CELESTRON®

ASTROMASTER® LT TELESCOPE

ENGLISH

INSTRUCTION MANUAL

Models #22109-DS

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⚠ SOLAR WARNING

- Never look directly at the Sun with the naked eye or with a telescope unless you have the proper solar filter. Permanent and irreversible eye damage may result.

- Never use your telescope to project an image of the Sun onto any surface. Internal heat build-up can damage the telescope and any accessories attached to it.

- Never use an eyepiece solar filter or a Herschel wedge. Internal heat build-up inside the telescope can cause these devices to crack or break, allowing unfiltered sunlight to pass through to the eye.

- Do not leave the telescope unsupervised, either when children are present or adults unfamiliar with the correct operating procedures of your telescope are present.

WHAT'S IN THE BOX

We recommend saving your telescope box so it can be used to store the telescope when it is not in use. Unpack the box carefully as some parts are small. Use the parts list below to verify that all parts and accessories are present.

PARTS LIST

1. Telescope Tube
2. StarPointer Finderscope
3. Eyepiece (20 mm shown)
4. 90° Mirror Diagonal
5. Focus Knobs
6. Panning Handle/Altitude Clutch
7. Tripod
8. Accessory Tray
9. Objective Lens
10. Telescope Mounting Clamp
11. Altazimuth Mount
12. Azimuth Tension Knob
13. Bluetooth Remote

ASSEMBLING YOUR TELESCOPE

THE MOUNT

The AstroMaster LT mount and tripod come fully assembled, so setting it up is easy.

1. Remove the tripod and mount from the box.
2. Loosen the hand knobs at the bottom of each leg and extend the inner section of the leg to the desired length. Tighten the knobs to secure the legs, being careful not to over tighten.
3. Stand the tripod upright and pull the tripod legs apart until the center brace snaps into place.
4. Place the accessory tray on top of the center brace line up the keyed hole in the center. Rotate the tray until the tabs at the three points of the tray snap into the holders on each arm of the tripod's center brace.

MOVING THE MOUNT

The AstroMaster LT mount can be moved by hand using the panning handle. To adjust the up and down angle of the mount, loosen the altitude clutch by turning the entire panning handle counterclockwise. Move the mount to the desired position and lock the clutch to secure the mount in place by turning the entire panning handle clockwise.

The left and right axis is free spinning and does not lock down, but the tension can be adjusted to suit your preference by using the azimuth tension knob on top of the mount. Turn the knob clockwise to increase the tension and counterclockwise to loosen it.

THE TELESCOPE TUBE

To attach the telescope tube to your tripod and mount:

1. Move the mount so that the telescope mounting platform is parallel to the ground. Lock the altitude clutch to prevent it from moving.
2. Locate the dovetail bar mounted on the bottom of the telescope tube.
3. Holding the telescope tube above to the mount, slide the dovetail bar into the telescope clamp at the top of the mount.
4. Tighten the large hand knob on the mounting screw to secure the telescope in place.

THE STAR DIAGONAL

The star diagonal attaches to the back of the 60 mm and 70 mm refracting telescopes and contains a small mirror that reflects light at a 90° angle, providing a more comfortable viewing position. If you were to install the eyepiece directly into the back of a refracting telescope, the image would be mirror reversed and upside-down. The star diagonal will flip the image right-side up but the image will still appear mirror reversed left to right. This is normal for astronomical telescopes.

To insert the diagonal:

1. Remove the caps from both sides of the diagonal.
2. Loosen the setscrews on the back of the focuser and pull out the small dust cap.
3. Insert the smaller tube on the diagonal into the back of the focuser and secure it by tightening the setscrews. You can adjust the angle of the star diagonal to any desired direction before tightening the screws.

THE EYEPIECE

Your telescope comes with two eyepieces. The 20 mm which will give low magnification with a moderately wide field of view. The 10 mm will give you higher magnification, but a narrower field of view. Additional eyepieces can be purchased to increase or decrease the magnification to your desired level. When first locating an object, it is best to use the 20 mm eyepiece, then, once the object is centered, change to the 10 mm eyepiece to “zoom in” on it.

