

CELESTRON[®]

**FIRSTSCOPE 80 AZ
REFRACTING TELESCOPE**

INSTRUCTION MANUAL

Item # 21075

ASSEMBLING YOUR TELESCOPE

FIRSTSCOPE 80 AZ (# 21075)

The Firstscope 80 AZ is a refractor offered on an Altazimuth mount. It is shipped in one box which contains the telescope, mount and all the standard accessories, which include:

- Telescope Tube
- Altazimuth Mount
- 25mmSMA Ocular 1-1/4" (36x)
- 6x30 Finderscope
- 45° Erect Image Diagonal 1-1/4"
- Slow Motion Controls
- Adjustable Wooden Tripod

Use the accompanying diagram to identify the various parts of your Firstscope 80 AZ for assembly and ongoing use.

Unpacking Your Firstscope 80 AZ

When setting up the telescope, find a large, clear area where the parts can be laid out. Remove the contents of the box and place them neatly on your work surface. Once your refractor has been unpacked and assembled, you will not need the boxes for everyday storage and transportation. However, you should save the box in case you need to ship your telescope via a common carrier.

To begin setting up your Firstscope 80 AZ, start with the tripod and work up from there.

Setting Up the Tripod

Locate the Altazimuth mount and the tripod legs along with the tripod mounting hardware and the tripod accessory tray.

1. Lie the tripod head on its side. Attach the three tripod legs one by one on the tripod head with the bolts and wing nuts. Do not overtighten the bolts but just make them lightly finger tight. Remember to have each tripod leg in the right orientation with the tripod tray bracket facing inward.
2. Now set the tripod with the Altazimuth mount attached in the standing position by spreading the legs apart far enough for the tripod accessory tray to fit.
3. You are now ready to install the tripod accessory tray. The tripod tray bracket fits into the holes in the bottom of the tray (use the slots on the ends of the brackets). Use the bolts and wing nuts to attach each bracket to the tray.
4. Tighten all bolts and wing nuts to ensure proper stability.

