

# A Bausch & Lomb Greenough Stereo Microscope

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The February 2012 edition of Micscape featured an excellent paper by R. Jordan Kreindler about the evolution of stereo microscopes ("[The Stereo Microscope: Introduction and Background 2<sup>nd</sup> Edition](#)"). The paper showed an image of a 1929 Bausch & Lomb Greenough stereo microscope.

As it happened, in January I had purchased a similar microscope in a pawn shop in Allentown, PA for the modest price of \$20.00. I didn't know what I had until I read Jordan's paper. It appears mine is a later model. For one thing, the focus block is held onto the frame from the back with a brass finger screw.



When first trying it out, I couldn't get sharp focus in stereo. I replaced the eyepieces with a matched pair of 15X eyepieces and still could not get focus in both eyes simultaneously. I emailed Jordan and asked him if he had any ideas, and he responded that the scope may have been out of collimation due to an impact. On closer examination I discovered two things:

First, the scope had a mismatched pair of eyepieces. The left one was a 10X and the right one was a 15X.



(For historical purposes, I will provide serial numbers wherever applicable. The left eyepiece is an AO 10X W.F. Cat. 146. Scratched into the barrel is serial number #458848. It has a fine crosshairs reticle. The right eyepiece is an AO 15X W.F. Cat 147. Scratched into the barrel is the serial number 464616. It has a horizontal scale reticle numbered 0 to 200.)  
Second: In order to get the focus to agree with mismatched eyepieces, the objectives had been focused for the respective eyepieces.



The right eyepiece was so riddled with fungus it is unusable, so this will be a display piece.

Flaking paint was ground off using wire brushes on a Dremel moto-tool. Brass parts were cleaned up using felt buffing wheels soaked with Brasso, again using the Dremel. Brass parts were then coated with a thin coat of polyurethane. The black paint was restored using satin spray enamel.



The stage appears to be bronze and was stripped of the original paint. Neatly engraved on the stage was an item number VN-95835AT. On top of the left erecting prism housing is engraved "BAUSCH & LOMB OPTICAL CO. Rochester N.Y. U.S.A 178855".

I wasn't quite up to disassembling the erecting prisms, so to clean them up I rinsed the entire housing in dishwashing soap, rinsed them in hot water, and then rinsed them in a solution of Kodak Photo-Flo 200 mixed with distilled water. I quickly dried them placing them top down on a coffee cup warmer.

Since the scope was missing the stage clips and mirror assembly, I purchased a used "toy" microscope from [www.shopgoodwill.com](http://www.shopgoodwill.com) for \$9.99 to cannibalize for parts. If you live in the U.S., it is worth visiting this site for microscopes and accessories. A lot of it is "toy"

microscopes, but occasionally something remarkable shows up. A couple of months ago a Nikon Labophot was up for bidding, and AO Spencer microscopes are fairly common.



All I had to do was fabricate the swing arm for the substage mirror assembly and add felt pads for the foot and the restoration was complete.

The field of view for the left 10X optical path is 11mm and the field of view for the right 15X path is 9mm.

All in all, a lovely and curious display piece.

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