

Hi Don,

This email is from the Stillwater Stargazers in Troy, Ohio in regard to your request for library telescope “hacks”

The club has installed 9 telescopes in 8 libraries in Ohio. One of the telescopes is an Orion Starblast, six are Meade Lightbridge Mini-130s and two are Zhumell - Z130's. Although we have 3 different scopes, many of the “hacks” are common among them. Since labels were already mentioned we'll start with that.

Labels



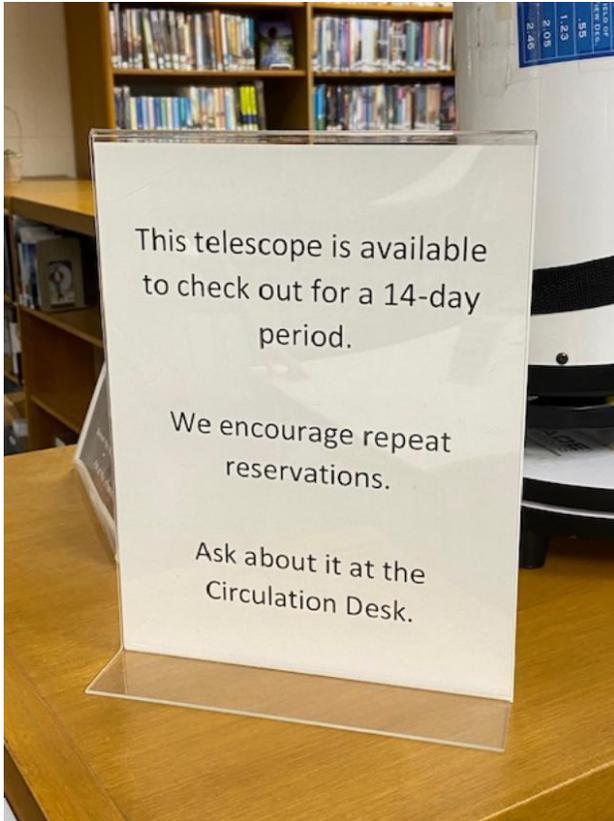
The usual warning about leaning on the telescope. And a promotion for our club!



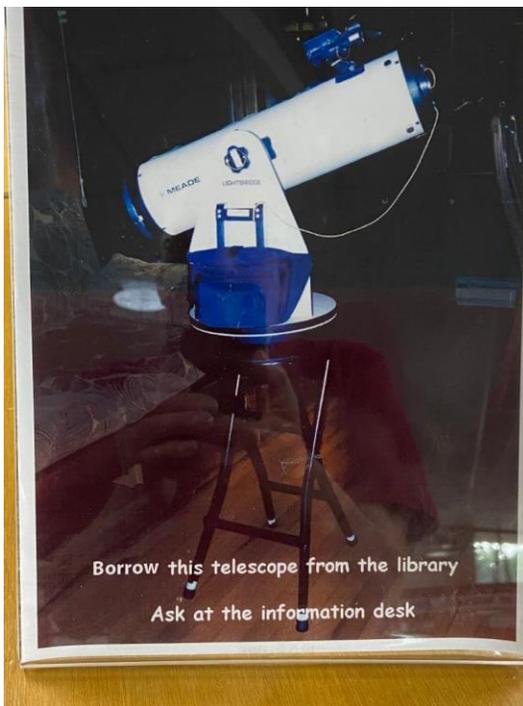
A cardboard cutout of the telescope serves as an advertisement even when the scope is checked out!



