A

B

Balsa Coring

Re: balsa coring
C&C was a pioneer in the use of balsa coring in both decks and hulls. Basically the core started a few inches from areas of high stress and stopped a few inches before hitting the next area of stress. The coring would start about 6" below the gunwale and continue either to the water line or down to within a foot of the floor timbers. On the deck it started about 6" in from the gunwale. Where stress was expected like the hull deck joint it was always solid glass. Where a thru hull was placed there would be about a 6" to 8" square cut out of the balsa and it would be solid glass. Wherever deck fittings or winches occured the balsa (not liking to be compressed) was replaced by 3/4 marine ply. If you drill in an area where C&C did not expect something to be put - you'll likely find balsa (hopefully dry balsa) If, as many on the list have said, you drill in an expected area (eg. just below the gunwale for a pump outlet) you'll find solid glass. If you tap the hull with a solid object, like the handle of a screwdriver, in areas of know solid glass and known coring, you'll hear the difference in sound and be able to tell where there is coring and where there is not.
The extent of coring varied with the size of the boat. Smaller boats tending to have little or no hull coring and some deck coring. Larger boats were extensively cored in both the hull and the deck.
Regards,
Hank Evans

Batteries

Hi all, After reading all the letters on the battery subject, I thought I should offer my thoughts on the matter. The intended use of the vessel should determine the level of upgrade required.

I own a 1975 vintage C&C 27, hull #506, Lady Jane and after a few years of club and regatta racing on lake Ontario, neither boat nor skipper was competitive so I decided to refit her for cruising south. Having sailed on many cruising boats, I was aware that the most common problems are electrical, either caused by inadequate or poorly designed systems of which my automobile wired three cartridge fuse panel was a classic example so I bit the bullet, hired a 12volt expert and started from scratch.

I now have a sixteen breaker panel to accommodate the ever increasing maze of gadgets, the most voracious of which is refrigeration. Power is supplied by a 100 amp alternator while motoring, a hard wired charger while docked and by a wind bugger while at anchor to four 80 amp hour Soningen gel cells, (expensive yes but worth every penny) A smart regulator which I don't profess to understand, keeps everything on an even keel and in the seven years since the refit, there have been no problems or battery replacements. This system uses two make before break switches, one to control two house banks, #1 consists of a single battery mounted under the aft end of the starboard settee and #2 is two in parallel mounted under the aft port side seat. The other is for the dedicated starting battery, (also a deep cycle soningen) mounted in the original position in the engine compartment.Here I should mention that I was advises at the outset that it is a bad idea to mix different battery types. Because the wiring runs are fairly long, welding cable was used to cut down on power loss and while at anchor in the Bahamas, the system functioned using all appliances normally for five days wthout charging by any of the methods mentioned above. I at one point considered solar panels as an alternative to the wind bugger which makes Lady Jane look like a downed Sikorski helicopter but the manufacturer told me that I didn't have enough deck to mount the required number.

I realize that my upgrade was pretty extreme but if anyone would like more information, contact me at captainj@interlog.com Jim Lackie

Rick & Hank, et al;
A frequent problem on many boats and from many boat manufacturing companies, (the old cost factor), is either on battery selector switch, or what I feel are improperly wired battery selector switches. My C&C was delivered from the factory with only one.
If all you ever do is attempt to start the engine, with no other electronics operational at the same time, then one switch is fine.
However, on vessels that wish to start the engine, while also engaged in other activities, (ie; while doing a night passage; or to move out of the way of an on coming tug or freighter), and when electronics, or other sensitive equipment may be operating, starting the engine may cause malfunction or harm to the other electronic devices.
In my opinion there are two ways to resolve this problem. On my Whaler it's easy to shut everything down, to start the engine, so one switch works fine. However aboard Spindrift, and other vessels withmore equipment, and the option to need to start the engine, while navigation equipment, radar, or other systems require voltage, have a separate engine start battery and separate battery selector switch, is an excellent means to avoid problems.
Another advantage with the two selector switch system, is that the engine

start battery is quickly recharged, and then the starting selector may be switched to direct all charging current to the house battery or batteries. When the engine is shut down, one simple turns the engine start battery selector switch back to position #1, and this not only prepares you to start the engine as needed, while keeping the rest of your current demands separate and coming only from the housebattery/batteries.
One the last delivery I completed, (Island Packet 38'), there were two selector switches, however IP or someone else, had wired them so that both all the current demand items as well as the starter were on the same selector switch, while the two switches were wired in a haphazaard manor selecting various combinations of batteries. When ever he attempted to start the engine, the radar and GPS immediately quit from the sudden voltage drop and spike. Not condusive to long term reliability. Same problem on a friends Morgan OI 41'.
With a second battery selector switch costing less than $30, a couple of extra positive positive cables, and a few hours time, and the potential problem is eliminated. On the IP, all the cables and switches were there, so we completed the task in less than an hour, resulting in a much better electrical system.Smooth seas,Sean
Good Sailing - Sean Holland - Spindrift - NP2AU

A diode isolator is simply a hefty diode in series with the battery(s) in the charging circuit. It will isolate the batteries while there is no charging. While charging, there will be some (~0.7V) drop across them, so the charging circuit will have to take this into account (usually via an external regulator). If one battery is lower than the other the charging current will be steered to that battery until they equalize.
The charge combiner is made with a hefty transistor (over simplification, but the switching is done with a transistor) which has minimal (~0.1V or less) loss so no changes are necessary in the charging circuit. Less loss = better.
If there is no charging current then the batteries are disconnected from the charging source.Leslie.Not a rocket scientist at JPL.

Battery Charging

Ron- Either one will do. A trickle charger (something like 40mA/day) will compensate for the self-discharge. That's a cheap dumb charger that will do the job--or a small solar charger will do the same thing if they can see sunlight.
But placing them on a smarter charger and charging them every 2 weeks would do just as well. (Assuming that those mfrs who say 30 days *will* already cause damage are right, I wouldn't wait a month between charges.) Your choice.

The more you keep the charge "topped up" the longer your batteries will last. The is great info on Interstate's site and they mailed me out a small brochure on maximizing battery life n/c. I use a variable rate charger that automatically shuts down when battery reaches full charge (I use the same one on the boat all summer). I have been putting each battery on the charger overnight about once a month all winter. I don't remember the rate but lead acid batteries self discharge at a fairly high rate and even though they are better than automotive batteries, the lower the charge is allowed to go, the fewer the number of cycles the batteries will last. When I was looking for a charger I noted that some were not recommended for use with deep cycle batteries. I made sure I bought one that said it was rated for Deep Cycle. Not sure what the difference was but figured for the small $$ difference I would make sure.
Kent

Binoculars

opinions on Fujinon Mariner XL binoculars

Does anyone out there own the Fujinon Mariner XL binoculars with compass or know of someone that could give an opinion? These are the light-weight polycarbonate plastic bodied Fujinons. I've been eyeing these at West Marine for about 2 years during which time they've been priced at $199. Some time ago they went down to $179. Now I see that Sailnet has a special on them for $149 plus free shipping. I would think they would be at least as good as the Tasco's that are selling for $214 but I thought I would ask if anyone has any experience with them. Two main questions : 1. do they seem reasonably bright (% transmission spec is not quite as good as other binos) and 2. have they stood up well to use? any leaks or internals going out of alignment? Any stories / advice greatly appreciated and, no, I'm not affiliated with Sailnet in any way. Thanks Gord Wedman

Gordo - Had mine for 2 years and I love them!! Everyone on Gremellyn who has used them (racing) is amazed at their clarity and light weight (can keep looking longer). The compass works quite well and easy to do bearings (nav) or "enemy tracking" (strategy). Their light gathering, as you noted, is not as high as the much higher priced models, but not a huge deal for the price. Mine get a lot of use, and no problems noted. I do have a friend with the Tasco's, and we both agree, the Fuginon are better. Hope this helps, Greg Greg Cutter Professor Department of Ocean, Earth, and Atmospheric

Gordon, I work part time at a supply store and think the Fujinon Mariner XL gives the most bang for the buck in this price range. I have sold quite a few and they never come back. No warranty problems and no customer dis-satisfaction. Tom Duane C&C 34 "Chameleon"

I used to work for West Marine as a Regional Tech and those Fuji were one of my of my top 5 best products. They are light, sharp and very rugged. The tasco were returned on a regular basis with cracks in the lens and fogging issue. I own a pair myself and they have taken horrible abuse and the only problem has been having the strap break. They have been dropped hard on the deck at least twenty time. I no longer have any affilation with West or Fuji. (but I do sell C+C's!) Ken Winokur

Butyl Tape Residue

Hi folks, the Coleman Fluid (aka Naptha) experiment worked brilliantly this weekend. Fast, no mess, easy cleaup of butyl tape residue. You can even soak bolts in it and then use a piece of towelling to wipe them clean.
Thanks for the tip - this list is amazing at times.RegardsJackie Thomas,
C&C 25 MKIIAYC - Toronto

http://www.coleman.com/coleman/msds/lantern.pdf
Naphtha is a mixture of light hydrocarbons. Coleman's MSDS says it contains C5-C9 hydrocarbons. a.k.a. white gasoline, unleaded gasoline but auto gasoline has all sorts of other things to make it useful for internal combustion engines, including benzene. Paint thinner such as Varsol is a little heavier with longer carbon chains. A little longer yet and you get into things called fuel oil - kerosene, diesel.
Any of the above should work on butyl rubber. Enough chemistry. Remember good ventilation, no open flames. Minimize exposure to yourself.Jon Tebbens
/////////Jon-
Good point about safety. I hadn't realized Coleman fuel was just naphtha. Or did you mean just that there's naphtha in it?? (The Bestine folks show just naphtha on their MSDS, i.e. 100%)

Jackie, I also have a surplus of grey butyl pieces floating around the boat - I too thought that a previous owner had retaped the boat and that's why I have the surplus. To clean them up, you may want to try some rubber cement cleaner/thinner. We use a product called Bestine. Have found it at office supply stores - it's also useful for removing the infernal glue that they use to put barcode labels on glassware and dishes and such.

Lacquer thinner works well for butyl tape cleanup, as does Interlux Special Thinner 216.
Jim Watts
ParadigmC&C 29 Mk II
Victoria, BC

Jackie, varsol will soften butyl tape very quickly but be careful, don't let any seep under the fitting (e.g toe_rail) as it will happily go to work on the butyl tape there too. kerosene also works and to a lesser degree acetone will also work. If its just a residue your trying to remove then try acetone first. If that doesn't work use varsol.

You probably also keep WD-40 or similar on board. It works nicely in the same situations as Varsol or other non-polar solvent and has the added benefit of being easy and quick for small jobs.Jon Tebbens

As a chemist, I don't suggest benzene - read the MSDS. There are safersolvents. Naphtha also comes in green can labeled "Coleman Fuel". You may have some. Jon Tebbens

C

Caribbean

Yessir Gary, we did the leeward islands in '96 w/ Sun Yacht Charters and loved it. 3 couples, we didn't have much wind, but St. Barts was beautiful - even Columbia Bay at the northern tip. Don't make the mistake of going into St. John's Harbor in Antigua - the problems w/ customs aren't worth it. Go to the SW English Harbor entrance and enjoy the restaurants in that part of the island. St. Kitts was really fun too, but a much poorer island than St. Barts. We spent 11 days going from St. Maartins to Antigua. A trip you'll remember!
Don Engler
1975 C&C 33
New Castle, DE

Four of us have twice cruised the Leeward Islands on a Jeaneau 44, in 1992 and 93. We found them to be a varied and interesting group of islands and cultures. The area offers great trade winds sails, interspersed with intriguing stop-overs.

None of the passages between islands should take more than a daylight trip, although you might want to start early for the longer ones. We tended to sail for a day, then spend one or two days exploring the island.

The first time we made a seven-day loop from and to St. Martin; the second we spent two weeks wandering from Guadeloupe to St. Martin.

Our first itinerary was:
St. Barts, Gustavia;
St. Barts, Gustavia;
St. Kitts, Basseterre;
Nevis, Charlestown;
Statia, Oranjestad;
Sint. Maarten, Philipsburg;

St. Martin, Grande Case.

The second itinerary was:

Iles des Saintes, Bourge;
Iles des Saintes, Bourge;
Dominica, Rousseau;
Dominica, Rousseau;
Dominica, Portsmouth;
Gualdaloupe, Anse a la Barque;
Antigua, English Harbor;
Antigua, English Harbor;
Antigua, Green Island;
Nevis, Charlestown;
Nevis, Charlestown;
Nevis, Charlestown;
Sint. Maarten, Philipsburg;
St. Martin, Grande Casse

Barts is overcrowded and overpriced. But a still beautiful island for all that. And excellent provisioning.

St. Kitts has a grubby harbor, but the rest of the island seems like it would be a nice place to tour. We didn't.

Statia has a fairly unprotected anchorage, subject to a surge making it uncomfortable on the boat and almost impossible to dingy ashore. Saw not a lot on the island, but then were there lass than 24 hours. We climbed the volcano in the morning and then sailed to Snt. Maartin that afternoon.

As you can see, we liked Nevis. Nevis is less known, not crowded and a delight. An open but beautiful anchorage off Pinney's Beach. Interesting old sugar plantation ruins and a quiet town. Good market, if a long walk in the direction of the police (immigration) station.

Antigua, at least where we were, is a great place. English Harbor is remarkable, and Nelson's Dockyard offers most everything from food to customs to showers and laundry. A small shop easily put right the hinges of our anchor locker cover which had been attacked by the CQR in high winds. Good provisioning. A short sail to the east, Green Harbor offers a secluded anchorage like those pictured in all the advertisements.

On Sint/St. Maarten/Martin, Philipsburg is a great place to shop, or at least provision. Grande Case is restaurant heaven and a quite anchorage. Marigot, the French capitol, is a nice town; we were robbed there but also taken good care of in the hospital (both at the same time, unfortunately). Excellent provisioning.

Dominica is a lush, beautiful place that should not be missed. That said, it is the other place we were burgled, this time while sleeping. The islanders have not learned quite how to deal with tourists; since we look affluent (and probably are by comparison) we are fair game on and off the water. But good markets, restaurants, waterfalls and the usual great views. Good provisioning.

Iles des Saintes are (were, anyway) not crowded (were no hotels) and with interesting climbs. We walked up to the interesting fort and hiked around the small island opposite the main island. Poor stores for provisioning.

