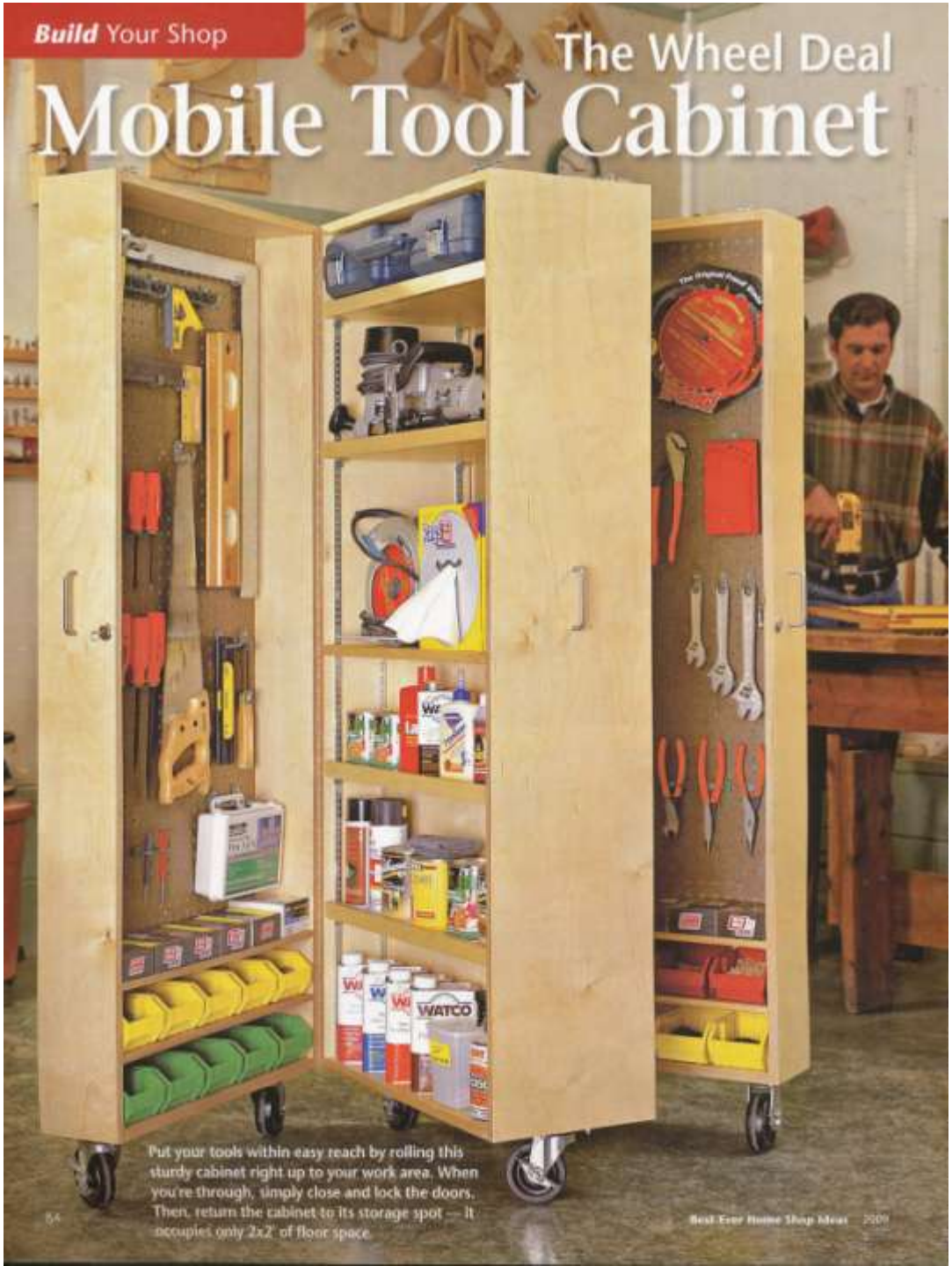
Equipment mobility

Why mobility?

