

How to build your own motor cycle tire balancing tool

Most of the instructions for build the stand are included in the pictures. You really need to use a drill press to make sure your holes are square. Make the holes as precise as possible by using a center punch using pilot holes. If you have a vise that mounts to your drill press that would be much better. This took me about 3 hours to build and I used the materials I had in available in my shop. You can substitute where ever you think you need it.

The material I used is fully dried 2x2 treated lumber. Try to use pieces that don't have knots which can cause warpage.

**4 pieces 16" long
2 pieces 14" long**

**Cut them as accurately
as possible within 1/32"
if possible.**



All holes are 1/4" diameter.

The adjustment holes need to be centered as close to perfect as you can get them.

8"

2"

These two holes are pilot holes and are not 1/4"

7/32" pilot holes

I counter sunk this hole just to make sure the the screws I used went deep enough into the joint.

I used a 1/2 wood boring bit to counter sink the holes.

All the holes on the ends need to be centered from the end and both sides.

Try to keep all your holes as accurate as humanly possible and take your time measuring!
If you think of a better way to do it then go ahead and do it. The materials you have on hand are probably different then the materials I had on hand.

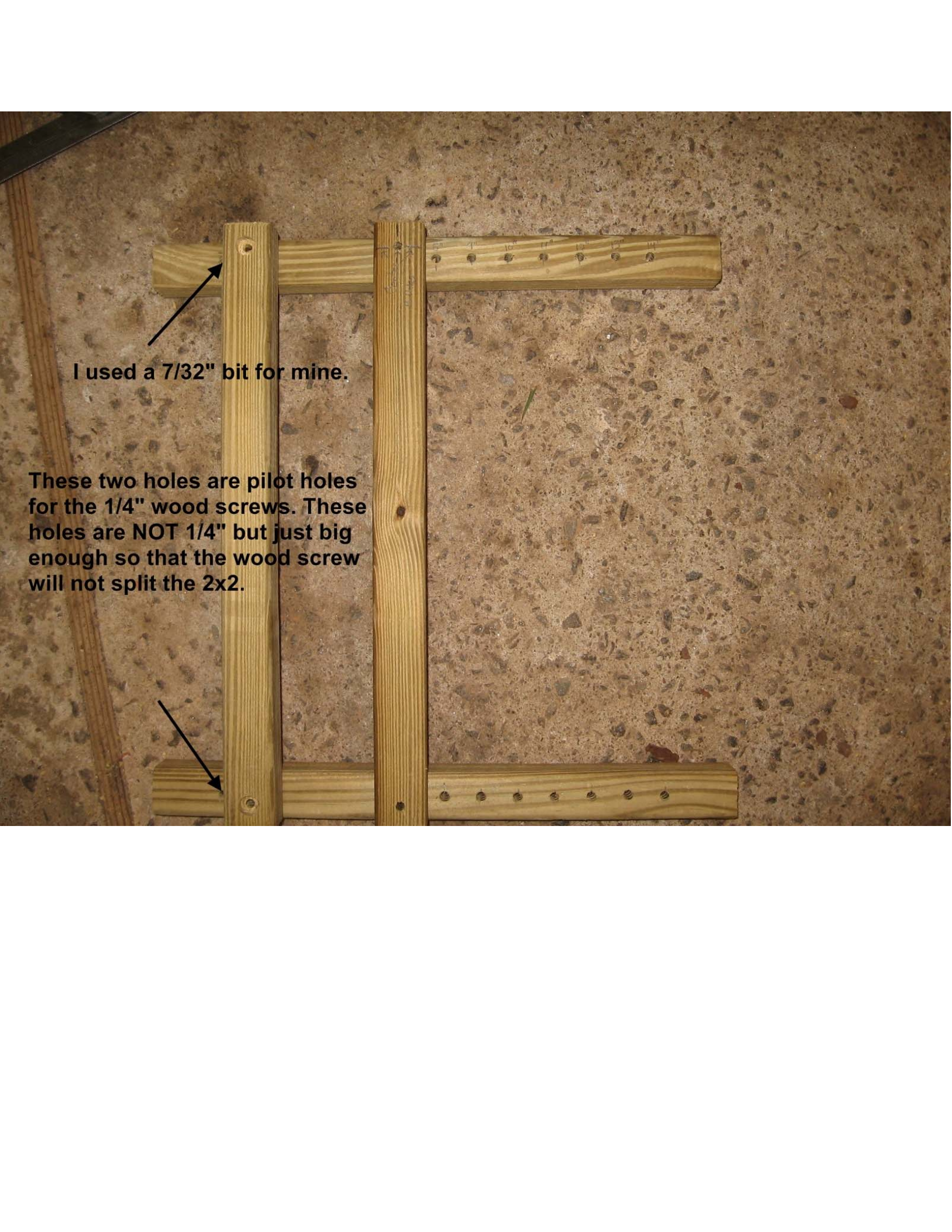
Take your time and make sure
the hole is centered on 3 sides.



