The Tomahawk

The official bulletin of the TOA

Autumn 2006

Summer just goes on and on!

By the time you get to read this the clocks will have gone back and the summer will be over.

What a good summer we have had. As always we have been dependent upon the weather, sometimes having too much of one type or another but as always never dull.

The Solent section was very active this year with rallies to Bembridge for an excellent barbque. A cross channel trip to St. Vaast attended by 3 boats well done Peter, Rolland and yes the Editor got there as well! And finally an outing to Marchwood.

'Crystal' cruised a little less than we would have liked due to family commitments but we still managed a week to the Channel Isles. The laying up season is now with us and you can read of Malibou's engine refit in this issue.

Don't Forget the AGM on Saturday 20th January 2007

Rally participants aboard 'Crystal' in St Vaast.

A Small Invasion !

A last call to Bill Garrod confirmed a possible five boat fleet of Tomahawks gathering at St.Vaast -la - Hougue on the Cotentin peninsula of Normandy for the planned July rally. The prospect of a few days relaxation in la belle France had been irresistible. The weather at home had been glorious could this high pressure see us there and back before breaking down? This would be our first channel crossing since Squaw had relocated to the Solent in `05 and much checking and rechecking of the " passage plan " had preceded our departure on Thursday 27th. The general objective, as Bill explained, was that we should make our individual way to St.Vaast and assemble for the Saturday when crews could socialise at an impromptu barbecue.

The cross channel trip would be about 100 NM from Hythe if we sailed via the Needles west of the Isle-of-Wight or a little further if we took the eastern passage past Bembridge . One advantage of the Needles route is that it enables a more favourable cross channel course in prevailing westerlys , the disadvantage being that low water is earlier there than via Bembridge and with a strong east going early flood tide.

We elected for the western route and with a crew of 2 left the mooring at 1445 hrs. in an F2 SE wind, estimating arrival at the Needles waypoint for 1830 hrs. , and motor sailed to Calshott Spit buoy at 4.5 Kts. over the ground. An hour later we had turned westward to be headed by a steady F4 SW which with a foul tide at Hurst Narrows delayed our R/V with the 1st.waypoint (Bridge) by 1.25 hrs.! The last 2 hrs. resembling a steeplechase ride at less than 3Kts.!
On this occasion we had strong stomachs, and with the sun still shining brightly we altered course to 170M and enjoyed half and hour of brisk sailing until the fickle wind died to F2 . There still remained 80NM to go and a desire to lock-in to St.Vaast before 1000hrs. on Friday. Once again Rita the Beta burbled into life and we were travelling at 5.5 Kts. wind and diesel assisted. Sunset at 2100 in a clear moonless sky with many stars coming into vision. St.Catherines light astern with the red warning lights of Chillerton Down TV aerial a little to her west kept us company until halfway to our next waypoint at Pointe de Barfleur. There was some phosphorescence visible in the wake of our bow wave but nothing like as strong as we had seen in the Bristol channel during our delivery passage to Southampton in 2005. The loom from Pte.de Barfleur was exactly where we hoped it would be and although we lost St.Catherines light shortly thereafter the red lights of Chillerton Down were visible until first light at 0400hrs. By this time Barfleur Lighthouse was clearly visible although Ms. Chirac switched it`s light off as the sun began its ascent from the horizon beginning another fine day.

We had made up time since leaving the Isle-of-Wight thanks to Rita and were now back on schedule to pick up the east going tide around the Cherbourg Peninsula which would help us on the last 20NM or so. We saw at least 30 commercial ships on passage but heard little radio traffic from them. A strong SE going current took us quickly it seemed to the approach to the small bay at St.Vaast and we anchored at 0915hrs.for a short wait until the lock gates were opened. Our passage was over!

The harbour authority (Capitainerie du Port) is most efficient and we were able to secure a pontoon berth until our return on Sunday for the sum of 30 Euro`s. At 1030 hrs. Peter Llewellyn in Inca Moon phoned on his mobile to tell us he had just arrived en porte . Of the other three boats it was later established that one had turned back to Portsmouth due to crew sickness and another had been unable to make the trip. Richard Mayhew, in Crystal, arrived on Saturday after a good crossing from Portsmouth . The rally, although short on numbers, was thoroughly enjoyable. French hospitality to visiting yachtsmen is first class and the unspoiled town and its environs offers something for every age group. Should the Association put it on the rally calendar for 2007? I hope so!

Just to keep you amused!

