

# UniqueTek “Tips” File #22: “Die Lock Nut Spacers”

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I frequently receive questions from customers who are setting up a die and find that the die must be screwed down so far that there aren't enough threads above the press frame, toolhead or dieplate to secure the die lock nut. The only option is to put the die lock nut on from the bottom of the die. But, particularly with progressive presses with interchangeable toolheads/dieplates, there may not be enough clearance and the die lock nuts hit the press frame. Or the nut will go on but there is no clearance for a wrench.

For example, the CNC Machined Toolheads from Whidden Gunworks and UniqueTek, Inc. are thinner than OEM toolheads for Dillon RL 550 and XL 650 presses. So placing a die lock nut on the bottom is not possible as the corners of the nut hit the press frame.

From time to time I've searched for commonly available washers, spacers, shims, sleeves, bushings, etc. to find something that would work, without success ... until now! It turns out that a copper plumbing connector for sweat soldering 3/4" rigid copper pipe is the perfect inside diameter and wall thickness. Plus they are easy to find, inexpensive and easy to cut.

The following instructions and photos are based on a Dillon RL 550B press using a UniqueTek CNC Machined Toolhead. But the same technique will work for any press/toolhead.

## Materials Needed

- 1) 3/4" Sweat Copper Coupling
- 2) Pipe Cutter †
- 3) A Sheet of Medium Grit Sandpaper

† Using a Pipe Cutter is highly recommended as it ensures a square cut.



## Cutting The Spacer

1. **Measure Spacer Length:** To measure the spacer length needed, install the toolhead into the press and measure from the bottom of the toolhead to the bottom of the frame. Add an extra 1/32" to ensure the die lock nut completely clears the frame.

NOTE: For these CNC Toolheads on an RL 550 press, the length is 7/32".

2. **Mark Cut:** Mark the cut length on the Copper Coupling.

3. **Cut Spacer:** Cut on the mark using the Pipe Cutter.

**TIPS:** A. The roller in the Pipe Cutter has a wide side and a narrow side. Orient the Pipe Cutter so that the wide side of the roller is on the bulk of the copper coupling. This will help hold it straight when nearing the end of the cut.

B. Go slowly on the first rotation and ensure that the cutting wheel meets the beginning of the cut exactly. After that, the blade will track the groove and ensure a square cut.

C. After the first full turn, you can go faster but you will get a cleaner cut if you tighten the cutter in small increments in each rotation. It will also be easier to hold the copper coupling if you tighten the cutter in small increments.

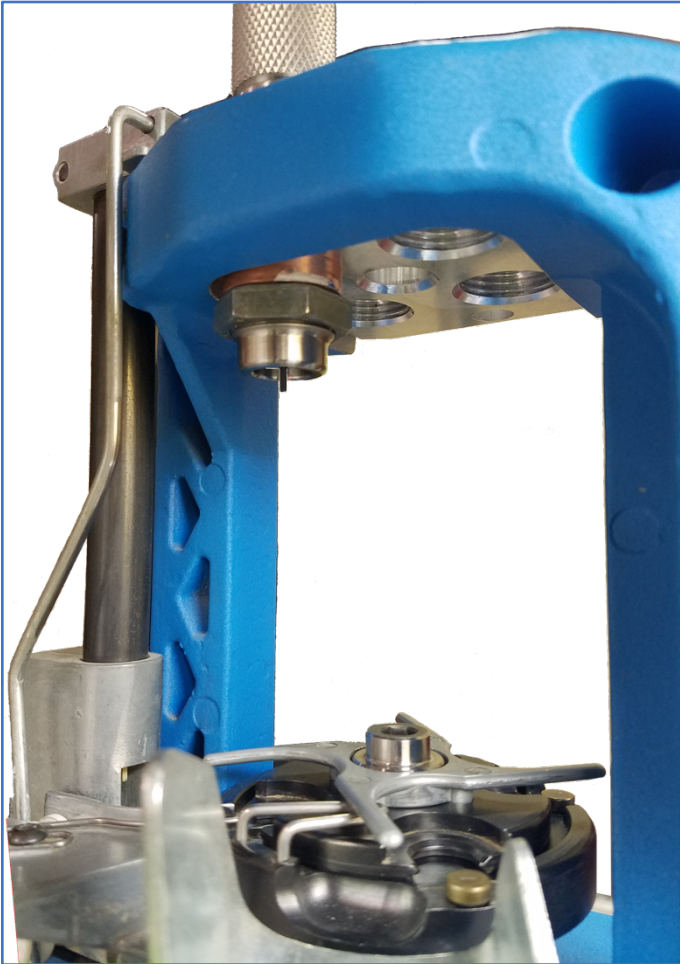
D. Slow down and make smaller cutter adjustments at the end to get the cleanest cut.

4. **Clean Up Burr:** Clean up burr on the cut end of the spacer. A sheet of medium grit sandpaper on a flat hard surface works fine. You don't need to sand it down to a completely flat end, just remove the sharpness.

## Installing Spacer

1. Install die in toolhead and set up as you normally would.
2. Slide the spacer up onto the die body then screw on a die lock nut.
3. Tighten die lock nut.

The photos below are of a Dillon RL 550B Press with a UniqueTek CNC Machined Toolhead and a Redding Full Length Sizing Die. For photographic clarity, only the resize die has been installed.



Viewed from right side of press.



Viewed from left side of press.

## Closing Thoughts

I hope you find this Tips file useful. If you use this on your own press, please let me know the details. I'm trying to build a list of which die types, manufacturers, etc. are most likely to be affected. And send a photo if possible!