



MANTA WORLD



The Virtual Newsletter for Manta Enthusiasts

No. 3 – 1 April 2001

Price: US\$5

Editors: Will & Rita Olschewski, S/V Magic

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JUST OUT, NEW MANTA 50



Vinoy Marina, Tampa, FL 4/1/01 – Today, Manta Inc. introduced the high tech "Manta 50 Express" with an LOA of 50' and a beam of 27'. Both sails are controlled by redundant computers. What is more, narrow asymmetrical hulls and 2 turbine sail drives make this the fastest 50' catamaran on the market, cruising at up to 25kn under sail and 40kn under power. Two keel tanks hold 1000 gal. of JP4 jet fuel.

NEW MANTA MANUFACTURING PLANT

Pat Reischmann told Manta World that Manta moved to new facilities at Diversified Marine in Palmetto Florida (1/2 hour south of St. Pete). The owner is Jeff Steele and he has been involved in boat manufacturing for over 20 years. Before establishing Diversified he was production manager at Wellcraft. He is currently producing the Victory 35, and offers a wealth of experience in boat building. The new facility is quite a bit larger than the Endeavour facility and Pat is hoping to be able to increase production, while maintaining a very competitive price and value as always. Any inquiries for warranty and service will need to come through Pat at preischmann@msn.com.

ROMANCE COMES TO GRIEF ON GRECIAN ROCKS

We crossed the Gulf Stream from Cat Cay on 3/3 and at 5:00 pm motor sailed at 4 kts SOG - 2300 RPM's on the edge of the Stream against strong currents. Winds were 25kts from S to SW. At Elliot Key, the dipstick showed over 30 gal. We had enough fuel, but 8 miles from Rodrigues, we unexpectedly ran out of fuel. We continued against the current under sails, but the wind pushed us closer and closer to the outside markers. Approaching the Elbow Rock marker, we were getting too close, so we tacked SE. This was difficult due to current and wind direction. Cheryl, looking at the Cap'n, yelled we were near some rocks. Trying to head out, we ran aground on Grecian Rock. It was 12:01 AM. We kept our sails up, hoping to sail off the rock, but it was low tide. Not a chance.

NEW GADGETS, GEAR & TOYS

NAVIGATION SOFTWARE

Our informal survey indicates **Nobeltec Visual Series version 5.0** is used the most with the Cap'n being second. Most Nobeltec users switched from the Cap'n, because they felt the Cap'n is outdated (i.e. no stitching together of charts, incomplete GPS interface or marginal stability).

Nobeltech also offers world wide Vector Charts. We recommend the US charts. They are much sharper, easier to read than Raster charts. You can get instant info on bridges, prohibited areas, etc. by clicking on @.

We called the CG on VHF, because we were taking on water in both hulls. Soon we got a call from Capt. Kitto of Seatow on our stbd, asking if we wanted assistance. We declined, because the bilge pumps were handling the leaks and we were worried about salvage rights. Soon water rose over the floor in both hulls, a CG inflatable appeared off our port, so we asked Seatow for assistance.

Capt. Chuck Kitto swam 150 yds to our boat with hoses and pumps on his back. He asked us to get our swimming fins on (we already wore life jackets), while he swam to the Coast Guard Zodiac and got a lifeline. He swam back to help Cheryl swim to the CG boat and then helped me. The CG had shut all lights off in order not to attract sharks. They wanted to take us to the Islamorada CG station, but got lost and then ran out of fuel. They called a 41' CG boat 20 min away to rescue us, then we ran aground! The closest the CG boat could get was ~1/2 mile. We sure were freezing. So the CG had to call Boat US to rescue all of us. Boat US arrived around 5:30 AM and towed us to the CG boat where we finally got blankets. We arrived at the CG station at 6 AM.

Chuck Kitto stayed with Romance, and even rescued Misty, our cat. With the help of Boat US, Seatow brought Romance into Port Largo ~4PM the next day. It broke our heart to see both hulls breached. Chuck was amazed at how well Romance took the banging on the rocks. He said that this is the kind of boat he and his wife want when they retire. Chuck and his wife were terrific. He saved our lives, no question about it.

We don't know all our options yet. The insurance company hasn't finalized everything. Our dreams are a little shaken, but the dreamers are alive and well. This is not going to stop us.

Barry and Cheryl Corbett – S/V Romance

4 MANTAS MEET IN GEORGE TOWN, BAHAMAS



On 3/9, Magic, Side By Side & Windward Mark met for cocktails on Imagine. Then Magic, Nachtmusik & Side By Side had a St. Patrick's Day happy hour on Windward Mark. We swapped experiences, fish stories, etc. Last winter, 6 Mantas met there and in the Spring 5 Mantas were anchored together in the Ruins Anchorage. If you want to meet other Mantas, come to George Town in the Winter/Spring.

You can turn off various features, such as lights, depth contours, etc. Some offshore charts, such as the Bahamas lack detail.

Maptech introduced new **Bahamas CD charts** (Region 9), incorporating all Explorer charts published to date.

