

# COLEMAN® TELESCOPE

**C36050**



## INSTRUCTIONS & OWNER'S MANUAL

*Please retain the packaging and instructions for further reference, as they contain important information.*

## INTRODUCTION:

***Congratulations*** on your purchase of the precision crafted C36050 COLEMAN telescope. With the proper care and handling of your telescope, you will enjoy years of viewing pleasure.

As an astronomical device, the C36050 telescope has been designed for both a beginner and advanced star gazer. It provides views of the moon and planets, as well as dozens of galaxies, star clusters, and nebulae.

As a terrestrial (land) telescope, the C36050 brings the world's natural wonders closer. It delivers superb scenic views and allows for observation of animals and landscapes from a distance. To obtain the best performance from your telescope, please carefully read this manual.

***WARNING! DO NOT VIEW THE SUN THROUGH A TELESCOPE!  
SERIOUS INJURY TO THE EYES MAY OCCUR***

***For use by an adult or under the supervision of an adult.***

# PARTS LIST FOR C36050 Telescope:



## INCLUDED PARTS:

1. Heavy Duty Carrying Case
2. Tripod With Center Brace
3. Azimuth Mount
4. Hybrid 90° Diagonal Prism
5. Focusing Tube
6. Focusing Knobs
7. Telescope Optical Tube
8. Eyepiece
9. Telescope/ Tripod Locking Screw
10. Eye Pieces:
  - a. H6
  - b. H20
  - c. 1.5x Erecting Lens

## ACCESSORIES NOT PICTURED:

1. Moon Filter
2. Astrowatch™ Astronomy Software



**WARNING!**  
CHOKING HAZARD



ASTM



*Specifications, colors, packaging, and/or contents of this manual are subject to change without notice.*

## ASSEMBLY:

- 1) Carefully remove all parts from the box and carrying case and lay them on a table, floor or other flat surface in order to take an inventory of all the pieces.
- 2) Spread the tripod legs apart to stand the tripod upright. Make sure that the tripod head is properly leveled.

(See Figure 1)



(Fig. 1)

- 3) Attach the telescope optical tube to the tripod by placing the telescope into the azimuth mount, and securing it into position by tightening the telescope/ tripod locking screw. Do not over tighten.
- 4) Insert the H20 eyepiece into the Hybrid 90° diagonal prism (See Fig. 2). Tighten the small set screw to hold the eyepiece securely in place. Do not over tighten.



(Fig. 2)

## 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 (360mm) by the focal length of the eyepiece (indicated in “mm” on the eyepiece collar).

Example:  $\frac{360\text{mm focal length (tube)}}{6\text{mm focal length (eyepiece)}} = 60\text{x magnification power}$

The 1.5 erecting lens and interchangeable eyepieces provide the following magnification values:

<b>EYEPIECE</b>	<b>POWER</b>	<b>Power With 1.5 Erecting Lens</b>
H20	18x	27x
H6	60x	90x

When you are looking at astronomical objects, you are looking through a column of air that reaches to the edge of space, and that column of air seldom stays still. Similarly, when viewing over land (terrestrial viewing), you are often looking through heat waves radiating from the ground, homes, buildings, etc. Your telescope may be able to provide very high magnifications, but you often end up magnifying all the turbulence between the telescope and the object you wish to view. The level of magnification required depends on the object.

Optimal performance is obtained if the magnification is typically not more than about 30x for every 10mm of objective lens diameter. Another good rule of thumb is that the usable magnification of a telescope is about 3x per mm of the aperture under good conditions. Thus, magnification of around 150x or less is ideal for a telescope with a 50mm front objective lens diameter (aperture) and is best for observing most celestial objects. A lower magnification power and a wider field of view are advisable for observing galaxies and nebulae. The highest magnification power should be used for highly detailed observations of the moon, Jupiter, Saturn, or any object that is quite bright.

## **ABOUT YOUR REFRACTOR TELESCOPE :**

The C36050 telescope uses a refractor optical design. Refractor telescopes consist of glass element lenses that work together to pull an image into focus. Refractors are top-notch and admired for exhibiting high contrast, aberration-free views. A refractor design is a solid and user friendly telescope choice for beginners to the well versed.

By deciding on a refractor telescope you will be introduced to some of the strongest optics for night sky viewing. The refractor is a highly-regarded telescope designed to provide easy usage matched with low maintenance operation.

## **USING YOUR TELESCOPE:**

- 1) It is recommended to use your telescope outside or at times through open windows. Your view can be distorted by reflections in the glass of a closed window or at times by air currents of differing temperatures passing through an open window.
- 2) Let your telescope adjust to the outside temperature. Your telescope will perform much better if the temperature of the mirrors, eyepiece lenses, and the air inside the tube are the same as the outside temperature. It may take up to 30 minutes to equalize the temperatures when the difference in temperatures is extreme.
- 3) Find a location far from glaring light. If you live in an urban area, your viewing will probably improve the farther you move away from the city's lights. The sky glow of a town or city can dramatically reduce the telescope's performance and viewing capabilities.
- 4) Remove the dust cap from the end of the telescope. The open end (50mm side) of the optical tube is pointed toward the subject you wish to observe.
- 5) Begin your viewing session by using only the H20 eyepiece. It will give you the widest angle and the brightest, sharpest views. To adjust the angle of the telescope, loosen the telescope mount locking screw. If you wish to adjust the horizontal position of the telescope, move the telescope gradually in small increments from left to right, or vice versa. For vertical adjustments, simply angle the telescope up or down. When done, tighten the telescope/ tripod locking screw.

