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INSIGHT

BY ANDY ADAMS

Money is the Answer!

HALLELUJAH BROTHER! Money is the

How do you attract more skilled technicians into our industry? Money. How can we afford to take on apprentices? Money. How can we get full value for our businesses if we want to sell or retire?

Money again...we have to be able to show that the business makes money.

John Spader said that he has often heard dealers say, "I may not know all the numbers but my accountant says I made money last year; that's good enough for me."

Maybe good enough for the owner but not good enough for a potential buyer. Anyone buying a business will require several years of detailed financial statements because the buyer needs to satisfy the information needs of whoever is lending him the money to buy that business.

Also, the new buyer needs to know that they can meet the requirements for essential supporting businesses like GE Capital Distribution Finance (GECDF) so he can continue to floor plan and sell new boats efficiently.

In turn, GECDF wants that dealer to make money; so does the engine supplier, the boat supplier, all their parts and accessory suppliers - they all want the dealer to succeed because when the dealers succeed, the suppliers profit too.

A large group of dealers turned out early in the morning on Tuesday, January 11, to take in a presentation by John Spader of Spader Business Management. This was a no-charge educational session but it was really worth a lot.

The Spader organization has been working with marine, RV and power sports dealers for 40 years, analyzing their financial data, guiding their business management decisions and, most

importantly, being around to see what actually happened and gathering that information too.

Boating Industry Canada mgazine in partnership with GE Commercial Distribution Finance put the session on as a way of bringing real value to the business at no cost to those attending.

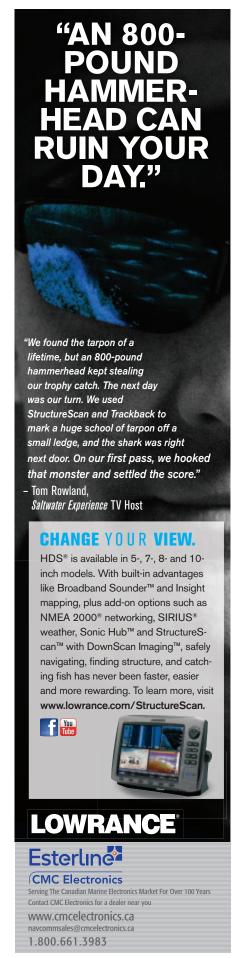
The session opened with Peter Ringler, President of GECDF delivering a very focused presentation featuring exclusive, key data about the Canadian marine market. Then, John Spader delivered 90 minutes of real marine business analysis including real marine dealer 'benchmark' financial measures that dealers can use to gauge their business performance against Spader's indus-

Spader provided hand-out worksheets and even showed the audience how to access more data through the Spader web site.

With an energetic and easy-to-follow style, John Spader talked about balance sheets, statements of income and then shared a marine dealer example sheet that gave industry benchmark percentage ranges for personnel costs, parts, service, advertising and sales data information the audience could apply in their business immediately.

Spader explained by seeing each range and comparing it to your own dealership numbers, you could more effectively identify areas of strengths and weaknesses. That leads to much more effective management. In turn, that leads to more money!

Money is the answer. Skilled management is how you get there. We hope to hold this session again at the shows next year. Hope to see you in the audience!



CONTENTS

VOLUME 8 - NUMBER 1 - FEBRUARY 2011

Features

MANUFACTURING FABRICATION Lessons Learned – Cruisers Yachts and Rampage Sport Fishing Yachts Survive the Downturn	6
SKILLS DEVELOPMENT Alicia Forget – Georgian College Grad now at Wye Heritage Marina	8
BUSINESS MANAGEMENT What's Your 2011 Financial New Year's Resolution?	13
SAFETY Expired Flare Disposal: A Work in Progress	16
MARINA MANAGEMENT Shock and Electrocution Risk at Marinas – One Marina's Solution	25
THE BOAT SHOP The Saildrive Conundrum Corrosion Solutions	27





Departments





Insight	. 3
Business Management	12
Ad Nauseam	18
Impact	22

On the Cover: Chris Shaw (left) and Robert
Dempsey are all smiles as they finish stocking and
prepare to open their new expansion at The Binnacle
in Halifax. With this latest increase in floor space,
they have taken over their entire 8200 sq ft building;
a commitment that is much easier to make as partners
in a year of economic uncertainty.
Photo by Derek Mason

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Lessons Learned

Cruisers Yachts and Rampage Sport Fishing Yachts Survive the Downturn

BY ANDY ADAMS



he American boat and yacht selling environment of 2008/2009 saw the biggest drop in volume since the Great Depression in 1929. Some are calling this the Great Recession and the boat business was hit harder than almost any other industry; credit dried up, home values plunged and sadly, almost no one "needs" a new yacht.

Today, the damage has been largely cleared away and consumer confidence is returning. The future looks promising for those who survived and one of those companies is Cruisers Yachts and Rampage Sport Fishing Yachts, owned by KCS International Inc., a corporation owned by K.C. Stock, a leading businessman from Wisconsin.

This boatbuilder demonstrates what

it takes to survive and the following are a few of the key "Lessons Learned".

LESSON 1 – Never forget that the boat business can plunge again, so avoid leveraging the company. Many of the builders who were carrying big debts are now gone. Some may never return.

LESSON 2 – As dedicated as K.C. Stock has always been personally to keeping good jobs and employment in his area, when you have to cut costs to survive, cut them. Preserve the company and staff up again as soon as the business supports it.

LESSON 3 – Protect the dealers. Work hard to move inventory off their books and out of the pipeline as quickly as possible. Support them with advertising, a detailed web site and a factory showroom where they can bring their customers to see new boats and still retain control of their sale

LESSON 4 – New products still excite buyers. You can't sit back and wait for things to return to the way they were. Develop new models.

LESSON 5 – Be self-reliant. Cruisers/ Rampage make and therefore control, the supply of almost all the critical parts except engines...and that is possibly their single greatest strength.

Boating Industry Canada traveled to Oconto, Wisconsin this past fall for the christening of the new Cruisers Yachts 48 Cantius model and we toured the plant and the new showroom at the same time



Our guide was Gene Gooding who had been with Cruisers for 18 years and who had just returned two weeks before. He began by taking us through the Small Parts building. A worker used a durometer to weigh each part to be sure it is within tolerance. Although they do some open mold parts, many small parts are now made using resin transfer (RTM) giving a great finish on both sides.



We continued into the big mold room which has more ventilation. There, a team was waxing the 48 Cantius hull mold. The big boat molds are stationary; leveled and carefully maintained, the molds never move. Nearby, we saw a new 48 Cantius hull that was just out of the mold and further along, several hulls were in various stages of getting engines, drives, mechanicals, interior parts and decks



Their research of warranty claims revealed that wiring issues were potentially troublesome. Doing all wiring inhouse is a great way to control quality. The time it takes from discovering an issue to making a running repair is much faster and doing their own wiring reduces vendor issues. A Komax Koppa 230 is used to write the function of each wire on the insulation. Cruisers/ Rampage even cut their own battery and fuel lines



The company has their own metal shop that does everything from welded stainless steel bow rails to fuel tanks. Cruisers/Rampage send their own tanks to be certified and pressure tested three different times. They have full control over quality and parts delivery. A hand-



some feature on their yachts is their arched top doors that are made in another shop owned by K.C. Stock. There is a full woodworking shop as well.

In the fall of 2010, the company opened a factory showroom where up to 12 new models, right up to their 560 Express Cruiser will be in stock, in a controlled setting where the interiors can be "staged" with props, decorations and supported by videos and accessory displays. The factory is only minutes from the water as well and the staff is ready to support dealers as needed.



The final step in quality control is to shrinkwrap their own Cruisers/Rampage have their own trucks for shipping, transporting their boats exclusively and assuring dealers of ontime delivery. Another key resource for Cruisers/Rampage is the seven-person customer service team who, combined, have a total of 150 years of experience!

