

THE RIG GIG

When your sails become blown out you can't help but notice their negative affect on performance. Likewise, when your alternator craps out, it won't be long before your batteries go flat. And if your keel bolts fail, well . . . you'll suddenly take an unplanned bath.

But what about your rigging? Standing rigging just sorta lasts forever, right? And if your running rigging isn't seriously unraveling, then it's cool, right?

Wrong.

It is true that rigging elements — especially standing rigging — will outlast a lot of the other gear on your boat. But ignoring their inherent need for occasional maintenance and eventual replacement is an oversight made by both neophytes and lifelong sailors. And the consequences of neglect can be disastrous.

As you may have read in our January issue, we resolved at New Year's to get our trusty Ranger 33 tuned up and ready for action earlier, rather than later, this season. So, after getting the old girl spruced up at the boatyard (see February's Boatyard Boogie) it seemed appropriate to focus on rigging issues this month.

Unfortunately, our expertise in the rigging arts is almost as limited as our understanding of nuclear fission, so we thought it best to seek the advice of local 'rig-meisters', for both maintenance tips and insights into the latest rigging upgrades.

Basic Rigging Maintenance
First, and perhaps most importantly,



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Nothing gives you a sense of security like having new rigging installed — turnbuckles and all.

we wanted to be sure we were following a proper maintenance regimen. The consensus among the riggers we contacted is that standing rigging on recreational boats should be inspected by a professional annually. It may or may not actually need to be tuned, but a pro's trained eye can also spot developing problems that you might not be aware of. The condition of shrouds, stays and lifelines will be assessed and the rigger will also hunt for stress cracks in blocks, sheaves, shackles, chain plates, mast tangs and spreader tips. "We recommend that this be part of the spring routine," advises Doug Fredebaugh, Rig Shop Manager at Svendsen's Marine, "so that the boat is ready for the summer breezes."

You can choose to have the rigger attend to any problems found, or simply deal with them yourself if you have the know-how.

If you're wondering just how desperately your rig needs tuning, follow this tip from Glenn Hansen of Hansen Rigging: "Sight up the backside of your rig while sailing upwind in a blow. If the rig is out of column by more than the width of the section,

it usually means the tune should be improved."

Winches, furlers, blocks and literally every moving part in all deck and mast hardware should definitely be lubed and cleaned annually. Many do-it-yourselfers like to tackle these jobs themselves. If you count yourself among them, just be sure you are doing a proper job and are



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C.C. Rigging — Located in Oakland

- Serving primarily the East Bay
- Rigs all types of boats, including traditionally-rigged vessels
- In business since 1994
- Contact owner Chris Catterton

484 Lake Park Ave., #16
Oakland, CA 94610
phone: (510) 710-1360
email: cc_rigging@hotmail.com

Easom Rigging and Racing — Located at Pt. Richmond

- Serving the the Bay Area south to Morro Bay, Lake Tahoe and clients around the world
- Full service rigging shop; specializes in rigging grand prix racing yachts
- In business since 1978
- Contact owner Scott Easom

