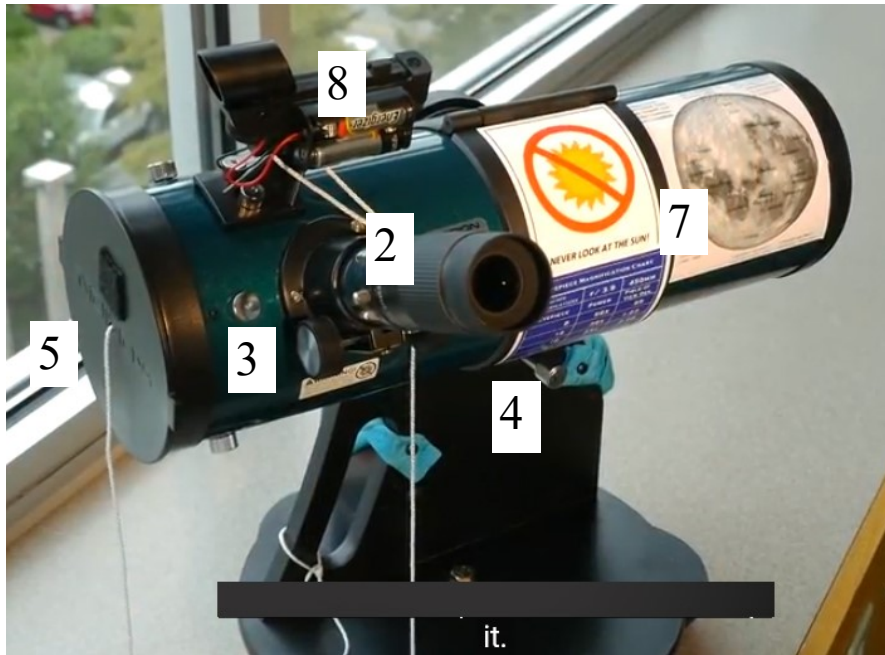


# Central Arkansas Library System Telescope Guide

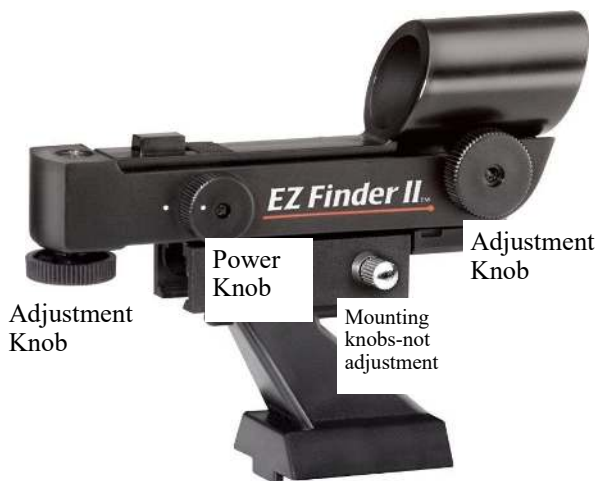
## Orion StarBlast 4.5" Telescope

View video at <http://ltp.caasastro.org/>

**WARNING Never look directly at the Sun through your telescope or its finder scope**



- 1 Telescope base—Rotate to move telescope horizontally.
- 2 8-24mm zoom eyepiece—Always start at 24mm (lowest power) when finding an object.
- 3 Focusing knob—When you see a star or other object focus by turning knob. You will have to refocus if you zoom in.
- 4 Tube rotation adjustment—May be on turned to top of scope. Use this to rotate tube and adjust eyepiece position.
- 5 Front cap—You can place this on the base to keep it out of the way when using the scope.
- 6 Altitude tension adjustment knob—For best results scope should be balanced when tension low and not swing up or down.
- 7 Stickers—Become familiar. **Don't look at the sun**, Magnification chart as relates to zoom eyepiece. Lunar Chart.
- 8 EZ Finder—Turn on, adjust red dot in finder until you can just see it; not too bright. Find a bright object in the finder and put red dot on it. Moon, planet, bright star works best. Find in the Scope at lowest power. If not centered you can adjust as indicated in diagram below. Recheck to see if object still centered and repeat until you're satisfied. Now you should be good for the night on finding objects. Battery CR2032 if you forget and leave it on. Library can supply.



Most of the time you won't see object in finder. Figure out with map or guide where object is between stars. Move back from finder looking with both eyes and put dot on that spot. Easier than it sounds.

## Transporting



**Care** Do not try to clean optics. Do not adjust mirror or remove eyepiece. If eyepiece fogs up warm it up until fog is gone. If adjustments or cleaning needed return to library.

**Getting Started** This is a “Push-to” telescope. Once you find what you are looking for, you can either watch the object move through your “field of view” (what you see through the eye piece) and then reposition the telescope, or keep pushing the scope to hold the object in the center of the eyepiece. Objects appear to move across the field of view faster at higher magnifications. This is because the field of view becomes narrower. Like many reflector telescopes, the image in the eyepiece is upside-down. When looking at star charts you will have to keep this in mind. The Moon map on this telescope is “flipped” so it matches what you see in the eyepiece.

**What to Expect** Planets will look small, but you might be able to see cloud bands on Jupiter, some of its moons and the rings of Saturn. Craters on the Moon will be clear and numerous, the waxing and waning of Venus should be visible, and many bright deep-sky objects will fill the eyepiece. Don’t expect to see color as you do in photos as our eyes are not sensitive enough to see color in deep-sky objects, except in a few of the brightest ones.

**Objects to Observe: The Moon** is one of the easiest and most interesting targets to view with your telescope. Lunar craters, “seas” (relatively flat large dark gray areas filled with ancient lava flows), and even mountain ranges can all be clearly seen from a distance of 238,000 miles away! With its ever-changing phases, you’ll get a new view of the Moon every night it’s up. The best time to observe is during a partial phase, that is, when the Moon is *not* full. During partial phases, shadows are cast on the surface, which reveals more detail, especially right along the border between the dark and light portions of the disk (called the “terminator”). Use the Map on the telescope tube to find the major craters and features. **The Planets** do not stay at “fixed” locations like the stars do. To find them you should refer to the Sky Calendar (telescope.com), or to charts published in *Astronomy*, *Sky & Telescope*, or *Astronomy Magazines* and other websites. Venus, Jupiter, and Saturn are the brightest objects in the sky after the Sun and the Moon. You can also use a Star finding app on your phone. **Stars and deep sky objects:** Even powerful telescopes cannot magnify a star to appear as more than a point of light. You can, however, enjoy the different colors of the stars and locate many pretty double and multiple stars. Refer to the star guide you got with this quick start guide to find and see best objects available for this scope during this season. A more complete guide can be found at <http://ltp.caasastro.org/documents>.

**Star Hopping:** This term describes how one uses a star chart to find objects too dim to see without a telescope. You likely already know how to do this, if you can find the North Star by following the “pointer stars” of the Big Dipper. To find a deep sky object, look for a pattern of stars that can act as landmarks for it. For example: To find the Great Globular Cluster M13 in Hercules find the Keystone asterism. Note where it is between the eastern two stars and put your red dot on that point. Be sure to look at lowest power when finding.

You can also try a low-power (24 mm) scanning of the Milky Way: just cruise through the “star clouds” of our galaxy. You’ll be amazed at the rich fields of stars and objects you’ll see!