Perhaps the most important thing to remember though is that buyers are still excited by new products. Jon Viestenz, Tony Martens and the 8 to 10 person engineering team are still actively researching and designing breakthrough new models. My last stop on the tour with Gene was an unmarked building where a full-size mock-up of their new 40 Cantius yacht interior was being evaluated and tested. Watch Canadian Yachting magazine this spring for a report on this great-looking new Cruisers Yachts model!

Skills Development and the Women in Skilled Trades

(WIST) Program – Alicia Forget

By Jennifer Harker

rowing up on the family farm, Alicia Forget never minded a little dirt under her nails. "It seemed normal." she said. The oldest of four children, Forget was no stranger to tinkering with tools, often helping her dad fix tractors and machinery on their Wyebridge farm, just outside Midland.

"I helped my dad fix cars around the property. We always had three or four older cars." At 16 her dad helped Forget and her boyfriend fix up a car. "My dad taught me a lot."

While Forget considers it perfectly normal, other people don't and she said, "A lot of people were surprised to hear I was taking the Women in Skilled Trades Marine and Small Engine Technician pre-apprenticeship course at Georgian College."

A series of food service jobs had left Forget wanting more from her employment. "I had worked at A&W, Tim Horton's, done telemarketing, cake decorating and waitressing. I wanted a change. I liked waitressing, but it wasn't a career. I wanted a career."

Searching online Forget found the marine course for women program listing at the Midland campus of Georgian College. "I always loved boating and spent time on the water with friends growing up. It was perfect." It also suited her specific situation. As a single parent to a five-year-old son, attending school out-of-town was out of the question. "I was not able to travel to Toronto for training or a job. I'm very fortunate. It was a great opportunity. They take trades women wouldn't normally get into and encourage them to get more



Alicia Forget is building on valuable knowledge she learned at Georgian College's marine program to better serve boaters at Wye Heritage Marina. She loves the new career the course opened up for her and urges other young women to take on the challenge of non-traditional trades.

diversity in the workplace."

The opportunity is made possible with funding from the Ontario Women's Directorate. Georgian's manager of continuing education and workforce development Phil Lebouef explained, "The Women in Skilled Trades programs are offered by the Ontario Women's Directorate to provide a mechanism for women to enter into 'not traditional' or 'male-dominated' trades. They have been around for quite a few years and Georgian College has done about four or five of them over the past six years." Previous programs offered at Georgian focused on

carpentry and electrical courses.

"The WIST program that Alicia attended was the first one for marine engine/small engine in the province," Laboeuf said. However the opportunities aren't limited to Simcoe County. "All of the other Ontario colleges besides Georgian offer WIST programs at one time or another."

Forget called it a positive learning environment with women from a diverse background aged 18 to over 50. "It was comfortable. Learning with all women you didn't feel pressured or feel you had to know more than you did. We were all learning the same thing together."



[SKILLS DEVELOPMENT]



Boosted by new found confidence and skills earned at Georgian College, Alicia Forget is eagerly learning all aspects of the marine industry. Following a successful placement at Wye Heritage Marina, Forget was hired as a service writer and has already been given more responsibilities as dockage coordinator at the large Georgian Bay marina.

She enthusiastically describes the five months of intensive learning. "One of the best decisions I ever made was to take that course. It included such a variety of experiences. It was really beneficial." Course work covered welding, forklift training, hydraulics, heavy crane operation, brakes training and resulted in 10 different certificates including WHMIS, first aid and fall arrest safety training. Forget said she graduated armed with real skills that make her an asset to potential employers. "It's great for the employer who doesn't have to send you to required training."

Seventeen women began the program and Leboeuf noted, "We had 12 graduate meaning they completed the school portion of the program and the work placement."

After five months of classes, students had to find a co-op placement. Forget initially struggled but finally landed a position at Doral Marine Resort (now called Wye Heritage Marina) on Georgian Bay. "I did 240 hours of hands-on work and I learned a lot from each technician who had his or her own speciality." She felt accepted by the technicians who appreciated the extra set of hands.

Following her placement Forget was

thrilled to be offered the service writer's post at the busy marina in September. "I was doing work orders, taking phone calls, helping boaters out with issues." She called her new knowledge a huge bonus, helping her speak confidently with customers about their service needs.

In December she earned additional responsibilities moving up to become Wye Heritage's dockage coordinator, responsible for assignment of the marina's more than 700 slips.

Clearly Forget has found her niche. "I'm definitely happy. I love my job. The people here are great and it's an excellent management team. It's an amazing atmosphere. I love being at the water, it's a beautiful environment."

Her long-term goals involve all aspects of the marina. "In five years I see myself still here I hope to continue advancing and be an asset to the company. I'd love to be marina manager." To succeed at that goal, Forget is working to build her experience, learning the various roles and operation of the marina. "I could continue with the technician course but I probably won't pursue it because of my new position." However completing the course was hardly a waste. "It's already paying off. When

people are calling in about their bills I can explain what the charges are. Because of my knowledge and because of the course, I'm a lot more valuable as an employee and can offer a lot more."

As a woman trained in the technology of her trade, Forget said she may also offer a new perspective. "I have a different way of problem solving and knowledge of both to offer more to the administrative side than someone who hasn't had the technical side."

Designed to introduce women to the potential within the industry, Leboeuf said, "The marine industry is in need of good mechanics going forward largely due to retirements but there are many other opportunities in the industry that people do not realize. It is much the same as the auto industry. Service writers, parts persons, sales staff, and accounting staff, etc. are all needed."

Forget said the seasonal nature of the marine industry really deters people resulting in a shortage of qualified personnel, and perhaps the course can help fill the void. "With winter work spaced out they can't keep everyone on year round. They're struggling to find people who want to do that." Forget said boaters could help themselves and the industry by booking regular maintenance on a schedule to fill the off season, helping guarantee longer term employment.

Forget said the future is full of potential for her and the industry. While marinas like Wye Heritage carry a Five Green Anchor Clean Marine rating as part of their commitment to the environment there's more work to be done. "We're looking into greener cars; we should be looking at greener boats too."

Forget wishes there was more awareness of the course she highly recommends. "I had no idea. I don't think there's enough media about it. I'd never heard of the Women in Skilled Trades and they've been offering it for years. High schools need to be informing young women about it. I would never have thought in high school that I'd be at this point, but I'm really happy I am. I took the opportunity to do something different and I got a great career out of it."

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Boating Ontario Announces

New HR Best Practices Manual and Online Portal

ealizing that so many marine industry businesses are smaller enterprises with limited resources, yet with a high reliance on Human Resources, Boating Ontario has developed a new Human Resources Best Practices Manual and Online Portal to help its members more effectively deal with the "people" issues.

The new HR Best Practices Manual and Online Portal delivers comprehensive information that is being updated on a large range of HR issues and topics that will be available in both the hard copy manual as well as a "state of the art" web site/portal, including:

- HR Function/Responsibility/Planning
- Legislation What's Most Important
- Record Keeping Requirements
- Job Descriptions
- Employee Handbook
- Recruitment and Selection Process
- Employee Performance Management
- Training and Development
- Compensation and Benefits

Anyone running a business needs to know what legislation is out there and what kind of risk they are exposed to by current Human Resources practices. These resources deal with what you have to do as an employer to comply with the law and how you deal with complex issues around hiring and firing staff and where you find up-to-date and relevant information

Over 35 different forms are available in template format that you can download and edit to best suit your needs and company branding. Examples include: Hours of Work Agreement; Organizational Charts; Employee Warnings; Training Evaluation Forms and many more.

The portal also offers a unique marine industry Job Board where



employers and job seekers can go to see what opportunities are available in the marine industry workplace. Members will have the ability to post their own unique jobs and Boating Ontario will be promoting the Job Board to create awareness.

A Blog section will provide an area where questions and answers on various topics/subjects of interest to the industry can be discussed and members can exchange ideas and thoughts on crucial Human Resources issues.

The Survey/Polls section will allow Boating Ontario to conduct on-going research to better understand key conthe marine industry. Information collected through surveys and polls of the industry enable the association to plan for the future and ensure programs and activities are in place for the betterment of the industry.

The HR Best Practices Manual and Online Portal is the result of a Pilot Project which was funded by Employment Ontario and the Government of Canada through their Labour Market Partnership program.