- To share a space e.g. with a car
- To maximise use of space e.g. to park equipment that is not used frequently
- To transport equipment
- To allow different equipment configurations for different jobs
- To make moving equipment easier

The Wheel Deal

Mobile Tool Cabinet



Put your tools within easy reach by rolling this sturdy cabinet right up to your work area. When you're through, simply close and lock the doors. Then, return the cabinet to its storage spot — it occupies only 2x2' of floor space.

Ivan James can make room for the family car in a jiffy just by rolling his shop out of the way. He's customized most of his woodworking machines by outfitting them with mobile bases featuring locking casters. Because of this mobility, a central dust collection system proved impractical. Yet, Ivan controls dust.

workshop

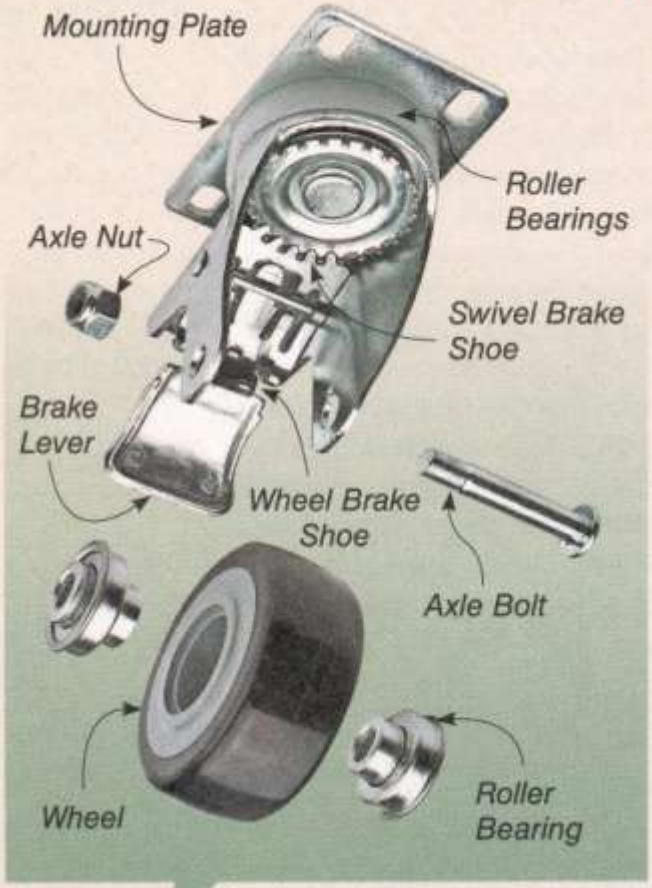
7 master of mobility

The choices

- Add casters
- Use a caster base
  - Commercial
    - Ready made
    - kits
  - DIY

Caster considerations

- Size & load bearing rating
- Tyre material
  - hard vs. vibration absorbing
  - frequency of movement
- Fixing – plate vs. stem
- Swivel vs. fixed
- Brakes – number and type



Whether it's for a shop cabinet or a power tool, I'm a big fan of casters. The reason is simple: No matter how big or small a shop is, you're likely to move tools from place to place based on the project at hand. Casters not only make this "move-around" possible, but they also make it easy.

Of course, anyone who's purchased casters knows there are many options. The casters you choose will depend on several factors, such as how heavy the item is, how often you'll move it, or how smooth your floors are.

To help you choose the right casters for your tools and equipment, we took a look at the key considerations you want to make as you start to shop.

Plate vs. Stem. One way that casters are divided into types is by mounting style. Some have a heavy steel plate at the top that's simply bolted to the underside of the object. These are known as plate casters. Others have a rod (some threaded, some not) that fits into a hole (or hardware) in the underside of the piece. These are known as stem casters.

For most shop uses, you want to go with the strong support and simple installation you get from a plate caster. Stem casters are typically for furniture projects. However, if you have a shop fixture with long, narrow legs, like a router table, then stem casters might be the way to go (margin photo, opposite page).

Fixed vs. Swivel. Another way to classify casters is as "fixed" or "swivel." A fixed caster rolls in a straight line and does not rotate. Swivel casters are more versatile because they rotate 360°.


