block creates half the die seat and it is important the die block be fully seated in the holder for the die to be flat.) A useful tip is to put a guide in the upper arm and push it down against the die to fully seat it.

## Upper Arm Assembly

**Punch, Guide and Spring Assembly:** First check punch and die alignment. Externally lubricate punch body (P/N 2411) with a thin even coat of lubricant (e.g. P/N 8007 Molykote® type G-N metal assembly paste). Insert punch (threads facing up) into the bottom (the end away from the snap ring) of the guide (P/N 2435) and loosely thread the punch screw (P/N 2485) only a few threads, by hand, into the punch. Now using the punch screw as a handle, drop this punch and guide assembly through the guide bore of the holder, gradually lowering the punch into the die. Visually look to see that the die clearance is even all the way around. If the die clearance is uneven, contact UniPunch.

Pull this assembly back out once die clearance is visually verified and remove the punch screw leaving the punch in the guide.

Stack the set of 10 disc style stripping springs (P/N 2440-10) with the disc spring curvature opposing each other as shown in the picture on the right. Place the stack of springs into the spring guard (P/N 2442). Insert the punch driver (P/N 2484)

**2440-10  
 STRIPPING  
 SPRING  
 SET OF 10  
 STACK AS  
 SHOWN**



down through the center of the springs. Insert this assembly into the top of the guide. Insert the punch screw thru the punch driver and by hand engage a few threads into the punch. To prevent the punch from spinning while tightening the screw, make sure to align the hole on the side of the punch with the key slot on the guide, and insert a drift pin or similar tool through the key slot of the guide and into the



hole in the punch. Put the punch and guide assembly into a soft jaw vice and tighten the vice just enough to prevent the guide from spinning while you tighten the screw. Use a hex key wrench to tighten the punch screw. **Important:** tighten the punch screw until the punch driver is tight against the punch so that during punching operation the punch driver is what engages the punch and not the

threads of the screw. When properly assembled the disc springs will not spin and there is no loose play that would allow the punch to move up and down or spin in the guide.

Assemble the conical lifter spring (P/N 2470) onto the guide body, putting the narrow end of the spring on first. Lubricate the guide bore of the holder with a thin even coat of lubricant (e.g. P/N 8007 Molykote® type G-N metal assembly paste).

Insert guide assembly into holder. While pushing down on the guide, align the flat on the guide retainer (P/N 1018) with the flat on the guide. Insert the guide retainer in the guide retainer bore in the

upper arm with the small diameter up and use the button head screw (P/N 91330) to secure the guide retainer under the lifter spring. (For additional feed clearance, assemble the guide retainer with the small diameter down.)

### **Converting a Round Unit to a Shaped Unit**

Purchase a shaped hole conversion kit (P/N 7115) (this includes #9300 key kit and #2435 shaped guide) and the appropriate shaped punch and die.