Tests on New Automatic Sailing System Announced

Tests are being carried out on a new sailing system so simple that it can be operated by trained monkeys.

On the first trip across the Atlantic, the designers sent 2 monkeys which had been trained for many months and a Yachtmaster to try out the system.

Communications were made by Satellite phone and the following is an extract from the log.

"This is system base to monkey one. Do your job. Over"

With this the first monkey pressed keys on the system console and the Yacht tacked perfectly through 90 degrees.

Some time later a further communication was sent.

"This is system base to monkey two. Do your job. Over"

With this the second monkey pressed further keys on the system console and the Yacht was reefed down without anyone having to go on deck.

The next message sent was, "This is system base to Yachtmaster...."
"This is Yachtmaster to base. I know, I know. Just feed the monkeys and don't touch a bloody thing!"

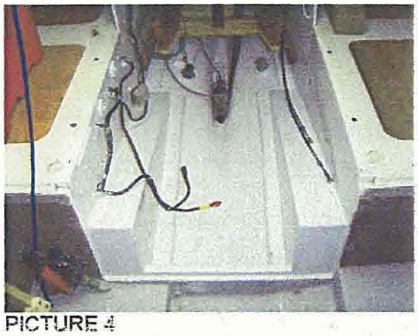
A NEW ENGINE FOR *MALIBU*

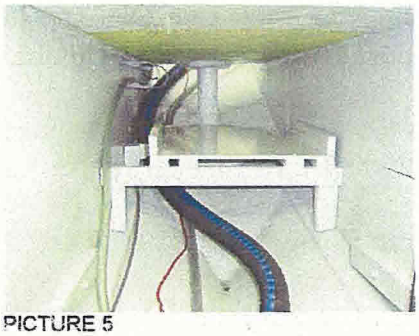
Malibu is kept on a swinging mooring in the River Blackwater, and takes the mud on her twin keels each tide. She is tractor-launched down the slip at the Blackwater Sailing Club in April on her own purpose-built four-wheel trolley (Picture 1), and recovered the same way at the end of October. When I bought her from TOA member David Meacher three years ago he described her engine (a 9hp Stuart Turner / Solé diesel) as "a bit agricultural", and its replacement would have been his next improvement had he kept her.

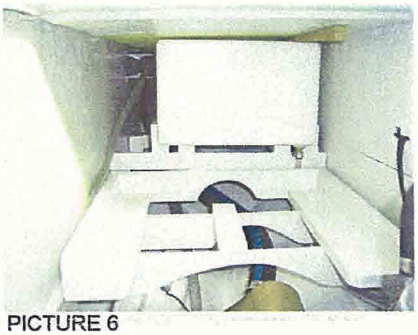

PICTURE 1


PICTURE 2


PICTURE 3


PICTURE 4


PICTURE 5


PICTURE 6


PICTURE 7


PICTURE 8


PICTURE 9


PICTURE 10

In preparation for the engine change I made a lightweight wooden frame from 1½ " square softwood, bolted together with wing nuts for easy dismantling. The uprights are lashed to *Malibu's* stanchions. Some 4" bull-nose skirting board forms a gentle curved edge for the heavy-duty polyethylene canopy sheet (from Bradshaw's of York), and the ridge boards are plain 4" x ½" softwood. There are two overlapping sheets, each 5.0m x 4.0m - easier to manage on and off than a single sheet of 9.0m x 4.0m in a high wind. The cover proved very waterproof over the winter of '04 - '05 when I put in the new engine, and enabled me to work in the cockpit and with the hatch open whatever the weather. (Pictures 2 & 3)

I chose a Beta engine because so many satisfied boat owners were telling me how pleased they were with their new replacements. (I have since discovered that our Treasurer has one in *Nokomis*, and our Commodore one in *Squaw*.) I obtained Beta's catalogue with its accurate engine plans, and made a scaled full-size model of the 13.5hp engine in hardboard (end, side and plan view, slotted together) to make sure it would fit *Malibu's* engine bay. (I wish I had known then that *Nokomis* had the same model - but it

always pays to be careful when spending nearly £3K. Malibu might have had slightly different dimensions, and the new engine when it arrived *was* a tight fit !)

