

# Tripod kickwheel measurements

## Caveats:

1. At one point during the construction of this thing, I discovered that the art department table saw I had been using was crooked.
2. As you can see from the photos, some of the wood is a bit crooked too.
3. As a result, I didn't create this whole thing at once from plans, but designed and built a little, then measured what I had done, built some more, measured it, built on that, and so on.

So while the measurements in these plans should be right, I *highly* recommend you build it in stages, stopping to measure what you have done at each step.

## Stage 1:

Get a tire no bigger than 22.25" x 6.75" and a lazy susan bearing close to 6" wide. After measuring both, build the tire and bearing assembly.

## Stage 2:

Build the neck straight from the plans. The neck will be the same dimensions no matter what, but other parts will depend on its shape.

## Stage 3:

Build the 3 'tibia' part of the legs. Before making each cut, hold the piece up against the bottom of the tire & bearing assembly to make sure everything fits. When done cutting, lay the tibias on the floor in their interlocking triangle shape, lay the tire assembly on top of them, and screw the 30" axle into the flange on the tire assembly. Slide the neck down onto the axle, and tape it there exactly <not measured yet> inches from the top end of the axle.

## Stage 4:

Measure the distance from the outside tip of each tibia (the rounded end with the bolt hole), up to each bolt protruding from the neck. Visualize how each 'femur' will connect between the end of its tibia and neck bolt. Measure between the neck bolts and the tibia bolt holes. When satisfied, cut & drill the femurs to fit. Take the neck, axle, tire, and tibias apart from each other again. Bolt the femurs onto the neck, then to the tibias. Your tripod is complete. Set up the tripod, and slip the tire into its place, drop the axle through the neck hole and screw it into the tire flange. Make sure everything turns easily.

## Stage 5:

Well you get the idea. Keep going with the wheel head, splash pan and seat, based on what you have already done.

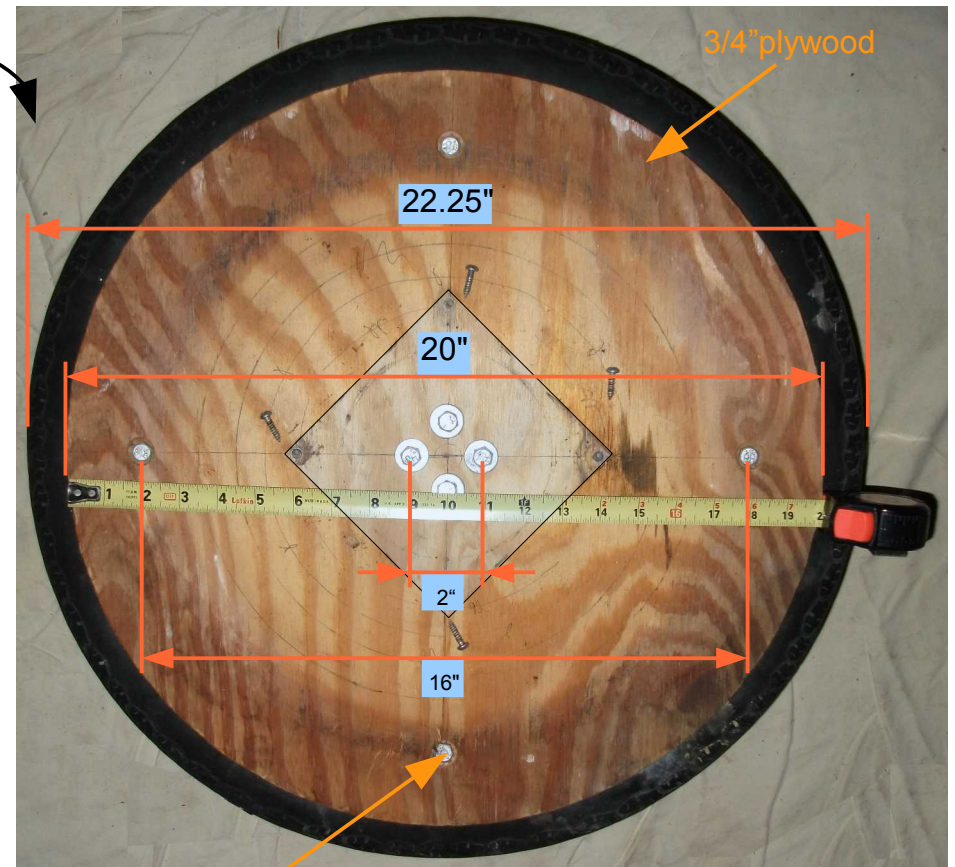
If you are a tall person with long legs, you can buy an axle longer than 30". This will change all measurements after Stage 3.

