

F32 Newsletter

The Journal of the Freedom 32 Sailing Yacht Vol. 2 No. 2 November/December 1987

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Overheat Article Engenders Comments

Test Program Moving South, We Hope

Not too long after the September issue was mailed, we received calls concerning the overheat alarm problem from Sen-Dure's Ron Schaper, who was quoted in the September article, and from Freedom dealer John Nimphius of Sailing N.H. Inc., Newington, NH. They had some thoughtful comments to add to what has already been written, and- fortunately- they had no particular arguments with the ideas presented in the September article. I later also gained Pat Donovan's views on a couple of points that had been raised. And, I came upon a very interesting article on the actual mechanics of cooling systems within the pages of the December Road & Track.

Ron still feels that an air bubble in the heater loop is raising Cain, and the mechanism- which he's seen occur before- is that the bubble gets down to the water pump, where it substantially decreases the ability of the pump to circulate the water. Interesting! Answer: Install the surge tank, of course. John Nimphius confirmed that the engines "most likely had straight ethylene glycol in them, from TPI." Ron observed that straight ethylene glycol not only is inferior anti-freeze to a 50/50 mix, but is also more viscous, making it harder to pump through the system. It also conducts heat only 2/3 as fast as a 50/50 solution (see the R&T article, Dec/87, p. 172). Nimphius also felt it responsible for the sludge buildup in the ex-changer. To get it cleaned out he has no reservations about using automotive flushing kits, which he has had good luck with. Donovan, on the other hand, feels the ex-changer has to be removed to ensure a good cleaning.

As to the alarm sensor, although the Yanmar manual says it's brown (as noted last issue), Donovan assured me it's green. So belay last issue's advice. Don Debacher had his alarm go off in '84, replaced the sensor,

FUEL LINE AIR LOCKS CONTINUE TO PLAGUE SOME OWNERS

Partially Full Tanks, Rough Water, And Starboard Tack Cause Diesel Shutdowns

Tanks Lack Baffling- But Other Factors Also Suspected

In November of 1986 F32 received a letter from Don Debacher of Savannah, GA, relating the story of an engine shutdown he had experienced in his F32 Kandi Kiri. With 2/3 of a tank of fuel on board, Don's fuel intake pipe had sucked air in very rough seas, causing the engine to air lock and quit. The apparent cause was identified as a fuel tank lacking baffles, and TPI replaced the unbaffled tank with a baffled tank. Don's letter appears in the January '87 issue of F32.

At that time it was our belief that a few unbaffled tanks had gotten in with the proper baffled ones, and correction of the problem within the F32 population could be accomplished by determining which boats had the unbaffled tanks, and get them replaced.

More reports of air locked diesels were received, and discussions with the factory eventually revealed that, to their knowledge, all of the F32s were built with unbaffled tanks. Thus the unbaffled tank problem went from one thought to affect only a few boats to one that potentially affected all 96 F32s.

Baffles within fuel tanks make it impossible for the fuel within a partially filled tank to slosh completely from one part of the tank to another. The fuel is instead separated into compartments by the baffles. There are small holes in the baffles that allow fuel to flow from one compartment to an adjoining one, but only at a low rate of flow, which is

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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 deficiencies and the institution of improvements to F32s, and will rely primarily on reader supplied articles and information in this area. It will also carry articles on the operation of boat systems, the cruising and racing of F32's, social events, raftups, factory advisories, interviews, owner profiles, classified ads, and anything else deemed of specific interest to F32 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. Direct operating costs include approximately 70 complimentary copies to be sent to major yachting magazines, Tillotson-Pearson Corporation, and other organizations worth lobbying.

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and hasn't heard it since- and no heating problems. Nimphius distrusts the thermostats, and heat tests them all-including new ones, from bitter experience. "They don't open, or worse, they open halfway," he said. My recollection is that thermostats years ago could be counted on to fail safe (in the open position); those days are gone, too.

Meanwhile, the second surge tank installation has not yet been made, and can be forgotten for this year. It's 15°F out. Any results we got would be too compromised by the cold ambient temperatures to be considered valid. I hope to contact one of the southern troops to try the surge tank, and a couple of other experiments.

Now here's a good one: after his alarm went off for the 10th time one day Harry Walcoff*, thoroughly frustrated, firewalled the throttle instead of backing off. After a bit, the alarm stopped!- and he's been doing it ever since. Dope that one out, fellow scientists!

*#11 Mz Boogins, Burlington, VT

F32 Cruise Meeting On In Newport For Saturday, January 30

Popular Restaurant Selected For Informal
Evening of Cruise Talk and Camaderie

Ian Morrison has planned the F32 winter meeting for Saturday, January 30, at Christie's Restaurant in Newport. He will present an outline of the proposed F32 cruise to Eastern L.I. Sound, which is planned for June 25-July 3 and includes the Freedom Rendezvous as part of its itinerary. "It's a lovely time of year in the Sound, with long daylight and fine sailing breezes" said Morrison, "and the harbors haven't started crowding up too much. The trip up the Connecticut River to Essex is worth it just to see the swans and their cygnets, riding on their mother's backs."

