

Shop Setup for the Wheelchair Woodworker

Proven solutions for a user-friendly workspace

By Pete Stephano

The response to Editor-in-Chief Jim Harrold's "Bugle Call to the Woodworking Cavalry" in the Feb/Mar 2011 issue was impressive. In his editor's column, Jim asked for solutions for setting up a shop for the wheelchair woodworker. Many emails and letters hailed from handicapped readers who have worked diligently—often with the help of mentors—to develop a shop that works for them. We'll present their ideas in the hope of encouraging aspiring wheelchair woodworkers to set up shop and begin making sawdust. For those of you who want to help a wheelchair-user friend, here's your chance to make a difference.

Floor plan considerations

Though wheelchair variations exist, such as the sports type chair which is wider, wheelchairs generally need 60" of clear floor space to complete a circle (Figure 1). For a 180°, T-shaped turn, it requires 36" in all directions. For an ambulatory person and a wheelchair to pass one another, it takes a minimum 48" lane. And for an acceptable traffic lane between, say, a workbench and a machine, you need 40". All of these dimensions come into play in a wheelchair-friendly shop.

Reach limitations

Seated in a wheelchair, an adult has an average overhead reach of around 54" to 58", and an above-

the-floor reach of 9". Forward reach above the floor is 30". In essence then, only the lower half (about 4') of a shop space will

see use. This information proves critical when planning for shop storage and the heights of tool tables, workbenches, countertops, and so on. Note the suggested dimensions for a full range of shop machines and storage in Figure 1. Everything must be within arm's reach, from hand tools to portable power tools to clamps. To take full advantage of cabinet drawer storage, go with full-extension drawer slides to make every inch of depth usable.

Key adjustments

Workbenches, countertops, and shop machines (or their bases),

must be modified to allow for wheelchair parking below or alongside. Adjustable-height workbenches without a stretcher can also be purchased (visit adjustabench.com), or you can lower and alter a workbench stand as depicted in Figure 1.

Many handicapped readers recommended lowering work surfaces to 28" to 30". You can also shorten metal machine stands or build a customized stand like the one in Figure 2 to achieve a comfortable and safe working height. This design features an optional drawer and casters for mobility.

Reach Limitation

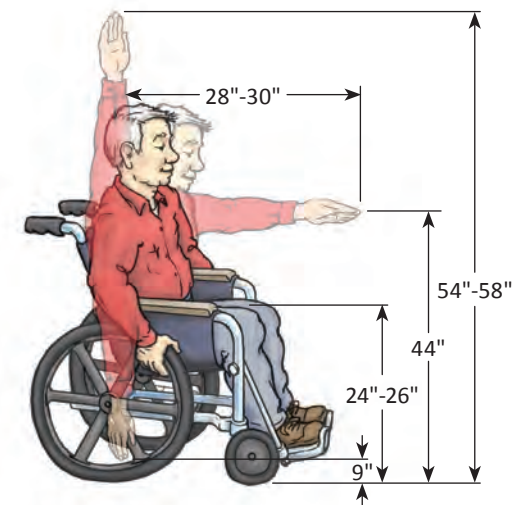
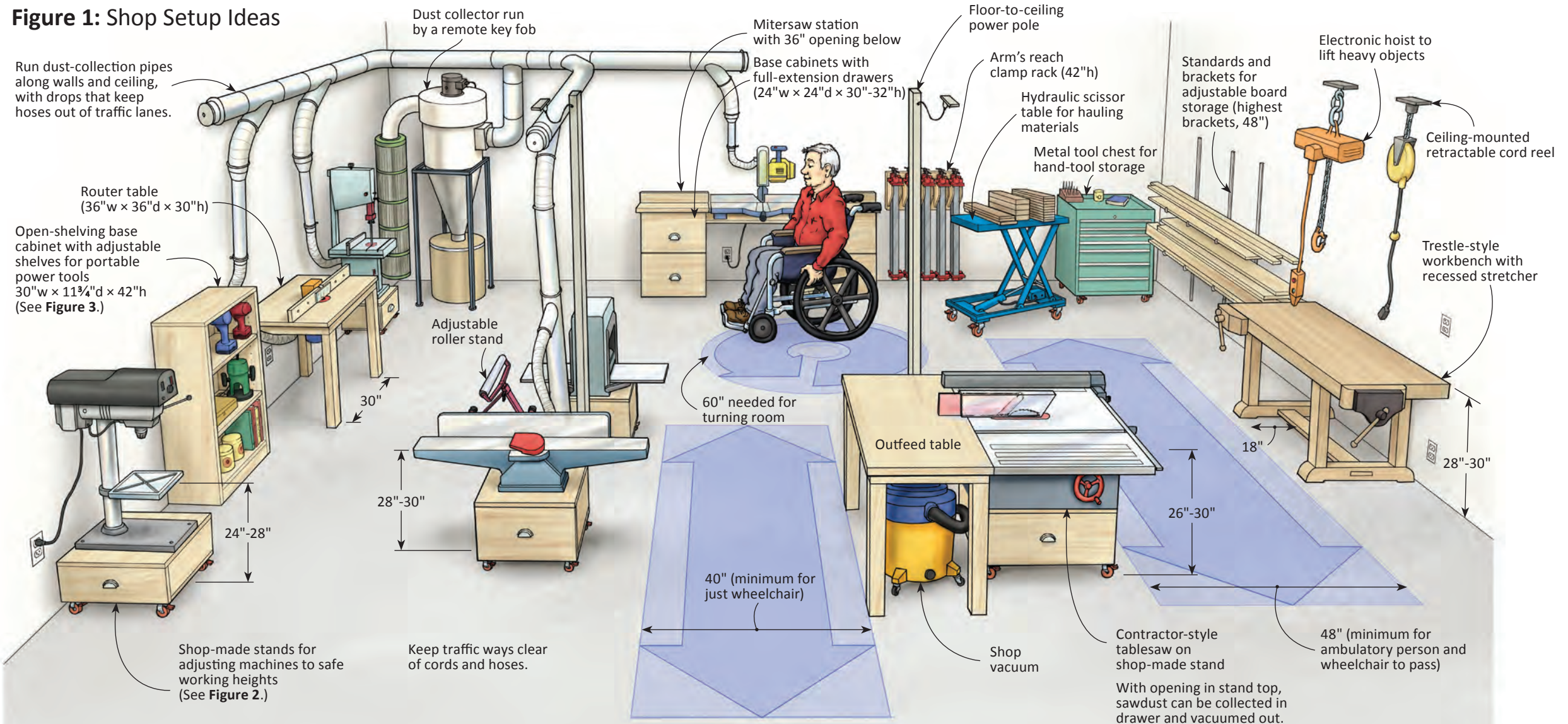


