Cheap Observer's Report

Observing in Comfort—Cheaply

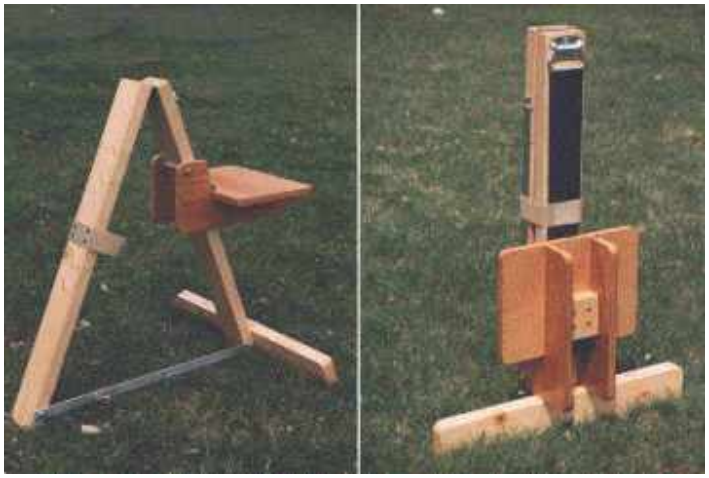
By Alex McConahay

The Cheap Observer wants to be comfortable in the wallet and surrounding area. So, it is nice to have a cheap cushy place to park his or her wallet (OK, not many "hers" keeps a wallet in a back pocket—but you know what I mean!).

An average chair will not do as well under the stars as a special purpose "Observing Chair" because observing calls for a peculiar type of sitting and moving. In regular sitting, you are positioned about table-height. You don't need to change that height. You can lean back. And you are generally sitting for a while in the same position. In observing, on the other hand, you need to reposition yourself regularly, sit higher or lower, stand up and move around regularly, and are more than likely leaning forward. So regular chairs won't do quite as well.

And Chairs are important in observing. If you are the "what's up tonight" type of observer hopping from M object to M object depending on what you overhear the guys at the next scope talking about, then you probably don't need a chair. You will be changing things around so often that a chair would get in your way. Besides, you are generally going in early to have hot chocolate.

If, however you are a serious observer (and



Above, The Denver Observing Chair. You need a chair. Do you need to spend the bucks?

you can probably tell my prejudice in favor of serious observing) you are going to be out there all night. Chairs help fight fatigue. Serious observers will want to study the objects they have found in their starhopping. This is easier to do while seated comfortably. And, the serious also want steadiness. Sitting is more steady than standing, and helps you keep a body still while at the eyepiece. So, you need a chair.

Walk around on the observing field at a star party or take a quick internet survey of observing chairs shows they come—no, not in a "wide variety" but— in slight variations on a fairly common theme. By the way, you can start your internet survey by going to http://www.catseyecollimation.com/jfrazier.html . Here you will see Joel Frazier's summary written in 2001. The links are outdated, but the concepts are good. The interesting thing about

A cost effective store bought substitute for an observing chair is a short stepladder such as this (Walmart $27, but other versions for less). You can sit or stand on either step, or turn it around to lean against the back (be sure to get the high back model!). These are especially useful at outreaches! Phil Agins looks on as an adult stands on the ground, and leans on the high back for support and a youngster climbs to the second step. In either case the observer need not touch the scope for support or balance.


While setting up for a recent outlook, Mary Lunetto demonstrated (using Bill Patton's store-bought observing chair and Alex McConahay's home built 8 inch Dob), how the observing chair is set low for objects near the horizon, but can be easily moved up as the object climbs. This is the most important feature of an observing chair. Note Alex's padded Denver Chair in the picture on the left.

it is that things have not changed in the basic design through the years.

