## Adding a Parco Scope to a Levin WW Lathe

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As I age, I find seeing the smaller items that I make much harder to see while I am working on them. Well over a decade ago, I bought a Parco Scope at an auction in Indiana. It is an inexpensive stereo dissecting microscope often used in schools. I decided to add it to a small Levin WW lathe to improve visibility when turning items. There were several constraints that I had in mind for this project. I wanted the finished item to be mounted on a Borel base for easily moving the lathe around in the workshop. I wanted the scope to move in line with the axis of the lathe. The scope needed to be able to be parked out of the way for doing lathe setups between jobs or for using the lathe without the scope. The complete project was to be made from goodies in my supply of metals and parts.



This is the Levin WW lathe that I decided to modify with the addition of the scope. It is mounted on a Borel base along with the variable speed motor.

The dissecting microscope was small enough for this job and featured 2X and 4X powers – enough for my needs.





The heart of this modification was a linear rail and slider that I picked up at a sale somewhere. It needed a couple modifications before it could be mounted on the Borel base between the lathe and motor as shown above. The area with the red marks would need to be cut off and the rail would need to be shortened.

The rail was hardened steel and needed to be cut with a grinder.



The cut end was, of course, rough and would require smoothing by belt grinder.









A distance of 10cm needed to be measured and a red dot was marked on the runner for drilling a hole.



The brass bar was turned to 14mm and a portion was knurled. The front ledge of the runner needed to be removed to make clearance for lathe attachments like slide rests.



This hole was then threaded to accept a turned brass bar to support the scope.





This brass support bar was mounted on the runner and a brass ball added on the top. The bar was left slightly rough turned to better perform its intended task.



Things now looked as shown above.



The rail was screwed down to the Borel base and secured with wing nuts underneath.



The distance between the scope lenses and the center of the support post is 10cm.





The WF on the eyepieces indicates wide field (wide angle view). The 10X indicates magnification.



When the lenses are in the 2X position, magnification is 20.

When in the 4X position, magnification is 40.





The scope slid down onto the brass bar and was adjustable along its length.



The removable brass ball is larger than the brass support bar to prevent the scope from falling off whenever the unit might be moved around the workshop.



The scope gently slides left or right parallel to the lathe axis and can be parked out of the way at either end of the rail.



This is a view of the tool cutting the end of a brass rod as seen through the scope.



This is the setup for the through the scope picture.

The addition of the inexpensive auction bought scope to the high end Levin lathe will work perfectly for my needs and makes a nice all in one unit.

A video may be seen at: <u>https://youtu.be/avSxksvQNws</u>