FIRSTSCOPE • 80 AZ

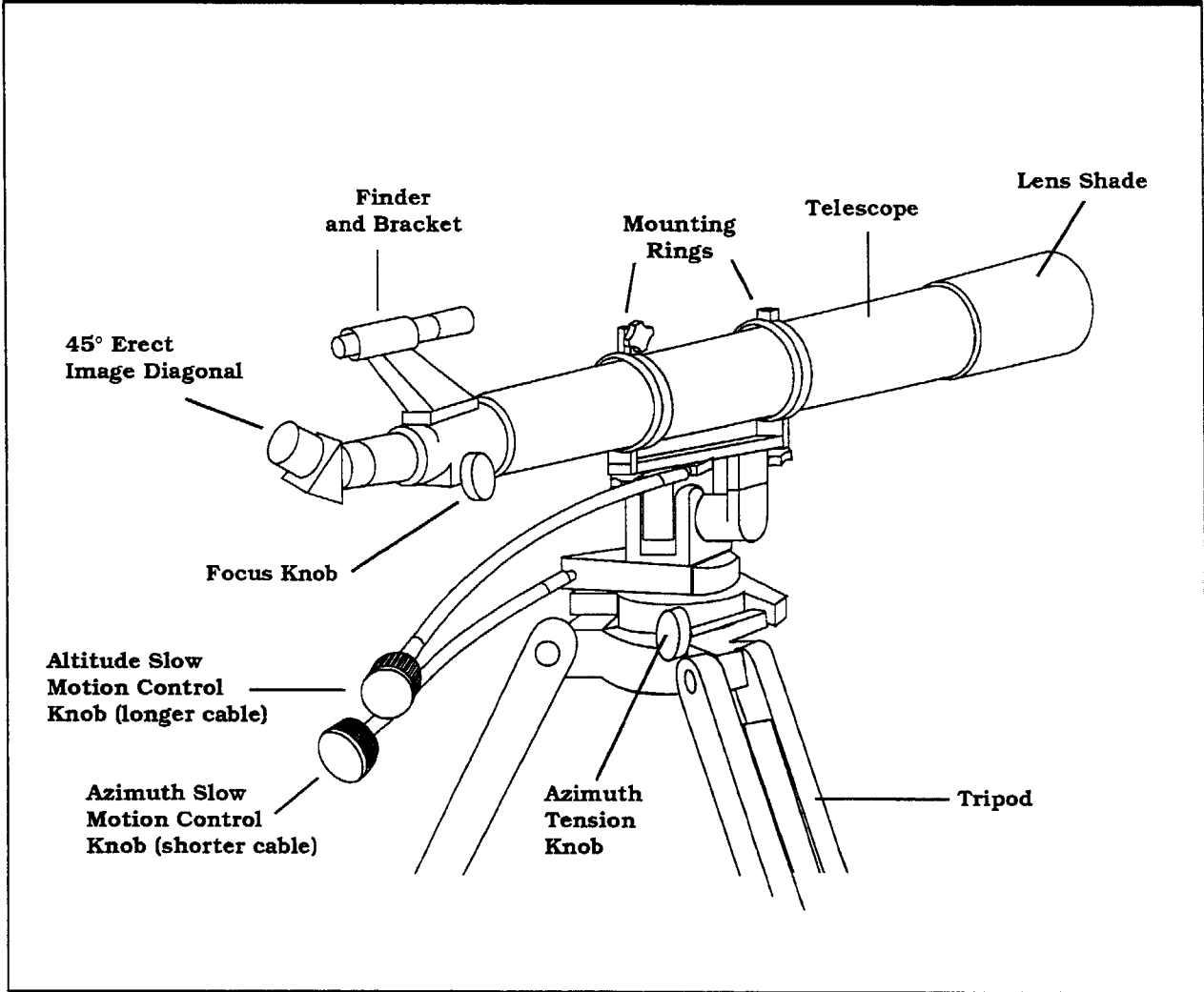


Figure 2-1

The Firstscope 80 AZ fully assembled. Use this illustration and others throughout this manual, to familiarize yourself with the various parts of your Firstscope 80 AZ telescope.

Adjusting the Tripod Height

With the tripod set up, you can adjust the height of the tripod. To do this:

1. Loosen the wing nuts on the lower portion of the tripod leg.
2. Slide the center slat of the leg away from the tripod head until at the desired height.
3. Tighten the wing nut (completely) to hold the leg firmly in place. A wrench is provided to hold the bolt in place while you are turning the wing nut.

Repeat this process for each tripod leg.

Attaching the Slow Motion Control Knobs

You are ready to attach the slow motion control knobs.

1. Retract the set screw on the metal sleeve of the slow motion control knobs until it no longer extends into the inner diameter. The metal sleeve is on the opposite end of the cable from the slow motion handle.
2. Slide the end of the metal sleeve over one of the two shafts protruding from the mount. Make sure that the set screw on the metal sleeve is over the flat part of the shaft (see figure 2-2).

The shaft on the right side of the telescope platform controls altitude adjustments while the one on the left controls azimuth adjustments (see figure 2-3).

3. Tighten the set screw to hold the slow motion control knobs in place.

Repeat this process for the remaining slow motion knobs.

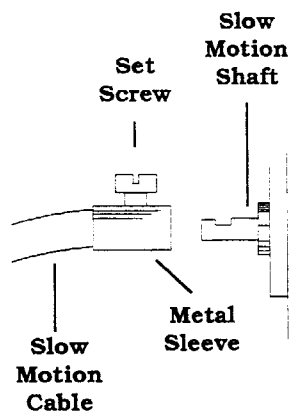


Figure 2-2

This illustration shows the correct orientation of the metal sleeve relative to the slow motion shaft.