Do your best to make sure the holes are centered.

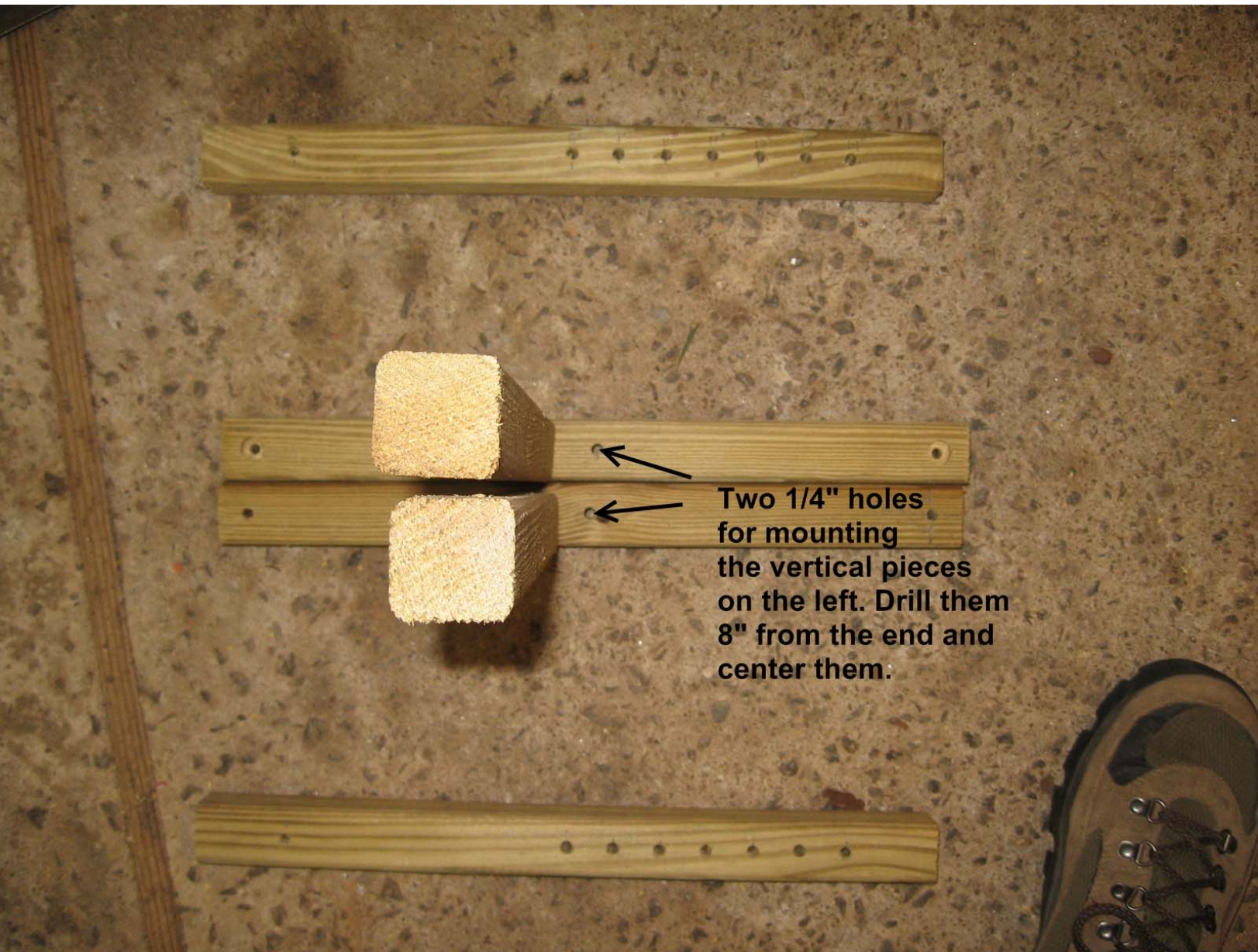
These are the adjustment holes and need to be drilled in the center as accurately as possible. Note that there are 7 of them spaced 1" apart. If you feel it necessary you can drill more hole and space them at 1/2" for finer adjustments.



