Attention to Detail

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Text and photos by Steve D’Antonio

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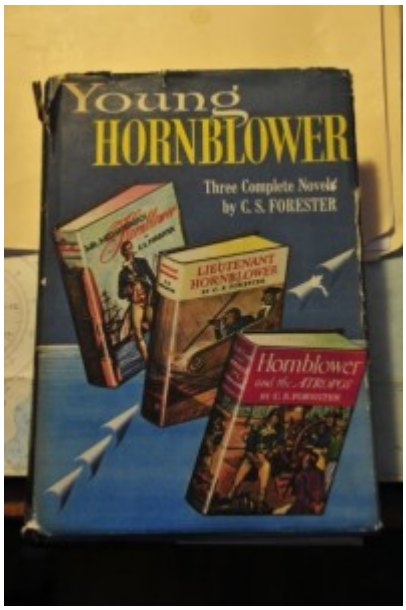


Noticing and acting upon small clues, things others often fail to see, is the very essence of attention to detail.

Dismiss the details as “small stuff not to be worried about” and you’ll almost certainly find yourself suffering the consequences.

While less renowned than his successor, Patrick O’Brien, C.S. Forester’s epic Hornblower series of Napoleonic War era seagoing novels remains a perennial favorite. I own and have read every volume at least twice and some more often than that, and I never fail to garner enjoyment each and every time I do so. In addition to the pure entertainment value, Forester’s writing style makes one savor every word, the

seamanship, nautical argot and command interaction details are equally as enjoyable, particularly for those who have an interest in maritime history and the development of managerial and leadership skills. I recently re-read “Hornblower and the Atropos” in preparation for writing this column on the subject of attention to detail.

The beauty of this story lies in the manner in which the protagonist, Captain Horatio Hornblower, is alerted to the unfolding subterfuge. It begins when he hears a distant musket shot, the report of which is dulled by the heavy fog surrounding his ship as it lies placidly at anchor in a roadstead known as The Downs, off England’s southeast coast. He thinks little of it; there any number of reasons why a firearm might be discharged, intentionally or by accident in a crowded anchorage, he reasons. A few minutes later, as he glances over the side he spies an oar floating by. On its own this too might be dismissed as not unusual, there are many ships and many small boats with oars that could easily be lost, however coupled with the shot it now has the potential for trouble. Hornblower orders the oar retrieved. When he examines it more closely several clues are offered up, its leather button is not saturated, which means it hasn’t been afloat for very long, minutes rather than hours, and burned into the oar’s loom is the number 27, which also isn’t unusual, with one exception, the 7 included a crossbar. No Englishman ever wrote a 7 with a crossbar, Hornblower thinks, but everyone on the Continent, including those of England’s enemy, a Frenchman, did. With those faint fragments of information Hornblower sets off in his gig with half a dozen armed crew, up current and into the fogbound waters to determine from whence the oar and pistol shot originated, ultimately unmasking and capturing a French privateer and her prize.

While it’s all fiction, there are none the less three important lessons that can be learned from this tale. First,

paying attention to small details can pay significant dividends. Second, a few small details linked together may presage an impending failure, or reveal its source after the fact. Third, when it comes to boats, it's good to be curious.

There are certain organizations from whom one expects unswerving attention to detail. Boat builders and yards should reside squarely in this camp, yet, it remains an elusive challenge for many in this industry, and others. When my Citizen dive watch was returned after being serviced by *the* factory's own facility, I was chagrined and disappointed to see that the minute ring around the watch's face had not been properly aligned with the hour marks.

The Small Stuff

How many times have you heard the phrases, "don't sweat the small stuff", "keep the big picture in mind" or "don't get bogged down in the details"? They are common refrains, especially in the marine industry because, after all, the project must go on, boats as well as products and ideas must be launched in order for bills to be paid and profits to be made and if too much time, forever in some cases, is spent dealing with details then failure is a veritable certainty.

