A

Aluminum and Stainless

Yes, there is a galvanic corrosion couple between **Aluminum and Stainless** Steel. If you do fabricate the bow roller out of Stainless, a barrier coat between the stainless and aluminum would be wise. In the aerospace business we use a Polyimide Epoxy primer (two part) that not only works as a great barrier coat, it is also an outstanding locking compound for fasteners. This is the same material that should be used to install Stainless bolts into Aluminum. The primer has a military designation part number that I can provide if there are more questions

ISOLATE the S/S from the Al. with 5200 (or any good polyurethane adhesive), and the fastenings with Loctite (methacrylate) ... should be fine.

You should be able to get away with it, provided you use anhydrous lanolin between the joints where th SS and alum. come in contact, you can get it from the drugstore, or there are some products, forget the exact names that you can get in you local chandlery or what ever that have this stuff as an ingredient.
It prevents the reaction from disimular metals.

The Military designation is MIL-P-23866 (if I remember correctly). I will check the number tomorrow at work. The paint is manufactured by a company called Courtall. I will post the particulars after I get them from work.

Well, I made it in to work today and here is the correct information on the Polyimide Epoxy Primer used as a barrier coat between Stainless Steel and Aluminum

MIL-P-23377, Type II, Class C (High Solids)

The material we use is manufactured by:

Courtaulds Aerospace
11601 United Street
Mohave, California 93501

Neil Schiller
"Corsair"
C&C 35 Mark I, Hull #7

Alwgrip

My Tartan 30 was awlgripped six or seven years before I bought it and the hull had become a little hazy. All of the conventional wisdom said not to do anything, but I found that MEK (methylethyl Ketone) was good to use as a wash and if you need to polish I believe that I used 3M finesse polish with a wheel to bring the shine out.

Awlgrip is so hard that it is hard to do anything to damage the paint. I even repainted my transom and blended it in succesfuly.

Mild soap and water. I've been told in the past by mfr.reps at boat shows that you shouldn't use compounds, polish or wax on awlgrip. If in doubt, consult the paint mfr., U.S. Paint Corporation. They have a website: **www.uspaint.com**

Autohelm - GPS

You need to make or buy the NEMA cable that goes from your Garmin interface connector to the NEMA connector's on the back of your Autohelm control head. I am not shure if the 1000 control head has the NEMA connectors. On my ST4000 there are two connectors for this.
I tried running my ST4000 with my Garmin 45XL just to see how well it would work and was not impressed. Due to the selective availability dithering that the military introduces into GPS, and a bad year for solar flares, your GPS fix will wander a bit. When linked to the autopilot, every shift in the fix would result in the autopilot steering to compensate. Makes for a rough ride.

I connected my Autohelm 6000 to my Garmin 128 and hve had good results. The dither effect was not detecteable. The only problem has been that we have to adjust it so as not to hit the bouy on the course. Switching to the next bouy on the route works great also. Gerry/Mintaka

I hooked my autohelm 7000 up to a Magellan 10DLX and it works great. Ust The CAP'N software on my laptop as an intermediary. Can plot courses and waypoints on the laptop and feed them with the GPS input to the autopilot. Works well.
Ken Hirsch
Pukalani 36XL

B

Backstay

I have just purchased a C&C 34 with a fixed backstay and was wondering if any of you have converted this to an adjustable backstay. If so, what type did you use and how big an expenditure am I looking at?
Thanks,

I have a NAVTEC adjustable backstay that does not hold pressure very well, does anyone know where i can send it to get fixed? Or is it likely a repair I can do myself?

We have done a few of these on similar sized boats here in Kingston - Cost would be from about C$300 to over C$1000 for complete installation. The following are some of the choices from lowest cost up:
Sherman Johnson (Handy Lok) essentially a large turnbuckle with handles (Lowest cost by far)
Wichard
Harken
Navtec hydraulic with integral cylinder (Best for racing due to speed of operation)
Any of these can be installed by cutting the backstay and installing a Stalok or Norseman terninal
Good Luck
Graham Moss

I purchased a '78 34 about 9 years ago and one of the things I did the first year was to install a Sailtec self-contained hydraulic backstay adjuster, with which I've been very happy. Two things recommended it: low price (not sure what it was), and a replaceable valve core. As it happens, the valve has not leaked. In fact, the unit has not required any maintenance. I was lucky that the rod backstay apparently had had an adjuster at one time, as there was a 30" "insert" which I could replace with the Sailtec + a turnbuckle.

I converted my C&C 37 last year by going to a Sailtech integral hydraulic backstay adjuster. The Sailtech is less expensive than the Navtec and not quite as pretty, but works very well. It cost about $850.00 from Rigging Only {(508) 992-0434}

West Marine rebuilds and repairs Navtec units. I had mine rebuilt a couple of months ago, but I was able to have it done through the yard in my marina

here in Texas. I would say it is not something you should undertake yourself. It required replacing the seals, which were 13 years old in my case, and replacing the rod, which had some nicks which would have torn up the new seals had it not been replaced. I am sure any Navtec authorized facility could handle the work.

Balsa Core Decks

I am looking at buying a C&C 36 for extended cuising in the Pacific and one concern I have is that C&C's have balsa cores. I know of several incidents where balsa cores have disintegrated over time and making the boat extremely depreciated in value. Since I would like to sell the boat several years later, I am concerned and would like any feedback I can get from owners of current C&C's. Can anyone give me a rundown of their experiences with older C&C balsa core hulls?

I have a C&C 27, Hull #169. I have an area around the starboard shrouds with a soift deck. Do you know how to repair properly. The marina where I store it suggested drilling holes every 1" and then putting dryers on it, filling and then repainting. Does this make sense.

Bill, I have done a few of these repairs and the procedure is more or less correct - However each case is different - If the deck or inner layer has come away from the core, you may not need as many holes but you need a way of clamping the two back together after injecting a bonding resin like West Epoxy using a sqeeze bottle.
If the core has rotted - you will need to dry it - the numerous holes and a hot air gun or heat lamps will help this - Then use a thin runny resin like Git-Rot and inject it into the holes a bit at a time and let it soak into the balsa core a bit at a time until no more will go in - It has good working time to allow for this. You will then to fill all the holes with gelcoat or cover the repair somehow.

This is the procedure that I employed to repair the foam filler rudder on my 27'. It entailed a lot of work because the entire rudder below the water line was wet. All in all, I was satisifed with the repair and am keeping my fingers crossed that when she's hauled again next winter the rudder will be dry. By the way this was accomplished in Aug 97 and I dried the rudder by removing it from the boat, storing it in my attic (more or less 120 deg F) for 2 weeks and then filling the holes with

West Marine epoxy.

I know a lot of you are busy getting boats in or ready to go in the water, but I am wondering what the best remedy is for fixing small cracks in the deck of the original fiberglas/gelcoat.
There is one particular spot that needs attention right now as it lost the outer skin and shows the mat through.
I was thinking of epoxy but then I'd have to find some matching color paint to make it blend in after.
Ther must an easier/better way.
Any suggestiosn?
Thanking you in advance for your thoughts and ideas.

Cracks in the gelcoat on the deck can be an indication of water saturation in the balsa core. Generally, superficial fixes will not work. The only way to make the repair properly is to grind out the crack, check the core and refill with glass and epoxy. The epoxy can be painted or covered with gelcoat or can be tinted (though epoxy does not do well in direct sun exposure). You can mix non-skid into the gelcoat to create a match to the suface texture. If the core is saturated you have to remove the wet core and refill with foam or other filler.

Rob,
Cored hulls are almost a standard on all boats today and balsa end-cut is still one of the best choices because of it's weight, resilience and the ability to bond to the fiberglass sandwich skins. While balsa will absorb water(if the fiberglass barrier is compromised, ie a crack or puncture), it tends to contain it within the grain run (that's why end-cut is the method of choice) If you had slabs or long run "boards", the water would be transmitted the length of the board if there was enough penetration. The construction of core material bonded to the fiberglass is comparable to I-beam building construction which equates to a great strength to weight ratio and is less expensive to build in the way of material and labor costs. However, if a boat experienced enough torsional loading or compression stress, it is posible to "break" the adhesive bond between the core and the skin. This is one form of delamination and on a cored boat it is where delamination will show up first. It can be induced by external environmental loads(waves), skin penetration by water and man induced overstress through improper storage on the hard and extreme rigging stresses distorting the hull.
I have an '83 38-Landfall that has done thousands of ocean miles and there is no core-to-hull or deck delamination that I am aware of. There are usually some other indicators that you can find that caused the

delamination. But of course the boat was only sailed by a little old lady on Sunday afternoons in calm weather and sailors never lie.
AIRBORNE~~~~_/)~~~

Gary As a rule it seems to be under the non skid on the deck and coach roof. Our 30 of the same vintage has the core 3 or 4 inches from the tow rail. If you look at the underside of the deck from the inside you can see where it ends near the tow rail. Deck is thinner. On our boat anyway.
Brad
C&C 30
Magic Dragon

As an aside, you may want to follow Jim Moore's method of mounting deck hardware when you make the repairs. Drill the through hole for the epoxy plug a larger diameter, cast the plug, drill for hardware, then countersink the top surface using a standard flat head screw countersink. When you seal the hardware, fill around the hole and the countersunk area as well, then crank down the hardware tight. Moore claims that he never had a deck fitting leak using this system in 40,000 plus miles of cruising on Swan.
I do not have any personal experience with this system, but it is logical from an engineering point of view.
Rod Taylor
stranded on the beach for now

On my C&C-35-II when I did some re-coreing where the teak hand rails bolt through the cabin roof I found a lot of wet balsa. After I drilled out a 1" hole I used a hair dryer to dry the wet balsa core I could not remove and pushed thickened epoxy back into the void as far as I could and then refilled the 1" hole with epoxy.
Jim Stephenson
C&C 35-II, Mischief

Does anybody have a recommendation for how much (minimum) of the dry balsa needs to be removed from the core to have a good void for a plug of epoxy? I assume one needs to get to "not wet" balsa for this process to have the desired result.
Do people recommend using 3M 4200 to reseal the deck fittings after drilling the new holes in the epoxy? I thought that was the concessus from the discussion early last year. The same for chainplates?
Thanks,
Maintenance Manager sv "Unknown"

Bedding/sealing compound

I have been looking for a **bedding/sealing compound** that C&C used in 1985

and probably many other years (also Mirage used the same/similar material in the late 70's in their deck joint). The compound is gray in color, feels like a putty, and has virtually no adhesion properties. Its has retained its flexibility and moisture content after 14 years.
Does any one know what this material is and where it may be purchased?

Eric
you are looking for Butyl Rubber.
Holland Marine, Dundas Ave , Toronto stock it.
Sorry, I don't have their number handy.
They ship CanPar or UPS, anywhere in Canada.
It comes in 2 sizes. 3/4" X 50' or 2" X 50'
The 3/4" sells for $10.00
Larry Jensen

Holland Marine's phone number is 416-762-3821. The address is 3008 Dundas St. West, Toronto, Ontario M6P 1Z3.
P.S. Don't drop the Butyl as it gets everywhere and leaves a grey mess.

AGREED!!! It stains clothes, sails, decks, anything it contacts. to remove excess, a good straight edge is required. But to remove the remaining "stain" the only CLEANER I have found which removes it is....
.... WD40

Hank;
If WD40 doesn't clean it up, I try my second choice ---
Avon Skin so Soft. Rarely have to go to the third which is 3M adhesive cleaner.....fdr

Bilge Pump

Tom:
I have a 1983 C&C 32 which I have sailed for two seasons. During the first year in a trailing wind of 25 knots on Lake Erie I had a bilge pump problem. The discharge for the bilge pump is just above the water line, near the stern on the starboard side. With this trailing wind, and a 20 degree heel our bilge line siphoned backward into the bilge. (This was trouble some at the time because I couldn't quickly determine where the water was coming from).
In the end, I purchased a larger bilge pump, and **installed a check valve** in the line near the through-hull. It has solved the problem.
On futher thought, I think a **siphon break** would be a better solution since any check valve creates some additional pressure for the pump.
The check valve was easy to install, purchased it from West Marine. It worked without problem last season.
Doug Jackson

Sophisticated Lady C&C 32

Tom, I found the diagram of various head plumbing solutions. It would seem from the diagram that you need a Y valve on the exit line of your hoding tank, and also a waste pump downline of the y valve. The diagram is found on page463 of the 1997 West Marine catalog. If you don`t have this, let me know and I will fax it to you. John, Edmonton.

> From: Tom Anderson <TAnderson@gateloan.com>
> To: "'C&C-list@sailnet.com'" <C&C-list@sailnet.com>
> Subject: Check Valves
> Date: Thu, 26 Feb 1998 13:53:26 -0500
> On my C&C 32 built in 1981, I have two overboard drains located just
>below the rub rail amidships on the starboard side. One is for the
>shower and the other is for the bilge pump. As far as I can figure,
>there isn't a check/backflow valve installed on either one. Am I in
>danger when on a beat of having water coming into the bilge or head? Or
>did C&C plan that if the hose is already full of water that no more
>water would come in because each hose has a pump at the end of it? Has
>anyone ever put one in and what model did you use?
>I also have a Y valve so the head can either be pumped into the holding
>tank, or over the side. While offshore (over 15 miles) this past
>summer I tried to pump the holding tank out. I thought that I had the
>valves in the right position, but everytime I turned the macerator pump
>on, it would only run for about 20 -30 seconds, then click off. Does
>anyone know the proper sequence to put the valves in to make it work, or
>is it possible my macerator pump is shot? Is there a different sequence
>when having the head pumped out at a pumping station?
>Only 22 days until spring!
>Tom

<u>Boat Numbers</u>

As best I can recall your number (zcc35057m84a) would translate as follows: ZCC = built in NOTL plant. 35 = model. 057 = hull #57 M84= 1984 model year. A= Built in January. (B=Feb. C=March, Etc.) The RI boats, at that time, did not use the M designation or the alphabetical code for the month. They used a numerical designation such as 1077 for Oct. 1977. They also used the CCY designation to indicate RI. I hope this helps.
Regards,
Hank Evans

PS : I can "feel" a question coming that I know I can't answer so I'll take care of it right now. I do not remember the plant designations in the hull number for either the custom plant in Oakville or the plant in Kiel, West Germany

BONDING

Cliff & Graham:

Do I detect a faint odour of disagreement regarding the facility of bonding non-metalic deck fills; or am I just over-sensitive? I suspect I was clear as mud, so will try again.

THESIS

1. Good installation practice requires that fuel deck fill fittings be bonded to the tank, and thence to the main gnd. electrode. This assumes a metal fitting.
2. Safe fuelling practice requires that the delivery nozzle be in contact with the grounded deck fitting - prior to fuel delivery.
3. The theory goes: any static charge on the nozzle should be discharged to ground via the contact (elect. connection) with the deck fitting, thence gnd; and any resultant spark will occur prior to the presence of flamable fuel. presence of flamable fuel.
4. The above (wishfull) thinking assumes that we are presented with a dry, fumeless fuel delivery hose.
5. Non-metalic deck fuel fill fittings present an insulating barrier to the desired ground discharge path (above). Place the nozzle in physical contact /w the plastic deck fill, and you still have no circuit to ground ... whether the fitting is bonded or not. The nozzle is not in electrical contact with the gnd. bond (if installed). Hence I claim the bonding wire to be useless with non-conducting fittings.

ANTITHESIS:

6. How do (mostly gas) boats with plastic deck fills come to harm?

My specific expertise gets thin here; but ...

a) The safe operator places the nozzle against the plastic deck fill, then begins fuel delivery.

b) The fuel travels down the hose to the tank, which is (according to good practice) effectively grounded.

c) A circuit now exists from the charged nozzle, thru the fuel, to the tank via a small air gap, thence to ground.

d) A spark is generated when trhe charge jumps the air gap from liquid

fuel to tank.
f) BOOM!!!
SYNTHESIS:
7. Replace your non-metalic fuel fill fittings with metal, and bond to ground.
or
8. Dissipate any possible nozzle charge by grounding the nozzle out against the WELL
BONDED metal toe rail, chain plate, or whatever such is very near by.

Postscript:
I have marlon (non-metalic) diesel fuel deck fills, which are unbonded. I don't intend to change them. Diesel a dam hard to ignite, and I ALWAYS fill from plastic jerry cans. No
fuel goes into my tank, until it's been twice through a Baha filter (filter into jerry can, then
again into tank). After over a thousand hours, mostly on Bahamian (suspect ?) diesel, I
have never HAD to change a fuel filter. Every filter was replaced absolutely clean. The
Biobor I add (religiously) probably controls the biologicals.
I hope I havn't been too long-winded.
Regards
Gord May "Southbound"

Hi Gord,
I got in the bilge over the weekend and much to my relief I found the **fuel system is grounded**. I had never noticed it before. The grounding wire does not run along the the fill hose but rather takes a meandering route across the underside of the deck and cockpit sole to the tank and from there to the engine mounts. I guess C&C did what they were supposed to. Thanks for your advice.
Regards,
Hank Evans

Books

For specs on C&C in that size and time frame, go to a marine book store and get "**A SAILOR'S GUIDE TO PRODUCTION SAILBOATS**" by **Roger Marshall** published by Hearst Marine Books, NY, 1986. It's still available. C&C 33 on page 108, C&C 35 on page 118.

Try a book entitled "The Gentleman's Guide To Passages South" the thorn less path to windward by Bruce Van Sant. It is custom tailored to the trip you

are planning. Hope this helps.

Boom

I did raise the boom on my C&C 30 back in 1973 for just the same reason. I had hull # 100 and had no trouble using the same sail - just hoisted it 6" higher. It was safer for the crew (less chance of being hit in the head), and perhaps helped the performance in light air with the mainsail area just a little bit higher. In heavy air the boat was already so stiff, the effect on heel was not noticeable. PHRF didn't seem to care since the sail area was the same, and the height change was so small.

I did it myself by simply removing the screws bolting the gooseneck fitting to the mast and remounting the gooseneck fitting about 6" higher. You might have to be careful not to raise the head too far in order to avoid interference with the backstay. A mainsail with an excessive amount of roach (such as a full batten one) might catch on the backstay as you tack or jibe. This could limit how high you might want to raise the gooseneck without recutting the sail.

We have a C&C 30 1976 with the same problem. Since we have a full battened main with plenty of roach, and already full hoist, our sailmaker suggested a recut starting at the clue. He removed eigth inches from the clue tapered to the tack. This also allowed us to harden the main sheet without collapsing the already low dodger. Now boom misses my head by two inches.Good fix.

Bottom

At the request of John Craig <jlcraig@oanet.com>, here's the my story of my 1997 **epoxy bottom job** on my 1976 C&C 25. It's a strange enough case I thought the list may be interested. It's a bit long, so uninterested readers should stop reading now...
When I bought the boat in August, 1995 it had been on the hard since haulout 1994. Bottom showed no signs of blisters to myself, surveyor or previous owner who claimed "never a blister on her".
BUT, the anti-fouling paint was showing large, shallow craters down to the gelcoat in many areas. The paint was having trouble adhering to the gelcoat in areas up to a foot across. This had been happening to the bottom for several years, as evidenced by varying thicknesses of paint, where in some years an area that had peeled off was successfully painted over, perhaps several times. The previous

owner admitted to non-diligent sanding in recent springs, and with no evidence of "normal" blisters, my surveyor gave the boat the green light.
Sailing season in 1995 consisted of September & October. Bottom still looked the same after haulout, and I resolved to sand it well in the spring.
Spring 1996 - mucho effort expended in trying to hand sand 20 years of antifouling paint into something like smooth. I got tired and decided to heck with it, lightly sanded any exposed gel coat and put on the antifouling paint.
Fall 1996 Haulout - whoops, there were blisters on the bottom. I popped a few of them with my pocket knife, and got clear, odourless water, not the stinky brown stuff the textbook said to expect. They did not appear to extend into the hull itself, but formed voids between the antifouling paint and the gelcoat. In quite a few areas, again from several inches up to a foot wide, the paint was peeling away from the gelcoat in big flakes. Certainly not a textbook case of osmosis.
Winter 96/97 Asked around the club. Some people suggested factory original mold wax or poor original hull paint prep may have been causing the paint adhesion problems. Got people from 2 yards to look at her, both said "not osmosis". I decided that the bottom should be completely stripped and re-painted. Being busy at a new job and not fond of inhaling the dust of 20 years of anti-fouling paint, I opted to have the work done at the yard of one of the people who inspected her. Quote: Fixed price of about C$ 1,100 including haulout & re-launch at yard, 4 coats epoxy paint & 2 coats of anti-fouling paint. Job booked.
Spring 1997 - Launched on Sunday. Monday, motored to yard, then haulout at yard. Yard removed bottom paint with power sanders (I think) revealing the complete gelcoat. There were several areas, mainly but not exclusively, along the water line, where there were hundreds or thousands of tiny, about 0.040" to 0.100" dia, craters in the hull about 0.20" deep, representing some unusual or early stages of osmosis. (measurements given are only approximate. I eyeballed them, and it was almost a year ago now). Yard quotes fixed price of about $400 more to grind & fill all afflicted areas. Job booked. After grinding & filling, the epoxy paint and anti-fouling were applied. The bottom looked good when re-launched. Total time in yard: 4 weeks.
(The weather last spring was cold and wet, so I didn't miss much)
Total cost: About C$ 1,700 including (OUCH!) taxes.
Haulout 1997 - had slime power-washed off. Bottom still looks great, no signs of blisters, pimples or peeling paint. I will lightly sand and apply fresh a/f paint in Spring '98.
8 more weeks till launch !

And please, no more barbs from you year-round sailors. It hurts, it's cruel and you're mean. :-)
Jeff Cole

Bottom Paint

Glenn,
Practical Sailor liked Peel Away. It out-performed all other chemical strippers. Their only caveat was that it was SLOW - especially in colder weather. I'll see if I can find the article again.

Barrier coat -- Interlux 2000 and Interprotect 2000 (same stuff?)

Bottom Paint -- Fresh water -- VC 17
Salt water -- VC Offshore (racing)
Micron MCS
Micron CSC Extra
Baltoplate
Awl star - Awl grip
Petit ACPSO
Paint removal
Sand blast with sand
" " baking soda (?)
Hand sand
Peel Away

C

The C&C History

How much do you know of the history of the C&C name? Here's the scoop, courtesy of Rob McLaughlin (Sales Manager), Tim Jackett (Head Designer) and Tom Onich (CEO of C&C International).

The Whole Story...C&C started in 1961 when the two "C''s got together to start a design business. They were, of course, George Cuthbertson and George Cassian. (Just think, it could have been G&G or George Yachts.) Cuthbertson was a mechanical engineer

and Cassian was an aircraft designer. When they started, they worked with three primary builders, Bruckman in Oakville, Bellville Marine and Hinterholler Yachts in Niagara.

They designed and built a lot of boats. In 1968, they finally made the big league when they won the SORC with a boat named Red Jacket. This was quite a feat, as they were the first non-US boat to win this prestigious event. The next year, they decided to create a single manufacturing company, and with their three builders, they started C&C Yachts. For a few years, they built boat in the three locations, but later closed one, and focused the manufacturing of production boats in the Hinterholler shop on Niagara-on-the-Lake. The Bruckman shop was kept open to build custom yachts. Once under one roof, C&C was one of the first companies to bring quality, production-line techniques to the boating industry.

The company went public and seemed to be the training ground for most of the talented people in the industry today, including Rob Mazza (the person behind Hunter's new product), Barry Carol of Carol Marine, Steve Killing and Rob Ball, who was hired in 1972 as chief designer.

C&C did well in the 70's, and they opened two new manufacturing facilities, on in Rhode Island and the other in Germany. In fact, Baltic Yachts was owned for a short time by C&C. The German plant didn't last long as it was too hard to run a plant so far away with the technology of the times.

C&C dealers referred to the line as the easiest to sell. Customers would walk into their offices, put down money and say they wanted a 40-footer. No selling required. Too many times, after the factory notified the dealers what boats they would be getting for the year, the dealers would beg for more, or try to get other dealers to give them some of their allotment.

Being the first to make production boats using balsa core, C&C was always on the leading edge of boat building, hence the good times ran into the early 80's (In 1980, C&C posted a 1.7 million dollar profit on sales of 39.6 million dollars.)

They were so good, that they caught the attention of one of their customers, Jim Plaxton. Jim had bought a production 36, then a custom 40 and then in mid-1981, he bought the company in a hostile takeover for 7.3 million dollars.

Once, Jim was in control, George Cuthbertson was out, and C&C began to design larger and faster boats. Unfortunately, as the economy turned in 1982, people started to hang onto their boats longer as they were not holding their value as in the past. To encourage new boat buyers, C&C changed products almost yearly, making sure no boat design was over 4 years old. C&C also tried to cut costs and consolidate by closing the Rhode Island plant and the custom plant in 1985, only to move the entire operation to Niagara.

In 1986, Brian Rose of North South Charters, bought the company as a limited partnership for approximately nine million dollars. European boat sales were doing well, and in an effort to increase sales in the US, C&C designed and produced aft cabin boats such as the 30, 34+ and 37+. These boats kept C&C alive.

In 1989, Brian was forced out of C&C by the main share holder of the limited partnership and replaced by Bob Stubing. Bob's intial thinking was to close the company down, but after becoming enamored with the industry, he tried to keep it going. Unfortunately, by the middle of 1990, bank pressures forced the close of C&C.

After 14 months, C&C was finally sold to Anthony Koo and Frank Chow of Wa Kwang Shipping, which was at one time the fifth largest shipping company in the world. The new company, C&C Yachts International, started out with grand plans. In no time, they had production of a 51 and an IMS 45, including an endorsement from Dennis Conner. By 1994, things had turned around so much that the plant had trouble keeping up with sales. In addition, C&C Yachts International acquired SR sailboats of Florida, a line of sport boats that proved to be fierce competitors in racing.

In April of 1994, C&C was devastated by a fire that destroyed 40 molds, three 51 boats that were in production, the factory, the boat building records, plans, etc. They tried to recover, but ultimately failed. Insurance only paid a portion of the total loss, and C&C tried to resume production, only to find the recovery cost was too much and closed the factory in August 1996.

The land was sold and the assets of the company, including the trademark, were put up for auction by a closed bid process. Frank Chow of Wa Kwan Shipping purchased them for ½ to ¾ million dollars.

The future of C&C is a bit cloudy right now. These are solid facts.

The C&C 36 tooling was sent to China to be possibly built there for the Asian market. C&C will not be built again at the location at Niagara-on-the-Lake, as that land is now owned by a hotel ownership.

C&C has entered into a joint venture with Tartan to build a new C&C line of boats. Fairport Marine was created as well as a new line of C&C's, known as the Xpress Series. The first 110 is expected to be finished in late March of 1998.

Hopefully, the C&C; star will continue to grace new boats for years to come.

Cabin Floor

Hi fellas..I refinshed the cabin sole on my 88' CnC 30 with 3-4 coats of Cetol M. I sanded the original finish out very carefully and applied the

Cetol with a sanding with 0000 steel wool between coats. This was done outdoors. I was very, very pleased with the results; no problem to refinsh a scratch, etc.
I will reoil the sole twice next spring.

I used Varathane on mine and found it to be much less slippery than varnish I had on there before. Gerry/Mintaka

I used semi-gloss varathane on mine last winter. 14 coats in total and it looks fantastic.

I remove the cabin sole each year and lightly sand it. I thenrecoat it with 1 or 2 coats of Intellux # 60 Interior Rubbed effect Varnish. I looks great, very much like the coating applied by C&C at the factory. I'm delighted with it and will continue to use it

I too have used Varathane on my cabin sole for years with very good results.
Regards,
Hank Evans

For mineral stains (aka dark spots) use an oxolic acid solution. This should be available in hardware stores. I would suggest coating the back side of the floor with West System epoxy.

We have re-finished our cabin sole with various Varathane type varnishes. They give a nice finish but seem to be soft and the finish dulls and scratches very quickly. I had my hardwood floors in the house re-finished about 5 years ago and still marvel at how shiny and smooth they look given the traffic. So I thought it might be worth trying the same stuff in the boat. The stuff is bulletproof...other than a couple of scratches where somebody probably had a rock in their shoe, it still looks great. I used one of the solvent based types...smells bad but is tougher than the water based types. Could probably get away with not re-doing for next year. I was able to bum some from a friend as it doesn't seem to be available in quart/litre cans.
Carl

I have used Minwax's semi-gloss urethane on large teak & holly soles for years with success. Looks great and last for long, long time in high traffic areas when compare to alternatives like varnish. Fairly cost effect and is available at most hardware stores(Home Depot). Just my $0.02 worth.

C&C List

Welcome to the C&C Yachts List. We hope you'll enjoy the dialog and participate in making this a valuable resource for C&C Yachts Fans.
Please READ this message carefully. It can save you time and embarrassment...
There are three sections to this message:

I. Addressing
II. Commands
III. Troubleshooting

I. ADDRESSING
There are _TWO_ Different addresses for this list. One is for messages that EVERYONE will see. To send a message to the list, send an email message to
c&c-list@sailnet.com
WARNING Messages sent to c&c-list will be copied to EVERYONE
WARNING on the list. Please DO NOT send administrative requests
WARNING to this address.

ALL ADMINISTRATIVE MESSAGES (for HELP, to JOIN or LEAVE the list, etc.) MUST be addressed to
list@sailnet.com
Please enter your command (from the list below) on the FIRST LINE of the message to list@sailnet.com. You must enter the command EXACTLY as it is show below or the list manager will reject your message and send the help file to your email address.

II. COMMANDS

LEAVE C&C-LIST email-address
To LEAVE this list. A confirmation message will be sent to your email address.

JOIN C&C-LIST email-address
Join or subscribe to the list. A copy of each message sent to the list will be forwarded to the email address given.

DIGEST C&C-LIST email-address
Join or subscribe to the list. A single message will be sent each day containing an indexed summary of all the messages that have been sent to the list in the previous 24 hours.

HELP C&C-LIST
Provide help about the list server or about the specified list.

III. TROUBLE-SHOOTING

LEAVE COMMAND DOESN'T WORK
If you send a Leave message and receive a reject or help message in reply, the problem is most likely due to an addressing issue. Many Internet users actually have two addresses. The first is a short version such as "username@domain.xxx". The second is a longer address which includes local

machine names, e.g. "username@machine.domain.xxx". The automated list manager responds to the address entered on the command message (or to the "From:" address if an address isn't entered on the command line). Check your LEAVE command message and ensure that the address you entered is EXACTLY the same as the one you used to subscribe to the list.

I GET A "YOU ARE NOT A MEMBER" MESSAGE WHEN I TRY TO POST TO THE LIST
This is a sign that you have an address conflict between the address you used to join the list and the address your email software reports when you post a message. You can check this by looking at the header of a message you post. Look for the line that begins with "From:". The address listed there is what the list manager uses to determine if you are a member of the list. If it doesn't match the address you used to join the list then you will have to correct the problem by either: 1) changing the address in your email software (this is often a configurable item) or 2) send a LEAVE command for your original address and the send a JOIN command for the address listed in your email software.

HUMAN ASSISTANCE
Send an E-Mail to ROOT@SAILNET.COM. The volume of mail may dictate a short delay in responding however we will reply as soon as possible. Please keep in mind that this is a free service and we must fit it in around our "real" work.

Caribbean

Measures to protect the fragile coral of the Caribbean from anchoring are proliferating.

Protecting the coral reefs of the Caribbean from the ravages of careless anchoring has long been the policy in the British Virgin Islands, writes Michael Howorth. Here, the Government has licensed a private contractor to put down secure moorings in most of the more popular overnight stops. St Lucia has since followed suit and now the same is being done in Tobago Cays in The Grenadines.

The Tobago Cays, an area popular as a photographic backdrop of so many yachting advertisements, has become a casualty of its own beauty. These uninhabited islands lie midway between St Vincent and Grenada and are protected by a huge horseshoe-shaped reef.

Often, in the peak of the winter cruising season, upwards of 70 boats can crowd the tiny, but outstanding anchorages. With so many of the boats crewed by people intent on their own enjoyment rather than conservation it was inevitable that reef damage would occur.

The islands are a national park and the taking of fish by yachtsmen has been prohibited. Yet local fishermen have not been so instructed and the huge piles of discarded conch shells that dominate the shore line of the narrow entrance tell there own tale of abuse. Arriving in the anchorage by boat you will be met by five or more local boat boys each offering locally caught

lobster both in and outside the legal season.

The Govermnent of St Vincent and The Grenadines has now installed some mooring buoys. Yachts will have to purchase cruising pennits at US$25 a day prior to arrival in the Cays before they are allowed to take a buoy or drop anchor. The anchoring areas are to be reduced as more moorings are laid.

Yet, in an apparent reversal of their conservation policy, the Government has apparently licensed a local tropical fish harvester to remove up to 1000 pieces (fish) from the reef per day for export! In St. Lucia, following a trial period in 1996, they have permanently banned the use of small boat anchors along a large section of its leeward coast. The new no anchor zone stretches from Anse Chastanet in the north down to Anse L'Ivrogne in the south and takes in the spectacular Pitons area and the town of Soufriere.

If this initial plan proves beneficial, the conservation area in St Lucia will be extended northwards as far as Rodney Bay. The authorities are keen to point out that the moorings are not for use in hurricanes or rough weather and the organisations do not accept any liability for any damage, loss or injury resulting from a defective mooring.

Rangers patrol the areas in fast boats and can be contacted on VHF Ch8 or 68. Rangers issue official receipts for fees collected and yachtsmen are urged to check rangers' identification cards before handing over money.

I recently found a reference to "Tides End Ltd" a chart printer at Friday Harbor WA.
They have a web page at http://www.tidesend.com
They are official NIMA/DMA, NOAA, CHS and Imray agents.
They produce charts in a variety of formats including a 2/3 original reproduction. They've sent me samples and I'm very impressed.
They produce folios with a number of charts in them. For example, Folio 220 for the Caribbean Sea, British Virgin Is to Grenada has 34 charts and costs $145 for 2/3 size or $201 for full size.
They will also supply original charts at a discounted price. For the same area they quote $426 for the 34 charts.

Jennifer, we cruise the Southern Caribbean, St. Lucia through Trinidad with home base in Grenada. For charts in this area it is almost universally agreed that the Imray-Iolaire series with annotations and corrections by Donald Street is the best available. B5 (1:510,700), B3 (1:162,000) and B32 (1:91,000) cover the area. There is a set of German origin charts that Chris Doyle is pushing in his Sailors Guide to the Windward Islands. Being an inveterate chart collector I ran out and purchased the full set. In retrospect, my view is Doyle is doing himself a dis-service. Doyle and Street don't see eye to eye on

anything and seem to be constantly squabbling. The German charts have numerous errors that even I have detected. Use Doyle's guide for bars and shopping and Street's for navigation. Doyle is nice to everyone while Street is outspoken and gets a bad rap from the locals. However, you won't run aground if you use your own good sense and the Imray Iolair charts. Standard issue charts are based on British Admiralty surveys of the mid 1800's and are subject to some gross inaccuracies. In defense of these errors somehow I can't imagine myself standing on the thwarts of a tossing jolly boat and trying to get accurate sites and bearings with a sextant and compass. Even soundings are subject to much shifting and coral growth not to mention the geological shifts that tremors and volcanic action bring about. Not much wonder some of the reported chart positions are off by enough to take out your keel when you put all other senses on hold and depend solely on the equivalent position calculated within a few meters by DGPS. Street has been sailing this area for 30 years and lived on Grenada until his home got cross ways with a US Huey gunship during the 1982/83 actions. During this time he has continuously updated the original Admiralty maps and issued these through Imray. He also has a cruising guide that goes with them. My charts have been updated through January 1997 although the cruising guide is a little dated especially with respect to goods and services. They are also available in CD for use with PC based navigation tools. Bluewater Books in Florida is the best source I know of but I am sure there are many others. On the WWW pull them up at http://www.BluewaterWeb.com/ or Bluewater Books & Charts, Southport Center, 1481 SE 17th Street, Fort Lauderdale, FL 33316 USA. Phone: 954-763-6533, Fax: 954-522-2278, Toll Free Orders: 1-800-942-2583.