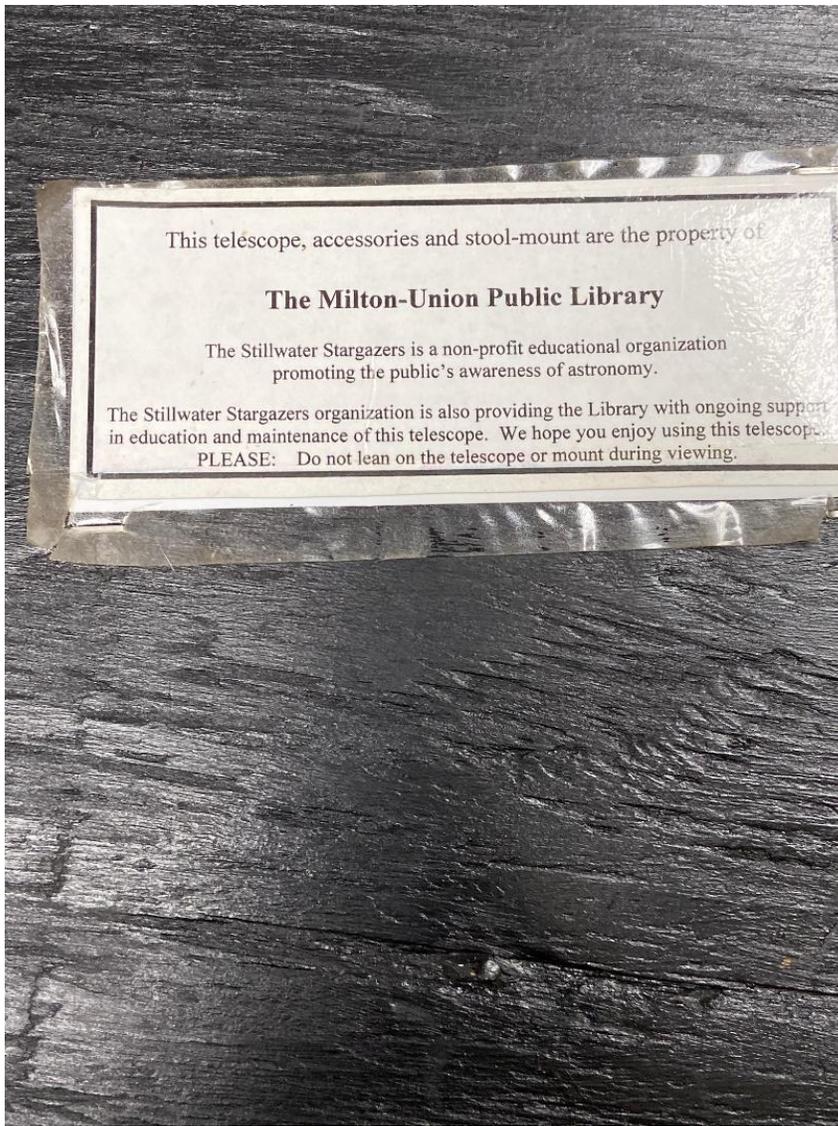
An extra reminder to turn off the Red Dot Finder.



The Milton-Union Library wasn't satisfied with a cardboard cutout, they put up a sign!



Not satisfied with a sign and a cardboard cutout, the Milton-Union Library put up a second sign with a picture of the telescope (wouldn't it be nice if all libraries advertised their scope this much?).



This telescope, accessories and stool-mount are the property of

The Milton-Union Public Library

The Stillwater Stargazers is a non-profit educational organization promoting the public's awareness of astronomy.