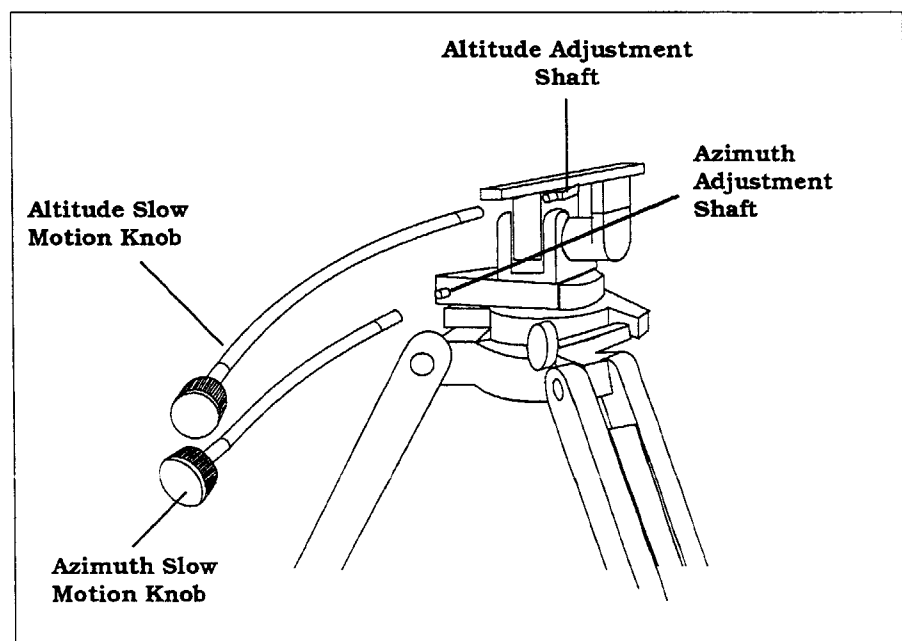


Figure 2-3

Attaching the Telescope to the Mount

The optical tube is held to the mount with two rings. On the bottom of the mounting rings are square extrusions — one on each ring. This portion of the ring slides over part of the mounting platform to hold the telescope in place.

1. Slightly loosen the screws that hold the mounting rings on the telescope in place.
2. Slide the rings apart so that each is toward a different end of the telescope. Ideally, the mounting rings should be slightly farther apart than the length of the mounting platform.
3. Place the telescope tube on the mount and orient it so that the objective lens is opposite the slow motion control handles.
4. Slide the rings together until the square extrusions fit over the ends of the mounting platform.
5. Tighten the bolt on the square extrusion on the ring closest to the objective lens to hold the telescope to the mount (C). This knob is on the opposite side of the mounting ring from the hand tightening knob.
6. Tighten the screws that hold the mounting rings in place (A and B). This will keep the telescope from sliding back and forth in the mounting rings.

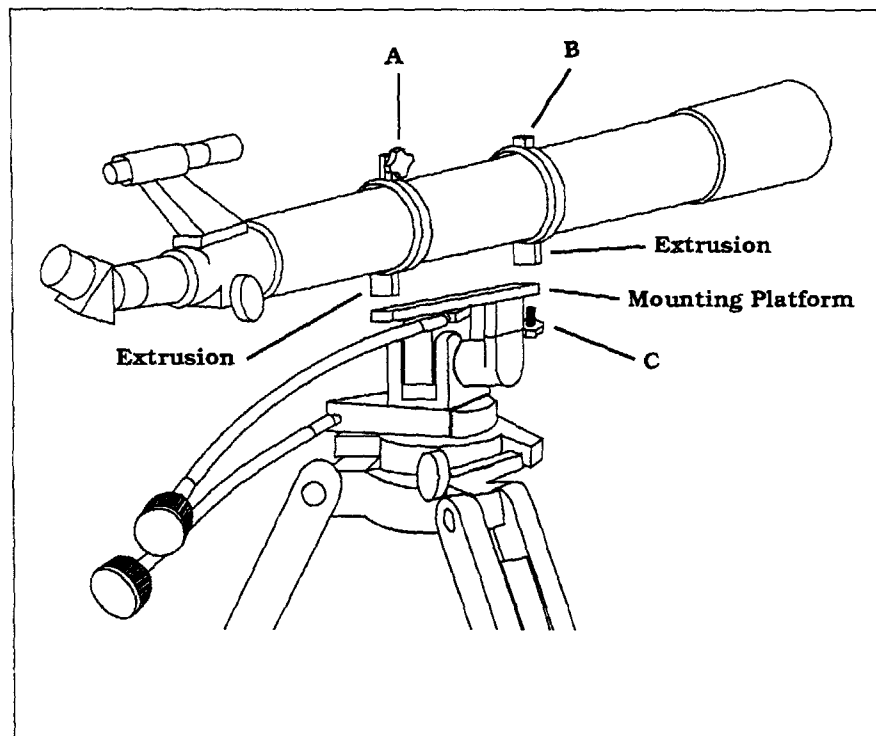


Figure 2-4

Orient the altazimuth mount so that it is parallel to the ground while mounting the telescope tube.

Pointing the Firstscope 80 AZ

The Altazimuth mount can be moved in two directions; vertically, which is called altitude and horizontally, which is called azimuth.

