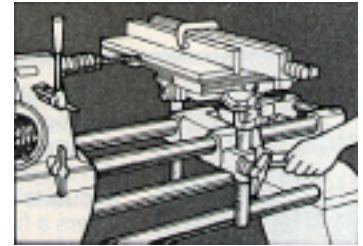


Horizontal Boring Machine Set-Up & Safety

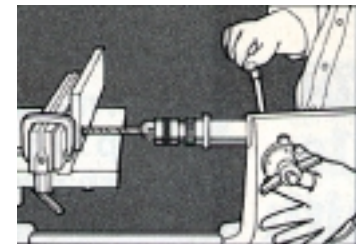
Set-Up

NOTE: Illustrations shown here feature the Model 500 MARK V. However, set-ups are identical, no matter which model machine you own.

1. Set up the MARK V in the horizontal boring position. Turn on the machine and set the Speed Dial for the size of hole you want to bore (see table below). Turn the machine off, install the Drill Chuck and mount the appropriate Bit in the Chuck. **Remove the Chuck Key.** Mount the Rip Fence on the Table (to use as a backstop). Clamp a scrap block to the Rip Fence face. Position the stock you wish to drill so its edge is 1/4" to 1/2" away from the tip of your Drill Bit. Clamp your stock to the Table surface. Adjust the Table height to position your holes as desired.



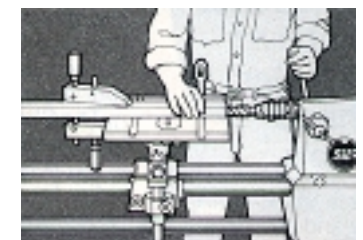
2. Through Boring. Extend the Quill until the tip of your Drill Bit touches your stock. Set the Depth Control and allow the Quill to retract. The Depth Control keeps the bit from boring all the way through the scrap and into your Rip Fence. Turn on the machine and allow it to come up to speed. Feed the Bit into the stock while maintaining a steady pressure. Stop when the Depth Control halts the Quill. Retract the Quill. Turn off the machine and allow it to come to a complete stop before removing your stock.



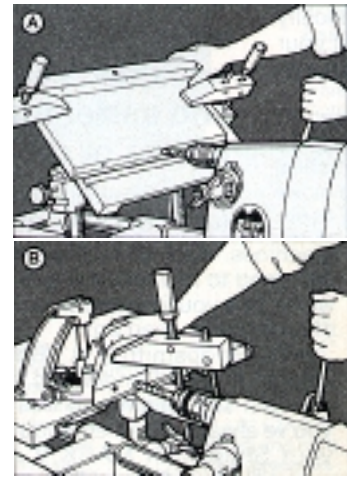
3. Stop Boring. Follow the procedures for "Through Boring", except...set your Depth Control to stop the Bit at your desired depth. All the holes you bore at any one setting will be exactly the same depth. No scrap block is necessary, however, one clamped to the Rip Fence will help keep your stock from sliding. Tighten the Table Height Lock so that the Table doesn't move. Do not over-tighten.



4. End Grain Boring. Use your Miter Gauge to hold your stock square to the Bit while boring. If your stock is less than 30" long, mount the Rip Fence (to use as a backstop) on either the main Worktable or the Extension Table. If your stock is longer than 30", clamp it to the Table surface to keep it from slipping during boring. Reduce the machine speed slightly, since boring end grain can be difficult.



5. Angle Boring. (See A) Tilt the Table in toward the Headstock at any angle from 90-degrees left to “0”. Mount the Rip Fence (to use as a backstop) onto the Table surface. To keep your stock from sliding, clamp it to the Table surface. Use your Miter Gauge to hold small pieces of stock. If the angle is acute, clamp scrap block(s) to the Table and/or Rip Fence for protection (See B). Another way to angle bore small and narrow stock is to use your Miter Gauge. Adjust the Miter Gauge to the angle needed and clamp your stock to the Table surface.



HORIZONTAL BORING SPEED CHART

Size of hole	Hardwood (rpm)	Softwood (rpm)
Up to 1/4"	J (1900)	K (2050)
1/4" to 1/2"	I (1750)	J (1900)
1/2" to 3/4"	F (1300)	H (1600)
3/4" to 1"	C (950)	E (1150)
Over 1"	SLOW (700)	A (750)

Horizontal Boring Safety

Help protect yourself from injury by learning and following all power tool safety rules. NEVER operate any power tool until you have read the safety instructions that accompany that tool.

Here are the safety rules to follow whenever you operate the Horizontal Boring Machine function of the Shopsmith MARK V:

- Read the Owner’s Manual
- ALWAYS remove the Chuck Key from the Chuck before turning on the machine
- Wear appropriate eye and ear protection at all times
- Keep your hands, fingers and other parts of your body at least 3” away from moving Bits and always out of the Red “safety zone”
- Roll up long sleeves above your elbows, remove all jewelry and tuck long hair under a cap
- NEVER wear gloves when working with machinery
- Position the Worktable so your stock is properly supported at all times
- Clamp stock to the Worktable whenever possible
- Never use dull, damaged or bent Drill Bits
- Always use proper speed setting (see chart)
- Never try to stop the machine by grabbing the Drill Chuck or a Bit, even when the power is turned off
- Never use a bit with a tapered square shank in the MARK V Drill Chuck
- Turn off and unplug the MARK V before changing modes of operation or performing any maintenance procedures