

The Prairie Astronomer

Dobsonians Vs. Equatorials Which Is Right For You?

by David Knisely

Many people who build moderate sized telescopes are faced with the problem of just how to mount the instrument. The standard choice has been between the simple altazimuth mount of the Dobsonian and the somewhat more bulky German equatorial. Recently, the popularity of the large Dobsonian style instrument has made it the mounting of choice for amateurs, but is it really the best?

Let's look at the facts. The Dobsonian mount is a good way to support a very large instrument in a way that is inexpensive and easy to build and transport. Telescopes as large as 14 inches can be packed away in a car that isn't too much longer than the tube assembly itself. Set up is as easy as placing the rocker box on the ground and putting the tube in the box. Simple, isn't it?

Now comes the fun part; observing. With most people its point and look. It is at this point that I get a bunch of complaints from people trying to use Dobsonians on faint and hard to locate deep-sky objects. They can't seem to locate their quarry, especially near the zenith! What are they doing wrong? Well, usually, their mistake was made will before they got the scope out. They chose the wrong mount! Now before you tell me to stop contradicting myself, consider just how you located a deep-sky object. Usually you use a star chart and try to find a star pattern in the area that might lead you to the object. Then, you try and aim the telescope a certain distance between the stars to where you hope the object is. The problem is that you end up making a mental map that isn't all that accurate. You often end up pointing the scope at the wrong set of stars, even though you think it resembles the pattern on the chart. Your finder may show more stars than the chart does, confusing you even more! There maybe no nearby stars to use, forcing you to use more distant reference points and thus making the probable error greater. And to top it all off, if you are using an altazimuth mount, it becomes difficult to impossible to move the telescope correctly to the target when it is pointed near straight up! In short, you are behind in the game before the game has started.

There is a way out of these problems; build a SIMPLE equatorial out of things like pipe fittings and plywood. The reasoning behind this is straight forward. I find things in the sky using an eyepiece with about a degree of true field and the method know as the RIGHT ANGLE SWEEP. I locate a single bright star that does not have to be terribly near the object and then I can sweep in one degree fields in right ascension and then in declination to find the object. I measure things with the overlays that are found in the Tirion or Skalnate Pleso atlases, making notes as to how many degrees east or west and how many degrees north or south it is from my selected star. You can't do this with a Dobsonian! The coordinate systems of altitude and azimuth aren't the same as the celestial coordinates on the charts. With the right-angle sweep method, I can find though objects that I have never seen before in less than 30 seconds. My mount isn't all that much

bigger than a Dobsonian's and I can set it up in almost the same amount of time. And you can find objects near the zenith with a minimum of fuss since the scope moves easily there. My mounting for my ten inch is made of three inch fittings using turn-on -threads type bearings that are easy to make. You don't even need a clock drive (I don't use one). My advice to you is **DON'T BUILD A DOBSONIAN STYLE MOUNT UNLESS YOU ABSOLUTELY HAVE TO**. If your telescope is less than 12 inches in aperture, consider using a pipe mount German equatorial and the right-angle sweep method. It will save you a lot of grief and make your observing much more enjoyable.

Observing Chairman's Report

by David Knisely

THE NEXT SCHEDULED STAR PARTIES ARE ON JUNE 10TH AND JUNE 17TH AT THE ATLAS SITE. June means staying up a bit later to observe, but don't let that stop you. There are a number of globular clusters and even a few galaxies left over from spring to feast your eyes on. Way up north in Draco is one of the brightest planetary nebulae in the entire sky, NGC 6543. Located just over five degrees east and 3/4 north of Zeta Draconis, this object should look like a fuzzy 9th magnitude star in a small telescope. A six or eight inch scope will show its delicate greenish-blue color and its oval form. Larger instruments will show vague dark details at high power and on a good night.

Hercules offers two fine globular clusters: M13, and M92. The Great Globular Cluster M13 can be found about two and a half degrees south and 1/3 degree west of Eta Herculis and is visible to the unaided eye under good conditions. A three inch refractor will show a few of its stars on the edges of M13, but to get a really good view, you need at least a six inch aperture. The view in an eight or ten inch is absolutely spectacular with chains of stars running out from the middle. This object will stand the use of very high powers. An eight inch a 200x will show a field filled with thousands of faint stars blazing out from a star-packed center.

Nearly as nice as M13 is M92, located three degrees south and three and a half degrees west of Iota Herculis. It is easy in binoculars and appears as a small fuzzy ball in a 2.4 inch. A six inch reflector resolves it fairly well except for the center, and the sight in an eight or ten inch is glorious. It is more compressed than M13 so it takes a bit more power to get a good view.

