Modular workbench with top-adjustable wheels



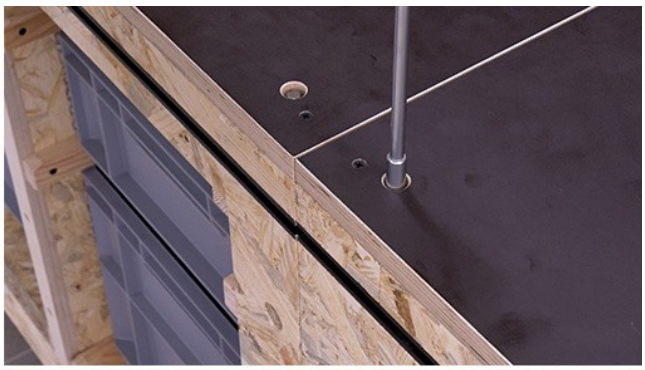
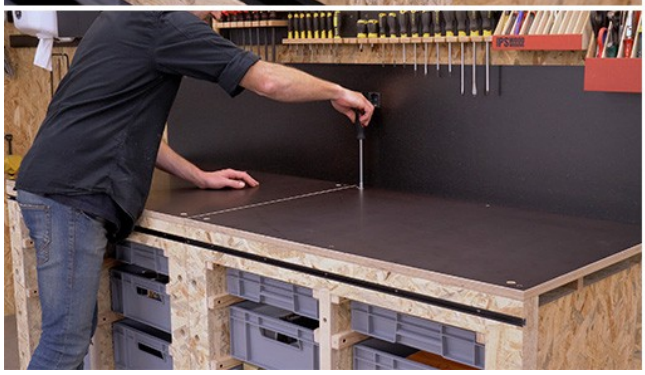



Welcome. I've finished my new modular workbenches, made out of OSB. I've modified their retractable leveling casters to adjust them from the top of the bench.

In the previous video I said I like using these wheels as they allow me to level and lock a workbench such as this. The drawback is that it's a little difficult to access the plastic lever that comes with them in order to adjust them, and it's impossible to do so when the benches are set up against a wall.

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I'm going to show you the huge improvement I made thanks to this modification. The new benches have a little more depth—I'll explain why in the next video.

Once they're all together and against the wall, to lock them, I only have to turn the threaded rod that goes through the inside of the legs. With this, I can lower the foot pad and lift the bench. Doing this on the back wheels to flush the benches with one another is really easy now.

Another advantage of this system is being able to level both benches, both in the front and in the back. This is what I mean, the result of the common issue of not having a perfectly level floor. Now, the little gap between the benches is gone.

To do this modification, you only need a threaded rod, a couple of nuts and a depth stop bit. On the top, I made a hexagonal head to activate and turn the rod.

In the comments of the previous video, a user suggested using two nuts here too, instead of making the hex. I really think this is a more elegant solution. Two nuts would require more space.

Besides, making a hex head with a sander is fairly quick and easy. If you're going to put a ton of weight on the bench, it might be a good idea to use a thrust bearing on the wheel, where it now rests on the two nuts it.



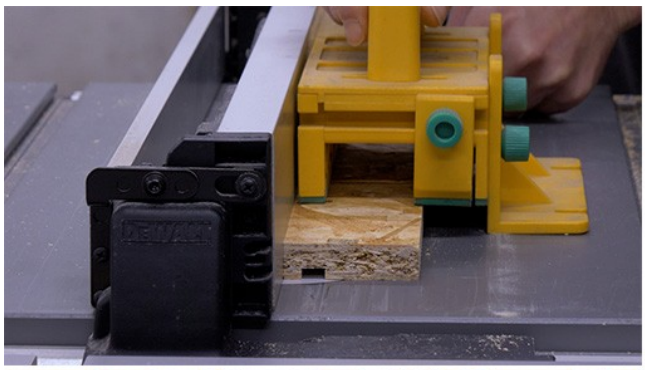
I'll also be able to continue using the holdfast clamps I had made for the other workbenches. The holdfast clamps and the T-track profile I installed in the front will allow me to hold all kinds of workpieces.

On this occasion I didn't drill the top or install a vise. It's perfectly possible to add both holding systems to this version of the modular workbench, like I did with previous versions of this project.

In the next video I'll show you how to use the Euroboxes as drawers, and will finish all the other accessories of this workbench.

Over the past few years, the price of plywood has gone up significantly, and some of you have asked me about other kinds of boards to make this and the other workbenches I designed. That's why I went with OSB on this occasion. It's one of the most economical kinds of boards and, as you can see, it's perfect for this kind of project. It's fairly resistent and barely changes size due to humidity. If you're going to use it, do check the thickness of each board. Sometimes it varies a little, and can affect the functioning of mortise-and-tenon joints. For the top, I used non-slip birch plywood, with the smooth side facing up.

