A

B

Ball Caps

We now have available for delivery NEW C&C Yachts Ball Caps in various colors for $20 (includes taxes, shipping, handling, etc).

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All profits generated from these sales are used to keep the Photo Album under full sail.

Stu
commodore@cncphotoalbum.com
C&C Photo Album & Resource Center
http://www.cncphotoalbum.com

Batteries

Kent,

We've had a pair of paralleled 12V 8D gel batteries in our last two boats, used as the house bank. Maybe we've been lucky, but we've enjoyed years of service from both (MANY years in our last boat. We have 12V refrigeration, and lived aboard our last boat on a mooring, charging with wind and solar sources. We needed the depth two batteries provided, and I've never seen a 6V gel cell. I've used the two in our last boat both separately and linked, and linked was less trouble for me. Didn't see any charging differences, and I had both separately monitored with a Link 2000R unit. My $.02 US...

David Romasco
~~~~~~~~~~~~~~~~~~~~~~~~_/)
C&C Landfall 42 "TRYST"
Kent Island, MD

I may be confused here. How could you separately monitor 2 batteries in one bank with the Link 2000R? Was your starting battery connected to the 2000R also?

Battery manufacturers recommend against paralleling batteries. If 1 cell drops by even .1 volt, you can end up with 1 battery at 12.6 volts (normal full charge for lead acid battery) and the other at 12.5 volts. This is enough difference in potential to set up a complete circuit and start the batteries discharging (at a rate higher than their normal self discharge). IF the batteries are under a near continuous charge, then the added voltage and current from the charging circuit will mostly mitigate the problem, but left alone on a boat, with no charge for, it can be a real problem.

Use of a unit like the Link 2000R, is usually with the 2 batteries are in 2 banks, isolated but able to be drawn from together.

Kent

You hit the nail on the head in your last line. I installed a sensor on each battery, and would periodically isolate them to compare performance. I found no significant difference over time (6 years on the last set, and when I saw a combination of slightly different charge capacity and lower ultimate capacity, I replaced both and gave the batteries to friends who may still be using them).

My starting battery was an older 8D gel cell (original house battery, and I had room for it). While I wouldn't have kept it as a house battery, it retained more than enough oomph for starting purposes. No, it wasn't monitored; the Link 2000R only handled two sensors, as I recall. It's such a hypnotic piece of equipment that I probably would have if it would handle it (the Admiral recalls me sitting in front of the panel for hours, chuckling to myself, on windy/sunny days; I maintain I wasn't obsessed....).
~~~~~~~~~~~~~~~~~~~~~~~~

That last may relate to your point about constant charge. We had a Windbugger and a 75 watt solar panel, and it was indeed a rare day when at least one of the charge ammeters wasn't up off the peg.

David-
When batteries are purchased from the same manufacturing lot number--as is normal when you buy two new batteries off the shelf at the same time--they usually can be used in parallel without problems. Except for the problems caused
by one cell failure, or one corroded cable on the post, etc, causing them to become mismatched.
This is all documented by the battery makers; Parallel *can* be done without problems, but they still advise against it in general, simply because there are "possible" problems that simply cannot happen when you place two 6v batteries or
six 2v cells in series. (Two volts being a single cell, common in electric fork lifts and other heavy amp equipment.)

Batter Circuits

In the 2000 West Marine Catalog, the advisor says, "we DON'T recommend the use of a traditional OFF-1-BOTH-2-ALL battery switch. Instead, consider using three OFF-ON switches -- 1 switch to connect your starting battery to your starter circuit, 1 switch to conect your house battery to your boat's distribution pane, and 1 switch to parallel your batteries." They also have a battery isolator between the two batteries for charging purposes.

Has anyone done this and did you run into any problems? Are the switches available in a 'toggle' type and where?
Stu

Bilge Smell

When I was commissioning my boat in 1991, there was a problem with the fuel
tank and when the mechanic took the sender out, the tank burped 30 gallons of raw gasoline into the bilge of my new boat. We managed to get the gas pumped out without blowing the thing up and poured about 1 gallon of bilge cleaner (whatever brand he happened to sell) into the bilge. The boat interior smelled awful and I posted No Smoking signs all over the place. 2 weeks later and about 6 different makes of bilge cleaner later and we could still not sleep on the boat without getting a monster headache.

I talked to our head chemist at the time and begged for a solution. He outdid himself and we have been marketing his invention ever since. The product is called Bilge Bath because it not only emulsifies the oil, grease and fuel in the bilge with the water, so it can be pumped out (all bilge cleaners do that), but it also washes the sludge off the walls, without scrubbing. He added an odor counteractant that he called Odolime which knocks out the smell of gasoline, diesel, salt water, dead fish, moldy bikini or bottoms and even the overflow from holding tanks. Haven't tried it on dead bodies yet.

This Bilge Bath completely eliminated the smell of the gasoline within 2 days. Several months later, when the intake hose popped off the holding tank when I was trying to pump 42 gallons into a 40 gallon tank, the Bilge Bath took care of that disaster as well. The boat was useable the next day and no one ever knew. At the recent Toronto Boat Show, a bunch of wooden **boat** owners bought us out in 2 days. They said they used it in the past and it was the only thing that got rid of the unique wooden boat bilge odor, if you know what I mean. The commercial fishing guys on the East Coast are now using it, so I guess that's quite an endorsement.

This could be the solution, even if you do not know the exact cause as it solves a lot of problems (except maybe the above mentioned dead body). If you are still reading and want to know more, check out the web site www.auroramarine.com

Oh! and about the leaky windows thing. If you heat and pre-form the acrylic or polycarbonate to properly fit the opening, rather than bending it to fit, you relieve the stress on the plastic so it won't leak, pop out or crack. A couple of years back, there was an excellent How To Do It article

in multihulls. It was about building Bullet Proof port lights for off shore boats. The key was to build a mold, put the plastic in the mold and place the thing in your oven for a couple of hours. When it cooled, you had a perfect window that was easy to install and would last for almost ever.

Stu should put this article on his site for future reference as this subject seems to come up at least 6 times a year.

Well enough of my hot air.

Pleasant Breezes.

Richard

Brass Refinishing

According to Practical Sailor (oh, that rag again?!) 3M Metal Polish is the bestest and fastest. I bought some, and it sure beats the hell out of Brasso and NevrDull and anything else I've ever used. However, hopefully, it's bronze you're working on, since if it's brass, it will probably never look good again, having seen salt water.
Jim Watts
Paradigm
C&C 29 Mk II
Victoria, BC

Hi Greg:

As promised, I found the stuff. I sprayed the brass with Aurora Algex, a bottom cleaner especially made for aluminum, let it sit for about 60 sec. and rinsed it off. I then sprayed some Aurora Kwik Shine (a spray on polymer
cleaner/ polish that converts sea salt into a cleaner polish), rubbed it on lightly and buffed it up. The brass looks like gold. I didn't try adding salt to the Kwik Shine. It might even reduce the labor or improve the shine.

A word of caution; You may wish to do your bell when friends and family are

not present. My wife was so impressed that she dug up a bunch of old brass planters and nick knacks from our basement and gave me permission to polish
it all this Saturday. Some of the office staff are also bringing in their brass so I can clean and polish it for them, since it was so easy to do. I've put the lot on notice that I am limiting my generosity to 6 pieces, which will give me an opportunity to experiment with adding salt to the Kwik Shine. After that they can do their own.

If you need more information on these products, it's on http://www.auroramarine.com

No, I'm not going into business and will not accept any brass for cleaning and polishing regardless of the challenge or the promise of remuneration.

C

Compass Repairs

Klaus,
I saw your note asking after compass oil on the C&C list. FYI, there is a fellow here in southeast Michigan who does an excellent job of restoring and rebuilding compases. He did my Ritchie Globemaster a couple of years ago, and it came out looking like new, for a quarter the price of a new compass.

His name is Vincent Crane, and his phone number is (810)778-1674. He works
out of his home, at 22441 Statler St., St. Clair Shores, MI 48081.

