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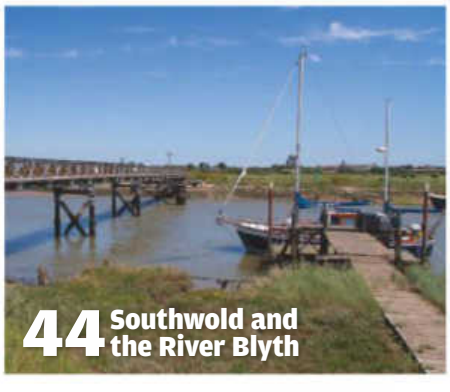

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Waiting for the tide

with the editor

To receive the editor's monthly email newsletter, sign up on our website: www.pbo.co.uk

Hibernation? Perish the thought

By the time this magazine thumps your doormat or adorns the shelf of your local newsagent, Christmas will be over and 2016 will be fast upon us. Faced with the prospect of January and February the natural instinct is to hibernate, but such behaviour, never popular in Protestant northern Europe, has been made utterly unacceptable by the work-hard-play-hard culture thrust upon us by our friends across the pond.

They're right, of course. If we fail to work hard now, play will be delayed come the spring as the boat languishes, awaiting antifouling and the annual sucking of teeth which results in half the jobs planned for the winter being struck off in favour of going afloat. So the time has come to shake off the winter blues, gird our turkey-enhanced loins and set to.

Despite keeping *Red Dragon* out of the water for a year, which turned into two, I'm in exactly this position. We still have a long way to go in what has turned into a major refit. It's a demonstration of the basic law that tasks will expand to fill the time allotted them that we still look set fair for a mad rush if we're to finish the boat in time for April.

The time has come to gird our turkey-enhanced loins

Nonetheless, it's been worth it. Although my brother Ben and I share the work, often with help from family and friends, the winter season can be too short to finish all the jobs you would like to do. Perhaps when one retires it is a different story, although most of the people I know who have done so seem to be just as busy as when they were working. Deliberately taking the boat out of the water for a longer period allows you to make progress with tasks too big to complete in just a few weekends and, crucially, allows you to take advantage of more clement weather for temperature- and moisture-sensitive activities such as painting. In the time *Red Dragon* has been out of the oggin we have removed all the deck fittings and windows, repainted both hull and deck, and resealed all the fittings. She has a completely new fuel system leading to a custom-made fuel tank below the cabin sole, shifting unwelcome weight from the lazarette, while below decks she has been refitted with new lockers which should improve storage, has been completely rewired and has a remodelled heads compartment for easier access to the seacocks. The forward vee berth will now be usable as a double, and my sister-in-law Janice is in the process of making new upholstery.

The jobs remaining are to fit Flexiteek panels to the cockpit seats, spruce up the interior and exterior varnish and, in a last-minute addition to the job list, fit a heater. This last, it is hoped, will make my ever-freezing wife more willing to sail in our less than tropical climes, dry out our oilies after a wet sail and allow us to extend our sailing season.

None of this would have happened with the boat afloat, but two years without sailing her has been a frustration made bearable only by our project boat *Hantu Biru* being on the water. Richard Hare did a similar 'decade service', published in PBO November 2013, for the same reasons – he just couldn't find enough hours to do the work in a single winter.

The payoff, we hope, is reduced maintenance in the coming few years, allowing more time on the water. In the short term, however, I'm wishing the winter months past even more than usual, looking forward to sailing my own boat once again. The prospect is tantalising and, fortunately, inspiring.

I wish you all a happy New Year, success in the winter's projects and a fine cruising season for 2016.

Fair winds,

David Pugh


Project KRAKEN

NCA

Hampshire Newsletter

CHERBOURG - POTENTIAL TO BE THE NEXT CALAIS?

A Border Force vessel: there are 'concerns that improved security at Calais is dispersing refugees further along the coast'

Chris Hall

Cherbourg: could it become 'the next Calais?'

Marine police warn boat owners not to be tempted to give passage to illegal immigrants when crossing the Channel from Cherbourg

Marine police are concerned that privately-owned boats leaving Cherbourg are being targeted by illegal immigrants seeking passage over to the UK.

Daily reports indicate that Cherbourg is now being targeted by people seeking passage over to the UK. This follows increased security at Calais, which has prompted many people to look elsewhere in their attempt to cross the Channel. Officers behind Project Kraken say: 'What is of growing concern to UK interests is the manner in which asylum seekers are being assisted in their passage to our shores.'

Sergeant Damon Kennard from Hampshire Constabulary's Marine Unit is a keen sailor, and while cruising in the summer visited Chantereyne Marina in Cherbourg, where he noticed a couple of men on a bench overlooking the visitor pontoons. One was asleep and both looked as though they had been sleeping rough, but Sgt Kennard didn't think too much about it until returning to the UK and reading in PBO that a fellow yachtsman had been approached in Cherbourg Marina by a man without any passport or money who wanted a 'lift' to England. Sgt Kennard said: 'Such reports support concerns that improved security at Calais is dispersing refugees further along the coast'.

Project Kraken, which was initially a Hampshire marine police initiative to encourage sailors and other coastal visitors to report any suspicious activity, is now UK-wide, having been adopted by the National Crime Agency. The Project Kraken autumn newsletter warns sailors not to be tempted into offering assistance, saying: 'The offer of money and the thought that you might be helping someone in dire need could be enticing.

Please remember, you don't know who these people are, and as such may put yourself and your crew at risk: and it is a serious criminal offence to facilitate illegal immigration.'

The influx of refugees in Calais and across Europe rarely fails to hit the headlines at the moment, and marine police say we are undoubtedly witnessing historic developments in the way that the European Union chooses to tackle this situation. Sgt Kennard added: 'It is an emotive issue, and the British public have been heavily divided in their opinion of our country's responsibility and how far we should commit resources in rendering assistance. It is vital that when people do land in the UK to seek asylum, they go through the proper system of assessment so that we can ensure the right people with real needs are getting the assistance they require.'

Evidence indicates that organised criminal outfits are providing passage to desperate people in return for extortionate fees or services when they arrive here: slavery and enforced criminal activity are the by-products of illegal immigration. For many who have been sold a ticket to a dream life in Europe, there is a hellish existence waiting for them when they arrive.

Anyone who spots anything suspicious is asked to call 101. For Project Kraken alerts, follow @HantspolMarine on Twitter.

JM Enault

Private boats in Cherbourg are reportedly being targeted by illegal immigrants

Tributes paid to yacht designer Mike Pocock

Former Ocean Cruising Club (OCC) Commodore Mike Pocock – the naval architect and designer of *Al Shaheen*, *Troubador*, *Brown Bear*, *Sadko*, *Arabesque*, *Tin Fish*, *Q2*, *Blackjack* and *Twilight* amongst others – has passed away.

Mike, who lived in Lymington and was a member of the Royal Lymington Yacht Club, was quite a force in his own modest way. He was a member of the OCC for 48 years, and Commodore from 1999 to 2003. He also co-wrote *The Pacific Crossing Guide* as well as other books. Mike was married for 55 years to Pat (née Barton), whose father was OCC founder Humphrey ('Hum') Barton who worked in the Laurent Giles office and famously sailed *Vertue XXXV* across the Atlantic in 1950 to prove that small boats could cross big oceans. The voyage took 47 days.

In a statement, the OCC paid tribute to the 'talented naval architect and yacht designer' who passed away on 22 November, recalling how: 'In 1999-2000, Mike and Pat led what must be the longest rally in OCC history – the Commodore's Millennium Rally – from the UK to the Caribbean, the US East Coast, and back to the UK via the Azores. Mike and Pat were serious long-distance cruisers, having visited most regions of the world on a boat designed by Mike. We extend our deepest sympathy to Pat and family.'

Mike Pocock and his wife Pat on their boat *Blackjack*

Tragically Pat's stepmother died just a few days after Mike. Former OCC Commodore, Admiral Mary Barton passed away on 1 December, shortly before her 95th birthday. OCC Commodore John Franklin said: 'As many will know, the club went through troubled times in the 1980s and, by the time Mary became Commodore in 1988, it was both insolvent and riven by deep divisions. It was due in large part to Mary's devotion to the OCC throughout her six years as Commodore that it survived to grow into the vibrant club it is today.'

Winner of PBO gear prize

Liveaboard boat owner Chris Tunstall of Portland Marina was picked at random to scoop all the top 10 items of PBO's big Christmas giveaway.

The prize, which represented our pick of 2015's best-on-test items, is worth more than £3,000. Thank to the generosity of the manufacturers it included two Pontos Compact winches, a weatherproof Diskus padlock from nothingbutpadlocks.com, a B&G Vulcan 7 plotter, a Mirka Deros 650CV 'dust-free' sander, a 1kg bag of Gin Gins Caramels, a Meridian Zero 20m flat hose, Musto-Clark Orson Drift deck shoes, a Draper Expert 5W CREE LED Waterproof Torch, a TillerClutch and a LifeProof Nuud waterproof phone case.

PBO competition winner, 59-year-old liveaboard Chris Tunstall

Newly-retired Chris, 59, who lives aboard his 985 Westerly Corsair, said: 'I was gobsmacked about the value: £3,000 is a lot of money. It's great timing because I was just thinking I had to either get one of my winches replaced or swap the one that's least used for the one that's most used.'

Chris's boat is currently in the boatyard undergoing a refit. He added: 'I'm hoping to relaunch in early summer. When I finish the refit and my partner retires we'll head off to the Med or the Caribbean and see where the boat takes us.'

Fairline Boats administration

The majority of the 450 staff at Fairline Boats have been made redundant after the powerboat maker went into administration in December.

Administrators kept on 69 workers to keep the business running and finish existing orders, but the remaining 381 were told not to return to work after being sent home on 3 December. Most of the retained staff are at Fairline's factories in Corby and Oundle in Northamptonshire, where the 52-year-old company designed and manufactured a range of boats under the Targa and Squadron brands, ranging in value from £350,000 to £2.5million. At the time of going to press, joint administrators Geoff Rowley and Alastair Massey of FRP Advisory were attempting to arrange a sale of the business or its assets.

Clipper Race crew suffers suspected broken ribs

The Clipper round the world race yacht *Derry-Londonderry-Doire* diverted to Hobart in Tasmania for a medevac of an injured crewman.

Crew member Michael Gaskin, 54, from the West Midlands, sustained suspected broken ribs after he fell by the helming position in rough seas and 35 knots of wind, roughly 130NM to the south-west of Tasmania. Team medics Ali Boeree and Jan Chatzis administered first aid while the skipper contacted ClipperTelemed+, the Clipper Race remote telemedicine service. Doctors at the Praxes operations centre in Halifax, Canada confirmed diagnosis and directed the provision of pain relief and anti-nausea medication.

Skipper Daniel Smith contacted the Clipper race office on 8 December to report the incident and his decision to divert as a precautionary measure. The team continued the race to Sydney once Michael had been transferred to hospital on 10 December.

Race director Justin Taylor said: 'A wave broke over the side of the cockpit and Mike says he hit the pushpit and heard his ribs crunch. He was then washed into the A-frame and sustained a small cut to his head. He was stopped by his safety tether.'

This is the first medevac of the Clipper 2015-16 Round the World Yacht Race, which will take 11 months to race between six continents. Only a handful of the 3,300 amateur sailors who have participated in the race over the last 19 years have had to be evacuated, the majority as a precaution following medical treatment aboard.

Clipper Race crew Michael Gaskin

***Derry-Londonderry-Doire* under way in Albany, Western Australia**

Cancer treatment for Rio 2016-selected sailor

Following medical tests, it has been confirmed that the British Sailing Team's 470 Olympic campaigner Elliot Willis has been diagnosed with bowel cancer.

