

The Orientation of Polaris in The Polar Scope

As Polaris is not located exactly at the North Celestial Pole, we can see it orbiting the North Celestial Pole in a **Polar Scope**. The large circle seen in the center of the pattern in the Polar Scope is a representation of Polaris' orbit around the North Celestial Pole. When performing the polar alignment process, it is necessary to determine the orientation of Polaris on the circle. We can use the following 2 methods to get the orientation:

1. Locate both Polaris and Kochab in the sky near the North Celestial Pole. The relative position of Kochab to Polaris is an approximation of the orientation of Polaris in the **Polar Scope**. For example, if Kochab is at the 11 o'clock position of Polaris, then Polaris should also be placed at the 11 o'clock position on the reticle circle (See Fig 27).

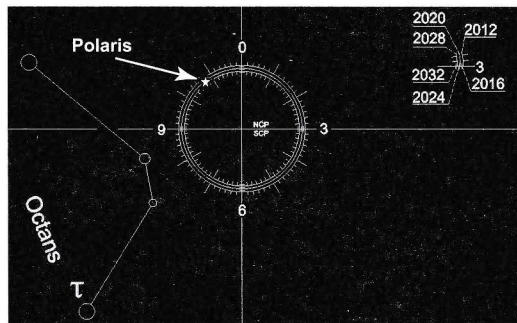


Fig 27

2. Use the built-in **Date Graduation Circle**, **Time Graduation Circle** and **Time Meridian Indicator** to find the orientation of Polaris in the **Polar Scope** following the steps described below:

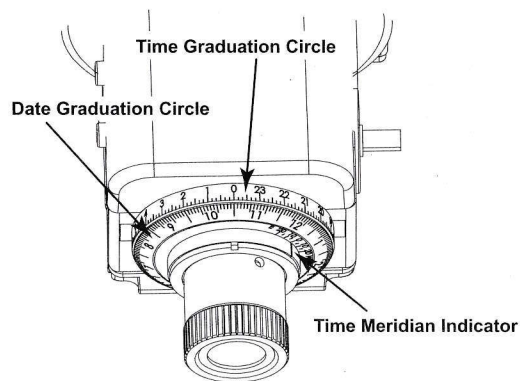


Fig 28

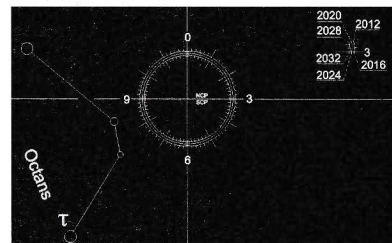


Fig 29

1. First, rotate the Wedge and adjust the latitude to bring Polaris within the field of view of the **Polar Scope**.
2. Then rotate the **Date Graduation Circle** to align Oct 31 to the 0 of the **Time Graduation Circle** and turn the **Eyepiece/Mounting Platform** to align the **Time Meridian Indicator** to the 0 of the **Time Meridian Circle** (Fig 28). This is the date and time when the orientation of Polaris is directly below the north pole (6 o'clock).
3. At this point, the "6" in the reticle should point straight down (as shown in Fig. 29). If not so, please refer to "**Appendix I: Calibrate the Polar Scope**"
4. Adjust the **Date Graduation Circle**. Find out the difference in degree between your observing site longitude and the central meridian of your time zone and determine if you are on the east or the west side of the central meridian. Now, adjust the Date Graduation Circle accordingly.
Example: If you are located in Prince Rupert, Canada, your longitude is 130.32°W. The standard meridian (STDM) for this time zone is 120°W. This means Prince Rupert is about 10° westward in relation to the STDM. Turn the Date Graduation Circle to W10 to compensate for this (Fig 30).
5. Match the **Date Graduation Circle** with your observing time by turning the eyepiece/ Mounting Platform. Please **DO NOT** rotate **Date Graduation Circle** directly at this step. For example, if your observing date is March 4 and observing time is 8:00PM (Standard Time, that is Daylight Time -1 if applied), then hold and turn the mounting platform until the 2nd scale mark of March is aligned with the "20" on the **Time Graduation Circle**, which represents 8:00pm(Fig 31).
6. Put Polaris at the 6 o'clock position in the FOV of the **Polar scope** to finish the polar alignment.

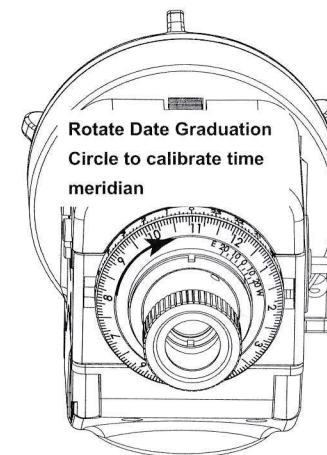


Fig 30

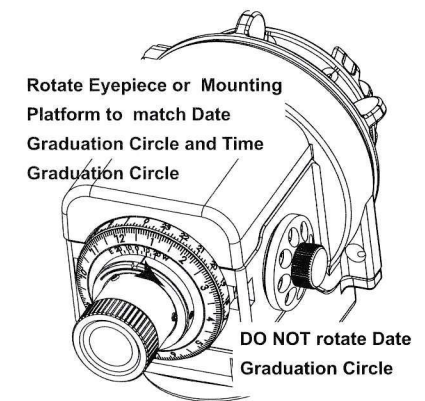


Fig 31