Get a copy of Chris Doyle's Cruising Guide to the Leeward Islands, if you haven't already. Excellent and accurate information and charts good enough to navigate by, even if he says you shouldn't.

dge

C&C30

>From: "Gary Nylander" <gnylander@bluecrab.org>
>Reply-To: <candc-list@sailnet.net>
>To: <candc-list@sailnet.net>
>Subject: Re: [candc-list] 1982 C+C 30
>Date: Sat, 7 Oct 2000 20:51:51 -0400
>
>Cliff,
>
>Owning a two year older C&C 30, 1980 #593, I can offer a couple of pieces
>of
>advice. One, look at the mast step. It should be an aluminum plate set on
>a 6" x 12" piece of ash or some other strong wood. The plate support
>should
>be about 1/4" above the cabin sole. If it has sagged, the supports may
>have
>been waterlogged and have settled. It needs to be fixed. The second
>problem is the windows - they may leak. Most do. They need to be reset,
>in most cases. Any modifications which have been made, such as genoa
>tracks, or a traveller or whatever which may be mounted on the deck (which
>has a balsa core) may leak and may need to be reset and sealed against
>leakage.
>
>Any crazing or cracking of the gelcoat should be looked at to make sure it

>is only surface cracking. A good surveyor can find those problems. The
>hull is solid fiberglass, so should not be a problem, the thru-hulls may
>need to be replaced, if they have not been maintained.
>
>The boat is great in medium to heavy weather, quite stiff and easy to sail.
>If you sail in a lot of light air, it is not as good. It can take whatever
>you want to throw at it and come up smiling.
>
>We have been very pleased with our six years of ownership, both cruising
>and
>local racing. If you have any particular questions, please contact me at
>gnylander@bluecrab.org .

Cetol

I remember most of the pointers on redoing floors, but I can't remember what was recommended for the final coat to make it smooth.

I took the finish down to bare teak, cleaned it and in some areas bleached it, and have applied two coats of Cetol light. Sanded with 220# in between and it looks fantastic. Doing the last coat now, is anything required after it dries to rub down the finish. The Cetol Light is not as glossy as the regular, and the second coat looks fairly smooth, but I want to make sure I finish correctly.

Klaus
Al Jamilah '86 35 Mk 111

From an old post

On my new cabin sole and I used the 'formula' that I found in Hinckley's "Yacht Maintenance" book that they use for their cabin soles: 2
coats West System Epoxy with 207 Special Hardener and then 'n' coats of varnish where 'n' probably means 20+ at Hinckley. :-) Actually, I can't remember how many coats they recommended but I'm at 6 and adding. I used two
coats of the epoxy on top and one on the edges and bottom. Hope that helps.

Just an aside: We were next to the Hinckley boats at the Newport boat show
and they had two people doing "all varnish, all the time" on the Picnic Boats prior to the opening date. Oy!, they are serious, serious folks about
their varnish...

Another old post

Dave,
I pulled my floors out last month...here is what I did and I'm very pleased
with how they came out.
-Used a scrub brush with Zep cleaner/degreaser from Home Depot to remove

grime and oils
-On the back side used Zep Mildew remover cut down with water
-wiped off all the sludge
-let them dry for a couple of days after scrubbing
-sanded with 120 grit paper very lightly
-cleaned off dust with rag damp with acetone
-let dry about an hour
-applied 2 coats of Cetol (I would use the ultra clear stuff next time if I
had a re-do)
-applied 2 coats of High gloss Cetol

The sole looks great!

Finally a last old post

Hi Dave,
A couple of additional suggestions to Jon's comments. Use a vacuum cleaner
with brush attachment after sanding. It will get imbedded dust out of the
grain. Just before varnish or cetol, use a painters tack rag. It will pick
up anything left or that has settled since the acetone or alcohol wipe down.
Regards,
Hank Evans

Klaus hope these help

Greg
DV8

My professional advice is to sand the last coat with #320 skuff paper and burnish with 0000 steel wool (don't bother w/ brass wool). I will give a satin finish and wear well. Any little skuffs can be wooled out and you won't slip on it dry or wet. Every year or two, lightly resand it a bit and apply a coat or two and do the wool thing again.

Greg,

T'was me that submitted that post. For those interested, I continued adding coats of varnish over last winter and spring and got up to somewhere in the neighborhood of 10/11 coats. Here's the deal though: when wet they are slippery, slippery, slippery! Watch your butt in heavy seas.....

I'm thinkin' of going to a satin finish on top of the gloss this year. Oh boy.....

Reflectively,
Dave
'82 37'
"Ronin" - Annapolis

I used the Interlux #60 varnish on all of the interior teak. In my humble opinion it looked great. It gave the teak a rubbed oil look, but was a hard finish. It wore well, didn't seem to chip, and worn spots could be repaired without stripping off the old varnish. After a few years I decided that the trim on the conpanionway needed an exterior varnish as it was exposed to the sun and weather. While at it I also did the hatch trim with an exterior varnish. I just varnished over the #60 without stripping.
Dave

The interior teak on Impulse still looks decent and I notice no/little degeneration since we bought the boat from you Dave. I was thinking of

a little more re-touching as you describe, but - after reading this thread on stripping -- will definitely stay away from that scene!!
The Interlux Rubbed Effect Varnish # 60 has a really nice look I think.
Kate Mullins
New Hampshire
Impulse, '72, 35'-Mk I

Cleats

On "Fretless V" I have a pair of **springcleats** that bolt to each toerail.They're from a company called"Springcleat Canada" and are designed
specifically for boats with aluminum toerails and come complete with all necessary hardware.They are very easy to install.The phone number for ordering is **514-931-1959**.Peter Kisilenko'85 37 k/cb "Fretless V"

Dave, I use a set of cleats made by Springcleat Canada that bolt on to the toerail.They're very easy to install and come with all necessary hardware.The phone number is 514-931-1959 or e-mail at ron.benveniste@attcanada.ca Price is $35US each. Peter Kisilenko 1985 37 k/cb "Fretless V"

Companionway Material

Try Sintra it's an expanded plastic developed for the sign industry and usually found in 1/8" thickness, but available in much thicker sheets. It comes in white and black is strong, very easy to cut or drill, light weight, waterproof, and it floats.
Look for it from a sign company. They may have some in-stock that you can look at or even have as a sample. It will be rather expensive but what isn't when you're buying it for the boat?

I second that about the sun fading the upholstery, (even here in BC, with an average of 318 hours of sunlight per year), but I do like to have the light and vision outside. I have a 1/4" bronze plexiglas sliding hatch, and it's

much nicer than a solid hatch when you're aboard. A cover over that and the companionway when you're not aboard will keep the sun out of the cabin and protect the hatch boards, too. For more light when we're aboard, we made hatch boards out of twin-wall polycarbonate (like corrugated Lexan), which is clear, virtually weightless, and indestructible, so we don't have to baby them like the varnished teak boards...
Jim Watts
Paradigm
C&C 29 Mk II
Victoria, BC

Cutlass Bearing

I saw the cutlass bearing replaced last year on a C&C 35 MkIII. The prop was removed, the shaft was unbolted from the transmission and the transmission was unbolted from the engine. With the transmission out of the way the shaft could be brought forward to clear the cutlass bearing. The job was all done in a few hours.

Hi Hank,

For your new cutless bearing you might want to consider the ones with the non-metalic sleeve. The advantage to these are that they do not corrode and are much easier to remove from the strut if and when you do it the next time. I can guarantee you that the next person who changes this cutless bearing will definitely appreciate the fact that you used the non-metalic type.

You might want to double check your strut and cutless bearing to make sure that it is tapered. I don't recall ever seeing any cutless bearings that are tapered but you never know.

The manufacturer that I used was Johnson Duramax. You can e-mail Ben Kingery at gkingery@DuramaxMarine.com

He will be able to give you the name of your local dealer and the model you will need to order. You will have to provide him with the shaft diameter, the inside diameter of the strut, and the length of the cutless bearing. I paid about $50 US two years ago.

As far as aligning goes, put your strut back with the same amount of washers

at each bolt and then do the final alignment using your engine mounts, assuming you have the adjustable type. You cannot accurately align the shaft with the engine when the boat is out of the water. The shape of the boat distorts when it is on the hard and engine alignment will not be correct once the boat goes back into the water. The boat should sit in the water for at least two weeks before you attempt to align the shaft. It is a very fine adjustment and the tolerances are measured in thousandths of an inch at the shaft to gearbox coupling with a feeler gauge.

Hope this helps.

Ted Drossos
C&C 29 mkII H OT
2

Sorry I didn't answer this thread before but have had my head into too many bilge's lately. A friend and i designed a tool that press fits the bearing out and again press fits the bearing back in while the strut remains on the hull. Tried it out on my C&C29 77 and on a couple of 30's and the only comment we got was WOW. This tool is worth it's weight in curses. In the next week I'll have it up on my web site with a description of how it works. On the same principle we made up another tool that pulls out the shaft and yes inserts it back in. As for your strut i would use sika flex or 3m-5200 and use the old shims again.

D

DC 12 Volt Upgrade

I installed the Blue Sea 8080 panel (see http://www.bluesea.com/products/SW/SW.html) as part of a major DC/AC system upgrade on my boat over the last two years. I also replaced the DC breaker panel with a model 8068, and added an AC panel model 8043 to handle the shore power, AC outlets, battery charger and water heater. I'm really impressed with the quality, design and engineering on these panels. I added the optional LED backlighting on the breaker panels, and now I don't have to fumble around in the dark to turn a circuit on or off. Other Blue Sea products used -- two of their high-amp breakers on the feeds from the two batteries to the West Marine combiner; and various buss bars to distribute the DC to lighting circuits from

the breaker, and to all the communication gizmos at the nav station.

I highly recommend making this change in battery switches -- our boat is chartered out, and it's really easy now for a charterer to know whether or not the engine start bank or house bank is on. Also, with this new system and the battery combiner, it's tough to forget to charge the house bank any time the engine is running, as you could if you didn't have a combiner and the 1-2-Off-Both switch wasn't set properly.

Fred Street -- Minneapolis
S/V Oceanis ('81 C&C30) -- Bayfield, WI

Deck Hardware

Warren,
Never having found any matching hardware myself, I have always had to compromise. First I fill all existing, unused holes, then I mount my hardware on a small base plate, generaly made from Starboard, a plastic-like material, made for the marine enviroment. Teak would also work. I apply a generous layer of sealer between the base plate and the deck and install a new backing plate. No leaks and no visible holes. John

E

Electrical D.C.

I would suggest your regulator may be shot and the alternator delivering full power which could give you an overvoltage condition. A voltmeter (multimeter set to 15VDC scale) would be much more helpful. With the engine running voltage should be between 12.5 and 13.5, under 12.5 you're not charging over 13.5 you're overcharging. A low end digital meter is a worthwhile investment for your tool kit of you don't already own one. Don't bother with the $10 analog type, get a digital. A lot more accurate and a lot more rugged (no moving parts).

F

Fiberglass Restorer

Rick

The first time I bought it was in a boat store here in Winnipeg. They stopped carrying it and I had to look for the manufacturer on the Internet. The product is used on the space shuttle to protect the metal work.
I emailed them for the name of a distributor and I can now buy it locally through them.
Here is the email address nyalic@flash.net . Take a look at there web site and if your interested email them with a request for a dealers name in your area. It really made an incredible difference on my boat. Took all the chalkiness away.
Chuck

Flattening Reef

Ross
Many racing main sails were built with a flattening reef. It's purpose was to flatten the lower half of the main in heavy air. The outhaul can also be used, but the sails were built to max dimensions, and to get the full flattening range, the outhaul (the clew) would have to be pulled beyond the black band on the boom. Pulling the sail clew beyond the black band violates the racing rules for IOR, IMS, PHRF and most one design racing rules. The use of the flattening reef allowed the sailmaker to build a sail for its maximum dimensions in light to medium air using the full range of the outhaul to shape the lower half. In really heavy air the flattener was used to further flatten the sail, but not pull the flattening cringle beyond the black band. If you don't race, or your clew doesn't go beyond the black band, don't worry about it!

Don WagnerDer Baron
C&C 41 CB

Floor Boards

Another thought for you . . . I pulled up all the floorboards in my 32'in part because I wanted to refinish them over the winter months and in part because I wanted to resolve the 'squeeky floor syndrome'. It turns out the 'floor joists' had some flex probably due to years of stress, hull pounding, grounding or dancing in the main cabin . . . who knows?? Anyway, I used West System epoxy to stiffen or reinforce all those u-channel floor supports and filled any screw holes that had worked themselves too big. When I got the floor boards back in,

they were solid as a rock. Been that way for about four years now ...
touch wood.

Frank Walczak
'Felicity' C&C32
SNSYC Victoria BC

Fresher Water

Hi Ted: Fill your water tank and add 1 cup chlorine bleach to 40 Gal water. Let sit 24 hours or overnight if your tark is in fair to good shape. Flush through both the hot water tap and cold water tap. This should be sufficient to clean out the hoses and your hot water tank. Chlorine can damage some metal and rubber parts so you don't want it to be in contact for very long. The chlorine will kill any unwanted bacteria and the friction caused by the running water should be sufficient for the hoses and tank. Fill the tank with potable water and flush as above. Re-fill the tank and add 1 cup of vinigar to 40 gal water. Let sit overnight and flush as above. Fill the tank with potable water and flush as above. Your tanks and hoses should now be clean and odor free. Fill with potable water and enjoy your boat. BTW, Cruisers drink Barbados Rum, not water. We only use water for cooking and rinsing out bathing suites :-) Regards, Richard

Vinegar is acetic acid. It will attack the interior of your hoses and promote permeation odors. They use in in Coke (the drinking kind). Try immersing a copper penny in a glass of Coke for 24 hours and check the results. Invest $10 or $12 in a good commercial cleaner deodorizer, that was designed for the purpose and is safe for the rubber, plastics and metals that it will come into contact with. Make sure it's not formaldehyde based. It will clean your "arteries", neutralize permeation odors and keep your holding tank in clean, fresh condition. A good one will have tissue digesters which will allow you to use regular, soft, (cheaper) household tissue rather than the expensive single ply biodegradable stuff that your finger pokes through. The saving on tissue will probably pay for the chemical. It's a lot cheaper than trying to replace the hoses, even over the life of the boat. Besides, removing and replacing hoses is a royal pain in the transom. My $0.02 worth. Richard

Ted, If you have the gray tubing that was supplied with the 29 mark II's, never add Clorox or bleach to the water tank. The gray tubing is polybutelyne and is the stuff that was part of the homeowners lawsuits in California. The stuff is OK in general use but is subject to leaking in a high chlorine environment. The following web site has the FAQs and how to treat the stuff so it will last: http://www.plumbingmart.com/polyb.html. I'm treating my freshwater system with care so I don't have to replace it due to leakage. Pat Dillon C&C 29 Mk II 'Shoe String' Mystic, CT

Furling

Hello All,
We have a C&C 34 that we've been sailing with hanked on jibs for the last couple of years. Works fine but I think we'd sail a lot more with a furler. I'm looking for furling and would like some input if it doesn't go against the advertising policies of the list. I see lots of Harken systems around which are obviously very popular but one of the concerns I

have with Harken is that apparently the rod forestay will have to be cut. I would like to avoid this if possible. Profurl and Furlex also seem to be fairly popular but I'm basically starting from scratch so would appreciate any comments/suggestions.
Carl and Sue McGregor

Might as well toss in my 2 cents.

Indigo came with a Hood system which has been (mostly) great. Twin lines, it has two grooves in the foil which would allow you to strip sails, if you like. It rolls very smoothly. One thing to note is that a jam cleat at the stern is very helpful in allowing for reefing.

