

Zooming Through The Skies With My Z8!

Zhumell's 8-Inch Nicely Portable Dobsonian Telescope



By Randy Roy

My friends were surprised when I showed up at our dark site observing session with a \$300 imported Dobsonian telescope (My 8-inch Zhumell and accessories were \$324 and included a \$25 rebate from Great Red Spot Astronomy Products. What a deal!). They were even more surprised when my new 8-inch Zhumell Dob offered up views of the Orion Nebula, the Beehive Cluster, Mars, Saturn, the Double Cluster and other favorites that rivaled the best scopes on the field. This is how I got there . . .

In my 47 years in the hobby, I have built, bought and used all kinds of scopes and mounts. For the past several years, I owned a 16-inch Go-To Dob from a premium telescope maker. Having recently retired, I built a house at a location with reasonably dark skies and exchanged the 16-inch Dob for a C14 and GEM on wheels. I've always wanted a GEM mounted C14 so I am one happy star gazer.

Still, I need a portable scope I can toss in the back of my Jeep to use at my club's observing events. The C14 is a great scope to push around on wheels, but unless I am going to a multi-day star party, I am not willing to go through the hassle of disassembly, transport, reassem-

bly, etc. required to use this fine scope for a brief outing.

Enter the Z8

Frankly, my expectations were low. I have eyepieces that cost much more than \$300. I have accessories for my C14 that cost more than \$300. To my surprise and delight, I found that you really can get a fine scope that is complete in every way for a few hundred dollars. And I mean a scope that can please an old observer like me who has owned some nice telescopes over the years.

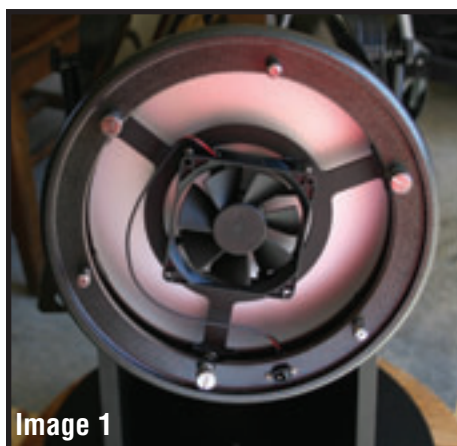
The 8-inch Zhumell Dobsonian comes surprisingly complete. Apparently, the manufacturer has made continuing upgrades in the scope over the past few

years. For example, the two-inch Crayford focuser comes complete with brass compression rings and a 10X fine focusing knob. The black anodizing of the focuser is second to none. It is attractive and functional. I especially like the user adjustments for tension and braking. The movement is very smooth and it handles my heavy eyepieces (even when adding a Barlow) with no slip at all.

Many similar scopes come with a straight through finder that is quickly discarded in favor of a right angle finder. This scope comes new with a nice right angle finder. It has an easy to use, quick connect finder bracket and base and a convenient focusing ring on the finder itself. At our club's dark site, I was able to easily find the Crab Nebula against a background of "pinpoint" stars in the finder scope. I am very pleased and will not be upgrading the finder scope. It doesn't need it.

The scope also includes a primary mirror cooling fan mounted at the rear of the mirror cell (**Image 1**). This is a nice touch. I'm not convinced an 8-inch scope really needs one, but I can say that 20 minutes of cool down is all that is needed for great views of the planets.

The base is similar to that typical of



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Image 2

all of these imported Dob's. It is made of particle board with a nice laminate. The altitude bearings are plastic and work well with the *Teflon* pads they ride against. The altitude bearings are further stabilized with a spring arrangement. I had some difficulty getting the springs attached at first. I placed a call to Jeff at Great Red Spot Astronomy Products and he suggested placing the spring assembly upside down. This greatly simplifies the

installation/removal process without adding additional hardware or sacrificing any of the tension given by the spring mechanism.

The azimuth bearing is the "Lazy Susan" ball bearing type. I did not like those when I first encountered them a few years ago - I found they have an uneven motion as they traveled sandwiched between the ground board and the rocker box. These are different, though. Zhumell has fixed that problem by sandwiching the bearings between two circular plates. The result is the smoothest azimuth motion I have seen in a Dob.