Jennifer and others:
Another source for chart copies is found at
http://home.att.net/~wizzard/
The quality is clear and the price is good at about $2.50 per chart.
They are black and white reproductions.
Sorry that I can't attach the web site. I don't know how. <|:-(

I have some samples from Tide's End/Bellingham Charts. THey are exactly waht one would expect of a photocopy - not as clear as the original and black & white. I really like the BBA (Better Boating Assoc?) chart kits . Boat/US carries them. The Virgin Islands one has aerial photos of harbors and nice color charts. Cheap, too. I think the VI kit was about $30 or $40

The URL I have is http://www.tidesend.com/index.html
OR another place for charts is http://www.wolfenet.com/~waltdk/#*
MEXICO *

Hi Jennifer, I've seen some replies on the charts and your concerns for

accuracy/distortion. What I've been doing is when I plan a trip I layout my course line(s) and step off waypoints every 8 miles (and at any heading changes) on the course line. I then enter those into the GPS. With the Garmin 45XL as I enter the waypoints it gives me distance from last waypoint. A super way to double check your plotting and accuracy - you know pretty quick if you've mucked up either reading lat & long or entering your waypoints. When it comes to safe navigation of the vessel I am on I'd prefer to be responsible to me (no offense to anyone!). I just had some pretty tough nav instructors who did a lot of flogging driving home being a "prudent navigator".
You may want to adjust your stepped of distance, it's nice to hit one about every hour. It helps keep you entertained during the mid watch - watching the ol' gps clicking off waypoints.<g>

There are some web sites you may want to explore. I found a list of chart "latest editions" on a NOAA/NOS web site. The sites are as follows:
http://www.noaa.gov NOAA (select NOS)
http://www.nos.noaa.gov National Ocean Service (select nautical charting)
http://www.chartmaker.ncd.noaa.gov (select: Dates of Latest Editions)
The "Local Notices to Mariners" has up to the latest changes. The US Coast Guard publishes them, and they are available at:
http://www.navcen.uscg.mil
As far as a good local source - that depends on where you are. Most coastal cities in the US have an official chart source, and good boat stores have them too.
A friend has a 1979 C&C 30 that experiences a full 1kt drop in speed when on a starboard tack. This is a long term problem and he has tried everything he can think of to make sure all rigging, sail controls, etc. are symmetrical on the boat. He has checked the location of the knotmeter for symmetry and dragged a knot stick as a double check. We have eyeballed the hull for symmetry but without actually measuring from a base line of some sort, differences side to side are hard to see.

C&C 30

Does anyone have any ideas? Could keel or rudder shape affect any lift generated to this extent?
He also has a problem with the topsides dimpling in the location of the chainplatess and is wondering how many other C&C 30's have this problem (we have seen at least 2 others hers) and we also wonder if other models have the same problem?
All suggestions are appropriate as the boat is on the hard right now while he replaces a rotted mast step, and will be doing the barrier coat/bottom paint thing next.

I have heard from other 30 Mk1 owners that the port tack is the boat's "happy tack". I've never been able to determine exactly what is the cause, but I believe that the prop is offset to port, so when you are on a starboard tack, the prop is deeper in the water resulting in more drag. On a port tack, the prop is lifted into more turbulent water where the drag is less noticeable. I've heard of 1/2 knot differences between tacks, bit a full knot seems like a lot.
On our '73 C&C 30 we have a Gori folding prop and we have no noticeable speed difference between tacks.
A distorted rudder can contribute to the difference. The most common problem is water getting into the rudder and then freezing when the boat is stored on the hard over the winter. The resulting force can split the rudder open, but it might also simply distort it on one side. But the amount of distortion necessary to cause that much speed difference would be easily visible to the eye.
As for the dimpling at the chainplates, I've never seen it before and I'm surprised as the C&C 30 is considered an "overbuilt" boat with relatively thick fiberglass. Your friend should make sure that he's not over-tightening his shrouds - they should only be tight enough to hold the mast in column when sailing in a stiff breeze. I'm learning to back off on my own. If you store the boat with the mast in, the constant tension can distort the hull.
Check the hull when underway to see if the dimples are permanent. If they don't change at all, then things may be all right. If the hull "works" at all, then your friend has a major structural problem and he should get a good surveyor to look at it.
Who ever said that sailing was a science?
Wally Kowal
Whistler II
C&C 30 '73 out of LSYC, Toronto

Cetol

Julius - Acetone worked for me, but it hadn't been on for more than a few hours. Sorry can't help.
Greg

CHANGES

Wayne,

Nice job list. Most of those are on my "to do" list. Do you have a full-time job as well? <g>

I think the cockpit floor is canted slightly forward so that it drains into the original drains. Why did you move them? I haven't had any troubles with them, but it sure would be

nice to get rid of one more through-hull. (I'd expect that you'd have to keep the starboard one for the sink drain.) You might have to pour a new cockpit floor and cant it aft.

Where did you move the mainsheet to? I am not clear on where the "bridge deck" is. Also, how did you run your mainsheet? Can you access it from the wheel?

I would love to get rid of the cockpit traveler. Not only would it free up some space (but not a lot because we would still have the steering pedestal), but it would also get rid of the "crew-sweeping" mainsheet. We're tired of having guests move every time we tack.

Has anyone ever installed a cabin-top traveler? Our '73 '30 is so overbuilt that I'm sure that the cabin top structure can take it. My main concern would be the boom. Even though I suspect that it is also over-speced (I'm a big guy and I can hardly carry it!), attaching the mainsheet half-way down would put some tremendous bending forces on it.

Thanks,

Wally Kowal
Whistler II
C&C 30 '73 out of LSYC, Toronto

From: Wayne Nickerson[SMTP:freespirit@liv.auracom.com]
Reply To: C&C-list@sailnet.com
Sent: Thursday, February 05, 1998 6:52 PM
To: C&C-list@sailnet.com
Subject: changes

Changes that I have made to my C&C 30 mark 1
1. moved traveller to bridge deck (makes cockpit more user friendly) increased mainsheet purchase to compensate for the lost leverage.
2. move halyard winches to aft end of cabin top installed sheet stoppers eliminated two winches.
3. ran cockpit drains out through transom(mixed results require more engineering)
4. installed large pullout drawer under aft settee (great fot tools easy access)
5 installed pull out chart drawer under table, works great
6. installed small pull out drawer stbd. side aft of water tank.
Next projects eliminate pilot berth
propane storage
anchor well
ANY IDEAS ON THE COCKPIT DRAINS ?

Wally,

there was a 30-1 for sale in Alexandria YC (Water Music?) with the traveller on the bridge deck. I appreciate what everyone is saying about the standard traveller just in front of the pedestal, and I really liked the placement on my old 27-3 so long as I was sheeted away from centre line when dodging down below BUT....

The one I saw had the track standing proud asking for you to trip over it every time you dive below in a hurry or twist an ankle when coming up and being a pain in the butt every time you're resting in the cockpit at anchor and want to snooze against the bulkhead with feet stretched out or sleep out overnight. On the 27-3 it was recessed by design.
I've seen a few 30-1s with a full width traveller in it's normal position but higher, and recessed by design from the factory - gets better windward sheeting control but more of a knee basher. My 27-3's previous owner converted his 30-1 by reshaping the grab rail (weld job) with a kink to stern to go around a relocated traveller - he moved it back, up onto seats and made it full width. He likes it. He's added Harken windward sheeting system. But can't sleep out on seats.... The bulk of the 30-1s had left it alone.

Boats I've sailed which had cabin top traveller have been a pain when short handed and the stresses are doubled (laws of leverage) so need to use winches to pull in and to pull to windward. Have to keep going forward from wheel to adjust, often feeling through dodger to do things. I particularly wasn't excited about this feature on a Niagara 35.

Even when traveller is moved there isn't really enough room to get around wheel without stepping onto cockpit seat, unlike the T-cockpit on the 29-1, 32, ... In my new stress free world I don't plan to make this change in a hurry. Just my opinion.

Contacts for C&C

Both Gene Barnes, Gloucester, MA 508-281-6040 and Westy are great resources on C&C's.

C&C Reviews

http://www.canyacht.com/

C&C 30 MK I

Beauty, Integrity, Grace and Good Value

by John Boros

With over 800 built, the C&C 30 Mk1 is, arguably, one of Canada's most successful racer/cruisers. Production began in 1973 and ceased in 1985 -- a 12-year period that represents the longest production run of any single design version in the history of C&C Yachts.

Although more 27s were built, in excess of 1,000, over a similar 12-year production period, with four distinct design phases, the 27 underwent comparatively continual change in relation to the 30, having only the one design version.

By comparison with a more modern and also very successful sibling, the C&C 41 underwent significantly more changes over the course of its production run than the 30. According to Steve Kiemele, of South Shore Yachts, "The 30 didn't need any changes, it held its appeal. This makes it `The Classic'."

If it ain't broke...

The 30 is generally described as an all round, user-friendly boat, forgiving, comfortable and easy to handle, with a reputation as one of the stiffest C&C ever built. Given these qualities, the 30 is the consummate cruiser. It is probably for this reason that it did not receive the design scrutiny of many of its siblings; it was ideally suited for its design requirement -- cruising.

27 vs. the 30

Although nearly three years the 27s junior, the 30 Mk1 is often described as its big brother, and for good reason. Both are the product of the same design era and market demand; both are patterned after the original C&C 35. Outwardly, the two are nearly identical, other than, of course, the extra length and width of the 30. The most distinguishing feature of the 30 MK1 are the two dorade boxes that appear on either side of the mast, built into the coach roof. Their primary purpose is air ventilation for the cabin interior; secondary functions are stiffening the cabin top and providing flat surfaces for the halyard winches. The second, more subtle distinguishing feature is the distance between the two lights or windows. A larger and smaller window exists on either side of the cabin top of each boat and the distance between them is greater on the 30 than on the 27. Also, the mast on the 27 mounts on top of the coach roof into an aluminum mast step, while the mast of the 30 mounts through the coach roof and steps atop the keel. Otherwise, the two boats are nearly identical in appearance.

On deck

The foredeck is clean and unobstructed with the mast set well back to produce a relatively large foretriangle, typical of the traditional masthead sloop. The coach roof rises gently with a low angle from the high, cambered deck, reflecting the gracefulness of her lines. The side decks are of generous width, sloping continuously down from the bow, narrowing at the cockpit coamings, aft of the primary winches. The coach roof is relatively broad with a hatch in front of the mast and teak hand rails on either side. Two integral dorade boxes sit on either side of the mast sporting halyard winches and cleats.

At the helm

The cockpit area is generous in size, the cockpit seats are long, wide and straight, almost reaching the transom. Originally designed for tiller steering, wheel steering quickly became an

option and, in the later years, was standard equipment. Again, as in the case of the 27, those boats sporting a wheel require the helmsman to step up on the cockpit seat in order to get to the helm.

In the cabin

The boat's generous beam accommodates a very comfortable cabin with standing head room. Two 6 ft. 4 in. vee berths up front with storage shelves over either side. Just aft of the V berths is a head and vanity to port and a large hanging locker with shelves to starboard. A large dinette to port and a settee berth to starboard make up the main cabin. This area is separated from the companionway by the galley which consists of an icebox and counter space to port and a stove and sink to starboard. The teak companionway steps are removable for access to the engine compartment.

Construction

As the construction of the hull is a single moulded, uncored fibreglass unit, repairs are much simpler and cost effective in comparison to those hulls having a balsa core. Obviously, the possibility of damage due to water penetration/absorption and migration within a cored hull is nonexistent. Later versions, however, eventually acquired a 2 mm feret foam core in the bow, a material resistant to water damage. The deck construction includes a 1/2 in. balsa core for added strength and insulation with minimum weight gain.

Rigging and spars

The mast and boom are an aluminum extrusion, also designed by C&C, hand rubbed with 3M Scotch Brite and coated with lacquer to prevent oxidation. The mast has a single pair of spreaders and steps atop the keel. All stays and shrouds are s.s. wire.

The design of the 30 Mk1 was kept current throughout its production run with various subtle upgrades, 41 engineering change orders in all. Of these, the most significant involved the rudder and boom. As an offshoot of the 35, the original 30 came with the same keel/rudder configuration found on the Redwing 35, a swept back, shark fin type keel with a spade rudder, angle mounted, somewhat paralleling the keel's angle of attack.

According to George Cuthbertson, the tank tests demonstrated that the swept-back style was a faster shape. Although this underwater configuration was less than ideal for windward performance, it provided good reaching in return, an ideal quality for a cruiser. However, the rudder configuration proved to be hyper sensitive and offered less than perfect directional stability.

Therefore, in 1976 the rudder was changed from spade to technically improved, high aspect ratio. On Sept. 26, 1978, the design department ordered that the boom be raised a foot for greater cockpit safety. The original height was 5 ft. 6 in. above the cabin sole.

Initially, the Universal Atomic 4 gas engine came as standard equipment. The QM15 Yanmar Diesel eventually became an option, up to hull no. 675. The QM was superseded by the Yanmar 2GM beginning with no. 676; otherwise, the remaining changes were minor. For example, the dinette table support changed from a vee support to a post; the windows changed from the original aluminum frame type to an integrated, smoked plexiglass unit glued directly into the cabin structure; in an attempt to find the ideal bushing for the rudder post, various types were incorporated into the rudder tube over the years; and various minute detailing changes were made throughout the boat, especially in interior teak detailing.

As a racer

The 30 Mk1 makes an excellent PHRF racer. Again, in comparison to its little brother, the 27, the 30, with its increased displacement (approx. 8,000 lbs. verses 5,500 lbs.) and hydrodynamic drag (5 ft. of draft verses 4 ft. 6 in.), performs relatively poorly in light winds. Although the 30 carries a larger sail plan than junior (459 sq.ft. verses 343/372 sq. ft.), it is not enough to compensate for these differences in weight and drag. Obviously, however, the advantage of the 30's extra water line takes effect in heavy air, thus placing highest under these conditions.

A special period of unique circumstances were responsible for the production era which gave birth to these beautiful boats. The North American economy was strong, unemployment low and manufacturing costs, both labour and material, reasonable. This set the stage for two key factors: (1) affordability and, therefore, (2) market demand. As a result, these boats were built on a production scale that contributed to the excellence of their construction and overall desirability.

Manufacturing in NOTL

All 30s were built in Niagara on the Lake, Ont. and all by the same group of approximately 250 people. Eight building stages were involved requiring 32 working days from start to finish. During this peak production phase, a boat was completed every four working days. This process was tuned, honed to perfection by market demand, consequently many orders were scheduled well in advance of construction; materials, therefore, flowed into the plant with consistency in availability and quality; and, the skills of the production people were also polished to perfection. This final point is perhaps the key ingredient in the success of the boat; the superb skills of the talented C&C craftsmen were directly responsible for the excellence of construction and overall quality of their boats.

Why else can the 30 Mk1 be considered a classic? The evolution of boat building technology, the introduction of fibreglass as a construction material, plays an important role in the notion of classic as it applies here. According to Jack Synes, of C&C International, "Fibreglass boat construction was new in the mid sixties and thus brought about a whole new era of design - you could shape it any way you wanted - whatever curves you desired". The 30 MK1 represents the third and final stage of a very short lived design string that began with the Redwing 35 in the late sixties. As such, these boats remain fettered with the design ideas associated with wooden boats, not yet completely free of the past, not fully broken with tradition. Hence, the classics -- traditional, yet modern! Strong, swift and graceful, all at good value and low maintenance!

Problem Areas

The mast step, the seat or pocket into which the mast sits, was originally made of wood up to hull no.# 651. As it sits in a damp /wet area atop the keel, it has had the tendency of weakening and, therefore, deflecting downward. Models #652 and up came with mast steps made of an aluminum casting which was resistant to this problem. The lacquer on the spars has now had many years of hard weather, not to mention the new UV phenomenon. In many cases, the lacquer is worn off and the aluminum prone to oxidation. Painting the spars is the most popular, aesthetic and cost effective resolution to this problem. Also, if a previous owner has neglected to tighten and seal deck hardware as a requirement of the regular maintenance procedure, the deck balsa core may get wet. It would be prudent for a perspective buyer to ask his surveyor to carefully inspect the deck for water damaged balsa core. When considering the purchase of one of these gems, should the need exist, these repair costs should be factored into the purchase price of the boat. Remember, to survey before you buy is always the safest and best route.

Specifications

LOA 30 ft.

LWL 24 ft. 11 in.

Beam 10 ft.

Draft 5 ft.

Disp. 8,000 lbs.

Ballast 3,450 lbs. lead

Sail area 459 sq. ft.

Value Guide

Original list price in Jan. 1973, $18,750 Cdn.; in Sept. 1976, $28,000 Cdn.

In the present market (1996), 30s range in price from about $28,000 Cdn. for an earlier model in below average condition, to about $42,000 Cdn. for a more recent boat in good to excellent condition.

The following is part of the research I did before buying my C&C 30 (1981). I hope it helps.

Record of conversation with Rob Ball held 960624 at 11:15 EST.

Rob Ball was designer of C&C 30 for C&C. He was recommended to Mike Cooke as source of information by C&C Yachts International. Rob Ball is currently at Edson Corp on (508) 995 9711. Rob Ball was very helpful and friendly.

Question: what are differences in stiffness and pointing characteristics between the standard and shoal-draft keels on the 1979-82 C&C 30s?

Answer: The standard keel was a mistake, it was too stiff, though most people like it. It was by far the stiffest boat that C&C ever made. The shoal keel is slightly less stiff but not so significant that you would notice it at sea without some

sophisticated measuring instruments. For all practical purposes there is no difference in heeling.

There will be a loss of a maximum of 2 degrees of pointing with the shoal keel,
one degree being due to poorer pointing characteristics and one degree being due to loss of lateral resistance which increases leeway very slightly.

Unless you are racing you should have no hesitation about the shoal keel. Compared to the C&C 27 it is '28 times stiffer'.

In message "C&C30 Mk1 - Shoal Draft?" sent on Aug11, C&C-list@sailnet.com writes:
>I recently read an older review of the 30-MK1 which was very favorable of this
>"classic" C&C cruiser built from the early 70's thru early 80's. The review
>stated that this was one of the stiffest designs ever from C&C with a draft of
>5'-0". I have since received a few listings that show the draft to be 4'-3".
>Is this a shoal draft version of the same design? I'm sure that the pointing
>ability suffers , but does anyone else have any other comments as to the
>overall performance of the 30 Mk 1 with shoal draft -vs- the deeper keel?
>Appreciate your thoughts.
>Rob Waltenbaugh -C&C26
>

Cunningham

That's not a reef point - it's a Cunningham. You use the Cunningham to tension the luff of the sail. This moves the point of maximum draft forward, allowing you to point slightly higher.

You may notice that the grommet is smaller than the ones in your reef points. There should also be a bracket on one side of the mast and a cleat on the other side, both below the gooseneck. You run a small line (1/4"-3/8") from the attachment bracket up through the Cunningham and back down to the cleat.

When you pull this line tight, you tension only the luff (pulling the halyard tensions the entire sail). Do this in moderate winds to get some extra speed and to point a little higher. It's hard to see the difference on a large keel boat (it's quite noticeable on a dinghy), but it's there.

It's a Cunningham cringle or flattening reef. Used to put tension on the luff of the mainsail in order to flatten and depower it for heavy breezes or for pointing. It's not a good idea to try to put tension on the luff using the halyard. It will create a slight bag on the foot of the sail but that does not create a problem.

On our 29 we have hook that goes through the cunningham attached to a tackle with the lead lead aft on the coach house roof to a jam cleat. We can adjust

it from the cockpit when sailing. We release it (and the back stay) before each tack to power up the rig. Once the boat has accellerated on the new tack we retension both. Works nicely. Trivia Info: Cunningham was named for (invented by) Briggs Cunningham of 12 meter and America's cup fame way back in 50's or 60's
Regards,
Hank Evans

My cunningham cringle is the same size as my tack and my reef tacks. When you release the cunningham it makes the sail fuller along the luff. Releasing the back stay slackens the forestay and make the jib fuller along the luff. In this configuration the sails are providing more power (powering up) at the slower wind speeds you have after the tack. Consequently the boat will build speed back up more quickly. Once it has you can retension both, flatten the sails and go better in moderate to heavy airs. A good analogy would be a stick shift car. If you start in first gear you'll get up to say 20 MPH much more quickly than you would starting in 4th gear. Once you get the seed up, then you need the higher gears.
Regards,
Hank Evans

Blaine - Essentially you use the cunningham (to tension luff) to keep the draft (maximum point of curvature) in roughly the middle of the main. As the wind increases it tends to move back and vice versa, hence the adjustments. Hank was talking subtleties and racing performance so don't worry about it. All of these things are covered in many how to sail books, with the new one by the Islers (Sailing for Dummies) being one of the best (and funniest).
Good luck, Greg

Cutlass bearing

Anybody have thoughts on changing a cutlass bearing on a 35 MKIII?
If a 35 is like our 29, with the shaft in a strut, it is pretty straightforward: Hardest part is pulling the prop shaft.
1. pull shaft
2. put a hacksaw blade through the cutlass and mount blade back in saw
3. GENTLY cut through the shell of the cutlass bearing and fold it up and pull it out
4. grease up the new one with no seize and with a threaded rod and nut and washer arrangment push the new one in place and tighten the allen screws

I am responding to the 29 owner's comment about removal of the prop

shaft and hacksaw method. In the case of the 35 the shaft cannot be easily removed with the cutlass bearing in place because the shaft will barely clear the rudder.There is simply no wiggle room and with the prop or end of the shaft against the rudder the shaft is too long to clear out of the bearing. In addition why chance disturbing the fit of the shaft coupling . Besides, removing the coupling could prove a challenge in itself since the coupling should have a tight fit. INSTEAD get or make a bearing pusher and push the cutlass bearing up or down the shaft where it can safely be cut off or dropped off the end of the shaft where the prop has been removed. To push in the new cutlass bearing cool it in an ice bucket so the bronze casing shrinks a bit then using the same pusher you push it into the strut. Carefully trim any excess bearing with a hacksaw and put the prop back on the shaft.

D

Diesel Fuel

Nigel Calder in "Boatowners Mechanical and Electrical Manual" recommends the diesel tank be full during layup and the use of a diesel soluble biocide, not water soluble and not one that contains alcohol. Alcohol will attack O rings and other nonmetallic parts in the fuel system.

Diesel Yanmar

Richard,
Thanks for the acknowledgement, but I'm happier you found the leak. To bleed the system is fairly easy, just a little time consuming. Start off with the correctly sized wrenches and a couple paper towels to soak up the drips that you have to create. Loosen the bleed screw on the fuel filter just slightly and then start pumping the fuel pump manual lever just below the pump. It may take a few pumps to get the fuel to overflow out the bleed screw on top of the filter. Tighten the bleed screw. Next, if you are real ambitious, move along the fuel line tubing to the next fitting (this is the fuel manifold on most engines) and you will find another bleed screw. Loosen the screw slightly. Pump the manual lever again until fuel flows out. Tighten the screw and you are done. If you are really a glutten for punishment, you can move around to the other side of the engine and bleed the injector feed lines. The easiest way to do this, if you are by yourself, is start the engine. (It should start with no problem after the bleeding you already did, maybe a cough.)
With the engine running, you can loosen the nut that holds the feed line to the injector head just a little to get a trickle of fuel. If you get hissing or bubbles, let it continue until you get fuel. Tighten the nut.

If it was bubling or hissing before, the engine should now sound smoother. Repeat the same process for each injector. If the engine runs rough when you loosen the fuel line nut then there is no air in the line and you can tighten the nut and the engine should run smoother again.
AIRBORNE~~~~_/)~~~

Laying Up or Winterizing a Diesel

Although the term winterizing is commonly used, this procedure is used to protect a diesel engine whenever it is not to be used for any extended period. The following procedures are fairly standard regardless of climate.
1.Drain the coolantOpening all engine, heat exchanger and oil cooler drains.
2.Replace coolant with clean fresh 50/50 mixture of water /anti-freeze.
3.Replace oil and filter.Normal combustion produces corrosive acids which are absorbed by the oil. Leaving used dirty oil in the engine for any period will allow these acids to attack and damage bearing surfaces. Always renew the oil before laying-up.
4.Replace fuel filter elements.Draining any water.
5.Bleed the fuel system of air.as you would do after any fuel filter change.
6.Run engine up to operating temperature.
7.Top up the coolant and oil.Do not remove the pressure cap on a hot engine
8.Back flush the raw water circuit to remove corrosive salts. Connect a fresh water supply to the raw water hose that feeds the exhaust injection elbow, flowing water back through the engine. Leave the water running for a while to help dissolve those salts. - Better still, it's a good time to remove and acid clean the heat exchanger core.
9.Close the raw water inlet sea cock. This is a good time to note how well the cock operates. If the boat is out of the water then now is the time to service the sea cok and through hull fitting.
10.Drain the raw water circuit thoroughlyMake sure you get all the drains.
11.Remove the raw water pump impeller.to prevent it gaining a permanent set. Check the condition and discard impellers that are worn, torn or have vanes missing. It's not a bad idea to tie a large tag somewhere prominent on the engine to warn yourself that the impeller has been removed.
12.Remove batteries - if possibleBatteries should be stored fully charged and trickle charged to keep them in that condition. Unattended a battery naturally discharges over a period of several weeks. Left in this condition the plates will sulphate and can be difficult to recover.
13.Treat battery and cable terminals with petroleum jelly, silicone grease or the heavy duty corrosion inhibitors work well.
14.Protect external surfaces with a medium or heavy duty corrosion inhibitor. The thinner inhibitors will only protect for a limited period.
15.Cover the engine with a waterproof plastic sheet in case there are any leaks from above and to reduce the chance of anything falling into openings.

Points to remember:

•Filling the raw water circuit with Anti-freeze will swell raw water pump impellers and render them useless. Remove the impeller first if you are using anti-freeze. •Each time you visit the boat during it's lay-up turn the engine over on the starter with the stop cable pulled out until oil pressure shows on the gauge or the low pressure warning light extinguishes. This ensures bearings and cylinders get another coat of protective oil. •Most oil companies offer special inhibiting oils that provide greater protection. These oils replace the standard engine oil and are run briefly to coat all surfaces then drained off. Protection remains good providing the engine is not turned. •If the engine cannot be fully winterized then oil, coolant and all filters should be replaced and the engine run up to operating temperatures at least monthly.

Corrosion and Corrosion Prevention

Corrosion

Corrosion is the natural deterioration of metals mostly due to their surface reaction with oxygen. This reaction is usually chemical or electro-chemical and is accelerated by the presence of water and heat. Electo-chemical or electrolytic corrosion occurs through a reaction between dissimilar metals in the presence of water or chemicals that form an electrolyte.

Considering the combination of hot metal, hot exhaust gasses and sea water then it's not really surprising that most engines succumb to this hostile environment and head for the diesel graveyard long before they wear out. Corrosion is the marine diesel's Number One Enemy! During the life of the average sailboat diesel more money will be spent on failed components and corrective maintenance caused by corrosion than any other single cause.

Prevention

With minimal forethought and regular maintenance nearly all corrosion problems can be avoided. Preventing water and chemicals contacting bare metal will avoid the onset of corrosion. Electrolytic corrosion can further be avoided by keeping dissimilar metals apart.

Paint

The simplest and easiest protection is to maintain a good layer of paint on all metal - a practice which has become common place throughout marine engines. Providing this layer of paint remains intact then corrosion will be limited. Unfortunately the normal wear and tear of use and routine maintenance takes it's toll on paint finishes leaving bare exposed metal that will corrode rapidly. Relying on paint coverage alone is not very practical. Additional spraying of protective oils and waxes that repel water and provide a soft protective layer is more effective.

Corrosion Inhibitors

Several propriety brands of inhibitors offer different levels of protection.

The thinner oils provide good coverage for short term protection, they're easy to apply and remove and are best suited to spotless engines with good paint coverage and no corrosion.

The thicker heavy duty corrosion inhibitors provide much more durable protection and can even be applied over corroded components. These thicker inhibitors provide superior protection but have the disadvantage that they remain soft and sticky and will over a period of time collect dust.

Table of Routine ServicingNote:
The operators manual for your particular engine will detail the routine servicing as recommended by the engine manufacturer. This table errs of the side of safety and some tasks appear more frequently..
MAINTENANCE TASKFREQUENCY DailyFirst 50125
or
Seasonally2501,000• Full Systems Survey/Inspection XXXMechanical System• Check Valve Clearances XX• Check Cylinder Head Torque X • Check Engine Alignment XXOil System• Check for LeaksXXXXX• Check Oil LevelXXXXX• Change Oil and Oil Filter XXXXCoolant Circuit• Check Coolant Level and ConditionXXXXX• Change Coolant XXX• Check Fan Belt TensionXXXXXRaw Water Circuit• Check Raw Water flowXXXXX• Check Impeller XXX• Check Heat Exchangers/Oil Coolers XXFuel System• Check Primary Filter BowlXXXXX• Change Primary Fuel Filter XXX• Change Secondary Fuel Filter XX• Test Injectors XIntake And Exhaust Systems• Change Paper / Foam Intake Filters XX• Clean Metal Intake Filters XXElectrical Systems• Check Battery fluid XXXXTransmissions• Check Fluid Level XXXXCorrosion Protection• Inspect and rectify as necessaryXXXXX

Surveying the Mechanical System INSPECTION

• Engine Block

Check for loose bolts holding casings and components together. Tell-tale signs are leaking gaskets, black or rusty dust or rattling components.

• Crankshaft and Reciprocating Components

Turning the crankshaft by hand 2 full turns will indicate any undue resistance.

• Freeze Plugs

Check for corrosion. First signs are usually pin-prick sized holes, or bubbling of surface paint.

• Cylinder Head Gasket

Check for leaks at the joint between the block and the cylinder head. A leak will obviously be more evident with the engine running, but usually a black oily residue will suggest leakage.

• Engine Alignment

Rotating prop shaft by hand will give a good indication of engine alignment. If tight then disconnect the coupling and check properly.

• Adjustable Engine Mounts

Check all adjustment nuts are tight. Lower nuts tend to wind down. Black or rusty dust indicates mounts are loose and fretting. Check bolts holding the mounts to the beds are tight. Rubber mounts tend to settle with age - this is acceptable providing the engine is re-aligned. The rubber should not be split or separating from the metal. Corroded mounts make engine alignment almost impossible and should be replaced.

Surveying the Oil System INSPECTION External Leaks Nearly all engines have very slight oil leaks from seals and openings. Earlier engines placed less emphasis on gasket and seal design so expect more leakage. External leaks become more pronounced with age and use and can be a good indication of engine life and its quality of maintenance. Oil Oil will get blacker as normal combustion contaminants increase. Check for sludge, milkiness, very thin oil, strong diesel smell and metal. Oil Level Should be above the low mark and ideally close to high mark. Oil Pressure Gauge Many factors effect oil pressure especially oil grade, age, and temperature. As bearings wear and clearances increase the oil system has to work harder to maintain oil pressures. Therefore the oil pressure can give a very good indication of the general

condition of an engine. Pressures are typically 40 - 60psi at idle on cold startup. Pressure must show on gauge within 15 seconds or shut down the engine and locate the problem. At high rpm these pressures should be maintained but will drop as the engine reaches operating temperatures. When returned to idle a hot engine may show pressures below 20psi. Low pressures throughout the operating range may indicate a well used engine but check the oil system specification before taking serious action. Oil Pressure Warning Lights and Alarms Use switches that operate at very low pressures. The light should extinguish within seconds of the engine starting, and should never show while the engine is running. When the engine is shut down the longer it takes for the oil light to come on the better the condition of the engine. Exhaust Smoke Oil in the exhaust gases will appear as predominantly white smoke with a hint of blue. Such smoke usually suggests a worn engine with many hours, it could also mean a simple seal has failed

Surveying the Raw Water System INSPECTION

• Through Hull Fitting and Valve

Check for leaks, corrosion and good sealing. The valve must operate easily, but depending on the type may require a locking screw to be loosened before the valve can be turned. Some composite valves require part of the body to be slightly unscrewed before the valve will turn. Never force a tight valve especially if the boat is in the water.

• Raw Water Strainer

Remove any debris from the basket. Check for leaks from seals and gaskets. Check for corrosion particularly on wing nuts that hold covers in place.

• Hoses and Clamps

Check for tightness and corrosion.

• Raw Water Pump

Check for leaks from the front cover gasket. Corroded cover screws are common, often severe enough for heads to be missing. Check the pump body drain hole for signs of raw water or oil. Slight seepage will not cause serious problems but any thing greater means the pump should be stripped and reconditioned.

• Heat Exchanger

Check for external corrosion and leaks.

• Oil Cooler
(if fitted)

Check for external corrosion and leaks.

• Exhaust Manifold

Some engines have raw water cooled manifolds that are prone to internal corrosion. Waterways are the first to suffer and become restricted. Remove any hoses or covers to inspect properly.

• Anti Siphon Valve

Remove the valve and blow through from both directions to confirm it's clear and functioning as a one way valve. Some Anit-Siphon valves just have a small overboard hose fitted with no valve.

• Check Exhaust Injection Elbow

- Chapter 8

• Freeze Plugs

Check for corrosion. First signs are usually pin-prick sized holes, or bubbling of surface paint.

• Zincs

Remove the zinc to check its condition There could be several in the raw water circuit so be sure to check them all.

Surveying the Fuel System INSPECTION

Remember: - if you disturb any components you must bleed the system of air afterwards.

• Filler

Check for good sealing especially deck mounted caps that are often under water.

• Filler hose

Difficult to access and therefore neglected. Make sure fuel resistant hose is used. Check hose and clamps.

• Tank Breather

Fittings prone to corrosion and blocking.
Popular place for insects to build nests.

• Tanks

Periodic opening of the inspection cover (if fitted!) to clean accumulated water and sediment is advised. The frequency depends on the quality of fuel used plus the age and material of the tank. Inspection cover seals must be made from fuel resistant materials. Most seals will deteriorate with age and even the best materials will eventually break up and block fuel lines.
Steel tanks corrode internally producing constant debris. Inspect stainless tank welds which suffer from corrosion and fractures. Flexible tanks have limited life and can be prone to chafe.

• Tank Drain

If fitted, annually drain off any water and sediment.

• Tank Fittings

Check for tightness and leaks. Pick up tubes should reach the lowest point of the tank to prevent build up of sediment which will clog the primary filter next time the boat experiences rough weather. Tubes are prone to blocking with larger debris.

