



MANTA



WORLD



The Virtual Newsletter for Manta Owners

No. 2 – 1 January 2000

Editor: Will Olschewski, S/V Magic

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NEWS

MANTA 42 WINS CRUISING WORLD AWARD

By Tom & Laraine Devins - White Heat

Our new Manta 42 "White Heat" was the display boat for Manta Enterprises in the 2000 Annapolis Boat Show. It was entered in the Cruising World "Boat Of The Year 2001" competition and won the "Best Value" category. This is quite impressive, since this category was drawn from the entire fleet of 26 nominees and when judged against this year's fleet of new boats, for which the median price was \$340,000, the Manta provides a lot of bang for the buck.

The judges complimented the Manta's FRP structure, with Nida-core (polypropylene honeycomb) of the hulls and the deck as well.

"The fact that the builder vacuum-bagged his core - I give him good marks for that," said Ralph, "it's a properly built boat."

"The hull/deck joint is glued, screwed, and glassed," said Skip, "you almost never see that."

"I liked the two levels of collision bulkhead in the bow," said Tom.

"The builder's thought the electrical-usage system through," said Skip, "except for the fact that the DC panel isn't separated from the AC panel, the damn thing was gorgeous. The terminals were perfect - hoses and fusing too. Electrically, he's got his act together and with six to 10 inches of insulation around the iceboxes, that Adler/Barbour is going to keep it (the beer?) cool."

"The fridge/freezer is very important on a cruising boat," said Tom, "and the way the builder did that is very good. That tells you a lot, because a healthy, happy crew is very important."

Regarding the sail handling, Carol said, "I thought basically what the builder was trying to do with the sails and rig was good - that self-tacking ability." She worried, though, whether the boat's 2-to-1 mainsheet purchase would provide ample leverage in the event that the electric winch on the cabin house failed. Also, she would have

preferred a roller-furling arrangement to the jib's Camber-Spar, which is akin to a club. "But with that 2-to-1 purchase, the main will dump quicker. And the mainsheet's right at the helm."

All in all, the judges found that the Manta 42 offers lots of boat and lots of good sense for a reasonable price.

MANTA WORLD OFF TO A RUNNING START

We did well beyond our expectations - 32 paid subscribers, plus 5 who committed to send a check. A table listing of all paid subscribers is on the last page. There were plenty of articles, improvements, tips etc. submitted. Due to time & space limitations, some of the material was held back for possible future publication. To cover all areas, I signed up for the Mantatech newsgroup in December, but we did not receive anything so far (for this issue). We only received 1 photo. We do need more for vol.3. You can e-mail us digital (.jpg < 50KB) photos or send hard copies to:

Magic Manta LP
MCCA Inc. PMB: 38300
1614 SW. Seagull Way
Palm City, FL 34990.

Reformatting all inputs for this issue took a lot of time (i.e. I removed hundreds of carriage returns), so guidelines on how you can make my job easier should be out by the end of January.

MANTATECH NEWSGROUP

As of Mid December, 14 Manta Owners have joined. How about you? Go to www.egroups/group/mantatech to sign up. For how to sign up and to get answers to your questions see volume 1 of Manta World, or contact amywoolf@yahoo.com or entermann@earthlink.net.

SERVICE BULLETINS & INFORMATION

ADLER BARBOUR COLD MACHINE

If you have SSB radio and experience interference from the Cold Machine compressor, Adler Barbour has a new Danfoss control module. Contact Bill Thomas at Kenyon Marine at 860 664 4906 or billt65@hotmail.com

MANTA ENTERPRISES UPDATE

Wow - good news: Pat Reischmann communicated this update to Manta World and indicates, it is being sent to all owners. As far as we know this is the first update from Manta Enterprises. Keep it coming Pat.

AGM Batteries

Have had a few Lifeline AGM battery failures for no apparent reason. Lifeline stands behind their pro-rated warranty. They have made some design changes to improve the durability. So if you notice the batteries are not holding as they should (all it takes is one bad cell in one battery), have the batteries load tested and replace them, if necessary. If you have an older boat and the battery charger, solar, and alternators, are not temperature sensing, Manta recommends you upgrade to battery temperature sensing.