Willis, 32, campaigns alongside 2012 silver medallist Luke Patience. The world number two-ranked pair were among the first athletes in any sport to be selected to Team GB for the Rio 2016 Games in September. An appropriate course of treatment is currently being determined for the Sevenoaks sailor – a two-time World Champion in the double-handed Olympic 470 class – with Willis inevitably set to take some time out of the boat.

Willis said: 'It's still my dream to win Olympic gold, but right now my focus needs to be on getting better. I will take the advice and recommendations of the medical professionals as they establish the right course of treatment for me.'

Royal Yachting Association (RYA) Olympic manager Stephen Park said: 'This is obviously bitterly disappointing news for Elliot, as it clearly could impact on his ability to compete at his first Olympic Games. We will offer him every support we can in this regard.'

He added: 'Elliot and Luke have made great progress in their campaign towards Rio: we are conscious of the need to keep that momentum going as far as possible. While we need to work with Luke to find another crew for him to sail with for the time being, we hope Elliot can still be involved.'

Ocean Images/British Sailing Team

Elliot Willis and Luke Patience in action

'A fighter jet on water'

Harry KH/Land Rover BAR

Ben Ainslie's new boat T2

Land Rover BAR, the British America's Cup challenge team led by four-times Olympic gold medallist Sir Ben Ainslie, has unveiled its latest test catamaran – T2.

The 45ft-long boat is the next stage in the Portsmouth-based team's pursuit of technological excellence that will culminate in the design and build of the final race boat to challenge for the 35th America's Cup in 2017. T2 uses ideas from both the aerospace and automotive industries to create what the team describe as 'the marine equivalent of a fighter jet.' The multihull will fly on foils the size of a wakeboard while lifting the weight of a fully-occupied London taxi.

Ben Ainslie, team principal and skipper, four times Olympic gold medallist and America's Cup challenger, said: 'Power is nothing without control, and there has been no compromise in the pursuit of both.'

Harry KH/Land Rover BAR

T2 capsizes in the Solent

While training on the Solent on December 11, 2015, T2 capsized off Ryde, Isle of Wight. The boat was righted quickly and no team members were injured. Damage was sustained to a section of the wing, and the boat is expected to be out of action until the New Year. The wind range was between 15-19 knots and the boat was sailing at a slow speed when an issue with the wing inversion initiated the capsize to windward. No other vessels were involved.

All aboard *Hantu Biru* at the London Boat Show

The 2016 London Boat Show marks the end of an era for PBO as we prepare to say bon voyage to our fully-restored project boat after four years.

Help us give our beloved Snapdragon 23 *Hantu Biru* a good send-off by visiting her on the boardwalk (stand A220/Q) where you can still enter the competition to win her. The London Boat Show, which runs from 8-17 January at ExCeL, London Docklands, will mark the last chance for members of the public to look over the PBO Project Boat before the competition ends and *Hantu Biru* finds a new home with the prize draw winner.

Another boat restored to her former glory and exhibited at the show (stand G150) will be the 50-year-old McGruer classic 8m cruiser-racer *Altricia*, following an overhaul by the master shipwrights of Mylor Yacht Harbour's Marine Team. Princess Yachts will also be exhibiting their Project 31@50 boat – a refurbished version of the company's original boat design.

Made in Chelsea reality TV personality and model Lucy Watson will join British Marine Boat Shows at 11am on Friday 8 January 2016 to officially open the 62nd annual London Boat Show. Britain's greatest Olympic sailor and America's Cup challenger Sir Ben Ainslie is expected to make a midweek appearance. Thousands of boats and brands from more than 300 British and international companies will be showcased at the event, including Suzuki GB, Four Winns, Arthur Beale and Lewmar.

New attractions will include a Mediterranean Bay with waterfront cafés and a specially-built pool hosting live demonstrations, plus a '60s Revival showcasing boating highlights from the era including an Amphicar, a Fairey Huntsman 28, a Riva Junior, a Mirror Dinghy and a Jaguar E-Type. There will also be the London Boat Show Theatre, where Sky Sports sailing commentator Alec Wilkinson will welcome Ian Walker, Dee Caffari, Pete Cumming, Steve White and Dan Hardy among other sporting figures. Feature boats displayed on the ExCeL London dockside, alongside exhibitor's boats, will include *Massey Shaw*, MY *Kent*, MT *Touchstone* and *Melissa*.

The Time Inc stand C162 will offer great PBO subscription deals.

Advance tickets start from £15, with two children under the age of 15 going free with each adult. Additional concessions are also available. Use the EX12 code to get a discount before midnight on 7 January 2016.

■ **www.londonboatshow.com**

PBO Project Boat *Hantu Biru* will appear at the London Boat Show

ARC highs and lows

A 'fast' passage for the 30th anniversary Atlantic Rally for Cruisers (ARC) saw the fleet complete the 2,700NM crossing within an 'unprecedented' 24 days.

There have been many dramas since the yachts set sail from Las Palmas, Gran Canaria on 22 November. The yacht *Magritte* sank and its crew evacuated onto a cargo ship, a Dufour 34P *Duffy* dismasted, another boat hit a whale, two yachts lost rudders, there was a medical emergency airlift and a sailor almost lost a finger.

Yet the vast majority of participants enjoyed a safe passage, and spirits were high upon reaching the Caribbean after almost three weeks crossing the Atlantic.

Paul Thompson and David Everett received a joyous welcome when they sailed into Rodney Bay, St Lucia on the second-smallest ARC yacht, a Contessa 32 *Pisces* on 15 December after crossing the sea with a broken fridge, a 'mangled toe' and five days spent becalmed.

Clare Pengelly/World Cruising Club

ARC sailors are greeted with a rum punch and a bowl of fruit in St Lucia

Andrew Bishop, managing director of World Cruising Club, which runs the ARC, said: 'The 30th anniversary has been a record year: 256 boats across both the ARC and ARC+ events. It's the largest we've ever done in any one season going across the Atlantic.'

■ **Read our 'Undertaking an Atlantic crossing' article from p35.**

Dutch 16th century cannon repatriated

An official ceremony marking the handing back by the Maritime and Coastguard Agency of a bronze cannon to the city where it was first made has been held in Zierikzee, Netherlands.

The cannon had been brought ashore from off the Kent coast by commercial diver Vincent Woolsgrove, but was recovered by the MCA during a search warrant executed in 2011. Mr Woolsgrove was charged with fraud offences relating to other Dutch cannons and is currently serving a two-year sentence after pleading guilty.

Vincent Woolsgrove of Ramsgate, Kent has been jailed for fraud

The minion cannon, which weighs one ton and is 9ft long, was transported back to Zierikzee using the Dutch Royal Navy minehunter named after the city. A canal water level had to be especially raised so that the minehunter could get there.

It's believed the minion cannon, cast in 1552, is the only one left in existence and was intended to be used for the city's defences. Extensive research has been carried out by Dutch archaeologists to discover how a city defence cannon came to be on the seabed. One theory suggests it was borrowed from the city for use on board a vessel during the first Anglo-Dutch war or used on a Spanish Armada vessel.

A permanent home for the cannon has been found in the Zierikzee city museum.

Around the world in a fossil-fuel-free catamaran

Engineer and sailor Jean-Marc Simiand is looking for partners to sail the first autonomously-powered catamaran on a three-year world tour.

Keen sailor Jean-Marc, aged 53, got the idea of a 100% renewable energy-powered catamaran while working for car manufacturer Renault on an electrical system project. The objective of the project is to demonstrate that sailors can do without fossil energies on a boat: the two power sources on board will be wind and sun. The start is scheduled for September 2016 if sponsors allow.

Find out more at www.worldecosail.com or follow World ECO sail on Facebook.

DIARY DATES

- **London Boat Show,** 8-17 January, www.londonboatshow.com
- **Notts & Lincs Boat Jumble,** 7 February, Newark Showground, Nottingham, NG24 2NY, Entry £4, www.boat-jumbles.co.uk
- **Gosport Boat Jumble,** 21 February, Haslar Marina, Haslar Road, Gosport, Hants. PO12 1NU. Entry £4.
- **Essex Boat Jumble** 28 February, Ardleigh Showground, Old Ipswich Rd, Essex, CO7 7QR. Entry £4.
- **RYA Suzuki Dinghy Show**, 5-6 March, Alexandra Palace, London, www.rya.org.uk
- **Kent Boat Jumble,** 6 March, The Hop Farm, Paddock Wood, Tonbridge, Kent.TN12 6PY. Entry £4.
- **Weymouth Leviathan,** 12-13 March. Britain's only dedicated maritime literature festival. www.weymouthleviathan.org.uk
- **Irish Boat Jumble,** 10 April 2016, Carrickfergus Sailing Club, Rodger's Quay, Carrickfergus, Co.Antrim, www.irishboatjumble.org
- **Horning Boat Show,** 30 April, 10am until 5pm, exhibiting boats, marine equipment and services within the Norfolk Broads National Park, www.horningboatshow.co.uk
- **Beaulieu Boatjumble, 24 April, 9am-5pm, www.beaulieu.co.uk/events/boatjumble**
- **The Transat,** race start Plymouth 8 May, www.thetransat.com
- **Push The Boat Out,** 14-22 May, UK-wide event with sailing clubs and venues offering discounted and free taster sessions, email ptbo@rya.org.uk
- **Poole Harbour Boat Show,** 20-22 May, www.pooleharbourboatshow.co.uk
- **Sail Caledonia 'raid',** 28 May to 4 June, organised by The Great Glen Boating Club, involves almost 70 miles of cruising and racing through the Great Glen from the Atlantic Ocean at Fort William to the North Sea at Inverness, www.sailcaledonia.org

PBO Regional News

News from your cruising area

Send us your local news stories. Email PBO news editor Laura Hodgetts at newspbo@timeinc.com, tel: 01202 440825, or write to the address on page 5

CHANNEL ISLANDS

ARC CHANNEL ISLANDS

Seventeen places have been snapped up for next summer's ARC Channel Isles rally – with just 13 remaining. The cruise in company to Alderney, Guernsey, Jersey, and Cherbourg will take place between 20-27 August 2016. It is being run by World Cruising Club (WCC) in association with RYA Active Marina and with the support of Hamble School of Yachting and Practical Boat Owner magazine.

Following a welcome supper at Premier Marina in Gosport on 18 August, safety checks and skippers' briefings, the fleet will set sail for Cherbourg on Saturday 20 August. The rally will include time ashore at all destinations. The 30 boat places are being allocated on a 'first come, first served basis'. Call WCC on +44 (0) 1983 296060, email mail@worldcruising.com or visit: **www.worldcruising.com/arc_channel_islands/event.aspx**.

SOUTH-WEST

GOLDEN GLOBE RACE

The race to and from Falmouth (via the world) that aims to test the mettle of modern sailors by limiting them to 50-year-old designs is gaining momentum. The first 26 provisional entrants have been confirmed for the 2018 Golden Globe race, which will commemorate the golden anniversary

The UK's Susie Bundegaard Goodall will enter the 2018 Golden Globe Race

of Sir Robin Knox-Johnston's pioneering victory in the 1968/9 Sunday Times Golden Globe race, when he became the first person to sail solo non-stop around the globe.

The 25 men include 70-year-old French solo yachtsman Jean-Luc van den Heede and one woman – Britain's Susie Bundegaard Goodall. Falmouth will host the start on 14 June 2018, as well as the finish point. The National Maritime Museum Cornwall will stage a major exhibit in 2018 to mark occasion with 1968/9 race yachts *Suhaili*, *Joshua* and *James Brown* on the NMMC pontoon. The race is expected to take around 300 days.

SOUTH

YACHTSMAN'S BODY FOUND OFF EAST COWES

Hampshire police have named the man whose body was found in water off East Cowes, Isle of Wight as Nigel Robert Greenyer, aged 63, from Godalming, Surrey. Mr Greenyer, a freelance skipper, had been assigned to charter a sailing yacht moored at Cowes Yacht Haven. He was found, wearing sailing gear, close to the East Cowes shore of the River Medina, near the floating bridge, on 29 November. Newport and Bembridge coastguard rescue teams, the Ryde independent rescue team and Cowes RNLI lifeboat were all involved in the Solent Coastguard-co-ordinated search to find the suspected missing yacht, which was located in the marina. The death is being treated as unexplained at this time.

