

MARK V SERVICE POINTERS

MARK V SPEED CHANGE MECHANISM

The ease of changing speeds is one of the most desirable features of the Shopsmith MARK V. By adjusting the motor speed between 700 and 5,200 rpm, you can perform a multitude of operations, including sawing, molding, sanding, lathe turning, drilling, shaping and more.

The Shopsmith speed change mechanism relies on sliding sheaves that increase or decrease your MARK V's speed by increasing or decreasing the diameters of driving or driven pulleys. This unique pulley system allows an infinite variation in speeds and enables you to select the exact speed for any given operation.

Such precision parts require regular oiling to ensure the smoothest possible movement – a few drops of lightweight machine oil applied every ten hours of actual running time is recommended.

The speed control mechanism is located inside the MARK V's headstock. Its accuracy depends on regular maintenance. However, sometimes, it demands a little more. Here's a handy, quick-reference troubleshooting chart for those times.

Problem	Possible Cause(s)	Remedy
Won't change from high to low speeds	Retaining Loop may be disconnected Control sheave is sticking	Remove nameplate from back side of headstock and press leaf spring in on the quadrant, then re-hook the loop. Remove the nameplate from the back side of the headstock. Reach in and try to slide the control sheave. Oil the shaft and work the oil in.
Spindle stops turning when speed dial is turned from high to low	Floating sheave is stuck	Remove belt cover and oil motor shaft. Move sheave by hand. Belt may have slipped between control and Poly-V sheaves.
Speed dial "creeps" during operation	The spring (504228) may not have sufficient tension	Remove the control handle. Remove the screw that holds the spring and gently bend the flat spring to create added tension.
Very hard to turn speed dial when moving from high to low speed	Sticking sheaves. Keys on shafts may be bent.	Oil both control (504781) and floating (504208) sheaves. If oiling doesn't help, file of any burs or replace the bent key(s).
Speed changes although dial remains at same setting when changing speeds	Bad control handle	Gear in back may be stripped. Remove control handle and check. If so, replace.
Speed dial turns...but speed remains the same	Worn quadrant Loop disengaged	Check teeth on quadrant. May be stripped. Remove nameplate from back side of headstock and check. If stripped, replace. Remove nameplate from back side of headstock and rehook loop onto quadrant