



MALIHINI

By Doug Gibson

MALIHINI (Hawaiian for newcomer or stranger) is a 35-foot open bridgedeck catamaran designed by John Shuttleworth. My wife Sharon and I built her in our backyard here on the south side of Kauai in the Hawaiian Islands.

She is of foam-sandwich construction, using epoxy resin, PVC foam and Knitex stitch-bonded biaxial E-glass. In addition to the E-glass, graphite fibers and Kevlar were used in many areas of the structure. Graphite was used in the rudderposts, rudder blades, daggerboards and athwartship structural beams. The chain plates are Kevlar and there's a layer of Kevlar cloth on the hulls below the waterline. The hulls were built on a male plug and by using vacuum bagging techniques. Each hull weighed 500 pounds when it came off the plug.

The cutter rig with double spreaders, 3/8" dyform headstay and cap shrouds and double backstays, is bulletproof even here in Hawaii where 30-knot winds are not unusual.

Below decks there are three "double" bunks and a dinette that seats six. There is a head with holding tank in each hull. The galley has a two-burner propane stove, microwave oven and refrigerator. This all adds up to rather comfortable living conditions.

John Shuttleworth's description of this design as a "cruiser/racer" is right on the money. While being able to carry four to six people anywhere on the oceans of the world safely and in relative comfort, when she shifts into "go-fast" mode, she is a thing of real beauty.

A polar graph of speed predictions was made for us by Alan Adler shortly after she was launched. The graph predicts, among other things, that when the true wind reaches 10 knots, she can sail faster than the wind. This prediction is an observed fact. We have had *Malihini* sailing faster than the wind many, many times here off the Island of Kauai.

In a race from Honolulu to Kauai we averaged just under 12 knots for the 120-mile course. Once out of the lee of Oahu, we had several periods of 20-plus-knot boat speed and a few brief periods of 24 knots of boat speed. For that race we had a crack racing crew aboard plus several passengers, for a total of nine bodies, equaling approximately 25% of the boat's weight. Not bad for an overloaded 35' multihull!

In "cruiser" mode, *MALIHINI* has made only one trip of any distance. Shortly after she was launched, Sharon and I sailed her double-handed to the mainland and back to Kauai. Sharon's niece was getting married in Southern California and she wanted us to be there. I said, "I'll go if we can sail over," so off we went. We were both really looking forward to that trip. We had made passages between Hawaii and the mainland several times before, but this was to be our first on *MALIHINI*. This was also to be our first by ourselves. On previous passages, we've always had friends or family aboard. This was going to be like a second honeymoon for us!

When sailing short-handed on the open ocean we have four rules we try very hard to adhere to at all times. First, if you're on deck alone, your harness is on and you're clipped onto the boat. Second, when the sun goes down, we reduce sail area. Third, when boat speed exceeds 15 knots, we reduce sail area. Fourth, when boat speed drops below 5 knots, we increase sail area.

For this trip we decided on a casual five-hours-on and five-hours-off watch schedule. This worked out quite well most of the time. We were both usually awake and on deck during the daytime and if one of us wanted to nap, we would make sure the other was on watch.

There was really very little to do while on watch. The Autohelm 4000 steered the boat almost all the time. Primarily the person on watch must periodically survey the horizon, monitor the autopilot, monitor the CARD (Collision Avoidance Radar Detector), monitor the wind and sea conditions, adjust sails and stay awake.

Generally, when sailing from Hawaii to Southern California, it's prudent to go north before heading east. If you don't, you risk getting stuck in "The Pacific High" or any one of a number of small "not real high" pressure areas that develop between Hawaii and the mainland.

So, on the evening of June 2nd we departed Nawiliwili, Kauai heading NNE in 10 to 20 knots of easterly wind. We continued on this track for a couple of days while monitoring the WVVH Eastern Pacific weather. Since there was very little in the way of high pressure reported out there, we decided to stay on starboard tack and try to make as much easting as possible.

By the end of the fifth day the wind had clocked around to SE, at 10-15 knots, and we were headed in the right direction. On the seventh day the wind slowly clocked around to SW at 5-10 knots. We were able to set the spinnaker and keep it drawing for almost 24 hours.