Tim Metcalf
C&C 41 "Insatiable"
Troy, MI

Cutlass Bearing

Hi Ed,

Have done what you are going to do and it was one of the easier jobs that i have done on our 29. The hardest part is getting the shaft out of the coupling as in our case it was 22 years in there. We made a clamp that had two bolts come out on either side parallel of the shaft and by turning each bolt a turn we pushed the shaft out of the coupling took about 15 minutes 5 minutes to climb in 5 minutes to undo and 5 minutes to come out. The bearing is press fitted in and to boot there are two allan screws in the strut holding the bearing. We press fitted our bearing out after finding out afterwards there where to allen screws holding the bearing. No damage to the strut but the old bearing was scored. Needless to say we drilled out the filler and undid the allan screws. We then undid the stuffing box and removed the hose and assembly. What an interesting surprise we found. The fiberglass tube where the hose clamps on was a different size then the log assembly and to boot the hose was 1/8 to big for the log and 1/4 of an inch to big for the fiberglass tube. You want a hose that has no wire reinforcing in it rather just a mesh and not exhaust hose as that is way to flexible. Usually 4 to 6 layers of mesh with a heavy coating of rubber ours was 1/4" thick wall and we matched it to the fiberglass tube and beforehand shoved it on the log assembly. Of course double clamping with Awab clamps is a must. The packing we redid with the flax since it lasted for 22 years the first time. The one thing that we did do is put on that paste that west marine sells for 50.00 bucks and comes in a film canister. Yes a film canister! Thought behind it was that you can have a drip less packing and they claim your engine can get 100,000 hours on it. If we get 1000 hrs in my life time i'd be impressed but nonetheless no more leaks is what i wanted without going to the expense of a PYI. Next put the shaft log assembly with the hose already on it back on the fiberglass tube but do not clamp the hose to the tube yet as the shaft going through will move it a little which nicely aligns the stuffing box. Next shove the shaft back through the cutlass bearing and then through the shaft log assembly into the coupling. To get the shaft into the coupling take a rubber mallet and tap at the propellor end to shove into coupling. Oh align key way with coupling. Next put your first ring of packing into the stuffing box coated in that green slim then one ring of the putty supplied with that kit and last but not least the last ring of packing again coated in the green slime. Take the shaft log nut that is sitting on the shaft and tighten by hand the nut onto the log until you can't turn anymore (usually about 3 turns) then take your wrench and tighten one more turn and that's it. Now turn the shaft around from the outside to see that everything is smoothly turning. Now the last step and one i almost forgot, tighten the two hose clamps unto the fiberglass tube and use seizing wire to

secure the bolt on the coupling. We did this four years ago and she's been running smooth as a baby's bottom ever since.

Ed
I just replaced my cutlass bearing last Saturday in Ontario.
It was not warm, about 20'F.
I used a hack saw to cut it in 2 locations, 1/2 inch apart,
fore and aft. I then chipped it out with a screw driver.
Easy job.

I then went to a store and picked up a new one.
I found it to be about 1/16" too big.
No way would it ever fit.â€¦
I chilled it in ice, (lots available) and it then
easily fit the strut. Could not believe how much
it shrunk. Try this trick, it will help your installation.

I lubricated it with corrosion block,
and used the bolt and washer technique to pull the
new one in. Easy job.

I also spent an hour sanding the strut, looking
for the set screws that hold the bearing in place.
Guess what, no set screws, just compression fit.
But the bronze strut looks great now!

Is it not great that we have 5 months to play with our
boats on the hard.

Larry Jensen
Rock & Roll forever
C&C 39 BHYC
Oakville On

In Canada, it all depends in which province you reside. Some have laws for mechanical work, some do not. I have replaced the cutless bearing
on my C&C 30 twice in the past few years, once because of wear and again when I

changed from an Aromic 4 to a diesel. I removed the shaft
and prop both times and followed the instructions given in "This Old Boat by Don
Casey" for removing the coupling from the shaft. Takes a
lot of patience and time but it works. After the shaft was removed, I cut the old cutless bearing in pieces with a hacksaw blade and chisled
it out of the strut using a small screwdriver and/or chisel. Don't forget to remove the set screws. Mine had two. I installed the new
bearing by cooling it in a freezer overnight, placing it in place and forcing it in with a puller. No problem, just don't have too much
mercy when trying to remove the old bearing. Don't hammer on the strut as you
could damage the strut and the hull. Pullers work best. As for
replacing the cutless bearing without removing the shaft, I wouldn't even consider it. There are too many things to go wrong. Murphy is
always waiting for a chance to jump.

D

Deck Delamination

Has anyone taken this kind of job on? I've got delamination around the chainplates and elsewhere on a 1981 C&C 36. I guess I have three basic questions:

1)Do I drill and pump in epoxy, or remove the skin and replace the balsa?
2)How thick is the skin (deck)?
3) How thick is the Balsa?

Thanks.
Dave Mallach

Hi Dave,

I am planning on doing the same thing to my '76 C&C 27. Here's what I have
learned to date. If the rot isn't too bad, you can get by with using the "Swiss Cheese" method you are describing. Personally, I am going to try this using CPES as marketed by "Rot Doctor". You can find out more at www.rotdoctor.com. Once drilling the holes, you will need to dry out the deck for at least a couple weeks. You can assist the drying by flooding the holes with acetone, which will then evaporate, taking some of the water with it. Some have said that the epoxy will not re-attach the bond between the balsa and the core, others seem to disagree. My area of delamination is not particularly large (say 12x20 inches), and the CPES is supposed to be better at seeping deeper into the wood, stopping further rot. Sorry, I know nothing about the thicknesses. Personally, I'd LOVE to do it by removing the head liner in the head area and drilling from below if at all possible, but it seems like no one knows if removing the head liner is reasonably easy.

So, I'll ask the question again... Any out there ever removed the head liner on a mid-70's C&C 27?

Any other comments?
Thanks!
Bruce

I am in the middle of doing this job on a C&C 34 which was wet around one of the chain plates. I cut the top skin of the deck out using a saber saw (be careful with your depth,) and then scooped out the old wet balsa. I have removed everything that is wet or even remotely wet, working back until it was all dry. If you go back far enough and get close to the genoa track, you will run into a plywood stringer that runs under that track to give support. I have had to shorten mine by about 4 inches because it was wet and it will never dry. I intend to install new balsa, and then 3 layers of glass. 1 layer 1-1/2 oz mat, 1 layer 18 oz bi-axial stitch mat and another layer of 1-1/2 oz mat. I have been told that you should use polyester resin and not epoxy because you will not be able to get the gel coat to adhere to the epoxy (don't know this as fact but am not willing to take chances.). I will then top off with fairing compound and have someone with a bit of experience do the gel coat non-skid.

The top layer of deck skin is only about 1/4 inch. The balsa is about 3/4.

I have never done anything like this before so can not comment on the drill and pump method.

By the way, you have to find a way to keep the work area at least 55-60 degrees until the glass cures. I will be heating the boat with 2-3 space heaters and I have a enclosed cover on the boat.

good luck

Colin

At the risk of being somewhat contrary, you might want to reconsider the epoxy concept. Polyester resin does not bond well to old polyester resin as a secondary bond. However, epoxy resin bonds extremely well to polyester resin of whatever age. I would not use polyester resin as a fix for delamination if epoxy resin is available; epoxy is far stronger and will bond to old poly resin and new poly resin won't. Whether gelcoat will adhere to the epoxy resin is kinda secondary here, since you are doing structural repair; make the strongest repair and find something to bond to it (I think poly gelcoat will adhere better to a good epoxy fix than it will to a bad poly fix. My opinion after working with a lot of polyester and epoxy resins. I'll take West System epoxy over everything else I've tried so far). If nothing else, epoxy will saturate into dampish balsa and polyester won't. Also, you can use a cold-cure West hardener to cure it up even if it is just above freezing. Wow, that's confusing; buy the West System fiberglass repair handbook before you do anything final.
Jim Watts
Paradigm
C&C 29 Mk II
Victoria, BC

I have done many repair jobs on fiberglass over the past thirty-six years, and have never had any problems bonding polyester resin to "old" polyester resin. I
have even had to bond chain plates to a hull, and they came out stronger than

when the boat came from the factory. Some people have a problem when they try
to bond to sanding resin without sanding and wiping with an acetone soaked rag
first. Sanding resin has wax in it so that it will cure without remaining sticky. Laminating resin has no wax in it, and remains sticky, thus allowing new layers to bond without sanding in between layers.