The only problem I have had with the system is with the top bearing. This bearing consists of two clam shell halves of high impact plastic that fit around the stay and into the top of the foil. Twice in the past years that bearing has shattered, making the furling next to impossible. And yes, of course, it did it with 35+ knots of wind, in pitching seas, with the sail partially furled. Woo hoo, loads of fun for skipper and crew alike. I never go for any extended cruising with out a full set of parts.

As for comments on furling itself, it is fantastic. I sail single handed often and could not do so without it. I can not really speak to performance hits, having never sailed Indigo without a roller furler. However, I had a new 140% jib cut this year by Doyle Long Island (great shop, and no, I am not affiliated with them in any way). The old one was 12 years old and soft as cotton. The new one has the foam luff (North uses a rope system) that helps retain the shape as the sail is reefed. It is also marked to indicate 120% and 100%. The Doyle guy indicated I could not go much higher than 140 and still be able to retain shape as it was reefed. The issue is that the clew gets higher and higher as you furl. The impact of the new sails have been unbelievable. I swear I gained 10 degrees upwind (ok, maybe a little hyperbole).

If you want to make heavy wind, short handed sailing even easier you may also want to rig your mainsail with forward reefing. I ran a line from reef point at the luff, down to the mast step and back to the clutches. This allows me to set the first reef without ever leaving the cockpit. A huge convience and also makes it much more likely that I won't get lazy, heel along, take the performance hit and make any weak stomached crew sacrifice to Neptune. As mentioned by another lister on a different topic, start reefing with the main and then move to the jib.

Good luck with the choice.

Michael
"Indigo" Mark III '35
East Hampton NY

Ooops, one other comment.

A whit dacron UV cover saves a buch of weight. However, I makes it easier to furl backwards and not notice it. Make sure you do not furl backwards, as the sun will eat through your sail in no time.

Michael
"Indigo"

I have Harken and it is good if you want to race. You can get the drum off and it has the aerodynamic twin groove luff. It is not perfect and sometimes hangs up. For a non-racer I would consider the Schaeffer system. It uses a round drum that will make furling the sail under loard easier.
Keep in mind that any sail with a UV shield will roller furl, but only a sail cut to do so will successfully roller reef.
Joe Della Barba

I installed a Schaeffer unit myself on a t-30TR about 3 years ago.They have worked out all the bugs. The 78 C & C 38 i have now came with a Harkin Mark-1 (drum doesn't appear to be removable).It works fine. I don't think you can go wrong with any of the units you mentioned. If you plan to race a lot then ease of removing drum would very important to you. With the Furlex you get a new forestay as part of the price. Very important to have toggles top and bottom of headstay and that the lead of the jib halyard is proper or you'll get halyard wrap.

Carl & Sue,

I bought a 1975 C&C 33 nine years ago and the first thing I did in the upgrade dept. was to add a furling headstay. The boat already had a vane headstay, having been used for racing a lot, so the existing rope luff was OK.(you'll have to change all your sails from hanks to rope luffs) I had the yard install a Harken system with a split drum (I found it not necessary to take the drum off because the luff is disturbed very little going around it) because I still wanted to do some racing (when you own a thoroughbred it's hard to hold 'em down). I can't tell you how great it is not to have to go forward to deal with the headsail especially in a blow. We used existing sails so had a sail loft sew on both UV patch for the leach and foot and what they call reef patches so you can partially furl the

headsail instead of taking it down to put up a smaller jib, (the reef patches strengthen the leach and the foot where it will pull on the headstay). I have had absolutely no problems with the Harken and would recommend it although I know several other mfr. are also very good.
Jerry H.

You will take a performance hit going upwind and it matters whether you are cruising or racing. You may find yourself motoring more. Having said that my boat came with Harken roller furling and it is a very sturdy unit. The expenses you will have is convert your #2 (130% or 135%) genoa to luff tape vs hanks and then you will need UV cloth sown onto the leech to protect the sail from the sun. You can't really roller furl a 140% or larger genoa. You may also want to convert you jib to luff tape but no UV as it would be an emergency sail. If you don't have a asymmetrical spinnaker you may want to invest in it because on light wind days the 130% genoa won't give you enough speed and you will do what I do, which is motor.
From Killarney to Lion's Head, my home port, is a 12 hour sail/motor trip. We had light and variable winds when we came back on my last trip and I wound up motoring as I don't have that asymmetrical spinnaker, or for that matter any spinnaker. It is on my shopping list for this winter. If you do have a 150% genoa you can bend it on in light wind conditions but then you are back to changing sails. Converting an existing sail to genoa can be done, mine have been, but your performance will suffer, especially upwind and especially if you need to roll it up partially. Talk to a sailmaker and find out what your options are. These days the sailmaker sow in foam padding (I am not familiar with them) but apparently they work very well. I was looking at a C&C 35 MK I a year ago or so and he had converted to roller furling and bought a brand new 135% genoa made to roller furl and apparently he was winning his club races.
Peter
S/V Bon Vivant
C&C Redwing 30
Lion's Head, Ontario

Hi Carl & Sue:

You've received a lot of comment regarding the roller furling decision, all of which is applicable and I'd like to add my comments as well.

I own a 1977 C&C 38MKIIC which had the original Hyde Twin stay system.....I had North measure for new 150 and main prior to moving the boat from Marblehead to Hingham 3 yrs ago.....that system worked well for 2 years.....and then last year we discovered the Twin Stay was deteriorating near the top and I researched furling systems as a replacement project.....

I went with a Furlex unit for several reasons.....a local dealer and installer, and the fact that the Furlex unit comes complete with all parts, including a new forestay and halyard retainer for the mast and furling line, etc.. Much of which you have to buy extra with Harken.....after pricing apples and apples, the Furlex system ended up almost 1/3 less money installed than the Harken.....I am very pleased with how it operates and the drum is also removable for "racing". But as someone else noted, it's not necessary.....contrary to some other opinions, my 150 does furl and sail well.....North Sails provides vertical stripes on the foot that indicate the 135 and 110 sizes.....The Furlex double groove luff and North measurements have been very convenient.....we usually sail as a two person crew.....so the furling definitely was important. All of the UV comments are on target, you can have the UV cover material in white or any color you like.....

I hope this helps, contact me if you need any specific Furlex information.

Ron Casciato, Impromptu, C&C 38MKIIC

Carl and Sue,

I added a Harken unit to my 34 two years ago. The drum on the Harken is very close to the deck and I lost very little sail area. My number 1 is a North Norlam laminate and was made to keep the foot as low as possible to the deck. It has a Dacron sun cover. Not as durable as Sunbrella but lighter. We race and do well with this sail. I had a 120% number two made this year, also Norlam. A little higher cut and with a Sunbrella cover. This is my cruising sail, along with an asymmetrical chute. The Harken does not roll as easily as some others and the furling line will give you fits once in a while. I will probably remove the core on the furling line this next season and give that a try.

Tom Duane
C&C34 "Chameleon"

I added a furler to my last boat, a 33 MKII. I chose the Schaeffer 2100 and was very pleased with it. I had a Harken on the previous boat and it was fine as well. I chose the Schaeffer for a couple of reasons...the riggers at my marina have a lot of experience with the Schaeffer and prefer it. When Practical Sailor had a C&C 33 MkI as a "test boat", they chose the Schaeffer for their boat. Defender offers the Schaeffer at pretty steep discounts (30-35%) if memory serves. West Marine was willing to match their price, making th Schaeffer more attractive financially.

I think you are going to have to have the forestay shortened whatever you do. I had rod rigging and had to have the rod shortened and "cold headed". Requires a properly equipped rigging operation. Some folks with rod rigging choose to go with wire for the forestay as it avoids the complexity of working with rod and the related toggles, etc. It is apparently a relatively quick and inexpensive installation for a professional who knows what they are doing. I really liked my Schaeffer, but I am sure you will enjoy any of the quality units.

Sorry to disagree Peter, but I have a furling #1 (155ish) and it works fine.
It is a Harken I think.

Neil
FoxFire 1982 C&C32

Neil,
Great! I like other opinions especially if they work. Any time I have talked to my sailmaker in the past and said 150% genoa and roller furling I got head shaking so maybe I need to have a serious chat with him. I do a lot of cruising and because I don't have a 150% or spinnaker I wind up motoring more than I want to.
Thanks for the info. Always glad to update my mental database.
Peter
S/V Bon Vivant
C&C Redwing 30
Lion's Head, Ontario

I would go with pro furl as you do not have to cut the fore stay and if you pick the model where the furling drum sits closer to the deck they have a model where the barrel also fits inside the furling drum. Pro furl makes two designs one is called the classic (more expensive) the other called the basic. If you have the boat bucks go for the classic all the parts are metal except for the furling drum.
Richard & Marisa
C&C29 mk1

Carl & Sue,
I replaced the existing furler on my 34 with a Furlex system last season. I had ordered a main from Quantum Annapolis (a 2+2 racing main) and discussed upgrading the furler that had come with the boat. They suggested Furlex. I looked up a Practical Sailor article on Furling systems and they rated both Furlex and Harken evenly. The Furlex does come with a new headstay, new

blocks and line, and is priced less. I installed the system myself and have had no problems with it. This season I added a new tri-radial Pentex furling 135% genoa and really noticed the difference. The old sails can be adapted to be used on the furler but they will really lose shape when partially furled. I also had the lightweight white cover put on- to save weight.
Good luck,
Fred
C&C 34 WIND

My neighbor and I both installed Furlex roller furlers, and mated them to a new UK head sail with a luff pad. Works very well for his C&C 27, and my 29 Mark II. Before that I was using the racing sails along with the Tuff Luff. I swore I'd never stray from being a purist, but now I can't imagine life without it!!! Very pleased. If your in Maryland I can recommend an excellent rigger just south of Annapolis.

-Brad and Mary Kuether
"Scholar"
1984 C&C 29 Mark II

We have installed Furlex on two boats with great satisfaction. Kit comes complete with a new headstay. Customer service is the best. Talk to us off line for further info.
D&R

If I may offer a bit of clarification on this loss of performance.

1) A well cut sail (genoa) will perform as good on the furler as hanked on. Due to the luff length lost with the add on furler, the sails will be smaller for the same "%". On new boats the furler is 'below' deck for this reason, in part.

2) For the same reason the clew will be higher, you can not have a deck-sweeper, and loose some performance in light wind.

3) Partially rolled sail will allow you to go on, BUT:
- it will not sail as well as an equivalent smaller sail,
- it was not built for that amount of wind and it will suffer sooner or later.

There is no free lunch.

For light air sailing get an asymmetrical, as easy to use as a genoa.

Leslie

Phoenix, C&C32 (1983)
North (Harken) furler and UK asymetrical

Peter -- when I converted my 30mkI to roller furling a few years ago, we had the sailmaker convert our existing hanked-on 150 for furling, and although the sail shape isn't as good as a purpose-built sail, we can still outpoint most of the boats in our area, and reef down to about 110 with fairly decent results. FWIW...

Fred Street -- Minneapolis
S/V Oceanis -- Bayfield, WI
Bayfield Yacht Club
170 is way too big for a roller reefing sail. I have a 150 and it is too big. 130% would be better if you want to be able to get to windward in heavy air. I would love to rerig my boat like the Saga 35 with a small jib for windward work and a big jib for offwind/light air work.

Joe Della Barba

I've always heard the rule of thumb that you can roller furl a properly cut genoa by 30% before the sail shape goes south. We went from a 150 to a 135 on that basis.

I have done 3 trans atlantics, 2 trips to bermuda and back,and 10 years of great lakes crusing on Profurl equipment.
No problems.....
Phil
In flight

Fuses

For anything with motor, it will take an extra "surge" of current to get the motor started. Therefore, it's recommended to use "slo-blow" type fuses
on such circuits. They take an extra fraction of a second to heat up before

they blow allowing for that extra kick to start a motor. Slo-blow fuses should NOT be used on electronic circuits unless recommended by the manufacturer. I bought a new 140 Watt inverter this spring and it came with
a 15A slo-blow to be installed in the lighter circuit and that's what's installed in my AUX (lighter socket) circuit. Anything up to a 20 amp fuse
should adequately protect 16 gauge or larger wire. Instead of fuses I have
30 amp breakers right at the batteries (1 for each) to protect the wiring
runs. If they pop, they will reset themselves in about 30 seconds, saves fishing around in the lazarrete (battery compartment) trying to stuff a new
fuse in the holder while hoping you've found the offender and the new fuse
doesn't pop too.

Greg- If the 10A is the main fuse, i.e. in the main battery lead or ahead of the whole panel, that's a tiny fuse for a boat with an inboard engine. It might be the right fuse for your boat--you'd really want to check the guage of the wiring to confirm that. I don't have access to a wire table right now, but basically any plastic-insulated wire has an acceptable safe carrying limit. You would want the fuse on that wire to be substantially below that limit, so the fuse blows before the wire can. A safety factor of 1/3 to 1/2 is a personal judgement call, i.e. if you have 12 guage wire and that is rated for 20 Amps continuous duty (I'm guessing) you could fuse that wire at 10-15 Amps but more would be outright risky. 10A for a main fuse does not sound like enough to carry running lights, VHF (2-3A by itself), cabin lights, and instruments. I'd really be surprised if it was right.

The chart I have rates standard 14-ga wire at 20A capacity at 60 degrees C. Hotter, as in the engine room, reduces that to 11.6A. 12-ga Boat Cable, which we should be using, is rated at 45A at 105 C, and 38.3A inside an engine space. I had to extinguish a hull fire when a pair of wires shorted underneath a deckhouse, and the fusing was either nonexistent or way too big. (Not my boat). I would be concerned with not overfusing a circuit. If Greg has been using 10A for years, I think that's pretty reasonable. Some of us, me included, just don't use a lot of electricity. (15 or even 20A would still be plenty safe with the quality of wire that's in my boat.)
Jim Watts
Paradigm
C&C 29 Mk II
Victoria, BC

G

Gelcoat

A while back someone posted a message stating that West Marine had called Spectrum, the gelcoat manufacturer, regarding color matches. Spectrum said

that they have a "factory matched gelcoat" for 83-88 C&C's. (Part number 9035) They may also make other colors that match your year. You might try giving Spectrum or West Marine a call.