Figure 1: Shop Setup Ideas



Another suggestion is to use quality benchtop machines rather than traditional floor models. These smaller units can be accessed more easily and made flush with surrounding worktops. In "Product choices for the disabled," you'll find machines specifically designed for use by the wheelchair woodworker.

Managing materials and storage

To handle bulky material such as sheet goods, wheelchair woodworkers would be wise to have full sheets broken down to manageable sizes at the lumberyard or home center (often a free service). For some, a track saw proves invaluable for cutting sheets down to rough part sizes.

Some readers touted mobile table carts that hydraulically raise and lower to needed

Editor's Note

Many thanks to those who provided information, shop photos, or consultation for this article, particularly wheelchair woodworkers Bob Gibson, Paso Robles, California; Jim Bowman, Big Rapids, Michigan; Mike Ellison, Little Hocking, Ohio; and Mike Hefner, Pocahontas Woods School of Woodworking, Marlinton, West Virginia.

heights. These work well for moving stock and other items around the shop. They also can serve as infeed or outfeed tables. For keeping hand tools and hardware handy, consider a multi-drawer metal cabinet on wheels. And, for easy-access storage for your portable power tools, build the simple open-shelving case shown in **Figure 3**.

Controlling clutter

Normal shop floor clutter, like vacuum hoses and electrical cords, creates roadblocks for wheelchairs. Instead, locate dust-collector ducts and

along walls, on ceilings, to eliminate running long hoses on the floor. For convenience, use remote switches and key fobs for the dust collector and shop vacuum to avoid excess wheeling in the shop every time you operate a machine.

For electrical needs, consider ceiling outlets, power poles, and retractable cord reels to extend service in the center of the shop. Locate switches for easy access.

Finally, retrieve items from the floor with tong-like "grabbers" or attach a strong magnet to a stick to fetch metal pieces such as spilled hardware. ■

