

Online Assembly Guide : 4.5 inch Reflector Telescope

INTRODUCTION

Congratulations! You have bought a wonderful telescope. This is a precision optical instrument, and you have many wonderful evenings of observing the night sky ahead of you. This on-line guide is to help you assemble your telescope properly.

Of course, the telescope comes with an assembly guide, and we were able to assemble our in telescope less than 20 minutes using that guide.

However, we know that many people are visually oriented and that pictures of the assembly process would be helpful. Since your telescope assembly guide and instruction manual does not have a lot of pictures, we have put together this online guide to help you assemble your telescope for your first night of observing. Please Note: the paper assembly guide is outdated in many respects, it refers to H-class eyepieces, for example, but your telescope actually shipped with superior Plossl eyepieces.

Once your telescope is assembled and ready to go, the rest is up to you. Learning astronomy is all the fun anyhow! So let's get started . . .

ASSEMBLING THE TRIPOD

Putting the tripod together is a snap!

Step 1: Remove the tripod from the box, and extend the legs as shown in Figure 1 below.



Figure 1 - Extending the tripod legs.

Step 2: Next, remove the accessory tray screw from the center bracket of the tripod as shown below in Figure 2.



Figure 2 - Removing the Accessory Tray Screw.

Step 3: Attach the white plastic accessory tray in place using the accessory tray screw.



Figure 3 - Attaching the Accessory Tray.

ATTACHING THE EQUATORIAL MOUNT

Step 4: Find the equatorial mounting and the single large horizontal axis clamp screw, and polar axis screw, shown in Figure 4 below.

Step 5: MAKE SURE THE TRIPOD IS GOOD AND STURDY! Then, attach the equatorial mount to the tripod and tighten it in place from underneath using the horizontal axis clamp screw as shown in Figure 5 below.



Figure 4 The EQ mount, horizontal axis clamp screw, and polar axis screw.



Figure 5 - Attaching the equatorial mount and tightening it in place.

Step 6: Insert the polar axis screw as shown below in Figure 6 below. Once that is attached, you can adjust the equatorial mount so that it is stable in an upright position.



Figure 6 - Attaching the polar axis screw.

Step 7: Attach one of the flexible cables (the declination flexible cable control) to the worm gear drive as shown in Figure 7 below.



Figure 7 - Attaching the declination flexible cable control.

Step 8: There is a groove in the worm gear attachment, use the thumb screw to tighten the flexible cable control to the worm gear drive as shown in Figure 8, below. Make it good and tight!



Figure 8 -- Tightening the flexible cable control.

Step 9: Next, attach the other flexible cable (the right ascension flexible cable control) to the worm gear drive as shown in Figure 26 below. Be sure to tighten the thumb screw like you did in Step 8.



Figure 9 - Attaching the right ascension flexible cable control.

Step 10: Slide the counterweight onto the balance shaft as shown in Figure 10.



Figure 10 - Placing the counterweight on the balance shaft.

Step 11 Screw the balance shaft into the hole at the bottom of the declination shaft as shown in Figure 11. You can now use the set screw in the counterweight to hold the counterweight in place up and down the balance shaft. This will allow you to balance the telescope when it is completely assembled, making it possible to rotate the telescope smoothly by the slightest turn of the flexible cable controls.



Figure 11 -- Attaching the balance shaft and counterweight to the equatorial mount.

FINAL ASSEMBLY OF THE TELESCOPE

Step 12 Attach the body belt to the equatorial mount by sliding it into position as shown in Figure 11 below. Use the tightening knob to tighten the body belt to the equatorial mount.



Figure 12 -- Attaching the body belt to the equatorial mount.

Step 13 Carefully place the main telescope tube in the body belt and tighten it in place with tightening clamp screw as shown in Figure 13 below.



Figure 13 -- Attaching the main telescope tube to the body belt.

Step 14 Carefully attach the sighting scope to the main telescope tube using the round nuts as shown in Figure 14 below.



Figure 14 -- Attaching the sighting scope.

Step 15 Smile! You did it. Now go enjoy your telescope. You probably will want to align the sighting scope during the daytime because it is easier. You should do this outside and point the telescope at something at least 50 yards away. Objects will be seen upside down through the eyepiece -- this is normal! When you are looking at distant stars, it won't matter if they are upside down. We do sell an "erecting" eyepiece if you want to see images rightside up.