Altitude

- For major directional changes in altitude, hold the end of the telescope tube and move the telescope to the desired orientation.
- For fine adjustments in altitude, turn the slow motion control knob on the right side of the mount. Turning the knob clockwise lowers the angle at which the telescope is aiming while turning it counterclockwise raises the angle at which the telescope is aiming.

Azimuth

- For major directional changes in azimuth, loosen the azimuth tension knob on the right side of the mount. (This knob is already attached to the mount and does **NOT** need to be installed.) Once loose, point the telescope to the desired area and tighten the azimuth tension knob.
- For fine adjustments in azimuth, turn the slow motion control knob on the left side of the mount. Turning the knob clockwise moves the telescope to the right while turning it counterclockwise moves the telescope to the left.

NOTE: The azimuth slow motion knob will **NOT** work while the azimuth tension knob is loose. The azimuth tension knob must be fully tightened before you can use the azimuth slow motion control knob.

Disassembling and Transporting Your Firstscope 80 AZ

Once assembled, the telescope can be left set up. The entire unit is light enough to pick up and carry outside for a casual observing session. If, however, you want to transport your Firstscope 80 AZ to a remote observing location, you should partially disassemble your telescope for easy transportation.

1. Remove the optical tube from the altazimuth mount. Wrap the tube in cloth to prevent it from being scratched or dented. Perform the steps for attaching the telescope in reverse order.
2. Fold the tripod legs together. The mount does **NOT** have to be removed if you are transporting the telescope yourself.

You are now ready to transport the telescope to your observing site.

If you are shipping the telescope via a common carrier, you should completely disassemble the telescope and return all parts to the original shipping container.

Storing Your Firstscope 80 AZ

When not in use, your Firstscope 80 AZ can be left fully assembled and set up. However, all lens and eyepiece covers should be put back in place. This will reduce the amount of dust build-up on the optical surfaces and reduce the numbers of times you need to clean the instrument. You may want to return everything to its original shipping container and store them there. If this is the case, all optical surfaces should still be covered to prevent dust build-up.

Technical Specifications

Below is pertinent technical information on your Firstscope 80 AZ telescope that you may find useful.

Optical System:	Refractor
Lens Compounds: (Achromat)	Crown/Flint Glasses
Aperture:	80mm (3.1")
Focal Length:	910mm (35.8")
Near Focus	
With Eyepiece:	32'
With Camera:	40'
Highest Useful Power Magnification:	189x
Resolution (arc seconds):	1.45
Light Gathering Power:	131x
Limiting Visual Magnitude:	12.0
Angular Field of View:	1.4°
Linear Field of View:	73'
F/ratio:	f/11.4
Length:	35"
Weight	
Optical Tube:	5.5 lb.
With Tripod:	18 lb.

NOTE: All specifications are stated for the Firstscope 80 AZ using the standard accessories. These specifications are approximate and subject to change without notice.

CELESTRON LIMITED WARRANTY

- A. Celestron International (CI) warrants this telescope to be free from defects in materials and workmanship for one year from the date of purchase. CI will repair or replace such product or part thereof which, upon inspection by CI, is found to be defective in materials or workmanship. As a condition to the obligation of CI to repair or replace such product, the product must be returned to CI together with proof-of-purchase satisfactory to CI.
- B. The Proper Return Authorization Number must be obtained from CI 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 CI.

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

CI shall use reasonable efforts to repair or replace any product covered by this limited warranty within thirty days of receipt. In the event repair or replacement shall require more than thirty days, CI shall notify the customer accordingly. CI 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.

CI 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 CI UNDER THIS LIMITED WARRANTY SHALL BE TO REPAIR OR REPLACE THE COVERED PRODUCT, IN ACCORDANCE WITH THE TERMS SET FORTH HEREIN. CI 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 CI PRODUCT. ANY WARRANTIES WHICH ARE IMPLIED AND WHICH CANNOT BE DISCLAIMED SHALL BE LIMITED IN DURATION TO A TERM OF ONE YEAR FROM THE DATE OF ORIGINAL RETAIL PURCHASE.

If warranty problems arise, or if you need assistance in using your CI product, contact:

Celestron International
2835 Columbia Street
Torrance, CA 90503
Tel. (310) 328-9560
Fax. (310) 212-5835