



SALTSpring ISLAND SAILING CLUB

TellTales

VOLUME 25 • NUMBER 1 • JANUARY 2006

Celebrating
25th
anniversary
of TellTales!

Meet & Greet New Members!

Tuesday, January 24th at 1900 h

Come to the

Wine and Cheese

social and meet & greet our new members who joined in 2005

Later in the evening

Colleen and Lorne Shantz
are going to show
their latest slide show

Sailing the Broughtons



GILLIAN KIDD PHOTO

FANDANGO and crew
at the Hot Rum Race,
(left to right) skipper Philip
Grange, Suzanne Ambers,
Art Munneke, Penny Poole,
and Dolores Graves

A reefed **AQUILA MIA**
heading out during the
New Year's Day race



LINDA REYNOLDS PHOTO

Commodore's message

We are just a few days into the New Year and we've already had our first Round Saltspring Race Planning Meeting, Board Meeting and Social, plus the new floats and breakwater should be arriving with a break in the weather. Norm's team of club members will be commencing work on the installation 'next day'.

Linda Reynolds filled in for our Staff Captain, Jill Sydneysmith, to put on the New Year's Day lunch. She is to be thanked.

Roger Kibble and Tony Meek also deserve a big thank you for retrieving the recently purchased sailing dinghies from UBC and bringing them home to the club. Several of the old ones are available at auction. (See separate article on page 3).

Staying on the subject of club volunteers, Kevin Vine is actively seeking someone to be the Round Saltspring Race Volunteer Coordinator. When the Coordinator asks you to pitch in at this event please say "Yes!"

Check out the **Job Jar** in this and future issues of TellTales for a job which suits your talents.

The Meet and Greet social on January 24th will be an opportunity to meet the new members of 2005, to welcome them to our club, and to celebrate the volunteer spirit which makes our club the special place it is.

—April Steel, Commodore
grailer1@telus.net

Cruisers' Corner

The state of our cruising program was the subject of a long discussion at one of our recent Board meetings. We looked at all the issues in order to arrive at an alternative which would receive member support for ongoing club cruising activities. What we were able to come up with is as follows:

We would not set up a planned calendar of events as we have done in the past. Obviously people cannot commit to the longer term planning which this approach is based on. This will also eliminate the substantial time being put into organising cruises which don't materialise.

The alternate is to encourage a more spontaneous approach to club supported cruising. Essentially, members are being asked to publicise cruises, which they and perhaps some friends are planning, and invite others to join in. This eliminates the frustration of organising failed cruises but still provides an opportunity for club members to share the seas. In support of this approach, the club will put up a bulletin board to publicise cruises and will set up dedicated space on our website.

In addition, several planned cruises will be developed. These cruises will be planned on the fringes of the boating season, i.e. May, June, September, October. They will also be 'destination oriented', that is, there will be planned activities at the destination. One idea which has been discussed is a combined race/cruise event in the fall. This will be pursued further and will hopefully prove to be a winning combination for member participation.

Have a great 2006 cruising season.
—Marc Lalonde, Fleet Captain Cruising



**Deadline for the next
TellTales is 3 February**

On the docks

Our docks managed the first storm of the new year very well considering it was a pretty fierce blow. The only problem which has occurred has been due to the usual high tides at this time of year and which have resulted in the stabilisers on the two long fingers of the breakwater catching on the top of the pilings at high tide and lifting the fingers high and dry at low tide. The first instance was spotted by Hugh Preddy and together we corrected it the next day. Fortunately no boats were tied to the finger. The second occurrence was more serious in that two boats were tied alongside. It was spotted by Kevin Vine and together with the owners we were able to shift the boats forward before any damage occurred. Many thanks to Kevin.

Members should avoid these two outlying fingers for the time being. No damage will be done to the fingers themselves if it happens again and the problem will be corrected during our dock renewal project.

Latest word is that the new docks are in the river in Delta and will be towed over as soon as weather permits. Work parties to assemble the floats and attach the necessary support brackets and hardware will begin shortly after their arrival. I will be notifying as many members as possible of our work party dates and times as soon as the schedule is set. In the meantime, a happy and prosperous New Year to all.