I added the instructions for this modification to the plans available on my website. I'll leave a link in the description of this video.








Now I'll show you, step by step, how to make this modular workbench. I'm going to use the dado blade to cut the channel for the threaded rod. I'll run some tests to ensure everything is correct, and then I can glue together the pieces of the bench's frame.

I won't go into much detail in these steps. They're the same as in the original modular workbench video. It's important to wipe off the excess glue, especially inside the channel.






Now I'm going to mark and drill holes for the holdfast clamps.

Again, with the dado blade, I'll cut channels for the horizontal parts of the frames. It's important to follow an order and apply glue only on the required parts.






Before gluing the frames together, I'll run some tests to make sure everything's okay.

When gluing it, it's not necessary to apply to much pressure, or we could warp the frame parts.

It's also a good idea to tighten the clamps gradually and make sure everything's square.






Again, I'll wipe the channel to remove any leftover glue.

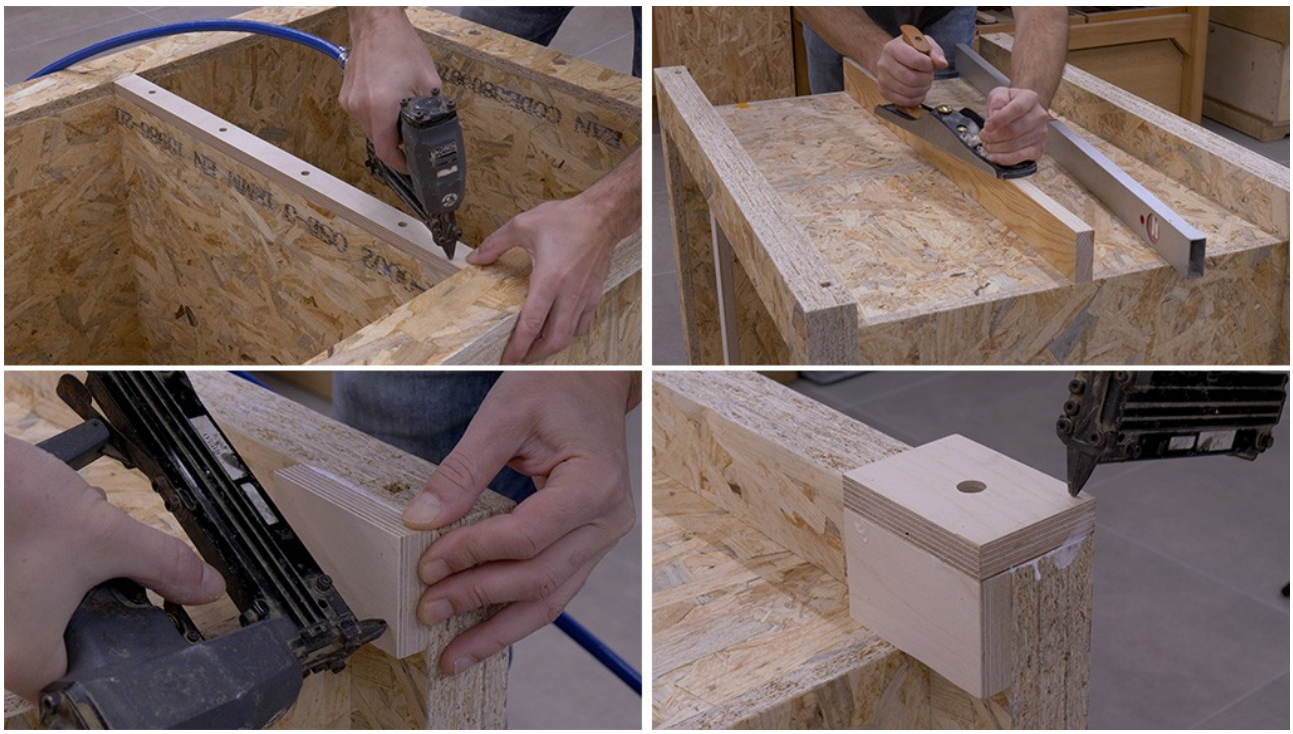
Now I'm going to make sure the interior cabinets are the right size, and that seems to be the case. I'm going to use biscuits, as the screws don't hold edge joints well with this kind of board.






It's time to join the interior cabinets and the frames. The cabinets fit in very tightly. A little more play wouldn't hurt, but little by little, I manage to get them in.