Also, this project cost about \$40 in Norfolk Virginia, in 1995. Parts may be more expensive now.



Standard hardware.  
All bolts are this diameter, some shorter.  
All washers are the same.

## Tire kickwheel with bearing plate removed



4 tire bolts are countersunk, flush with surface

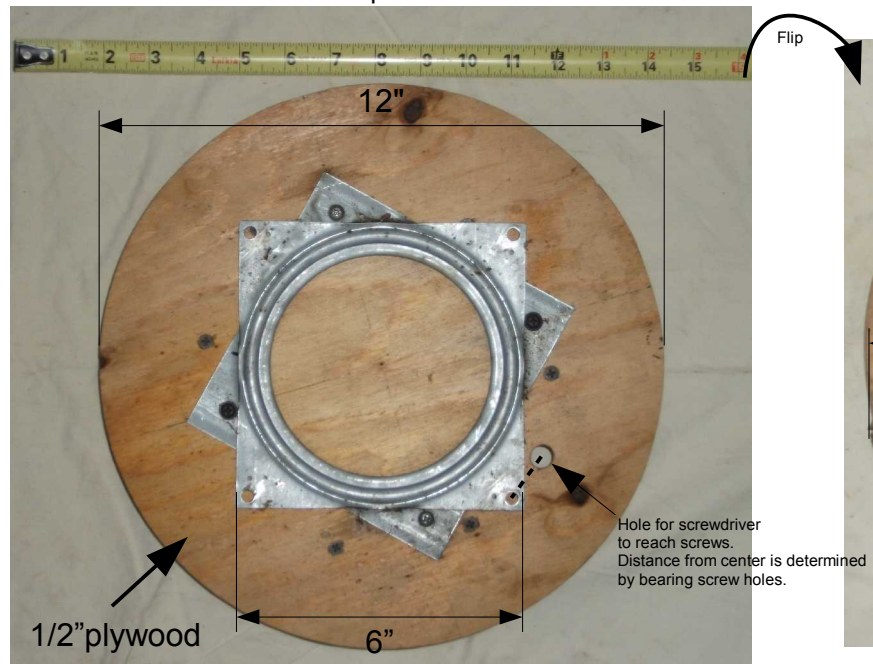
Inside tire, use a socket wrench to tighten a nut on each bolt.  
Add a washer to keep the nut from pulling through the rubber.

Tire is no more than 6.75" thick,  
from sidewall to sidewall.

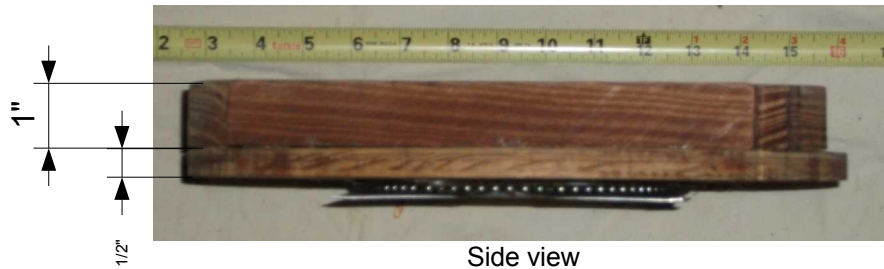
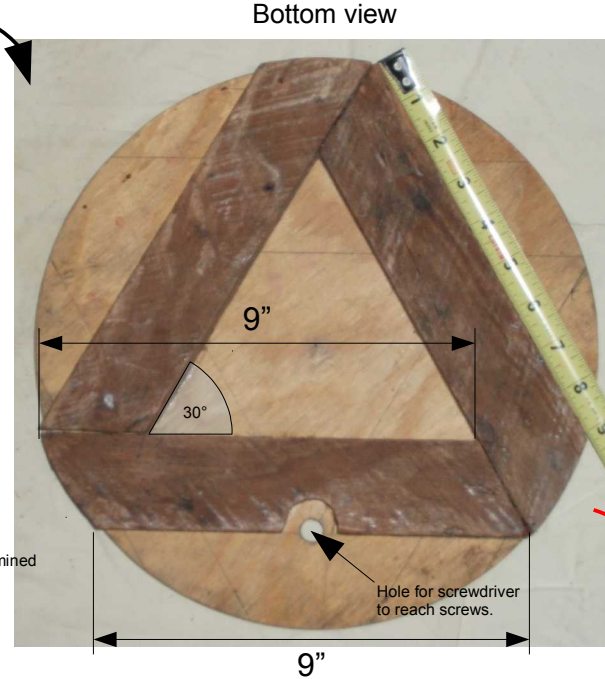


