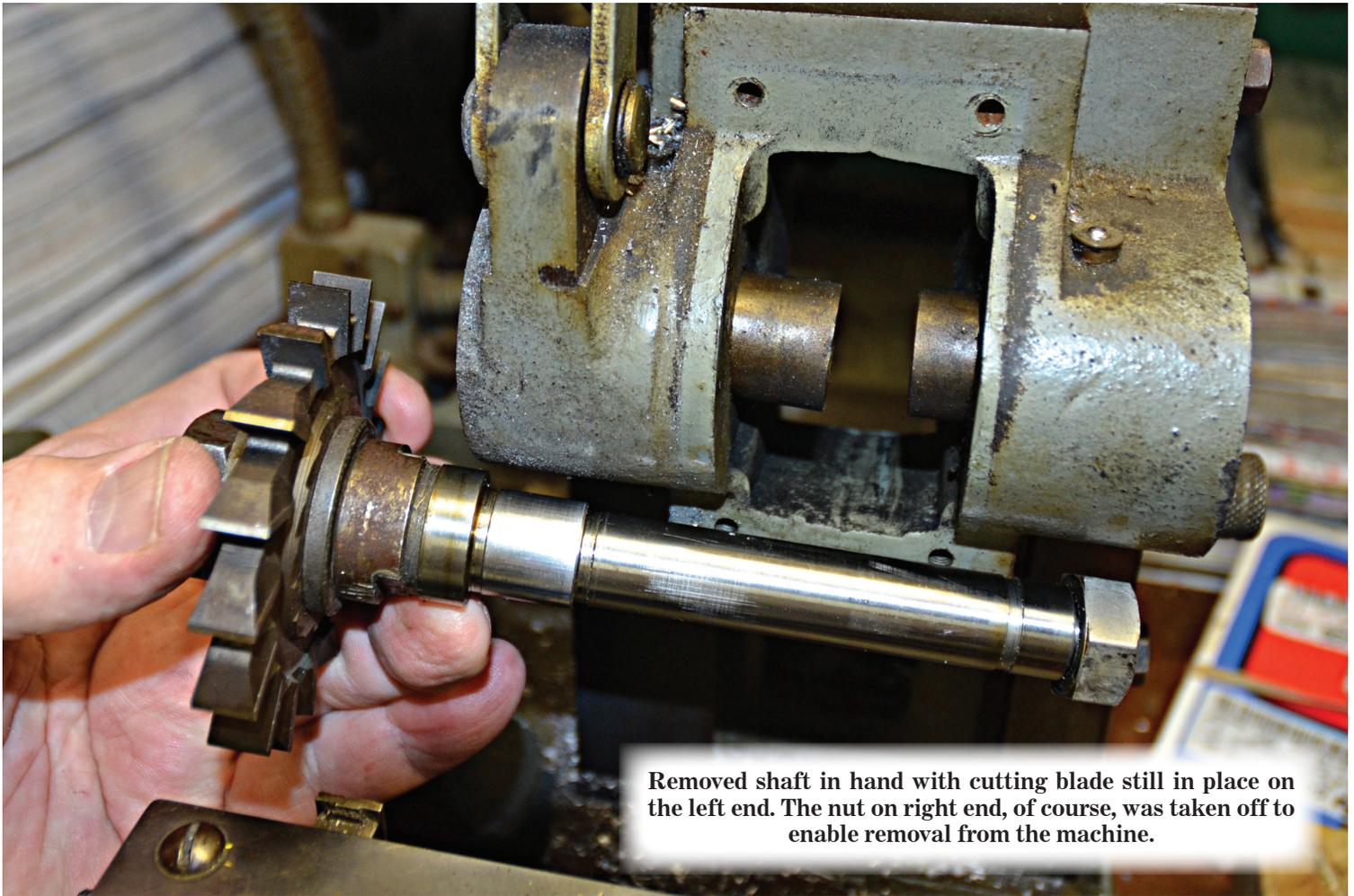


Servicing the Rouse Type Mortiser/Vertical Miterer



Removed shaft in hand with cutting blade still in place on the left end. The nut on right end, of course, was taken off to enable removal from the machine.

The bad news is that these wonderful machines are no longer manufactured and are becoming increasingly rare. The good news is that the two important components—the cutter blades and the belts, are standard products easily purchased today from hardware stores or machine tool suppliers such as MSCDirect.

Both the Mortiser and the Vertical Miterer are built on the same platform and thus, they are considered together in this discussion.

Replacing the Belt

Good news is the belt is standard-issue belting available from a good auto parts store or similar supplier. The bad news is that the front end of the belt is locked within the frame of the unit and thus, disassembly is necessary before replacement can be made.

The belt is a 3/8" x 30" standard V-belt which carries the number 12-513. The 3/8" dimension is important for there is very little clearance in the front end of the machine, meaning a thicker belt probably wouldn't fit properly—if at all!

Disassembly is as follows.

