

Since I like to play with simple little telescopes, naturally I got around to ordering one of Stargazer Steve's 3-inch f/10 Newtonians. In late 1999, the price of this diminutive altazimuth beginner's telescope to customers in most of the United States was \$229 (US), plus \$34 shipping from Canada. That's not much for a complete telescope.

The Sgr-3 showed up six weeks after I placed the order, just in time for an observing trip to the Sierra Nevada foothills. It came very well packed in a generously oversize box, which I promptly managed to open from the wrong end. No matter -- what was at the far end was a notice to watch the first part of the enclosed video before delving further into the box, and I didn't have a television -- When would I find time for television? -- much less a video player. I expect Steve chose video to introduce his equipment in order to make things as clear as possible to the technically challenged, but some of his customers may have chosen an inexpensive telescope because they can't pay more. They might not have a video player.

Fortunately, I had enough experience to figure out what to do next -- spread the slender tripod legs, and slip the slotted hole of the wooden altazimuth head over the cylindrical pivot. Steve provided a square-tipped hex-drive bit to tweak the friction control, but I did not have to use it, the initial adjustment was fine. I removed the 17 mm Plossl eyepiece from the slip-fit focuser tube, and verified that collimation was right on. Impressive -- within a few seconds of getting the two assemblies clear of the packing, the telescope was ready to use.

For all its low cost and simple materials, the tiny Newtonian looked handsome and elegant. Light chains attached three hinged wooden tripod legs to the tripod's central pillar, a thick dowel that ran up through the tripod top to become the azimuth axis. A piece of thin wall chromed metal tubing, that looked suspiciously like sink trap J-tube stock, had been press fitted over the pivot end. The offset yoke that mounted there was also wood, as were the trunnions that held the OTA. The wood parts were nicely varnished. The tube was thick cardboard, finished with something more durable and waterproof that had a rough, dark-blue surface. A permanently aligned open tube provided a no-optics unit-magnification finder; it was finished black.

An old carry bag, bought for a 5-inch refractor OTA, would hold the entire new telescope, so I put it in, stopping only to add an improvised dust cap -- a plastic-film refrigerator bowl cover with an elastic edge-band. Then I tossed the whole thing into my car, on top of the pieces of my Celestron 14, and set off for the weekend.

I had planned a lot of observing with the C-14, and wasn't even sure

I would get to try the three-inch, but December weather put a chilly damper on my intentions. When I arrived at the site Friday evening, temperatures were dropping toward freezing, cold dew and frost covered all exposed surfaces, and masses of thin cloud drifted slowly past, covering much of the sky, but with tantalizing sucker holes now and then. It was a poor night to fuss with big iron, but just right for playing with an instrument with a 30-second setup time.

I spent most of the evening doing what I usually do with a new telescope -- chasing Messier objects. Eastern Capricorn was well placed when I began, as was the summer Milky Way north of Aquila. During a few hours' intermittent observing, I looked at nearly all the Messier stuff from M30, M72, and M27 in the west, around to the Beehive Cluster in the east -- forty-two objects altogether -- plus Jupiter, Saturn, a couple of double stars, and a handful of other deep-sky objects.

The little reflector did well. I decided to simulate a beginner by using only the eyepiece that came with it, and at 45x, the instrument probably did not show all the planetary detail that more magnification would have provided. Even so, Jupiter revealed several nice belts and moons, Saturn's rings seemed too perfect to be real, and I could suspect the Cassini division.

At only 45x, none of the Messier globular clusters I looked at showed any sign of resolution, though several, such as M15, M2 and M30, showed noticeable central brightening. Many Messier open clusters were well resolved, some spectacularly so, such as M44 and M45. M57 showed its tiny doughnut, M27 resembled an apple core, and M76 was visibly elongated. I saw the Owl Nebula, M97, as a tiny featureless disc. Several Messier galaxies showed elongation (M108) or hints of structure -- I could sense the first bends of the big spiral arms of M33, and could see star cloud NGC 206 in M31. M42/43 was the prize view of the night, showing much detail in the wide wings of the Orion Nebula, four stars in the Trapezium, and, if not true color, at least a sense that some parts of the nebula had a warmer hue than others.

The three-inch probably would have needed more than 45x to do well on double stars, too. I split Polaris, and suspected the companion of Rigel, but closer pairs were merely tantalizing, and perhaps the seeing wasn't up to scratch as well. I will have to try more magnification on a better night. But it went noticeably deeper than the Messier catalog: A little to my surprise, I could easily see the Merope Nebula in the Pleiades: I would have thought 45x too much for such an observation with a three-inch. Near zeta Orionis, NGC 2024, the Tank Tracks or Flame Nebula, was not difficult, nor was the much smaller nebula NGC 2023, surrounding a star south and east of zeta. Several other stars of

similar brightness, but without nebulosity, provided a check that what I was seeing for NGC 2023 was not mere scattering in atmosphere, optics, or my own eye. Near M35, the more distant galactic cluster NGC 2158 appeared granular, and I could see the blobby nebulous complex of NGC 1973, 1975, and 1977, just north of the Orion Nebula.

Conditions were much better the next night, so I mostly used my C-14. But as I was getting ready to leave the site, I hauled out the three-inch again, for another quick look. I logged two more Messier objects and -- since winter holidays were drawing nigh -- chased down the Christmas Tree Cluster. Nearby, I could see the ghostly nebulosity of the Rosette Nebula as well as resolve the associated star cluster.

During the next week, a brief trip to a close-in site provided a chance to try a few more objects. The Moon looked wonderful, but it is hard to find a telescope in which it doesn't. It was nearly at half phase, and the three-inch Newtonian gave a fine view of the Straight Wall, just as its shadow was beginning to disentangle itself from the terminator. And I took a look at Albireo, whose wide separation and bright yellow and blue colors showed prettily at only 45x.

The 3-inch continued to be swift and simple to set up, and was quite easy to use. It moved smoothly but not too freely, the tube was well balanced, and the eyepiece and finder sight were far enough apart not to get in each other's way. Even in the heavy dew of my first night in the Sierra foothills, the finished surface kept the cardboard tube dry.

To my surprise, I found the peep sight finder difficult to use -- the problem was that the triangular sight at the eye end of the sighting tube was hard to see -- it was in the dark tube, and close enough to my eye to be out of focus. I usually had to scan for objects, even when I had done my best to locate them with the sight. Perhaps I will improve with practice, but I suspect that even a minimal magnifying finder would have made it easier to locate objects. Furthermore, in order to use the sighting tube, I had to keep my glasses handy. I usually observe with them sitting safe in the car, since I have had too many experiences with glasses dropped or scratched while putting them on or taking them off in connection with looking through an eyepiece. Yet I am nearsighted, so I had to use them for the sight, then take them off for the main eyepiece. That kept me worried about breaking them, and sometimes encumbered a hand I wanted free. I will probably put a cheap straight-through magnifying finder on this telescope if I keep it for long.

All in all, the Stargazer Steve Sgr-3 is a fine beginner telescope, well thought out and well made, with many virtues and few vices. A beginner unable to afford a six-inch Dobson and wanted something more

versatile than a binocular, could do far worse than order one.