



KAMIKAZE EXPRESS and 4 SAMURAI were faster than MAGICIAN V downwind in light conditions. Note boats in background jibing downwind ... a must in light air with non-masthead rigs.

1978 QUARTER TON WORLD CHAMPIONSHIPS

by Masamichi Kawashima

Shima, as he is known by all at North Sails, manages North Sails Japan and has been actively involved with MAGICIAN V's success in winning the 1978 Quarter Ton Worlds.

There were 32 entries in the World Quarter Ton Championship Regatta this year, 15 from Japan and the remaining 17 from 9 other countries. Hugh Treharne, John Kolius, Dave Jllman, Tony Bouzaid, Harold Dudmore, Helmer Peterson, and Bob Fisher were among the famous ailers competing.

Twenty-one of the entries had fixed keels, skippers and designers preferring fixed keels for the sea conditions found in October and November in Japan. Data from the

past few years shows that the average wind speed in the racing area is 16 knots during late October and early November. The sea is always tough because of the strong current called Kuroshio which runs from southwest to northeast, against the prevailing wind direction. I think the Japanese boats did well because they were well prepared for these heavy conditions. Many of the foreign boats did not have enough strength in their hulls, spars and fittings and had many problems.

Of the top ten boats in the series, the 2nd, 3rd and 10th place boats had daggerboards. Many boats lost their masts in the offshore races. One boat lost her daggerboard and another sank during the long offshore race. I heard that some foreign boats gave up because of fear.

1978 QUARTER TON WORLD'S RESULTS

Pos.	Name of Yacht	Nation	Designer	Sail	Skipper
1	MAGICIAN V	JPN	Yamaha	N/S	Roy & Gerry
2	KAMIKAZE EXPRESS	JPN	T. Kihara	Watts	M. Tokano
3	SEAFLYER	AUS	P. Whiting	Blue Peter	H. Treharne
4	4 SAMURAIS	W.G.	A. Mohnhaupt	N/S	A. Mohnhaupt
5	WINGS	G.B.	S. Jones	Team	Bob Fisher
6	OOOH VIND	JPN	Finot	Ulmer	H. Hashiba
7	SPEED SPEED	JPN	O. Takai	N/S	A. Kanazashi
8	MANBOW	JPN	Farr	Watts	T. Yagi
9	SHOUN A	JPN	Yamaha	N/S	A. Shiomi
10	BLACK ARROW	N.Z.	Peterson	Hood	L. A. Bouzaid
11	SHINY SHOVEL	H.K.	Dubois	Pryde	N. Pryde
12	SAKURA SAKURA	JPN	Finot	Local	
13	KOTERUTERU	JPN	T. Kihara	Local	Shozaki
14	PARADISE	JPN	Peterson	Local	
15	ST. GOLIATH	JPN	Peterson	Local	Ninomiya
16	MAGICIAN VI	JPN	Yamaha	N/S	K. Komatsu
17	RODEM	JPN	Takeichi	Hood	
18	MOON DOG	G.B.	S. Jones	?	June Clarke
19	TRACER	JPN	Finot	Local	
20	ESMERALDA	JPN	Farr	N/S	
21	CHOU CHOU	JPN	Whiting	Local	
22	SELF WHITING	N.Z.	Whiting	N/S and ?	J. P. Bonica
23	GREMLIN II	H.K.	Holland	Gastra	K. Law
24	MADCHEN	W.G.	Farr	N/SH.	Dietrich
25	VELOCITY	P.N.G.	Davidson	Hood	B. Tardrew
26	YELLOW MARIE	HOL	Van De Stdad	N/S	Van Tongeren
27	KINUKO	U.S.A.	G. Mull	N/S	David Allen
28	VAGO	N.Z.	Holland	Ulman	D. Ullman
29	LARRIKIN II	H.K.	Farr	Gastra	M. W. Phillips
30	PASSAT	BRA	Holland	N/S	M. Giffoni
31	VIND TOO	W.G.	Farr	Watts	H. Heins
32	QUARTER APPLE	G.B.	Holland	Hood	H. Cudmore