AUTOPROP UPDATE

Running with one engine into 25kn headwinds, it is not possible to get moving (0kn vs. 2.5kn on the Volvo Props). It is also becoming hard to get answers from the US distributor. Do not rush into Autoprops yet.

CRUISERS PERSPECTIVE

THE MAKING OF A CRUISING MANTA

We've all seen the ads – Manta, the ultimate cruising catamaran. We all love our Mantas, but those who voyage long distances recognize there are some features we like more than others. Cruising books are replete with long lists of all the gear one should have aboard for long distance cruising, but what things really work well and what doesn't? Equipping a boat certainly entails compromises. This article outlines our perspective of the good, the bad, and the ugly after cruising on Feng Shui for the last 15 months. The assumption is, our boat is a waterborne home for a couple (with occasional visitors) doing Caribbean island hopping, coastal cruising and gunk holing. For marina hopping or multi day ocean crossing Mantas, many of these requirements will differ.

THE BEST MANTA OPTIONS

Many things on the Manta are "standard" and other items are part of packages offered to buyers, but some of these really stand out as adding to the comfort and enjoyment of cruising. We have tried to list these in order. Some have made a huge difference in our comfort aboard and others are little things that fit so perfectly or work so well, other owners should know about them.

Spectra 380 water maker – It is without question the most important piece of "comfort gear" on our boat. When we watch fellow cruisers schlep to shore with jerry cans or pay ransoms to have palatable water delivered we are sometimes embarrassed to say that we do fresh water deck wash downs periodically and do nothing to scrimp on our water use (including fresh-water heads). The 16 gallons per hour from the Spectra improve cruising life more than any single item on our Manta.

Six Siemens 75 watt solar panels – We have run our engine or generator less than a dozen times in 15 months just to charge batteries. We have a full freezer and make water daily but the solar power keeps up with our prodigious electrical needs and keeps the batteries full.

Refrigerator-freezer swap – We opted for a large freezer and smaller fridge and have been delighted to stock up with 6-8 months of frozen food in Florida and topped off again in Puerto Rico and Trinidad. Smaller freezers mean more frequent provisioning stops and buying at higher prices and/or lower quality. The smaller fridge is perfect with a couple of wire baskets to move food easily. Soda and beer are stored in the ice box on the cockpit arch.

High-output alternators and 3-stage voltage regulators – You will motor and motor-sail while cruising. The first 1200 miles of our trip were straight to weather. When passage-making at night with auto-pilot, running lights, instruments, refrigeration, radar and blowers running, it takes lots of juice; have it available.

Heart inverter and Link monitor – You will find that battery state is a point of concern about 6 times a day (or more). The Link monitor makes it easy to keep your batteries in top condition and the inverter adds to your comfort in so many ways.

Increased fuel capacity – We opted for a 150-gallon fuel tank. We need to refuel only every several months and with the increased capacity we can plan for high quality fuel at lower prices. While friends are waiting in line at the fuel dock we are getting an early start to our next destination.

Washer/dryer – What a luxury! Next to fetching water ashore, cruisers spend their time in paradise looking for an acceptable laundry. They are few and far between and often costly. We have clean towels twice a week, clean sheets every week and no mildewed clothing lying around. While friends wait out Laundromats or search for lost articles of clothing from laundries, we snorkel and enjoy our trip.

EXTRAS TO CONSIDER

The Cap'n or other electronic navigation software – Once you use electronic charts you will never go back to paper for trip planning and waypoint locations. We still plot passages (defined as no visual contact with your destination) on paper charts and we keep small scale paper charts for the entire voyage. But, we see no need for hundreds of paper charts that are hard to store and harder to locate when needed. We use cruising guides for harbors and large-scale work but the rough navigation and route planning are electronic. We recommend back up of all electronic systems. Someday water will find the keyboard or lightning will strike so we have a second laptop stored

in a water proof Faraday cage (aluminum foil) and a redundant CD read/write device. We have copied all charts to a working CD and store the originals in a separate location. So far so good.

PocketMail – E-mail quickly becomes the only affordable way to communicate while cruising. Phone calls often-cost \$3-5 per minute and with vendors using menu-driven call routing and voice mail, e-mail and fax are essential. We lugged our laptop (in a waterproof, shock proof Pelican case) from marina to marina, telephone office to telephone office, and finally acquired PocketMail. It's cheap, fast, and convenient and even sends out-going faxes.

Sport-a-seat cushions – Get one for every person aboard. They are simply great!

Storage - An under-cabinet spice rack and swivel Henkel knife block above the microwave oven help storage and safety in the galley. Extra shelves in the former trash, TV, and wet lockers have tripled our salon storage. Shelves in the port side across from the pantry and in every cabin also add comfort and storage. Home Depot is a great source to equip your Manta. They make heavy aluminum hooks for hanging docking lines, spring lines, and fenders in the sail lockers. Also their plastic toolboxes fit perfectly inside of the engine compartment doors and can be held in place with shock cords. The plastic small parts trays with a locking top fit precisely in the bottom fold-down locker of the starboard stateroom. They stack 3 high and hold everything from spark plugs to stainless steel fasteners.