I visited the London Boat Show, and spoke to the very helpful people on the Beta stand. They confirmed that the 13.5hp engine was exactly the same block as the 10hp. Even the bore and stroke are identical. The additional power comes from the different fuel pump. (I suppose you could turn a 10hp into a 13.5hp by replacing its smaller pump.) The 13.5hp engine does come with a built in sump drain pump (very useful), and whichever model you fit you do need to specify the shallow sump version (at £95 extra) because the Tomahawk's bilge is not deep enough for the standard sump version. (Glad I made the wooden mock-up.) You can often get a good deal at boat shows. I got my engine in 2005 at the 2004 price, and had a full control panel with tachometer / engine hour counter included at no extra charge. I also got a good deal at the Sillette-Sonic stand, where the very friendly and helpful staff confirmed that an Eliche Radice 12 x 9 fixed three-blade propeller was the optimum one for the Beta 13.5hp engine.

The Beta 13.5hp is an indirect injection diesel 4 stroke twin cylinder engine. Beta marinise the robust Kubota industrial diesel block, and the twin triple-swirl cylinders, combined with a high inertia flywheel, give a smooth and quiet performance. (I still haven't put sound insulation in the engine compartment, but the new engine is much, much quieter than the old Stuart Turner.) There is a fresh water cooling system, with the seawater only going through a heat exchanger - much kinder to the engine block. Beta supply their own robust engine mounts, and these have performed well in use, with very little engine vibration coming through to the hull. It is possible to have a meaningful conversation on the VHF with the engine running at 2,000 revs, and producing a useful 4 knots through the water.

I decided on a 13.5hp engine, rather than a 10hp, after discussing modern engine trends with several sailing friends. 10hp will provide more than enough power for manoeuvring in marinas, or motoring in calm seas. But in a head sea the extra horse power can help punch through steep waves, especially when motor-sailing. It's essentially a "get-you-home" engine - very useful when the forecast F4 turns into a F6 gusting 7, and you need all the help you can get to keep your little 25 foot hull moving. When I did the sea trials, running the engine for twenty minutes at 1000rpm, 2000rpm then 3000rpm, on a flat calm day, *Malibu* reached her maximum through-the-water speed of 6 knots around 3000 revs. Thereafter, as anticipated, she merely buried her stern deeper in the water. To achieve the maximum engine speed of 3600rpm (purely for the purpose of running it in) I had to tie her alongside the club pier, and even then she squatted low in the water, with the exhaust below the waterline. I have yet to try her in a F7, but have been pleased with her performance when motor sailing against wind and tide in choppy seas. In normal conditions the engine performs well, with no adverse pulling to one side when going full speed ahead. In astern she has a useful kick to port, with the engine responding well to a short burst on the throttle. In its standard form the Beta 13.5hp comes with a Hurth gearbox. Again, talking to yachtsmen who had fitted a Beta to their own boats, I opted to fit a Technodrive type TNC 40 M, with a bronze double-cone clutch and 2.0 : 1 ratio. So far this has performed admirably.

At this point I confess that I had the help of a fellow club member and good friend in undertaking the installation. A former marine engineer, who had served twelve years at sea on BP tankers (bit bigger than a Tomahawk !), Ian's engineering craft skills and experience were vital in ensuring the success of the project. His skill with micrometers, feeler gauges and callipers played a large part in the smoothness of the operation. I would advise anyone thinking of re-engining to seek out some level of professional advice before proceeding.

The old engine came out at the beginning of November, '04. (It's now powering a Halcyon 23, which never ventures beyond the mouth of the Blackwater, and whose octogenarian owner is very happy to have re-engined for £200 !) I spent winter weekends cleaning out the old engine bay, and systematically blocking all the redundant holes through the engine bearer bulkheads, cutting blanking disks from scrap ply and epoxying them in place. I'm fairly certain the Stuart Turner wasn't *Malibu's* first engine, and previous engines had left traces of their occupation. I dislike diesel fumes in the cabin as much as anyone, and it seemed a good idea to ensure that the engine bay was kept hermetically sealed from the saloon. I also removed the new 42 litre fuel tank that David Meacher had installed, together with his new 60 litre fresh water tank. These were both positioned in line, and well forward under the cockpit sole. My plan was to move both as far aft as possible, to open up access to the rear of the engine via the hatch at the forward end of the cockpit. The whole of this space was scrubbed clean, and painted with primer, undercoat and light grey enamel. (Picture 4)

Picture 5 shows the frame I made (from iroko) to support the water tank in its new position. It is through-bolted to the cockpit locker sides, and had to be offset to port to allow space for the 2" exhaust hose to pass between it and the starboard locker. The tank is canted to port because that is the side the outlet pipe is located. The pipe then runs, via an in-line electric pump to the galley. Other lines which had to be accommodated, and visible in the picture, were the fuel filler pipe (*Malibu's* fuel filler cap is on her counter); stern gland grease pipe (the greaser is in the lazarette); wire from stern gear to the sacrificial anode terminal in the engine bay; and the 1" pipe leading from the automatic bilge pump at the forward end of the engine bay to the transom.