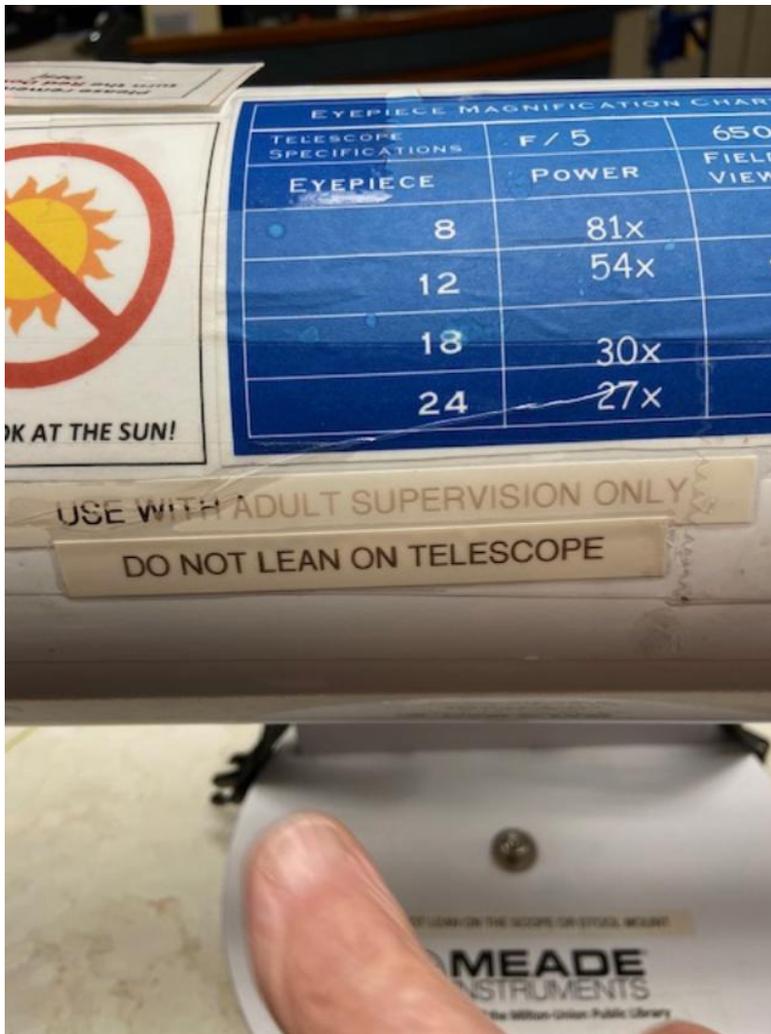
The Stillwater Stargazers organization is also providing the Library with ongoing support in education and maintenance of this telescope. We hope you enjoy using this telescope.

PLEASE: Do not lean on the telescope or mount during viewing.

Another plug for the Stillwater Stargazers

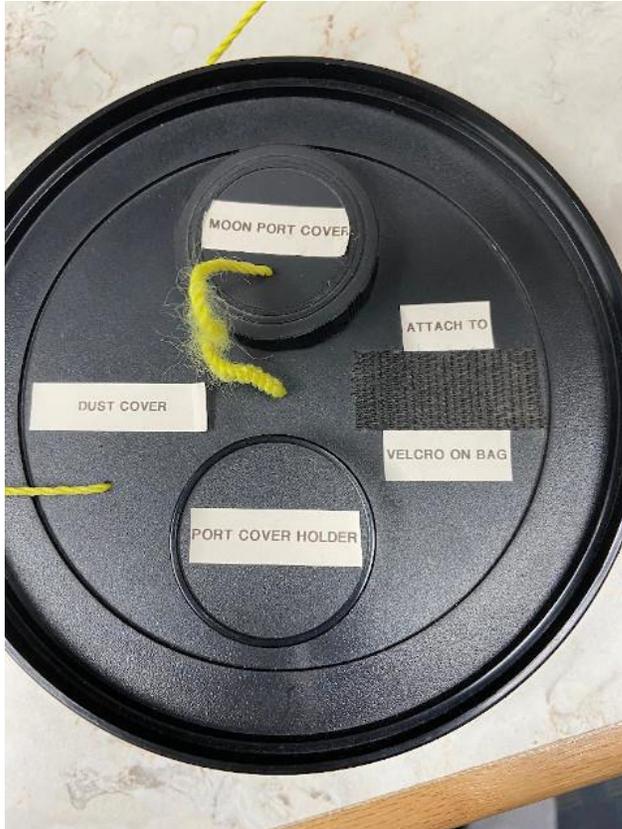






The power chart had to be revised to show the higher power of the Meade and Zhumell telescopes





Both the Meade and the Zhumell have moon

ports already built in!

Sky Sights: What can the novice see with the telescope? We provide a monthly paper called Sky Sights that just provides information about what may be easy for a novice to find with the telescope. We've kept it to one page with the concern that if the library patron sees too much to read they may decide to forgo the whole reading process. Here is a copy of last month's paper:

Sky Sights of the Month

For the Library Lending Telescope

July 2021

July 2021

July 2021

Moon: Since craters and mountains on the Moon are best seen when they cast shadows, they are more distinct when the Moon is not full. July's full Moon will be on the 23rd. At the start of the month the waxing crescent moon is visible in the early western sky starting about 13 July. So the best viewing of the moon in the evening sky will be from 13 July to 22 July. Remember that near the time of full moon the moon rises around sunset. As the days go by the moon rises later and later so that around the time of the new moon it rises near sunrise and is lost in the glare of the dawn. New moon occurs on the 9th.

