



## wooden kneeling chair

by **andrea biffi** on September 30, 2015

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I'm an Italian freelance structural engineer, graphic designer and photographer. I'm also investigating electronics, robotics and science in general. I enjoy hacking and disassembling as much as designing... I love cycling, running, hiking, traveling in any way and taking spherical and gigapixel panoramas of cityscapes and landscapes. I wish to have enough time to turn into instructables every my brainchild... but I still have to invent the time-machine! At around my third million of views I had been interviewed as Featured Author (<http://www.instructables.com/id/Features-Author-Interview-Andrea-Biffi/>)

## Intro: Wooden kneeling chair

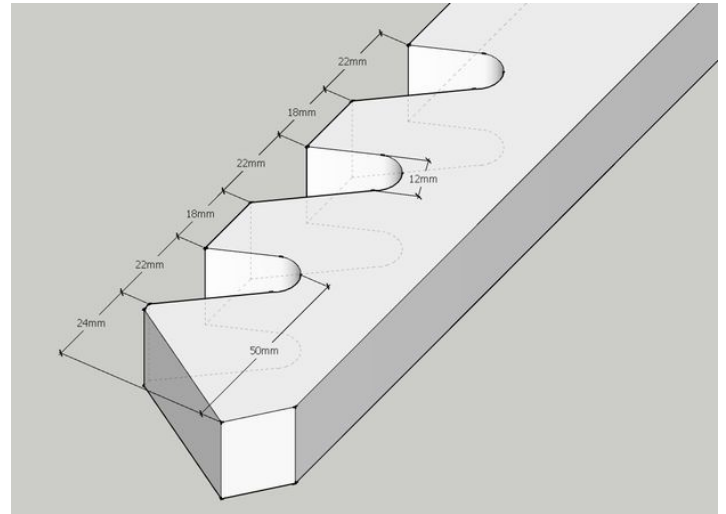
A kneeling chair is what you need if you have to pass a lot of time in your office.

Unfortunately this type of chairs is quite expensive and not very common. This is one reason to make your own kneeling chair, which will also make you very proud.