Attention to detail. It's a well worn phrase, but what exactly does it mean? Of course there are many possible definitions and countless varieties of attention to detail, each specific to a trade or activity. A couple of years ago while standing in an elevator at a well known chain hotel, a

young staff member withdrew a handkerchief from his pocket and used it to wipe smudges off the polished panel adjacent to the buttons. The smudges certainly had no effect on the safety or reliability of the elevator, however, they did have an overall effect on the impression made on the guests (the elevator was full and thus the timing of his polishing may not have been coincidental). More importantly, however, the actions of the employee spoke volumes about his attention to detail and likely those of the management.

On its own, bilge debris may be dismissed as an annoyance or simply sloppy. Yet, it may have serious consequences if, for instance, it's drawn into and clogs a bilge pump.

On another occasion, while preparing to get underway aboard a pilot vessel, I observed as the coxswain noted, after turning the ignition key to the on position that the low oil pressure alarm did *not* sound as it's supposed to. He turned the key off, went to the engine room and discovered that the alarm sender wire was disconnected. Had he proceeded without noticing this flaw the engine would have operated without the benefit of a low oil pressure alarm and a subsequent loss of oil pressure would have not only destroyed the engine, it may have placed the pilot launch and its crew in extremis as they maneuvered alongside a massive vessel in heavy weather as they so often do. A few seconds of attention to detail could have, in this case, potentially meant the difference between successfully delivering a pilot to a ship or the loss of an

engine and/or the launch and its crew.

A few years ago, while spending time aboard an aircraft carrier at sea I witnessed multiple similar attention to detail examples. I watched as an obviously well-trained, attention to detail oriented young member of the flight deck crew aborted the launch of an aircraft because he noticed a loose fastener on a landing gear door. I later asked to be shown the fastener and was amazed to see that it was no larger than ¼”.

The aforementioned examples of attention to detail are surely at opposite ends of the relevance spectrum, however, I would make the argument that all of these individuals thoroughly understood the meaning of the phrase because they*didn’t* think about it, they simply live attention to detail. As one might expect, however, living attention to detail is easier said than done, it comes naturally only to some, the rest of us must be trained.

Failing to use the right, manufacturer-specified parts for the job is a frequent oversight attention to detail faux pas. Here, a common nut and bolt, rather than the purpose made pivot pin, has been used to secure a throttle cable to an injection pump aboard this new boat.

Attention to Detail Day in and Day Out

The military, firefighters, medical professionals and other similarly institutionalized organizations are well known for indoctrinating attention to detail. Few would disagree that

the consequences of errors made as a result of a lack of attention to detail would, of course, be catastrophic in any one of those organizations, the aforementioned air wing quality control crewman is just one example.

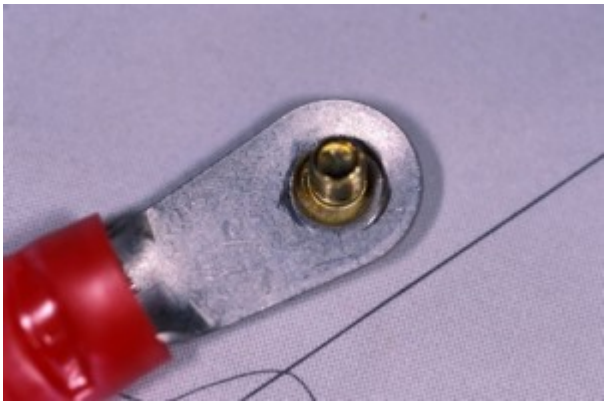
There's a difference, however, between indoctrinated attention to detail and *living* attention to detail. The former is clearly taught in classrooms and in the field by trained professionals who teach their subjects exactly how to pay attention to details and which details they must pay attention to. Living attention to detail, on the other hand, is a combination of education and hands on training, or training one's self, to notice small aspects of an assembly, vessel or project that require attention, along with creating, fostering and encouraging a philosophy of attention and observation within an organization.

