

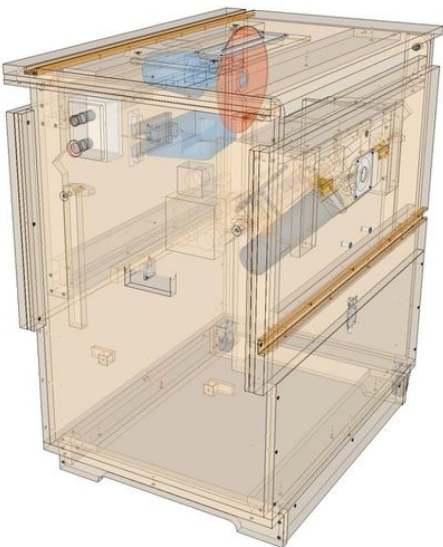
# Portable Workshop

- These plans are for my original Portable Workshop, for Routers with 43mm Clamping Collar, Makita 5903r Circular Saw and Festool PSB 300 EQ Jig Saw, for other tools, you must be make changes surely.
- Take your time to understand the plans, and how it works the tool.
- Plans are in metric units, you can generate plans in imperial units simply by changing the units to "imperial" in SketchUp under "window-model info", but the units will not work out to even numbers like they do in metric.

## Intro: Portable Workshop

A Portable Workshop for those of you that don't have much space or a compact cabinet you can carry all your stuff to work in other locations.

I wanted it to keep it as small as possible for those of you that don't have much space or your car and tools share the same place. It has wheels so it can be moved by only one person and you can even carry it in your car with a little help to get it in, of course. As you can see it has 3 functions. Saw table, Router and Scroll Saw. Also it has a big cabinet you can use to carry some of your tools with you.



## Step 1: Cutting the parts

Let's start cutting the parts following the cutting list and mark them all with their numbers.

Here I'm making 4 drill holes for the handle and cutting it with the jig saw.

Make a drill with the same depth as the thickness of the washer for the opening system.

Countersink the drill holes.

Here is where the power and emergency switches go.

Now you can start assembling the cabinet using 50mm screws and dowels.

It is not necessary but you can apply a coat of lacquer if you want for a better finish and durability.

Here I'm cutting the 3 top parts.

Then cut and drill the frames for the hinged covers.

Make the holes for the steel pipe so it fits slightly loose, as it is the axis of rotation of the hinged covers.

I made the milling for the circular saw in the 3d router, If you don't have a similar tool, you can do it with the manual router using guides or templates.

Here I am making a milling on the top for the quick access covers, wich will make easier changing the disk. You can use the cover itself to calibrate the depth of the milling.

Try the circular saw to the top of the table and mark holes

The 3D Router comes in very handy here, as the column drill won't work because of its reduced work space.

## Step 2: Assembling

Ok. Let's continue with the second part of our home made portable workshop.

Mark the place for the miter channel following the plans and make a groove cut in the circular saw. These two pieces of plywood will give us a deep thickness to screw the miter channel.

Here I am making a rabbet with the depth of the self adhesive measuring tape. You can find a link in the description if you want to know where you can buy it. Then screw it to the cover.

This is the hole for the router

Cut the pipe and assemble the frames for the hinged covers.

Prepare the stoppers and assemble them according to the plans.

Put the cover of the router in place and screw it to the frame using the holes of the miter channel. Mill the cover and make this inner rabbet to place the jig saw

If you are not using a sliding surface as melamine, you should apply a coat of lacquer and sand it before and after. Cut and mechanize the parts for the vertical router holder

This is the mill for the height adjustment of the vertical router

Glue two plywood parts to build the spindle mount

You should use a drill of the exact diameter or an adjustable one like this when building the router holder.

Also you can make it on a CNC or even buy it online.

Assemble the spindle mount in the holder

And now we can try the lift system

Assemble the hinges provisionally to mark the turning radius

I'm using these plywood remnants for making the wooden knobs

### Step 3: Ending the Assembling

Here I'm cutting the parts for the base in my homemade saw table.

Assemble and screw to the bottom of the cabinet. It should have the same size as the wheels you've chosen. I've placed a barrel bolt in one of the hinged covers and a door lock in the other.

They can be useful when transporting the workshop and to prevent theft.

Prepare the electrical installation consisting of a power strip with four sockets. Where we will connect the router and the jig saw. The other 2 sockets will be useful for connecting other portable tools.

The socket for the circular saw has an on/off switch and an emergency stop button.

This is the internal winding wire system.

I made this quick access covers with opal methacrylate.

Place and try the circular saw.

With a metal bracket I have adapted this bearing that I bought with an old router. It can be so useful for curve millings.

Finally we check the hinged covers are aligned with the top of the table. If not, it's easy to correct the tilt adjusting the stoppers. Insert a steel pipe in the router to check the squareness in all directions.

Also check the squariness of the disk and make sure it is parallel to the miter channel.

Do the same with the jig saw and finally.

Finally close it and check out the tools are not touching each other inside.

## Step 4: Accessories

I am making some of the accessories for the portable Workshop.

Let's start cutting the parts of the sled.

This is a channel to center the miter slider.

Screw two pieces of plywood taking care of the positions of the screws because we are going to cut it later and it could be dangerous. Groove the place for the measuring tape.

Apply lacquer before and after sanding to get a sliding surface.

Assemble the sled, put it on the miter channel and cut the remaining part

Turn it and make a cut in the middle like this

Stick the measuring tape in place

Disassemble the holder of the sled and make a channel for the box joint jig. The same one of my other Table Saw.

Adjust the slider channel until no tilt remains with this two bolts. You can even block it if you want tightening the screw at its maximum Cut the pieces for the fence. Assemble, lacquer and sand it.

This is the tightening system for the fence.

Glue a couple of dowels that we will use as a guide.

Assemble the knob and try the fence.

This is the router dust collector.

Put the threaded inserts for the feather board.

Check the disk is parallel to the fence and stick its measuring tape in the groove.

Prepare these pieces to make template of the box joint jig

Finally apply the glue and sand it.

## Step 5: Accessories

Here I am building the miter gauge.

You can glue the printable templates of the plans in the plywood or use a ruler.

You can already cut it in the machine.

The Incra miter slider threads are in inches if you rather use the metric system you can use a tap as I am doing here. Try it to make sure the turning radius is the correct one.

Cut the parts for the tenon jig.

You expand the thickness if you need reduce the friction.

Glue the printable templates to the plywood to make the featherboards.

Make the adjustment slots in the router.

Screw the threaded inserts.

Let's start making the guide for the jig saw. The tightening system is the same as the one used in the fence. Assemble the system for the adjustment of the bearings.

Use a metal plate to preventing the blade from wearing out the plywood.

With the drill make one of the holes bigger to allow the adjustment of the bearing.

Do the same with the plywood part.

Mechanize the height adjustment system .

Now we can move it on three axis to place it in the exact position we need.

Now I am gonna check if it works making my new push stick.

It is important to hold the piece you are cutting with two hands to keep it in place.