Boating Ontario would like to extend a special thank you to the Ministry of Training, Colleges and Universities (MTCU) for their assistance and support of the project. Without such government financial support, projects like this one would never be able to be undertaken.

The home page for the new **Boating Ontario Human** Resources Best Practices Manual and Online Portal lays out the range of information in a clear and easy-to-access format. While the Online Portal is up now and available 24/7, the printed manuals come out March 2011.

We would also like to thank the Boating Ontario members in Regions 5, 6 and 7 who participated in the project. The Project Management Team, including the HR professional consulting firm Champion Resources, met with the 20+ business owners and managers and their assistance and input helped shape the manual and portal.

Over \$250,000 was spent developing the HR Best Practices Manual and Online Portal. Businesses would spend thousands (literally) to develop a similar product. For \$99+, it is the best deal you will see in a long time and adds significant value to your Boating Ontario membership.

Boating Ontario is putting the final touches on their Human Resources (HR) Best Practices Manual and Online Portal. Designed specifically for the recreational boating industry, it will be available to all Boating Ontario members starting in March, 2011.

Editor's Note: The HR Manual and Online Portal are available to all Boating Ontario members for a nominal fee of \$99. An on-going administrative fee of \$49 per year will be charged for the maintenance of the portal. For information, e-mail info@boatingontario.ca or visit www.boating-ontario.com. This is available in Ontario but readers in other areas of Canada can contact their marine trades association about information available locally."

What's Your 2011 Financial **New Year's Resolution?**

By Chris Brown



WE ARE CREATURES of habit, which is to be expected because we naturally gravitate to what we know and with what we are comfortable.

Change is not always easy, but the new financial world in which we operate demands that we think outside the box, or is it really thinking outside the box?

If you are relying on what served us in the past, you may be in big trouble facing the future. Having worked in the

credit management industry for almost 30 years, I can't tell you how many times I asked a dealer how his year went and the answer was. "I think I made a profit. but I won't know for sure or how much until I receive my statements from my accountant". The scary part is that we would already be three months into the next fiscal year. It is like making a salad out of 15-month-old lettuce; it's old and rotten and will probably make you sick.

In other words, it is old news and is probably too late to help improve the current health of your business.

Certainly we have become more sophisticated than that, but even if you are producing monthly statements, it means nothing if you are not analyzing every single aspect of your operation and adjusting accordingly.

I recently read a wonderful article on the Boating Industry web site www.boat-

[BUSINESS MANAGEMENT]



ingindustry.com (Advertising & Marketing tab) written by Debbie Davis. She worked her way up to Vice President over 18 years with the world's largest Sea Ray dealer in South Florida. She writes about how to weather the storm during an economic downturn that results in sluggish boat sales, inventory surplus, shrinking margins and increasing operating costs. Sound familiar?

Debbie talks about being prepared by focusing on:

- Capitalizing on every revenue stream
- Customer retention
- Trade-in valuation
- Customer financing
- Extended warranties
- Marketing plans
- Cost containment
- Increasing margins

I am an advocate that everything she advises is needed to battle through tough economic times; however I am also a firm believer that you, as business owners, need to take one big step before you put these strategies to work. You need to know how your company has performed over the last three years beyond just whether you made a profit or not. You need to know where your

"My inventory turned 2 times this year; is that acceptable and what is the effect on my operations? It's in your P & L and Balance Sheet."

company stands today and then you need to set out your goals and objectives in a business plan for tomorrow.

So how do you achieve this first big step? Firstly, it means you must become a more diligent financial manager of your business. Suffice to say accounting and financial management are a career unto itself, so if you are not comfortable with this responsibility, don't let your ego stand in the way of getting help! Even if you are comfortable with the financial disciplines, it is in your best interest to get a second opinion. Secondly, if you don't already have an inhouse accounting system that can produce monthly financial reports, get one.

There are lots of choices out there, some more expensive than others but ultimately worth every penny.

The next phase of this big step is to learn more about what your financial statements are telling you and how to interpret the information.

- My sales are up but I am out of cash. What does that mean? It's in your balance sheet.
- My inventory turned 2 times this year; is that acceptable and what is the effect on my operations? It's in your P &r L and Balance Sheet.
- Am I meeting my bank obligations?
 It's in your debt equity ratio, current ratio and debt servicing ratio.
- My salaries are 12% of gross sales, is this good for my business or should I reduce staff?
- Why are my margins down over last year in units, parts and accessories sales? It's in your P & L.

And the list goes on. Now it's time to assess how your company's financial performance compares to the rest of the industry - your peers. This phase gets a little trickier, because statistical (competitive) financial information is not readily available in a traditional Google search. However, your financial institutions should have access to the Risk Management Association (RMA) book that produces ratios and percentages by aggregating the financial statements of companies within your industry. Your consultant may also have access to this information and/or have accumulated this data through his or her own financial analysis program. Regardless, this information has real value, providing you with what is achievable within the industry and the ability to compare it to your company's results.

Let's face it, if you were going to buy a house or do some renovations, what is the first thing you are going to do. Hopefully, you are going to analyze your finances first before you start spending. Business is no different; you must be a financial manager first before you establish your strategies

and put them into effect.

So let us take a minute and review the sequence.

- 1. Produce monthly financial statements. If you don't have a system that will do this, get one.
- **2.** Break down your financial statements into key ratios, percentages and margin analysis. If you are not comfortable with this, get help. Start with your last three years of operations and then do it monthly.
- **3.** Compare your results to the industry and your peers and establish whether your company is performing at the top level.
- 4. Recognize your weaknesses from the data you have analyzed and establish strategies as previously outlined from Debbie Davis' article. In short, build a business plan to meet your profit goals.
- **5.** Put your plan into action and adjust monthly based on your changing business landscape.

Being a financial manager is not as ominous as it may seem. Once you make it part of your monthly routine, it will become second nature and something you will wonder how survived without in the past. It is the key to building profit, meeting your financial institutions and creditors expectations and for those of you who are thinking about retirement and/or succession planning. Dealers who I have had the privilege of working with and who have adopted this financial management approach are realizing exciting results.

If you are still unsure where to start, Lifeline Business Solutions offers a complimentary tele consult on this or any other financial matter you wish to discuss. All you have to do is pick up the phone. Chris Brown is a Profit Solutions Specialist for Lifeline Business Solutions — Expert, Experienced, Enhancing Profitability.

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Expired Flare Disposal

A Work in Progress

By GLEN CAIRNS

ver wonder just how many expired flares there are out there? Well the answer is, no one really knows. Transport Canada mandates that all boats over 6 meters must carry the correct number and type of flares and that these flares expire four years from the date of manufacture. Usually this means three boating seasons. Since the vast majority of flares are never used in an emergency, which is a good thing, the four-year expiry date also means there is an ever growing number of aging flares in boat lockers, people garages, etc. Often these are not properly stored and could certainly present a danger if mishandled, or if they got into the wrong hands.

In order to dispose of expired flares, Transport Canada's Boating Safety Guide tells us to seek advice from your local fire department, law enforcement agency or Transport Canada centre. In rural areas this advice may well be useful. However, at least in larger metropolitan areas, most police departments have backed away from accepting expired flares. In BC, the RCMP has issued a press release to this effect telling boaters to contact a designated private company for flare disposal. The RCMP and other police units have sited lack of proper storage area and specific funding for pyrotechnics disposal.

How Old is Too Old?

While Transport Canada declares flares to be expired after 4 years from the date of manufacture, a number of other jurisdictions allow just three years. Different



Even the authorities have major hurdles to get permission to set off a flare for educational or demonstration purposes. Few actual boaters have ever set off a flare and that's an issue: a genuine emergency is not the best place to try it for the first time.

sources will say you can keep flares for up 6, 7 or even 10 years, however this is not advisable. Properly stored in a dry space, flares may well last that long, but in an emergency, firing off an old flare that malfunctions can be dangerous, even fatal. Some product out there is probably very old. One company told me they had taken back a parachute flare that was 23 years old! A malfunctioning flare dropped on deck could cause a fire, adding to whatever problem you're already dealing with. In pistol style launchers, a dud flare should not be removed for one minute. Although it may not seem like a long time, just try

counting to sixty in an emergency, or 30 for that matter. Most people leave their flares onboard over the winter and as a result even properly stored flares can develop moisture damage from condensation due to temperature fluctuation. As it was explained to me by one industry insider, expired means expired; it is not a best before date.

