

Co-planarizing the Workholder

This procedure must be repeated whenever the coning modules are removed, or when the workholder polish angle is changed. Use NOVA's "Manual Control" mode for this procedure (see main NOVA manual for details).

~5mm gap



1. After polish angle has been set (refer to ARC manual), send the workholder to the "Home" position.

Insert a coning module into one of the front polishing positions. Do not bottom-out the module against the fixture, but rather leave an approximate 5mm gap.

Lock into position using the thumbscrews. Be sure the thumbscrew tips locate into the registration slot to maintain module alignment.

Spacers can be used to provide a line-of-sight to rear ferrules



3. Load the additional coning modules into their respective positions until each ferrule tip makes contact with the glass disk.

It is recommended to use the profile scope as an aid for precise confirmation for ferrule tip/glass contact.



Ferrule contact with glass



2. Place a glass disk into the polishing platen. Lower the workholder until the ferrule tip is several millimeters above the glass disk.

Align and focus the profile viewing scope upon the front tip of the green ferrule.

Adjust the "Lower"/"Raise" distance control to 0.01mm (suggested), and carefully lower the workholder until the front end of the ferrule tip just makes contact with the glass.

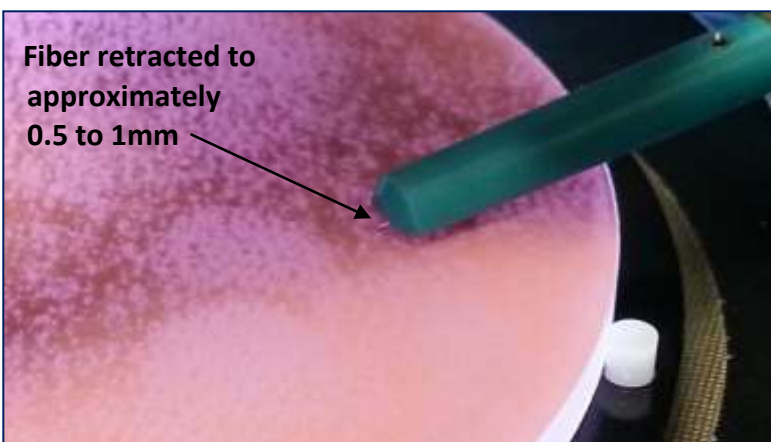
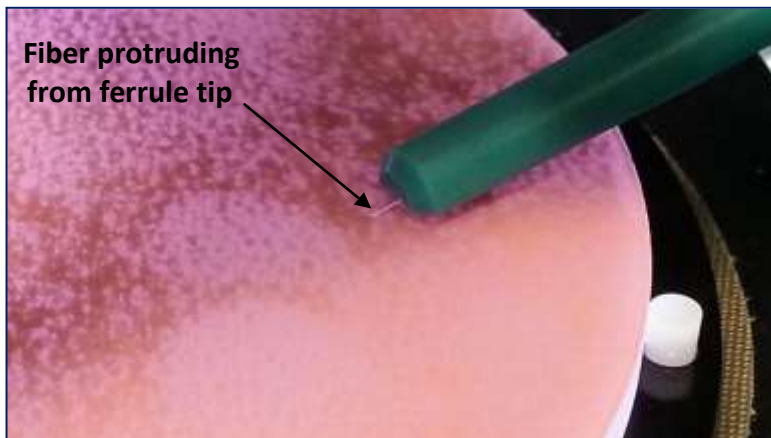


4. All ferrule tips should now lie in the same plane.

Using the "Raise" control, position the ferrule tips approximately 1 fiber diameter above the glass.

Select "Save Position" using the table controller, and then return to "Home".

Fiber Loading and Polishing



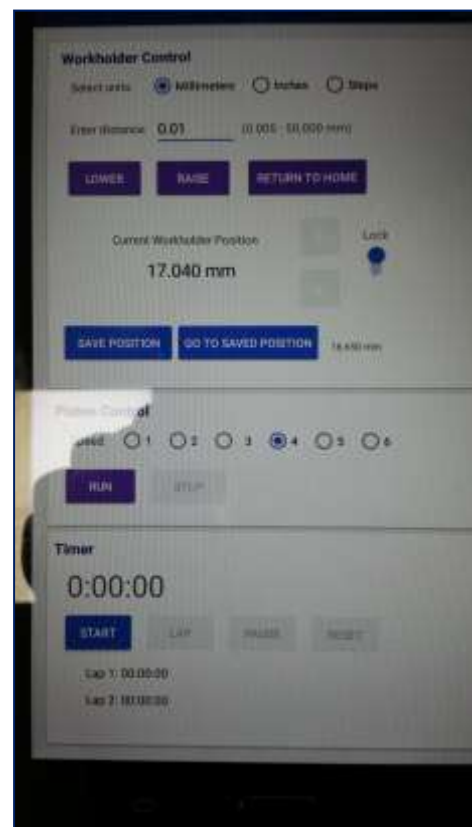
1. Place a sheet of polishing film on the glass disk. 12um aluminum oxide is suggested for initial process development.