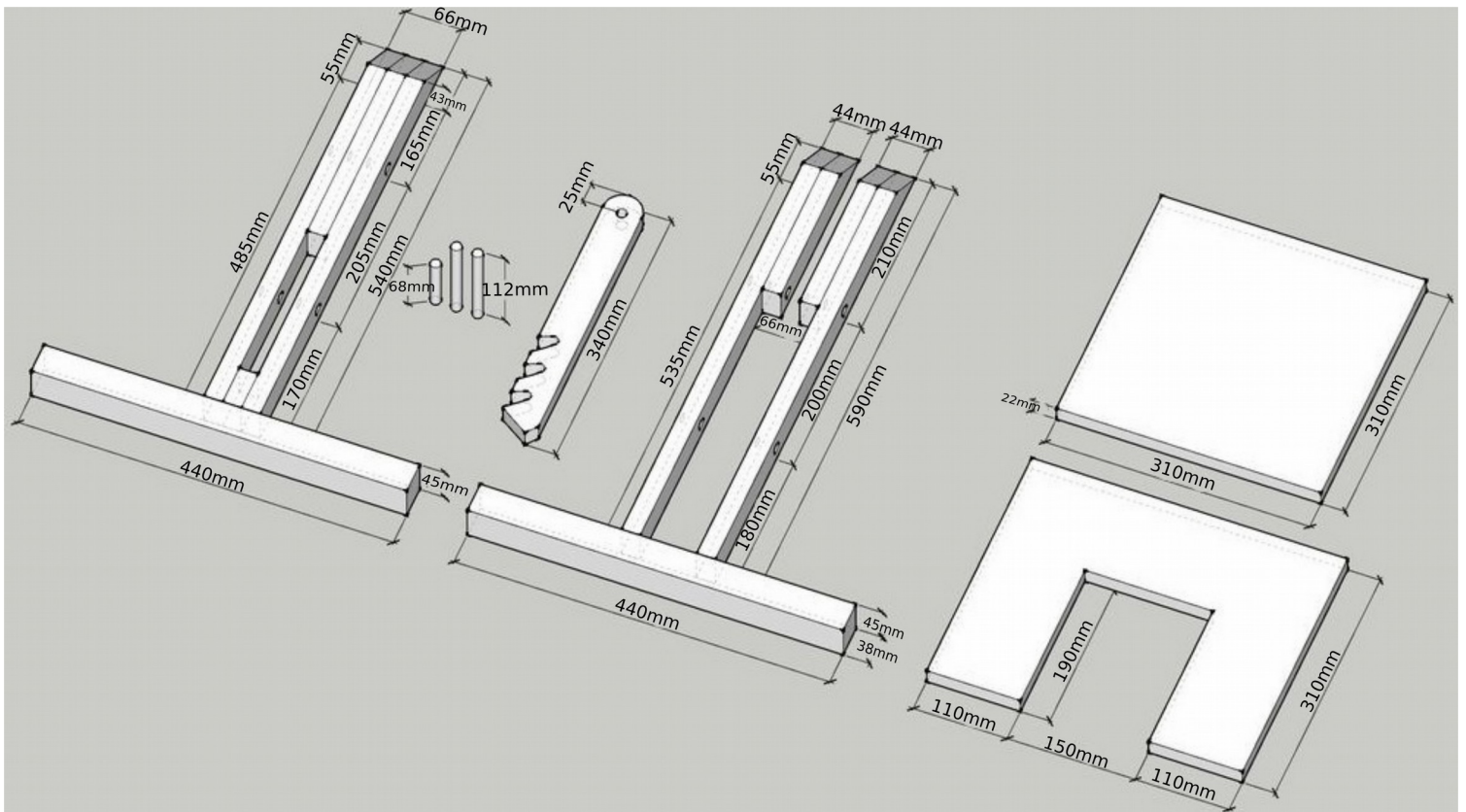
## Step 1: References

If you surf the web looking for "kneeling chair" you will find a lot of references. There are different chair types and I chose the one which inspired me.



## Step 2: Parts and dimensions

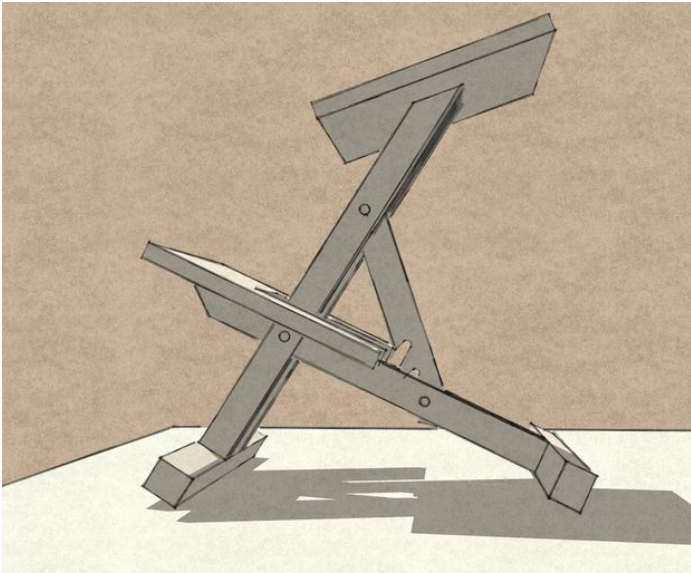
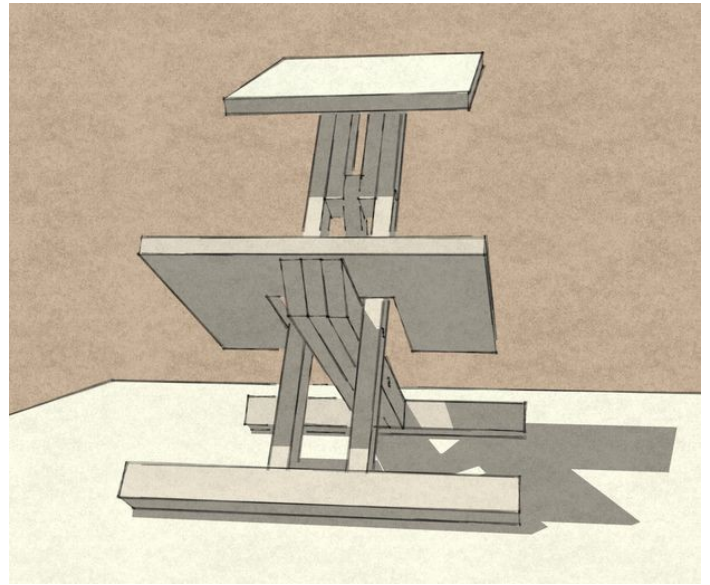
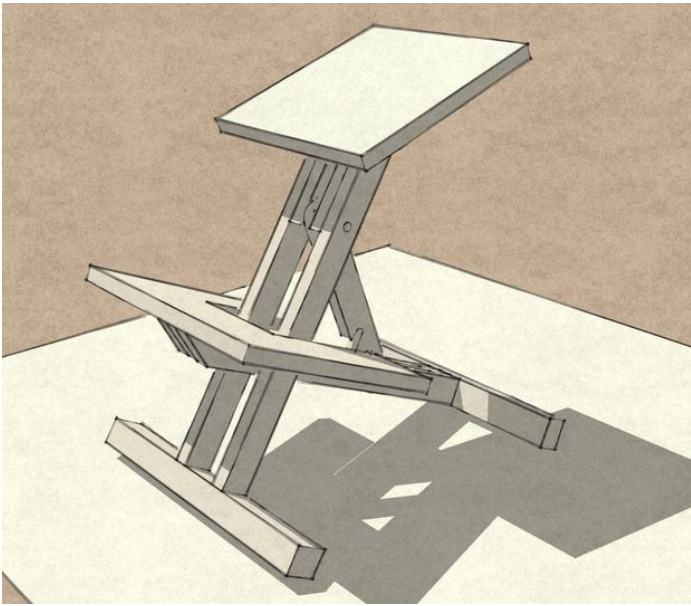
The making of this chair is quite simple. Just look at the image to have right dimensions of every part. Cut wood bars and panels. You will need also two more thin panels with same shape and dimensions of these ones, since I updated the cushion making.