Picture 6 shows the frame for the fuel tank, again in iroko, and with large arcs cut in the lateral bearers to accommodate the exhaust hose and Vetus waterlock. (Note that the hose does a full 360 degree vertical loop in the lazarette before exiting through a 1¾ " stainless steel exhaust flange in the starboard side of the transom.) I fitted a high rise injection bend (£129 extra), since a Tomahawk's engine sits low in the hull, and the standard bend only has a 150mm rise above the centre of the manifold. In use I have had no problem with sea water siphoning into the engine. Picture 7 shows the fuel tank (and new engine) in situ, oriented across the boat to save space. I designed the frame so that the tank may be slid forward on bearers, under the cockpit hatch for cleaning (all its connecting hoses have sufficient slack built in). Once installed it slides fully back under the cockpit sole and is firmly clamped in position behind a ½" ply bulkhead secured with wing nuts, and isolating the fuel tank from the engine bay. On the engine side of this bulkhead is the automatic engine bay fire extinguisher.

We installed the new engine in March '05, using a Weston pulley on a portable overhead gantry. The advantage of a Weston pulley is that, although you need to pull through a lot of chain to raise the engine, you can lift or lower by a microscopic amount very easily. As I pulled back the rear half of the canopy to give access to the main hatch a flurry of snow hit us, but fortunately this did not materialise into anything more serious. We had already bolted the four engine mounts on to a pair of 2" steel angle strips, arranging these so that they just fitted between the sides of the engine bay. These had been primed and painted with a couple of coats of black enamel beforehand, and three ½" bolt holes drilled in each one for fixing to the sides. (The metal caps over the rubber engine mounts *just* wanted to protrude about an eighth of an inch into the sides of the engine bay. A quick burst with a rotary grindstone solved this.) So the first trial fitting merely positioned the engine and gear box, with coupling attached, in line with the prop shaft. (Picture 8).

This was where Ian's craft skills came to the fore, as he very carefully aligned the engine, gear box, coupling and shaft to ensure that only minimum adjustment would be necessary once the engine and gear box were bolted into their final position. Once satisfied that

everything was as symmetrical and central as possible, we centre-punched the bolt positions on the engine bay sides and removed the engine heavenwards in order to drill the new holes for the engine bearer bolts (Picture 9).

Then came the really tricky bit of bolting the engine firmly in place, using the engine mounting bolts to adjust fore and aft tilt. To ensure vibration free operation the mating faces of the gear box and tail shaft must be parallel and concentric to within 0.005". Picture 10 shows the engine bolted in its final position (after I had carefully checked that the fuel tank could be fed into its frame over the gear box). You can see that I had already installed a new cooling water filter on the port side of the engine bay, directly below the cockpit sole hatch. When the engine is running the cooling water can be seen flowing through the transparent filter simply by lifting the hatch. Beta recommend a minimum ¾" diameter inlet pipe for the cooling water, but I played safe and installed a filter with a 1" pipe. On the starboard side of the engine bay, again under the hatch, are the CAV fuel / water separator and fuel cut-off switch. It's good to have these things accessible from the cockpit.

One winter project I did at home was to make a GRP housing for the Beta control panel. For a mould I used the bottom of a 10½ " x 8" Tupperware box, set into a Conti-board base. The housing is 3" deep, and recesses into the centre of *Malibu's* bridgedeck. A hinged perspex cover keeps the weather out, but enables the helmsman to start and stop the engine from the cockpit, and monitor the engine revs, water temperature, oil pressure and fuel level without going below. A huge improvement.

Another good feature of the Beta engine is that all its important appendages are easily accessible from the front. The water pump impeller on the Stuart Turner was buried at the back of the gearbox, and had a devilish splined shaft which, if it became detached from the drive shaft, took an eternity to put back. The Beta's impeller is accessed by undoing three robust knurled bolts at the very front of the block, and impeller change can be easily done in less than two minutes. Similarly the fuel filter is a screw-on disposable unit, as is the oil filter. The engine dip stick is conveniently located in a tube whose opening is clearly visible. The gear box dip stick is accessible from the cockpit sole hatch.

