



ASTROMASTER[®]

90 AZ TELESCOPE

WITH SMARTPHONE ADAPTER AND Bluetooth[®] REMOTE





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#22160-DS



Unpack your telescope and verify that all parts are present. Your AstroMaster 90AZ includes: a telescope tube, a tripod and mount head, two eyepieces, a StarPointer™ red dot finderscope, an erect image diagonal, a smartphone adapter, and a Bluetooth[®] shutter remote.



To set up the tripod, spread the legs outward until they are fully extended. Extend each of the three tripod legs down 6 to 12".



Use the three tightening screws located at the bottom of each leg to secure the extended legs in place.



All three legs should be the same length to provide a level platform for the telescope.



To attach the accessory tray, line up the notches and turn clockwise until the tray tabs lock into place with the tripod brackets.



Properly assembled, the accessory tray should appear as pictured above.



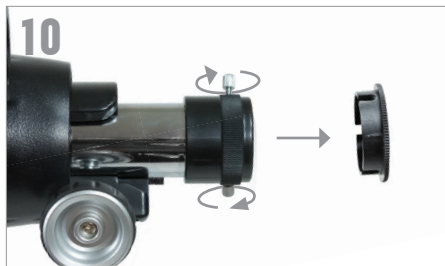
Here is how the fully assembled tripod and mount should appear.



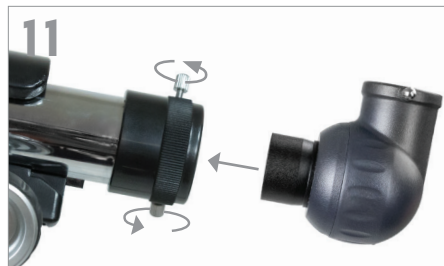
Next, slide the telescope tube into the mount. Be sure to back out the fastening screws to allow enough clearance for the dovetail.



Center the dovetail in the mount and tighten the fastening screw. For added security, tighten the angled lock-down screw next to the fastening screw.



Loosen the thumbscrews on the focuser and remove the cap. Make sure the two thumbscrews do not protrude into the opening.



Insert the diagonal into the focuser and tighten the thumbscrews.



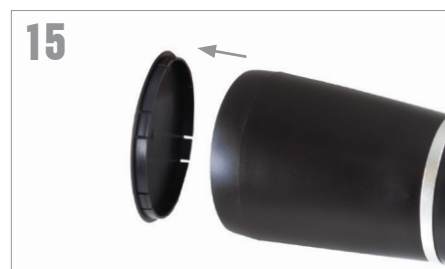
Loosen the setscrew on the diagonal. Insert the chrome barrel of the 20mm eyepiece into the diagonal and tighten the setscrew.



To install the finderscope, loosen the two Phillips-head screws on its side. Slide the clamp over the dovetail bracket. Tighten the Phillips-head screws.



Remove the small plastic tab under the battery cover by pulling it straight out. For longer battery life, be sure to turn off the finderscope when it is not in use.



Remove the lens cap from the front of the telescope before you begin observing.

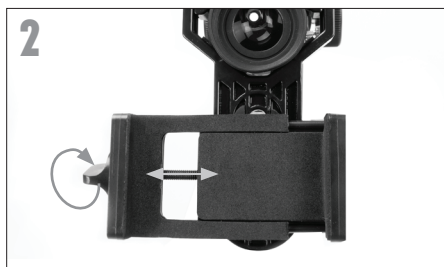


You are now ready to use your AstroMaster telescope.

USING THE SMARTPHONE ADAPTER



Open the eyepiece clamp and place it around the body of the eyepiece. Tighten the clamp until it's secure.



Use the phone clamp knob to open the phone holder so your phone fits inside. Tighten it to secure your phone in place.



Turn on the phone and open your camera app. Make sure the flash is turned off.



Loosen the knob on the bottom of the adapter that secures the phone clamp to the eyepiece clamp. Slide the phone clamp up and down and rotate it left and right until your camera is looking through the eyepiece of the telescope. Tighten the knob on the bottom of the adapter to secure it in place.



Use the telescope's focuser to adjust focus of your camera. Snap the image using your app or the Bluetooth remote described in the next section.