To install the eyepiece:

1. Loosen the setscrews on the open end of the star diagonal.
2. Insert the silver barrel of the 20 mm eyepiece into the star diagonal.
3. Tighten the setscrews to secure the eyepiece in place.
4. To see the sharpest image possible, focus by looking through the eyepiece and slowly turning the focusing knobs until the image comes into sharp focus.

THE STARPOINTER FINDERSCOPE

Your telescope comes with a StarPointer red-dot finderscope that you will use as a sighting tool when aiming the telescope at a target.

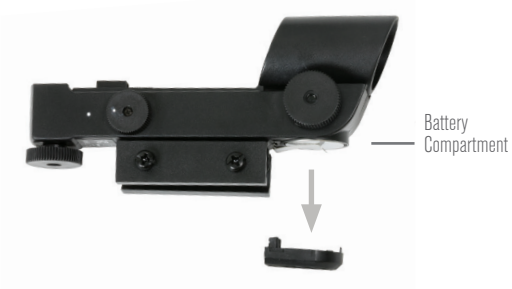
To install the finderscope:

1. Loosen the two Philips–head screws on the side of the finderscope and slide the clamp over the dovetail bracket near the telescope focuser. The large window on the finder should be facing the front of the telescope.
2. Secure the finderscope in place by tightening the two Philips-head screws. Do not over tighten these screws. Just make the connection snug.
3. Remove the small plastic tab under the battery cover. This is installed to prevent the battery from accidentally discharging during transportation.

Finderscope on a Refractor

CHANGING THE FINDERSCOPE BATTERY

To replace the StarPointer battery, remove the finder from the scope and turn it over. The battery compartment is located directly under the large lens assembly. Using a small screwdriver or your fingernail, gently lift straight up on the cover to remove it. The battery is held in place by a spring contact. Gently lift this contact and turn the finder on its side. The battery should slip right out. Replace the battery with a 3-Volt CR2032 button cell battery. Slide the new battery under the contact, making sure that the positive terminal of the battery (the side marked with a "+") is pointing upward, toward the spring contact. The battery should snap in place. Replace the cover by lining up the pins on the cover with the holes in the finderscope and pressing it down. Be sure to dispose of the old battery according to your local laws.



ALIGNING THE FINDERSCOPE

The StarPointer finderscope is a reflex sight that uses a red LED to project a red dot onto the round glass window. When you look through the window, you see the red dot superimposed on your target. The first time you assemble your telescope, you'll need to align the finderscope with the main optics of the telescope. Although this step can be done at night, it is significantly easier to do during the day. Once you have completed the finderscope alignment, you should not have to repeat this step unless the finderscope is bumped or dropped.

To install the StarPointer finderscope:

1. Take the telescope outside during the day. Using your naked eye, find an easily recognizable object, such as a streetlight, car license plate, or tall tree. The object should be as far away as possible, but at least a quarter mile away.

2. Remove the main dust cover from the telescope and make sure your 20 mm eyepiece is installed.

3. Move the telescope left and right or up and down so that it is roughly pointing toward the object you chose in step 1.

4. Look through the telescope's eyepiece and manually 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.

5. Once the object is centered in your 20 mm eyepiece**,** turn on the finderscope by turning the power/brightness switch knob on the side of the unit as far as it will go.

6. With your head positioned about a foot behind the finder, look through the round window and locate the red dot. It will probably be close to, but not on top of, the object you see when you are looking through the 20 mm eyepiece.

7. Without moving the telescope, use the two adjustment knobs on the side and underneath the finderscope. One controls the left-right motion of the reticle, while the other controls the up-down motion. Adjust both until the red dot appears over the same object you are observing in the 20 mm eyepiece.

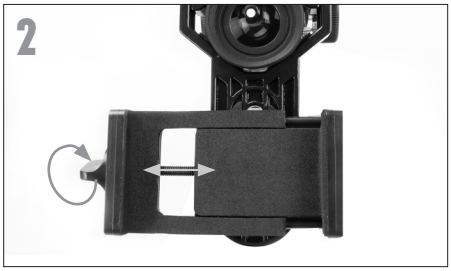
Now choose some other distant targets to practice aiming your telescope. Look through the StarPointer finderscope window and place the red dot over the target you are trying to view and verify that it appears in the 20 mm eyepiece of the scope.

With your finderscope aligned, your telescope is fully assembled and you are ready to observe!