94 quart Igloo cooler - fits perfectly beside the two cockpit storage boxes of the radar arch. Stocked with Tech Ice or other refreezable product it keeps drinks cold and handy. It works better than the Manta insulated box and is portable so you can pick up frozen food in your dinghy and keep it that way to the boat. It helps in the galley to hold frozen food while defrosting the freezer also. Move it inside and pile in the cold stuff.

6-gallon dinghy fuel tank - decreases the number of runs to the fuel dock and extends your range significantly. A spare tank can be stored forward in the starboard anchor locker and you never have to pour gas into the dinghy tank at sea again.

Propane - stops can be a long way apart so we have an extra 20-pound aluminum spare tank stored in the sail locker. Something we understand works but haven't used yet is a high-tech **insulating freezer pad** custom cut to cover the freezer. Sounds like a great way to cut freezer amps.

GREAT IDEAS FROM MANTA

Manta has done some spectacular research to provide the highest quality equipment on the Manta.

The davits and davit tackle are outstanding. We watch friends struggle for 30 minutes to remove dinghy engine and lift their dinghies onto poorly designed davits while we routinely have our dink in the water in 30-45 seconds and haul it up (every night for security) in a minute or two – great system.

Electric Harken winch adds to the joy of cruising every day.

Folding props and line cutters not only add a knot to your sailing speed, they also have saved our bottoms at least once when we hit a lobster trap motoring out of Hawk Channel on the night of our Gulf Stream crossing.

The quietness of the Next Generation generator amazes us. On laundry day we wash clothes, heat water, make water, make ice, and charge batteries all in one hour.

The Raytheon radar properly setup with the B&G instruments give us a navigation and safety package that is second to none. We didn't think we would need radar in the fogless Caribbean. Make one night passage with radar and you will never sail without it. You will steer around squalls, plot courses of ships and boats, determine distances to islands and use it as a backup display for all other navigation instruments – easy to learn and it works great.

The Horizon VHF with RAM mike - A VHF radio in both the cockpit and nav station is almost essential. The Horizon eliminates the need for two radios and adds an intercom as a bonus.

The Reverso oil change pumps take much of the drudgery and mess from 100 hour oil changes – great product.

OPTIONS OF LESSER VALUE

What options did we add but find to be of less use than we imagined? Most items in this category are safety items and were added because of our inexperience with long-distance cruising. The two of us decided in the early planning of our cruise never to scrimp on safety or security items. Deliberate deletion of safety items will no doubt be controversial, but we have several things on board that we would consider essential to cross oceans, but are probably unnecessary for Caribbean island hopping.

The sea anchor is a great idea for long ocean passages. However, with the speed of the Manta, few passages in the Caribbean need be longer than 12-15 hours. If you select the right "weather window" you should not get into trouble.

The SeaCurity intrusion alarm was a great idea but, has not been used much on *Feng Shui*. A series of boat entries in Luperon, Dominican Republic had us worried and we used the alarm twice while we went ashore. Both times we had false alarms that drove the neighboring boats crazy. The first time was our fault because we didn't think Spastico, the boat cat, would set off the motion detector – wrong. The second false alarm occurred when the battery died in one of the sensors. We stopped using it and fortunately have not had a problem.

The spinnaker is a controversial point on our own boat. It was great fun chasing downwind in Tampa Bay, but the reality of the Caribbean is that the Trade Winds seldom blow less than 15-20 knots and the seas are rarely less than 4 feet. We don't feel comfortable flying the chute in those conditions. We took the hardware off the boat and are saving it for more protected waters.

The life raft must be an individual decision, but catamarans don't sink and unless you have fire at sea, we can't imagine ever leaving a floating boat for a life raft.

A dinghy cover matching our boat canvass sounded like a great idea for the 8 weeks, we were in a marina, preparing for the voyage. Now it has become one more thing in the way when we dig to the bottom of the sail locker. More practical than a traditional dinghy cover is a custom cover for the Hypalon tubes only. This leaves the boat open and available for the frequent use while protecting the plastic from dirt and UV exposure.

Air conditioning is another controversy. We can't live without it in a marina, but haven't used it once at anchor. The Trades are remarkable and if anyone had told us we would be sleeping with a sheet (and at times, a blanket) when it is 84 degrees, we would have thought them crazy – we do! The air conditioning compressors and ductwork take precious storage space that at most times we wish could be used for other things. However, neither of us would want to spend one single night in a Miami marina without the AC.

EDITORS NOTE: Buying a new Manta? You may want to consider only one, the forward A/C unit. It does cool the staterooms too, even in the tropics.

THINGS WE MISS

Single Side-Band (SSB) HF radio - Pat says it's low-tech and unreliable, but SSB is your greatest entertainment while voyaging. There is nothing more frustrating than being 25 miles from your closest sailing friends and not being able to communicate. SSB gives you low-cost access to e-mail from any location, crucial weather reports and weather faxes and tremendous entertainment. SSB is an important safety item when you are offshore. If you plan to sail out of VHF range of the USCG or other boats, you should have a SSB radio or a satellite phone.

