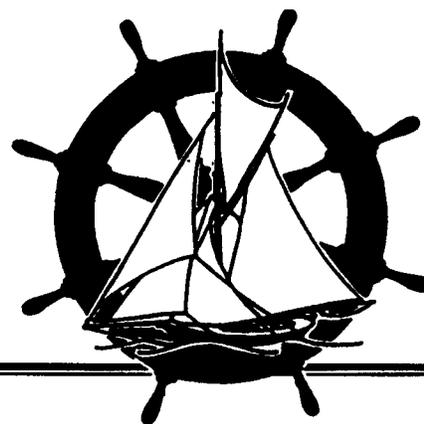


# THE HELM

Winter, 2006 - Volume 24, No. 2



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## A PUBLICATION OF THE CLASSIC YACHT RESTORATION GUILD, INC.

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*Elf, past and future*



### President's Message

“Ricky, you have a lot of ‘splaining to do!”

... by Rick Carrion

**W**ell, I am sorry to say that we did not re-launch ELF in 2006 summer or fall as planned. The good news is that we are getting the decking started and moving ahead to launch in late April or early May 2007. I know, as Lucille Ball would say, “Ricky, you have a lot of ‘splaining to do!” Well ....., it’s a long story but to make it shorter, the root of the delay goes back over 30 years. I promise to get to the point quickly.

In 1975 I was busy researching ELF’s past, after finding the documentation numbers that were hidden for years. While in M.I.T.’s Francis Russell Hart Museum of Nautical Design, I found in the records several references to photographs of ELF done on 8 1/2 x 11” glass negatives. In today’s mega pixel format, that equates to over 150-mega-pixel quality. WOW! At the time I was so excited that I immediately ordered a total set of 11 photographs. Now, please keep in mind that each glass plate had to be carefully taken out of storage, re-photographed to make a velum, and then re-printed to create the image that I received. I must say that I actually remember the moment that I opened the photography tube during the fall of 1975. I could not believe what I was seeing, a stunning vessel and rig, as well as so many other construction details. Yes, I know it may sound silly to some, but at that moment, I basically promised myself that I would do whatever I could do to assure that ELF was eventually restored to her full glory.

Advance the time wheel to 1991..... ELF was hulled out to start the restoration. As we started the restoration process, we made several critical decisions. One was to return to the original rig design — high gaff topsail cutter rig — but to reduce the original rig and sail size by approximately 20 percent, for a number of reasons, primarily because ELF’s original lead keel was given up during WWI to make bullets and armaments for

our troops and was replaced with an iron external ballast keel. That made her almost two tons lighter, and not able to support the original big rig.

I can also remember the moment in the Fall of 2005 when John Brady visited and said that Peter Kellogg wanted to know “what Rick wants.” Graham, John and I were up on the starboard scaffolding looking upon the progress, and I remember turning to John and saying, “I want to make her right, and put her back to her original glory, with the big rig.” That had always been my dream from the moment that I first viewed the photos of ELF in her original splendor. Little did I know how much additional work would be needed to accommodate the larger rig before re-launch. As it turned out, it added days and months of unplanned work. It got to a point that I opted to not try to rush the work schedule, only to get her in for the short fall sailing season before the wrath of winter descended.

Some of the unexpected work started with removing the keel. We cut the keel bolts, and lowered the massive chunk of iron mass down onto large black locust rollers. Then we carefully inched it out of the shop. This took four men one whole day. Next came extracting the keel bolts out of the original wooden keel remaining on the boat, which turned into a major effort. For whatever reason, the bolts became locked onto the wood. We were finally able to get them to move upward with a five ton hydraulic jack while turning the nut down to the bottom of the threads. That process took three days of work for two men. The next step was removing the nut, adding spacers, and tightening down again. It was a very tedious job to say the least. We had to take apart most of the cabin interior first. Since the bilge is small and oddly shaped it was impossible to use a wrench with a four-foot handle without destroying the beautiful cherry interior. I am happy to say that the bolts are all out, and the interior joinery reinstalled. In addition, another important issue that needed to be addressed was that all the rigging had to be renewed. The addition of another set of chain plates meant that we had to take apart a forward bulkhead in order to install the topmast stays. All of the chain plates are shaped and installed and the bulkhead has been reinstalled. The gammon irons are now fitted to the stem to hold the bowsprit. All of that required almost three weeks of work for two men. To rush would have meant an inferior, unacceptable result.