Aqualine Alternator Regulators

Aqualine aftermarket alternator regulators may cause a false alarm on the Volvo panels. Contact Rick Randall at GTS at 727-823-8710 for the latest wiring fix. (no e-mail address provided)

Boom and Vang Fittings

On some boats, the jaw to tang fit on either end of the boom vang is not tight. Also the pin on either end of the vang should be a tight fit with a s/s bushing in the tang on the boom end and tight fit on the s/s tang on the mast end. This will reduce noise and rattle under sail. Equally the fit at the gooseneck of the boom should be tight to reduce the boom from rocking side to side.

Forward Crash Bulkhead Inspection Plates

On later boats, check the 4 inspection plates in the crash bulkheads in the 2 forward lockers to make sure there is no water in the air compartments. Make sure to put some Vaseline on the O-ring of the access plate before retightening. Earlier boats with foam compartments don't have inspection plates and should have them cut in and the foam checked for water intrusion (most of these have been retrofitted with inspection plates). Possible places where water may leak into the forward lockers is around head stay fitting, anchor U bolts, and the rub rail on the crossbeam.

Fuel & Water Gauges

If there is a question about accuracy of fuel and water gauges, you can check this with a dipstick through the square head access plug in the top of each tank. The senders are adjustable, the easiest way to adjust is to pull the sender out completely, remove the resin from the adjustment screws and with a small screw driver adjust the gauges as close to the dipstick as possible, it will require a few attempts. If it won't adjust you may need new sensors depending on brand of gauge, which can be obtained from Mike Kiehl at Endeavour.

Jib Topping Lift

On several boats the shock cord, that keeps the jib topping lift from fouling on the mast, has deteriorated or was not adjusted properly. This shock cord needs to be replaced once a year due to the effects of ultraviolet radiation.

Lighting

Deep creek design is offering an LED tricolor light using only 1/16 of an amp with a bulb life of 100,000 hrs. It is included in a Lighting Upgrade Package that converts all interior lighting over to Taylorbrite Cold Cathode Fluorescent (CCF) lights with higher light output, 5x more efficient than halogen, 25x the lifespan, and more attractive as well. The package also includes LED-reading light bulbs from Davis. (You will need to replace the existing reading lights with a housing that accepts bayonet mounts.) These lights can be purchased direct from the manufacturers at www.deepecreekdesign.com, Taylorbrite at 941-708-0940 and Davis at www.davisnet.com respectively.

Lightning Prevention and Protection

In the past Manta has relied on the lightning diffuser, or bottlebrush, at the top of the mast. Now Manta is offering a more comprehensive approach, a package that is going to be more effective. However, Manta makes no guarantees when it comes to lightning. The package consists of:

1. Removing all antennas from the top of the mast, except the TV antenna and the wind vane, and placing them on the radar arch, so the ion diffuser becomes the tallest thing on the mast.
2. The Forespar ion diffuser replaces the LPS bottlebrush, because it is taller.
3. Higher gains VHF whip on the arch, so range should not be grossly affected.
4. Installing Yachtgard surge suppressors in the AC and DC systems. This is a product new to the market this year with a 10yr warranty and UL approval.
5. Add the Manta Strike Shield ground wire system. This provides a covered and tinned ground wire and dissipater that mounts directly on the mast (easy on/off) and is dropped into the water at the trampoline. The parts and or installation of this package can be obtained through Carter at Gulfstream @ 727-544-9660 or carter@gsmarine.com

Main Salon Window Louvers

Manta is still working on the mold for the main salon window louvers. They will look good on the boat, as well as being very functional in terms of protecting the windows from heat and or structural damage, while allowing good visibility. This option should be available in another 60 days and will be retrofitable.

Refer Fan

Have had complaints that the 12v ventilation fan in the refrigerator freezes up. Adler Barbour is now recommending that the fan be positioned to move air from the refrigerator side into the freezer, rather than vice versa. This is simple to do, and you can contact Carter at carter@gsmarine.com or 727-555-9660

Rudders

There has been water intrusion into the foam rudders from cracks caused by striking flotsam or running aground. That causes the rudder foam to collapse. Though the rudder structural integrity is usually ok, the shape is not the best. So you may want to check your rudders from time to time. Currently the rudder manufacturer, Foss Foam, has no solution for this. In the event that you find a rudder with this problem, a new one can be obtained through Mike Kiehl at Endeavour for about \$500. Make sure you have the length of the rudder, since this has changed over time and/or whether there is a winglet on the bottom.

