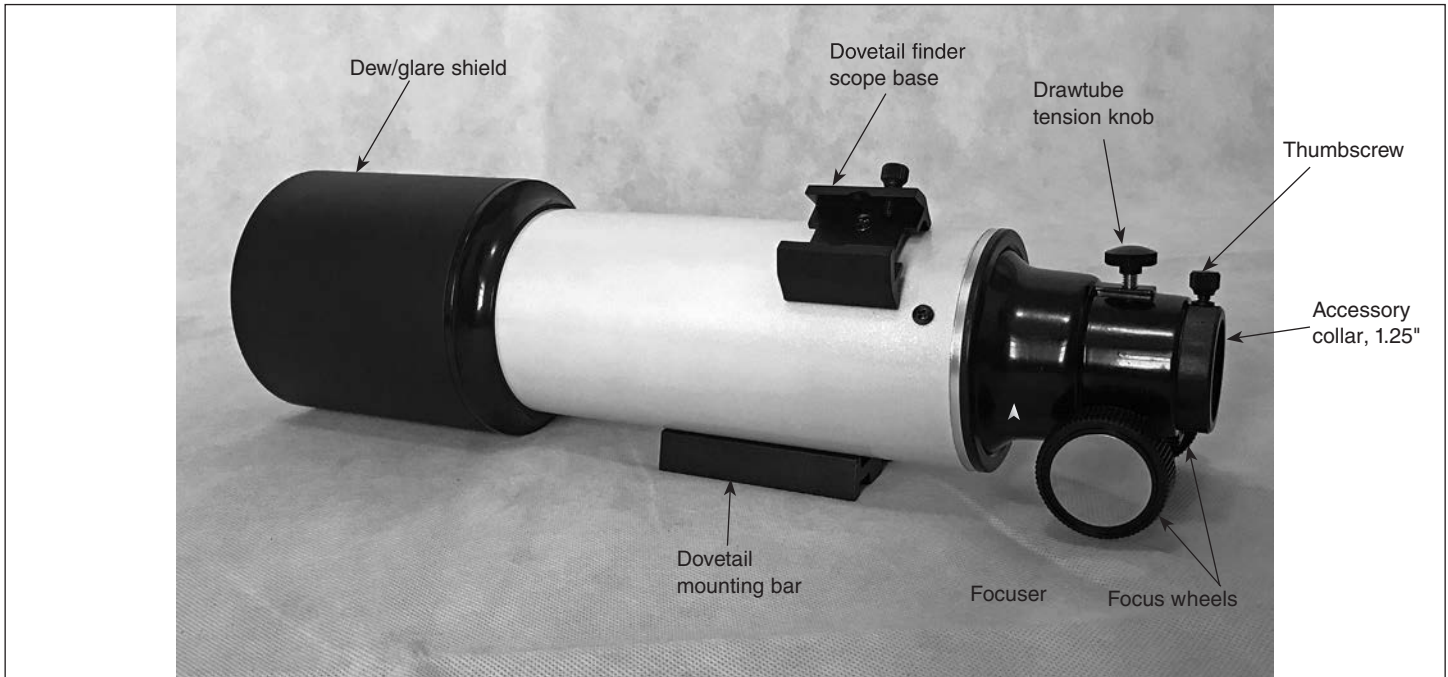


# Orion® CT80 Compact 80mm Refractor Optical Tube Assembly

#09202



**Figure 1.** Features and components of the CT80 Compact 80mm refractor

*Congratulations on your purchase of an Orion CT80 Compact Refractor!* Your telescope has been designed with portability and versatility in mind. Outfit it with your favorite accessories and pop it on the mount or tripod of your choice and you'll be ready for a superb observing experience. **NOTE: If you are purchasing this optical tube for use in the Awesome AutoGuider Package, you'll need to perform some disassembly in order to fit the tube into the rings. See below for detailed instructions.**

The CT80 Compact Refractor comes fully assembled and optically collimated from the factory. The telescope's optics have been precisely collimated at the factory, so they should not require any adjustments. Please keep the original shipping box. In the unlikely event that you need to ship the telescope back to Orion for warranty repair service, you should use the original packaging.