If you are a manager, supervisor or mentor to other less experienced members of a boat building or repair crew, the onus is on you to raise the attention to detail bar, and no detail is too small. You could, for instance, ask those working in your shop to begin covering open fuel, potable water, hydraulic and other critical plumbing fittings with tape, to keep them free of dust and debris during the assembly process.

Taking the time, and making the effort to cover the ends of these recently removed hydraulic hoses, clearly exhibits well-developed attention to detail skills.

The same holds true for open fuel and water tanks, they should remain covered unless being worked on. Making sure dock lines are *properly* cleated using the appropriate hitch or bend, not just any knot, is another example of fostering a spirit of attention to detail within an organization. When you step aboard a boat or walk into an engine room take note of the smell. The odor of vaporizing, leaking, coolant or diesel fuel is very distinctive, it's an attention to detail signal that's being sent your way, don't ignore it. Small gestures though they may be, the message they send to employees and customers alike is resounding, *at this shop or yard, details matter*. The same holds true of course if you are a vessel owner, attention to detail regarding your own work, as well as the work carried out by others, could have a lasting and significant effect on reliability, seaworthiness and safety.

It's unlikely that the recreational marine industry will or should ever embrace fully indoctrinated attention to detail, doing so would alienate the creative, entrepreneurial and inspired individuals who are attracted to the trade for the freedom of thought it's been characterized by for centuries, not to mention the cost implications. It's difficult to deny, however, in a trade such as boat building and repair that attention to detail is immensely important, and it must, therefore, be both improved and encouraged. Where it's lacking it could and often has lead to everything from costly warranty work and the outright failure of businesses to the loss of vessels and lives.



Electrical systems frequently fall prey to poor attention to detail. In order to convey current with minimal resistance, holes in ring terminals, and the fasteners that secure them, must be the same size.

Is it Worth the Effort?

You may be asking the question at this point, why embrace attention to detail, what's in it for me; it just seems like a time waster, it's never been a problem before and I need to stay focused on the big picture, right? Wrong, and here's why. I'm a hands-on gearhead at heart; I began working in this trade as a mechanic and electrician, not a journalist or consultant and my most fulfilling days remain those in which I find myself crawling around bilges and engineering spaces looking for defects, flaws, faults and examples of both good and poor attention to detail. Therefore, I'll avoid using the management seminar buzzwords when elaborating on this answer, lines like, *because you want to do your personal best*or *deliver excellence and the customer's dream every day.* While those phrases have merit, they were thought up by folks sitting at a desk; they aren't wielding a chopper gun, aligning an engine, building fine joiner work or applying two-part paint. Sure, I get a charge out of catching things that are incorrect or might lead to a failure aboard my clients' boats; however, when it comes to achieving attention to detail nirvana my approach and reasoning are much more mercenary.

In spite of the large warning placard alerting installers to remove it, this fixed fire suppression system's shipping pin remains in place years

after this vessel has been commissioned. In th event of a fire, this unit cannot be manually discharged.

The reason for dwelling and at times even fixating or obsessing on details is simple and straightforward; it nearly always pays dividends by ensuring higher customer satisfaction and loyalty and it makes for a more reliable, more seaworthy and safer vessel. If you are a boat owner, have you said, (or if you are in the trade have you ever heard your customers say) "Why can't my boat be like my Lexus, it starts and runs perfectly every time". Indeed, those of us in the industry know there are many reasons, sound reasons, why boats are not like a Lexus or a Mercedes. Still, this expectation, no matter how unrealistic, remains and if as an industry we are consistent in our failure to deliver on it by *not* ensuring a high level of attention to detail then we virtually guarantee that boat owners will expect only one thing, to be disappointed. In my experience the folks who have the wherewithal to own a boat usually got there by being, among other things, detail oriented themselves. If you are as well then you've succeeded in making it clear that you understand the customer's needs.

<u>As an Industry we need to Pay Attention</u>

Small things, paying attention to details that others are missing, when added up, make a huge impact on the overall impression of the most important aspect of the marine industry, boat buyers and owners. As an industry we simply can't afford to disappoint them, particularly in these challenging economic times.