Polyurethane, double-locking


Steel, swivel


Rubber, single-locking


Plastic, fixed


Wood, single-locking

▲ **Cam-Style Brakes.** *This type of brake locks the wheel, but not the swivel of the caster.*

▲ **Double-Locking.** *To provide added security, this style of brake locks both the wheel and swivel.*

◄ **Stem Casters.** *A caster like this is a good choice for fixtures that have long and narrow legs, like a router table.*

Swivel casters make it easier to your hands to lock and unlock Recently, wood casters have

Bunnings set 70Kg each

Bunnings 160Kg set

Sources

- Bunnings
- M&G in Wiluna St Fyshwick
- Capital Bearing Supplies Townsville St

Commercial caster bases

- Vary in size and load capacity
- Usually adjustable in size
- Immobility achieved by brakes, wheel lifters or down adjusters (screw or lever)
- Kits require you to supply the timber for the base

Carbatec 180Kg

Timbecon 230Kg

Timbecon 400Kg

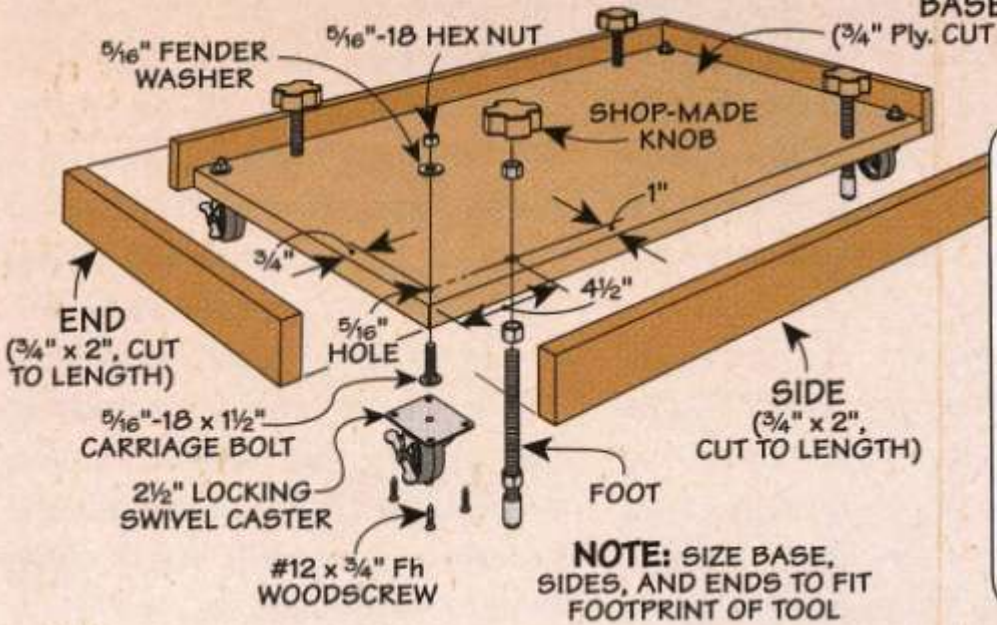
Carbatec kit 180Kg

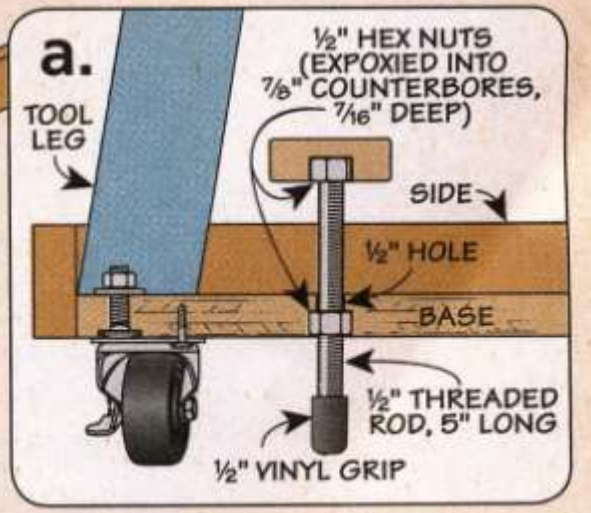
DIY caster bases

- Many designs in magazines and on the web
- Design guide available
- Stability an issue to consider – wheelbase vs height & centre of gravity
- Wheels can be placed inside base to avoid tripping hazard, depending on construction of machine

Easy-to-Build.
A rolling platform holds a tool stand and adds some extra storage space, as well.