The meeting will probably also witness discussion of the structure of the proposed F32 Association, and may see a candidate slate proposed. Please save the date, and make reservations with Ian at (401) 253-7036. It should be a very nice affair to help break up the winter.

dictated by the size and amount of the baffle holes.

"Air locking" occurs when violent sloshing of fuel within the unbaffled tank momentarily leaves the fuel intake pipe sucking air instead of fuel. The ingested bubble of air is pumped through the fuel system until it gets past the fuel pump and encounters the pressurized side of the fuel system, where it generally "hangs up" within the top of the engine mounted fuel filter. The engine starves for fuel and stops, and cannot be restarted until the air is purged out of the filter by "bleeding" it- which consists of loosening a bleed valve at the top of the filter while simultaneously manually operating the fuel pump in order to pressurize the system and drove the air out. Once air-free diesel fuel flows out of the bleed valve it is retightened. The engine can then be restarted.

Baffles are important not only because they limit fuel movement within a tank, but also because they prevent partial fuel loads from building up large amounts of destructive inertia if they are allowed to move large distances within a tank. Imagine, for instance, what might happen to an unbaffled, half loaded gasoline tank truck that had to jam on its brakes!

Destructive sloshing has not been a problem with F32s- a half load of fuel weighs about 100 lbs, and its movement within the tank does not seem noticeable. But the lack of fuel tank baffles has been pointed to as the cause of several F32 diesel shutdowns.

The shutdowns, when they occur, are frequently Murphy-style. With the tank generally 2/3 or less full and the boat bouncing all over the place due to high winds and steep chop, the violent sloshing of fuel in the tank momentarily uncovers the intake pipe, and the engine soon quits, with its fuel system air locked. Correction requires that the engine cover be removed and the low pressure portion of the fuel system purged of air as described above.

In the extreme case this work may have to be done with the boat lurching all over the place, accompanied by the sweet smell of diesel fuel aiding and abetting the sick feeling frequently experienced by those forced to concentrate on below decks tasks while embroiled in nasty seas and nervous thoughts. The nearness of the bilge may be an advantage.

Two occurrences of this distressing and

potentially dangerous problem shared identical, and very understandable scenarios. The yachts were close hauled in tight, shoal waters, attempting to make critical harbor entrance buoys in strong and building wind and seas. Unable to fetch, they both elected to start their engines and motor sail to get past the buoys. With 2/3-1/2 tank of fuel, 20°-35° starboard tack heel angles, and very rough shoal chop, their fuel intakes momentarily uncovered and their engines quit. Neither skipper attempted to go below and bleed the air from the system. One was unsure of what the problem was, but managed to beat to the vicinity of his small mooring basin, anchored, and was later towed in. The other judged correctly what had happened, but felt he could not relinquish deck command in the tight and building conditions he was in in order to go below and effect a problematical repair. He anchored on 150' of rode shortly before experiencing squall gusts in excess of 60 knots

A point to remember here is that it could have been worse. Both of these skippers had their mainsails up. A vessel under power only, sails down, might be rolled far enough to air lock. If that happens, the jib can be gotten up pretty quickly, and will work (in strong air) up to a close-ish reach, featured by a terrible alternating windward-leeward helm. But getting the mainsail up in order to balance the boat and make her point, while bucking strong winds, steep seas, and a quarrelsome helm, will be an accomplishment that all those aboard will be able to remember with pride- if they manage it. And watch out for that boom.

The F32 uses a 32 gallon aluminum fuel tank, model 258-32-AF, manufactured by Aluminum Fabricated Products, Inc., of Perry, FL 32347. It is 28" x 16" on top, with the long axis athwartships, and is 18" deep (starboard end) and 12" deep (port) (see sketch). The fuel intake pipe is 4" from the deep starboard end of the tank. I called Aluminum Fabricated Products to find out what I could about the tank, and Ms. Linda Wiles was most helpful. "That tank model is made without baffles, as we don't install them in tanks under 30" in length" she said. AFP thus has no baffled direct replacement for the 258-32-AF. I asked her whether she could provide an approximate price for a baffled, stock tank near the 258-32-AF in size. "About \$170.00" was the answer, and a baffled exact replacement might cost the same if several were ordered. Even with TPI's discount it is pretty easy to estimate a total retrofit cost of \$500 per tank, labor, and shipping included, which could amount to \$40,000 to

Many Owners Never Experience Fuel,
Water, or Overheat Problems

Basic Fault Conditions Probably Exist,
But Conditions of Boat Usage Keeps Them From
Being Noticed

Many of the problems that F32 has spent so much of its time on - over-heating, fuel starvation, water priming, and toilet priming - have never been experienced by the majority of F32 owners. Like all yachts, F32s are used under widely varying conditions of intensity and climate, and their conditions of use frequently determine whether a de facto fault condition ever actually rears its head high enough to be noticed.