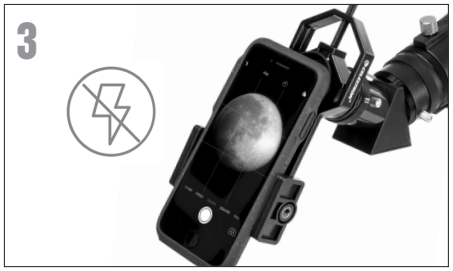
NOTE: Be sure to turn off the StarPointer finderscope when not in use to conserve battery power.

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 that your phone fits inside. Tighten it to secure your phone in place.



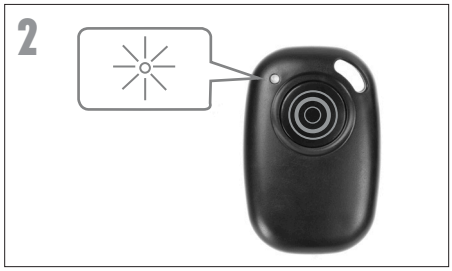
Turn on the phone and open your camera app. Make sure the flash is turned off.

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 down through the eyepiece of the telescope. Tighten the knob on the bottom of the adapter to secure it in place.

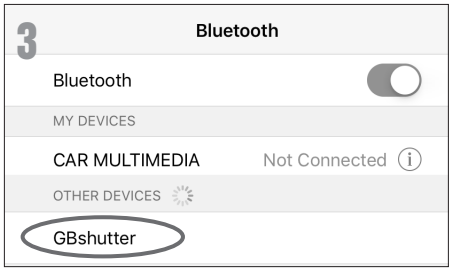
Use the telescope's focuser to adjust focus of your camera. Snap the image using your app or use the Bluetooth remote described in the next section.

USING THE BLUETOOTH REMOTE

To insert or replace the battery, place your thumb in the center of the back cover, pressing inward and sliding downward remove the battery door. The CR2032 battery should be inserted with the positive (+) side facing upward. Replace the cover.



Press and hold the button on the remote for 5 seconds. A blue light will turn on and, after a few seconds, start to blink. The remote is now in pairing mode.



Using the Bluetooth settings on your phone, pair the device called “GBshutter” or “22035”.

Open your camera app. Press the button on the remote to trigger the shutter on your phone.

If your camera is in video mode, you can press the button once to start recording and again to stop the recording.

YOUR FIRST ASTRONOMICAL OBSERVING SESSION

THE MOON

Now you are ready to take your telescope out at night and do some real observing!

Let's start with the Moon. The Moon takes about one month to go through a complete phase cycle, from new Moon to full Moon and back again. Try observing it at different points during this cycle.

While you can observe the Moon any time it is visible in the sky, the best time to view it 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 craters and lunar mountain ranges. Consult a calendar to find out when the next new Moon will be.

1. With a clear view of the Moon, set up your telescope with the 20 mm eyepiece.

2. Turn on the finderscope and look through it to find the red dot.

3. Move the telescope until you can see the Moon through the finderscope's window and the red dot is centered on the Moon.

4. Look through the 20 mm 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 basic technique.

CELESTIAL OBSERVING TIPS

This section covers visual observing hints for both solar system and deep-sky objects as well as general observing conditions which will affect your ability to observe.

MAGNIFICATION

You can change the magnification of your telescope by simply changing eyepieces. Both telescopes and eyepieces have focal lengths that are measured in millimeters. To calculate the magnification of a given telescope and eyepiece combination, take the focal length of the telescope and divide it by the focal length of the eyepiece. The resulting number is the magnification factor.

For example, the AstroMaster LT 70AZ has a focal length of 700 mm. Using the 20 mm eyepiece:

$$\textit{Magnification} = \frac{\text{Focal length of Telescope}}{\text{Focal length of Eyepiece}} = \frac{700\text{ mm}}{20\text{ mm}} = 35\text{x}$$

FIELD OF VIEW

Determining the field of view is important if you want to get an idea of the angular size of the object you are observing. To calculate the actual field of view, divide the apparent field of the eyepiece (supplied by the eyepiece manufacturer) by the magnification it gives you in the scope you are using.