▲ **Lower Feet.**
Shop-made knobs make it easy to raise the platform off the casters.

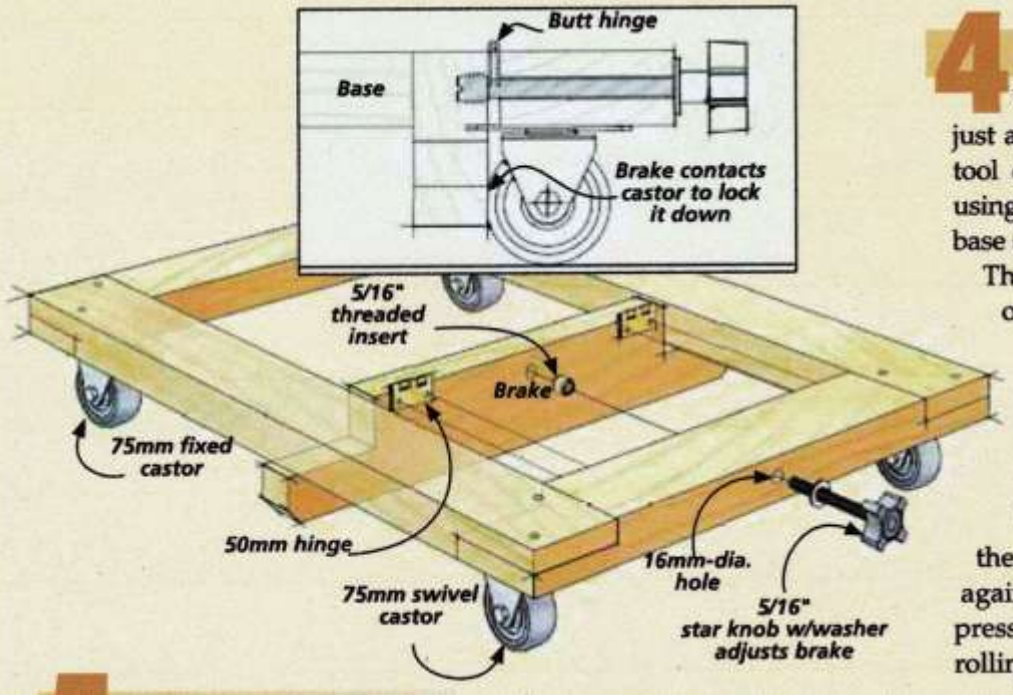




How do I stop it moving?

- Brakes on the casters
  - 2 or 4
  - Swivel and/or rotation brakes
- Raising and lowering mechanisms
  - Screw down feet
  - Jacks
  - Lever action
  - Cam action
  - Manual lift

A DIY brake



4 Mobile Base Brake

While mobility is good, it's just as important to make sure a tool doesn't move while you're using it. So, I made a brake for the base (drawing at right).

The brake is just a block of wood mounted to one end of the base with butt hinges. A T-nut, threaded rod, and star knob complete the brake assembly.

With just a few twists of the knob, the brake is pulled against the castors with enough pressure to prevent them from rolling and swiveling.

Jack example

Lever lift examples

casters for your Workbench

A workbench on wheels would be a handy addition in many small shops. And *Rockler* came up with a good solution with their new *Workbench Caster Kit*.

The kit offers the convenience of casters without sacrificing a bench's stability. With the levers depressed, the casters engage and raise the workbench slightly, allowing you to roll it around (near right). Then, simply flip the levers up to lower the bench back to the shop floor (far right).

The casters come in a kit of four for $75. They're easy to install and support benches up to 400 pounds.