Take for instance, a hypothetical (but very believable) F32 owned by a Florida couple who use it as a daysailer, with occasional overnights by themselves. Would they be aware of any problems? Well, not if-

- the water tank was filled by the yard in 1984 upon commissioning, and has never been emptied since (always in prime).
 - they're seldom in a hurry, and never power at over 2500 rpm (no overheat alarm).
 - they never go far, and the fuel tank is topped up every weekend (fuel tank always has 25+ gallons).
 - they sleep aft, without guests (toilet intake stays in the water).
- This couple is delighted with the performance of their boat, and probably greet F32's trouble-shooting articles with a good deal of skeptical head shaking (at least).

Now let's take another plausible F32, bound in September down the intracoastal waterway for Florida with a crew of four. First night at anchor, an aft cabin occupant gets up to go to the john. It won't flush. With a full forward water tank plus two bodies sleeping forward, the toilet intake is up clear of the water.

Two days out of Boston the bow water tank runs out, and the valve is switched to the main tank. But it won't prime.

Later in the week, after motoring for some time, they encounter head winds and steep chop, slowing them down. Up goes the throttle. On goes the alarm.

Frustrated, they raise the main and bear off to motor sail against the steep chop and wind. You guessed it- the tank pickup sucks air, and the engine quits.

Now, these hypothetical boats are identical to each other. Only their conditions of use are different. Both have the same things basically wrong, but only one of them is actually bothered. And, people being human, they tend to only fix things that bother them. Time, money, and interest are all in finite supply.

But where boats are concerned, Murphy lurks behind every shrug of the shoulders, awaiting his turn to suddenly create chaos out of routine events. The proper yacht is maintained in condition to optimally cope with unexpected or unfortunate conditions, particularly in areas where safety is paramount.

\$50,000 for all the boats- so it's understandable why they haven't volunteered. Interesting enough, some subsequent thought and homework has raised a question as to whether only adding the baffling would really supply the solution to the problem. We'll get to that presently.

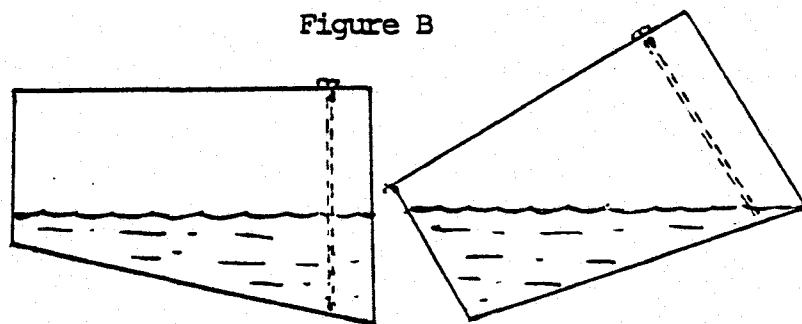
There is one answer to the problem that I absolutely think would work, and which I would make to my own boat if a long stretch of blue water sailing was planned. It was suggested by John Mynahan (#21 Funshine, Little Harbor, NH), and consists of the secure installation of a small "sump tank" deep in the bilge, well below the level of the bottom of the fuel tank. The engine would draw its fuel from the sump tank, which would in turn be fed by lines from both ends of the main tank. The sump tank would always be below the level of the end of main tank that had fuel in it. It would require its own vent line to insure that it did not air lock upon initial filling. The sump tank would feed fuel to the engine down to about the last quart, under all conditions.

But this is far too ambitious an improvement for the great part of F32ers, most of whom have never experienced the fuel starvation problem. (See Sidebar) What is needed is something that is simple to do and makes a large improvement in the situation. TPI has applied spasmodic resources to the problem over the last year. Attempting to introduce baffles into the tank through the tank's 4" center access hole didn't work. A couple of alternative positions for the fuel pickup tube within the tank were suggested, and some hardware supplied. The revised pickup tube idea was to move it close to the center of the tank, as the starvation always took place on

starboard tack (port heel), when the starboard mounted pickup tube uncovered. But the tank was still un baffled, and neither John Mynahan nor I put much faith in the "center pickup" idea.

To try and get a better look at what was actually happening, I decided to draw up a phantom view of the after end of the tank, put some fuel in it, and then heel it over, just to see what happened to the static fuel level in the tank relative to its fuel pickup tube. Problems have been reported with as much as 2/3 of a tank- as measured by the very approximate tank gauge. For this exercise I drew the tank with 10 gallons- 1/3 full- and then heeled it 30° to port, a very strong heel angle for an F32. A look at figure B illustrates pretty well why the engine starves at high heel angles to port. If you mentally add some wave-induced sloshing to the fuel level marginally immersing the pickup tube it is easy to see how the tube uncovers- even with 2/3 of a tank! (It is equally easy to envision that, heeling to starboard, the deeply immersed tube should never uncover, sloshing or no).