So How Many are Out There?

Everyone seems to agree that the number of expired flares in boat owner's hands is a serious problem. According to Transport Canada, there are 2.000.000 recreational boats in Canada of all types. Not all these boats are required to carry flares, but if you estimate that most owners have at a least a few

expired flares, it is easy to suggest the number might be as high as 2,000,000. Even if that estimate is too high, the bottom line is still a very large number.

What's To Be Done?

Transport Canada's Office of Boating Safety (OBS) and the industry are well aware of the problem and are currently working on a plan of action. The problem is not flares used in the commercial marine or liferaft servicing industry, it is with recreational boaters. Companies will pay to have their expired flares disposed of and some manufactures, such as CIL/Orion, will take back their own flares for disposal at no charge. However, to do this, the customer must notify the company in advance, and shipping, with all the hazardous good issues addressed, is at the customers expense. Distributers and some designated companies will dispose of expired

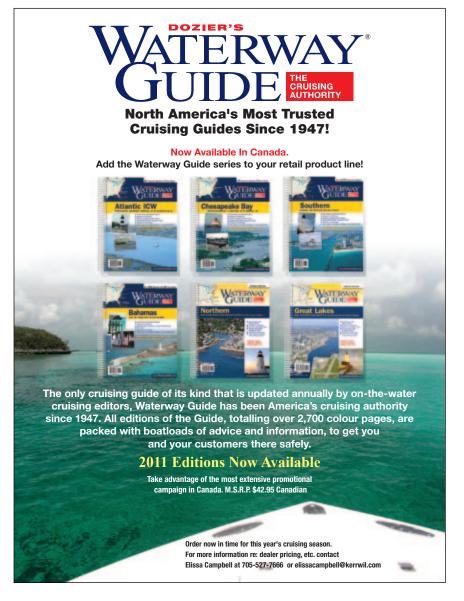
flares for a fee. Usually this starts at \$2 or \$3 dollars for a hand flare to as much as \$30 for a daytime smoke flare. This disposal cost, to say nothing of the hassle of shipping, is a barrier most private boat owners will not cross. All of the companies I spoke with said the percentage of returned flares from recreational boaters was minimal. The result is an ever growing number of flares kept until they are dangerously unstable, or thrown away in the trash, dumped overboard, or used for entertainment on New Year's Eve. Boaters should be aware it is a serious offence to fire a flare in anything other than an emergency.

Transport Canada's National Canadian Marine Action Committee (CMAC) has a standing committee on recreational boating. In their November 2010 meeting they addressed the issue of expired flare disposal, recognizing disposal of expired flares has been a problem for the recreational boating community for many years. Members of the committee represent government, manufacturers, importers, regional marine trade organizations and recreational boaters. The consensus at the meeting was that manufacturers should be responsible for the collection and disposal of expired flares even if it means including a fee at the time of purchase. CMAC also feels that Canada should be in general accordance with international and particularly US standards. This sounds great but as is always the case the devil is in the details. Having a fee charged at the point of sale to cover disposal cost, similar to that charged for new tires, is one suggestion, however this does nothing to deal with the product already in place. Since many of the flares lying around are from manufactures no longer in business this means government must be involved with the process. One idea is to have a time-limited amnesty for the return of old pyrotechnics. A test run of this idea was carried out in Ontario in 2009 and apparently netted some 15.000 flares in one week.

Various suggestions are on the table including reducing the number of flares required. The OBS is in the early stages

of developing a proposal for this step. The Canadian Power and Sail Squadrons (CPS) has a strong interest in eliminating the misuse of expired flares. Most people still do not have hands-on experience with using flares and while the boater training courses do cover their use and handling in theory, it has proven difficult to provide hands-on training with live flares. Flares in good condition and only a couple of years out of date can perform well enough in controlled conditions and their use in marine safety training programs has been suggested, although this runs against the issue of expired vs. best before mentioned above. For this reason. Transport Canada personnel from the OBS are not allowed to use expired flares. For the CPS, the cost of new flares and the approvals required to use them have proven too onerous. The CPS offers a DVD course on distress signaling and uses dummy flare kits in its training programs, however most experts agree there is no substitute for using a real flare. Firing a hand-held parachute flare for the first time really gets your attention.

As the headline says, the solution to the problem of old flares is a work in progress. It is likely (and hoped) that companies such as CIL/Orion and some importers will develop programs with their distributors and dealers to handle 'cradle to grave' issues with new flares. As for dealing with the huge number of expired flares out there, stay tuned.



Do We Speak Their Language?

By John Morris

HAVE YOU SEEN the bank ads that say, "We speak your language?" How about the car dealer ads that show their mosaic sales staff jumping up to entice customers?

English, Cantonese, Mandarin, Korean, Japanese, Farci, French, Vietnamese, Tagalong, Arabic, Hindi, Tamil, Urdu, Malayalam, Gujarti, Lebanese, Armenian, Punjabi, Spanish, Italian. That's the list of languages you can do business in shown at the bottom of the Don Valley North Toyota home page. How does that compare to your company's linguistic capability?

In my last Ad Nauseam column we looked at the very obvious evidence that the face of consumers is changing in this country and I undertook to track down some innovators who are working on harnessing those new bucks. Frankly, the opportunities remain largely untapped, but here are a few bits of evidence that the shift is on.

Before we explore the world of minorities, let's consider a majority. For many years, women have been underserved by boating and quite a number of dealers and other industry players appear to have gotten that message. As it was explained to me, there are two great reasons to target women: 1) They are gatekeepers of family time and will embrace boating more enthusiastically if their skill levels are enhanced; and 2) Many women have leisure time, can afford boats and will boat if they are exposed to boating.

Like many other dealers have done, Skyline Marina in Orillia held a "Ladies at the Helm" event last year and all three instructional sessions were over-subscribed.



Henry Nguyen, born in Toronto to parents who arrived from Viet Nam shortly before his birth, sold almost 100 units at Legend Boats in 2010 and seems poised to set the showroom on fire this year.

Speaking from experience, we can likely agree that panic-driven instruction from a bellowing husband is not the optimal way for females to learn boating. It turns out that patient group lessons with their peers is, and the "ladies" who took the course loved it, according to Bernadette Pickles at Skyline. The participants were principally spouses of owners but some were women from the community and Pickles reports there was at least one sale that came out of the event. She acknowledges that there was also likely some increased enthusiasm to get a bigger boat from families who might not have otherwise moved up.

Skyline's experience echoes those who have embraced Women on the Water programs – they add energy and create sales. There are other door-opener programs to attract juniors, community sailors and non-boaters who visit boat shows (but haven't ever gone boating) that work with varying success. These share one aim – to expand the existing

pie. Perhaps it's also time to reach across the counter to the other pie flavours.

The topic of newer Canadians and their potential as boaters is increasingly on the lips of dealers, especially those close to metropolitan areas. The one minority group that comes up repeatedly is Asian fishing enthusiasts. There are no stats that I can find, but anecdotally the evidence is that Asians love fishing and line piers armed with rods and tackle boxes. It's inexpensive as a hobby and as a benefit is a source of fresh fish - a staple of many Chinese kitchens (there's now lots of fish in supermarkets, but that's only recently the case - rod and wok was a logical way to obtain fresh pickerel.) There are several Chinese fishing clubs spreading the word and the word is working – they are buying boats.

Jeff Duhammel is right in the middle of this since Legend Boats is the home of the ready-for-action fishing rig. Chinese fishers arrive in Jeff's showroom, often with interpreters, and increasingly are

ATTENTION BOATERS: THERE ARE CHANGES IN APPLYING FOR A PLEASURE CRAFT LICENCE

Did you know that any pleasure craft powered by 10 hp (7.5 kW) or more must have a valid licence? A pleasure craft licence allows search and rescue personnel and other agencies to quickly identify your boat in the event of an emergency.