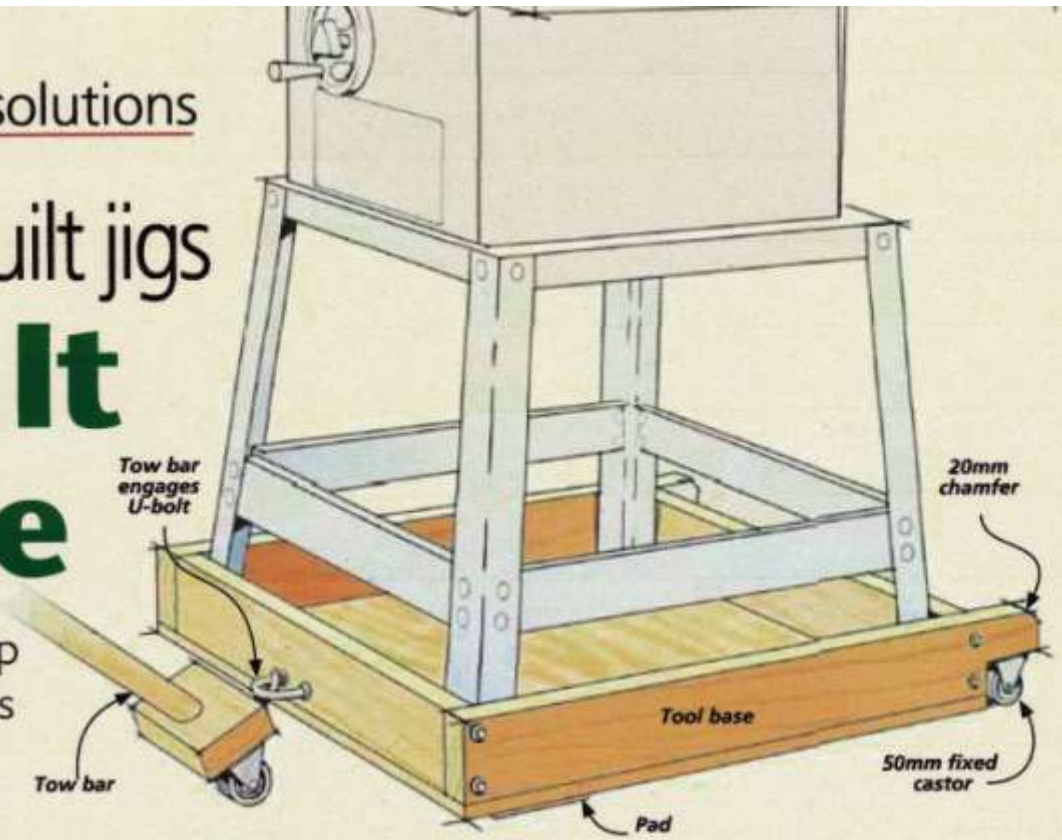
▲ **Lever Down.** *This position engages the wheels and lifts the bench for easy movement.*

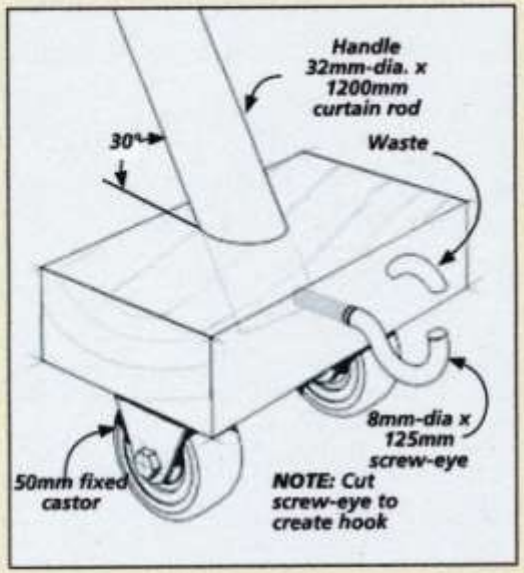
▲ **Lever Up.** *To set the bench back down on the floor, just flip the lever (and the wheel) up.*

workshop-built jigs

Make It Mobile

Maximise your workshop space by rolling idle tools and material out of the way.