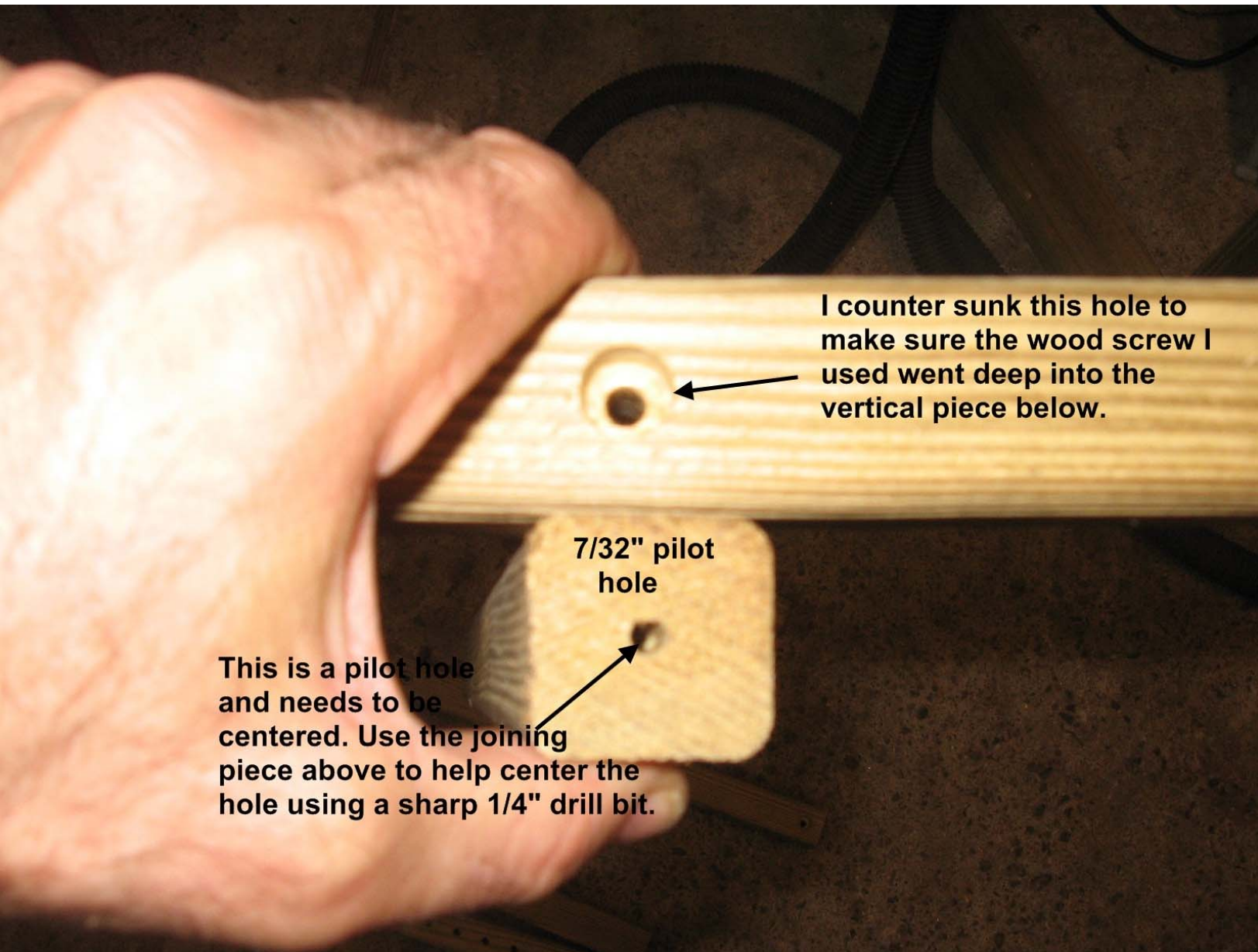


I used a 7/32" bit for mine.

These two holes are pilot holes for the 1/4" wood screws. These holes are NOT 1/4" but just big enough so that the wood screw will not split the 2x2.



