OYPLA

# LEISURE

THANK YOU FOR YOUR ORDER

User Manual

Model Code: 4017

*Colour may vary

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# Professional Telescope

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# Safety Instructions

**Notice: Ensure you read and fully understand instructions before use**

While every attempt is made to ensure the highest degree of protection in all equipment, we cannot guarantee freedom from injury. The user assumes all risk of injury due to use. All merchandise is sold on this condition, which no representative of the company can waive or change.

- Never use your telescope to project an image of the sun onto any surface. Internal heat build-up can damage your telescope.
- Never use an eyepiece solar filter or a Herschel wedge. Internal heat build-up inside your telescope can cause these devices to crack or break, allowing unfiltered sunlight to pass through to the eye.
- If you are missing any of the parts and accessories listed in this manual, please contact cservice@oypla.com
- Only clean the product following the instructions provided in this booklet.
- Never leave your spotting scope unsupervised, either when children are present or adults who may not be familiar with the correct operating procedures of your spotting scope.
- Do not use this product for any purposes other than those described in this manual.
- Do not make modifications or alterations to this product.
- This product is not a toy, and is only to be used for its designated purpose.

# Warnings

⚠ **Never** aim your telescope at the sun, or anywhere in the close vicinity of the sun. Doing so can cause instant and irreversible damage to your eyes, including **blindness**.

⚠ **Choking hazard.** Small parts. Not suitable for children under 3 years.

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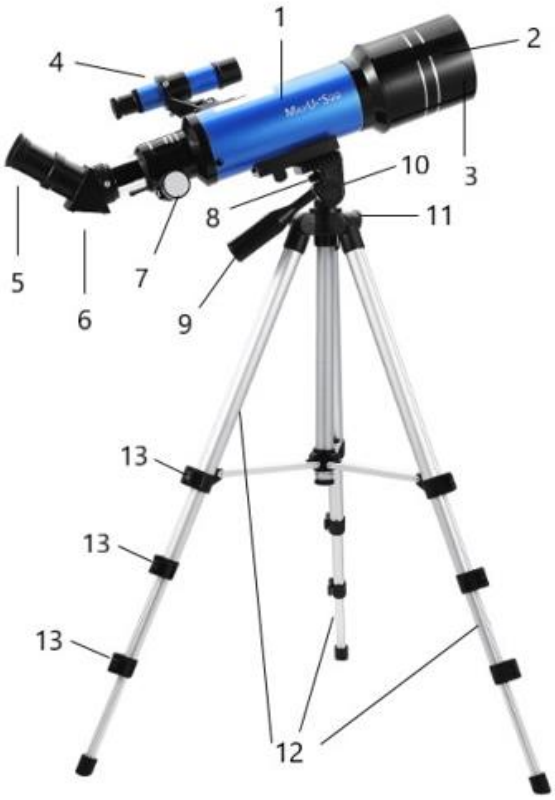
# Product Diagram




1 - Telescope Tube

2 - Objective Lens (Not in view)

3 - Dew Shield

4 - 5X24 Finder Scope

5 - Eyepiece

6 - 45° Diagonal Prism

7 - Focus Knob

8 - Mount Lock Knob

9 - Aiming Control and Lock

10 - Horizontal Motion Lock

11 - Vertical Height Lock

12 - Aluminum Tripod Leg

13 - Tripod Leg Lock

**Tripod**

**Telescope Tube**

**5X24 Finder Scope**

**45° Diagonal Prism**

**Eyepieces K25mm & K10mm**

**3X Barlow Lens**

# Assembly Instructions

Please refer to the instructions on the following page for instructions on how to assemble your product.

