Williams Optics 2” high-reflectivity mirror diagonal

By Ed Moreno - 8/18/2004

The Williams Next Generation 2” high-reflectivity diagonal and it's 1-1/4" insert.

The best testimony for just about any product is that the user is so pleased that they buy a second one. This is the case for the Williams Next Generation 2? high-reflectivity diagonal.

I bought my first one for use with a larger refractor about 6 months ago, and constantly found myself changing it out to other scopes because I just liked it so much. I just ordered a second one, and decided to take a moment to jot down my thoughts.

When I received the first diagonal, I had somewhat mixed emotions about the appearance. The finish was exquisite. It appears to be a dark, glossy, anodized finish on the eyepiece barrel and the end that goes into the draw-tube, and, while the mirror housing itself has the same finish, the metal on the mirror housing is kind of a brushed texture, while the barrels are finely polished. What prompted the mixed emotion was the use of the natural finish brushed metal side covers on the mirror housing. Initially, I thought that this looked a little to garish, but as time went by, I actually came to find it more and more attractive, so that, now, my Televue Everbright seems quite dowdy in comparison. I guess I don• think in terms of •esigner?styling in my astro-equipment, but oddly, I now think that the WO diagonal actually dresses up a scope! It makes my Meade 152ED look particularly handsome, and when I put in my generic diagonal, it looks really •lah.?

I also initially found the odd taper of the eyepiece barrel to be a little strange, but when using it, I find that it is actually kind of ergonomically correct to the hand. I try to avoid slewing my telescopes by pushing against the diagonal, but hey, I am a bad old dog with bad habits. So when used this way, the taper in the eyepiece barrel is actually quite comfortable.

A feature of the diagonal I particularly like is the reverse •laring?of the draw tube barrel. Rather than used a wide, even safety groove, the Williams Optics diagonal has a taper on the outside diameter where the draw-tube barrel meets the mirror body. In some visual backs, the screws that retain the diagonal don• align into the traditional safety groove, and may clamp on the edge of the groove and sometimes the diagonal will slip when the screw is tightened on the shoulder of the grove. Also, I find that,

on the traditional grooves, the screw sometimes •nags?when I pull the diagonal out. The Williams diagonal design avoids both of these issues. As a side benefit, when used with nylon screws, as with the ones that came on my Meade 152ED, I find that just by adjusting the tension of the screws, I can easily adjust it so that I can simply rotate the diagonal against the friction of the screws instead of loosening them first. This even works with my HEAVY 2?eyepieces. This is a really great feature. Using metal screws probably would not allow this, so I am going to replace my other draw-tube screws with aftermarket nylon screws.

The diagonal does use a compression type band to hold in eyepieces, and here is one area in which this diagonal is typical of others of this type?The band will sometimes hang up on the safety grove of an eyepiece when you are pulling the eyepiece from the barrel. Couple this snag with the infamous Televue •nstajust?eye-guard slip, and it can be unnerving when pulling an eyepiece from the barrel and encountering this snag. But my other compression type diagonal does this too, so I consider this a generic design attribute.

In use, the Williams is, for all practical purposes, identical to my Televue Everbright. I cannot detect any difference in scatter, light transmission, or optical quality. It simply does a perfect job of making the light make a smooth, quick transition from its initial direction of travel to my eye. Of course the Everbright uses a dielectric coating which might outlast the Williams one, but the newest generations of enhanced mirror coatings seem to have reasonably long shelf lives, so at half to 1/3 the price of similar diagonals with dielectric coatings, the Williams seems to be extremely well priced. It is a couple of cuts above generic 2?diagonals in fit and finish, and in the end, I think that the fit and finish is better than the Televue. I know that this is QUITE subjective, but it is a VERY handsome piece of equipment. The side covers really grew on me.

In summary, this has become my favorite refractor diagonal for both esthetic AND practical purposes and, if you are looking for a VERY high quality 2?diagonal but are balking at the dielectric prices, I would say the Williams diagonal isn• just a •ood alternative? it is actually a head-to-head competitor at a fantastic price.

Note also that Williams Optics does sell a dielectric coating version of this diagonal for about $200. If you are looking for a dielectric, this might be a case of having your cake and eating it too.

Regards.
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