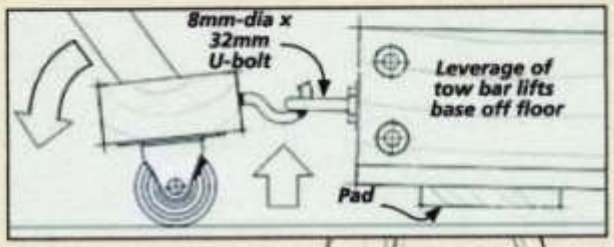


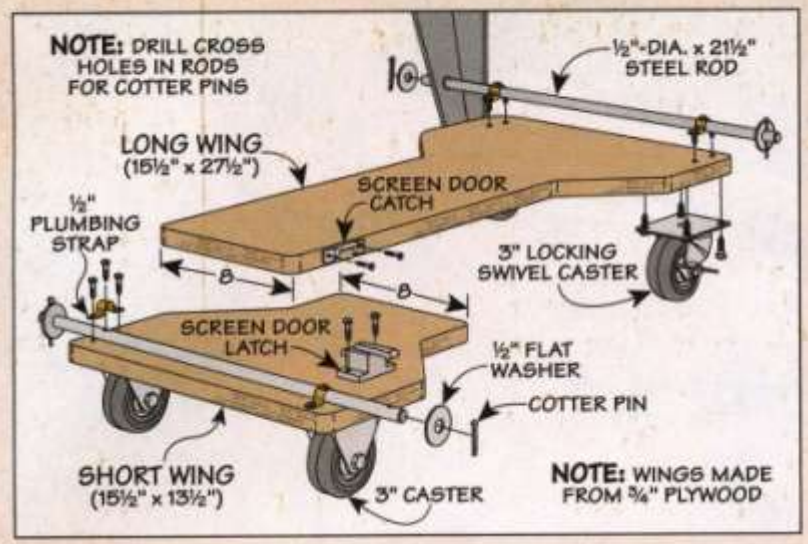
1 Roll-Around Tool Base

Mobile bases are invaluable when moving stationary power tools around in a small workshop. And an easy way to move a tool base around is with a tow bar.

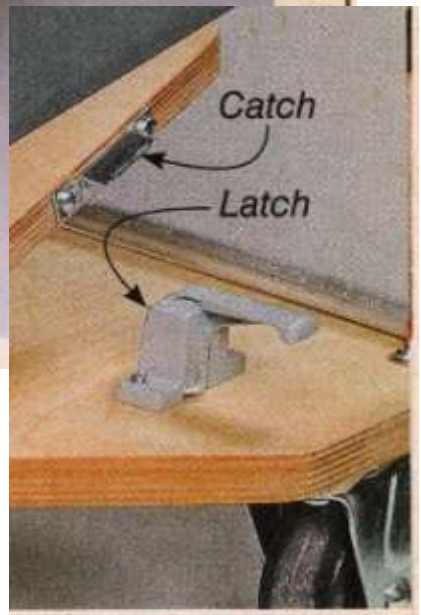
As you can see in the main drawing above, the tool base is simply an open box for the tool to sit in. On one side is a pair of castors. The other side has pads to stabilise the base when it's stationary.

When you're ready to move the tool, you just hook the tow bar into a U-bolt that's attached to the base (drawing below). Then, a little leverage is all that's required to lift that end and manoeuvre the tool around the workshop.





Easy-Lift Base. *This set of casters is located inside the stand to prevent tripping.*



Latch Release. *Tap the screen door latch to raise the casters and create a sturdy workstation.*