Figure B

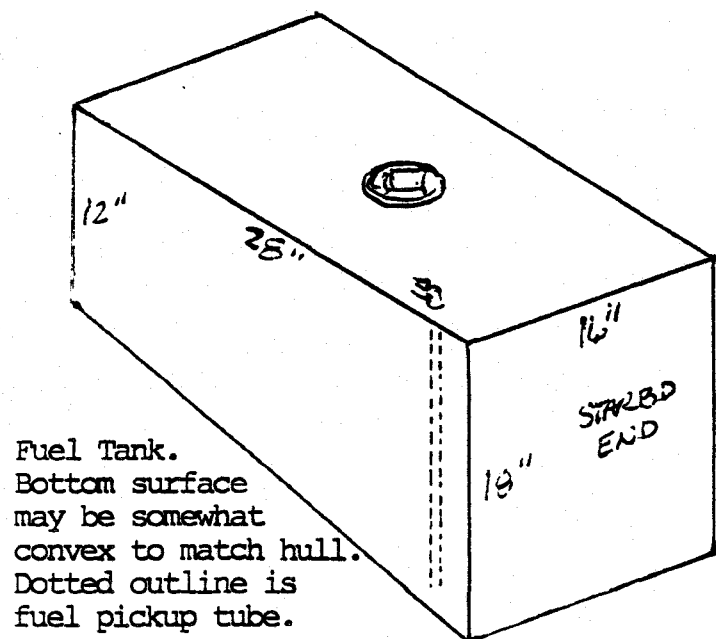


Tank with 10 gallons of fuel- level, and at a 30 degree heel to port (aft end of tank shown).

Then I drew in a centerline baffle in the tank, and as I did it, a few facts of life started to dawn. Baffles are walls that put a big damper on sloshing within a tank. But they must have small holes in them, so that fuel can find its own level, and be allowed to flow into the compartment that has the pickup tube in it (no, you can't "Y" the pickup and service both ends of the tank, because when the fuel level starts dropping the "uphill" tube end will suck air- even though the "downhill" one is immersed in fuel. Air's lighter than fuel, and will be sucked up instead of it. The "Y" idea works to deliver fuel down to a sump, by gravity- but it doesn't work on a suction line).* Anyway, the thing about

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*And no, we are not going to get into snorkel valves, floating pickups, gimbaled pickups, etc. Write your own article!



The Fuel Tank: How Good is "Good Enough"?

F32 talked to a great many sources in the process of putting together the fuel problem article, and one comment we received, from a TPI person, was of more than passing interest. We were discussing the effects of rough water on the fuel within the tank. A bit frustrated, he observed that "we don't build these boats to go around the Horn, you know." And indeed, he is right; any stock boat builder attempting to market a craft ready and equipped to cope with heavy blue water conditions would not last very long, as his offerings would cost so much that hardly anyone would buy them. The boat business is a very real one, and compromise is frequently necessary for success.

But it got me to thinking. What should the yacht buyer reasonably expect from a series production builder, who is expected to produce a certain amount of quality but still has to survive in a competitive, price conscious market?

Let's review what blue water sailors do with stock boats to make them safe, secure, and manageable on the high seas. If one reads the literature on the subject one finds accounts of months spent enhancing the boat and its rig-spar beef-ups, extra running backstays, spare halyards, great attention to sail material, size, and construction, and lots of thought to downwind sails and gear. There are double headstays and baby stays. Cutter rigs are popular. Reefing gear is robust and easy to use. Other areas receiving attention include lifelines, safety tethers, cockpit weather protection and cabin window covers for heavy weather. Windvane steering systems and autopilots are of paramount importance. Below decks displays time spent on secure stowage, bunk boards, lee cloths, and galley belts. And the list goes on and on, to prepare a basically good stock design to face the rigors of the open sea.

But it is interesting to note the areas that blue water sailors do not generally appear to upgrade. Improvements to the hull, rudder and centerboard are practically never discussed. Nor is the steering gear, engine, propeller shaft or fuel system mentioned. And the majority of vessels appear to go offshore with their original masts, booms, electric and water systems, and toilets. Thus it appears that most blue water people believe that the manufacturer of their yacht has provided them a hull, deck, spars and propulsion and other systems of sufficient robustness and reliability to withstand the worst weather they are likely to encounter, horrendous bad luck excepted. So while there may not be a written standard, there is evidence that the market has created, by its usage, an implied minimum standard for basic cruising sailboats.

There is no doubt that Freedom and TPI seeks to exceed this standard, in all areas. Freedom's support of the Dickson transatlantic attempt focused worldwide attention on the strength of the boat and upon Freedom's confidence in it- a position that was well proved out in the gale-torn waters off Bermuda. And we are equally convinced that the F32 fuel tank problem is not one that Freedom knowingly designed the boat with. But if the F32 fuel tank is less than it should be- well, how good should it be?

Well, let's refer back to the sailboat market. If the market is demonstrating, by its offshore use of unmodified fuel systems, that a vessel's original fuel system is assumed adequate for high seas use- and, by implication, use at low tank levels upon destination arrival- then what should the standard of performance of a fuel tank be?