Running Back Stay

A couple of failures have been reported on the single Becket block on the running backstays. New runners come with a high load version of that block. You can call Jerry Hamil at JSI 727-577-3220 or jerryhamil@sailnet.com to purchase the high load version. Also have had a couple of complaints that the line doesn't hold in the jam cleat.

So the backstays now come with 3/8 New England sta-set, no longer 5/16.

Sail Drive Corrosion

There have been a few owners with severe sail drive corrosion. Manta recommends the zincs be checked every 6 months, more often if your boat is in a marina hooked up to AC. Diving and inspecting can accomplish this. If 50% of the collar zinc is gone, replace. The folding prop can be removed under water per the Volvo instructions. The new Volvo three blade props also have a zinc on the prop itself, that rarely needs replacing. Remember: If you have line cutters, the zinc will have to be modified. You can buy modified zincs from Mike Kiehl at Endeavour. Also, Manta recommends strongly that there be no connection between AC green and DC black anywhere on the vessel to avoid marina corrosion problems.

Standard Boom Lazy Jacks

The lazy jacks hold the sail better when lead through the boom brake hole, not the outhaul cleat.

Standard Boom Vang Adjustment

For the best mainsheet performance, the vang should be set so the mainsheet enters the boom from a slight angle (5 degrees) below. This can be adjusted, if you have a lag screw adjustable vang. If you don't, you can purchase one from Jerry Powers at JSI. Once this is set you may need to extend the outhaul shackle to a longer one or use hi test line to extend the attachment of the clew of the mainsail to the outhaul car, so the main leech does not go tight before the luff can when hoisting. New sails come designed for this.

Standard Boom Sleeve Re-Enforcement

Manta has received notice that several boats with the standard boom sailing offshore in severe weather have shown cracking or failure in this area. JSI has produced a reinforcement sleeve that will strengthen this area and can be mounted at the existing boom brake/vang location. To obtain this sleeve contact Jerry Powers at JSI/Sailnet @ 727-577-3220 or jerrypowers@sailnet.com.

Solar Panel Regulator

A few failures with the Trace solar regulator have been reported. Manta is now recommending a new regulator from RV power products at www.rvpowerproducts.com. This regulator has a power boosting technology that is quite unique. If your Trace goes out you may want to consider replacing with this one.

Volvo 3 Blade Propeller

The Volvo folding three blade is now available in right and left hand so you can counter rotate the sail drives. They can be obtained from Volvo direct or Mike Kiehl at Endeavour at endeavcats@aol.com or 727-573-5377.

Water under Aft Settees

If you find water under the small settees in the aft staterooms it is usually a leak from the pressure water line, or a cockpit drain in the bridge deck area. This area can be accessed by pulling the stove out or behind the drawers in the staterooms for inspection. The sub sole under the settees now has a drain hole in each corner to allow water to escape to the bilge. If you don't have these drain holes and you have a right angle drill you can drill drain holes in each corner.

SPECTRA WATER MAKERS

Between July 6 and August 8 of this year, Spectra has issued the following Service Bulletins improving the operation and accuracy of the optional salinity control system on SN: 2000-6999:

1. Cleaning pins on salinity probe / revised calibration procedure.
2. Installing updated hose, check valve & plunger for diversion valve.
3. Installing DC/DC converter for salinity sensor board.
4. Installing updated timer and back flush system.

Implementing the bulletins will also prevent false rejection of good product water. All required parts are offered in kit form at no cost to you. You can call Malcolm Morgan at 414 332 3780 or contact him at malcolm@spectrawatermakers.com

ADVENTURES

MANTAS CRUISING IN FAR AWAY PLACES

Manta Owners are an adventurous bunch. So don't be surprised, if you see a Manta in far away places. There are at least 3 Mantas in the South Pacific, 3 in the Bahamas, 2 in the Caribbean and one in Mexico. But as the following article shows, you don't have to go far to find adventure and nice places.

CRUISING THE ICW

by Richard & Meghan Rinker – Tropi-Cat

Dolphin's jumping on the muddy banks to eat crabs, elephants swimming 30 feet from our boat, exploring islands where Black Beard plied his trade and anchoring in the shadow of a Fort 60 miles offshore on a pristine coral reef. If this sounds like a composite list of adventures from trips around the world, it's not. It is a brief glimpse of the logbook of Tropi-Cat during our six-month trip on the Intra Coastal Waterway (ICW) from Fort Jefferson in the Dry Tortugas to Cape Cod and back to our home in Islamorada in the Florida Keys.