The good news is that we have had a mild winter to date, and

we have made great progress. With the added work completed, we have been able to move ahead filling the topside seams, sanding and painting. On new construction, it takes many applications of surfacing compound, sanding and painting. We did seven applications before the chain plates went on, and have at least five more to do before splash time. The cockpit is done and the deck planking is underway and it looks fantastic! Yes, we still have a lot to do but I feel confident that 2007 will see ELF in her full glory on the water. Amen!

## Graham's Letter

### All Decked Out

**W**ell, what to talk about? Oh, yes, we are decking and the decks will be beautiful. Once again, we are making every effort to remain true to the original boat. Of course, ELF hasn't seen her original deck structure for decades, but thanks to several photographs, we were able to see what they looked like. We know what they were made of and there was nothing unusual about how it was done — basic, traditional decking that has served boat building in working boats for centuries. In the late 1800's, these tried and true methods were used in the construction of yachts such as ELF. I've replaced many such decks over the years after they had lived out their life span. In working boats, decks are worn down as a result of heavy gear and hard use. In yachts, it's more often the result of decayed wood and corroded fasteners.

We are utilizing some advances in technology to do a better job, in every effort to keep ELF alive for another 100 years. But, once again, ELF will be more her original self than she has been for a long time.

Once the decks are on, nothing stands in the way of finishing. The companionway house has been roughed out for some time, the bulwarks the same. The skylight is sitting on my bench in Still Pond, also close to finish. The interior is coming together. For the first season, it may be quite Spartan, but the first season afloat will be about extensive shakedown — testing new gear, making adjustments and changes, until everything works in unison. It will be about learning to sail a rig that it seldom seen today and, again, dates back centuries. The gaff rig that ELF will carry, once again coming from powerful rigs that drove working boats, is in no way obsolete, in my mind. It is versatile and extremely reliable. My first boat (and my first restoration) was a "gaffer." It was a Cape Cod knockabout and there are many of them still sailing and racing today.

So, once afloat, ELF will again be a grand representative of the very best of an ancient craft — wooden boat building — and of an evolution of design that epitomizes the concept "form follows function." Wooden boats are beautiful because they function best that way.

**Elf's  
Boatwright**

## Wish Upon a Star, Pick a Destination

### Perspectives on Celestial Navigation

... by Brian McCandless

**T**he recent winter solstice, with its for-shortened days and long cold nights, reminds me of our Norse forebears, who once plied the cold north-Atlantic waters between Norway, Denmark, Iceland, Greenland, and Newfoundland. They traveled in hand-made semi-enclosed hybrid boats that could be sailed and rowed, navigating by sun, moon, stars, tides, and by a general awareness of the different local environments, in what was an ultimate demonstration of dead-reckoning. Their far-ranging exploits to plunder Christian settlements in Britain certainly proves their extraordinary navigational skill, and they covered any remaining doubt by an appeal to the God of their vanquished in what is the oldest extant Christian prayer in Iceland:

*"I beseech the immaculate Master of Monks  
To steer my journeys;  
May the Lord of the lofty heavens  
Hold his strong hand over me..."*

(Hafgerdingadrapa, in the Graenlandinga Saga, 11<sup>th</sup> Cent. A.D.)

