

POWER FEED INSTALLATION ON BENCH MILLS

The power feed available from Precision Matthews is powered by the standard 110Vac 60 Hz supply. It comes with a complete manual and all mounting hardware. The outline description and photos on this page show the power feed unit installed on the PM-30MV.



Figure 1 Power feed unit as shipped
This is the underside of the unit. The pre-installed gray casting at top is referred to in the power unit manual as the "Big Adapter". The drive gear is arrowed.

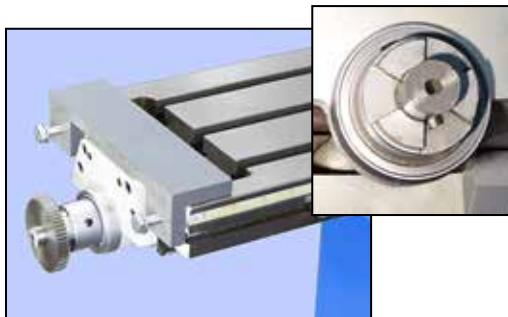


Figure 2 Install the adapter bracket and leadscrew gear
Remove the left-hand handwheel. Install the large gear on the lead-screw to engage the three "dog teeth", inset. Tighten the set screw in the gear. The bracket shown here is referred to in the power unit manual as "Small Adapter". It is secured by two M8 hex head screws (not shown) bearing on the left hand edge of the mill table. Slots on the "Big Adapter", together with the two out-facing M8 screws, allow vertical adjustment to optimize engagement of the two gears.



Figure 3 Install the power feed unit
Slide the unit down to engage the two pinions. Snug the hex head screws, but don't fully tighten.



Do not connect 110 Vac power until you have tried manual feeding (right hand handwheel) to check for proper engagement of the gears

Gear engagement

"Proper engagement" is hard to specify. The separation that should exist between the gears can be gaged in several ways, one way being to insert a scrap of standard printer paper (usually about 0.004" thick) into the mesh, then crank the right-hand handwheel. Lower the power feed unit to the point where the paper feeds through the gears with some resistance — but without binding. Once the paper is ejected the gears should be properly meshed.

Lubricate the gears with NLGI No. 2 grease!

Be sure the X-axis (table) locks are free.

Connect 110Vac power. Run the power feed unit **slowly** in both directions. If gear noise is an issue, try raising or lowering the power feed unit — but don't expect a totally silent drive (these are straight-cut gears). Tighten the hex head screws, Figure 2.



Figure 4 Install the gear cover



Figure 5 Install the limit switch components
To install the travel stop bumpers, left and right, it may be necessary to grind the T-nuts so they fit in the dovetail slot (arrowed) on the facing surface of the table. Install the limit switch in place of the table position marker post. Set the limit switch to align with the travel stop bumpers.



Figure 6 Install the limit switch cover
The cover has internal springs. Be sure they are in line with the limit switch plungers. When properly installed the cover should be freely movable from side to side with a small amount of spring resistance.