The fasteners that secure this propeller shaft coupling to the transmission have loosened, because they are uniformly too short to engage the nuts' nylon locking ring inserts.

I'm speaking from experience; when a new vessel is riddled with dozens or hundreds of small, detail oriented defects, regardless of their importance to the overall safe operation of the vessel, the buyer's impression is soured to be sure. He or she is certain of just one thing, the builder of the vessel or those maintaining it do not understand his or her detail-oriented needs. The result: he or she may decide to buy a luxury motor coach or join the country club instead of making the next boat purchase. Now you understand why it's important for the industry to embrace attention to detail.

Examples of attention to detail oversights can be found in virtually every major and minor system aboard every type of boat. A few that I've encountered repeatedly in my work as a yard manager and now consultant include…

- Hose clamps whose screws are plated mild steel rather than stainless steel
- Ground connections installed over painted surfaces
- Un-labeled switches, fuses and circuit breakers
- Missing, incorrect or insufficient set screws in variety

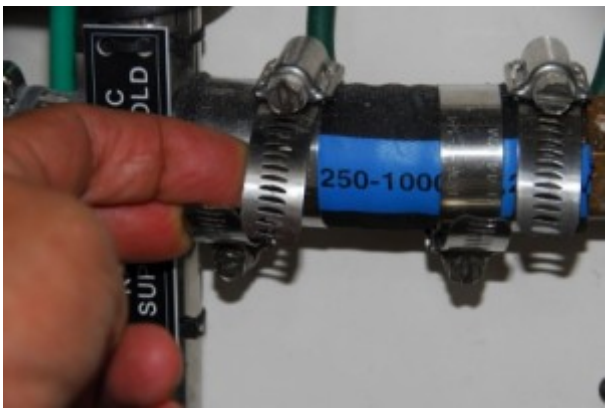
of critical equipment
- Incorrectly sized fasteners that fail to fully engage a structure or even their own nuts in many cases
- Mismatched threads on plumbing components particularly those used below the waterline
- Ring terminals whose holes are too large for the studs or screws over which they are installed

Installing electrical terminals over paint results in a poor, high resistance connection. This is a common occurance where ground and bonding connections are concerned.

- Incorrect or jury rigged fittings used on steering, shift and throttle linkages
- Lack of strain relief and chafe protection on electrical cables and plumbing components

This newly installed generator overheated shortly after it was first started. The cause; hose with insufficient wall stiffness that collapsed when passed through the sound enclosure.

- Incorrectly sized hose clamps, often too long leaving a sharp scythe-like appendage.



Over sized hose clamps are more than just sloppy, they also present a significant laceration risk.

- Circuit breakers or switches that allow boat owners to inadvertently or intentionally turn off vital equipment like CO detectors or engine alarm systems.

Of course, one can become carried away with details. Attention to detail must be balanced with the need to get the job done and to remain profitable and there's no doubt that maintaining a high level of attention to detail costs more, initially. Long term I'd argue it represents an overall savings and increased value for the customer. However, project completion and the bottom line must never take precedence over attention to detail. Make no mistake about it, living attention to detail is a good thing, it sends a clear message to customers and employees, no aspect of the vessel you are building or servicing is beyond importance.

Would you purchase an automobile from a manufacturer whose motto was, "we don't sweat the details"? Would you fly on an airline whose tickets were emblazoned with the line, "we're cheaper than the competition because our mechanics don't get bogged down with little problems"? Of course not. Then why should your customers? If you are an industry professional, think about your approach or that of the organization with

which you are associated, to attention to detail. Ask yourself, could it be raised, what's involved in making this happen and, most important of all, what are the consequences of failing to do so?

The military indoctrinates and trains its personnel to observe attention to detail. Failing to do so in their case, as well as for civilian boaters, can have life or death consequences

If you are a boat owner or boat buyer, ask yourself this question, are the folks you work with in the industry paying attention, are they sweating the small stuff? If you are dissatisfied with the product, whether it's a system, management style or an entire vessel, details and failing to pay attention may have something to do with it.