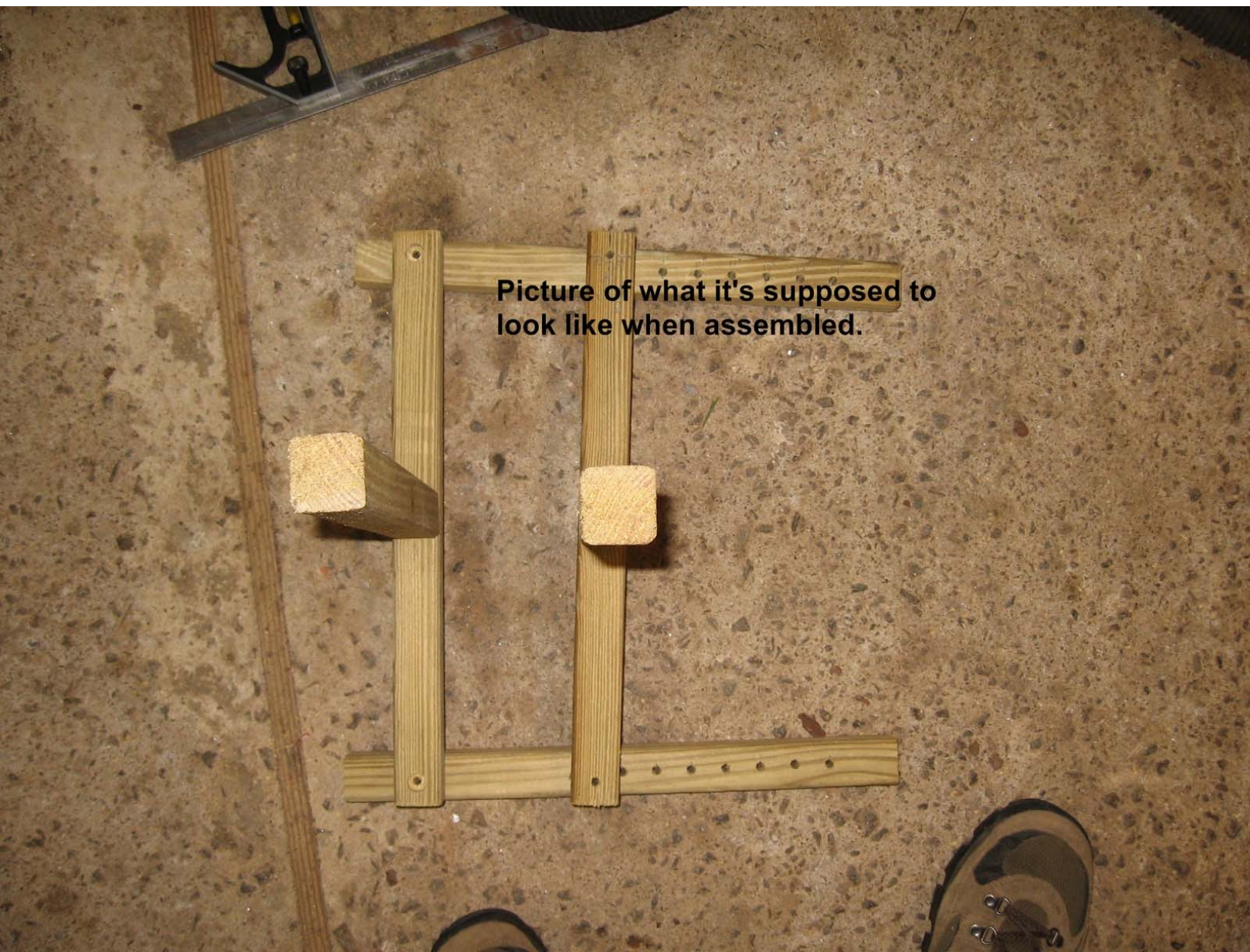
Two 1/4" holes
for mounting
the vertical pieces
on the left. Drill them
8" from the end and
center them.



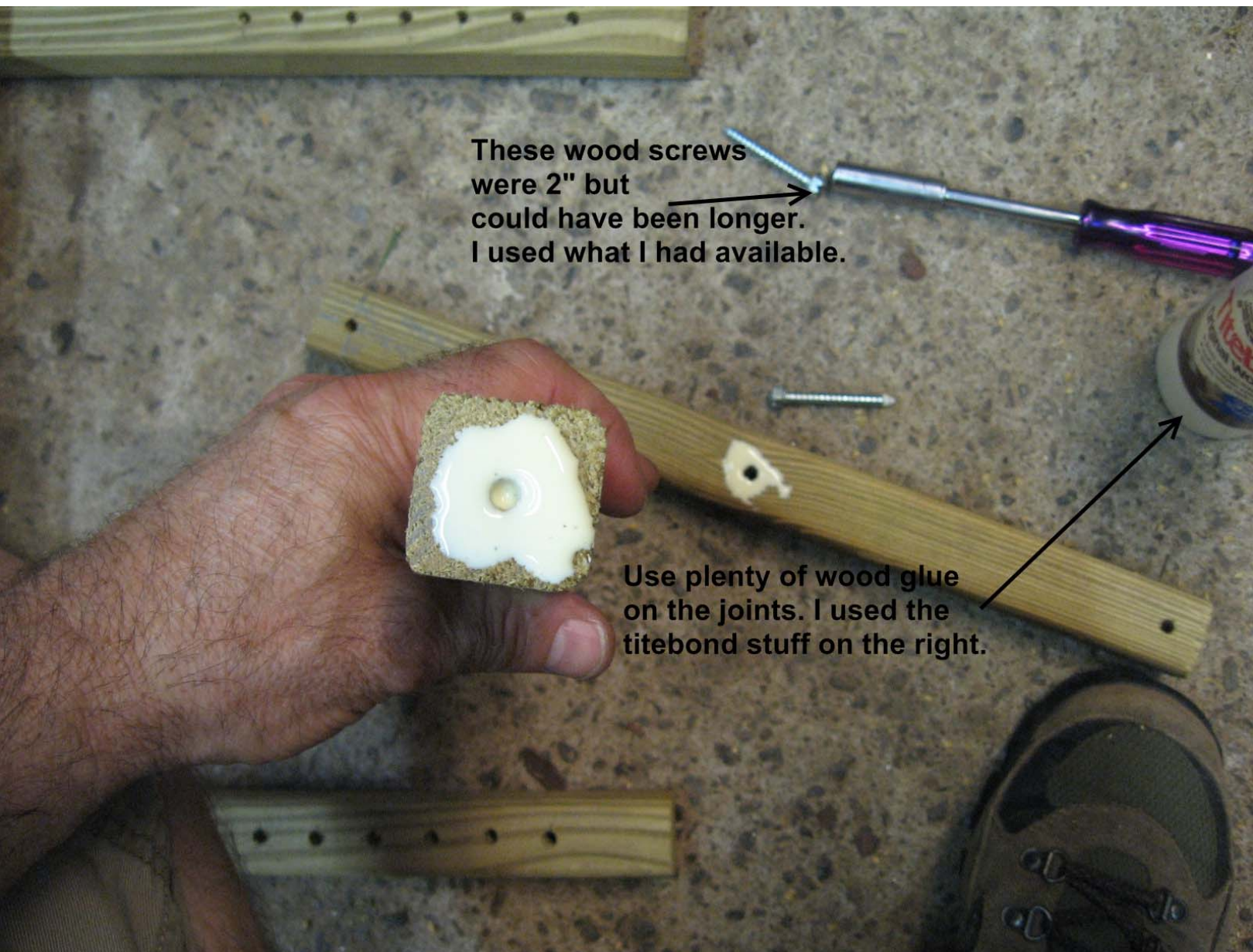
I counter sunk this hole to make sure the wood screw I used went deep into the vertical piece below.

