

## TIP 107 — Lathe Power Feed/Asher Stange & Frank LeMay

### Customer Lathe Power Feeds

We used to offer a Lathe Power Feed (P/N 3001), but we could no longer find an adequate replacement motor for the power feed, so we reluctantly discontinued it. The demand for this product decreased with the advent of CNC and stepper motors. Since we discontinued selling this product, a couple of our customers sent us plans within days of each other for alternative power feeds that they built for their lathes. We believe both are good designs and are affordable to build and assemble as a DIY project.

For both of these projects, you will need the following leadscrew engagement parts from Sherline:

P/N	Description
15090	Sliding Shaft
15420	Engagement Lever
15430	Fixed Shaft
40510	10-32 x 3/8 SHCS

### Courtesy of Asher Stange

I am aware that you used to sell a power feed for the lathe. However, I feel my design will be equally as effective.

The included images display drawings of the plastic coupler, base, and a photo of my finished power feed I made. I 3D-printed the plastic parts, but there's no reason injection molding wouldn't work.

I made steel and plastic couplers for the rear gear shaft for the thread cutting attachment. I found that durable plastic is preferable as it does not scratch or bite the shaft and doesn't require lubrication, and the slight flex in the plastic can accommodate small imperfections on a bench or table. The main cost of this accessory is the 60KTYZ 50 RPM motor (there are other RPMs available, slower and faster.), which was only \$25.00 from Amazon. I calculated the feed rate to be 49.8mm/min at 50 RPM (about 1.96 inches/min).

Thank you,  
Asher Hennessey-Stange



FIGURE 1—Asher's lathe power feed unit.

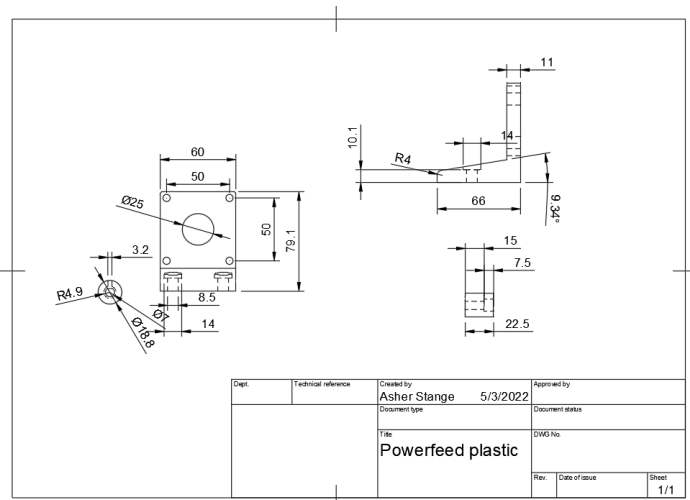


FIGURE 2—The technical drawing for the plastic base is in millimeters NOT inches.

### Courtesy of Frank LeMay

The hook-up is very simple. Connect the power supply to the controller and the controller to the motor.

The variable power supply allows me to regulate the feed rate.

The controller with an RF remote gives me the ability to move the cross slide left or right, and the stop button is pretty much immediate. It is also very nice that the remote is wireless to reduce clutter in the work area.

You also need the “sliding shaft” bits and coupling from the Sherline catalog (see the parts list on the previous page). The only modification to any Sherline part was to the power-feed drive coupling (P/N 45140). The motor has an 8 mm D shaft, and I had to just skin the inside of the shaft end with a small boring bar to get it to go on. The bracket standoffs are 3/4" aluminum spacers that are secured with #8 screws.

The power feed is working great for my need, which is mainly for rounding sticks of acrylic for making pens. I have not tried it on metal yet. I’ve been running this now for about a week, and I’ve not noticed the motor getting hot.

All told, this was about \$80 worth of components from Amazon at retail.

I’m very happy with this solution, and maybe others who need a power feed will like it too.

Thank you,  
Frank



FIGURE 3— The power-feed motor is on the backside of the controller, and it fits nicely beneath the headstock DC motor.

### Frank’s Shopping List



**DC Worm Gear Motor** (Amazon.com: BRINGSMART 12V 160rpm DC Worm Gear Motor 10kg.cm Self-locking Engine Reversed Mini Turbine Geared Motor for DIY Robot Rotating Table Door Lock Curtain Machine (12V 160rpm)). \$29.99



**Mounting Bracket** (Amazon.com: Bringsmart 370 Mounting Bracket with Screw Worm Gear Motor Fixed Fastener DIY Parts DC Motor Holder (Single-Side Bracket)) \$8.99



**Power Supply** (Amazon.com: SHNITPWR 60W Universal Power Supply DC 3V 4V 4.5V 5V 6V 7V 7.5V 8V 9V 10V 11V 12V Adjustable Variable Power Adapter 100V-240V AC to DC Converter 1A 2A 2.5A 3A 4A 5A with 14 Tips & Polarity Converter) \$22.99



**Wireless Remote Control** (Amazon.com: eMylo Smart RF Motor Controller Switch Relay Wireless Remote Control Switch 12V Motor Switch 433Mhz for Rolling Door, Electric Curtains/Locks, Water Pump, DC 5V-24V with 2 Transmitters (1 Pack)). \$14.49

All prices current as of May 2022.

### Original Power Feed Instructions

The original Power Feed instructions (P/N 3001) detail the installation of the engagement lever and the leadscrew shafts for the power feed. Click on the following link for instructions on how to add a power feed to your lathe. <https://sherline.com/wp-content/uploads/2015/10/3001inst.pdf>