Full size commercial models range from $139 to $363. Smaller lighter ones can be had for $80, and "stools" can range from $80 to $220. They can be made of steel, wood, and/or plastic, and come in black, white, chrome, and natural (and stained) wood. They feature:

- A small cushioned seat. The cushioning is for obvious reasons. The small is because the observer is constantly standing up and moving, and re-adjusting things. A wide seat is a bigger target to get in the way.
- The seat moves up and down a long "backbone" that runs diagonally up and back from the front of the chair.
- The seat generally is held in place by some combination of friction and leverage, allowing a simple pull to change height. A variations is ratchet-like indentations on the backbone. The deeper the indentations, the harder the adjustment, but the more certain the chair will stay at a certain height.
- The contraption has a wide footing in the front formed by a cross piece (or angled side pieces) that runs at right angles to the base of the backbone. The ends of this crosspiece form the front legs of a tripod.
- The third leg of the tripod extends from the backbone to the ground in the rear.
- The rear tripod leg connects to the backbone and crosspiece with a stiffener of some sort.

In a full size observing chair one wants:

- **Stability of the chair** itself: You are putting your weight on an angled backbone that rises from a crosspiece (or alternatively, the angled-out sides of the backbone). If that crosspiece is not wide enough, substantial enough, or firmly affixed to the bottom of the backbone, you will wobble. If the third leg, stretching out to the back is not firmly affixed to the front two legs, you could easily lose support. Finally, while a triangle is inherently stable for a fixed weight, it may not cope with a body leaning one way or the other at the eyepiece.
- **Stability of the seat**: Most chairs depend on friction/leverage between the seat assembly and the backbone. When you apply the weight, you push one part of the chair support against the backbone, preventing



From left to right, the rather small "Smart Seat" ($70), Starbound ($139), Kendrick's Ultimate III ($338), and The Cat's Perch Summit ($363). All of them are very nice, but whether they are better than your own Denver chair is your call.

movment. But, if you do not apply that weight straight down to start, you may take weight off the assembly, causing it to move, perhaps disastrously. If your weight is too far back on the seat, you could crash! So you learn to sit slowly (which is exceptionally easy to do!). Some chairs have détentes (carved notches in the backbone). These trade adjustability for stability.

- **Adjustability:** Does the seat slide easily up and down the backbone?
- **Size**: Is the seat-travel enough to accommodate your scope? How tall is your dob?
- **Compatibilty**: There are two kinds of compatibility: Scope and Personal. The wide front crossbar could bump into the base of your dob. And some people personally never get over tripping over those spread-out tripod legs or knowing that if they do not sit down correctly, the seat may shift.
- **Transportability**: Scope chairs do not generally fold easily. The backbone/rear tripod leg generally come together, but the seat mechanism tends to stick out while transporting. The seat might be removable—but then must be re-assembled for use. They range in weight from reasonable to somewhat heavy.

There are other types of observing seats. Many people enjoy a simple drummer's stool, and others a two-step stepstool. See the photos for more on these.

So, what is a Cheap Observer to do? Check out the Denver Observing Chair: http://denverastro.tripod.com/seat.html

And when you are finished looking over the plans for the original, just google "Denver Observing Chair" and find out how many people have found a way to improve on the original.

The Denver Observing chair does what the fancy ones do at one tenth the price or so. It is relatively easy to make, with a 2x4, some plywood, a hinge, some screws, and a strip of aluminum. It requires no special tools.

Stools can offer some of the advantages of sit-down-seeing, are easier to transport, and cost less than a full size observing chair. With a little shopping and some compromise, you might save big bucks. Some substitutes for the fancy: BKA's Walkstool (top left) costs $80. WalMart's Camping Stool (top right) is $14. The Tele-Vue Air Chair (bottom left) costs $220. Ebay has new drummer's thrones (bottom right) for the Buy-it-Now price of $15. Beware that you could be giving up convenience, durability, and adjustability. But, life is full of choices. (And you should sit comfortably while making them!)

But, one premise of the Cheap Observer articles is that spending the bucks does get something better. The Denver Chair has its drawbacks (although to be fair, the commercial versions have some of these, also) :

- The Denver is heavier, and the crosspiece does not fold. This hurts transportability.
- The Denver is not padded. (Duh, that is so easy to fix with a cushion and Velcro!!)
- The Denver is not as tall as others.
- One must be a bit more careful with the crosspiece. It needs to be firmly affixed to the backbone. It's height (the width of a 2x4) invites tripping. And its length is a bit more than most chairs. This aids its lateral stability, but invites tripping!

Other than that, it operates pretty much the same as its rich cousins. So, get out your saw and screwdriver, and get comfortable.