Using the example in the previous section, we can determine the field of view using the same telescope and 20 mm eyepiece. The 20 mm eyepiece has an apparent field of view of 40°.

$$\textit{Actual Field Of View} = \frac{\text{Apparent Field of View of Eyepiece}}{\text{Magnification}} = \frac{40°}{35} = 1.3\text{ degrees of arc}$$

The 20 mm eyepiece has an apparent field of view of 40°. Divide the 40° by the magnification, which is 35 power. This yields an actual field of view of 1.3 degrees arc.

THE PLANETS

In addition to the Moon, your telescope is capable of observing the 5 brightest planets. Since planets change their positions against the background stars, you will need to consult sources on the web or use a planetarium app on a smart device to help you locate where these are. Here are some things to look for:

- **Mercury and Venus-** Just like the Moon, the two inner planets will go through phases ranging from thin crescents to gibbous phases.
- **Mars-** When it is near opposition (the point in its orbit where it is closest to Earth) you should be able to discern the polar cap and possibly some larger surface features that appear as dark markings on the surface.
- **Jupiter-** Look for the darker methane cloud bands that circle the planet just above and below the equator. If the Great Red Spot is facing the Earth, you may be able to catch a glimpse of it. You will also see the four brightest moons of Jupiter – Io, Europa, Ganymede, and Callisto. These moons are fun to watch because they can move appreciably over just a couple of hours. Occasionally they will travel behind Jupiter or into its shadow and disappear for periods of time. They can also cross the face of Jupiter and you may even see a shadow of the moon crossing with it. There are some useful apps for smart devise that will help you predict when the Great Red Spot can be seen as well as when any interesting events are going to occur with Jupiter's moons.
- **Saturn-** The rings! Saturn is arguably one of the most beautiful objects to look at in a telescope. If seeing conditions are stable enough, you may even catch the shadow of the rings on the planet and the shadow of the planet on the rings. You should be able to see Titan, the brightest moon of Saturn.

DEEP-SKY OBJECTS

Deep-sky objects are all of those celestial objects that are outside of our solar system. They include star clusters, planetary nebulae, diffuse nebulae, double stars and other galaxies outside our own Milky Way. Objects such as nebulae and galaxies can be quite large, but they are also very faint. In order to get the best view, you will need to make sure you are in the darkest skies possible. The farther you are away from city lights, the better you will see these objects in the eyepiece. In photographs of nebulae and galaxies, you will see vivid reds and blues. These colors are not visible when you look through the eyepiece. The colorful images were very long exposure images taken over 15 – 60 minutes or more, where your eye only records data on an instant by instant basis. Digital sensors are much more sensitive to reds and blues than the human eye is which is most sensitive in the green part of the spectrum. Still, you will be able to see the soft glow of the Andromeda galaxy and the expanse of the Orion Nebula.

SKY CONDITIONS

Sky conditions can significantly affect the performance of your telescope in three ways.

- **Steadiness of the air-** On windy days, images of the Moon and planets will appear to wave or jump around in the eyepiece; as if you are looking at them through moving water. Nights where winds are calm will offer the best higher magnification views of the planets and the Moon. The best way to judge the stability of the atmosphere is to look at bright stars with the naked eye. If they are "twinkling" or rapidly changing colors, the air is unstable and you are better off using lower powers and looking for deep sky objects. If the stars are sharp and not twinkling, the air is stable and should offer great high magnification planetary views.
- **Transparency-** How clear is the air you are looking through? If there is a high amount of humidity in the air, the faint light from galaxies and nebulae can be scattered and diffused before reaching your telescope, causing a loss of brightness in your image. Debris in the air from local forest fires or even distant volcanic eruptions can contribute to large loss of brightness. Sometimes this humidity or debris can help stabilize the air, making for good planetary and lunar images, but the loss of light would make it difficult to see fainter deep-sky objects.
- **Sky Brightness-** The amount of ambient light in the atmosphere can also effect deep-sky observing. How dark the sky is can depend on your local surroundings. In the middle of a city, sky-glow caused by city lights being reflected back to earth from the sky can overpower the faint light from distant galaxies. Getting away from the bright lights of a major city can make the difference between seeing a faint deep-sky object and missing it altogether. Planets and the moon are plenty bright enough on their own so the effect on observing them is minimal.