• Fuel Valve

Check for smooth operation and full travel.

• Supply Lines

Check for leaks, deterioration and tightness - clamped hoses that rotate on hose barbs are loose.

• Primary Filter

Inspect bowl for water, dirt and algae growth. Remove the element and check condition.

• Lift Pump

Check for leaks and external corrosion. Some pumps have an integral filter gauze which can be inspected by removing the top cover.

• Secondary Filter

Check for external fuel leaks and general cleanliness. Secondary filters are often neglected.

• Injector Pump

Should be firmly attached to the engine. Check all connections for leaks.

• Injector Pipes

Check for tightness. Long runs should be supported to prevent fatigue cracking. Pipes must not be corroded externally.

• Injectors

Check for fuel and air leaks. Soot deposits indicate poor gas sealing of the copper seat washers.

• Return Lines

Check for leaks.

• Cold Start Devices

Check wiring and operation

Surveying the Intake and Exhaust System INSPECTION

• Intake Filter

Remove the intake filter and check the condition of the element. If dirty clean or replace. If no filter is fitted check inside the inlet manifold for anything that may have inadvertently been sucked in. Excessive oil on the filter or inside the inlet manifold suggests worn piston rings and cylinders are causing a high crankcase pressure.

• Crankcase Breather

Remove the hose that connects to the valve cover and check for blockages.

• Exhaust Manifold

Check the tightness of the attachment nuts and bolts especially on engines which have heavy manifolds that incorporate header tanks and heat exchangers. Leaking manifold gaskets are the first signs of loosening.

• Exhaust Injection Elbow

Salt or corrosion products indicate a leak caused by severe corrosion. First indications are usually small pin-prick sized holes adjacent to the point where raw water is injected into the elbow. Soot deposits by the mounting flange indicate a loose joint or gasket failure. Check tightness of attachment bolts which loosen through high temperature and settling of thick gaskets. Remove and inspect internally every other season.

• Hose Clamps

Inspect for corrosion and cracking. Exhaust hose should always be double clamped throughout its' length.

• Lift Box/Muffler

Metal mufflers, even stainless, suffer from corrosion. Plastic lift boxes and mufflers suffer from split welds mostly through over tightening of exhaust hose clamps. Glass fiber boxes are usually maintenance free and provide long service.

• Exhaust Hose

Check for cracking, softness, delamination, kinking and corrosion of the reinforcing wire.

Surveying the Electrical System INSPECTION

• Engine and Domestic Battery(s)

Externally inspect for cracks and splits in the casing. Bulging indicates buckled and swollen plates. Check terminals for corrosion, tightness and good crimping of the wire fittings.
If wet lead-acid batteries - remove caps and check cell electrolyte which should be within the level marks on the outside of the case or up to the base of the filler neck. Inspect plates which should not be buckled or swollen nor should there be white sulfation deposits.
Check voltage with a multi-meter. 12 volt batteries should read between 12.2 and 12.7 depending on their state of charge.

• Battery Selector Switch

Check operation. Inspect the terminals for corrosion and tightness. Check casing for cracks.

• Ground Isolation Switch

As above.

• Ignition switch

Often vulnerably located close to the helmsman out in the elements. Corrosion is a common problem with the key mechanism seizing and terminals corroding.

• Start Switch

If not part of the ignition key switch, is usually the push button type covered in a protective rubber boot. These do not suffer quite as much but check for corrosion.

• Starter

Check attachment bolts and terminals are tight. Check for corrosion particularly on starters that are immediately below wet exhaust injection elbows. Extensive external corrosion may be caused by a high bilge water level when the starter should be stripped for further investigation. Burnt paint on the motor housing shows the starter has been abused and overheated.

• Alternator

Check output. The charging light should go out immediately after start up although some installations require RPM to be increased above idle. If an ammeter is fitted in the circuit then it will show output as soon as the alternator starts charging. Standard alternators will initially charge at high rate but decrease rapidly as battery voltage increases. Alternators typically control voltage at 14 to 14.5 volts. Measuring voltage between the + output terminal and the casing ground will confirm output.

• "V" Belt

Check condition and tension and correct alignment

• Ground wire

Remove the ground wire from the block and check for corrosion. The contact faces must be clean and should be treated with a corrosion inhibitor.

• Isolation Diodes

Check for corrosion and tight terminals. Look for any signs of overheating. Suspect diodes can be continuity tested with a multi-meter. With resistance selected, meter should read open circuit with the leads attached to the input and output connection and near short circuit with the leads reversed.

• Wiring

Check particularly for loose wiring, chafing and signs of burnt or melted insulation. Any of which suggest a short circuit or overloading that could lead to fires. Wiring MUST be of an adequate size for the current it has to conduct.

Surveying the Controls and Instruments INSPECTION

• Throttle Lever

If a separate lever, place on bottom stop and check the engine throttle arm fitted to the governor or fuel injection pump is hard against the idle adjustment stop. Move the lever to the top stop and check the engine throttle arm on the engine is hard against the maximum adjustment stop. Move the lever through it's full range and check for smooth and easy travel.

• Gear Change Lever

If a separate lever, a positive detent should indicate neutral. In this position check the selector arm on the gearbox is in mid position and the cable meets it at 90°. Move the gear change lever to the forward position and check the gearbox selector arm has moved well forward of that need to select forward drive. Repeat for reverse selection. Selection should be smooth and positive with adequate movement of the selector arm. If a manual for the gearbox is available it pays to check selector arm travel meets specifications.

• Single Lever Controls

Combine both throttle and gear change selection into a single lever. The rules above apply with the additional requirement that positive gear selection should be made before the throttle is advanced. Otherwise the RPM will be increasing before the engine is put into gear - this can cause premature gearbox failure.

• Control Cables

The cockpit end of the control cables are usually well hidden and almost impossible to access for inspection. The engine end should be checked for corrosion and splitting of cable outer sheaths. Cable runs should not include sharp bends or the inner will have

difficulty sliding. The end of the outer should be well clamped with unrestricted travel of the inner.

• Engine Control Panel

Check for broken lens's on the instruments. Remove panel and check connections behind are tight and show no signs of chafing or shorting. Corrosion is a major problem with cockpit mounted panels.
When the ignition is turned on gauges should "zero" , warning lights should glow and the alarm should buzz or ring. Start the engine and warning lights should extinguish, the alarm should stop and the gauges start to indicate. Alternator driven tachometers may require the engine to be raised above idle before RPM registers.

Start-Up and Initial Checks

It is not possible to survey an engine properly unless it can be run. If the boat is out of the water then hook up an adequate water supply either directly to the raw water pump or to the inlet through hull. Running the boat out of the water will not cover all the following checks but it will give a good indication of the engine condition.

1. Pre-Start Checks:

• Throttle mechanism

Before you start the engine check for full and free travel from stop to stop. Be sure the throttle arm returns to the idle stop.

• Cable stop mechanism

Check for full and free travel, ensure the spring returns the lever to the run position.

• Solenoid stop mechanism

Check the wiring is good, particularly push on terminals that often vibrate loose.

2. Start the Engine and Check:

• Instant Start

A good engine should start instantly, and not need several turns of the crankshaft before it kicks into life. Cold weather starting will take a little longer as cold metal absorbs heat from the compressed air. If there is some delay then shut the engine off and start again. This time the engine should start instantly. Instant start confirms good

compression, good fuel delivery and atomization, good battery, starter and more, so is a very important check.
Although some older designs need oil to improve compression, starting fluid should never be necessary. If a diesel will not start without starting fluid then the chances are it is severely worn. If the engine will not start or proves difficult to start follow the Trouble Shooting Guide.

• Oil Pressure

Should show with 15 seconds of starting or shut down the engine. Pressures vary between engines and will be higher when cold. Consistently low oil pressure suggests a worn engine.

• Exhaust Smoke

Will indicate a number of factors. Modern designs are more environmentally conscious producing little smoke but an older engine may produce light smoke even in good condition. It is usual to have smoke during and immediately after starting but this should clear to almost nothing within the first few minutes. Excessive smoke indicates a number of possible problems.

• Noise and Vibration

With the engine running listen and feel for anything abnormal.

• Leaks

Look for oil, coolant and raw water. Check for fuel and air leaks around the injectors. Soot deposits indicate poor gas sealing of the copper seat washers

• Heat Exchanger Function

The purpose of the Heat Exchanger and Oil Cooler is to remove heat from the engine. A simple check of comparing holding the raw water inlet and outlet pipes will give a good indication of the heat being transferred. The inlet pipe should be little above ambient, and the outlet should feel WARM. If the outlet feels HOT these is too little water passing through the heat exchanger so check the raw water pump, strainer and exhaust injection elbow. If the outlet feels COLD then water flow is good but heat transfer is poor. Check the cleanliness of the heat exchanger on both the raw and coolant side.

• Good Water Flow

With the engine running the exhaust outlet will give a good indication that the pump is working well.

• Raw Water Temperature

At the injection elbow water hose. The temperature should be warm. High temperature suggests poor raw water flow, low temperature suggests poor heat transfer - check the heat exchanger.

• Thermostat Operation.

If a temperature gauge is fitted then the temperature should gradually rise from cold to operating temperature as the opening thermostat begins to control the temperature. A sticking thermostat will allow the temperature to rise well above operating temperature before it opens, or if it is already stuck open the engine may take a long time to reach the correct temperature.

• Charging

Check the alternator output. The charging light should go out immediately after start up although some installations require RPM to be increased above idle. If an ammeter is fitted in the circuit then it will show output as soon as the alternator starts charging. Standard alternators will initially charge at high rate but decrease rapidly as battery voltage increases. Alternators typically control voltage at 14 to 14.5 volts. Measuring voltage between the + output terminal and the casing ground will confirm output.

• Check Transmission

Check positive selection in both directions.

3. Increase RPM to Mid-Range and Recheck the Points Above, Plus:

• Check No-Load Max. RPM

If a tachometer is fitted, briefly push the throttle to maximum and check the RPM. The engine should be within 10% of the rated RPM which is usually stamped on the injector pump data plate or can be found in the engine specifications. Failure to reach no-load RPM could just be a faulty tachometer, which is common, but more often suggests other problems.

Sea Trial

1. Check Engine Under Load If the boat can be taken out to a clear stretch of calm water, operate the engine at gradually increasing RPM. While under load visually inspect the engine especially for leaks and vibrating components. Note any exhaust smoke, oil pressure and water temperature.

2. Check Maximum Achievable RPM Theoretically with the correct transmission and propeller the engine should reach the MAXIMUM or ONE HOUR RATING at the same time the boat reaches hull speed. This rule ensures the engine will not be overloaded and works well for performance boats but most cruising owners would feel the engine was racing at normal cruising speeds.

The engine should never be overloaded but as a general rule slight over propping that keeps the maximum achievable rpm within 10% of the manufacturers CONTINUOUS RATING will produce adequate thrust for slow speed maneuvering, a comfortable cruising RPM and a maximum RPM that will not overload the engine. In effect this is derating the engine closer to a commercial rating. It means you won't get as many horsepower out of the diesel but it won't be working quite so hard and will last much longer. Remember the governor has not been adjusted so a heavy hand on the throttle may cause overloading that will show as black smoke from the exhaust.

Dinghy Review

I am sure dingy's can be or are a religious discussion. Everyone has their convictions and principals and we can all provide every reason why our belief is correct. I have had several including an Eagle hard dingy similar to the fatty knees. So without starting an WWW debate on the merits of whatever here is my experience.

We now have a roll up Avon 2.85, weight about 85 lbs that is now 4 years old and has seen a lot of sun, sand and both fresh and salt water. No holes, no leaks and zero complaints although I haven't run it on the coral yet. It carries a 10 year unconditional warranty. I have added two extra lifting eyes on the stern tubes so it can be lifted with a four point sling. It has an 8 HP Mercury which weighs 65 lbs pushing it. With two people total weight about 330 lbs and a full 5 gallon tank it will get up and plane. I have several friends with the same boat and 8HP OMC, Evinrude, and Nissan and they can't get on plane with 2 people. I can't speak to other motors. Maximum power specification for the boat is 8HP which is a big motor for this little inflatable but it hasn't hurt it yet. From your email address I assume you are in the USA. Best deals can be found at the big boat shows, ours was purchased at the Annapolis show. Defender Marine is next in cost from our experience

although Mercury only franchises locally. Forget about trying to row the inflatable. A force 2 will push you backwards against all efforts. Although we didn't like it very much and would avoid it if possible we have been out in her (it) in 8 foot swells with breaking waves. It is virtually unsinkable unless both tubes are punctured.

Avon also makes and identical 3.15 version.

Several friends have the Carribe which is fairly common in the Caribbean (where else from the name). It is cheap in Venezuala and priced OK in the islands. It may be a real deal in Florida. It is a hard bottom with tube sides. With the hard bottom it gets up and planes better/faster than the standard inflatable and should take a rock or coral. I may try one as soon as mine is stolen (it will be). Speaking of which. I may be telling you the obvious but do everything you can to deter the theft. Suggestions:

o Paint every, especially the motor ugly, ugly, bright, identifying colours. I know one person who painted the Canadian flag on everything. It was distinctive.

o the motor is what it is stolen for. Install a disabling switch inside the motor that is tough to find and then the thief can't make off with it. Remember they can't row it any better than you can. A lock on the attachment knobs, a security cable from the motor to the boat all help but they are butter if you have a bolt cutter.

o don't put "TT whatever" on the sides of your dink. That just advertises that you aren't on board your boat if the dink is at a dock in town. Then it is your boat that gets robbed. If you want ID on it put your vessel registration numbers.

o lock it when attached to the local dink dock.

Then resign yourself to the fact that it will be stolen anyway. It is so bad in St Thomas USVI that the charter companies ask you not to take a dink there.

Cheers

Duct Tape

seem to recall there was a trick to remove duct tape residue and I was silly enought to have duct tape on the deck since last fall and when I pulled it off, half of it is still on the boat real "gummy"
If anyone knows what is easiest to remove it pls let me know

Hi,
You might want to try good old WD-40. If thats to slow acetone will do the trick.
Joe

Naphtha, Benzene, or lighter fluid all work well. Acetone does too--but is more expensive and flammable. WD-40 works well but leaves a lubricant residue.
If you scrub with a terry towel the texture helps get all the gunk off without clogging or shredding like paper towels will.
Remember to re-wax afterwards, any protection that was on your hull will come up with the residue, allowing that area to get grimy faster and deeper.

Try mineral spirits or wd-40. Plus a little elbow grease.

A fairly effective way to remove most adhesive residue, assuming you have the time, is to smear peanut butter over it and leave it overnight, a few days, or even a week, for tough stuff.
On a deck it may not work quite as well due to the weathering while waiting, but I've used it in areas that were out of the weather with good success.
I especially like it on the boat: put it on at the end of the weekend, take it off the next weekend. And, it's about as environmentally friendly as anything around!
bill ward
"Celebration" C&C 37
Tawas Bay, Mi.

I used a product called OOPS. It works well and is meant for removing residues.
Jerry

I've always used Rosinol lighter fluid. Seems to work on pretty much everthing for getting residue off.

Hmmm,
No, but the Avon Skin so Soft removes both the residue while sending the bugs (Ants, etc.) packing. Double whammy so to speak.
fdr

good way to remove adhesive is by using a clean rag and stove alcohol. Acetone dries out too fast but the alcohol will stay wet long enough to "swipe" it up with a clean section of your rag. Also seems the mildest on

people and different fittings. Yes it is flammable but so are all the other solvents i've ever used.

Hi All,
Okay I was not smart enough to think this up. I just tore a page out of Bruce Bingham's book.(the last page actually!) He goes on for an entire page waxing poetic about a commonly available item that does about a million things well. Stuff like removing uncured epoxy, wiping surfaces before painting, cleaning gellcoat without residue, not drying as fast as acetone so that it stays on the cloth a little longer, etc. Well I tried the "stuff" and it works! He is right! I've been using it for EVERYTHING! It's great. It gets my (coveted?) award for the best tip of the year.
Oh yes, It's brush cleaner. Get the water soluble kind.
Ed
"Elusive"

Red Green who is the foremost authority on duct tape would want to determine if its the good Canadian duct tape or the American Stuff??? I asked a fellow boater this weekend that had a fair amount on his deck from a project he is working on. He uses **varsol** to remove the duct tape residue.And yes the boat went in last weekend Yahoo
Brad
Magic Dragon

I've also had very good experience removing duct tape with a commercial product called "Goof Off", again another residue remover. trouble is it doesn't taste as good as peanut butter.....

E

Engine Mounts

Hi Gerrit,
I am sure you'll get lots of input on your question about allignment. I don't pretend to be an allignment expert, although I have muddled through it on my 1949 Shepherd mahogany speedboat. Others will give you the step by step - we have some technically very good folks on this net. I can tell you that being on the hard and supported basically in three places by the cradle and keel can definitely bend and twist the boat. It is very different from having it totally and evenly support over its whole bottom by the water. As our designers at C&C used to like to point out to us sales and marketing types, if a boat were ridgid, it would break in a hundred places. It is a flexible, moving dymnamic of thousands of components. It wouldn't surprise me if you

found you had to adjust the mounts much more or much less when she's afloat.

While your at it, you might want to lay a straight edge on the shaft just to make sure you don't have a woo-ha in it. A worn out cutlass bearing can be caused by a shaft out of true, unbalanced prop, poor allignment, etc. Not a bad idea to check everything so that new cutlass bearing will last a long time.
Regards,
Hank Evans

Electrical 110 Volt

I looking for some suggestions to help me diagnose an 110 volt electrical problem on our C&C 32. At the end of last season we spent the final week-end at a neighboring marina. It was quite cool and several boats at the marina (including ours) were using electric heaters in their boats. The high use caused the marina circuits to trip. The next day, back at our home marina, I noticed that the indicator lights on the 110 volt distribution panel were blinking, and if I turned on both the water heater and outlets (with heater) all the panel lights went out, yet power was still available. That was the last day of the season, and we took the boat out.
Over the past week-end, we were getting the boat ready for the new season and I've had a chance to look at the problem in more detail. When the boat is connected to 110, I get a voltage drop as I add additional load. Using a volt meter on an outlet with nothing running - it reads 120 volts. When I turn on a load (water heater) the voltage drops to 95 volts. If I then turn on the heater, the voltage drops to 85. If I turn on something else the heater actually stops running.
In an effort to start eliminating things, I tried running a test 110 volt line directly to the double pull main breaker, bypassing the marine plug and wiring up to the distribution panel - no change. I then tied a test 110 line directly to the other side of the main switch, bypassing the main switch; still have the problem. I have not tried bypassing each individual circuit (ran out of time) .
I also cleaned the main buss bar in the distribution panel - it is a copper bar with a little dirt - no change to the problem. The rest of the distribution panel is clean and free of corrosion.
Any thoughts??
Thanks for any help or ideas.
By the way, I replaced the battery charger late in the season with a 20amp West Marine high freq. charger. Doesn't seem to be related, but thought I would mention it. (The previous charger was drawing lots of amps (nearly 9) when the batteries were fully charged). The new charger is multi-step, and seems to work very well.
Thanks
Doug Jackson

Sophisticated Lady C&C 32

Hi Doug;
Reading your post it is hard to determined exactly what is going on but I suspect it has something to do with your neutral wire. A lot of times when I get a house call with this problem it is either a bad neutral or a blown fuse somewhere in the system, since you didn't mention any fuses I assume there aren't any in the circuit so I would start at the neutral or maybe a ground that is crossed with the neutral. You said that when you put 110v to the main breaker you had the same problem ,try it again this time with no wires on the load side of the main breaker and see what you get for voltage across the hot and the neutral then try from the hot to ground you should get 110v across them both. Then try across the neutral and ground there should be no voltage. This should be done with the load wires both on and off the main breaker and all other breakers in the off position, if everything is normal then try to turn on breakers one at a time and see what happens.
That's where I would start but like I said check the neutral first from the feed plug all the way through the circuit I think where it happened under a high load (heater) any loose connection WILL fail from heat also check your cord as I have seen the neutral slot on the female end burnt before.
Hopes this helps any questions just ask I'll try to help
Dennis
C+C 39
EUROPA

Doug-
Can you recheck the voltages while plugged into another marina? This sounds like what happens when a power supply is saturated: It can only deliver so many watts, and as you add more drain (pulling more amps) the voltage drops. I've nevr seen this happen to an AC main line, but I suppose it would not be the first time that marina wiring or the power transformer on the pole was bad.
If the AC distribution on your boat is shore=>boat=>breaker panel=>loads without any transformers or invertors, etc, in the middle of that, then it is time to check the marina as well. If they are having a power problem, it should be one more than your boat.

Exhaust Systems

My 1985 29-2 came with the standard Yanmar factory book. A bit hard to read since it was translated in several languages and they tried putting all of the versions on the same pages. I found some of the page references were off in the English version. You may want to buy one of those "chilton's"

engine maintenance books...

One bit of advice. I had my engine tuned up by a professional mechanic last spring. That's when I found out C&C had taken some "shortcuts" with their engine system installations. First off, the exhaust system on the 29 (as well as several other C&C's) is problematic. The diameter of the exhaust pipe gets smaller and smaller as you move away from the engine. This results in extra back pressure in the exhaust system and contributes to overloading the engine as you throttle up and increases the formation of carbon deposits.

As my mechanic explained it, the diameter of the pipes and fittings should increase in size as you get away from the engine to alleviate the problem. There's not much you can do to fix this, short of ripping out the exhaust system and putting in a properly calibrated one. Unfortunately this isn't an option for most of us so we end up leaving it as it is. Just get the engine tuned-up on a regular basis...

The mechanic also recommended I install an anti-backflow valve on the exhaust pipe to prevent water from being siphoned back into the engine in rough seas. Good thing I did, too. Another member at my club who owns a 80's vintage Hunter 30 (with a 2GM) wrecked his engine last spring when water got sucked back through the exhaust pipe. The Vetus valve I installed cost me $45 cdn, his new engine cost him quite a lot more...

I also found out that C&C forgot to install a water separator filter on my boat. This is my first boat with an inboard Diesel and I figured they were properly installed at the factory. Now, I'm glad I had somebody qualified look at the engine. It's worth it...

F

Foam backed vinyl
you can find this **foam** backed vinyl at a automotive upholstery supply house. I've used 3M Super 77 spray adhesive.

Fuel Guages

Jerry,
Are you sure that the units are broken? Both of those have inline fuses behind the panal. The fuel **guage** is very common size and specs. Auto store carry them as do West Marine. The sending unit uses the 35-220(more or less) ohm standard. The sending unit is also common both in specs and cover plate size. The tach I am not sure of.

Jerry,
On the gas guage , make sure that the ground between the gas tank and the engine is, not only intact, but VERY good. I have seen three 29s including ours with this problem. If the guage goes all the way to full, and beyond, the ground is probably gone. If it reads wrong, but reads, the ground can still be bad. That is what just occured with ours.
I replaced the sending unit, no fix, replaced the guage, still the same. That only leaves the wiring. try by-passing the wires in the boat with jumpers before spending alot like I did.Ralph

Most boats also have an hour meter, use it . Figure .5 gal per hour average, unless you are powering all out, then figure about .75 gal per hour. Look for fuel leak in the unused return line. Usually it comes from around filter though. Run your hand along and around the sides/bottom of all the components in the fuel system. It will be wet around something and that is where the leak is near. Watch the engine while it is running and you may also see a small "squirt" of fuel comeing out of somewhere. Look at the bleed screw at the top of the fuel filter. They are often overtightened and the threads get stripped or the little fiber washer gets lost when the screw is put back in after an inspection of "what does this do?". As for the accuracy of your gauge, it could be affected by an improper length sensor arm being installed in the past. Also, check around the access plate for the sensor arm. If the gasket is damaged or not centered, fuel could leak out in rough seas.

Another possible source is your fuel tank. I found a pin hole leak in my '84 C&C 37 aluminum tank last week. The leak was located in the seam where the end plate met the bottom plate. It showed up as a wet spot until I wiped the wet dirt away, then it spurted. If you find a wet spot indicating a leak, I recommend you do not remove any grime that may be retarding the leakage until you significantly reduce your fuel level. I had a mess to clean.
After removal the tank was inspected and there was enough pitting to recommend replacement in lieu of repair.

You don't want to replace the idiot lights because that would mean replacing something infinitely more important than a guage or a light...the BUZZER ! (the lights are "tied in" to the buzzer) The ideal is to have both gauges and the buzzer. This is easily accomplished by using "T" plumbing at the water temp and oil pressure sensor inlets so you can still utilize the original sensors and the new gauge sensors that you install. Gauges great for viewing trends such as higher than normal temp readings,

but still under 200 degrees F (when buzzer goes off) so you can tell to clean the raw water intake of weeds or the exhaust elbow of carbon, but buzzer very important so you don't have to keep your eyes peeled on those darn gauges all the time for a potential catastrophic failure. Once heard of an alternator breaking and throwing a part into the oil filter, punched hole in the filter, all the oil ran out and the engine seized...all the guy had was a pressure gauge and he didn't happened to be looking at it during the few minutes it took for the oil to drain. The gauges can be mounted almost anywhere, don't have to be near Yanmar panel.

Furling

I'm consdering a new 150 and roller furling for a 1982 30-II. Does anyone have suggestions for the conbination? The boat is out of Barkers Island on Lake Superior so the winds are quite variable.

I like 125% better for roller furling, unless it's realy light on Superior. Gerry/Mintaka

Regarding the size of the furling sail, one thing to consider is that you will lose about 2.5' on the luff when you switch to furling - A 150% is then equivalent to a 140% in area - If the winds in your area are mostly in the 0-20 range, then a 150% could be the best choice - If you often see heavier conditions, a smaller sail could be considered (a 130 % is equivalent to about 122% in area).
If your existing sails are in serviceable condition, it might be worth considering having them modified for furling. A suncover and lufftape on the 150% and a lufftape on the 100% provides flexibilty.
Regarding the furling - Harken, Hood, Furlex, Profurl and Schaeffer all make good units - The most important things to watch are that there is rigging toggle at the top of your forestay that will allow unrestricted fore/aft and side to side movement and secondly, that the halyard is located in a way that will prevent "halyard wrap" - I am not sure if C&C used a Cinkel mast on this model, but both of the above can be a problem with Cinkel (and Isomat) masts if not attended to.

I like Furlex. Easy to install, complete with new headstay stanchion blocks furling line etc. If you can go aloft twice your home free. Call Somerset Sails, tell Martin Don sent you. 1-800-323-9464.

Don "RAINBOW" C&C 30

Lynn - On my 30-2XL we have a Harken Mark II furler (split drum so you can take off easily for racing) and a 130. My opinion is that when I'm cruising and it gets so light that I need the 150, I turn on the iron genoa; otherwise the 130 handles all up to 25 kts. With respect to halyard wraps to which Graham refers, you add a short wire pennant between the head of the sail and the swivel (so the swivel gets so close to the sheave that it can't wrap, but not so close that it can't swivel)...this gets rid of the problem (was a big problem on our Offshore Spars triple spreader mast!).
Graham is also correct about getting the right toggles, etc. With the rod rigging, I'd recommend professional installation, at least for the forestay modifications.
Cheers, Greg

Graham, on a C&C30 (1981) relative to the top black band where to put the halyard guide to prevent roller furling halyard wrap? At the black band? Half way between black band and sheave? Just below sheave?
LCaswell, interesting designation (30-II). Is this the later boat in the series which began in the early 70's (started as 30 Mk1) or the first of the Greg Cutter type? My understanding was that the Mk1 went to late 78 and had the upright cockpit backrests, the Mk2 had the sloped cockpit backrests up until 1982 (approx hull 741), then the European style appeared known as the 'New 30' (same as Greg's?). I bet this could get even hotter than the marks of the 27 debate!
In message " Roller Furling" sent on Jun02, C&C-list@sailnet.com writes:

On the C&C 30, a halyard guide may not be needed if the halyard swivel goes high enough. The objective is to prevent the upper half of the swivel from rotating.
I would first of all add a pennant (if needed) to ensure that the swivel is within about 3" or 4" of the top of the foil - then look at how much halyard is exposed - If it is very short, it will not be able to rotate - however, if it is longer and could wrap around the foil, then lead it down the forward side of the mast and through a guide so that the lead angle to the halyard swivel shackle is about 45 degrees.
Schaeffer make a guide that is less than C$10.00 and Furlex have a similar type - Harken have a halyard restrainer that has a sheave which may reduce friction but is more expensive. The Harken manual has a section near the back that illustrates clearly how to locate a restrainer. It may be worthwhile borrowing a copy.

The roller-furling on my C&C 32 failed shortly after I purchased the boat, and I replaced it with a **Furlex**, which comes with it's own new forestay. I've had it for four years now, and it has never failed or fouled.

The only maintenance necessary is to grease the bearings, which is easily done at the beginning of the season, before you bend on your jib.

Hoping this is helpful,

I went through this twice: once three years ago for my C&C 29, and again this year for my Sabre.

I looked at all the players and decided the real choices were two: Harken and Profurl. Profurl makes top-notch stuff, and so does harken.

I view the roller furling as a key piece of safety gear -- when my kids are aboard, the roller furler is by far the fastest and safest way to reduce sail area in a hurry. So it has to work, with never a hitch.

That's why I'd go with Harken or profurl. (I went with harken both times.)

Have had Harken and, currently, Profurl. Strongly prefer Profurl. I believe it's better made. It's very smooth and in heavy air it's always been ok to winch the sucker. Hsrken used to say winching theirs voided the warranty, tho they may have changed that recently. Used to have problems with Harken roll pins coming out, causing jams when lowering the sailo. No problems with Profurl. Most cruisers I know, including blue water ones prefer Profurl as sturdier. What does everyone else think?

We've had a couple of bad experiences with roller furling. Basically, when it jams, nothing, not even a winch is going to free it. The problem is the halyard will start wrapping before a jammed bearing gives. While it appears you are rolling in your sail, in fact you are tearing your halyard in two.

Once, we couldn't get it to unfurl, so I had to climb to the top of the mast, undersail, to turn the top drum by hand.

Our new boat came without furling and we've been wrestling with the same question, and I immediately noticed Profurl wasn't on your list.

If we buy one, I think it will be Profurl. I've heard some bad things about the "aero" shaped foil Harken talks about. I doubt it gives that

much of an advantage, and if you cared that much, you wouldn't buy one in the first place. I also wonder how much of those ads and marketing I'm paying for when I buy their gear.
-steve

I purchased a Profurl for my 33 from a company called Rigging Only. They had a great price, even better than Defender! Cannot say enough about Profurl never had a problem. If you want the number let me know I'll look it up for you.

Walt - We race 60%, cruise 40% and have a Harken Mark II on our 30-2. Love it, no problems, and it's easy to take the drum off for racing (race to cruise takes about 15 minutes).
Cheers, Greg

Walt. 2 years ago we made the same decision with our 30 mk1. With us it came down to Harken & Schaeffer. Schaeffer was about 1/2 the price of the Harken. After 2 seasons it worked well with no problems at all. Easy to furl and Schaeffer has a slick set of blocks for the furling line that go over the stantions and puts the line outside the stantions out of the way. We live in Goderich ,home of Northcastle Marine. They build the Gozzards line of cruising boats. They use Schaeffer 0n all their boats. Claim it is the easiest to furl. We race a little and do quite well . The drum comes off easily if you want to use a full hoist jib. Harken was our first choice but just couldn't justify the price.

I own a company that among other things is in the business of supplying and installing furling systems. We constantly are asked the same question about furlers.

The candidates for a boat like yours are Harken, Profurl, Schaeffer, Hood and Furlex. (CDI are good for smaller boats). All of the systems are good and will serve you well - We usually price them out and let the customer decide based on price.

There are differences in the systems such as:

- Bearings - Plastic, Steel or Stainless steel
- Foils - Round or airfoil
- Adjustment - some are fixed length
- Installation - some require rigger, others can be self

installed with simple tools.
- Accessories - Some include lead blocks, furling line, new forestay, toggle etc.
- Some (Profurl, Hood) have several models with different features and at different price points.

I would use almost any of these units on my own boat, but I would do a comparison of total installed cost first.

Graham Moss
(Windjammer Sails)

Tom et al. - Another was to stop halyard wraps is to install a short pennant (wire with shackles) between the head of the jib and the swivel. This moves the swivel closer to the sheave and makes a wrap nearly impossible. Sometimes those keeper blocks are too large, project too far from the mast and when you tension the backstay, the forestay rips the keeper off! Greg Cutter

G

Gelcoat

The latest issue of Practical Sailor talks about gelcoat color matching. They suggest a color repair kit called Match 'n Patch from FibreGlass-Evercoat 800-729-7600

Also two companies will mix based on a color chip. Spectrum 253-735-1830 and Mini-Craft 800-282-8244

GPS

I found some information that you might be interested in if you use GPS navigation.

http://tycho.usno.navy.mil/gps_week.html
www.garynorth.com/y2k/detail_.cfm/35
http://gauss.gge.unb.ca/manufact.htm

Chuck Howell

I have used an Eagle Accu-Nav and a laptop with charting program for the past 2 years and if you can afford it, it is well worth the cost.

The charting program we use is Fugawi (the old joke is -- where the fug are we) and is available at:
http://www.fugawi.com
One nice thing about this program is that you scan your own charts which is a lot cheaper than charts on CD. Plus you can update them without the expense of buying a new CD.
I found that the program put all the info on one screen versious a multitude of screens on the GPS.

That's unusual. Thinkpads have a good rep. But laptops are more vulnerable than desktops. The hard drive really is not supposed to be moved while in use--just like a desktop computer, if you go BAM with your hand while it is running, you can trash the hard drive.
Why your screen went...well, how did it go?
My Toshiba is over 18mos. old with no damages, except that I've worn the lettering off the keyboard and they replaced it for that cosmetic reason. I suspect part of the reason for this is that whenever I tranport it, the laptop is cushioned and treated like a box of eggs. (If you toss the bag on a chair, yes, you can damage a hard drive.)
If I was buying a laptop specifically for a boat, I'd buy a "hardened" one, like the Panasonic with a magnesium case/chassis, designed for ruggedness. Or any of the several (like Amrel and Badger) in a ruggedized waterproof case.
In any case, I'd have no qualms about taking mine boating if I had the chance to prep the nav station. In order to protect the hard drive against shocks while running, I would arrange to secure the laptop with a full footprint of velcro--that's right, velcro on the whole bottom. (Possibly over an aluminum plate for heat dissipation, the Toshiba's run hot and I don't agree with Toshiba about how hot is "ok".) I wouldn't velcro it directly to the nav station, but to a block of foam rubber (which absorbs shocks) and then attach the foam rubber itself by whatever secure means.
Simple shock mounting can be cheap and effective--and it is critical. Likewise, if the nav can get wet the computer needs a "slipcover" of some kind.
About the power: If the Thinkpad is one of the many models that use a "brick" power adapter, then get a direct 12VDC power cord for it (easily built if the brick supplies DC to the computer) and just buy a big gel cell for $90 to power it--keep it off the ship's batteries and use the internal battery only as a spare.
Odds are that there are power conservation options on the laptop that you wouldn't normally use, which would make a big difference if you were leaving it running on the boat. Like hard drive spin-down, screen blanking, and slow CPU mode--all of which would cut power drastically whiule allowing it to continue accumulating data.

