



UK
CHERUB

**Newsletter
Autumn
2005**

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2005 Nationals New Quay



Presidents Message

What a spring! What a summer! and I'm sure in a few month's time I'll be thinking what an Autumn too! Since I last wrote we've had Pretty much all the Grand Prix Series events, some Blasts, the Nationals, and now we are gearing up for the first ever Euro Cup in Carnac, before Plymouth and Draycote to round the season off in time for the building to begin. Do you know anyone who is not building or planning to build? I'm not sure I do.

Opens: A blisteringly good turnout at Weston Open. We all know the commitment level required to get a Cherub on the water, let alone to an open meeting. It really warmed my heart to see so many Cherubbers enjoying the racing, so well done everyone - and keep it up. Special mention must go to Dave Ching and Lara-Gonzalez (2637 Norwegian Blue), who came to their first open meeting and steadily finished every race without incident in solid style - and were rewarded with second place.

Blasts: These seem to get stronger and stronger - bridging the gap between club sailing and travelling. The Chew mini-blast was held to welcome the extraordinary pair of classic Cherubs we have there. Much boat swapping, blasting and blethering went on. The three way syndicate (Francis Screech, Edd Higham and Ellie Collins) who brought Whaam! (2539) back from the grave is based there, as is the one-man industry of a boat restorer Paul Croote with Spot On (2512). Don't forget it isn't all about the blasting though: Come to the nationals to pit your skills against other classic Cherub sailors: You have to be in it to win it!

Next Years Circuit: This years circuit was an evolution of last years - with something old, something new - you know the rest. Plans for next year's circuit are underway, so if you have any ideas of an event we might do, and event we might not do, or whatever, get in touch with me or Ben Brown the fixtures supremo. Think about what would have made YOU travel to one or two more events than you did.

Nationals: Attendance up again: A special thankyou to the owners of boats who couldn't make it lending their boats to boatless people who could. You know who you are! I hope you all had a week filled with Cherubby goodness in Wales - I know I did. Well done to Andy Paterson and Tom Gruitt for putting together a solid series and coming out on top. If you weren't there you missed wall-to-wall sunshine, some wind, close racing at all levels (the wooden boat trophy went right to the wire), excellent race organisation and dolphins! A mention must go to the big-friendly-giant Brad Yablsey who came along to the Nationals to sail in the 1979 classic boat Whaam. How he folded his 90kg of Aussie toned and bronzed self into that tiny space I just don't know, but he did - and went home with the wooden boat trophy too.

Second-hand boats: You may have noticed that since the Nationals there have been a few more boats than usual on the second hand boat list. Many of these boats are being sold to finance people's building projects. This means that if you upgrade at any level, you are contributing to the health and vitality of the class as much as any elbow-grease-and-midnight-oil carbon wielding maniac who wants to build new.

New builds: We are building this winter, as are at least three other teams. You can expect lots of chat about every element and decision about boat building on the mailing list this winter. Exciting times!

Plymouth Final Fling and Draycote: These are the last two events of the year - and there is usually wind! Do come along and make it a cracker!

Best wishes,

Will



2005 Cherub Nationals

New Quay Yacht Club (Cardigan, Wales)

This year's nationals, the first since the rule change to adopt bigger rigs, saw the best Cherub nationals turnout for many years. The form book looked like it might be thrown out of the window, as Andy Paterson - seemingly invincible in recent years with his daughter Alex in Shiny Beast (2676)- had a new crew, as did other major contender Gavin Sims in Mango Jam (2682). Racing up the rankings were Ben Brown and Daryl Wilkinson in Loco Perro (2685). Phil Alderson with newish crew Carol Low competed in their new boat Primal Scream (2686).

Thursday 14th July 2005

Race 1

The late 3pm start allowed for a marathon boat measuring session, masterminded by Patrick Cunningham. The wind looked very light indeed. Not an isobar could be seen for miles around. By the start a gentle zephyr from the west had settled enough for the race officer to set the course and let the Moths away followed by the Cherubs. There was much foredeck crouching and hole-missing among the fleet as we crept to the top mark. First to hoist was Loco Perro followed by a big bunch. The run was about keeping the boats moving without pointing too high. Loco Perro managed to be ahead at the end of the first lap and again at the end of the race (which is, after all, the important bit), but on the way was crossed by Primal Scream and Sweet Dreams before fighting her way back to win. Sweet Dreams was second with Primal Scream third. Extremely close finishes are evidenced by the first five boats all finishing within a minute.

Race 2

The breeze had piped up a bit and some singling and twinning was seen at times. The lead changed between Shiny Beast and Mango Jam the whole way round with Shiny keeping it together until the end. On Thursday night there was a welcome party in the clubhouse. Of special note was the local mackerel pate and the freshly caught Welsh Rarebit. Tasty!



Friday - 15th July 2005

Race 3

The wind was up and down and shifty with Shiny Beast, Mango Jam and AquaMarina getting away from



the pack and steadily increasing the gap throughout the race. Shiny finished ahead followed by Mango Jam and Aqua.

Race 4

The wind settled but went lighter. A one lap race ended with Shiny ahead of Loco Perro and then Aqua.