We departed in April and returned in October after traveling 4600 miles and exploring the east coast and southern New England. We spent 7 weeks in the Narragansett Bay area during the Tall Ships event and a few weeks each in Block Is., Martha's Vineyard, Cape Cod and surrounding areas. The Long Island Sound area and Chesapeake Bay also deserved several weeks each in order to see all the sights from Mystic Seaport, CT. to Williamsburg/Yorktown, VA.

We stuck to the ICW most of the time so we wouldn't miss anything but went offshore for New Jersey and most of Florida to avoid the bridges. By the way, the elephant was swimming in the ICW in a residential area just south of Charleston.



The trip was fantastic and we highly recommend it to anyone who has the time to explore our own back yard.

As great as the trip was, we did miss the clear water and warm weather of Florida and the Bahamas. We explored much of the

Bahamas last year and plan to return to the Exumas (our favorite area) and the Jumentos in the spring for a few months.

We would be happy to correspond with anyone who wants up to date information on the ICW and anyone who will be in the Central & Southern Bahamas next spring. Also, we used "The Capn" navigational software, charts and electronic ICW Cruising Guide extensively. They were fantastic!

Editors note: If you see any exotic animals in the water take a picture. We'd love to see it !

RITA: "IT IS BETTER IN THE BAHAMAS"

Pictures are worth a thousand words. Here is Rita, admiral of Manta Fleet Vessel "Magic" with the big one. This one wandered in front of her pole spear at Golding Cay in the northern reefs of Eleuthera. We like it so much here that we bought an oceanfront lot on Scotland Cay, a private island in the Abacos. We are planning to build in 2 years.



Note: In Mexico it is illegal to catch lobsters. So on the radio, we referred to them (if we caught any) as "photo opportunities".

NEW GADGETS, GEAR & TOYS

POWER FASTER WITH AUTOPROPS

Nauticat (SN52) bought Autoprops to replace the Volvo 3 blade props. There was an rpm problem with the first set of props, so the US distributor furnished a second set. Then it was discovered that it was not the props, but a bad engine rpm meter calibration. So the first props went back on and worked just fine. Autoprop was certainly out to satisfy their customers. On the basis of their good experience, Magic bought Autoprops too to replace their 3 blade Volvos. They were easy to install underwater. Here are the figures Magic recorded under no wind and no waves conditions.

<u>One engine speed:</u>	7kn at 2800 rpm, up from 6.5
<u>RPM with 2 engines for 8kn:</u>	2500 rpm, down from 2800
<u>Sailing drag, gear forward:</u>	< .2kn (props are quasi feathered)

Nauticat's results were similar. The Autoprops did well under heavy seas (5-7ft) into 20kn winds. There was more power, but we are unable to provide you with a numeric comparison to 3 blade Volvo props.

There are some drawbacks to consider. First, there are slightly more low frequency vibrations at any rpm over 2000. One gets used to that fast. Second, sailing over 4 knots creates a shift resistance in taking the gear lever out of forward into neutral for starting. At 6kn it is quite significant and at 8 it's no longer possible to get the engine into neutral. We can no longer just start and warm up the engines, before we want to take the sails down. We now have to take the wind out of the sails to slow down to 4kn, before we can start and warm up the engines. That takes 2 minutes. And only then can we use the engines to head directly into the wind and take the sails down.

We are not selling our 3 blade Volvos yet. Hold off on those Autoprops till we gain more experience and collect more data.

INTERNET ACCESS VIA SATELLITE

Direct PC plans to introduce a 2-way satellite link for about \$300 plus \$60- \$80/month in early 2001. Keep an eye out for all of us Internet addicts and let us know, if you hear anything.

MOVING MAP NAVIGATION

Magic used the Capn for well over a year, first version 4.6 and then 5.0. It worked fine for us, but we had occasional crashes under

OWNER'S IDEAS, IMPROVEMENTS, SOLUTIONS AND TIPS

ANTIFREEZE PROTECTION – Windward Mark

I sent this idea to SAIL magazine and they published it a few months ago. Here are the essentials: Installing the "pink stuff" in all those Manta systems can be a chore for those in the North or anyone storing their boat for a period who wants purge the salt water to prevent corrosion. I purchased a plastic utility tub and fitted a hose connection to the drain. I then connected a 25' hose to the tub with a 3/4" barbed fitting and an on/off valve at the other end. Sit the tub in the cockpit and fill it with "pink stuff". Now go to each system's thru hull, close it, remove the line, insert the barbed fitting, turn on the on/off valve, then briefly run the system. I needed a 1" barbed fitting for the air conditioning system. The tub serves as a giant funnel, and the good news is there are no spills and this is a one-person operation!! I do the heads (mine are salt water), deck wash, generator, main engines and the air conditioners.

