F32 Newsletter

The Journal of the Freedom 32 Sailing Yacht Volume 3 Number 5 August-September 1989

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Happy Holidays to All from Editor John Lease, and Ex-Editor Don Peaslee. Skol!

The Ex-Editor Returns, for a One-Issue Stand

After contemplating for too long the aging batch of partially done stories and photos that lay in my files at the time of John Lease's assumption of the editing job, I finally called John and offered to get out one more issue of F32. This proves that I'm definitely getting older but not smarter, as the writing task now being started appears just as time consuming and consciousness occupying as it always was before! There are a lot of things to cover and time is even more jammed up than usual, so if the editing appears a bit ragged please excuse it. Doing F32 one more time will clear my personal deck of articles for it, and hopefully produce a worthwhile issue, too.

-Don Peaslee

1989 Freedom Rendezvous at Boston: Best Run Ever

Work and Planning Pays Off With Slick Events and Happy Campers

It was with some trepidation that several of us viewed this year's Rendezvous, which was planned for Boston Harbor on June 23-25. For one thing, it was the first Rendezvous to be held away from the Freedom-rich area around Narragansett Bay. While Boston presented a fine opportunity for eastern New England owners to attend without traveling to the Newport area, we were concerned that many of the Newport "regulars" wouldn't make the 100+NM trip to Beantown (many didn't). Secondly, the event was announced with rather short notice, which would have the effect of eliminating possible registrants who had already made other plans.

Well, we needn't have worried. While the event might have had more entrants, it more than made up for it with the best organization and the most imaginative racing yet. Everyone had fun, the skippers understood what was happening, nobody got upset (that I know of), the catering worked fine, and things went off on schedule. The weather was a bit cool at times but never to the point of really being a problem, and Saturday's breezes were tailor made for easy, fun racing.

Rendezvous cont p. 3

McCREA CONTINUES F-32's WINNING WAYS

Panacea Triumphs in Bermuda 1-2, Takes Elapsed and Handicap Class Wins for Both Legs-- and Corrects to Fleet First on Outbound Leg

Satisfying a major ambition of some years, veteran singlehander and F-32 proponent Peter McCrea provided a resounding demonstration of what experience, preparation, stamina, and a fast boat can accomplish in the biennial Bermuda 1-2 Race, in which skippers race solo to the mid-Atlantic isle, to later return with one crew. With this year's win McCrea followed up on his impressive 1-2 performance of 1987, in which his first leg time was only 2 1/2 hours behind well known F-32 (now F-44) skipper Patrick Mouligne, who won both legs of the class *that* time.

Recovering from a windless, frustrating start that saw Panacea's keel, hull, and rudder chewed up after she was forced by tidal currents onto rocks near the line outside of Newport, McCrea chose to carry on as a light wind finally got the fleet beyond Brenton Reef to work their way southeast towards the Gulf Stream and Bermuda. "It was a difficult two days" said McCrea. "I had a close call with a non-responding freighter while nursing the boat along in tiring, intensive 2-knot sailing, which required manual steering. And it was demoralizing to know that a racy, lightweight Abbott 33 had done a horizon job on the class and was now many miles ahead. Then I got sucked down by the current on the north wall of a meander I didn't particularly want to be in. The mental strain was really tough; working correctly around and through the Stream is critical to success in this race, and you never know for sure you've done the right thing until the loran confirms your over-the-bottom boost."

"The tension was relieved, if you can call it that, by the arrival of the most evil looking batch of wooly, green-orange-grey clouds I've ever seen. What they had lurking inside could only be imagined. But it fortunately turned out to be only 25 knots, starting me off on a 300 mile beam reach for Bermuda that stabilized at 7.4 to 7.7 knots". This was more like it, and Peter eventually took advantage of the perfect match attained between the

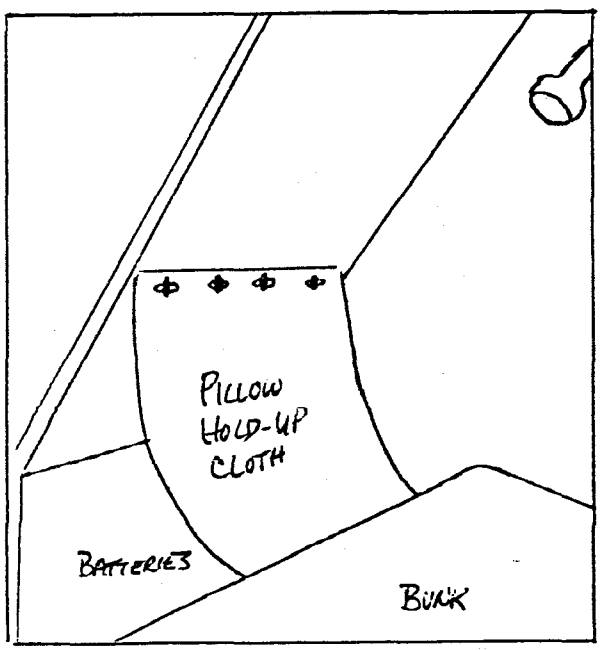
McCrea cont p. 5

Subscriptions

F32 is published every odd numbered month for a total of 6 issues/year. Subscriptions are $18.00/year; additional subscriptions mailed to crew (owner must pay) are $15.00/year. A subscription form is part of the last page of this newsletter; please supply data for crew subscriptions on a separate sheet.

The Freedom 32 Newsletter ("F32") was inspired by the interest demonstrated at the Freedom Rendezvous held at Newport in June 1986, and by the obvious benefits that would be gained by the exchange of information between owners concerning the maintenance and operation of the boats. F32's prime mission is the publication, in detail, of information concerning the correction of problems and the institution of improvements to F-32's, and will rely primarily on reader supplied articles and information. It will also carry articles on the operation of boat systems, the cruising and racing of F-32's, and anything else deemed of interest to F-32 owners and crews. All F32 author and editorial efforts are unpaid. Break-even revenues equal approximately 70 paid subscriptions, so your support as a subscriber is solicited and greatly appreciated. Complimentary copies are sent to Tillotson-Pearson Corporation and other oganizations felt worth lobbying.

F32 will solicit the advice and assistance of Freedom Yachts, Inc., and Tillotson-Pearson, Inc. ("TPI"), as required, and plans on a constructive and mutually advantageous relationship. F32 is however an independent publication of F-32 owners and its statements are not necessarily those of Freedom or TPI unless specifically attributed. While every effort is made to ensure accuracy, F32, its editor, and contributors are to be held harmless from the consequences of inaccuracies of content. Δ



Pillow Hold-Up Cloth

Scuttlebutt

After six seasons of no problems as far as mast rotating was concerned, Peter McCrea finally had it happen, but good, forcing his retirement from a windy single hand coastal race this summer. It was fortunate that the twist did not occur during the Bermuda 1-2, which Panacea dominated both ways (see story). An update article on effectively installing the mast wedge was planned for and is part of this issue, and is now particularly appropriate.

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Going through the back issues I noticed a comment by TPI's Eddie DaSilva concerning the salt water cooling system anti-syphon valve, which is located up under the galley sink, right over the starboard side of the engine. "We haven't been able to find any that won't leak" said Eddie, "so try to baffle the dripping to keep it off the engine". This was good advice then, and still is-- the hot, corrosive salt water tends to fall right on the fuel line, in addition to rusting hell out of the cylinder head. Out of sight, the problem can go on unnoticed for the best part of a season, too. One owner has already had to replace the line; we've had to refinish the head, as has John Lease (F32, 3/3). Divert the flow with a piece of stainless or plastic that makes the salt water drip harmlessly into the bilge.

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Also to be found in the "lurking, hidden problems" category is the maintenance of the boat's through-hull bonding system, which is essential to its ability to fight off the effects of galvanic corrosion and electrolysis by making sure that the boat's sacrificial zinc(s) bear the burden, rather than the prop, shaft, through-hulls or some other costly, important hunk. There have been lots of failures of the bonding connection to the stuffing box, because the damp, salty local conditions quickly turn the untinned wire from copper to copper chloride, which falls apart like punk. This makes the propellor sacrificial; Lease had to throw his away. Spaugh is getting rid of the untinned wire completely and replacing it with fine strand tinned, which it should have been in the first place.

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During the last year I built the tooling for a streamlined "Chute Chute" to guide the spinnaker through its sock mouth and keep it from hanging up in the port corner on takedowns, as it so often did. The mold and one unit were built by Poly Slides in Peabody, MA, and "Chute Chute" was tested out on Indolence during the early summer. The corner hangup was cured, but other problems surfaced which have not been resolved-- the result of not observing KISS (Keep It Simple, Stupid). Whether the idea will be further pursued has not been

