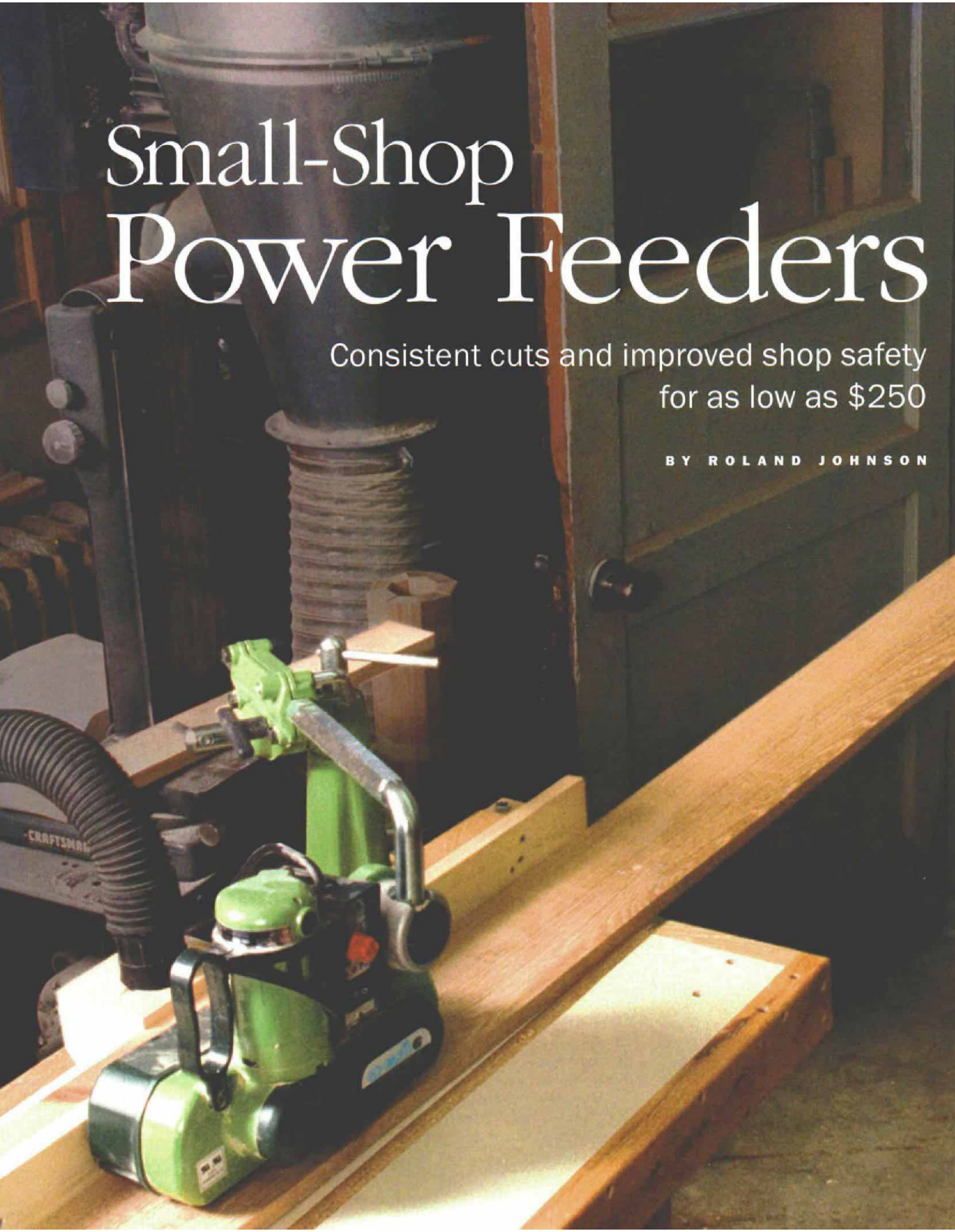



# Small-Shop Power Feeders

## Consistent cuts and improved shop safety for as low as $250

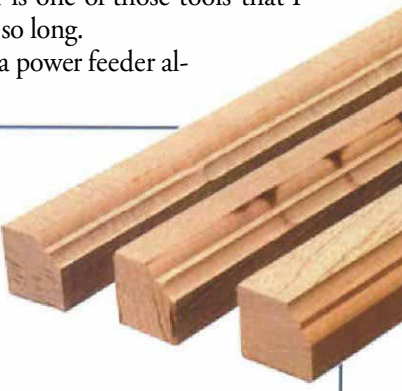
BY ROLAND JOHNSON

A power feeder can run nonstop and doesn't require health insurance. When its fingers, or rollers, get shredded, they cost only a few dollars to replace. Those are three good reasons why the machines are used extensively in commercial woodworking shops and manufacturing plants. Power feeders used to be large and expensive, beyond the reach of small-shop budgets. That all changed three years ago with the introduction of the economically priced, Taiwanese-made