

# ST★RGAZER

## TELESCOPE

### SG40070



[www.hsdonline.co.uk](http://www.hsdonline.co.uk)

## Introduction

### General Information

Please read the entire instruction manual before using the product and then save it for future reference. We reserve the right for any errors in text or images and any necessary changes made to technical data. If you have any questions concerning technical problems please contact our Customer Services on 0800 091 3171.

### First Time Telescope Users Guide

Congratulations on the purchase of your **Stargazer telescope** - an optical instrument that will help you explore our unique Universe. Simply enjoy views of the moon, planets, cloud formations and nature. Achieve your astronomy goals. This instruction leaflet will guide you through a simple set up and show you how to use a telescope.

**Before we start, please digest this important warning:** Never at any time look or zoom in at the Sun through any telescope. Parents please make sure your children are aware of this point and that It can just take a few seconds to damage your eyesight.

## Safety Instructions

General safety instructions for the **Stargazer Telescope**:  
Warning: Read all the instructions. Failure to comply with the following instructions can lead to serious injury.

**SAVE THESE INSTRUCTIONS.**

The term "telescope" in the following text refers to your Stargazer Telescope.



**NEVER LOOK DIRECTLY AT THE SUN THROUGH A TELESCOPE WITHOUT AN OBJECTIVE SOLAR FILTER!**

**NEVER LEAVE THE TELESCOPE UNSUPERVISED, EITHER WHEN CHILDREN ARE PRESENT OR ADULTS WHO MAY NOT BE FAMILIAR WITH THE CORRECT OPERATING PROCEDURES OF YOUR TELESCOPE.**

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## Setting up: Step-by-step Guide



1. Loosen the tripod levers and adjust to the required height.



2. Install the tripod accessory platform.



3. Align the screw hole, under the main scope, to the tripod screw.



4. Tighten the tripod screws to fix the main scope tube.



5. Install the finder-scope.



6. Tighten the screws to fix the finder-scope.





7. Install the Zenith mirror into the end of the main scope tube.



8. Tighten the screws to fix the Zenith mirror.



9. Insert the eyepiece (25mm eyepiece is recommended first). Please note, prior to inserting the eyepiece you can insert the Barlow Lens into the Zenith Mirror, this will improve your magnification 3x.



10 a. Altitude control handle for up/down adjustments (twist to unlock/lock)

10 b. Locking dial for left/right adjustments



11. Remember to remove the lens dust protectors before observing.



12. To focus on an object turn the focus wheel until image becomes clear



## Technical Specifications

**STARGAZER**

# TELESCOPE

## SG40070

Optical System:	Refraction
Calibre:	70mm
Focal Length:	400mm
Eyepiece:	10mm/25mm
Barlow Lens:	3 times
Multiplying Power:	16x/40x/48x/120x
Finder-scope	5x24
Zenith Mirror:	48° full image Zenith Mirror
Optical Coating:	Multi-layer broadband green film
Resolution:	≥3.1
Viewing Angle:	2°21'
Connection Mode:	Platform Screw
Tripod:	Aluminium alloy reinforced tripod

## Start using your Stargazer telescope

### Practice during the day:

Please remove the lens dust protectors first and then fit the 25mm eyepiece, we always recommend for first use, and practice to use the 25mm eyepiece. Point the telescope using the finder-scope to a distant object. Twist the altitude control handle (see fig.10a) to move the telescope up and down and unscrew the locking dial (see fig. 10b) on the opposite side to move the telescope left to right. Once the target is found twist the altitude control handle and tighten the the locking dial to secure the telescope to your target.

It is important to practice this during daylight so that you get familiarised with the telescope operation and how to secure the telescope into position when you have chosen your target, practice makes perfect. A good target is a church tower, distant tree, a chimney or a distant mountain peak if possible. Once locked into position rotate the focuser dial so that the focuser tube moves in and out until you find the best view possible, you may still need to adjust the telescope slightly if it moves out of position of your chosen target, this is normal and adds to the excitement and practice of finding your target perfectly. We suggest that you start by rotating the focuser all the way in and slowly rotate it out until you find the perfect view of your chosen object. Always practice first with the 25mm eyepiece. Remember practice makes perfect.

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## The Finder-scope:

The Finder-scope is a valuable part of the telescope when finding your chosen object. To operate properly, the telescope and the finder-scope, should be aligned. The chosen object through the finder-scope has a much broader field of view than that of the telescope. Aligning your chosen image means matching the telescope's image as seen through the eyepiece to the chosen image at the centre of the finder-scope. This way when looking through the finder-scope you know that the telescope is pointing near exactly to the same point as the finder-scope. There is nothing wrong with your finder scope if images appear upside down and reversed left to right. This is a normal function of a finder-scope.

## Barlow Lens:

The Barlow lens is a very interesting device. It is a negative lens that multiplies the telescopes focal length. This unit is supplied with 1 piece Barlow Lens which offers 3 x Magnification. Meaning when using in conjunction with the 10mm or 25mm eyepiece it will increase your magnification by 3 times. The barlow lens is fitted between the Zenith mirror and the 10mm or 25mm eyepiece and usually best used at night.

## Zenith Mirror:

The Zenith Mirror is the right-angle prism or a plane mirror to reflect the rays from an object near the zenith to the side of a refracting telescope for more convenient observation.

Please Note: If you wear corrective lenses (specifically glasses) you may want to remove them when observing with an eyepiece attached to the telescope. If you have astigmatism then corrective lenses should be worn at all times.

## Astronomer:

On your journey to becoming an established Astronomer it is important to study readily available astronomy magazines or study the internet which will give you valuable information, updates and the locations of the planets and best viewing dates and times as they change position from month to month.