—Norm Dinsmore, Rear Commodore

Thank you!

A special thanks to Roger Kibble and Tony Meek for spending their time and ingenuity in getting the four C420 sailing dinghies from Jericho Beach to Salt Spring Island. Roger had to make a double trip to Victoria to get a large truck and then return it as it was the only way to get the heavier boats over to Salt Spring in one go. All boats arrived safely with their dollies, rigging and sails.

—John Wellingham, Fleet Captain Dinghy

CLUB CALENDAR

JANUARY

- 22 Sun 1000 Ground Hog Day race
24 Tue 1900 Meet & Greet Social

FEBRUARY

- 5 Sun 1000 Ben Mohr Rock race
7 Tue 1900 Board meeting
14 Tue 1900 Potluck Dinner
19 Sun 1000 McMillan Trophy race
28 Tue 1930 General Meeting

Visit saltspringsailing.ca
and get the latest SISC news!

FOR
SALE



House and grounds

I have nothing specific to report on the clubhouse and grounds. I would just like to take this opportunity to wish all members a Happy New Year and safe boating in 2006.

—Nick Hodson
Vice Commodore

Wharfingering

We are gearing up for the dock replacement. I will be contacting those members on C-dock this week to relocate their boats to Royal Vancouver Yacht Club outstation in Long Harbour during the week of January 16. Arrangements have been confirmed. The Station Manager is Phillip Errington and he has a list of boats which will be relocated. He has requested that our members call him at 537-5033 when they are moving their boats over.

I am working through the list of members who'll need to have new slips assigned due to the work, and hope to have everyone assigned their new home in the next couple of weeks. To date everyone has been very helpful and I appreciate your cooperation and patience.

Since renewal time we have two dinghies on the 'hanging' dock that I cannot account for. One dinghy is a newish 8 foot hard-bottom boat in spot 4. The other dinghy is a 10 foot inflatable in spot 8. Would the owners of these boats please contact me at 537-4021 so we can keep our 'Dinghy House' in order?

—Bob Scott
Wharfinger

Auction of Laser IIs

The old Laser IIs which the club has been using for the Junior and Summer Programs these past many years, will be offered for sale to Saltspring Island Sailing Club members. We need to create space for the new C420s which have arrived. The Laser IIs, which have given excellent service, have seen better days. While they no longer meet our needs, the boats can still be fun to sail.

For the next two months, until February 28, the five Laser IIs will be displayed in the top parking lot, along with their respective sails, rigging and rudder. Each boat will have a number, and a corresponding description will be posted inside the clubhouse with the numbered auction sheet. Please find the *Auction sheets* in the entrance of the clubhouse.

Auction criteria

- (1) Only club members can participate in the auction.
- (2) There will be a fifty dollar (\$50) increment in bids.
- (3) The cut-off for bidding will be 1900 hrs, Tuesday, February 28, and the successful bids will be announced at the General Meeting that evening, by Commodore Steel.
- (4) If the reserve price is not met, the boat(s) will be put up for sale to the general public after the February 28 date.
- (5) The auction is an open system where every bid is entered on the auction sheet for all to see.

For specific details and a maintenance history on each boat, please contact Tony Meek. If you have any further questions, please give me a call at 537-4123.

—John Wellingham, Fleet Captain Dinghy

TellTales is published ten times a year by the Saltspring Island Sailing Club
152 Douglas Road, Salt Spring Island, B.C. V8K 2J2

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Editing/production by Per and Lynetta Rasmussen (telltale@saltspringsailing.ca)



LINDA REYNOLDS PHOTO

Commodore April Steel cutting the cake at the Hot Rum Race and social on New Year's day

JOB JAR

Volunteers are needed for the following jobs:

Build fire extinguisher box. Contact Norm Dinsmore at 538-5501 for pattern.

Build recycling receptacles. Contact Nick Hodson at 537-0021.

Two people to come early to the General Meeting, February 28th, to look after the Laser Auction bidding sheets. Contact April Steel at 537-4207.

WANTED!
Editor to take over the production of TellTales

Be where the action is: the races, the socials, and all the other exciting events at our club.