Figure 2: Base Stand Exploded View

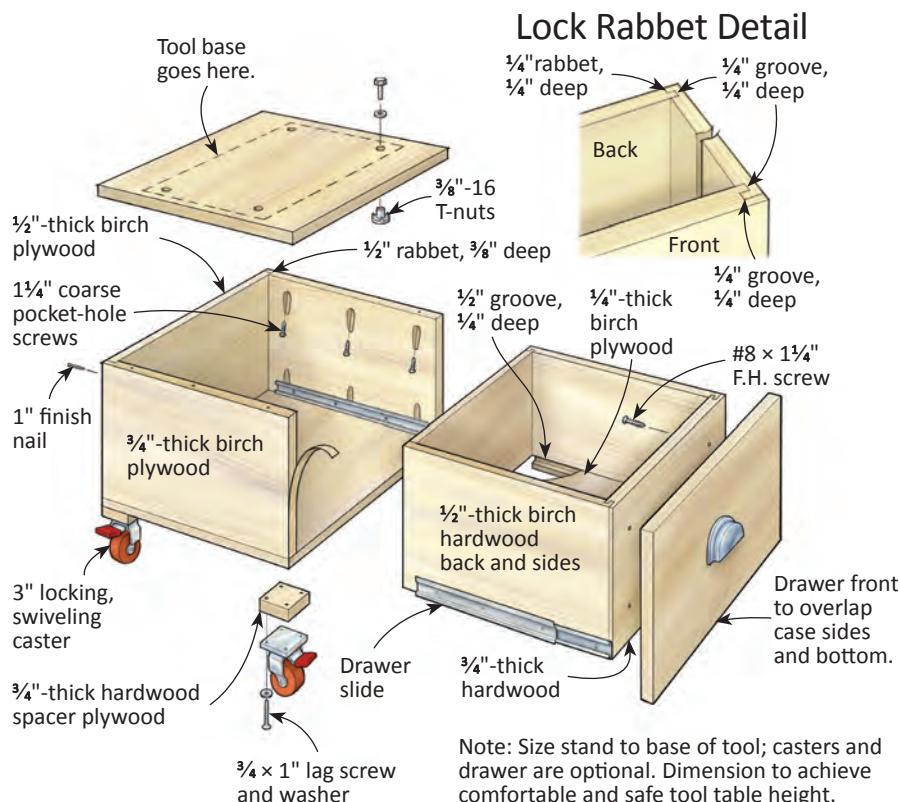
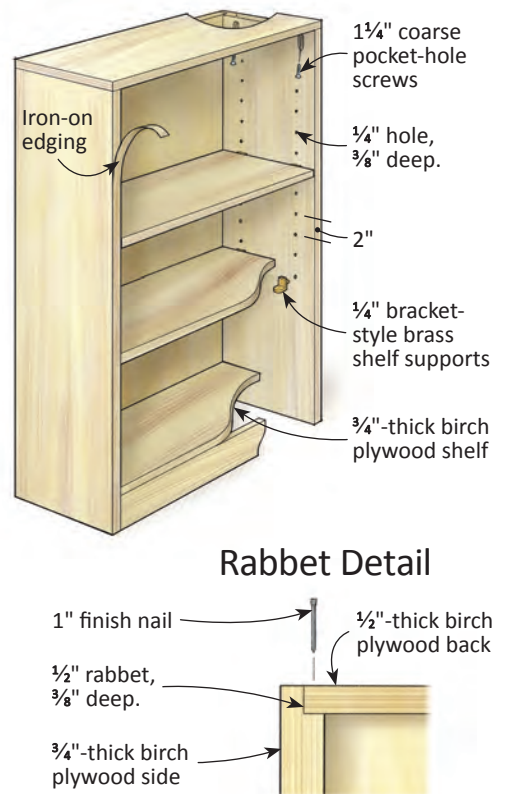


Figure 3: Portable Power Tool Case Exploded View



Product choices for the disabled

Consider these products to add both safety and convenience to the shop.



Access woodworking machines by General International.

Though pricey, the line includes a tablesaw, jointer, bandsaw, drill press, and lathe, plus accessories. See prices at general.ca.



Wheelchair woodworking lap pack.

This apron, with its multiple pockets, keeps hand tools and hardware close. \$37.50, brightlivinggear.com

Oneway sit-down lathe.

Wheelchair woodturners can exert leverage from a sitting position with this full-sized machine. #1236SD, \$2,995, oneway.ca/lathes



DeWalt 6½" TrackSaw kit with 59" track.

#412458, \$499.99, woodcraft.com



Rainbow Reacher,

23" long. This tool's clasping rubber cups let you retrieve items on the floor. #DL12012, \$19.00, dynamic-living.com

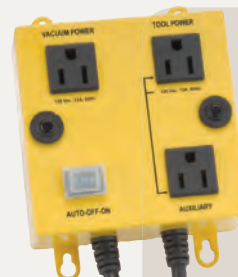
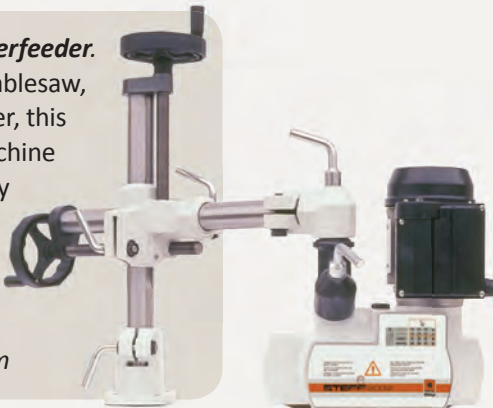


Portamate Miter Saw WorkCenter.

Secure a miter saw, planer, or scrollsaw to this fold-up stand. At 33" tall it provides room for a wheelchair underneath. #148989, \$249.99, woodcraft.com

Steff 2032 Powerfeeder.

Attached to a tablesaw, shaper, or jointer, this three-roller machine runs stock safely through a milling process. #MF00001, \$679.00, lagunatools.com



iVac Automated Vacuum Switch.

This device turns the dust collector or shop vacuum on when you turn on the tool. #149950, \$44.99, woodcraft.com