Alan Bergen
35 Mk III, "Thirsty"

Two years ago we had to deal with moisture around Savannah`s chain plates. We were fortunate in several ways, but primarily that Savannay doesn`t spend
her winters in the cold, no sireee... a nice warm hangar for her. Anyway, the temp on the floor was 70, but the temp at deck level (Savannah was on her trailer) must have been 80. We drilled about 15 holes by each stantion (until we hit dry balsa). We were careul to drill through the top layer of fibreglas and the balsa only...didn`t go through the bottom layer of glass. We then went into the holes with a bent nail to "rotoroot" a larger area of balsa out. Used a vacuum to suck out the debris. Then we let the boat dry for 3 months. Shortly before launch we filled the holes with staight epoxy resin (no stifeners) and finished off with a dab of 2 part paint the we had mixed (and deglossed) to match the deck. I guess the area around the chain plates are probably the strongest part of the boat.
Now that Savannah`s gone I have all these weekends with nothing to do but pack and get ready to move to where you do this winter sailing stuff.
John
Boatless

I'm going to backtrack somewhat on my statements here, after checking my references, most of which say that for non-structural repairs, such as delaminating decks, polyester resin works fine. However, structural repairs, such as chainplates, would be much stronger with epoxy. The explanation I received is that the existing polyester resin ("old") has finished crosslinking and new polyester resin does not bond to it with the same strength. Even in original construction, if the hull laminates have been allowed to cure over a certain time limit, a secondary bond such as bulkhead tabbing will be weaker than the primary layup. Epoxy resin has much higher

peel strength when applied to older polyester laminates. It also has the advantage of much wider temperature and humidity limits with the appropriate
resin/hardener combinations. Regardless of which you use, I agree that grinding down to clean unwaxed glass and the use of lots of acetone and rags is necessary.
Jim Watts
Paradigm
C&C 29 Mk II
Victoria, BC

Last winter I performed a complete refit , delamination repair's and new gelcoat on my 1975, 27mkIII. As soon as the boat was out of the water I removed all the hardware {everything}and then cut out all the obvious spot's,cracked or split,useing a small hammer I inspected the entire deck and cabin top ,anything that sounded hollow was marked to be checked later.I then drilled small holes in these spots makeing sure not to go throught the bottom layer of fibrglass. Balsa is a light coloured wood so anything that comes out dark is probably rotten,so I removed more of the deck,top layer.If you have any craking in the gelcoat,along the teak hand rail's there is probably water
sitting in a small void were the vertical part of the cabin ,which has no core ,change's to the horizontal part of the deck which does have a core,any were there is a texured or suregrip finish on the deck there seem's to be a wood core.
The core is end grain so the wood is about 3/8" thick and about 4"x4" it works better to remove the entire piece and replace it .I covered the boat for the winter and let her dry out.In Feb I fit new piece's of wood for the core ,I was all ready for warm weather.In March dureing warm suuny day's,useing west epoxy I laminated the new core in and filled all the hole's I had drilled and ,put three layer's of new cloth.I had a Body repaireman come out and fare out the curved part just below the hand rail. Next was new gelcoat ,all the suregrip gelcoat had to be ground off,the new stuff went on with a foam brush and just before it was dry ,rolled with a 4" roller to make it stand up. I used an interlux paint for the rest of the deck. Launch day was early May and she was all ready. James Suffel. That was last winter ,this winter ,only two visit's

Hope this Help's
Saltfly@aol.com wrote:
>
> Has anyone taken this kind of job on? I've got delamination around the chainplates and elsewhere on a 1981 C&C 36. I guess I have three basic questions:
>
> 1)Do I drill and pump in epoxy, or remove the skin and replace the balsa?
> 2)How thick is the skin (deck)?
> 3) How thick is the Balsa?
>
> Thanks.
> Dave Mallach
>

Sounds good to me, although I would put a layer of epoxy and chopped glass (aka mishmash) below the hole area along with a chunk of 3/4" marine plywood (Bruynzeel if you have some lying around) to further spread the load out to intact glass. With a double set of holes there already, you don't want to have a cut-on-the-dotted-lines effect, and although the plywood backing which is there is probably strong enough, why take chances? You could then get away with stainless fender washers instead of another backing plate for the bolts. I would put some filler in the epoxy in the holes you are filling to give it some strength, since straight epoxy is quite brittle. I am fond of 40-grit belt-sander dust myself, preferably from white oak. Probably doesn't matter what you use, as long as there is lots of long-grain particles in it (not teak - too oily). Sometimes I sand the heck out of a piece of scrap wood just so I can get some good filler out of the dust bag. West System is my first choice for epoxy.
PS I don't work for Bruynzeel and can hardly spell it, but it is the best plywood in the world. Guaranteed not to delaminate after 24 hours in boiling water. As someone said, "If you don't build your boat out of Bruynzeel, don't boil it".

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

Neil - Just replaced 2 winches on Gremellyn in November and pretty much did
the same thing. First, fill the existing holes with west epoxy and colloidal silica to thicken and strengthen it (Put masking tape below the holes). Once you've positioned the new winches where you want them, drill one hole, put in screw to hold it in place, then drill the others...this will ensure that you don't miss drill. Now overdrill the holes ca. 1/16-1/8" and then coat the holes with epoxy and just a little colloidal silica (you can completely fill them, or just make sure you nearly fill them with small opening to be the new pilot hole). This ensures that the hole is really strong and now water can enter the laminate. Now place the base back on and drill the holes to the proper diameter.
I use 1/4" alumimum plate for a backing since wood can rot, etc. However, I think you'll find that C&C laid up the coaming very thick with many glass layers so that you can get away with no backing plate, just fender washers. I still use an Al backing plate and fender washers though. Remember to chaulk the holes and plate using a polysulfide chaulk (like LifeCalk), not a silcone (doesn't seal well) of polyurethane (never get off), but DON'T let any excess get into the winch.
Later, Greg

Hi Joe,

The issue with cutting out a section of deck vs using the "Swiss Cheese" method is that when reattaching the piece of deck, you need to first, epoxy it all in place, then sand a wide "V" (probably 3-4" either side of the cut), then layer fiberglass & epoxy into the V, and once you have 3 or 4 layers of fiberglass in place and smoothed out, then re-finish the deck in that area. By drilling a few (and its really not all that many with the CPES) and trying out the deck, even if you're working from above, you fill those limited number of holes with epoxy and touch up the holes with paint. With quotes from boatyards, its the difference between a $600 job and a $2,500 job.

By removing what I hoped to be an easy-to-remove headliner, I could drill the holes from below, and allow it to dry out that way as the boat is currently stored by the previous owner outside in a yard with the stick up.

This would keep me from having to have the stick removed and the boat tarped
while the deck dried out.

Fair winds,
Bruce

Deck Leaks

Hi Greg,
Here is one way to find your hidden deck leak. Close all your ports and hatches and tape closed any remaining obvious cracks, seams and openings. Now
pressurize the cabin by reversing the air flow of a vacuum cleaner from the exterior of the boat. You can tape the hose into a small vent opening if you have one. In a bucket, mix up a batch of dishwashing liquid and water and start spreading the soapy water around all suspect areas on deck. You'll locate leaks when large bubbles start forming where air is escaping through the deck or fittings. Foolproof and its cheap. Hope this helps.

Ted Drossos
C&C 29 mkII H OT
2

Diesel Maintenance

George,
I would recommend at least two additional measures:

1.) While your posting doesn't specify, I assume you've only got the basic factory filter system. Add an additional filter, such as a Racor. They

will filter as low as 2 microns (most engine primary filters have a startlingly higher porosity) and trap virtually all water before it gets to your expensive fuel pump and injectors. I've been involved in managing commercial diesel plants for years, and the very best maintenance for injectors and fuel pumps is to feed 'em the cleanest fuel possible, then don't touch them! The Racor models with a transparent settling bowl will give you visual evidence of some of the glop taken out, and can be fitted with a suction gauge that will tell you pretty quickly if you've got a blockage in the making. Peace of mind at the wheel on those stormy passages, when you can glance down and see the state of your filter, I can tell you. Since you've already had some junk in the system, I'd consider pulling the injectors AFTER installing a Racor or equal filtration system, and then having a good diesel shop run a spray test on the injectors to ensure the tips are clear. I'd only worry about the fuel pump only if the engine runs roughly AFTER the injectors have tested out OK.

2.) Add a biocide (such as Biobor) every time you tank up. It won't stop water, but it will kill the beasties that appear as black goop. I've entered tanks on ships where we had to literally shovel out the knee-deep slime. Be careful! Most biocides are exactly that: potent toxins indeed. I've had quite good experiences with keeping slime out of new tanks, and it will kill off the bugs in old tanks, although you should pump out the bottom layer of sludge after a few applications.

You can't go wrong if you feed a diesel clean fuel and change the oil regularly. Good luck!