**WARNING:** *Never look directly at the Sun through your telescope—even for an instant—without a professionally made solar filter that completely covers the front of the instrument, or permanent eye damage could result. Young children should use this telescope only with adult supervision.*

Refer to **Figure 1** to become familiar with the telescope's parts and features.

## Use as a Guide Scope

In order to use this optical tube in the rings that come with the Awesome Autoguider Package, the finder scope bracket must be removed from the optical tube. The tube will not fit through the rings otherwise.

Follow these steps to complete this procedure:

1. Locate and remove the three Focuser Assembly Screws to remove the focuser (**Figure 2**). Be sure not to let the focuser fall out of the tube when the screws are removed.
2. Carefully remove the focuser along with the silver trim ring from the tube (**Figure 3**).
3. Locate the two Philips head screws in the finder scope base (**Figure 4**). There are two nuts on the inside of the tube under

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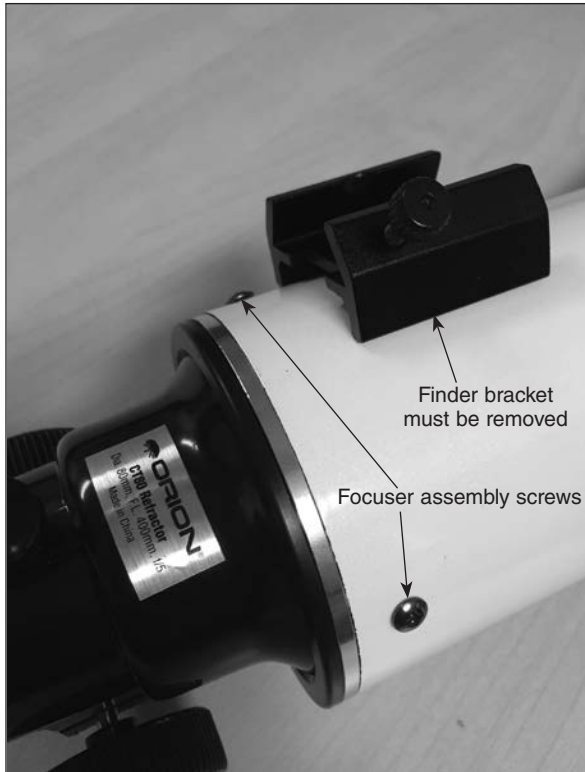
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both of these screws. With the tube horizontal on a table (so the nuts don't fall back towards the lens), loosen each screw while pressing against the nut inside the tube with a fingertip. You may need a small crescent wrench if the nuts are tight against the tube wall. Remove the nuts from inside the tube, and pull off the finder scope base along with the screws (Figure 5).