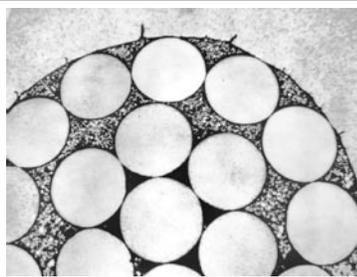
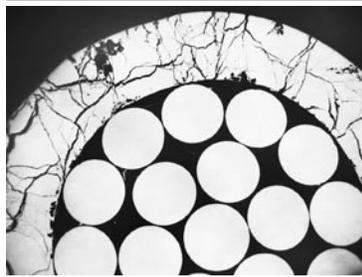
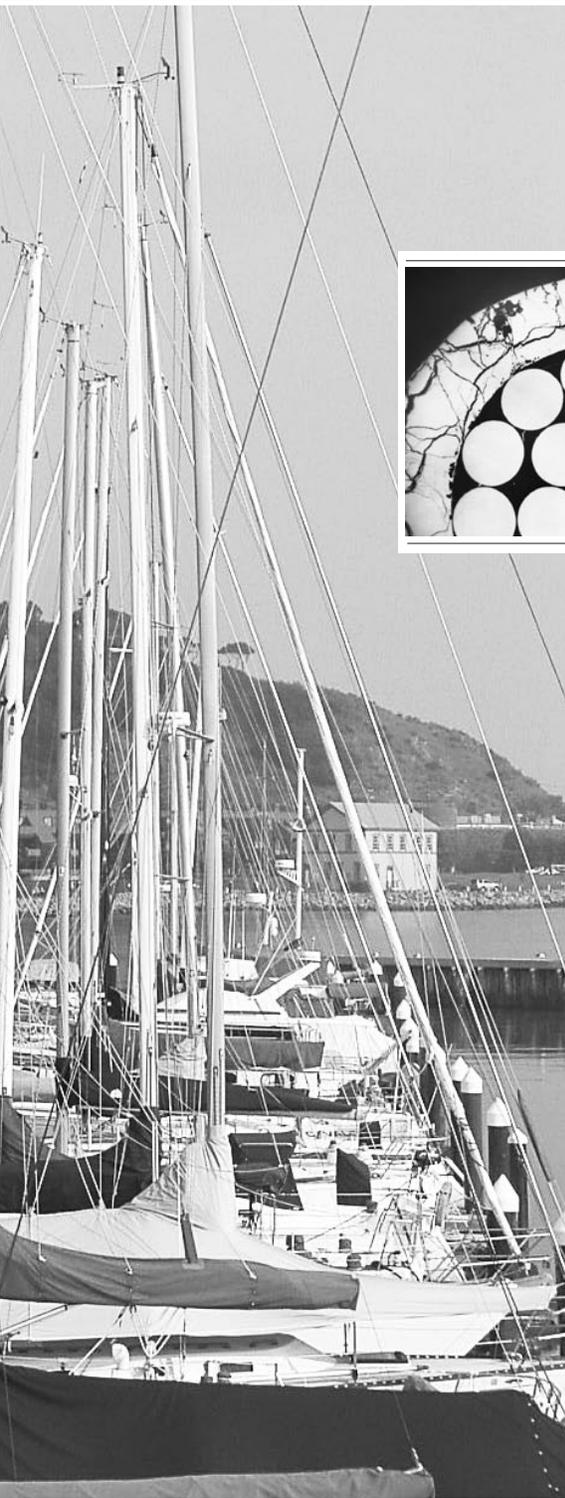
1150 Brickyard Cove Rd.
Pt. Richmond, CA 94801
phone: (510) 232-7245
email: easom@excelonline.com

Hansen Rigging — Located in Alameda near Nelson's Marine

- Serving the entire Bay Area
- Full service rigging shop; extensive stock of cordage and rigging accessories
- In business since 1990
- Contact owner Glenn Hansen

451 W. Atlantic Ave, Suite 101
Alameda, CA 94501
phone: (510) 521-7027
email: hansenrig@sbcglobal.net

— ADVICE FROM THE MASTERS



COURTESY HANSEN RIGGING

A tale of two swages. Left: Under a microscope, cracks in this 20-year-old fitting are frightening. Right: sediment buildup between the strands of this 8-year-old wire accelerated its deterioration.

using the correct lubricating 'goop'. "We will often have a client watch us lube and clean one winch," says Tom Relyea of South Beach Riggers. "Then they can choose to do the rest themselves if they like, but at least they've seen how it should be done."

We'll probably only sail our little sloop within the Bay this year, but if we were planning to head offshore we would, of course, want to let the rigger know that, as he may want to set things up differ-

in the swages or broken strands in the wire are obvious indicators of saltwater corrosion," notes Chris Catterton of CC Rigging, "but even if no indicators are present, 15 years is the limit. With 15-year-old swages, you are 'driving on bald tires.'"

"The lifespan partly depends on the alloy of wire used and the sailing conditions where the boat is used," explains Ralf Morgan, Rig Shop manager at KKMI. "Type 302/304 stainless wire is not as corrosion-resistant as type 316, so we only use type

316."