When possible, avoid sudden temperature changes, as the moisture in the air will condense on the lenses. Should this occur after bringing your telescope indoors, remove the dust caps and allow the moisture to evaporate naturally. Point the telescope downward to minimize the collection of airborne dust. Once all of the moisture has evaporated, replace the dust caps.

### **A NOTE ON TERRESTRIAL VIEWING:**

You may notice that when you observe a terrestrial object on land or water it appears upside down.

To correct this, a 1.5x Image Erecting Lens may be used with your telescope. This accessory is inserted in the eyepiece holder of the telescope between the eyepiece and telescope. With the image erecting lens, objects will appear in their proper orientation for terrestrial/optical tube and land observation.

### **CARE AND CLEANING OF THE OPTICS:**

The optical components of a telescope will get dirty over time. Dirt or dust on a lens should be removed with the utmost care. A considerable amount of dirt or dust would have to accumulate on the optical surface before your view would be compromised.

- 1) Keeping dust caps on during storage and transport will reduce dust collection.
- 2) Condensation may collect on the optical surfaces when the telescope is not in use. Remove the dust caps and allow the moisture to evaporate naturally. Point the telescope downward to minimize the accumulation 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 the lenses. Remove the dust cap. 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 with short bursts of air to carefully remove the dust particles. Clean eyepieces and optical surfaces with special lens paper only. Eyepieces should be handled with care. Avoid touching optical surfaces.

***DO NOT HOLD THE TRIGGER OF THE COMPRESSED AIR CAN FOR EXTENDED PERIODS BECAUSE PROPELLANT FROM THE CAN MIGHT ESCAPE AND DAMAGE THE OPTICAL SURFACES.***

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.

## **WHAT TO LOOK FOR IN THE NIGHT 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 included Moon Filter will thread directly onto the bottom of most eyepieces. Think of a Moon Filter like sunglasses for your telescope. Moon filters cut down glare and bring out more surface detail and provide better contrast.

### **• The Planets**

The planets, our solar system companions, range in size and substance from moon-size rocky bodies to giant gas balls, which could hold Earth 1,000 times over. To find the planets, you will need information about their times of visibility. The included Astronomical Software CD or 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, offering star charts, 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 the sky at night and seen some of the planets without even realizing it. A planet looks like a bright star but does not twinkle like a star does; it looks like a tiny ball. Venus, Mars, Jupiter, and Saturn are the easiest planets to view. Mercury is dimmer, usually below the horizon, and 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. However, Venus, like the moon, goes through phases. As it travels around the sun, different areas of its surface are illuminated, producing crescent shapes of varying sizes. 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 look brighter or dimmer depending on its distance from Earth.

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. Another great feature of Jupiter is its cloud belt. Jupiter is alive with weather activity and its clouds have formed over time into belts visible through telescopes in the right atmospheric conditions.

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. The major division in the rings, the Cassini division, is possible to see if you keep the telescope firmly in position.

Uranus and Neptune are the last of the solar system's gas giants. They do not provide as spectacular a sight as Jupiter or Saturn, but are nonetheless rewarding to see.

*Beyond our solar system there are many more objects to be found. Galaxies, nebulae, and star clusters abound!*





### **ABOUT THE INCLUDED ASTRONOMY SOFTWARE CD:**

Navigate the heavens like the professionals, Astrowatch™ Astronomy Software makes an ideal companion to best enjoy your new telescope.

The intuitive user friendly interface always keeps you grounded while exploring the wonders of the night sky. Point and click to learn the names and coordinates of celestial objects. Quickly create observing lists of the interesting objects that are visible from your backyard with the What's Up? feature. Print finder charts to assist locating those faint, fuzzy objects in the eyepiece. Zoom in for up-close views of the planets, including the Moon, and Jupiter and Saturn's major moons. Watch animated tours demonstrating fascinating astronomical phenomena.

A descriptive digital user guide offers helpful tips, and in-depth descriptions on hundreds of celestial wonders offer hours of edutainment for you and your family.

## **FREQUENTLY ASKED QUESTIONS:**

### **1) How far can I see?**

If you stand outside and look up at the night sky on a clear evening, you can see hundreds of stars without the aid of your telescope. The telescope is a light-gathering instrument that magnifies the view—providing significantly more detail and unveiling more stars, nebulae, and celestial objects. With the aid of a telescope, you will be able to enjoy exciting views of Saturn’s rings, Jupiter’s major moons, the Orion Nebula, and much more.

### **2) Why can’t I see anything through my telescope?**

If you see only gray or black when looking through your telescope, even after searching for an object to view, it is very likely that you are using an eyepiece that is too powerful. To solve this problem always start with the lowest power eyepiece at first, and only insert the higher-power eyepiece after you have located an object.

### **3) When I use my high-power eyepiece, everything looks much darker. Why?**

As magnification in a telescope increases, brightness diminishes. Conversely, brightness increases when magnification is reduced. If an image appears too dark or unclear, use a lower-powered eyepiece. Views of small, bright objects are superior to those of large, dark, or blurry ones! Atmospheric conditions, air currents, as well as light and air pollution also affect viewing quality.

### **4) As I look through my telescope, why do objects in the sky appear to move?**

The constant rotation of the Earth makes things appear to move. Lower-power eyepieces will reduce this effect of movement considerably and allow you to observe an object for a longer duration before you have to readjust your telescope.

### **6) Whom do I contact for more information and product questions?**

For any inquiries, parts, warranty or service information, please contact:



**Phone:** 800-441-1100  
212-947-7100

**e-mail:** [customerservice@elitebrands.com](mailto:customerservice@elitebrands.com) **or** [support@elitebrands.com](mailto:support@elitebrands.com)

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