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Rendezvous from p. 1

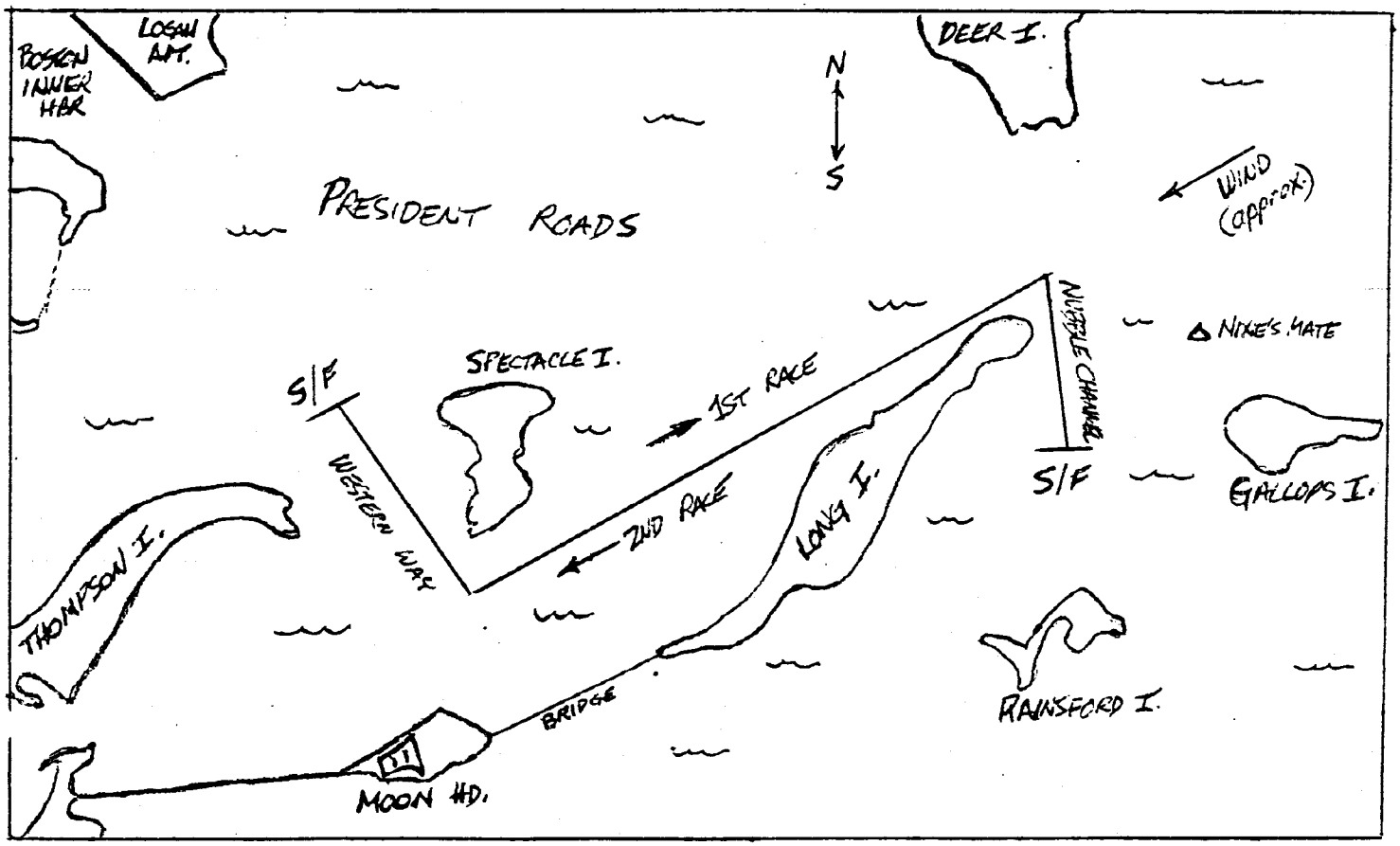
The race course was just marvellous. Boston has a bunch of islands just outside the inner harbor, and a reversed "Z" shaped course was marked out through them on xerox copies of the chart. Course instructions could not have been simpler: race the "Z" outbound, then anchor and eat lunch-- then race back in the other direction! Indo and Henri Lion, Jr.'s Best Puff were the only F-32s racing, and we were matched in Class B with 3 F-36s, 2 F-38s, an F-42, and an F-45 from Sunset Marine. All used PHRF handicaps. The race presented a chance to directly compare the abilities of the F-32 and F-36/38, which I've always wanted to do.

This opportunity was nearly botched right off when I elected (don't ask why) to start at the uncluttered leeward end of the line, which was set NE of Thompson Island. The first leg, SE down the Western Way towards the Long Island bridge, turned out to be a single tack, close hauled on port. Ever try to get by an F-45 to leeward? It might as well be a condominium! But we got close enough to the F-36s on the next leg, a long-short beat along the north shore of Long Island, to determine that they could outpoint Indo by about 5 degrees on each tack, while going just as fast. A not surprising observation, but one I wanted to see for myself. During this leg Henri once again got on our case, covering perfectly, just as he did last year-- only to later break off and fade for reasons unknown. Turning right at the north end of Long I., the last leg headed down the Nubble Channel to a finish SW of Gallops I., with the fleet freed up on port tack. F-36 driver Clark Wrye showed the way over the line, beating the 2nd place F-38 by 8 minutes elapsed, and Indo by 12. We corrected to 6th. The two big Freedoms did not go very well, but I imagine they like a bit more air, and were felt by a couple of observers to be somewhat overtrimmed-- a very easy error for an infrequent competitor to make.

After lunch the fleet raced back, and we found conditions more to our liking. A short beat up the Nubble Channel turned into a fine opportunity for downwind tacking on the long second leg. The crew moved forward to get the stern out of the water and we did three boards at 150° apparent, passing everything we weren't already in front of, then reached down the Western Way to cross the line over 3 minutes ahead of Wrye's Romance. He in turn beat 3rd place Henri by 5 minutes and took 1st for the 2 races combined, with Indo 2nd. This outstanding performance won Clark and Marci Wrye the Freedom "Yachtspersons of the Year" award.

Technically, the first race appeared to reward upwind pointing ability, while the second reflected the importance of low wetted surface in light air. These results are very consistent with the differences in hull design and sail area distribution between the F-32 and F-36.

26 boats raced, inclusive of Sunset Marine's 3 entries, and 6 more registrants either came without boats or chose to relax during the competition. All things considered it was an excellent turnout, and the success of the event bodes well for next year's Rendezvous at Mystic, CT. And, uh-- more F-32s next time, please? Δ



The imaginative '89 Rendezvous race course in outer Boston harbor-- 3.5NM each way .

Scuttlebutt from p. 2

decided. My admiration of those capable of Good Design has grown even stronger, and the expensive lesson of Chute Chute will not be soon forgotten..... .

The Chute Chute

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Some folks have had problems with priming the drinking water system, and some haven't. We are still occasionally being driven nuts on Indo, although I think a shutoff valve to the galley sink hand pump might actually work (because of air being sucked back through the pump; close it when priming). We tried a one-way valve in the hand pump line, but that had so much resistance you couldn't pump through it. They had the same effect on the output side, too, and we're now down to one weak valve on the cold water line. The water pump has a resilient chamber in its bottom designed to buffer the water flow; this just wiggles about when the pump is trying to suck air through in order to prime the water. Additionally, the water hoses to the pump are "squeezable" instead of being very rigid, as is vacuum side hose in other kinds of systems (very thick walls, quite hard). Minor flexing of the long line from the tank to the pump may also be making difficult the initial pumping-through of air which is the first (and hardest) part of the prime process.

Seattle's Brian Guptil (#68 Dolphin) took the pump by the horns and remounted it behind the after settee cushion, close to the tank. "Primes fine" says Brian, who also doubled the accumulator size while he was at it. I wonder how noisy is it, inside--? Last season I nearly installed an aircraft style "booster pump" near the tank. Brian's approach is infinitely more sensible.

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Scuttlebutt cont p. 6

Petronello Buys Freedom Yachts

New Models Planned; Design Inputs To Be Sought from Present Owners

On November 15 an investor group led by former Freedom sales executive Paul Petronello passed papers on the purchase of Tillotson-Pearson's Freedom Yachts Division. The firm, now known once again as Freedom Yachts, Inc., moved on November 16 from TPI's Warren, RI plant to the former TPI facility at Melville, RI, a part of Portsmouth.

"TPI will continue to mold and ABS certify all new Freedom hulls and decks" said Petronello, "and they will continue to provide their 10 year hull blistering warranty, along with the first owner lifetime warranteed carbon fiber spars. The yachts will then be finished off at our Melville facility, where Freedom production, design, engineering, and sales staffs will be located. Our relationship to TPI will remain close but will be similar to Alden Yachts, which has now operated as a separate firm for some years".

TPI will also continue to support all warranties extended to previous Freedom purchasers. Freedom Yachts, Inc. has assumed ownership of the tooling for all previous Freedom models.

The acquisition of Freedom by Petronello resolved a situation that had remained unclear for several months following the announcement last spring that Boston businessman and Yacht Headquarters owner Jon Rotenberg would purchase Freedom. Rotenberg was a highly visible participant at the Freedom Rendezvous held in Boston late in June, and announced at that time that the deal was on but that a final purchase date had not been determined due to unresolved real estate aspects of the sale. The arrangement with Rotenberg evidently could not be finalized, resulting in the signing of a purchase and sale agreement in September between Petronello and TPI President Everett Pearson.

Freedom's organization will remain familiar to most owners, with Ken Rainey continuing as Sales Manager and Mark Edwards rejoining Freedom from TPI as Quality and Customer Service Manager. Bob Descoli will handle Engineering, and Sharon Derosier will remain Administrative Secretary. Lisa Vincent (formerly Carvalho) will continue as Human Resources Manager. The phone number for Freedom is now (401) 683-3500.

New product plans include an aft cockpit version of the F-45, followed by a new aft cockpit F-41. "Both efforts will seek input from present Freedom owners to ensure that the boat's design benefits from their experience and desires" said Petronello. He also endorsed the importance of the annual Rendezvous to Freedom, and stated

Petronello cont p. 6

F-32's DUAL PERSONALITIES:

Already An Outstanding Coastal Cruiser, Boyt's "Best Boat"s Real Forte May Be-- Blue Water !

If they were questioned before, the continued offshore performances of F-32s can no longer be laid to any fluke of rating rules or luck. With elapsed finishing times consistently well up among yachts considerably larger, it is now clear that the F-32's open ocean speed must benefit from strong points not particularly recognized in coastal use. The evidence also appears to substantially discount the effect of the F-32's best known weakness in short course coastal racing, its inability to point as high as conventional sloops in normal wind strengths and choppy water. It is significant that the boat's offshore track record has not been accomplished exclusively on reaching and downwind courses, as Peter McCrea's performance this year bears out.

This matter has bemused me since the Bermuda 1-2 of 1987, when then-F-32er Patrick Mouligne surprised the local yachting world with a resounding class victory. Peter also did very well on the first leg that year. Then came Peter's success this year, followed by more thought and discussions with Peter and Patrick. What has emerged are some probable truisms concerning the differences between Freedom sloops and conventional ones, and also with the abilities of small crews to sail small boats effectively 24 hours a day-- and the differences that boat design may have on this. There are no new revelations here, just rediscoveries of the obvious. Our observations concentrate on two areas that appear to "level out the playing field" between weatherly coastal race winners and boats like the F-32. They are:

1. The ability of crews to consistently sail a weatherly, conventionally rigged boat hard on the wind for extended periods.

2. The fatigue and exposure effects on the crew of frequent headsail changes.

To start with, small boats at sea are generally undermanned, whether racing or cruising. There is not enough room for a large crew, and the weight of their food, water, and gear would substantially affect the performance of a small yacht.

But the boat must be steered, 24 hours a day, the same as a larger boat with double the crew. In order to accomplish this and keep fatigue from becoming overdominant, small boats offshore are nearly always steered by autopilots or wind vanes. Unfortunately, tight, close hauled steering, as done by a rested, skilled helmer, is not easily accomplished by these devices, particularly in waves. Waves are an especial problem due to the autopi-

Dual cont p. 7

McCrea from p. 1

boat's speed, the regular spacing of the waves, and the steering characteristics of Panacea's Autohelm 3000 to retreat from his companionway "perch"and award his sweaty, bruised body (and psyche) a nice, hot shower-- followed by a solid hour's sleep in his bunk. "It was rapturous" said McCrea, "I shall never forget that shower, or that blessed snooze". Double reefed, Panacea meanwhile barreled onwards for Bermuda at 7.5 knots, her Autohelm radar detector on the lookout for big ships, ready to give the alarm.