However, as Hansen notes, "The new 316 grade wire carries a slightly lower breaking strength. Therefore, it is important to size it correctly. We often use a simple engineering formula to check our work."

Fredebaugh adds, "Heavy use will shorten the lifespan of the wire itself. Also, damage such as kinks, twists, exposure to corrosive solvents, lightning strikes and stray current can shorten the useful life."

If your boat is set up with rod rigging, there are somewhat different considerations. "Rod rigging should be fully in-

"Even if no indicators are present, 15 years is the limit. With 15-year-old swages, you are driving on bald tires."

ently for offshore conditions.

It's usually pretty obvious — due to fraying and chafe — when running rigging is ready to be changed, but how often should standing rigging be replaced? The consensus among the experts is that on boats used recreationally in local conditions, wire rigging should be replaced every 8 to 15 years. "Pitting and cracks

spect — completely torn down — after 10 years or 40,000 miles," advises Jack Scullion of Jack D. Scullion Yacht Services. Some other riggers advise doing so sooner — again, depending on use and abuse. Scott Easom of Easom Racing and Rigging notes, "Often when replacing rod, the rod can simply be re-cold headed, saving 40-60% on the job." Unlike the

Jack D. Scullion Yacht Services — Located in Alameda at Nelson's Marine

- Serving the East Bay and Peninsula
- Full service rigging shop
- In business since 1986
- Contact owner Jack D. Scullion

1500 Ferry Point, Alameda Pt.
Alameda, CA 94501
phone: (510) 769-0508
pager: (510) 630-4035
email: jdsyachts@att.net

J.P. Boat Works — Located in Sausalito

- Serving San Francisco, Marin and the East Bay, from Richmond to Emeryville
- Does full range of rigging maintenance and upgrades
- In business since 1982
- Contact owner J.P. Plumley

67 Libertyship Way
Sausalito, CA 94965
phone: (415) 331-3277

KKMI (Keefe Kaplan Maritime, Inc.) — Located on Pt. Richmond's Harbor Channel

- Serving the Bay Area and beyond
- Full service rigging shop; extensive stock of cordage and rigging accessories
- In business since 1996
- Contact Rig Shop manager Ralf Morgan

530 West Cutting Blvd.
Pt. Richmond, CA 94804
phone: (510) 237-4141
email: morgan@kkmi.com

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telltale signs of 'tired' wire rigging, it is not always obvious when rod rigging is getting weary. "Rod doesn't corrode," explains Hansen, "it crystallizes and becomes brittle."

Solid metal rigging elements such as

"In-boom furling systems . . . make the main infinitely reefable."

turnbuckles and toggles generally last longer than wire or rod, but most riggers agree that the safe move is to replace everything at once. Vinyl-covered lifelines, we're told, should be replaced every 5 to 10 years. Rust stains leeching out from

Tom Relyea (front) with part of his Sausalito crew (L to R) Johnny, Michael and Dave.



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Practicing what he preaches, Scott Easom trims aboard 'Pyewacket' — a boat rigged with PBO. under the cover material is a telltale sign of impending failure — which is to say, someone may soon be testing his or her resistance to hypothermia.

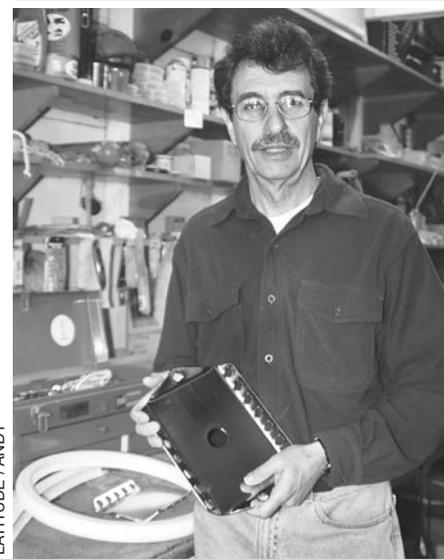
Often Overlooked Rigging Issues

Beyond annual rig tuning and occasional replacement, we learned that there are many other rigging issues which both racers and recreational sailors often overlook. "J.P. Plumley of JP Boatworks says that among his customers "the most overlooked items are: mast-to-boom connections (gooseneck fittings), proper toggling of all standing rigging, and masthead sheaves."