- Remove the blade guard on the left side by removing two screws. It is not necessary to remove the blade unless you are replacing it for some reason.
- On the right end of the frame you will see a circular disk held in place by two screws. Remove this disk cover, which gives you access to the right-end of the main shaft.
- To remove the shaft you will need a 3/4" socket wrench

because the nut is inset and not accessible to a standard wrench. The threads are standard, meaning you turn counter-clockwise to remove the nut. To remove you will need to wrap the cutting blade in a rag and somehow secure it so it won't turn while you're removing the nut.

- Next you need to remove the main shaft which has an un-threaded pressure fit. It probably hasn't been out of the machine for 50 or 60 years so you'll need to use some force in pounding it out. Be aware that if you hit the end of the shaft with a hammer, you'll damage the threads on the right end of the shaft, so you're advised to use a good center-punch to keep your blows away from the threads.
- As the shaft comes loose you will find the belt pulley is positioned mid-way between two brass collars, visible in the picture above. These collars are somewhat difficult to get positioned so leave them in place; remove the pulley as the shaft gives you clearance upon extraction to the left.
- A bit of reconditioning of the pulley might be in order if your old belt disintegrated as did mine. The original equipment belt had steel innards burred on the pulley itself, making the edges sharp and frayed. This needs to be cleaned up with a file to avoid damage to the new belt.
- Re-insert the pulley with the belt in place and reassemble everything. Give the bearings and other working parts a shot of oil while you're at it.

Replacing the Cutter Blade

Removal of the blade is the same process for both machines. First step is to remove the blade shield on the machine. Then you simply remove the nut on the left end of the shaft, visible right behind my thumb in the photo. *The trick is that this nut is reverse threaded, meaning you must turn it clockwise to remove.* The second trick is somehow securing the shaft from turning while you attempt to remove the nut. If you have a set of open-end wrenches which are very **thin**, there are grooves for using such a tool just to the right of the cutter blade. I don't have any thin-bodied wrenches so I resorted to using a pair of vise grip pliers and it worked. My big discovery was the reverse threading.

Once you remove the nut, you'll find the blade likely will be mounted in a shim/flange device along with a couple of washers. Make sure you keep track of how they are assembled, for getting these components out of order will likely improperly position the cutter blade (right-to-left) when it is placed back in the machine.

Blades for the Mortiser

Lucky for us all, the blade for the Mortiser is a standard machine tool component. I believe the Rouse original equipment utilized a blade that was half an inch wide. Since they're available in differing widths, I have bought two additional blades for doing fancy mortising, such as cutting two pieces of type to fit together with top and bottom cut away on one letter, and the center cut away on the second letter. The center cut often needs to be far less than half an inch wide, so I bought a 3/8 inch blade for that purpose.

The standard blade is 3" x 1/2" x 1" Side Milling Cutter. It is available from MSCdirect and other similar companies.

I have also bought a 3/8" blade and a 9/32" blade just for good measure. One of them ended up being staggered cutters while the others are all at right-angle to the tool itself. I think the staggered cutters probably work a little better, but it's not really a great concern either way.

The whole mechanism for holding a piece of type in the Mortiser is tenuous and experience has told me that trying to make a 1/2" wide cut deep into a 60-point letter is really testing the ability of the machine to hold the type. For that reason, I use narrower blades and make two or three parallel cuts. This precaution saves your ruining an irreplaceable letter that simply *should* be mortised.

If you do go for the narrower blades you will likely need two or three additional washers to hold the thinner blades in place. The washers need to have 1" center hole, and no more than 1 1/2" outside diameter.

Blades for the Miterer

I am in the enviable position of having a new spare blade and no need (as of yet) to replace the blade in my Miterer. I am not certain such a blade is available on the machine-tool market, but I wouldn't be surprised if such were available.

The spare blade I have has the Rouse name stamped on it. I show a photo of the blade. Outside diameter is 3 1/2", diameter of inside hole is 5/8", and the thickness of the blade is 1/2". The cutters are a 90-degree cut positioned 45 degrees to the sides.

You will notice I have photos of two different blades shown



here. The one in my hand is for the Miterer. The other is for the Mortiser. Note that they have different size center holes. Thus, it might be advisable to disassemble your machine to determine the diameter of your shaft before pursuing a new blade.

Blade Longevity

Frankly, I cannot see a reason for dulling a Miterer blade. Mine is an ancient machine and I've cut quite a few rules on it over the years and there's no indication that the blade is dull or in need of replacement.

The Mortiser is a different matter for being careful as you can, when you're trying to do things like mortise 10 point letters (or even smaller) it is highly likely your going to hit the metal flange at the bottom of the type holder and if you do, you're likely to dull the blade. If you get burrs along the edges of the cuts, then your blade is getting dull, You may knock these burrs off with a file, but after a while that becomes a nuisance and replacing the blade is one of those simple luxuries you deserve—so do it!

Prepared by Rich Hopkins, 5/14/2014