Race 5

Two laps of comfortable sitting-on-the-side stuff Loco was demonstrating cracking upwind speed with good pointing and the legendary N12 roll tack's helping to keep them out of trouble. Shiny was able to pull away down wind but was not able to create enough of a cushion to stay ahead at the all-important finish, the race ended with Loco ahead of Shiny and then Mango.



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Friday night was the AGM, followed by an incredibly late curry to welcome the antipodean contingent (more later).

Saturday - 16th July 2005

Race 6

A bit more wind resulted in occasional trapezing. Shiny Beast and Mango Jam were both trying out T-Foil rudders for this race in addition to Aqua and Primal who used them in all the races. Shiny Beast seemed to benefit with the boat pitching less when going up wind and was able to keep the lead to win. Loco Perro was just ahead of Primal at the start of the last beat and a bit of a tacking duel ensued with Loco holding Primal off to take second. Mango got excited by a puff of wind and twined off into the distance down wind playing with their T-Foil and let AquaMarina sneak in front of them for a fourth



Race 7

Shiny Beast seemed to have found their rhythm and despite a bad start managed to pull through the fleet to lead at the top mark. Their good down wind speed cemented the lead and they kept in control of the race



till the end. Primal and Loco spent most of the race swapping places with Loco faster up wind and Primal playing the waves to gain downwind. The last beat saw Primal round the leeward mark just ahead of Loco keeping a loose cover on them to the finish. Mango and AquaMarina had swapped places for this race closely followed by Suicide Blonde.

Race 8

Slightly more wind. Shiny Beast beat Mango Jam followed by Loco Perro

Saturday evening was dinner in the clubhouse hosted by the club. Terrific salads and an appropriately sized lasagne for 60 hungry sailors hit the spot perfectly.

Sunday - 17th July 2005

'Twas the last day of the nationals/ And all through the air/ Not a molecule was stirring/ Not even near the student caravan.

That's right - the sea was like a very big slightly wobbly mirror and we all got an early prize giving.



Keen readers will have noticed by now that Andy 'Bloodaxe' Paterson and Tom 'Fotoboat' Gruitt are this year's National Champions, claiming the coveted 'Simpson Trophy'. Andy is well on the way to becoming the most successful Cherub sailor of all time. Second place was in contention right up to the last race sailed. As runner up, Ben Brown and Daryl Wilkinson in Loco Perro won the 'Sheila Fleming Challenge Cup'. Third went to Gav and Nigel Sims in Mango Jam.

Further down the fleet two epic battles for supremacy were taking place: The first Bistro (numerous and successful design of the early 1990's) was, after a titanic battle, Dave Ching and Lara Gonzalez in Norwegian Blue.

The Classic enjoyed tight piloted by Kita Stuart Hopson from special Foot Skiff winning crew



this trophy in the end, which is a mounted photoblock of Cherub number 1 from 1951.

cherubs also racing: Whaam! Carpenter and with a little help guest star Twelve Interdominions Brad Yabsley took



2005 Nationals New Quay



This year was notable for the number of new faces so what was it like for them?

My First Cherub Nationals: By: Kita Carpenter.

My first experience of Cherub sailing was during a blast at Draycote SC arranged by Lucy and Will. It was such good fun! I just had to sail one again!

I had been teamed up with Whaam! and I was meant to be sailing her with Paddy Blight, unfortunately Paddy couldn't make it to New Quay, but his father very kindly agreed for others to collect the boat for me to use. Whaam! is a wooden boat with the 1990 rig and single trapeze, it was never going to win the event but was in the running for the vintage boat trophy.



When Whaam arrived at New Quay thanks to Gav Sims, Will noticed that the bowsprit needed a bulls-eye fitting, so the next day I had my first introduction to carboning and I

also learnt what peel-ply was.... thanks to Phil!

The first day's racing was great! even though Patrick decided that everyone must have their boats weighed and measured... always a daunting experience! This was another new experience for me, watching boats being lifted by a boom! We couldn't do that with the Kestrel (it would probably snap the boom...) Whamm weighed in at 72kg, 22kg over the minimum Cherub weight - although it wasn't the heaviest Cherub there!

Day 2 had a nice breeze at first then died away to a light breeze. We were still beating some of the boats that had the new 2005 rules sail area, which was very pleasing considering the weight of Whamm!

I sailed the first two days crewing for Stu Hopson, and the last two days helming for Brad Yabsley, a giant of a man who is a 12ft skiff sailor from down under. How Brad got under the boom is still a mystery, but we all managed to do very well considering the size of sails.

Day 3 had light winds again, which wasn't ideal with nearly 150kg in the boat! We beat the other 1990 rigged Cherub 2 races out of 3.

Whaam went on to win the Vintage Boat trophy, which was an excellent way to end the week!

I think all of those who attended the Cherub Nationals were a little bit peeved that the wind was so light and greatly disappointed that the final day's racing was abandoned due to no wind at all. However the whole week was such a wonderful experience, I learnt how to carbon and epoxy new bits on boats and learnt heaps more about boats in general.

The sailing was great as were the socials....everyone gave us the warmest of welcomes...now all I have to do is sell at least one of my other boats and buy a Cherub!....Which I would quickly upgrade to 2005 rules with the bigger sails and the chance to race faster than ever!

To everybody who helped organise the Nationals this year, it truly was a fantastic venue and certainly an event I'll never forget!