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1) Remove all of the pieces from the backpack and lay them out so you can clearly see them. Check that you have all parts.
2) Gently pull the aluminium tripod legs apart as far as they will go until the centre leg braces sit flat, in a horizontal position.
3) Place the telescope tube (1) on the platform of the tripod, then tighten the Mount Lock Knob (8) on the tripod head to hold the tube tightly to the tripod.
4) Locate and tighten the finder scope (4) on the body of telescope tube.
5) Insert the diagonal prism (6) into the end of the telescope tube.
6) Insert the K20mm eyepiece into the diagonal prism.
7) Remove the dust cap from the large end of the telescope tube.
8) Your telescope is now ready for use.
9) The Aiming Control and Lock (9) is used to aim at the target and lock up and down movement of the telescope tube. The Horizontal Motion Lock (10) is used to lock the horizontal movement of the telescope tube. The Vertical Height Lock (11) is used to lock the vertical height of the middle tube of the tripod.

### About Magnification

The magnification power of a telescope indicates how much an image is enlarged or how big and close it appears to the viewer. The focal length of the eyepiece, combined with the focal length of the telescope, determine the magnification power. To calculate the power of your telescope with any particular eyepiece, simply divide the focal length of the telescope (This telescope is 400mm) by the focal length of the eyepiece (indicated in “mm” on the eyepiece collar).

For example:

$$\frac{\text{400mm focal length (tube)}}{\text{10mm focal length (eyepiece)}} = \text{40X magnification}$$

For this telescope, the following magnification factors are obtained using the 3X Barlow lens and interchangeable eyepieces:

| **Eyepiece and optical power limit chart** | | |
|---|---|---|
| Eyepiece | Magnification | Magnification with 3x Barlow lens |
| K25mm | 16X | 48X |
| K10mm | 40X | 120X |

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# Operating Instructions

Please refer to the information below for instructions on how to operate your product.

## USING YOUR TELESCOPE

1) Take your telescope outside. Do not try and use it by aiming through a window. If the window is closed the window glass will introduce reflections and distortions. If the window is open the moving air currents of different temperatures will cause distortions.
2) 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.
3) 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 a location in the country. Using a telescope in the skyglow of a town or city can cut its ability by half.
4) Always start viewing with your K25mm eyepiece. This is your low power eyepiece and its wide viewing field will make it easier to locate objects. By the way, you will notice that 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.
5) Once you have located an object and the view is clear you may wish to change to the high power eyepiece K10mm. You will notice that your object looks bigger, but not as bright as seen with the K20mm 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 the K20mm eyepiece and try the high power eyepiece another night.

NOTE: When using the diagonal mirror, objects will appear right-side up in your telescope, but reversed, like a reflection in a mirror. This is normal, and does not indicate a defect.

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### Barlow Lens

The Barlow lens increases the magnification factor provided by the telescope. A 3x Barlow lens will therefore triple the telescope's magnification power. Consequently, it is possible to triple a 40x magnification factor to increase it to 120x using a 3x Barlow lens. The highest magnification factor Barlow lens should only be used for very bright, large objects such as the moon and the brightest planets or during night time observations when conditions are optimal.

NOTE: If you wish to use the Barlow lens, remove the diagonal prism from the telescope, insert the Barlow lens to the focusing tube, then fit the required eyepiece directly onto the Barlow lens. Focusing is then performed in the usual way.


### Finder Scope Adjustment

As the telescope only offers a limited field of view, it may be fairly hard to locate a given star or planet for observation. This is why the telescope is fitted with a cross-hair finder scope for orientation purposes. We recommend performing the following adjustments in daylight.

1) Insert the eyepiece with the lowest magnification factor into the diagonal prism. Observe an easily recognizable fixed object that is no more than 300 meters away. Adjust and focusing the telescope until the object is located right in the centre of your field of view, then immobilize the telescope.

2) Now look through the finder scope. If the object seen through the telescope cannot be seen, slacken the adjusting nut and move the finder scope until you can see the object. Then tighten down the adjusting nut making sure that the object remains visible in the centre of the finder scope.

### Terrestrial Viewing

Your telescope is a dual purpose model. It can be used for astronomy as well as for viewing objects on land. For many other telescope, when you observe a terrestrial object on land it appears upside down. This telescope comes with a correct-image diagonal prism so things seen through the telescope appear right-side-up and correct left-to-right.

