

## Removing roll and taper pins, the easy way

Roll pins can be removed by using a pin puller, which is basically a milling machine collet with a slide hammer attached.

The collet is squeezed against the pin to be removed and the slide hammer portion is used to impact the pin, causing the pin to release from the frame.

What can be done if the pin puller is unsuccessful? There are several alternatives. One is to drill through the center of the pin and then tap the hole in the pin so that a bolt can be inserted into the pin.

Once the hole is tapped in the pin, use the following procedure to remove the pin.

First, install enough spacers over the pin so that the spacers exceed the pin's height. Second, insert a bolt into the pin. The bolt used must be sized so that it does not bottom out but contacts the surface of the spacers, which forces the pin to be extracted from the frame.

### **The block method**

Another method to remove the pin is to make a jig from a small block of steel. The size can vary. I use a block that is 1.5-inches by 2.75-inches thick, with a hole drilled in the center that is slightly larger than the pin.

Drill two additional holes on each side of the center hole, and tap each one. Size them so you can use a 5/16-inch bolt in each tapped hole. Next, drill a hole into the side of the block so it protrudes through the block's center.

Tap the hole to allow a setscrew, which is used to apply pressure to the side of the pin for extraction.

Once the jig is made it can be placed over the pin to be removed and the setscrew tightened. The pin can now be removed by inserting and tightening the two 5/16-inch bolts, which will apply pressure to the frame of the printing unit, in turn forcing the jig to pull the pin.

What if the pin is broken off even with the frame of the unit?

Several techniques can be used to remove the pin. The easiest way is to find the center of the pin and drill the entire pin out.

Unfortunately, it is impossible to drill the exact center of the pin, which means that the hole will not properly support a replacement.

To get around that hurdle, I normally drill a hole in the center of the pin. I tap the hole and prepare a long grade 8 bolt. I thread a nut on the bolt and then place a spacer whose inside diameter is slightly greater than the pin. Now the bolt can be fully threaded into the pin. Extract the pin tightening the nut against the spacer.

This method can also be used to remove broken taper pins.

**Stuck pins**

Despite these tricks, ever once in a while you'll find a pin that is stuck so solidly into the frame that these methods won't work. When this happens, if possible and if the hole extends through the press – such as the case for taper pins – I use a port-a-power device on the inside to push the pin and one of the tricks mentioned above to pull on the pin at the same time. When the balky pin finally breaks free, it is an impressive sound!

When all else fails, the pin can be fully drilled out and an oversized pin installed. If the same size pin is required a special oversized pin can be machined and pressed into position. Was the hole drilled slightly off center? It's then possible to machine an eccentric pin, which can be positioned exactly on center and then pressed into place.

Have some other techniques? Let me know and I'll share them in a future column. – *NT*