Orbinar 400/70

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Here are the main parts of your telescope:

1. Telescope tube
2. Dew Shield
3. Eyepiece
4. Diagonal prism
5. Focuser
6. Mount lock knob
7. Aiming Control and lock
8. Tripod legs
9. Finder scope

Warning!

Do not aim your telescope at the sun, or anywhere near the sun! Instant or irreversible damage can occur, including blindness!
Do not let children use any telescope without adult supervision at any time the sun is above

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Assembly:

Remove all of the pieces from the box and lay them out so you can clearly see them. Check that you have all the parts. Keep the box for storage, or if you ever need to return the telescope for service.

Gently pull the aluminium tripod legs apart as far as they will go until the center leg braces sit flat, in a horizontal position.

The telescope tube has a mounting tab on its underside. Place this tab into the slot on top of the tripod. Tighten the knurled knob on the tripod head to hold the tube tightly to the tripod.

Screw the aiming control arm into the threaded socket at the rear of the mount.

Insert the diagonal prism into the end of the telescope tube.
Insert one eyepiece into the diagonal prism.
Remove the dust cap from the large end of the telescope.
Your telescope is now ready for use.

IMPORTANT:
Observation is only possible with the diagonal prism you first insert!

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Using your telescope:

This telescope is our best selling telescope and has been sold hundredfold worldwide. It even served as demonstration telescope on various astronomy events.

Astronomy is a great hobby, which nevertheless requires a certain knowledge about the topic.

Do not try and use your telescope by aiming through a window. Take it always outside. If you are inside and the window is closed, glass will introduce reflections und distortions. If the window is open the moving air currents of different temperatures will cause distortions.

Let your telescope adjust to the outside temperature. Your telescope will perform much better if the lenses and the air inside the tube are all the same temperature as the outside air. This process may take up to 1/2 hour if the temperature difference between inside and outside is extreme.
Try to find a location that is away from glaring lights. If you are in a large town or city you may want to try and find location in the country. Using a telescope in the skyglow of a town or city can cut its ability by half.

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Astronomical use:

IMPOPRTANT: You always need the diagonal prism before you insert other eyepieces.

Always start viewing with your 20mm eyepiece which you insert in the diagonal prism. The eyepiece will make it easier to locate objects. By the way you will notice that the stars when seen through your telescope still look like points of light. This is because they are so far away. Even the largest telescopes show stars only as bright points.

Once you have located an object and the view is clear you may wish to change to the high power eyepiece. You will notice that your object looks bigger, but not as bright as seen with the 20mm eyepiece. This is normal. If the viewing conditions are not good the high power image may not appear sharp or stable. If this happens, switch back to achieve higher power by inserting 3x barlow lens before either eyepiece.

Terrestrial use:

Your telescope is a dual purpose model. It can be used for astronomy, as well as for viewing objects on land.

IMPOPRTANT: You always need the diagonal prism before you insert other eyepieces.

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Care and cleaning of Optics:

WARNING: Improper cleaning of optical components may void the warranty!
Optical components of a telescope will over time get dirty. The amount of dirt and or dust collected onto a lens or mirror should only be removed with the utmost care and this is at times best left to people with experience in this procedure. A considerable amount of dirt or dust must be present on the optical surface before one will notice the effect visually.

1. Keeping the dust caps during storage of the telescope will reduce the amount of dust collected.

2. After using the telescope there might be dew condensation on the optical surfaces. When the telesecope is brought inside remove the dust caps und allow the moisture to evaporate naturally. Point the telescope downwards so as to minimize the collection of airborne dust.

3. Once the moisture is gone then replace the dust caps.

4. If you wish to remove dust from the lenses or mirrors you first should try using a can of filtered compressed air. Remove the dust cap and the dew shield in the case of the refractor style of telescope, or take the mirror cell out of the reflecting type. Once you are able to freely blow across the surface of the optics then begin by first pointing the can away from the piece and gently expel some air. This will remove any condensate in the air can lines and clear off dust that may have accumulated on the discharge tube. Next using short quick bursts of air carefully remove the dust particles.

DO NOT HOLD THE TRIGGER OF THE COMPRESSED AIR FOR TOO LONG AS CONDENSATE MIGHT BE BLOWN OUT ACROSS THE OPTICAL SURFACE.

The optics of your telescope should last a long time before they generally require major cleaning. By keeping the dust caps on and avoiding the temptation to handel the lenses or mirrors you will find that very little is need in the way of optical maintenance.

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What to look for in the sky:

The moon

The moon is the easiest target to find in the night. When it is in the full position, when the entire face is lit, then it bathes the night with a silvery light washing out the rest of the sky from all but the brightest objects. The best time to view the moon is actually not when it is full by rather anytime up to the first quarter, this is when the face appears to be half lit up.
The terminator on the moon, the dividing line between dark and light, shows the best features such as craters and mountains.

The planets

The planets are our solar system companions. These range in size from moon size rocky bodies to giant gas balls which could hold 1000 earths. To find the planets requires some information as to when they are visible. An astronomy magazine such as SkyNews or Sky and Telescope will give you the locations of the planets from month to month. Most people who have looked up at night have probably seen some planets but did not realize it. A planet, when it is well clear of the horizon will not twinkle as do the stars. They are resolved by the eye as tiny balls as opposes to the stars which are infinitely small points of light. The easiest planets to view are Venus, Mars, Jupiter and Saturn, Uranus and Neptune. Mercury is an object to look for but it is usually below the horizon and often is a challenge to find. Pluto is too small for most telescopes below 10'' so do not worry about finding it at this time.
Each of the planets has its own interesting views. Venus is covered with clouds. So all we see is an extremely bright light, the brightest next to the moon. However it goes through phases like our moon. In other words the planets surface will, as it travels around the sun, appear to have different amounts of it lit up. This gives the planet varying crescent shapes, as if a bite were taken out of it.
Beyond our solar system there lies a multitude of objects to be found. Galaxies, nebulae and star clusters abound.