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WO Zenithstar 105 first light (second light) report



[Pontchartrain Astronomy Society Forum Index -> Binocular and Small Telescope Astronomy](#)

[View previous topic](#) :: [View next topic](#)

Author	Message
<p>beyerstein</p> <p>Joined: 23 Jul 2004 Posts: 52</p>	<p> Posted: Tue Feb 21, 2006 7:56 am Post subject: WO Zenithstar 105 first light (second light) report quote </p> <hr/> <p>William Optics Zenithstar 105 ED Triplet APO 735mm F7</p> <p>I fell in love with the WO Zenithstar 80 last year at TSP after seeing two owned by fellow Ponchartrain Astronomy Society members. The CNC machining, hard black anodizing, rotating focuser, retractable dew shield, and darn fine views for an 80 mm arco (semi-apo?) seemed exceptional for an instrument of this price. So, I bought one and was not disappointed. I did want a larger APO to do some grab-and-go viewing in my New Orleans back yard (what's left of it after Katrina) and planned for eventual wide field astro imaging. The obvious choices were an Tak FSQ 106 or Televue NP101. I just didn't want to spend that much money, so when I heard about the WO 105 ED triplet APO, based on the ZS80 and dielectric diagonal I owned, I jumped on it, ordered it in November from offshore direct from WO, and eagerly awaited its arrival during my Christmas break. I bought the package which includes a beautiful aluminum case, one of WO's excellent 2 in dielectric diagonals (I already owned one), mounting rings and the red dot finder. I also ordered the upgrade 2-speed focuser for the ZS80. The package price, including shipping was under \$2200, including the focuser upgrade for the ZS80, which, incidently, looks like the little brother to the one on the ZS105, and works very well.</p> <p>When I opened up the package, I was not disappointed. There was that same beautiful hard black finish with bronze highlights, a 10 to 1 two-speed 2.5 inch rotating focuser, graduated scale on the draw tube and retractable dew shield. The 115 mm rings are huge, felt lined with very large knurled silver knobs, and I quickly had to go to my shop to fab a mounting plate to enable it to mount on my Gibraltar, which I had also ordered for the scope, along with DSC's and the Televue computer, which fits the mount better than a Sky Commander or Argo Nevis. The OTA weighs 9.5 pounds and is nearly 23 inches long.</p> <p>Both the scope and diagonal are equipped with 2 – 1 ¼ adapters, all with compression rings to keep my Naglers from scarring. The OTA itself is in two pieces, joined in the middle. The join offers a convenient alignment point when shifting the scope back and forth for balance. It came loose on me when handling the instrument and needed to be snugged up -- threads are very</p>

finely cut. The machining on this product is truly remarkable. The scope is a thing of beauty and fairly shrieks quality. No upgrades needed, this has it all – solid craftsmanship! I only have one gripe – why didn't they make room in that aluminum case for the finder and a diagonal?

There was no manual with the scope or the red dot finder, but the diagonal this time came with a detailed cleaning sheet that was very well done. William's web site showed the documents as, "Coming Soon". The ZS105 is such a new product that I suppose things like that can be expected, and I can download the manual later. Mine came from the first production shipment to arrive in the US. The focuser had a hard spot during travel, which annoyed me, but was soon fixed with a small adjustment of the allen screw at the bottom. It is now butter smooth, nearly the equal of my Starmaster's FeatherTouch and better than any other 2-speed I have used. The knobs are metal, large, and easy to use with gloves. The highest power I tried, a 2.5 mm Nagler T6, snapped into focus and stayed there. The large 2 ½ inch rotating focuser is held in place with soft screws around the circumference, and these needed a small amount of tightening to make it feel right. You loosen a large knurled knob to position the focuser where needed. This feature is a blessing on an equatorial mount, as the diagonal has to be well tightened and a pain to shift, especially with a 31 Terminagler.