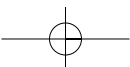
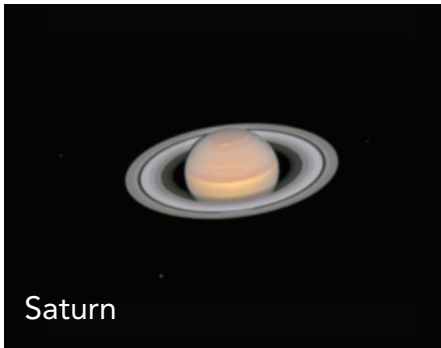
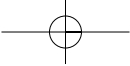
## Observing Tips:

Try to view objects that are high in the sky if possible. Waiting until the object rises well above the horizon will provide a brighter and crisper image. Objects on the horizon are viewed through several layers of earth's atmosphere. Ever wonder why the moon appears orange as it sets on the horizon? It's because you are looking through a considerable more amount of atmosphere than you would directly overhead. (Note: If objects high in the sky are distorted or wavy, you are probably viewing on a very humid night and can be frustrating.) During nights of unstable atmosphere and overcast conditions, viewing through a telescope can be frustrating, if not impossible, at times. Astronomers refer to crisp, clear nights as nights of "good viewing" and will study the internet and weather forecasts for the perfect night.

## The Eight Planets:

In our solar system there are 8 planets, of which 4 will show some form of surface details, being Mars, Saturn and Jupiter and of course our Moon. Study the internet regularly for best viewing dates when these planets will be at their best for viewing. Our moon is the easiest observing target. It will always look approximately the same through low magnification as any telescope. But larger instruments will allow you to zoom in to reveal the real beauty of our moon, showing the craters and mountains. Study when the moon will be at the largest and clear sky's for the best results. Jupiter and Saturn are next. Saturn's rings can be seen by all but the smallest telescopes (except when the rings are edge on). It is also possible to see bands within Jupiter's atmosphere. Mars can be seen on a good night and will show the largest and most prominent features on the Martian surface, although the image will be very small and the resolution too low to reveal much detail.





## Troubleshooting and frequently asked questions

### Q: I can't get to focus my telescope, only get a bright circle.

A: Make sure you have inserted the diagonal Zenith mirror and an eyepiece (start by the lowest power eyepiece – 25mm).

### Q: I use the finder-scope to point to objects but I always miss the target.

A: You probably need to realign the finder-scope on the target if you accidentally nudge the telescope. After and learning how to tighten the telescope into position of the target you will find you improve on this.

### Q: When I use the barlow lens and the 10mm eyepiece the image is so dark I can't hardly see anything.

A: It depends on how stable the atmosphere is, too much turbulence causes image distortion. The more magnified the image is the darker it gets.

### Q: The stars only appear as points in the telescope, is this normal?

A: This is normal. Stars will always appear only as points, even in the largest telescopes in the world. It is more interesting for beginners to observe two-dimensional objects, such the moon or planets. Once you find these, you will be able to start learning about the astronomical calendar.

### Q: I would like to observe the Sun. How can I do it?

A: An appropriate specialist solar filter, placed over the objective, is essential for observing the sun. These are available as plastic foil or glass filters (not supplied by us). They allow only a tiny and harmless fraction of sunlight into the telescope's aperture. When securely positioned over the objective, they allow observation of the sun in complete safety. Eyepiece solar filters should be avoided at all costs as they are considered unsafe.

**NOTE: NEVER LOOK DIRECTLY AT THE SUN THROUGH A TELESCOPE WITHOUT AN OBJECTIVE SOLAR FILTER!**

### Q: I can't see anything when I look through my telescope. Did I do something wrong?

A: Check you have removed all the lens dust caps. All Telescopes are only suitable for astronomical observing and when used outside at night when the sky is clear is when you achieve the best results. Observing from inside a house through a window or during the day is not usually best practice unless practising and learning how to use the telescope.

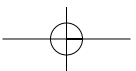
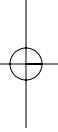
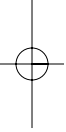


## Cleaning and Storage:

A good storage place should be dry, dust-free, secure, and large enough to get the telescope in and out easily. Ideally, store the telescope in its storage bag when not in use. Always fit the lens covers when not in use.

### For Basic Cleaning:

1. Use suitable compressed air to blow off loose dust and large particles.
2. Use a lens cleaning solution for telescope lenses to gently lift off any remaining dirt or smudges.
3. Use the solution to wet soft, plain tissue or cotton balls for larger optical surfaces or cotton swabs for small parts like eyepiece lenses.
4. Make sure the lens protection caps are fitted and gently wipe the body over with a soft cloth.



## Environmental Responsibilities



Meaning of crossed-out wheeled dustbin:

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local council for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain damaging your health and well-being.

When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal free of charge.

## SERVICE WARRANTY

Hygiene Supplies Direct guarantees the product free from defects in materials and workmanship for a period of 1 year from date of purchase.

Should this unit be operated under conditions other than those recommended in the manual or indicated on the unit, or any attempts made to service or modify the unit, then the warranty will be rendered void. The product you buy may sometimes differ slightly from illustrations. This warranty is in addition to, and does not affect, your statutory rights.

If you have any problems with this product, please call our Help Desk on [0800 091 3171](tel:0800 091 3171) or email [sales@hygienesuppliesdirect.com](mailto:sales@hygienesuppliesdirect.com)

YESSS Electrical Ltd, Normanton, WF6 1TN declares that the Stargazer Telescope is exclusively manufactured and imported for Hygiene Supplies Direct Ltd.