David Romasco
~~~~~~~~~~~~~~~~~~~~~~~~_/)

Dodger

If you really want a really first rate dodger with a long life expectancy, you might consider the Wavestopper by Seawind. Try www.mypid.com/seawind.
This is a hard dodger with removable side curtains. I have seen several and been very inpressed. They are made in Bellingham, Wa. but they have dealers around the country.
The cost is about double a canvas dodger. Wish I could afford one.
~~~~~~~~~~~~~~~~~~~~~~~~

Dave " Webfoot " 37KCB

E

Email Archives

Hi all
Prowling through the net, 3 AM wide awake, discovered that Sailnet has an archive of the list since it's last server incarnation. For all the AOL and @home crowd who keep missing things, you can search by date or by thread. It's a handy resource for people looking for info about keel smiles, window leaks, and all the other things that keep coming up yet one more time. It's at
http://members.sailnet.com/email_archives/
although you'll want a fast connection to browse it liesurely, since the index is over a meg and it takes a while even with cable. It's amazing the things you can find when you're trying to lull yourself to sleep.
Jim Watts
Paradigm
C&C 29 Mk II
Victoria, BC

Epoxy barrier Coat

Dear Frank:
Having done this job myself several years ago, you'll find that it's not really practical to move the stands during the process.

Use Interlux Interprotect 2000.....pretty much the standard barrier coating. The process requires you to recoat 5 times with not more than a 2 hour lapse in the process. It also means that you have to have 12 hours of daylight and nice weather.....I started at 5 in the AM on Saturday, e.g. If you allow the coat to dry past that time, you have to scuff it up with sandpaper before

applying the next coat. and at the end, you have to get a coat of bottom paint on in the last 2 hour interval as well, that's why 12 hours.....

Use a different color for the bottom paint first coat.....then go to your preferred color. That way when the bottom paint wears through to the first color, you'll know it's time to replace it.....without exposing the barrier coat layer.....

Paint the barrier coat up to around the stand pads.....leave about a foot around them for the first coat of bottom paint.....when all is dry....then have the stands moved. feather the stand area for the multiple coats of barrier paint.....you can do bottom paint on the rest while waiting, and then feather the bottom paint into the pad area and finish with bottom paint.....

The whole process took a very well planned weekend.....and I never had to do it again, the bottom paint held up for over 4 years.....then sold boat....

You can do it.....Good luck Ron Casciato

F

FloorBoards Teak and Holly

The first time I refinished my floorboards, the C&C factory was still in business. I called them and asked for their recommendation and they told me they used Cetol Interior Clear - Satin from Sikkens. I used the same thing, put on about 5 coats (plus a coat of regular cetol on the underside) and I've been very happy. Note: Used 2 part epoxy to fill some of the dings (after taping) and that seemed to work pretty well. Be careful on sanding; there's not much teak and holly before you get to marine plywood.

Bob Rudary
Grand Slam
C&C 34+

G

H

Handrails

Agree all around here; easiest way to get the plugs out of the teak without destroying surrounding wood is to drill a 1/8" hole in the middle of the plug, then screw a long #6 screw into the hole. As it bottoms out on the bolt, it will force the plug up and out. When you reset the plugs, just use varnish as an adhesive so the next time you can use the same trick. Don't use any real glue or you are hooped.
Jim Watts
Paradigm
C&C 29 Mk II
Victoria, BC

Helm Seat

Cindy -- I also have been trying to figure out a cockpit table scheme for my '81 C&C30 mkI. The biggest drawback is having the mainsheet traveler just ahead of the pedestal -- this rules out a standard fold-down table. But the hardware that Edson sells for their cockpit tables allows you to pull the hinge pin to completely remove the table and stow it elsewhere. This is probably the best choice for our boat. Check with Sailnet.com on availability -- I don't have my Edson catalog handy for part number right now.

On your idea for a helm seat -- interesting idea; I usually just park myself on the lee cockpit seat and steer from the side. This allows me to see the telltales better.

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

There are two books that are very useful for this sort of design and planning: "A Sailor's Sketchbook" by Bruce Bingham, and "Upgrading the Cruising Sailboat" by Daniel Spurr. Bingham in particular has a zillion ideas for making add-ons to boats; Spurr's book is invaluable for anyone upgrading a boat. He covers repowering to diesel and installing waste systems and other such interesting stuff. Also, looking through the West Marine catalogue is very handy to see what kind of hardware is available. They have bits and pieces you could use to clamp a seat to the stern rail, and to construct a cockpit table. Without knowing your layout, it's hard to give any suggestions. If you have the same layout as Fred Street says he has, then you are going to have to make a fully removable table, which means you are going to have to find somewhere to store it,or build it up from the traveler so the mainsheet clears it. Good luck either way.
Jim Watts
Paradigm
C&C 29 Mk II
Victoria, BC

Holding Tank

Ok Listers here's a question for you....
The holding tank on my 1979 C&C 30, a polyethylene tank, has a pump out hose which enters the tank from the middle of the top of the tank through a nylon fitting then extents to the bottom of the tank via a hard tube or hose. At the end of this season when we realized the tank was still almost full after pumping out, we knew we had a problem. I'll spare you the details of removing an almost full tank and go right to the problem. I am now faced with the issue of re-installing the hose that goes to the bottom of the tank from the fitting that penetrates the top of the tank. I think I want to replace the hose fitting on the tank and improve the hose attachment inside the tank. It appears that the rather hard internal hose was just glued inside the tank fitting.
First has anyone had to replace this hose? What did you replace it with? Secondly how do you remove a fitting without damaging the tank? Third what adhesives should you use with polyethylene? Is it even possible to use an adhesive to attach a hose internally to say a nylon

fitting? Would stainless hose clamps last inside a holding tank? The price of a new tank ($535 US) makes going to some effort worth it.

Michael- The only permanent attachments for polyethylene seem to be welding it or bolting it. Stainless steel inside a poly waste tank is supposed to corrode very reliably. I hate to think that the only "reliable" way to repair the tank would be to remove the pipe, have a new "inspection" port welded into the top of it, and then install your new fitting as an "inspection port" which would screw down and be removeable/replacable. I say remove it only because that would let you send it out to someone who already knows how to weld poly, if there is one around you. (Or to ship it.) Yes you can buy poly welding gear but between the cost and the learning curve, might be most reliable to job this one out. If you do try something in place using stainless fasteners, I would coat them all heavily and embed them in something like marinetex (epoxy putty) or a poly-whatever caulking compound to try protecting them.

The tank on a C&C 30 is a very complex shape designed to fit the curve of the hull, narrow at the bottom and wide at the top. So turning the tank is not possible. The tank is just fine there is nothing wrong with it. The discharge hose that starts at the the bottom of the tank has fallen off the fitting. The gray fitting appears to be glued with a dark brown adhesive and perhaps is also threaded. The fitting has facets like a nut to fit a wrench. It's OD is 1.5". Yes the supply hose also comes through the top of the tank. The tank was manufactured by Kracor Inc. of Grafton Wisconsin. Has anyone used 5200 to attach a rubber hose to a nylon fitting? Forespare has tank fittings that might work if I could figure out how to attach a hose with some certainty that could live in that environment.

I

ICW

Howard,

Just did the trip from Norfolk to West Palm (mostly in the ICW) this past November on a Endeavour 43 ketch. Ours was not a vacation trip,it was a

delivery, so taking our time was not an option. With the available daylight during the first three weeks of November (your daylight will be much longer) we were up at 0530 and under way by 0550-0600 (about 10-15 minutes before
"first light") and motored all day to a favorable anchorage or marina arriving usually just at or just after sunset (no daylight saving time in Nov.) so our sunset was a lot earlier than when you want to go. You could have 15 hour days if you want to. But with our 11-12 hour days we could make
80 to 115 statute miles per day depending on bridge openings fuel stops etc.. In the ICW distance is measured in statute miles, not nautical miles, and you will see mile marker signs along the way starting from mile 1 at Norfolk VA. You may want to go outside occasionally. Possible ports to go out, weather permitting, are Morehead City, Wilmington NC, Charleston, and Beaufort SC,(bypass Georgia and go directly to St. Augustine if weather permits. It's pretty straight down the Florida ICW, a few bridges but you can make good time and interesting scenery. Trip duration, left Norfolk @1300 hrs. Nov. 1st and arrived at West Palm @ 1500hrs. Nov.12th. We headed
east at West Palm for the Bahamas so I can't help you from there. Enjoy,

Jerry H
Shazam '75 33

Inverter

On the inverter side, I use a small one daily in my van to run a laptop and it's great. I used it on board once to run a TV and VCR and it worked well. You'll need a sizable unit (min 1000 watts) however, to run an electric coffee maker or Microwave and they pull al lot of battery power. Small 500 watt microwave oven, rated draw about 5 amps @ 120 volts, will draw 50 AMPS at 12 volts, plus the extra for losses in the inverter.
If your coffee needs aren't too great, there are 12 volt coffee makers available, usually about a 5 cup size.