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- 1. a completed application form;
- 2. proof of vessel ownership; and
- 3. a signed copy of a valid piece of government-issued identification. (Further information is available on the form.)

Application forms are available online at **www.boatingsafety.gc.ca**, or for pickup in person through your local Service Canada Centre. For **Service Canada** locations, **visit www.servicecanada.gc.ca**.

To learn more about pleasure craft licensing, visit Transport Canada's Office of Boating Safety at www.boatingsafety.gc.ca, or call the Boating Safety InfoLine at 1-800-267-6687.

AVIS AUX PLAISANCIERS: IL Y A DES CHANGEMENTS CONCERNANT L'OBTENTION D'UN PERMIS D'EMBARCATION DE PLAISANCE

Saviez-vous qu'il faut détenir un permis pour toute embarcation de plaisance à puissance égale ou supérieure à 10 hp (7,5 kW)? Un permis d'embarcation de plaisance permet au personnel de recherche et de sauvetage et à d'autres organismes d'identifier rapidement votre embarcation en cas d'urgence.

Pour obtenir gratuitement un permis d'embarcation de plaisance, vous devez, depuis le **1**^{er} **novembre 2010**, faire parvenir **par courrier** les documents suivants au Centre de traitement des permis d'embarcation de plaisance :

- 1. un formulaire dûment rempli;
- 2. un document prouvant que vous êtes le propriétaire de l'embarcation;
- 3. une copie signée d'une pièce d'identité valide délivrée par un gouvernement (autres renseignements disponibles dans le formulaire).

Les formulaires sont disponibles en ligne au www.securitenautique.gc.ca. Vous pouvez aussi en obtenir une copie à votre Centre Service Canada local. Pour savoir où il se trouve, consultez le www.servicecanada.gc.ca.

Pour en savoir plus au sujet des permis d'embarcation de plaisance, consultez le Bureau de la sécurité nautique de Transports Canada au **www.securitenautique.gc.ca** ou composez le numéro du service de renseignements téléphoniques sur la sécurité nautique, 1-800-267-6687.



[AD NAUSEAM]

driving off headed for Rice Lake. "The market is small because there's no one for them to speak to," Jeff tells me, admitting that Don Valley North's language list is still just a wish list for Legend.

But - and this is an exciting but -Legend has this year hired - as far as I could discover - the country's first Vietnamese-Canadian salesperson and for a rookie, he is setting the showroom on fire. Henry Nguyen, born in Toronto to parents who arrived from Viet Nam shortly before his birth, has sold almost 100 units totaling \$1.2 million this year Jeff told me with pride.

Soon to be poster boy for the Canadian industry, Henry's family moved to Orillia and as a student he pursued his fishing enthusiasm to a job at Trombly's Tackle Box. His sales experience there made it an easy jump to Legend where Asian customers of any background gravitate to him as a person with whom they have an affinity. It seems simple enough and is inspiring Duhammel to add a Cantonese speaking sales person.

Henry is a huge ambassador and is out on the water endlessly - he's even had some success on the tournament circuit. He explains that when an immigrant family arrives, recreation is the last thing they have on their mind. But as they become settled, the Canadian reality kicks in and the fishing urge becomes a fishing boat. Then that boat becomes a family outing platform and several generations can take the boat out together.



He agrees that it could be a logical step from an aluminum fishing boat to a small express cruiser and beyond. Hey isn't that the Discover Boating story?

But with those few exceptions, so far anyhow, it doesn't seem to be the reality. Lake Simcoe and Georgian Bay marinas don't house too many minority families but you might think that in the multicultural heartland of Toronto, you'd find some. "Nope," Rob Walters, the manager of 600 boat Outer Harbour Marina tells me. "I can count the number of minority boaters on one hand," he tells me. "And that includes a couple of Israelis." The minority demographic wave hasn't yet hit. "It's not much different than Crates (where Walters worked prior to OHM), although we have a few more gay boaters." I'm not sure how he can tell, but it's probably a good idea - dual income

There is no question that this attractive advertisement directed to the Asian community offers a gateway to boating in Canada.

and no kids equals lots of disposable income - the generally accepted observation on that demographic.

As of winter 2010, the Canadian boating industry is still not doing much to improve its outreach to boaters who are not white boomers, although the Toronto Boat Show has taken some steps to assist in selling beyond the box, according to Linda Waddell, TIBS' show director. The show has brought in help to educate exhibitors in the tastes and expectations of Asian-Canadian purchasers and for the past few years has partnered with Sing Tao and more recently with Epoch Times to bring its message to the Chinese Canadians.

One tiny ray comes from Charley Zhou's Ahoy Captain Yachting Services, a club for immigrants to go boating. The company's slogan "Enjoy Canada...from its water!" describes its aim of helping newcomers join in the larger social world of this country via boating. Zhou, who came to Canada from Shanghai in 1988 worked in the travel industry and while here, fell for sailing himself. This spring when he toured some yacht club open houses, he was struck that he was the only Asian on the dock and undertook to provide an entrée for would-be boaters of Chinese, South Asians and other backgrounds that don't have the made-in-Canada connection to boaters. His organization has already arranged outings and flotilla cruises for its so-far 23 members and is planning a charter to St. Vincent.

If the traditional boating market isn't spending what we'd like right now, it's increasingly clear that there's a huge market on the horizon that sooner or later is going to be available to boaters. Many in the industry would love it to be sooner, but are not quite sure how to accelerate the process. As Bernadette Pickles acknowledges as we discussed this market potential, "whoever figures out the answer is going to really cash in!"



Out under sail in Toronto Harbour, new Canadian boaters enjoy a great day out yachting with their peers in an environment that is a convenient and comfortable distance from home.

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11:00 am Snowshoe Tour Pre-registration at Program Office is **required** by 10:30 am

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1:30 - 3:00 pm Match-to-Win Race Arrowhead Chair

3:30 - 5:00 pm Après Ski & Cash Bar

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The Binnacle

A Profitable Partnership

By Andy Adams

THE TIME SEEMS RIGHT for *Boating Industry Canada* to profile The Binnacle and the profitable partnership between Robert Dempsey and Chris Shaw that is behind the steady rise and success of Atlantic Canada's regional chandlery.

As the industry becomes more keenly aware of our aging population of marine business owners, a great many of whom are owner/operators with no succession plan in place, the partnership between Robert Dempsey and Chris Shaw looks more and more attractive.

Boating Industry Canada sat down and interviewed both Robert and Chris about both their store and their relationship as partners. We think (and hope) you will find this very interesting.

Chris Shaw told us, "We needed a partnership to get The Binnacle started and as we have gone along, we realized that by being partners, you realize that it's not all on your shoulders and that sometimes you need somebody who's going to call your bluff or look at a situation in a different light."

Chris says that, "After 18 years, we are like an old married couple; we do what we do separately. Over the years, we have divided up the responsibilities; Robert does the purchasing and merchandising, I do the public relations and advertising."

Chris was quick to add that, "When we buy at the shows, we make a joint decision. If we see a market for these things, then it's OK".

Boating Industry Canada has observed Chris and Robert at shows. They arrive with their people, armed with notebook computers and spreadsheets, ready to analyze historic sales and business data to best arrive at buying decisions, stocking quantities and other key measures.



The Binnacle's display at the Toronto International Boat Show is really to support their web store, The Binnacle.com. Robert (left) and Chris (right) enjoy meeting their Ontario customer group who also enjoy putting real faces to The Binnacle.com!

That is one sure way to avoid disagreements – base decisions on hard numbers.

But partnerships are relationships as well. This relationship started on a custom C&C 41 back in 1984; Chris and Robert raced together until the early 1990s. Both love sailing and particularly racing. They had a lot in common.

The Binnacle was started in about 1975 in Montréal by John McCurdy. McCurdy expanded and opened a store in Halifax. (Robert Dempsey describes the original The Binnacle as having become a clothing store that was dab-

bling in marine.) McCurdy also owned South Shore Marine in Chester, Nova Scotia but sold that to one of his managers. When he did that, McCurdy was also thinking of closing The Binnacle because it was losing money in Halifax. And, the manager lived in Chester and probably didn't want to have a business in Halifax.