Bob,I repaired some winch holes on my non-skid by topping off the repair with some tinted gelcoat that stood a little "proud" of the surface. I then went at it with a Demel with a small rounded bit. After a bit of practice, I was able to match the random pattern pretty closely.
If you have a large patch to fix, I saw a great idea where you use liquid latex molding liquid to "lift" the pattern from adjacent gelcoat and then press this mold onto the fresh gelcoat before it cures. Art supply stores have the latex liquid which is used to make molds of body parts, etc. Pour it over a waxed area of the gelcoat (so it doesn't stick), then peel it off once it sets. Then press it onto the frech gelcoat to transfer the pattern. You can then go at the edges with a Dremel as above.
I found that to match my 25-year old gelcoat I needed more brown than grey. You can test it by mixing the colours before adding the catalyst. This will allow you to smear it on the gelcoat to compare, then remove it with some acetone. When you have a good match, just add the catalyst and go at it. The colour won't change when it cures.
I also noticed that after one season, the frech gelcoat will fade and get dirty and you won't be able to see the difference even if it wasn't a perfect match.Wally KowalWhistler IIC&C 30 '74 out of LSYC, Toronto

Bob: The thread running about touch-up on gel coat has several good suggestions, I'd like to add a couple for the groups comment.....
Most Kohler and American Standard fiberglass shower and bath tub enclosures use gel coat as the surface coloring agent, Several Plumbing and supply houses in my area that repair cracked or damaged enclosures carry a palette of several color tints that are mixed into the patch base color.....it's not much different that mixing paint at the Home Depot, except that this is more art than science.....you might try a local tub/shower repair guy and get him to mix you up a sample.....you don't need much.....
Second, some time ago when I built small sailing dingys, I used to purchase gel coat from Advance Coatings, Leominster MA. They produced the gel coats for Kohler, etc.....they had a large selection of colors and tints, and might be someone to check with.....
Lastly, the guys that did my hull Awlgrip job a couple of years ago are going to do some nicks and chips in my deck and cockpit this spring.....They are Custom Fiberglas, in Hingham, MA.....Should I have them make up a "quart" and make it available in small repair aliquots?????????? The boat is a 1977 38 MKII. the deck is definitely a "creamy white".....
Hope any of that helps.....Ron Casciato

H

Halyards

Pete -- I've heard arguments both for and against on the list; but the prevailing wisdom seems to be that the "combination" wire/rope sheaves with the slot cut in them for the wire don't support the rope halyards as well, especially when they're under tension. I switched over to Sta-Set X halyards this spring, and changing out the sheaves was a pretty easy job, at least with the mast down. The replacement sheaves came from :

Metalmast Marine
55 Providence Street
Putnam CT 06260

Phone 860 928 2776
Fax 860 928 7312

http://sailingsource.com/metalmast/default.htm

Claude is the gentleman who helped me, and he's very good to work with. Good luck!

Fred Street -- Minneapolis

Pete, FYI, I replaced my wire to rope halyards with Stay Set X last year and did not change the sheaves. Marine Exchange http://www.marineexchange.com/ where I bought the rope said it was unnecessary. New England Ropes http://www.neropes.com/ has a great web site where they tell you what size line to get when you are switching from wire to rope to all rope. Regards, Tom Anderson

Head

Rod,

I replaced all of "Chameleon's" hose last season. I used two Y valves and one is starting to get sticky. I put some vinegar in the other day and have to see how it works before naming the valve. I used a Jabsco macerator to handle the overboard duties, Shields 101 hose and still have the original tank. The arrangement allows, direct overboard, pump overboard and deck pump out. Used about 20' to 25' of hose ay $7.50 per foot. Are you sure you need a tank?

Tom Duane

C&C34 "Chameleon"

Rod,

I just went through all of this myself, it wasn't pretty, family members seem to be elsewhere when this job came up, but once finished, it smells like a rose.

Not sure the reason why you have no clean-out except that in your area, there might not be a marina with the facilities required at the time the previous owner designed (?) the system.

Number 1, do you need a new holding tank? I had mine rebuilt by the company that built it in the first place. They steamed it, pressure tested, and repaired one seam. The tanks are usually not the culprits for smell, unless it leaks. My tank was $45 to overhaul, to replace it would have been 450. BTW, if you do not have a venting ability from the tank, it needs to be hauled out to have one fitted. The vent has a thru hull beside the clean-out. The hose to the deck clean-out is easy to install. One handed, set your clamps in place, double joint your hand, bite your tongue, close one eye and away you go. I have a 35 Mk 111, so I think your deck clean out is still accessible from the v-berth, just inside the port shelf near the bulkhead.

It's hard to explain the details and description of routing, but I'll try. From the head, through the bulkhead to a tee attached to the wall of the v-berth. (that's where mine is, doesn't matter where actually. From there it splits to two places, one goes directly to the thru-hull, the other to the tank. Use Sealand hose with double clamps. My diverter valve was fairly new, but do test for odor. This can be a source of odors if you have a valve that has any rust showing.

Odor test -- take a face cloth, not your wifes, (you'll never go boating again) run under fairly hot water and wring to damp. Place over item that you want to test. Black hoses, valves, fittings whatever, leave several minutes. Quickly take out of work area and place over nose. If it smells, you found your problem. My existing white hoses did not smell, all of the black did, and one of my divertors (ball valve - bronze) reeked. I did however replace everything except the tank.

From the bottom of tank: I use a diverter (T - Ball Valve with

handle [they want $155 for the smallest things]) screwed directly into tank. One direction goes up towards clean-out, the other towards a maserator pump. My pump is wired directly into the panel and is labelled as such. You will only need about 10 gpm for that size tank or boat. The hoses run to the same thru-hull as the previous hose coming from the first diverter. Mine is joined by a stainless steel Y fitting. The mascerators use a one inch hose, everything else is a 2 inch. The biggest problem you might have is to rig the Y to accept a one inch on one side, and a two inch from the other. Make sure that the mascerator side loops higher than the water line, and employs a anti syphon valve. Not critical as the maserator uses much the same impellor as your sea water pump and does not allow much to pass through without running. Nevertheless you should have one. It sounds simple, and is, it's just the dinking around in placing everything in it's place. My mascerator is actually attached to the T Valve, but I would recommend running a hose in between because of vibration. The first diverter, sea or tank, is located so that the handle sticks thru in the V-Berth. It is well marked, Sea - Tank, and has a bit of rubber packing where the handle sticks thru.

I would recommened at the very least to remove everything, including the tank so that you can hose things down. Under the tank, which is actually a very small area, was ..... let's just say interesting. Clean well. My wife being a hospital lab tech got in there with her gloves and a "proper ratio of bleach to water" mixture and cleaned house. (too much bleach in water is actually ineffective I guess) Make sure to wash everything under the v-berth including the undersides of the bed support. We even removed the sole in the v-berth to make sure that the water we used did not linger between the floors.

It's not difficult. Make sure you stretch or limber up before subjecting yourself to working upside down for about 8 hrs. I felt it for a week.

There's probably more, but if you have questions, I'll be glad to share what little I know.

I have added my comments to your questions below.

>1) sources for holding tanks that conform to the vee shape of the hull? The current one is polyethylene and is contoured to

match (somewhat) the hull. Depends where you're living, but any tank manufacturer in the book would suffice. I can't remember what my guy recommended, but apparently there is a poly that is super hard, that's the one to use. It must however be secure in it's bed otherwise sloshing .....stuff, will flex the sides and could cause a seam to fail. Use a styro foam along the sides. I used 1/4 inch. BTW, the number one cause of tank failures is over pumping while the vent is plugged. It's not pretty I guess either. When washing down the deck, I always back flush my vent.

>2) recommendations for electric pumps and any advice for mounting/installing?

My macerator is not screwed or bolted down, and have no problems. If you don't attach it directly to the T-Valve, the strength of the hoses will usually keep it in place.

3) y-valves that work(should I use them)? should I use tee-fittings?
My first divertor (sea-tank) is plastic and is made for that purpose (I can't remember the name) It will take the sealand hose right onto it's barbs. The T-Valve at the tank, is bronze/Brass (?) and is expensive. My biggest mistake was in not having an off position. (not totally neccessary) I have a left; to the pump-out, and a right; to the mascerator. This menas that at all times while using the tank, some waste is always seeping towards the mascerator.

The rest of the fittings are plastic.

4) Any speculation why the pump out hose was removed?

No facilities?????

In the end, you shouldn't have to go under your V-Berth except to make an arbitrary weekly check. The first diverter is easily accessed from insifde the v-berth.

We discharged directly into the sea while under way, otherwise we use the tank, and discharge that while underway, or at least in an area with a strong tidal flow.

Hope this helps.

Klaus

Rod,

I would strongly recommend against a macerator pump and recommend a waste discharge (diaphragm) pump instead. Most macerators will fail if run dry for a short period of time which is very likely when one is trying to sail a boat and monitor the pump out process. As you might guess, changing or rebuilding the pump is not a pleasant process.

Gary
'Expresso'
'75 C&C 35 Mk II

Rod, Dave and the list ~ I built my holding tank four years ago when the marine police were checking on the Chesapeake and writing tickets. I cut and taped cardboard; made a mold and ultimately a fiberglas 22 gal. holding tank and located it in the starboard vee berth.

Changes since 1996.....
I have added 6 coats of epoxy to the outside of the tank and this winter, the inside of the tank. I added a new PhII head and opted to not use the Y-valve that I originally installed in '96. I raised the height of the head 4" and re-plumbed with all new hoses (tuff, no bend white) and last year I added another 3/4" vent at the top of the tank.

Some more info.....
I found that I had to use the miracle smell fighter KO all the time and "nothing else" to keep the odor in check. Also I found that I had to wash out the tank several times (4) at the pump out station. I merely tip the attendant $5 for allowing me to stay at the gas/pumpout station for 15 mins. longer. Presently we have a straight through connection to the tank from the deck fitting without a Y-valve and I believe that this is necessary to achieve a better flow at clean-out time.

Ordorlessly yours,
Don Engler
C&C 33 "In Sync"

Rod,

My starboard settee has two areas. One area runs parallel to the bulkhead

that makes the aft wall head area. The rest of the starboard settee runs for and aft. These two areas are separated by a glassed in plywood bulkhead under where you sit. I put a 20 gallon holding tank under the part of the settee that runs for and aft. I purchased a tank that fits the area from Marine Sanitation in Seattle. The installed the fittings where I wanted them. The tank is very similar in shape to my water tank under the port settee. The fore and aft part of the starboard settee where I installed the tank had two small hatches/covers. I made these into one larger cover by cutting the fiberglass and reattaching the covers with 1/2 inch plywood and screws.
We have 2 water tanks, one under the V-berth and one under the port settee. The fittings to fill the water tanks are on the port side. The pump out fitting is on the starboard side above the head. I like having the water and pump out fittings on the opposite side of the boat.
My email address is Scaler113@aol.com
Feel free to contact me off the list.

Phil Rousseau

Dave,

After I rebuilt my holding tank system I decided I needed a way to tell how full it is. I installed the Sealand Tankwatch Holding Tank Alert System. I purchased this from West Marine for about 55 dollars. It requires 12volts of electricity. When the tank gets about 4-5 inches from the top a red light comes. I mounted this light in the head wired to the light in the head. This system is inexpensive and easy to install. You have to drill a hole in the top of the tank to mount the sending unit. I feel some kind of tank monitoring system is a must.

Phil Rousseau

Hi Neil:

Forget the epoxy unless you have a fiber glass tank. Most are made of polyethylene and epoxy won't stick very well, then you really have a mess to clean up before you can properly repair it. If the tank is cracked the best cure is to have someone weld it.

The first place I would check for leaks is the fittings and inspection plates. The company that I work for used to manufacture tanks and this was the usual area for leaks. The majority of fixes was a new O ring or hose fitting.

We also manufacture products for getting rid of odors in tanks, hoses and bilges that are guaranteed to work. Some years ago, the fill hose on my tank let go and the tank (full) burped it's contents into the bilge. Fortunately we were at dock, unfortunately all guests had just left and it was 10:30 pm on a Saturday. My wife moved to a hotel and I worked until 2:00am to reset the hose and clean up as much of the mess as I could. Talk about smelling like a rose. Myself as well as the boat. Prior to joining my wife at the hotel for a much needed shower and sleep, I poured some of the chemical over the tank and into the bilge and added water to dilute and disperse it.

The following morning I got the tank pumped and added another chemical to it through the head. I rinsed the bilge with fresh water and pumped it out. The following afternoon more guests arrived and no one knew that there was a problem the night before. All odors were gone.

Because I work for the company that manufactures these products, I don't want to use this site to advertise them or us the site for commercial purposes. If you would like to know what they are, please contact me off line at RKittar@auroramarine.com

I endorse the use of holding tanks and pump outs rather than pumping overboard because of the environmental considerations. I believe that we all have to do our part to preserve the planet. Holding tanks are not the monsters that most boat owners make them out to be, but they do require your periodic care, attention, understanding and respect, for they do have a vile temper and are very vengeful :-).

Hope this helps.

Richard

As I had a fresh water boat in Lake Ont, I had to modify the holding tank pump out when I moved to Vanc. There are very few pump out facilities here.

The most efficient arrangement I have found, is to plumb the toilet into the tank in the normal way.

On the tank exit, install a y valve, with on arm going to the pump out deck fitting, and the other to a mascerator pump feeding a thru hull.

This gives the best of both worlds. Emptying the tank outboard in open or unrestricted waters, and the ability to pump out in restricted waters. The Jabsco y valve even has holes for sealing the outboard outlet if the authorities in the restricted areas are really rigorous.

FWIW,

Bruce Winfield

Headliner Plugs

Greetings listers, as an update to the previous thread I found a place that carries the plugs. It is called "Brewers' Marine Supply", 65 Guise St. E. Hamilton, Ontario. Tel: 905-529-4114. They have them in 1/2", 3/4", 7/8" and 1" sizes. they are white plastic and are slightly opaque. The 3/4" size are $0.20 ea.
Cheers Rick Taillieu
Nemesis'75 C&C 25
CFB Trenton YC

Holding Tank
MikeBeen there... done that...

The $$^*)%^ old tank does comes, here is the secret.
The original tank was a double bag type. It came as a kit.
You stuff the outer bag into a cavity, poured in the catalyzed mixture of epoxy or polyester, stuffed in the inner bag, filled it with water and let it harden. It sort of fills the inside of the cavity. It's prone to leakage at the collar or at any thin spot from chafe over the years.

Now, to get it out...
You do have to remove the vanity and the panel behind the head. The vanity is easy. Open the door under the sink and remove the screws from the 1/2' X 1/2' cleats that hold the unit to the forward bulkhead and the outboard panel. I had to remove the sink first to get enough room to get at these cleats. Disconnect all the sink and head plumbing (close all the seacocks first). At that point the vanity should lift out in one piece. Its small enough to be carried out to the main cabin or up on deck.
The outboard panel is a little more difficult because the cleats are behind it. Since the shelf behind the

sliding doors will be replaced with a new one, cut it out carefully so as not to damage the slider framework or front panel. Start with a small hole and gradually expand it so as to see where you are cutting. It is tight to work in there with a jig saw, you will end up literally ripping chunks of it out with a set of vice grips. Once you have this top off you can push the tank forward and aft to get at the screws in the cleats that hold the panel to the forward side of the main bulkhead and the after side of the forward bulkhead. With this panel removed, you just grab the old tank and trot it out to the dump.
Before you start the project, get a pump out. Even still you will want a good pair of rubber gloves and some ventilation. After the tank is gone, scrub out the inside of the cavity. Use some Styrofoam to make up a mock up of a "new" tank leaving room for your plumbing and room to reinstall the cleats that hold the panel in place.
Get a shop to make up a new plastic tank for you, (Holland Marine in Toronto or similar).
Hook up your plumbing, (do you want a new head too? Now is the time to do it if you do. Reinstall the vanity and sink and the remaining plumbing and you are done.
I'll leave the christening up to you.
Steve Scott Oyster Bay1974 30 Mk1

Mike,
Good luck! I'm in the middle of replacing my tank on our '74 30' right now. You can learn from the experiences of those who have gone before you.