Other stock accessories include a nice 2-inch, 25-mm eyepiece for wide-field viewing as well as a decent 9-mm Zhumell plossl. I've amassed a collection of fine eyepieces over the years so I will save these for use at public observing sessions where unwitting children (and their parents) tend to point their fingers too close to the eyepieces saying, "Is this

where I look?" The eyepieces are of good quality and I would suggest any first time telescope buyers use these eyepieces for a while before buying more.

The other stock accessory is a nice laser collimator. I've always liked using a laser for collimating the secondary. This is made simple by the factory installed white donut placed at the center of the primary mirror. Just place the collimator in the focuser, turn it on and adjust the secondary until the red laser dot is in the center of the doughnut. For adjusting the primary, simply go to the rear of the scope and peer into the little window cut into the side the collimator. Adjust the primary collimation knobs (yes, knobs, not screws) until the red laser dot disappears into the hole in the center of the window. I've found the collimation holds very well between uses.

Many folks with similar, but larger scopes have replaced their collimation springs with stronger ones, complaining that the stock collimation springs are not



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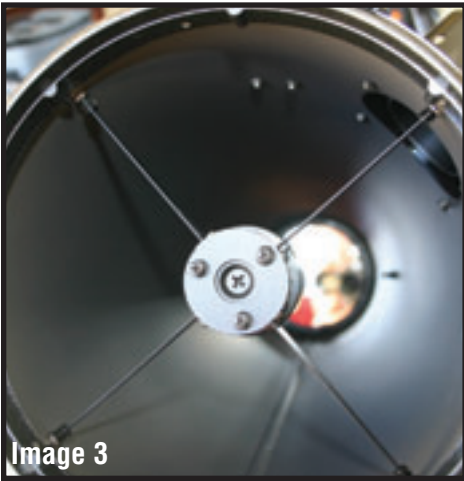


Image 3

strong enough to hold collimation. My guess is that the springs were originally sized for the much lighter 8-inch mirror since the collimation tension seems about right for this size scope.

A couple of last points on collimation I've seen several posts on the various groups complaining of the supplied laser pointers being out of collimation themselves. In fact, I've owned a few laser collimators that were shipped to me out of collimation. This one was perfect. I put together a make-shift V-block to test the collimator and was happy to find that I could rotate it within the V-block with no apparent movement of the beam itself on a wall located about 30 feet away. Actually, I was quite surprised. Also, I initially collimated the scope with my sight tube and Cheshire and found the laser agreed with that collimation completely. Life's good.

Image 2 shows the altitude bearing and spring assembly. Note the placement

of the ring on the rocker box side of the spring. This enables easy hookup of the spring assembly.

While we are on the mechanicals of the OTA, I will point out a small problem. I noticed as I was assembling the scope that the altitude bearings were a bit loose and have read Internet postings complaining about this on similar scopes. Many owners have immediately placed lock washers on the nuts which are on the inside of the OTA. Others have even used Loctite brand thread lock to ensure that the nuts do not become loose. I simply tightened mine and will see if they require a more aggressive solution later. Hopefully, mine will stay snug.

Tightening the nuts did give me an opportunity to pull the mirror and its cell out of the back of the scope and I'm glad I did. I frankly assumed the mirror would be of average to poor quality. I am speaking of the glass blank itself. I recently had an experience with a friend's low-cost Dob. We were shocked to see how rough the edge of the mirror appeared. It was as if someone took a file to the mirror and sort of beat it up all around the edges. The scope gave good views, though star testing showed the mirror to have an extreme turned down edge. The Zhumell mirror, however, has a nicely beveled edge.

While on the subject of mirrors, the secondary mirror and spider assembly are quite nice. The secondary is easily collimated and the secondary veins and stalk are of similar quality found on much higher priced telescopes. **Image 3** shows the

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Image 4

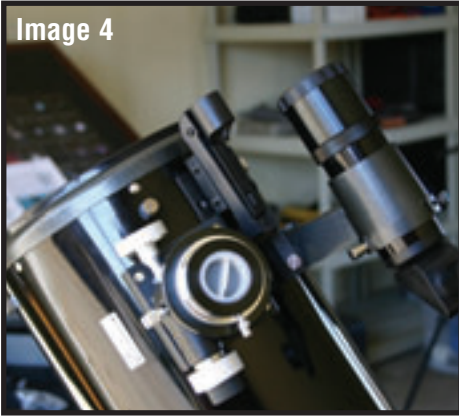


Image 5



spider assembly. Also, note how well blackened the inside of the tube and all its hardware appears.