As the story goes, Chris happened to be in Chester, talking to these people and discovered that they might be prepared to sell the store. The rest is history, but it's important to note that without setting up the partnership between Chris and Robert, it's unlikely that either would have run the risk alone, or been able to afford to buy The Binnacle in the first place.

At that point in the early 1990s, Chris had been with a grocery products manufacturer and he had just received a "package" as his company was bought out. Robert had been working for the federal government as a UIC officer. Luckily for Robert, when he and Chris made the decision to buy The Binnacle, he was able to work out an arrangement with his manager where he would work six months of the year, taking off on April 1 and returning on November 1. He did that for the first two years while he and Chris, and one other employee got The Binnacle going. After two years, Robert was able to join Chris on a fulltime basis.

The partnership was a significant factor contributing to the success of the start-up, giving them the confidence to commit to investments that lead to future success. The original store was 860 sq. ft. and literally on the day that I interviewed them at the Toronto International Boat Show in January 2011, they had just added another 2,000 sq. ft.; the carpet was being laid as we talked. With this latest expansion, they have now taken over the entire 8,200 sq. ft. building.

The security of the partnership also facilitated three pivotal decisions in the early days.

The store has long had very unique and distinctive advertising materials, all created by Cindy Schultz, a person they have known for 30 years. Chris emphasizes that from the outset, they never wanted to promote price. Chris came from the grocery business and he felt that marine was not a nickel and dime business. Instead, he believed that for marine buyers, "the brand" is what it's been all about. Cindy's consistent approach to The Binnacle's advertising continues to build "the brand"

Robert commented that some of their customers tell him that the first thing they look for in the newest copy of Canadian Yachting or Pacific Yachting is The Binnacle ad in order to see what

they've done this time.

The appearance of the store is also very important and Chris freely admits that the look of The Binnacle today is nothing that they would have designed themselves. He emphasized that in addition to their obviously good decision to have Cindy Schultz do the advertising and branding, one of the most important decisions they ever made was to have Ann Acland do the store design.

Ann Acland is also a racer who has been profiled in Canadian Yachting as a sailor, while professionally she does retail design and store layouts. From the

regional buyers." Both Robert and Chris view The Binnacle as a regional retailer, drawing their business from a substantial store trading area in Atlantic Canada but then, branding the store and carrying its personality across Canada through their advertising and their Internet presence.

The third pivotal decision came in March 1999 when the company went online and opened its own virtual store.

Right at the start, they hired a fulltime IT person; Robert's brother Eric Dempsey. "We're pretty certain this was Canada's very first online marine store,"



In the midst of both the Toronto International Boat Show and the renovation/expansion of The Binnacle store in Halifax. Chris and Robert are pleasantly surprised to see that their landlords have come to Toronto to visit!

very beginning, Chris and Robert trusted The Binnacle to Ann. She chose the colours, the natural oak trim and the carpeting. Chris said that they have always believed that a marine store does not need to look like a Canadian Tire or a Wal-Mart with gray metal shelves and cement floors. He also believes firmly that the cost of their comfortable nautical decor has more than paid for itself. He claims they have never had to charge anything extra at retail for the upscale store design.

Chris told us, "We almost blush when people tell us that they think it's the nicest store of its kind that they've been in. And, we get cruising yachtsmen up from the United States who say that".

"We see ourselves as a destination retailer," Chris said "offering something unique to the visiting yachtsman and the

Robert said. "The story was written up in the local papers."

Today, The Binnacle employs 15 fulltime people and a staff of 20 or more during the summers. "Not only do we occupy the entire building now, we have three people working full-time on Binnacle.com." Robert told us.

Again, the strength of the partnership arrangement facilitates the growth because as Robert stressed, they grow into it. "We have always hired staff and then hoped that they would increase sales by adding something new to The Binnacle and so far, that's always what has happened," he said. "It was the same thing with the Internet. We hired our IT person when there was no Internet business.

We modify our site on a daily basis and we've worked with Eric to follow his

IMPACT

vision about the web. He predicted the growth scenario and we've been able to make it happen."

So, The Binnacle is now really two stores; the physical store in Halifax and the online store that is coast-to-coast across Canada and has even expanded into the United States. The great value of online is that you can measure everything and you can very quickly know if your product or your ad is doing well, even as far away as BC.

Robert added that, "We feel that service is our greatest strength. We really want to service our customers because that is how we grow. The reason that we exhibit at the Toronto International Boat Show is to support our online business by seeing our customers face-to-face in Ontario."

Another aspect to this partnership when you talk to Chris and Robert is that they make it sound easy. We had to ask them, what challenges have you faced?

"I think that, originally, The Binnacle was seen as a high-priced store, but that's not true now," Robert said. "When we bought it, they used to incorporate the GST into the pricing. As soon as we took it over, we took that out and immediately dropped the price tags by 7%. It's taken a long time for us to change that pricing perception but as we have grown into being a regional store, people now see us as being nationally competitive from a price standpoint. The Internet has given the customer tremendous access to information."

So, the partnership was instrumental in getting The Binnacle off to a strong start but is Robert still having fun?

"It's mostly still fun," Robert said with a thoughtful smile, "I really enjoy getting up and going to work. In fact, I enjoy it every day. The staff might say that I get cranky sometimes. Some of the things that happen can wear on you, like a customer coming in with an eight-year-old jacket that has a broken zipper, hoping that you're going to fix it for free!"

"We really have a good staff. Some of our people have been with us 12 or even 15 years and we can let them deal with issues like that. Our staff is empowered to solve problems and these days I have an office where I prefer to stay. On the other hand, I really get excited when our new products arrive. We try and offer a really wide selection of merchandise. Like foul weather gear – you don't even need a boat to appreciate Henri Lloyd clothing."

In terms of succession, Robert and Chris don't have anything specific in place but at age 52, Chris is planning to stay another 10 years and Robert probably is too. Chris says that bringing in a younger partner might be a good idea. Hiring a manager is a question of money. In order to find the right person to buy them out, that person would need to have some investment capital. You couldn't buy the business out otherwise.

Also, Chris has a daughter Taylor, who is a keen sailor and has taken an interest in the store. She's a teenager now and perhaps she will grow into it.

All in all, Chris emphasizes that he and Robert both see the business as a work in progress and they rarely stop to think about their partnership.

"This has been the easiest relationship I've ever been in in my life," Chris said when describing his working partnership with Robert. "My weaknesses seem to be his strengths. We don't always agree but it still seems to work. From crewing on a boat together, it doesn't take long to figure each other out; one look and we know what we're doing. Just like an old married couple!"

"What we do, we do well" said Robert.

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IF NOT, you have missed at least 10 of the latest hot stories that broke since the April issue of Boating Industry Canada!

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- Mercury Marine to Present Service Award to Dealerships
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- Again, Paynes Marine Group is Top Distributor for Jeppesen
- NMMA Unveils Dealer Connections **Program at Miami Show**
- Raymarine Upgrades Product **Warranties to Three Years**
- New Web Site Announced by **Canadian Power and Sail Squadrons**
- **Boating Ontario Announces New HR Best Practices Manual and Online Portal**



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Shock and Electrocution Risk at Marinas

BY ANDY ADAMS

THIS STORY is both horrifying and tragic. The circumstances may be more common than people realize and whether you are just a boater, or you are a marina owner, you could become a victim vourself.

On June 27, 2005, Samantha Chipley and her friends Margaret, Susie and Courtney, arrived at the Scott Creek Marina on Cave Run Lake which is located in Eastern Kentucky. The girls were planning to spend the night on a houseboat owned by Susie's father. This was Samantha's first time at the marina. It was a very hot June afternoon and the four girls jumped into the water. Although there were "No Swimming" signs that warned of the danger of electrocution, it was common practice for patrons to swim at the marina. At the time of the incident, Samantha and Margaret were in the water swimming while Susie and Courtney were retrieving floats from another boat nearby. Samantha tried to climb on a raft with Margaret when she suddenly started jerking in the water. Margaret jumped off the raft to help Samantha and felt a shock go through her entire body.