The engine's electrical connections are provided by Beta in the form of a loom, with a plug fitting to the rear of the engine block. This made installation fairly easy, particularly as David Meacher had built a double battery bay, with control switch, in the locker under the foot of the starboard berth, immediately adjacent to the engine bay. I re-installed his twin engine bay lights, as it's always nice to have the engine illuminated when trouble-shooting at night. The light grey paint of the engine bay is very useful when, inevitably, one drops a nut or washer into the depths of the bilges !

The control lines posed more of a problem, since the linkages on the Beta are on the starboard side of the engine. (They were port-side on the Stuart Turner). *Malibu's* control lever is also on the portside, adjacent to the rear locker. The clutch cable fitted, but I had to buy a longer throttle cable. More interesting was re-assembling the Morse gear. "Ahead" and "Astern", and "Full Speed" and "Stop" were diametrically opposite for the two engines ! Again, I was grateful to have Ian with me as we drew engineering sketches of what went where, and reassembled the different cams to give us the direction and length of movement we required.

I'm currently replacing *Malibu's* windows and headlining, and re-fitting her cabin, including the engine cover. But this must wait for another article !

Don Baines

From Virgin to Old Ha..(nd) in 6 weeks!

By **'Navman'** sometime known as **Barry Baily**

Not bad eh! However, we are talking sail cruising here, particularly the Channel. Well, often more motoring to start with but technically yachts. Previous yachting experience amounted to a 30 minute passage in Shoreham Harbour and about the same on a 'try ride' at a Southhampton Boat Show, both way back last century. Around the same time there was a certain amount of dinghy sailing and racing.

Having now moved to semi-retirement, planning for retirement next year includes a move to the Chichester area and getting a small fast fishing boat. So doing the Day Skipper Shore-based course was good preparation, a class member from the previous year was very encouraging plus it got me out of work early on Mondays. Martin, Len and Paul came and made a pitch for a local sailing club (Sutton Mariners) on our last evening in March (strange that the booze and food cruise had just docked!). Not long after I decided that I needed to get some sea time in if I was to progress to Day Skipper and the Mariners seemed to offer an excellent opportunity so I came along.

I've not regretted it one bit, having now visited a number of restaurants I would never otherwise have discovered, partaken of sundowners (and almost sun uppers) on various yachts and cruised the wine cellars (sellers?) of several ports. I now understand why yachts have a wine list, somewhat to starboard on 'Kwiksort' as I recall.. Oh yes, there has been some sea time as well to fill in the intervals. Read on.

Having trundled along to the club one evening I quickly found myself signing up for the 'Round the Cans' on 17/18 June. Jerry boldly put me on 'Caressa' although I warned him my qualification was 'incompetent crew'. This didn't seem to deter him and we embarked from Gosport on a warm sunny morning. Leaving involved Lesson Number 1 from the Day Skipper manual - all crew hanging outboard to rock the boat out of the mud! But we made it and motored off to act as race start boat. The start was splendid but then it all went flat - literally. But it was a fun day, particularly flying the spinnaker later and a thoughtful skipper made sure that the pies, beer and onion soup kept us well nourished.

A BBQ in the beautiful setting of Beaulieu River made an excellent finish to my first day's cruising. Next day we managed a lot more sailing, including another spinnaker run and I even managed while helming to get Caressa up to 8 knots - a speed junky obviously.

As I'd had such a good time and nobody had suggested I walk the plank, I signed up for the 'Commodore's Cruise to the Channel Islands', after a bit of rapid juggling of my work schedule. I was a bit stunned when I later realised how long it was going to take. Martin put me on 'Kwiksort' for this so new experiences were coming in thick and fast, particularly the 'wine list'; or as Martin put it, "we're supposed to be bringing it BACK from France". There was a slightly tense moment later when the Customs patrol boat passed us off the IoW.

A very early start saw a lovely sunrise, a feature of this cruise. Again it was motoring through a strangely oily-looking, slightly misty sea with surprisingly little shipping as we crossed over. But plenty of seabirds to keep one of my other interests happy. I now began to earn my name of 'Navman' as I seemed to spend a lot of time below marking up the logs and charts

and learning navigation and passage planning in earnest, as well as playing with my new GPS - on this trip we had 5 GPS's on board! We left Martin to play with his harmonica.