BATTEN PINS - Side by Side

The flush peened pins connecting the Tides Marine batten cars to their sliders can slip out if the peening has not been done correctly. This happened to us on four out of the five of them, one actually falling out onto the deck. New units from Tides Marine have the connection changed from the peened flush pins to standard clevis pins with circlips (3/16 dia.). We will be retrofitting ours this way.

B&G AUTO PILOT - CAVU

There is a potentially dangerous situation with the drive unit of our B&G autopilot. On our Manta, the pin that bolts to the drive arm above the quadrant and attaches to the piston of the drive unit doesn't have enough threads to properly use the locking nut on the underneath side. I found my pin was loose and the nut would eventually fall off. The consequences of this could be a jamming of the rudder system at the worst possible time or a loss of autopilot when you need it the most. The best solution would be to have a pin with the proper length shaft and threads fully penetrating the lock nut. Since I didn't have that option at the time, I applied Loctite to the threads and it has been fine even though the threads are only halfway into the nut. At the time, I made Mike at Gulfstream aware of the potential safety problem, and hopefully it has been rectified.

CLARION RADIO MEMORY POWER - CAVU

Gulfstream wired the memory backup wire directly to the starboard starting battery. This arrangement draws 1/2 amps continually from the starting battery, even when the master switch is off at the panel. This continual draw makes the starting battery look like it has a problem. It is always low. If the boat is left for any length of time without a source of battery charging, the starboard battery will be completely dead. I replaced one battery, because it was continually low and I thought it was bad. My solution was to re-route the memory backup wire to the main power lead of the panel, so it works off the house batteries and the power drain is controlled.

Editor's note: Magic's starboard battery does not hold charge for more than 12 hours after 1-1/2 years of use. We had 3 to 4 month lay-ups and attribute that to the problem pointed out by CAVU.

FROSTING UP OF FREEZER PLATE – Many Inputs

Every time you open the refer or the freezer, moist air gets in and deposits ice on the plates. However, you can minimize that by:

1. Reverse the refer cooling fan, so it puts pressure into the freezer, not suction as installed. (See Manta Enterprises recommendation too). The slight overpressure eliminates moist

air getting into the freezer through the inevitable small gasket leaks.

2. Add a lid activated switch that automatically turns off the refer fan when opening it. That prevents pushing moist air into the freezer.
3. Plug the drain holes.

Setting the temperature higher also helps. Consult the Adler Barbour manual on how to reset the digital control/indicator's limits.

HEAD, FLUSH FASTER– Magic



This is the culprit. It impedes the flow where the 1" hose from the head pump connects to the 1-1/2" hose feeding into anti-siphon elbow. It reduces the ID from 1" to a 3/4", creating backpressure. To fix that, take the culprit out, slip a 2" long 1 1/2" OD thin wall plastic pipe (i.e. a piece of sink drain) over the end of the 1" hose for fit. Then glue it in place with 5200 and let it dry for 2 days. Now you can slip the end of the 1" hose into the 1 1/2" hose and clamp it as close to the anti-siphon as possible. Cut the 1 1/2" hose shorter, if possible. You will find that w/o the restriction the head flushes in 1/2 the time with 1/2 the water.

HELM SEAT FOOTREST – Windward Mark

Adjusting the helm seat's footrest is inconvenient at best. I set my footrest to the average height position. Then I drilled and tapped a 1/4 - 20 hole in the post just below the footrest and installed a stainless bolt with a 1/2" of unthreaded shank. Then I screwed the bolt into the hole to full thread depth (use some thread locker). My footrest now sits on the bolt and is easy to slide around to accommodate sitting or standing. Some footrests used on Mantas might require sawing the bolt's head off.