Baby Feeder by Co-Matic. Now there are many feeders to choose from, large and small, some costing less than $250.

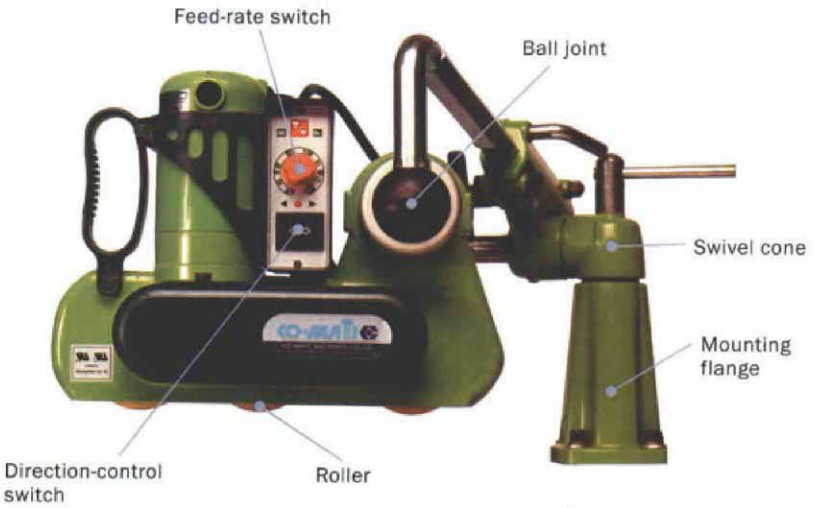
I originally purchased a ¼-hp feeder to produce "weathered" oak boards using wire-brush wheels mounted on a homemade motorized jig. I needed to distress a lot of material, and I didn't want my hands anywhere near the flesh-eating wire wheels. Since then I've used the power feeder for more typical applications such as ripping stock on the tablesaw and running molding on the router table and shaper. The feeder is one of those tools that I wonder how I got along without for so long.