7/32" pilot hole

This is a pilot hole and needs to be centered. Use the joining piece above to help center the hole using a sharp 1/4" drill bit.



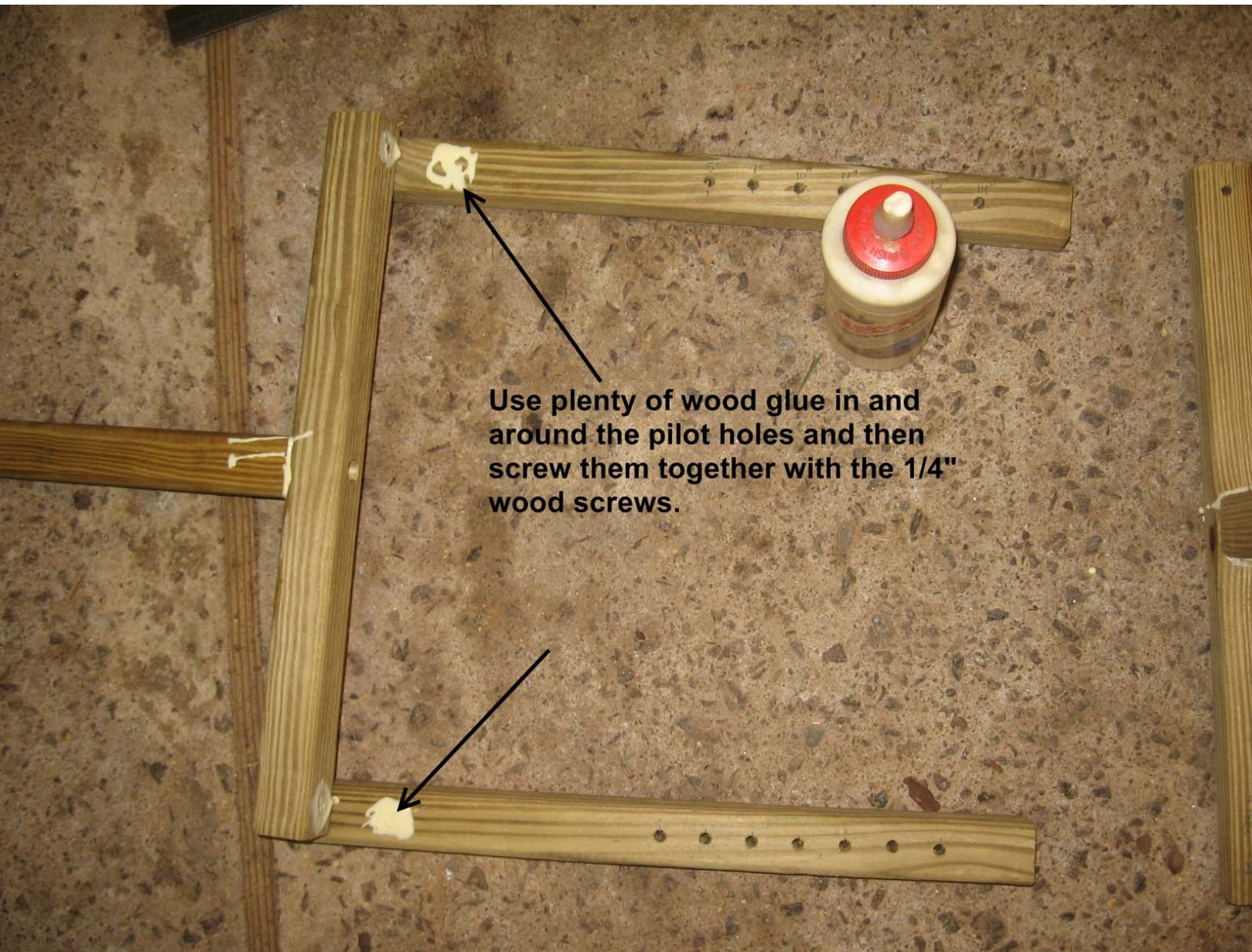
This picture gives you an idea of what is supposed to look like when it's assembled.