Some comments in addition to those provided by others:

You don't have to remove the vanity. The back panel can be removed on its own. All the panels and the shelf are held in place with cleats, screws and some glue. First, remove the sliding doors and lower decorative trim that they slide in. Then remove the top narrow plywood panel from inside. Luckily, the glue has hardened and only takes a solid knock with a mallet or piece of wood to give way once the screws are removed.

Now locate the screws that hold the shelf in place. They were countersunk and filled in, so I had to scratch around to find them and then clean out the screw heads with a pick before I could remove them. The tank hangs from the shelf, so you will have to cut off the top ring and let it fall into the cavity. You can then remove the entire shelf.

With the shelf off and the upper panel removed, you can pull the tank up and out. If it doesn't fit, go at it with a hammer - the epoxy bag inside shatters easily. This is the worst part of the job. I was almost overcome by the fumes from the tank - not only the sewage that remained even after a pump out and rinse, but the formaldehyde from the tank conditioner that we had been using for years!

With the tank out, you can remove the screws holding the back panel in place. They are located on each side and under the vanity. I got the panel out in one piece.

Now you just have to find a tank that can fit. I found one at Holland Marine in Toronto for about $260 that would fit with minor adjustments to the shelf above. DO NOT REPLACE WITH ANOTHER BLADDER TANK! They are hopeless and will always start to smell again.

The new tank is also 16 gallons, versus the 5 gallons of the old tank.

Unfortunately, despite all my efforts to get the panel out in once piece, I can't get it back in once the tank is in place. ;-(

So I cut it vertically where it meets the vanity so that it is held in place by the vanity. A bit of trim will hide the cut.

I'm currently building a shelf at the bottom of the cavity for the tank to sit on. That's easier said than done - it's a lot of complex curves in three dimensions. As one master boat carpenter said - "The challenge with boats is that there isn't a straight line in them".

Good luck with your efforts. Feel free to e-mail me directly if you have any questions.

Wally Kowal
Whistler II
C&C 30 '74 out of LSYC, Toronto
wkowal@idirect.com

They start with a flexible bag which can be inserted through a hole in the plywood shelf. It is then blown up and foam is is inserted which when hardened builds the tank. After many years of use and dirt build-up in the folds my tank held only 22 liters. This is much to small and I finally decided to get it out. I removed all the cabinets. They are put in with wood screws and very little glue and came out relatively easy. I built a

fiberglass tank (1/4" foam with 2 layers of glass and epoxy on both sides) that uses all the space available in that area. This increased the volume to about 105 liters. This also gave me the opportunity to seal the edges of the countertop which had started to rot. If you would like more details and pictures of the tank contact me by e-mail athfierz@home.com
C&C30 CAMELOT III Henry Fierz Kingston Ontario

The holding tank in C&C 30 # 517 (fall of 1978 construction) consisted of a heavy-walled polyetheylene-looking plastic hard walled tank (made by KRACOR of Grafton, Wisconsin, USA, their model 2-5080, capacity 13.5 gallons - yep, still had the factory sticker on it) that had the perfect shape to fit in the space outboard of the head behind the plywood panel that forms the port wall of the head. The inlet, outlet, vent line, and removeable 4-inch inspection port all were on top, and all stuck up through holes drilled in the plywood shelf behind the sliding plastic doors.
First step was to remove the head itself. As everyone had said, the sink / vanity had to be removed. It did come out in one piece after releasing it from its various attaching points and plumbing. Ditto for the plywood panel - it had to be removed but came right on out after releasing in from its various attachment points some with hidden screws.
If you are getting ready to do this, it really is not that difficult, just time consuming because not all the screws are easy to reach or even evident at first glance. My advice would be to work slowly, force nothing (there is probabily another screw in there somewhere if things won't come apart easily). Oh, and for those of you do not live in Canada (where I am told these are common) some of the screws may have square holes to accept a a square headed driver (Robertsons, as opposed to Phillips or straight blade).
Again, thanks to all who took the time to share their holding tank experiences. It all helped a great deal having some idea of what to expect along the way.
Mike in Newport News, VA

Call Rob MacLachan at South Shore yachts - he has the dis-assembly diagram - and replacement tank. Goes back where you remove it from.

Here is their web site: http://www.niagara.com/sailboat/

I have nothing to do with South Shore - just a satisfied customer.

Hot Water

Gord, On most engines the water exits the water pump and goes to a tee. From there it goes into the block if the thermostat is open or into the by-pass at the other outlet of the tee. From there it is usually connected to the outlet of the thermostat. Here it mixes with the hot water exiting the engine block via the thermostat. Even when the thermostat is wide open there is still cool water mixing with the hot here and the result is warm water. From here it usually enters the exhaust somewhere. If you were to pipe this water through the heat exchanger in your water heater you would only get warm water from your water heater. Not hot water**.**
The best method to get hot water . Most engine blocks have a drain plug in the side of the block and one in the exhaust manifold. If you remove the plugs and have a fitting made that you can connect the hose from your heat exchanger from your water heater to. You then install a slow flow 12 volt pump in the hose between the engine block drain and your water heater. Wire it so that it is only powered when the engine is running. You will have a tank of hot water in about 20 minutes or so. Very hot water.
Brad

Fresh water cooling is very good to have, but a hot water heater works with either salt or fresh water. It gets hotter with FWC because you can run the engine about 40 degrees hotter.

I

Ice box Insulation
Ed,R-30 is probably the best insulation you can purchase presently. The cost was $300 for enough material to do our ice box and cover. It's about 3/4" (.750) thick w/ a mylar envelope to secure it. Also Heat shield Marine suggested that we use a foam cut to the same size to protect the R-30envelope and a plastic cover in front of the foam. I don't have a web site, but I will sort around for an address. Very informative people at the Annapolis Show. We have substituted tobin bronze for all brass screws or slainless 316 if bronze isn't available. Brass usually does not seem to secure anything very well. The material is so soft. Don Engler C&C 33

Ed,When I insulated the box on my previous 34 I first drilled a small hole in the side of the box and used a piece of wire to feel if there was any foam already in there.There was , but it didn't fill the whole cavity.I then drilled about 10 holes on each side[inside] of the box and started to fill from the bottom up.You're going to need all those holes because that foam really expands and it will ooze out everywhere as you inject it.Afterwards I cut pieces of arborite[sp?]to panel the inside of the box and hide the holes.This project really improved the efficiency of the icebox. Hope thishelps.

Peter KisilenkoC&C37 k/cb "Fretless V"Marina Champlain, Lake Champlain

Insulation

Glen,
Thought this maybe helpful, I also am on the CS list and this subject was just discussed as well, the following I think is very helpful and often overlooked.
FWIW:
Reducing noise from your engine compartment.
I use to do a fair bit of sound and noise control in existing buildings so when I bought my CS36 in 1996 I applied the knowledge to my boat engine where practical. The following are some high level basics (my opinion only, please use your own judgement) which may help.

For the purposes of an existing boat you have several possible solution areas.

1) Reduce the noise at the source (vibrating items are also sources, not just the engine)
2) Decrease resonance (into the hull)
3) Confine the noise
4) Absorb the noise

The order of importance, (value for work and dollars) is dependent on each boat, the engine, and its drive train, but here is a rough guideline.

Stop vibration of panels, doors, hardware, loose articles, etc. (this is critical)
Keep your engine and transmission running properly
Replace broken engine mounts. You can replace mounts with special custom ones however this should be carefully engineered to avoid loss torque and I am not sure if the added cost will produce noticeable results.
Seal gaps where pipes or wires enter the engine compartment. Again, this is critical. (It's just like closing a window.)
Apply closed foam tape to the edges of any wood panels which enclose the engine compartment, (where the edges contact with the fibreglass). This will reduce resonance into the hull
Within the engine compartment, apply sound absorbing material where possible, to avoid the guitar box affect

Notice that the item everyone wants to do first is the last on my list.
You want to stop as much sound as possible from leaving the engine compartment while absorbing the energy from the sound that remains in the engine compartment.

Some though on products. There are two main groups.
A) Ones that reduce sound transmission (stop sound from leaving the engine compartment)
B) Ones that absorb sound (within the engine compartment)

For the engine compartment there are several types of products which I will list in order of cost and affect . (I use the words foam and rubber loosely)

Foam sound absorbing with no protective finish (not recommended) (A group)
Foam sound absorbing with a protective finish (A group)
A composite material made of two or more layers, usually foam, rubber and foam, again pick one with a protective layer. (much heavier and may require special adhesive.) (A & B group)

Most are sold in sheets and rolls with various protective surfaces. The materials are expensive but worth the price. In addition to marine stores, try building supply business (usually not retail store front) that sell acoustical supplies. Also look in the yellow pages and on the WEB under Sound proofing, acoustical consultants, etc. If you can combine your purchase with several other sailors you should be able to buy from "commercial" dealers of the product
As for the closed cell foam tape, buy this at you local building supply store, various widths and thickness.
Read the adhesive information carefully as some of it is very dangerous stuff.
And if all this fails, turn off the engine and sail!
Wally from Prime Directive, Lake Ontario.

Thanks to Wally for this pertinent info:

Gerrit H.
DOUGLAS32 S/V "Foreplay"
St. Margarets Bay, Nova Scotia

J

K

Keel bolt torque
1” Keel Bolts = 278 ft/lbs
¾” Keel Bolts = 128 ft/lbs

I called South Shore Yachts last year and requested keel bolt torque info for my C&C 30-1. I didn't have the bolt sizes handy so I requested their recommendations on 3 different size keel bolts. They quoted me as follows: 1/2" bolts -- 80 ft lbs. 3/4" bolts -- 250 ft lbs. 1" bolts -- 350 ft lbs.Hope this helps.Roger

Keel Torque Specifications

Modle	Bole Dia.	Foot Lbs.
Socket Size For Nut	Maga Only	3/4" 90
1-1/8"	C&C 40	1-1/4" 450
1-7/8"	All Other Models	1/2" 80
3/4"		3/4" 250
1-1/8"		1" 350
1-1/2	NOTES:	

1-Keels were installed with Cibageigy epoxy until the late 1980's when C&C switched to putting in 3 layers of glass and resin. 2-
Always re-torque keel bolts before fairing the joint, and while stored with weight on keel. 3- Cracking at the keel hull joint is common on all fiberglass lead keeled boats, and does not usually cause concern unless water is entering up to the bilge.

George K

L

Light Air Sailing

My secret to light air sailing is plenty, and I mean plenty of sag in the headstay. This gives you a lot more draft in the headsail. Also I move the jib car forward just a little, and don't sheet in the headsail as tight. On my boat in light air I keep the headsail at least 4 to 8 inches off of the spreaders. This is especially true right after a tack, and the boat is building up speed.

Ross - Jim is correct, and here are my additions. Besides easing the headstay tension (via the backstay), you might also check jib halyard tension...want max draft in center. With respect to your main, look at the uppermost tell tale, it should back every few seconds (not stream aft constantly); if it's not doing this, ease the main sheet and vang, then move the traveller up to keep the boom

on centerline ... in other words, increase the twist. Also, tighten the outhaul almost to where you'd have it for higher wind; if the draft here is too deep, you get flow "separation" which is slow. Some other pointers:
1. Weight on low side and forward (to shrouds) to induce some heel and get the stern out of the water.
2. DON'T point too high (i.e. not as high as when wind is up), but foot and go for speed...never pinch in light air.
Here in the Chesapeake Bay, light air races are the norm in the summer, so we've accumulated lots of experience.Good luck, GregGreg Cutter

Lubricants

Hi Dan,
Try a product called Magic Lube. You can get it in a small tin at any swimming pool supply store for about $2. Its designed for a water environment (gaskets in pool pumps and filters) and works well on boats.
Regards,
Hank Evans

M

Mast Step
George;
I have been out on Elusive three times now. Great time. Thank you for your figures on the pressure on the mast step on my 30' C&C. I have used a one inch thick piece of aluminium stock, 17" by 12" over UHDP ribs. I put a 1/2" brass threaded rod between the ribs to prevent sag. I used 1 1/2" thick UHDP for ribs and glassed them in well. I cut threads in the ribs and used cap nut bolts through the aluminium plate.
I have been out in a good blow, but not in high seas yet. I was not able to put much pressure on the shrouds in recent years, but now I feel confident. It's great to get rid of the sag in the forestay. We point again.

Having a great time.

Jerry Goldberg

Mast Tunning

The following is the technique my sailmaker used 2 weekends ago on Indigo a '35 Mark III.

1) Remove tape from all turnbuckles and remove cotter pins. Hang on to them if in good shape, or make sure you have replacements handy.
2) Tune fore and aft first. Lucky me, not an issue on Indigo. If after tensioning the backstay it is an issue, then you use the turn buckle that is typically hidden under your furler.
3) Find an able bodied helmsman to assist your progress. This role was filled by list regular Jerry Tauber of 'J+J'. (Thanks again, Jerry).
4) Find a good 15 knot day and go sailing.
5) Once out, check your true by looking straight up the mast. This will tell you how much to adjust and which side to start.
6)Set out fairly close hauled
7) Tune the leeward stay, TOP SET only. You want the stay to be just tight (e.g. no slack) but NOT tight. Do not make more than one or two rotations of the turn buckle for any given tack. It is better to do to make too few rotations than too many
8) Tack and tune the other side, TOP SET only.
9) Depending how slack your stays are and how out of tune the mast is, it may take several tacks to tune this set of stays. Keep at it until the mast is true and both TOP stays are snug when they are to leeward.
10) You are going to do this like dinner cutlery. Start out and move in. Once you have the top set done, start on the diagonals using the same technique of tuning the leeward side and alternating. The diagonals and bottom spreader stays should go more quickly than the top stays.
11) Once the diagonals are done, do the bottom spreader set.
12) Once finished, replace the cotter pins and tape the turn buckles.
13) Enjoy the rest of the day.

Hope it helps.