Nigel Greenyer's body was found in the River Medina in late November

SOLENT EXPLOSION

Royal Navy bomb disposal experts destroyed a 1,500lb (680kg) German mine discovered on the seabed in the Solent. The Second World War GD ground mine was found by a crane barge 1.5km off Southsea while removing debris from a site being dredged in preparation for the arrival of the navy's new aircraft carriers.

The bomb disposal team towed the air-dropped device overnight to open waters about 1.5km off Bembridge, Isle of Wight. A cordon was put in place while the controlled explosion on 27 November created a 300m-high plume.

WALES

FISHERY CHALLENGE

Members of Port Dinorwic Sailing Club in Felinheli are challenging proposals to create a shellfish fishery in the Menai Strait. Menai Strait Fishery Order Management Association (MSFOMA) have applied to ministers to create a fishery covering an area of around 237 acres on the bed of the western Menai Strait in Anglesey and Gwynedd, which would involve a trawler laying and relaying mussels and oysters over a 28-year period. Welsh government ministers will consider a draft of the bid.

During a public consultation, PDSC objected to the proposal 'principally due to the effect it will have on our rights to safe navigation in this area of the Menai Strait.'

IRELAND

CRUISING CONFERENCE

The 2016 Irish Sailing Association (ISA) Cruising Conference has been set for Saturday 20 February 2016. It will be held from 10am to 5pm at Howth Yacht Club. Keynote speaker Eddie Nicholson and his crew will share their Greenland adventures on the Najad 440 *Mollihawk's Shadow.* Other talks will include Navigation with Norman Keane, Women at the Helm with Daria Blackwell, Whales and Wildlife Hot Spots, Weather Charts and Apps, Cruising in Company, Hydrographics and Coastal Safety. The event, supported by the Cruising Association of Ireland, costs €10 for ISA members, €15 for non-members. **Find out more at www.sailing.ie.**

NORTH-WEST

ZEBU APPEAL

An online appeal has been launched to help restore the historic tall ship *Zebu*, which sank in Liverpool's Albert Dock in September. (Dramatic footage of the raising of the ship can be found on www.tallshipzebu.org.uk.) Mersey Heritage Trust volunteers have worked hard to deep-clean the ship topside and below, and it is hoped the main engine and gearbox can be rebuilt although everything else below decks was a write-off. *Zebu* will dry-dock at Cammell-Laird in the New Year when her future can be assessed.

STORM DAMAGE

The repair bill for storm damage on the Isle of Man could run to 'many millions of pounds', said a government minister. A clean-up operation is expected to take several weeks after winds gusting at speeds up to 85mph and heavy rain caused flooding and landslides on 3 December. A Ports Division spokesperson said both Douglas and Peel marinas avoided significant storm damage, although minor damage was caused by debris flowing down the swollen rivers. He said: 'We got off relatively lightly compared with other areas.' Many homes and businesses were flooded as well as government buildings including the National Sports Centre.

SCOTLAND

NEW ST KILDA YACHT RACE

Organisers of an inaugural race to Scotland's furthest-flung archipelago are giving sailors the chance to reach the 'bucket-list' destination. The St Kilda Challenge will see the first yacht race held from North Uist to the isolated island group and back again. Participants will race around 100NM across the North Atlantic, amid potentially dangerous weather conditions. The race, which will start on Saturday 11 June 2016, is being organised by Comann na Mara, the Society of the Sea, with support from ferry operator Caledonian MacBrayne, the Scottish Sailing Institute, Royal Yachting Association Scotland and the National Trust for Scotland, which owns St Kilda. The route will begin at Lochmaddy, and it should take sailors around 24 hours to complete it. **www.calmac.co.uk/stkilda/challenge**

DRUNK WATCHKEEPER

An official report has found that the grounding of cargo vessel *Lysblink Seaways* off the west coast of Scotland was caused by an inebriated watchkeeper. On 18 February 2015, while on passage from Belfast to Skogn, Norway, the general cargo vessel ran aground at full speed, near Kilchoan, Ardnamurchan peninsula. The vessel remained on the foreshore

for almost two days during adverse weather. Damage to the ship resulted in 25 tonnes of marine gas oil entering the water. After the salvage, the vessel was declared a constructive total loss and scrapped.

The Marine Accident Investigation Branch (MAIB) investigation found that the sole officer of the watch had become 'inattentive due to the effects of alcohol consumption'. Although a radar watch alarm had sounded every six minutes, the officer on watch was able to reset the alarm without leaving his chair. **Read the report in full at www.maib.gov.uk.**

Jon Hayett, Kilchoan Diary

The stricken *Lysblink Seaways*

NORTH-EAST

ACCIDENTAL DEATH RULING

A coroner's report recorded a verdict of accidental death caused by drowning in the case of yachtswoman Maxine Wood, who fell overboard while racing with her husband and a friend. The trio owned the Contessa 26 *True Blue* and were sailing in a two-boat race on July 12 when Mrs Wood, aged 55, of Tockwith, near York, was knocked overboard by the boom as the yacht made a sharp turn at a race buoy. Both boats in the race quickly turned back to make a rescue, battling against currents. The rival boat reached Mrs Wood first and pulled her on board. RNLI lifeboat crew attempted to perform CPR, and Mrs Wood was airlifted to Hull Royal Infirmary. She died four days later when her family made the decision to remove her from life support. She had suffered irreversible brain damage due to a lack of oxygen.

EAST

VISITING SAILORS WELCOME

New pontoons have been installed at Walton and Frinton Yacht Trust's Yacht Basin in Mill Lane, Walton on the Naze which will make it easier for yachts to moor up close to the centre of town. The new facility complements the neighbouring Walton & Frinton Yacht Club in its new clubhouse, which provides modern toilets and showers as well as bar and catering facilities during most of the week. It is hoped the sheltered, convenient moorings will attract an increasing number of visitors to Walton.

SOUTH EAST

FERRY COLLISION

A ferry collided with a breakwater while departing from Dover as the result of 'a loss of directional control', an MAIB report has concluded. On 9 November 2014, the cross-channel ro-ro passenger ferry *Dover Seaways* struck the end of the breakwater at 3.5 knots. The bow was damaged, and the impact resulted in several minor injuries to passengers and crew. The MAIB report stated: 'Loss of directional control was due to a change in the mode the steering control system was operating. This was not intentionally initiated and remains unexplained. The response of the bridge team was positive, but the action to stop the ferry was taken too late.' Find the full report at www.maib.gov.uk.

INLAND

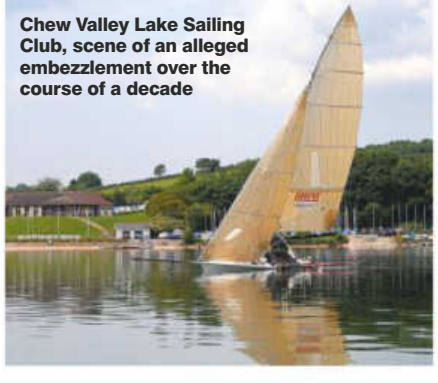
YACHT CLUB FRAUD

A man is alleged to have embezzled more than £100,000 from Chew Valley Lake Sailing Club over the course of a decade. Chew Valley Lake, near Bristol, is the biggest inland waterway in the south-west of England. Club members were told by letter that the suspect, who had held several trusted positions at the club, amassed more than £100,000 of the club's money over 10 years. New club president Simon Chapman told PBO: 'At the moment because we're dealing with lawyers and police, we're not in a position to comment.' He added: 'It's frustrating, but the club is in great health and we have fantastic support from our members.'

At the time of going to press, no arrests had been made.

NEW FACILITIES

A £44,000 transformation of Elton Sailing Club has been made possible thanks to a Sport England grant. The changing rooms, showers and toilets, along with all the lighting in the clubhouse, have been upgraded as part of Sport England's Inspired Facilities programme using money from the National Lottery to build a legacy following the 2012 Olympic Games. A hi-tech water processing system has also been installed.



Chew Valley Lake Sailing Club, scene of an alleged embezzlement over the course of a decade

PBO Next month

MARCH ISSUE ON SALE THURSDAY, JANUARY 28

PRACTICAL

Checking keelbolts
- How you can ensure your boat's keel remains attached

Plus
- Backflushing an outboard
- Servicing winches
- Replacing a rubbing strake
- Passerelle modifications

TESTED

Tech to keep you afloat
- Can a forward-looking sounder spot a grounding before it happens?

Teak cleaners
- Taking a shine to your woodwork

BOATS

Charter boats
- Which type best suits your needs and sailing style?

SEAMANSHIP

Trying out trysails
- Keep control of your boat in high-wind situations

CRUISING

Britain's Ocean City
- Sailing into Plymouth

A passage to Rochford
- Creek-crawling in a wooden gaff cutter

PLUS

Saluting the *M33*
- One of only three surviving warships from the First World War

Practical tips from the ARC

Contents subject to change

MARCH ISSUE ON SALE THURSDAY, JANUARY 28

PBO Letters

Email pbo@timeinc.com
or write to us at the address on page 5.
Photos are appreciated, letters may be edited.

Readers share their thoughts and opinions

THOUGHTS ON THE SUBJECT OF TETHERING

Keeping an MOB in a known place

Re 'Is it safe to use a tether?' (on the PBO website at www.pbo.co.uk/seamanship/is-it-safe-to-use-a-tether-25125), I have never understood that the point of tethering is a rescue. For us, tethering is about keeping an MOB in a known place.

Our procedure is as follows:

1. A tethered person goes overboard. You know where he is.
2. Crew spots the MOB in distress. They throw the lifebelt, danbuoy and so on overboard.
3. They cut the MOB loose (cutting someone loose is a brave thing). You still know where he is: he is beside the safety kit in the sea, he is easy to find, and can rest and recompose himself to help with his recovery. Even if he's unconscious, he's still by the danbuoy.
4. The crew then focus on getting returning the boat to the scene.
5. They bring the boat to a rescue state and throw the MOB a long line. We think stern-to is best – there are usually things for the MOB to grab hold of.
6. The crew haul the MOB over the stern. The boat ought to be moving forward slowly to stop the MOB from going under the boat or getting tangled in the rudder or propeller.

Sailing boats should approach the scene under mainsail only. They are unwise to start the engine in case the MOB goes under the boat. Motor vessels should approach, kill their engines and rely on lines.

Dragging someone in the water alongside a boat with a view to a rescue must surely get the MOB killed, and put the remaining crew and boat in serious danger.

Chris Power, by email

PBO replies:

We carried out the trials to show just this – that a tethered MOB cannot survive for long and that the boat must be stopped ASAP. We found that a short tether gave the best chance of remaining on board, or at least keeping the MOB's mouth above the water. Cutting the tether loses vital contact with the MOB: in the time spent throwing lifesaving gear and cutting the tether, you could stop the boat.

While a stern pickup can work on a motorboat, sailing boat transoms overhang and slam in waves, making a side pickup safer. It's fine to approach under engine, but stop the motor before bringing the MOB anywhere near the transom. Don't just select neutral, as the gear lever might get knocked during the rescue.

Nailed it!

As a PS to Richard Johnstone-Bryden's excellent article 'Replacing hull fastenings' (PBO January), I'd like to add the following. Should a copper nail refuse to budge despite the described technique, I have found that the application of heat – in the form of a soldering iron applied to the head – will cause the nail to expand over its full length and also to dry out the surrounding timber, thus easing the 'grip'! Then, having left the nail to cool, it will have shrunk again, making it far easier to withdraw and thus reducing the risk of pulling the sacrificial screw out of the soft copper. (Also, it is clearly essential to drill the hole for the sacrificial screw into the dead centre of the nail.)