Besides the extra margin of safety, a power feeder al-

## WHY USE A POWER FEEDER?

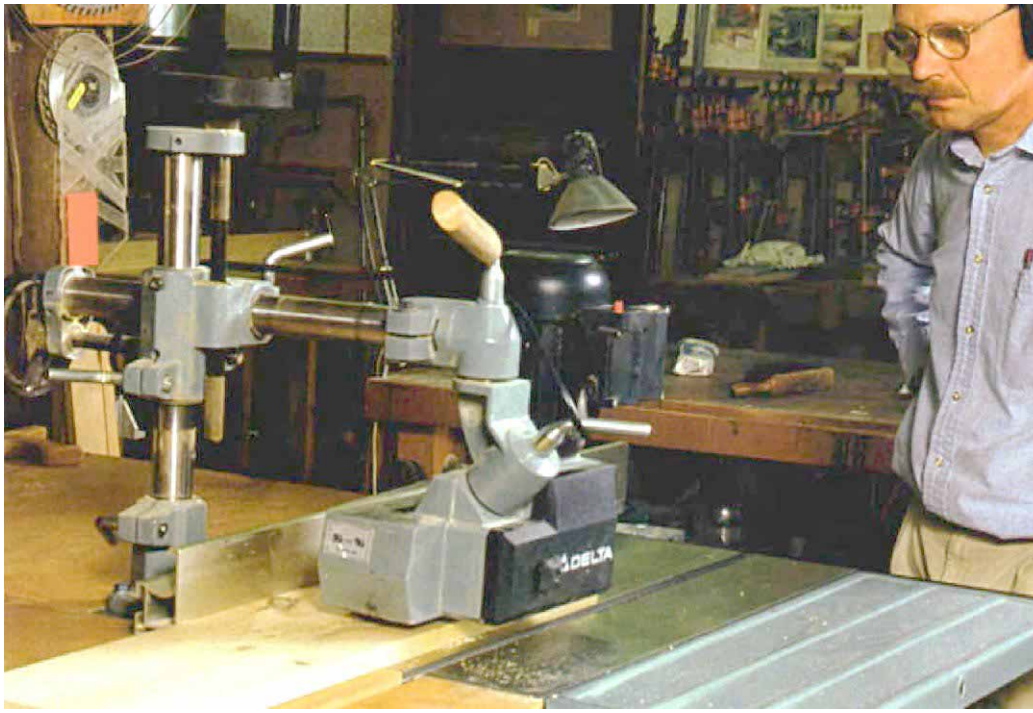


**Maintaining a steady feed rate when hand-feeding long stock can be difficult. Chattering (left) happens when stock moves too fast, and burning (center) happens when stock is fed too slowly. A power feeder makes it easier to obtain a smooth cut (right).**




A power feeder can be set up to hold stock against a fence or to press it down against a table.

A power feeder is adjusted with a slight toe-in to keep stock from drifting away from the cutterhead.



***Power feeders are commonly used with shapers.*** *Shapers may require large feeders, such as this ½-hp model (above), which is mounted sideways for this application.*

***Hands-free ripping on the tablesaw.*** *A power feeder bolted to the top of a tablesaw (right) eliminates the need for push sticks, keeping hands far away from the blade.*

lows you to adjust the feed rate for optimum results. Scorching, from moving material too slowly, or chattering, when material isn't held down firmly, can be eliminated with a feeder. When feeding stock by hand, especially long pieces, it's difficult to maintain a constant feed rate.

### Feeders bolt directly to cutting machines

To work most efficiently and safely, a power feeder needs to be mounted securely to a machine. The most secure way to attach a feeder is to bolt it to the machine (see the photos below).

I drilled and tapped my tablesaw top, on the right outfeed side, to mount a feeder. I imagine many woodworkers don't fancy the thought of drilling holes in a pristine tablesaw top. But cast iron is quite soft and easy to work. Set the feeder base where you wish to mount it, and use a center punch to mark the locations for the holes. Choose bolts slightly narrower than the holes in the feeder's mounting flange to give yourself a little margin of error. Then drill the holes and tap them.

Because my router tabletop is made of particleboard, I used through-bolts and nuts to attach the feeder. For extra insurance, I added an aluminum backer plate underneath to help distribute the stress. A power feeder that uproots itself from a tabletop can cause all sorts of havoc.

## MOUNTING A POWER FEEDER

***It's best to bolt the feeder directly to the tabletop.*** *The author drills mounting holes in his router table. An aluminum backer plate (left in photo) helps stiffen the underside of the table, where the nuts are attached.*

***Cast-iron tabletop can be drilled and tapped.*** *Mark the location of the holes with a center punch, then drill and tap holes to fit the feeder's mounting flange.*

### Take the time to align a feeder properly

With the power feeder mounted securely to the machine, setup is relatively easy (see the photos on the facing page). A feeder is adjusted to bear pressure on stock in two directions—against a fence and against the machine's work surface. For example, when using the feeder with the rollers facing down, angle them slightly toward a machine's fence. I angle the power head so that the outfeed roller is slightly closer (about ¼ in.) to the fence than the infeed roller. This setup will ensure that stock doesn't creep.

The rollers that push stock past the cutter are mounted on spring-loaded arms. The rollers should be adjusted to bear firmly down on the stock. When I set up the machine, I adjust the rollers so that they retract about ¼ in. when engaged with the stock.

A power feeder can be set up so that the rollers face the fence of a woodworking machine, a typical setup for doing face frames. Angle the outfeed end down slightly, about ¼ in., to keep stock from lifting. And adjust the rollers as previously indicated.