Despite the fleet's slow start and the drag of his tattered keel and rudder, McCrea's nightime arrival elapsed time of 4 days, 7 hours and 40 minutes at Bermuda was less than 3 hours slower than his '87 time, which was posted in a race with more generally strong and consistent winds. He was first home in his class, tweaking David Evans' Abbott 33 Ratso (which had originally run off and hid) by 17 minutes.

For the doublehanded return race several days later Peter's son John was aboard, and they crossed the starting line to an unusual and dismaying situation: NW, 10 knots-- right on the nose. The 635NM rhumb line distance home was to result in 850 sailing miles before Newport was attained. Clearing the island's outer shoals after two tacks, McCrea bore off in the light wind and waves to break out his drifter and keep the boat going. Many of the fleet meanwhile marched smartly upwind, led by a truly impressive J/35. "It was something to see", said Peter, "and for us there was no taking part. We did what we had to do; keep the boat going. Two days later we were back among some of those same boats". Up for a day, the drifter had come down as the wind strengthened, allowing Panacea's Bierig jib to drive her 20° higher at about the same speed. It built more, and soon the boat was powering upwind in 25 knots apparent, doing 6.5, double reefed. The Gulf Stream was approached "on a brilliant blue day, lots of wind, and was the most exhilarating, intensive, and sometimes scary steering experience of my life. The waves were steep, 15 feet high, and all over the place. Steering around them was like taking a difficult mogul field too fast-- except that here a benign 'mogul' could suddenly turn into something square, nasty and breaking, in seconds. We kept the boat honking and our eyes open-- except that you can't help closing them when you poke through and fall off a wave; the reentry is too violent. Once we were accompanied in our 'flight' by a large flying fish. It was all most poetic (crash!).

The McCreas then underwent exit from the Stream, an experience Peter continues to be impressed and bemused by. "With the wind blowing across the cool west side water, down went the temperature, and the wind decreased too. Soon the waves were reduced to 'only' 6', and both reefs were shaken out. We had gone from 'brawl to ballroom' in less than an hour. The Stream was most definitely behind us."

McCrea cont p. 8

Scuttlebutt from p. 4

Following the completion of the Marblehead to Halifax Race this summer we continued east to the Bras D'Or Lakes on Cape Breton Island. Instead of the hoped for usual southwester to boost us along under chute, we received instead a rainy, 12-15 knot northeaster, right in our teeth-- so the sail became instead a 165NM full throttle non-stop power run. The revs were 2900-3100, depending upon the sea state and wind strength, and yielded between 5 and 6.3 knots. The good part was that we were able to make a very accurate measurement of worst case fuel consumption, which came out to exactly .75 US gallon/hour. Normal cruising consumption is more like a half gallon/hour.

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Navigating around the crowded foredeck of an F-32 can be a bit of a workout, particularly when dock lines need to be bent-- the anchor rode fairleads (particularly the port one) are "way out there" and difficult to get a line into. We purchased two of the nice fairleads from TPI, as used for the 'midships lines, and installed them in the bows. WELL worth it . You cut away a wide notch in each toe rail just forward of the bow cleat, drill two holes, and bolt the rascals in. The sawing is hard, sweaty, and low tech-- try to get the crew to do it. (See picture this issue).

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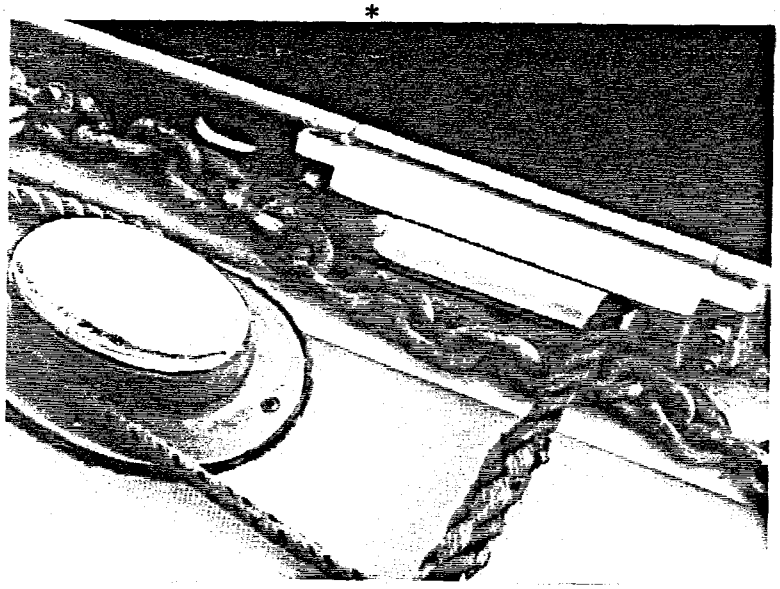

Fairleading Bow Chock, Starboard Bow

After blowing one chute to pieces on the way to Halifax we executed "Plan A" in taking down the remaining one, and it worked. "Plan A" was developed to try and save the spinnaker during heavy air takedowns, where many a Freedom chute has given up the ghost under the combination of strong wind pressure, flogging, and the tension of the retrieve line. "Plan A" is simply a takedown as close as possible to a conventional one-- the leeward

Scuttlebutt cont p. 10

Petronello from p. 4

that he was extremely pleased with the manner in which the changes to this year's event were received by the Rendezvous registrants. "Future events will continue to cater strongly to the needs and experience of the once-a-year Rendezvous participant" he said. Next year's Rendezvous is will take place in Mystic, CT; with the dates to be announced.

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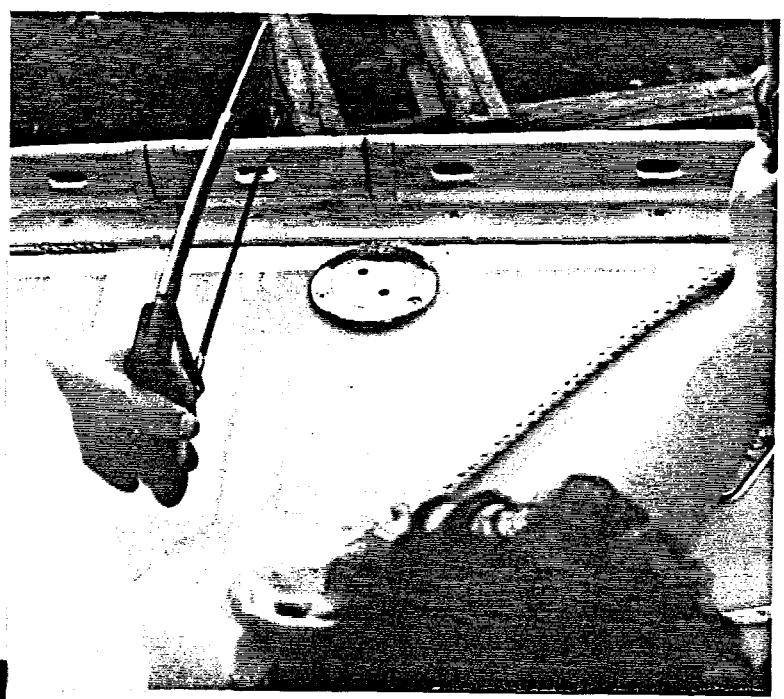


Cutting Toe Rail for Bow Chocks

GIVE DAD A PIPE FOR CHRISTMAS!

With spring fitting out around the corner this is an appropriate time to hold forth once again on what we think is the biggest-bang-for-the -buck improvement to be made to any Freedom sloop-- which is to place a piece of PVC plumbing pipe around the bottom end of its forestay, to:

A. Hold the CamberSpar and sail up, and the stay/turnbuckle junction nice and straight. This keeps the stay from bending and breaking near the swage when the furled weight of the sail and CamberSpar are on it.

B. Keep the furled sail up off the dirty deck.

The sail still tacks on deck as it now does. The CamberSpar roller sits on the top of the PVC when the sail's down, and the first sail hank attaches just above the pipe. Call your plumber and demand this marvellous device for nothing-- he's gotten enough out of you!

Specification: 1 1/2" PVC, 18" long. Inventor: (who else-) P. McCrea (previously erroneously attributed to Mouligne) (See picture this issue). Δ

Dual from p. 5

lot's fixed speed of correction, fixed reaction time, and inability to anticipate and start upcoming corrections from the initial heave motion caused by overtaking waves, as a human does. Additionally, close hauled sailing under a magnetically steered autopilot particularly runs the risk of a wind shift taking the headsail aback, which in strong winds can endanger the yacht. Even without a shift, the autopilot's "hunting" in confused waves can get a genoa aback if the set course is very tight. Getting top performance from a close winded yacht still takes a human steerer, concentrating pretty hard. And it appears that this kind of effort can only be rarely afforded by small crews at sea, which means that their yachts' close winded capabilities are sacrificed most of the time for a lower, safer pointing angle more easily managed within the limitations of existing vanes and autopilots.

In summary, the reason for close winded boats not performing at sea as well as they do in well-crewed, short coastal races is simply that the crew cannot consistently sail them to the required level of concentration.

The second point is concerned with the physical and nervous strain caused by the necessity of frequent headsail changes caused by changing wind and sea conditions. These changes expose the crew on the most active end of the boat, wrestling either with large sails or heavy winds, and sometimes both. If the sails are stowed or accessed through a forward hatch there is the probability of green water getting below, and safety problems when stepping near the open hatch. If single handing, the autopilot must hold the boat on the course required while the lift (drag) at the bow goes through enormous changes as sails are removed, hoisted, and retrimmed. The off watch crew may have to give up their rest and get up to steer.

The most demanding of such efforts have frequently been compared to a day's work. None of them are accomplished without drain upon the physical and mental reserves of the crew, which are often already marginal from the simple effects of boat motion and lack of sleep. Energy spent on sail changes is energy that might otherwise be available for navigation strategy, repairs, or hand steering in special situations. The time expended might be better used for sleep. Once a certain fatigue level has been reached rest is the only answer. Extreme fatigue and a reasonable racing effort simply can't coexist.

It has probably been noticed by F-32 owners reading this that we are not often subject to the effects of the two problems detailed above. Our small, rugged self tending jib and large, cockpit reefable mainsail eliminate the risk of backwinding and make nearly all sail area adjustments a matter of reefing or shaking the mainsail. The self tacking Bierig CamberSpar™ jib emerges as more than just an easy way to tack through the picturesque islands and channels of the coast . It is now promoted to a very important role as a backwind-proof offshore headsail that can be safely steered by an autopilot very close to the performance attainable by a skilled helmer. As for headsail changes, the F-32 foredeck is rarely visited at sea. Sail area control on the F-32 is managed from the cockpit. Only after the third reef appears necessary is furling of the jib even considered-- and winds of this strength are not often encountered. And even when it is dropped the jib is not unhanked, but simply secured to the lifeline.