Richard's technique does not cover woodscrews, which obviously have to be unscrewed rather than pulled, but heating copper nails has proved very successful in the course of rebuilding our 1969 12m/40ft former ocean racer *Wizard of Paget* (see PBOs March-June and September-October 2004), and the process often works on bolts too.

Mark Grimwade
By email

Bypass surgery

While installing some fuse boxes with LED warning lights that come on when the fuse is blown, I discovered that the LED bypasses the fuse. I wired up a battery monitor to the fuse box without any fuses in it, and the battery monitor started to work. These fuse boxes are sold by many websites and retail outlets selling 12V products. After thinking about it, it's obvious that as these fuse boxes do not have a negative terminal for the LEDs, when the fuse has blown it must bypass the fuse for the LED to light. I appreciate that it should only let a small current flow due to the resistance of the LED, but if a fuse blows I want no current to flow in that circuit – that's the whole point of the fuse! These small fuse boxes are compact and I had limited space, so I wanted to use them: I found that you could take them apart and easily remove the LEDs, thereby solving the problem.

Neil Parsloe
Amersham, Bucks

Keep taking the tabla

Seeing your 'Blow by blow' picture (Letters, PBO December) of reader Nick Carter playing his plastic trombone on board his boat brought to mind my own exploits. On nice days, I sometimes practise my tabla (Indian hand drums) while perched on the best clear space I can find on our Westerly Konsort.

Back in the summer, I was playing in a marina and a chap nearby was running his engine. He emerged from his boat looking puzzled, then saw me. 'I heard an unusual tapping sound and thought my engine was going wrong,' he grinned.

Dr Jeremy Smallwood
Southampton

Dr Jeremy Smallwood with his tabla

PBO PUZZLE 198

Which of the following sets of circumstances can cause fog?

A. Air blowing from a warm area of sea to a cooler one
B. Air blowing from a cool area of sea to a warmer one
C. A warm night after a prolonged spell of summer sun
D. A clear night on land with a light breeze
E. An approaching weather front

Find the solution at the bottom of page 106

Heavenly reward

Re Ivor Durrant's account of the restoration of his Heavenly Twins catamaran (PBO December), he is a man after my own heart. The boat now looks great, and I imagine Ivor did not spend much north of £7,000, about the same as PBO spent on the project boat. The catamaran is quite capable of crossing oceans, and his endeavour is a credit to him. This contrasts with one of your competitor magazines, which featured an entry-level yacht at £600,000, and a refit costing over £200,000 on a 14-year-old boat which itself cost £385,000. Most yachtsmen I see have ancient cars and a boat they can hardly afford: I recently spent three hours with my brother-in-law, becalmed mid-channel, making a temporary fix to a blown engine exhaust. I can only dream about professional conversions – but at least we know how to carry out repairs. Thanks for a great magazine.

David Buckpitt, by email

Nude: shocking

Re '17 battery chargers tested' (PBO December), I was astonished to see that battery chargers are still being sold with what I call 'nude' crocodile clips. Legally, this is OK as the charger output is extra-low voltage: practically, however, it is a absolute disaster when the chargers are used by a person more accident-prone than the TV character Mr Bean.

This person lived on a boat, and he bought two Banner Buffalo 12V batteries rated for 1,200 cold-cranking amperes. Allegedly, the batteries were former standby generators and two years old when purchased. The intention was to keep these batteries in good condition by charging them with shore power, but for some reason this person said: 'The battery chargers are always blowing-up!' I was puzzled by this, until I noticed how 'Mr Bean' was using them.

The Bean method. (1) Plug charger into mains. (2) Carry charger to the battery with the crocodile clips swinging together. (3) Complain that the charger has 'blown-up'.

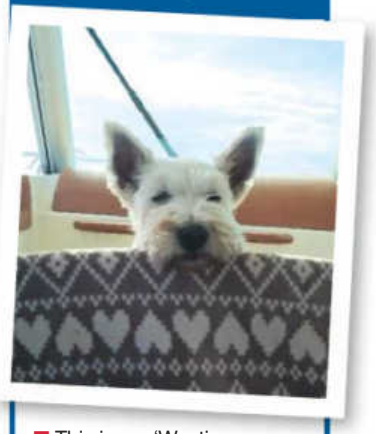
Help was at hand, however, from Farnell Components, who sell insulating boots that fit Deltron 20A crocodile clips. The good thing about these is that they open wide enough to grip a battery post. The red boots are Farnell part number 152-327 and the black boots are part number 152-328. Another useful modification is to get rid of split-shell mains plugs that are really only suitable for use in dry heated buildings. Condensation can get between the halves of the plug and give one a nasty surprise!

David Norman, by email

Insulating boots are available to fit Deltron 20A crocodile clips

Insulating boots are available to fit Deltron 20A crocodile clips

SEADOG OF THE MONTH



This is my 'Westie on watch': his name is Indy, after Indiana Jones. He isn't a very good watchkeeper, though!

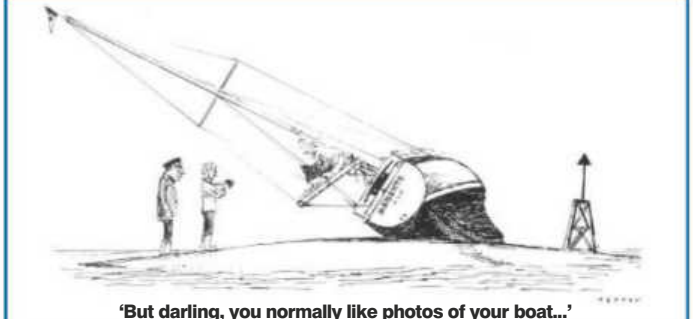
Mark G

Seadogs galore!

Visit our seadog gallery at www.pbo.co.uk/seadogs or scan this QR code with your smartphone.

Send us your seadog photos for our web gallery and your pet may be lucky enough to become Seadog of the Month and win you £30

PEYTON'S PICK FROM THE PAST



'But darling, you normally like photos of your boat...'

Taken from Practical Boat Owner November 1988

Nearly shafted by careless work

Re Martin Bence-Wilkins' letter 'Contractual obligations' (PBO December), I have a similar tale. While I was in France this summer my boat incurred a problem wherein I was unable to select forward or reverse gear while the engine was running. Two French mechanics inspected the problem for four hours and said the problem was in the gearbox, but declined to take on the repair work. We sailed back to UK and took the boat to a well-known boatyard. They fitted new cables to the accelerator and gearbox and also checked and adjusted the engine alignment, which involved uncoupling the propshaft from the gearbox then re-coupling it. On collection, they demonstrated the improved engine running and normal gear changing, and assured me that the boat was ready to take away.

My trip home was undertaken over two days and involved a total journey of about 25 miles: the motoring time was 2.5 hours at about 2,300rpm or less. When I was about four miles from home and in Southampton Water's busy, narrow channel, I started the engine to motor out of the channel (the wind was variable and light) and noted a loud knocking from the engine, which was at tickover speed.

Immediate inspection showed the engine jumping violently on its mountings and the propshaft in vastly distorted rotation. I stopped the motor quickly, and we managed to sail into safer water. I climbed over the engine and found three bolts missing from the gearbox/propshaft coupling and one remaining bolt hanging on by two or three threads. I found the missing bolts in the bilge and reassembled them so that we could get back to our mooring very gently under motor. The boat is now slipped for the winter, and the boatyard has agreed to inspect it, but will not admit liability.

In different conditions this could have been a very serious problem. I may now also have a damaged propshaft and centre bearing.

Robin Bridger, by email

Self betterment

I have been researching an incomplete self-steering system that came with my Yarmouth 23, and discovered that it is a Quartermaster self-steering mechanism for trim tabs, possibly designed by Hasler. A company called Trailer Marine Supplies can supply the parts I need, but I am interested to know if PBO readers have any more information about this mechanism?

David Hedley, Poole Yacht Club

Gland tidings

Re 'A fair system of charges' (PBO January), I noted the problem PBO editor David Pugh had with the through-deck gland from the solar panel on the PBO Project Boat. I am just about to fit a panel to my Hunter Ranger, and have found a side-entry deck gland made by Index Marine which should get around the problem of the cable having to come up from the panel and then down through the gland. They come in different sizes, designated SE1, 2 etc.

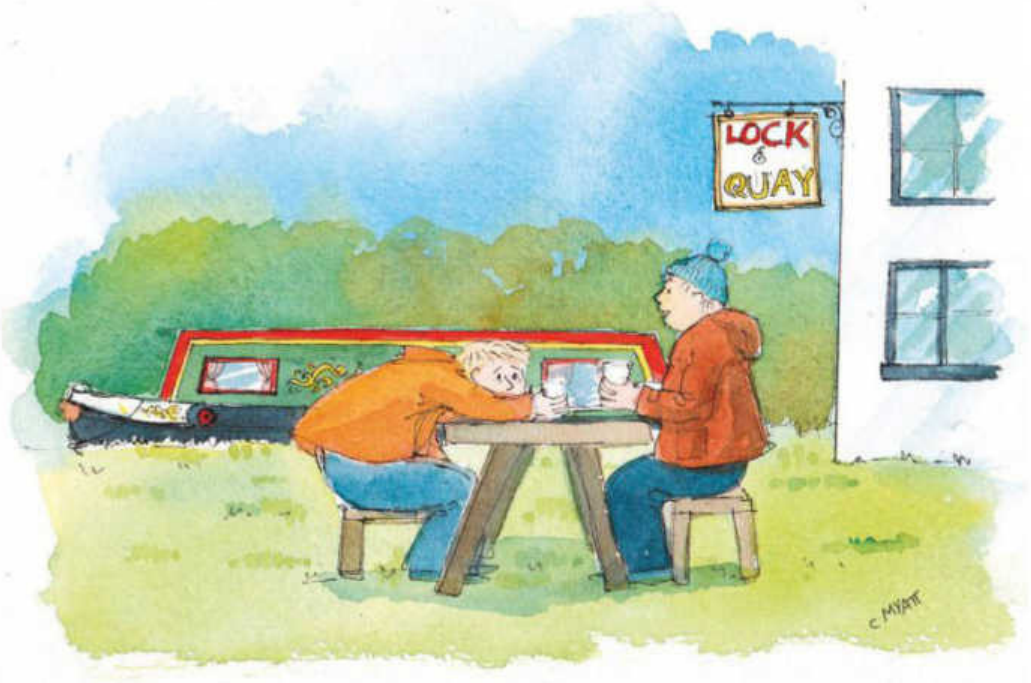
Andrew Poyner, by email

The side-entry deck gland

Dave Selby

Mad about the boat

Dave Selby is the proud owner of a 5.48m (18ft) Sailfish, which he keeps on a swinging mooring on the picturesque Blackwater estuary in Essex



'…And when we got to the 97th lock, things became really exciting…'

The best kind of lock-in

A Lock and Bull story: a pub wasn't a pub in olden times unless it offered a grandstand view of gladiatorial combat with lock gates

I never really understood narrowboaters until I overheard a coven meeting in my local sailing club and discovered that, like us 'normal' cruising sailors, they are never so enthusiastic and gleeful as when regaling each other with anecdotes of the mortal dangers of their pastime.

Indeed, it's clear that narrowboating is an extremely hazardous pursuit, not least for the damage it does to your dress sense; basically a composite breathable three-layer permutation of celebrity steam-fiend Fred Dibnah, a poacher from a DH Lawrence novel and a morris dancer. Actually, that apart, we're frighteningly alike, 'cos cruising sailors also aspire to look as ridiculous as possible. It's just that sailors do it with 'pinks', blazers and little admiral caps, while narrowboaters favour pigeon-fancier flat caps, bowler hats and soggy woollen jerkins.