ALIGNING THE FINDERSCOPE

The finder is one of the most important parts of your telescope. It helps you locate objects and center them in the eyepiece. The first time you assemble your telescope, you need to align the finder to the telescope's main optics. It's best to do this during the day*.

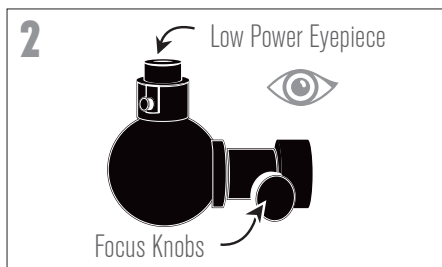


* **SOLAR WARNING!** Never attempt to view the Sun through any telescope without a proper solar filter!



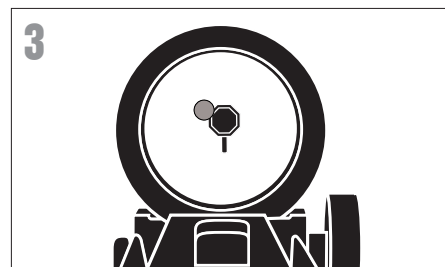
CHOOSE A TARGET

Take the telescope outside during the day and find an easily recognizable object, like a streetlight, license plate or sign. The object should be as far away as possible, but at least a quarter mile away.



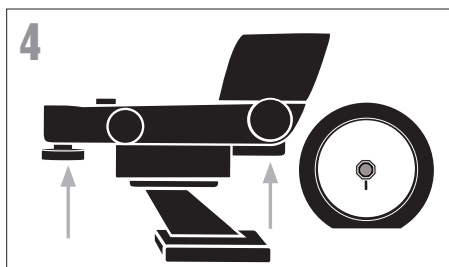
CENTER THE TARGET IN THE EYEPIECE

Look through the telescope using your lower powered eyepiece. Move the telescope until the object you chose lies in the center of the view. If the image is blurry, gently turn the focus knobs until it comes into sharp focus.



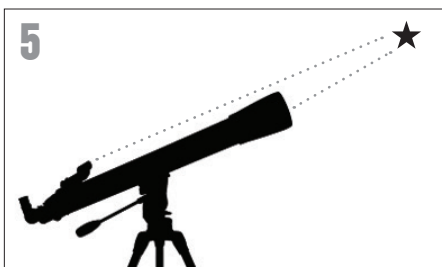
LOOK THROUGH FINDERSCOPE

Once the object is centered in your 20mm eyepiece, look through the finderscope and locate the red dot.



ADJUST THE FINDERSCOPE

Without moving the telescope, use the two adjustment knobs to move the finder around until the red dot appears over the same object you are observing in the telescope's 20mm eyepiece.



YOUR FINDERSCOPE IS NOW ALIGNED!

It should not require realignment unless it is bumped or dropped.

YOUR FIRST NIGHT OUT: THE MOON

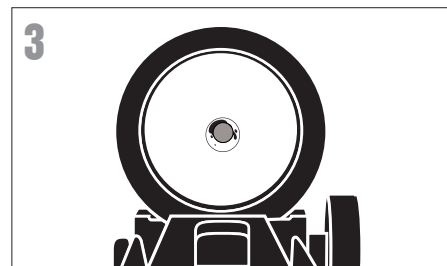
The best and easiest target for you to try to view first is the Moon. Try observing the Moon at different points in its phase cycle. The best time to view the Moon is from two days after a New Moon up to a few days before a Full Moon. During this period, you will be able to see the most detail in the craters and lunar mountain ranges.



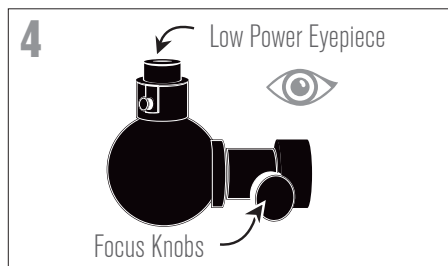
With the Moon visible in the sky, set up your telescope with the 20mm eyepiece installed.