On star testing, I am not an expert at judging the degree to which a mirror is corrected, but I can determine if the mirror is very good or very bad. This is where I was most surprised and pleased with the Z8. To star test, I used an 8-mm eyepiece in conjunction with a Barlow. The 8-mm has three closely and evenly spaced marks on the barrel, so that I can slide the eyepiece into the Barlow at the middle mark and focus the star at 300X. Then I can slide the eyepiece to the other two marks, one at a time, to get an accurate star pattern inside and outside of focus. I find this to be much more accurate than racking the focuser in and out.

Here is what I found: first, the edge of the mirror is outstanding. If anything, it is very slightly turned down, but only very slightly. The size of the central shadow did not vary between the intra and extra focal images. I won't speculate

on the degree of wave accuracy, but the mirror is certainly better than diffraction limited. There was no hint of under or over correction and the intra- and extra-focal patterns were very similar.

Another surprise was the degree of smoothness of the optic. I won't claim the mirror is as smooth as a premium mirror maker, but it is remarkably good. My only negative comment about the mirror is the slight astigmatism noticed. I've seen it before on a new scope and immediately popped the mirror back out and loosened the mirror clips. The manufacturer's like to ship these with the mirror clips tightened down to avoid the mirror being damaged in transit. Most of them really need to be loosened just a bit by the user to get the best images possible. Since loosening the clips, my mirror makes beautifully round out of focus Fresnel patterns.

The best test of a scope, however, is simply pointing it at the skies. I was extremely pleased to see the E and F stars

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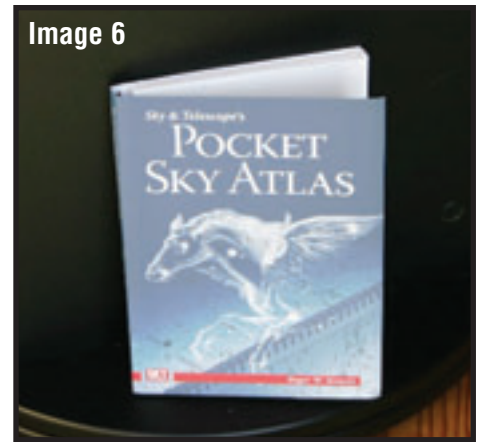
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of the trapezium the first night I used it. I was even more surprised to find them on the next two subsequent outings. I believe my friends thought I was guilty of averted imagination until they all saw how easy E and F were in the Z8 for themselves. They were also surprised to see how detailed the Running Man Nebula was in an 8-inch scope. The Leo Triplet was no problem at all and the Crab Nebula seemed almost three dimensional. The scope performed equally well at higher powers. We used 267X to get a fine view of Syrtis Major (the Shark Fin) on Mars. Saturn was beautiful as always, though the ring placement will not be favorable for a few more years. Rigel split easily, of course, but the Pup, Sirius' companion, eluded me once again. Still, I get the sense that when the seeing is just right that the Pup will be doable with this scope.

Add-ons and upgrades? I probably won't do many mods to this scope. As I said, it is a remarkably complete package.

I did add an inexpensive, lightweight red dot finder in between the focuser and finder scope. **Image 4** shows my RDF (Red Dot Finder) snuggled between the focuser and supplied right angler finder scope. I like a RDF when using a right angler finder scope just to get the scope pointed in the correct general area. I also added a 1-pound counterweight to the underside of the scope near the rear. This stabilizes the scope when using heavy eyepieces while looking near the zenith. Without the counterweight, I found I had to hold on to the scope as I observed to prevent the scope from slowing creeping, placing the target out of the field of view. This isn't a problem when observing alone, but when getting up from my observing chair and letting others look into the eyepieces, any amount of creep will cause you to lose the objects before other observers have had their peek.

My counterweight is shown in **Image 5**. I had a 1 pound counterweight



from a former scope and attached it with screws. Others prefer an easier and just as effective counter weight using magnets covered with "sticky felt."

Image 6 includes my favorite "upgrade" and the only one really needed! I am happy with the Z8. I initially hoped to be pleased with it "for the money." Well, I am exuberant with the scope for the money. I am pleased with it for its quality and completeness and not just for the money. **AT**

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