Both are period contemporary looks; it's just that ours is from the 1980s TV nauti-soap *Howards' Way*, while narrowboaters go for 1830s Black Country Hovis advert chimney-sweep chic, often accessorised with a ferret as a neckerchief. Other than that, there's not much to separate us, apart from the narrowboaters' uncontrollable urge to plant potatoes, tomatoes and marigolds on their roofs and rusticate everything in sight by stove-enamelling twee floral designs on everything from watering cans and buckets to satellite dishes, mobile phones and Jack Russells.

Yet we are, at heart, kindred spirits, and it's never better expressed than when spirits are involved – or, in the case of narrowboaters, a warm foaming fermenting pint of putrid gangrenous botulism, also known as 'real ale'. That's when the bravura barstool stories of terror begin to flow.

For us, entertainment is provided by humourous tales of such things as broaching off Portland Bill: for narrowboaters, it's locks that provide comical Cape Horn-style calamities.

And that's where I agree, 'cos other than every other aspect of sailing, it's locks that traumatise me most. And recently after too much strong mead I fell in with a bunch of narrowboaters who recited an endless litany of light-hearted locking disasters involving boats sinking in seconds when they'd caught on the sill or had been overwhelmed by the gushing water from the sluice. Everyone's favourite is the one where a narrowboat got caught on a protruding brick, then swivelled and sank in seconds as the water drained. Hilarious.

Now, it's well known that in olden times all pubs were built beside locks because of the fantastic free entertainment they provide. If you see a pub without a lock, that's because it's been filled in on the grounds of health of safety; one such is Ye Olde Lock and Bull, but not so the Old Ship at Heybridge Basin on the Blackwater, where there's a spectator lawn to provide a prime view of the gladiatorial combat and chaos in the lock.

Basically, having an audience just adds tension. Another thing that adds stress is the fact that my outboard doesn't have reverse. It's usual practice for the Heybridge lock-keeper to call me in last so I can nudge between the butt-cheeks of the bigger boats in front. Not only are all eyes on me, but there's also pressure to get a hurry on, either for the next lock-in or to get in before the tide drops too much (Heybridge only operates an hour or so either side of high water).

So as everyone's waving me in, I'm doing my best to go as slowly as possible so that I don't ram the other boats whose crew are preparing to ward me off with fenders, boat hooks, harpoons and maces. It's a question of fine judgement as to when to knock my engine into neutral to keep enough steerage on, and not so much that I crash into the other boats. And all the time they're still urging me on.

When I mentioned this dilemma to shipwright Adi, he suggested throwing a bucket overboard to act as a brake. So, on my next run of the gauntlet into Heybridge I approached a little more purposefully, tossed my bucket over the stern and careered up the chuff of two boats. In the routine inquest that occurs after every time I go sailing, Adi asked: 'You did attach a rope, didn't you?'

Do I look that dumb! That's rhetorical, by the way; no need to write in. Of course I attached a rope to the bucket, I just forgot to attach the rope to the boat. Doh!

PBO LISTEN ONLINE

Hear Dave Selby's podcasts on the PBO website **www.pbo.co.uk**

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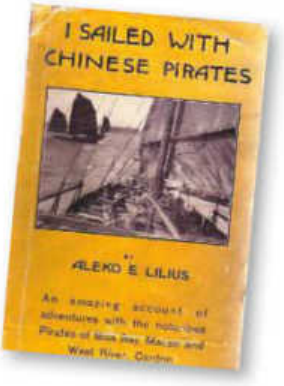
Sam Llewellyn

Flotsam and jetsam

Sam Llewellyn is editor of *The Marine Quarterly*, www.marinequarterly.com, and author of nautical thrillers. Three years ago he bought a Corribee on eBay

Extracting gold from junk

Perusal of an ancient volume, *I Sailed With Chinese Pirates*, leads circumstantially to an extended contemplation of the sound good sense inherent in favouring a junk rig



The weather is too cold for epoxy to cure, let alone sailing. The mind wandering, I picked up an ancient volume entitled *I Sailed with Chinese Pirates*. It is set in the 1920s, at a time when the arch-villain Dr Fu Manchu was supposed to be twirling his long moustaches in his lacquer office behind the opium den in the Street of a Thousand Nasal Obstructions. The author, an obvious fantasist, spends plenty of time in fan tan hells and houses of ill fame, trying unsuccessfully to get to know some real pirates. When he does make contact, he finds the quarry nasty, brutish and short, and not much happens.

The attention therefore drifted past the pirates to their junks: enormous things with cocked-up sterns, propelled by sails like huge Venetian blinds made of bamboo matting set on as many as five masts. In the absence of breeze, these monsters are propelled by the telegraph-pole-thick sculling oars known as yulohs. Their construction divides the hull into dozens of independently buoyant compartments. Their flat bottoms, pierced in some types by many centreboards, make them practical in shallow waters. Their enormous size – up to 450ft long – made it possible for a fleet of them to sail from China to colonise America in the 15th century (if you believe *1421*, Bantam, £10.99, a rather odd history by the ex-submariner Gavin Menzies). Where they drift, the mind drifts with them.

Easy to manage

When we lived in a shack off Georgian Bay in Canada, we would occasionally see passing the junk belonging to Professor J Tuzo Wilson, one of the biggest beasts in the then newish field of plate tectonics. The great man had imported this vessel from Hong Kong, and flew from its ensign staff a Maple Leaf and from its masthead a huge banner bearing Chinese characters that were (unreliably) reputed to read 'Death to the Running Dogs of the University of Toronto Geomorphology Department'.

During the 1960s, an obsession with junks stopped being evidence of eccentricity, and became an indicator of sound good sense. People who have sailed actual junks claim that they make appalling quantities of leeway. But their rig, as all the world knows, is efficient, easy to reef, and easy to manage. In the first OSTAR, sailed in 1960, many non-junk-rig contestants staggered into Newport, Rhode Island crusted with salt and ravaged by sleep deprivation. Blondie Hasler, author of *Practical Junk Rig*, sailed in second, with his head poking out of the hatch in the junk-rigged *Jester*'s superstructure. He is said to have been wearing a cardigan and carpet slippers, and to have spent the long voyage tasting fine wines.

There is plenty of junk rig about still, and its devotees form the Junk Rig Association, www.junkrigassociation.org. Perhaps the most notable exponent is Roger Taylor, who in his two junk-rigged *Mingming*s has sailed as far afield as Svalbard. No fine wines for Roger. *Mingming II* is an Achilles 24, a luxurious affair after *Mingming I*, a Corribee, nose and stern filled with buoyancy, leaving a cabin with the cubic capacity of a smallish estate car (see www.thesimplesailor.com). Roger's style of voyaging is the perfect antidote to a world in which a 47ft boat with hot and cold running everything is increasingly regarded as the minimum for the cruising couple.

Mingming's sail has in the past been a pretty ramshackle object, much patched and with no shape to speak of. Recent junk rig thinking, epitomised by Sunbird Marine (www.sunbirdmarine.com), has refined the aerodynamics until they approach the mathematical sophistication of an Airbus's wing...

But it is February, and the mind cannot cope with equations. It drifts to a flat grey morning in the delta of the Pearl River. On the long teak deck of our five-masted junk, small men in black pyjamas are tramping round a capstan, hauling the mainsail up the mast. Forward, someone is unbrailing the sail on the forward-raked mast that is almost a bowsprit. Aft, a little sail forward and to windward of the mizzen is cranked outboard, blowing the stern round. The sheets, one for each batten, hang in slack festoons, then take up as the breeze catches them. The sails swing and fill. With a universal groan of timber and cordage, the huge hull heels to port and begins to track towards the horizon. Below, the phoenixes in the cages on top of the cargo of jade boulders and opium bales screech harshly over the crescendo gurgle of the wake. To the horizon, and beyond!

Roger Taylor's *Mingming* circa 2006

***Practical Junk Rig* by Blondie Hasler: 'In the first OSTAR, sailed in 1960, Blondie sailed in second. He is said to have been wearing a cardigan and carpet slippers, and to have spent the long voyage tasting fine wines'**

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Andrew Simpson

Monthly musings

Yacht surveyor and designer Andrew Simpson cruises with his wife Chele in his own-design 11.9m (39ft) yacht *Shindig*. Read his blog at www.offshore-sailor.com

Sailing into history

Finding relics of past conflicts: 'It's hardly surprising that countries with coastlines go to great lengths to defend them'

A wise old bird, long departed to that celestial anchorage in the sky, once told me: 'Cruising under sail isn't just about sailing. Travelling, certainly, but sailing no'. Naturally I didn't really believe him. In my late teens I believed it was an inviolable truth that sailing was the ultimate thrill, and those days spent lying inertly to anchor, tethered to a mooring or rafted with other boats to a harbour wall, were essentially wasteful interludes. Not anymore. I'm completely sold on the notion that a cruising sailboat should, at heart, be a vehicle whose primary purpose is to carry its crew from one agreeable place to another.

With *Shindig* now ashore in the Caribbean and a launch date planned for about the time this issue reaches the newsstands, I was reflecting on the principal advantages offered by journeying under sail and came to the conclusion that it can take you to places inaccessible to more conventional forms of travel. Granted, the Himalayas would be impracticable for a yacht, ditto the wastelands of the Gobi Desert. Even the Colorado River and the Grand Canyon would require some other form of craft, but such limitations are more than offset by the other places you can visit. Anyway, for those like me who suffer dizzy spells when distanced too far from the sea, there are always buses, hire cars and the like for minor treks inshore.

For example: Back in 2011, with *Shindig* then in the Ionian, I wrote of Oiniades – a stately and now landlocked Grecian boatyard which was active about 2,500 years ago. That's four centuries before the Romans took a wrong turn and found themselves in Britain! At that time, the Greeks were building triremes – unquestionably the most effective warships of their era, sort of waterborne guided missiles. Each was about 120ft long and manned by up to 170 oarsmen; all freemen who saw it as their democratic duty to defend their country. Although fitted with downwind sails, their preferred mode of attack was under oars when they would ram their prey, achieving astonishing speeds – at least 10 knots to ensure success; some say 15.

At that time, *Shindig* was berthed in Messolonghi, a small but attractive university town on the northern shore of the Gulf of Patras. From there we drove the dozen miles or so to Oiniades, site of the now abandoned boatyard and a nearby amphitheatre dating from the same period. What once must have been a thriving community had long since decamped.

They might be just tourist attractions, but their original purpose was deadly serious

It's hardly surprising that countries with coastlines go to great lengths to defend them. Of the 100 or so castles in England, about 30 are in the south-east alone. That's because this is where the English Channel is at its narrowest and therefore the most vulnerable to attack. Dover Castle, which stands sentinel over the Strait, has seen service spanning nine centuries.

Of course, what's true of the UK holds for many other countries. Cherbourg had a castle in the 5th century, and the walled city of St Malo is also well protected. La Rochelle's harbour has twin towers that guard the approaches. Today they might be just photogenic tourist attractions, but their original purpose was deadly serious.

For cruising sailors who arrive by sea, it's unsurprising that any sortie ashore might bring them face to face with the relics of previous conflicts. This is particularly true of the eastern Caribbean, the islands of which – with the exception of Barbados – have been squabbled over by France, Spain and Britain (and I daresay others) since their presence became known in the 15th century.

The relics of previous wars abound, and not all date from olden times. I photographed the airliner pictured here last July. Made in Russia, it hails from Cuba and was used to ferry troops into Grenada – later to be destroyed on the ground when, to widespread international protests, US forces invaded the island in 1983. The object of what was known as Operation Urgent Fury was to take down the Marxist government of Maurice Bishop, thereby weakening Grenada's strengthening links both with Castro and the Soviet Union.

So, for better or worse, history rolls on. Chele and I spent nearly a year in the Lesser Antilles back in the late '70s, but got no further south than Antigua. In 2016 we plan to cruise north, first through the Windward Islands and later through the Leeward Islands. Hopefully, you'll join us.