Pos.	Name of Yacht	1	2	3	4	5	PT/TL
1	MAGICIAN V	4	3	1	5	2	197.375
2	KAMIKAZE EXPRESS	7	6	3	2	1	193.500
3	SEAFLYER	5	7	2	1	3	192.75
4	4 SAMURAIS	1	5	9	4	8	175.25
5	WINGS	6	4	6	20	6	163.5
6	OOOH VIND	2	2	20	12	4	160.5
7	SPEED SPEED	9	17*	18	17	5	134.5
8	MANBOW	10	20	17	3	13	130.0
9	SHOUN A	19	14	10	19	9	129.5
10	BLACK ARROW	16	12	12	9	18*	123.5
11	SHINY SHOVEL	3	9	13	15	DNF	116.0
12	SAKURA SAKURA	22	15	14	22	10	114.5
13	KOTERUTERU	12	18	5	11	DNF	114.0
14	PARADICE	17	19	4	10	DNF	110.5
15	ST. GOLIATH	15	13	7	14	DNF	110.0
16	MAGICIAN VI	8	10	11	8	DSQ	106.0
17	RODEM V	11	16	DNF	13	11	104.5
18	MOON DOG	24	16	DNF	18	7	78.5
19	TRACER	25	25	19	30	14	78.0
20	ESMERALDA	14	23	8	25	DNF*	76.5

* 10% Penalty
3rd Race is Short Offshore
5th Race is Long Offshore



MAGICIAN V pointed high with her genoa trimmed rather far inboard. Note the 18 inch planing board added to the transom.

Both offshore races were in such heavy conditions that any boat that was not seaworthy could not finish. I think it was a very good test of the seaworthiness of stripped quarter ton boats.

PARADISE, a Doug Peterson designed daggerboarder, had their jib go aback during the rapidly oscillating windshifts on the last leg of the last race. All of the crew members were hooked by their safety harnesses to the weather rail and could not respond quickly to the tack. The boat capsized and turned upside down while they were still trying to unhook their harnesses. Unfortun-

ately the hatch was open and the boat began to fill with water. An hour later, the crew succeeded in inflating their life raft only minutes before the boat sank. After 16 hours of drifting they were rescued by a passing ship. It was very lucky no one was lost.

The three Olympic Course races were sailed under good conditions — one light at 4-6 knots, one medium at 8-10 knots and one heavy at 20 knots. I regret that QUARTER APPLE (Cudmore) and VAGO (Ullman) lost their masts early in the series and had to drop out of subsequent races.

I'd like to introduce some of the interesting boats.

MAGICIAN V the winner was designed and owned by Yamaha Motor Company. It is an identical to **MAGICIAN VI** which finished 16th in the series due to a disqualification on the long offshore race. Both boats were launched in the summer of 1977, and ever since Yamaha has been refining and improving their performance by testing them boat for boat. They have the largest hull volume.

Their principle dimensions are

L X B X D = 7.960m x 2.99m x 1.77m

IOR Displacement = 1.186 kgm
(Fixed keel weight 350 kgm)

RSAT = 26.867 m²

Inboard engine is a Vire 7

Spar is a T & M 3/4 rig, deck stepped with double spreaders

The hull has a large transom compared to other boats, and smooth conventional lines. It is built of a layer of fiberglass sandwiched between two layers of carbon fiber. The deck is fiberglass balsa core construction. Yamaha says the hull weight is 20 percent less than normal fiberglass construction.

After many alterations of the keel, engine, rig, etc., the boat became an all around good performer. However, in light wind spinnaker runs, daggerboards seem to be faster. The hull and rig are very strong and they had no problem through the grueling series.

MAGICIAN V was recalled at the start of the long offshore race and had to restart 10 minutes later. In spite of this handicap, they performed well in the heavy conditions and finished second.