Burning hydrocarbons to produce chemical energy to produce mechanical energy
to produce electrical energy to produce chemical energy to produce electrical energy to heat coffee is quite inefficient compared to burning hydrocarbons in your stove to just warm the water directly :)
If you really want to do this, however many watts the coffee maker draws is the size inverter you need. In case it is labeled in amps instead of watts, watts = amps X 120. The DC draw will be watts/12 or 10X the AC amp draw.

Joe Della Barba
www.sailcandc.com

J

K

Keel Joint

Steve & Suzanne,

Please note the following is not about fixing "the smile", which is not really problem at all, but about repairing a leaking hull.

I recently undertook such a job on my 37'. The hull/keel interface had opened approximately 1/8" after what I can only guess was a grounding. This happened prior to my owning the boat. I had a yard do the original job which was royally botched and ended-up redoing it myself. I had asked the yard to drop the keel, clean the joint and re-chalk which they did but unfortunately began to weep a year later. When I dropped the keel I found that the yard had not properly cleaned the hull/keel interface. It appears that C+C originally epoxied the keel to the stub. When the yard dropped

the keel some of the stub came away with the keel. Instead of cleaning the joint they merely piled on the Sikaflex creating a discontinuous surface and I believe this is why the leaking re-occurred.

I was reluctant to remove the 7000 lb keel entirely so my approach was **to** suspend the boat in the travel-lift and drop the keel by a 1" and still keep the studs in the bolts. They say that in terms of keeping the keel on the stub (static condition) all bolts but one are redundant and I can tell you not even that is necessary. By far the hardest part of the job was cutting away all the sikaflex. The keel didn't budge until I removed 80% of the joint and even then it dropped very slowly. I cleaned the joint completely, first with a chisel, then a file and then acetone. I rebuilt the surface of the stub (not that much missing, maybe 2-3 layers of glass)with thickened epoxy such that the two surfaces came together flush. As Bob, I used 3M 5200 getting lots up around the bolts and worked it in to prevent air voids. Dropped the boat down on the keel to bring the joint together and then torqued. No guessing, used a gearbox and torque wrench to
get proper values. I retorqued the bolts ever couple of hours during the day. If you use 5200 do not let it cure on the outside of the joint or you will have a job getting it off. I faired the joint with fiberglass filler.

In my case it was hard to differentiate bilge water that came from a keel leak (as the leak was very slow) from deck run-off, etc. But when the boat was on the hard and the joint leaked I knew I had a problem. The job was more intimidating than difficult. I now know that the joint is solid and confirmed that the keel bolts were shiny like new.

Peace of mind.

Barry
C+C 37
RNYC

Barry McCallum

L

Lazy Jacks

John,
The dutchman system has thin monofilament lines that go through holes in the
main. This helps the main flake consistently. Lazy jacks are lines that run from the boom to about 3/4 of the way up the mast on both sides of the main, in effect making a rope guide for the sail to drop into. This keeps the sail from dropping off to one side or the other of the boom. In short, they just trap the sail and keep it from falling all over the place. The don't really "flake" the sail per se.

Bruce,
As mentioned on this thread a couple of times, you can pull the lines to the mast w/ the Lazy Jack system, and run them around the reef hook. I am intrigued with the idea of a line that leads to the cockpit so you could retract them from there. Would it work if you installed small blocks that ran along each line and then to a turning point on the mast and back to the cockpit? Thereby allowing you to pull one line per side to tie down in the cockpit.
If you want to see a lazy jack system go to West Marine's web site and Î'm sure they'll have an illustration (there's a good one in the catalog). Dutchman systems are harder to find images of, maybe there's one installed on a boat that has a photo at Stu's site (I haven't looked specifically for that).
John, Bruce is correct, the Lazy Jack system does not flake the sail. You still have to go forward and straighten it out. But that job is made much easier by having ing the sail controlled in a confined area so all that is necessary is to flatten it out. I have seen numerous boats with older sails that have Memory in the sail so it is 90% done before going forward.

Greg

Lightning Protection

I was fortunate to have an opportunity to talk with a fellow who worked in General Electrics High Voltage Lab running experiments with lightning. He was
and may still be the consultant to NASAon lightning protection. When I asked
him about grounding my boat he advised the following:

1. Run a #1 wire from the mast to a keel bolt (assuming you have an external keel)
2. Run a #4 or #6 wire from each chainplate to the same keel bolt.
3. Run a #4 or #6 wire from the head stay and back stay to the same keel bolt.
4. It is important that all of the ground wires go to the same keel bolt.
5. Do not run any additional grounding wires to anything else such as through hulls, engine metal tanks, etc.
6. It is best to use mechanical connections rather than soldered on the ground wires.

He told me that having done the above, I would be as protected as current knowledge makes possible. Having said this he also added that lightning can behave in unpredictable ways so there are no guarantees.

For what it's worth!!
Dave "Webfoot" 37KCB

What about a ground from the engine??
In the current setup, everything from a systems standpoint is grounded to the engine which uses the propshaft as a path to the "big ground". Leave it like that, or ground the engine to the same keel bolt?

Bob Rudary
Grand Slam
C&C 34+

Regarding the grounding of the ships electrical systems through the engine shaft. The fellow I talked with said it's better not to connect the two. The lightning is most likely to hit the mast. The most direct route to the keel or a ground plate the better. Also, the simpler the better. Keep the lightning ground system seperate from the ships electrical system. By the way, I'm no expert on this subject. I am just reporting what I was told. I was very interested in what he told me having been on a Pearson 30 which had
a direct hit on the mast. It gets your attention. Except for frying all the electronics and blowing all fuses there was no damage to the boat or the four humans aboard.
Dave

rbt
If you have grounded the engine, as you say, --How have you isolated the electrical system form this ground? The engine, being grounded, is also connected to the minus side of the battery, making this also the ground for the entire electrical system. Have I missed something?

I'm a firm believer in grounding only the mast (and or chain plates) to the keel on C&C boats, where we have externally exposed lead keels. Consider that the propeller is normally bronze, the shaft is aquamet stainless steel, (occasionally bronze or other alloys), and these are normally protected by a sacrificial zinc anode. Now-- most of our boats are not dry sailed, many of our boats are in salt water of various levels of salinity. The various metals, lead, zinc, bronze, stainless steels, etc, all have different electrochemical potentials. When they are sitting in an ionic solution (sea water) they have become (poor) batteries. If you connect them together, you have shorted out all these batteries, creating a continuous circulating current, and depleting your zinc, and the zinc in the bronze at a very rapid rate.

This actually happened to me on a 1973 C&C 30. C&C had bonded the mast,
keel, thru hull, etc, for lightning protection. For the first few years things were okay, when the barrier coat on the keel was fresh. Note that

with a good fresh keel barrier coat, the lead keel was not really exposed to the sea water. As the boat aged, the barrier coat deteriorated, and allowed sea water to penetrate to the lead. Within a few weeks, the zinc was completely gone, and the prop and the bronze shaft was beyond repair. I cut the wire between the mast and the engine and measured the DC current. It was
an astounding 200 ma. The open circuit voltage was ~ 0.3 volts, but this explained the rapid corrosion of the zincs, prop, and shaft. I removed the wire from the mast to the engine, and never had any further trouble. I later discussed this with C&C reps, and they admitted that they have mistakenly overdone the lightning protection grounding, and caused some serious corrosion problems.

Note, if your boat has an encapsulated keel perhaps this is not so much of a problem. Also form a lightning protection viewpoint, the external lead keel is an adequate connection to the ground. This is even true despite any paints, or barrier coats that may be applied to the keel. Those coatings are thin enough, that the lightning stroke will arc through, and be dissipated through this path.

Sorry for the long winded explanation, but I thought this could help others avoid the frustration and the unnecessary losses I was faced with.

Don Wagner
C&C 41 CB
Der Baron

I agree with Don's comments about creating a battery by bonding thru hulls to
the engine etc. The GE NASA consultant I mentioned earlier warned me about
this. He said that it was not only a bad thing for lightning protection, but would be very bad for electrolosis and could eat away thru hulls rapidly. I cut and removed all of the bonding wires on my previous boat. My present one
didn't have any. C&C or a previous owner must have learned about this. It's interesting that I still see articles in sailing magazines recommending that this bonding be done.