This airliner was destroyed on the ground when US forces invaded Grenada during Operation Urgent Fury in 1983

I SURVIVED

"In a matter of moments we were fighting for our lives in a tiny life raft. We were being thrown around and battered by an angry sea alone. We were rescued 950 miles from land."

- Len Rorke

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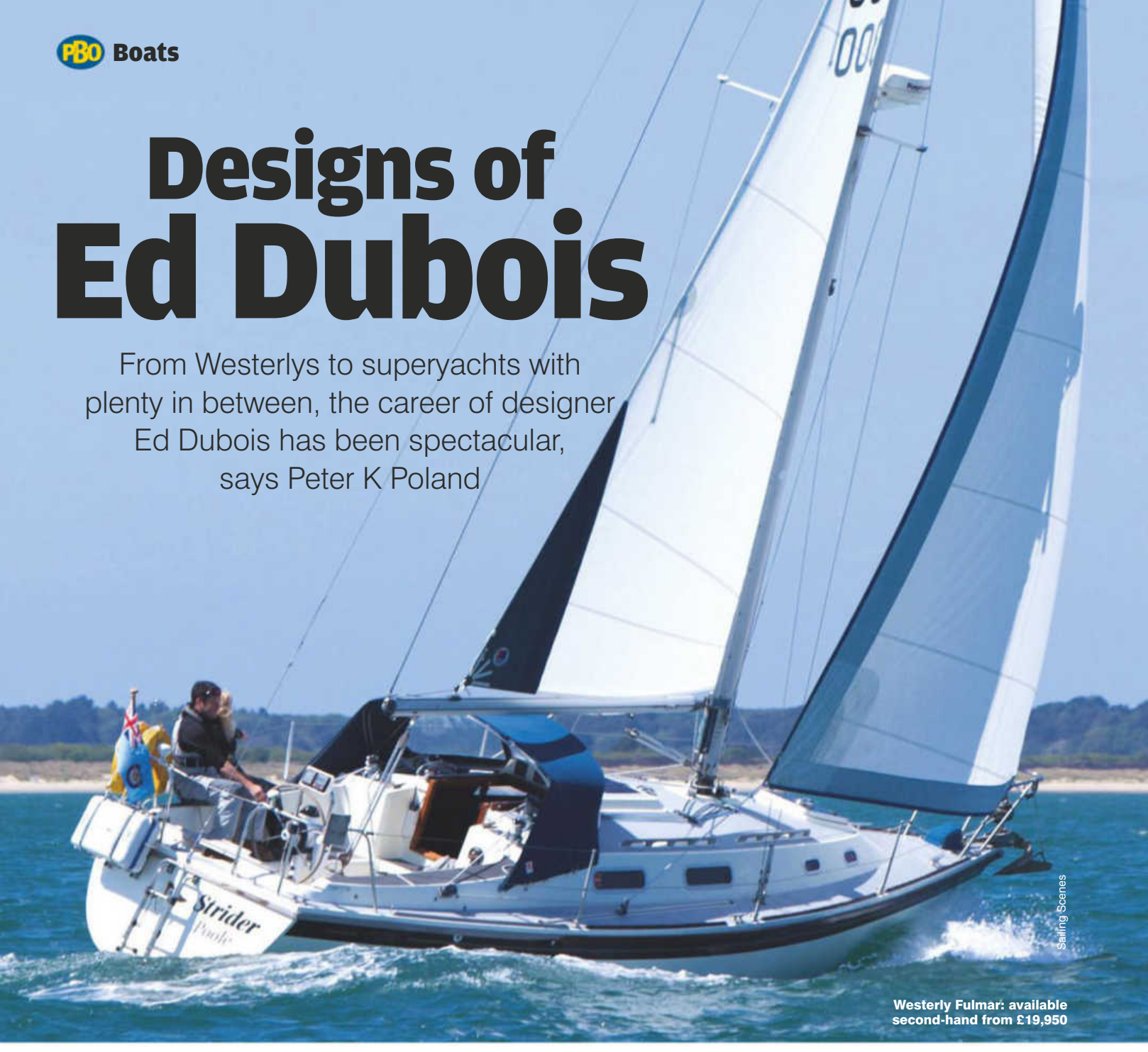
Designs of Ed Dubois

From Westerlys to superyachts with plenty in between, the career of designer Ed Dubois has been spectacular, says Peter K Poland



Sailing Scenes

Westerly Fulmar: available second-hand from £19,950

I first met Ed Dubois in Southend-on-Sea in 1974. We were both relative nippers and setting forth on new careers – Ed as a boat designer and me as a boatbuilder.

He was filling in time working for *Yachts and Yachting* as a journalist while waiting for a work permit to come through from the USA prior to taking up a job offer at the illustrious Sparkman & Stephens design office. From the word go, Ed aimed for the top.

At that time, I was planning a new Hunter model. One option was to go for a brand-new David Thomas design. The other (cheaper) route was to plonk a classier deck onto our existing Hunter 701 hull to give it more modern looks and extra space down below.

'I'd like to have a go at that,' said Ed over a pint (or two) of Essex ale and soon presented an attractive 701 'Mark 2' drawing.

I showed both options to Peter Hornbrook, an existing Hunter owner with a yen for a new boat, asking: 'Which one do you want?'

The man himself, Ed Dubois

He scratched his head then pointed to the Thomas design, saying: 'This one looks interesting. Besides which, I already have a 701.'

So he ordered Sonata No1 'off plan' and offered to become the founding secretary of the Hunter Sonata One Design class. Thus the die was cast. If Peter had gone for the revamped 701, later Hunters might have been Dubois designs!

Early ambitions

Dubois (born in 1952) had his first sailing adventure on a boating lake in Regent's Park. Later he acquired a knackered Hornet dinghy that he restored and raced from Thorpe Bay. Even as a teenager he knew that his heart was already set on sailing and becoming a boat designer.

So he applied for the new boat and yacht design course at the then Southampton College of Technology (now Southampton Solent University), winning a place in 1971.

Each academic year comprised three terms, the third of which (in the summer) had to be spent working in the marine industry. 'No one gave you a job. You

ABOUT THE AUTHOR

Peter K Poland crossed the Atlantic in a 7.6m (25ft) Wind Elf in 1968 and later spent 30 years as co-owner of Hunter Boats. He is now a freelance journalist.

had to find one,' Dubois said.

He found employment in a yard in Jersey, building and repairing boats. At the same time, he met restaurant owner George Skelley, helping him deliver his S&S-designed 31-footer from Southampton to Jersey. He then became a regular member of the crew. Skelley was later to play a major role in the launch of Dubois' career.

The following summer, Dubois landed another Jersey 'holiday job' with yacht designer Alan Buchanan, who had previously been a stress engineer with an aircraft manufacturer. So Dubois picked up valuable engineering knowledge in addition to practical yacht design skills.

Then, after graduating from Southampton, he returned to Buchanan's firm as a freshly qualified naval architect.

As part of a four-man team, Dubois was kept busy designing production boats. He also worked on the design of the 80-footer *Anaconda*, a foam-sandwich yacht built in Australia.

However the ambitious young Dubois soon grew 'rock happy' in the Channel Isles and decided to spread his wings, applying for and getting a job with US-based superstar design office Sparkman & Stephens.

This was a real coup for a young British designer, even if he would have to wait 10 months for a work permit. So he left Jersey and got a job with *Yachts & Yachting.*

Networking

As a journalist, Dubois met many people in the marine industry, ranging from small-time boatbuilders (me) to famous sailors such as John Oakeley, a friend of Bob Miller and Craig Whitworth from Flying Dutchman-sailing days. Oakeley won the Flying Dutchman Worlds in 1967 and was much admired by the Aussie duo, so Oakeley started the UK branch of sailmakers Miller & Whitworth.

Then, in September 1975 Dubois' friend George Skelley – encouraged by prominent Jersey sailor Peter Morton and doubtless egged on by Ed's infectious enthusiasm – commissioned him to design a new Three Quarter Tonner. Dubois grabbed his big chance, but in addition to his Jersey friends – competent though they were – he also wanted top sailors to sail his precious new design.

In the meantime, Oakeley had been thinking of asking Dubois to join him and be the design side of M&W in the UK.

So, when Dubois presented a ready-made client it was a no-brainer. He then suggested to George Skelley that he'd get the best out of the boat and enjoy it more if he took Oakeley and a couple of his merry men along for the ride. And another die was cast. S&S would have to wait…

Instant success

Named *Borsalino Trois*, this elegant 34-footer wiped the floor in the predominantly light weather UK Three Quarter Ton trials in 1976. In the windier World Championships, she came a creditable eighth overall in a large and star-studded fleet. The design grabbed much admiring attention and put Dubois firmly on the 'designer shopping list' for competitive owners. Ton Cup commissions such as serial race-winners *Nadia* and *Enigma* (a Quarter Tonner) and the Admiral's Cupper *Vanguard* (designed for a Hong Kong-based owner) soon followed.

However, when Oakeley decided to expand the sailmaking business, the partnership broke up. Dubois abandoned his houseboat home on the Hamble mud to seek his fortune on the more salubrious streets of Lymington. He still expresses great gratitude to George Skelley, Peter Morton and *Vanguard*'s owner David Lieu, all of whom urged him to believe in his ability, take the plunge and form his own design company. Their advice was sound. Clients soon started banging on Dubois' new office door.

Dubois picked up engineering knowledge and yacht design skills

One of these was Richard Riggs. He wanted a head-turning and race-winning Half Tonner, and Dubois duly obliged.

Santa Evita – resplendent with Britannia blue topsides and varnished coachroof – had lovely lines and went on to attract the attention of David Sanders, MD of Westerly Marine. To the surprise of some, Sanders drew a line under Westerly's long-standing relationship with the Laurent Giles design office and signed up the young Dubois, whose first model (the Griffon) hit the slips in 1978. Sanders had decided that if Westerly was to hold back the invading hordes of French mass-produced cruisers, the range needed a new look and sharper sailing performance.

Dubois told me: 'Looking back on our favourite production boats, I guess one of them has to be the mighty **Westerly Griffon**.

'For a start, it was a big break for me – aged just 26 – to get into the mass-produced market with the blessing of the then-important Westerly company and its MD David Sanders.

'David is a charming man, and it was a great leap of faith to give me the new design contract. Being chosen by David and Westerly made this a happy period; and the Griffon was a great success.

Sailing Scenes

Westerly Oceanlord: available second-hand from £54,500

Westerly Ocean 33: available second-hand from £53,000

Sailing Scenes

Sailing Scenes

Westerly Griffon: available second-hand from £9,950

'While perhaps a little stubby in appearance, I think the proportions (for what she is) still look pretty good – vertical transom-hung rudder and all. She does the job she was called to do very well. And she sails well!'

Westerly sold around 1,000 of the Griffon's various manifestations, and Dubois received a fixed royalty of 1% of the selling price – which was very handy in those days. This stream of royalty income helped Dubois build his business, covering overheads while he sought out new clients looking for more exotic one-off designs.

'The success of the Griffon led to the **Fulmar**, another favourite. In all, we designed 17 different models for Westerly over the years and I guess, therefore, that the first one – the Griffon – was a big landmark for me.'

An eye for the one-offs

While this new Westerly stream of production cruisers was beginning to expand and flow smoothly, Dubois continued to enhance his reputation in the one-off racing boat field. In the 1970s and '80s, this was the best way to make your name as a designer and pick up production boat commissions. Like Ron Holland, Doug Peterson, Michel Dufour, Jean-Marie Finot et al, Dubois spent a lot of time racing on his own designs and evolving his ideas.

His next big break came with the 12.8m (42ft) Two Tonner *Police Car*, part of the Australian Admiral's Cup team that won this holy grail of offshore racing in 1979.

