

The Skylight 100-mm F/13 Refractor

Tale of a Different Experience

By John Nanson



Rats! Rain and more rain! Enough to drive a starlight addict into a photon-deprived fit. I sat back in my chair, opened my well-worn star atlas and began to plot new paths through the double-star studded heavens as the rain beat against the windows and the wind rattled the doors – again. Let’s see now, this is day nineteen; twenty-one more to go and we’ll reach forty. Maybe I better get back to work on that ark I started last year.

I worked my way across the middle of Gemini, and then down into northern Orion, circling and plotting as I went – listing magnitudes, separations, and position angles – then

laid my notes aside, closed my eyes, and began dreaming of clear, dark skies. The sound of a chair being dragged across my observing deck invaded those dreams and my investigation revealed a figure in an old black frock coat, wearing a tri-cornered hat and holding a long-stemmed pipe, peering intently into a highly polished black tube with a gleaming brass finder. Hmm, I hummed, that guy looks vaguely familiar.

I grabbed a coat, stepped outside, and quietly started toward him. He looked up from the eyepiece, with blue-white starlight sparkling in both eyes, and in a heavy nineteenth-century

London accent with an aroma of sea salt hovering about it, said, “Something I can do for you, m’good man?” “Yes, you can,” I began hesitantly. “You can start by telling me who you are, and how you got here.”

He stood, removed his hat, and with a low bow and flourish of his coat, said, “Allow me to introduce m’self, m’dear sir. I am the good Admiral Wm. H. Smyth, well known author of that best-selling 1844 compendium of the stars, *A Cycle of Celestial Objects*, of which you twentieth-first century folks typically peruse only the fragment known as *The Bedford Catalog*.”

“I thought that might be the case,” I admitted, still wondering how he got here. But that telescope! I couldn’t take my eyes off of it. Its exquisitely long black tube and gleaming brass dew shield literally shimmered under the brilliant moon.

“Mind if I take a peek into that thing?” I inquired. “Certainly not, m’boy! Please, peer into this heavenly 100-millimeter instrument!”

I positioned my eye carefully behind the eyepiece, reached for the focus knob ... and suddenly a strong gust of wind rattled the entire house and sent a refractor-length tree limb crashing into the deck. Awakened from my stu-

THE SKYLIGHT 100-MM F/13 REFRACTOR



por, I again investigated the deck and ... nothing there but a large limb in the corner where I normally set up my telescope. Very strange; I know better than to eat oysters and sardines late at night.

A few nights later, it was still raining, the wind was still blowing, and I was scrupulously avoiding sardines. While inspecting the Internet for possible purchases of an astronomical nature, I felt my breath catch. That long black tube, the gleaming brass dew shield, even the brass finder ... there it was. The telescope in my dream!

I didn't hesitate for a tenth of an arc-second. I placed the order, and three days later it arrived in a large brown truck. Under clear skies, even.

Now, the truth is: When I placed that order, I was more than a little concerned about a telescope of that length surviving the journey from London to southern California to Oregon. So I opened the stout outer box very cautiously, then a similarly-stout inner box, and removed enough molded foam and bubble wrap to float that ark I never finished all the way to Hawaii. Very impressive work.

Finally, I lifted a long bubble-wrapped tube out of the box and saw ... a red sheen on the other side of the bubbles!? A red telescope? This thing was supposed to be black!

Slowly, carefully, cautiously, my cup overflowing with concern and curiosity, I unwound crackling bubble wrap ... and found a bright-red blanket wrapped carefully around the entire length of that long tube. Nice touch!

I unwound it, too, and there it was: The long, black, gleaming tube and shining-brass dew shield of my dream, complete with a Baader Steeltrack focuser and that glowing brass finder I had spied in the moonlight when the Admiral was visiting. It didn't take long to attach either of those, followed by a pair of Parallax rings I ordered separately, then my dovetail plate, and then, with visions of frock coats, tri-cornered hats, wool vests, and the remembered aroma of pungent tobacco wafting my way from the Admiral's long-stemmed pipe, I hoisted the whole thing on to its mount, edged the dovetail carefully into the saddle, tightened the knobs, and stood back in admiration ... and stared ... and walked around to the other side ... and stared some more ... and walked to the front ... and stared ... and then to the back ... and, well, I stared – a lot. The telescope was simply gorgeous!

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The photos of other Skylight telescopes I had seen on the Internet were good, but not as good as this. The admirable Admiral was right, this was telescope heaven.

So how does it perform?

Imagine the delicate strains of the Second Movement of Chopin's Second Piano Concerto drifting across an open field on a late-summer afternoon, while slanting rays of a low-slung sun stream through dappled, rustling leaves of gently swaying poplars. Sublime, it is.