The crew consisted of Roy Cundiff from North Sails Seal Beach and Gerry Gavin from North Sails Midwest together with Kikuchi from North Sails Japan and Hakomori from Yamaha. They previously sailed together in the fall of 1977 and showed nice teamwork.

Their sail inventory consisted of a 2.2 #1 light genoa, 4.5 #1 heavy genoa, 5.5 #2 with reef, 5.5 #3 with reef, a 0.75 blooper, a 0.5 oz. radial head spinnaker, a 0.75 tri-radial spinnaker and a 1.5 90% tri-radial reacher. All the sails were built by North Sails Japan and performed beautifully.

KAMIKAZE EXPRESS was designed and built by Japanese T. Kihara. This daggerboarder has a fine entry and fine run aft. I would say her performance beating was average, however she has very good speed during the offshore races and she finished 2nd overall. Kihara designed this boat with the racing conditions in mind, giving her good reaching performance and a strong hull.

SEAFLYER is a P. Whiting design with a beautifully built wooden hull, very different from his old **MAGIC BUS**. Her original name was **SEAPLY**, but someone protested that name because it is the name of her sponsoring company. She was fast in light wind conditions, especially spinnaker runs and reaches.

4 SAMURAIs was designed and sailed by Axel Mohnhaupt, a medical doctor from West Germany. After

sailing in the Japanese Championships, three weeks prior to the Worlds, her daggerboard was replaced by a fixed keel. Although she finished 4th overall in the Worlds, she was a very fast boat going upwind. Everyone agreed that she and **SPEED SPEED**, a Japanese designed boat by Takai who finished 7th, were the fastest in the fleet going upwind. It is interesting to note that both **4 SAMURAI**s and **SPEED SPEED** modified their stern sections after the Japanese Nationals in order to improve reaching performance.

I am very proud to note that there were no failures in construction of North Sails during the series, although we did do a lot of repair work for other sailmaker's sails. North Sails Japan was chosen by the Racing Committee to be the official sailmaker for all repairs during the regatta.

1978 QUARTER TON WORLD CHAMPIONSHIPS

by Gerry Gavin

Gerry, a frequent contributor to our newsletter, is Sales Manager at North Sails Midwest.

By now you have probably read many articles about the 1978 Quarter Ton World Championships in yachting publications, as well as Shima's account printed here. Here are a few of my own comments in answer to questions from many of you.

*Was **MAGICIAN V** fast? Yes it was, but at least three or four boats were as fast or faster. **KAMAKAZI**, **SEAFLYER**, **4 SAMURAI**s, and **OH VIND** all had speed to win. However, we didn't have any weak points of sail or wind strengths. When a particular boat was fast in any given condition, we were never very much slower. We were a very good all around boat, but specifically, we were best upwind particularly in a breeze, very fast on power reaches either with a chute or jib, while downwind, particularly in a breeze, was perhaps our worst point of sail. **MAGICIAN V** is a conservative, well thought out design with a very light hull and modern rig, but engineered to stay together in high winds and seas.*

How did we win if sheer boat speed didn't do it? Sailors often forget that the fastest boat doesn't get the prize, but the boat that crosses the line first. Moreover, in a five race series, the boat that crosses the line ahead of the other contenders most often wins the prize. More specifically, we won with an excellent all around boat, a compatible crew, superb preparation, and a bit of luck. In fact, preparation more than anything else won.

Preparation began for Roy Cundiff and I in October of 1977 when we met our Japanese crew mates, our boat, and our Japanese team mates from **MAGICIAN VI** in Japan. We were soon installed at Sajima Marina where the 1978 World Championships would take place, and where the 1977 Japanese National Quarter Ton Championship was about to start. We sailed **MAGICIAN V** against **MAGICIAN VI** for two weeks, testing sails, sail trim, sail



*Inshore in 25 knots of breeze and with the blooper set, the crew of **MAGICIAN V** would have preferred a dazy staysail.*

combinations, and crews. We busied ourselves as well; installing, removing, and relocating things such as running rigging, standing rigging, genoa tracks, cleats, winches, etc. We also reshaped rudders, faired keels, and painted and polished our hulls. Rudder failure on both MAGICIAN V and VI in the 40 plus knot winds in the long offshore race kept us from scoring first and second in the ensuing Japanese Quarter Ton Championships. However, we had gained valuable knowledge of our boat, our crew, the winds, and the currents we had to work with in 1978.