Also, if you have any PCMCIA cards (modem?) plugged in, pull them out. They tend to be power hogs.

Groco Seacocks

model
SV 1500 1 1/2”
SV 750 3/4”

Western Marine
253 7721

Paynes Marine Supply
1856 Quadrea Street
382 7722

Intermann Marine Marketing
253 4125

H

Halyards

To Wally Kowal: I would recommend using 3/16" wire and 7/16" rope for your main halyard. Harwin Smith (Stinger)

I have a 1978 MK I. My manual is dated June 30, 1976.
The running rigging table shows:
Genoa Halyard 43'-0", 3/16 7x19 ss + 46'-0", 3/8" yacht braid.
Main Halyard 44'-0", 5/32 7x19 ss + 47'-0", 3/8" yacht braid.

In reply to Wally wanting information on wire to rope halyards.(Subject: C&C 30 Mk 1 Wire/Rope Halyards). I have been told that with the advent of new stronger braided line, Wally can downsize his line and use all rope and not have to replace his sheaves. I talked with Marine Exchange (800-888-8699) at the Newport International Boat Show, and they said this could be done.

Steve:
All rope's the way to go for the Main Halyard, using Spectre, New England Rope, stretch is nil, and you haven't the worry of deteriorating rope/wire splices, fishhooks, etc. Also, less wear on winch drums, and less noise belowdecks of the wire slapping within the mast.
James Libby S/V Blithe Spirit, a C&C 32

Steve - We use T-900 for our jib and main halyards on our 30-2XL that is raced and cruised a lot. Many of the covered high tech lines don't like sheaves designed for wire (V shape rather than a U), so we spliced 1 foot of wire on the end. Many of the 12 strand ropes without covers (e.g., Tech 12 by Sampson) handle the sheaves fine, so

you just get regular line spliced where the clutch/winch contact them (check out www.layline.com). Anyway, we really like this set up ..lighter aloft and friendly on the hands and sails.
Cheers, Greg

I have a C&C 38 3 and have replaced all of the halyards with rope, main, genny, and both spinnakers. I used a Spectra line for each at the recommendation of a local rigger. Did this about 3 years ago and have been very happy with it. There is a tremendous difference in weight plus no more meat hooks. I think it was well worth the investment.

I helped hoist a man to the masthead on a 3/4 rigged boat last summer on the two year old 3/8 spectra main halyard (the only one that goes to the masthead) using the 3/8 dacron spinnaker halyard as a safety (it ran up to the 3/4 point). We were about to bring him down and the spectra parted at the point where it had been stressed over the top sheave for two years worth of mainsail hoists. The man fell to the spreaders before the safety caught him. He had managed in that split second of weightlessness to tighten his arms around the stick to slow his fall at the expense of some burns to the forearms. He was surprised, to say the least. The line looked just about like new at the point where it had parted and would probably not have been caught on a spring inspection. You may want consider spectra as having a two year life span and end-for-end the line at the one year mark. It may not stand up well to constant stress over a small sheave.
Steve Scott

You have an interesting comment on the long term ability of Spectra to hold up. One of the problems with sheathed ropes is that you can't see what is happening to the core. The rescue organization I belong to will discard any sheathed rope that has been used regardless of what the sheath looks like. OTH rescue rope passes over some very low angles and without the benefit of sheaves. We have examined ropes that, from all outward appearances, were like new but the core was deteriorating. These were ropes that were stored under the best of conditions, completely out of the sunlight and weather.
I still feel confident with my rope halyards even though all except one are three years old. The one is a spin halyard that came with the boat

which I bought five years ago. BUT I would never send anyone up the mast without two halyards. Your example is exactly the reason. I never send someone up using the shackle to attach to the seat. I pull several feet of line through the ring and tie off with a bowline.

Tom:
In response to your question, there was no need to change the sheaves for the change...by the way, my jib halyards are still wire, and as my 135% Genoa spends most of it's summer roller-furled, these halyards are seldom used.
I read with interest, and thanks, your suggestion about zip tying the electrical wires in the mast, but I must say I find the idea of yanking out all the wiring (VHF antenna, masthead/fordeck lights, etc.) daunting to say the least! Though things have quieted down somewhat since installing the rope main halyard, it still quite noisy!
James Libby S/V Blithe Spirit

I asked that question several months ago.....concensus was don't do it!!!
I am told by several gurus that the stretch of even the newer fibers (besides being very expensive) is still not acceptable.
I have elected to keep the wire to rope on my 38.
Ron Casciato
Impromptu

Rich - Part of the answer to your question depends on whether your reefing lines run to clutches, cam cleats, or regular cleats since downsized lines might not hold with some clutches. I'd guess that 3/8" Sta Set (New England Ropes) would work just fine. You probably don't need high tech line for this application. Greg Cutter

3/8 is fine. Gerry

Dave,
The problem that you have are the wires in your mast, not the halyards. I had the same situation on my 32 when I bought it last year. It used to drive my wife and I nuts. Unfortunately the easy fix requires pulling the mast, which we do every winter. Connect messenger lines to all the wires from the top of the mast and the deck light halfway down. Pull all the wires out and lay them together on the ground. Take 12" plastic zip ties and put four every twelve inches leaving the tails on facing 12, 3, 6, and 9 like on a clock. Then stuff the whole shebang back up the mast using the messengers for assistance, reattach the wires to lights, VHF etc. and you are done. When I did mine it

took a total of about 2 - 3 hours. Results - not a peep of noise even when rolling in an anchorage this summer with wind gusts over 30 knots. If you have any more questions, please ask.
Tom Anderson
C&C 32 Nonpareil
Marblehead, MA

Hatches

The hatches are Atkins & Hoyle out of Canada. They can help you with the forward and center hatch, but they don't make parts for the hatches over the galley and head anymore. If you need the gaskets for the main hatches, you can buy the raw material (belts) from Goodyear Tire and Rubber. Get 3/8 inch diameter and glue it in with GEL contact cement after you clean the old stuff out of the hatch lid grooves.

For those of you looking for hatches from Atkins & Hoyle, they can be contacted at:
Atkins & Hoyle Ltd.
71 Portland St.,
Toronto, Ontario
CANADA
phone: (416) 596-1818
fax: (416) 596-8989
This address was the one that was listed this past January in the Toronto Boat show guide. I hope it helps.

Jerry -- two years ago I had to replace the deck hatch on my 29 MKII After lots of research I found that Bowmar made the only hatch that would fit the existing opening -- and even then it was 1/4" or so too small or too big -- I can't remember which -- but it worked out to 1/8" per side -- and that was solved by a little extra adhesive/filler. It works fine -- no leaks. And it looks great!
The previous owner of my boat replaced the traveller with Harken Big Boat -- seems like overkill, but the track fits perfectly in the deck tooling -- and the traveller works like a charm.
Ron Hiner
C&C 29 MKII "Breakaway" -- For Sale!

Head

There is a lady (Peggy Hall) who is an expert in marine sanitation and who posts regularly on the rec.boats.* newsgroups. She has an explanation and good advice on how to eliminate odours from head systems. Some of her points

are:

1. The bacteria that cause the smelly sulphorous odours are anerobic while the non-smelly bacteria are aerobic - The kind that develop in your system depend on the system design.

2. A bladder type holding tank is bad news because it has no vent - therefore anerobic.

3. A solid holding tank needs to have good ventilation - preferable two 3/4" vents, one on each side so as to help create crossflow of air. The normal gas-tank type vents put on production boats are too small and usually have a screen which is often plugged up.

4. All hoses should drain into the tank so that there are no downwards loops where waste can sit in anerobic conditions.

By all means use good hoses and good quality tanks, but make sure the system is well vented with no waste traps.

Once you have a bad smell, there is a product called "Shock Treatment" which might kill off the bacteria causing the smell.

I will try to explain it from memory.
1) head exit hose goes to Forespar Y valve
2) from Y valve the two choices are either overboard or to holding tank
3) from holding tank one hose goes thru a macerator pump, overboard with a T in the overboard hose that connects with the deck fitting.

Maybe you have a Y valve where my T is in the holding tank overboard line? If you do, I would find that interesting.

Headliner Plugs

They are available here in Canada at Home Depot in many sizes and colors.
Steeve Scott
Oyster Bay, 30-1

Call Steve at South Shore Yachts in N.o.t.L. I just recieved 24 1" and 24 7/8" from them. John.

Headstay Tension

As a cruiser I am still learning rig adjustments on our c&c 36 after four seasons. We do not have hydraulic backstay adjuster so I adjust backstay with turnbuckle.
We have a Harken furler on forestay which I believe prevents adjusting tension in
forestay independantly. I have started to focus more on maximizing performance,
and need to tension headstay enough to reduce leeward sag to less than 6 inches-an amount which I believe necessary in medium to heavy air. Relying only on
backstay tension to tension forestay, I cannot tension it enough, even with a VERY
tight backstay. Is there another way to tension forestay going upwind, or is there
some problem preventing the translation of backstay tension to forestay tension?
Any comments/suggestions would be much appreciated.

hate to say it, but you might have to spend boat bucks. First, tighten the headstay turnbuckel some (bottom of furling unit), say maybe 0.5-1 inch. Now go buy a hydraulic backstay adjuster..one of the self contained units. This should do it, but you may be overbending your mast (sight up the back side, plus see if mainsail leech goes slack). If this is the case, then oops, you may need runners, which will translate more of the backstay tension to the forestay and less to bending the stick.
My thoughts, Greg

Hi John,
I am sure you'll get lots of advice on your head and back stay tension. My 2 cents worth is that on a 36 you'll never get it tight enough with the turnbuckle. You'll need to invest in a hydraulic tensioner to get the sag out. Its been some years since I've sailed a 36 and there are undoubtedly some 36 owners who can advise you on this, but I suspect 6" is more than you want in heavy air for most #2 or #3 headsails. Probably closer to 4" if you can get it. I'm also sure there are some 36 owners out there who can tell you how many pounds of tension to put on once you get your tensioner.
Regards,
Hank Evans

You can adjust headstay tension with a Harken furler. You need to take the collar off, raise the track, and you'll find a fitting to hold onto with vice grips while you tighten the nut. See directions. I've got my forestay almost snugged up as short as it will go on a C&C34+, and then I tension the backstay.

Head

I just finished flushing my holding tank. I was getting head odor as well. This is the process I came up with:

1. Mixed 1 gallon of Clorox with 5 gallons of FRESH (NOT SEA) water. This filled my tank.

2. Allowed to sit overnight.

3. Pumped out.

4. Sprinkled the bilge, nooks, and crannies LIBERALLY with baking soda and allowed to sit for a week.

5. Rinsed THOROUGHLY with fresh water and pumped overboard.

6. Purchased an "In-line" head deodorizer for $9.99 at West Marine (Sailboat Master Catalog, page 238, Model #282111) and installed it in the line between the head pump and bowl.

7. Problem solved. Additionally, the chlorine dissolved the scum that was building up in my vent line.

I

Ice Boxes

Wally i have a C&C 30 1974. A number of years ago i insulated my ice box.To insulate the top i cut 2 2 inch pieces of styrofoam to friction fit inside the cooler against the wooden top. To get at the cooler there are several ways to get access. Take the cushion off the back rest for the dinette .I believe there are 4 or 5 screws holding it on. then drill a couple 2 or 3 inch holes in the wooden bulkhead for access. Best way to insulate is see if you can get an insulation contractor that sprays urethane foam and have him inject it into the cavity. You can save some money if you get several boats ready at the same time. I also cut a large hole

in the bottom of the food locker aft of the cooler, then when i was done i cut a new bottom of 1/4 inch plywood and laid it in the bottom of the food locker.It wont go anywhere. My locker below the 2 drawers had a hole in the side of it to access the cooler cavity also. I started out mixing a 2 part urethane foam and pouring it into the cavity. This was messy and the foam was expensive. If you take some scrap pieces of styrofoam and break them up and toss them in for filler it reduces the amount of foam you need. Its one big cavity in there, but when it's done you will have about a foot of foam between the cooler and the engine compartment and abut 6 to 8 inches from the hull.
Brad Kolpin C&C 30 Magic Dragon

Insurance

I am an insurance broker in Canada and have always found the Royal Insurance Company good for claims service.

Are you refering to "Royal Marine Insurance", if so I agree with you. I used them while bluewater cruising. Their rates were reasonable, they don't have weird exclusions(except Columbia, because of drugs) and they had nice people who understood what you were talking about.
P.S. Their offshore deductable is 2% of insured value, inshore is 1%. If you are only inshore/lake sailing they are high price.

Internet connection at Sea

Keith, have you looked into a ssb connection with one of the 'common carriers' expense of about a buck/ min precludes 'surfing' but as relatively cheep if your message to mom is "have arrived Samana,all well" John Hoot makes the software and interconnect modem for about $100 bucks, and I've used it successfully through the Caribbean.
Regards...Pete

Try Software Systems Consulting
615
El Camino Real , Clemente. CA 92672
(714)498-5784

ALook for Worldwireless.com
>> Keith,

Ed, look for Barry Brazier's reply to Keith. John Hoot will Probably answer the phone. Very helpful with a whole stable of wxfak and telex programs as well. My SSB carrier was Globe Wireless with world wide coverage, I can not find their telephone number but John should have it. John Hoot's e-mail is jhoot@exo.com Good sailing...Pete

J

K

Keel Fairing

Dan:
Not on this current boat, but 6 years ago on a Hunter?.....(It needed more than that) but here goes.
The process is very well simplified in one of the Gudgeon booklets from West Systems Epoxy stuf.
The only tricky part is in the template design and fabrication, I don't know if the guys at S&S yachts have original templates, but the "computer keel" outfit often advertised in the blue pages of Sail Magazine offer a very nifty way to make your own. I used their generic set for the hunter and made one for the top, middle, and tip of the keel. I essentially followed the directions in the West System booklet which amounted to using the template half to make an impression at the three stations with an epoxy paste.....letting it set up and then filling between the three station levels with epoxy paste and microballons.....sort of like leveling off concrete between forms except on a vertical surface. the paste is very stiff and didn't sag. Then you have to sand and test with the templates to finalize the finish.
All in all, the whole process took me a couple of weekends.....I couldn't devote full time to the project. It took as long to make the templates as to do the epoxy work. And, as usual, it's all in the preparation.....don't cut corners or it's not worth doing it. I then coated the whole thing with INterlux interprotect 2000 and a coupple of coats of acp50.....and didn't touch it for the next 5 years.....then sold it.
It still is a killer D class boat.
Good luck, Ron Casciato, Impromptu, 38MKII

keel to hull joint

I'm starting to work on my boat and decided to clean up the **keel to hull joint**. I used 3M 5200 a couple of years ago and found it did an excellent job. Not one crack developed during that period. The only problem I've found with 5200 is that you can't really "work" it. I ended up with a thick band of 5200 that covers the joint and I'd like to fair it down. The darn thing won't sand too well so I decided to remove the old stuff and try recaulking.
Let's just say I'm not too impressed with the results...

Is there any other marine scealant that remains flexible but that can also be sanded? Any other suggestions??

This has worked for me and a couple of others:

1. Mark the keel with a pencil or tape line 2 (or 3 or 4) inches (exactly) above the keel joint (so you can find the joint later by moving down 2 inches).

2. Fair the keel joint as normal avoiding covering the line above.

3. When dry mark the line of the keel joint from the above reference line.

4. Using a Dremel or hacksaw blade or similar to cut into the fairing to the keel joint.

5. Mask off this cut.

6. Fill the cut with SikaFlex (forget exact type number - 410 or 420?? as Sika recommends). Smooth out as best possible.

7. After appropriate curing time (4-7 days??) sand smooth. Yes it sands!

Yes you'll see the joint but only just, and it will allow flexing in way of the fairing without causing the fairing to crack.

I used 5200 on my C&C 25 and am very happy with it. I opened up all the cracks in the hull/keel joint with a Dremel tool and then filled it in with 5200.
There's no band--if anything there's a slight depression. It's gone two full seasons and looks great. If you have excess I would bet you could razor it off after curing. It is messy to work with, but what isn't in this business?
That's why they call it "messin' about in boats."
Having tried both West and Marine Tex which cracked under the stress, I'm "sticking" with 5200.
Steve G.
Peregrine
Hingham, MA

Three years ago I cut a 3/4 vee groove around the keel/hull joint as I was going to fill it with 3M 5200 like most of the previous owners have posted. At the time, the boat was in the Oxford Boatyard where I firmly believe very experienced mechanics worked. The unanimous choice was to use the West System w/ colidel silicon (hard to sand but very strong). This spring I am seeing a slight crack about 2 inches around the leading edge. Many C&C owners feel 5200

works for them, but it really is hard to remove. The West Sys. is easy to fair and is grindable...its your choice! Good luck

I had the same sort of thing. The first time I tried to solve it I ground down to the lead and faired it using West System and then bottom paint. Next fall it was back. The next time I ground off all the West System and very carefully sanded the lead clean so that it was clean of any oxidation. I then immediately cleaned with West solvent and reapplied the West System to fair the area. I then put on 4 coats of Interlux 2000. It did not reappear.
I agree with Gregg. The problem is water getting underneath the coating on the lead. I think to get a good bond the lead has to be free of any oxidation, it has to be shiney silver, not dull lead colored. Then there needs to be a coating such as the Interlux 2000 to stop water penetration.

Just wanted to update everyone on my little project. I removed all of the 3M - 5200 from my keel to hull joint and replaced it with Sikaflex 420 (or was it 421???)
In order to remove the 5200, I used a rotary sanding wheel (you know, the ones made up of a series of 3/4" sandpaper strips that are glued to a plastic disk which you mount on your electric drill). 5200 can be removed, but you'll have to work at it!! Sanding or grinding it off is the only way as chemicals will not affect it once it's cured.
Anyways, I filled up the small channel between the keel and the hull with the Sikaflex product and let it cure about 48 hours since it's been fairly cool up here. I used a small plastic smoother (same as what is used for car body filler) to apply the Sikaflex so I wouldn't have to sand too much. Once it was cured, I sanded lightly and ended up with a pretty smooth surface (much smoother than with the 5200). At least the Sikaflex can be sanded...
So my recommendation is: Use 5200 as an adhesive and Sikaflex as a sealant!
Maurice Doran
"Crackers"

Knotmeter

I'd guess that the transducer is installed off the center line. This is the usual reason for that kind of indicated speed difference from tack to tack.
Most likely, I think, the transducer is probably installed under the fwd seat of the dinette which would put it about 10 inches on the port side of center.
The boat speed isn't any different...just the speed of the water over the transducer...it's moving faster across the transducer on port tack.
Best place for the transducer is on the center line in the aft part of the v-berth storage area...takes some fairing but that will fix the problem.
Alternatively, once you know the difference, make the mental adjustment.

L

Leaks

Water inside boat. After being on starboard tack for a couple of hours hard on the wind in over 15 knots (i.e. heeled over), I have water inside some compartments below. Specifically inside the sliders above the settee and the storage compartment under the stove. Could this be chainplates leaking or the hull to deck joint? Sometimes we also get a little dampness in the shelf in the V berth on the starboard side.

As to the leaking, I experienced the identical problem, only on the starboard side. My first move was to remove the 4 screws that hold down the starboard chainplate cover. This will allow you to lift the cover up about 1.5 inches. I then laid a bead of silicone around the perimeter of the cover footprint, slid the cover back down and tightened the screws. Voila! No more leakage for about 4 years, when I had to repeat the process. I would try the chainplate thing first, before tightening willy-nilly, the toerail screws.

From R. M. White (captainwindstar@worldnet.net)
I have a 1982 C/C30 which had a similar problem. I noticed the water came into that compartment when the boat was heeled over. How much water came in depended upon how much water was in the bilge. In my boat I drain the icebox to the bilge. Also, because the diesel is soft mounted, I installed a bellows type shaft seal. It does leak water at slow speeds, but does not leak with the engine off (which the conventional stuffing box always did.

I corrected the transfer of water by using polysulfide (I am sure urethane would also work) caulk between the bottom of the compartment and the liner next to the hull. In my boat it is to the right as you peer into the locker. Good luck. I still have to add a little more caulk, but most of it is gone.

> From: Tom Anderson <TAnderson@gateloan.com>
> To: C&C-list@sailnet.com
> Subject: Water in compartment
> Date: Saturday, October 25, 1997 6:47 AM
>
> I have a C&C 32 built in 1982. I find a little water in the compartment
> below the dinette bench seat just in front of the navigation station. I
> have cleaned it out dry several times, only to find more water later.
> I've tasted it, and it's salty (boat is in ocean). Does anyone have any
> ideas of where it might be coming from? I'm wondering if it might be
> condensation. Before I bought this boat, I inspected another 32 and
> noticed that the owner had items stored in this compartment in dish

> washing tubs, so I think it might be a common problem. Thanks
> Tom
>

Water in the sliders over the settees, etc.:
We had the same problem in our '84 C&C 37. It turned out to be some leakage at the hull/deck joint. I tightened the nuts on the thru bolts slightly while my wife held the screw heads from above. I basically tightened them as tight as I comforably could while holding the wrench about 1 inch from the nut.

To Tom: The source of the water is either chain plates, hull to deck joint or fittings bolted to the deck such as genoa track. The most likely source is the hull to deck joint and this can be corrected by tightening the bolts on toe rail a little so that the compound between the toe rail and the deck squeezes out a little bit. Do not overtighten or you will not have any compound left for future leaks. Harwin Smith (Stinger)

Lexan

Suggest you check with several different plastic sheet supply houses for a better price. I have saved as much as 30% from Cadillac's prices by going to Laird. Also some of these supply houses have really good technical people that can make recommendations. Lexan is a GE trademark/brand and is a polycarbonate. There are several other manufacturer's of polycarbonate out there. I buy the stuff for medical applications and when I tell them I am a manufacturer I get much better prices. It is amazing the number of different prices these guys can charge. I suspect you can save more by shopping a big and telling them you are a boat repair company and are looking for a long term source.

Are you pricing Lexan brand name or just an acrylic?
If Lexan bran you are paying extra for the name. There are other acrylics that will offer the same strength and properties without the brand name.

Lexan is a General Electric brand name for a polycarbonate material and is definitely not an acrylic.
There are also other manufacturers of polycarbonate sheet material.

Sorry Guy, but Lexan is a polycarbonate not an acrylic. However, the prices quoted sound like Tap Plastics (retail in the US). Check with an industrial supplier or wholesaler like Interstate Plastics in San Leandro, Ca. price per full sheet can be as much as 50% below retail.

Lightening Ground

Just happened to see this on rec.boats.cruising
http://www.lightningeliminators.com/DAS/

Hello to all _..I've been involved with the telecommunications industry for some 32 years and as a result I have had some experience with lightening or more precisely the after affects of lightening. Our industry has expended great deal of time and money over the years in an effort to reduce the destruction and outages that result from a strike. The one thing that is certain is "Lightening does not read the books and behave in accordance with theory" . Just when you think you have out smarted it you will be reminded that you have a lot to learn. One theory that is always put forward when discussing sail boats and lightening is that every thing metal should be bonded together so all metal parts of the boat are at exactly the same electrical potential. This is very valid advice. To illustrate that point I would tell you that in the case of some of our communication sites that are located at the base of very tall towers (several hundred feet) EVERYTHING in the building that is metal is bonded together. Everything metal means just that . All the obvious large metal objects desks, filing cabinets, etc including the first aid kit (yes you read it right first aid kit) and fire extinguisher .
Does it work ? You bet it does_.(most of the time). Our boats are not unlike the tower sites so using a couple of jumper cables or a single wire from the mast to the keel is just enough to provide a false sense security . If you are going to do some grounding don't half do it . Everything metal_ stays, shrouds, engine, toe rail, sink, wheel. I think you get the picture.
Now you are probably wondering what I have done on my boat ? Well_ none of the above .Has my boat ever been hit ? Yes . Sitting in Her berth among a forest of other masts. Go figure. Incidentally my 27 has the original C&C attempt at a ground single cable to the keel. Based on damage done strike most likley occurred at the masthead, down to the boom, then to wheel ,out the rudder and port side at water line. I suspect a good hit and the single 01 wire from the base of the mast to the keel could not carry the current so down the boom it went looking for another path to ground jumping to the wheel and then out. Glad as hell Me or the First weren't standing at the wheel . As I said before lightening don't read the books so it may have hit just the wheel and not the mast head.. rbt Safari

Cruise News - Lightning
With or without a lightning protection system, it's critical to take a few simple precautions to protect yourself.

- Stay in the center of the cabin if so designed. If no cabin, stay low in

the boat. Don't be a stand-up lightning rod!

- Keep arms and legs in the boat. Do not dangle them over the side.

- Stop all fishing, water skiing, scuba diving, swimming, or other water activities when there is lightning, or even when weather conditions look threatening. The first lightning can be a mile or more in front of an approaching thunderstorm.

- Disconnect and do not use or touch major electronic equipment including the radio, throughout the duration of the storm. Listen to NOAA Weather Radio, preferably with a portable radio.

- Lower, remove, or tie down the radio antenna and other protruding devices if they are not part of the lightning protection system. More information about a lightning protection system, check out:
http://www.polyphaser.com/glep_lay.htm

- To the degree possible, avoid making contact with two components connected to the system at the same time. For example, the gear levers and the spotlight may both be connected to the system. Should you have a hand on both when lightning strikes, the path of the electric current could be through your heart.

- At least one person on board should be competent in CPR and first aid. Many people struck by lightning can be saved with prompt first aid.

- If a boat has been, or is suspected to have been struck by lightning, check out the electrical system and compasses to be sure that no damage has occurred.

Lights

OK Dave, here's the scoop. The interior lamps on my C&C 35 Mk II were, and still are, made by Guest. The larger lamps in the main cabin are called Cabin Lights and are Guest Model # 800. They are listed in the 1998 Defender Catalog on page 110 for $29.95.

There is a little more confusion on the lamps in the "V" and quarter berth. The ones I bought were Guest #1000 Bunk Lights, but the Defender catalog calls them model # 804 for $32.95. Why the smaller lamp is more expensive than the big one, I don't know. If you don't have a Defender catalog their number is (800) 628-8225.

I know that your intention was just to replace the shades, but if spare parts for lamps are as bad as for other marine stuff, it might be just as inexpensive to buy the whole lamp.

M

Maine Cruising

Steve & et al:
Thanks for any and all advice about the Maine cruise. I did review several cruising books, and have decided to go south after seeing that there isn't much until Portland. My itinerary will be somewhat like this:
Monday - Marblehead to Marion
Tuesday - Marion to Padanaram
Wednesday - Padanaram to Cuttyhunk or somewhere in the Elizabethans
Thursday - Cuttyhunk or somewhere in the Elizabethans back toward Cape Cod Canal. (Red Brook or ?)
Friday - (Red Brook or ?) to Scituate or Marblehead.
Anyone who has any advice on cruising Buzzards Bay I would be most appreciative in hearing your input on don't misses and stay away froms.
Tom Anderson

I'm a 'local' in Buzzards Bay, so here are a few thoughts:
Marion (my home port) -- very nice harbor, few guest moorings. Try Beverly Yacht Club (reciprocal privileges), Bardens Boat Yard or Burr Bros. There's also a designated anchorage just north of Ram Island, just beyond Fl.R '5'. Pumpout, water, dinghy tieup, shoreside heads, showers at the town dock and harbormaster's office. Harriets' Restaurant is a short walk from the town dock - very good.
Cuttyhunk -- Get there early if you intend to go on the weekend. Try to get in the inner pond - it can get rolly outside. Cuttyhunk Seafood comes around at cocktail hour on a whaler with oysters, clams and shrimp. Don't miss it. Also, hike up to the top of the hill for a nice view of the bay, Vineyard Sound and Rhode Island Sound.
Quicks Hole -- shouldn't give away my 'secret spot', but for fellow C&C owners... In decent weather, anchor along the beach on the west side of Quicks Hole. Peaceful and very pleasant after the powerboaters go home. Nice swimming (but cold water). Beach closed for piping plover until early July.
Quissett -- nice little harbor. Check for moorings with the yacht club.
Hadleys Harbor -- also very pretty. Get there early. No moorings, anchor inside in thick mud. Get plenty of scope and dig in well.
Pocassett -- Pick up a mooring on the east side of Bassetts Island, or anchor.

Also consider visting Edgartown (but be careful in Woods Hole).
Have fun
Dan Grossman
Harmony C&C 29-2

Re Buzzards and Elizabeths:
Having cruised many years out of Mystic, shoal draft and now 6', we have a few thoughts about the area you've asked about.
Onset - hospitable YC, although mostly Power. ditto Marina. Good restaurant, 1/2 Mi walk
Bassett's Island- weekdays, moorings
Marion
Mattapoisett
Padanarum (So. Dartmouth)
Hadley's Harbor- don't miss. But get in early. Some moorings.
Kettle Cove - backside of Tarpaulin - good swimming, snorkeling, beach picnic by the spring.
Tarpaulin Cove - not to be missed
Quissett
Lake Tashmoo - skinny water at entrance? Inquire locally, although locals don't encourage visitors. 1 1/2 mile (?) walk to Vinyard Haven
Cuttyhunk - inside fills up by 2pm. Climb the little hill.
Enuf, already.
Bill
Deliverance 34

Tom,
I had to smile when I saw your post regarding cruising south rather than travel north
to Maine. We live in Boston area,haul our C&C36 on the Saugus River, but sail out
of Marion! The 1.25 hour drive is worth it considering the great cuising south of the
Cape. The warm water(great for swimming),many Island destinations,reliable sea breeze,and reduced tide range(4.5 vs10 feet) make this some of the best sailing
I have experienced on the East Coast.
You've recieved some good suggestions re:ports and destinations. Two of our favorites are Hadley Harbor and Vineyard Haven. Hadley is a unique spot,and even
more peaceful during weekdays. We anchor in the outer harbor during the Summer to enjoy the better swimming and less crowded anchorage. Vineyard Haven is interesting if you enjoy seeing an active fleet of beautiful old sailing vessals. Late

afternoon and early evening brings many out under full sail.
We usually stay in outer harbor at Vineyard Haven which is less crowded. The tradeoff is the trip into Town is longer, and their is some serious ferry wake!
Enjoy your trip.
John Bordes, Vineyard Light

Tom,
My wife and I did a very similar trip last year. We left Boston to the canal to red brook harbor to hadleys harbor (E.Islands) to Cuttyhunk, to Vinyard Haven to Hyannis to Edgartown to hadleys harbor to red brook harbor (bourne) to sandwich to Boston. It took roughly 13 days and was an awesume trip. Advise, Must see Hadleys harbor and cuttyhunk. They make you feel like your at the ends of the world. Cuttyhunk has a great deal, in the am the local fisherman take orders for seafood and deliver it to you at your mooring around 3-4pm. You cook and have a feast. Boston Globe and Herald are also delivered to Cuttyhunk. Nice Island to walk also.
Wasnt impressed with Egartown. Vinyard Haven was ok. Hyannis was fun. The hole was awesume to go thru just be careful and go with the tide. Redbrook harbor is a nice stay, they have a Capt. Landing rest. which has good food and drink. Boston to the canal can get boring but youve got to get there.
Also, plan your trips with the tide, its very strong and can deter your plans. Winds can pipe up in the afternoon to 20-25kts so be careful. Nantasket sound has many shallow spots which are fairly obvious if you keep an eye out. Should be a great trip. Were doing 2 weeks this summer and are heading in that direction. The first weeks of August. Maybe well cross paths.
See you on the line wed. nite.
Steve Braese

Tom,
We cruise out of Portland, Maine and have done the Cape Ann/Maine run a number of times. The good spots to stop are fairly limited until one gets to Casco Bay (Portland) and then are great. Five days is very short though. The places we like are:
Annisquam (Annisquam Yacht Club has moorings and the trip through the canal from Glouster is fun.
Portsmouth (Portsmouth Yacht Club or the public dock near Strawberry Bank)
Kennebunkport (Arundel Yacht club) - watch the water depth!
Biddeford Pool (BPYC)
Portland is great with a number of good marinas and Centerboard Yacht Club where we keep our boat. If you can spend a couple days in Casco Bay, try Jewel Island, Sebasco lodge, Quahog Bay or the Basin. These will give you a taste of Maine anyway.

Have a good trip

Magazines

I know the list isn't much on sales pitches, but I received my second copy of the new magazine "**Good Old Boat**" yesterday and feel that it is something that I can recommend to all of us sailing our C&C's. The magazine is devoted to boats 10, 20, and 30 years old. You can check them out at their web site; **www.goodoldboat.com**

Check out the web site. I enjoyed the premier issue article on the Atomic 4.

Mars Metals

http://www.sailnet.com/marskeeltech
http://www.paw.com/sail/marsmetal/marsmetal.html

Lots of talk on this net recently about Mars Metals who made all the C&C keels. It wouldn't surprise me if they have already done one, have a pattern and can give you a price. Might be worth a phone call.

They just finished a keel modification for my 30XL, and yes, they are very familiar with C&C keels and what can be added or not. In fact, they talked me out of a 350lb addition in favor of a more conservative 250 lbs...remember they are in the business of selling lead (prices quoted are by the pound), so this bodes well for their honesty. In any event, talk to Kevin Milne at Mars, he's very knowledgable and helpful; tell him I recommended them.
Cheers, Greg

Mast and Spar Parts

Just checked my files and found Cinkel Spars ex-owner's name and work number - Jim Thulman (416) 580-1900. Spoke to him about a year ago and he still had oodles of bits and pieces.

Mast Noise

1. Mast Noise. The wires in the mast make a incredible racket. Does anyone have any ideas on fixing it. My idea is to take pipe insulation and duck tape it together and shove it up inside the mast with the wires inside. I will also place wire ties around the insulation and leave the ends on to suspend the insulation inside the mast.
As to the noise, I led all electrical wires through plastic tubing which I then pop-riveted to the mast. I've not come up with a solution for the internal halyards - I didn't want to put anything in the mast that could begin to shift around and interfere with other things - but when

we have a blow while at anchor I simply tighten up on all the halyards and it keeps things reasonable quiet. The trouble-makers were the antenna and electrical wires.

HI Tom.....What I used was 1/2 inch pcv water pipe worked well and quite easy to install..If it is realy noisy could be your internal halyards.If that is the case the bulkier foam isolation might be a better bet...
robert

Mast Step

When you un-step your mast (sigh!), remove the plate that the mast sits = on. Underneath it are two athwart-ship beams that distribute the force = of the mast over the keel area. C&C used 2X3/4 inch plywood encased in = fiberglass.
Unfortunately, the tops and bottoms of the wooden beams were not encased = in fiberglass, so water in the bilge or water dripping down the mast = would soak the wood and eventually destroy it.
The test is simple - expose the beams and stick a knife into it. In my = case, I could stick a screwdriver over 1 inch into the wood without = problem. I'm surprised my mast stayed up!
It's a tough but possible repair. Last winter I replaced the mast step = in our '73 C&C 30. Our surveyor found the problem the spring before. = Since we were about to launch, I did a quick repair by marrying on 1/2 = inch aluminum plates to each side of each beam, through-bolted with SS = bolts. I cut templates out of cardboard then had an aluminum supplier = cut them to shape. I did the final shaping on the spot.
Last winter, I removed the plates and gouged out the rotten plywood with = a chisel. I left the fiberglass sides to use as a form. I cut open an = aluminum pop can and used the metal to form a semi-circle at the bottom = of the bilge, and used copious quantities of tape to form a water-proof = mold open at the top.
I then spent days building up the step using fiberglass resin and lots = of matting cut to width. I saturated each piece and laid it into the = It took a lot of time and materials, but I now have a mast step that's = going to out-last the boat!
The hardest part is spending all that time hunched over in the bilge. I = scuffed a lot of knuckles and dropped plenty of tools into the bilge. I = was half-tempted to cut open the floor to improve access, but I didn't = want to deface the boat more than necessary.