Dave " Webfoot " 37KCB

M

Mast Upgrade

Several thoughts. RG-8X offers best compromise of signal strength vs size & flexibility (IMHO). Use a proper sailboat antenna (normally 3 foot whip with about 3db gain) Antenna gain is achieved by flattening the radiation pattern (no sense sending signals up in the air unless you're talking to airplanes or into the water). With a high gain antenna you will not be able to reach anyone to either side when more than slightly heeled (although you will be able to reach those airplanes better).
Cell phones have relatively low power (3 watts max for older full size phones, .4 to 6. watts for modern hand held types. Only useful if near shoreline and populated areas. Can't reach another vessel unless you know their number. Certainly NOT a safety item. I leave mine at the dock.
Handheld VHF's run 3 to 5 watts. Full size VHF runs 25 watts. With a mast top antenna several times the range. Your whip on the stern rail will outperform a handheld by a fair margin.
If you have masthead lights and the original wiring, it'd be a good time to replace it also while you're snaking cable.

I had the stick out last winter and pulled new all-rope (Sta-Set X) halyards, as well as replacing the sheaves at the masthead. While I was in there, it was no big deal to pull all new wiring -- new RG-8 (the big stuff) for the VHF; also multi-conductor 14-ga for the mast lighting, to replace the 20-year-old 'zip' cord that was in there from the start (and was in horrible shape, BTW). And as long as I was at it, I replaced the masthead anchor light with an AquaSignal halogen, and replaced the separate steaming and spreader lights with

a combo unit from AquaSignal (also halogen). The bundle of wires (including
new wind-instrument stuff) was tied every ten inches or so with three wire ties with the ends left on, pointing out from the bundle at about 120-degree angles from each other.

What did I gain from all this? A far superior radio signal, with tons of range; much better and brighter anchor, deck & steaming light WITH MUCH LOWER
CURRENT DRAW (halogens are great!); but best of all, none of it slaps now, even
in heavy rolling conditions!

Considering how much we all spend on glitzy stuff like new sails or CD players,
I feel like it's money well spent to assure that my boat will be seen (and heard), for a longer time (and greater distance), especially in the worst conditions. And it really didn't cost all that much...if you're going to replace the wire anyway, put the best in that you can, and you won't regret it.

Getting off my soapbox now... ;-}

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

Brad,
I will try to answer a couple of questions.

1) I attached four zip ties every 12 inches (probably overkill, 15 inches would have been ok).

2) I ran 2 new halyards after performing this procedure without any hassle. Including have to "fish" one of them. To date no signs of fouling with wires. And no slapping at mooring.

3) I have heard that PVC conduit is installed with aluminum rivets. The pipe is put inside, they drill many holes in the mast to rivet it through. Too much

effort and money IMHO. The zip tie effect works great. Took me about 3 hours
to do (with two people)

HTH,

Tom Anderson
C&C 32 Nonpareil
Marblehead, MA

Brad,

For a "contrarian" perspective I had conduit installed on "Ronin's" mast when I had it down for re-hab and I personally think that this was the best way to go for my boat. I make that statement because the thought of 57/58' of 14 ga. wire (and RG-8U coax) runs hanging somewhat freely didn't seem like a good idea to me. I don't know about your mast but it may not be necessary in your case.

Anyway, it didn't really seem that difficult to do. What my rigger did was mark and drill two small holes on either side of the centerline on the front of the mast (distance between the holes dependant on the diameter conduit you use) about 10' in distance from each other. You don't really need that many rivets to keep it in place. They then used a coat hanger to pull the conduit up to the mast wall, drilled a corresponding hole in the conduit, riveted it and then did the same on the other hole. At the steaming light, they simple cut out the wall of the PVC to match the opening in the mast. The pipe stopped about 1' short of the top of the mast. If you do it, make sure you install a conduit with enough diameter to allow for any wiring that you may wish to install in the future. It fills up pretty quick.

There, I just told you my level of expertise and experience on this subject. I paid a professional... Actually, had I known how to do it then I would have gone ahead and done it myself. It seemed to me that there was less there than (doesn't) meet the eye... :-)

Best,
Dave

'82 37'
"Ronin" - Annapolis

Matt -- I used five-conductor (anchor light, steaming light, deck light, ground & spare) from the mast step up to the combo light, where I used a nylon strap
riveted to the mast for strain relief; then I spliced (inside the combo light) to 2-conductor to go up the rest of the way to the anchor light. This run was cable-tied to an anchor tapped into the bottom of the masthead fitting. These runs were also bundled with the masthead wind (small 6-conductor) and the RG-8
VHF runs, which have their own strain relief at their grommeted exit holes. I think splitting the run at the combo light, then using the lighter cable for the rest of the run helped distribute the strain on the cables.

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

Brad -- I used three 8-inch ties every 16 inches. With the mast horizontal on sawhorses, it was gratifying to watch the ties more or less center the bundle of heavy cable as I fed it into the mast. As far as the halyards, I think the ties may help a little bit, but the best thing is to pull 'em up tight when you're done sailing for the day. After going through this process, my mast has
been EXTREMELY quiet.

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

Jared -- having just re-done the math, my new 10-watt halogen masthead light could use a round-trip run in excess of 100 feet of 14-ga Ancor marine wire with a calculated voltage drop of only .25 volts. Considering the fact that a 10-watt halogen in a proper housing is significantly brighter than required by USCG reg's for anchor light visibilty, I think I'll be far safer than I was with the power-hogging incandescent that it replaces. But I agree with you that we need to make sure we're getting all

the juice we can to these devices to ensure they work as designed.

BTW, the figures needed to calculate voltage loss and wire size came from the Ancor website at
http://www.ancorproducts.com/technical.html
And if you use multi-conductor with a common ground, be aware that the wire
used for the ground MUST be sized to carry current from ALL devices that will be used simultaneously, unless you want to use it to heat the inside of your mast... ;-}

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

Brian,
Yes you are correct on all points. I did fan out the 4 zip ties (Ithink they were 12 inch ones) every 12 inches. And the halyards do not make any slap noise
either. The first time you step aboard Scholar after do this, you will be amazed on how quiet it is. Nonpareil's slap was so bad the first year that we almost never slept aboard.

HTH

Tom Anderson
C&C 32 Nonpareil
Marblehead, MA

Glen- and all--

I got a response from Aquasignal corporate offices in Germany today. They say
that their USCG rated lamps are rated for operation at 12 volts, so as long as there is "low battery" voltage at the base of the fixture they are OK...and getting a full 14.4 volts would be overvolting them.

Bruce,

All my winches are tapped into the mast and boom. No nuts. That's the good news. The bad news is that galvanic corrosion can make removing the screws a real problem. Use a heat gun and in desperation CO2 (thanks Jarred). A hand impact wrench can help too. Use silicone sealant on the threads when you reassemble to reduce corrosion.

Good luck,
Gary
S/V Expresso
'75 C&C 35 Mk II
East Greenwich, RI, USA

Hi Gary,
One comment on reducing galvanic corrosion between aluminum and stainless.
There is a specific goop, I think its called "Tef Gel" that is highly recommended by Brion Toss (of the Riggers Apprentice fame). I've got a little tube of it and intend to use it when attaching stuff to the mast or boom.
Hope this helps and thanks for the input,
Bruce

Mattress

Brian,

We replaced the original cushions on "Ronin" last year with 5", closed-cell foam and covered them with Ultra-Suede. A vast difference in comfort from my perspective. The original foam ended caused 'hard-spots' when sleeping. It's much more like a normal mattress now. I think the original foam was 4".

Dave
'82 37'
"Ronin" - Annapolis

From some rather in-depth experience, the critical issue to comfort will be the quality of the foam. In our last boat, we replaced the original factory cushion foam with high-density foam obtained through http://www.knoxfoam.com The information on their website is good, and so were their prices, though I later found out about someplace here in Chicago that discounted the cost of the foam even further. Unfortunately, I don't have that information any longer. In the end, we went with the highest grade of foam possible and were much happier with the comfort of the cushions.
Hope this helps, Bruce

Brian,
We had the same thought last year but rather than replace the cushions we bought a queen size eggcrate foam (about 2 1/2" thick) and cut it to the same size as the cushions. (actually a little larger because of the side slope in the V-berth). We then bought 2 queen size sheets (one for the top and one for underneath the eggcrate) and sewed the sides and the short part at the bow end to conform and cut off the excess, leaving the aft end open so one can remove the eggcrate to wash the sheets. Because it's symmetrical, by having top/bottom sheets just turn the whole thing over to get a fresh sheet. Also it keeps the sides from untucking. The comfort is very satisfactory, sleep better than at home. Did the same for the quarter berth but you can't turn it over. If some of this doesn't make sense let me know.