And to Patrick....I promise I'll try not to be toooooo dangerous in future ;-)

If you can't be bothered reading any more here is a quick run down.

Andy p n Tom	Shiny Beast are quick
Ben n Daryl	Loco will beat all comers in a tacking duel
The Simms	Tried to get the whole thing sewn up
Will n Lucy	Aqua too slick for my liking
Phil n Carol	Primal had a long journey home
Turkey n little t	Strangely need to eat more
Dave n Lara	Norwegian like moth kebabs
Bob n Alan	Baby factory are tightwads
Iain n Paula	Suicide like yellow and free curry
Mark n Matt	Therapy didn't get bored of sanding and fairing
Stuart n Kita n Brad	Wham wanted a bigger kite distracted by ice-cream.
Tom n all his crews	kokopelli too busy thinking about peas to remember bungs
Andy n	Catananche wanted more breeze
Tris n crew	Sweet Dreams wanted more time off work
Neil n crew	Mega demanded more breeze
Andy n Tim	Taking Liberties need a kickbar rethink
Neil n Rachel	LFC looking for dolphins
Stu n Joe	Strawberry are lacking in length
Davro n tom	Cheese came for the beach



For Some getting there was half the battle *My first cherub nationals: Stuart Hopson.*

After many phone calls and arguments with my parents (cheers for the help Will) I managed to convince them to let me travel to New Quay and stay with a bunch of strangers (who actually turned out to be really friendly and cool). But there was still one minor problem, I was supposed to be working for half of the nationals, not wanting to miss out on the chance to go cherub sailing, I went into work and quit my job so I could go sailing! (mum wasn't too pleased with me!).

So Wednesday afternoon I found myself at Wrexham train station. I got my tickets and waited on the platform. I'm sure most the population of Wrexham or any other town with a train station in the UK had never seen a student with a weeks supply of sailing gear and loads of other stuff, which you tend to take to sailing events. They just gave me really odd looks for standing on the platform in bare feet with the biggest, heaviest kit bag most of them had ever seen. Any way the train arrived and got on board to my dismay the train was packed full of people with no seats available. In my disgust I just through my bag down in the carriage nearly went floor) and sat on it for the remaining 4 and a half hours of the journey which proved to be very hot, uncomfortable and boring journey. Eventually I arrived in Aberystwyth where I was to meet Lucy and get a lift to New Quay.



of people with available. In my through my bag luggage area of (I swear it through the sat on it for the

Half an hour late Lucy turns up apologises far too much (I would have hardly bothered to apologise myself you saved me £30 in a taxi fare!) and greets me.

Once we arrived in New Quay I was introduced to all the cherub sailors which had arrived so far... the rest is all a bit of a blur maybe something to do with all the sun, sand and sailing.

For some the sailing was only a small part of the experience there was too much other stuff to do.

Wednesday

After a long drive Stu and Joe aimed for the Penlon Vale Holiday Park, where they had booked a caravan to be shared with Team Beer Monster (2643), Timmy Noyce and Andy Lang. However, they flew right past the caravan site and so headed straight for the beach.

At the beach they unpacked the Dangerous Strawberry and got directions to the caravan site from Mr President himself, Will Lee. Just then Tim and Andy turned up and followed us to find Penlon. Apparently it was opposite the sign for a honey farm. (What the blazes is a honey farm? Answers on the back of a postcard.) At the campsite we met the Head Honcho Camp Master General, a fella called Alan. This crazy Geordie loved to tell us "Now I'm very big on recycling lads", as we walked into the caravan with a full crate of Fosters. In the evening we had a scrub up and headed back down to the Yacht club. This is when our bellies started to rumble so we popped into the fish and chip shop for dinner and bumped into Ben and Daryl (Team Loco Pero), and sat and ate with them. We met the rest of the gang and sank a few bevvies. We spoke to Patrick and made sure our weighing in slot was as



late as possible. No early mornings for us thanks! We had Tim and Geoff (Sweet Dreams) sleeping on our sofa tonight as they were only around for a day and had arranged no accommodation.

Thursday

Andy woke us up at nine in the morning, and slowly 4 zombies could be seen wondering around the caravan. It was still early for the young'uns. Andy was kind enough to make us all a round of Bacon Butties, which helped to prise open our eyes. We then all bundled into the Landy and headed down to the beach to rig. Stu tried putting a 49er main up my mast (pictures available from Iain "Suicide Blonde" Christie). It kinda fits, if he chopped it off above the top batten. Andy was regretting the early rise as he was caught napping on Tim's boat cover! The winds were pretty light and we didn't spend long on the water. Stu and Andy rigged a 30m2 B14 kite and went for a spin. The boat flew



along! Then we pitch-poled, spent half an hour dragging it, and half the Irish Sea back into the boat, righted it, and went blasting again! So once the boats were packed away we popped back "home" to change. Then we headed back into New Quay with Stu Hopson, and to the Blue Bell. This pub went to prove that there are some fitties in Wales! Tim ordered a beer but it never arrived. The bar girl was lucky when she eventually did bring it over, as Tim was "about to have words". Then we headed back to the Yacht club and caught some late drinks in there with Patrick. Once back at the caravan a drunk Stu and Tim got the munchies, and so attempted to cook a pizza. However, it all went a little bit wrong, and it almost turned into a pizza/omelette roll, including sand for extra crunch!