Put it all together in print and help to keep the club spirit thriving!

Call April or Per if you're interested.

Social scene

For my first event on January 1st as Staff Captain I was unable to attend but, thanks to Linda Reynolds, the combined social and Hot Rum Race was a great success with 75 members in attendance. I heard there was a stiff wind for a fast race, so I am sure the hot rum was very welcome! I would also like to thank Bob Reynolds and Susan Paynter for helping Linda on Saturday to set up. Also a big thank you goes to her crew on Sunday—Susan Paynter, Helen Johnston, Jennie Barrio, Jean Howell, Irene Gibbs and Joy Howell. We used Phyllis Walther's salad recipe again, which has been so popular in the past.

I have a great support group and will welcome anyone else who would like to help out at our social functions. The more, the merrier, to share the work, and I'll be happy to have a meeting with my volunteers so we can plan the events for the year. This will give me some idea of when people are away sailing or on vacation in some exotic place!

Tuesday, January 24th is a date to remember. We'll have a wine and cheese social to meet and greet recent new members, and Colleen and Lorne Shantz have kindly agreed to show their latest slide show *Sailing the Broughtons* later in the evening.

Once again I would like to thank Linda and her crew for the excellent job they did.

—Jill Sydneysmith, Staff Captain



IMFS PHOTOS

They should have arrived by the time you read this!
The floats nearing completion in mid-December at the IMFS yard in Delta

Compasses and autopilots

By Harold Brochmann

When we bought our boat, *GYPHY*, five years ago it came equipped with a WP 4000 autopilot. It consists of an incremental electric motor connected to the wheel by a belt drive and a control unit with a rotatable dial which is marked in degrees from 10 to 360. Inside the control unit is an electronic circuit board and a fluxgate compass.

Over the years I have struggled to understand the workings of the fluxgate compass and why the autopilot is so damnably poor at keeping the boat on a steady course in other than completely calm seas. Any kind of wave action and it becomes erratic, causing constant and highly annoying back and forth wheel action. This article is an attempt to share with the readers of TellTales some things I have learned about fluxgate compasses and autopilots.

A fluxgate compass consists of several vertical coils of wire through one of which a weak alternating current is fed. The resulting interaction with the earth's field induces varying voltages in the other coils. A signal processing circuit translates these into the boat's supposed heading which is displayed on an LCD and provides input to the circuits controlling the electric motor, which in turn moves the rudder. I say 'supposed' because there are several factors which make the heading it gives incorrect—and unstable.

At this point it becomes necessary to define some terminology. *Heading* is the direction in which the boat is pointing, and presumably the direction in which it would move if it had not been for the influence of winds and currents. It is also what you read on a regular magnetic compass. *Bearing* is the direction to where you want to go. By contrast to these, *track* is the direction in which you are actually moving—not the same thing as compass heading. Thus your navigation instruments or charts tell you the desired bearing; and your knowledge of local conditions allows you to make a decision about the best heading. The difference between the bearing and your actual track is an indication of your skill as a navigator.

For reasons that I do not fully grasp, the fluxgate compass—in *GYPHY*'s autopilot, at least—is only able to determine bearing if it is moving. Stop the boat and it has no idea in which direction it is facing. In other words it seems that it detects track, not heading. It appears that the signal processing circuits need input which indicate that it is crossing magnetic lines of force. At other times I am less convinced that this is so. However, what is true regardless is that a fluxgate-based autopilot's performance is significantly worse when you are moving north or south than when you are moving east or west. The physics behind this phenomenon is not clear in my mind. Any reader who wishes to explain it to me is welcome to try.

The earth behaves as if it is a huge

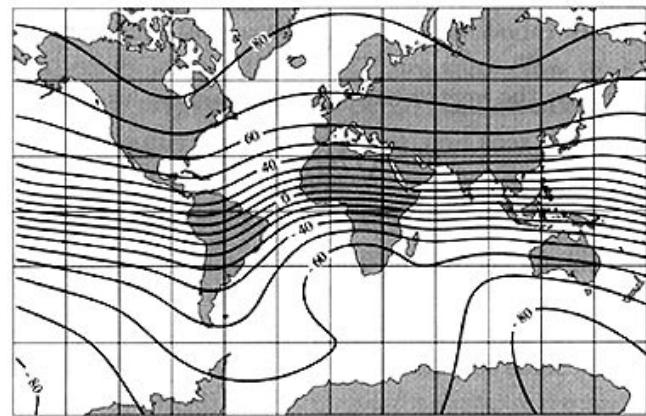
magnet, but with its poles deep beneath the surface. It follows that the earth's magnetic field has a vertical as well as a horizontal component, both of which vary over the earth's surface (see illustrations).