Letters from last month's column on professionalism

Good morning Steve,

After training dealer techs for the last two weeks, your article really resonates with me. The gaps between experience and previous training in techs attending the classes is definitely widening. The good news is that I see a trend of younger guys entering the field and some are impressively bright. Or, maybe I'm just getting older.

Unfortunately, in what currently passes for technician training, some important subtleties have apparently vanished. Few, if any, techs have had the type of education that introduced them to the principle of "Occam's Razor". "Pluralitas non est ponenda sine neccesitate", or, crudely interpreted, the simplest explanation is probably the most accurate. By the way, if you Google Occam's Razor, the derivations make unexpectedly interesting reading (The Franciscan monk, William of Occam, was excommunicated by Pope John XXII. He responded by writing a treatise demonstrating that Pope John was a heretic.) But, as it relates to professionalism, sound logic and good judgment are among the most important qualification in our industry.

Almost monthly, I receive a call or email from a technician or boat owner who has discovered some black, oily substance in the coolant of their VERY lightly used NL generator and, hence, a pronouncement from the local marine talent that the problem is a blown head gasket, broken head, ruptured oil cooler (which doesn't exist on NL gensets), or some creative combination of those wild assed guesses. The actual issue will always turn out to be a badly carbon plugged exhaust elbow. The carbon restricts the exhaust so much that it pushes back through the seawater supply, into the rubber boot on the back of the manifold and around the heat exchanger tube bundle,

carrying carbon with it and causing overheating. Of course, the exhaust gas instantly devours the coolant's additives, becomes corrosive and eats the end out of the high water temperature shutdown switch, too. NL gensets don't use any engines with aluminum cylinder heads, so thermal expansion failures and blown gaskets are virtually unheard of, even in overheating and coolant loss scenarios. But, I guess when you're a marine tech confronted with such a tasty menu of symptoms – overheating, contaminated coolant, smoking exhaust, and unexplained shutdowns – you might get a little over enthusiastic.

I would like to believe this is a case of benign neglect or ignorance, rather than dishonesty. Perhaps, you can see why I resonated so much with your recent article and so religiously preach Occam's principle in my classes.

Best regards,

Bob Senter

Northern Lights/Lugger Service Training

bsenter@northern-lights.com

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Hi Steve,

I just wanted to drop a line and introduce myself. I've been really enjoying your website, and my recent experiences at working at a boat yard in Chicago, and watching other mobile mechanics perform work on boats, parallels your article about lack of professionalism as a rule, rather than an exception. I recently graduated from the Marine Systems program at the Landing School in 2012 and now have my eyes "wide open". And it just seems insane that unlike aviation mechanics, anyone can work on a boat, and indeed do.

Like you, I came to boat mechanics oddly. I was/am a recovering attorney (you were smarter, faster) and after buying and living on my first ever boat-a 40ft trawler, and getting the bug 5 years later, decided to close the office and run off to Maine to the Landing School. Unlike you, I did not have a natural knack or, background, in boating or mechanical skills. I think, frankly, every teacher at the Landing School secretly was relieved I had another career to fall back on. But persevering I am and now all is quite exciting and fun, and I'm living the dream as I climb the learning curve that has no end.

I sit in an interesting seat though, being at the front stand of seeing how boat work is conducted and also being a lawyer who focused on negligence areas and insurance companies. I am just awe struck how there are no mandatory standards or courses – such as ABYC – as a requirement to allowing people to work on boats. I've seen enough negligence in installation and repairs, in less than a year, to reopen a law practice. (I won't)

Although I don't know all the right answers, I am an obsessional reader, internet hound, investigator, caller, and service manual reader, and can now tell that most extremely experienced boat mechanics have really no idea of the "why" of what is happening. So there is a lot of getting things to

work, and very little “repairing the problem”. And, that is the scary thing to me. It seems you can get lots of thing to work—even when doing it dangerously wrong.