Wayne: I have a C&C 30 1973, hull#241 . There are 4 wooden pieces that sit at the bottom of the mast.2 in front of the mast.2 behind the mast. Approx. 4x2x1/4 inch. I have an assortment of about 18 wooden pegs that centre the mast in the hole at the deck. I then set the mast with about 10 inches of rake. We go in a yearly race and do quite well. I have seen an assortment of different spacers. Some wooden. Some rubber wedges. It seems the end result is to centre the mast at the foot and the deck. Hope that's what you are looking for?

Our 30 Mk1 had lots of mast rake last season. I moved the mast all the way forward in the step and put my thinnest (1/2 inch?) wedges at the back of the mast partner. I was very pleased with the boat's behavior.

Last season we sailed with our 1-year-old son so we didn't do much heavy-weather sailing. If we had, our heavy rake may have added to our weather helm, but as it was it was perfect for up to 15 knots wind.

Ron, its going to take some time to compose a comprehensive response to your question on setting up the mast on your 38MkII. While I'm typing, here are a few references to consult on setting up your mast:

1. SAIL Magazine's "Best of Sail Trim" book. It is a collection of articles on sail trim and mast tuning. Its timeless.

2. Sailing World Magazine ran a series about 4 years ago by Roger Marshall. Try to get a reprint of the series. Sailing World is actively promoting their web site - this may be the best way to get a reprint.

3. North Sails - if you bought new sails from them, the least (and I do mean least) they can do is come out and help you set up the mast to match the sails that they built. I would think that they would eagerly volunteer to do this since the sails won't be optimized until the mast and rig is set up to match.

Regards - Dave

Mast

I have 1974 C&C 30, I have noticed the mast will start pumping, fore and aft, under certain wind conditions. This happens when the boat is sitting in her berth. It can get quite annoying because it can be felt throughout the boat. Can anyone offer any suggestions how this problem can be overcome.

Our 1974 30-1 has never done this. However, I talked to two owners of 30-2's
at 50 Point on Lake Ontario this past weekend who said they had experienced this.
One of them had experimented with rigging tensions and managed to eliminate
the pumping. I suspect that tightening the back stay to apply more compression
to the column would stop the pumping tendency by causing the mast to lock in
a slightly bent position.
Steve Scott
Oyster Bay

I have a '73 C&C 30 with the same problem. It usually occurs only at certain wind speeds and directions, and is caused by a harmonic vibration in the mast. I generally just change the rig tension by tightening or loosening the backstay (we have an adjuster). I suspect that the vibration may also reflect an over-tensioned rig, so I intend to experiment a bit with shroud tension - I usually keep them too tight.
We also have a spinnaker topping lift that exits the mast about 2/3rds of the way up. If the pumping gets really annoying, we can bring that forward to the pulpit and tension the middle of the mast.
Wally Kowal
Whistler II
C&C 30 '73 out of LSYC, Toronto

Modems

SSC make a range of modems for differeny jobs. weather fax to E-nail.
they are at 615S El Commino Real, San Clements CA 92672
I found the weather fax to work very well. I purchased it through West Marine.
But the Globe E=mail never worked. I yhink due to the modulator. There are
better Globe Wirless sugested a better unit. But I did not keep the mane.
They have a www.
>Does anyone know how to build, or buy, an inexensive modulator for an HF
>radio to plug into our laptop computer. We have been trying to find a
>kit., or a schematic on how to build. Help>>>

Mooring Systems

At one point I ended up with a boat that was too large for the mooring that I was using. A neighbor at our beach had constructed an enormous mooring for use on his own boat. It consisted of large bar bent and welded to an I-beam which in turn was fastended and embeded in a huge concrete filled barrel. After he had built this thing on the beach, in the sand, above the high water mark, he couldn't budge it!

I waited about a month and then I approached and asked what he intended. He said he didn't have the slightest idea, had given up hope, had rented a mooring accross the harbor and was thinking of hiring a crane to move this thing to the dump but was unsure if they would accept it..- did I have any ideas? Well as a matter of fact.....

So I used this for several years when along came hurricane Gloria. Now I was sailing a trimaran at the time and Multihull Magazine had a photo of a sistership called "Jack Flash", airborne, and tethered to her mooring line at 125 mph. And I dont know if mine got airborne or not but she dragged about a half a mile - much damage.

So I got a mushroom and dragged it with my last boat and now this boat needed a new mooring. So I read up on all the tests and went down to the

mooring store for a shiny new helix. Although they have been installing them for many years, they didn't recommend them anymore! They suggested a "dor-mor". After a fashion we went with a similar mooring from Seaboard.

We ended up with a 600# (650 really) paramid shackelled to 1.25" navy chain to a swivel to 5/8" top chain, through a ball to another swivel, to 1" nylon, to a pair of 3/4 nylon bridles through plastic pipe chafing to the deck cleats.

Gerrit,
I have a C&C 32 here in Marblehead, MA. We are moored near the mouth of the harbor so we have somewhat extra heavy gear. We use a 3000 lb cement block with 40' of 5/8" bottom chain and 40' of 1/2" top chain connected to a mooring buoy which has two twelve foot 3/4" pennants with chafe guard. I have seen our boat go through several noreasters with wind in excess of 35-40 knots and never had to worry about it. My mooring company always pulls the mooring every spring to check it all out. I easily sleep nights knowing that we have good equipment.
Hopefully this will give you something to go on.
Tom Anderson

Mooring systems

Generally, I think we were somewhat low in our weight, my neighbour here has a similar arrangement except double then what I had and his C&C30 last year did not budge during the hurricane that came by here.
So I have now added another 500 pounder chained to the existing main chain leading from the ball to the concrete original, I just made 1 ft dia loop in the end of the 20 ft chain and wrapped it around the chain uner the ball and let it slide down to the bottom and then dropped the concrete.
I did find that the kind of bottom all these contraptions go in is crucial as well for holding power and had my original not been resting on a large rock surface she would have stayed put as well.
Here are some of the responses:
I really liked the last one, if I only had the equipment/manpower to drop some of those babies :-)

First I think your estimate of weight may have been a bit high, also concrete
looses about 40% of its weight in water. I would suggest at least 1000 lbs. of
iron or steel.
Joe

Gerrit : How about lifting the mooring out and welding 'projections' at all angles from the barrel....giving it considerable more holding power,
Susan

Gerrit: From what little experience I have. It looks to me from what you described that your chain wrapped (from lack of a swivels) and your boat became a mooring puller. I would suggest that you go back to the drawing board and put a swivel at the mooring,then another mid chain,and the one at the ball. Does your chain go through the ball or is the swivel at the bottom of the ball? Is your pennant attached to this swivel? If the mooring ball is attached at the bottom and not through the mooring ball you should add a short piece of lighter chain (about 3 or 4 feet) from the swivel to the mooring ball. Then attach your Penant to the swivel.
Hope this helps: From down South of you on Long Island Sound where we get some wicked Nor'Easters.
Regards Andy

Hi Garrett,
Hope your 32 didn't get damaged on her "sail". Could have been lots of things. Is the concrete still on the end of the chain or did something break ? The holding power is often contingent on the weight sinking into the mud which creates suction holding power well beyond the weight. What kind of bottom do you have ? The fact that the wind was from an "unusual" direction would indicate that the different angle pulled the concrete free of the bottom. When you stop and think about a 10,000 pound boat, 600 pounds isn't a lot to move. Did you have enough scope for the water depth? Was there an especially high tide? Your 32 would have no trouble at all floating 600 pounds if the chain became tight (at short stay as the Navy says)- for whatever reason. Once you answer these questions, both I and many others on this net can offer some advice on how to prevent further "self sails".
Regards,
Hank Evans

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Tom Anderson

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Yeah that oughta hold it!

Ed
"Elusive"

Hi, I'm a Park Ranger at one of the Washington State salt water parks. The mooring system parks uses is a follows:

Starting with the ground tackle, the main anchor is a one-ton (2000 lb.) block of concrete. A 6' min. of 1" chain is fastened from the main block to a 500 lb. concrete block (bouncer block)- swivel at each end of the chain. Then from the "bouncer block" to mooring buoy, we have a 30' length of 1" synthetic

line - swivel at each end- this is attached to
3/8" chain (min. length 10' or 20' less than extreme high water, which
ever is greater). The length of the 1" line plus
3/8" chain is to give a min. of 3:1 scope to the "bouncer block". This
system is recommended for up to 45' boat.

I realize that this might be "a little" over kill for you boat and
conditions. But it might give you some ideas to change
your mooring system ie. Increase scope, more weight to main concrete
block, add a "bouncer" block, etc.

We have friends who permanently moor their 39' boat to a 50# fisherman
anchor with 3:1 scope and have excellent
success. This allows them to pull up the anchor once a year to check
shackles etc. - and we can buy fisherman
anchors here in Seattle for $1.00 per pound.

Steve

N

Net staying on the net at Sea
I found the Globe world SSB/HF e-mail system to not work well.
I am thinking of trying the Magellan GSC 100. on my next trip. That provides E-mail via Low Ornit Satilites next. At 1000 it's a good buy. The Immersat C is available for $3000 but I can do with out the fax.
I was not happy with SSB/HF because often when you are 1000s mls from a Englidh speaking shore you can't get heard. Particully in day light hours. The Satalite options avoid this problem. I am going to look into Satelite radio reception as well instead of short wave. for ABC and BBC reception. T bad VOA is not on much.
Has antone had results with the GMagekllan GGSC 100?
Regards
Barry

I have an InSat unit that is to be global by the end of 1998 using low orbital satellites.
E-mail me if you want more info. Here is their net address
http://www.networkalpha.com/

Fair winds and blue skies,
William Stearman

Barry--
Your comments on SSB email were much appreciated; I've been looking into various systems, including that one, but it's hard to get comments from anyone with real-world experience using them.
I haven't tried the Magellan myself, but have heard a number of good comments on it from people who have tried it out on W. Coast of US and Mexico. You might also look into other systems using the Orbcomm satellites that Magellan uses; I believe there are some that do much more full-featured email using your PC, and for an entry price at or below the Magellan unit. There was a pretty good article on staying wired at sea in a Cruising World a few months back; it should be on their website, which I believe is www.cruisingworld.com.
I also seem to recall a decent article in Latitude 38 last summer sometime, but I don't believe their archives are online (great site, though; www.latitude38.com).
I would be extremely interested in comments from people who have actual experience using some of the various systems in a cruising environment. I'm looking at everything from borrowing landline access when in port (my current modus operendi) to acoustic couplers for payphone use to cellphone modems to SSB and satellite.
Larry
sv Omar Khayyam
Hans Christian 43T ketch

We've used most of the systems described here amd if accessing email while in port is your concern, then by far the easiest and cheapest way is to just walk into an internet cafe (which are in the most out-of-the-way places now) and have a cup of coffee and pay five bucks to surf then net for an hour. Just get a free internet-based email account such as Hotmail or Rocketmail. You can then suck your waiting email from your home account (if you decide to keep it going). You can send out 300 emails in an hour, PLUS get all your email from home. Nothing could be simpler.
This saves the cost of long-distance charges using the acoustic coupler or cellphone, which for example from Mexico, can be as much as 10 bucks a minute. We like to type up all our out-going email and save it onto a floppy and then just cut and paste it into the email we send out. This saves time typing at the cafe. SSB/Ham packet is great when you're offshore, but does require a pre-setup to an automated land-based ham-connected email server, and they run about $20/mo. Standard ham-packet only runs at 300 baud, and in 2-meter you can run as high as 1200 baud - although slow, it's fine for email. Just tell your friends NOT to send pictures in their email.

William,
I'm planning a long term cruise to Mexico and beyond before the end of the year. The InSat system sounds too good to be true. I accessed their site but it really doesnt say much about the system as of now.

Is it currently working? Will it work anywhere? What is the cost? What has been your experience in using it?

Works from cellular phone sites currently. But it is my understanding as long as your given IP address works there is no additional roaming charges. I'm going to Chicago later this week and will try it there and see what the "charges" if any are at that time. Then I can give you a real-life answer rather than from sales or customer service representative that is not in the "field".
Currently, I am on my boat in a marina that does not have land lines checking e-mail and surfing the net. It beats me hooking up my cell phone to my 33 modem, especially during the day when cell phone charges are $0.30 per minute.
Fair winds and blue skies,
William Stearman

William,
Are there any monthly charges for this service? Would you be able to access the Net in the middle of the ocean? What about Internationally or in 3rd world countries that don't have cell phone sites?

Currently the monthly fee for unlimited internet service, 2megs for a personal website and unlimited e-mail is $19.95 per month if paid annually ($239.40). The InSat unit is $399 and will require an Upgrade they tell me for maybe $150.
Later this year all of the low orbiting satellites are supposed to be in place which will allow worldwide service...but I'm waiting to see. I certainly hope so because my intention is to start my circumnavigation in '99.
Their site is http://www.networkalpha.com/

Numbers

>	NIAGARA 26	NIAGARA 30	C&C 30	C&C 33
>				
> LOA	26.67	30.0	30.0	32.83
> LWL	23.0	23.5	25.8	26.5
> BEAM	8.33	8.5	10.8	10.6
> DRAFT	4.0	4.0	5.8	5.5
> DISP	4000	4000	8275	9800
> BAL	1700	1800	3150	--
> S.A.	316	320	466	514
> Mast Height	38	--	--	--
>				

> DISP/LWL 147 138 215 235
> SA/DISP 20.12 20.37 18.28 18.02
> BAL/DISP 0.43 0.45 0.38 N/A
> V HULL 6.43 6.50 6.81 6.90
> V RATIO 1.20 1.20 1.14 1.13
> CAPSIZE RISK 2.03 2.07 2.07 1.92
> COMFORT FACTOR 15.2 14.0 19.9 23.0
> LOA/BEAM 3.20 3.53 2.78 3.10
>

O

Oil samples

The postage on the box I have is US domestic, you might contact them directly by mail to find out about the current state of the program but I doubt they care where you live as long as you add the postage for the sample to be shipped to them.

Quaker State Oil Refining Co.
COMP Program
ATT: Research Center
POBox 989
Oil City, PA 16301

OMC, or **Outboard Marine Corporation**, can be located in Waukegan Illinois.(just north of Chicago)
Their main parts distribution is from there, for North America.
They can be reached on line at "Outboard Marine Corporation-Online"
URL:http://www.omc-online.com/intro.html
Or if you phone information at 1 800 555-1212, they will give you their customer service department
phone number.

Oven Hillrange

STOVE - HILLERANGE - made by Seaward - 818-968- 2117

Seaward Products
15600 Salt Lake Avenue
City of Industry, CA 91745

I have a 1984 C&C 35 with a Hillerange propane stove and oven. Everything works except the oven. The pilot light works, but the oven will not light. I suspect that it may be the thermostat or ???.
Does anyone know if Hillerange is still in business or where parts are available?
Any ideas appreciated.

Dave:
My Hillerange oven died last year, and the culprit was the thermostat. Hillerange is still in business, and I was able to purchase a replacement through West Marine, special order dept.
Trusting this may be useful,
James Libby S/V "Blithe Spirit"

I have a 1980 C&C 34 with same range. I was able to get a replacement thermostat at the local RV dealer. No problem to install. On occasion the tip gets a little far from the pilot and the oven will not light. A slight movement solved that problem.

Dave. When you turn the oven control on does the pilot get bigger?The larger pilot should burn on a capillary at pilot with a wire that runs down to a small block with orifice that burner sits on. Make sure pilot is clean and burns on that capillary. When you turn oven control on the pilot gets bigger,heats up capillary within 2 min oven burner comes on.if not the part you may need is called an oven saftey,If the oven doesnt come on after 2 or 3 min you can try heating up capillary with a propane torch.If the burner comeson that will confirm that pilot saftey is week and needs to be replaced. Usually something has crawled in pilot and makes a nest or is just dirty.It normaly takes 1 to 2 min for burner to light after oven control is turned up.
Brad
Magic Dragon
C&C 30

P

Parts

Those seeking hard-to-find (used) parts etc could contact <SAILORMAN>
Ft. Lauderdale, Florida.

E-Mail: Shop @ Sailorman.Com
Tel: (954) 522-6716 or 1-800-523-0772
Fax: (954) 760-7686
They are billed as the world's largest & most unique new and used marine emporium.

Plastic Plugs

>I have a C&C 27 Mk5 and I'm looking for a supplier of replacement
>plastic plugs for the access holes in the ceiling liner. These holes
>are for the nuts and bolts for deck fittings. I've looked at a couple
>of regular hardware stores and I just get blank stares. Anyone have a
>suggestion?

We were at one time a dealer for Mirage Yachts - They used similar plugs and we do have some in stock that we obtained from Mirage before they closed. These plugs are white, slightly domed and are 7/8" diameter where they go through the liner. We sell these for 0.25c each and only have about 20 left. They are probably made for some other use, but I don't know where else to find them - Have you looked in a West Marine catalogue?

For plastic plugs for your headliner, try South Shore Yachts at (905)468-4340. I just purchased some 1" plugs from them - about $.90 each (Canadian?). They are the source for replacement C&C parts.

We have undertaken extensive work on our C&C 25,Savannah, and I looked for replacement plugs every where, including all the big box hardware stores. I called Steve at South Shore Yatchs in N. O. the L. They have them in numerous sizes. Give them a call. I ordered 2 dozen of 3 sizes...to allow for breakage and screw-ups. The plugs are slightly whiter than the interior colour, so we dyed them (slightly less white) by soaking in tea. Experiment first with the stregth of the tea and the time. By the way, I did see them in the local (Sherwood Park) Home Hardware Store, 2 days after I ordered them from South Shore. Adios John Craig.

I saw some plugs at Home Depot this weekend as well
I understand that the plugs were designed for Recreational Vehicles. Try an RV supplier.
Alternatively, The Rigging Loft/Rigging Only, (508) 992-0434 or **www.riggingonly.com** had them in stock last year.

PHRF

A couple of others that also have both PHRF and the boat data I.E. I,J,P,E. LOA, LWL.Displ. draft, etc are the Long Island Phrf web site at. www.pipeline.com/%7ewayneb/phrflis.htm and the No. Calif Phrf web site at www.well.com/user/pk/YRAphrf-sf.html. Or they both can be linked to from Wayne Beardsley's web site at www.pipeline.com/~wayneb/

Points of Sail

Doug-
While the particulars of your boat and rig do count, almost 100% of the time running dead downwind is the slowest way to get there. Broad reaching should be something like 20-35% faster in almost all cases. If you know how fast you can move on different points of sail, you can figure it out with math, but if you have access to a set of polar diagrams for your boat (or any boat) you can read it from the polars.

The math works like this: Draw a square box. Draw a line across two corners. Label those two corners "upwind" and "downwind". Traveling out on two sides of the square is like broad reaching at a 45-degree angle across your downwind goal. If you measure those two sides, they are about 1.41x longer total distance than going straight down the diagonal line. So if you can travel at 1.41x windspeed, instead of running downwind at windspeed, you get reach the goal just as quickly by taking the wide angles.

In reality, you wouldn't be reaching at 45d off the wind, you'd be gybing close in, maybe at 20-30d angles. And you'd probably be going more than 1.5x windspeed, so the numbes add up. Taking the "long way" downwind is incredibly effective. Watch any racing fleet--if someone is heading dead downwind, and someone else is reaching, the guy reaching will "all of a sudden" be way ahead after a half hour. (All else being equal, as it so rarely is.<G>)

North Sails offers some really great seminars under the name "North U." that teach all about racing (or cruising!) strategy, a great excuse to get a crew together off-season.

Polar Diagrams

US Sail 401-683-0800 Fax 401-683-0840 CompuServe:75530,502 This is the info from My run Good Luck on the coursr TRUST ME

> I'll give it a try. A **polar diagram** is a graphical depiction of a boat's
> speed performance over a variable course with respect to wind angle at a fixed
> wind velocity. Having said that, here is a way to imagine the concept:
> Think of a compass card of radiating lines in the center of a piece of paper.
> Label the "north" vertical line as 0 degrees. Now graduate each radius line
> with equal units from say zero to ten knots with zero at the center and
> increasing windspeed plotted "out" from the center. The data is taken on a
> sailing boat when the boats actual speed at the appropriate wind angle is
> plotted along each line from zero (dead in irons) degrees at which you'd
> actually have a zero or negative boatspeed, and each successive radius every
> 15 degrees until you reach 180 degrees (a dead run). If you then connect the
> "speed dots" on the diagram, you'll have a curve that plots the boatspeed of a
> sailboat across the full wind "spectrum". This produces what is known as a
> "half-polar" which would describe boat performance on port or starboard which
> are, in a perfectly tuned and sailed boat, usually symmetrical. Full polars
> (0-360 degrees) are often used to detect differences in rig or hull geometry
> from port to startboard.
>

I don't have a 34 but I do have a 35 and the optimum run angles, from the polar diagrams, are:

8 kt	103 degrees apparent	143 degrees true
10 kt	116 degrees apparent	148 degrees true
12 kt	145 degrees apparent	162 degrees true
16 kt	167 degrees apparent	173 degrees true
20 kt	171 degrees apparent	174 degrees true

I compared my polars to a very different boat (a 30' Scampi) and the polars were surprisingly similar. I doubt that yours would differ by more than a few degrees. Personally, I have a hard time holding my helm within a few degrees. Hope this helps.

Here's the polars for my 1982, C&C-34. I hope this is helpful.
Based on a symmetrical spinnaker set-up

Wind Speed Knots	Optimum Gybe Angle Degrees	Theoretical Boat Speed Knots
6	99	
4.2		

8	107	
5.1		
10	129	5.5
12	151	5.9
16	168	6.7
20	170	7.3

Polars for 155% head sail

Wind Speed	Max Upwind Point	Recmnd change to Spin.	Max boat spd
Knots	Degrees	Degrees	Knots
6	25	43	
5.6			
8	26	46	
6.3			
10	27	53	
6.6			
12	28	58	
6.9			
16	30	70	
7.2			
20	32	77	
7.5			

Preventor

Greg - If you have a block and tackle - type vang, use it by adding a "medium" size snap shackle to the bottom fiddle block (my always have had them, although I have a solid vang now). You then attach in to the toe rail about where the shrouds are, BUT it can cause problems if you do gybe...difficult to release fast enough and you'll round up so fast it will make your head swim! Alternatively, put a snatch block on the toe rail in the same place, use a 1/2" braid with a wichard hook or caribiner, then run it back to a cockpit winch. This way you can release it if you do screw up.
Cheers, Greg (the other one)

Greg Cutter

Props

You seem to have some interesting problems. I may have come in at the end of the line and this may be useless information but

1. I have been involved with boats for 30 years or so and have had some luck at getting the right size prop on them. A couple of things - prop

diameter (the first number) controls the engine RPM (power) while pitch (the last number) controls the boat speed. Therefore by putting a lower pitch prop on the boat speed will be reduced at any given RPM.

Unfortunately you can't get your boat to 20kts just by putting a prop with greater pitch because you get to a point where the prop turns the water to seltzer and nothing happens. In a perfect situation, the pitch is just shy of this cavitation point and the diameter is selected so that the engine will just reach max. I prefer to actually max out 100 RPM under maximum rated RPM. I should also say that as the pitch is changed it will also affect RPM but to a smaller amount.

As you may gather all of this does verge on black magic.

I am not sure if 2400 is your max RPM for this engine (on our C&C 44 max is 4000) or whether this is your cruise RPM?

2. Backstay - What is the method of tensioning the backstay? Our 44 uses hydraulics. I have had to block the mast slightly forward at the partners to get the bend we need + really harden up the babystay. If the babystay isn't pulled all the way forward cranking on the backstay inverts the mast rather than allowing it to bend backward. It doesn't hurt to have a bit of prebend to start with. The reason you want to bend the mast is to flatten the main to reduce heel and drag when the wind comes up. It also will help the pointing and helm feel.

I don't know if this is information you currently have or whether any of this is new. If I can be of anny other help please drop a note.

Cheers, Hale

Hale (Warren Hale)
Richmond Sailcraft Yacht Charters Ltd.
tel.604-277crew(2739) fax 604-277-2721

Hi Maurice,

Our 29 walks to starboard but a few thoughts on how to overcome these nasty habits. When we get ready to back out of the slip, I do one of two things depending on the wind: 1. motor ahead slightly to kick the stern to starboard and cock the boat in the slip. 2. motor ahead against the after spring line to accomplish the same thing.(old Navy ship handling trip) Once the boat is cocked in the slip I give it a stong reverse to gain sternway and get the rudder to "catch". It walks to starboard, of course, but about the time the boat is straight, its moving aft and the rudder will keep it that way. Of couse wind, current or tide can compound all of this but the basic idea is sound and works.

As far as docking against the wall goes, try bringing the boat along side parallel a little off the wall then kick the stern in and bow out with the rudder before reversing. With a little practice, you'll be back parallel to the dock, thanks to the walk, just as you come dead in the water. (perfectly alongside for a 3 point landing - of course !) You do have to be careful with this if you are against a current or wind which could carry your bow on out away from the dock (this used to be a problem at YYC docking against the

current of the Niagara river (4 kts.) We always had to make sure to get a bow line over to the dock and instruct the handler when or when not to pull us in.
Hope these ideas help.
Regards,
Hank Evans

this may be of some help...http://www.torresen.com/yanmar/yanprop.htm
rbt ..safari

Prop shaft connection

Bob,
Try removing the set screws, drilling out deeper holes for them in the shaft,
install slightly longer hex head machine screws with lock washers, tighten them and lock them into place with stainless hose clamps.
Steve Scott
Oyster Bay
30-Mk1

Since being in the machine trades for twenty years, it's been my experience to mount couplings to shafts routinely. Most larger couplings and shafts are drilled and reamed for a tapered pin.
In the marine world, a tapered pin would be exceedingly hard to remove and may bend as force is applied. The corrosive seawater environment can also be a problem. Smaller couplings need more of a mechanical lock that two set screws apply. Three at thirds would supply a stronger load.
I would suggest drilling (point) the shaft through the coupling at 90 degree angles using four (4) tapped set screws. Dog down the first into the shaft with a ground-in point (at least 45 degrees) close to the shaft. Backup this set screw in the coupling with another one tightly behind it, but use some Neverseez. Duplicate the same at 90 degrees. Run a stainless steel wire through the second set of set screws and check periodically.

If the shaft loosens off when you are in reverse the whole works will head south through the stuffing box. Big hole in the boat. Lotsa water. If you put an anode on the shaft ahead of the cutlass bearing this will keep the shaft in the boat. I used 2 anodes on the shaft ,you know just in case. Great for piece of mind.
Brad
Magic Dragon
C&C 30

Pump (Raw Water

We have a Perkins 4-108 which probably has the same raw water pump as the 4-107 (Jabsco 3270-200). I have rebuilt ours at least once. If it is leaking from the cover plate, check the gasket, screw tightness, or flatness of the plate. If leaking from the rear seal, replace the seal.

Perkins parts are available by mail from Foley Engines, 200 Summer Street Worcester MA 01604 (800.233-6539, 508.753-2979, 508.799-2276 fax). They will also sell you the manuals and parts catalogs. There are other suppliers; Perkins parts are easy to find all over the USA.

The impeller kits which include the cover plate gaskets are off the shelf at West Marine and other stores (Jabsco kit 1210-0001 $22.70).

Q

R

Radio

Where are the SSB nets in the Med, if any?
Try these:

Time	Area	Frequencies	Chan No
0800-0900	Local Aegean informal	4417 kHz	-
0500Z	Greek/Turkey informal	6224 kHz	6A
0645Z	Greek/Turkey informal	12353 kHz	12A
0530Z	Eastern Med Net	7088	

Regatta

Folks;
>
> The 1998 running of the annual (14th) C&C Owners **Regatta** is scheduled
> for **June 27 & 28, 1998** at the National Yacht Club in Toronto. Come and
> join 135 C&C yachts for a fun week-end of partying, racing, fireworks
> and prizes. Honorary Chairman George Cuthbertson (one of the C's in
> C&C) will be on hand to award the prizes and talk about his designs
> with any owner.
>
Information re: this regatta will be mailed next week. If you'd like to be included in the mailing, please forward your mailing address to me.

> Marjorie Hare at 416-592-3471 or at marjorie.hare@hydro.on.ca.

Rig tuning

Greg,
Backstay tension is important for two reasons. First, to keep the headstay tight - critical for upwind work and requiring more and more tension as the breeze builds. Second, to change the shape of the main - particularly if your rig is fractional - generally, the more tension, the more bend which flattens and depowers the main. (It is not quite so simple with masthead rigs, which hopefully have baby-stays to accomplish this).
I don't have anything to offer about how your mast was set up, but even for cruising, these are adjustments you should have to set your rig to the conditions and keep your ride comfortable and safe. (Headstay tension can help you power through chop as well as make the boat faster, a flattened main can make it easier to handle and reduce healing).
Good luck,
Nikos Singelis
Washington, D.C.

Hi Greg,
Mast bend should be induced by your side shrouds, baby stay etc. The back stay is used primarilly to tighten the forestay although it will also tend to increase the bend already tuned into the mast. It sounds like your mast may be out of wack at the step or deck partner or both and that you need to tune the rig. It is possible that maybe you got the forestay put back on with an extra connector or in the wrong hole,
so I'd check that first.
There are undoubtedly people on the net who can give you some specific tuning tips on your model.
Regards,
Hank Evans

I'm a new owner of a C&C 35 Mark III, actually the prototype boat for the Mark III, and have just gotten it into the water. I will be racing it actively and am wondering if any racers with the same boat can suggest optimum deck layouts and rig tune for this boat? I will be racing both day races and offshore races.
Some of the questions I have are:
Mast butt position
Do I keep the babystay or remove it from the deck?
Is there any use for those damned padeyes all over the deck (other than the one for the foreguy)?
Under what wind/sea conditions do the running backs become necessary?
Efficacy of reefing
Is there any purpose for that small inboard jib track that abutts either side of the companionway?
etc etc etc
Do any racers have any feedback on UK's tapedrive sails? I need a new

set of sails and am considering UK because their service is excellent in this area (Marblehead, MA).

Originally published in the C&C 34 Association Newsletter (Toronto)

TUNE-UP, TUNE-IN
& TURN-ON!
Sound like something you heard back in the mid-sixties?
Nope! Just some timely advise from a '34 expert!

By Greg Bratkiw

In the past, I have always found that a race can be won or lost even before the start. Tuning, bottom preparation, running rigging checks, sail testing and crew training are all essential to the outcome of a race. These should also be completed before the start of race season. In this discussion we will deal primarily with mast tuning.

Tuning your rig only takes about 1 to 1 1/2 hours. The steps given here are the simplest yet most effective method to mast tuning on the C&C 34.

1. Hoist a metal tape measure (or plumb bob with wire) up the main halyard until it stops in the sheave. The tape measure is used to help center the top of the mast on the boat.2. Find a fixed point, preferably a toe rail screw or stanchion base, directly abeam of the mast. Locate this same reference point on the other side of the boat. These two points will be symmetrical about the centerline of the boat.
3. Pull the tape enough so that it does not sag and measure to your reference point. Repeat this on the other side of the boat. If the measurement is identical on both sides then proceed. If not, adjust the turnbuckles on the upper shrouds accordingly.
4. Tighten both sides with equal amounts of turnbuckle turns until the mast begins to buckle or 'noodle'.
5. Snug up the lowers on both sides. Periodically look up the mast groove and adjust the lowers to straighten the mast.
6. Once straight, increase the backstay tension to 2500lbs and tighten the jackstay. This will compress the rig for easier turnbuckle adjustment.
7. Tighten the upper shrouds so that they are very tight. Remember to adjust both sides equally.

8. Remeasure with the tape to double check mast position.
9. If lowers are loose, snug them up.
10. Once the mast is straight, ease the jackstay and release the backstay tension to 500lbs.
11. Since the C&C 34 has discontinuous rigging, your intermediates must be adjusted at your spreaders. Send your least worthy crew up in a boson?s chair. The intermediate shrouds should be wound up only hand tight. If they are too tight, the mast will deform when sailing. Be sure to pin these turnbuckles. Wrap the spreaders using nylon stockings and cover with white electrical tape.
12. Pin the rest of the rigging and tape for protection.
Hopefully by now your rig should be straight. Mast tuning is one of the most important pre-race duties to perform. Let's not forget that your sails will also be affected if this is not done.

Greg Bratkiw is a Toronto-area sailmaker
and experienced 34 owner and crew.

Roller Furling

I wouldn't take a chance on using anyone else's forestay length. Murphy's Law being what it is I know I would be sorry:) I installed a **Schaefer 2100** on my C&C 33 a couple of months ago. I am very impressed. As I have rod rigging, it was necessary to have a capable rigger assist me and, frankly, getting the correct fitting from Navtec turned into a class A headache. Practical Sailor has a number of roller furling reviews, but I noticed they went with the Schaefer on their previous test boat, a C&C 33, so I figured it would work for me.
As I recall, they replaced the rod forestay with the more common rigging and fittings to facilitate diy installation, but their preference for Schaefer was based on the "ease" (a relative term:)) of installation.
I had a Harken on a previous boat and found it excellent.
Defender Industries discounts Schaefer by 35%. I bought mine from the local **West Marine** store which was willing to match Defender's price. I really like Schaefer's lead block system and recommend it highly.

Dave I installed the **Schaefer 1100** on our **1974 C&C 30** and we are pleased with the system.After one season of sailing i wish now i had done it 10 yrs. ago.
It came with the Schaefer lead blocks that slips over the stanchions. It's a slick system.
I purchased it from Genco in Toronto. They were the best price i

could find. I installed it my self with no problems. I had them cut my forestay as i figured they could do a neater job than i and did the rest on a
Saturday. my .02 cents Brad C&C 30 Magic Dragon
Brad Kolpin [finsup@hurontel.on.ca]

Rudder Fix

I just had my C&C29MKII 1984 surveyed for insurance (just bought the boat) and the surveyor noted seperation of the rudder which could eventualy cause water logging. I am interested in the rudder fix for your 25. The rudder is not yet water saturated.
Also - survey found water building up under the head. Should this be flowing into the bildge. I read a number of letters recently about the passage way under the mast step clogging up on 29's.
Lastly, he found minor keel seperation (a fine line where the keel is joined). I notice this on almost every C&C I looked at. I was thinking of filling it with West System epoxy and a filler. Any comments.