The vertical component is called inclination or dip and is greater at higher latitudes. At our location it is at about 60 degrees to the horizontal.

If the fluxgate compass is held perfectly horizontal it does not detect the vertical component and the heading it indicates relative to magnetic north is quite accurate. However, most boats, particularly sailboats, heel to some degree and then the detected magnetic field lines include a vertical component and the indicated heading becomes incorrect. As a result, at our latitude, a heel of 1 degree translates into a heading error in excess of 2 degrees.

Some fluxgate compasses, like those in tiller pilots are pendulum mounted. With these a steady heel angle does not distort the heading information because the coils remain vertical. With any amount of pitching or rolling action, however, the compass axis does not remain vertical, but swings to and fro with resulting back and forth steering action.

With a gimbal mount the swinging motion is reduced, but not eliminated, and the ultimate solution is to have a gimballed mount and a fluid enclosed fluxgate compass with additional damping such as the standard



Another approach is to use the track information available from your GPS unit as input to the autopilot. Similar to the case of the fluxgate compass, the GPS solution is affected by rolling and pitching—though not heeling. It follows that this arrangement is affected by the location of the receiving antenna which, unlike the fluxgate compass, cannot in practice be mounted centrally at floor level. Like what appears to be the case with *GYPHY*'s fluxgate compass, the GPS input is track, not heading, and so you have to be moving for the autopilot to know what is going on. With GPS this is in practice only satisfactory for boats with higher speeds than those typically attained by sailboats.

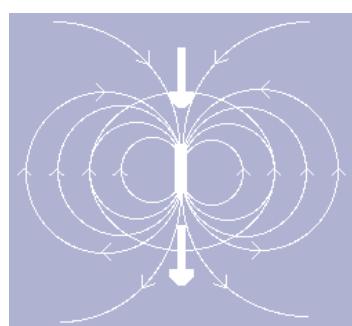
Repeated movements of the rudder will lead to gradual build-up of errors in the autopilot's information on the rudder's position, which is why the performance of an autopilot is improved if it also has input from an optional rudder position sensor. Some boats like *GYPHY*, because of their construction, cannot accommodate rudder positions sensors.

Another important factor is the sophistication of the software in the autopilot signal processing unit. Some units operate with software that is supposed to 'learn' to adapt to the conditions under which they operate. Perhaps so.

If you have sufficient cash available you can get autopilots that incorporate gyros. This can be done in two ways. Either you have a proper gyro compass which is hugely expensive and requires significant amounts of electric energy, or you get a gyroscope-based acceleration detector. The signals obtainable from this device are used to cancel the spurious readings which fluxgate compasses are subject to. Being precision mechanical devices, gyros of whatever ilk are not cheap and they eat batteries.

The latest developments in the area of autopilots involve solid state, and hence are less expensive and more efficient, acceleration detectors. They aren't here yet—but this will come.

In the meantime learn to enjoy standing at the helm of your boat for hours on end in rain and sleet and snow—and appreciate knowing that you are superior to an autopilot any day.



magnetic compass has. This will reduce the pendulum effect and hence the intermittent inclusion of the vertical component of the earth's magnetic field to a minimum, but not eliminate it completely.

The pendulum effect resulting from pitching and rolling becomes more severe the closer to the bow or stern or the higher up you are, so the fluxgate compass is best mounted as close to the centre of the boat and as low down as possible. This means that you need a compass which can be located remotely from the rest of the autopilot.

In the case of my boat, the only practical place to locate the autopilot is the worst possible—in the rear of the cockpit—and this accounts for the dismal performance I get from my WP 4000.