Ground tackle - When it comes to sleeping well at night, nothing helps like good ground tackle. We were talked out of getting the Delta 55 anchor and went with the standard "over-sized" 44-pound Delta. Ten pounds is a lot of weight at the bow of a catamaran, but dragging anchor in a 2 a.m. squall is a real drag. We have only dragged twice and both times we were in marginal holding ground and the winds were approaching 40 knots – but that's part of cruising! Along the same line, don't forget to add extra line to your chain locker. One hundred and fifty feet of chain is a good start in Florida, but in the Caribbean you will often anchor in water 40 feet deep. Add 150 feet of 5/8 inch nylon and splice it to the primary chain – you'll use it.

Hardtop - The soft cockpit top saves a couple of hundred pounds, but it leaks water and is a safety issue when you need to climb up on the top in a seaway. Furthermore, it would be nice if the soft top were

redesigned to be a few inches wider. In a heavy rain the water drips inside rather than outside of the cockpit combing.

Solar ventilators in the salon hatches - An addition you will want to add for the Tropics, that we forgot. We used Nicro vents like Manta puts on the forward hatches. They help tremendously when you have the boat closed up for an excursion to shore.

Translucent salon window covers and a deck awning - Staying cool in the Tropics is important. We have found that a simple Home Depot tarp on the south side of the cabin helps greatly to cool the salon. It helps some with UV fading of the upholstery. A deck awning would be a great project for Manta and JSI to design. It needs to be easy to set up and strong enough to survive in a blow. (Also see Nauti Tips)

PROBLEMS TO ADDRESS

We love our Manta and, so far, we haven't seen a boat we would rather have for Caribbean cruising. But there are some things that just aren't right and they are mostly problems you will first encounter during a passage in 6-10 foot seas on your bow.

The first problem you will notice when you finish your rough passage is a lot of ocean in your boat. The worst offenders are the serious **leaks in the foredeck sail locker hatches**. We picked up hundreds of pounds of seawater during our first rough passage. Water was 6-8 inches deep in both forward lockers. We readjusted the hatch locks and reduced the magnitude of the problem, but still end up with an inch or more of water in each locker after a long, rough passage. Some cruisers duct-tape the hatches for each passage. We prefer to leave the drain plugs out at all times – even though this is contrary to the Manta recommendations. We get water in the lockers from the hatches but it runs out quickly through the drains that are above the water line more than they are below.

The next leaks occur when things are a little rougher, 20-25 knots of wind ahead of the beam with 8-12 foot seas. These conditions aren't fun in any boat, but again they are a part of cruising. When things are this rough and your Manta is heavily loaded with cruising provisions, you will take frequent waves over the decks and occasional waves over the solar panels! The **forward Bomar hatches** leak, the **solar vents** leak and when you arrive tired at your destination you are welcomed by wet salty everything in the forward cabin and head. Turning off the solar vents and closing them is essential but the hatches still leak in rough seas.

Rough seas also quickly confuse the "**Bilge Buddies**." A half-inch of water is common in our bilges. The water maker on the starboard side and who-knows-what on the port side leave small amounts of water sloshing in rough seas (Is 6 feet rough?) over the Bilge Buddy sensor. The result is that the bilge pumps run continuously and pump out very little of the sloshing water. We nearly always need to remove the bilge pump fuses to prevent damage to the pumps. We have raised the sensors several inches and replaced them 2-3 times with no benefit. There must be a better answer.

There is nothing more soothing than a light tropical shower – except when the light shower drips in your face and through every open port. In heavy rains the boat has to be closed up tight, but it seems to us that something like a small sill over the side ports could be done to stop the drip in light, 5 minute rain showers, that occur almost every night.

Air in the water maker is not as irritating as water in the face while sleeping but, you can't make water while under way in seas over 6 feet on the bow without sucking air into the feed pumps and producing an airlock. It seems the **watermaker intake** needs to be farther aft so that air sucked under the crashing bow does not find its way into the water maker.

Finally, do you check your oil every time before you start your engines? We doubt it. The deterrent is the mattress and bedding problem over the engine compartments. Sure you can reach the dipsticks through the forward access hatches (if the engine is cool). But it is not fun and usually results in at least one drop of dirty oil flying across the compartment. Can Manta and JSI find a solution to allow **easy access to the dipstick** or add a remote readout.

Don't get us wrong – we love our Manta. It is the most comfortable, best equipped, and enjoyable cruising boat in its size range. The after-sale service provided by Manta is outstanding. We wouldn't trade it for larger boats costing a hundred thousand dollars more. These are just some things to think about before you leave the protected waters of Tampa Bay.