The red dot finder mounts with a single screw after removing the one that plugs the hole. I own two Rigel Systems Starfinders which I love, and a couple of Telrads I will also try to sell at TSP this spring (They hurt my neck, so please don't get upset, Telrad lovers.) I think that makes me qualified to judge the WO finder. It is not the same as a similar looking one offered elsewhere. All metal, it looks like it belongs on an expensive firearm. There are "windage" adjustments made by an included hex wrench, and you turn it on with the knob on top, which allows you to choose 7 different brightness settings, zero being off, 8 being the brightest. Half way up is bright enough to see the dot in bright daylight, which is handy for alignment before the observing starts. The lowest setting may be too bright for some people, but no one complained at the shoot-out. There is another smaller knob at the back which allows you to choose several displays, from a small dot, an empty circle, a circle with external cross hairs, or a plain cross hair. Not having the calibrated circles like the Telrad or Rigel might bother some folks, but for my purposes it worked very well. The finder removes with a knurled knob from a block which stays on the scope. The block has a groove which ensures the finder stays aligned when reattached, just like a riflescope, and it does. This is also a quality product. I stretched the smallest dew-not heater strip around the coated glass like a hood and it keeps the unit totally dew free.

The view through the telescope looked good in the daylight, and I could hardly wait for night. Cloudy, of course – the first light curse, but Venus was visible early on and a few stars were out off and on later. Wait a minute – what's wrong. This is not the view I expected. My suspicions were confirmed at LPMOS. Everyone was trying hard to be polite, but it was obvious. The scope was out of collimation. What a disappointment!

I called WO next day and talked with David, William's brother. He told me that William personally collimates every scope before it ships, and was surprised my scope was misaligned. It was a couple of days before Christmas and William was overseas. He said that as soon as he got back in the New Year they would call, and my options would probably be collimating it myself, shipping the whole scope back, or just the lens tube assembly. He also said that he had had this complaint once before and blamed UPS and the Christmas rush, quite probable, but my carton

was unmarked and the scope was well packed.

I was due to go back offshore for a couple of months and was not about to miss the only new moon I could catch, the day before New Years Eve, so I decided to try collimating it myself. I have become proficient collimating my Starmaster and Meade, so how hard could it be? There were no instructions, but the scope came apart just like the ZS80. I had replaced the vignetting baffles on the earlier 80's with the replacement set WO expeditiously sent me with clear instructions. You extend the dew shield, carefully unscrew the brass colored collar that secures it, and then pull off the shield. You are left looking at that magnificent piece of expensive glass and can see three sets of two screw holes spaced equidistantly around the tube. Push pull, I supposed, but not sure. I got it collimated as perfectly as I could using Capella high up and my 3 – 6 Nagler zoom, finished with the 2.5mm. I was careful to keep the screws fairly tight, not knowing what could happen if I loosened any combination. There are a huge number of possibilities, and not knowing the construction made what is a simple task a real chore. After New Years I received instructions from William's in two emails, which, had I known, would have made the process vastly easier. Considering it was during the holidays, I think the company responded as well as anyone could expect.

It turns out that both screws in each set secure the lens. What must be done is to loosen one screw of each set and adjust the ones still tight, and then secure the loose screws. Simple, but if you don't know and all the internet sites I looked at never mentioned that arrangement, well..... Certainly, it stumped other more knowledgeable members of the PAS that first night at LPMOS, where we all sat around and tried to figure it out. Naturally, when all the screws are tight except one, it's hard to see any change or figure out what is happening. I persevered, and got it right, but Williams shipped me six new screws, direct from Taiwan. (OK, I didn't really mess them up, but they are no longer pristine, and I wanted new ones!) The telescope is a triplet, but I was never able to ascertain in what configuration. The consensus was two cemented elements with an air spaced third.

