

Tip #57 MARK V Maintenance Tips

Here are five helpful MARK V Maintenance Tips that will help you to keep your MARK V running accurately and safely.

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1. MARK V and Electricity

As you know, we can never over emphasize safe operating practices, and I've been wanting to share with you some special safety precautions.

At all times during use the Shopsmith Mark V should be grounded to protect the operator from electric shock. Here are some tips for proper grounding:

The Shopsmith Mark V cord should always be fitted into a proper grounding type receptacle. For this reason the Mark V is equipped with an approved three-conductor cord and a 3-prong grounding type plug. The green conductor in the cord is the grounding wire and should never be connected to a live terminal in an outlet box.

Use only three-wire extension cords which have three-prong grounding type plugs and three-hole receptacles which accept the tool's plug. For the safety and well-being of the built-in motor it is always preferable to have the Mark V connected to an independent line without extension cords. If it is found necessary to use an extension cord, it must be of a heavy enough gauge cord to provide the proper current. For extension cords up to 20 feet, use no less than 14 gauge, three conductor cord, and for 20-100 feet use no less than 10 gauge three conductor wire.

Also, please remember that the cord and plug should be replaced immediately, if they become damaged.

Let's all practice these additional safety measures for more enjoyable woodworking.

2. MARK V Speed Dial Lock

During the summer months, when your shop is open, children may venture in to see all that interesting equipment. Not only is this dangerous to them, but it can also mean you might be faced with a repair bill.

Your trouble starts when the kids turn the machines on or turn the Mark V speed control handle. To prevent little hands from turning ON the machine, always remove the key and put in a safe place. On older models, use a safety padlock that slips through the holes in the guard wings.

As for the speed dial, you can keep this from being turned by making a simple lock out of flat steel. A 25/32" hole in the lock fits on the quill feed shaft under the quill lock handle. A 1/2" hole fits over the knob on the speed control handle.

To install, remove the quill feed lever and the quill lock. Then, with your machine running, turn the speed dial until the knob is at the top of the machine. Slip the speed dial lock over both the quill shaft and the knob. Put all the other hardware back on, and your machine's completely safe!

3. MARK V Headstock Lock

Both the carriage and the headstock slide on two way tubes. These tubes can be damaged if you over tighten these locks. After positioning the headstock and the carriage where you want them, spin the lock handles as tight as it will go, spinning freely. Then tighten the handle a maximum of 1/2 turn. Some machines may need slightly less tightening than this, but no machine should need more.

You will find that this 1/2 turn will be quite sufficient to hold the headstock and the carriage in place, even in the drill press position. And it will be easier to un-tighten the locks to move these parts when you need to.

If your lock handles will not spin freely, take a few minutes to clean the sawdust off the threaded rods. Don't lubricate the rods or wedge locks, or the oil will combine with the sawdust to form a gummy paste.

4. MARK V Troubleshooting

Problem	Possible Cause	Remedy
Motor Only Hums	Bad motor	Disconnect drive belt from sheaves. Turn machine on. If motor starts, check bearings. If motor still hums windings are bad.
	Bad capacitor (For Older Models)	Check switch; disconnect belt. If motor won't run, replace capacitor.
Turn machine on and nothing happens	Bad Switch	Check outlet and wires on the switch, If outlet is good and wires are tightly connected replace the switch.
	Bad Cord	Replace cord.
	Bad Capacitor (For Older Models)	Drop the motor and remove the capacitor and replace.
Excessive vibration at high speed	Bad Belt	Replace the belt.

5. MARK V Tailstock & Toolrest

Carefully remove your lathe center from the Mark V Tailstock. It's a simple fit – one taper slides into another, but it can get awfully tight. Twist the lathe center out as if it was a dart. If this doesn't work, place the Tailstock on a work-bench with the eccentric center supported and tap the lathe center out with a soft-faced mallet. Whacking the center out, with the Tailstock mounted on the Mark V, can loosen and damage the Tailstock tubes and eccentric center.

Always wipe the lathe center tapers free of sawdust and wood chips before assembling the two pieces. A silver of wood caught between the tapers can misalign the center or cause slipping of or damage to the eccentric center.

Best Dressed Tool Rest

It's easy to evaluate the fact that a properly prepared tool rest plays an important role in obtaining a smooth, clean cut as you make the final pass on a turning.

If you're unable to glide your chisel smoothly across the length of the tool rest without experiencing resistance, the tool rest needs attention. Run your finger along the top surface. If this test reveals any roughness or nicks, smooth the working surface like this:

Using a mill file held lengthwise, file all nicks and rough spots. Maintain the original profile of the tool rest or create a new curved profile.

Wrap 400-grit silicon carbide paper around a 4" log block of wood and hone the metal.

Follow up with 600 grit paper to obtain a polished surface, then apply a coat of furniture paste wax.

Finally, run the chisel across the tool rest and see what a difference it makes to have a smooth work surface.

In order to keep you lathe chisels from "dragging" across the tool rest and producing nicks, file the sharp corners off the top 25% of the end of the body of the chisel.