Friday

An even earlier start this morning as we were mis-informed that the first start was at 10.00am! However it turned out the start wasn't until 11.30am, so Tim and Stu headed to "The Mariner" for an early starter breakfast. Ummm, nice and greasy. Then it was back to the beach to rig. After another pooey days winds Stu and Joe retired. But Stu headed back out to the race course with Tom, after he had an accident with the boom on Cheese Before Bedtime. This was a bit worrying for Stu as last time he sailed Strawberry he broke that boom as well! However, there were no casualties in this wind. In the evening we had the AGM. This was really interesting. Stu thought it was unfair how the good numbers of pre-2005 rules boats with central bowsprits were finding it so difficult to fit the new area spinnaker and to conform to the pole retraction rule. Therefore he proposed that this rule was removed so as to ease the update of these older design boats to the new rules. However, this proposal met some opposition, and was eventually adopted as a dispensation, including next year's nationals, on a very close 9 for, and 8 against vote. After this we had a few cheeky ones in the yacht club bar. Then Turkey and li'l T (Strangely Brown) headed back to the caravan with us for a couple more tins.

Saturday

Another early arrival at the sailing club, and another brekky at the Mariner. Not a lot of wind again. Stu was sailing with Sergeant Major Stu Hopson for a couple of races. However, we they weren't interested in the wind and soon headed back towards the beach. Stu then went for a quick blast around the bay with Kita, and

tried to give her an introduction to helming from the wire. However there wasn't enough wind to learn. Stu was then challenged to a race. Kita thought that she could swim back to the beach faster than Strawberry could sail back. Obviously Stu and Strawberry won and Kita's excuses soon followed! In the evening the Club had put on a lasagne. This was absolutely scrummy! But Tim claims it's not as good as Mrs Noyce's lasagne! Maybe next we're at Netley we'll have to have a sample to compare. This was followed by real strawberries, (not the dangerous type), and lashings of ice cream. Andy took it upon himself to see how much ice cream he could possibly consume. After dinner we were treated to a show by the local dolphins. Amazing. Everyone was thoroughly knackered by this point, so we headed home for an early night, as Sunday was definitely set to be an early start. The legend of a barman, Di, wasn't to happy about this and was heard to be saying "am i sure i can't persuade you boys to stay for another session".

Sunday

Sunday morning, and we were required to be out the caravan by 10.00am. As the first race was due to begin at 10.00, it meant packing up and tidying before we left. So we managed to stuff everything back into the Landy, and headed back down the road into New Quay. Sailing was cancelled today, due to lack of wind.

There was even less than the other days! So we began to pack up the boats to tow



home. We also had an extra boat, as Andy had purchased Aqua Marina. However, by the time we had packed all the boats up, the tide was right up, almost blocking off the way back to the slip was. It was time for the "Super Landy" we belted through the piece of sea blocking us off and dragged the double stacking trailer carrying Aqua and Beer Monster. Then we had to rush back through to rescue Strawberry. We had run out of time, so had to finish tying the boats down in the middle of New Quay town!. Joe, Stu, Noycey, and Andy then headed back down the M4 in convoy.



2005 Nationals New Quay



Sailing The Nationals With Andy 'Bloodaxe' Paterson

By Tom 'Fotoboot' Gruitt

My first experience of sailing with Andy Paterson was at the Cherub Inlands at Queen Mary earlier on this year. My usual experience of crewing trapeze boats was to precariously dangle off the side while every few minutes being dunked in the water and flung around the back of the boat, and that was just upwind! After coming 2nd at the inlands with Andy in my first cherub event I decided that Cherubs were the boats for me. A few weeks before the Nationals I received an email from Andy saying he needed a crew, excellent I thought, a few days in sunny Wales blasting out at sea in a bright green Cherub sounded good to me.



The Thursday morning was the first time I got to see the big sails in the flesh, and boy they're big, although throughout the week Andy kept complaining he wanted more power (what do you expect with a 12 and a half stone crew at the front?). One thing I notice about sailing with Andy, and Cherubs in general, is the lack of fiddling whilst sailing along, everything gets set and is just left and then all you have to concentrate on is the sailing.

The first race got off to a bad start, 10 minutes behind everyone else type of bad start! I remembered to sign on but we had to sail back in because Andy forgot the lead correctors, although apparently that was my fault. Once thing I have noticed at my first Cherub nationals is that very relaxed attitude towards everything and not much is really taken that seriously, apart from making sure the bar stays open.

The more we sailed during the week the more I got used to the boat and didn't often have to be told, "ease the sheet" or "come on, straighten your legs". I must admit I learnt to sail in a N12 and everything in a Cherub seems to happen ten times faster than in the N12 so getting up to pace was a bit of a challenge for me.

I suppose all this leaves is for me to buy a Cherub, find a crew and come to the Nationals in my own boat and work my way up from the bottom. Overall the Cherub Nationals was a great few days of sailing against a great bunch of people and the 1st place trophy was most definitely the icing on the Cherub shaped cake!

The 2005 Nationals was without doubt a great event a top quality venue and excellent race management, thanks to all the team at New Quay SC for all their effort in putting together a memorable event.

Some were just screaming around.