On the following days the wind went from NW at 10-15 knots to east at 10-15 knots, to light and variable, to SE at 5-10 knots, to light and variable, and by the 13th day, flat calm. It was beautiful! There wasn't a cloud in the sky and you could see forever. It was just a good thing we weren't in a big hurry. We were encouraged when we looked out over the glassy smooth water and saw no trash of any kind. In the early afternoon we spotted a large container ship on the horizon to the north of us, heading in the same direction. This was the first man-made object we had seen since leaving Kauai. We tried to contact them by VHF radio but got no response. That happens a lot! We wondered how much sooner they would get to L.A. than *MALIHINI*.

In the next few days the wind went from SW at 5-10 knots, to west at 5-10 knots, to north at 10-15 knots, to north at 10-20 knots, to north at 20-30 knots.

By the 15th day the winds were gale force out of the north with 6- to 8-foot breaking seas. These were the first breaking seas we had seen since leaving Hawaii.



That was not fun! What in the world were we doing here? Us thin-blooded Hawaii residents were not used to being that cold and that wet. Oh what we would have given for some serious FOUL-WEATHER gear instead of the tropical stuff we had used for years in Hawaii. It was so cold and wet that we had to reduce our watches to three-hours-on and three-hours-off.

Cold ain't fun!

MALIHINI, on the other hand, was suffering no observable ill effects whatsoever. In fact, she seemed to enjoy it. The ride was really rather exhilarating. It was just so-o-o darn cold! We were sailing along, close reaching on port tack with deep-reefed main and tiny staysail, doing 10-12 knots in the right direction.

In the wee hours of the 17th day we were hit broadside by one of those 6- to 8-foot breakers. It is one of the dangers of close reaching in those conditions. The breaker that got us was coming from a slightly different direction than those we had been reaching into, and was probably a little bigger as well. It is not an uncommon occurrence at sea.

When the wave hit the port hull, spray went everywhere... and the boat shuddered as though to shake it off. She slowed to about 5 knots and as the wave passed under us, she quickly accelerated back up to around 10 knots. We looked up to see that the mast was still standing, the sails were still drawing, that we were still headed in the right direction, and the water was almost all drained out of the cockpit. So we continued. Later that morning on my daily rounds, which consist of looking for chafe, leaks, or anything else amiss, I discovered the starboard rudder blade was gone. That's right, gone! The rudderpost had sheered off right above the blade. Without getting into the nuts and bolts of how and why it failed, I'll just say, "I accept full responsibility for the failure." It was not a design flaw. The rudder blade was foam and carbon while the rudderpost was a 2-1/2" carbon tube. I had violated a basic engineering tenet in composite structures.

MALIHINI's kick-up rudders have tillers that are connected via a tiller bar that is mounted on Harken cars and track to the aft crossbeam. This enables us, and the autopilot, to steer as we normally do even if one of the rudders has kicked up, or in this case, broken. We did notice that the autopilot had to work a little harder and the boat was not as responsive as with two rudders, but she still sailed well!

On the morning of the 19th day, as we passed Catalina Island bound for L.A. Harbor, we contacted an old friend, Chuck Fenoglio, via ship-to-shore operator and gave him our ETA. Chuck lives in the area and had made berthing arrangements for us at Yacht Haven Marina in San Pedro. In the early afternoon of the 19th day we arrived at Angel's Gate, L.A. Harbor. What a culture shock: small boats, big ships and traffic everywhere. We dropped all sail and motored. As we motored under the Vincent Thomas Bridge, there Chuck and a friend came out in a dinghy

to meet us. How comforting! Chuck came aboard and piloted us into our berth. This berth, I must add, I would never have considered trying to get our 24' beam into without local knowledge.

On the trip from Nawiliwili to L.A. we covered 2,965 miles in just under 19 days, averaging 156 miles/day. Our best day's run was 250 miles. Our worst day's run was 69 miles, and we had five days over 200 miles.

The Yacht Haven facility was more than adequate, with restrooms, showers, a restaurant, laundromat, and a small store. The people were super-friendly and helpful, and made us feel quite at home. They had what we would call the Aloha Spirit! They found it hard to believe that we would sail all that way from Hawaii to vacation in L.A. We tried to explain to them that we had grown up in Southern California and had lots of family and friends to visit in the area.

