

**HOME****REVIEW ARCHIVES**Refractors[Eq. Reflectors](#)[Dob. Reflectors](#)[Catadioptric](#)BinocularsMountsEyepiecesBarlow LensesBooksSoftwareFiltersCCD-FilmPhotographyFinderscopesMiscellaneous**LINKS**Links Page**FAVORITE LINKS**NASA[Astronomy Links.com](#)[Cincinnati Observatory](#)[Scopereviews.com](#)[Excelsis Reviews](#)[Cloudy Nights](#)[Astronomy Magazine](#)[Sky and Telescope](#)

Williams Optics 2" Focuser

Date:	1-25-2003
Price:	paid \$100, normal price is closer to \$150
Design:	2 inch Crayford focuser
Description:	High quality focuser for refractor telescopes.

Review

I recently got a William Optics 2" diagonal from Anacortes (marked down to \$100 from it's normal \$150). It's well known that the diagonals that ship with Synta refractors leave a bit to be desired (to put it mildly), and I've been looking for a while now for a decent diagonal. However, spending money does not necessarily get you a good diagonal. Over time I've separately bought a TeleVue (1.25", \$75) and a Lumicon LumiBright (1.25", \$150). Both were badly misaligned, though not as badly as the one that came with my Chinese refractor. I was able to shim the LumiBright into decent alignment due to better housing construction than my other diagonals (so I guess money does buy you something). Well, good news: the William Optics diagonal is superb!

In addition to the 1/10-wave mirror (which I am not in a position to verify, but unlike the other brands WO puts 1/10-wave in their advertising), the construction is very solid, unusually attractive, and allows easy access to the mirror. Inside, the mirror lies flat against the metal housing (full contact over the entire mirror back, not just at the rim), and it's held in place by rubber tubing on the shorter-length edges and foam rubber on the longer edges. Thoughtful design.

What's more, there is no glue or adhesive; the mirror is kept firmly in place without the need for such crude tactics. This makes this diagonal eminently suitable for easy shimming, should the need arise to adjust its alignment. However, I'm happy to report that I doubt the need would normally arise. I made measurements with my laser collimator by drawing spots on the wall across the house. (I also have a Burgess focuser, which is superbly machined, very well collimated, and rock solid. The 6" Synta refractor was clamped in place on a worktable.) The WO 2" I received is only 5.4 arcminutes out of alignment. This is excellent, especially for diagonals this price range. Contrast that with the LumiBright *after* a couple of hours of frustrating shimming and adjustment: 15 arcmin. (It was originally about three times worse.) My Synta diagonal was a degree and a quarter off. I also have an INTES 1.25" Herschel wedge, and for grins I measured its alignment: 7.2 arcmin -- also excellent, in line with INTES's reputation.

Finally -- as if the WO diagonal was not already a great deal -- it came with a 2"-to-1.25" adapter which has the same high-quality machining as the diagonal housing. Both the diagonal and the adapter(!) are threaded for filters. All interior metal surfaces are painted flat black. Also, both diagonal and adapter use compression rings to hold your eyepieces -- yet another plus. Thus, in summary, the William Optics 2" diagonal is superbly constructed, very well aligned, and an absolute steal at \$100-\$150. Go buy one now. Really!

Submitted by Marc A. Murison - Wheaton, MD