

The \$45 Observing Stool for an 8" Dobsonian Telescope

I love my new 8" Dobsonian telescope. However, I don't like having to constantly bend over to look through it. I found that when I knelt at the scope on a pad, the height was perfect when the telescope was pointed straight up, or any position, all the way to horizontal. But I'm not to spend 3 hours on my knees outdoors at night. The multitude of jokes that would be told, alone, are enough to put a lid on that idea. Besides, its not very comfortable, especially in the winter.

However, this told me that the distance from my knee to my hip is the exact height of a chair or stool needed to be seated comfortably at the scope. So, using a modified mechanic's stool is the perfect answer. Introducing the \$45 observing stool.



I purchased the "Team Mechanix Pneumatic Roller Seat" at Canadian Tire for \$40. However, it sometimes goes on sale for \$20. It comes disassembled, so its ready to be modified. The biggest change is the casters – they have to go. Casters aren't cheap either, so keep them handy for a possible future project.

I replaced the casters with legs I made from a simple nut & bolt arrangement. When you remove the casters, you're left with a 3/8" square hole in the base of the stool. This is where you can insert a 3/8" bolt about 4" long. I used Carriage bolt, since it has a rounded head, and a square bit just under the head that fits right into that 3/8" square hole. I used a washer as a spacer, because the length of the square section of the bolt is a little bigger than the thickness of the stool's metal.



After inserting the carriage bolt, and fastening it with a washer and nut, you're left with the end of the bolt sticking out several inches. This needs a foot of some sort so it doesn't just stick into the ground. Here, I used a cap or acorn nut, a big washer, and a couple of nuts to hold it in place. Thread on two nuts an inch or so up the bolt, then slide on the washer and thread on the acorn nut. Then, back-thread one nut to secure the washer, then the second nut to prevent the first from coming loose.





Once the five legs & feet are constructed, its time to move on to the piston. If you want the stool to be permanently assembled, you

can stop here. You're done. The piston has a both ends tapered, so once you assemble the stool and sit on it, the connection is permanent.

Most of us though want it to be tucked away somewhere, so here we go... I used a couple of pipe clamps to limit the depth the tapered piston can sit inside the base and the seat. There's a balance between allowing the stool to come apart, but stay attached so I can pick it up and move it, holding it by the seat. I found the top portion was easy enough, but there's a very tight tolerance for the lower portion, so



I placed the bottom clamp so that the stool sticks together, and it comes off with a gentle "tap" from a 2lb mallet. (Mine looks a little beat up because I've had mine out and "disassembled" without the handiness of a mallet, so a rock had to suffice)



The bolts and clamps all came to about \$5 at Home Depot.



Assembled, the stool can adjust from about 15" to 20". That's only a few inches, but its just enough to account for the movement of the telescope. Including the mallet, it disassembles into four pieces and can be stored in my tote with my eyepiece case, books and so-on.

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