

PM-728V-T POWER FEED INSTALLATION

The power feed supplied by Precision Matthews comes with all mounting hardware needed. Use this guide to install the feed, as it has been modified to fit the PM-728V-T.

Start the installation by removing the handwheel and graduated collar from the left-hand end of the mill table, Figure 1. These items will not be needed, and can be set aside.

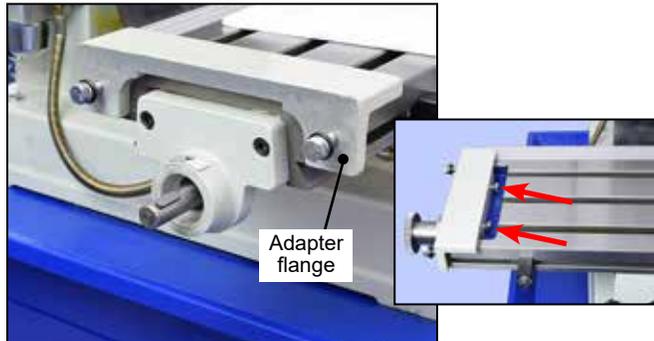


Figure 1 Install the adapter casting on the mill table
Using a 12 mm wrench, tighten the two inboard M8 screws, arrowed, to secure the adapter. **Avoid over-tightening the screws — this can split the casting.**

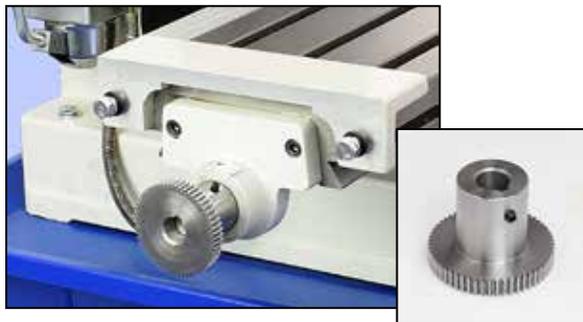


Figure 2 Install the driven gear on to the keyed shaft.
Tighten the set screw.

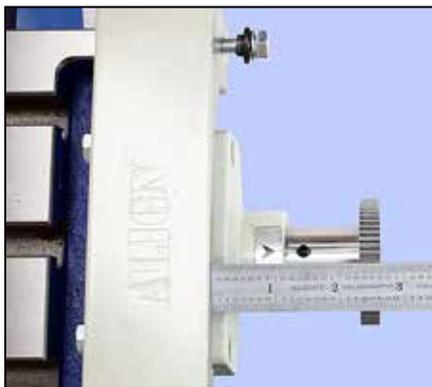


Figure 3 Measure the distance from adapter flange to gear
In the next step, the distance between the mating flange of the adapter and the drive gear will be adjusted to be the same as this measured distance.



Figure 4 Power feed underside
Install the mounting bracket on to the feed unit as shown, leaving the socket-head cap screws loose, (1) and (2), then adjust X to the distance measured in Figure 3. Be careful not to cause the driven gear to scrape the motor housing, Figure 5. Tighten the cap screws.