The rudder on a C&C 25 is transom mounted. The rudder has 2 gudgeon straps, with the lower being below te water line. The water seeps in where the strap is attached to the rudder. The fix is to remove the rudder from the boat and drill a hole upwards at the bottom of the rudder (you will need an extended drill bit) to let the water drain out. Depending on how tight the rudder is you may have to drill a second hole about 2/3`s of the way up the rudder ( top of the hollow portion) to release the air pressure. This gets the water out; you then rebed the gudgeon strap, and tap and bed screws into the drain holes. At each haul out you remove the screws and drain any water. This way water doesn`t overwinter in the rudder and freeze, which often leads to a separation. This is apparently quite common with 25`s, however with your 29 I recommend that you speak with Nick Bailey at Bristol Marine in Missassauga (Toronto). Nick was the service manager for C&C for 8 years and is very helpful over the phone. If you actually have a separation you may be looking at some bad news. I know that Steve at South Shore Yachts can supply new rudders for 25`s and probably for 29`s as well.
Bonne Chance, John Craig; Edmontn

C&C very cleverly left out any weep holes in the space just in front of the head. I have not drilled any, but keep thinking about it. The trouble is, tht the logical way to drain, is into the space under the sink, and that also has no way out, sooooooooo.
my 29mkII also had that keel seperation. I would fair it in and it would be back in the fall. Then I tightened the keel bolts! all is now well.
Ralph Mudge "white Bird"

Lastly, he found minor keel seperation (a fine line where the keel is
>joined). I notice this on almost every C&C I looked at. I was thinking of
>filling it with West System epoxy and a filler. Any comments.
I also have a 29MKII -- mine's an 83 model. And I have the same separation.
For the first few years of owning the boat, I faired this seam each year,
and each fall on haulout, the separation was back. I tightend the keel
bolts (even though they wern't loose), and nothing helped.
But when I bought the boat, the surveyor told me that C&C's do this, and it
is nothing to worry about, as long as everything else is okay.
Imagine the lateral force on a keel-hull joint when the boat is heeling 30
degrees...then add choppy seas to that. It would be difficult to get all
the wobble out.
Every C&C 29 I've ever seen out of the water has this separation, and I've
never heard of any keel problems with this boat.
Ron Hiner
Breakaway

I had this minor keel seperation on my 1980 C&C 36 and put 3/16 stainless
plates on the inside under the keel bolt nuts. I removed them one at a
time, while hauled, to install them. The plates are 6" by 8" on the ones
that are at hull level and 6" by 6" in the bildge. I also put two plates
on the forward one.
I put bedded them with west systems filler and tightened them down. No
cracks after 3 years. Gerry/Mintaka
PS: mine required 300 ft/lbs of torque. Used 3/4 in breaker bar and 3'
pipe to provide the needed torque.

Ken (& the others) absolutely right; this is one of C&C's few booboos
The simplest fix is to address the source of the water; likely a slow leak at
the fawcet set. The connectors used with polybutylene pipe (stiff grey pipe -
looks like PVC) have been the subject of a class action suit
(commercial/residential installations) due to their inclination to leak. I
have replaced the original polybutylene pipe with polyester-reinforced PVC
hose. Another possible source will be the handheld shower hose (if
installed). My handheld shower hose is 14 yrs old, and gets very heavy
use(we flush the head /w it when shore-bound); and just recently started
leaking. I have seen an excellent products in a local plumbing wholesale; but
can't remember the name. Will advise details soon.
If the water build-up is in the showetr sump (inboard of head), then look to
the MSD (head). Obviously, this is a nasty place to be leaking.
I ditto the advice you received regarding keel seepage.

Rudder

A few weeks ago I noticed 4 to 5, very fine, parallel cracks extending from
the midpoint of the rudder (both sides) up vertically to approximately a
foot from the rudder top. The boat is stored on shore and yes, it is

winter here in the Toronto area. These signs suggested that I had a nice little block of ice formed inside. This past Saturday, being as warm as it was, prompted me to drop the rudder (nice having a fin keel!). Sure enough, even as I lay the rudder on its side, 2 to 3 cups of water drained from the shaft.
I have now stripped the antifoul down to gel for closer inspection of the cracks. They are extremely minute (more or less disappeared after the ice melted). The swelling does not appear to have caused the halves to separate at any of the edges (I am assuming these rudders were built in halves and joined together on the post). Also the point of water entry appears to be where the post extends from the rudder (this point is submerged when the boat is in the water). I have also drilled three, 1/8" test holes in the mid section area to permit complete water drainage (approx. 1 more cup dribbled out).
Now, how to repair? Any thoughts out there?
Obviously the source of water entry must be closed off. I am thinking about digging into the gel surface around the tube and filling with epoxy (West) or would some form of flexible compound be better? Next, I would assume that the entire rudder should be coated. Again West is a possibility but I am considering using 3M "Marine Water Barrier Coat". (Anyone have any experience with this product?) I figure/hope the cracks are cosmetic in the gel and have not weakened the structure, hence applying only a top coat and not applying glass. Finally, can anyone answer whether there should be a hollow cavity inside the rudder. I would have thought that this void would have been filled. Any thoughts if I should consider filling this cavity at this time and if so, with what?
Regards,
Earl Black
Spyce 1

Earl, I too had water in my rudder. I spoke with Nick Bailey at Bristol Marine (he was service mgr. for C&C) in Missasaugga. He described the fix with me...all over the phone. John.

For what it's worth...I can carry the rudder of my C&C 25 under one handed under my arm...it's pretty light. A friend of mine said his feels like it weighs about 100 lbs. That could DEFINATELY be a sign of water in your rudder.

Hi Earl,
I'll let others, more experienced than I, advise on repairs. I can tell you that the rudder was indeed made in two clamshell sections. The void was filled with foam but that filling was not always complete. The design concept for C&C's rudders was to put a large steel plate (lightened with circular holes) which was tack welded to the rudder shaft. There were then stringers welded from the outside of the rudder post back to the rear edge of the plate. Usually 3 to 5 on each side depending on size. The idea was that there was

enough of a steel rudder inside to drive the boat home if the shells were damaged and lost at sea. If memory serves, it was an expanding type of polyurethane foam which is supposed to fill the void, but doesn't always do so. Hope this helps.
Regards,
Hank Evans

Hank,
Was that stainless steel or mild (i.e. "rusting") steel?
Our rudder's 25 years old this season ('73 C&C 30) and we've had water inside since we bought the boat 4 years ago. We just drain it every fall through a plug that I've installed. If the internal structure is mild steel, that may spell trouble.
Thanks,
Wally.
Whistler Ii
C&C 30 '73 out of LSYC, Toronto

Earl,
Been there done that.
I also found water leaking from our rudder and decided that rather than trying to keep the water out of a submersed item, I'd just make it easier for the water to get out each fall. So I installed a small SS gasketted plug at the bottom of our rudder. Just pop it off each fall and the rudder drains. I've been informed that the internal structure is SS so the presence of water isn't a big issue (at least for the next 10 years).
Of course, I'm still trying to seal the rudder anyways. The top of the rudder had crumbled away, so I poured in unthickened epoxy and re-built the top. I then re-faired the rudder and sealed it with an epoxy barrier. I did this with the rudder still on the boat, so of course it still leaks through the rudder-post entry.
This spring, I'm planning to drop the rudder, gouge out around the rudder stock, and force in some 3M 5200. I'm using that rather than epoxy because there may be some play around the rudder stock and the 5200 stays flexible.
We'll see how we've done next fall. Hopefully there won't be any water in there! ;-)
As for your cracks, if they're down the sides of the rudder, they're probably just cracks in the gelcoat from the expansion when the rudder froze. More important, watch for cracks along the front and back of the rudder. This is where the two halves were joined and cracks here may signal that they are separated.
If you want to be really paranoid, lay the rudder on its side and drill 1/2 inch holes through one side and most of the foam inside. You can then pour in slightly thinned epoxy which will fill any voids and glue the two halves back together. However, this may be overkill.

Earl
I have repaired a similar rudder problem in past, and I am presently doing the same to my present rudder.
I recommend the following.
1) Entire core of rudder must be complete dry.
2) Grind out, and fill all cracks. I prefer West.

3) Fair and prep all surfaces.
4) Cut around rudder post, and rough up stainless rudder post.
5) Heat up rudder with 2 ceramic heaters.
6) Pour West Epoxy around rudder post at top of rudder.
7) Take heaters away from rudder.
As the rudder cools down, it creates a vacuum, and sucks West into all small crevasses around rudder post. Stay close, and pour additional West as required, if it constantly gets sucked into rudder cavity. This ensures no pin holes, to allow water in and out of rudder cavity.
Good thing you found this now, it will take some time to dry out rudder comp-letely.
Larry Jensen

I would have an expert look at it. Don't leave it lay in the direct sun as the foam will outgas and do more damage. Gerry/Mintaka

Hi Wally,
I wish my memory was better. Little did I know I'd be asked such questions 20 years later. I know the shaft is stainless and I am about 90% sure the plate and stringer were miled steel. I don't ever recall being told or asking the question but I do recall walking through the rudder shop on numerous occasions and the shaft was shiny while the the plate and stringers were dull. Have you noticed any rust in the drainings ? That would answer the question.
Regards,
Hank Evans

Greg,
Having water in your rudder isn't a problem. Having water in your rudder that FREEZES is! The expansion will push the two halves apart and leave you with trouble. Some might argue that the constant immersion from both sides might harm the fiberglass over a long period (10-20 years?) but C&C's are relatively overbuilt (especially those from the 70's) so I wouldn't worry.
If you do a quick visual inspection of your rudder and nothing seems mechanically wrong, you can put your boat back in and rest easy.

Dropping the rudder is fairly straight forward (I am assuming you are referring to the 30II with a fin keel.... the wing version you will have to dig a pit for rudder clearance). Of course it involves some contortions, I am able to just squeeze through the after corner locker hatch. First suspend the rudder or prop it up. Next loosen the steering cables at the quadrant. Split the quadrant....don't loose the key. Then back off the locking nuts on the height adjustment bolts that set the vertical rudder position (bound to be some technical name for these things). Ease these adjustment bolts (2) slightly so that the rudder weight is taken up by the lines you are suspending it by. Next, remove the through bolt that passes through the height adjustment collar and the rudder post. At this point the rudder is free to drop. Go out to the rudder and ease the lines temporarily

holding it in position. With the fin keel version I had about 4" of clearance between the top of shaft and the boat when the rudder was fully lowered. Time to do the job was about 1 hour of which half the time was clearing out the lockers of bumpers etc.
Any other questions, drop me a line.
Earl Black
Spyce 1

Jeff, small world, I checked our web site and noticed that you had checked in. Whenever someone with a `25 drops by I pass along my rudder experience. Water in `25 rudders is very common...comes in through the lower gudgeon strap hardware (this is below the waterline). I took my rudder off, put it in the basement (after the hole was drilled and water drained) to dry for the winter. I am told to tapp a screw into the bottom (along with 3M 4200) and remove it at each fall haul-out. I also replaced the gudgeon strap hardware and rebedded with oversize to see if I could stop the leak at the source.

S

Sailmakers

Fairclough Sailmaker's Inc., 108 West Main Street, Milford, CT 06460, USA, (tel) (203) 882-8433, fairclough@micro-net.com

I find the folks at **US-Sailing** very helpful with a wide array of technical documentation on a large number of boats.
They primarily document it for racing handicap purposes.
Start with the e-mail address is: **www.ussailing.org**

SATELLITE COMMUNICATION FROM SEA

A marine version of the INMARSAT mini-M will shortly become available. This will mean that a dome covering a stabilised antenna 26 x 28cm can be fitted to small boats and telephone calls can then be made anywhere in the world under the spot-beam coverage.
This equipment should be seen as an extension of the cellnet telephone system and, although not providing coverage from the centre of oceans, will provide cover for considerable distances from most shorelines and complete coverage for such areas as the Mediterranean, Caribbean and N. Atlantic. In a few years time world-wide satellite telephones, without the need for stabilised antenna, could be introduced but in the meantime Mobiq, as

INMARSAT Mini-M is called, is available in a land based form for about $3000 (£2K) and the maritime version for about $8000 (£5.5K).
COMMUNICATIONS VIA SATELLITE
Currently the INternational MARine SATellite (INMARSAT) consists of a constellation of satellites that provide various communications via terminals on ship and shore. Here briefly is the services available via these terminals.
INMARSAT "A". This provides speech, data link, distress messages, and can carry live video. It requires a very large stabilised antenna (which looks like a large white onion). Requires a lot of room and a lot of power only relevant to large motor yachts or sailing yachts with a requirement to transmit video, i.e. Whitbread race yachts.
INMARSAT "B". Similar to "A" but designed for high speed data transmission. Also requires very large stabilised antenna and lots of power. Also allows video conference calls.
INMARSAT "C". Provides fax, telex and distress messages in near real time. Not speech. Antenna similar size to thermos flask, low power requirement. Entry via personal computer (PC). Suitable for yachts.
INMARSAT "E". EPIRB with built in GPS.
INMARSAT "M". Now comes in a brief case sized package with the lid acting as the antenna. Provides speech, fax and telex but only when the antenna is directed at the satellite and is stationary. Suitable for yachts in harbour but not at sea, not suitable for distress.
Mini "M" (Mobiq). A smaller derivative of "M" but still needing a stationary directed antenna. Little bigger than a filofax and weighing only 2.5kg. Can be used with a Subscriber Identity Module (SIM) which is an identity Smart card. A terminal such as this could be fitted to a SIM individually.
"M" can also be used via a stabilised antenna smaller than that required for "A" or "B", but would add to the cost and power requirements if would however make it usable at sea for voice communications.
The future. Several Low Earth Orbit (LEO) systems are planned which will produce various options to replace current HF/SSB radio installations but the most exciting are INMARSAT P and S. These will produce a hand held telephone that will not need a stabilised or directed antenna and will provide speech or data from anywhere in the world. The price for a terminal is forecast as $3000 and this and a similar Iridium systems are expected before the year 2000.

Seacock

I also had the brass Wilcox-Crittenden seacock and managed to bust the on/off flange by putting a LARGE
crescent wrench on it and trying to turn it. Fortunately a machine shop brazed it back on. I then took valve grinding
compound (from a automotive shop) and lapped the cone section to the housing. Greased it and made sure not to overtighten the lock nut. It

worked like butter after that without nary a leak.

Shackles

I think I probably used Loctite liquid teflon pipe sealer on the stainless shackle threads. This product is a must around any sailboat in my opinion. The teflon stops any galling in the stainless threads, which they will sometimes do if put together dry and torqued up a lot. Secondly because it is a pipe sealer it keeps the water out of the threads thus stopping crevice corrosion in the thread area. But the very best application I have found for it is when putting stainless machine screws or bolts in aluminum. The teflon pipe sealer insulates between the dissimilar metals and again keeps out the water. After ten years I can still loosen machine screws in my mast with a screwdriver then remove them with my fingers. Loctite makes a better product called CSC which is the same thing but made specially for stainless steel.

Larry Hutchinson

Signet Marine

Carl, you can call them at 310-320-4349 or Fax 310-320-5026
Address: **Signet Marine**, 505 Van Ness Ave, Torrance, CA 90501

i just sent all my electronics back to signet to be cleaned, calibrated etc
505 van ness ave torrance ca 90501 310-320-4349

South Shore Yatchs

Check with Steve at South Shore Yatchs in Niagra-on-the-Lake, Ontario. They are the exclusive worldwide vendor for C&C parts. I have contacted them many times and their knowledge is amazing. Also, remember Nick Bailey...former service manager for C&C...he also carries an incredible amount in his head and is very helpful over the phone, he is now at Bristol Marine in the Toronto area(Port Credit I believe) . Last winter a building collapsed on my C&C and these two were much help as I undertook the rebuilding. Regards from John Craig, aboard SAVANNAH in Edmonton.
905 468 4340
www.niagra.com\sailboat

Spartite is a plastic polymer that you mix and pour into your mast collar/partner that has been dammed at the bottom with clay (plus liberal coating of vaseline to everything). After a 24 hr cure, this system eliminates all the wedges, etc. in the partner, removes any motion, and seals the collar. I've used it on my 30-2XL with great results and recommend it highly. My second suggestion is that this winter, everyone pull up all their floor boards, and **sand and varnish the bottom and sides of the boards**. This not only seals

them, but also avoids the absorption of unpleasant bilge odors.
My 2 cents, Greg

SSB Radio

I installed SSB on my boat this year. I use a loop antenna; rear stay, thru mast, and connected back to the tuner with #6 wire. I just stay away from the rear stay during transmission. An insulated section of the rear stay, along with a ground plane is a more normal installation.
Gerry/Mintaka
>Has anyone installed a SSB HF radio in their boat? I am trying to get
>information about connecting the tuner to the backstay without giving
>everyone a RF burn. Any advice would be helpfull.

The most common sailboat antenna is the simple insulated backstay.
An insulator ('johnnyball') is installed in the stay) about 4 ft. from the top of the mast,
and another at the bottom of the stay - as close to the deck (chainplate) as possible.
A PVC pipe (or shroud cover - Davis #1067_ _), or better yet - both) is placed over the stay, up to the highest elevation accessible by hand. The Coupler should be mounted as close to the antenna (stay) as possible.
Gerry Brown described a Delta Loop Antenna installation; which is somewhat directional, and a very good receiver (but poor transmitter). If you've ever had/seen an RF burn, you'll understand why Gerry "STAYS AWAY FROM IT" (when transmitting).
Although I have installed several SSB units, I am not an HF Radio expert. I would be very interested in the rational behind Gerry's installation. He probably had good reason to break with conventional wisdom.
What brand(s) of equipment have you purchased? I get a lot of requests for advice
(which I am not really qualified to give) regarding the best equipment. I have had very
good experience with "SGC", and know them to be VERY helpfull (1-800-259-7331), and to have excellent installation/operation manuals

I was about to buy the SGC 'PowerTalk' until reading in the last issue of 'BlueWater Sailing' the results of a survey indicating some considerable dissatisfaction with them . I need more first hand info before choosing it over the new ICOM 700 PRO , which represents a considerable saving and has sufficient capabilities for my purposes .

Stereos

I just spoke to the tech people at Bose, since I am considering mounting

their speakers in the cockpit of my 33'. The distance they specify is at least 24" from the compass. Of course, you could always hold the speakers in the place you want to mount them and see if the compass moves.

Stern Ladder

"Tops in Quality" is in Marysville, MI - just south of Port Huron on the east side of the state.

Sunbrella

The following is from a brochure by the manufacturer's of Sunbrella:

The fabric should be cleaned regularly before dirt is allowed to accumulate on and embed in the fabric. The fabric can be cleaned without being removed from the frame. Simply brush off any loose dirt, hose down and clean with a mild NATURAL soap in lukewarm water (no more than 100oF). Rinse thoroughly to remove soap. DO NOT USE DETERGENTS. Do not nott subject to excessive heat as the fabric wil shrink. Do not steam press or dry in electric or gas dryers. Sunbrella may be dry cleaned but a water repellency must be applied to the fabric after dry cleaning to re-establish water repellency. Products such as Aqua-Tite and 303 High Tech Fabric Guard are recommended by the manufacturer.

Per the Hood Marine Canvas Co. web page (http://nemarine.com/canvas.htm):

Q. What is the best way to clean Sunbrella?

A. Using a large bucket , mix up a solution of mild soap, and lukewarm water. Lux or Ivory would be a good choice, place your top in it, and agitate with your hands. Repeat until the water is clear, then rinse completely, and line dry. After completely dry, apply a silicone based sealant to restore water repellency. Sealants will not work on a dirty top.

T

Teak Handrails

I am contemplating removing the Teak handrails on my cabin top for a

thorough cleaning and re-finishing. Can I simply remove the fasteners from inside the boat through the little plugs on the ceiling and pull the rails off ? Will I have a problem re-tightning the hand rails and wind up grinding out the teak plugs to properly tighten and seal the handrail? Or should I leave them alone and re-finish them on the boat?
Ken

Ken - I'd bet that the handrails are bedded with sealant (at least they should be) and will get damaged themselves and/or rip up the gelcoat around them when you remove them, so I'd recommend doing it in place. We've found Cetol is fantastic and easy to reseal (1/yr) once you've cleaned up the teak. Use masking tape and paper around the work area and small brushes.

Ken,
I removed and refinished the teak handrails on my C&C 35 Mk II this spring. It wasn't much of a big deal. I drilled out the plugs on the top side, starting with a smaller drill and working up to the biggest size I dared, without cutting into the handrail itself. What remains of the plugs can usually be picked out with a small knife or other tool. I little heat might help. Refinish the rails and replace the plugs (West Marine sells them in package of 20). Make sure you bed the rails well with 3M-101 or equivalent (the bigger the glob the better the job :-)), as handrails are a frequent source of leaks. If you rails appear to be in bad shape (like mine) you'll be surprised what a difference a little TLC will make.

DON'T DO IT! For me, taking the rails off was a big mistake. If you have easy access to bolts down below, it may be different for you.
In theory, you remove the bungs (plugs), remove the through-bolts and off come the rails. Sanding all surfaces is then much easier.
Problem is, taking them off is a big pain. I took off four rails and left two on the boat. Taking off the four, re-finishing them, re-sealing them, rebolting and rebunging took 500 times longer then just refinishing the last two on the boat.
Instead, I recommend using West Marine's teak celaner and whitener (amazing products) and doing them on the boat. Just make sure you don't let the chemicals sit for long on the gel coat.
-steve

Ken, we removed both of the 7 loop handrails on out C&C 32 without any difficulty. Deep set socket set came in very handy and gently worked the rails free from the sealent. Finished them, rebedded them and tightened

them back up. That was four years ago, still holding jut fine. sam

Ken;
I composed a long tedious reply to this with all kinds of detail and Windoze blew up. Let me just summarize before I trundle off to bed. If your handrails are thru bolted to the ones in the cabin like on our C&C 29MkI, don't take them off. Life is just to short to do it. We had to cause they leaked big time...has to do with racing crew kicking 'em. Someone will probably jump in and tell you the gory details. They are under big time tension and drilled at time of construction randomly without regard to measurement. Check out the pics of Ted Hood's boats to see how it should be done....and how we ended up doing it. If they don't leak, mask the deck and refinish in place. Otherwise count on a season long tedious rebuild. fdr - nemesis

I removed, refinished and rebedded the handrails on my 24. It was painless. Popped out the plastic covers, augured out the bungs (they came right out) and removed the rails. They were leaking badly. Sanded, refinished with Cetol (though I hate the look and color) and rebedded them with ordinary marine sealant. Its probably a good idea to the holes with epoxy if there is any core material.

We removed handrails on our '81 C&C 36 last year simply by removing nuts inside
cabin with adeep socket. We've owned boat since '94.I don't believe rails were ever removed and rebedded! By rebedding we solved a rainwater leak othe port side which was driving us crazy since we bought Vineyard Light. Because of glass cabin liner we couldn't see source of leak. We never removed bungs at the
bolts-just striped and varnished teak. Untill we have another leak, I will varnish
in place(without removing rails). Of any deck gear,would think handrails need rebedding more often given pounding they get from being stepped on.
John Bordes, Vineyard Light

I also removed the grab rails on my 29-1. It was really no problem at all. I did it when I removed all of the fittings on the cabin top. I was on a quest to stop all leaks, real or potential. After I removed them I reamed out the balsa at least an inch back from the holes and then core bonded each hole with West System. Redrilled them and reinstalled the rails with a bedding compound. Took a day to remove and core bond everything and then another day to reattach all of the fittings. I did take the rails home and refinish them.

I would absolutely do again and will probably do it with my present boat, a C&C 38-3, next year. I don't have any leaks now but I am sold on the core bonding.
Bill Simonsen

Just an update on removing my teak handrails. First, thanks for all the advice on what to expect. I decided remove the rails because of their poor condition (fungus growing on the underside) and the need to stop some minor leaks. I was able to remove the nuts via the plastic plugs from inside the cabin. This went smoothly besides the one nut on each rail that made me work a little harder to get them off, without removing the teak plug on the rail. Once the nuts were removed the rails lifted of without much trouble, I am shure it was still the origional bonding sealent.

I was hoping to avoid drilling out the teak plugs. Why did you not remove them through the plugs on the cabin ceiling? I have easy access to the nuts on my 1984 29 via the plugs on the ceiling. My main concern is re-tightening the nuts and having the screw turn, and as Steve pointed out, doing damage to the gelcoat. The rails are in need of a good cleaning and sanding. I was hoping to remove them, put some duct tape or something over the holes, bring them home and finish them there. This sound good on paper, but you know how that goes:)

The reason I drilled out the plugs is because I have matching handrails on the inside of the cabin so the screws are teak plugged on the inside and outside with no plugs on the ceiling. It's not as bad as it sounds. I refinished mine at home also.

Teak and Holly Sole Rework

The floorboards on my '86 29 Mk II had been varnished by the previous owner and are badly in need of refinishing. Besides the finish coming off, there are scratches and mars in the wood.
Any suggestions on getting the old finish off? I was going to sand the boards, but another boater suggested that might be short-lived as the boards are not inlayed but have a thin laminate on top of plywood.
I would prefer to leave the boards with no finish and just oil them, but am not sure what I'll end up with after getting off the finish.
Thanks for any suggestions,

I just refinished the sole on my 29 MkII. I removed the floor boards (I had to drill out the old bronze screws because they snapped when unscrewing). I would'nt sand them because the veneer is very thin). I used a varnish remover (for stripping furniture) and then lighly sanded with a very fine paper. I used miniwax spar polyurethene with a satin finish because the floors get a lot of traffic and water spills. It doesn't look quite as nice as a natural oil finish but it resist stains much better and looks very good. I also bleached the teak to lighten it. I refastenned with stainless screws of the same size. I was going to recess them and put in bungs but It would then be difficult to remove in an emergency.

mine are pretty well shot between odor and traffic. a friend of mine is a cabinet maker and he suggested sanding them down for a final time. he picked one up and from the side and showed me that there was ample finishing wood to sand. he suggested bringing them to a place with giant belt sanders and they would just run the boards through. but it would not remove the odor so i decided to replace them.

I took our floorboards to a commercial stripper, they dipped them and they came out perfect! It cost 50 dollars US A light sanding finished them. Things that do not work.....Polyurethane lifted off in one season. Apparently any dampness in the wood can not get through the poly and lifts it off. Iff you do use it make sure ALL sides are well coated to prevent bilge damp from getting to the wood.

To refinish my sole, I sanded lightly and then used Sickens (not the exterior coat, but the interior semi-gloss). Seems to me 4-5 coats did a nicce finish. I talked to the factory and they told me that's what they used (C&C34+ - 1990).

Indeed the teak and holly veneer is pretty thin (1/16 or 1/32") depending on when your boat was built. Being in the architectural millwork business I can tell you that veneer manufacturers are now experimenting with 1/64" (shortage of wood - even though it is a completely renewable resource, the tree huggers and posey sniffers are having a negative effective on the supply.)
Remove the finish with paint and varnish remover then sand very gently. If the gouges are deep, you'll not be able to sand them out without going through the veneer. I gave up on mine, bought new teak and holly ply and replaced the floor. That may be the only solution if its in bad shape. The other problem is that after you sand the old floor, there may not be enough wood and glue left to remain stuck after oiling. It could peel up. For about $150 you can buy a 4x8 sheet of new ply and for perhaps less work overall, you can replace

the sole and have a good surface to start with. If I had it to do over again, I have done this from the git-go.

I sail" suggested bringing the floor boards to a cabinetmaker with a giant sander. We have a "giant" sander (called a widebelt) in our millworks. I tried it on my floor boards and while it is better than hand sanding, it still doesn't make up for the lack of wood and I went through the veneer long before the gouges and stains were gone. If the damage is very light, this might be worth a try. If its more than very light - it will likely be a waste of time and money.
My company belongs to the AWI (Architectural Woodwork Institute) which is the governing body of the millwork industry in North America and has members nationwide. Any AWI member will have a widebelt sander. If you want to e-mail me where you are, I can look up member companies in your area where you can go and have the boards wide belt sanded. You can expect labor charges at $ 45 to 50 per hour plus the cost of a very fine grit belt (about $50) There is 100 of 150 new ply will cost you, with no guarantee it will work.

Many sources listed in the annual SAIL Directory and Cruising World's Sourcebook, which is online at Cruisingworld.com. At least 2 of them are in Florida. Price depends on thickness...I believe I priced 1/2 inch at less than $150, but not sure.

As a wood worker, the first thing i did to my 29 was to refinish the floor as follows:
When removed there was a bit of rot neat the bildge (so much for 'marine' plywood); this was repaired using West Sys and wood patches. Even if you have no rot you should seal the bottom with as many coats of epox as you you can. On the face, i have the luxury of having a conference table plant which sanded the veneer as good as new; however this is about as far a it can be sanded. I applied 3-4 coats of Cetol (wet sanding each coat with #320 paper) and rubbed the last coat with steel wool; ofter the first year i took the main boards out, lightly sanded the finish, and applied another top coat of Cetol. I will do this every 2- years.
Without our special sanders, i would suggest using a softwood block about 3" x 8" and work with the grain by hand. Stay away from the edges as they 'burn thru' first. If you can see the grain change in appearance you are starting to go thru so move on. The Cetol has a teak colored dye in it so it can cover little problems.
If you have to replace them and can get a sheet of teak/holly for $150. that seems like a good deal. We have a plywood plant here and, while we can do this, i'm sure it would cost quite a bit more from us. (for the record, we are to contacting C&C in Ohio for special plywood/veneer work by our company...we'll

see.)
At any rate, 20 people will have 20 'best' ways to do this. Just seal the bottom per above.

As a fellow tradesman, I humbly suggest that the wide belt is not the proper machine; we have both a German widebelt (super accurate) and several stroke sanders. The stroke sander will remove stock from anywhere you choose on the panel and will better work with a warped panel. My floor is perfect and it was a freak'in mess when i got it. I would suggest that people find shops that have such machines. Plus the belts are cheaper. For the record we could do this (if you in Rochester) but it would cost about $40-50 plus the cost of a belt ($20.+/-). The finish would have to be removed first.
As for replacement floor stock. We can lay this product up. I'll work up a cost and you can contact me at (fax) 716-271-3166. (give you fax # for a reply) I will not post it here as this would be a commercial ! We can also lay-up on a balsa wood (Bal-Tec) core at 1/2 the weight (and much more cost) if you are race inclined.

I had the same deal along with some sponginess (rot). I tried a water based paint and varnish remover and a power washer in the driveway. Block sanded and palm sanded everything (top - bottom -sides). 3 coats of west epoxy on everything (top - bottom - sides) more sanding. 5 coats of varnish top and sides only. They look pretty good, but they're 21 year old floorboards with the ensuing 21 years of nicks and dings under some really nice varnish work. All things considered, next time I will buy new plywood and finish in exactly the same way. But, hey, I'm kinda fussy.

I haven't tried this on boat type stuff, but used it on furniture over the years with very good success, after having read about it in a wood working magazine.
The finish is a mix of satin finish urethane and Danish oil, obtainable at most hardware stores and megastores. For the first coat, mix 60% urethane and 40% Danish oil, and wipe it on with a non-linting cloth or use a foam brush. Wipe off the excess and let it cure overnite. Wipe it down with very fine steel wool between coats. For the subsequent coats, use a 50/50 mix and follow the same application method. A base of 6 or 8 coats should give you adequate protection.
The result is a flat finish that repels water like urethane, but that can be touched up or completely recoated without stripping. It does not flake, strip off or chip (on furniture, anyway) like urethane does, and in the past 12 years, our oak dining room table has never acquired a moisture ring stain from glasses. Every three or four years, we hit it with very fine steel wool, then recoat.

As to the dents and dings, you could try using a trick from woodworkers to raise the grain of the veneer. Place a damp cloth directly over the dent, and using the tip of a clothes iron, or a soldering gun, apply light heat to steam up the dent. The down side of this is that it may cause delamination of the veneer.
Once again, the caveat; I have not tried the above on boat type stuff, so proceed accordingly.
Rod

Try Noah's on Lakeshore Blvd in Toronto. I had their price list somewhere and I remember T&H sole was between $100 and $200 (IN CANADIAN DOLLARS!) per sheet. They shipped a 1/4 sheet to me for $5.75 shipping cost and it arrived the next day.
Noah's Boat Building Supplies
2246 Lakeshore Blvd West, Etobicoke, Ontario
416-259-7555 or 259-9395
Noah's 416-259-7555 phone; Fax is 1-800-894-1783 and they also have a catalogue available according to their ad in GAM Magazine

Thomas Register
I got these two from Thomas Register (the source of all good things) which is now on line and can be found at:

Membership is free and you only have to register to access this best-of-all-possible industrial references. I have found more things through Thomas' than anywhere else in the world.

Throttle Adjustment

I have the same problem on my 82, 27 with yanmar 2GM, edson wheel with pedestal mount throttle.

I have been using a bungee cord to stop the throttle from slowly backing off while running. Now I can't wait to remove the compass and tighten this tensioning bolt, and finally be able to set a speed and have it stay there! Thanks for the info!

I too, need to refinish my Edson Pedestal. How did you go about refinishing it. Did you remove it or have it done in place. Any information would help.

Thanks, Dave

Randal Wright wrote:

> I don't want to assume too much...but if you have the Edson wheel pedestal
> set up with the engine controls mounted on the pedestal, I believe you will
> find a tensioning bolt just underneath the compass where the throttle lever
> is connected to the throttle linkage. I just had my pedestal refinished
> and replaced the throttle and shift levers with the newer stainless units.
> It was a simple matter to tighten the adjusting machine screw until the
> tension was adequate to keep the throttle from backing off while under way.
> If your setup is similar to mine, you will have to remove the compass and
> compass housing to gain access, but it was only a 10 minute task.

After looking into my options, I removed the pedestal and shipped it back to Edson for refinishing. They will remove the working components, inspect, and powder coat the pedestal for about $200. It looks like new. Actually, it may be new....I noted that the pedestal they sent back was fitted for the hex head bolts at the base in place of the round head machine screws that I removed. Edson really did a beautiful job. I also had them refinish my instrument bracket and replace the old style throttle and shifter levers with the new stainless replacements. They replaced a few items and didn't charge me for them...I assume it is part of their refurbishment process.

It was a bit of work to remove and reinstall, but not too painful. I am confident the powder coating will be more durable than a painted finish that I could apply and looks great. It was a good winter project....the turnaround time was about 3 weeks.

On my 32, there is a throttle adjustment clamp on the cable near where it attaches to the engine. Loosen the clamp retaining bolt, tighten the screw 1/4 turn, retighten the retaining bolt and you are done!
My engine is a Yanmar 2GM. Please ask if you have any further questions.
Tom Anderson
C&C 32 Nonpareil

Actually it is
http://www.sailnet.com/edson/index1.htm

though maybe they are a more versatile company than we realize ;-)

In message " Throttle adjustment/pedestal refinishing" sent on Apr21, C&C-list@sailnet.com writes:

>In a message dated 98-04-20 23:30:19 EDT, you write:

>
><< You can do it in place. Remove the wheel, do a lot of masking, remove
> the compass. Edson has a bulletin on it. it is also on their
> website. EDSON.COM

Here is the complete thing. Once you get there, you have to search around, but you WILL find the info you need to refinsh your pedestal. There is a complete "white paper" on refinshing.

http://www.sailnet.com/edson/index1.html

Through-hull

I had to replace a seacock on my C&C 25 when the original Wilcox-Crittendon began to leak from corrosion. The seacock was bolted to the **through-hull** in such a way that one had to remove the through-hull just to get the seacock off. The clincher was, the through-hull was "glassed" into the hull, i.e. it was recessed into the hull from the outside and covered over with a white filler of some kind. Thus, the seacock leaked all season until haulout when I was able to grind my way into the hull (the stuff of nightmares) until I reached the through-hull. After replacement, I filled in the recession with West and one of their fillers (I forget which one--I think it was the hull-fairing filler) making sure to leave a hole in the paste for the through hull to drain. Twenty four hours later plus a little bottom paint and it was better than new--not bad for a klutz like me. So all in all it wasn't a bad experience, just more work than expected.