SELECTING AN OBSERVING SITE

If you are going to be observing deep-sky objects, such as galaxies and nebulae, you should consider traveling to a dark sky site that is reasonably accessible. It should be away from city lights, a relatively unobstructed view of the horizon, and upwind of any major source of air pollution. Always choose as high an elevation as possible as this can lower the effects of atmospheric instability and can ensure that you are above any ground fog. While it can be desirable to take your telescope to a dark sky site, it is not always necessary. If you plan to view the planets, the Moon or even some of the brighter deep-sky objects, you can do this from any location, such as your own backyard. Try to setup the scope in a location that is out of the direct path of streetlights or house lights to help protect your night vision. Try to avoid observing anything that lies within 5 to 10 degrees over the roof of a building. Rooftops absorb heat during the day and radiate this heat out at night. This can cause a layer of turbulent air directly over the building that can degrade your image. It is best if you set your telescope up directly on a dirt or grassy surface. Setting up on any raised platform such as a wooden deck or a hard surface like concrete or a sidewalk should be avoided as they transmit vibrations easily that can be transferred to the telescope.

Observing through a window is not recommended because the window glass will distort images considerably. And an open window can be even worse, because warmer indoor air will escape out the window, causing turbulence which also affects images. Astronomy is an outdoor activity.

CHOOSING THE BEST TIME TO OBSERVE

Try not to view immediately after sunset. After the sun goes down, the Earth is still cooling, causing air turbulence. As the night goes on, not only will seeing improve, but air pollution and ground lights will often diminish. Some of the best observing time is often in the early morning hours before dawn. Objects are best observed as they cross the meridian, the imaginary line that runs from north to south through a point directly over your head. This is the point at which objects reach their highest points in the sky and your telescope is looking through the least amount of atmosphere possible. Objects that are rising or setting near the horizon will suffer more atmospheric turbulence since you are looking through a much longer column of air. It is not always necessary to have cloud-free skies if you are looking at planets or the moon. Often broken cloud conditions provide excellent seeing.

COOLING THE TELESCOPE

Telescopes require at least 10 minutes to cool down to outside air temperature. This may take longer if there is a big difference between the temperature of the telescope and the outside air. This minimizes heat wave distortion inside the telescope tube (tube currents).

ADAPTING YOUR EYES

If you are planning to observe deep sky objects at a dark sky site, it is best if you allow your eyes to fully adapt to the dark by avoiding exposure to white light sources such as flashlights, car headlights, streetlights, etc. It will take your pupils about 30 minutes to expand to their maximum diameter and build up the levels of optical pigments to help your eyes see the faint light from a distant target. If you need light to help setup your telescope in the dark, try using a red LED flashlight at as low a brightness setting as possible and avoid looking straight at the light source. This will give you the best chance of capturing those faint deep sky objects.

When observing, it is important to observe with both eyes open. This avoids eye fatigue at the eyepiece. If you find this too distracting, cover the unused eye with your hand or an eye patch. The center of your eye works well in bright daylight, but is the least sensitive part of the eye when trying to see subtle detail at low light levels. When looking in the eyepiece for a faint target, don't look directly at it. Instead look toward the edge of the field of view and the object will appear brighter.

ASTROIMAGING

One of the first questions most people have about their new telescope is “How can I take images with it?”. Your telescope is capable of imaging the Moon and planets, but deep-sky objects would require a more advanced telescope and mount with finely geared motorized tracking. There are a few different methods for using your telescope for imaging:

- **Smart Devices or Point-and-Shoot Cameras-** This is the easiest and most straight forward method and works well for images of the Moon and planets. Use the included Smartphone Adapter and Bluetooth remote to easily take shake-free images with your smartphone. For use with other device like tablets or point-and0shoot digital cameras, simply hold your device’s camera up to the eyepiece and take the image. While you can use this with any eyepiece, it is generally easier to get an image using a lower power (longer focal length) eyepiece. You will need a steady hand to hold the phone to the eyepiece but you can get good results.
- **DSLR-** Celestron offers adapters that will allow you to attach a Canon or Nikon DSLR body to the telescope in place of the eyepiece. You would be effectively using your telescope as a telephoto lens. This will require a T-adapter for the telescope and a T-ring for the camera body. For more information on the adapters for your specific model of telescope, please go to www.celestron.com.
- **CMOS Planetary Imagers-** These are specialized cameras that replace the eyepiece in your telescope. It would connect to your laptop via a USB port. The camera records video of the planet, then the included software breaks up the video file into individual still frames. The software then combines the individual frames into a single image that contains more detail than was visible in any single frame. This method will provide you the best possible lunar and planetary images, but does require that you have a laptop at the scope. For more information on the planetary camera, please go to www.celestron.com.