"With us," says Easom, "it's spread-

ers — rotten wooden spreaders or aluminum spreaders with the tips rotted away. Lifelines are a close second."

The rig shop staffs at both Svendsens and KKMI say that, among their customers, cleaning and lubrication of all moving parts is the chore most frequently neglected. "Cleaning is important," says Morgan of KKMI, "because contaminants will speed up corrosion of the wire, rod and terminals. Lubrication is absolutely essential! Mast terminals that are not lubricated will not be able to align properly



Steve Seals specializes in hard-to-find parts for plastic classics like Cal 20s and Santana 22s.

to the ever-changing loads on the rig. The result is that the wire or rod will fatigue much quicker and substantially shorten the product's useful life. Turnbuckles should also be lubricated regularly to keep them from freezing. Also, failure to maintain halyard sheaves will lead to premature wear on the halyard.

Fredebaugh of Svendsens adds, "We see a lot of galled turnbuckles and seized

Richmond Yacht Services — Located in Pt. Richmond at the Brickyard Cove Marina

- Serving primarily the East Bay
- Complete rigging service
- In business for decades
- Contact owner Rich Wierick

1120 Brickyard Cove Rd.
Pt. Richmond, CA 94804
phone: (510) 234-6959

South Beach Riggers — Two locations: at South Beach Marina, San Francisco, and at Clipper Yacht Harbor, Sausalito

- Serving the entire Bay Area
- Full service rigging shop; extensive stock of cordage and rigging accessories
- In business since 1975
- Contact owner Tom Relyea

399 Harbor Drive Sausalito, CA 94965 (415) 331-3400
Pier 40 (Embarcadero) S.F., CA 94107 (415) 974-6063

email: southbeachriggers@sbcglobal.net

Seal's Spars & Rigging — Located in Alameda

- Serving Alameda (and beyond via Internet)
- Carries specialty rigging accessories and spars for 20 to 30-ft plastic classics
- In business since 1971
- Contact owner Steve Seal

phone: (510) 521-7730
website: www.sealsspars.com

— ADVICE FROM THE MASTERS



LATITUDE / ANDY

"Take the darned picture — this stuff's heavy!" Ralf Morgan gets calls for big gear at KKMI.

pins which become an expensive repair. We also see a lot of poorly-maintained furlers. Even just flushing the drum assembly with fresh water on a regular basis will improve the performance dramatically."

"Recreational boaters also tend to mistakenly 'over-tape' spreader tips and turnbuckles," adds Catterton. "Intending to create a water barrier that prevents

Jack Scullion's shop is at Nelson's Marine, but he travels to job sites far beyond Alameda.



LATITUDE / JA

Svendsen's Rig Shop — Located in Alameda at the Svendsen's Boat Works complex

- Serving the Bay Area and beyond
- Full service rigging shop; extensive stock of cordage and rigging accessories
- In business since the mid-60s
- Contact Rig Shop mgr Doug Fredebaugh

1851 Clement Ave., Alameda, CA 94501
 phone: (510) 522-2886
 email: rigshop@svendsens.com
 website: www.svendsens.com

corrosion, the taping enthusiast actually speeds the process. Excess tape on the spreader tips traps moisture where stainless steel meets aluminum. In time, the two metals react and the tip turns to dust. In the case of turnbuckles, contained moisture results in frozen threads and can cause your turnbuckles to seize."

Among his customers, who are primarily owners of 'plastic classics', Steve Seals of Seal's Spars and Rigging says the most neglected chore is simply "changing the standing rigging often enough."