These wood screws
were 2" but
could have been longer.
I used what I had available.

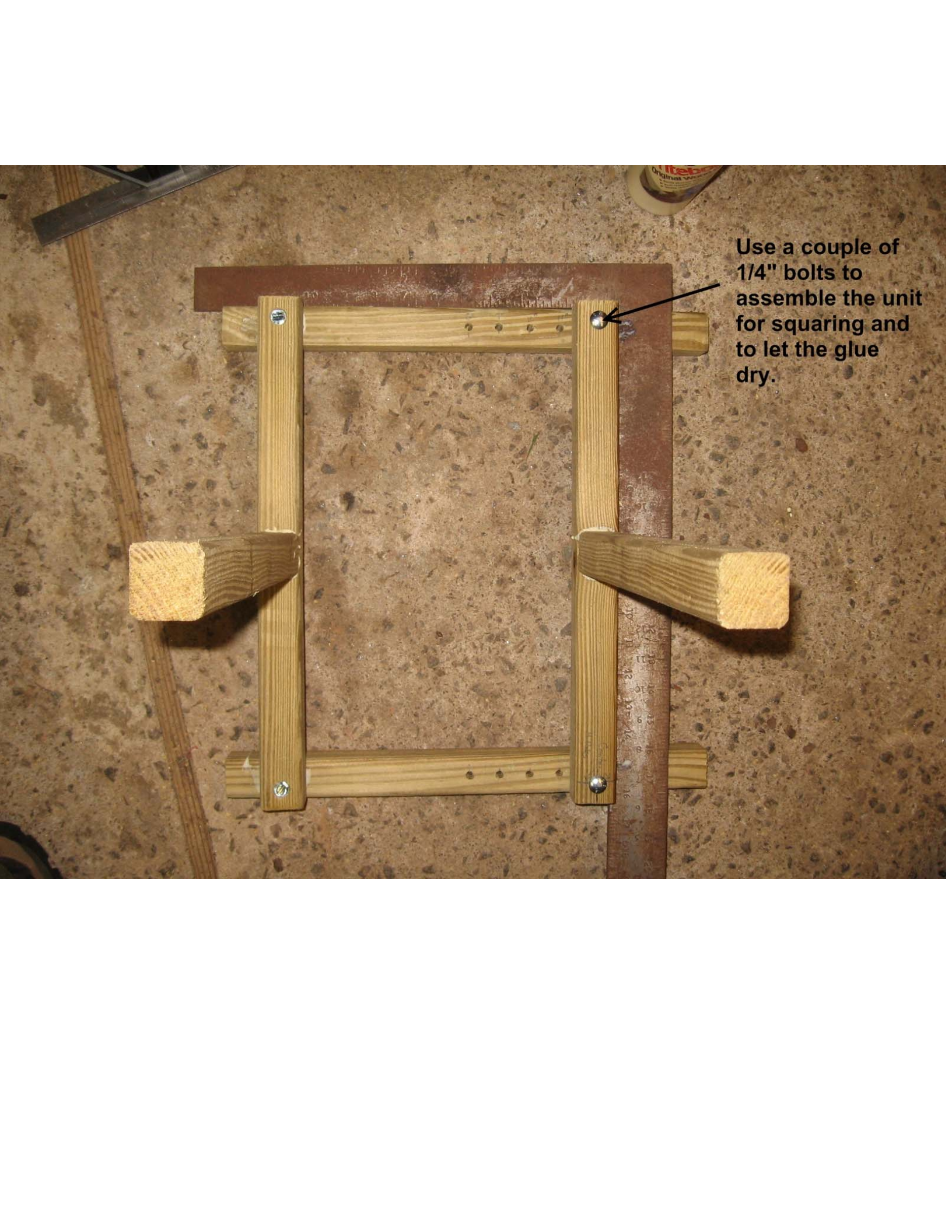
Use plenty of wood glue
on the joints. I used the
titebond stuff on the right.

The glue I used was the Titebond water proof stuff you get at Lowes hardware. Use plenty of glue! The extra stuff you can just wipe off.



Use plenty of wood glue in and around the pilot holes and then screw them together with the 1/4" wood screws.

If you want to can leave these two joints un-glued and just hand tighten them with the wood /lag screws. If your holes aren't square and precise then this would be a good idea for you to do.



Use a couple of
1/4" bolts to
assemble the unit
for squaring and
to let the glue
dry.

These are standard roller blade bearings that can be purchased online for less than \$2 each. The black spacers will be needed so you will probably need to ask for them when ordering? They might come with the bearings. I already had bearings from my boys old roller blades.