Are these the reasons that the F-32-- one of the world's beamiest, most comfortable, least racy-looking sloops-- ends up making fast passages and winning races out where the waves are big and the wind blows hard? We think so. The F-32 crew can husband its energy and stay better rested. Without the distraction of frequent, exhausting trips on deck they can think about weather and tactics, keep the boat in repair, and stay in better condition for the trip. Not obvious at first, it appears that the "leveling of the playing field" definitely takes place without any effort other than being aboard the right boat.

Because the problems of short handed cruising are essentially the problems of short handed racing, we feel that the facts of its offshore performance permanently promote the F-32 (and all the other Freedom sloops), from the position of comfortable, low-effort coastal cruisers up and into the forefront of serious blue water vessels worthy of the consideration of anyone contemplating long distances offshore. And in a larger sense, the effectiveness of the large mainsail, Beirig-jibbed configuration-- whether free standing or conventional-- has been established as probably the most effective, safest, and least physically demanding of all rigs for seriously going to sea, particularly for the small or short handed vessel.

Peter McCrea volunteered a couple of examples from the '89 Bermuda 1-2 of how the field got leveled:

"On the leg home, one of the boats in our class, a narrow, light, conventionally rigged Abbott 33, moved right out to weather in the light air and disappeared, building up a 50 mile lead over the first couple of days. But as the wind gradually increased he went through his whole headsail inventory in a series of foredeck wrestling matches. Two days later they were down to the smallest jib they had, triple reefed, soaked, totally exhausted, and not feeling well. Their racing effort was not in good shape. Despite the windward nature of this leg, Ratso was 17 hours behind us at Newport".

Roller furling genoas, while a help in reducing foredeck excursions, were not a complete answer . After furling to a substantial extent they must be either rolled up or changed, a particularly difficult job. "And if you just roll them up and rely on an inner staysail to get to weather you still have the windage of the rolled genoa at the pointy end of your boat, which really hurts windward

Dual cont p. 8

Dual from p. 7

performance at high wind speeds. And going without a headsail kills pointing, particularly with a furled roller jib adding windage" said McCrea.

"After several thousand single-handed miles and two Bermuda 1-2's, I'm convinced that it's of paramount importance that a certain maximum fatigue level not be exceeded, because you can do really stupid, dangerous things if it is. And I can occasionally get down near that level of fatigue singlehanding the F-32, just from the tasks that must be done, along with the effects of boat motion in heavy seas. Now if I can get that tired, what can some of these other guys be like after also doing a couple of nightime headsail changes?".

McCrea spends only 10% of the average race in the cockpit, and takes lots of short cat naps. Watches are kept from "Peter's Perch", a special station inside the companionway. "You must resist the temptation to sail the boat hands on. You instead put your thought and effort into managing the systems that are sailing the boat for you" he said. Δ

"WE'LL TAKE GOOD CARE OF YOU"

No, It's Not British Airways-- It's a Freedom!

Famed actor Robert Morley may not be a sailor, but if he was he was he'd probably sail a Freedom. Of all the boats we can think of, it seems the one most likely to "take good care of you".

The scenario has been posed many times. A wind shift has suddenly caught you in what has become a lee shore bay. The wind is rising and seas are starting to develop in the shoal area in which you find yourself. Your mate's sick below decks, and the engine won't start. There is only one viable course of action: you must beat out to the safety of the open sea-- by yourself. It would be a very good time to be sailing the very best possible boat for the task. How are these for characteristics:

- Ability to tack without tending jib sheets
- Ability to "fisherman's reef" the mainsail to weather for a substantial period
- Improved pointing ability with increasing wind speed
- NO possibility of jib sheet overrides

Isn't it interesting that we have just defined the upwind characteristics of a Freedom sloop-- to the exclusion of nearly every conventionally rigged boat made? Note that one of the treasured features of around-the-buoys race winners (extreme upwind ability) is not mentioned-- because it's not that important. It is important that the boat can definitely get to weather (all Freedoms do); how many tacks it takes is now secondary to other, more important factors. We can say this because of the importance of self-tacking in such a situation; our boat provides the lone

(cont next column)

McCrea from p. 5

The letup continued with the wind going SW, and Panacea's spinnaker was broken out for the first time since leaving Newport. With 6" seas instead of 6', Panacea reached gracefully towards Newport for 13 hours while Peter and son recharged themselves for t' final approach. They finished in a close light air reac.., once again in darkness, passing on the way in the somber outline of the tanker World Prodigy, recently refloated after her disastrous grounding on Brenton Reef.

The McCreas' winning elapsed time class margin for the leg was over 13 hours, with a time on course of 6 days, 11 hours, and 13 minutes. Panacea split the fleet on elapsed time and came 4th on corrected for both the return leg and the combined scoring. Δ

Marblehead-Halifax Race: Indolence 3rd in Class, Again

The biennial race from Marblehead to Halifax, Nova Scotia departed on July 8 into a building southerly weather system that create new records for elapsed times, broken gear-- and seasick crews? The race was also characterized by lots of fog, lumpy seas, and a howling late evening thunderstorm off the end of Nova Scotia. Racing with a generally unfamiliar crew, Indo still managed to beat her 1987 3rd place time by over 24 hours. More opportunity for crew practice probably would have resulted in 2nd place, which was missed by 41 minutes. But there was no catching Arthur Burke's 138-rating Valiant 40 Spice, which ate up the heavy conditions to take the class and correct out an unchallenged first in the 46-boat PHRF fleet, while finishing 7th elapsed. While it was characterized as "Big Boat Weather", the small boats sailed miles over their ratings in this downwind, reaching race. Indo, for instance, finished 14th of the 46 PHRF yachts, for 7th, corrected-- which was only good for 3rd place, in the smallest class!

Of course, all was eclipsed by the east coast record-breaking Santa Cruz 70 Starlight Express, which ran the 360 NM course in 33:29 (10.75 kts). Starlight , they say, did a wee-hour surf over the finish line-- at 20 knots. Δ

"Good Care" from left

helmsperson with a set-it- and-forget-it setup for the task at hand. All attention can be concentrated on thinking and steering out of the predicament. Leaving the wheel isn't necessary.

And-- most important of all-- our helmer is comforted by the knowledge that the most feared of events, a bad jib sheet override, can't happen. A real problem when well crewed, an override in these circumstances could be disastrous to a vessel and her crew.

It's also true that, while the above applies in particular to Freedom's sloops, it also works pretty well with any Freedom ever made. They'll take *good care* of you! Δ

GETTING READY TO PUT TO SEA

Bermuda 1-2 Preparations Cover Not Just Boat-- But Skipper, Too

Peter McCrea's 1987 race left him with a wish list of items that the boat could obviously have made great use of, and this year's race start saw most of his list accomplished.

"The race conditions differ greatly from those found on the northeast coast. In '87 I died of the heat and humidity. The Gulf Stream water was 85 degrees, and the engine had to be frequently run for battery charging, which aggravated the below decks temperature. It was stifling below, but the boat had no baffled ventilation, and the spray was so constant and intense that the cabin hatches simply had to be kept closed. Even with the slider closed water got into the open aft end of the main hatch because the dodger didn't seal tightly against the deck. It was just a sauna".

No more. Panacea this year featured a big, baffled Vetus ventilator into the main cabin, along with a massive 120 ampere Lestek alternator that drastically cut the engine time required to charge batteries. With the dodger properly sealed water now seldom cascades down the companionway. And, in an answer to the possibility of a flat or flooded battery cutting off communication or navigation electronics, the boat now sports a 180 gel cell mounted high behind the starboard settee. The engine charges it "one way"; the battery is diode protected so that it can't discharge back into the system. It is only lightly affected by the substantial system voltage drop that usually accompanies starting of the diesel (and which so frequently causes lorans to lose their grip and have to restart. This is something to assiduously avoid on the Bermuda run, where loran signals get very tenous and the chance of regaining sync can be very small indeed). The gel cell runs the navigation electronics, radio, and masthead tricolor, period. In the worst situation, it will be the last to go. But not after McCrea is safely in his new double-floored Beaufort life raft, now nicely (and permanently) mounted just forward of Panacea's main hatch.

But if preparing the boat is important, what about the sailor? In addition to working out for several months prior to the race, Peter also made a point of getting in a lot of solo offshore sailing shortly before its start. "I feel very strongly about this" he said. "Proper preparation for the 1-2 should get you completely used to sailing a boat alone at sea. The work, the sleep situation, the motion, the emergencies-- they should all be areas you're completely familiar with *before* doing a long, solo, offshore race. In the weekends prior to the 1-2 I sailed twice to the Nantucket Buoy (about 200NM round trip; yes, it was there), and also a long run to the Hudson Canyon off the New Jersey coast. I like to stack up miles at least equivalent to the 635NM Bermuda leg".

Put to Sea cont p. 10

F/J-40,&c

Dave Bierig's comments in the last issue on the F-32's sail area were very interesting. While sail area had always been to me associated with boat speed, it had never occured to me that it would have an effect on upwind pointing angles. I thought pointing ability was controlled by "other factors"; hull shape, keel shape, headsail luff length, and so on. Dave Bierig is always an interesting guy to talk to and this created a fine opportunity for a call, so we had an extended and pleasurable conversation on the subject of sail area, boat performance, and other subjects one recent evening-- during which such things as retractable "housed topmasts" (a modern version of a 19th century method of reducing sail on square riggers) was discussed (raised by me). It turned out that Beirig and famed trimaran designer Dick Newick had already put a good deal of time into the idea. I didn't feel quite so crazy after that.

The gist of the sail area problem appears to be that the amount required for good light air coastal performance is very substantially more than that required for, say, 15 knots true. If you size a sailplan for 15 knots it won't go very well at 6, because more area is called for. The easiest way to add a batch of area is to bend on a genoa, which adds 20-30% to the total sail area of the average conventional sloop. Note that adding area this way requires no additional rig scantlings or weight, as the rig design is determined not by sail area, but by the capsize resistance (stability) of the boat. And with the genoa the vertical center of effort is little affected.

Otherwise, to add area, you must lengthen the dimensions of the sailplan-- raise mast height, lengthen the boom, and add a bow sprit-- all of which costs a fortune, raises the rig's center of gravity and center of effort, and affects to some extent the pitching moment. From a sail area aspect the boat's performance will be enhanced. It will also have to be reefed more frequently, and will be more tender than previously. This was the approach outlined by Dave in his letter.