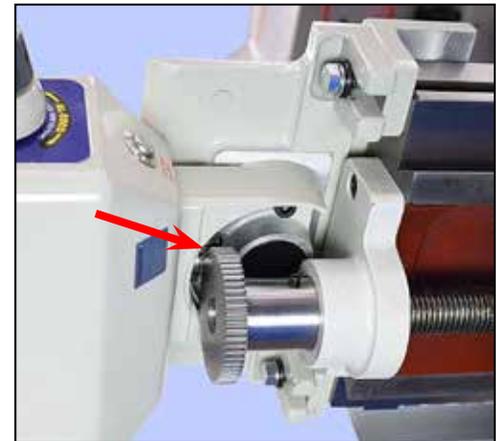


Figure 5 Be sure the driven gear is clear of the motor housing

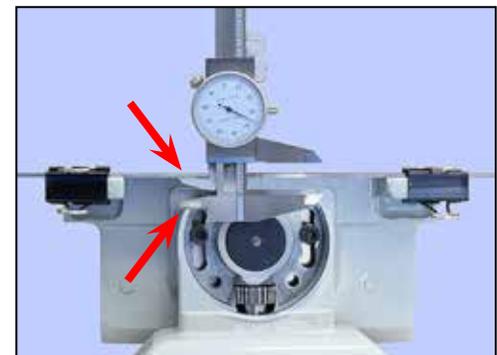


Figure 6 Align the motor straight to the adapter bracket
Accurate alignment of the gears helps minimize gear noise. Use a depth gauge or calipers to make minor adjustments. In this photo a steel rule is clipped to the adapter flange, allowing the distance from either side of the circular feature to the flange to be compared using the inside jaws of dial calipers.



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



Figure 7 Install the power feed unit

Slide the unit down to engage the two gears, see inset below. Snug the hex head screws, Figure 2, but don't fully tighten. Install the black plastic gear cover, securing it with the supplied double-sided adhesive tape, or (optional modification) drill and tap the casting for screws front and back, arrowed.

GEAR ENGAGEMENT & TRIAL RUNNING

1. "Proper engagement" is hard to specify. The separation that should exist between the gears can be gaged in several ways. One way is 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.**
2. Be sure the X-axis (table) locks are free, and table is free from any obstruction.
3. 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 to change gear mesh — don't expect a totally silent drive (these are straight-cut gears). Tighten the hex head screws to secure the power unit in place.



Figure 8 Install the limit switch backing plate

Replace the center post on the front face of the saddle with the limit switch backing plate as shown.

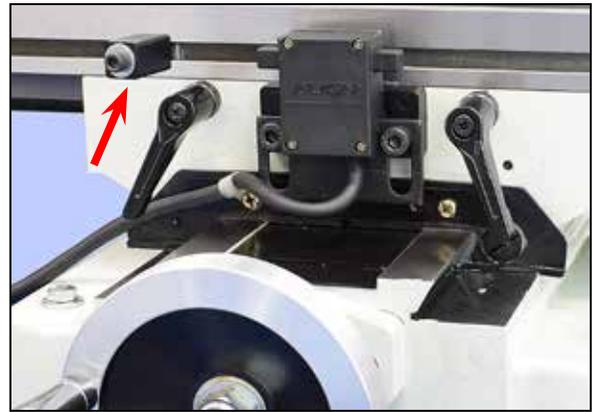


Figure 9 Install the limit switch components

Install the travel stop bumpers, left and right, followed by the limit switch. Position the limit switch to align with the travel stop bumpers. To test the switch function run the table from left to right, then press in the left-hand plunger. The motor should stop immediately. Repeat the test on the right-hand plunger, running the table from right to left.

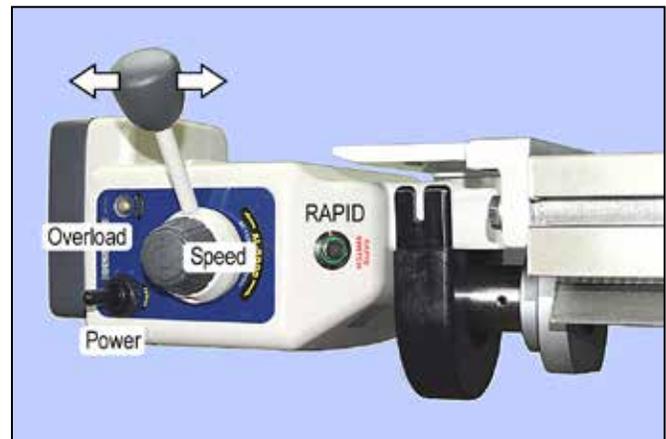


Figure 10 Power feed controls (file photo)