Loren Nelson & Nancy St. Clair –S/V Feng Shui

ALERTS, IMPROVEMENTS, AND TIPS

ALERT: FUEL CAPACITY - Magic

Fuel gauges and dipsticks can be deceiving. Magic's engines sputtered to a stop on the shallow banks near Cape Sable ~24 hours after leaving Tampa for our maiden voyage. The fuel gage indicated 1/8th of a tank and the wood dipstick showed 2". We discovered, that the fuel pickup tube was 2" short of the tank bottom. After we j-rigged a pickup tube extension, we were able to continue to Marathon, where we replaced the nylon pickup tube with a longer piece of 1/2" nylon tubing.

CONCLUSION: Magic had only 80 gal. of fuel capacity, not 100. Another Manta checked. It had 2 pickup tubes and they were short too. **You may want to check how much usable fuel you really have, so you can fix it or subtract the unusable fuel.**

ALTERNATOR REGULATION – Magic

We bought the optional high power installation - Power Line alternators with Mehr regulators. This installation had several drawbacks.

1. RPM gauges give false RPM when batteries are fully charged.
2. Only the accept voltage is adjustable – not the float voltage.
3. RPM gauges do not return to "0" when ignition is turned off.

Since we did not have these problems on our previous catamaran, "Lucky Lady" which had a Heart Interface "In-Charge Alternator Regulator", we decided to install the Heart unit on the starboard engine. We followed the instructions that came with the regulator. (FYI: The reference voltage and minus for the regulator were wired directly to the house battery via a special #12 cable. We had done this previously on the Mehr to improve the alternator output). The In-Charge Alternator Regulator fixed all problems. What is more, we can now set how long the regulator stays in the accept mode (~14.3V), before it goes into float (~13.3v). Please note, this installation requires expertise with alternator systems. Unless you have that expertise, you need a professional to install it.

BACKSTAY SHACKLES – Melusine



A recent crossing of the Gulfstream (end of December 2000) revealed a weak spot in our running backstay. We were on a close reach taking just an occasional wave over the bow (wind was less than 20 knots) when the shackle broke. As you can see from the picture, the unbroken shackle has elongated holes. This shackle attaches to the bottom block. If you look at the top block you will see a much heavier shackle. The fix is simple, buy two heavy-duty 1/4" shackles and replace. Pat says he has heard of no other problems with this shackle.

BILGE PUMP OUTLET BACKFEED - Nauticat

Water comes into the bilges in rough seas through the bilge outlets! Can one-way valves be safely added? Does anyone have similar issues? (Magic's fix on the bilge buddy in No.2 seems to have done the trick.)

BOMAR HATCH ADJUSTMENT - Nauticat

The recent hinge mechanism refit on our hatches by Bowmar's "Bob" has worked well. No adjustments were needed since their installation in July. Refit is a long process taking over 4 hours. We advise that Bomar does it for you.

GLOW PLUG REPLACEMENT - Nauticat

When starting our starboard. engine, it became very slow to catch and later refused to start. After fuel issues were eliminated, we suspected insufficient heating by the glow plugs. All 3 plugs were found to be burnt out (registering large to infinity ohms). They cost \$40-50 each! Fortunately Volvo warranty covered this. (2 yrs). However the fuel line has to be disconnected in order to remove the aft plug. This requires a new banjo fitting washer set to reconnect, so that there is no fuel leak. It is important not to over-torque nut around the banjo fitting!

Volvo PN: Glow plugs: 3583925

Banjo fitting-Seals: VOP 11991

Gaskets: VOP 907132

The manual does an adequate job of explaining how to test the plugs with an Ohmmeter, using the engine block as ground. One further mess-saver: Before removing this fuel fitting, clamp off the main and return fuel lines (at least one hose clamp - a tool kit must-have!). If it wasn't for the pesky (and poorly designed) fuel fitting blocking the one plug, this would have been a simple job.

As to why the burnt out glow plugs? The mechanic said this could happen (345 engine hours). when one turns that ignition key on. With a little distraction, one can easily exceed the 10 secs.!

HULL #1 IMPROVEMENTS – Beach Magic

We acquired hull #1 two years ago and have hauled it for the last two winters in order to bring her up to the standards of the newer Mantas. The following are some of the major changes we have made:

1 1/2 years ago the boat was **hit by lightning**. This event took care of upgrading instruments and allowed us to rewire to the configuration of the newer boats. We installed a masthead dissipater, however, since the VHF antenna is higher, the benefits, if any, may be lost. We also drop chains into the water, attached to each chain plate when we leave the boat and during thunderstorms.

The **inlets in the Sail Drives** for engine cooling water kept getting clogged up so thru hulls & shutoff valves were installed and plumbed through Groco strainers before entering the water pumps. The inlets in the Sail Drives were plugged with epoxy.

The **bilges were always wet** so we moved the hand bilge pump from the starboard hull into the bilge area and re-plumbed the shower drain into an Atwood sump with self-contained pump and float switch. In the port bilge, we added a drain hose and plumbed it into another Atwood sump. Both showers discharge through the discharge side of the hand bilge system.