Hansen says some of his customers seem to be unclear on the physics of running rigging. "All the control lines should be run cleanly, be of proper size and purchase for the job, and be a pleasure to use, not a tremendous burden. Nothing stands out and screams to us



COURTESY CC RIGGING

East Bay rigger Chris Catterton installs a new anchor windlass — a popular upgrade.

superior to in-mast systems," explains J.P. Plumley, "because of their simplicity. They make the main infinitely reefable, yet have no reefing lines, outhaul, etc. The main is controlled by the halyard and furling line only." Catterton adds,

"All the control lines should be run cleanly, be of proper size and purchase for the job, and be a pleasure to use, not a tremendous burden."

like poorly-thought-out sail control systems."

To all of the above, Scullion adds, "taking care of corrosion under fittings on masts and booms, droopy spreaders, damaged or frozen sheaves, annual maintenance of furling gear and blaming weather helm on rig tune, rather than blown out sails."

Popular Rigging Upgrades

Beyond all these important maintenance issues, riggers can, of course, help you upgrade your boat with a wide range of newfangled contraptions designed to make sailing safer, more efficient — especially when shorthanded — and ultimately more fun. Among the most popular upgrades are jib furlers, boom furlers and rigid vang. "Both jib and main furlers have the benefit of allowing the user to shorten sail easily in windy conditions," explains Morgan. "In addition, they offer a nice way to store the sails when not under way, keeping wet sails out of the boat's interior."

In case you've been out of the loop, the hot ticket for mainsail furling these days is the new generation of in-boom furlers. "In-boom furling systems are far

"They also have the added advantage of accommodating long or full battens."

Upgrading to a rigid vang is a relatively low-cost improvement that eliminates the need for a topping life — with

Glenn Hansen has an enormous shop space at the old Alameda Naval Air Station.



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LATITUDE / ANDY

If it has to do with rigging, Barrett (left) and Richard can deal with it at Svendsen's Rig Shop. Most types have enough purchase to be trimmed under load and, as Hansen explains, "They also help with sail shape in lighter winds by allowing you to open the leech in the main — when released, the spring, or air pressure, pushes the

boom up."

Other popular upgrades include electric winches, traveler systems, single-line reefing systems and replacement of halyards with high-tech line.

"It's best to remove an old traveler with a 'sticky' car that doesn't have enough purchase to pull the car to windward or to ease the main without losing your

fingers," advises Catterton. "Replace it with a modern one that can be operated under load, allowing you to de-power the main easily."

"Low to non-stretch color-coded line and all-rope halyards are great improvements," says Hansen. "You'll never know how nice it is to get rid of those old wire halyards until you try it." Relyea agrees, "High tech line has doubled the life of halyards and sheets with the added benefit of low stretch and low weight."

"Leading reefing controls to the cockpit is another popular upgrade," notes Scullion. "For shorthanded sailing, being able to stay in the cockpit while reefing is an important consideration for many people."

Hansen explains that "Deck layout design is an overlooked element that makes sailing a lot more fun. It's all about ergonomics, and if done well, can make a huge difference. Changing out old hardware to new, light, modern and free running blocks, clutches, cleats, self-tailing winches or adding a new system like a backstay adjuster or cunningham can make heaps of difference. Also, having the right tools helps novices become better sailors."

— ADVICE FROM THE MASTERS

Easom says, "Another upgrade we like is new stanchions mounted outboard to make walking down the deck easier. Also, with our help a lot of our cruising cus-

Pugh-designed maxZ86 in the February Latitude.) Pliable like line, yet used on top-of-the-line racing machines in place of standing rigging, this stuff is right

"High tech line has doubled the life of halyards and sheets with the added benefit of low stretch and low weight."

tomers have discovered what our racing customers have known for years: carbon fiber spinnaker poles are much easier to use because of their light weight."

Cutting Edge Improvements

Mention of the buzz words 'carbon fiber' brings us to the final chapter of this little overview, the realm of truly cutting-edge innovations.