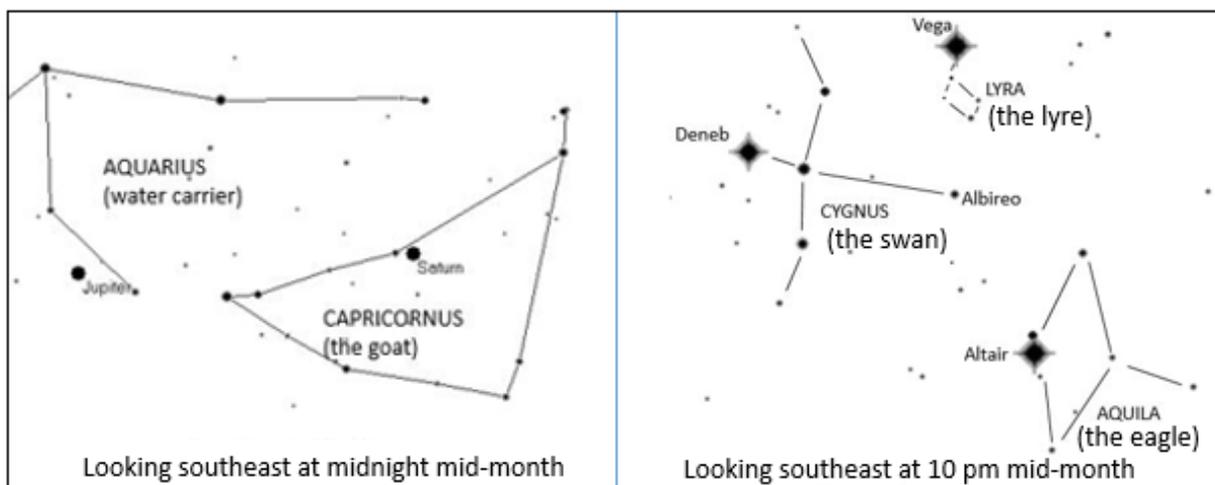
Venus: Venus is an “evening star” this month although it is never high above the western horizon. You’ll need a good horizon to view it. It currently presents a tiny but nearly full disk. All month it remains less than 10 degrees above the horizon 45 minutes after sunset. Venus sets at about 10:45 pm on July 1 and at 10:20 pm EDT on July 31

Mars: The orange colored planet Mars is close to Venus in the early part of the month but moves on to the lower right near the end of the month. Mars is well past its closest approach to earth this year so it presents a tiny orange disk in telescopes. Mars sets at about 11 pm EDT in early July and 9:50 pm by the end of July.

Saturn: The ringed planet Saturn rises in the east at about 10:55 pm in early July and just before 9 pm EDT by the end of the month, but you’ll have to be patient and wait a couple hours for it to rise above the thick atmosphere which has a tendency to disrupt the view. Check out its fantastic rings. If you see a fairly bright star near Saturn you may be seeing Saturn’s moon Titan.

Jupiter: Jupiter follows Saturn and rises in the east at about 11:50 pm in early July and 9:45 pm EDT in late July. See the diagram below left to show Jupiter’s and Saturn’s locations among the constellations. Jupiter’s four largest moons are easily visible if they are not obstructed by the planet. It’s interesting to check their positions from night to night. There are various programs or “apps” which can help identify the moons at any time. One such app for IOS devices, called “Gas Giants” provides the identification of Jupiter’s, Saturn’s, Uranus’ and Neptune’s moons. There are similar apps for both IOS and android devices. Check their app stores. While you are checking out the various moons, make sure you also check out the planet’s cloud belts.