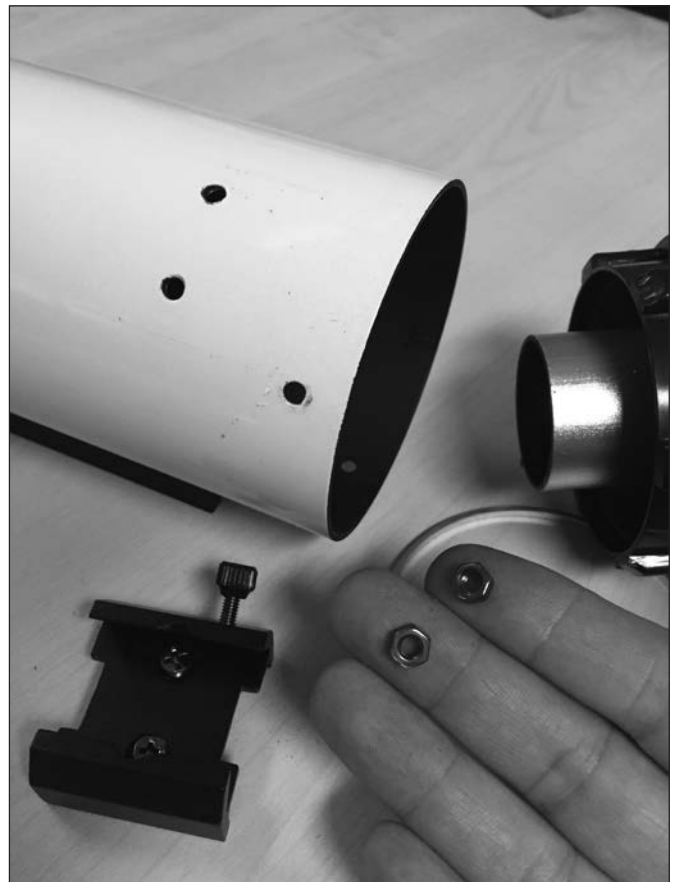
**Figure 2.** Focuser assembly screws



**Figure 3.** Remove the focuser



**Figure 4.** Finder bracket screws



**Figure 5.** Finder bracket removal



**Figure 6.** Reinstall the screws, nuts, and focuser



**Figure 7.** Finished assembly in guide rings

4. Reattach the screws and nuts to the open holes so that no dust gets inside the tube and tighten with a screwdriver (**Figure 6**), then reinstall the focuser, making sure the focus knobs are back in the same orientation.
5. **Figure 7** shows the reassembled optical tube sitting in the guide ring setup.

## Care & Maintenance

Give your telescope reasonable care and it will last a lifetime. When not in use, keep its dust cover on as well as the small plastic plug on the focuser drawtube. Store it indoors or in a dry garage. Do not leave the telescope outside except when using it. If a scratch appears on the tube, it will not harm the telescope. Smudges on the tube can be wiped off with standard household cleaners.

### Dew

When you are ready to pack up your telescope at the end of the night, avoid immediately storing it if you encountered heavy dew and the telescope is damp. Instead, bring the telescope inside and allow the moisture on the telescope to evaporate. If dew forms on the objective lens, then leave the dust cover off of the telescope until all the moisture has evaporated. Once the telescope has completely dried out, place it back in its case.

### Cleaning Optical Surfaces

In general, your telescope will only need to be cleaned on a very minimal basis. Dust particles on the objective lens do not affect the optical quality of your refractor. Loose dust can simply be blown off with air, using a compressed air can or photographer's blower bulb. Any remaining dust is best left alone, unless the build up is extreme. Fingerprints and water marks should be cleaned from your telescope's objective lens. Any quality optical lens tissue and cleaning fluid specifically designed for multi-coated optics can be used to clean the telescope's objective lens as well as the lenses of your eyepieces and finder scope. Never use regular glass cleaner, or cleaning fluid designed for eyeglasses.

Before cleaning with fluid and tissue, however, blow any loose particles off the lens with a blower bulb or compressed air, or lightly brush the lens with a soft camel hair brush. Apply some cleaning fluid to a tissue, never directly on the optics. Wipe the lens gently in a circular motion, then remove any excess fluid with a fresh lens tissue. Oily fingerprints and smudges may be removed using this method. Use caution; rubbing too hard may scratch the lens! Clean only a small area at a time, using a fresh lens tissue on each area. Never reuse tissues.

### Specifications

Optical tube:	Seamless luminum
Optics design:	Achromatic (doublet)
Lens glass:	Crown and flint
Aperture:	80mm
Focal length:	400mm
F-ratio:	5.0
Lens coatings:	Fully coated (all air-to-glass surfaces MgF2 coated)
Tube baffle:	Yes
Tube length:	14-3/4" / 377mm
Dew shield outer diameter:	4-1/8" / 105mm
Weight:	2 lbs. 4 oz. / 0.94 kg
Focuser:	25" rack and pinion
Drawtube travel:	2-7/8" / 74mm
Focus lock:	Yes
Mounting bar:	Aluminum, Vixen style, 3-1/8" length

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## **One-Year Limited Warranty**

This Orion product is warranted against defects in materials or workmanship for a period of one year from the date of purchase.

This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid.

Proof of purchase (such as a copy of the original receipt) is required. This warranty is only valid in the country of purchase.

This warranty does not apply if, in Orion's judgment, the instrument has been abused, mishandled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights. It is not intended to remove or restrict your other legal rights under applicable local consumer law; your state or national statutory consumer rights governing the sale of consumer goods remain fully applicable.

For further warranty information, please visit [www.OrionTelescopes.com/warranty](http://www.OrionTelescopes.com/warranty).

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