Steve - Just a hint...next time you do a through hull replacement, use the colloidal silica additive to the West epoxy, not microlight; much stronger and more impervious to water. Boy, having done what you did I know what a #$%#() job it is! By the way, C&C was thinking correctly speed-wise to recess the through hulls, but there was probably no thought to the 15 yrs later problem!

Transducer

Calvin, I have a C&C 25 (http://homepage.oanet.com/jlcraig/index.htm) and I replaced the transducer last summer. From what I have determined they all pretty much work on the same principle...no airspace in the transducer-hull-water continuum. The factory gave me the following advice. "cut a 6 in. length of 4 in. plastic pipe and fasten it to your hull in a flat spot (I went below the V berth). To fasten it apply a SOLID bead of Sikoflex or 3M 5200 to the bottom of the pipe and press into place. After the 3M has set add 2 in. of mineral oil (won`t freeze or evaporate). Then set the transducer into the pipe (at the bottom, in the oil), which now acts as a dam to hold the liquid. To keep the transducer from shifting in the

pipe I added several wraps of electric tape to make it fit firmly in the pipe. I then fished the connector line aft, under the floor to the vertical cavity between the aft cabin bulkhead and the cabin liner.
Didn`t have to cut any holes. It works to about 240 ft. I checked it with a lead line to 100 ft and was right on to 40 ft. and +/- 1 ft. thereafter.
John Craig "Savannah", Edmonton.

If you use plumbing plastic pipe you can get a screw-on or friction-fit or glue-on pipe end cap. Cut a hole in it for the transducer to be mounted in as if it were 'thru-hull' and the bottom sitting in the oil (or could be water if you drain it each year, or anti-freeze). Screw it on or glue it on as you wish. Avoids the 'several wraps of electrical tape' phase and actual pipe length can be much shorter.

Might want to use putty seal the pipe to the hull in the initial stage before making permanent.
Harvey Hall
Network Admin/Information Tech. Teacher
Nanaimo District Secondary School

Our 25 C&C 1974 has the old " oil well" located about 15 inches to starboard, in the after section of the V-berth. When the last transducer died last year, we simply unscrewed the lid, removed the old one and its wiring, dropped in the new one (Eagle) into the existing oil and it works like a charm. No glue, no nothin'. The instructions that came with it suggested various treatments including inboard mounting such as others have written but we had little luck with the internal hull mounting....low sensitivity.... til we simply dunked it into the existing "well"...that was 8 months ago, we've used it all winter ...very reliable. We've also used the lead line to check depth at about 30 feet and 10 feet ...quite accurate. We get readings to depths exceeding 200 feet.

Does anyone ever put there depth sounder through the hull anymore? I had to replace my transducer this year on a Signet. The original had #$@# the bed, so I just installed the new one where the old one was. I understand the beauty of putting it in a oil bath and not having to have another hole in your hull, but if the hole was already there, have I done any harm to the unit's performance? By the way, the new transducer came with my boat, and had no instruction manual.
Tom Anderson
C&C 32 Nonpareil
Marblehead, MA

Tom ,
Many boats have through hull transducers - These give better performance than inside the hull units. Inside the hull units provide easier installation if the boat is in the

water and easier access if the transducer goes bad.
Some through hull units cannot be removed - These should be avoided because the manufacturers often want you to return the whole system for warranty repair - not easy if the boat is in the water!
With your through hull unit, be careful not to coat the transducer with anti-fouling since this can cause errors.
Graham

If your going to replace the depth sounder with an internal unit you should consider a fish finder. They give more information and are less expesive. They show the contour below and give depth and in some cases speed over the ground. According to practical sailor you get more for you rmoney because many more are sold by the manufacturer. The only drawback is they use a little more current.
Jerry

Practical sailor ran an article a few months ago about depth finders for sail boats and concluded that fish finders were the better value. I believe they recommended Apelco. You can get bottom contour, depth, speed over ground, and water temperature in one unit for less than the price of an ST50. They do use a bit more current. You have the option of a through hull or transom mounted transducer.

Hi Lawrence,
Here is two cents worth on depth finders based on my experience.
Since our 29 was new we have had a depth sounder located inside the hull in a "wet box" and it has always worked flawlessly. I also installed a fish finder. Rather than going to the hassle of doing a thru hull we came up with the idea of mounting the small transducer in the bottom of the cockpit drain thru hull and running the wire up the cockpit drain and to the pedastal where the fish finder is mounted. This has worked perfectly. The streamlined, small transducer creates very little drag and this installation took about 10 min. vs. hours for a thru hull. Interesting to note that the two depth sounders are always within a foot of each other.
I know that the saftey minded out there will string me up for running the coax cable through the gate valve so I'll deal with that up front. I took a piece of the coax, put it in the valve and shut if off hard. It got the water flow down to about 10 drops a minute so I figured that was acceptable for emergencies (about the same flow I get through the stuffing box. It would also be a five minute removal if I ever leave Iowa and get back to larger waters.
With the depth sounder at the nav station and the fish finder at the pedastal, I have no excuse for running aground. (However, I maintain the perogative to come up with hundreds of reasons why I don't catch fish !)
Best Regards,

Hank Evans

Larry,
When we commissioned our 1988 C&C 41, we made sure the factory did NOT mount the depth sounder with a through-hull. The line of thinking was one less aperture to worry about when beating through ten footers! I smeared the bottom of the transducer liberally with Vaseline and placed it on the flat part of the hull forward of the keel. In our boat, that is below the aft end of the v-berth. By then turning the depth sounder on, you can confirm that it is functioning normally by motoring out until the unit ceases to display the depth correctly. With our Datamarine unit, it shows "Fault" over about 370 ft. We then applied a bead of silicone rubber all the way around the outside circumference of the transducer, to adhere it to the hull. The advantage in using Vaseline is that you can experimentally find the best spot to locate the sensor before you commit to securing it in place. It has been operating perfectly for ten years now and it is used continuously as a navigational tool alongside the GPS, etc.
Pete & Joanne

Transmission

I am about to get our transmission looked at. It does not completely engage when put in forward. At idle the shaft/prop is turning, but as power is supplied, the the shaft does not pick up speed for a few seconds; then engages fully. Anyone else have & solve this problem.
We have a Yanmar 2GM.
Doug Jackson
Sophisticated Lady

You missed a thorough discussion of slipping yanmar transmissions last fall. The short story is that early 80's yanmars used clutch CONES which had undue wear, possibly from placing the trans in reverse to stop the prop shaft from rotating while underway. The later yanmars (mid eighties) used a clutch plate to solve this problem. I would guess your yanmar to be 1980-1984 ?

The slipping will get worse till you have no forward gear at all. This is what happened to me with my 2GM. You need to replace or resurface the clutch cones. This requires removal of the trans and dissassembly...a big job.

I had been doing the same thing, on advice of the prev owner who also did it. Although I was the lucky one who got to pay for the trans rebuild!

It seems the pressure applied to the cones is generated by the RPM of the trans, so that greater pressure is applied at higher RPM (this is why it slips at idle, but grabs when you rev). Also, when it is slipping, it is POLISHING the clutch cones, ruining the surface, and heating it too. Anyway, when the engine is off, there is little pressure between the cones, and putting the trans into reverse may only slow the rotation...polishing the cones the whole time.

My mechanic, who I trust, said to just let the prop spin with the trans in neutral...it may be annoying, but causes no damage.

If you really want to stop the shaft, you could install a shaft brake...like a bicyle wheel brake on the shaft. One more thing to check for though when starting up the engine (water intake open, any lines in the water, cooling water coming out, etc).

I am told that the trans, especially these cones, are the weak link of the yanmar engines...an otherwise excellent machine.

We have a Yanmar 3 cylinder 35 hp diesel on our 1988 41 and we have been leaving it in neutral for the last ten years. It continues to operate flawlessly.
Our neighbour's 1988 41 has a Universal 4 cyl diesel and he has kept his transmission engaged.
He is on his third transmission.....Pete

Peter-
I don't know the specifics of those transmissions, but many transmissions are cooled by the fluid being pumped through them when the engine is running. No engine=no coolant=tranny will overheat and die if you turn it from the other end.
Which is also why many car manuals have limits on towing the car, with regard to the transmission.

Tuning Rig

Hi- all
Just re rigged my "new" 1973 C&C 30
Anyone know what the rig tension should be?
Thanks in advance
John Retkowski

Beat into 15 knots of wind and make sure the rig is straight and not falling

off at the tip or centre. Tack and adjust, then check the other side.
Sounds easy, doesn't it? <grin>

Hi Julius,
If it isn't the Windex then you have a problem with the rig tune or something dramatically wrong with hull/keel/rudder. Try using your main halyard and measure to the toe rail on both sides. If it isn't the same - retune your rig. Is the mast straight on both tacks ? If not retune. Ditto for prebend. Are your blocks at the deck partner secure and evenly spaced ? It is not unheard of for blocks to work loose and as most of us have them well concealed under the mast boot - you might never know. Are your shrouds equally tight on each side at the dock? Is the slack on the leward side when close hauled the same? I would also find a boat to mark against to confirm that indeed you can point with him on one tack and are 10 degrees low on the other. I am assuming that basics like sheet leads, traveller positions are equal.
If all this doesn't work and you are still 10 degrees off then something is very wrong. I'd pull the boat and start looking carefully at the hull, keel, rudder etc. Before doing this you might want to dive down and make sure it isn't something really obvious (like one of the half shells on the rudder is missing) Thats rare, but it has happened.
Good luck
Hank Evans

Earlier this week there was a request directed to me for tips on tuning the rig on a newly acquired C&C 39. I'm getting ready to go Florida to participate in a race to Cuba on a friend's C&C 44 and tried to save the request til I had time to respnd but accidentally deleated it. I don't have too much to offer but hope the following may be of some assistance.

First of all, I have found it helpful to install the table around the mast while the stays and shrouds are loose enough to allow the mast to be rotated into fore and aft alignment. Aside from providing the proper angle for the leading edge of the mast, if the table is crooked, it will eventually drive you crazy.

The blueprint I have calls for about a 1 foot rake in the mast but I have always found it hard to gage this. In any event, I first try to get the mast somewhat perpendicular and centered in the partners. I have found that pegging is necessary and have placed them at 12,2,4,6,8 and 10 o'clock. Since the sheaves for my halyard are so close to the deck, it is difficult to prevent leaks with just tape. I have cut the pegs off very close to the top of the partners and screwed a small aluminum strip to the top of the peg, bending it over the lip of the partners. This allows the application of a mast boot under the sheaves and keeps the pegs from falling through on the windward side. I then snug up the uppers which, on my boat, are rod. You

can check to see if the mast is straight by taking your main halyard and touching the shackle to a point on each side which should be equidistant, such as the base of the shroud tang. I then tighten the lowers , sighting up the main sail track to make sure there isn't and distortion. Keep in mind that the lowers will slacken as you tension the backstay. You may want to get the backstay about where you want in for most purposes and then tension the lowers. I keep my rig relatively stiff so that I don't get any slack or bend in 10 to 12 knots of wind . When you get the backstay tensioned generally where you want it, tighten the jackstay forward. This will help create some rake, but bend is difficult due to the thickness of the mast. Also, I found that overtensioning had a tendancy to create a leak in the deck fitting.

I hope this is of some help. Keep in mind that I don't race very seriously, but have cruised without incident and very happily on this boat for the past 18 years. Unfortunately, I am planning to move up and out and King's Courier is now for sale here in the Chicago area. I have effected many upgrades, including some to the engine (Atomic 4) which have enhanced the quality of life aboard and which I would be happy to share with you either through this list or by phone. (312) 332-7770 (w) or (847) 441-8115 (h). I have loved every minute I have spent aboard this boat and think that it is the prettiest design C&C ever produced. I never fail to get compliments wherever we dock. I hope you caught the feature which SAILING magazine did on it last fall. I can get you a copy if you didn't. Don't hesitate to ask.

Rig Tune

I am a few months ahead of you in upgrading my newly purchased 35MIII. Also had leaks around windows. I removed as much of the old caulking as possible with a knife, masked around the area to be caulked on both sides and applied silicone caulking. Nether polyurethane or polysulfide are recommended for lexan. Worked like a champ, no more leaks and it only took a couple of hours. Although I have not had the boat racing yet, the babystay does not seem to be of much use. My rigger suggests to remove it. It also means that there is one more thing to do when gybing.
My mast butt is in the center of the mast step. Boat seems well balanced. Little weather helm and steers to windward almost by itself. My mast is raked a little further aft then the Cataline 36 in the next slip. But, that's a Catalina, what do they know. There are no C&C around to compare it against. We don't have as many C&C in California as you do.
I found that the bolts connecting the rigging to the interior settees were loose and needed tightening. That's the aluminum bar connecting the shrouds to the seat back. Suggest checking yours.

Tuning a mast starts at the top.
Slack off all of the lower shourds to 'hand tight' and apply minumin

tension to the backstay. Slack off the Upper's to about half tension (keep track of how many turns you back it off). Connect a STEEL tape mesure to the main halyard (the only center line halyard) hoist the tape until the halyard is 18" from the upper shive. Pull hard on the tape to remove any possible slack. Measure with the tape to the Upper's chainplate on both sides, tighten the Upper that measures longer, one or two turns at a time until the top of the mast comes to the centerline. (keep track of how many turns you take up).

Once the top of the mast is centered you will increase the tension on both Uppers evenly. (Subtract the number of turns you took up on the long Upper from the number of turns you slacked off the Uppers in the begining of the process.)
Increase the tension on both Uppers by the result. (this will get the top of the mast centered and the Upper shrouds will have the same tension as when you started.
At this point think about the last time you were out with the 150% up and heeled 15-20 degrees, were the Uppers slack on the leward side, if yes take each Upper up two or three more turns.

Once the top of the mast is centered and tight we start to move down, bring the halyard down and attach to the goosneck and apply a little tension (this will give you a stright line to compare the center sections of the mast to as you adjust the lower shrouds to make the mast stright and for fwd/aft bend.) Since this is a 35MKI adjust the foward lowers first, take each lower up to hand tight, sight up the mainsail track against the halyard to judge when the mast is stright, adjust as needed. Tighten the aft lowers to hand tight, sight up track. When the mast is stright tighten the lowers as pairs (tighten both foward lowers the same 4-5 turns and both aft 3-4 turns. Depending on the shape of your mainsail you may need a little mast bend and therefore may need to take up more on the forward lowers to induce bend.

Now that this is done at the dock your ready to go sailing, there are a couple of key things to rember when you look up the mast under sail.
The top can fall off
The center can not pull to weather
Always site up the mainsail track

When sailing up-wind site up the mailsail track if the center looks like it is pulling to weather, check the leward Uppers they are probelly loose, tighten both Uppers evenly (I- 2 turns tack and check. Rember the top is centered, tighten the Upper's evenly. When the leward Upper is not flapping around with the 150% 15-20 heel the Upper should be tight enough. Sight up the mast, if it is falling off in the center the lowers will need to be taken up a little more in pairs as above. Check the mast for plumb

again back at the dock with the main halyard, adjust the lowers if needed. This should give you a perfectly tuned mast

Now that I have gone through Mast Tuning 101 the exact problem you describe (tip fall off, oppsite buldge between spreader and top) might still be seen after you are sure the top and center are correct. The sitution is more often called an 'S' curve.

The solution is the addition of diangle shrouds from the spreader tip to mast half-way to to the top from the spreader. The '75 C&C 33 did not have this shroud, it had to be add (in most cases by local riggers, I did a few) in '76 C&C made it standard.

The 35's mast is big enough that it would benifit from having this extra support.
When these are added you adjust these after you first get the center of the mast stright and the lowers hand tight and again after you sail.

Why now? Perhaps the shape of the sails has changed enough to increase the upper mast loading (upper sections of mainsail and genoa getting too full - that's another discussion) or maby the boatyard droped the mast last fall.

I don't know if this will help since my boat is much smaller than yours, but several years ago I tuned my mast by taking up the slack under load and checking them with a Loos guage. One day while trying to figure out why performance was better on tack than the other, I noticed that the turnbuckles on one side were screwed all the way down, while on the other side they were very extended. Yet the tension on the shrouds was the same on both sides. The mast was of course, bent to one side. I slacked off one side and took up the other, and learned that the only way to keep the mast straight and true is to keep sighting right up that mainsail slot every time you make an adjustment. I also learned that every adjustment you make to one shroud affects the others (and I now have a great deal of respect--but not envy--for those of you with double spreaders). It took me over an hour one day, making small adjustments and sighting up the mast to get it right. Shroud tension alone will not guarantee a straight mast.

Rudder

Removed twice: first time when I bent the shaft on a log and had to have C&C build a new rudder. Second time when I had to remove the new rudder because C&C did a lousy job on the gelcoat barrier coat (paid extra for it!!) and caused some 'reverse' osmosis (they trapped water under the barrier coat causing the water to create bubbles, freeze etc - looked ugly)

Boat out of water on cradle. Dig hole in ground under rudder (to lower it into). Put support under rudder until you lower it. Loosen steering cables on quadrant. Loosen quadrant and remove 'key' to shaft. If too closely confined to do this open up the quadrant completely (just makes it harder to re-assemble). Have someone lift/support rudder. Remove ring on rudder stock in cockpit (allen key). Lower rudder and remove to home for working on.

Drill hole in bottom and let drain at home for winter. Sand(blast) surface at same time. Let it stand and dry over winter. In spring put 5-7 coats West Epoxy on surface (no fillers unless fairing (takes about 24-48 hours if you keep up the pace). Sand smooth. Pay particular attention to sealing shaft to top of rudder. Re-fill the drain hole with Epoxy and leave slightly proud or sunk so you can find it again. Coat rudder with Interprotect 2000 then anti-fouling.

Reverse above procedure to re-install. Adjust tensions in cables to centre your wheel. Ensure quadrant isn't rubbing and cables turn on sheaves in plane of quadrant

Each fall drill the hole out again, let it drain over winter, re-fill in the spring.

Actually both my old rudder and the new rudder were drilled annually but truly no liquid ever came out, it was just a precaution - the careful application of Epoxy should do the trick of sealing the shaft joint if you clean the shaft very carefully.

In message "C&C 27 Rudder Removal" sent on Aug12, C&C-list@sailnet.com writes:

>I recently discovered (during a survey) that the rudder on my C&C 27 MK III has a lot of water damage and delamination, forcing me to remove it for repairs. Has anyone removed their rudder ?? I would like to have the benefit of previous experience for any hidden problems that I might run into !
>
>Thanks,
>Jeff "WindSpinner"

U

URL's

Oh, you have to try my new bobstay calculator. This is my biggest
> effort to date to
> use JavaScript to calculate some fairly complicated vectors. The
> calculator figures the tensile

> strength needed by the bobstay given the tensile strength of the headstay,
> and the angles of the
> headstay and the bobstay.
> You can find it off the homepage or at
> http://www.anyboat.com/bobstay.htm

URL's for C&C
http://canyacht.com/ canadian yachting magazine

URL's for Cruisers
rather than bore you, best is to check us out:
http://ourworld.compuserve.com/homepages/gopangaea

saw your message . Would you like to check out my pages on sailing in Portugal to be found at http://www.nortenet.pt/web/lumby, Perhaps they might warrant a reciprocal link
to your pages.

Others might find the up to date chartlets, suggestions and information useful if cruising the Portuguese coast. There

will be happy to put it on my FTP site, if y'all (yawl?) wish.. :-)

Or, perhaps, as a link from my Web Page (http://spacecon.net/boats/sail/syrinx.htm)

In fact, there have been other folks sharing articles and/or hints&kinks stuff.. I

Richard Border (http://www.netlabs.net/hp/soarrich) has kindly offered already, and I have uploaded it to him. If that doesn't work out, I will take you up on your kind offer.

I have just found the following on the internet. Please let me know what you find out from them since I am interested too. (mwiggins@ail.com)
LABORATOIRE OSMOTEC
Tel. (33) 74.09.08.80 Fax. (33) 74.09.05.09
email: Laboratoire Osmotec@NET.ASI.FR
WWW: http://www.asi.fr/osmotec/
Sailing

http://www.globalserve.net/~cbeeson/alzarc.htm
http://sailing.org/newrules/97rules/default.html
http://www.globalserve.net/~cbeeson/alzarc.htm
http://www.cybertap.com/ctlow/boatdock/about.html#overview
http://www-personal.umich.edu/~tmorris/boatsail.htm
http://www.cyber-dyne.com/~jkohnen/boatlink.html

http://www-personal.umich.edu/~tmorris/index.htm
http://www.ualberta.ca/~sjones/
ftp://sundae.triumf.ca/pub/peter/index.html#nav
http://www.CRUISINGWORLD.com/
http://www.paw.com/sail/harken/webracet.htm
http://pobox.leidenuniv.nl/~kooi/yl.htm
http://www.defenderus.com/cgi-bin/Web_store/web_store.cgi?cart_id=
http://listserv.infohouse.com/archives/worldcruising.html
http://boatbuilding.com/
http://www.mdnautical.com/index.html
http://www.apparent-wind.com/sailing-page.html
http://www.aladdin.co.uk/sihe/
http://www.sailingindex.com/
http://dove.net.au/~gni/asg.htm#magazines
http://www.48north.com/sailinks.htm
http://www.merlin.com.au/offshore/related_frames.html
http://www.geocities.com/TheTropics/3519/textver.htm
http://www.cruisingworld.com/
http://www.bom.gov.au/

http://www.BoM.GOV.AU/cgi-bin/gopher.py/00/Australian%20Weather%20Information/Queensland/p031

http://www.BoM.GOV.AU/cgi-bin/gopher.py/00/Australian%20Weather%20Information/Queensland/p042
http://home.earthlink.net/~jkthompson/cruise/mainpage.html
http://www.ualberta.ca/~sjones/mailinglists.html
http://www.sbiinc.com/page3.html

.....cruise on by !!! The url is as follows:
http://members.aol.com/ragman6977/index.html
Ketch ya later.....Fair Winds

and mine! <G> at http://spacecon.net/boats/sail/syrinx.htm with a ton of links.. :-)
Tom
W4NOV

Hi Warren, glad to add our site to your collection, we have 4 exterior pics and 6 interior pics at our site. I think it is a great idea to have a central location where we can see a variety of models with a wide range of equipment and interior upgrades.
http://homepage.oanet.com/jlcraig/index.htm John Craig, Edmonton.

Missed mine too!
http://www.netlabs.net/hp/soarrich

Used Equipment and Parts

I need a dip pole for my C&C36. the only two used dealers I know are:
MINNEYS <MINNEYS@aol.com> in San Deigo
Shop @ Sailorman.Com in Florida
Do you have any others?? Gerry/Mintaka
Gerry,
Marine Exchange in Peabody, MA might be able to help you find a pole.
Their number is 800-888-8699.
Tom Anderson
C&C 32 Nonpareil

V

Ventilation

Does anyone out there have any experience or opinions about solar cabin vents?
I'm considering a 3" dia. solar vent (daytime only) from Nicro. This vent moves up to 700 c.f./hr. I'm wondering if this vent really moves enough air to be effective or should I put in the vent with the battery and get up to 24 hr ventilation?
Joe Longtin
"Moonlight"

Joe,
Hole saw that we finally purchased is for a three inch Nicro vent. Saw is three and a half inch and works fine. I'll drop it off in "Moonlight" tuesday next. Good luck. Heard about the bad luck of sheet flipping solar vent off. Have ours in foreward hatch. Space under cover quite small. No problem yet !!
Don "Rainbow".

One of the best things I put into the boat were the Nicro day/night (24hr. vents), one up forward over the V-berths, and the second over the galley. They're worth the premium, and the improved ventilation will reduce condensation.
James Libby S/V Blithe Spirit

I have a Nicro "Day-Night" vent in the forward hatch on my 30-1.
It runs all day on solar power which also charges a nicad d-cell.
The nicad battery then runs the vent all night too.
While the c.f./Hr may seem low, the effect of 24 hour operation

makes a big difference. The interior is well vented. It works great, well worth the expense.
Steve Scott
"Oyster Bay"

If you sit at a dock with access to 110V, you can install a small fan to provide ventilation. The previous owner of our boat installed a 110V computer fan inside one of the ventilation boxes alongside the mast on our C&C 30. It blows air into the boat and we've never had any condensation or mildew problems.
These fans are cheap ($10-$20 at any computer component supply house), are quiet (they are designed to run in offices) and run forever. We just replaced ours after 7 seasons of continuous use (we're in the water 6 months a year) and the new one is so quiet we can sleep aboard with it on.
The only fix that I need is to seal the interior of the ventilation box because the air is pulled into the boat from both outside and from between the deck and headliner. Even after 25 years, we still get a strong fiberglass smell when the fan has been running for a week with the boat closed up.
Wally Kowal
Whistler II
C&C 30 '73 out of LSYC, Toronto

My skipper has been using a solar vent on Phantasy 3 for several years. It does circulate the air well, keeps enough air moving to prevent mildew in the cabin. Eastern Kansas can get pretty humid in the summer.
Jack Sunderland
Topeka, KS

I installed a Nicro solar/battery powered solar vent about 4 years ago and highly recommend them. I replaced the factory installed vent which is located above the sink in the head area on my 29 MkII. It's been working great all this time and I highly recommend them. Low noise, no power drain and very reliable. Go for the day/night unit, it's well worth it.
Cheers,
Maurice Doran
"Crackers"
Now happily floating on Lake Ontario!

Joe,
Installed 4 nicro vents so far, and couldn't be more satisfied. When you decide to do so, let us know and we'll be glad to drop off the appropriate hole saw. .
Moonlight looks much happier.

Don & Roma
"Rainbow" and "Old Spice"(on the wall by Harli-Ann)

Tom Anderson
Re: Solar Vents
I installed my day/night vent in the forward hatch as that was the only flat area to be found. If they are not installed on a flat surface, lines tend to catch under the lip and can damage the vent or flip it right off the boat. As a safety against loss from a line catching it or some one liberating it, I drove two small stainless screws through the sleeve and retainer ring. That procedure was not in the instructions.
Steve Scott
"Oyster Bay" 30-1

Ditto for Lazybones. My solar fan on my hatch cover took a powder last season as well. Figures it was the nice expensive stainless one and NOT the beat up plastic thing over the Vee berth. I am DEFINATELY securing the new ones through the sides with a couple of set screws this time.

W

Water Heater

I've installed a Walter Propane "instant" water heater on our 35-1 and love it. Hot water is available at any time regardless of whether we've run the engine or not. That means getting up to a hot shower, warm diswater always etc. We also have a Raritan 12 gallon that works off the engine for when we do run the engine. I'd be glad to review installation problems.
Steve Purdy
C&C35 "Trader"

I could use some sage advice on the Seaward hot water heater on my 90 34+. After reading that everyone has hot water by running their engine I decided to check mine. When I purchased it I was told it only had 110v heat and so never bothered to check it further. On inspection there is a valve on the unit that is right under the "hot" indicator. This is in the off position. When I open it the water flows but heads directly to the bilge. I have traced it everywhere that is easily viewed and have found no leaks. The only place left to look is under the floorboards at the companionway (the most difficult piece to remove). Before I undertake this next step does someone have

suggestions on a solution. Where is the unit plumbed to after leaving the heating unit? How does it tie into the water system? Anything to avoid taking that highly expensive teak sole off (I'll probably find rot under there and have to replace it causing a whole new set of problems).
Thanks
Greg
DV8
Roche Harbor

Water Tank

The problem is that Vaseline is petroleum based (white petroleum jelly) and that natural/synthetic "rubber" and plastic products may break down when they meet the opposite kind (petroleum/vs/synthetic based) lubricants. Same problem for nylon parts, as well.

I agree that a little lube would allow the seals to seat without distorting and coming free--the key is to find out exactly what the seals are made of, and what lube is compatible with them.

There are some fairly exotic lubes like DuPont Krytox that are compatible with everything (unaffected by chlorine, sulfur, oxygen, acids, etc.) but they are expensive enough so that you *will* follow the instructions to use them sparingly.<G>

Try the original manufacturer - Kracor. I have just got some stuff from them and had excellent service. Tell them I sent you.
kracor@execpc.com (INTERNET)

Someone asked about the "O" ring gaskets used on water holding tanks.
The O ring gaskets for the inspection ports on my water holding tanks on my C&C36 were leaking. If you are having the same problem, I suggest you contact the following:

Kracor, Inc.
PO Box 23667
Milwaukee Wisconsin 53223
(414) 355-6335

Ask for Lee Ann in customer service. Lee Ann can help you.

Things you should know are as follows:

Kracor will ship the "O" ring gaskets to you directly.

They manufactured the tanks on my C&C and maybe on yours.
I was able to order 8 "O" ring gaskets at a cost of $25.00 plus $5.00 shipping. Rather expensive, but not when it comes to stopping a nuisance leak in your boats water tanks.
You have to send a personal check to the company with your request for "O" ring gaskets. They will not take a credit card. This slows the process down. Finally, you have to call so that Lee Ann can determine the charges for shipping. Since I live in Northwest Indiana, not that far from Milwaukee, the shipping was $5.00. Again, not a real bargain.

Water Makers

12 Volt Watermaker Summary as extracted from Practical Sailor

Contacts
1. Edinger Marine Service, Inc, 298 Harbor Dr, Sausalito, CA 94965 fax 415 332 8527
2. Great Water Inc, 5148 Peach St, Erie, PA 16509 fax 814 838 8700
3. Ocean Link, 52 Maritime Dr, Portsmouth, RI 01871 Ph 401 683 4434
4. PUR, Recovery Engineering, 9300 75th Ave N, Minneapolis, MN 55428 fax 312 315 5505
5. SK Engineering 4256 N, US 1, Suite 1, Ft. Pierce, FL 34946 fax 561 489 0808
6. Village Marine Tec, 2000 W 135th St, Gardena, CA 90249 fax 310 538 3048

Performance Ratings

	Village Marine	SK engr DC150	PUR 160E	PUR 40E	EMS 180	Great YM200
Price $	3195	2740	4440	2220	4650	3150
Discount $	2900	2350	3800	1900	-	-
HP	1/8	1/3	1/3	1/18	1/8	1/2
Weight	48	74	54	25	51	83
GPH	5.8	6.5	6.5	1.6	9.5	10.2
Drain	16.7A	21.3A	17.3A	4.8A	8.6A	38A
W/gal	37.4	42.6	34.6	39	11.8	48.4
Noise	79db	72	80	72	65	80

Conclusions
- all met the manufacturers specifications in real life tests (the above is actual not data)
- no significant variations in water quality
- all have similar maintenance requirements (high I might add from my experience)
- only Village Marine and SK offer fresh water back flush

- all can be installed by you and me
- don't put one in if you aren't going to use it

Village Marine
1500 built over 10 years, self contained single unit, preplumbed, proprietary high pressure pump, documentation excellent, but a bunch of options are necessary for a full up system including salinity checker, boost pump, 3 way sampling valve ad so on. This is an old reliable system but could benefit from an update.

SK Engineering
Same Pacific Scientific motor as Village Marine. Membranes on many of the water makers worldwide are the same as they come from one or two suppliers who don't usually build the watermaker. This one is a 2521 the same as Village Marine. It has a remote operating panel but frankly the unit looks like it is a base with everything component mounted similar to above design. Documentation is OK. Base price makes it worth looking at.

PUR 160
First high output unit for a company which as far as I can remember introduced the small water maker for yachties. As above it uses the 2521 membrane with a 1/3 HP pump. It is a gravity feed system that can only be installed below the waterline. Energy consumption is high and is noise level. Easy to service all open, subject to your installation.

Caribbean Technology
Sophisticated monitoring system, good manual, again a 2521 membrane, Flojet boost pump lets it be mounted above water line. With current draw this thing needs your engine running to power it. Nearly as much as most winches at low load. Excellent manual. On a big boat it is worth considering.

Spectra 180
This uses a unique Clark pump which is very, very energy efficient. It uses an opposing piston driven by a single shaft which generates opposing motion and high pressure with energy efficiency. It also uses a membrane which is twice the size of the other units above thus low pressure generates a higher water output although the article is concerned about the membrane life in that high water volume on the backflush side is generally positive. It is the quietest, most energy efficient system tested. Although expensive.

My Observations

Most if not quite all watermakers us mid range sailors can afford use

the same membrane. Buy the biggest maintenance kit they have when you buy the unit. You will need it. Use lots of filters, I have 2 very fine filters one is 10 micron the second is 2 micron and then I have a huge oil and gas seperator unit. These are all that save the membrane so your investment in filters saves in the long run unless you are always in crystal clear water with no oil or deisel. If so please let the rest of us know where your paradise is.

I hope this helps and offer any apologies necessary to Practical Sailor. If you want the full article and I would strongly suggest you as for it they are at:

Practical Sailor
75 Holly Hill Lane,
Box 2626
Greenwich, CT 06836-2626
USA

Further my apologies to all the folks that are not in the USA if this sounds like an add for US companies. I live in Germany but this Practical Sailor is the best examination of sailing products I know of so I quote it.

Personally we have a Power Survivor PUR 80 which simplistically put outputs more fresh water than we can use in a day, uses more power than we want to generate and needs a hell of a lot of maintenance and takes up too much space. However, I like to be clean at night and not have salt burns in uncomfortable places. Soooo it is pretty good.

Dominique, your question on RO water showing the characterisitics of de-ionized (DI) water really intrigued me. The company I work for uses about 25 thousand cubic meters a day of DI water thus the interest. I went away and talked with a physist who's specialty is the plant and process to produce ultra pure DI water.

In explanation the RO process commonly used in a sail boat pumps salt water at low pressure, 2.5 bar (20 PSI) through a multi stage filter to remove oil and large suspended contaminants. The final filter on my system is 2 micron which even then is fine, 5 micron would probably suffice. Next there is a high pressure stage running at about 20 - 25 bar (200 lbs./sq.in.) which forces the cleaned salt water through a semi permeable membrane. The membrane won't allow particles, organics, suspended oxygen, + and - irons, salts and flourides to pass through thus what comes out is desalinated water. On the high pressure side the membrane is constantly washed by salt water which moves these substances back into the ocean through the bypass piping. While strictly speaking

the water has not gone through a true de-ionization process which would use salts to soften the water, ozone to dose it killing everything, UV to reduce the ozone and disinfect the water, and then a mix bed ion exchanger and resin scrubbers to produce DI water that is essentially ultra pure. Through this process everything is removed from the water including the ions. In this stage the and as surmised in your message DI water is very aggressive and will absorb any of the elements that are on the low end of the atomic table. This includes copper, aluminum and so on. Stainless steel type 318 or type 403 used in boats are high on the atomic table thus are OK. Plastic is even better. In our industry as we want the DI water to stay ultra pure we use PVDF piping (very expensive and you don't need it).

