TINY TITAN BINOCULAR MOUNT KIT

If you own binoculars and don't have a sturdy mount to use when stargazing you are missing out on a major improvement in your observing comfort. Many commercial mounts are available that will do the job. Some work better than others, but all are rather pricey. With the Tiny Titan Binocular Mount Kit you can build a parallel arm binocular mount that is easy to construct, low in cost and works very well with binoculars that weigh up to 2 ½ lbs. Made of red oak and quality hardware this mount will give you many years of service.

Instructions for Assembly ...PLEASE READ THOROUGHLY BEFORE STARTING

1. Check the package for completeness

In the large bag there should be four pieces of wood 8 inches long, one piece 11 inches long with metal bolt threads on one end, one piece 2 ¼ X 5 inches, and one piece 3 inches long.

In the small hardware bag there should be 6 nylon washers, 2 wing nuts, 1 black hand knob, 5 small flat steel washers, 1 large steel washer, 1 thumbscrew, 1 rubber washer, 2 wood screws, 1 threaded coupling (hexagonal bar), 3 bolts 2 ¼-in long, 2 bolts 3 ¼-in long, 1 bolt 6 inches long, one ¼-in lock washer, one 5/16-in lock washer, 2 nylon insert lock nuts and a metal counterweight.

2. Tools needed for assembly

The following tools and/or supplies will be needed to complete assembly: electric drill, ¼-in drill bit, 1/8-in drill bit, 7/16ths-inch nut driver (or a 7/16 deep well socket and ratchet wrench), an adjustable wrench, ruler, pencil, wood clamp, phillips screwdriver, sandpaper, glue, and wood sealer such as polyurethane.

3. Start assembly

Start by drilling all the holes. Placement of the holes on the various parts is important for optimal performance of the mount. Refer to the drawings. Before drilling it is wise to place a scrap piece of wood under the mount pieces to help prevent wood tear out and splintering. Center the holes as accurately as possible. Using a center punch to mark the position before drilling may make it easier. Keep the drill vertical.

(a) Drill two ¼-in holes in the vertical arm as indicated in the drawing. The vertical arm already has one hole drilled in the end that is round.

(b) Turn the vertical arm around and stack it on top of one of the center posts. Drill a ¼-in hole clear through the end of the center post.

(c) Insert a ¼-in bolt into this hole to align the pieces while drilling the second hole.

(d) Repeat for the other center post.

(e) Take the last 8-in piece of wood to make the upper arm. Drill two holes as indicated.

(f) Stack the upper arm on top of the lower arm and drill a ¼-in hole on the end opposite from the end with the metal threads for the counterweight coupling. Again, use a bolt in the first hole to make sure the second hole is accurately placed.

(g) The last hole to drill is on the top of the altitude adjuster. First, check your binoculars to make sure they will take a standard ¼ X 20 thread. If so, drill a ¼-in hole in the center of the ½-in thick part.

4. Finish the wood. Sand and smooth the pieces. Round off any sharp edges. The base of the altitude adjuster can be rounded off (as seen in the photo) if desired. Apply stain or polyurethane or the finish of your choice and let dry thoroughly.

5. Final Assembly

(a) First place a 5/16-in lock washer over the metal threads protruding from one end of the lower horizontal arm. Install the threaded connector and snug it down with an adjustable wrench.

(b) Place one 2 ¼ -in bolt through the hole in the side of the altitude adjuster and secure with a lock washer and nut using the 7/16-in nut driver.

(c) Put the two 3 ¼-in bolts through the center posts. Temporarily tighten the bolts with the wing nuts to pull the square heads of the bolts into the wood completely. Make sure that the wing nuts will be on the right side where you can reach them easily (unless you are left handed). Do the same with the 2 ¼-in bolts and the ends of the vertical arms.

