

# Catalina 22 New Design

## Wing Keel

## Tuning and Racing Tips

Prepared by Rich Fox, Editor



There is very little information about how to best tune the Catalina 22 New Design with a wing keel. This is due to the fact that very few people actually raced this model at the national level in Catalina 22 sanctioned regattas.

The objective of this publication is to consolidate the little information that is available about racing a Catalina 22 New Design wing keel so that other owners have a foundation from which to build upon, and may increase their competitiveness in local fleet or club racing.

The recommendations in this publication are based on existing Catalina 22 Tuning Guides plus observations and experience by Bob Baker and Rich Fox, who have race a wing keel boat at the Catalina 22 National Championship Regatta. Bob finished a very respectable third in the 1991 Nationals. Rich consistently finished at the 50-percentile in the Silver Fleet in 2001, 2004 and 2005 Nationals. The information in this Tuning Guide should provide a good starting point.

Feedback is always encouraged and may be forward to the Class Editor for publishing the next update.

**Tools Required** – A 50-foot tape measure, Model PT-1 Loos tension gauge, and tools to adjust turnbuckles.

**Shroud Tension** (based on Loos Gauge Model PT-1)

Wind Speed	Forward Lowers	Uppers	Aft Lowers
Light (1-7 mph)	8	10	Loose
Medium (8-15 mph)	12	14	8
Heavy (16+ mph)	18	20	12

# Racing the Nationals in A Winged Keel 22

By Bob Baker

*This article first appeared in the Mainsheet, November 1991 publication.*

It was September when we first talked about going to the Nationals in Idaho. Janice, my wife and crew, and I, were successful racing our winged keel in local fleet races and looked forward to seeing how the boat would perform at the national level. Our boat, *Prime Time*, had always been competitive on reaches and downwind legs, but seemed slower than swing keels on the beats. We had raced three full seasons but still felt we could do more tuning to increase our upwind speed.

Our local sail manufacturer, Sharon Hart, of Hart Sail Design, had been very cooperative in helping us to get the best out of our Hart sails, which were designed for light air.

While at the Nationals, Chris Snow of North Sails of San Diego, went out with us to brush with Terry Cobb in his Catalina 22. Chris was very helpful in tuning both boats. It turned out that both 22's needed to have rigging and sails set much looser to improve upwind boat speed. We also picked up a new North Genoa that Chris just happened to have along to use with our Hart main.

Janice and I, along with five other Sacramento Catalina 22's, arrived in Idaho Friday before the Nationals. A local weekend regatta was taking place, and we signed up. The winds varied from a light 5 knots to 20-knot gusts. Usually we were not fast in heavy air, but we seemed to be getting better at driving the boat in the gusts by dumping as much mainsheet as necessary. We usually have much less rounding up problems in our winged keel than the swing keels have. This seemed to help us, and we received first place for the two-day regatta. With a Monday break for shopping and dinner, we felt we were ready for the Nationals.

On Tuesday, the first day of National racing, we had two fair starts and held our own upwind. We received two 7th place finishes, but could have had two 4ths if I had made some better tactical decisions.

On Wednesday, the wind came up for the start of the race, a reverse course. We read the second mark on the course sheet wrong and were 26th around the second mark, two minutes behind the boat ahead of us. Fortunately, it was a long race, and the wind dropped and clocked to a run. We worked our way up to a 4th place at the finish, about 30 seconds behind the first place boat,

Jerry Ingalls who was also from Sacramento. Going into the final day of racing, we were tied for fifth. We felt like we had good boat speed after the second day when we had loosened the rigging even more and were ready for the last day of racing. Janice likes to tease me from time to time and proceeded to take pictures up until the 5-minute gun of both races while I tried to maneuver in the starting area. We ended up with good starts in both races, no thanks to the camera, and rounded the first mark in the top 10. It appeared we were sailing faster than all other boats downwind.

I heard later four previous national champions, as well as other racers were taking a poll to make it illegal for the winged keel to race downwind legs. We received a 2nd and 4th on the last day, giving us a 3rd overall for the Nationals.

*(Continued on page 3)*



(Continued from page 2)

Included are some details of our racing strategy for interested winged keel racers.

**Boat Setup:** Removed excess life rafts, paddles, and sunshade but retained a port-a-potty and ice chest.

**Mast Rake:** Rake back with main halyard hanging 13 inches from mast at boom level.

**Stay Tension:** Uppers 450 pounds, rear lowers 300 lb., forward lowers 250 lb., and forestay 180 lb. both upwind and downwind.

**Genoa:** Sheet on inboard tracks, 5 to 6 inches off spreader. Halyard tight enough to remove most wrinkles from luff, but not all of them.

**Main:** Cunningham on lightly upwind with a few wrinkles still in sail luff and loose on reaches and runs. Boom vang very lightly snug on all legs. Traveler all the way to windward on beats. Outhaul tight with two-inch shelf on beats and loose with full shelf on reaches and runs.

**Hull:** Factory blister guard with keel only sanded to remove paint bubbles.

## RACING

**Upwind:** Always keep the boat moving at maximum speed while maintaining point. When in doubt, go for boat speed instead of pointing, but never let the lee side genoa telltale luff.

**Reaches:** Janice works the genoa sheet constantly and tells me when to trim the main. Main leach telltales flow about 20% of the time.