NAUTI TIPS - Nauticat

1. Clean shower sumps monthly. Remove bilge pump to pull out any hair in its wheel. (Magic burned out one pump with hair!)
2. "Bar Keepers Friend" cleans up stovetop well - use minimum scrubbing to avoid scratching up surface.
3. "Scrub Free" soap scum remover does well in the shower area or sinks etc. (Magic uses Tylex "Fresh Shower" with excellent results)
4. "Sno-Bol" is \$3/qt - cleans yellow "beard" from ICW off hulls cheaply. Use gloves as directed.
5. The "Absorber", a synthetic chamois type cloth, does wonders for wet windows, dodger vinyl's and a host of other areas incl. the

whole topsides/deck. It is available at West Marine, etc, but less at an automobile store.

6. We love our little Oreck vacuum cleaner. (110 V.) It is powerful, small, without wheels & fits into the bottom of the forward cabin's inboard little cupboard along with its attachments.

PROPELLER LOST IN SEA OF ABACO - Bobcat

If you see a 3 blade Volvo propeller zooming by, think of me. Bobcat was recently hauled and both 3 blade Volvo folding props with cutters were pulled and the shaft seals replaced by an experienced and knowledgeable mechanic under my watchful and likewise knowledgeable gaze! I did not have new bend over locking washers for the locking bolt on the end of the shaft, so we used the old ones, which appeared to be OK. 47 hours later, our port prop, cutters and all took off in the Sea of Abaco! A lot of phone research later, I find that if that locking washers fail, usually a fold over tab breaks away from fatigue of bending. If it is not put on just right, the locking bolt

will eventually back out and you will lose the entire hub and prop assembly (\$1300).

Moral: Get new locking washers and never re-use them! Make sure you; your diver or mechanic understands the correct way to install them. Yes, they can easily be installed improperly. They are the only thing preventing the hub nut from falling off.

PROPELLER FOULING - Nauticat

Tired of scraping barnacles off the props & getting cut up by the cutters? When inactive for extended periods (>1 week), we tie a heavy plastic bag around each prop. In SC where there is so much growth, this has cut the growth nicely and has saved us cleaning the blades. A thick trash compactor bag works well. Add a thick strip of rubber around the cutters for added protection against puncturing the bag. Bungee cords keep them fast. Caution: You need to tie a reminder to the engine keys to remove the bag should you wish to start up again.

LET'S CHAT

LIGHTNING – Story by Nachtmusik

Tree Mantas, we know of, have been hit by lightning – S/V Beach Magic, S/V Good Idea (reported in last issue) and S/V Nachtmusik. The damage has run from \$20,000 to \$80,000. The bottlebrush has not prevented strikes on Mantas or other sailing vessels. In fact, the company that offered a \$500 payment towards the insurance deductible if struck is not around any longer. Here is Nachtmusik's story:

We were in St. Petersburg for the summer and have been struck by lightning twice in the space of 4 weeks in the same marina. The bottlebrush on the masthead did not seem to help. The first strike took out everything from navigation devices, stereo, TV, VHF, battery charger, Pathmaker, solid-state remote controls to refrigerator, voltage regulators for the solar panels and the alternators. We got the refrigerator, battery charger, and voltage regulator and Pathmaker replaced. The second strike took out everything that was replaced plus the SSB radio.

We took the VHF antenna off the masthead (bent and charred) and ran a #2 gage battery cable from the starboard shroud into the water six feet deep with 200 plus square inches of metal on it as a ground.

Editors Commentary:

Lightning Protection

Lightning Protection is the science of minimizing the voltage that builds up on the struck object by providing the lowest possible resistance to earth ground. That resistance should be no more than a few milli-ohms, since the current spike may easily reach a million amperes (MA). (i.e. 10ft of #2 have 1.6 milli-ohms, developing 1,600 volts at 1 MA). The first problem is the VHF antenna. If the down lead coax is not interrupted and grounded by a switch, the voltage on the antenna arcs over the rest of the electrical system and \$20,000 is down the drain. Lets suppose the coax connection is interrupted and grounded by a special switch, but the mast reaches a few thousand volts (KV). There are other wires in the mast, insulated for just 250 volts, not a 1KV. So the strike voltage arcs over into those wires and from there it gets into the electrical system and the instruments. The minimum for real protection is a #2 wire from the mast to the water, a large plate in the water and all wires coming out of the mast being interrupted and grounded with a high voltage switch.

I will look for those switches and do some additional research on permanently mounted grounding plates, effective when under way. Hopefully, I'll have some info in the next issue. We encourage everyone to come back with their story and the corrective action implemented.

