Put It on Wheels!

How to choose & use casters to improve the mobility and versatility of your workshop

By Tim Snyder

There’s a lot to like about casters. Mobile machinery and workstations make it much easier to give your space a thorough cleaning or refinish the floor. Without straining your back, you can open up a big floor area to accommodate a large project or a new machine. With casters on a workbench and assembly table, it’s easy to rework your shop’s floor plan for more efficiency. And if you’ve got a garage workshop like I do, casters will even allow you to use the garage for its original purpose. But all casters aren’t created equal; there are plenty of differences in specifications and functionality. Read on to make sure your shop mobilization plan rolls exactly right.

Caster specs at a glance

- **Wheel diameter**: This describes the size of the caster.
- **Swivel radius**: The minimum clearance required for a swivel-type caster to rotate a full 360°.
- **Height**: The vertical distance between the bottom of the wheel and the caster’s mounting plate or flange.
- **Load rating**: The load a caster is designed to carry on a continuous basis.
- **Locking**: Single-locking casters lock the wheel. Double-locking capability is available on some swiveling casters; this locks the wheel and the swivel action.
All-purpose shop casters

Resist the temptation to buy a set of cheap casters, unless you simply want to mobilize a temporary work platform. If you’re aiming to create a permanent mobile workstation, it makes sense to pay a little more for higher quality. In many cases, you’ll want a swiveling, double-locking caster with a solid polyurethane wheel and a load rating in the 200-300 lb. range. A 2-3” wheel diameter will suit most applications. Larger wheels can be helpful if you need to roll out of a garage and onto the rough surface of a driveway.

A caster with a mounting plate usually works best on platforms made from wood. The plate provides plenty of surface area for spreading the load, and you get the holding power of four screws in each plate. You can usually find a fixed-wheel caster with the same wheel size and mounting height as its swiveling cousin. But keep in mind that combining a pair of swiveling casters and a pair of fixed-wheel casters will give your machine or workstation the maneuverability of a shopping cart. With four swiveling casters, you’re better able to move in a tight space.

Lock it down. The best way to anchor a caster to a wood base is to use lag screws and washers.

Fixed caster with 4” polyurethane wheel. 5” height, 2¼ × 3¼” mounting plate.

Swiveling, double-locking caster with 3” polyurethane wheel. 4” height, ¼”-dia. threaded stem mount.

Swiveling caster with 2½” wheel. 3¾” height, 2¼ × 2¼” mounting plate.

Visit woodcraftmagazine.com to see a short video explaining how to best use and install different types of casters.
Specialty casters: Look for features that suit specific applications

All-purpose casters (see previous page) can’t always live up to their name. Sometimes you need casters with special characteristics. Some of the specialty casters described here might deserve a place in your shop, depending on the equipment you want to mobilize.

Threaded stems. This mounting method is better suited to steel stands. When the threaded stem extends through wood, the mounting hole tends to enlarge over time, turning a snug installation into a sloppy one. When installing this type of caster, make sure to use a flanged nut (shown above) or a separate washer beneath the securing nut. Periodically check stem nuts and retighten as necessary.

Machine-leveling casters. Heavy machines that only occasionally need to be moved are good candidates for this specialized caster. The squat design includes a heavy duty wheel and a solid polyurethane foot that can move up and down. To put the machine in stationary mode, you turn a notched red disk that lowers a broad foot, raising the wheel off the floor. By fine-tuning the foot’s elevation, you can level and fully stabilize the machine—a valuable function when you’re dealing with a combination of heavy weight and motor vibration.

Retracting casters. If you need to move a heavy workbench around on a regular basis, you’ll be glad to know that there’s a set of retracting casters designed for this purpose. As shown in the photo, each caster is anchored to a bottom corner of the bench with four lag screws (through bolts could also be used). A foot-actuated lever raises and lowers the compact wheel assemblies, which are just beefy enough to support the bench when it needs to be moved. WoodRiver has a set of retracting casters that functions just like the workbench version shown here, but is designed to mount on the metal legs of a contractor saw stand.
Caster kits save time & money

Sometimes it makes sense to buy casters in kit form rather than individually. As shown below, most kits are designed with a specific purpose in mind. The benefits are easy to appreciate: Simple installation, helpful features, and cost savings over buying casters individually.

You supply the wood. You can often buy woodworking machinery with factory-equipped wheels. But if your machines don’t have built-in mobility, look for a suitable mobile base kit. WoodRiver’s Universal Mobile Base Kit (shown above and at right) is one of the most versatile versions. With this kit, you begin by cutting a plywood base that’s slightly larger than the footprint of your machine. Screw a pair of retracting wheels and a pair of fixed wheels to the corners, and your base is ready for its burden. Each retracting module includes an adjustable foot—a welcome feature if your floors are uneven.

Get Rolling!
The casters featured in this article are available at Woodcraft stores and online. For details, see the Buyer’s Guide on p. 64.

Use corner-mount casters to create a mobile cart.
Small shop carts don’t usually need expensive, heavy-duty casters. Instead, you can install a set of 4 corner-mount casters and get your cart mobilized for around $16. All four casters swivel, providing maximum mobility. The well-designed mounting plate is easy to screw into the corner of a cart base.
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