GOOD ENOUGH? cont p.8

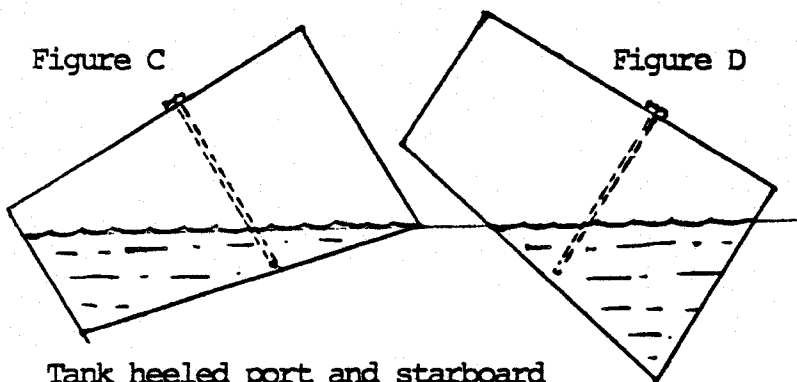
baffles is that, while they're great to control sloshing in a Donzi slamming from one wave to the next, they do nothing to cope with a starving pickup in a constantly heeling sailboat.

Once a sailboat has settled into a tack angle for a couple of minutes, the basic fuel level angle in a baffled tank will be just the same as that in an unbaffled one, after the flow between compartments has equalized. Sloshing in the baffled tank should be substantially less, and the chances of uncovering the pickup reduced. But the basic scanty immersion of the pickup (as in figure B) will remain unchanged.

Seeing these simple truths affirmed on paper, I returned with substantially more interest to the idea of repositioning the pickup tube. Mark Silva of TPI had suggested installing a new pickup, closer to the lateral center of the tank. After modeling a centered pickup on paper (starboard heel now looked iffy) I found the point in the tank where the volume- not length- is equal on both sides, and placed a pickup tube there (12.5" from starboard end). Here is how the tube immersions look, with 10 gallons heeled 30° port and starboard:

Figure C

Figure D



Tank heeled port and starboard 30 degrees, 10 gallons in tank, fuel pickup located at point of equal volume, each side of tank. Static pickup immersions are about 4".

The static immersions are 4" or better. Compare them to figure B, when the immersion- for the same amount of fuel and same heel angle- is 1."

This looks very encouraging. While there continue to be plenty of unknown factors in this exercise- the tank is still unbaffled, the sloshing can still only be imagined, and probably increases greatly in intensity as the tank gets emptier- the substantial improvement in static tube immersion appears to warrant

some testing- particularly as the experiment is (relatively) easy and cheap. A new pickup tube, reaching nearly to the tank bottom, will be installed in the big 4" cast aluminum access plug, near the plug's starboard edge. It will be 13" from the starboard tank end, within 1/2" of the position shown in figures C and D. No holes in the tank will be necessary. The testing, I hope, will be done by a Florida volunteer, so that results- and parts kits, if the test succeeds- can be available at fitting out time next spring.

What's the bogey? Debacher and Chesnut both indicate that 10 gallons down is where the problem starts, in heeling and nasty waves. If our goal is to improve this by 100%, from 10 "storm usable" gallons, to 20- then we'll test with 10 gallons in the tank, just as it's pictured, in the roughest heeled-over-with-seas conditions available. If the engine keeps running we shall announce it with glee and get going on the kits. The vessel's storm usable fuel will have been increased from 10 to 20 gallons, and its storm usable cruising duration from 20 to 40 hours. The 24 gallon goal of 80% (see "Good Enough?" Sidebar) may not be met- without baffles or a sump tank it may not be possible- but a 100% improvement looks very good from here, and could, I think, be considered an answer to the 2nd of only 2 safety problems that have been identified on the F32 (toilet base and fuel starvation). Forty hours of confident duration is pretty good- my old boat had less than 20!

And, successful or not, the testing skipper and crew will be presented on F32's pages for the admiration and thanks of the other 95 beneficiaries!

One last note. Repositioning of the intake tube will increase the completely unusable fuel (the tube can't get at it, no matter what) from .6 gallons to 1.5 gallons. Big deal!

That's it for the tank, for the moment. But we're not done talking about the problem of air in the fuel system yet. In the course of running up a stiff phone bill trying to get the facts straight for this article, we took note that some of the people experiencing the air-in-the-fuel problem appeared to be unusually plagued- way out of proportion to their experiences with high heel angles and big waves. At least one owner noted that he seemed to always be getting air in the system, to one extent or another. We meanwhile had been able to query Mack Boring's Pat Donovan and Freedom Dealer John Nimphius on their ex-

Patrick Mouligne, who has thousands of blue water miles over me, believes that the present problem is inherent and to be coped with only by good management (see letter). On the other hand, Will Chesnut, the farthest flung of all F32 skippers thus far, mentions his "worthless fuel tank" in his last note- from Venezuela (see letter). Will has done all his voyaging single handed, including several long thrashes to weather, and frequently uses his engine to motor sail on difficult beats.