Also in Hercules is the small and challenging planetary nebula NGC 6210. It can be found three and

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a half degrees east and two and a third degrees north of Beta Herculis and appears as a fuzzy 10th magnitude star in small apertures. An eight inch will show its tiny bright bluish disk and hints at either an inner shell or the 12th magnitude central star.

In Ophiuchus are the small but interesting globulars M10, and M12. M10 can be found about a degree west of 30 Ophiuchi and can be seen with a pair of binoculars. A six inch won't resolve it other than to show a few stars on its fringes, while an eight resolves only the edges. A ten inch resolves it fairly well making the cluster into one of the best of the small globulars. M12 is about four degrees east and four south of Lambda Ophiuchi and is a bit easier to resolve. An eight inch aperture will resolve it except for the center, while a ten inch and high power make M12 a truly beautiful sight.

In Scorpius is the bright and spectacular globular cluster M4, located about a degree west of Antares. Almost any optical aid will show M4 on a good night, with a 2.4 inch making it a fuzzy ball with a brighter and somewhat elongated center. A four inch will partially resolve it and a six will show a line of stars near the center that runs roughly east to west. An eight inch aperture shows an enormous number of faint stars and the central line of stars makes the cluster look a bit like a barred spiral galaxy. This object is fairly easy to resolve even at powers as low as 60x.

President's Message

by Del Motycka

Several trees have been removed at the Firth Atlas Site. Dave Kiple and Earl Moser have been busy with their chainsaws. Ron Debus, Steve Bornemeier, and myself stayed overnight after the Star Party on May 13th. The next morning we used Steve's jeep and a long cable to bundle and haul the limbs and branches to the brush pile.

A considerable amount of good stove wood is available at the site. Any club member who burns wood is welcome to help themselves. I would ask that anyone taking wood volunteer to help Dave and Earl in the future.

There are several trees still to be cut. Anyone wishing to volunteer to help Dave and Earl would be welcome. It's a big job to cut the large trees and "many hands make the work quick and easy".

Notes From The 2nd V.P.

On May 13th (the friday night start party), few attended but what a spectacular night. I got my first look at the planet Mercury as well as a host of galaxies, nebula's, globular clusters.... everywhere we looked we ran into something. As my night ended (sometime around 3 a.m.) I got my first look at the Lagoon and Trifid nebula. In a ten inch scope everything looks nice, but the club president (Del) made his first appearance with his 17 inch reflector. The sky was like a picture book through Del's telescope. Dark lanes and spiral arms of galaxies were quite visible, and the globular clusters just exploded! Nebula's were also full of detail. Now, doesn't that just make you want to grab your gear and come out to the next STAR PARTY!!!

At this month's meeting our programs will not concern astronomy. At the time of this writing I had a commitment from another club to give us a program. The focus of this club goes back in time just as far as astronomy does. I've asked one of the wood carving clubs in Lincoln to come out and give a program and display some of their carvings. These people can carve anything out of wood. I've seen their displays at Gateway and Eastpark at events similar to Astronomy Day for us. Just as we fine-tune our telescopes, woodcarvers carve faces in toothpicks. Now if they will just show up for the evening, I think you'll enjoy the program. Anyway, whatever happens, let's have a good turnout. I'm Ron Debus...

The Prairie Astronomer

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First Class Mail

Earl Moser
Hickman, NE
68372
Expr: 9/88F

**Next PAC Meeting
May 31st**

PRAIRIE ASTRONOMY CLUB
MEMBER LIST

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Hartley	Dick	320 Wedgewood Dr.	Lincoln	NE	68510 489-4105	10/88R
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Hubl	Erik J.	327 Nth 24th St.	Lincoln	NE	68503 475-6903	12/88R
Hutchinson	Duane	3445 Touzalin Ave	Lincoln	NE	68507 466-4988	10/88R
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Johnson	John	15948 Ndottingham Dr.	Omaha	NE	68118	4/88RT
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Lamborn	John	3910 Nth 62nd St.	Lincoln	NE	68507 466-2878	12/88R
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Littrell	Rick	5325 Linden St.	Lincoln	NE	68516 489-5811	09/88F
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Myers	Sandy	2740 A St.	Lincoln	NE	68502 466-4734	comp
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Pepin	M. Barlow	P.O. Box 295	Lake Helen	FL	32744	comp
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PRAIRIE ASTRONOMY CLUB
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