BARLOW BOB'S CORNER

SUNSPOTTER SOLAR TELESCOPE

By Barlow Bob

Galileo demonstrated that the Sun rotated, by observing sunspot movements. However, his observation of imperfections on the surface of the Sun proved that the Sun was not perfect. This statement angered the Roman Catholic Church during the Renaissance. The church stated that God was perfect. Therefore, the Sun was perfect, without blemishes. Unfortunately, he lost his sight caused by illness. He could have lost his sight by observing the Sun through his telescope without a safe solar filter. However, there is now a safer way to observe the Sun.

The Sunspotter solar telescope can be used to safely recreate Galileo's solar observation. You can confirm this rate of rotation and observe that the number of sunspots change over the solar sunspot cycle. The Astronomical League has a Sunspotter observing award.

The Sunspotter product is the safer solar telescope for observing sunspots.
This unique solar telescope projects an image of the solar surface on a small piece of paper. Sunlight passes through a lens and is reflected off three mirrors and passing through an eyepiece that projects the solar image on to a small piece of paper. A group of people of all ages can observe the solar image at the same time.

The Sunspotter creates an image of the Sun by eyepiece projection. After you align it with the Sun, light passes through the 61.7 mm objective lens, stopped down to 57.0 mm. It is reflected off of three mirrors into the 12.5 mm FL field lens.

A 3.5-inch image of the Sun, magnified 56 times, is projected on to a white viewing screen. You can observe features on the Sun, in all wavelengths of light, as they would appear in a small refractor. The triangle shaped wooden telescope sits in a semicircle cradle. You can observe the Sun from 0 to 30 degrees. When you reverse the telescope in the cradle, you can observe the Sun from 30 to 90 degrees.

This wooden folded-keplerian telescope is constructed using techniques found in a fine piece of furniture. Perhaps the manufacturer should consider selling this product in a furniture gallery store. The Sunspotter appears to have been created by Al Nagler, in a seventh grade wood shop class, while the other students made salad bowls.

The Sunspotter was created for use in a classroom, for a short period of time. However, to use it longer requires the ability to track the motion of the Sun across the sky. Upon arrival at a solar observing session, I set up a small canvas camp table on level ground. A two foot square thick piece of sturdy plastic or plywood is placed on the table, to create a stable platform. A television swivel stand sits on this platform. The Sunspotter is placed on the swivel stand, to create a simple mount to manually move the solar telescope to track the movement of the Sun.

You do not notice the movement of the Sun across the sky, over a short period of time. However, you do notice the movement of the Sun at sunrise or sunset, against the horizon. Kids of all ages are fascinated by projected image of the Sun in the Sunspotter, dancing across the white viewing screen. Most people are surprised to see how fast the solar image moves across the viewing screen, caused by the rotation of the Earth under the Sunspotter. Students and teachers have taken a video of this movement of Earth for science projects.

It is very easy to align this cleverly designed solar telescope with the Sun. There is a gnomon, consisting of a short wooden rod on the front, above the objective lens. Point the front of the telescope in the direction of the Sun. Move the

telescope until this gnomon no longer produces a shadow on the front of the telescope. Two points of light are projected on the back inside through two small holes on the right and left of the objective lens. Two small circles are drawn on the rear inside. When you align the tow point of light inside of these circles, an image of the Sun is projected on the white viewing screen under the eyepiece.

This product is extremely easy to operate. I shared the Sunspotter at a Boy Scout summer camp. While a father was reading the operating instructions on the back of the Sunspotter, his six-year old son aligned the telescope. The son watched the previous scouts align it.

YOU DO NOT GET A SECOND CHANCE IN SOLAR ASTRONOMY!

How much are your eyes worth?

While the Sunspotter is the safer solar telescope, it is also the cooler lunar telescope. You can also use the Sunspotter as a Moonspotter, to observe The Moon, form first quarter to last quarter phase. I used this product to observe a lunar eclipse.

The wooden Sunspotter solar telescope has an extremely unusual shape. The central part has a triangular shape, containing an objective lens, three mirrors, and an eyepiece. The mount has a crescent shape with feet on the bottom.

Manufacturers of cases for astronomy telescopes and accessories do not make a padded case for the Sunspotter, with its unique shape. This product was shipped in a large cardboard carton, with a hard fitted foam interior. The Sunspotter fits securely inside of this shipping carton.

I carried the Sunspotter into a music store. People who are not amateur astronomers look at you funny, when you carry a weird looking wooden object into a music store. I told the store employee that I was looking for a large padded drum case to hold this wooden telescope. The employee showed me several cases. The Sunspotter fit perfectly into one case.

When I placed the Sunspotter on its side in the bottom of the drum case, there was additional empty space in the top. I bought a round foam pad in a housewares store. I placed this pad over the Sunspotter. I store clothing in the top half of this case.

Since I now store various small cases containing the parts of my other solar telescopes in the large drum case, I had to find another case to hold the Sunspotter. I left the Sunspotter in its shipping carton. However, this large box is difficult to carry from my vehicle to the observing field of an event.

The bedding sales area of a local retail store had comforters on display stored in heavy plastic cases with zippers. These large plastic cases appeared to be the same size as the Sunspotter shipping carton. I considered buying a comforter, just to get this plastic case.

While observing the Sun with Chuck and Carol Higgins, I mentioned my idea to buy a comforter to get a plastic case to hold the Sunspotter. They gave me an empty heavy duty plastic comforter case. The Sunspotter shipping carton fit perfectly inside of this plastic case with a handle.

At an art supply store, I bought a small and large portfolio case, used to carry art works. The television swivel stand and two-foot square piece of heavy plastic or plywood fit into these cases. I now can protect the Sunspotter and easily carry it plus the mount at a solar star party.

This product was created for the vertically challenged. It has been rumored that elves us the Sunspotter at the North Pole. However, they can only use it for six months, during summer vacation

I set the Sunspotter at the annual NEAF Northeast Astronomy Forum in Suffern, New York. Amateur astronomers were fascinated with this product. Some ATM people photographed it, or used a video camera. Others took measurements of made drawings, of how it was constructed. They probably stopped at Home Depot on the drive home to build their own wooden Sunspotter.

Many years ago, a NEAF Exhibitor thanked me for demonstrating my Sunspotter at this trade show of amateur astronomy related products. He brought three Sunspotter telescopes to NEAF. However, he did not display these. He did not think that any NEAF attendees would buy this expensive product. He said that he sold all of his Sunspotter telescopes in a short period of time to NEAF attendees who observed the Sun in my Sunspotter outside. Unfortunately, Barlow Bob never received a sales commission at NEAF. Members of our NEAF solar Star Party staff and I have probably caused many NEAF attendees to buy many solar products at the show.

The Sunspotter
Ref: SKE:654-0145
price: USD $349.95.
For additional information contact:

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If Galileo had used the Sunspotter, he still would have been in trouble with the church. However, he could have retained his eyesight.