Shower water was being wasted by having to come through the spout and be diverted to the showerhead, so we capped the line leading into the spout and directed all the water to the showerhead only. The new shower head also has a on/off control.

Shortly after acquiring our boat we realized that the factory **Copper Coat was giving up its ghost** (5 years old) so we had 4 coats of Interlux Interprotect applied as a barrier coat before applying ablative antifouling paint.

The **anchor rollers were not supported**, so we had two stainless supports fabricated. The top of the 4" wide support went from the existing bolts in the top plate out to a few inches short of the roller then angled down to the bottom of the cambered arch and back to the bolts of the underside plate. One thing that I found when I removed the old threaded bolts was that they were severely corroded from being in water (both fresh and salt) that had leaked down the bolts because they had not been adequately caulked. The area of the cambered arch between the upper and lower plates has two gussets glassed in to reinforce the forestay area. Fortunately this chamber is watertight, but it is the cavity that trapped the water where the bolts go through.

The **swim ladder** was attached to the outboard lip of the bottom step and was leaking into the boat through inadequately caulked bolts. I removed the ladder and epoxied the holes, had an extension fabricated and reattached the ladder to the top outboard side of the first from the bottom step. This keeps the bolts out of the water when motoring.

We have been uncomfortable with the **very large cavity in the bottom of the hulls where the Sail Drive goes through**. This had only a thin rubber gasket inside the boat that could fail some day. For our own peace of mind, we bought 4 wheelbarrow inner tubes, cut the stems out of two and split them down the center. We then inserted a whole tube into the split one using it as a gasket, slipped it over the Sail Drive, inserted it into the cavity and inflated it enough so as not to protrude out of the cavity. We water proofed the stem, put Teflon tape on the threads and recapped with a plastic cap. It may only be a psychological band-aid, but it makes us feel better.

We also used the clear coat **anti-fouling spray paint made for aluminum sail drives** on the external Sail Drive gasket as well as our knot meter transducer. It stays clean for an entire season.

LIGHTNING PROTECTION UPDATE – Magic

We are opting for Lightning Protection (not Prevention - see No. 2). So far, we have installed two 24 X 6" copper plates (WM PN: 185316 \$25 ea +\$20 kit), one on each keel. We connected the mast compression post with #2 wire and the side stays with #4 wire to the closest plate. (On hull #46, the mast compression post is electrically connected to the mast, but Pat warns that a plastic washer may isolate it) We plan to connect the forestay, the stanchions and the hardtop to these plates as well. We have not found the knife switches yet, so we will cut and ground all wires coming out of the mast for the summer lay-up of Magic in Pt. Lucaya, Grand Bahama. We stay away from Florida in the Summer!

RE Prevention: Martin Shapiro of Chat-Eau provided an 8-page article "The Applicability of Lightning Elimination Devices to Substation Power Lines" published in the IEEE Transactions, a magazine for degreed electrical engineers. To summarize the conclusions: Natural downward lightning flashes cannot be prevented and Charge Dissipaters will have no effect on upward lightning strikes to towers less than 300' tall.

NAUTIC TIPS - Nauticat

Smudges/oxidation left on fiberglass: Windex easily removes most of them after the rain. 409 is great for stubborn spots. (Cheaper than any marine products. Do not use on windows/ports)

Effective, quick awning: In the search for cool, easy, and effective salon-cooling shade, we discovered a cheap solution. A thick plastic tarp was used to mock-up a design. It extends from the front of the hard top, one on each side, to just beyond the couch windows & out to the lifelines, utilizing the running backs as forward attachment point. It is flat, so withstands normal winds. 7/8" diameter alum. tubing is used on the outer sides to stabilize and roll it up for quick storage alongside the boom with bungies. When sailing, it attaches directly under the outboard sides of the hard top. The existing side stays & running back stays are used as attachment points along with the forestay, boom & bimini. We will upgrade to a more permanent fabric this summer, but this did well all last summer, allowing us to see out and still be in the shade. Plastic grommets were used for reinforcement at attachment points. No sewing required - yet! We would be happy to supply more details/photos. We picked up the original idea from "Haubaut" Hull #38 and then reduced and simplified it.

RIGGING - L'Oasis

After extensive cruising in the Pacific, L'Oasis is in dry storage in the Brisbane area, Australia, while we are visiting the country by car during the cyclone season. Since we left Florida in November 1998, we experienced several problems with our rigging.

Broke the boom arriving in Tahiti.

Repaired cracks at the base of the tapered section on top of the mast in New Zealand.

Damaged a toggle fork (chain plate to turnbuckle) and came close to dismast on the way from New Zealand to Fiji.

Noticed deflection in the roof behind the mast-supporting base. Had to replace the mast compression post in New Caledonia. The top of the mast compression post was having permanent deformation (compression about 1/2").

Dismasted 15 miles south of New Caledonia on the way to Australia after a T-ball fitting broke on the top of the port shroud. We noticed rust on the faces of the broken fitting indicating this old break has been progressing for some time.