# Lazy susan bearing and wooden plate, removed from tire

Top view



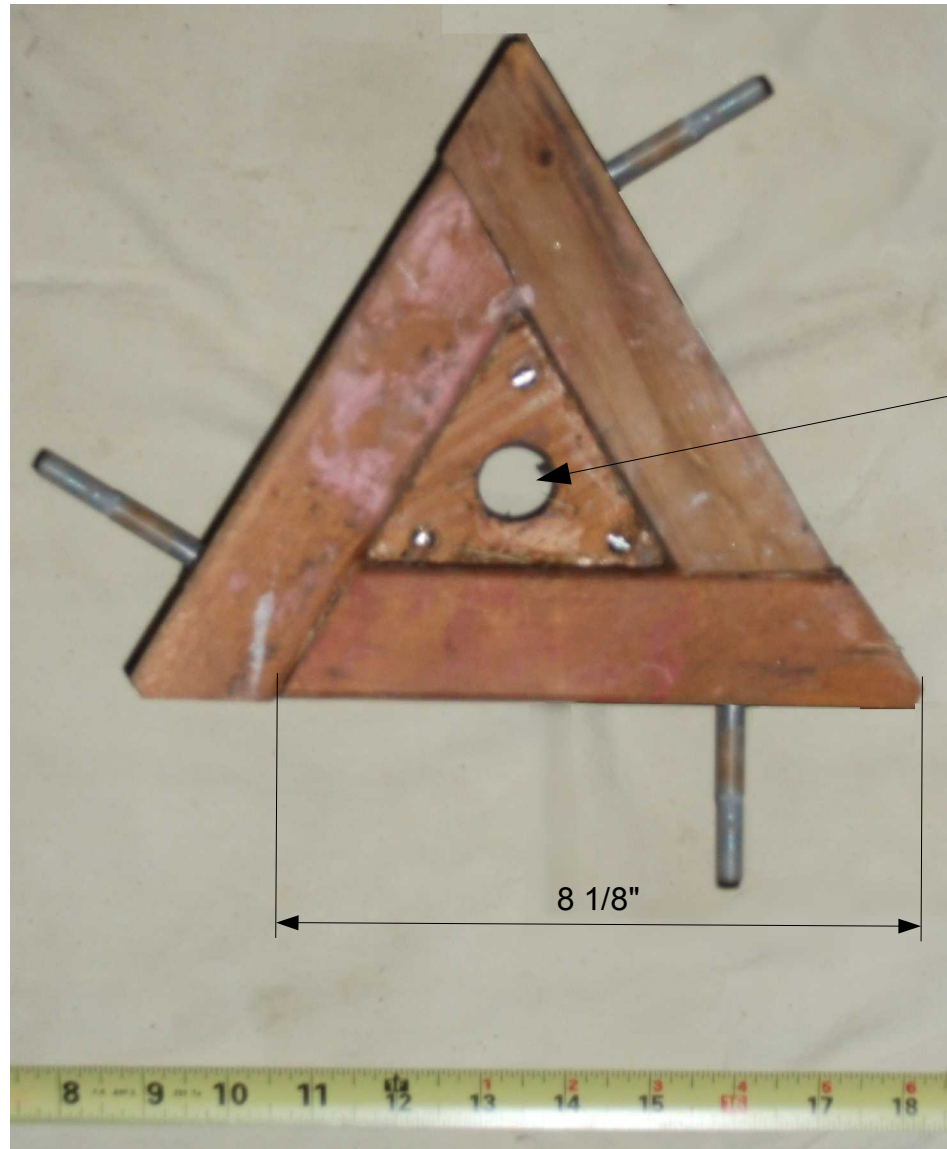
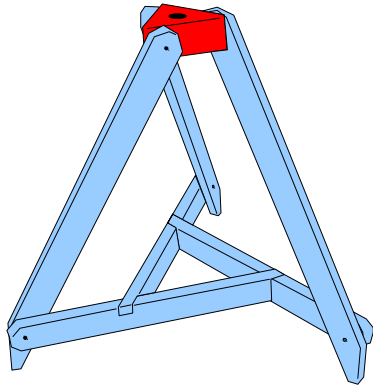
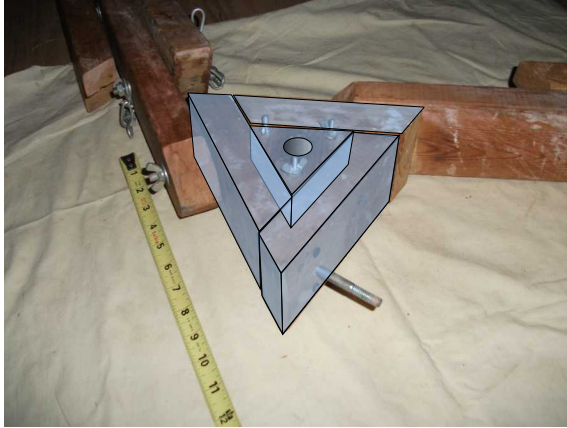
Bottom view