F32 queried several experienced yachtsmen on their expectations of the performance of their fuel tanks. They were all practical and experienced enough not to expect that the tank would pull down to its "smooth water" run-out point if the seas were rough, or a substantial heel angle maintained. But all felt that the greatest part of the fuel capacity should be usable, under very rough conditions, without the system air locking. Some cited present or prior ownership of yachts that had in fact performed to this level. Most felt that a reasonable expectation of "storm usable fuel" would be 80% of the tank capacity.

F32 agrees with this assessment, and feels that there is nothing "inherent" in yacht fuel tank design that insures poor storm performance. Well thought out installations, with proper baffling and fuel pickup location, and sump tanks where possible, can afford yachtsmen reliable fuel delivery of the greatest part of a yacht's fuel capacity, under storm conditions.

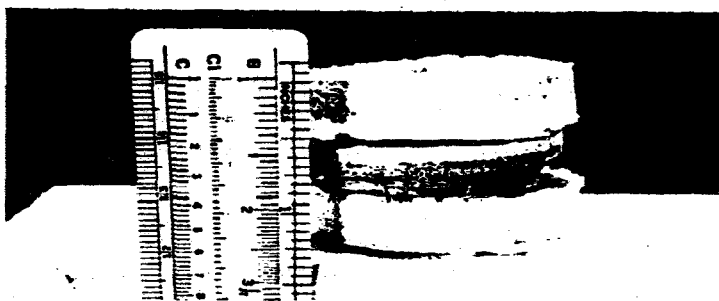
NH Dealer Fingers New Suspect In Water Priming Mystery

"Galley Water Pump's The Culprit" Says Nimphius

There's nothing like experience, they say, and John Nimphius of Sailing NH, Inc., has been commissioning Freedoms- and other yachts- for quite a few years now. "I'm pretty certain I know what's driving you nuts on the water priming problem" he said, in a recent call. "The little hand pump in the galley leaks air. Its ball check valve isn't worth a darn, and it additionally leaks around the pipe, by the plastic boss. When your electric pump is wailing away trying to prime it is sucking air down the galley pump line, instead of sucking water from the tank, 'cause sucking the air is easier. To prove it, reach up by the galley sink next time the pump won't prime, grab the hand pump's hose, and squeeze it hard, to shut off the air flow. That pump will then prime faster than you can say 'Paul Petronello'."

This also makes sense of the observation, by several owners, that pumping the hand pump seemed to help the electric pump to prime. Pumping the hand pump fills its supply line with water, instead of air. The electric pump then pulls this water (which has a gravity "head" on it) down the pipe towards itself. Part of it, anyway. Unless there's a working check valve behind that water it will try to flow back to the tank, also.

Nimphius advises discarding the present check valves- if there are any; some early boats had none, he said- and replacing them with Raritan RCV valves, which he has had good luck with. There should be one in the feed line to the water heater, one below the galley pump and probably also in the main water line, after the filter.



No, it's not a cheeseburger, but rather a core taken from the cabin roof near the mast. It's 1 3/16" glass-plywood-glass, to withstand the mast's substantial transverse loads.

periences with air from other sources getting into the fuel system. "The biggest single problem is the o-rings in the primary filter/separator" said Donovan. "People change the filter element, but neglect to use the new o-ring provided. The old one often has a tiny nick or dent in it, and does not re-seat exactly as before, so a tiny air leak occurs. These small leaks are not large enough to affect the fuel pump's ability to initially pump fuel through, but they add air to the system over a period of hours, which finally gets to be a big enough bubble to lock up the system at the secondary filter." Donovan also related the inadvertent errors that occur when the Fram is replaced with a larger filter/separator. "We get calls back on about 1 out of 5 Racors that we sell to private owners. Sometimes they're mounted too high, so that the initial bleed air is being asked to go downhill to the pump, which it won't do. They misinstall the o-ring, and it leaks air. Many of them have used tapered fittings in the inlet and outlet, which if overtightened will put a hair line crack in the filter cover, which will leak air. The Racor is threaded for straight- not tapered- Aeroquip fittings, which should always be used." Nimphius related the story of an older T-handle Racor, mounted in an F39, that had been screwed down hard on a misaligned gasket. "In 2 hours the Racor would be half empty, the engine would quit, and we'd drift while bleeding the system. Two hours later it would happen all over again." In another instance he had also experienced cracking of the filter top.

Donovan added that many people are unaware of how the fuel pump works, and how the priming level should feel. "The lever moves easily, up to a point. After that you are pushing against a spring, in effect cocking it. The spring, when the lever is released, is what pushes the fuel through, not your finger. If you try to push against the spring and can't, it means it is already completely compressed by the engine cam, and cannot move forward to push the fuel. Just jog the engine to get the pump off the cam lobe, then push against the stiff springiness of the pump to cock the spring and make it move fuel." Donovan also added another reason for Mack's recommendation that seasonal yachtsmen not use fuel additives. "They swell up the gaskets" he said. "Damage the new one, and you'll find you can't get the old one back in."