During our six-week stay in the area we took a lot of friends and family out day-sailing. We also took a boatload of friends over to the Isthmus on Catalina Island for a weekend. We made the weekend trip to Catalina and back buddy-boating with Chuck and Nancy Fenoglio on their 38' Cross, *Barefoot*. While we were anchored at the Isthmus we were joined by Bill and Doris Garvin aboard their beautiful 35' Kantola, *Third Dimension* out of Long Beach.

It was great seeing and visiting with all the friends and family, some of whom we hadn't seen in over 10 years. It had been so long since we had sailed in the area that we had forgotten how light the wind can be in Southern California.

We were a little apprehensive about sailing all the way back to Hawaii with only one rudder, so in our spare time, between visits and sailing, we built an emergency rudder. The blade of the rudder was built of mahogany door skin, E-glass and epoxy resin. The rudderpost was built of E-glass and epoxy resin and dimensioned to slide up inside the sheered off rudder tube. That made for a very user-friendly emergency rudder, should the port rudderpost break.

After many tearful good-byes and promises to come visit, we departed San Pedro on the afternoon of August 7. We spent the first four days close reaching on starboard tack with a full main and staysail in 5-15 knot NW winds. Each day out it got warmer and warmer and by the fifth day we were back in our temperature comfort zone. The wind had also clocked around to NE at 10-15 knots. This enabled us to set the reaching spinnaker.

At about 0500 on the sixth day, the spinnaker halyard block exploded. Now that could have been a rather serious situation. However, as it turned out it wasn't and I'll explain why. At the time of the block failure we were broad reaching in fairly light wind, doing almost wind speed. The sail collapsed into the bow nets and the only part of it that got wet was the last 10-12 feet near the clew. We quickly got it all aboard and lashed down in the nets, while we assessed the damage and formulated a plan. All the strings were still attached. The halyard, sheet, lazy sheet, foreguy and afterguys were still run to their respective blocks, clutches and winches. The spinnaker halyard block was still hanging from the bail on the mast-head. We disengaged the autopilot, dropped the main and locked the rudder amidships. Sharon ran me up the mast in the boatswain's chair with the spinnaker halyard and spare block. The sheave in the old halyard block was frozen to the pin and one end of the pin had pulled out of one of the cheeks, allowing the halyard to escape. I installed the new block with halyard while hanging on for dear life. We were back underway in less than an hour.

We learned several things from this incident. We're really glad this boat was designed with such a large bow net area. We're also glad the spinnaker halyard is all external to the mast. If it had been routed inside the mast, when the block let go the halyard might have become jammed at the masthead. If that had happened we would have had a bad situation on our hands. We also learned that you should NEVER set out on a passage without checking every block, shackle, wire and fitting throughout the boat.

We "cruised" along with full main and spinnaker for the next 140 hours, averaging about 8 knots of boat speed in the right direction. It was the most glorious period of time we had ever spent at sea. *MALIHINI* was cruising along, steering herself and we were lying around the deck in the all-together, basking in the sun by day and watching the stars rising and setting by night. It just doesn't get any better than that! It's why we love sailing so much.

As the wind clocked around toward the East, our boat speed dropped slightly. We were able however, to carry the spinnaker for an additional three days during the second half of the passage.

On the night of the 14th day we passed just north of Oahu. Land Ho! Actually we were only able to see the glow of the lights in Honolulu, no land. Shortly after noon on the 15th day we entered Nawiliwili Harbor -- home sweet home.

On the trip back from L.A. we covered 2,775 miles in 15 days, averaging almost 185 miles/day. Our best day's run was only 205 miles. Our worst day's run was 161 miles and we only had two days with over 200 miles. Not bad for a short-handed 35-foot catamaran with only one rudder.

Upon returning home we built a new starboard rudder and rudderpost; correctly, this time! We also reinforced the port rudderpost so it can take the severe shock loads when the boat tries to slide sideways.

MALIHINI continues to perform every task asked of her with style and grace. We look forward to our next offshore passage. Maybe next time we'll go south, where it's warm!