When compared to increasing the size of the sailplan, the success of the genoa is easily explained. It's the only (relatively) cheap and easy way to substantially change a boat's sail area to match wind conditions. If we always sailed in the same wind speed, boats would all have non-overlapping rigs sized to suit, and the genoa would go the way of the dodo.

Dave's comments did not cover the other aspects of sail-derived windward performance, such as sail area distribution, headsail luff length, and rig aspect ratio. The characteristic that is of particular concern to me is the importance of headstay tension to pointing ability. Most successful conventional sloops carry a highly tensioned headstay. It helps maintain the carefully honed shape of the jib luff, and is considered a necessity for going sharply upwind. Indo does okay with her monster genny

F/J-40&c cont p. 11

Mouligne´ Wins Class in Bermuda 1-2 Singlehanded Leg

Frog Kiss Finishes 2nd in Class Overall, 6th in Fleet

Ex- F-32 star skipper Patrick Mouligne continues to apply his skills to the Freedom firmament, participating in single and dual handed racing with Frog Kiss, the F-44 he acquired prior to the '88 season. This year's Bermuda 1-2 saw Mouligne drive his big cat ketch to a Class II victory in the outbound single handed leg, finishing only 2 and 2 1/2 hours respectively behind Legend, a purpose-built Hunter 49, and Hank Halstead's winning Hinckley 51. Mouligne's race this year was also spiced by the entry of his brother Jean-Pierre's Tayana 42 Archipelago in Class III.

Accompanied by his wife Christine on the return, Patrick managed a class 3rd but was 18 hours (both elapsed and adjusted) off the stunning performance of pro racers Steve Pettengill and Steve Black in their hot Hood 40 Freedom, which reveled in the tough upwind going and posted its 16 hour victory despite stopping for repairs after hitting a whale. More significant for Mouligne was that he and Chris were only two hours behind the 2nd place J/35 Dogbolter, in what was mostly a long, windy beat to Newport.

Frog Kiss ended 2nd in class, both elapsed and corrected, for the two legs combined. She finished 6th (also elapsed and corrected) of the 24 yachts that contested both legs of the 1-2. Δ

Scuttlebutt from p. 6

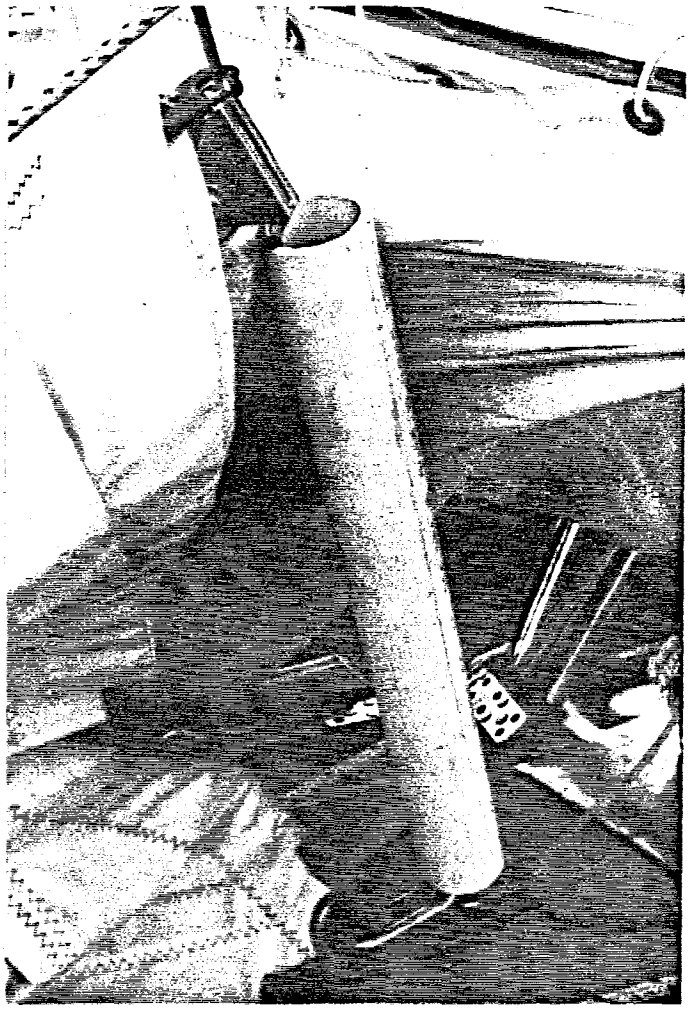
yard is swung inboard so that the bow hand can get hold of the leeward sheet, and the windward sheet is let go completely, running through all its blocks and allowing the chute to flag out and unload itself. The bow hand then takes the chute in. The "sock" is not used. You must be ready and willing to quickly cut the sheet if it jams on the way out; it's nickels and dimes compared to a blown spinnaker.

Using the usual retrieve method, the incidence of sporting Freedom skippers who have lost chutes in marginal takedowns is high enough that it inspires a takeoff on the old pilots' story: "There are two types of skippers--those who have blown a chute on takedown, and those who are going to". (Original: "those who have landed gear up, and those who are going to-)".

*

Far less spectacular, but spectacularly maddening, is the spectacle of noting the spinnaker torn *just as you're putting it up*-- and in light air, to boot! (It created an inspired rip taping session on our remaining chute-- 500 miles from home). Discussing this event with sailmaker Jeff Howlett of Marblehead's venerable (but high tech) Wilson & Silsby, we were reminded that there are frequently little sharp doodies of all kinds around the bc of boats, just waiting to do in a draped, yanked chute during a takedown. In our case, the tear disappears quickly into the sock, unnoticed-- until its reappearance during the next hoist. Freedoms are probably more prone to this possible problem due to their droop-and-drag takedown; it has now happened twice to Indo and has been mentioned to me by others. Cure: a thoroughgoing

Scuttlebutt cont p. 12



Buy Dad a Pipe for Christmas!

"The thing you don't want to do is accomplish nothing other than the qualifying offshore solo work, then later show up at Newport and go racing off to Bermuda. 'So this is what it's like' is an unfortunate reaction to off e at this point, because that feeling should be well behind you. Acclimatizing to offshore and trying to race well at the same time is asking an awful lot of yourself". Δ

F/J-40&c from p.9

in smooth water, but gets killed in waves, due, I believe, to cyclic slacking of the headstay as the mast moves back and forth from the effects of wave action. With a heavy, strong, independent mast unrestrained by a backstay, ere appears little to be done about it short of going to unning backstays to try and keep tension on the forestay. Oh, Lord. But I'll probably try it, just to see if it works. And all this leads logically to a few comments about my F/J-40 article of two issues ago.

That overlength tome (my apologies) was written to present an illustration of where the low effort, high performance cruising yacht design might be headed. The editor's trepidation and stand-pat attitude notwithstanding, the field will change and improve just as surely as everything else has changed-- whether we happen to own F-32's or not. That Freedom and Everett Pearson could build the boat is an absolute surety, if they wanted to-- there is nothing in the design that they haven't done before. Where I do now think I was off base was assuming that enough forestay tension could be generated to make the genoa stand up to weather, when used. It's unlikely, without a backstay, and a substantial chunk of the design's light air windward performance probably goes down the tube if that condition cannot be met. And the subtitle "Going Really Well Upwind Requires a Genoa"-- a takeoff on Garry Hoyt's observation concerning the genesis of his sloop line, "Going well upwind requires a jib"-- isn't necessarily true. Unfortunately, for most boats, in most sailing conditions, it is true (see foregoing).

Another point conceded is to Sunset Marine regarding the "100 degree pointing" statement within the article: The F-36 will effectively point through 90 degrees (see Rendezvous article), and I hope to be able to see more of it for myself as race crew for Clark Wrye sometime next season. The F-36 carries 28% of its sail area in its jib, versus 21% for the F-32. While talking with Gary Mull during the Rendezvous I raised the question of this difference; he answered that it was done to make the boat point better. Both F-32 and F-36 have sail area/displacement ratios of 19, so neither has a basic sail area advantage. For comparison, J-boats (Johnstone J's, that is) have SA/D's from 20 to 27 (depending on headsail size used), while many European and offshore boats are down in the mid-teens. At the other end, CKY's John Newton puts 830 feet of working sail on his 9600 lb. Sparhawk 36 cat ketch for an astounding SA/D of 28-- and that's without the 1500 square foot staysail bent!

For design nuts (guilty) comparing numbers on boats can be an interesting pastime, if it's not taken too eriously. "Ted Brewer Explains Sailboat Design" has en a fine source on how to make the calculations, some of which are not as simple as they appear by name- - such as SA/D. It's available from International Marine in Camden, ME. Also of great interest was Gary Mull's article on unstayed yachts in last February's Yachting. Among other things, he discusses the strains on conventional versus unstayed rigs. The differences are profound. He also advocates the use of "light air staysails" on unstayed sloops.

And, speaking of numbers, my education continues apace regarding the F-32's performance. A couple of summers ago we did some objective (as possible, I thought) measurements of speed and pointing on an 11-12 knot (true) day, very small waves. By being careful and assiduous we managed 5 knots at 90 degrees, but the boat wasn't quite full and by-- it liked 100 degrees much better. I naively assumed that that was it until reading that John Lease gets 6 knots at the same pointing angle-- at least some of the time. This is truly an outstanding performance for a shoal draft F-32 (PHRF: 180), being only a half knot slower at that point of sail than a J-35, J-37, or J-40 (PHRF: 75). I hope to re-rate my boat to race once again in its stock configuration, and get John to steer it for me next summer. With his helming skill we will go through the Marblehead PHRF fleet like a hot knife through butter!

Mull, in his Yachting article, mentions the often-discussed ability of the unstayed rig to bend with puffs, which supposedly depowers the mainsail and helps the boat stay on her feet. Bending the mast to flatten the sail is an old and valid idea, best exemplified by the Finn and OK Dinghy classes, where competitors keep 2 or 3 masts of varying bend characteristics to match the day's racing conditions. With the mainsheet pulled down hard the mast bends back, stretching the upper sailcloth flat and depowering it very effectively. I had an OK Dinghy, and it worked. The same principle is now used by nearly every hot windward boat in the PHRF/IOR/IMS spectrum-- including the 3 J-boats mentioned above. That's what those "hydraulic backstays" are for. On the other hand, how much "wind spilling" actually happens when an unstayed mast bends sideways in a gust seems quite difficult to explain. Certainly the "giving" of the mast buffers somewhat the gust effect, but what happens to the sail's shape to depower it under lateral mast bend is not so easy to figure out. Perhaps I am missing something here, but I have never looked up at my mainsail that it wasn't full-drafted and powerful-- like it or not. Our mast is not the supple, bendable (and breakable) wand found in small boats. It is instead probably the stiffest unstayed spar of its length ever put into a boat, anywhere. It may "spill wind" a bit better than a stayed rig, but neither McCrea nor I feel it actually does much in this regard. Mull's designs, on the other hand, may bend more. The F-36 spar, several feet longer than ours, weighs in at at 360 lbs-- 90 lbs less than the F-32's. This is not meant as a criticism, as it is generally accepted that the F-32 spar is quite overbuilt. Mull's designs may in fact make better use of spar bending characteristics to provide "automatic" mainsail flattening and gust alleviation with rising winds.

