

Differential interference contrast (DIC)

The Nomarski DIC technique facilitates visual contrast and resolution for transparent materials or other samples where achieving visualization is difficult. The technique uses crossed polars to produce a dark field. The Nomarski prisms use differences in optical pathlengths through the sample to enhance your view of the sample.

Use the procedures in the next sections to prepare the microscope for performing DIC in transmission mode and reflection mode.

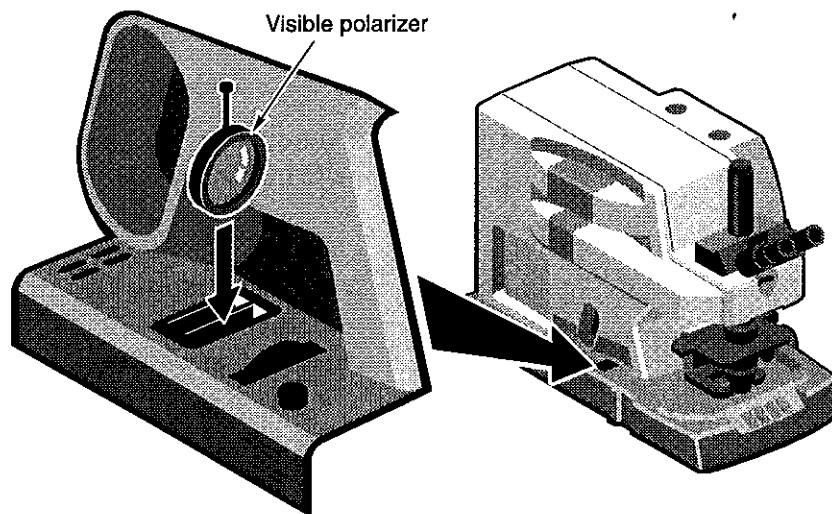
DIC in transmission mode

Follow these steps to perform DIC in transmission mode:

- 1. Select transmission viewing mode.**
- 2. Focus the condenser image.**
- 3. Insert the visible analyzer into the slot directly below the viewer.**

See “Visible light polarization” if you need help.

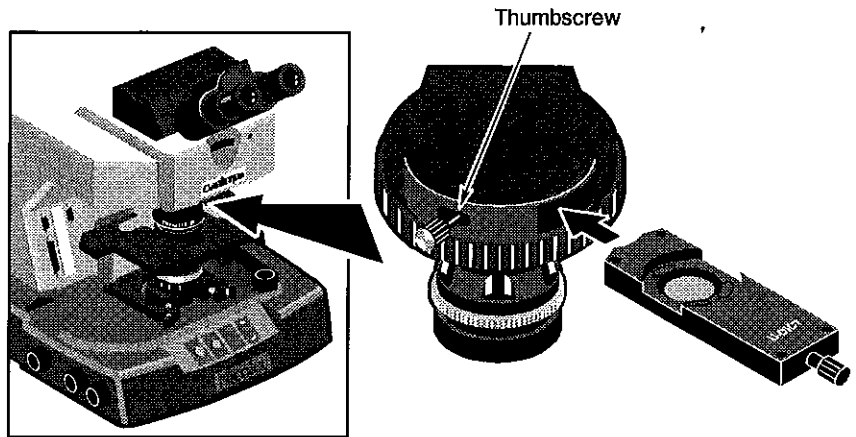
- 4. Insert the round visible polarizer into either of the transmission color filter ports.**



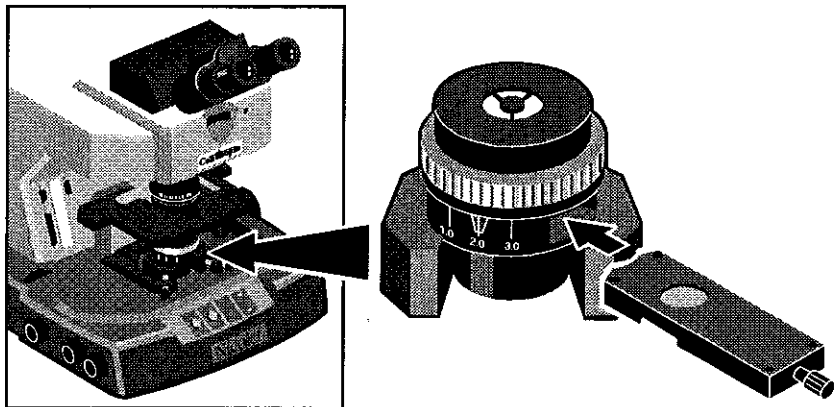
- 5. Use the handle to rotate the round visible polarizer until the field of view becomes dark.**

You can also remove the handle and rotate the polarizer with your finger if you need to increase the rotation.

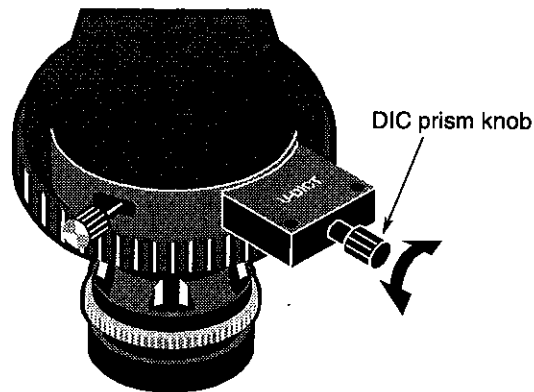
6. Insert a DIC prism, with the lettering facing up, into the nosepiece slot and tighten the slot's thumbscrew.



