Did you ever notice how life in general is cyclic? All things seem to happen in patterns. Perhaps that is where the old saying "all things come in threes" evolved. Back in the old days of Custom Yacht Service the repair orders would revolve around certain mechanical issues. We would go a few weeks where it seemed every boat was overheating, then maybe power problems. The next week would be dead batteries and charging problems; on and on the repair orders were always cyclic. I was at the local marina last week and the they were all of a sudden very busy with several boats all taking on water from one reason or another and the week before that they were busy with sailboat rigging. Again, a pattern emerges.

In the field of marine survey I find myself doing all big power boats one week and a bunch of little open boats the next. Sailboat weeks and damage claims also seem to all come at once. Last year I went three weeks where every single boat I surveyed had a bulkhead or stringer failure of some sort. Kind of weird if you think about it too much. Anyway last week was one of those weeks. The phone started ringing with owners asking me to take a look at their boats regarding structural concerns. No one wanted a formal survey; they only needed a consultation and verbal report of my findings. That's fine with me really as the office work does get burdensome at times. As fate would have it I inspected three boats in three days of different builders but all three used the same supplier for their composite stringer systems. All three had a significant hull failure and all three failures were directly related to the design or building process. The three boats were all center console outboard boats of two-piece construction, meaning the decks and cap are one piece and the hull is the other. All three boats market their product as "wood free". One boat is from a lesser builder with a less than stellar reputation for quality and the other two enjoy (perhaps undeserved) a reputation for being very well built and are often used for tournament fishing. The failures I discovered were all due to a lack of stiffness in the forward section of the hull. These boats all use a foam log stringer that ends well before the bow. No other support is afforded to the hull for the forward six linear feet or so. Being plastic boats (fiberglass is basically plastic) a certain amount of flex is generated in the flat sections especially when traveling in our local Gulf chop. This action is called "panel flex" or "oil canning". It is the main reason why builders of truly robust craft observe the unwritten rule of never having a hull panel exceed 6 square feet without structural support. In the case of these particular boats I estimate the average size of the bow sections to exceed 20 square feet without additional support. The result being that when the panel flexes it starts working or hinging off the closest hard point and begins to crack. In one case it was the stringer and strakes and in the other two cases the hard points of failure were the stringer ends and the chain locker attachments. The repairs for these boats were all pretty straight forward and in all three cases my recommendations included additional support to the forward hull structure. A hat section off the stringer ends for the lesser builder and continuation of the chain locker down and into a structural transverse bulkhead for the other two. Besides obvious cracking in one case and nearly sinking in another there are some visual indicators that give notice of something wrong. Looking at the inside of the hull via the access ports you will generally see the stringers, strake lines and other supporting structure as well as the hull flats proper. If any of the intersecting areas show resin turning white or and area of uniform linear hairline cracks are observed you can be pretty sure that the hull is flexing around these areas. Just one more reason to open up the boat every once in a while and take a

good look. I wonder what next weeks pattern will be. I hope it's a week of well kept, well built craft in good condition. I could use an easy week.