By Carol Low

Although I've crewed for Phil in the cherub now for almost a year and had met a few of you before at Kielder, this was my first nationals experience. I didn't know what to expect but had a brilliant time. It was great meeting everyone and putting faces to names. We left Aberdeen and travelled down *Autobahn 66* (well A90, M74 and M6 actually) to begin our 500mile journey to New Quay. From Carlisle to the Welsh border we had our own police escort. After a long, hot journey we finally arrived at our destination and every day we got a *deep hit of morning sun*.

Our plan was to spend the week sailing but lack of wind meant that Phil spent his time in the *evil heat* modifying Primal Scream to give her a new T-foil rudder and some *she power*. Eventually we got out for a sail in a light breeze and by Wednesday night a whole fleet of cherubs had arrived. I was impressed by all the different designs of boats and the effort people had made to get their boats sailable some looked quite *xtrmntr* but I still think primal is such a *sweet pretty thing* but then I'm slightly biased.

I had a great time sailing despite the lack of wind, New Quay was a great place to hold the nationals and the club put a huge amount of effort into hosting the event. Phil and I realise we still have a lot to learn about sailing primal with the big sails and twin wire and my lack of trapezing experience and we struggled in the windier races but we were *undamaged* and will be back next year.

In the meantime we will be up in sunny Scotland with the other Scottish skiffs having a *screamdelica* time. Look forward to you all making the trip up North next year, see you all in Largo Bay, I know the club is looking forward to us all being there (just remember your thermals)

Primal Scream Song Titles in italics





2006 Nationals Largo Bay



Largo Bay Sailing Club Welcomes the Cherubs and the International Moths

Largo Bay members are having trouble containing their excitement at the prospect of hosting the Cherub and International Moth National Championships in 2006. It has been a great season here this year with the

Scottish Solo Championships followed by a large and busy Open Regatta that got everyone in the mood for some class events. Some members have already booked some time off so they can help! Largo Bay Sailing Club is in the village of Lower Largo on the south coast of Fife in the Firth of Forth about 30 miles north of Edinburgh and a dozen or so from the historic university town of St Andrews. The sailing area is Largo Bay itself which is about 4 miles across and a couple of miles in depth (although you could keep going until you reach the other side of the Forth some eleven miles away)

and completely devoid of unpleasant sandbanks, rocks and other obstructions. Also absent are any nasty tidal surprises and the bay is quite sheltered with prevailing south westerly winds making it easy to leave and return to the shore. In the afternoons we expect a pleasant sea breeze from the south east that is just as easy and it is only when the wind comes from the north that you really have to earn your corn, spot the shifts and gusts. Why should everything be too easy?

Our small clubhouse is right on the beach and was extended and renovated four years ago giving plenty of room for changing and hot showers that really run for ever. (20p Not required) The galley is always run by a band of enthusiasts and has never run out of bacon, sausage, black pudding and other Scottish delicacies in the

history of the club. I'm sure they could put Rocket Salad and Parmesan shavings in a roll too if requested and all this can be eaten on the patio where friends, relatives and other visiting helpers can watch the action.

The village has three hotels and a couple of guest houses with more nearby, and a list of these will be put on the website, www.largobaysc.org.uk, both on a

page dedicated to this event and also our regular regatta page. There are also quite a number of holiday cottages available and these will be put on the website as well. Some people just camp on the beach! The club does not have a bar so we frequent the Railway Inn

just a couple of hundred yards down Main St, although you could go to the Crusoe Hotel which is some ten yards further with the added attraction of some good food.

So, we are looking forward to seeing you all next year. If you have questions, just look on the website or contact the committee by email on info@largobaysc.org.uk.





Tech Spec



"Hardly Sluggish" A Future Contender?

By Tris Kemp



The resurrection of a part built project slug continues. The "boat" a term that can only loosely describe what came down from Ben's. Was transported complete with jig in a large box trailer towed behind a rather small hatchback. I mean it was in a poor state all that was there was inner skin and foam. It was almost completely covered in bird shit, which looked bad and would need a serious amount of cleaning before I could even think of putting the outside skin on. But worse was to come on closer inspection I could see that the shit had actually eaten into the foam. I managed to recover a lot of the foam that was already on there, but some of it just had to be replaced one of the pieces only came off just before lamination so that was a bit of a scramble to get it stuck back on! I wish I had taken it all off and started again looking back, because of the amount of time I spent playing around with the old stuff to get all of it off was crazy. With the help of a construction gang (Thanks) we got the outside skin on in a mad hectic weekend, I have now popped the hull from the mould, always a worry will it come off :-), and have started working on the interior bulkheads that go under the false floor all I need to do now is worry about where to put the centreboard, mast shrouds, support tubes, and plan for the fittings.

Not sure really what to say regarding boat building itself goes, apart from its incredibly fulfilling, and definitely worth sticking your fingers together. I'm currently building in a shed that is basically the size of the boat with about foot spare each side... but its all good. It is actually in my parents garden, it was a 8ft by 10ft shed, but rich and I decided to do some cosmetic surgery and build and extension, the planning committee (my parents) only just cleared it as I was 1ft short of the washing line (pictured in the picture in pieces) and no that wasn't me that put epoxy on dads best shirt!!! Anyway too all of you pessimists out there, not mentioning any names, 'Hardly Sluggish' (name of new cherub) will hit the sea near you very soon! Oh and last thing if any other students fancy building a cherub, go for it!!! One piece of advice thou get a job in a chandlers first!!!!