**Runs:** Never sail dead downwind, but always on a very slight reach. This requires good whisker pole jibes.

## Racing a New Design Wing Keel

By Rich Fox, Editor

For New Design wing keel owners who may be interested in racing, here are a few tips to help you maximize the wing keel performance on the race course.

**Mast Rake**—if you sail your New Design wing keel and notice a lot of weather-helm, and if sail trim doesn't solve the weather-helm issue, then try adjusting the mast-rake so that the mast has less rake. You can accomplish this by tightening the forestay, bringing the mast head forward. The Catalina 22 Tuning Guide is a good starting point for setting shroud tension. On my former C22 wing keel, I had very little mast rake, and the boat sailed very well. My observation was that the most mast rake I applied, the worse the excessive weather-helm became.

In 1991, Bob Baker sailed his New Design wing keel in the Nationals (finishing 3rd), and did very well. In contrast to what I had recommended above, Bob's mast set-up had 8 to 13 inches of rake. If you are serious about racing your New Design wing keel, certainly give Bob's recommendation a try and see if boat performance improves. Then drop me a note and share your findings so others may also benefit from your experience.

**Sail It Flat**—there isn't a lot of keel on the wing. As the wind speed increases, especially above 12 mph, you will want to keep crew weight on the high side of the boat. When heeling excessively, the wing keel does not have any bite, or lift, and the boat will tend to slide to leeward (sideways).

**Tacking**—when coming out of a tack, do not immediately head-up. You need to give the wing keel time to build up speed and generate some lift. As the speed builds following a tack, then gradually start heading up. The New Design wing keel is a heavy boat, so it takes a little longer to get up to speed when compared to the swing keel boats.



# Racing the Wing Keel

By Bob Baker

*This article first appeared in the Mainsheet, May 1990 publication.*

Each year for seven years we went to the Sacramento boat show hoping to purchase a Catalina 22. We had been sailing and racing Hobie 16's and 18's during this time. With our new child, Amy, we wanted to continue to race as a family, but we could not do so competitively with three of us on a Hobie. Finally, after seven years, our name came up for a slip at Folsom Lake in Sacramento, and we made the decision to purchase our wing keel Catalina 22.



The new wing keel Catalina 22 model had been available for less than a year. Since we wanted to race, we were not sure if we should purchase the wing keel or the swing keel. One of our main objectives in purchasing the boat was to have a family

-oriented boat, we felt that the lower maintenance of the lead wing keel would offset the possible racing deficiencies of the wing keel. We ordered our boat and Hart racing sails (Hart is a local Sacramento loft), a split backstay, self-tailing winches, a topping lift, and a Yamaha 8-HP motor as a package in February, 1987 and took delivery in April, 1987.

Our first racing experience on the boat was very interesting. There are a lot more adjustments on a Catalina 22 than on a Hobie, and I'm afraid we looked pretty green on the first day of racing in brisk winds. We were, however, very good at launching and retrieving (our boat slip did not float the first year). From the top of the ramp it took less than two minutes to back the car down the ramp, put the boat on the trailer, and have the car back to the top of the ramp. We hoped our racing skill would catch up with our launch and retrieval abilities.

After the first race, we did some practicing, and with the advice of Sharon Hart, we learned how to trim the racing sails. Our next big race was the Trans-Folsom, a 22-mile race. Winds of less than a knot terminated the race after six hours and short of the 22 miles, but we came out the winner. It seemed at this time that our wing keel was quite fast in very light air compared to the swing keel. This has proven true over the last two years of racing.

However, once the wind got above 8-mph, we seemed to be at a disadvantage to the swing keels.

We were determined that the wing keel could be more competitive in heavy air. It seemed that as the wind came up above 10 mph, we could not point as high or go as fast to weather as the swing keels. However, on reaches and downwind, we were definitely faster than the swing keels, regardless of the wind conditions. Using some old Hobie tricks we did the following:

- ♦ The mast was raked back as far as we could get it. This meant that with the boat level, the main halyard hung 8 inches from the mast at boom height.
- ♦ We tightened the stays to the settings recommended for heavy wind in the last issue of the Mainsheet (Nov. 1989).
- ♦ We kept the crew weight well forward, the skipper at the front of the cockpit and the crew on the side deck, midway along the cabin windows for beats and reaches. On runs, Janice would move forward and sit in front of the mast.

Our final step for upwind racing was discovered by accident during a heavy wind race day. We had not been doing very well that day, and after getting worn out from constantly letting out the mainsail in gusts, I decided to pinch a great deal upwind to take a rest. To my surprise, the boat continued to maintain boat speed and pointed even higher than the swing keels. As gusts hit, I would simply pinch up more without letting out the main. We continued to maintain boat speed, increased our pointing ability, and sailed quite relaxed in heavy gusts. This new technique tested out in the last heavy wind race. With mains reefed and 110's up front, we had a first and two seconds right behind Tom Page (former National Champion) in his swing keel. I now feel that our wing keel is very competitive with the swing keels in all wind conditions. Although the boat handles very much like the swing keel, there are some subtle differences.

We had spent a summer sailing a swing keel before our purchase of the wing keel, and to me the wing keel feels more stable in heavy air with much less tendency to round up in gusts. In tacking I feel it is necessary to steer the boat through the tack instead of throwing the tiller to turn. Putting the boat on the trailer is very easy, and there is no rust, cables, or possible broken pins to contend with as there is sometimes with the swing keels. We are very happy that we purchased the wing keel.