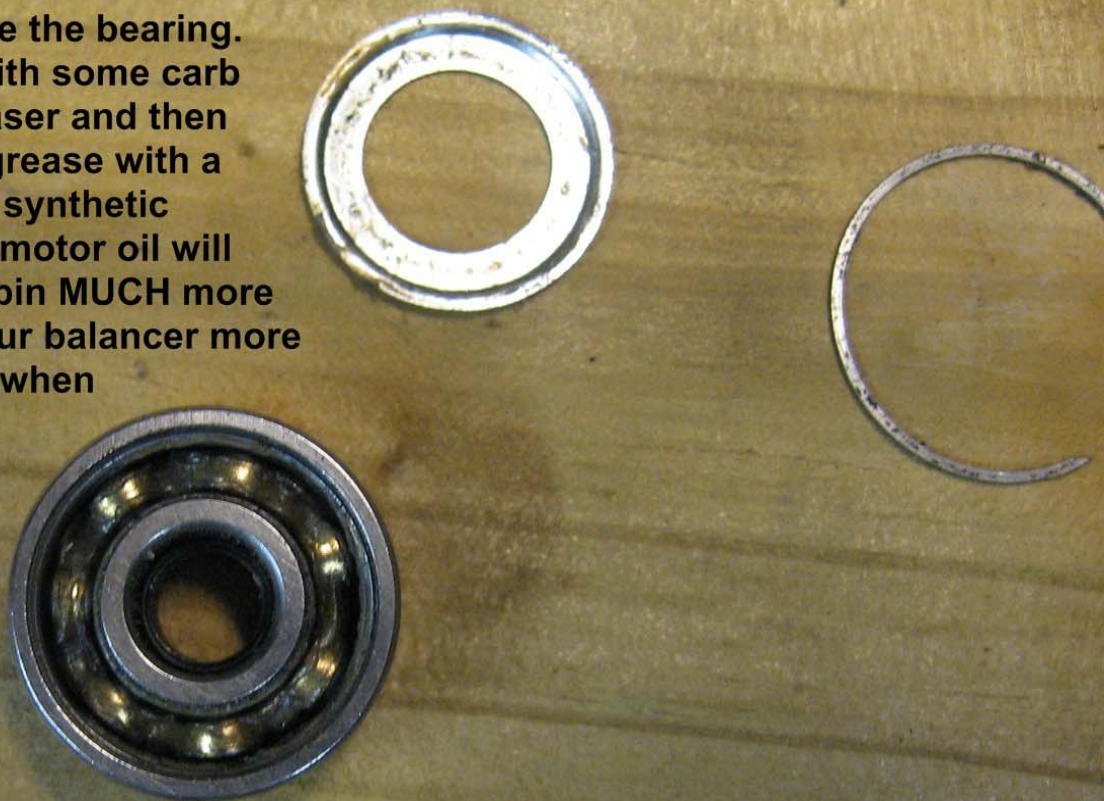
Notice the black inserts inserted in the bearings. You're going to need these when you assemble the unit.



You will need to remove the bearing covers and clean the grease out of them. Look for a small retaining ring that once removed will allow you to clean out the grease.



Notice the grease inside the bearing. Clean the grease out with some carb cleaner or other degreaser and then blow dry. Replace the grease with a good quality oil. I used synthetic motor oil on mine. The motor oil will allow the bearings to spin MUCH more freely and will make your balancer more sensitive and accurate when balancing your wheels.



Cut two pieces of 1 1/2" or 2" angle iron 2 1/2" long. Use the angle iron you have available it really doesn't matter. You'll need to notch the centers as I have pictured below. The left one is complete and the right one is where I used a file to make a center hole. I then used a angle grinder to flatten it out a bit.



You can even use some 1" angle iron if you have it and could probably get away with using 3/4" as well. You can cut the notches how ever you want i.e. bench grinder etc....

A close-up photograph of a hand holding a rectangular metal plate. The plate has a central vertical groove and four small circular holes, two on each side of the groove. The top two holes are slightly offset from the center line. The metal has a dark, textured appearance. The background is a workshop with various tools and equipment.

**Use your bearings to find the spots to drill your mounting holes
You want the bearings to be as far above the angle iron as possible and yet retain strength in the mounting hole. My holes are the size of the tap I'm using to tap the hole. They don't have to be perfect as you can see from the picture.**

Tap size I used was a 8 x 32

Drill bit size was #29

Screws 8 x 32 x 1/2" flat head machine screws.





You don't have to tap the holes. You can just drill the hole the size of the screw your going to use and then secure them with nuts.

Tapping the holes for my flat head machine screws. These screws have angled sides which is important.