As for other air leak sources- bad hoses, bad fittings, split tubing, etc.- Donovan has seen them all, to some extent, over the years. But the primary filter/separator is the culprit about 90% of the

time, he said. "Mount it as low as you can, use the correct fittings, be careful with your gaskets, and you should be fine."

And what has been Debacher's experience with his TPI-supplied baffled tank? "Completely inconclusive," he said. "Having been burnt once, I've kept the tank well topped up ever since, so we have no idea whether the baffled tank will assist in preventing starvation at lower fuel levels or not. If the situation ever occurs we hope it will help."

Extended '88 Rendezvous To Feature Sunday Race From Block I to Newport

"Mini-Cruise" Plan Withdrawn

Freedom Yachts has decided to substantially base its June 30-July 3 '88 Rendezvous at Block Island, and extend activities by another 1-2 days. "After discussing it some more, we decided that the multi-leg 'mini-cruise' previously proposed was a bit too subject to the possible effects of bad weather for an event of this nature" explained Paul Petronello. "What's planned now is sort of a compromise: we'll probably have a fun race from Newport to Block I. on Thursday, June 30. Friday will be for registration and getting acquainted. Saturday will feature the organized course races, and on Sunday we'll all race back from Block to Newport, where we plan to do the awards aboard a large excursion boat like the Bay Queen. None of this is final yet, but I'm quite sure this is the way things will go. Block Island was a big hit with this year's group."

We hope that the Rendezvous will also comprise the latter part of an F32 cruise of eastern L.I. Sound, a meeting for which will take place in Newport on January 23. Note also that the rendezvous planning still leaves the July 4 holiday open for passaging boats back to their home ports.

Fatigue was a real problem, badly aggravated by the sea conditions experienced. Patrick had worked out with weights and Nautilus machines all winter to build up his muscle tone and stamina ("I hated every minute of it"). Peter had worked out with a rowing machine through early May, and confessed that he'd probably have been better off had he maintained it up to the race date. Both slept on their pilot berths restrained by a lee cloth. But sleep was difficult, very seldom more than an hour at a time, and constant fatigue soon became a part of their lives. "I knew from my previous solo sailing that I could not allow myself to get tired tired, because I can really screw up then. One must resist the impulse to hand steer and look upon the boat as a total system, which you must manage- and you must stay compus mentus and not be stumbling too much, or you won't properly manage it. You've got to sleep, and you've got to eat." McCrea did not hand steer to speak of until the last day when he did a 6 hour hitch to finish the race. Patrick made a point of getting 6 hours sleep the previous night (in 2 installments), then hand steered the last 18 hours across the line. Patrick was buoyed during a "down" period the previous day when he'd been hailed on the radio by Murray Danforth in Kahoutec, a Standfast 35 that Danforth has raced to Bermuda before. "There was this voice, suddenly calling me out of the ether, telling my how well I was doing and how impressed he was. I'd been in one of those what-am-I-doing-here moods, and he really got me up. What a great guy."

Mouligne felt that his mood was also helped by his diet, which consisted primarily of wondrous complete pouched meals- cuisine Francais, of course- which heated themselves by pulling a little rip cord! They're called "Bac Quick Hot France," and come from Theix, France- he doesn't know if they're available here. McCrea tried some "boiling bag" meals but found them difficult and dangerous to prepare in the prevailing conditions. His food otherwise consisted of juices, Coke, chocolate chip cookies and granola bars, soup, and lots of fresh fruit- peaches, melons, pineapples, and oranges- all of which he found perfectly to his liking.

An unanticipated problem was the heat and humidity within the cabin. With solid water over the deck and under the dodger a regular occurrence, it was necessary to batten the boat down solidly to keep the inside from getting soaked. But the outside air was getting warm, the sea water up to 77F, and the engine was on twice a day to recharge batteries. With no dorade vents or other water- baffling circulation devices, below decks became a real

sauna- which did not help sleeping or working. McCrea's kerosene cabin light, which he found very cheering, unfortunately didn't help the temperature either. Despite the heat, his ice lasted all the way to Bermuda- a tribute to the box's design and insulation. McCrea is adding stainless Vetus low profile baffle vents to his cabin hatches this winter.

Considering the conditions, both skippers felt the F32 hull design and rig coped especially well. The flare forward continued to knock down waves that would have put solid water on the decks of many other boats, and the boat's easy sea action tempered the onslaught of waves that sometimes looked square. The boat is active, but it takes a lot to make it pound.

Patrick Mouligne crossed the finish line on Wednesday with an elapsed time of 4 days, 2 hours 18 minutes, exactly 2 1/2 hours ahead of Peter. Patrick won this leg of the 2-leg race on corrected time and did it again on the trip home, to take overall corrected honors.