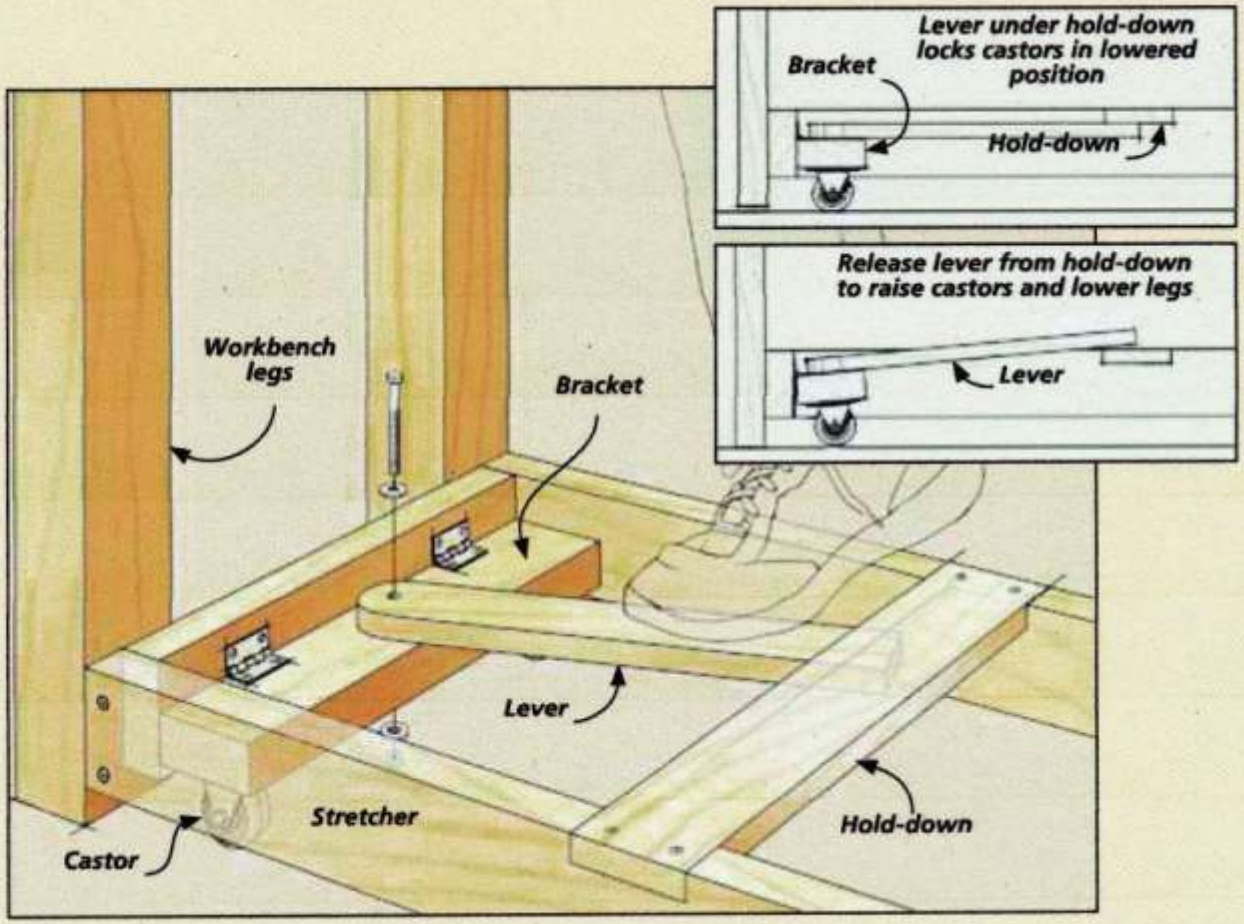
3 Castor Bracket

Adding pivoting castor brackets to my workbench makes it easy to move the bench around.

As the drawings show, the brackets are attached to the ends of my bench with butt hinges. Installed on each bracket are a pair of castors and a pivoting lever. Hold-downs are also mounted to the stretchers of my workbench.

Stepping down on the levers lowers the castors which, in turn, raises the bench off its legs. To lock the castors in the lower position, slide the levers under the hold-downs. The bench is ready to roll.

Once the bench is where you want it, simply release the lever from the hold-down, and the legs drop back down onto the floor.



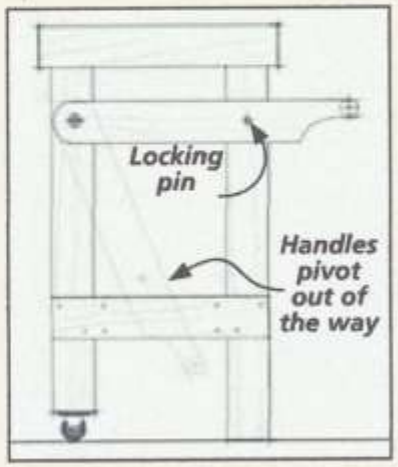
Manual lift

2 Mobile Stand

I've built several stands for my benchtop tools, keeping my workbench clear. To make the stands mobile, all it takes are two simple add-on handles and a pair of castors (drawings at right).

The first step in modifying a tool stand is to shorten the rear legs and attach castors. Then, bolt a pair of pivoting wood handles to the sides.

The handles can be lowered when not in use. When you need to move the stand, the handles can be locked in the upright position.



A treatment for uneven floors


That's all Folks!