Now, while the water that comes out of your RO unit has not gone through the complete DI process it has to a large degree had the iron + and - and the salts removed. It will not be nearly as aggressive as DI water but will still over time go to work on the least noble of elements such as copper.

Most of our boats use little or no copper but I have stubs coming out of the bottom or backs of all my taps which the plastic hose attaches to. I am going to inspect mine thoroughly but had one blow off a month or so ago and don't recall it being soft or spongy. I suspect that the fact that most of us are pumping salt water into the RO unit will limit the DI effect on the water and therefor on the pipes but bottom line it will have an impact over time.

Water Pump

Go to a plumbing supply store and ask for plumbers grease. It is designed to lubricate faucet O-rings and such.. Works Great!

Weather

Tom:

The standard one is: http://www.nhc.noaa.gov/ for Hurricanes

Best regards James Libby S/V Blithe Spirit

Winches

Dan, I would call Marine Exchange in Peabody, MA (800-888-8699) to discuss anything about winches. They are the laegest dealer in used as

well as new winches. They have incredible knowledge and have almost been through every scenario.

I installed 2 large self-tailing Meissners on my Landfall 38 two years ago . They are excellent winches at a good price . It first appears that one needs larger line to fit the
self-tailer in comparison with other makes (Harken , Lewmar) , but such is not really the case . The tailer is designed to hold the line without putting it in a 'vice-grip' . Equal efficacy with less chafe .
I was able to buy bigger Meissners at lower cost than smaller Lewmars . The ST-53s I choose have handled very large loads with ease .
Kim Buschmann
kbusch@island.net

For Barient winch parts you could try Marine Exchange at 800-888-8699.

West marine carries some Barient parts. So does Layline at
http://www.layline.com <www.layline.com>

Richard,
There is a company called the Australian Winch Company that rebuilds Barient winches and also can convert some to self-tailing. They also sell ARCO winches. Their web site:

http://www.webcom.com/winches/welcome.html

lists ARCO winches including the bolt pattern. Maybe they'll match up. I don't know anything else about the company except they seem to answer email requests promptly, so I'm sure that if you email them they can tell you if they bolt up like a Barient. Their prices seem pretty reasonable by "boat buck" standards.

Windows

replaced the plexiglass 2 years(sidelites). you must use a two part acid methacrylate adhesive to properly readhear. difficult to find...need a special air pressure gun to apply. once applied, very strong as C&C wanted it originally to keep this part of cabin stiff, etc. so much for low maintenance fiberglass boats. Bob with Wildfire, a 1984 C&C 35 mklll

Pat & Jack,
I have recently replaced the windows on my C&C 35 Mk II with Plexiglas.

There are really two choices: Plexiglas (acrylic) and Lexan (polycarbonate). The Plexiglas is more scratch resistant and the Lexan is more impact resistant (used for bullet proof glass and aircraft windshields). I chose the Plexiglas because scratch resistance was more important to me, and I haven't made enough enemies that people would likely be shooting at me. Plexiglas is also available in several different tints. I chose a slight bronze tint which really adds to the appearance of the boat (I think) and does not, significantly reduce the outward visibility. BTW the Plexiglas is half the price of Lexan. My windows are held in place with a vinyl spline, so adhesive was not an issue for me. God luck with your project.

First, the prev owner rebed the windows on my 82 cc27mk4, and did a nice job of it. He removed the old windows and all the goo around them from years of caulking, and sanded lightly. He had new windows cut using the old ones as templates, from grey plexiglass. A 3M product for gluing plastic-to-plastic was used, but I think the secret was that he built a rather good jig to hold the windows in place to dry, which went between the window and the toe rail. He did a nice neat job of it, although a drop still does come in at the corners. Of course I threw out the jig, it looked like junk and I figured I would not be redoing the windows since they were just done.

We've (and I) discussed window replacements many times on this list. The short story:
1. It's easy if you follow the correct procedures and not too expensive
2. Replace the windows with the same material...acrylic (Plexiglass)..and same thickness. With respect to this, do the following: from the cabin hit your ports with your palm or a rubber mallet and if the glue etc. is in need of replacing, out they'll pop! Take them to a local plastics shop that advertises boat window replacements, give them the originals and tell them to duplicate them exactly (bevels and thickness). Don't remove the sticky paper since it protects them.
3. Ask Southshore in NOTL for the window replacement bulletin that C&C wrote long ago...it tells you exactly the procedures and products. You can buy the ports from them, but very expensive. Local supplier is better and cheaper. **905 468 4340**
4. Clean out the cabin frames gently with scraper and sand paper. put the new ports in place and from the inside trace a line following the frame on the sticky paper. Remove the paper from the outside to the lines ONLY.
5. Get the 2 part glue that the bulletin recommends, put the glue on the frame, insert window and you and 2 friends push for 5 minutes until the glue kicks.
6. Peel off paper, chaulk with Si and you're done!

Greg Cutter

Our experience in the C&C's in Bayfield Wisconsin is that first of all the main reason for portlight failure is that a mild to heavy grounding (we deal with a lot of charter boats here) will flex the boat thru the mid section and weaken the adhesive around the window. Then every rainfall will bring small particles of dirt into the new gap between the window and the frame allowing even more dirt etc. Finally, the entire width of adhesive is separated from the frame by a thin layer of dirt and the water comes right thru.

This doesn't mean the whole window is loose though, quite often the window must be broken and each small piece pried from the adhesive. This means that it is a good idea to have the new material on hand and preferably precut to size before removal. The cabin sides in the window area on at least the 29 mk III and the 35 mk III are curved just enough to make the flat window material want to tear itself away from the new adhesive so that so sort of blocking is necessary to hold it in place while the adhesive sets. Our marina budgets almost a full day for an employee and half a day for a helper to change out each window.

Now for the rube goldberg fix. Both sides on my 35 mk III leak mildly but aren't bad enough to devote the time to remove and replace. **I use 1" wide white vinyl tape applied to the outside along the window joint for the full perimeter. A razor blade trims the corners for appearance sake and there you have what we call a 10 foot solution (from 10 feet** away, you can't see the fix) this tape lasts for the year and replacement is done every spring so the tape is nice and white all summer.

Doesn't the Mk III have the old style windows with a rubber spline and aluminum frame? If so, the windows are installed by first applying an afhesive foam tape to the inside of the frame, then a few "blobs" of silicone to keep the window pane centred, then install new rubber spline.

The foam tape is quite common, but the spline is a special moulding - The original supplier in Belleville no longer has it - A Tanzer parts supplier in Montreal has the die for the spline and we usually carry this in stock along with a suitable foam tape.

If you have the glued in type windows (I think these came later) then leaks can be cured by using Rule Penetrating Silicone sealant - This is a thin formulation that will find

its' way into fine cracks.

Check out **www.ge.com**, GeneralElectric's web site. Somewhere in there are specs on Lexan. Lexan, like brass, comes in many flavors. You can order both Lexan and Plexiglass in dozens of formulations, and some of them are scratch resistant. Any good plastics supplier can do that for you--but since it will cost more and won't be in stock in most places, they may not tell you about it unless you know to ask.

Joe - **It used to be called Plexus**, but another company is producing it (and changed the name). I can't recall the name off the top of my head, but you might check with Dr. Bob Alexander who owns Wildfire (he's on this list as wildfire35@aol.com - I THINK?); I gave him the left over tube that I had with the name, address, etc. when he was replacing his ports, etc. The stuff is incredible, **but requires a co-axial glue gun as the catalyst is encased** inside the glue tube; you also have to use a mixing nozzle, but this comes with each tube of glue. Anyway, if they're doing this things regularly, then the expense of the gun is no big deal; for individuals the company "rented" it to me...I bought it, used it, and sent it back - they returned my money. I'll check my boat files at home and see if I can come up with the name of the comany in the meantime.

The process has produced one of the prettiest 38's in New England, but I have
>a couple of the windows leaking. These appear to be units that could be
>removed completely since the plexiglas seems held between two aluminum frames
>with a gasket.....which is clearly loose and coming out of the frame.

Hi - You have a common problem - This is long, but I thought I should document it and file it because it always seems to come up.
It seems that your boat has the old style windows with aluminum frames - These frames are fastened into the deckhouse and the outside flange is sealed with silicone or some such material - There are sometimes leaks when this sealant shrinks or the frame moves.
The second type of leak is between the window pane and the aluminum frame - This occurs when the rubber spline deteriorates or the mastic material between the pane and the frame deteriorates.
The fix procedure is to first check the seal between the

frame and the deckhouse - If this is suspect, remove the frames, if not leave them in place and move to next step. First locate a source of new spline or make sure you have an alternative plan. Then remove the spline by just pulling it out. The spline holds the pane in, so you can now push the pane from the inside and dislodge it. Once the pane is out, clean out the inside of the frame. Have a look at the panes and decide if they need replacement (if so, take them to a glass company and have new ones cut from acrylic sheet - they are not expensive)

At this stage, you will need some mastic strip - I think it is actually butyl rubber and can be obtained at automotive stores. Alternatively, acquire a suitable amount of closed cell PVC foam tape about 1/8' x 3/8" that has adhesive on one or both sides - Stick this into the frame using silicone or another clear adhesive leaving the sticky side out - When set, centre the pane and push it onto the tape. (with butyl rubber simply put it in place) Place a few beads of silicone or small plastic spacers under the pane so that it cannot drop down if and when the foam or mastic loses it's "stickyness". Finally, install the spline - new or old.

Seal the joint where the ends come together with silicone or other sealant - this joint should be at the top - Your window is now fixed.

Not that bad a job BUT . . . The spline and foam tape is hard to find. As we understand it, the only known source of spline is a part time Tanzer parts supplier in Montreal called Yachting Services run by Eric Spencer because he owns the extrusion die - Others like our company and perhaps South Shore may have some in stock BUT - the price is high ($3.15/ft) We get foam tape in 10' lengths from a company called MDR - cost is C$5.00 per roll.

One alternative is to remove the frame, attach it to a wooden board to keep flat and take it to an automotive window expert such as Apple Auto Glass or others - I have not tried this, but others have and say that these companies use a Polyurethane sealant instead of the spline that looks neat, stands up and does not cost that much. If any one tries this, please post findings - We need a better way!

Hope this helps - It is a problem common to several boats built in Canada using this type of window.

Graham Moss

I replaced windows on my previous boat an Ericson 37. The process used unconventional at the time but it worked very well.Ten years later ,I still

believe in the system.I used automotive urethane glue which is designed to add structure as well as seal windshields.
Contact Essex Chemical for more info.
Good luck
Phil Lepage
C&C 44 In Flight

Just had a friend in who owns a C&C-34. His windows are apparently glued on the outside of the cabin house. The glue has come away and he made the mistake of trying to use machine screws to correct the problem - The window pane has cracked and may have to be replaced.

Question - What type of adhesive is recommended and does anyone have a source in Canada or USA?

Try Max @ Welborn Marine & Industrial (813-445-9647 FL); I re-installed one on my 29-II using it as a adhesive and sealant. Works great (3-M recomended NOT using 5200 for an adhesive, only as a sealant). Not cheap. C&C suggested using epoxy to hold it and a sealant to finish it off. I'm sure that would work too, it may be more convienent as most of us have West Sys. around.

Hi Graham, contact South Shore Yachts in Niagara on the Lake, apparently they have a flyer with the instructions on fixing the ports and it talks about the adhesive that is recommended.

If the windows were just " bonded" the adhesive used is called "versalock" and I think it is manufactured by LORD chemicals. Hope this is some help.Steve

use: acid methacrylate adhesive...manuf. by Dexter..Hysol H4000 obtained from Rudolph Bros. & Co. in Ohio 1-800-600-9508 www.rudolphbros.com it lasts as long as a NEW piece of plexiglass ...about 8-10 years ...the system must be ridgid and repairable...don't use epoxy....not all that difficult but takes time..make certain that whoever cuts the plexiglass bevels it also. bob on the lower Chesapeake

Hi Graham,
The windows on Illusion are applied to the outside with machine screws and no problems. Snug them up once a year and leaks stop. No cracks. As a little

sidelight - this was not C&C's standard method - my 29 was the old style interior (MK I) which was modified with the new style windows, fake jackstay etc. to look like the new model and was put in the C&C line up at the Annapolis show. Because the new version wasn't ready, she was displayed to look like the new one but was locked up throughout the show. C&C then "lost" the boat. All the other show boats went to the local dealer but the 29 went back to the RI plant. C&C thought the dealer had bought it. About 6 months later it was spotted in the yard and the situation discovered. It was the last of the MK I's and I bought it.
In any event - screwing the windows on can work if its done correctly.

Thanks Hank -
I did suggest this to the owner - make slightly larger windows and bolt them on - seems to make sense since they are on the outside anyway. However, removing the old windows may not be that easy.
I have been looking at buying a C&C-37 - It has the inset windows - Many of the C&C,s of this vintage seem to have gelcoat cracks around the windows - I think that if I do buy one, I will also use larger windows bolted in place so that the gelcoat cracks are covered.

Rudolph Bros. & Co. 1-800-600-9508 (fax) or phone614-833-0707 960 W. Walnut Street, PO box 425, Canal Winchester, Ohio 43110-0425
acid methacrylate adhesive ...Dexter mfg.....Hysol H4000

****

Because one was broken I had to have one made (in Annapolis) and got a chance to talk to someone who builds and replaces ports on a daily basis. His recommendations, which I followed, were pretty simple. Clean the old ports and hull openings scrupuosly with mineral spirits. Scuff the edge of the portlight where it mates to the hull so that there will good adhesion (the old ports had this done at the factory.) Use lots of silicone caulking on both the hull and on the port. Take a putty knife and trowel the silicone on so that there are no bubbles. These cause the most problems with leakage and adhesion. Place the ports in place and use 2X2's placed against the lifelines to provide the inward pressure that is needed.

This is important. Before I actually starting applying the silicone, I had everything ready to go. I spent most of my time cutting the 2X2's to the correct length and doing dry runs using shims to be assured that the pressure was even and correct. I ran 2" masking tape all the way around the openings on the outside and the inside and then cut the edges with an

X-Acto knife so that excess silicone (there will be lots) would be easy to remove. I also taped both sides of the port in the same manner. When I actually installed the ports, I left them under pressure for 24 hours. I did one port per job(day.)

I found that by spending most of my time in preparation the job went smoothly. The results appear like the original. I've experienced no leaks, the ports are flush with the hull and seem to have plenty of hold. I think that you will find that this is not too daunting a task.

Window Leaks

I also have a 29 II and went after a leak last year. It lead me to removing the dam thing to do it right (right up there with volunteer root canl work!). C&C suggested using an epoxy to hold it in and caulk on the outside. This didn't appeal to me to i found a special caulk adhesive used by OEM types. It was very expensive (like$40 / tube which would do 2-windows) but it is made for just such work. I did call 3-M and they didn't recommend using their 5200 series (or any other product); the same went for GE. BUT, after taking the window out, i had to use a die grinder to clean out the old adhesive. Once i got most of it out, i used sand paper to get to the gel coat. Then you use a special primer and lay a bead down, place the window in and clamp in under modest pressure for 24-48 hrs. My clamp fixture was true R.Goldberg; assorted wedges and bunge cords. But when i was done it looked great and did not leak. The product is sold by Welborn Marine and Industrial Prod. 813-445-9647. (FL)
Dave Corkum wrote:

Last year I had a similar problem with my 27 on the port side. Began by picking out "old" caulking. By the time I cleaned out the top, fwd and aft sides, the window fell out of the cabin top. Just great I thought! Was late in the PM as well.
At the same time I was accomplishing a bit of minor gel coat repair topside and filling some hull scrapes below the water line with West System Epoxy. Decided to use the West Sys Epoxy to refit the window. Thoroughly cleaned the window frame and window with Acetone and a wire brush, applied a liberal amount of expoy to both the window / frame and put them back together. Braced the window in place with the only material available at the time which was 3 medium size tool boxes and left it to dry overnight. If I was better prepared I would have fabricated some wooden braces that would have ran from the life line and pressed onto the window.
Anyway, the following day I inspected the work (seemed to be OK), scraped off the excess expoy with a 1/2" very sharp chisel (this was easy) then ran a bead of 3M 5200 bedding around the entire window. The

clean-up of the 5200 was the most tedious/ difficult part.
The long and short of it was that the repair has been satisfactory.
After 9 months the window seal has remained water tight.

Winterizing

FALL & SPRING CHECKOUT LIST

INSIDE

___ ___ VACUUM OR CLEAN ALL SURFACES - LEAVE DRYER SHEETS IN CABIN
___ ___ REMOVE OR PROP CUSHIONS
___ ___ PROP OPEN ALL DOORS AND DRAWERS

___ ___ REMOVE VHF RADIO
___ ___ REMOVE LORAN/GPS
___ ___ REMOVE AUTOPILOT
___ ___ SPRAY ELECTRIC TERMINALS WITH WD-40

___ ___ REMOVE SPEEDO THRU-HULL
___ ___ CLEAN & WINTERIZE BILGE
___ ___ REMOVE BATTERY FROM CLOCK

FRESHWATER SYSTEM

___ ___ DRAIN WATER TANKS AND FLUSH WITH ANTI-FREEZE

___ ___ DRAIN HOT WATER TANK AND FLUSH WITH ANTI-FREEZE

___ ___ PUMP ANTI-FREEZE THROUGH COLD SYSTEM (START WITH BATHROOM
TAP - DON'T FORGET SHOWER)

___ ___ PUMP ANTI-FREEZE THROUGH HOT SYSTEM (BATHROOM FIRST INC SHOWER)
___ ___ POUR ANTI-FREEZE THROUGH ALL SINK DRAINS AND COOLER DRAIN

HEAD

___ ___ FLUSH TANK THOROUGHLY
___ ___ POUR ANTI-FREEZE IN TANK
___ ___ CONDITION TOILET PUMP

___ ___ CLEAN SHOWER & PUMP ANTI-FREEZE THRU DRAIN SYSTEM

___ ___ PUMP ANTI-FREEZE THROUGH FOOTPUMP AND TOILET INLET

ENGINE

___ ___ TOP OFF FUEL TANK AND ADD STABILIZER

___ ___ DRAIN AND REPLACE ENGINE OIL AND FILTER

___ ___ CLEAN WATER FILTER

___ ___ WINTERIZE EXTERNAL COOLING SYSTEM - CHECK INTERNAL SYSTEM

___ ___ OPEN CYLINDER & EXHAUST MANIFOLD DRAIN COCKS

___ ___ LOOSEN BELTS

___ ___ DRAIN WATER PUMP

___ ___ TAPE AIR INLET

___ ___ TAPE EXHAUST OUTLET

___ ___ WIPE DOWN ENGINE AND VACUUM ENGINE COMPARTMENT

___ ___ REMOVE BATTERIES

___ ___ CHANGE FUEL FILTER

___ ___ CHECK ANTI-FREEZE IN CLOSED SYSTEM

OUTSIDE

___ ___ CLEAN DECK AND HULL

___ ___ WAX HULL

___ ___ REMOVE LIFE LINES

___ ___ REMOVE BLOCKS FROM MAST COLLAR

___ ___ CLEAN AND WAX STAINLESS

___ ___ RE-VARNISH TEAK

___ ___ REMOVE MASTHEAD INSTRUMENTS

___ ___ REMOVE COMPASS

___ ___ GREASE STEERING CABLES

___ ___ COVER BOAT

General - Put a conspicuous notice somewhere so in the spring you remember to:
Unseal all openings into the engine (e.g., air, inlet, exhaust) and the fuel tank vent.

Tighten the alternator belt.
Tighten the engine pump cover screws.
Tighten all pump covers.
Remove & clean plugs.
Loosen stuffing box if winterizing in the water.

Engine and Gear Train
Change the engine oil, transmission oil and antifreeze.
Drain the raw-water system, taking particular care to empty all low spots.

Put Stabil in gas tank.
Run the engine for a few seconds to drive water out of the exhaust, unstabilised gas out of carb & bring engine up to temp.
Run Antifreeze into water system
Oil up the engine by fogging engine storage spray into carb until engine dies.
Remove rubber pump impellers, lightly grease with petroleum jelly and replace.
Leave the pump cover screws loose so that impellers won't stick in the pump housings.
Wash salt crystals out of any vented loops.
Remove & check the primary fuel filter, fuel bowl and fuel tank for water and sediment.
Stabil in gas tank.
Grease all grease points.
Remove the inner wires of all engine control cables from their outer sheaths; clean, inspect, grease, and replace.
Check the sheathing.
Seal all openings into the engine (e.g., air, inlet, exhaust) and the fuel tank vent.
CR electrical spray in distributor.
Inspect all flexible feet and couplings for signs of softening.
Inspect all hoses for signs of softening, cracking and/or bulging.
Check the propeller-shaft coupling setscrews or through-bolt.
Loosen the alternator belt.

Batteries
Remove batteries from the boat and store in a cool, dry place.
Bring to a full charge
Equalize wet-type batteries
Top up
Clean the battery tops
Bring wet-type batteries to a full charge once a month.

Hydraulic Systems
Drain a little oil and check for water or contaminants

Top up as necessary
Check all seals and hoses for signs of leaks and damage

Electronics and Electrical Circuits
Remove electronic equipment to a warm, dry place
Clean corrosion off all electrical terminals and connections
Protect terminals and connections with petroleum jelly or a shot of WD-40 or other moisture-dispelling aerosol
Pay particular attention to all external outlets, especially the AC shorepower socket
Open up coaxial connections if there is any possibility of water ingress; clean, repair as necessary, and reseal

Toilets
Drain and/or pump system with a 0% to 50% antifreeze
Break loose the discharge hose and check for calcification
Wash out vented loops

Pumps
Drain and/or pump through a 30% to 50% propylene glycol antifreeze solution

Remove flexible impellers, lightly grease with a Teflon-based grease and put back
Leave pump covers loose.
Inspect all vanes, impellers, etc., for wear and check for shaft seal leaks

Freshwater Systems
Pump out tanks and drain system
Clean the tanks

Stoves
Drain a little fuel from kerosene and/or alcohol tanks and check for water and contaminants.
Close LPG or CNG gas valves at the cylinder.
Renew filaments on filament-type igniters at least every two years.

Steering
Lightly oil cables and oil or grease sheave and pedestal bearings.
Remove cables from conduits; clean, inspect, grease, and replace.
Check sheave mountings, bracing and rudderstops.
Check rudderhead and tension cables.
With pedestal-type rack-and-pinion steering, remove top plate and input socket screws; clean, grease and replace.

If Hauling Out

Check for propeller blade misalignment and Cutless bearing wear.
Tighten any strut mounting bolts
Inspect stainless steel prop shafts for crevice corrosion
Remove prop nut to check under it
Repack stuffing box.
Pull and grease all seacock plugs if possible. Dismantle and grease gate valves.

If wintering in the water:
Dismantle and grease gate valves.
Close seacocks (except cockpit drains) and closely inspect cockpit-drain hoses and clamps.
Check the bilge pump float switch, wiring, switch, and the state of charge of the battery
Tighten down stuffing box to stop any drip.

Wood

I just picked up a piece of 8/4 teak, 8" X 24" at a place near where I live. I never knew this place existed. The teak cost me only $27.00 (US). Additionally, they quoted me a price of only $126.00 (US) for a 4' X 8' sheet of 1/2" marine grade teak plywood.

The details are:

Highland Hardwoods
P.O. Box 426
Kingston, NH 03848

PH: 1-800-442-1812
1-603-679-1230
FAX: 1-603-679-1960

For anyone near the area, they are located on Route 125 in Brentwood, NH approximately 1 mile south of Route 101.

Cheers,
Bob Todd
Lazybone

Wood Clean up

Coming from a background in furniture, I would recommend trying teak oil, especially the type sold by scandinavian furniture stores that contains turpentine. Based on lots of experience, you can use this on oil or any kind of lacquer finished teak. If the teak is really dirty, try using triple fine (xxx) steel wool and rubbing lightly with the grain. The trick with any teak oil is buff dry with a clean cloth or paper towel to remove excess and avoid creating a tacky surface.
Nikos Singelis
Washington, DC

Murphy's Oil Soap, HOT water, bronze wool (steel wool leaves rust marks from the pieces that break off) and LOTS of elbow grease seems to work OK for me. It's lots of work, but the teak does come clean.

Nikos is exactly right. A solvent-based cleaner or just a straight solvent such as turpentine or naphtha should do the trick and is probably your best choice, especially if the wood was never finished in the first place (as many interiors are not). The problem with any water-based cleaner such as Murphy's or TSP is that water will raise the grain of unfinished wood. This in itself is not necessarily a problem, but it does add some steps to the process. If you choose to go this route, let the wood dry THOROUGHLY (at least overnight), then lightly sand off the "fuzz" with 220 grit sandpaper, tack rag it, and then apply your final finish. Applying teak oil too soon will trap moisture in the wood, and you'll end up with black spots. Personally, I prefer a fine, white, scotch-brite pad over either steel or bronze wool, especially if you have to use a lot of elbow grease to remove the grime. Good luck

X

Y

Yanmar

Did you know that you can cause very serous damage to you Yanmar,if you try to crank over 20 seconds!! Usually it will start very fast. But if it dose`nt you may need a new engine, if you exceed 15 to 20 seconds. The water needs engine fumes to flow out the stern of your C&C. If cranked over say 20 Sec. you will
force water into the engines cylinders and water dose`nt compress.
If you are having starting problems close your engine sea cock, before the 20 seconds (remember to open it when it starts up again)
We learned about this at one of the C&C Owner Asso. seminars

My mechanic also said the same thing about cranking over 20 seconds. He also said that if it does not start to turn off the intake raw water valve so that the water lift muffler does not fill. Then crank again. When the engine start, quickly turn back on the water. Luckily, I have not had to try that.

Rich,
It sounds like you might have a small air leak. You should prelube the engine if you haven't run it for over 72 hours by pulling the stop cable all the way out, turn the engine over for 5-10 seconds, then push in the stop and start normally. I learned this from a master Yanmar mechanic.
Tom Anderson
C&C 32 Nonpareil
Marblehead, MA
Only 5 days to launch

LAST NITE I FIRED UP MY YANMAR 3GMF GETTING READY FOR MONDAY LAUNCH. WATER INTAKE HOSE REMOVED FROM KINGSTON COCK AND STUCK IN A BUCKET OF WATER ON CABIN FLOOR. STARTED RIGHT UP. ONLY PROBLEM WAS NO WATER SUCTION OR FLOW THRU THE EXHAUST. LAST YEAR SAME PROCEDURE SHE WORKED FINE. AND ON MY PRIOR BOAT WITH A YANMAR 1-BANGER, NO PROBLEM. SHE SUCKED THE WATER UP LIKE A....., WELL
NEVERMIND.

I CHANGED THE IMPELLER WHICH LOOKED FINE ANYWAY, TRIED AGAIN, NO SUCTION. QUICKLY SHUT HER DOWN AGAIN. ANY IDEAS? DOES THE PUMP HAVE TO BE PRIMED?
RDGS,
CLIFF
C+C 35 MKIII
MOONDANCE

Cliff,
You are describing what happened to me a few weeks ago right before launch. My C&C 29 has a Yanmar 2GM and I never had a problem with it. Last year I had a mechanic do a routine tune-up and he recommended I remove the pressure on all belts (water pump and alternator) after haulout. He said this would prolong the life of the alternator.
To make a long story short, I forgot that I had slacked off the belts so I had no water coming out of the exhaust when I tried to turn the engine over this spring.
I racked my brain trying to find out what could be causing this (contemplating having to replace the impeller or even worse...) until I

remembered about the belts!!!
I tightened them up and everything went fine after that.
Maybe that's your problem too?

This happened to my last year with my yanmar 1GM10. Turned out the the cork gasket on my raw water strainer had finally compressed enough that the seal was broken and a small amount of air was pulled in, effectively preventing the pump from pulling water. A new cork gasket on the raw water strainer solved the problem. Like you, I had replaced the impeller, etc, before I found the real problem.

I ran my engine on the hard too, and no flow, just like you describe. I could see that the water strainer was full of liquid, so did not put the intake into a bucket. Ran the engine...nothin came out.
I noticed that the water strainer IN and OUT are both at the top of the strainer, so if air was being pulled IN (since the boat is on the dock) then air would be pumped through, leaving the much heavier water behind. I verified this theory with a mechanical engineer...my wife, who said it agreed with the laws of physics on this planet.
Launch day I was anxious, but when the boat splashed, the engine started, and lots of frothy liquid came out the exhaust.
If you are putting the intake hose into a bucket, you might have to wait till all the air in the hose has been pumped through. If you have checked the impellor and the belt, most likely there is nothing wrong and it will work in the water.
The $10,000 question really is...how long can you run your engine with no cooling before it is ruined ???
Dave

I RAN THE ENGINE LONG ENOUGH TO HAVE SWEAT COMING OUT OF UNUSAL PLACES BEFORE I SHUT IT OFF. I THINK THE CONSENSUS IS I HAVE TO PRIME THE
THE PUMP WITH A HOSE. TONITE INSTEAD OF HAVING A CATCH WITH MY SON, I
WILL TRY AGAIN, + GET HOME SOAKING WET + PISSED OFF.

could be that raw water line dumping into exhaust riser is clogged/rusted.
wildfire C&C35 mklll

REF COOLING WATER - LUCKILY IT WAS JUST AN UNPRIMED PUMP -
I FORCED WATER DOWN THE HOSE AND THEN STUCK IT IN THE BUCKET
AND ALL WENT WELL * THANKS

CFC
MOONDANCE

I've recently removed the injectors from my 1990, 3GM and had them worked on. In attempting to re-install I noticed that the bottom of the cylinder into which the injectors fit shows (in the same way you can see where a washer has been after it is removed) the outline of the circumscribing ring that surrounds the injector port through which the fuel actually sprays. Since the re-worked injectors came back with new composite type seals (washers) intended for the bottom of the injector (at the cylinder opening) I got to wondering if by chance the bottom of the injector cylinders might still have the original seals in there. If they are, they are copper, and not the composite type provided by the shop. Any opinions on this?? I don't remember the injectors having the old seals "pressed" on as I took them out, although it is always possible I just didn't notice them.

Ken
"Surprise"
C&C 34+

Per the Yanmar manual. Red/Black is Positive, Black is negative, Orange is is for the Tachometer, Bule/Red is the other Tachometer lead. the two Tachometer leads are interchangeable. Hope this helps.
Lou Bruska "Rally Back" C&C27 Lake Michigan

Guy,
I also have a Yanmar in my 32 built in 1981. Last year with a fixed 15 X 9 prop I had to run it at 3200 rpm's to get it to hull speed. I took a 1 day diesel course this spring taught by Mack Boring & Parts, and the instructor told me that 3200 rpm's was OK to run the boat at, but to be careful of all the cooling systems because the motor would be under a lot of stress. This year I put on a Martec 16 X 10 folding prop, and so far it seems like I don't have to have the rpm's quite so high. I would say that .5 gallons an hour is about right. I have a chart that I would be willing to send to you if you want. Please send me your USPS address directly. You also can buy Yanmar manuals from Mack Boring in Braintree, MA.

Two items of interest that I learned from my diesel course that the instructor said must be done with all Yanmar engines to prevent premature wear:
1) Anytime you leave the engine off for more than 72 hours, you need to prelube the engine before starting. You do this by pulling the stop cable out and cranking the engine over for about 5 seconds, then push the cable in and the engine will start.
2) At least once a month the engine should be run hard in gear for at least 1.5 hours. This prevents varnish from building up in the

cylinders.

The tank was vacated using a "bulb" pump attached to the fuel pickup on the tank. All hoses and wires were detached. The tank was moved forward, rotated sideways and removed through the starboard cockpit locker.

I am replacing the 20 Gal. tank with a 26 Gal. tank. It is a standard tank from Mirax (the manufacturer of the original tank). We are having the manufacture modify its design by having the "holes" put in the right place. To install the tank we will have to temporally move the batteries to get the tank into position.
No modifications are necessary to remove or replace the tank.

On my newly acquired C&C 30 (1981 - RI built) I found the Yanmar 2GM a bit rough in this first year of use.

Set about the usual things:
change oil & filter
change fuel filter
change belts etc.,

start thinking about removing fuel tank, steam cleaning, adding Racor filter(s)

asked mechanic to plan on taking off the injectors when I was next away

He asks what are the symptoms and I tell him about rough idling, stalling, engine cutout when going into forward gear, etc.

He say 'sounds like the governor.....'

Oh, says I. I take the boat out overnight, arrive at anchorage, pull out the big engine repair manual and start reading about the governor. Looks too complicated for me to tinker with, especially on an overnighter when I'm flying out the following day. Seems governor is connected to other bits and bobs such a max speed limiter, etc.

As I'm scanning the pages, on the page that deals with idle speed is a highlighted note from Yanmar that says 'ensure you do not install this part in reverse!!'

Half an hour later I'm scanning the engine by flashlight (it's now nearly midnight) and I notice the thingamybob is installed in reverse!!!!! How could this be?????

I remove it, reverse it and replace it (no longer R&R but RR&R).

Now the anchorage is quiet and probably everyone is asleep but you know darn well I fired up that diesel to see what I'd done! Worked like a dream, no more stalling, etc. So simple.

Now here is the message for you all. This problem was a day one condition. Yes the previous owner must have had this condition for 16 years! You see when I removed the thingamybob it was obvious that the threaded hole which should have been used was plugged with gelcoat that the factory used to paint the inside of the lockers and engine compartment. It had to be C&C who got it wrong when they connected the throttle cable to the engine throttle lever.

Check your throttle cable connections aginst the manual!

Yanmar Transmission

Call Ron Reder at Bayfield Marine Services Bayfield, Ontario. He does things with this gear box that makes it stand the test of time. The cone is the weak link and sometimes requires adjustments.

Sounds and awful lot like what was happening with our 29 when the clutch was bad. It was explained to me that the shudder was the clutch slipping and grabbing again, when it was under the most strain as in acceleration. Try that test I suggested and push in on the gear change lever when it is doing that shudder thing. supposedly this, in effect, pushes the clutch into tighter contact.

Engine alignment

Pat,
I have found Nigel Calder's "Marine Diesel Engines" book valuable for that and many other engine related issues, also the following web site has some good info: http://www.yachtsurvey.com/, I've been there and done that recently myself and if you do a search on alignment on the web

you'll come up with several good bits of info as well. HTH

Gerrit H.

>
>Section 6.4 of my C&C owners manual for my 29 MK II has a very good set
of
>directions on how to align the shaft. One comment is that the .003"
>tolerance recommended is not always practical when hanging upside-down
in
>the tight space available to get to the shaft - I've found .008" or
.010"
>to be a more reasonable tolerance that doesn't cause significant
vibration
>of the shaft (Most boat yards also use .010").
>
>If you don't have a manual, e-mail me your address and I'll send you a
copy
>of the page.
>
>Pat Dillon
>'Shoe String'
>Mystic, CT

>> From: Richard Tesoroni <richtes@rocketmail.com>
>> To: C&C-list@sailnet.com
>> Subject: Engine alignment
>> Date: Wednesday, July 15, 1998 6:52 PM
>>
>> Could someone recommend a good book or magazine
>> article that describes how to properly align an
>> engine? It's a 2GM20 in a C&C 30.
>>

Z