Lightning Prevention

Lightning prevention with bottlebrushes and the like is an unproven science. In fact it borders on voodoo art. The idea behind it is that the bottlebrush will absorb ions and charge the boat with a potential closer to that of the thunderclouds, so that the surrounding water or

objects offer a target with higher difference in potential (voltage). The precondition to charge up the boat is that there be no counter acting discharge. That means the boat's metal parts including the mast should not be grounded. Hard to implement, since rain and salt spay will provide a conduction path right into the water during a thunder storm.

Lightning Protection vs. Prevention

Unfortunately, Lightning Protection (by grounding) and Lightning Prevention (by not grounding) are mutually exclusive. If you opt for Prevention and your boat gets hit, the damage and risk of personal injury will be much greater than if you had opted for Protection.

WATER IN FORWARD LOCKERS – Many Inputs

Just about every Manta owner is complaining about water getting into the forward lockers and into the crash flotation compartments. The first problem may be insufficient pressure on the hatch rubber seal and the second is the definitely the unsealed lock.

1. Tighten the lock bar that holds down the hatch, so that you have to step (put weight on) onto the hatch to open or close the lock. If your hatches open w/o putting weight on they are not tight enough.



2. Put silicon grease around the rotating part of the lock. It is not sealed at all. S/V Bobcat is experimenting with an o-ring to seal the cover against the lock.

If you still get water into the locker, tape up the latch with duct tape prior to passages or contact S/V Nauticat for special rubber seals.

Then there are the crash/flotation compartments – 2 per locker. The seal plate assembly on most Mantas, using a rubber seal against the fiberglass are not sealing well, because the fiberglass is too uneven. (Magic had 1/4" bump from a fold in the matting, so the seal was nil.) If you find water in the compartment, the factory-installed seal is not doing the job. We installed 6 1/2" inspection plates instead. They fit right in. If you do not find water in the compartment, resealing of the now

compressed rubber seal will be questionable. So you may want to install inspection plates as well, rather than depending on silicone grease.

We need find to out more of your fixes on this problematic issue and are eagerly awaiting your comments/suggestions.

MANTA WORLD SUBSCRIBERS AS OF DECEMBER 2000

#	Boat Name	SSB KHz	Owners	E-Mail / <u>Text only Cruisers E-Mail</u>	Boat Location 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
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
25	MillenniumC		Brian and Barbara Williams	Mill n emC@aol.com	Mooloolaba Queensland Australia
28	Winward Mark		Dave & Anne Rullman	AnneBigred@aol.com	Florida Keys, Bahamas
32	La Oasis		Ghislain Levesque, Guylaine Tessier	loasis9@yahoo.com, ve0ghi@winlink.org	South Pacific
35	Alize		Diane & Bob Aldridge	AldridgeRA@aol.com	Courtland Manor, NY
40	Tropi-Cat		Richard & Meghan Rinker	rinker@attglobal.net	Islamorada
41	School's Out		Ron & Liesel Witzel	ronoei@aol.com	Clearwater, FL
42	Dues Paid		Leo & Betty Hilke	lhilke@sunline.net, WCZ6514@marinenet.net	Punta Gorda, FL
45	CAVU		Rob & Debbie Morgan	morgan_rob@hotmail.com	Columbia
46	Magic	4003 0700	Rita & Will Olschewski	MagicManta@aol.com	Bahamas
48	Doubll		Doug Barton	Doubll@msn.com, DouBll@hotmail.com	Bahamas
50	Feng Shui		Loren Nelson & Nancy St. Clair	lorendn@msn.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	Punta Gorda, FL
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	New?	
?	White Heat		Tom & Laraine Devins	tdevins@mediaone.net	Chesapeake
?	?		Rob and Sue Linehan	rslinehan@exite.com	
?	?		Natalie & David Houston	nathalie@houstonair.com	Tavernier, FL
?	?		Pam and Glenn Cooper	Gpsailing@aol.com	Green Cove Springs, FL
?	?		Judith & Stephen Fergusen	ferg@Pagosa.Net	Pagosa Springs, CO
			Pat Reischmann	preischmann@email.msn.com	

No SSB radio frequencies were given, only Magic is listed. The time is EST. We published all subscriber e-mail addresses, since most authorized it and no one objected. If your listing is not to your satisfaction - too much info, incorrect, incomplete, etc., we apologize. Please let us know right away, so we do not repeat the error.