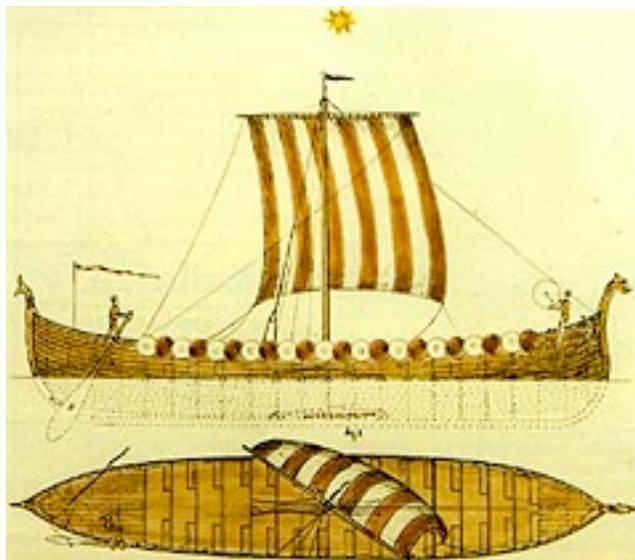


Figure 1. Viking Knarr.

We know much more about Viking boat building and sailing techniques than about their navigational methods, and I have wondered how, at the high latitudes, without a chronometer or a set of tables, did they reckon position on a long voyage. Such a question might apply to any mariner venturing close to the poles, especially from late fall to early spring when the Sun is mostly gone from view, or is low and parallel to the horizon throughout the day. From the Icelandic Sagas, the surviving

medieval texts of Viking experience, we learn that they sailed ‘locally’, within sight of land, throughout the year and carried out long voyages over the summer, if possible. We also know that they tended to sail along latitude lines, performing course corrections whenever they could spot the pole star or a ‘high noon’ sun. Otherwise, current, tide flow, birds, and wind direction were the tools they used to reckon direction. In the case of Eirik the Red, who had been outlawed from Iceland in the late 10<sup>th</sup> century, his exile voyage found him blown to the south-west, missing his Greenland, mark and discovering a hitherto unknown land. His son, Leif the Lucky, later bought the same ship from his father and sailed, deliberately, to this new world, establishing a settlement for about a decade in Newfoundland, at what is now called L’Anse aux Meadows. It is likely that these navigators did not write but used their heads to log position and time in a manner consistent with their ability to recount epic tales and poetry.

The Circumpolar Stars, those close to the North Pole and visible throughout the year, were the most familiar to the northern navigators and provided a convenient way to know latitude and heading, but not longitude. Figure 2 shows why.

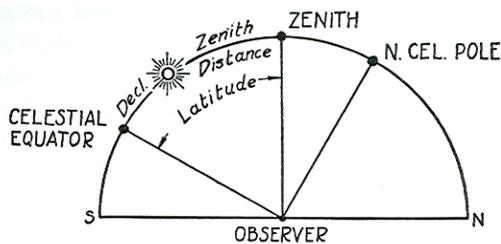


Figure 2. The relationship between latitude and the altitude of the Pole Star, Sun and Celestial Equator.

The altitude of the North Celestial Pole above the horizon is approximately the latitude of the mariner and in the Northern Hemisphere is occupied by the Pole Star, also known as Polaris. If you held out a stick with a mark on it that corresponds to the latitude you want, then all you have to do is make sure that the Pole Star lies at that altitude every day; this works well until the Pole Star is very high overhead, i.e., when you are near the Pole – but you’d know that for other reasons (brrrr). To maintain heading, you keep the Pole Star at the angle you set out with. In the Viking system, you would leave a port and head along a latitude line by keeping the Pole Star off your beam (starboard if west-bound, larboard if east-bound). Two measurements! To the Vikings, as far as we can surmise, longitude wasn’t as important, and they arrived when they ‘got there’.

The Circumpolar Stars are shown in Figure 3 with circles of equal declination (astronomical latitude) and right ascension (astronomical longitude). The modern constellations, adopted from Greek mythology, are shown by dotted lines connecting the principal stars in each field. The chart is oriented for a northern observer facing the Pole Star at 9 PM in early November and 7 PM in early December. You can tell local time by knowing the position of the stars on the local meridian, that is, the line passing from due north, through the Pole Star, and on to due south. As a practical measure, reckoning sidereal, or star, time is useful in a relative sense, once one knows the position of the stars on day and can project to a later time. The ‘plani-

sphere’ rotary star charts sold at science stores work on this principle – that time is related to the meridian crossing of stars whose positions are known. The Vikings did not have planispheres that we know of, but they likely knew the time of day by the positions of bright stars or prominent constellations at different months of the year. Anyone with a casual interest in astronomy gets this pretty quick, by noticing that after dinner in the winter, Orion rises in the east, the Pleiades pass overhead, and Cygnus stands like a cross on the western horizon.