## Step 3: 3D views

Here you can see some views of the 3D model, with no cushion and wheels. This will help you to place parts together.

<http://www.instructables.com/id/wooden-kneeling-chair/>



#### Step 4: Building process

After cutting all parts with right lengths and angles and drilling holes, place parts one adjacent to the other, in the right sequence. Then insert two long dowels in the holes to check assembly. I also added some temporary wood bars to fill empty areas.

If everything fits you can glue some bars together. Look at the previous drawings to well understand which ones.





### Step 5: Set up for dowels

The most important connections, the ones between diagonal bars and horizontal wheel supports, are made with two dowels and a screw each one, as you can see in second picture. To connect wood plates to structure you can also use only screws, which will be hide by the cushion. Drill all holes for dowels, add glue, insert dowels, place parts together and tight them with screws.



### Step 6: Kneel cushion board

I used glue and screws to connect the kneel cushion support to the diagonal bars.





### Step 7: Seat cushion board

Here is the seat wood boards. Use the same technique as for the other plate. Screws here are quite useful since surfaces are not parallel and using clamps is not simple.



### Step 8: Connect parts

While glue is drying you can connect parts together with a big dowel or metal bolt.





### Step 9: Check and finish structure

Now use sand paper to finish surfaces and as some finishing paint as shellac or impregnating agent.

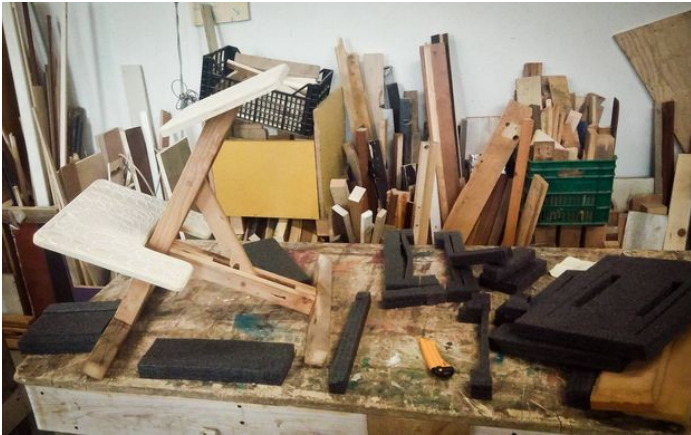


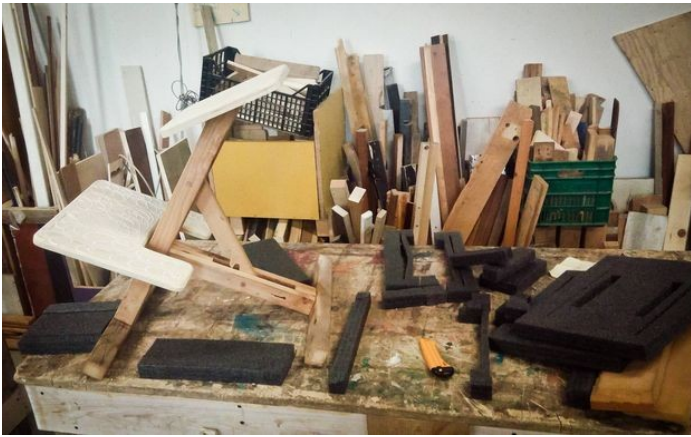




### Step 10: Set up cushions

Here you can see that I was going to glue foam rubber to structure boards. Actually I then decided to glue rubber to additional plates so to hide fabric between two surfaces.





### Step 11: Foam rubber

As you can see I used different foam types. The black one is harder, and will avoid that knees touch the board. Other two types are softer and they will keep fabric tense. Remember that I glued foam rubber to additional plates, these pictures are not updated.







### Step 12: Cushions ready

Add an elastic fabric over the foam and pull it below the plate, then fast it with a staple gun. Then glue the new plates on the structure boards.







### Step 13: Wheels

I had these wheels but you can use different types. I suggest swinging wheels because they will help you moving on the chair. Wheel brakes are not useful. Mark horizontal surfaces with a long rod when chair is open in extended or middle position. Then cut away those four pieces and screw wheels in place.







#### Step 14: Ready to sit

Well done, kneeling chair is now ready. Time to test it at your desk. You also can close it and hanging it on the wall when unused.