The race home found Patrick and his brother Jean-Pierre hand steering the whole way in an intensive effort to win. They managed to carry the chute for 48 hours, and did not go as far west of the rhumb line as before. While the wind was substantially milder than the outward trip, the fleet experienced squalls in abundance, waterspouts too. Sloop du Jour's main halyard failed, but the already rigged backup was quickly put in service. The vang broke also, probably from overtensioning. Peter, meanwhile, had diverged west from the fleet after the first day. From there on, he said, they "seemed to be sailing in another race" from that later described by other skippers after their Newport arrival. Peter and his crew Robin Sullivan hand steered during the day, but let the autopilot do the night honors. "We were a bit mellow for the return trip" said McCrea.

Halyard and headboard problems were reported by both skippers. Headboard slides wore out, halyard splices took a beating. (This area will be covered in a future issue).

McCrea said that he was ready to sign up for '89 when he got to Bermuda. Mouligne had reservations about another 1-2 when he returned to Newport, but has since recovered his enthusiasm and will probably compete in the F44 he has just purchased. "After doing this race I feel 10 years younger" he exulted. "I think every Freedom owner should do it. They're great boats to sail to Bermuda in."

LETTERS

9-8-87; Margarita, Venezuela

F32 and Don: Finally received your no. 5 newsletter- I was afraid you might have gone out of business. Enclosed is a check for renewal. Bit of a roll in the anchorage so I hope you can decipher this.

Sounds like I have missed a lot of F32 action this summer up north. After the Bahamas in January, I arrived in Puerto Rico and met up with hull #1 Abu Dai (Ann & Bruz Roettger). Even went on a cruise with their yacht club to St. John. Then, after Puerto Rico and the Virgins, I made a straight shot from Virgin Gorda to Martinique in June, which was a very rough trip of 4 1/2 days with 20-30 on the nose the whole time. The Windward Islands were great, especially Grenada.

But the hidden secret is Venezuela. Prices are very affordable and the people most hospitable. The boat is still running good but I have had a lot of electronic failures- Signet 1000 depth sounder twice; Autohelm 3000 four times in one year, and a NAVSTAR Sat-Nav let go once. And with my worthless fuel tank which holds about 10 effective gallons (no baffles) I do have to load up on jerry cans.

I noticed the price of F32s in the newsletter are asking low to upper 60's. The last quotes in the magazines ranged from 76-94K asking price. Any comment?

Will Chesnut

("In the 60's" is the area where boats have been actually changing hands, and the market has been very active during the last three months- Ed.)

7-30-87; Bristol, RI

Dear Don: I would like to offer some comments on a small technical problem associated with the F32 that has been mentioned lately by several people at TPI. I understand they have received several calls from F32 owners concerning the "pickup tube" on the diesel tank. I have looked into this problem myself, and would like to offer the following comments:

No doubt about it, if your tank is only half full and you are sailing rail down (35 degrees heeling) on starboard tack, you will pick up air and the engine will stop.

On the other hand, if you are doing the same thing on port tack you're probably going to suck air on the water intake side of the engine, and you're taking a big chance of overheating the engine.

My personal feeling on this matter is that this is something that is pretty much inherent in a lot of sailboats. I think it should be recognized and dealt with in a practical manner. What this means is that you should avoid using the engine under such conditions.

If there is that much wind and you are heeling over that much, it means you really should not be using your engine. On the other hand, if you need to use your engine to re-charge your batteries under such conditions, I suggest easing up the sails a little bit in order to heel a little less. This is what I personally have elected to do on Sloop du Jour.

I think it is basically good seamanship (for sailboats) to:

a) Top up your diesel tank on a regular basis in order to avoid condensation as well as to avoid sucking air in heavy weather.

b) If your tank is not full, do not run the engine when the boat is heeling too much.....

Again, Don, these are only my personal feelings on this particular problem and I just wanted to share my opinion with you.

Sincerely, Patrick Mouligne'

Note: Sloop du Jour has the engine water intake on the port side. On many later boats it was to starboard (c.1' from center, on Indolence) -Ed.

9-9-87; McLean, VA

Dear Don: Here's our re-up, a bit early. We find the newsletter to be a wonderful source of news and information. I've even got a crew member on the hook for the F32 advertised in the July issue.

I keep adding little things to Sequoyah. The latest is a pair of single-loop teak hand-holds on either side of the companionway, as you head up the stairs. They are thru-bolted into the aft cabin and head, bolts parallel to the fore and aft axis of the boat. Everyone uses them without thinking about it, which means they must be right. They're especially great when you're hard pressed in 25 knots with 4' seas.

Had my second engine stall when motor sailing alone in a fair breeze. I think that if we keep the fuel over half full it will stop the problem. Any news on the TPI baffles?

Best regards- and a great letter from the Lopatas!

Bruce Hanshaw

Coming Next Issue

The Keel Story (which has been bumped from at least 5 issues so far) -
Report on our Owner Survey (promised in this issue, but next time- honest)
Favorable Reports, We Hope, on the Florida Water/Overheat/Fuel Tank Test Program
-plus more!

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