Jerry, C&C 33 "Shazam"

Contact S & S Fabric Products in Portsmouth RI. Very experienced in redoing cushions, upholstery etc. Have worked on lots of C & C yachts.
"www.ssfabricproducts.com "

We are just in the process of doing the settee and the dinette on our 35. The V-berth will be done next. What we decided to go with will provide comfortable seating, with firm but relaxed sleeping. The foam for the bottom is by a company called Reflex. It is a polymer construction, has a 10 year guarantee, (including marine use) and is three inches thick. Each cushion

gets wrapped in a Fortrel wrap, which builds it up to four inches. Even lying and leaning on ones elbow seems to not flatten the cushion so one can feel the plywood. The backs are a 5 yr guaranteed Ultra-Lux, which is a little softer, and it too is Fortrel wrapped. All bottoms will have a polyester scrim bottom to allow air circulation.

The upholstery did say that the brand name of foam does get changed at times by the distributor, who wants to offer something different. So I guess the name might not necessarily be available in the States.

Klaus & Janice

A mattress company I dealt with and was very satisfied with the results is the Handcraft Mattress Company. They will come to your boat and measure if you want. The end result is a mattress that looks like you have at home (maybe without a hinge in the middle) and guaranteed for up to 10 years. Six inch latex foam , they have innerspring if it works for you. Comphy and stays in place - no sag in the middle at all! Not cheap, but you will be satisfied if you plan extended or livaboard cruising. Even came wrapped in a bow for Christmas present. They're in, Santa Ana, CA, but have agents around country, phone 1-800-241-7751. I'm just a customer. No business relationship.

major
AIRBORNE
38 Landfall

N

North Carolina

Ross:
You'll probably like it here. It's 60 degrees and sunny, with about 10 kts westerly, today and it's still not the middle of January. Big difference from where you are.

The NC Travel and Tourism website is www.visitnc.com . There are listings for a lot of events and sites.

As a history buff you would be interested in going down to Wilmington. The WW II battleship North Carolina is moored there and open for tours. The

American Civil War fort that figures into the movie Glory is just outside of Wilmington; rent the movie and then see the location. The movie, BTW, shows
the 54th Massachusetts attacking from the wrong side of the fort - the Confederate side.

On the subject of movies, Screen Gems Studio, in Wilmington, is the largest movie studio outside of Hollywood and gives an interesting tour. My girls dragged me down there on a "Dawson's Creek" pilgramage (if you're familiar with that TV show) and I particularly enjoyed it... plus we had to go to actual locations in Wilmington where the show is filmed and had a good time talking to the locals who own the shops and houses.

Another note on the subject of history, the North Carolina flag has two dates on it. With all due respect to our friends in Boston, one of the dates is the date of the actual first battle of the American Revolution. The battlefield site is preserved, but not very impressive. Wasn't much of a battle.

Interested in pirates? The North Carolina Maratime Museum in Beaufort (Bow-fort. Beaufort South Carolina is pronounced B-ewe-fort.) is in process of salvaging the Queen Anne's Revenge - Blackbeard's flagship - which sunk off Cape Lookout. The Museum and the town of Beaufort are well wothe the trip.

Cape Hatteras Light is well worth the trip. It sits about 1/2 mile inland of it's historical sight now, having been moved to avoid the erosion of the shoreline. Quite a thing to move a brick structure over 200 feet tall, and a real nice stretch of shore to watch the surfers and do some shelling. The light, BTW, is in Buxton and not in the town of Cape Hatteras. And it will be quite a drive from Pinehurst.

While on your way to Hatteras, you should take the ferry rather than go by road. Well, actually you almost HAVE to take at least one ferry. But do either Cedar Island or the Swan Quarter-Ocracoke ferry, and spend some time
in Ocracoke. Quaint little tourist trap that is nice to visit. And if you have a 4wd vehicle, it is legal to drive on the Atlantic Ocean beaches and have a bonfire at night.

Interested in Flying. The Wright Brother's Museum is in Kitty Hawk on the Outer Banks. There is the
original hut where the plane was built, and a monument at the top of the hill they came down to get their airspeed up.

You can also go flying yourself, in a hang glider, at Jockey Ridge State Park in Nags Head... a couple of miles from the Wright Museum. Jockey Ridge
is the big honking sand dune.

If you're interested in going sailing, drop me a line. I'm always looking for company on Belle, and we might be able to make a day trip on the ICW so
you can see Pamlico Sound one of our water towns. They say that Oriental has
more circumnavigators per capita than any other town in the world. But then, it;s a small town.

Rick Brass
la Belle Aurore
Washington, NCan interesting exhibit at the visitors center
(although it was closed a couple months ago after a severe Nor'easter.),

O

P

Painting Decks

Karin
For a proper deck job,
Remove all deck hardware, except the toe rail.
Grind off all previous non skid surfaces.
Spray paint all smooth surfaces, Imron or Awlgrip.

Benefits to both, I prefer the Imron, because of depth
of colour, you can always buff.
(if your smooth areas are in good shape, you can buff well,
and then apply wax)
I would then hire someone to roll on the gelcoat non skid surface.
Gelcoat is mixed with a thickening agent, to the proper consistency,
and then rolled on to create new non skid.
The new non skid is then rolled on from bow to stern, without stopping.
So one person mixes, while the other roles.

It is an art to get the proper texture to the deck, without leaving any seems showing, and proper texture. This is why I would hire this job out, after viewing several
of their previous jobs completed. The non skid surface is in your face all the time, and must be perfect, or it will devalue your C&C.

$500 will go along way, to hire 2 experienced gelcoat workers, to roll on your new deck on a Saturday. We have several boats here in Oakville that have rolled on gelcoat by Bruckmann Marine. You cannot see the difference between rolled and a moulded non skid. Don't scrimp on this feature of your boat.

My non skid gelcoat is now 29 years old, and because I have moved my stanchions to the toe rail, and upgraded all deck hardware, I need to recoat my deck. But my original non skid is in pretty good shape. No paint will last this long.

With painted decks with sand or no slip additives in them, the paint wears off the abrasives peaks, and ends up as brown spots. My previous boat came with a painted deck (Evelyn 32) and it was okay. But a properly rolled gelcoat non skid, would have been perfect.

Larry Jensen
Rock & Roll forever
C&C 30 BHYC Oakville

Q

R

Rudder Bearings

Jim,
I don't know how your boat is set up but mine has an Edson wheel. The rudder extends into the cockpit with a square end for emergency steering. Over the years a lot of salt water must have drained down the SS rudder shaft and sat on the white metal quadrant to set up an electrolysis problem. I tried solvents, power bars and impact wrenches but was not able to remove the 4 bolts that hold the quadrant together. I ended up drilling out the bolts - 2 from the threaded end up and 2 from the head down.
After that the job was straightforward.
1. Drilled square top and tapped 3/8 " threads for eyebolt to lower rudder.
2. Removed steering cables and quadrant.
3. Dropped rudder out of boat.
4. Cleaned tube with acetone to remove all grease.
5. Roughed up inside of tube with home made flapper wheel to provide bite. More acetone.
6. Four coats of paste wax on rudder shaft as release agent.
7. Put in new grease fitting in rudder tube and inserted rudder in tube.
8. Using a cheap grease gun I pumped the West/graphite mixture in until I had overflow at top and bottom of tube.
9. Let sit for a few days until epoxy set up. Rudder came loose with only a little force. I did the job about 3 years ago and it seems to be holding up.
PS Removed the epoxy grease fit, drilled thickness of tube with flat nosed drill to remove epoxy, inserted new grease fit, and tried to force in a bit of grease.

Hope this helps. Let me know if I can be of further help.

Bill,
Caprice 1

S

Shore Power

SHORE POWER GROUNDING ISSUES, GFI OUTLETS, POLARITY ALARMS, AND GALVANIC ISOLATORS

Joe Della Barba

Most of us know that shore power systems can cause increased corrosion and that there is such a thing as a "hot" marina that also causes or increases corrosion. Beyond that, there is a quite a bit of folklore and a lack of good understanding, even among professionals who designed the systems in the first place.