You can see where we have been in the South Pacific following this list. If any body else had problems with the rigging (other than boom), we would like to hear from you.

Pat Reischmann's comments: It sounds like L'Oasis has seen some rough weather. Mantas have had several booms break. Some failures

EDITORIALS

CRUISERS PERSPECTIVE

Loren Nelson & Nancy St. Clair of Feng Shui wrote about what they like and dislike about their Manta. It did not fit into an established section, so we created a new one: "Cruisers Perspective". We trust, we'll hear from one of our working owners about the "Vacation/Weekend Sailor Perspective". These two perspectives are often at odds, so keep in mind which perspective you have and where the advice comes from!

We trust you like the mix of observations, experiences and opinion as much as we did. Fortunately, Magic was not deterred by a weekend

occurred with the original Isomet booms, as well as a few made by Hall Spars, and by JSI. Despite the best efforts of the engineers of three different spar manufacturers, they were unable to fully anticipate the loads that may develop. The increasing displacement in terms of payloads owners added to some of these boats was a factor. As stated in the last Manta World, Manta recommends an add-on reinforcement offered by JSI for any one that currently does not have it on an earlier JSI boom. JSI has beefed up the current boom and feel it should withstand any amount of use or anticipated payload.

The masts from JSI come with a tapered top, which is welded and faired with putty and painted, L'Oasis has a masthead spinnaker, which caused some cracking of the putty (as far as I know). JSI no longer offers a masthead spinnaker location so as to avoid any potential problems.

Manta recommends rigging be inspected regularly to avoid potential rigging failure. The T ball fitting failure though very rare can potentially happen unforeseeably on any boat.

Originally anticipated loads suggested a schedule 40 aluminum compression post. Manta has seen a few distort. Manta recommends replacing schedule 40 with schedule 80 pipe (Manta started using it on hull #38), if a problem is encountered or if rough weather sailing is anticipated.

VHF ANTENNA COAX – Side By Side

Our VHF seemed not to be getting out or receiving as well as other boats over the longer distances needed here in the Bahamas. I looked at the coax cable connectors (PL259's) on either end of the cable from the radio to the antenna connection under the settee next to the fridge. To my amazement, these connectors did not have their braid soldered to the connector and they were not the solder less type. The braid was simply jammed into the back of the connector with a hope and a prayer that this would be adequate contact. Maybe it was OK for the first month or so, but in the marine environment, how long could that last? The braid needs to be soldered!

When I re-did these connectors, soldering the braid as they are meant to be, my VHF performance improved immensely! Alternately, you can get these or the solder less type of connectors at Radio Shack.

WATER SUPPLY - Nauticat

Have you had concerns about your fresh water supply staying fresh? When we make water there is no chlorine in the tank to control any bacterial growth. However how much chlorine to add that is both effective and safe for the aluminum tank is the big question. Anyone have my idea?

Now a matter for those prolonged dock stays: we have found a good compromise, we think. We use a "boji" filter to soften the water & a seagull at the galley for drinking - very effective. Chlorine is thus fed into our tank as long as we use the water regularly. As you know, usually the shore water is left on while aboard at the dock for continuous use with the fresh water pump off. Thus the tank is not turned over and the water may stagnate. (One would turn off shore water when absent for safety, of course.) Our shower pressure is better with the fresh water pump than shore pressure. So we simply turn the pump on for showers, which provides improved pressure & turns over the tank at least weekly, keeping the water fresh. Some use water only via their tank, but we prefer to limit the hassle of filling to 1x week. Any other ideas?

WATER ENTERING VIA EXHAUST FAN - Nauticat

Be aware:-If your engine blower sounds distant & like it is gurgling, it probably is full of water. Water has entered our engine exhaust & intake areas from the stern stairs during a storm filling the tubing & causing an ineffective blower. There is not enough room to effect a proper inverted "U" as a fix. Does anyone have similar occurrences or ideas to fix the potential hazard?

sailor and did buy a SSB radio and a Delta 55 anchor. However, we did buy the soft-top idea and regret it just as much as Feng Shui does.

HULL #1

Isn't it great? Our Mantas have come a long way since hull #1

OWNER PARTICIPATION

As Manta World evolves, it should continuously improve. We need to hear from you! More than: "It's great." We need real feedback. What content do you like? What would you like to see? We appreciate the

articles submitted to date by 12 Manta Owners. What about the rest of you? If you want a newsletter, participate! We spend over 40 hours on each issue. How much time can you spend? An hour?

Please take note:

- We received only one picture. No adventures were submitted this time.
- The Subscriber Listing is incorrect and/or incomplete, missing several hull numbers or boat names. Where are the corrections?
- As of 4/1, the subscriber list has 40 entries and shows who submitted articles - * behind the Manta's name for one; ** for multiple articles.

- The "Chat" section has brought no responses, so we are discontinuing it. The Mantatech newsgroup is a better forum.
- Sign up at: www.egroups/group/mantatech

SUBSCRIPTION RATES

Just in case you want to turn the newsletter over to someone else or discontinue it, without owing refunds, we will collect prorated new fees of \$15. \$10 & \$5 for subscriptions starting with No. 3, 4 & 5, plus \$5 for back issues, except No. 1.