Spotlight on Mango Jam By Gavin Sims

The design is my own called "ButtPlug." I built spars, foils, hull and cut the sails. Crew weight is towards the heavy end of the Cherub spectrum, 150kg (70kg crew, 80kg helm) Hull wise it has flat U-sections forward, going to very flat at the back. The chines are minimum length (2m), so the floor merges into the topsides almost back to the mast. The maximum chine beam is about 800mm from the transom I think but they hardly tuck in that much after that. There's very little rocker it's made to be flat for high planing speeds and very little rise of floor, again for top speed in flat water. It's not down to the minimum waterline beam though, when I drew it I didn't like the way a narrower boat would float with our crew weight. The U-sections forward are for light(non-trapezing) conditions as they should give slightly less wetted surface than carrying chines forward. The rudder gantry, well something different was nice!

Hull is all carbon foam sandwich foam is mixture of herex and airex at either 5mm or 8mm thickness. Inner skin 200g plain at $\pm 45^\circ$, outer skin the same with one layer of 0/90 2/2twill glass 160g I think on the bottom and topsides fwd. 2005 jib to end of snout. wheely bars 600mm behind transom. Mast height is almost 7m from bottom kite is now down to 21m², jib measured 4.99m² dunno what size mainsail is. The t-foil I use has all moving parts within the rudder. I feel the other method (à la aqua) is better (foil construction easier, foil attack angle easier to change) but I was too lazy to chop up the gantry on mango. The foils are symmetric in section and at full design lift (can't remember what angle but 8kts of boat speed) should have myself (working on 12.5st) in the aft foot-strap on the wheelie bars and Simon (working on 10.5st) having his aft foot inline with the transom. Only tried it in enough wind once and we where hanging off the back with the stem up to the snout in the water, it felt much quicker than 8kts however. The span was chosen so as to fit in-between the chine beam of the boat to reduce the chance of snagging any obstacles. The thickness was chosen from a strength point of view in terms of the axle that the foils are mounted on. The elliptical planform was chosen so as to locate the majority of the area and lift close to the root of the foil and hence reduce the bending moment on the axle. Control is currently by a cleat on the tiller, which operates a push rod that runs down aft of the rudder and pushes on a small rod that joins one foil to the other several centimetres behind the axle.



Structural Engineering or the Science of Breaking Things

Sooner or later when sailing a Cherub something is going to break and the question has to be asked. Why did it break?

The simple answer is that it was not strong enough, but could small changes in the way it was put together have made a big difference.

Stress

The stress in a material is in basic terms the amount of force per unit area. And each material has a maximum amount of stress that it can withstand before it will fail. This maximum level of stress a material can take depends on the material and on the direction it acts on the material. For example wood is strong along the length of the grain but very weak across the grain.

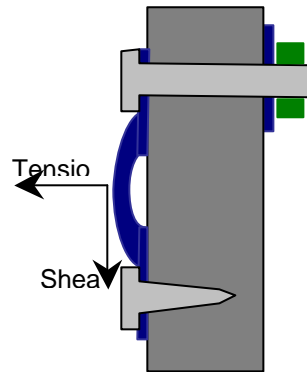
A lot of the rules of thumb are pretty obvious. If you reduce the size of a piece of material you are reducing the amount of material that can share the load. Meaning you are reducing the area that the force is distributed through and if you reduce it by enough it will break. If you think about things that you have broken do they ever break at the thick end?

Holes make weak points. If you drill a hole in something it will make it weaker after all you have removed material. So if it is going to break it will break at the hole. More subtly the type of hole will make a big difference if you make two holes of the same area in something one of them round and one square with sharp corners. It will break at the one with the sharp corners every time. This is because the sharp corners create a "stress concentration" the material is more highly loaded at the corners than anywhere else.

A stress concentration is a phenomenon encountered where an object under load has higher than average local stresses due to its shape. The types of shape that cause these concentrations are; cracks, sharp corners, holes and sharp narrowing of the object. This is an important thing to think about when designing anything the sharper the corner is the higher the stress concentration will be. An example of this is a crack in a piece of metal the head of the crack is an incredibly sharp corner and so has a very bad stress concentration at it's tip. You can actually stop a crack from growing by drilling a hole at the head of the crack the drilled hole with its relatively large diameter causes

less stress concentration than the sharp end of the crack.

So if you cut a hole in your mast say to fit a sheave for the spinnaker halyard radius the corners of the hole to reduce the stress concentrations it could save you a broken mast. If you have to have a sharp corner then a few extra layers of carbon at the apex of the corner will help. The increase in materials will help to reduce the stress concentration caused by the shape and keep the whole thing in one piece.



Gear and Fittings

There are a surprising number of fittings required even in a simple boat like a

Cherub and most of them will cause problems if they pull out or break.

Terminology

Most of the fittings in a boat will be there to either tie some string to or to hold a block in position. How that string or block is loaded will make a difference to how the fittings need to be attached. If the block is going to take the full load from the kicker then it will need to be more solidly attached than if it is going to be used for a bit of elastic. If the load is pulling the fitting straight out from the deck we say it is in tension and if the load pulls sideways along the deck we say that it is loaded in shear.

Attaching Things

You have a block that needs to be attached to the boat, a common way is to use a deck eye which is then attached to the boat, there are a variety of methods that can be used and some are better than others.