The next LPMOS gathering was time for the shootout. Unfortunately, the FSQ and Orion ED100 were not available. We had David's Vixen ED APO and Ron's Televue NP101, plus the remembrances of, "The great refractor shoot-out".. Since the NP101 is generally considered to be optically perfect, I felt it would be a good test. The skies were brilliantly clear, the temperature around 45 degrees, and the transparency was excellent. The seeing was only fair to good. We all looked at the moon first before it set, and saw what we expected, excellent no-color views from all 3 scopes. When the moon set we looked at various targets, keeping the magnification as close as possible to the same degree and using the same quality eyepieces, all Televue Naglers, both 2 inch type 5's and 4's, and 1 ¼ inch Nagler type 5 and 6's. The ZS105 is definitely an APO. What follows is an email from Ron to Bill, another PAS member with his new FSQ106. Ron is better qualified than I, as well as more impartial, to describe the event

"Bill

We went to the site last night and the recollimated ZS105 went head to head with the NP101. Gary and David both started dropping subtle hints that the 105 might be better so we matched mags with Gary's 5mm Nagler in mine and his 7mm Nagler in his. The 101 had less contrast and the 5th star in Trapezium was visible in Gary's but not mine. This was puzzling so I thought, hmm, let me pull off this 8" dew shield extension I've been using on the 101. Boy did

that make a difference! Don't know if the dew shield was blocking the light path, trapping heat, or causing moonlight to wash out the image, but without telling David or Gary what I'd done I asked them to see if they noticed anything different. Both of them said, YES! They were amazed to find out that all I'd done was remove my homemade dew shield extension. After that we tried many other objects and could tell no difference between the two scopes. This has me scratching my head so I'll have to study it and figure out what's going on

So the ZS105 is optically perfect just like the NP101, Barry's 100ED, and I'm sure your FSQ106 too. I believe any differences one sees between these scopes is due to a bottleneck they have introduced into the equation, such as my "improved" extra long dew shield extension, or one scope having a Nagler and the other having a Plossl. Gary's 105 does have foam baffles but if it ever causes a problem yank it out and put flocking material on the tube walls like my NP101 has. Gary tweaked his fine focuser so now the 105's focuser is darn close to a FeatherTouch.

You have the right attitude, the differences between our Apo's are mainly the peripheral things that make it better for certain situations, such as your 4" focuser for wide field deep sky photos, or my visual 5 degree field of view with compact light weight tube assembly. While I love my NP101 and would not trade it for anything else, if someone asked what's the best buy in a 4" I'd have to say the ZS105.

Ron Keating"

I think Ron summed it all up well. The William Optics Zenithstar ED 105 Triplet is of excellent construction, well equipped as a package with things that are usually optional or retrofits, such as a 2 speed focuser, rings and red dot finder, or unavailable on some brands, such as a 2.5 inch rotating focuser assembly. The optics are truly excellent, and the support from Williams is very good. There was no haggling about what would be done with my scope. I could have returned it for another. It was my choice to collimate it without any instructions, and they were happy to ship me new screws. The only question is why anyone would pay more for the same or less. I hope the company maintains the current price, but they do say it is introductory. My advice for refractor shoppers who want the best for less is to get it now, because when word gets out, this is going to be one hot product at what is a phenomenal price. (No, I don't own stock in the company or receive any compensation for this review, just a satisfied, honest owner.)

Gary Beyerstein



[Back to top](#)

Mike Holland

Joined: 25 Oct 2004
Posts: 255
Location: Montz, LA

Posted: Sun Feb 26, 2006 8:15 pm Post subject:



Nice review, Gary. Is it any wonder that 4" refractors are so popular? You can see a lot without having to carry and set up a lot. It's just too bad that the weight and price get so high when you get above 4 inches.

I'll be anxious to see your new cope at LPMOS when my school schedule lets up (hopefully in April).

Mike H

[Back to top](#)



Display posts from previous:



[Pontchartrain Astronomy Society Forum Index -> Binocular and Small Telescope Astronomy](#)

All times are GMT - 5 Hours

Page 1 of 1

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