Michael
"Indigo" '35 1987

Mast Unstepping

Tony - 1. mark the shroud, forestay, and backstay turnbuckles with tape so that you know approximately where they were when you restep and retune (remember, you'll have to retune the rig, even with markings).
2. Assuming it's deck stepped, and you're doing it "by hand" (if it's keel stepped, you're pretty much going to have to use "a crane", either a real one or a cherry picker to lift it out straight up), then:
you can lower it forward by using your boom as a "gin pole" so that the line used to control your forward descent is attached to the boom to which the main halyard attaches. If you simply run a line from the top of the mast to the ground, when the mast reaches a 45 deg angle you can't control the descent..crunch. Alternatively, you can drop it aft and use the spinnaker pole for this same function.
3. Don't drop it!
Good luck, Greg
Greg Cutter

It was generally thought by C&C that leaving the rig in was bettter for the boat because you didn't stress and unstress it every year. It is certainly better from a wear and tear aspect on the rig & boat not to mention on the owner and crew. When I used to travel the country for C&C, the vast majority of areas (90% +) leave their masts up. When I saw a few areas that didn't there was usually a good reason - like they had a closed end travel lift. eg our marina in Iowa :(Of course, the rig should be removed every few years and thoroughly inspected for safety reasons.
Regards,
Hank Evans

Dennis:

Jack stands are less stable than cradles. A boat in my club fell off its jack stands two years ago with the mast up. If you have a nice strong cradle, leaving the mast up is fine. However, if you have concerns about your cradle or are using jack stands, I'd take the mast down during the off season. Taking the mast down each season gives you an opportunity to do regular inspections. Also, some people in my club integrate the mast into a boat cover frame. (I store mine in the warm basement in case I want to do some work over the winter.)

Speaking of taking the mast down, if any of you C&C 34 owners decide to use Spartite, make sure you grease the partners real well. The partners on the 34 are irregularly shaped, and the cavity is relatively big.
Accordingly, a new Spartite plug has a lot of surface area to hang on to. I thought I gooped the vaseline on pretty thick. Nonetheless, when I pulled

the stick for the first time after making the plug, the mast did not want to come out. When it finally let go, the tension on the lift made the mast jump up about 10 inches. A little unnerving.

Matt Wolford

I've had Spartite on Gremellyn for 4.5 years now and you definitely have to follow the directions....plenty of vaseline. The first time we pulled the stick it came out no problem, but sounded like a champagne cork....POP! Of course the beauty is when you restep the mast, it slides in perfectly and no messing around with wedges et al.
Greg

Greg,
I am thinking about Spartite for Wind N Spirits. I take it from your comments that you recommend it. How did you set the mast properly without the wedges in place? I assume, dangerously I admit, that you must have first set it in place with the wedges and rigging adjusted and then removed the wedges before pouring the spartite. Did you encounter any difficulties during the process which may have been a surprise, etc. Were the directions from the company good and easy to follow? Thanks.

Glenn Gambel
Glen - As an early user of Spartite, I recommend it highly. The directions are very good, but you shouldn't second guess them...follow them exactly. Also, their calculations are good for the amount needed; don't short yourself and in fact too much is better. This is due to the fact that you need to pour above the partner (collar) to make a cap (you construct a tape dam to hold it in. With respect to wedges, etc. I had the mast properly tuned and placed in the partner with the wedges. I then rigged multipurchase lines (block and tackle) fore and aft (in this case bow cleats and aft winches on house), and athwartships (between shrouds and toe rail) to hold the mast in place, then removed the wedges (I had also measured the distances between the partner and mast at ca. 6 places). This allowed me to have the mast in the proper position. I then followed the Spartite directions vis a vis installing the "dams" with clay, etc. and vaseline. After the Spartite cures, it can be damaged by UV, so I painted mine with som
e white epoxy paint.
Later, Greg

Glenn:

Although your comments were not directed to me, I recently did this job and can offer some insights. There are also others on the list who have done the job and provided comments to me earlier this year.

First, I made sure that the mast was tuned the way I want it, and that the mast was positioned in the base and at the partners the way I want it. Once the plug is set, you're stuck with that positioning (unless you want to cut the plug off and start over).

Second, once the mast is tuned, you will not have a problem with the base of the mast moving in the base plate area. You don't need shims or anything down below once that's set. However, you do need to lock in a position in the partners. For this, I tied various lines around the mast just above the deck and adjusted the position using blocks and winches. This way, I got the mast where I wanted it both fore and aft, and side to side (or as some would say, athwartships).

Third, the directions for the Spartite are relatively easy to understand. Having said that, this is one of those jobs where you should take your time and do it correctly once. Some points that should be highlighted: 1) make sure you have enough material before you begin pouring. I found that the partners cavity on a 34 requires a lot of material. I have noticed other boats that have a lot less cavity space when the mast is in. Although Spartite will tell you that you can do the job in stages if you run out of material, it is a real pain to clean the surface of the first pour (for adhesion) without getting vaseline all over the place; 2) speaking of vaseline, make sure you goop it on real good to allow the mast to come out easily the next time you drop the stick; 3) although Spartite advertises both "cruising" and "racing" products, their people are not too big on the cruising product. I got the sense that Spartite has had some issues with the cruising product. I would avoid it; and 4) as someone else on the list warned me, make sure that the dam you build for the liquid Spartite will not breach. This job could turn into one heck of a mess if it's not done correctly. Pay particular attention to the channel at the aft edge of the mast.

Other than that, just follow the directions. If I can do it, you can do it. Have fun.

Matt Wolford

Mast Upgrade

In the interest of spiffing up Deliverance to improve her sales value/ appearance, I should like to clean the 1978 mast, which is now a pretty dull grey. Would like to get the benefit of experience of listers who have cleaned their masts. Would like comments on methods; I'm presently thinking about:
a. Wet sanding, say 220 followed by 400 grit, or scotchbrite
b. Rubbing compound
c. A 3M product called "Marine Aluminum Restorer & Polish" (anybody used it?)
d. Buffing with a polishing compound
e. Paste wax

Better alternatives to the above?

Mast will be unshipped for the winter, in a month or so.

Thanks, Bill
Deliverance C&C 34 #2 1978

Bill:

This past spring, all the rage at my yacht club was an aluminum cleaning solution discovered at local hardware stores. It's called "aluminum restorer" or some such thing (not the 3M product), and it comes in a white plastic bottle (about quart size, if memory serves). It goes on like naval jelly, except this stuff really works. You'll need rubber gloves, a scotch-brite or similar rough scouring pad, and a source of water. I did two passes of my mast, which took about two or three hours (with interruptions). When I started, my mast looked like it hadn't ever been cleaned (since 1978). When I was finished, the mast was shiny. Still is. Best of all, the restorer stuff is a lot cheaper than "boat" products.

I'll find out the name and pass it along.

Dear Bill:

A successful experience from an earlier boat that may be useful.....On my first sailboat, a Hunter 25, I used the Interlux system for refinishing the mast.

The project was done in 1990, and I saw the boat earlier this year and it is still very acceptable given some years of nicks and scratches from use.....

Basically, I had the mast on a couple of saw horses, in your case I'd use three of them.....I removed the shrouds and anything that would come off easily.....I didn't get every fitting off, and it didn't matter.
Interlux has an Aluminum Primer specifically designed to coat metal paints prior to using a top coat.....I used my palm sander according to their recommendations for grit, and sanded and feathered the entire mast.....masked remaining fittings, and used their Polythane paint. I believe it's designed as a topside paint, but I had excellent luck with a "good quality foam brush or several of them. There are no streaks, or brushmarks (even the New Yankee Workshop guy, Norm Abrams is using foam for refinishing varnish or Urethane these days). I probably did 2 coats of finish, in a light gray, and it looked great. It took a couple of weekends only, one to prep and prime and one to finish coat.....I had the benefit of inside conditions, so I didn't have to contend with weather or temperature.....but the Interlux instructions were perfect .....go to it!!

Ron Casciato, Impromptu, C&C 38MKIIC

Bill:

That aluminum cleaning stuff that I used was called "Aluminum Brightener," and cost $3.99 US for a 16 oz. bottle. I think I used three bottles for two passes of the mast. I called the True Value Hardware Store where I bought the stuff, and they said that the manufacturer is "Birnie Shine" (phonetic spelling). If you need the correct spelling, let me know. I'll go buy some more for next spring.

The one thing that I did not do, and that I may do as a follow-up, is put some wax or something on the mast to keep it clean. This is something that you may want to consider. Perhaps the other listers have ideas.

Based on the description of the project that the other lister described (two weekends of moving fittings, sanding, and painting), I'd try this stuff first. I think you'll be impressed. You can sit at your club eating lunch with a clean mast (and a smile on your face), and let somebody else deal with taps breaking in the mast while re-tapping holes for 20 year old fittings.

Good luck.

Matt Wolford

< It's called "aluminum
restorer" or some such thing (not the 3M product), and it comes in a white plastic bottle (about quart size, if memory serves). It goes on like naval jelly, except this stuff really works. You'll need rubber gloves, a scotch-brite or similar rough scouring pad, and a source of water. I did two passes of my mast, which took about two or three hours >>

Matt,
Wow, that sounds just like what i hoped would emerge from this august group!! worth the price of admission all by its self. Really appreciate the lead and hope you come up with the product name.
By the by, did you preserve the clean finish after cleaning with paste wax?
Thanks, Bill

Mildew
We have had good results with Spray Nine...if using a sponge with that doesn't work, a scrub brush might help. Failing all else, a coat of paint will cover the problem, or you could glue on a headliner.
Jim Watts
Paradigm
C&C 29 Mk II
Victoria, BC

N

O

P

Interior Paint

We have discovered how great **exterior latex paint** is on boat surfaces above the waterline and on epoxy surfaces. A top quality semi-gloss, exterior house latex (like that used for trim or shutters at $30 per gallon) is easier to apply, easier to clean up, keeps it shine much longer and is less fade resistant than any marine enamel I have ever used. It is also less brittle and less subject to cracking. Being slightly porous, it resists blistering much more than enamels. It all makes sense. Paint companies have performed a lot more R&D in the competitive, huge, house paint market than in the much smaller marine paint niche. Another plus - with custom blending, you can get any color you want.

A second tip. Do not every use **pure white paint** on your boat. It shows too much dirt, etc. Instead use an off-white, something with a slight gray or blue tint. You will find that while your off-white may look gray in the can or at your home, when on your boat, and surrounded by other boats, it will still look pure white and much whiter and brighter than any of the other 'white' boats around it.

Another real plus. If you are like me and work on the boat during the weekends, this can save you an entire work session. Latex paint can be applied to just applied, still wet, epoxy without waiting for the epoxy to even begin to cure. This work, at least, with the non-blushing marine epoxy I use. I cannot say for certain if it works with other, more common, name brand epoxies which do suffer from amine blush. It is nice to fill an dent or gouge with epoxy and then immediately carefully brush or dab on the matching hull/deck latex paint instead of waiting a week to repaint the repair.

I have a somewhat unusual suggestion but will pass it along for what it is worth..I had a serious mildew problem that came with the boat We used a **commercial latex bathroom paint**. After about 5 years in one case and 2 in another (different boats) there is no peeling or discoloration and no new mildew. Preparation was wash with bleach, rinse, remove loose paint, light sandingall areas and then two coats of paint.We used white but these paints now come in a number of pastel colors.

I've just finished the interior of my 1978 29 MK1 by painting with Interlux Brightside 1 part polurethane and really like it...even the wife likes it! I first cleaned the inside with Simple Green like you did. Then I roughed the

surface, both the headliner which was a "nogahgide" finish as well as the smooth surfaces. Filled all cracks, holes I didn't need any more and other surface problem areas with fairing pudy (bondo). Then I applied the Interlux primer. I was amazed of how bright the interior started to look. Gone was the dingy yellowed look of the 70s! I then applied 3 coats of Brightside white. Because I was hand appling the paint I couldn't really get that smooth look of original so I tried another approach and gave it that "spackled" look. Since I plan to recover all interior cushions with a blue material, I "**spackled**" a light gray, Brightside again, using a wadded up section of Sarand wrap. Don't laugh, it worked pretty good after several attempts. I found that this method completed hid any sign of really bad holes and cracks. It also gives the interior a little
character than the simple blinding white that it would have looked if left solid. I really wanted to spray the interior to get that really smooth look, but with the curves and tight spots it would have been a nightmare to keep the paint from running.
Another benefit in this method, is that it very easy to repair with just dabbing paint on the area and using the contrasting color to hide. I did keep the "nogahide" sections solid white which tends to break up the spacked look from becoming overbearing.
For the lockers, I used Sherwin Williams polurethane floor paint because it was cheaper than the Brightside and I didn't need the extra toughness of the Brightside.If you like , I may be able to send a photo via jpeg.Dewey Crosby
Bare Necessity

Cetol Paint

The inside word from the Sikkens Rep is that the Cetol 1 is very similar to the Cetol Marine and should hold up just as well. The two big advantages to the Cetol 1 is that it comes in about a dozen shades, rather that just the orange, and it is about half the price of Cetol Marine. They say it is available at most paint stores.Steve & SuzanneS/V Pony Express

Props

Without knowing what your prop is, it will be tough to come up with rpm/spped comparisons. I agree with the other comments that 3000 rpm seems pretty good for this engine/boat combination. We made the mistake of listening to a couple of prop people and the Yanmar tech guy in selecting a prop and didn't find out till later that the 2QM and 2GM Yanmars have a different reduction gear ratio. The 2QM has a reduction of around 2.15 to 1 and the GM is about 2.5 to 1. So, at 3000 rpm the shaft speed on the QM is 1400 and the GM is 1200. The "experts" said I could carry a 14x10 prop and were wrong. The engine bogged down at 2500 and threw out a lot of smoke.

The GM would be able to carry this prop. With 13 or 13.5 x 9, I can carry 3000 with less smoke (my prop is not very efficient - an old folder with very thick blades) and this is just under 6kts in smooth water. With my 13.5 x 9 fixed blade prop, I could get to 3600 but the Yanmar manual said that was max rpm and 3000 was cruising rpm. Hope this helps.Gary Nylander C&C 30 #593

Never used teflon - but have had great success with STP (automotive engine oil additive)

Prop Corrosion

>Jim,
>
>We had a similar case in our club whhere a member had excessive corrision
>on
>the aluminum leg of his sail drive.
>
>It prompted the club to buy a "Portable Analog Corrision Test Meter"
>made by Yacht Corrision Consultants Inc., (2970 Seaborg Ave. Ventura Calif,
>805-644-1886) for use of the members.
>
>The meter allows you test to if there is excess potential in the area of
>your boat.
>
>It also comes with a very comprehensive manual of over 70 pages on the
>subject of corrision, what causes it, how to measure it, and how to control
>it. Much more than most of us ever want to know!
>
>To get control of your situation, I would suggest that as a good start. We
>bought the meter through one of the local yacht supply shops, I think the
>price was around C$100? but I could be off base on that. A very good buy
>for
>a club for use by its members. Anyone else in the marina you could share it
>with?
>
>Bruce Winfield
>True Gritts C&C 30 Mk2

Q

R

Rigging

Definitions:

I = Height of headstay termination above the sheer line
J = Distance between the headstay termination at the deck and the front of the mast at the sheer line.
P = Distance between black bands on the mast, or the maximum luff length of the main.
E = Distance between black bands on the boom, or the maximum foot length of the main
PY & EY are similar to P & E, but indicate mizzen dimensions
(Please note that the measurement rules for rig dimensions vary from class rule to class rule, and from measurement rule to measurement rule. Many yacht designers use different definitions as well. These definitions are general enough to provide guidelines to approximate your sail area. None of the information here is guaranteed to be accurate, as manufacturers often change rig dimensions without notice. You should physically measure your boat and record precise measurements to calculate accurate sail area figures.)