While every other boat in the Two Ton fleet had a masthead rig and plenty of freeboard, the prettier *Police Car* boasted a fractional rig and relatively low freeboard. It was little short of revolutionary. 'A big risk,' Dubois said. 'But it worked. It was just electric in a breeze.'

After the Fastnet Race tragedy of 1979 (15 sailors died in a fleet-decimating freak storm) that concluded the Admiral's Cup, Dubois picked up a lot of new business.

'It was a weird feeling,' he said. 'Part of me was happy and elated. I knew I was off and running career-wise. But I also knew that there were families who lost people, going through hell.'

Sailing Scenes

LEFT Trapper TS240: available second-hand from £6,000

BELOW Wauquiez Centurion 47: available second-hand from £46,000

BOTTOM Wauquiez Pilot Saloon 43: available second-hand from £109,000

Sailing Scenes

Production boats

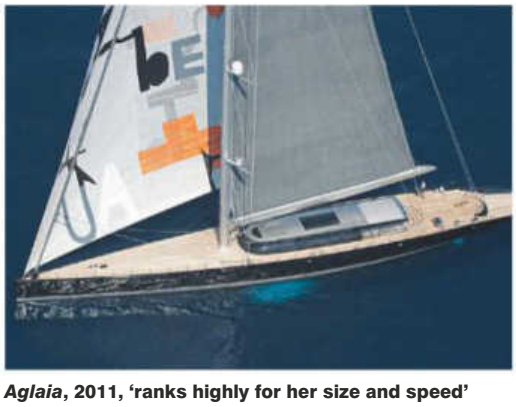
Meanwhile, Dubois' portfolio of production boats continued to grow. His attractive Quarter Ton cruiser-racer the Starflash (7.68m) came out in 1978 then Trapper Yachts bought the moulds and developed it into the fin-keel Trapper T250 and successful lift-keel **Trapper TS240** in 1980. It remains a popular club racer to this day and makes an excellent and versatile family coastal cruiser. Colvic also offered Dubois' sleek Liberator 35.

Then, in 1985, Dubois took on a decidedly 'upmarket' marque of production cruisers. He told me: 'I was very pleased to get the work for Wauquiez in France. Henri Wauquiez was something of an Anglophile and had built Holman & Pye designs before.

'Then he came to me after the success of our Admiral's Cupper *Victory of Burnham* in 1981. The first boat was the **Centurion 47**. He hoped to build 25 of them, but in fact over 80 were sold! This led to the Centurion 42, the Centurions 40, 38 & 36 and then later the pilothouse boats, the Wauquiez 48, 54 & 60.'

Waiquiez's UK distributor, Charles Watson, told me: 'Wauquiez built its reputation on high performance, high-quality construction and attention to detail and finish. They were then seen as the French equivalent of Camper & Nicholsons or Swan and had a strong following in the UK. The 48 has always been my favourite. Built as both a Centurion and as a Pilot Saloon, it's a powerful cruising boat that eats

***Como*: Feadship maintains that no boat has ever won more awards**



***Aglaia*, 2011, 'ranks highly for her size and speed'**

***Ganesha*, 2013, 'a special boat for her speed and grace'**

up the miles, looks gorgeous, is bulletproof and offers every home comfort. What's not to like?

'The later 43 **Pilot Saloon** has the build quality of the 48-footers and still offers three cabins, saloon and two heads. Being smaller, all the gear is that bit easier to manage and shallower draught has its advantages. Wauquiez never built a Centurion version of this model but she is an excellent sea boat and very capable of fast, comfortable, long-distance passage-making.'

To this day, Dubois' Wauquiez boats have many attractions. Their design gives above-average performance while the interior finish and quality are well ahead of other French production yachts from the same era.

In addition, Dubois' Deck Saloon versions combined sleek styling with wonderful panoramic views that can be enjoyed from a warm, dry and comfortable environment. In many ways they look like small Oysters.

On the racing scene, designs were commissioned by high-profile owners such as Peter de Savary (*Victory of Burnham*) and Brian Saffery-Cooper (*Dragon*). This dynamic duo formed part of the UK's 1981 Admiral's Cup team that walked off with the coveted cup.

Superyacht world

But perhaps his most important new design commission, Dubois says, was the 37.4m (123ft) yacht *Aquel II* in 1985. She was the first big Dubois boat to be built in New Zealand – and she revolutionised the look and interior comfort of the so-called superyacht.

Dubois told me 'The owner, Bob Milhous, gave me free rein. He wanted something different – with an interior more along modern motorboat lines.

'Externally, he wanted a sleek sailing yacht with clear decks. All the hydraulic winches were hidden. The interior was more open-plan, and a pilot house accommodated split-level living areas.'

Aquel II reinvented the genre and catapulted Dubois into the exotic world of superyachts. He never looked back. Now there's even a thriving biennial regatta for Dubois-designed superyachts held in Porto Cervo.

Aquel II's striking modern looks also attracted the attention of Neville Crichton, who commissioned Dubois to design him a new 106-footer. *Esprit* was the first of 23 successive projects designed by Dubois and built by Alloy Yachts.

Indeed, Dubois brought so much work to New Zealand yards that in 2005 he became the first person to receive the New Zealand Industry Award. This was in recognition of the US$400 million worth of Dubois yachts (sail and power) that had been built there. Now this total is up to US$800 million.

Wider interests

This breakthrough into the superyacht world did not, however, distract Dubois from designing pure race boats. His 8 Metre design *Gefion* won the World Cup in 1988 then continued her magical victory tour on both sides of the Atlantic, taking the honours at six more World Cups. The 1989 and 1990 Dubois-designed 8s *Sarissa* and *The Natural* also won World Cups.

Another pivotal point in Dubois' ever-widening sphere of influence occurred in 1987. Up to then, all his designs had been for sailing boats – from quarter tonners to superyachts. He was commissioned to design a 21.3m (70ft) motorboat, and this was built in New Zealand. In 1989, he graduated to 50m (164ft) and *Turquoise* was the first of many large motorboats to be built by ex-NATO suppliers Gurnay – renamed Turquoise Proteksan. Since then, they have built several more Dubois-designed motor yachts.

Nowadays, motor yacht designs represent about 30% of Dubois' turnover in value, and 20% in numbers. But he qualified this by saying that any sailboat over 40m has to offer motor yacht comfort and facilities.

'The shape is practical and matches function with form'

Pick of the yachts

When I asked Dubois to single out a few memorable superyachts, he said: 'The more notable in recent years include *Nirvana*, launched in 2007. She won the "Yacht of the Show" at Monaco in 2008 – the best boat in any category (sail or power). This was quite something as it's very rare that a sailboat is chosen, there being so many more motor yachts.

'*Nirvana* (53m/174ft) is unusual in that she has a centreboard and a minimum draught of just 3m. The boat sails upwind beautifully and reaches well. The interior design by Josep Juanpere Miret is exceptionally attractive and complements our layout perfectly.

'Since then, the 2011 ***Aglaia*** (66m/217ft) ranks highly for her size and speed. The 2013-launched ***Ganesha*** (46m/151ft) is also a special boat for her speed and grace.

'On the motor yacht side, ***Como*** (46.2m; 166ft), built by Feadship, is a very special vessel. She won practically every award going in 2014 – Feadship told us that no boat has ever won more awards in the history of yacht building! Of course, the awards thing is a little bit subjective – but it's much better to win than not!

'*Como* is different because we had to grab the owner's attention (in 2011) to get him to build something in what were still the recession years. She has a sweeping inflected sheerline and a more upright stem to look both eager and stylish, giving a feeling of movement even when stationary. The shape is practical and has a harmony of line, matching function with form.

'As a side note, 10 years ago our two large sailing yachts *Drumbeat* and *Tiara* (both 53m/174ft) were first and second in the Rolex Transatlantic Race from New York to England in 2005. This had a huge impact. It showed that large yachts like these could be raced safely and successfully.'

And as a crew member on *Drumbeat*, Dubois won another Rolex watch to add to his collection.

Still done by eye

Unlike many of his peers, Dubois draws the initial lines for every design by hand.

'You can put your head down

Windy SR52 Blackbird, a fast chase boat for superyachts

Draco 27RS, available second-hand from £67,000

Firebrand, Ed Dubois' 1965 yacht which he bought in 1998

low and see the lines this way,' he told me.

These are then digitised and loaded into computers for performance analysis and detail, and construction design.

'It's all about harmony of line – the human eye sees this better than a machine. Aesthetics count. And the arrival at a shape that goes through the water best comes from instinct as well as from analysis.'

Then, when the hull design is finalised, a scale model is tank-tested at Southampton's Wolfson Unit for Marine Technology and Industrial Aerodynamics. Nothing is left to chance.

Despite his success in the superyacht world, however, Dubois still enjoys designing production boats, both power and sail.

He told me: 'For the Norwegian motorboat company **Windy,** we designed the 11.9m (39ft) Camira and the 2011-built **SR52** – a fast chase boat for sailing superyachts. This is also now sold as a multipurpose vessel.

'So far they have built approximately 20 of these stunning craft, driven by three Volvo pod drives. Windy has now contracted us to design an SR42 – a somewhat smaller version of the successful 52.

'We have also designed a range of their smaller boats marketed under the **Draco** brand name – a **27** and a 22.'

On the sailboat front, Dubois applied his superyacht skills to designing the largest Oyster models ever built – the 100 and 125. He also designed some attractive upmarket Southerly cruisers. The Southerly 535 and 57RS, both gorgeous-looking yachts, brought real class and style to the top of this range. Sadly, however, few were launched before the builders Northshore Yachts folded and ceased production.

Dubois' interest in production designs is clear. 'It's now our intention to offer our services to other production boat companies – sail and power,' he told me.

'The human eye sees harmony of line better than a machine'

We have a lot to offer with our experience in hull design and ideas for styling, layout etc.'

The way forward

This prompted me to ask what Dubois thinks of modern production yacht designs in general.

'I think they show great variety and some of them are exciting and successful. Rather like motor cars, they seem to get bigger and bigger (beam and freeboard) for a given number of passengers/crew. I guess that's the way the market goes. Some of them are quite extreme.

'A big part of design is the skill of balancing the various elements, which all have to work together, to get to the right function-to-purpose factor. Hence a very wide stern, for example, is good providing it doesn't make the boat unbalanced going to windward in a lot of breeze – which can sometimes happen with designs that are fine forward, unless you have heavy crew sitting on the aft weather rail.

'A wide-stern boat needn't be unbalanced without this crew weight providing the lines are compensated for by fuller sections forward.

'A yacht designer has to know his onions when it comes to hull form and volume distribution. In my opinion this only comes from successful racing yacht designers who have studied their own work, first hand, by sitting on the rail for hours, weeks and, if you add it all up, years, trying to win (and winning) major offshore races around the world.

'That's what I did in the '70s, '80s and into the '90s. It's indispensable. If I were a client for a cruising yacht, I would only go to a successful racing-yacht designer who had also designed beautiful cruising yachts. The key is to identify the true purpose of the yacht and that can only be achieved by understanding the client and what he wants. This is the same with a private individual or a production boat company. Like most things in life, success is born out of good communication.'

Still sailing

And what does Dubois own and sail himself? 'I sail my lovely yacht *Firebrand*, which I bought in 1998. She lives during the summer on a mooring on the Beaulieu River and I can see her from my bathroom window when I shave each morning!'

Firebrand is a classic 1965 S&S-designed Admiral's Cupper, a yacht that, not surprisingly, combines beauty with performance.

'I've sailed *Firebrand* in the Cowes to St Malo race many times, to Scotland and all over the English Channel, Brittany and up the East Coast as far as the Deben. This 43ft Sparkman & Stephens design is a wonderful boat in that she's stiff – 48% ballast ratio, 7ft draught and 10.7 tonne displacement – and can be sailed single-handed if you think ahead. She's powerful enough and totally seaworthy so that you can take her anywhere in the world if you wanted to. She also looks very pretty! One of the best things I have ever done is buy *Firebrand*.'