F/J-40&c cont p.13

Scuttlebutt from p. 10

feel-up of the whole spinnaker-impinged area by your most methodical, sensuous (?), (weird?) crewmember, who then files and sands all the baddies smooth. Yelps, blood and Band-Aids mean you've struck pay dirt!

*

The Dinty Moore's bounded out onto the cabin sole once too often last year, and the decision was made to replace the ball-type door retainers under the chart table with positive-acting hook latches, which are operated through the finger holes already there. While we were at it the same latch was installed on the door under the head sink, making it possible for midnight users to quietly close the door after accessing the toilet paper. Ah, the niceties!

*

While on the subject of the head, one completely successful change was the installation of "drip edges" above the aforesaid door, and above the locker door. Ours are bent stainless strips, screwed on, but teak or plastic would be fine too. No matter how many showers, the toilet paper stays dry!

*

Sandi and I sleep in the after cabin, me to starboard. For three years I found reading in bed difficult, and the pillow frequently on the cabin sole, as there is nothing forward of the "sleeping platform" to hold up the pillow or your head. This year I installed a "pillow hold-up cloth", and it works just great. The lower end's screwed down just under the bunk cushion, and the upper end is secured to the underside of the companionway bulkhead by half-turn fasteners, so it can be undone and stowed out of the way under the cushion when checking the batteries. See sketch this issue.

*

Writing from his new home in Apollo Beach, Florida, John Mynahan described an idyllic 6-week trip from Portsmouth, NH down the waterway and across the Okeechobee Canal to their waterfront base near Tampa Bay. They were happy with it last fall, and presumably are now, too. One point John mentioned was his spinnaker clews: between sun exposure and morning dew, they were rotted through and through! (sorry). Moral: Tuck 'em way into the sock, where the sun can't penetrate-- at least. We do that, but the sail also frequently stays very wet for days on end. I wonder if that's a problem, too--?

*

As most northern boat storers know, the winter storage period can create more damage than the sailing season did, port tackers and all. One area that most of us have noticed while walking through a storage yard is dripping, sometimes cracked rudders-- the result of rain water and condensation getting into the laminate, then freezing and expanding. The rudder post is the best known culprit here; it has an unusually fine access to the vulnerable inside of the rudder. Brian Guptil (see previous) found his post full of water, pumped it out, and then rain shielded it. This is a good move, but doesn't prevent water condensing out on the cold metal surface and accumulating nonetheless. Indo's rudder post had been foamed by the factory to prevent water problems, a most commendable move-- and a recommended one for owners storing here in the frozen Northland.

*

We replaced our original, completely untoggled forestay when a small kink was noticed where the CamberSpar roller sat. The stay was hung in the garage and replaced by a bottom toggled stay, which later failed adjacent to the bottom swage due to the weight of the furled sail and CamberSpar loading it under lumpy windward motor sailing conditions. That stay was replaced by another bottom toggler, protected from strain by an 18" PVC tube that **every** F-32 should have. The original stay was meanwhile rescued from the garage and stowed under the after berth as a spare.

I'm glad we did that, as stay #3 was found unravelled from the top just as we struck out from Cape Breton I. for the 400NM run to Rockport, ME.

A little lookin' and thinkin' soon explained what had happened, and served to underscore the wisdom of Bruce Hanshaw's (#51 Sequoyah, Kent Narrows, MD) previous admonition that the forestays should be toggled top and bottom. The untoggled top can swing fore and aft, but cannot swing sideways. We had just finished a 360NM reaching race, in heavy winds. Under these conditions the mast bends forward and to leeward, and the stay goes very slack and bends in the same direction under the load of the jib. But the swaged eye can't swing to the side, so the substantial bending load is concentrated right where the wire enters the swage. Sayonara!

(McCrea also had his forestay unravel from the top following his return from Bermuda).

*

John Lease's inclusion in issue 3/1 (Oct '88) of the product data and glazing instructions for Lexan was most welcome and made for some educational reading. We tried the wax/polishes mentioned to try and make our Lexan transparent again, and they helped quite a bit. But of most interest were the glazing instructions, which

Scuttlebutt cont p. 14

F/J-40&c from p. 11

As a result of the well publicized US-British Capsize Study made following the Fastnet Race deaths of ten years ago, there has developed a substantial recommendation to the yachting fraternity of late CA/early IOR design types as desirable for safe offshore sailing. Numbered among the strong proponents of this viewpoint are such well known figures as yachting author John Rousmaniere and Richard McCurdy, Chairman of the USYRU Safety at Sea Committee and an original member of the Capsize Study group. The boats they favor generally have either cutaway ("full") keels with attached rudders, or "fin" keels of the time, as defined by S&S-- actually thick-rooted, large radiused integral underbodies with a large fin shape. These keels typically have at least twice the area of present fins, and are usually tied to the rudders by cutaway skegs. Displacements are moderate to heavy and freeboards moderate to low, by present standards. With cabin soles well below the water line, many of these designs are nicely proportioned and quite attractive to look at. Appearance is also helped by fore and aft overhangs that are most graceful but often result in very modest waterline lengths. The boats are generally not very beamy, and (as expected) come up with quite good capsize resistance ratings.

The arguments made for the safety aspects of these designs are pretty convincing. But they appear to be based very much upon the design of the boat relative to the sea, and not much on the effect of its design upon the human beings who must sail the boat and live aboard it during long passages. One point McCrea made about Panacea was the 20 Degree Rule: if the general heel angle exceeds 20 degrees it doesn't make the boat go any faster, so you don't let it-- you reef, and your ability to get about and operate within the boat benefits, while nothing else is lost. I wonder what the optimum performance heel angle for some of these older, narrower designs is? I wonder how well their slim, slab sided hulls knock down spray? I wonder about the sheer work of trimming and reefing a sailplan of the size necessary to drive a heavy, high wetted surface design close to its hull speed? (see Ron Dwelle's comments on his Marion-Bermuda Offshore 40, recent Practical Sailor). And what of the extra passage days required, because the waterline is short and the boat is slow, for its length?

While the capsize people seem to favor a return to late '60's-early '70's S&S-style designs, single handed ocean racers have increasingly emphasized the importance of being able to run from storms, using light, fast, easily handled, easily steered fin keel/spade rudder boats, either purpose built or designed without regard to rating rules (in order to avoid quirky handling characteristics). Heaving to seems to have become a seldom considered alternative. It can be argued that what the Iron Men of yachting do should not have much effect on what's best for most of us. Nonetheless, racing-- in all fields-- has always provided the leading indicator of what becomes accepted practice a few years down the pike. How much the choices of hardy, experienced supersailors should affect what most of us do right now is certainly a valid topic for argument. But what they do should certainly not be ignored, which appears to be the case.

Meanwhile, fin keel, spade rudder boats are what people generally buy, because that's what's being marketed, and they're fast. They also don't require an overly large sailplan. The true realists are those who are able to ignore blue water considerations because they know they're never going to go across, anyway. For them, fast is fun-- why buy anything else? But some of the rest of us with offshore aspirations continue to wonder about doing the Right Thing as far as boat selection is concerned.

If anything was pointed out to me by the writing of this issue of F32 it was that human factors are a very important part of Safety at Sea. They may not have received the regard due them in the present day assessment of blue water yacht characteristics. That is a very big job, and the tendency to concentrate on the boat is very explainable. They're not easy to analyze-- but determining the physical, mental, and morale effects of yacht designs on people is even tougher.

It will be interesting to see in 1999-- 20 years after Fastnet-- what the peers of the yachting community then feel is the best design choice for offshore. Meanwhile, the differences between onshore (?) performance yachts, conservative, recommended high seas designs, and the operating advantages of beamy, flat sailing boats continues to make choices difficult for those contemplating blue water and far places. Δ

RE-WEDGING THE MAST

A "Loose Goose" Since Its First Launching, Indo's Mast Is Now Tight As The Proverbial Bull

In the May-June issue of 1988 (2/5) R.R. Baldwin (#48 Trillion, Alameda, CA) presented an excellent article on the installation of the F-32's mast wedge. We subsequently redid Indo's wedge, and found some factors to be different from those experienced by Baldwin, probably due to manufacturing and procedural changes made during the production run of the boats. This article is meant to augment Baldwin's previous story, and is preferably read with the latter at hand to refer to.

After removing the mast partners ring we dug out the silicone caulking and then poked at the wedge. It quickly fell partway out of the partners hole, dangling down into the cabin, just as Baldwin had experienced. It was soon apparent that the wedge was not thick enough to ade-

Wedge cont p.15

Scuttlebutt from p. 12

showed the Lexan cushioned by flexible gaskets and sealed by generous beads of silicone or polysulphide. The head of each window frame shown identified an 'expansion allowance" area so the Lexan could move relative to the frame if their expansions were different. The sealant beads and gaskets appear to bend sideways slightly with the movement, without the sealant's adhesion to either the Lexan or the window frame being broken. And there may be the rub.

Materials can bend or stretch only within their elastic limits. If the limits are exceeded the materials will fail in some way-- in the case of sealants, probably unstick themselves, or tear, or shear. The beads of sealant shown in the illustrations are specified as no less than 1/4" thick. This is evidently enough to assure that the "bending" stays well within the elastic limit.

On our boat windows a very thin sealant layer is used between the cabin side and the window. Admittedly the windows are small, so total expansion movement is not as great as a large Lexan window in a building. On the other hand, the combination of the clear Lexan atop a white reflective cabin side, all angled somewhat off the vertical, towards the sky, may create an unusually high expansion situation-- the cabin side expanding little, and the Lexan a lot-- in addition to decidedly exposing any sealant used to the relentless effects of the sun. So far, nothing that I am aware of has cured the window leaking situation for more than a season or two. It appears to be a permanent, recurring maintenance item, more frequent as you head south.