At the yacht yard where I worked in Chicago I worked on a boat electrical issue, I saw there was a 2 AWG positive wire to the battery sliced in half—right through the strands. And although I got the ok from a customer to replace it and pay for it, the 22 year veteran of installation said we didn’t need to do it and put electrical tape around it. And he really thought that was fine. Now, I believe in my apprentice stage that still spells fire hazard. Am I wrong? I question myself because it seems so much more experience means they must know what they are doing. But I should know better since in any field, that really is never true.

So I just wondered if you had an educated opinion as to whether my instinct is true; that boats don’t have problems because it is the proverbial “it’s a boat,” but instead, that they are layered with one bad repair after another?

After all, when planes have problems, we don’t say “it’s a plane “and they endure even more severe conditions.. It seems people often die on boats that mechanically fail in some manner, deferred maintenance aside, because of essentially untrained technician error. Am I being overly critical? I know I could write an UnderCoverBadDeeds book at things I saw at the Chicago Yacht Yard I worked at last summer. And really none of it was intentional or malicious. Some things were just plain lack of knowledge, and doing how it’s been done for 30 years.

Anyway—I really am venting on my high horse, because there are only a handful ABYC certified folks in the San Francisco Bay Area and the rest really have no interest in learning more than they know, or reading manuals, or improving skills. Since I have no desire to un-nail the law coffin, I will just have to do my best. And your website is really a great

resource. This is a long winded way of saying thanks for the good writing.

Now a bigger fundamental question: How do we get insurance companies to at least require boat yards to make ABYC certifications, or some classes, mandatory of all techs? It seems such an obvious choice for insurance companies if they had the data before them. Not requiring training when it is available, leaves them open to huge claims when accidents do happen. I should know—I've sued them for same stuff in different industries.

But unfortunately, even if the requirement was made, there are almost no ABYC classes, or schools or training here. My attempts at convincing the Landing School of opening a West Coast school was not successful. It's a shame—there are approximately 2000 boats for 1 mechanic here—it's a huge market of primarily mobile technicians earning $75 and more an hour.. And its 70 degrees today.!   Maybe you would like to open a school then?

Anyway Steve thanks again. Look forward to future articles and Ezine.

cheers,
Lori Wallerstein

Dear Lori:

Thank you for taking the time to share your thoughts and observations regarding my website and the marine industry. They are timely, as you may have seen I just published a blog detailing on the subject of professionalism, or the lack thereof; it details many of the failings you have identified.

On a brighter note, It warms my heart to hear you are an avid researcher and reader of instructions, we desperately need more folks like you. And, I commend you for making, as Mark Twain said, “your vacation your vocation”, so few folks truly enjoy what they do day in and day out.

On to your questions…

“So I just wondered if you had an educated opinion as to whether my instinct is true; that boats don’t have problems because it is the proverbial “it’s a boat,” but instead, that they are layered with one bad repair after another?”

Fundamentally, I believe this is an accurate statement with one exception or modification, many of the problems are a result of poorly designed and built vessel.

“Now a bigger fundamental question: How do we get insurance companies to at least require boat yards to make ABYC certifications, or some classes, mandatory of all techs?

This is a noble cause indeed, and one I’d welcome. I’m averse to government regulation, however, I would endorse a program whereby insurers incentivized boat yards and builders for their participation by offering ABYC participation and certification-related discounts on premiums. I suspect, however, this hasn’t occurred because insurers make many of their decisions based on actuarials, i.e. they are not paying out (enough) claims as a result of poor workmanship and failure to comply with ABYC guidelines. However, if you’d be interested in writing a letter to the editor on this subject, proposing this thesis, I’d print it in an upcoming Ezine

column. If insurers could be convinced that it was a worthwhile investment, they may be willing to foot some of the bill for the training. I'm not sure if you are aware of it, I profiled it in a recent ProBoat Rovings column, there's a well-funded and well equipped marine trades school in Anacortes. I've often thought that it would serve as an outstanding model for other locations, they offer an alternative to college for many young folks and the marine industry is the beneficiary.