Screws

Simple to use you just drill a hole slightly smaller than the diameter of the screw and screw it in. The thread on the screw cuts a groove in whatever you are screwing it into and this groove is what holds the screw in place. The problem is that it is only the first couple of threads on the screw that are doing anything. Screws should only be used if

- They are going to be lightly loaded
- Are screwed into something hard like a high density foam backing piece or thick piece of ply wood
- Are loaded in shear and not in tension
- Are loaded steadily so that they do not work and loosen
- It is impossible to use anything else.



Pop Rivets

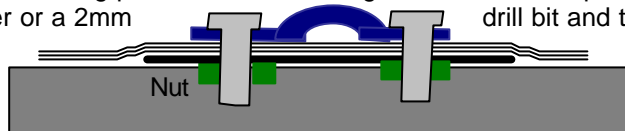
Rivets are good for attaching things where you can not get access to the other side and are used extensively on aluminium spars. When the rivet is pulled using the rivet gun the large end of the shank is pulled into the soft tube of the rivet causing it to swell up. Once the rivet has distorted enough the shank breaks off leaving the head in the centre of the rivet and a smooth head on the outside. Pop rivets should only be used in shear if they are loaded in tension they will work loose and pull out.

Bolts

One of the best methods for attaching fittings is to use bolts but you do need to be able to get to both sides. If you are attaching a highly loaded fitting to foam sandwich it is a good idea to drill a hole through the first layer of skin then using an 'allan key' destroy the foam around the hole and fill with a relatively hard filler. This will stop the foam from compressing under load.

Another idea is to use a large backing plate, this can be in the form of a penny washer or a 2mm thick plate of carbon.

These things all help to spread the load and stop the bolt from pulling through the laminate.



If you want to bolt something to a buoyancy tank but can't get to the other side to put the nuts on you can always use a nut plate. Just bond a thick plate of Carbon to the deck along with some nuts held captive using filler. For this you need some carbon plate about 2mm thick. Cut your carbon plate to shape just a bit bigger than the fitting you want to attach drill the holes and bolt the fitting to it. Then using a bit of fast setting epoxy filler, glue the nuts to the underside of the plate. Once it has hardened you can remove the bolts and the fitting ready to bond the nut plate to the deck. To get a tight fit you can drill out holes in the foam for the nuts to sit in otherwise it will sit slightly proud of the deck. Cover the holes and the nuts in small bits of tape to keep the epoxy out and make up a mix of light filler to coat the underside of the plate. Squidge onto the deck and clean up any filler that escapes out the side, then wet out and cover the whole lot in a couple of layers of woven carbon cut to surround the nut plate by about 3cm. Increase the overlap and the number of layers the greater the load expected on the fitting. Using a small drill bit and the fitting as a guide drill through the layers of carbon to open up the holes again and you can bolt the fitting back on. If care is taken with the length of

bolts used you can even do it without puncturing the far skin of the deck reducing the likelihood of leaks.

String

A simple method is just to tie your fitting to an appropriate bit of boat. If there is no handy tube to tie around you can always drill two holes pass the rope through them and tie together, a backing plate can be used to spread the load. This is simple minimum weight method of attaching things but you need to be careful about the string chafing and it is not a good plan on buoyancy tanks

Alternatives

There are loads of alternative methods and little tricks that can be done using a bit of lateral thinking and some carbon, you can just attach your fitting by bonding it in place with a few layers of Carbon. This can be done for anything up to shroud attachment points. You just take a stainless steel D ring and put several layers of carbon through the middle making sure that you concentrate most of the layers over the top of the ring, then a couple spreading out to a larger distance and if possible wrapping around some structure. The amount of carbon you use depends on how highly you expect the loads to be but remember the most likely place for it to break is right on top of the D ring so that is where most of the layers should be.

Problems

Even the most carefully designed systems can still have problems. Sharp edges will chafe through a rope in an amazingly short time but the biggest problem comes from water.

Over time the water will rot wooden backing plates if it gets in there reducing them to uselessness. If you have a carbon boat do not think you are immune from problems corrosion is a big factor in gear failure. When two dissimilar metals are in contact with each other and in the presence of electrolyte i.e. salty water they will make up a small battery and one metal and you get galvanic corrosion. The anodic metal will always corrode and in doing so will protect the other one the greater the electrochemical difference between the two the faster the corrosion. This is why if you attach a stainless steel fitting to an aluminium spar the spar will corrode quickly. Practically all metals are anodic to Carbon Fibre and so will corrode surprisingly quickly. Aluminium in contact with Carbon in a marine environment will practically dissolve into useless powder, Stainless steel will discolour quickly and will need to be checked regularly to ensure that it has not thinned dangerously.



Winged Rudders "Fad" or "The Future"

By Will Lee

Four Cherubs were seen sporting winged rudders at this year's Nationals. The winning boat - Shiny Beast - used one for some of the races, as did the third placed boat Mango Jam. Fourth placed AquaMarina used one in every race as did fifth placed Primal Scream. Second placed Loco Perro did not use a winged rudder.