Feed rates are very important to achieving good results. You come up with the correct feed rates through trial and error. Run stock too fast, and you may bog down the cutting machine; too slow, and the cutters may burn the stock. Speed changes are easier on some feeders than on others. Some machines require a manual gear change; others have electronic speed-control dials, which I prefer. Because the density of solid wood can vary even among

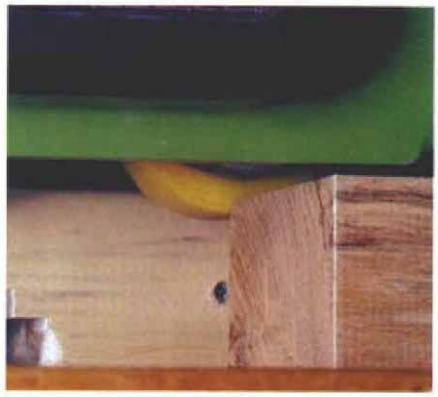
**Feeder controls**

*This ¼-hp feeder is typical of mid-sized and larger feeders in that it has a pair of handwheels for fine-tuning adjustments.*

*This ⅙-hp feeder utilizes a ball-and-socket joint at the junction between machine and arm. Although infinitely adjustable, it can be a bit cumbersome to align.*

***A feeder should be adjusted to guide stock in two directions***

◀ *Angle the feeder slightly toward the fence on the outfeed side to ensure that stock won't drift away.*



▲ ***For a firm grip, rollers should be adjusted so that they'll retract about ¼ in. when engaged with the stock.***

the same species, I think a speed rate that can be adjusted on the fly is a real asset It certainly will save you some time.

## Choose the correct feeder

I use a ¼-hp feeder on the tablesaw and the router table. It's important to match a feeder to the machine. As a rule of thumb, the smaller feeders (up to ¼ hp) match with machines of 2 hp to 3 hp. For machines of 3 hp or greater, get a ½-hp or larger feeder.

I primarily use my feeder for cutting moldings on the tablesaw or on the router table. I also use my feeder when ripping thin stock or short planks on the tablesaw. I have a contractor's saw, so ripping long planks with the feeder tends to bog down the saw because the feeder's slowest speed is sometimes too fast. If I had a 3-hp cabinet saw, I'd get even more use out of my feeder.

## Feeders excel at running moldings

Making moldings on a router table is a breeze with a power feeder. Cutters that once gave me problems with tearout and burning now produce beautiful results because I can dial in the correct feed rate and keep it steady. I can also feed the stock backward to the cutter's rotation (climb cutting) if I am having trouble with tearout. When climb cutting, set the feeder with a little extra downward pressure to make certain the stock can't be thrown past the rollers by the cutter.

I also use the feeder with my tablesaw's molding head and for making dado cuts. Because many tablesaw fences lock only at one end, unlike router-table or shaper fences, these fences may flex under the load of a feeder. A fence that flexes may yield poor results and may actually create a dangerous condition. Heavy-duty tablesaw fences are a must.

## SOURCES OF SUPPLY

**DELTA INTERNATIONAL**
(800) 438-2486

**GRIZZLY INDUSTRIAL**
(800) 541-5537

**POWERMATIC**
(800) 248-0144

**SUNHILL**
(800) 929-4321

**WILKE MACHINERY**
(800) 235-2100

**WOODWORKER'S SUPPLY, INC.**
(800) 645-9292

**WOODWORKING MACHINERY DISTRIBUTORS BY MAGGI**
(800) 963-6244

## Keep tabletops and fences slippery

A power feeder needs all of the help you can give it. Keep tabletops and fences nice and slippery to reduce friction. I use Bostik TopCoat. Make sure that fences are firmly locked. A power feeder can exert more force than hand-feeding. If cutters begin to dull, send them out to be sharpened.

Resinous woods, such as pine, can gunk up a feeder's rollers with resin and sawdust. Acetone does a good job of cleaning rollers.

Power feeders are probably one of the most misunderstood tools available to smaller shops. They don't mold, cut, plane or join wood, so many of us consider their purchase to be a frivolous investment. After all, we can use our muscles to do the same job. But increased productivity, smoother operation and added safety are reasons enough for me to be pleased with the money I spent on a power feeder. □

*Roland Johnson runs a one-man woodworking shop in Sauk Rapids, Minn.*

Photos: Anatole Burkin