45° Diagonal Prism

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# Cleaning & Maintenance

Please refer to the instructions below in regards to cleaning and maintaining your product.

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 any dust caps on during storage and transport will reduce dust collection.

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

3.) Once all moisture has evaporated, replace the dust caps.

4.) Filtered compressed air may be used to remove surface dust from lenses and mirrors. Remove the dust cap and the dew shield. Once removed, point the can away from the lens and gently expel some air and any condensation or dust that has accumulated on the discharge tube. Spray the lens or mirror with short bursts of air to carefully remove the dust particles. DO NOT HOLD THE TRIGGER OF THE COMPRESSED AIR CAN FOR EXTENDED PERIODS BECAUSE PROPELLANT FROM THE CAN MIGHT ESCAPE AND DAMAGE THE OPTICAL SURFACE.

If, after several attempts, you cannot remove the particles, take the telescope to an optical professional for cleaning.

If you keep the dust caps on your telescope when it is not in use and avoid handling the lenses or mirrors, only minimal optical maintenance of your telescope should be required. Extensive cleaning is usually only necessary every few years.

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# Additional Information

## WHAT TO LOOK FOR IN THE SKY

There is a whole universe of objects you could view at night, so where do you start? We recommend starting with the most prominent objects first.

### The moon

The moon is the easiest target to find at night. When the moon is in full position, it bathes the night with a silvery light that washes the sky of all but the brightest objects. The best time to view the moon is not when it is full, but rather when it is less than half full. The dividing line between dark and light on the moon, called the terminator, shows the best detail in the craters and mountains.

### The planets

The planets, our solar system companions, range in size from moon-size rocky bodies to giant gas balls, which could hold Earth 1000 times over. To find the planets, you will need information about their times of visibility. An astronomy magazine will give you the locations of the planets, as they change position from month to month. The Internet is also an excellent source of information, starcharts, maps, and more! The popular and more familiar constellations often provide the easiest landmarks to help find the planet's locations and paths of orbit. Most people have looked up at night and seen some of the planets without even realizing it. A planet appears like a bright star but does not twinkle like a star; it will look like a tiny ball. Venus, Mars, Jupiter, and Saturn, are the easiest planets to view. Mercury is dimmer, usually below the horizon, and is more challenging to find.

Each of the planets provides interesting views. Venus is covered with clouds so all that is visible is an extremely bright light, the brightest next to the moon. Venus, like the moon, goes through phases, however. As it travels around the sun, different areas of the planet's surface are illuminated, producing crescent shapes of varying size. Mars is the red planet. When it is above the horizon, it is noticeably red and stands out like a beacon in the night sky. The apparent brightness of Mars varies as the planet orbits around the sun and throughout its period of visibility, it will brighten and dim depending on how near or far it is from Earth.

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Jupiter is the largest planet in our solar system and the second brightest next to Venus. Jupiter has many moons, four of which are often visible through your telescope, when viewing conditions permit. As you watch them throughout the evening, you will see that they change position relative to each other and to Jupiter. It is possible with careful planning to actually see one of the moons disappear either in front of or behind Jupiter as it orbits around the planet.

Saturn, the second largest planet, is not as bright as Jupiter and so its moons are not as visible through small telescopes. The large rings that encircle Saturn are spectacular to observe, however. The planet and its rings appear pale yellow.

**Specification**

Aperture: 70mm
Focal Length: 400mm
Finder Scope: 5X24
Eyepiece: 1.25" K10mm, K25mm
Accessories: 3X Barlow lens
Full Size Adjustable Aluminium Tripod

## HAVE A QUESTION ABOUT YOUR PURCHASE?

Our dedicated customer services team are happy to help. Contact them via:

**Telephone**: 020 3600 22 55
**Email**: cservice@oypla.com
**Live Chat**: WWW.OYPLA.COM

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