In Figure 3, the constellations shown are Ursa Minor (latin: Little Bear), which contains the Pole Star at the end of its ladle, Ursa Major (latin: Big Bear), Draco (latin: the Dragon), Cepheus (the King) and Cassiopeia (the Queen). We have carried forward the ancient constellations, which shows how thoroughly they covered the skies. In Greek mythology, Andromeda (early fall constellation) was the daughter of Cepheus and Cassiopeia and the wife of Perseus (lies south of Cassiopeia). Cepheus was a king of Ethiopia. For the record, Hercules (spring constellation) was a son of Zeus, Orion was a hunter who chased the Pleiades and was slain by Diana, Pegasus was a winged horse, and Perseus was a son of Zeus and was the hero who married Andromeda.

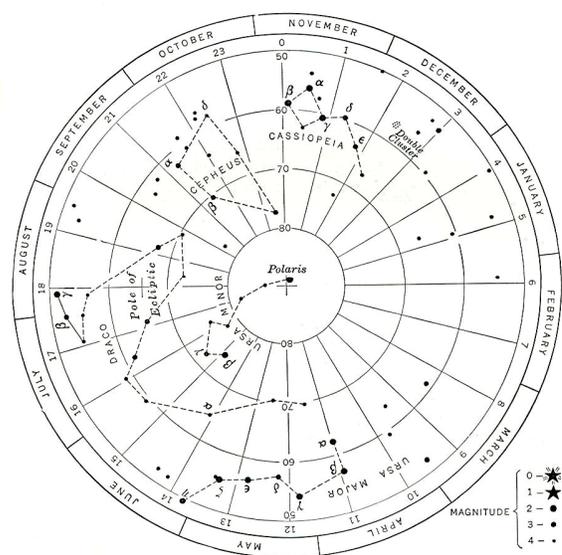


Figure 3. The Circumpolar Stars and Constellations.

This winter, you won’t find many planets in the sky unless you rise before dawn and look in the south-east. The major planets are still all on the same side of the Sun, which puts them near the Sun and therefore away from the evening sky.

However, just before dawn on the morning of December 31<sup>st</sup>, look for the gibbous waxing and nearly full Moon to pass over the Pleiades. Again on the evening of February 23<sup>rd</sup>, the first quarter Moon will lie just to the North of the Pleiades, and then on March 23<sup>rd</sup>, a 23-percent illuminated Moon will lie in the evening just to right of the Seven Sisters. The Moon will be totally eclipsed by Earth’s shadow on the evening of March 3<sup>rd</sup>, beginning at 5:44 PM EST. The full eclipse will last about 75 minutes and will take-on a dark orange hue through the event. Until next time, keep looking up!

## Thank You, International Paint Company!

We appreciate greatly your continued support of the *Elf* restoration. Your recent generous donation of paint, varnish, and seam compounds will finish *Elf* in grand style. We also thank International Paint Company for selecting *Elf* to be featured in a future issue of "INTERLINK, The Latest News from International Paints." So be sure to pick up a copy at your local marina.



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Check our Progress and Photos at:  
[cyrg.org](http://cyrg.org)

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### Quality Wood for Sale to Float *Elf*

Rick is selling his personal high-quality wood supply to generate funds for the completion of *Elf* restoration. For information, contact him at:

**410-275-2819 or [elf1888@earthlink.net](mailto:elf1888@earthlink.net)**

He has cherry, poplar, walnut, maple, and an assortment of other fine woods.

*Photo courtesy of  
Francis Russell Hart  
Collection - MIT*



*Photo shows *Elf*'s original massive rig  
that she will soon carry again.*

## THE HELM



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