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## USED BOATS AND WHAT TO LOOK FOR

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The following is a general guide to available used boats and any particular issues with each boat to watch for as they age.

Overall, the best guide to the general condition of any boat is to run through my Maintenance Guide which can also be downloaded from my Owner's Page. This covers everything in general and checking off each listed item will give one a good idea of the general condition of any boat, and will help to find any problems. The New Boat Delivery Checklist can also be a good guide to check that everything is as it should be.

Common areas to check with all production models are the beam join glue seams and the compression pads on the F-24, F-25, F-82, F-9A and F-31. Both these aspects are covered in detail in my Beam and Folding System Care Bulletin, also on Owners Page. If compression pads are not fitted to beam ends, or are in poor condition, then also check F-24, F-31/F-9A and F-25/F-82, Upper Folding Strut mounts for any signs of failure/cracking as these can be expensive to repair. Where fitted, circlips on folding system pivot pins should also be checked for condition, as these can corrode and fall off if there is insufficient clearance in the groove.

Looking at the various boats, the individual issues that I am aware of and may apply are as follows:

### **Trailertri 18, 680 and 720**

These are the original Farrier folding trimarans, and have no significant weaknesses other than the possibility of rot, or problems resulting from bad workmanship. If fiberglass sheathed, and fully sealed with epoxy, they could last for 25 years or more, and there are many good boats out there at good prices (which have actually been increasing in recent years). Rot is the major issue to look for, and the most common areas are the beam recesses in the main hull, particularly if the specified drains were not fitted, or have become blocked. Check out also any areas where fresh water might collect.

### **The Tramp**

My first production design and built both in Australia and the US, the US built version being known as the Eagle. No significant weaknesses, the main annoying problem being a common tendency for leaks. These are mostly due to the difficulty of finding reliable glues for polyester moldings in the eighties. The best glue available was used, but it still tended to be too brittle and prone to cracking.

The join seam between cockpit floor and centerboard case top is one of the main areas to check, as this tended to open up, and allow water inside the main hull from the centerboard case at higher speeds when considerable pressure can build up. Other common leak areas are the cockpit drains (an awkward area to seal), centerboard case to keel join, and float deck to hull joins. Best adhesive

to reseal is a polyurethane such as 3M 5200 which is very flexible and results in a virtually permanent bond. However, it is difficult to get in place and totally eliminate all leaks. Just keep an eye on the bilges.

Flex cracks are also not uncommon around the cockpit sides in the floor, but these are a cosmetic nuisance only. The molded foredeck hatch also tends to leak on early models, due to some deck flex, and water level in forward bow compartment should be monitored in very rough conditions.

The Tramp was built by a power boat manufacturer, who could not be persuaded to vacuum bag, or get rid of the chopper gun, so the Tramp's weight will vary somewhat, and usually is on the heavy side. However, it is still one of the best and most fun sailing boats of all of my designs, and remains my wife's favorite boat. Over 200 were built.

The Tramp's production eventually ended due to it being too complex to build for what it was (beware of monohull methods, and textbooks on production fiberglass boats) but it was valuable experience. This was to be a key factor in the F-27's subsequent success, particularly in making it simple enough to be practical and buildable, in spite of the much more complex folding trimaran configuration.

### **The F-27**

My second production design, the most numerous, and generally very reliable and trouble free. However, a number of F-27s built from 1992 to 1994 had large voids in the beam foam fill, due to the correct filling procedure not being followed. This can become a serious problem, but most such beams have now been replaced by Corsair, and this issue is covered in detail on the Beam and Folding System Care Bulletin (as above). Indications of this problem are any sponginess underfoot, or visible 'oil canning' in the beam top.

The F-27 rig is also not foolproof, and care needs to be taken that the rig is tensioned properly, as per Sailing Manual. Adding an additional spreader makes the rig bullet proof, but also makes it harder to rig up.

Wing net lashing flange along the cabin side can also flex, which can cause cracking along this area, but this is again mostly cosmetic. Can be fixed by adding supports underneath to eliminate the flex - fixing the cracks alone will not do it - they will only open up again.

If a bow pole has been added, make sure that a new lower anchor point has been added further down the bow, and that bow fitting has been reinforced to take the higher loads.

### **The F-24 Mk 1**

My third production boat, and completed after I had left Corsair in 1991 to concentrate on design. Corsair was allowed some latitude to change this design to suit their preferences, but things went a little overboard. Too many features were added, and what was intended to be a low cost simple entry level boat became too complex, overweight, and impossible to build at a profit. On the other hand it was a great deal for buyers as they got those many extra features at below cost, for a nice pocket cruiser, plus it still sails well.

No real problems, but one structural aspect to check is that the aft beam bulkhead is taped properly to the hull on each side. I was going to introduce a more advanced monocoque structure with the

24, but Corsair wanted to stick with my older F-27 system, and sneaked it in when I was out of the country. This works fine with aft cabin boats, but is heavier and more complex than it could be. Coupling it with a small boat aft cockpit configuration such as the F-24 also made the aft beam bulkhead area very difficult for the laminators to get to, and thus taping quality suffers. Not a serious problem if noticed early - just awkward to get to and fix.