Sail Area Calculations

(Again, these formulas will give approximate sail area calculations.)
Mainsail Area = P x E / 2
Headsail Area = (Luff x LP) / 2
(LP is the shortest distance between the clew and the luff)
Approx. 150% Genoa Area = (1.5 x J x I) / 2
Approx. 135% Genoa Area = (1.35 x J x I) / 2
100% Foretriangle = (I x J) / 2
Approx. Spinnaker Area = 1.8 x J x I

Rig Data - C

MAKE	LOA	MODEL	I	J	P	E	PY	EY
C & C	24	TALL	34.50	11.60	29.25	9.50		
C & C	24		29.00	10.50	23.50	8.50		
C & C	25	MKI / MKII	31.50	11.00	26.50	10.00		
C & C	26		34.50	11.16	29.25	9.00		
C & C	26	ENCOUNTER	33.00	11.50	27.83	9.50		
C & C	27	MKI	33.00	11.75	28.50	10.50		
C & C	27	27-1 TM	35.00	11.75	29.80	9.80		
C & C	27	27-2-914	37.00	11.75	31.00	10.00		
C & C	27	27-2 915+ SM	33.00	11.17	28.50	10.50		
C & C	27	27-3	35.50	10.08	30.50	10.75		
C & C	27	MKII	35.00	11.75	29.00	10.00		
C & C	27	MKIII	37.00	11.75	31.00	10.00		
C & C	27	MKIV	37.00	11.17	31.00	10.00		

C & C 27 MKV 35.50 10.08 30.50 10.75
C & C 29 MKI 38.50 12.75 33.50 10.09
C & C 29 MKII 1986 + 38.50 11.35 33.25 10.63
C & C 30 MEGA 33.25 11.00 35.67 13.25
C & C 30 REDWING 35.00 11.50 30.00 13.50
C & C 30 1-506 39.00 13.50 34.00 11.50
C & C 30 507+ 39.00 13.50 33.00 11.50
C & C 30 MKII 42.00 12.00 36.50 11.75
C & C 30 WK 42.00 12.00 36.50 11.75
C & C 31 CORVETTE 37.00 12.00 31.75 14.00
C & C 32 41.13 12.75 35.25 11.33
C & C 33 1984 MKII 44.50 13.09 39.25 11.21
C & C 33 43.00 14.00 37.25 10.75
C & C 34 44.00 14.00 38.25 10.92
C & C 34 34-2 SM 47.42 14.83 41.25 13.58
C & C 35 1970 MKI 44.00 14.50 38.00 13.50
C & C 35 1974 Mk II 47.00 15.00 41.00 13.50
C & C 35 1986 MKIII 46.25 13.64 41.25 12.46
C & C 35 LANDFALL 42.00 14.09 35.50 12.50
C & C 36 34R 48.67 14.83 43.17 15.06
C & C 36 34XL 48.67 14.83 43.00 15.08
C & C 36 34+ 48.67 14.83 43.00 15.08
C & C 36 INVADER 40.00 13.50 34.50 15.00
C & C 36 FRIGATE 42.50 14.50 37.00 14.25
C & C 36 RACING 48.50 15.25 43.50 12.00

S

Light Wind Sailing

Steve - I'm not sure what the relevance of "force vectors" are, but shifting the crew weight on the leeward side slightly forward of "normal" raises the stern sufficiently to reduce the wetted area far more than that gained at the bow (perhaps you meant cross sectional area?). Having said this, you don't bury the bow...that is slow....but simply raise the flat run of the stern out. If you look at the tuning guides that Rob Ball produced for his designs, this is his recommendation for light air; indeed, this is the procedure for almost all boats excepts multihulls (watch a light air Laser race for example).Cheers, Greg
Greg Cutter

First, I recommend that you place a small tackle and a good jam or cam cleat in the topping lift so that you can play it easily, at least when on thewind.
1/ We have the same problem with a full battened main when tacking. The

topping lift has to be slacked off, moved around the roach and then re-set. (In really light air we also have to let the halyard down about 4 to 6 inches and then bring it back up to the light air setting.) Yes it is worse with full battens but the problem exists if the main has any significantroach. 2/ In this much wind (<~4 knots) the vang should be loose, the traveler should be all the way to windward and the main just tensioned enough to put the boom about on center. The main is pulling mostly on the topping lift, leaving only enough tension on the leach to get a nice smooth open leach. John

Sealants

Hi Rich

I personally dislike the butyl tape and am replacing it as I go along. I think the sealant used depends on what you are bedding and whether you want to ever get it off again. Silicone is best for aluminum and plexiglas, and allows disassembly. Life Seal is a silicone/polysulfide blend and is usable on plexiglass; resists disassembly (except on windows, which will undoubtedly pop off even if through-bolted every 6"); Life Caulk is a polysulfide, which is not good on plexiglas or aluminum, but will give good adhesive and sealant properties on fiberglass. It would be a good thing for your hatch cover, and probably for your bilge pump, unless you want to take them apart on a regular basis. I personally like pure marine silicone for things which are held down with screws; it gives excellent sealant properties and will come apart when you want it to. It's also cheap and easy to use. 3M 5200 (or its quick-cure sibling 4200) is a polyurethane, which is a wonderful adhesive. It's for things you don't ever want to come apart, like your hull-deck joint. Apparently, when 5200 has set, you could remove all the through-bolts and pick your boat up by the deck without the hull falling off. It also eats plexiglas. Unlike butyl tape, none of these sealants ooze out of the joints and crawl under your shoes as you walk around the boat, which is a wonderful thing. Digging butyl out of my razor-cut non-skid soles drives me crazy.

Jim Watts
Paradigm
C&C 29 Mk II
Victoria, BC

Shower

My C&C 34 has large inspection holes behind the helm seat. I ran a hot and cold line to the starboard hole and installed a shower control valve.(From an RV store) The shower line then runs to the port side to the shower head and a pre coiled hose (West Marine). Couple hour installation, about 50 bucks, and a great cockpit shower.FredC&C 34 WIND
Captain172@aol.com

Soundproofing

I soundproofed the engine/transmission compartment of my boat last year while the engine was out. From a comfort standpoint, it was very clearly a major benefit (new motor mounts also....) One can now have normal conversations in the main cabin while underway. With that said I would like to offer an observation from 1 years usage. I used the 1" (I used the 1/2" panels for the back of the cabin steps/ engine access) material from West Marine with the recommended 3M spray adhesive and the 'upside down nail fasteners' with adhesive for the overhead pieces. The top sections have already begun to fall away. I should have used more of the 'nails.' I am going to take the advice (which I foolishly did not heed...) that I got from someone who had soundproofed the engine room on two 60' charter sailboats in our area and use SS screws with large washers. I will screw these up and into the laminate on regular intervals. It will not be as 'fun' as it was when the engine compartment was empty. All in all, the foam/'lead' (heavy vinyl I believe) panels were easy to install. A good pair of SS cutting shears (found in the tool section of Sears) will make it very easy to cut the panel shapes. Hope that helps.

Dave
'82 37'
"Ronin" - Annapolis

Spartite

MAKE sure the stuff doesn't leak!
Mine did and it was a big PITA to keep it from getting on everything. If your mainsail track extends to the bottom of the mast make sure and plug it! Guess how I found that out? I found it to be a good idea to do 2 small pours as opposed to one big one. The second pour won't leak, and on a hot day you can do it pretty quickly after the first.

Joe Della Barba

Ron - In response to your question, it only took ca. 1/2 day total to do the spartite. It seals REALLY well, holds the mast much better than wedges (no point pressure), and if/when you unstep and restep the mast, it's a no brainer...perfectly adjusted in the partner. How's that for a summary? Standard disclaimer: I don't work for them, nor do I have stock, yada, yada. Cheers, Greg

Stereo

I can tell you what I did on my 33 and I have been very happy with the results. Rather than cutting holes and permanently mounting exterior speakers, I used a couple of those Perko waterproof male/female plugs that you install in a small hole drilled through the glass in the desired location. (Mine are actually a few inches below the rub rail on either side of the transom). The speaker wires stay "in the boat". They are not exposed to weather. I then mounted some of those rail clamps that operate with a thumb screw to the bottom of a couple of Bose 151 outdoor speakers and secure them to railing of either side of the swim ladder. I have short speaker wire pigtails attached to each speaker with the male end of the Perko plug.
When I go sailing, it is a simple matter to clamp the Bose speakers to the rail, flip up the rubber gasket on the Perko plug, plug in the speakers and I am in business.
I use two rail clamps per speaker and they remain in place very well and sound great. (I also have 2 Bose 151s in the cabin, but the cockpit speakers are really great to have while sailing).RandyC&C 33 Mk II

Brian - Just because I hate drilling BIG holes in my boat, we installed those quick attach rail clamps on water proof box speakers (polyplanar) with long wires, and after a race when it's time to listen to the tunes (or cruising), we pull them out of the lockers, clamp them on the stern pushpit railing and viola...rock out, etc.My $0.02, GregGreg Cutter

Use marine grade speakers. The cones should be plastic and the coil sealed. I haven't found any with stainless steel frames, so you can expect some rusting in this area. The frame is at the back and is protected to some degree by the cone, so you may want to protect the back of the speaker with a box or plastic, depending on the quality of sound you desire.

I used JBL 6"x9" 3 coned speakers rated for 100 watts and built a bass reflex box to protect the back and enhance the base. There was enough room behind the cockpit to fit the boxes so the speakers are flush, except for the grill. Great sound and the speakers get washed with the cockpit. I try not to spray the hose directly on the speakers, but !!!! The grills tend to rust because the wire mesh is painted steel. Plastic grills work better but don't look a good over time. Five years and still going strong.
I have tried cheaper speakers and wound up using one for my VHF and chucking the other. The 6" speaker helped the VHF over the standard 1.5" speaker and the lack of range and clarity is not a problem on the VHF. No Hi-Fi here.
My suggestion is if you like music, get the best speakers you can afford, if you just want background noise, the $39.95 variety will suffice. Make sure the cones are plastic. You may want to try some of the automotive stereo outlets or your ships store.
Getting good sound in an open cockpit is a bit tricky. Positioning is critical. You may want to talk to some of the teckies at an automotive stereo shop, or if you know someone with PA experience, they could be especially helpful.Richard

Watch your compass carefully. I bought a pair of 6" "Marine" speakers. Plastic cone, sealed, "Shielded", etc. Had to mount them way up forward (wanted them in the cabin) in order that they not swing the bulkhead mounted compass. Minimum distance seemed to be about 6 feet.
Kent

I mounted two 7" diameter Sony marine speakers in my cockpit with terrific sonic results. The C&C 35 MKIII has two Beckson screw-in inspection ports in the aft cockpit lining. Following advice from this group, I cut 7" holes in the covers and mounted the speakers, then screwed them back in. No new holes in the boat, and if you screw up, replacement covers are cheap.
If you're going to play your music loud, use Monster Cable or equivalent for speaker wire: you'll hear much tighter bass. I add a 75w per channel stereo amp, and this seems to match up with the 7" speakers pretty well.Tony Bowker
WingsChicago

Stuffing Box

Here ya go..... straight out of the manual :)) sorry the diagram wouldn't copy/paste. I usually tighten until I feel a slight drag on the shaft as I turn it, then loosen until it is just free

Struts and Bearings

Hi Hank,

I don't know specifically what type of "goop" was used between the strut and the hull but I would venture to guess that you wouldn't want to use anything permanent like 5200. What if you need to remove the strut again??? I would use an epoxy mixture with a high density filler as the "goop". Wax the base plate of the strut before you fasten the strut to the hull. Assemble the strut to the hull using the washers you removed as shims and the uncured "goop" will fill any voids between the base plate and the hull when you tighten the strut bolts. The wax will prevent the strut from permanently bonding to the hull.

When I changed my stuffing box, shaft, cutless bearing, and prop, I removed the strut and noticed that the "goop" looked to be the same as the fairing compound used to fair the strut base even with the hull. It was not flexible as you might expect caulking to be. I think the intent here is to provide a uniform bearing surface between the strut base and the hull and the bolts will do the rest. By the way, I did notice that the strut nuts on the inside had lock washers and double nuts to act as another means to prevent the first set of nuts from working loose. I used the West system epoxy with a micro balloon filler as the fairing compound after the strut was reinstalled to fair the strut to the hull.

Hope this helps.

Ted Drossos

T

Tanks

Btw...IMHO, the best source for water and holding tanks in the country is Ronco Plastics in CA. They were our main vendor for more than 10 years (till I sold my company). They offer more than 400 different shapes and sizes, including more than 100 that are non-rectangular...their tanks are extra-thick walled--starting at approx 3/8", which is at least 50% thicker than anything in the discount marine catalogs except SeaLand (who only offers a VERY limited number of shapes and sizes)...their tanks are made to order, which allows you to spec the fitting locations and sizes YOU want...and their prices are excellent.

Ronco's website, which includes their entire catalog, is at http://www.ronco-plastics.com

or you can call 'em at 714-259-1385 for hard copy of their catalog.

This isn't a a solicitation, only recommending a company I always found it a pleasure to do business with, the same as any of you would.