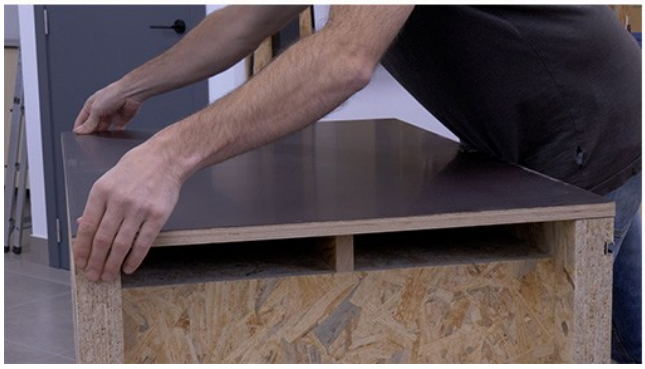
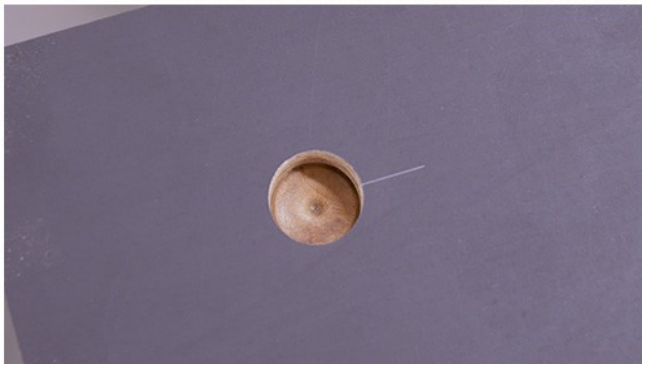
Here it's also a good idea to tighten the clamps gradually, while ensuring we're not warping the frame parts.



I'm going to glue on a strip of a board to cover the edge of the two cabinets. Since this is a small part, I used birch plywood. I'm also going to screw on the piece where the benchtop will rest.

Now I'll glue on two more pieces of plywood to make the legs thicker, where I'll fasten the wheels.

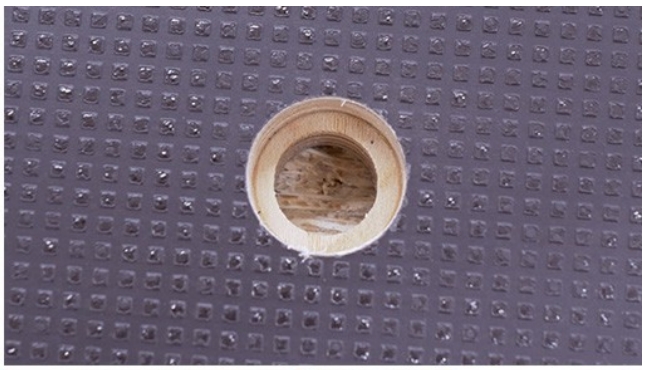


I'm also going to cut a channel to insert the T-track. You can see this process in greater detail in my previous videos.

I think this is the best time to adjust the workbench top, before inserting the threaded rods in their holes. I make sure it's the right size and drill holes for the rod.

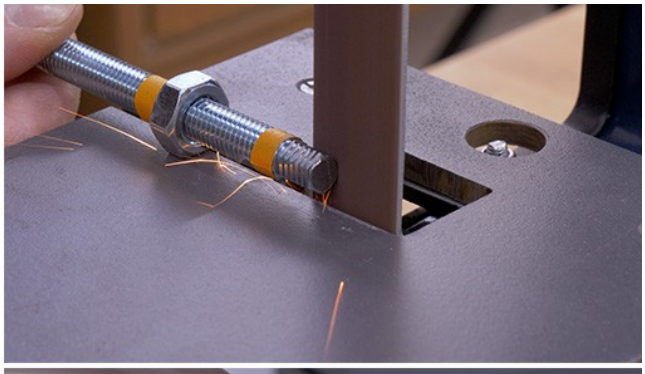
The first hole will be 14 mm in diametre and 10 mm deep.



With a thin bit, I mark the centre of the hole, flip the top over and drill the second hole with a bit that's 20 mm in diametre and 8 mm deep.

I'm also going to route the frame so that I can insert the washer and part of the depth stop bit. Otherwise, the rod would stick out from the workbench top.



Now I'm going to prepare and cut the threaded rods to the required length. I'll let them stick out by about 10 mm so that I can shape them a hexagonal head. I already explained this step in the previous video.

Now I apply some grease between the second nut and the washer.

I'll also sand down the allen bolt of the depth stop bit a little so that it doesn't jut out as much. That's all for today. Thank you for watching this video until the end.