To understand what is really going on you have to take a look at how the marina is wired as well as your boat. The powerlines that supply the dock (and your house too) do not carry 120 or 240 volts. They are usually over 1,000 volts and can be over 10,000 volts. There is a transformer either on the telephone pole or in a box on the ground that changes this voltage to 120/240 volts for domestic consumption. The output side of the transformer has 3 wires coming from it. The voltage between the outer 2 wires is between 220 and 240 volts and the voltage between the center wire and either of the outer wires is between 110 and 120 volts and is half the voltage that is between the outer wires. This central wire is called the neutral wire and is also grounded at or near the transformer. This provided some important safety benefits but it also causes some problems in the marine environment.

The shore power cord coming aboard your boat has 3 wires, assuming you have 120 volt 30 or 50 amp service. The black wire is called the hot wire, and is connected through the dock wiring to one end of the transformer or the other. The white wire is called the neutral wire, which is connected to the center tap of the transformer and grounded. The third wire is the green wire and is connected to the same ground point as the neutral wire on shore. Assuming your boat is wired correctly, the green wire also is connected to the DC ground system on your boat. Depending on how extensive your grounding system is, it will at the very least be connected to your engine block and may be connected to all your seacocks as well.

This system provides some important safety benefits and also introduces some large problems. First, the good news. If any AC equipment with a 3 prong cord ever has an internal short where the hot wire contacts the metal case of the equipment, the case would not become hot since the green wire grounds it. Instead, the circuit breaker would blow. If the internal wiring of the boat should ever short to the ground system it would likewise blow the circuit breaker. If there was ever a situation where the hot wire contacted the ships ground but the green wire from shore was not connected to ships ground, a large AC current would flow from the boat's underwater metal through the water to ground. If it wasn't enough to blow the circuit breakers there would be an extremely dangerous situation. Anyone swimming nearby would be killed. This is a reason not to swim in marinas and it kills people every year.

Now the bad news. If you ever come into contact with the hot wire and are grounded, you will be shocked and maybe killed. It is very easy to be grounded working in a wet salty environment. The second piece of bad news is that the green wire that connects to your ships ground also connects to every other boat in the marina on shore power. This means that all underwater metal is connected. This can cause huge galvanic corrosion problems. Imagine that if everyone but you forgets to use a zinc that your zinc will be trying to protect the whole marina. The third piece of bad news is the possibility of a miss wired outlet that reverses the hot and neutral connections. This would be dangerous for a number of reasons, depending on what equipment was hooked up onboard and how much AC it "leaked". I once was badly shocked the discharge water of an air conditioner because of this.

Now more good news! There is technology ready to solve all these problems.

First with the easiest, reverse polarity. Most new boats have reverse polarity alarms installed already in the AC panel. If you need one, you can get a plug in polarity tester at a hardware store for $10 or $20. If you find a reverse polarity outlet in marina, don't use it! The problem of getting shocked can be solved as well with Ground Fault Interrupter (GFI) outlets. You may have seen these already; they are in most bathrooms in newer homes. They sense when the current going one way on the hot wire is

not the same as current going the other way on the neutral wire and turn themselves off. This will keep you from getting shocked by touching the hot side of the circuit while grounded, since the current will be going through you (ouch!) instead of back on the neutral wire. A GFI outlet will not save you from touching both the hot and neutral wires at once. If you have several outlets chained together you only need GFIs at the beginning of each chain. The corrosion problem can be solved as well with Galvanic Isolators. Galvanic Isolators will pass AC current, thus preserving all the safety aspects of the system, but no not pass DC current, thus isolating you from the other boats' underwater metal. They install between the AC green wire system and ship's ground. These need to be installed by someone who is familiar with AC wiring. There may be new units on the market, but back when
I did this for a living only the Quicksilver unit by Mercury Marine was a decent unit. All the others had quite severe flaws.

Stuffing Box

Bill-
I am seeing more posts on the list this year in favor of replacing the old packing with a new synthetic, either the teflon packing from GORE or another
synthetic "putty" that West Marine carries. In both cases you are replacing cotton twine and synthetic lubricants, so there is no corrosion, no rotting of the packing, less friction and less heat buildup.
The folks who have used it for a year or so (my understanding is that these products have only been on the market for two? years) seem very happy with it:
No leaks, no problems, and no big expensive replacement job!

The putty is about $50, the Gore stuff somewhat less.

Apparently these alternatives simply did not exist (were not in the market) twenty years ago, so the fancier systems may have simply found their match.

Jared et al. - Just to add an overlooked item vis a vis the Gore or West

Marine dripless packings: I tried the West version before I switched to the PYI system 3 years ago and here's the problem: you have to have a packing nut sufficiently large enough to accomodate both several rings of the clay AND one ring of flax to provide pressure. Even without the flax, I could not put the required number of clay rings in my packing, and hence it leaked. So, this is an item to consider with these seemingly perfect (cheap) solutions.
Cheers, Greg

Bill - So much to learn....
You loosen the locking nut, then tighten the packing nut until the dripping stops; now loosen until it drips about once per 20-30 seconds. Rotate the shaft a bit by hand just to feel the tightness and make sure the leaking doesn't increase. Now tighten the lock nut while holding (with wrench) the packing nut. Observe the drip rate and start all over if it's stopped or increased. The flax packing should be replaced every few years...lots of fun when you haul out. Finally, when you do haul the boat, replace the dinosaur with a PYI!!
Later gator, Greg

T

Teak cleaning

Hi John,
I've been getting a lot of input on this over the last few days, and you've probably seen the posts, but here's what I think I'll try, and in this

order:

1). Start first with spray Murphy's Oil Soap (you can make the spray by thinning down the regular stuff with water). Wipe it down, and see how much
gunk & stain comes off with the easy stuff first.

2). If not satisfied, continue the cleaning with turpentine and 00 grade brass or synthetic wool. Don't use steel wool, you'll get little rusting particles in the wood that way. I agree with the poster that a good respirator mask is called for during this job (same one I use when applying antifouling paint)

3). If still not satisfied with a few spots, I'll try acetone in a deep dark corner and see if there will be any damage to the wood, and if necessary, apply teak cleaner and brightener.

4). If STILL not satisfied with a spot or two, I'll start sanding with a fine grade of sandpaper.

5). Apply teak oil to the interior, despite the comments about the nice results of varnish and polyurethanes. I appreciate all the comments on this piece, I'm just not ready to spend the time to do a nice job with a polyurethane right now.

I'm really hoping that steps 1 and 2 do the job, at least for this season - I've got a lot more things to get done this spring!

Hope this helps,

Bruce

U

V

Vang

Go to the Garhauer booth at Strictly Sail and buy one of his vangs. It provides a double block top and bottom and a cam cleat. Comes with enough
line to work quite effectively. I have one on my split backstay on my 30-1 and it works to tension the forestay and probably bend the mast a little, but nothing will bend the stick on the 30 very much as it is rather large.
Gary Nylander
"Penniless"
gnylander@bluecrab.org

W

Water Pump Grease

I use West Marine winch lube

Windows

Bill Goman, formerly of C&C, more recently of Goman Boats (Express Yachting) recommends Versilok. It also is a methylacrylate, like Plexus, and seems to be priced about the same. The following quote is form my description of the project, which is linked on Stu's page.
"The Versilok 406/19, manufactured by Lord corporation, was purchased from AirDraulics / Chemical Concepts in 42 ML tubes. Each tube delivers approximately 48" of a ¼" bead and is enough to do one port. Craig Zell, of AirDraulics / Chemical Concepts (215)457-1940, also provided an insert which allowed the tubes to be used in a standard caulk gun."

Steve & Suzanne
s/v Pony Express

X

Y

Yanmar

Having recently installed a Yanmar, I have some experience with the trans./cable setup. My suggestion is you start at the transmission and let go the cable from the transmission and check the operation of the tranny manually. There should be no problem shifting from neutral to reverse and forward with the trans. lever.The lever should be able to move freely at least 1.4in. from the neutral position in either direction to ensure the proper engagement of the gears. The actual measurement is 35mm. If your lever can't move at least this amount, the trans. may not be engaging properly which can cause wear on the clutches and be quite costly to repair. If your reverse does not engage when shifted thru this range manually, you probably have a problem within the trans. itself which may take a professional to sort out. If the manual shifting works ok your problem is in the cable. The cable may be rusted and jammed inside the housing or the cable housing has come loose from the retainers and is moving instead of the cable. The cable may have simply slipped and needs to be adjusted. You may have to replace the cable which can also be an ordeal unless you are familiar with the inside workings of the steering pedistal. I can give you info to possibly make it easier if the cable needs replacing.

Tony, Nor'westerII

Z