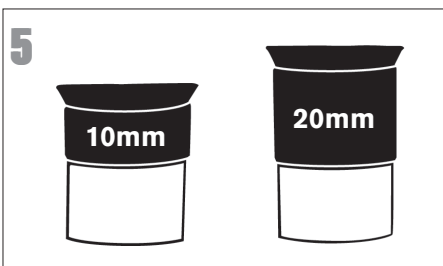
Move the telescope so that it is roughly pointing toward the Moon.



Turn on and look through the finderscope and locate the red dot. Continue moving the telescope until the red dot appears over the Moon.



Look through the telescope's 20mm eyepiece. Gently turn the focus knobs to adjust the sharpness of the image.



CONGRATULATIONS!
YOU HAVE NOW OBSERVED YOUR
FIRST CELESTIAL OBJECT!



You can view many other celestial objects, such as planets, star clusters and nebulae using this same technique once you know where to find them in the night sky.

To get a closer view of the Moon, loosen the setscrews on the focuser and remove the 20mm eyepiece. Replace it with your 10mm eyepiece and tighten the setscrews to secure the new eyepiece in place. The 10mm eyepiece will give you significantly more magnification, making the Moon appear much larger.

NOTE: You may need to adjust the focus knobs when you change eyepieces to make sure you are getting the sharpest image possible.

BONUS SOFTWARE

Your purchase includes software for your computer. You don't need to download this software to use your telescope, but it can enhance your experience.



Celestron Starry Night Astronomy Software

Celestron Starry Night, the premier astronomy software on the market, takes you on a guided tour of our Solar System's past, present, and future. It can help you learn about the night sky and plan your next observing session. Use Starry Night to model exactly how the night sky will appear from your backyard, a neighboring town, or anywhere on Earth.

MINIMUM SYSTEM REQUIREMENTS

Windows:

- Windows 7 or higher
- 500MHz or higher processor
- 128 MB RAM
- 850 MB hard disk space
- 32 MB OpenGL-capable graphics card
- Monitor with 1024x768 pixel resolution (recommended)

Mac:

- Universal binary (PPC/Intel-compatible)
- OS X 10.4 or higher (10.5 or higher for Elementary)
- G3 450 MHz or higher processor
- 128 MB RAM
- 850 MB hard disk space
- 32 MB OpenGL-capable graphics card
- Monitor with 1024x768 pixel resolution (recommended)

SAFETY INSTRUCTIONS

- There is a risk of explosion if the battery is replaced with an incorrect type.
- The included battery is not rechargeable.
- Only use the battery as originally intended to avoid a short circuit. Connecting the conductive material directly to the battery's positive and negative sides will cause a short circuit.
- Do not use a damaged battery.
- Do not store the battery in an extremely cold or hot environment. Doing so can reduce battery life.
- Remove batteries if drained or if product is to be left unused for a long time.
- When replacing the battery, refer to the instruction manual and ensure the positive and negative sides are oriented correctly.
- Do not put the battery in fire.
- Dispose of the battery according to local regulations.

FCC IDENTIFIER: 2A2FG-93974

NOTE: FCC certification is for the Bluetooth Remote Control included with this product. Model # 93974

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

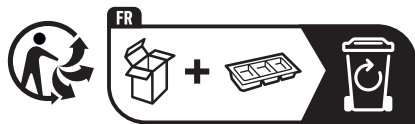
CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

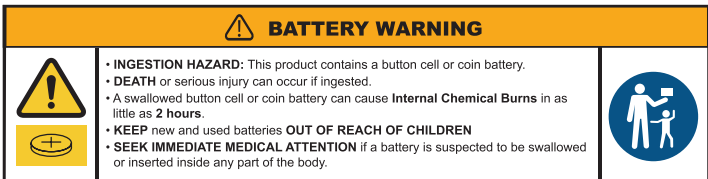
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Separate waste collection. Check your local municipal guidelines.
Raccolta differenziata. Verifica le disposizioni del tuo Comune.





celestron.com/pages/warranty



SOLAR WARNING: *Never attempt to view the sun through any telescope.*

NEED ASSISTANCE? Contact Celestron Technical Support

celestron.com/pages/technical-support

Product design and specifications are subject to change without prior notification.
This product is designed and intended for use by those 14 years of age and older.



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Made in China | 01-25