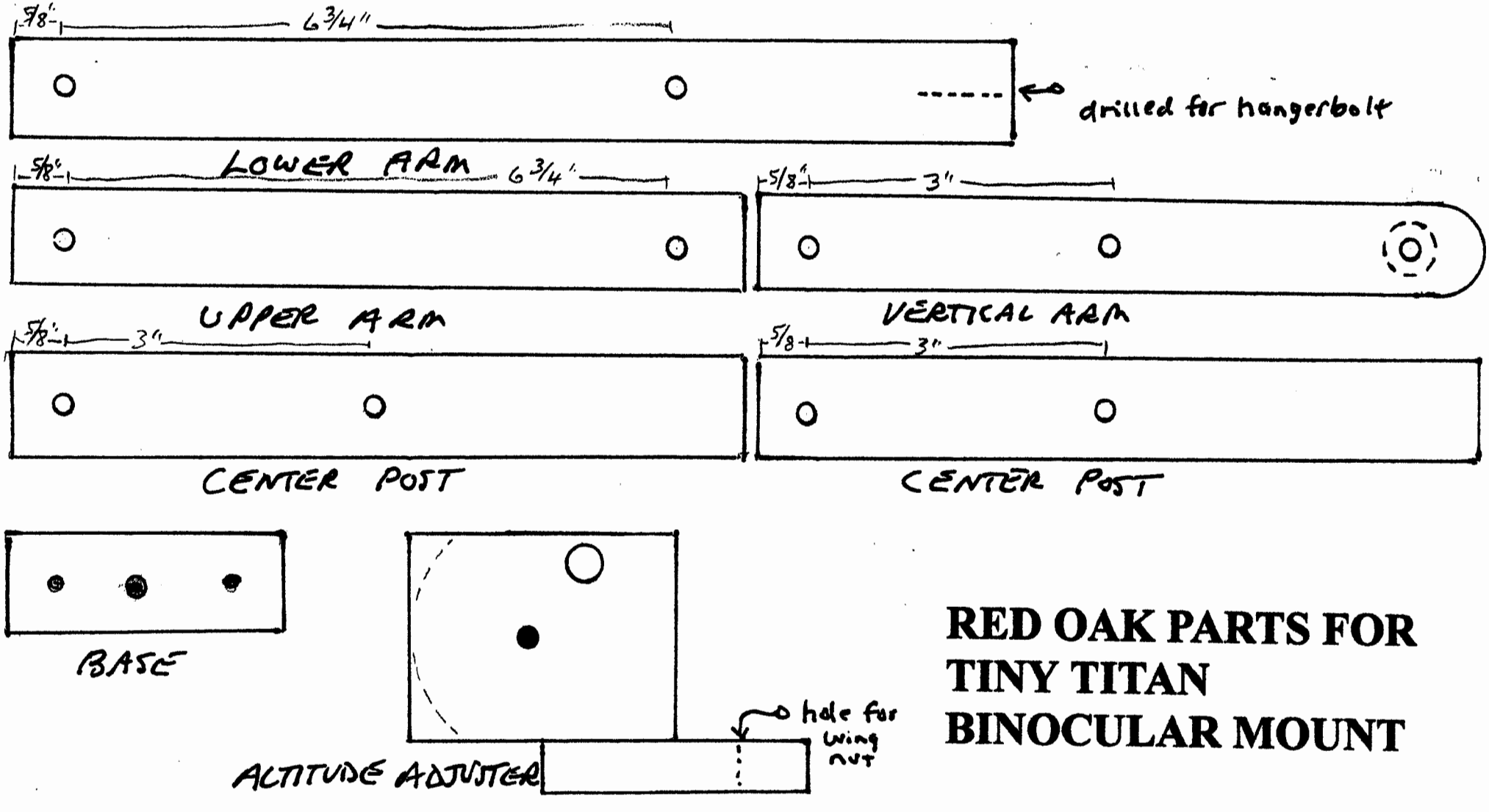
(d) Assemble the mount as indicated in the photo. The large steel washer goes between the hand knob and the altitude adjuster. Be sure to install the nylon washers between the center posts and the 2 horizontal arms. Also between the horizontal arms and the vertical arm. The nylon washers act as bearings for smooth motion.

(e) After the horizontal arms have been screwed in between the center posts (with their nylon washers) the base should be attached. Turn the mount upside down and align the center posts with a clamp. Drill pilot holes into the bottom of the center posts to accommodate the long wood screws which come up through the base into the ends of the center posts. Use a 1/8-in drill bit. Use the existing holes in the base as a guide. Make sure that the pre-drilled countersunk holes in the base are opposite the side the center posts are attached. This insures that the T-nut embedded in the base will not come out over time. Screw the base to the center posts. The wood screws will seat in the counter sunk pre-drilled holes of the base.

(f) Insert the 6-in long bolt through the counterweight and screw it into the end of the threaded connector on the lower arm. Place a flat washer on the thumbscrew and insert it into the altitude adjuster. Force the threads of the thumbscrew through the rubber washer. About 3/8-in of thread should show through. A drop or two of glue between the rubber washer and the altitude adjuster will keep the washer on the mount. Assembly is done!

6. Use the Mount

Attach the mount to a tripod with a 1/4X20 (20 threads per inch) mounting bolt. Remove the cover from the center post of your binoculars and attach them snugly to the altitude adjuster. If your binoculars do not have a 1/4X20 threaded center post you will have to either drill and tap it for 1/4X20 threads or purchase a different size thumbscrew. The binoculars will now keep any angle on the sky you set for them by loosening and tightening the hand knob. Your tripod's head provides the azimuth motion, rotating parallel to the horizon. Tension in the mount can easily be adjusted by twisting the wing nuts. Lock washers can be added under the wing nuts for more friction if necessary. Center an object in the field of view and tighten the altitude adjuster. The mount will hold the view for you as you adjust the height of the binoculars. Congratulations! You have just built your binocular mount for a fraction of the cost of a commercial metal one!



RED OAK PARTS FOR TINY TITAN BINOCULAR MOUNT