Albireo: Clearly visible on summer nights is the Summer Triangle. See the diagram on the right below. The Summer Triangle consists of three bright stars: Vega (in the constellation of Lyra the lyre), Altair (in Aquila the eagle) and Deneb (in Cygnus the swan). Look at pages 54 and 55 of the Constellation Guide in the accessory kit to see the various constellation around the triangle. An easy target in this area is the double star Albireo (located near the middle of the triangle). Albireo represents the head of the swan and, although it looks like a single star to the naked eye, a telescope shows it to be two stars. The interesting thing about it is that the two stars are different in color. One star is what I call “gold” in color and the other star is blue. After viewing Albireo, how would you describe its colors?

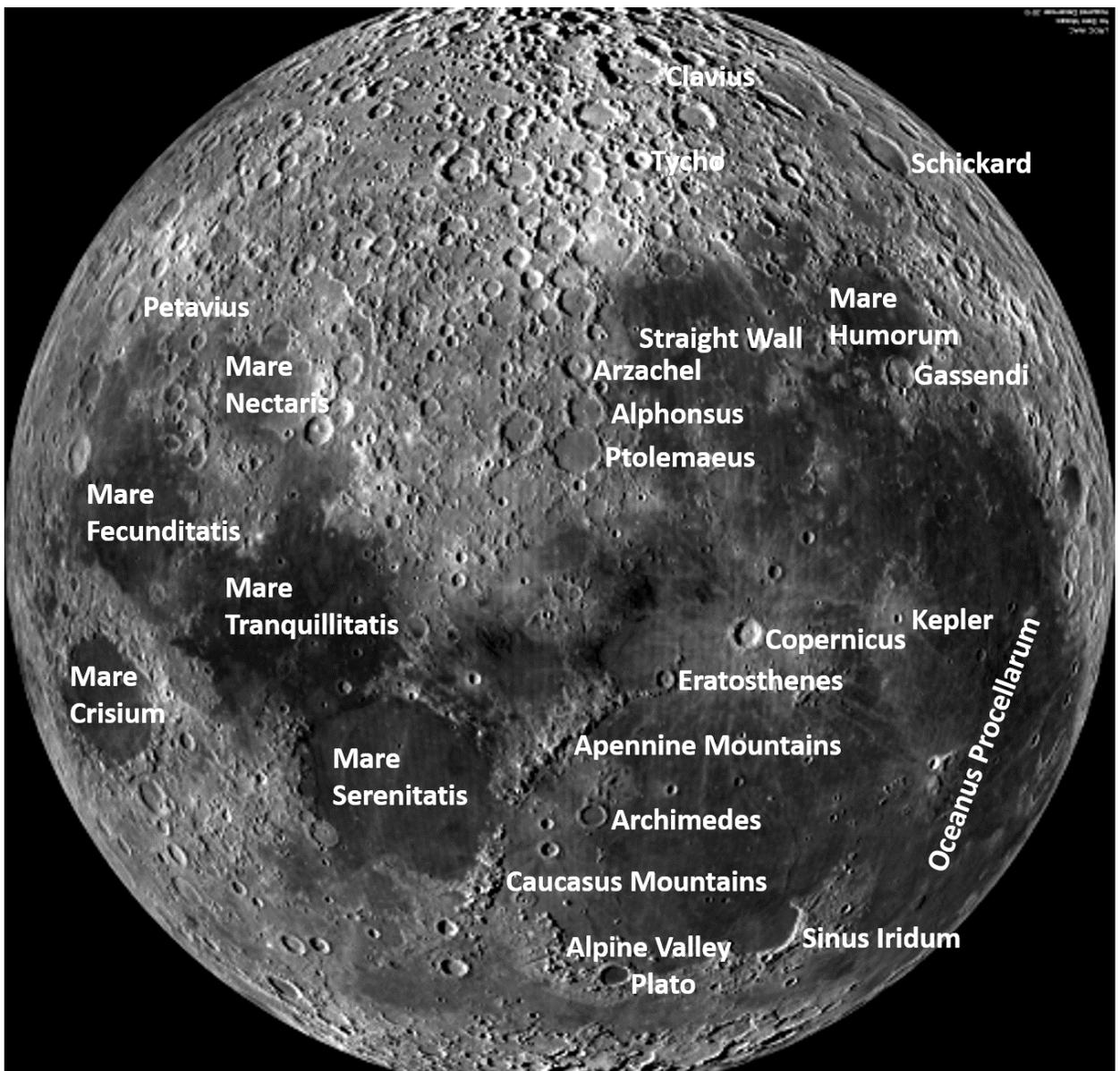


We hope you enjoy these Sky Sights. Provided by Joe DeKold and Mike Feinstein of the Stillwater Stargazers Astronomy Club.