In the Bay Area, Scott Easom undoubtedly has the most experience with the latest too-amazing-to-be-believed product, PBO rigging, as he has overseen its installation and use on Roy Disney's latest warhorse, Pyewacket. (See our feature article on this Reichel/

out of Star Trek. "After having hands-on experience with it, I've fully embraced this fiber standing rigging, which comes from FutureFibers in New Zealand. With a weight savings of about 75% and a strength increase of 40% over rod, this is a great product. Although it's not for everyone, the PHRF committee might want to change their form to ask one more question: 'What type of standing rigging material do you have?'"

Hansen, who, like Easom, is a serious racer himself, is also bullish on PBO for shrouds: "They are the best new thing for performance sailing. It's scary how small and strong this stuff is! PBO halyards,



LATITUDE / ROB

Rich Wierick is a very familiar face at Brickyard Cove, where he doubles as harbormaster.

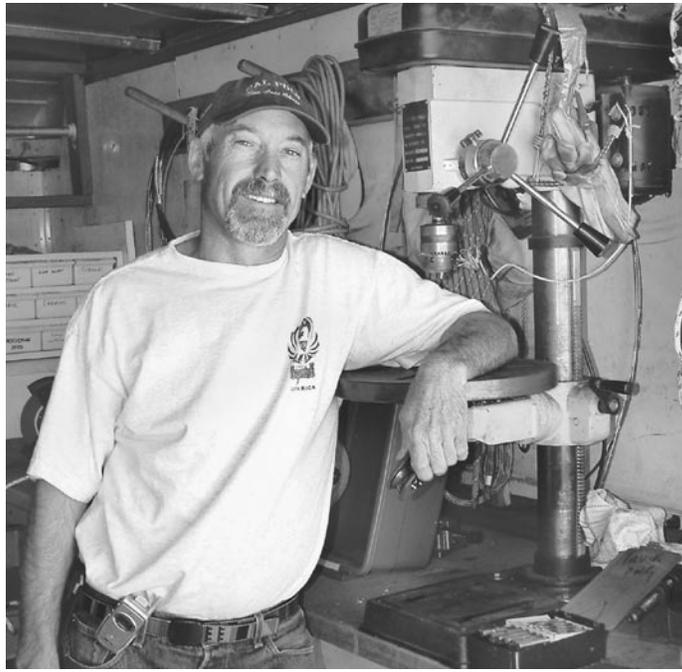
sheets, guys and cover material is also very amazing. The new cover material we've used on rope lasts heaps longer under more grueling conditions than anything previous." Before you get too excited, though, we should point out that the cost of upgrading to PBO makes it out of the question for budget-minded racers and cruisers.

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There are other cutting-edge innovations to consider, however. Catterton likes Vectrus lifelines. "This lightweight cordage is a corrosion-free alternative to wire, and is less expensive. Because it is light in color, it's easier to see at night, and is also excellent for topping lifts and the upper portions of running backstays. I've even used it to replace the wire halyard in a reel winch on a classic yacht."

"Our favorite product that everyone can use," says Easom, "is composite stanchions. They are lighter in weight than stainless and ten times stronger. And they can't get permanently bent — if they bend over, they snap back to their original shape. It's also nice to be able to paint them to match the boat. But best of all, they're very reasonably priced."

With the exception of the hull, the largest carbon component is a mast. But are carbon spars worth the price? Easom and others say, "Yes! A quality



LATITUDE / ANDY

"The doctor is in!" For years J.P. Plumley has been making 'house calls' in his fully-equipped rig-mobile — a converted delivery van.

carbon spar is a tremendous addition to virtually any boat. The perfect time to get one is right after your old rig is hit by

a 'gravity storm'. As with any product, there are good and bad spar makers, so consult with someone who has a long history with carbon spars."

Relyea adds that use of high tech components "translates into reduced pitching and heeling angles, while increasing overall performance and comfort."

Whether your boat is in need of a simple safety check or a complete rigging overhaul, consider yourself fortunate to have such a wealth of expertise right here in the Bay Area. We were surprised how much we learned just spending a few hours with these guys. So we encourage you to do yourself and your crew a favor and have your rig checked out by a seasoned pro — soon, before

the summer sailing season kicks in. And while you've got him on board, you can pick his brain mercilessly about all the slick upgrades you hope to install.

— latitude/aet