The other girls rushed to the back of the boat and were able to pull Margaret to safety, but the girls watched helplessly as Samantha was shocked for several minutes while she struggled to stay above the water. A Good Samaritan dove into the water in an attempt to save Samantha. He was shocked too and barely escaped with his life. The incident lasted about seven minutes. Eventually Samantha disappeared into the darkness. Her body was recovered hours later.

That was the beginning of a story



printed on a handout I received at IBEX 2008, for an educational session called "Practical Testing for Dockside Electrical Hazards" presented by Michael Esposito of the Irish Boat Shop in Harbor Springs, Michigan and by James Shafer of Harbor Marine Consultants Inc., Vero Beach, Florida.

Canadian marina operators should pay particular attention here because the danger of electrocution is far higher in freshwater marinas...and Canada has lots of those

The reason is that freshwater has low conductivity. A human body is much more conductive than typical freshwater in a lake or river, so when there is current flowing in freshwater, a much greater percentage of the current will be conducted by a person's body.

Saltwater is more conductive and offers an easier path for current, so a person in saltwater is in reduced danger.

The common elements in accidents of this type always include a fault to ground below the breaker trip point, a high resistance or open ground, freshwater and a swimmer near the faulted boat. Possible causes include:

- Neutral ground connections, open ground, reverse polarity
- Motor or heating element insulation failure and open ground
- Metal conduit on dock, not bonded and water-soaked

It's certainly possible for a hot, neutral or ground wire to come loose over time as a boat pounds over the waves and the loss of correct grounding can result in current taking a different and potentially dangerous path.

Another major source of danger is the do-it-yourself boat owner who comes to the marina on the weekend and without

satisfactory levels of technical knowledge, attempts to modify the electrical systems, or wire up some new piece of equipment onboard his own boat.

This very important presentation also made mention of the fact that while marinas often rely on code electricians to install and maintain the shore power systems, the boats are based on ABYC code power systems which combine both AC and DC elements. Therefore. there are two different codes, two different levels of certification and two different perspectives guiding those people responsible for installation and repair.

Electrocution, electric shock drowning, fire and other property damage can result when this union develops faults that go undetected until damage is done.

It doesn't take much current to have an effect. The presenters showed a chart of Ground Fault Effects. At 1 milliamp (ma) a person will feel a tingling sensation. At only 15 ma they can experience paralysis and drown. At 60 ma, a person will experience heart failure.

If you are a marina owner or operator, it is recommended that you do the following:

- install and enforce "No Swimming"
- install long, wooden-handled (nonconductive) rescue poles at the "No Swimming" signs
- designate a safe swimming area well away from electrical sources, if it is possible
- inspect and test your own dockside electrical systems
- regularly inspect electrical cords, adapters and connections
- test every boat that plugs into your electrical system

Wait a minute...test every boat?

The story of Samantha Chipley and her electrical shock drowning was actually two pages long and part of a statement by the Hon. B. Clark Batten II from Garmer & O'Brien, LLP which is a law firm. The Chipley family brought a suit against both the boat owner and the marina operator.

Before the case went to trial, the

marina settled for \$700,000. Samantha Chipley's family hopes that her story will serve as a catalyst for change and bring more attention to this issue.

Even in Canada, when someone dies, especially in a tragic setting like this, it's common for a lawsuit to take place.

The results might be no different if the victim had been an adult who accidentally slipped, fell into the water and was electrocuted. While "No Swimming" signs are a great idea, no marina operator can prevent people from accidentally falling into the water.

Whether or not the electrical codes in your area require it, institute a regular program to test the marina's own systems. Esposito and Shafer recommended a tool from Ideal called the "Sure Test". This meter puts a momentary 6 amp load on the power systems and records the impedance of the ground, hot line and neutral line.

Non-technical marina personnel can easily log that test data on a form for later interpretation by an electrician. They can also spot irregular readings and take immediate action.

A further valuable step was explained by Michael Esposito. At the Irish Boat Shop marina facilities, they began requiring every returning boat to be measured with a multimeter which can show various types of fault readings and they created a custom tester box. The tests can be performed by seasonal dock help.

They use a Hioki 3283 tester and their own custom test box with a variety of adapters and test cords. Their procedure is:

- 1. Turn off the shore power breaker.
- 2. Plug the shore power cord into the
- **3.** Plug the shore power cord into the dock pedestal.
- 4. Turn on the circuit breaker in the pedestal.
- 5. Turn on the AC mains breaker in the boat.
- 6. Turn off the AC circuits on in the boat.
- 7. Turn on the 3283 test or by pushing the power button.

8. Clamp the 3283 around the boat's shore power cord and close the pincher completely.

The Irish Boat Shop has chosen the following limits but other marinas may choose different levels. If the 3283 shows a reading less than 100 ma, no action is necessary. If the reading is above 100 ma but less than 500 ma, switch off the breaker and see if the current stops. Notify the appropriate service office for further checking. The boat may remain plugged into the dock pedestal.

Note that in the section (above) discussing the effect of electricity on the body, we were saying that 15 ma will cause paralysis, but here we are allowing a much larger amount of leakage to be acceptable. This is due to the poor conductivity of water and the loss of amperage as you get further from the boat. A 100 ma reading at the shore power cord translates into a much smaller reading in the water.

If the Irish Boat Shop finds a reading above 500 ma, they turn off the pedestal circuit breaker and unplug the boat. It cannot be plugged in again until the electrical systems are thoroughly checked.

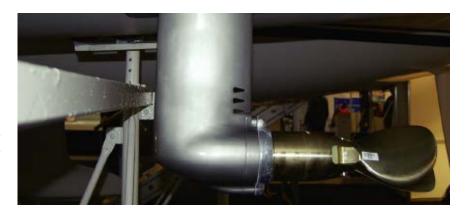
In addition, they test their dockside electrical system once per year, with some random testing of pedestals throughout the season. Seasonal boats are tested once per week and they regularly inspect the electrical cords and adapters for any sign of damage or burning. Transient boats are tested when they arrive as part of their check-in process. There is a handout given to each transient customer explaining what they are doing and why. Esposito and Shafer recommended that all marina owners be proactive in working towards reducing the possibility of an accident.

It makes sense to train your staff and educate your customers on this important matter. But by proactively taking action to prevent problems, the marina is in the best position to defend itself should an accident occur. While the boat and the boat owner should be responsible, lawsuits often name every possible party. It can happen to anyone.

The Saildrive Conundrum

BY ED SHERMAN

ANY GOOD BOAT design must take into consideration such things as weight placement, overall weight, adequate power to propel and construction costs. To that end, we have seen many sailboat designs over the last decade utilize saildrive propulsion systems. Without question, saildrive systems have many desirable attributes. In theory, they should also reduce required maintenance costs. They definitely reduce propulsion system noise levels by a considerable margin. In tests I've conducted as a Cruising World magazine Boat of the Year judge over the last five years, saildrive installations consistently produced anywhere from 5 to 10 db less noise in the cabin areas of the boats we tested at typical cruising speeds.



So the promise of quieter running, less expensive manufacturing costs and reduced maintenance would seem on the surface to tilt the scale heavily in favour of selecting a saildrive system as part of any sailboat design.

Unfortunately, we have seen some serious problems with these saildrive systems in service and they have nothing whatsoever to do with what some of the early naysayer's predicted. A typical saildrive installation will have a robust





THE BOAT SHOP

rubber bladder that seals the perimeter of the drive mechanism which is hung from the engine's output. This bladder is the only thing that prevents the egress of seawater into the boat around this drive leg. Early on, this rubber boot was considered to be the biggest reason to forego selection of a saildrive in favour of a traditional engine configuration. All people could think of was the boot rupturing and the boat sinking. Well, time in service has certainly proven to me that these rubber boots - although still a maintenance consideration - should be the least of a designer's or boat owner's worries relative to the drive system.