MANTA WORLD SUBSCRIBERS AS OF 4/1/2001

#	NAMED	OWNERS	E-MAIL, TEXT ONLY CRUISERS E-MAIL	BOAT OR CRUISING LOCATION
B	Manta	George Treiber	Gat-TandT@erols.com	Plymouth, VA
1	Beach Magic*	Christine & William Beach	BBeach@ASCAdvisoryGroup.com	Norfolk, VA
7	Xanadu	Dorell & Jim Antley	jaantl@ais-gwd.com	Charleston SC
8	Go Lassie Go	Larry & Steph Steward	larrystewart@earthlink.net	Punta. Gorda, FL
11	Mushi Mushi	Henk Ram	henkram@bonairelive.net	Bonaire, N.A.
13	Starship	Mike & Gloria Gaffney	meg8@cornell.edu	Georgetown, ME
16	Amada*	Ralph and Martha	ralphhla@aol.com	South Pacific
18	Post Op II	George Brener	gabre@aol.com	?
21	Kokomocat	Bryant&Leslie Welch	BMWkokomo@aol.com	Little Torch Key, FL
24	Catalyst	Rob and Sue Linehan	rslinehan@earthlink.net	?
25	MillenniumC	Brian and Barbara Williams	Mill n emC@aol.com	Australia
28	Windward Mark**	Dave & Anne Rullman	AnneBigred@aol.com, annerullman@pocketmail.com	Bahamas,
30	Wind Safari	Don & Kristen Galloway	Ktgalloway@cs.com	St. Lucia,
31	Bob Cat	Bob & Midge Gray	rngray@fuse.net	Bahamas
32	La Oasis*	Ghislain Levesque, Guylaine Tessier	loasis9@yahoo.com, veOghi@winlink.org	Brisbane, Australia
33	Sommerset	Don & Laura Pether	LJPether@att.net	Long Boat Key, FL
35	Alize	Diane & Bob Aldridge	AldridgeRA@aol.com	Courtland Manor, NY
37	Imagine	David & Ellen Conry	Imaginecat@hotmail.com, Imaginecat@pocketmail.com	Bahamas
40	Tropi-Cat*	Richard & Meghan Rinker	rinker@attglobal.net	Islamorada
41	School's Out	Ron & Liesel Witzel	ronoei@aol.com	Clearwater, FL
43	Dues Paid	Leo & Betty Hilke	lhilke@sunline.net, WCZ5614@marinenet.net	Punta Gorda, FL
45	CAVU**	Rob & Debbie Morgan	morgan_rob@hotmail.com	Columbia
46	Magic	Rita & Will Olschewski	MagicManta@aol.com	Bahamas
47	Shadowfax	Harry & Sandy Vreeland	vreeland@always-online.com	New Bern, CT
48	Doubll	Doug Barton	Doubll@msn.com, DouBII@hotmail.com	Bahamas
50	Feng Shui***	Loren Nelson & Nancy St. Clair	lorendn@yahoo.com, svfengshui@pocketmail.com	Martinique
51	Route 66	Russ & Sue Hills	hillsrs@strato.net, hillsrs@pocketmail.com	Punta Gorda, FL
53	Ninja	Ron & Janet Johanson	rjjohanson@aol.com	?
54	Miramar	Paul & Linda Petzold	Paul@petzold.com, skidad@aol.com	Marathon, FL (Keys)
55	Nauticat**	John & Dulcie Entermann	entermann@earthlink.net, entermann@pocketmail.com	Hilton Head Isl.
56	?	Roger and Elaine Wolfert	erog2@mindspring.com	Dallas, TX
59	Side by Side**	Mike and Amy Wolf	amywoolf@yahoo.com, woolfsail@pocketmail.com	Bahamas
60	Kadookus	Susan and Phil Matos	pmhalcyon@worldnet.att.net	Scottsdale, AZ
?	Paragon	Jon & Elma Brein	jbrein@ix.netcom.com	?
?	White Heat*	Tom & Laraine Devins	tdevins@mediaone.net	Chesapeake
67	Melusine*	Nathalie & David Houston	nathalie@houstonair.com	Tavernier, FL
70	?	Pam and Glenn Cooper	Gpsailing@aol.com	Green Cove Springs, FL
73	?	Judith & Stephen Ferguson	ferg@Pagosa.Net	Pagosa Springs, CO
	Looking	Tom & Kathy Lawson	t.lawson11@home.com	
	Looking	Bruce A. Jackson	bruceanlisa@yahoo.com	Vero Beach, FL
	Manta Enterprises**	Pat Reischmann	preischmann@email.msn.com	

LEGEND - MANTA WORLD CONTRIBUTORS, ASTERISK NEXT TO MANTA NAME: * - ONE ARTICLE ** - MULTIPLE ARTICLES *** - POTENTIAL EDITOR