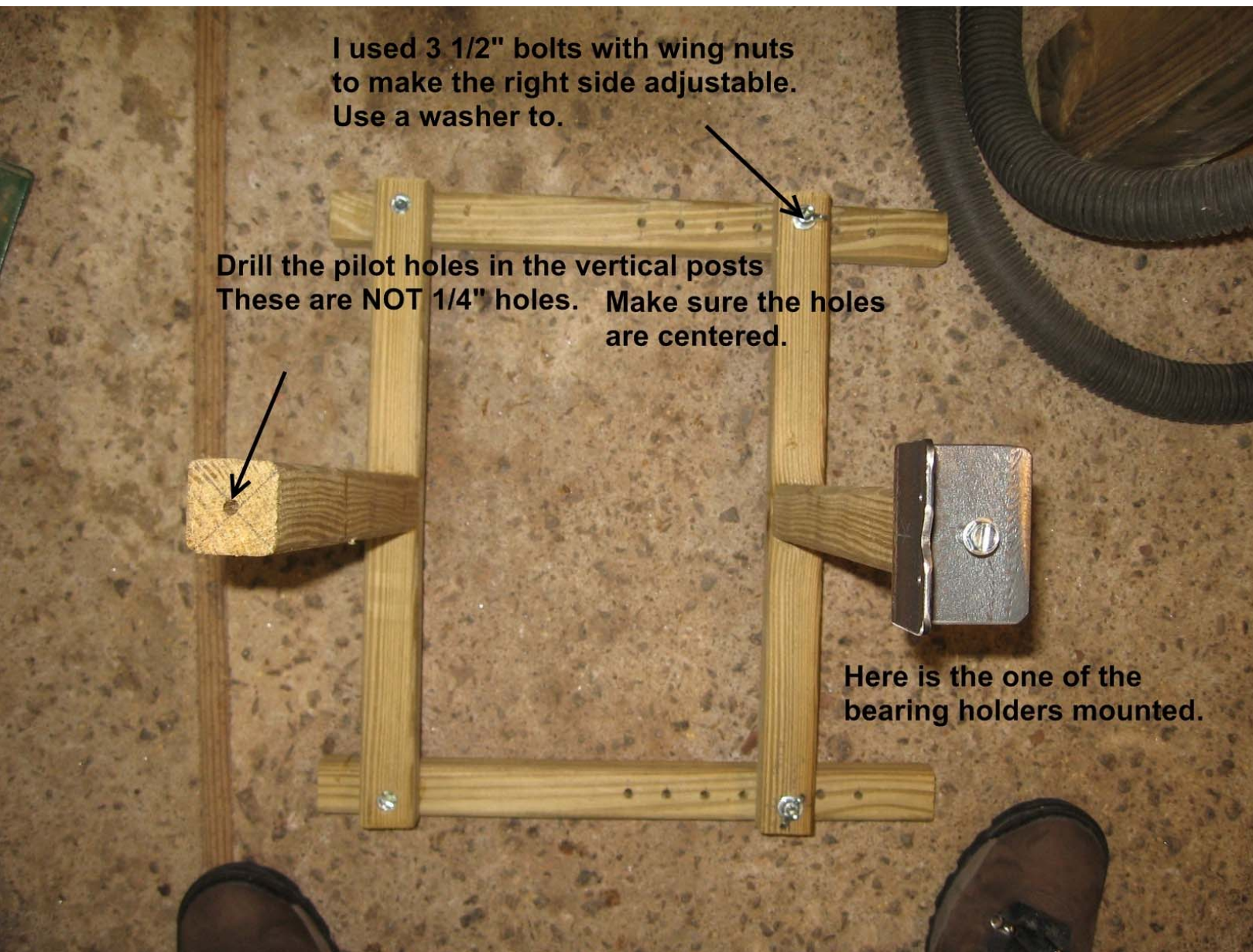


Here's the finished product. Notice how the machine screws are flush with the surface of the inner bearing race. The actual screw size is MUCH smaller than the ID of the bearing. The flat head machine screws have a angled head and are self centering when tightened. This is why I used them.

The image shows two identical metal bearing holders resting on a light-colored wooden workbench. Each holder is a rectangular plate with a wider top flange and a central circular hole. The metal has a weathered, greyish-brown appearance. In the background, a dark, textured surface and a black cable are visible. A small portion of a metal ruler is visible on the left side of the workbench.

Now you have to drill the 1/4" holes to mount the bearing holders to the top of the vertical posts.

The holes need to be centered in both directions.



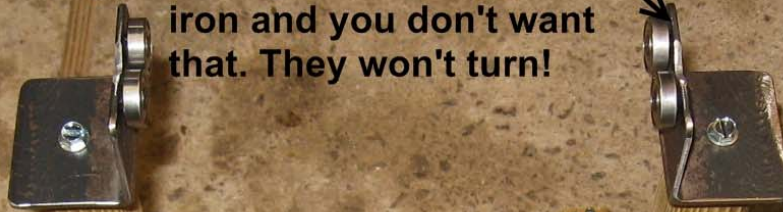
I used 3 1/2" bolts with wing nuts to make the right side adjustable. Use a washer to.

**Drill the pilot holes in the vertical posts
These are NOT 1/4" holes. Make sure the holes are centered.**

Here is the one of the bearing holders mounted.

Use the 7/32" bit to drill the pilot holes.

The black spacers go between the bearing and the angle iron. If you don't use spacers then the bearing will be tightened against the angle iron and you don't want that. They won't turn!



Here's a picture of the finished unit.