### **The F-24 Mk II**

This reverted back to my original simpler design concept, with a rotating mast, and incorporated the more efficient monocoque structure, with the cockpit floor and forward bunk top being used as part of the beam structure. This makes it much easier to build and lighter. While re-tooling I also took the opportunity to add more headroom. Only a couple of problems, one being the mast step which tends to break if mast is allowed too far off center sideways. A thrust washer was also left out of many steps, which allowed the step to self destruct over time. Easy to rectify by replacing the step. Thrust washer is best being a dissimilar metal such as bronze.

Check also compression pad areas on beam inner ends. The pads were placed too high on some boats creating a point load on the inner beam end corners which could cause cracks to develop here. Mostly a cosmetic problem, and cure is to move compression pads down and off the corner radius. More details again on my Owners Page.

### **The F-31**

This design followed the F-24 and is the production version of my F-9A design for home builders. There have actually been three builders, which came about from Corsair originally not being interested in the 31. They had instead wanted me to design a larger boat to their requirements, but unable to agree with their ideas I had declined. At that time Corsair also had exclusive rights to my folding system for the US market, and would not permit the F-31 to be built by myself or anyone else in the US, so I had to develop it through the back door by remote control in Australia. The three versions are as follows:

**OSTAC F-31** - the Australian company OSTAC had started building a custom F-9A for an Australian client, and became interested in taking molds off this. I granted the required permission, and they became the first licensed builder, with the F-31 then being built essentially via a fax machine. Fortunately, at that time, OSTAC had several experienced Trailertri builders on staff, one of whom was a perfectionist and a qualified patternmaker, and did an excellent job of the important beams and critical folding system alignment. OSTAC's team just followed the plans, without changes, and the first F-31 was built and launched in just 11 months, an excellent achievement. In spite of the various limitations it turned out very well, with no major problems.

It is a little heavier than later boats due to less extensive vacuum bagging and some aspects had to be compromised due to it not being built from the ground up as a production boat. However, some excellent racing performances in very arduous conditions soon put it on the map. I also recently inspected the #1 production boat in Australia and overall it was still in excellent condition (apart from some collision damage) Even the beam join glue seams were excellent.

**TPI 31** - the first 31 to be built in the US, and came about from Corsair being too busy with their own in house design. The OSTAC version had quickly generated considerable interest that could not be ignored, so Corsair handed the F-31 over to TPI to build (which had the same owner as Corsair). However, many changes were then made, a different interior installed, and the boat

ended up very heavy at well over 5000lbs. The final result was disappointing and not what I had intended, so I requested my name be removed soon after the first launching. Only six or seven were built before production ceased.

**Corsair F-31** - Production of the F-31 was finally moved to Corsair in 1994, after its own design had not worked out as hoped, and management changed. The F-31 was then built true to my original design, from OSTAC supplied molds, and became very successful for Corsair. There have been a number of variations since, which have all worked out fairly well, with no major problems.

One thing to check is for any signs of collision on float bows on all versions, as such collisions can cause a forward beam bulkhead delamination and other hidden damage. If unnoticed this can come back to bite you later. Clues to watch for in this regard are covered in my Beam and Folding System Care bulletin on my owners page.

### **The F-25C**

A light weight flier and kit boat based on my F-25A design for home builders, and perhaps the best looking of all my designs. It is an all carbon/epoxy balsa cored boat, and oven cured. Initially built by MPG in Denver, and then Colorado Composites. Only significant problem has been small bubbles which could be created during the heating process between the laminate and mold primer coat. They are a cosmetic issue only, and proved to be elusive to cure, and needed to be found and fixed prior to final painting. If not, they can cause annoying paint problems later, but nothing serious. Once this issue was discovered all the builders took precautions to eliminate before painting.

The F-25C can be hard to find on the used market, there being considerable interest in what is a very unique boat, with only 48 ever built.

### **The F-28**

This is virtually a Mark II F-27 with many refinements, and also incorporating the simpler monocoque structural system as pioneered by the F-24 Mk II. Few, if any problems of significance.

### **F-25A/F-82 and F-9A/F-9AX/F-9R**

These are all designs for home builders and being home or custom built, quality will vary more than with a production boat and can be far better or far worse. Most however are somewhere in between. They are usually all epoxy boats with an LP paint, and as such are more durable and can be significantly lighter than gelcoated polyester boats. If looking at a used one it is always a good idea to get a qualified surveyor to take a look, and this is also a good idea with any production boat.

No problems of any significance, just check the beam join glue seams on boats that have used OSTAC or Corsair production beams. Later boats with owner built beams don't have join seams and are immune to this issue. Presence and condition of compression pads should also be checked on all models. Later foam core boats are probably the best, being lighter, but earlier epoxy Durakore or cedar strip boats seem to be standing up well - I've actually had no reports of any rot at all.

**F-36**

A true ocean going design, and no known problems of any significance. Rare and hard to find on the used market however.

Overall, the same problems that can affect all production boats such as osmosis, or de-laminations, can also be a factor in all F-boat models, but they do seem to be relatively rare. An NPG gelcoat and a vinylester backup layer was always used at Corsair while I ran it, and still is I believe, and this is very effective at eliminating osmosis problems. The extensive vacuum bagging processes we developed at Corsair also makes de-laminations very unlikely, provided the process is monitored and checked properly during construction.