Being that the skies were clear and cooperative that night, I aligned the mount and that long black tube on Polaris, and initiated my 100-mm Skylight f/13 into the world of multiple-star light. With an 18-mm Radian (72x) perched in the diagonal, I dialed in that first-light focus, and beheld the beady little gleam of perfectly executed ninth-magnitude secondary starlight against a jet-black field, again hearing the Admiral's invitation: "Please, peer into this heavenly 100-millimeter instrument!"

The waxing moon was out that night, shining at 70 percent of full power. Ignoring it for the moment, I swiveled the scope to the Orion Nebula, just to take a peek. Through the finder, I watched the three gleaming pools that decorate Orion's sword come into view, put the center pool under the crosshairs, and then peered into the Radian. Despite the moonlight, the nebula stood out almost as if three dimensional. Contrast was simply amazing: Shades of light and dark gray ran randomly through the center and out to the edges, and I perceived just the slightest hint of color, dark red, dark pink even, very subtle, and beautiful beyond description. The four stars of the Trapezium appeared etched into crystal. In a word, wow!

There are two double stars in the vicinity of M42 that I've been eyeing periodically over the last few years and which can be a challenge for a 4-inch scope. One is STF 750, located at the north edge of NGC 1981. The magnitudes are 6.4 and 8.4, with a short 4.2 seconds of arc between them. The other one, STF 754, is at the southeast edge of NGC 1980 and has magnitudes of 5.7 and 9.3 separated by 5.3 seconds of arc. Both can be a bit difficult because the secondary stars are mere phantoms of light that

tend to suffocate under the glow of their primaries.

At 72x, each of those elusive secondaries was as distinctly separate and pinpoint-sharp as I've witnessed. There were no intermittent bursts of ravenous photons leaping from the primaries with intentions of swallowing the secondaries; just round, sharply defined primarial orbs with very delicate micro dots of white light perched impossibly close by, shining sharply on their own. I stared at each of them for about fifteen minutes, then went back and forth between them several times, and still couldn't believe I was seeing what I was seeing at that relatively low magnification with no strain to my visual apparatus. I'd seen them like that in an excellent 5-inch refractor at similar magnification, but never in a 4-inch. Pure gold. Pure undiluted, unaltered, unbelievable gold.



I scanned the sky in search of old favorites and never met with disappointment. Sitting at the rear of that immaculate, gleaming black tube with moonbeams bouncing from the brass dew shield, I was ready to sell every scope I own and live happily ever after. I can't remember that reaction to another telescope.

Now I'm not going to rattle off esoteric mathematical formulas and phrases here. I know optical gold when I look through it. I checked the collimation, first with a Cheshire

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tube – it was dead center – and then, toward the end of the night, on several first magnitude stars. I looked closely at the in- and out-focus images of each and detected what might be a very slight over-correction, but if so, I still wouldn't touch this lens for all the Naglers in the Tele Vue warehouse!

What about that dreaded two-letter designation for color, CA? Not much, I can tell you. Jupiter shows a slight bit around the outer perimeter when out of focus, none when in

focus. That bright, 70-percent-illuminated lunar orb flashed a bit of yellow around the edge, but just barely – I had to look for it to catch it. The detail along the terminator was sharp, the shadows were jet black, and the rough edges of craters had that granulated texture which is characteristic of the sharpest optics. There were flashes of color when Regulus was out of focus, but almost none when it was focused precisely.

The only aspect of this beautiful refractor I can point to with any concern is the coarse-focus adjustment on the Baader Steeltrack focuser. To my feel, it's much too stiff when attempting to coax it into motion from a standing start. That can be adjusted out, of course, although it would be a huge help if Baader would get a data sheet on their web site with adjustment information. But the fine-focus knob is as smooth as a sharp knife passing through a succulent oyster and contributed immensely to my success with the two double stars described above. And it's a very heavy-duty piece of equipment that should easily hold a large 2-inch diagonal and a monster eyepiece,

such as the 31-mm Nagler or 21-mm Ethos. I had a very heavy 2-inch Takahashi diagonal plugged into the focuser, and at one point I loaded it with a 5-mm Radian, pointed it at the zenith, and it held firmly in place – no horizontal sag, no vertical slip.

Oh, and one more thing about that focuser: You know the little white plastic plug that fits into the end of the 1.25-inch adapter? Not on your life. How about a finely machined, heavy brass plug? Neat!

As I'm writing this, the infernal rain has returned, and the starlight I'm addicted to is hiding on the other side of the scudding gray clouds. So, I think I'll amble over to my comfortable old chair, plot a few more courses through the heavens, lean back, close my eyes, and see if I can get in touch with the good Admiral once more. I need to find out where I can get a black frock coat, a tri-cornered hat, a wool vest, and a long-stemmed pipe. I've got an old stash of Whitehall tobacco I've been saving for a long, long time, waiting for just the right moment... and I do believe I've finally found it. **ATT**

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