After some 14 hours motoring we arrived in Cherbourg where I achieved another first next morning - cooking breakfast for four on the galley stove! The days passed splendidly with my getting more and more experience in boat handling (but nothing compared to 'George' of course), passage planning, charts and GPS use and pilotage. After the Channel day passage came the Alderney Race, Little Russell and the Swinge. All passed with great anticipation and interest in a fortunately calm sea. Then came time to reverse and head back to Cherbourg. Another magnificent sunrise saw us heading back, taking avoiding action with a couple of the big boys on the way, finally reaching 'Blighty' after almost 15 hours.

I was now hooked but hadn't been able to book another 'fix', when Richard invited me to crew on 'Crystal' for the Tomahawk rally to St. Vaast. Was there a good word going round about me or was I being passed on.? But he did ask!

This trip involved a lot more juggling as well as convincing the other half but as it was to be night passages I really wanted to go and so it was. Unfortunately Fate took a hand in the form of an accident on the M25 which left me sitting about half a mile from the scene - on the wrong side of course - and Richard and other crew Richard similarly stuck on the A23 where traffic had backed up. Consequently instead of leaving Gosport by 2030 it was 2230 with consequences at the other end.

A careful, night exit down the harbour became a very interesting if somewhat confusing picture of coloured illuminations as we cleared the entrance with more great practice in identifying all those buoys and boats, particularly those of a massive disposition.
The night passed peacefully with enough wind to sail soon after leaving - the peace and quiet of sailing under a sky full of brilliant stars and the Milky Way drove thoughts of sleep away for a long time. Not to mention checking on the swarming big ships as we crossed over. Several did indeed give way to sail although one left it rather late!

As we sailed on in the early light it began to seem as if we were towing the IoW with us but eventually it fell off the edge. Sometime during the morning we had a 'shoe overboard' drill. Coming back off the foredeck my left shoe caught on something and went for a swim. Remarkably it didn't sink so Richard put us about and back we went. The shoe went up and down over quite large waves and any moment we all expected it to sink. On went the donkey as it was walking faster than us, I dived below and grabbed my landing net and the shoe was saved! The late start meant we were running behind in our race to get into St. Vaast before they shut the marina gates. We sailed hard and finally put on the 'Donkey' but to no avail, had we had just missed the gate by 30 minutes. So we anchored up and waited in the sunshine for the evening tide.

St. Vaast is a delightful little seaport with some excellent eating and drinking to be had. Just be aware that the 'seafood special' for two in the Cafe du Port really needs to be assaulted by a squad rather than two. But delicious none-the-less. The 'wine list' became apparent again over the weekend with further entertainment provided by a street market (Sat) and car-boot sale (Sun). Sunday lunch, with all 7 'Indians' (Tomahawks - see?) crammed into 'Crystal's'cockpit, of spit-roasted lamb was to die for .

Sunday evening saw us slipping moorings at 1600 to exit the marina and lay off at anchor awaiting the evening tide. We left at 1900 in brilliant sunshine and were able to raise sail not too long after. After dark the shipping thickened noticeably and I was checking up to three

big'uns simultaneously. Again, a couple did give way to us. Coastguard forecasts started coming in regularly now, with promises of a decent breeze. After a few false starts this did indeed materialise and by the time we were about 20 miles south of the IoW there was a noticeable swell running on our port quarter. By the time we were approaching the island the wind had increased steadily to F5/6, enough to put a second reef in and we soon dropped the main completely and ran under Genny only to steady the boat., through a very lumpy and confused stern sea. Coming in to the Eastern Solent we listened to the Coastguard distress calls and watched (and listened) to helicopter 'India Juliet' running two rescues at once with the RNLI, for boats in the Cowes Week races. We had our own somewhat tense 'race' with a Brittany ferry not far astern, crossing the main channel in time just ahead. We moored up at Hardway sailing club pontoon in Gosport in time for lunch. A superb few days and the best sail yet for me, great experience.

The Editorial

Many thanks to the contributors, keep those articles coming. I believe that 'Malibou' is also having new head linings and windows fitted. The next edition will have an article about rudder repairs plus reports from the AGM. Thanks to Barry for sharing his experiences with us. It's good to introduce new people into sailing. You may also have read about TOA regalia. Please contact Absolute Clothing for your requirements.

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As for me, Crystal is about to come out of the water for her winter lay-up and to be put up for sale. I am not giving up sailing but have been seduced by a Sadler 32 (all being well) so I should have a new 'toy' to play with next season. Wishing you all a good Christmas and New year and I hope to see some of you at the AGM in January.

Good Sailing!

Richard Mayhew

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