Select "Go to Saved Position" on the tablet.

Slightly loosen the collet on a coning module. Insert fiber through rubber gripper tube until the fiber protrudes from the green ferrule tip.

Retract the fiber until approximately 0.5 to 1mm protrudes. Tighten the collet to secure the fiber. Repeat for all fibers.

Note: The profile scope can be used to precisely control the protrusion of each polishing position if deemed necessary.



NOVA tablet – manual mode



2. Focus upon one of the front fibers.

Active the polisher by selecting "Platen Speed" and "Run".

On the ORBIT controller, select the "Fiber Shape Control" tab, select a Speed, and active the coning module fiber auto-reverse rotation mode. See ORBIT manual for details.

Slowly advance the fibers to the polishing surface using the "Lower" control (again, 0.01mm increments are suggested).





3. Continue to advance fibers against the polishing surface until the conical tip is formed.

DO NOT ALLOW THE FERRULE TO MAKE CONTACT WITH THE POLISHING SURFACE.

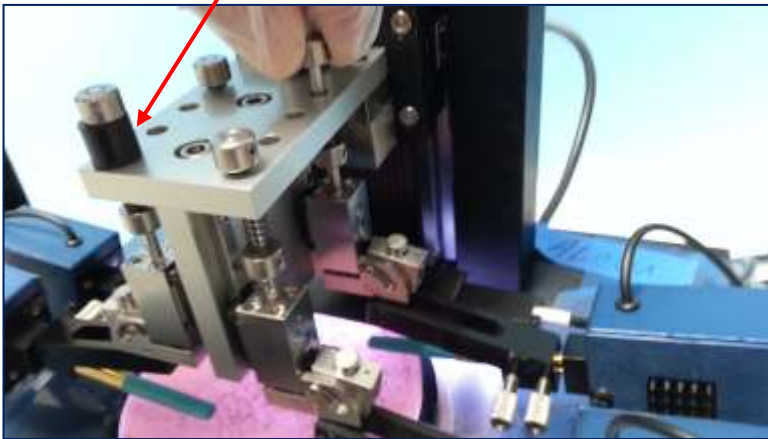
After the cone is formed, select “Go to Saved Position” on the tablet. The fiber tip angle can be measured.

For a better fiber tip image, “Raise” the fiber further away from the polishing surface, loosen the collet, and carefully extend the fiber from the ferrule.

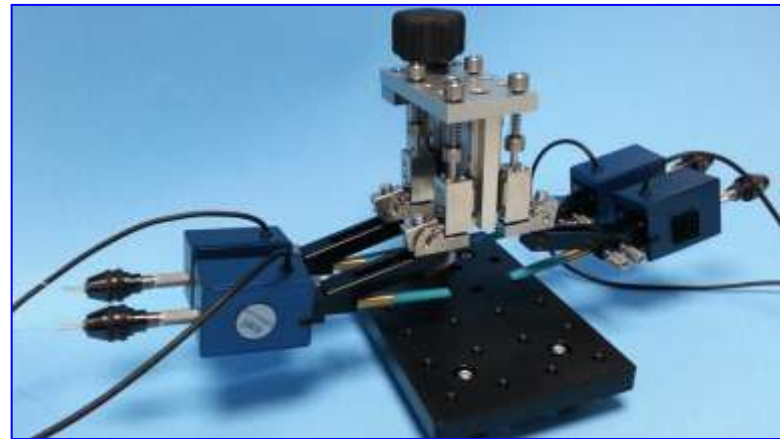


Processing Hints

Spacer



1. For easier access to thumbscrews, the polishing position can be lifted above an adjacent position.
2. Spacers can be used to lift (a) un-used polishing positions out of film contact, and (b) the front polishing position to provide a line-of-view to rear positions.



3. The entire workholder assembly (with coning modules) can be transferred to the off-line holding fixture without affecting ferrule tip co-planarity.

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4/2020**