“By race time our boat was prepared in the only way one can really be sure of — trial and error.”

During the eleven month interim, MAGICIAN V was revamped. Roy and I had suggested a better, lighter mast, more sail area made possible by bumping the measurement points on the hull and changing the engine weight and location, as well as a larger propeller. Also at our request the forestay was made adjustable, the cockpit was made wider for our larger American bodies, cockpit drains were exited aft through the transom instead of under water where they created drag, the traveller was lengthened and deck mounted, the rudder extended ten inches deeper for better control, and the keel was made a narrower cross-section. All this was done to MAGICIAN V while MAGICIAN VI was kept the same as a trial horse. Careful testing showed MAGICIAN V was never slower than MAGICIAN VI and sometimes as much as 13 percent faster. MAGICIAN VI was modified accordingly.

Last October we went back to Sajima and started our final preparation for the Worlds. Good sailing days saw us boat for boat testing. Night and days of calm saw us revising the revisions. The traveller was changed and moved again, and then again. The maststep was rebuild. Blocks were replaced, winches moved, halyards replaced, everything was gone over. By race time our boat was prepared in the only



After sailing together for more than 300 miles before the event, the crew of MAGICIAN V was able to get the most out of their boat in mark rounding situations.

way one can really be sure of — trial and error. When something broke, we used something a little bit stronger. If something didn't work, we tried a different approach until it did.

What were the Japanese sailors like? Our crewmates, Kikuchi and Hakomori couldn't have been better. Both are experienced dinghy sailors, they understand sail trim, tactics, never have to be shown the same thing twice, need little food and no sleep. (On a quarter tonner in a 48 hour race, nobody sleeps.) Speaking of food, Kikuchi's wife is an excellent cook. There is nothing like rice balls

stuffed with salmon eggs or raw fish wrapped in seaweed.

The Japanese sailors as a whole can be said to have only one fault — lack of offshore sailing experience. (Something a little time will remedy.) On the other hand, I don't believe there are words in the Japanese language for “I quit”. The concepts of “giving up” or “taking it easy” don't exist. At least Roy and I saw no evidence of this. That kind of determination, plus the self control exhibited by the Japanese is something western sailors should learn more about. Next to preparation, determination on the race course does the most good.



Rig canted forward, blooper up, in 25 knots MAGICIAN V chases the fleet after a premature start in Long Distance Race.

How do you like sailing modern quarter tonners? They're fine, although definitely not "family cruisers". I should add that above 35 knots of wind, the only way I care to sail a quarter tonner is upwind. One has the working jib reefed and trimmed outboard, the main reefed three times, the traveller six inches from the leeward rail, the crew is harnessed to the weather rail. Spray is horizontal so vision upwind is impossible, and the helmsman's only concern is keeping the spreaders out of the water in lifting puffs and avoiding accidental tacks in the headers. This is tranquility compared to the alternative, sailing downwind. Downwind in 35 plus knots of wind with the chute up, planing at 10-14 knots for minutes at a time with waves breaking all around, one overtakes the waves ahead. Imagine what happens as one overtakes a wave but doesn't pick a smooth path over it — bumps into it, so to speak. There is a thump, the boatspeed drops from 14 knots to 5, the apparent wind increases 7 knots because of this, and the boat gets a little sideways at the same time. There is an immediate uncontrolled broach, but with luck one only loses a few hundred yards to the competition, gets soaked with seawater, and gets only a little more scared. The unlucky boats tear spinnakers, lose masts, drag crew through the water at the end of their harnesses like shark bait, and bend or break their rudders off. Downwind is terrifying.