Moon photo: We thought the moon picture made for the Starblast, while conveniently attached to the telescope tube, wasn't quite detailed enough so we included the attached photo in the accessory bag. Of course it's a judgement call on how much detail you include. This is what we came up with.

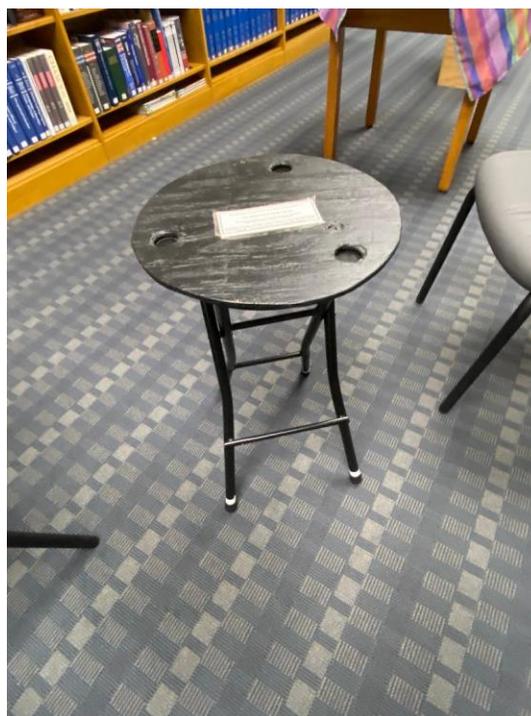
MOON MAP

Note: Map may have to be rotated to the left or right to match the appearance of the moon in the telescope.



Stool:

These telescopes are “table top” telescopes. Not everyone has a proper table to use with the scope. We were concerned about what type of platform users may try to use with the telescope, so Mike Feinstein procured a foldable barstool from Walmart and modified it for the telescope. The cushion was removed and three holes were drilled in the top to accept the telescope legs. The legs of the stool do not stick out very far so there were some concerns about it accidentally being knocked over. Fortunately this hasn’t happened (that we know of). Actually the legs are less likely to be accidentally kicked by an excited young observer running around the telescope.



Alternative telescopes: Merriam Webster dictionary defines a ‘Hack’ as a clever tip or technique for doing or improving something”. With this in mind we will explain our rationale for using telescopes different from the Orion StarBlast. A view of Saturn through the Starblast indicated that it wasn’t much more than a toy. At 56 power you could barely see the rings. The Meade Mini-130 seemed to fit the bill. It was the same type of construction as the Starblast but since it had a longer focal length, we were able to get up to 81 power (at 5 inch aperture it also had more light gathering power than the Starblast). Although Saturn was still small, the rings were more discernable. Thus we thought this hack improved the program. Additionally it came with a built in moon port! Unfortunately it is out of production. So the next telescope procured was the Zhumell Z130. Similar to the Meade, it also allowed a better view of Saturn and, like the Meade it came with a Moon Port too! Also the collimation screws are already covered up. A bonus! The

time saved in getting these scopes ready for the libraries should be considerable. The down side is that the Zhumell is more expensive than the other scopes.

Possible hack: This has not been fully vetted but we present it to give other folks a chance to resolve any issues with the design. We replicated Mark's PVC pipe finder but had concerns with aligning the finder with the main scope. A possibility came to mind that a green laser pointer mount could be used to hold a small pipe and allow some alignment. Pictured here is what we came up with.



The plastic pipe is 4 inches long and has a hole through it $\frac{1}{4}$ inch in diameter. This hasn't been tested out yet but we believe it has a field of view slightly larger than the full moon. There is no cross hair so there may be some concern with parallax. The mount would cost less than \$20.