Dear Steve,

My wife and I had the pleasure of hearing you speak and attending one of your seminars at Trawler Fest in Fort Lauderdale a few years ago when we were getting into the boating life and considering a trawler. We ultimately opted for a 43 Grand Banks Eastbay SX, and we still find much of the information you impart to be invaluable.

I just finished reading your recent e-zine article promoting professionalism in the marine services industry and felt compelled to respond since in our first two and a half years of boat ownership we also have experienced a wide-spread lack of professionalism and an accompanying sense of growing frustration. One would think that in a boating center like Fort Lauderdale one could easily find professional and competent marine services. Unfortunately, with several notable exceptions, that has not been our experience. We find routinely that service people do not call back when they say

they will, do not show up when they say they will, do not complete the work they say they are going to do, are not competent or simply do not do a good job at the work they take on, and routinely under-estimate and over-bill. We have experienced this both with small and solo outfits and with large established service providers with well-known names in the area. We have experienced the same attitude in all aspects of the marine services industry from standard maintenance to repairs to upgrades. We have also enjoyed several very good service engagements and relationships and, believe me, we hold on to those guys and treat them like they are gold-plated (which they are in my opinion), and would gladly recommend them to others.

You know what would be great? If someone (like you) were willing to compile, maintain, and publish an “Angie’s List” of marine service providers. What help that would be to we boat owners, and what an incentive to the marine services industry to up their game professionally!

Best regards,

Bill Bohler

MY “No Plans”

43 Grand Banks Eastbay SX

Bill:

Thanks very much for your sharing your comments. I've received quite a bit of mail in reference to this column, which I suppose is an indication of the depth of the problem in the industry.

As far as a "Marine Craig's List", I've considered and may very well take on this challenge at some point. There's one that I know of that offers this service now…

http://www.boaterrated.com/home.php

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Dear Steve:

Thanks for all your incredibly helpful articles, making boating safer and more enjoyable through a comprehensive understanding of our boats' systems and design. I've spent my adult-hood involved in boating, marine transport and seafood-related activities from the coast of Newfoundland through to the Caribbean, and China and Norway as well. I have concluded that your focus on systems integrity and vendor expertise is, without fail, the formula for success in any waterborne activity.

So, it will come as no surprise that your article "The Importance of Professionalism" struck a responsive chord with me. I would like to offer two little corollaries to the ideas you present:

The value of simplicity has clearly been lost in the marine industry. It's easy for manufacturers to hire engineers to design an elegant build-out which serves some particular need, but very little care is given to accessibility, serviceability and simplicity. As a result, the owners of some new technologies are well served as long as the installation is problem-free, but find themselves in a cascading series of technical problems when anything fails to go as planned. Warren Buffet says he will never buy stock in any company he doesn't understand. The same would be great guidance for boat buyers, who would be better served with tried and true technologies, well designed and fabricated, and integrated into the boats' systems in a way which exhibits profound workmanship and seamanship.

Also, economics works against professionalism. Many marinas have, and exploit, monopolies. An entity doesn't need to be large to have monopoly power…it just needs to find itself in a situation where its customers are deprived of the ability to embrace alternative providers. If you want to keep your slip next year, you better use your marina's service department, no matter what skill set they may exhibit. It doesn't matter if there are competitors nearby, if the boat-owner doesn't have the ability to be mobile in selection of service departments, then what may look like a competitive environment is in reality a monopolistic environment. And each alternative provider has its own set of captive boat-owners, and has developed their own bad habits as a result. So, if demand substantially exceeds supply in one sector of a vendor's product mix, the market power which accrues to such a vendor gets cross-pollinated into other sectors.

The only cure I can think of is for boat owners to embrace the services of astute technical independent consultants, to help

them restore the “pleasure” in “pleasure boating”

Best regards

Ian Moores