



Wave Front
The Star Watch Bulletin Board
Edited by Joe Zuraw

Part II
How to use the Gaertner Refractor Correctly

As described earlier the roll-away building provides an ideal, minimum turbulence, observing platform. Now let's conduct a hypothetical observing session to help familiarize you with the operation of the telescope.

1. Evening is approaching and the Earth's shadow is rising in the East as you prepare for an night of deep sky observing. **The first step in using the Gaertner Refractor is to unhook the four chains that hold the building against high winds.**
2. As several bats wheel overhead snapping up the few insects that might disturb your observing session, you **unhook and lower the four platform sections, starting with the front, which in winter are folded up against the building to prevent snow build up and further anchor the building against wind.**
3. **Check to insure that the drive-lock knobs have been disengaged and turn the telescope down to remove the dust cover. The cover must come straight off to avoid twisting and binding.** The historic 7" Clark at Amherst College was destroyed when several inexperienced observers mistook the lens cell screws for lens cap screws and removed them. The glass shards are enshrined in a cigar box to this day.
4. An owl is hooting off in the distance along the ridge and the Milky Way is rising, it is time to look for your first object. **When moving the telescope hold it by the main focuser bell housing or tube counter weights and push gently.** Someone accidentally ripped the finder scope right off the telescope one night resulting in costly repairs.
5. **Only move the Telescope with the drive disengaged!** If you fail to do this the worm gear will ride up on the drive gear and bind up causing the drive to fail. If this is done repeatedly the gears will eventually be damaged.
6. **Gently wind up the Clock drive crank handle in a Clockwise direction. The moment you encounter resistance beyond that created by the weights Stop!** (On occasion the cable has been known to jump the winding sprocket and twist itself into the gears. Yuk!). The drive is now ready to go.
7. **At the top of the Clock Drive on the same side as the weight crank you will find a small brass lever mounted horizontally. Move it to the side until it releases the brake drum and allows the drive governor to spin freely. A gentle push of the governor weights may be necessary to start the drive.** Hey! Let's go for M22 in Sagittarius.
8. When you have located M22 in the cross hairs of the finder scope **it is time to lock down the drive. Use the upper slow-motion control knobs to do this. Turn them in a clockwise direction until they are firmly, but not overly, tight.**
9. As always M22 is a glorious sight. You spend a long, long time studying its star trails and lanes trying to gain a hint of the red and yellow colors that predominate among the stars that make it up. **You need not worry about the drive, it will track for about 45 minutes on a winding.**
10. **Before moving to another object, disengage the drive lock by turning the upper slow motion controls until they are loose. Turn them in a counter-clockwise motion.** How about M31?
11. It has been a long and memorable evening of observing with a truly historic and beautiful refracting telescope. Now it is time to put it safely away for the next observer. **Disengage the drive using the upper slow-motion control knobs.**
12. As the first vestiges of dawn tweak the horizon **place the dust cover gently and squarely onto the lens cell and place a cover or cap on the focuser.**
13. Take a last look at the North Star and **carefully align the telescope tube as if you were going to observe Polaris. The Telescope will be above the mount and the weights will be in their lowest position. This is the only position in which the Building! will roll safely over the telescope!**

14. **With the doors fully open slowly roll the building over the telescope. Watch the Lens cell to ensure that it clears the doorway and keep an eye on the tracks and rollers to ensure that nothing is in the track, such as a lost eyepiece.** The building jumping the track would be a disaster at this point!
15. If it is winter. **Fold up the four platform sections starting with the sides and hook them into place.**
16. **Hook up the tie down chains. Take the time to do them as tight as you can.** That extra link or two could make the difference if an unexpected storm strikes.

If Something goes wrong.
Be responsible and do the right thing!

Do not Panic. This telescope is meant to be used. Everything is repairable or replaceable. When Arunah Hill made the decision to use this telescope as much as possible, we accepted the idea that repairs would be necessary from time to time. No one is held responsible if you have been through Star Watch. Just practice common sense when using the telescope. Of course accidents and mistakes happen.

1. **If the Telescope is Badly Damaged or If the Building Can Not be Safely Rolled over the Telescope. Do not Attempt to fix the problem Yourself! SERIOUS INJURY COULD OCCUR! Call one or both of these phone numbers from the upstairs of the Barn 24 hours a day.**

Joe Zuraw	413,,665-8563
Steve Pielock	413-772-6715

2. If you encounter a minor problem such as a bound up drive or broken part that does not prevent the safe closing and securing of the building then call the above numbers during the daytime hours and let us know so that we can address the problem.
3. If you notice that someone has incorrectly put away the telescope before you or simply that nonnal wear or tear has caused a part to become misaligned or worn out please let us know about it so that we can fix it and serve you better.

Arunah Hill is your dark sky observing site. We want you to use it and feel comfortable here on the mountain. Read these instructions carefully, review them periodically and enjoy the finest observing site in the country!