DEEP-SKY OBSERVING EQUIPMENT

There are some tools that will be indispensable to you for identifying and locating deep-sky objects:

- **Red Flashlight-** This is an essential tool for deep-sky astronomy for reading finder charts or star atlases. In order to see the faint light coming from distant objects like nebulae or galaxies, your eyes must be fully dark adapted with your irises open to the fullest extent to let the most light from your telescope into them. White light from a standard flashlight will causes your eye’s irises to close down and it can take up to a half-hour for your eyes to return to full dark adaptation. Red lights do not have the same effect. We recommend any red LED flashlight that has adjustable brightness output, because even red light, if excessively bright can affect your night vision. These are available through most telescope retailers but can also be found in camping and hardware stores.
- **Planisphere-** A planisphere is a special circular star map that will show you the rough placement of constellations over your head, so you can navigate your way across the sky. Unlike charts you can print online, planispheres are good for any time of year, not just the date or month you printed it for. The planisphere consists of two round disks joined at the center. The bottom disk has a map of the constellations while the top disk has a window cut into it out showing a portion of the sky map. By turning the inner and outer disks to match your specific date and time, the map will display only those constellations visible to you at that time. This is handy for finding rough locations of bright stars and constellations. Planispheres are available through book stores and are available for a number of geographical latitudes in the Northern or Southern Hemispheres. Be sure to pick one that is designed for your location. To get more detailed information on where deep-sky objects reside within constellations you will need a Star Atlas.
- **Star Atlas-** Star atlases are the roadmaps of the sky. Once you have located a constellation with your planisphere, the Star Atlas will show you a detailed, close-up view of that region of sky showing the stars and deep-sky objects that reside in it. These are available through many telescope retailers or bookstores.
- **Apps and Programs-** There are many applications available for a smartphone or tablet that can take the place of the planisphere and star maps. These will give digital representations of the night sky on your device, allowing you to go from a wide view to a zoomed-in view with a touch of the screen. These can be downloaded or purchased from your application store, depending on your platform. There are also some great astronomical sky simulation programs available for your computer that will show you very detailed star maps on screen and can help you plan an observing session before you get outside with printable star maps customized for your date, location and time.

STAR HOPPING

The easiest way to find your way around the sky is by a technique called star hopping. The first thing you will need to do is measure the field of view of your finderscope. Look in the sky and locate a constellation with bright stars. You can use your planisphere or astronomy app to help identify it. Now find the map in your star atlas that shows this constellation. Center your finderscope on any bright star that you can recognize on the star map. Hold your head 12 inches behind the reflective window of your StarPointer finderscope and move the telescope so that the bright star is at the edge of the field if view of the window (it does not matter which direction you pick). Without moving the telescope, look through the finderscope window and locate another star near the opposite edge of the field of view. Locate this second star on the chart. Measure the distance between these two stars on the chart using a ruler. This distance is represents one finderscope field of view on your atlas. You can now use this measurement to locate celestial objects.

CARE AND CLEANING OF THE TELESCOPE

While your telescope requires little maintenance, there are a few things to remember that will ensure your telescope performs at its best. Occasionally, dust and/or moisture may build up on the objective lens. Special care should be taken when cleaning any instrument so as not to damage the optics.

If dust has built up on the optics, follow these steps, in order, to clean your scope:

1. Use a camel hair brush to gently remove the larger particles.

2. Use a photographer's squeeze bulb to blow away any loose debris. You can also use a can of compressed air, such as those sold for cleaning computer keyboards, but you need to be careful. Avoid using cans that are almost empty and be sure to hold the air can vertically. Failure to do this can result in the can spitting propellant out onto the optics. Hold the optical surface at an angle to the spray from the can for approximately two to four seconds.