Trimming Sails

Like you, I have a C&C 29 mkII. It's not easy to pre determine which sails to use for a given wind speed because we all sail in different conditions and our sails may be cut accordingly. I sail in an area where wind speed averages 12-16 knots true. This is borderline for a full main and a 155% genoa. Depending on how much crew is on the rail, I might begin to depower the genoa by moving the genoa leads aft a couple of inches. If that still doesn't do it try moving the sheets outboard to a snatch block on toe rail. Your decision to depower will depend on whether the wind is building and how long you have to sail in this wind condition. If it is for a short term than depower if your sails can handle this wind range without blowing out. Otherwise start reducing sail area. If you're using the main sail that I sold you last year you will probably have to take the first reef in at about 12 knots true. That main was cut full to be powerful.
Masthead rigged boats such as yours like to have as much headsail area as possible. As the heel of the boat becomes excessive and you develop weather helm, drop the traveler to leeward to balance the helm. As wind speed increases start reducing area by reefing the main with a 155% genoa. If still overpowered switch to a #2 (mine is a 145%) The process is basically the same for each reduction in headsail area. Sea state and point of sail will also determine which headsail you select. You can carry a 155% in 20 knots true on a reach but not on a beat without being severely overpowered and out of control.
Full cut sails will give you more power than a flatter cut sail so it is difficult to accurately determine when you should reef or change down to a smaller headsail. Remember to use you sail shaping controls as the wind speed builds. Increase your halyard, cunningham, outhaul tension to keep the draft in the main at about 50% and in the genoa at about 40%. Increase mast bend to flatten the main and straighten the headstay.
I switch down to a 100% at about 20 knots true and take the first reef in the main at about 25 knots.
There are just too many variables to put in a chart without having sailed your boat with your sails. I can send you a copy of the polars for the 29 mkII which will give you an idea of what the computer thinks you need to do regarding sail reduction. The VMG information is probably the most important indicator of proper sail selection and trim. I hope some of this helps.Regards,
Ted DrossosC&C 29 mkII H OT 2

Tunning the rig

Jim,Better late than never... ;-)
"Direct" quote, all credit is due to Good Old Boat.----------
One can measure the elongation of the wire or rod as a fraction of the initial

length and then establish rig tension as a percentage of the breaking load of the wire. This requires fairly precise measurements. Stranded wire is at about 5% of its breaking strength when has stretched 1/2000th of its length. (Rod wire 7.5% at 1/2000)
The easiest method is to use a set sample length of wire, say 6 feet. Using the top of the terminal fitting as baseline and with the rig normally tensioned to hand tightness, measure up six feet from the top of the terminal carefully mark the wire. You might use a round of tape to make the identification easy. Now increase the tension by tightening the turnbuckles (even on both sides for shrouds). As you tighten the mark will move upwards. When the measurement is six feet plus 1/32 inch (.036" to be precise) the tension is now 5% of the breaking load of the wire. (The example is for stranded wire; for rod wire the elongation is 2/3 of the example.) When the measurement is six feet plus 1/16 inch (.072" to be precise) the tension is now 10% of the breaking load of the wire and so on. Never exceed 25%! A 7/64 inch (0.108 inch precise) will put you at 15% that should be right for a masthead rig cap shroud.----------
I use an inexpensive dial type micrometer attached to a six-foot stick. I tape the other end to the wire and then go for it. Fair winds and tunedrigs.
Leslie

U

V

W

Windows
Speaking from experience, I replaced all my windows on our 32 with plexiglas in September of 1999. In January or 2000 the two largest windows cracked. I haven't yet got the new Lexan windows back in so I cannot say if Lexan will work better than Plexiglas but I am hoping. There was no apparent reason for the windows to crack. I had the boatyard fit and install them. I thought they knew what they were doing and they did look great. But there conclusion was that the Plexiglas was the wrong material. hmmmm It is in their best interest to say so. the bedding compound used was Sikaflex UV black and I have no extrusions or bolts to hold the windows just the caulk. As for gently prying the old off, this is the better way, mine were falling out so this wasn't hard to do.....The yard used a crowbar to remove the new cracked windows and caused alot of damage to the gelcoat. So I am having to repair first before rebedding the new Lexan. At my expense of course!
There is a slight curve to the two forward windows, just enough to cause added stress.Good luck!Stephanie Valachovic1980 32' "ZOE"

Plastics (plexi, lexan, grp, etc.) all have a fairly high rate of expansion/contraction, but all are different. If the GRP of the boat and the plexi are much different then when it cools off (or heats up) it'll put a lot of stress on the window.
According to the Sika web site, Sikaflex 295UV is the correct adhesive/sealant. I wonder if the joint was a thick enough? If the plexi was in close contact with the GRP then there wouldn't be a thick enough layer of Sikaflex to allow it to absorb the stress. Spec sheet mentions using rubber spacers to maintain proper joint thickness.
Also noticed on their site that refers to the preparation and installation of "polycarbonate" windows which is Lexan. No references to Acrylics (plexiglass) so I suspect that you're on the right track.
I replaced 2 of my windows last year with Plexi, but they're in a frame and I allowed a good size gap for movement. So far no problems and I hope this years cold is behind us. In fact today we untarp the boat.
Kent

Sikaflex 295 UV is a polyurethane adhesive and as such will actively attack acrylic. Pure silicone or Life Seal (silicone/polysulfide mix) is the only stuff you can use with Plexiglas. Plexiglas is the right material (that's what the windows are originally) but the Sikaflex isn't. CROWBARS? You need a lawyer and a new boatyard, in that order. What a buncha idiots.
Jim Watts
ParadigmC&C 29 Mk II
Victoria, BC

One of the windows on my 29-2 cracked and I'm going to replace it. Does life seal have sufficient holding power to secure the window over time? I was thinking about 3M 4500. What are the advantages, disadvantages of Plexiglas over Lexan?

Hi Jerry
I don't know the long-term holding power of Life Seal, but it is apparently what Bomar (or Lewmar...my memory fails me again) recommends to replace the acrylic glazing in their hatches. I have to remove and rebed my windows this year and I was going to use Life Seal as a basic bedding compound/sealant. Because of the stress from the compound curve in the window, I am thinking of using two screws per end to hold the plexi to the hull. (Stainless steel, painted black, set into tapped epoxy-filled holes in the deckhouse).
As far as acrylic vs. polycarbonate, I think the prime difference is cost. Lexan is far more scratch-susceptible, tends to yellow under UV exposure, and because it is touted as more dimensionally stable, I'm not sure how well it would take compound curves. On the other hand, it is far stronger than

plexiglas, and if I was worried about people shooting at my boat, I would definitely glaze with Lexan. On a cost per square foot basis, I think Lexan is anywhere from 4-6 times the cost of plexi of the same thickness. Cut, formed, edge-polished, etc...anyone's guess. You could polyurethane Lexan in place. Since 3M 4200 is a polyurethane, it would also not be a good choice for a sealant/adhesive for plexiglas. Polyurethanes and polysulfides are generally contraindicated for acrylic bonding.
Jim WattsParadigmC&C 29 Mk II
Victoria, BC

Kate an old note from last year . several people recommended 3M- 5200.
I can't attest to its effectiveness.Ross MacLennanC&C 24,
Tobermory

Bill Goman, who left C&C in 1979 to build his Express series boats,
>recently told me the product to bed and seal the windows with is Versilok
>406/19. It is a two part acrylic adhesive (not a urethane). It sets in
>about 15 minutes. It is available from Air-drolics in Philly at
>(215)457-1940, ask for Craig Zell. Or, in Canada, Qundra Chemicals, at
>(888) 336-9880 ext. 307 (Robert Backstrom)
>Steve & Suzanne
>S/V Pony Express
>www.angelfire.com/pe/ponyexpress

>From GE's web site: NU-VIEW and MR10 are scratch resistant grades designed for
windows and deck hatches. Lexan9034 is the "cheap stuff"; grade XL10 is better
but still not as good as the first two.
They've easily got 50 grades, the trick is to find a supplier who actually has ordered the better grades and has them in stock for you. Like anything else, they have to pay through the teeth to order just one sheet for one job. Since the NU-VIEW and MR10 are specified for construction contracts, they *are*
commonly carried by the major suppliers to the building trades.
GE should be able to point you to a local source or advise you on alternates.

>-- the Plexus MA300 adhesive is readily available; it happens that I work
>about a half mile from their Midwest distributor. They were very helpful,
>and more than happy to sell me small
>quantities. I ended up buying a $30 gun for the 50ml cartridges, and used
>about two 50ml cartridges of methacrylate (MA300) at about $10 each for
>each window, with a little left over. Plexus'
>system (gun, cartridge, mixing nozzle) is really slick, and very easy to
>use; and the structural properties of this adhesive are incredible. This
>is the sort of stuff they use to fix windows
>into skyscrapers. If anyone would like to BORROW the gun (yes, I WOULD
>like it back), or would like me to get some of the cartridges for you, let
>me know.
>
>-- adhesive vs. screws -- I personally think that C&C wasn't trying to be
>cheap when they did the adhesive-mounted windows; it certainly looks
>sleeker and less clunky than having screws around
>the perimeter. And using the methacylate adhesive was pretty revolutionary
>for the time. The idea behind methacrylate is that it will literally make
>a composite structure out of the
>appropriate materials (acrylic and fiberglass being two of the materials
>listed on the manufacturer's data sheet). This means that the fixed
>windows become a structural part of the cabin-top,
>adding to its stiffness. And it's my understanding that the coefficients
>of expansion for acrylic and FRP are close enough that it doesn't really
>affect the methacrylate bond. This stuff has a
>shear strength when cured of 3000-3500 psi, with 15-25% elongation -- it's
>not going anywhere...
>
>-- acrylic vs. Lexan -- it's my understanding that Lexan (while stronger
>than acrylic) scratches VERY easily, and that its UV characteristics make
>it less desirable than acrylic (Plexiglas)
>
>-- for those of you with 30's, I kept the old (original -- 20 years old!!!)
>windows from my boat. If anyone wants to borrow them as patterns to have
>new ones made, it'll save you from having
>big holes in your boat for several days or weeks (like I had to do...).
>
>-- finally, having the new blanks made. I had them done in Duluth by
>Northern Acrylics, a small firm which I can highly recommend for their
>customer service. Very nice guys to work with, and
>they did nice work, as well. The only hitch is that 3/8-inch acrylic is
>becoming very difficult to find, without having to buy a whole (VERY
>expensive!) sheet. They finally tracked some down
>from an outfit in Florida. Count on this being an issue, unless you live
>near a company that does huge volume in marine acrylics work. I ended up

>getting a smoke color rather than bronze (like
>the originals) so they would more closely match some Lewmar opening ports I
>added to the cabin sides. Final cost, including quick delivery to the boat
>in Bayfield Wisconsin: about $160 for the
>fabrication of the new ports, plus about $70 for adhesive and gun. And
>they look GREAT!!!
>
>FWIW...
>
>--Fred Street -- Minneapolis
> S/V Oceanis (81 C&C30) -- splashed yesterday in Bayfiled, WI!!! :-}
> Bayfield Yacht Club
>

Thanks to Tom Duane for his info on masking while replacing windows. It was timely, as I just replaced my windows on my 30mkI yesterday. A couple of notes on window stuff:
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S/V Oceanis (81 C&C30) -- splashed yesterday in Bayfiled, WI!!! :-}
Bayfield Yacht Club

Re: **Plexus MA300**

I have completed my window repair on a 27MkV, using Plexus MA320
The product is available at:
Verick Internation Sales in Brampton Ontario (phone 1-888-783-7425)
Speak to Jeff Gralek.
He also has a procedure to follow and will loan(in Canada) the special gun required to dispense the 2 part adhesive.
My replacement went well. The adhesive has a longer working time than I expected.Be sure to mask the windows inside and out, to ease clean-up.
I used the green masking tape that is suppose to stay on a few days, which it does as long as it doesn't get wet!!Good LuckGlenn VickersTyger Too

I just ordered Plexus MA320 from a distributor out of NY over the phoneCURBELL Plastics 1-716-667-3377 they also have a web site I don't rememberthe address but a list of distributors may be found at www.itwplexus.com-----Original Message-----

Jim -- The Plexus is actually a two-part methacrylate used in the construction industry to "fuse" composites. I agree that the products you mention are better for bedding DECK hardware, but the MA300 is ideal for the re-installing of the fixed ports, as it actually makes a composite structure out of the acrylic port material and the fiberglass of the deckhouse. The aforementioned products do well at sealing gaps between, say, a

stanchion and the deck, but have little or no adhesive properties, especially between fiberglass and acrylic, from what I understand. For more info on the Plexus adhesives, you can check out http://www.itwplexus.com/product.htm . As a footnote, I had originally heard that the MA320 was the product to use, partly because it's black in color when cured and it "disappears" behind the dark bronze port material; but it wasn't as readily available at the time I needed it as the MA300 (which cures to a cream color). As it turns out, the MA300 worked just fine, and as a side-benefit, it "fixed" (or cured) twice as fast as the MA320, meaning I only had to lean on the ports for about twelve minutes (at an ambient temp of about 70F).

Versilok 406/19 (a methylacrylate similar to Plexus) is available in the states from Air-drolics. Craig Zell (215-457-1940)will be glad to set you up with what you need to do the job. They even have an insert that allows you to use the cartridges in a regular caulk gun.

I have completed my window repair on a 27MkV, using Plexus MA320 The product is available at: Verick Internation Sales in Brampton Ontario (phone 1-888-783-7425) Speak to Jeff Gralek. He also has a procedure to follow and will loan (in Canada) the special gun required to dispense the 2 part adhesive. My replacement went well. The adhesive has a longer working time than I expected. Be sure to mask the windows inside and out, to ease clean-up. I used the green masking tape that is suppose to stay on a few days, which it does as long as it doesn't get wet!! Regards Glenn Vickers Tyger Too

Dave -- I "did windows" this summer, and in addition to replacing/rebedding the fixed (frameless) windows on my 30, I added two Lewmar Size 1 opening ports forward of the long fixed windows. The improvement in ventilation and light down below is marked; next year I'll replace the fixed small windows in the head with opening ones, also. The reason I picked the Lewmar Size 1's is that they'll replace the smaller fixed ports almost exactly, with a minimum of messing around with fiberglass and gelcoat. Fred Street -- Minneapolis S/V Oceanis ('81 C&C30) -- Bayfield, WI Bayfield Yacht Club

Dave: The guy that installed my opening ports epoxied the liner and cabin wall together with West system. He filled the gap around the opening with epoxy and colloidal silica (sometimes referred to as "microballoons"). Fred's spacer idea is also a good one. Matt Wolford 1978 34'

Wiring

Rick- Amp is a large corporation, they make many connectors. (Not to be confused with Amphenol, who also do.) THey can be reached at 1-800-522-6752 and have several large catalogs, also great tech help on the phone. And if you catch them on a good day, they'll send out a couple of samples--no charge.

X

Y

Yanmar

I did this last year.

As a matter of fact, it is a Yanmar part. As it turned out, the original installed by C+C was not a Yanmar. I think it might have been a Morse cable, non-marine. The fittings had corroded badly and I could hardly pull the knob. My yard happened to have the Yanmar part in stock, so I could not tell you how hard it is to get or what order number to use.

When I installed it I discovered that the original cable required a hole of smaller diameter through the coaming. Once I bored that out it was a snap. The cable I got from the yard was sized fine, for the outer sheath. The inner cable came with a 2+ foot tail beyond the end of the sheath, and I trimmed it to fit once I had installed it.

For installation..... You do NOT need to remove the inner cable to install the sheath. Simply unscrew the set nuts from the threaded dohicky that is by the knob. Push the cable through the coaming hole from the outside. Screw the nuts back on. Then attach to the same points in engine compartment that the old cable was attached to (about 2 in total). This will keep the cable from dropping into the engine. Finally, attach the inner cable to the engine where the old one was. Mine threaded through the lever and then had a sort of clamp and set screw arrangement.

If, by chance, you accidentally pull the knob out and retract the inner cable into the sheath, there is a trick to getting it back out. Learned through considerable cursing, it is as follows. The 2 or 3 inch solid shaft that is attached to knob and then attached to the cable. That shaft has a bit of a flange on it. To fit it back into the sheath you need to rotate the knob until it "mates" with the sheath.

That is about it. Good luck.

Michael Hennessy
"Indigo" 1987 35' Mark III
East Hampton, NY

Z

Zinc threads

Steve- <the main advantage to "Tef-Gel" is that it doesn't melt in the heat like older anti-seize compounds.>

Melt in the heat? Where's it going to get hotter than around spark plugs and exhaust manifold bolts, where NeverSeize works without problems?

Davey Stowers was kind enough to send me the patterns for the new floor he has just installed.
He also sent along a picture of his work.It looks great, remarkable actually.
The patterns are made of sail cloth and fit perfectly.
Are there any 30 Mk1's out there that would like to use them. I would be happy to send them to you.
Steve Scott
Oyster Bay