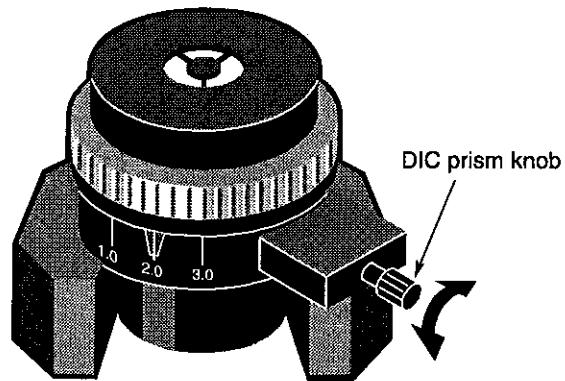
7. Insert a DIC prism, with the lettering facing down, into the condenser slot.



8. Rotate the DIC prism knobs to change the colors and contrast of the sample image.



Adjusting prism in nosepiece slot



Adjusting prism in condenser slot

Note You can usually obtain the greatest contrast by rotating the knobs until the image is black and white (without visible color). ▲

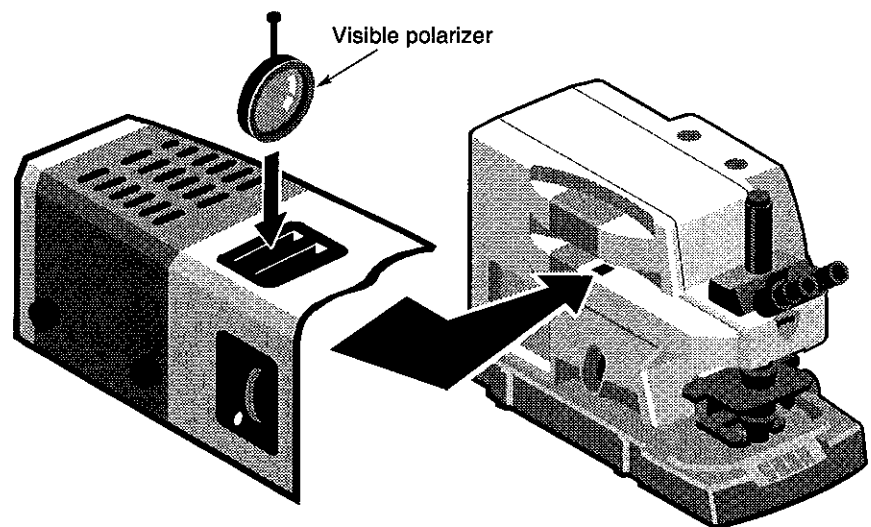
DIC in reflection mode

Follow these steps to perform DIC in reflection mode:

1. **Select reflection viewing mode.**
2. **Insert the visible analyzer into the slot directly below the viewer.**

See “Visible light polarization” if you need help.

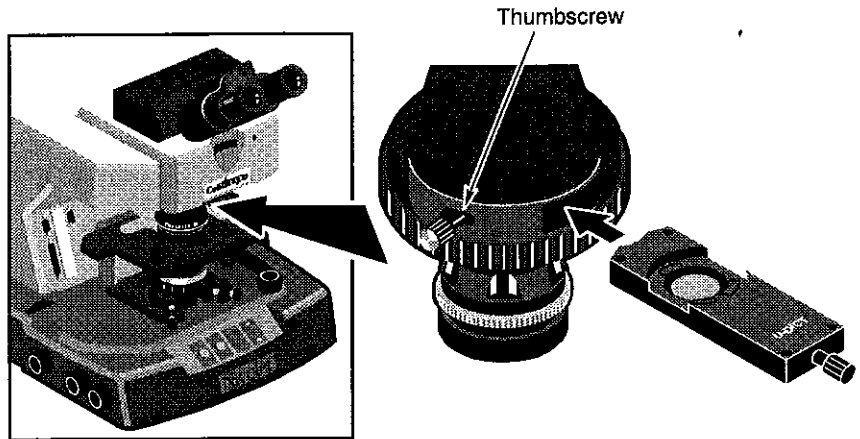
3. **Insert the round visible polarizer into either of the reflection color filter ports.**



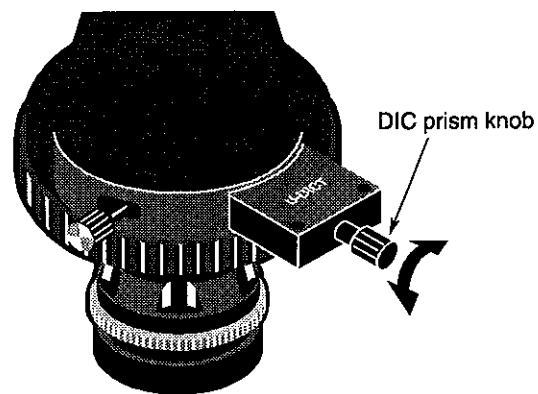
4. **Use the handle to rotate the round visible polarizer until the field of view becomes dark.**

You can also remove the handle and rotate the polarizer with your finger if you need to increase the rotation.

5. Insert a DIC prism, with the lettering facing up, into the nosepiece slot and tighten the slot's thumbscrew.



6. Rotate the DIC prism knob to change the colors and contrast of the sample image.



Adjusting prism in nosepiece slot