The Question: Do the windows leak because the window expansion exceeds the elastic limit of the thin sealant layer, causing it to quickly fail ?

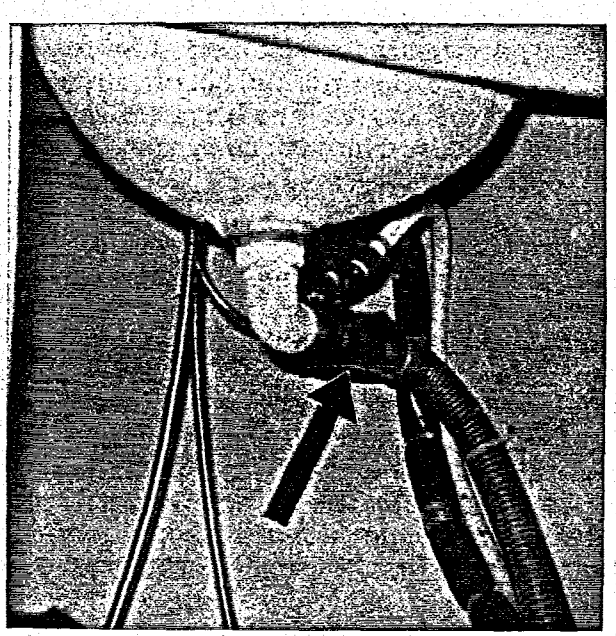
If this is the case, a complete reframing is the only way these windows are ever going to get permanently tight.

*

A problem that the majority of the boats have experienced is loosening of the propellor shaft strut, which results in whipping of the prop, bonking noises, and loss of the fairing putty where the strut is let into the hull. Unlike the window leaking, however, the loose strut is something that can be fixed and stay fixed, if you're willing to do a bit more than just retighten it. Will Chesnut (#24 Freedom, Caribbean) was able to tighten up his mount screws from the outside, and then dimpled around their periphery with hammer and center punch to lock them in place. Others have removed the screws and reassembled with Loctite. These fixes work if the nuts don't turn on you inside the boat. If they do you must get at the nuts, which are under the battery box. This is a task best accomplished by someone wiry, strong, and with a high threshold of pain. Brian Guptil undid the exhaust and bilge hoses to help make access possible; one owner used a hole saw on the bottom of the battery box. Working on Indo, Steve Turgeon pitched the old nuts and substituted Nylocs. The strut has been tight ever since.

*

Sailing hard and heeled on the port tack has usually led to salt water up and over the head washbasin for most of us, with the stowage behind the mirror frequently getting soaked. We tried sink stoppers, but they didn't fit well and never stayed in. Our friend McCrea (is this the "McCrea Issue"?) solved this problem for good by installing a plastic ball shutoff valve in the drain line, just below the sink. The valve's cheap, available at your local plumbing supply place, and goes in easily with a couple of short pieces of hose and stainless clamps. We copied his installation with alacrity. See picture.



Head Sink Drain Shutoff Valve

*

Our autopilot compass is now mounted in the "beer locker" (a Hoyt idea that might have benefitted from testing first). To hold the lid up so that the wire's not jammed there's a shaped piece of wood that fits into the after lip of the locker. It's upper surface matches the angle of the lid and it's held in place by a piece of bungee. Works great, has been stepped all over with impunity, and hides inside when not in use.

*

Along with his valued overheating repair article, Kurt Spaugh queried the availability of reasonably priced, high output alternators for the Yanmar. He questions whether the "marine" item is a bit different from that found on a car or truck. Me too, Kurt! We'd love to hear

Scuttlebutt cont p. 17

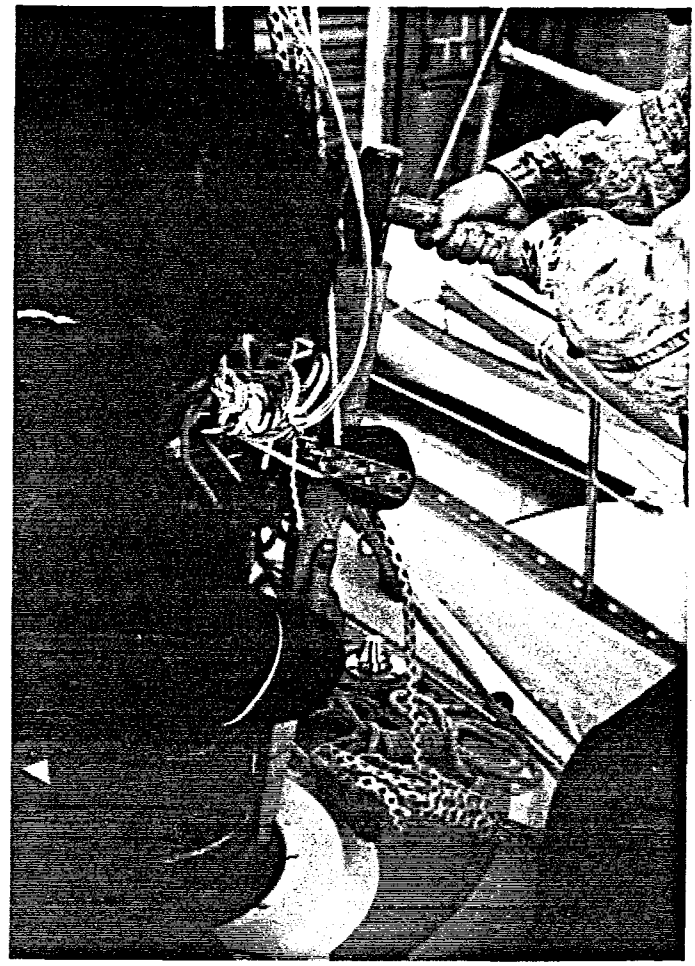
Wedge from p. 13

quately fill the gap between the mast and the partners. It was removed and compared to a new wedge we had. They were identical, and both appeared perfectly service-able. At this point, reference to Baldwin's article revealed a difference from his experience. Both our new and old wedges were already formed in cross section to match the shape of the gap they were to fill-- straight sided on the mast side, tapered down on the partners hole side (see sketch). Baldwin had received a "wedge" that was actually rectangular in cross section, onto which he had to sand a wedge shape. Whether there was any taper in his partners hole is unclear; his sketch shows the hole straight sided.

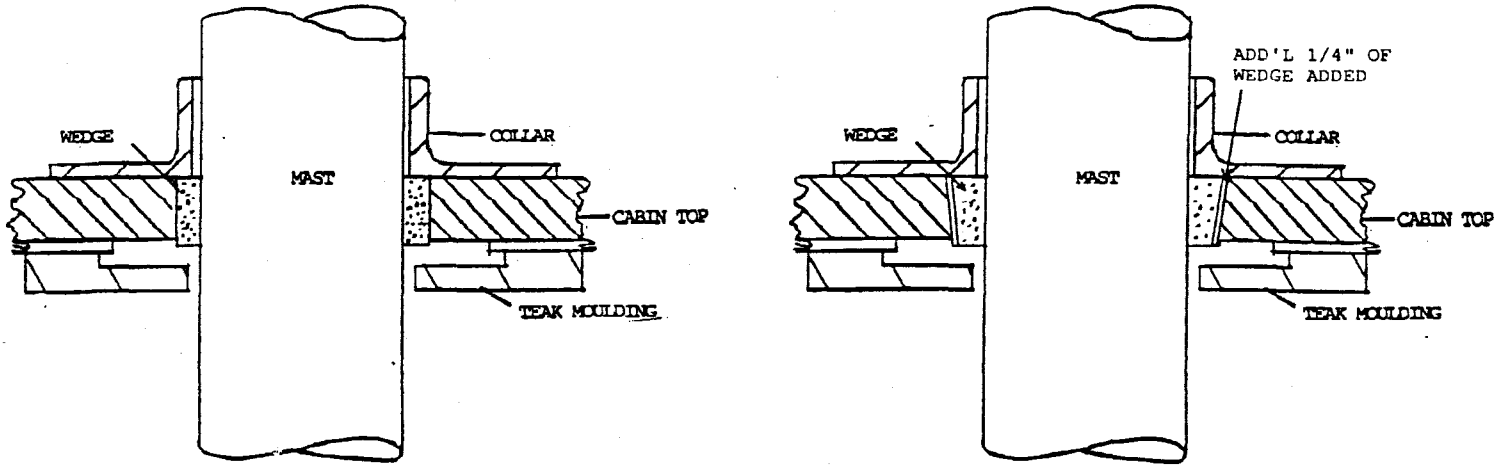
The new wedge from TPI obviously wasn't going to make the mast any tighter than the old one. When evenly in place the wedge's top surface was halfway down the hole, and the wedge kept trying to fall through on one side or the other. (Fore and aft mast location was fine while we were doing this, but it wiggled a bit sideways. The mast was supported by the forestay, the main halyard to one quarter, and the spinnaker halyard to the other.)

What we obviously needed was a thicker wedge. Why it wasn't the right size to start with I don't know, but this is not the only boat reported to apparently have an oversize partners hole. Failing a thicker wedge, we band sawed 1/4" off the tapered side of the new one, placed this shimming strip plus the old wedge around the mast, bathed the whole works in liquid soap, and banged them home together. We used a tapered wood driver and 3 lb. sledge, as recommended by Mark Edwards of Freedom (see picture). Luck was with us on both the estimate of elongation of the wedge as it was driven home (the ends just about touched), and in the position that the top of the wedge and its shim ended up at when we could drive it in no more: about 1/16" proud of the partners boss-- an ideal appearing amount for the tightened partners ring to further compress and preload the already super-tight wedge around the mast. The ring was lightly goo'd and progressively torqued down, as you do a cylinder head. It bottomed out on the partners boss and that was that-- the spar is locked in like there's no tomorrow. It hasn't twisted, bonked, budged, leaked, or made a peep since-- and I don't think it's gonna.

One other note: The mast butt and step had been previously glued together with polyester resin. Despite some mast movement during the job there were no cracking noises or any other indication that the joint had undone. I'm fairly sure that both "belt and suspenders" are still intact-- but I doubt that the glue is needed now. Δ



Hammering In the New 2-Piece Wedge



Left, Baldwin's original sketch. Right, as modified by Indolence's mast wedging experience.

SOME SOLID NEWS ON OVERHEATING

After 3 Years of Restricted Operation, Rockhopper Breathes Free and Runs Cool

Kurt Spaugh
#71 Rockhopper, Ft. Lauderdale

F32's Southern Engineering Department, otherwise known as Kurt Spaugh, sent along in August a seven page letter describing his successful effort to finally fix Rockhopper's cruise power overheating problem. Spaugh had been familiar with the overheat alarm since 18 months after purchasing his boat new, and recent months had seen Rockhopper limited to 2500 rpm to avoid triggering the alarm-- along with shuddering when retarding the throttle, and soot in the exhaust.