I'm not aware of any failures of these boots in service to date, although it is entirely possible that one of our readers will know of a catastrophic incident. I think it's safe to say this would be a very rare occurrence. What is not so rare are massive corrosion problems with these drives, to the extent that with lax inspection and maintenance regimens, they literally dissolve off the bottom of the boat. This is occurring for several reasons that are design-specification related, which is why this article should be useful to boatbuilders, marine techs, and surveyors. Figs. 1 and 2 show the net result of these failures.

Figure 1

As we look at Fig. 1 it is difficult to totally explain what went wrong, but we can surmise one thing, at least for the drive on the right. Unfortunately I do not know the history of these two drives



which is of paramount importance in any corrosion analysis process. But, as you look at the three small water intake holes of the right drive you can clearly see that the paint coating simply began to lift off the surface around the perimeter of those holes. The problem here may have begun as a small paint chip that grew into what you see in the photo. The bottom line: one of the primary defenses against corrosion on any underwater metal is a high quality coating of epoxy and/or appropriate paint. This coating will effectively isolate the highly corrosive aluminum case from the electrolyte (seawater). Any galvanic cell needs several things to function. You need two dissimilar metals (anode and cathode); they need to be physically connected by a conductor; and you need an electrolyte solution. Both of the dissimilar metals need to be submerged in the same electrolyte solution for corrosion to occur. Take away any one of the components required to make up a galvanic cell and corrosion will not occur. Paint, in effect, isolates the metals from the electrolyte, so it is effective in stopping the corrosion process. So, this may have simply been a maintenance issue. This could have begun as a small chip in the paint down to the base metal that grew in size over time, exposing more and more of the metal. ABYC Standard E-2 describes this phenomenon as "cathodic disbondment".

Figure 2

In Fig. 2 we know the history; the resultant corrosion was caused by a very simple electrical design issue. This boat spent much of its time plugged into shore power service at a dock. The boat was not equipped with a galvanic isolator in the shore-power service. It's important to remember that the anodes supplied by the saildrive vendors are engineered to protect only the drive unit, nothing else. Once the anode is depleted, galvanic corrosion will attack the next metallic object in the galvanic series food chain, in this case, the drive.

Any boat plugged into a dock is vulnerable without a galvanic isolator because any anodes on the boat will also

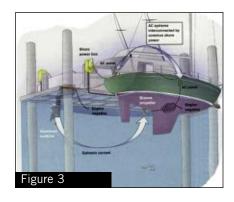
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be contributing to protecting other boats also plugged in at that dock. The mechanical connection in that case is via the green grounding conductor that is a part of any AC shore power service.

Figure 3

Fig. 3 illustrates this connection. The aluminum outdrive on the power boat is vulnerable without protection from a galvanic isolator since the aluminum outdrive case is less noble than the bronze propeller.



The location of the galvanic isolator in the shore power circuitry is shown in Figure 4. This is a line drawing from ABYC Standard E-11.

There are several other electrical nuances that need pointing out and considered at the design phase. First we have the matter of bonding large metal objects that are in contact with sea water.

continued on page 30





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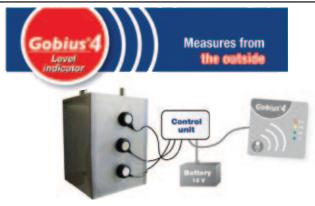
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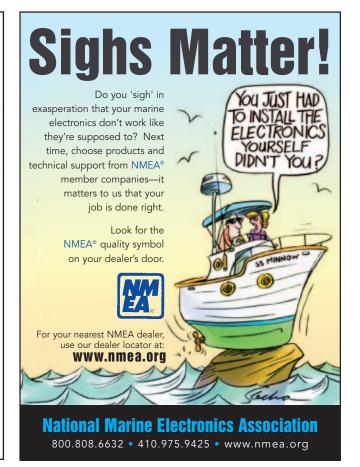
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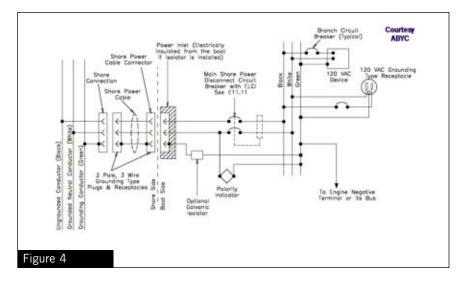
[THE BOAT SHOP]

continued from page 28

Depending upon where you read it within ABYC standards, bonding may or may not be a voluntary design matter. One area of the standards states, "if a bonding system is used" it shall conform to a group of recommendations. ABYC Standards for thru-hull fittings suggests that all metal in contact with seawater be bonded. Certainly, it has been something that has been debated for years. Some boats are bonded and others are not.

I believe that a case can be made against bonding under certain very specialized circumstances, but in general the party line within ABYC is to provide a bonding system under most circumstances. The idea here is that if all the metals in contact with seawater are at equal potentials, which they will achieve if tied together via bonding and connected to a suitably sized anode(s), they are protected. Also, if they are at equal potentials, no current can flow.

Unfortunately, part of the conundrum is that the two major suppliers of saildrives to our industry at the moment, Volvo-Penta and Yanmar, have two different recommendations as it applies to their engine installations. Yanmar sticks hard and fast to the ABYC recommendation to bond (i.e., the engine and drive assembly gets tied into the boat's grounding system at one point on the engine). Volvo Penta, on the other hand, recommends isolation of their engines, meaning no bonding connection. Interestingly enough, I've seen far more corrosion problems with the Yanmar units than I have with the Volvo drives That said, Volvos are vulnerable to another type of corrosion - stray current. Any potential battery current leak that comes into contact with the engine block or drive will induce a fault that will attempt to find a path back to its source out through the drive leg. This will induce rapid and profound corrosion of the drive leg in the water. Typical causes of this are internal alternator failures that short circuit to the case of the alternator, or battery positive connections to either a starter motor or from an alternator that got bumped into and contacts the engine block or equipment



case. These are all real-world things we have seen in service.

Any of these faults will induce DC stray current and cause profound damage to a saildrive gear case, in a matter of days or weeks at the most. If bonded, as ABYC suggests, the damage will theoretically not occur as voltage potentials within the bonding system will equalize. If there is no difference in potential, current cannot flow.

Another potential problem that I have recently run into could have been mitigated with the addition of a secondary galvanic isolator as my colleague Dave Rifkin, ABYC's primary corrosion certification instructor, has suggested in a Professional Boatbuilder magazine article on the subject.

On the boat in question, the Yanmar saildrive case was completely destroyed and had to be replaced at a cost of some \$10,000 to the boat owner. The boat in question was only several years old and was equipped with a galvanic isolator in the shore power system. The captain of this 35-foot racing yacht had complained of rapid anode consumption on the drive installed anode, the only anode on the boat. The boat was equipped with Marelon (plastic) thru-hull fittings and had an absolutely minimal amount of exposed underwater metal by design. However, the vessel was equipped with a rather large lead keel, which had been coated as new with an epoxy barrier coating before the racing finish antifouling paint had been applied. As engineered - if this paint process is done according to manufacturer's recommendations - the lead keel should have been isolated from the electrolyte.

Unfortunately in this case, the boat owner did what most racing sailors are inclined to do, wet sand the anti-fouling paint to achieve that all-important, raceready, smooth bottom surface. During this wet sanding process, fairly significant portions of the lead keel became exposed as the periodic sanding eventually cut its way right through the epoxy barrier coat. We now had a major shift in the boat's anode to cathode surface area relationship. With the anode lost, and the aluminum drive came in next on the food chain. By design, if a secondary galvanic isolator had been installed in the bonding conductor between the engine and the keel, the boat would still be classified as ABYC compliant, and the damage to the drive would not have occurred.

In closing, let's agree that all of the attributes of a saildrive system are truly valid but extreme care and thought needs to go into the concepts mentioned here to ensure trouble-free service. The problems in most cases that I've seen or have been involved with could have been prevented either at the design phase for the boat and with a little care and diligence during routine maintenance and servicing.

Ed Sherman is the Curriculum Development, Senior Instructor, of the



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