What did we learn from the event? Roy and I agree that although we used and flew our blooper successfully on MAGICIAN V, we would trade it for a dazy staysail the next time around. When dealing with the limited allowable inventory on a quarter tonner, the dazy is valuable because of its versatility. Besides, on a non-masthead quarter tonner, the dazy seems to be the key for getting the most out of the really large main on spinnaker reaches.

We learned that while sheeting angles of headsails on non-masthead quarter tonners in general are much wider than they are on larger yachts on masthead, the sheeting angle varies significantly with the hull shape and keel/daggerboard configuration. Our boat, which pointed high and went fast upwind, sailed with the heavy #1 trimmed at 10°. Ours was a narrow sheeting base compared with most other yachts. Wider sheeting angles weren't faster for us, though some yachts trimmed much wider with results as good as ours.

We learned that one blade of the folding propeller hanging down while sailing in 8 knots apparent upwind is equivalent to about one foot of rating IOR. Or, that a large sized plastic baggie wrapped on the rudder is just as slow. When boat for boat sailing against MAGICIAN VI before the event, we went from non-competitive to equal in speed upwind when we aligned our prop correctly. Like-

wise, during the World Championships, we found and removed both a baggie and a three foot piece of bamboo from our rudder, because we knew from our boat for boat testing how fast we should have been going.

Before the regatta in boat for boat testing against our sister ship, we eventually seemed to get going a little bit faster upwind. I attribute most of this to the fact that we had an adjustable forestay as well as backstay, while MAGICIAN VI only had an adjustable backstay. However, it was interesting to note that our fastest position for the rig upwind in any breeze was all the way back. Of course off the wind we let the rig all the way forward.

Finally, at the risk of being too repetitious, we learned how truly important **preparation** is. I've already mentioned what we did to prepare, but what does preparation mean in terms of getting across the finish line first? Generally speaking, when one is sailing upwind, he can concern himself with steering and watching the windshifts, because he already knows the sail trim is right and the boat speed is max. When one approaches a mark, he already knows which sail combination will be fastest on the next leg and that the crew will be smooth getting sails up and down, so he can concentrate on tactics and maximum boat speed getting around the mark. When one is passed by a faster boat only a boat length or two away, he doesn't get

excited, begin to change the sail trim around, and start yelling at his crew, because he's always aware of whether or not he's getting the most out of his boat. Instead, he concentrates on staying ahead of boats of equal speed and uses strategy or tactics to beat the faster foes.

Specifically, preparation meant that before the regatta and during the first race or two, no one had our speed upwind. However, by the last race, four boats at least had equal or better speed upwind. The competition was learning how to sail their boats.

Preparation meant that during the second reach of the first Olympic Course race sailed in heavy conditions, we passed eight boats and **MAGICIAN VI** passed six boats, because we knew we could carry our chutes. The competition didn't realize they could have carried their chutes until after that race.

Likewise, preparation meant that when it was blowing 40 plus knots, and sails were tearing, and hulls were being stove in by the 20 foot waves, and masts were falling like trees at a lumberjack gathering, and centerboards were breaking, and boats were sinking, and crews were applying artificial respiration to crewmen washed overboard during capsize (One boat sunk, but several were capsized.), and when other crews were seriously questioning their yachts' ability to survive and when other crews were retiring because they didn't like the answer to that question, at that point the crew of **MAGICIAN V** was sitting on the rail eating Mrs. Kikuchi's stuffed rice balls and tacking on the windshifts. And, we were learning by watching the relative movement of lights ashore that although we were moving $5\frac{1}{2}$ knots through the water, our progress was zero over the bottom due to an unusually strong current and the only fast way to get upwind was by bearing off inshore.

In short, when some were searching for boat speed, and others were wondering what sail to put up, while still others were trying to glue their boats back together, we were concerned with nothing but tactics and strategy.