Spaugh set to work at cleaning out the heat exchanger, thoroughly flushing and backflushing the system, and replacing the coolant with a fresh 50-50 ethylene glycol/water mixture. Although it still worked, he also replaced the crusted up $30.00 thermostat. But all this effort got him precious little except an opportunity to exercise his profanity skills a bit. The overheat alarm still sang, and at nearly the same revs.

"Ahah, the salt water pump impellor has to be gone, or the inlet clogged." But they were fine. After some more verbal exercise, Spaugh, a professional systems analyst for Motorola, paused to reflect. "After you have eliminated the improbable, whatever is left, no matter how impossible, must be the truth". The last place the salt water goes is into a mixing elbow attached and downstream of the exhaust manifold, thence out the muffler and exhaust hose to exit at the stern. Off came the exhaust manifold and mixing elbow.

"The whole mixing elbow was heavily caked with salt" wrote Spaugh. "The original 5/8" water inlet hole was reduced to a fraction of its original area. The elbow probably runs too hot in our tiny, unventilated engine rooms, and the salt water is being partly boiled away, leaving behind a lot of salt. As the problem worsens the flow rate drops, making boiling and precipitation of the salt easier and easier".

"The elbow's mixing chamber was terribly rusted. Both exhaust and water inlets to it were highly constricted, particularly the exhaust, which was less than half its original size."

"Despite the fact that the salt water pump was in fine working order, it wasn't able to push water through the heat exchanger at the intended rate because of the flow restriction at the elbow. In addition, the restricted exhaust gas flow meant excessive back pressure, which leads to increased operating temperatures. In my case, this was also the cause of the 'throttleback shakes', and also of the soot, which was probably caused by a too rich mixture. The engine was constipated and couldn't inhale the proper amount of air to mix with its fuel".

Spaugh replaced the mixing elbow ("$60.00: Ouch!"), along with the exhaust manifold gasket. Reassembled, Rockhopper strode forth for a test blast along the Lauderdale shore, and passed with flying colors. "I usually don't push my engine hard, but several 20 minute runs at full throttle-- in 86 degree water-- can be very convincing" he wrote. The Yanmar was running 100% again, for the first time in three years. Full throttle, no soot, no throttle shake, a noticeable increase in exhaust water volume, and NO ALARM. "END OF PROBLEM" wrote Spaugh.

Kurt cautioned that the elbow disassembly/assembly job is a bear, as it's all corroded together. "Bring the manifold to a marine engine shop; they have the heavy tools, muscle, and know-how to handle the task. There is a pipe union to replace also, and use a new exhaust manifold gasket, dry, when reassembling. And, while you're doing the coolant part of the job, check for and replace any mismatched hose barbs (too large for 1/2" heater hose used), and correct any constricted runs you find. Use Teflon tape, not pipe dope, for installing any new fittings, and be sure to tie up the exhaust hose while the manifold's off-- or you may sink the boat".

Spaugh's F-32 was delivered in 1984 and has spent nearly all of its days since immersed in the warm, humid salt water/salt atmosphere of the Florida coast. Like McCrea's Panacea and to some extent Indo, its conditions of use make it a "leading indicator" of problem conditions that the fleet in general will probably not experience for many years. But Rockhopper's experiences should certainly be noted by southern owners and by anyone who keeps their boat in the water year 'round.

Most owners' overheat alarm complaints seem to have faded with the changing of the original 100% ethylene glycol coolant for a correct 50-50 mixture, which cools 50% better. Meanwhile, Kurt has identified for all of us a condition that may someday catch up with the lightly used, low-biological-level northern fleet. If it does we'll know what to look for and correct, thanks to Kurt's willingness to write up his experiences for F32. Δ

Retrofitting the Fuel Intake Pipe

TPI and John Lease have been working on a fuel intake system that may eventually make useable nearly all the fuel in the tank, even under difficult sea conditions (see issues 3/1 and 3/2). To my knowledge that system is not yet being offered. But an inexpensive, fairly easily installed and well tested fix that at least doubles the use. fuel under rough, heeled sea states has been available for some time and is recommended pending test of TPI's system, particularly for boats that get away from close inshore and may use a fair portion of their fuel before

Intake cont p. 17

Intake from p. 16

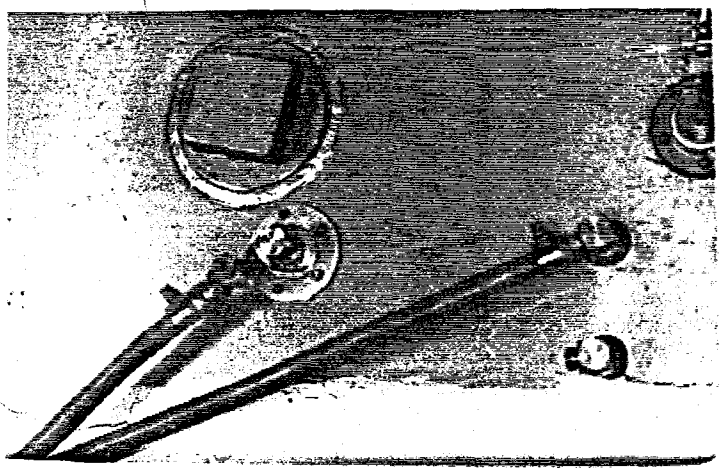
another fillup opportunity occurs. The original tank intake pipe ("pickup") is prone to suck air when motor sailing on starboard tack in rough conditions, with the problem occuring after about ten gallons have been consumed. This causes the engine to air lock and stop. The improvement consists of a new tank intake pipe, flange, and top fitting which is installed in the tank at the point of equal volume (on each side) so that starvation on starboard tack, caused by the starboard location of the original pickup, is eliminated. The background of this modification is found in issue 2/2 (Nov '87). It was subsequently tested in Florida by Kurt Spaugh, who drove the tank down over twenty gallons while strongly heeled in large waves, on both tacks (see 2/4, Mar '88).

Installing the one-piece replacement pickup takes about two hours and is best done with the tank down at least one third so that something can be held under the new pickup hole to catch the drill filings. Make a 7/8" hole 12.5" from the starboard tank edge and 2' from the inspection port weld (see picture). The pickup is too long as delivered. Position it in the hole, measure the flange to tank clearance, add 5/16" to that, and cut that much off the end of the pipe. Cut at a little angle, and file off all sharp corners. Reposition the pipe, mark and drill for the self tapping mount screws (#18 drill worked well), and screw the pickup down. Then disassemble the fuel line and shutoff from the old pickup, reassemble to the new, and plug the old pickup with a pipe plug. Bleed the low pressure side of the system, and that's it. It's not a hard modification, particularly considering the payoff in rough weather range and peace of mind it affords.

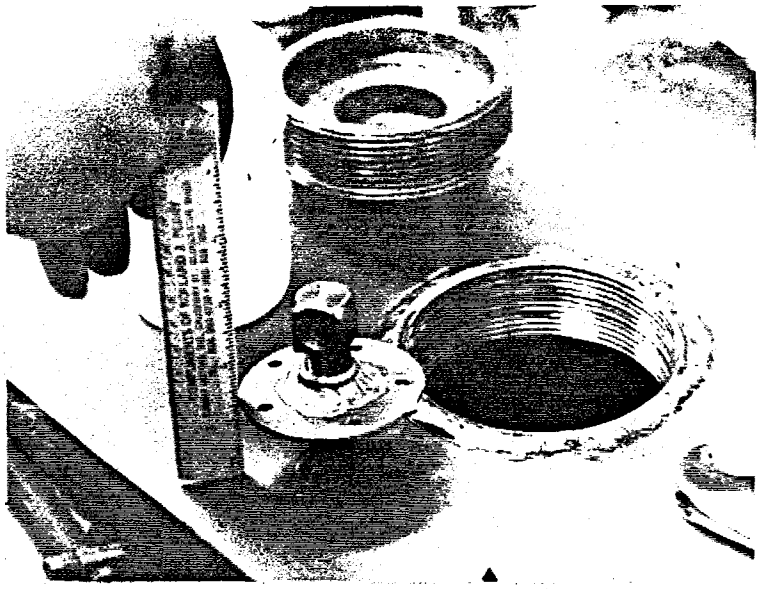
To obtain the replacement fuel intake pipe contact Michael Hodge at:

Aluminum Fabricated Products
Box 1107
Perry, FL 32347
(904) 584-6898

The cost of the pickup is approximately $12.00. Δ



New Intake by Inspection Plug; Old Plugged Intake Lower Right. Other Hose is Return Line to Tank



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Measuring Amount to Cut Off of Pickup

Scuttlebutt from p. 14

from anyone who has managed to find an effective, reasonably priced 50-70 amp unit to work on the Yanmar. Their 55 amp Hitachi is very dear. (McCrea's 125 amp unit is indeed special, can be expected to cost a lot, and does).

*

We were concerned for quite a period with the wear and abrasion on our main halyard splice, a situation which we hope has been cured by knocking off all the sharp edges around the masthead that the splice comes in contact with. Prior to doing that we reduced the mainsail hoist 6" or so by using a Cunningham hole to pull the sail down towards the gooseneck . The Cunningham was good for that, but completely inneffective in somewhat flattening the lower half of the sail-- a function it usually manages on conventional mainsails. It probably just can't have that effect on a full batten sail, I guess.

*

The Newport Sailboat Show was visited once again this fall, and we had our usual wonderful time. Three months later one of my most persistent recollections of the show is the impression of the shortened, tee'd, hacked up, disappearing cockpit. A nice big one is getting very hard to find, as everyone tries to jam in more condo-style accomodation down below. Few pass my "stretch-out" test anymore-- and I'm only 5'7"! Getting top marks was the F-38, hands down. Freedom should run an ad of an F-38 under sail, with a large, contented snoozer stretched out on the leeward cockpit seat. Δ

Our Man at Boston English High: Computer Teacher and Best Puff Skipper Henri Lion, Jr., pictured on the first day of school last September.
(Boston Globe photo/ Carlos Mantilla Batlle)

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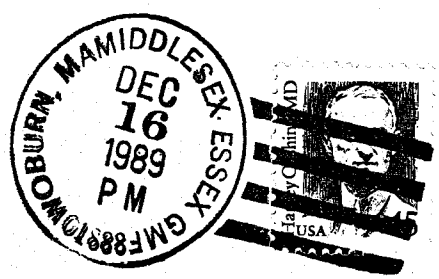

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