Screwing the bearing back onto the underside of the tire plywood

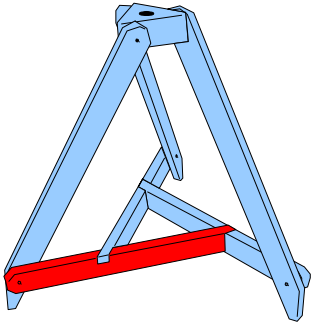
## Tripod neck (no documentation yet)

All parts cut from 2x4

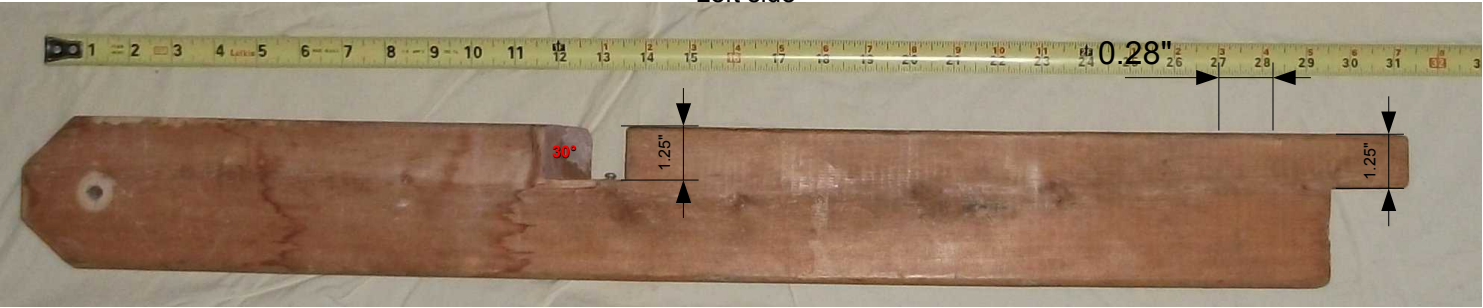


# Tibia, make 3 of these

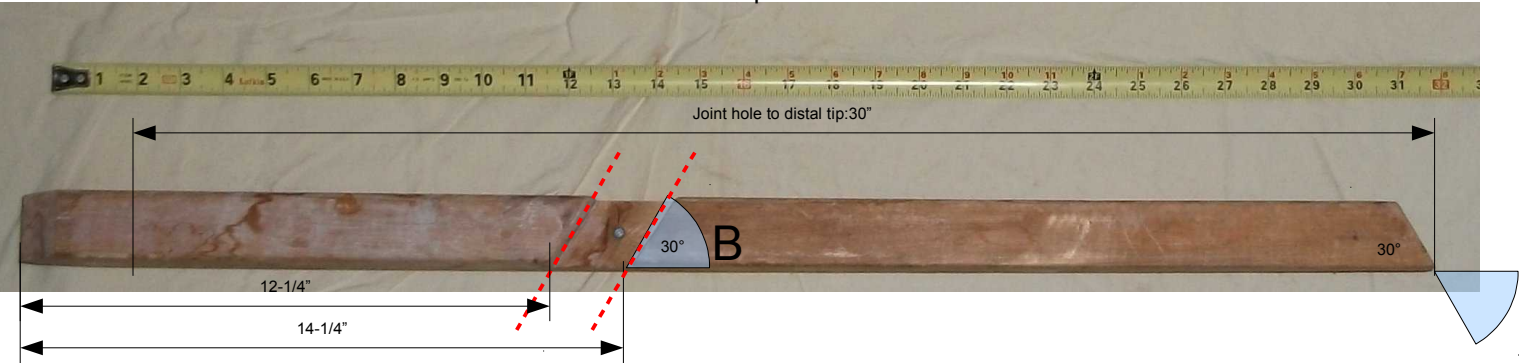
Cut from 2x4



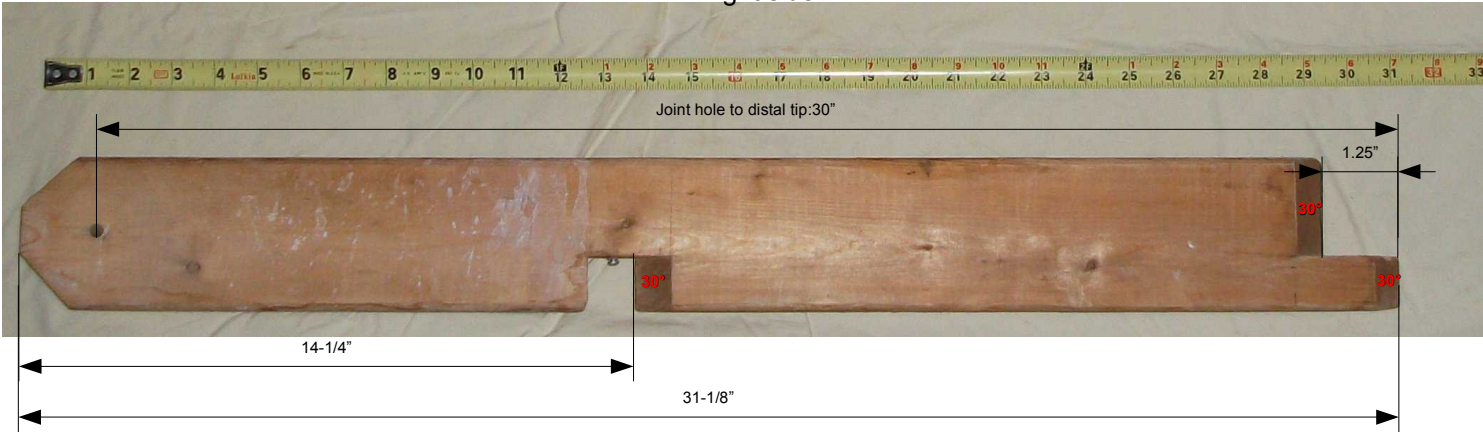
Left side



Top



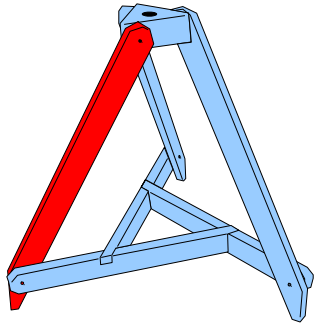
Right side





# Femur, make 3 of these

Cut from 2x4



Top



41 7/8"

Left side



hole to hole: 35.75"

4 7/8"

Right side



Axle, galvanized pipe, 30" long x 3/4" nominal diameter



(Both flanges must fit the ends of this axle.)