3. Use an optical cleaning solution of over-the-counter isopropyl alcohol and distilled water in a 50/50 mixture. Apply this solution to a white unscented tissue, then apply the tissue paper to the optics. Low pressure strokes should go from the center of the lens (or mirror) to the outer portion in straight lines like spokes on a wheel. **Do <u>not</u> rub in circles!**

You may experience dew build-up on the optics of your telescope during an observing session. If you want to continue observing, the dew must be removed, either with a hair dryer (on low setting) or by pointing the telescope at the ground until the dew has evaporated. If moisture condenses on the inside of the optics, remove the accessories from the telescope. Place the telescope in a dust-free environment and point it downward until the moisture evaporates.

To minimize the need to clean your telescope, replace all lens covers once you have finished using it. Since the telescope tubes are not sealed, the covers should be placed over the openings when not in use. This will prevent contaminants from entering the tubes.

Internal adjustments and cleaning should be done only by the Celestron repair department. If your telescope is in need of internal cleaning, please call the factory for a return authorization number and price quote.

NOTES

NOTES

CELESTRON TWO YEAR LIMITED WARRANTY

A. Celestron warrants your telescope to be free from defects in materials and workmanship for two years. Celestron will repair or replace such product or part thereof which, upon inspection by Celestron, is found to be defective in materials or workmanship. As a condition to the obligation of Celestron to repair or replace such product, the product must be returned to Celestron together with proof-of-purchase satisfactory to Celestron.

B. The Proper Return Authorization Number must be obtained from Celestron in advance of return. Call Celestron at (310) 328-9560 to receive the number to be displayed on the outside of your shipping container.

All returns must be accompanied by a written statement setting forth the name, address, and daytime telephone number of the owner, together with a brief description of any claimed defects. Parts or product for which replacement is made shall become the property of Celestron.

The customer shall be responsible for all costs of transportation and insurance, both to and from the factory of Celestron, and shall be required to prepay such costs.

Celestron shall use reasonable efforts to repair or replace any telescope covered by this warranty within thirty days of receipt. In the event repair or replacement shall require more than thirty days, Celestron shall notify the customer accordingly. Celestron reserves the right to replace any product which has been discontinued from its product line with a new product of comparable value and function.

This warranty shall be void and of no force of effect in the event a covered product has been modified in design or function, or subjected to abuse, misuse, mishandling or unauthorized repair. Further, product malfunction or deterioration due to normal wear is not covered by this warranty.

CELESTRON DISCLAIMS ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR USE, EXCEPT AS EXPRESSLY SET FORTH HEREIN. THE SOLE OBLIGATION OF CELESTRON UNDER THIS LIMITED WARRANTY SHALL BE TO REPAIR OR REPLACE THE COVERED PRODUCT, IN ACCORDANCE WITH THE TERMS SET FORTH HEREIN. CELESTRON EXPRESSLY DISCLAIMS ANY LOST PROFITS, GENERAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM BREACH OF ANY WARRANTY, OR ARISING OUT OF THE USE OR INABILITY TO USE ANY CELESTRON PRODUCT. ANY WARRANTIES WHICH ARE IMPLIED AND WHICH CANNOT BE DISCLAIMED SHALL BE LIMITED IN DURATION TO A TERM OF TWO YEARS FROM THE DATE OF ORIGINAL RETAIL PURCHASE.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Celestron reserves the right to modify or discontinue, without prior notice to you, any model or style telescope.

If warranty problems arise, or if you need assistance in using your telescope contact: Celestron - 800.421.9649

NOTE: This warranty is valid to U.S.A. and Canadian customers who have purchased this product from an authorized Celestron dealer in the U.S.A. or Canada. Warranty outside the U.S.A. and Canada is valid only to customers who purchased from a Celestron's International Distributor or Authorized Celestron Dealer in the specific country. Please contact them for any warranty service.

SAFETY INSTRUCTIONS

- Risk of explosion if battery is replaced by an incorrect type.
- The included battery is not rechargeable.
- Please use the battery in its original purpose to avoid causing the battery to short circuit. When the conductive material is connected directly to the battery positive and negative will cause a short circuit.
- Do not use a damaged battery.
- Keeping the battery in an extremely cold or very hot location can result in shortened battery life.
- When replacing the battery, please refer to the instruction manual and pay attention to the positive and negative direction of battery.
- Do not put the battery in the fire. Dispose of the battery according to local regulations.

FCC IDENTIFIER: 2A2FG-X9

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.

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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CE FC ROHS