When a boat is stopped in the water, not going anywhere, the weight of the boat and the sailors is supported by the weight of the water displaced by the boat being in the water. This is its buoyancy. When you are travelling at Mach 10 (approx.), most of the weight of the boat is borne by the lift generated by the planing surface on the bottom of the boat being zoomed through the water at an angle of attack. This planing surface is generating lift, and lifting rudders are devices to impart lift to the boat in a less draggy way than the usual planing surface. If you get the same amount of lift with less drag, one would expect to be able to go faster. I call this 'The Mach 11 Effect' because it takes you from very fast, to even faster.

A similar effect, which happens in marginal planing conditions, is to carry some of the weight of the boat on the foil, which makes the of weight carried by the water less, which makes getting planing easier. I call this 'The Resistance Hump Effect'. It is this mode that the 14's work in.

A different effect to this is that in very light winds, the pitching of the boat in the waves can be reduced by a T-foil, which can steady the rig in the air and hopefully make the boat go faster. I call the 'The Pitch Damping Effect'



High aspect ratio foil used on AquaMarina and similar to that used on Primal Scream. Moving the stock changes the angle of attack.

Of course, it's not all good news: That foil is extra drag and complexity.

We had quite a variety of foils at this years nationals, with different strengths and weaknesses. Here is a quick summary:

Smaller, thinner foils will do The Mach 11 Effect more than The Resistance Hump Effect, and have less drag the rest of the time.

Thin foils, and those with a higher aspect ratio, have a higher lift:drag ratio, but are more sensitive to the angle of attack they are set at and are more prone to stalling than thicker, shorter ones.

Bigger foils will make more lift at lower speeds, so are better at The Resistance Hump Effect than smaller ones, but they have more drag, especially at high speeds.

Short, thick foils are better structurally, so can be made lighter than longer, thinner foils.

All types of foil have different strengths and weaknesses, and only time will tell which ones, if any, will prevail on the racecourse.



Winged Rudder with articulating foil as used on Shiny Beast. This foil has a high aspect ratio and a much lower area than those used on Primal Scream and AquaMarina. The wing on this rudder articulates to change the angle of attack. The two halves of the blade are mounted on an axle, which is in front of the centre of pressure so that the blade will want to move to minimum angle of attack. There is a rod in the centre of the rudder blade, which presses down against a pin between the two halves to increase the angle of attack. This rod leads to a lever on the top of the tiller to allow control of the blade.



Auntie Gavro



Dear Auntie Gavro

I'd like to formally register a complaint with the Cherub marketing department. For a few years now I have been constantly taking the Mickey out of a couple of RS200 sailors at my club, as according to the RS blurb they sail the boat that offers "exciting asymmetric racing for lightweights", which I understand to be "boat racing with odd shaped spinnakers for people who are unable to hold any significant quantity of alcohol".

Imagine my disgust when I received my Nationals goodie bag and read the new "twin wire skiff for lightweights" strapline on the back of the CD-ROM. At no point did I receive a ballot paper inviting me to publicly question my ability to consume appropriate quantities of ale consummate with the sport of development skiff sailing. I would therefore like this strapline changed forthwith otherwise I shall be forced to sell my boat and buy a Laser 5000 and tie up a large sponsorship deal with Stella Artois. You have been warned.

Yours,
Drunk of Draycote

Dear Drunk of Draycote,
This is the first I have heard about not being allowed to drink, I am disgusted and will put my boat up for sail immediately
Yours, Auntie Gavro

Dear Auntie Gavro,
As a former agony aunt I find my self in an unusual situation of needing advice, I have been waking up recently from some horrible nightmares about a dog of a boat where nothing works and everything breaks. How can I stop this from happening?

Yours,
Hungry of Hampshire

Dear Hungry of Hampshire
My advice for someone in your situation is to try some relaxing yoga exercises before bed an empty space such as a living room would be ideal venue for this, if this does not work try removing cheese from your diet and replacing it with some pasta.

Yours Auntie Gavro

Dear Auntie Gavro,

Er, right then, erm, Wow I'm feeling empty and lost, because erm...there is a huuuuuuge empty space in my garage where my life used to be (which is definitely not fantastic) and erm, this keeps happening-andIdontknowwhy.

Yours,
Lost of London (MbChb Bsc SMOD(hons) UKCCOA P7AWOL)

Dear Lost of London etc
I feel that I may be entering a period of emptiness myself soon and can empathise with your pain, As they say you can't buy happiness and I know that therapy does not work. If you want long-term solution you need to build on past successes and try and find something constructive to do in your garage with your spare time.
Yours, Auntie Gavro

Yo Yo Yo, Auntie Gavro beeyatch...

Me and me homies wanna max my rags up proper fruity stylee. But dem muthas on dat commi(t)ee says no way man. They says I can get big sails but I want dem bitchin' sails so I can impress the laydeeez with my masseeeev bling pole length.

ITS SO UNFAIR!!!! I HATE RULES!!!! I WISH I'D NEVER EVEN LEARNT TO SAIL!!!!!!

Someone mentioned I could have a dis-pensation but I ain't avvin no-one dissing me Cherub.

Please Mr Patterson can we Please fank you Mr Patterson...

Yours Fruity and Frustrated of Southampton

Dear Fruity and Frustrated
It is hard being only teenagers at 12½ and 15 but it does not help running around shouting, when you are 15 ½ and 21 you will start to understand and can large it all the time, till then you will just have to hope for wind.

Yours Auntie Gavro