She's a classic 1960s example of Dubois' current thinking. He told me: 'It's vital to get the various ingredients of the design in the right proportion and balance with the right hull form, right construction for the purpose, right layout etc.

'It's then vital to make any yacht look pretty. This is where the art side of design comes in – to marry beauty with technical excellence. That's always been my philosophy.'

NEXT MONTH

Charter boats: which type best suits your needs and sailing style?

Tracing those tricky leaks

Boat leaks are the bane of a sailor's life, but with patience their source can be traced. Ben Meakins has some ideas of where to start...

Sailing like this can reveal all sorts of leaks!

A leak-proof boat might seem like the holy grail – but it is achievable with patience and a thorough approach to problem solving. Here is a simple procedure to follow should you find a leak. We're not talking huge quantities here – if there's a big leak you'll need to make your way to a hoist ASAP – but for smaller leaks here's what to do...

Step 1: Taste it!

Assuming it's not swimming with oil or diesel (or sewage, which leads straight to the holding tank!), dip your forefinger into the water and give it a quick taste to see if it's salty or fresh.

Step 2: What kind of sailing have you been doing?

It's worth reminding yourself of the weather conditions and the use your boat has had since you last looked in the bilges. If she's been sitting on the mooring and it's been pouring with rain, then finding fresh water in the bilges might mean that it's a leak from above decks. If, on the other hand, you've been doing some serious sailing with the rail submerged in heavy weather, then the presence of salt water could lead to a leaky deck fitting.

Leaks above the waterline

WATER TANKS The first thing to check with a freshwater leak is the freshwater tank. Flexible bladders can puncture, hoses can slip off and taps and seacocks can leak, depositing the contents of the tank into the bilge.

You should be able to reproduce the leak, if it is the water tank, by baling the bilges and adding more water to the tank with a hose, monitoring the bilge water level while you do so. If it's not the freshwater tank, you can move on.


Will Sayer

WINDOWS Windows, especially as boats get older, are a common leak point. Test these with a hose or bucket of water. If you have simple acrylic windows bolted on, you may get away with tightening the fixings. However, other windows, especially those with complex aluminium frames, may need stripping and rebuilding, which is a tricky and time-consuming job. It's rarely totally successful to attempt to seal these in situ, but it's worth trying to add extra sealant to areas where it's sparse, and products such as Captain Tolley's Creeping Crack Cure can be effective in fixing small cracks and leaks. However, at the end of the day, you're probably looking at taking them out in the winter.

DECK GLANDS The fittings designed to keep water out where wires pass through the deck are another common source of leaks. Check these by pouring a bucket of water over them while someone looks on from down below. Common failures include the rubber gaskets wearing out, or the wires being too small for the gland. You can make a quick fix with Sikaflex or another sealant. Some of the better glands that allow a plug to pass through are of the J-hoop type.


Rubber inserts can perish

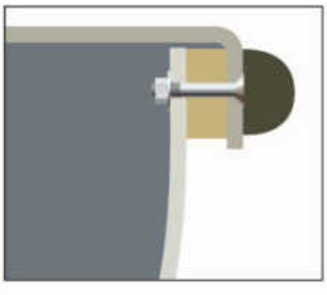
SailingScenes

stanchion base_cmyk

DECK FITTINGS If you've been sailing the boat hard recently and there is a seawater leak, it's worth considering all deck fittings as likely suspects. Stanchion bases, for instance, are subject to heavy loads when people use them to fend off with, and they can shift and crack at the base: therefore, checking with a hose for water ingress is sensible. Likewise, jib tracks and winch bases are sometimes submerged on the leeward rail and involve numerous holes in the deck. Toerails are another potential source: some of these only leak when sufficient force is applied (ie heeling under sail), and can be hard to locate.

CHAIN PLATES Chain plates are another common leak point. This can be serious, especially if they are bolted to a wooden bulkhead which can become rotten and lose much of its strength. That's why if you suspect a chain plate leak it's important to remove and check them ASAP. Again, you can test with a hose, but you can carry out a good check by looking for water ingress in the bulkhead's wood. Any sign of blackened timber suggests a leak. Resealing these with a new set of bolts and some flexible, non-setting sealant will keep the water out – see Practical Projects, page 84, for one way of sealing them.

This chainplate and bulkhead have seen some water ingress



HULL-DECK JOINT The area where the hull is joined to the deck is also a potential leak point, especially if the boat has been damaged or hit. Check with a hose, but you may have to look behind built-in furniture or lockers.

The hull-deck joint can be tricky to reseal, so eliminate all other leak ideas beforehand! Leak sources vary: some joins are through-bolted, so resealing the bolts may fix it. Others are joined with a resin fillet which may have detached and need grinding back and replacing.

STEERING PEDESTAL
One often-overlooked area for leaks on wheel-steered boats is the steering pedestal. This is subject to large loads, and as a long lever it puts a lot of force on the fixing bolts and layup, which can lead to leaks into the boat. Test with a hose, and get someone to apply pressure to the top of the pedestal to see if there is any movement at the base. Don't forget the engine control cables too, which can leak where they pass through the deck.

HATCHES AND VENTS
Similarly, you may find that hatches and vents are liable to leaking. If it's a deck hatch, check the frame for warping – if warped, the seal can sometimes become ineffective. Also, check the seal for splits and damage – you can buy replacement seals for Lewmar and other hatches if this is the case. Test with a hose – you often find that hinges and handles leak once the hatch has reached a certain age. These can be relatively easily removed and resealed. Vents are also potentially leaky. 'Tannoy'-style vents can be rebuilt as the baffles and plastic components get damaged by the sun. They also need stripping down – sometimes the fixing holes can leak, or the plastic base can crack, rendering the baffles useless. Strip these by removing the stainless ring, which should show the condition of the internals.

Check the mast boot is watertight

KEEL-STEPPED MASTS
If you have a keel-stepped mast, it's very common to find water running down inside the mast and ending up in the bilge. New masts have a foam 'collar' inside the mast with a drain hole at deck level, allowing any water that enters via cable or halyard holes to run out. As they age, these can break down and allow the water to flow straight down the mast into the bilge. They can be hard to fix, so it's worth checking all other eventualities before attempting to do anything.

As a first step, check that the mast boot is tight and not allowing water in. Then, check the drain holes at deck level – these can sometimes become blocked. It's also worth checking that the mast track isn't letting water through – there should be something blocking it at deck level.

If these don't work, then the plug inside the mast may be leaking. There is little you can do other than remove the mast foot in the winter and explore with a torch. A rigger may be able to assist in making or sourcing a new plug.

Rain can trickle down the mast

Leaks below the waterline

Saltwater leaks are more worrying than freshwater as they imply that the sea is getting in! When searching for a salty leak, try working out the frequency with which it occurs; for instance, if it only appears when the engine is running, or perhaps after beating in heavy seas. This will help to identify the cause.

ENGINE WATER PUMP

As engine water pumps age, seals and metal components can wear, especially in silty water, and begin to drip. You can isolate this by placing a bucket or container under the water pump, or try observing it with the engine running. Fixing it is a case of stripping the water pump down and replacing the seals.

This water pump has been leaking, as shown by the rust

ENGINE HOSES Most diesel engines have a large water pump which shifts a lot of water around the engine at pressure. A hole in a hose, or a fractured spigot, can make it look like you've developed a hull leak when in fact it's the engine, so it's important to ascertain whether the leak is still there when the engine isn't running.

RUDDER POSTS

Similar in design to a stuffing box, rudder posts are liable to leak, especially if they've not been repacked for a while. Some boats have tubes which extend to deck level, while others are sealed at the hull, but it's worth checking any type for leaks and damage or cracks, especially when moving the helm across hard and lock-to-lock. These can be among the most tricky to locate as they are usually in a tight space.

Modern stern glands shouldn't leak, but stuffing boxes are designed to drip

DRIPPING STERN GLAND

Another common cause of leaks is the stern gland. Traditional stuffing-box glands are designed to drip at around one drip per minute, but if you notice a larger influx of water than usual, this may be a sign that the compression nut needs tightening. If this is ineffective, the gland may require repacking, or the shaft may be scored. If a modern 'dripless' seal starts to leak, you have a more serious problem as the lip seal may be damaged: or, in other types, the bellows may have developed a leak.

COCKPIT DRAIN HOSES

If a significant amount of water has made its way below, it could be that a cockpit drain hose has become holed or detached. If the water is fresh it's likely to be the cockpit end that's giving trouble. If salty, it could be the skin fitting end, but check the cockpit end too if you've been sailing with green water over the deck.

More serious leaks

With the easy suspects eliminated, you may find there is still an unexplained leak...

HOLES IN THE HULL

Even more unusual than keel bolt failure, a hole or crack in the hull is a possibility nonetheless. The key is to trace the water to its source (see panel) and keep a record of when the leak seems worst (eg after sailing on port tack in particular) to aid diagnosis.

These screws, which once held a gasket, had been leaking into *Hantu Biru*'s hull

KEELBOLTS Keelbolt leaks are thankfully rare, but it's worth looking for telltale signs. Rust around the bolts can be one sign, as can any cracking or signs of movement. Dry any water found around the bolts and monitor them carefully. If in any doubt, get the bolts checked out by a surveyor – drawing one can settle any doubt.

Ways to locate a leak

You can mostly identify leaks with a hose, squirting water over deck fittings and other places mentioned above to find the culprit. However, actually following the track of a leak is surprisingly difficult. Where the water ends up is not necessarily where it entered the boat. Many modern production cruisers are built with an internal 'matrix' bonded to the hull: these in particular can distribute water to an area far from its entry point. But there are a few methods to let you discover the water's route and likely source.

HOSE The first step is a visual check – remove any headlinings from your suspect fittings (checking, of course, for any blackening or discolouration of the plywood panels, which can help) and look at the fixings as someone squirts a hose or throws a bucketful of water over it.

Mark Grimwade

PRESSURE TESTING
Another solution is to pressurise the inside of the boat by fitting the washboards and taping up any gaps, before gently pressurising the inside with a Hoover set to 'blow' or a foot pump. You can then go round any suspect fittings with a solution of soapy water, as you'd check a bike tyre with a pump, to see where air is exiting.

COLOURED WATER Another method is to use different coloured waters, poured from different locations. Thus, using a red-dyed liquid from one area and a blue from another, you can see that if blue water ends up in the bilge, then you've found the leaky fitting. It can take days for water to emerge, so this is a slow process.

BUILD A DAM You can also isolate fittings, for instance individual keel bolts, using plasticine or Blu-Tack and seeing where the water pools.

TALCUM POWDER
Tracking slow leaks can be aided by dusting an area (for instance the hull, underneath a number of fittings) with talcum powder. This will show the tracks taken by a small amount of water. Using a sheet of tissue paper is another, less messy way to do this.

This is just a brief overview of some techniques, but we'd be interested to know what has worked for you: let us know! Email pbo@timeinc.com

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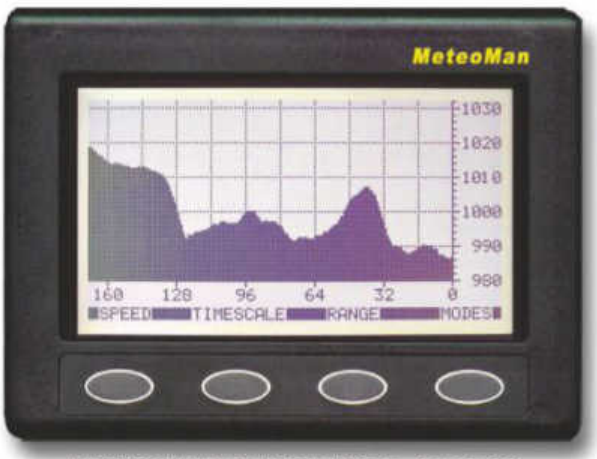

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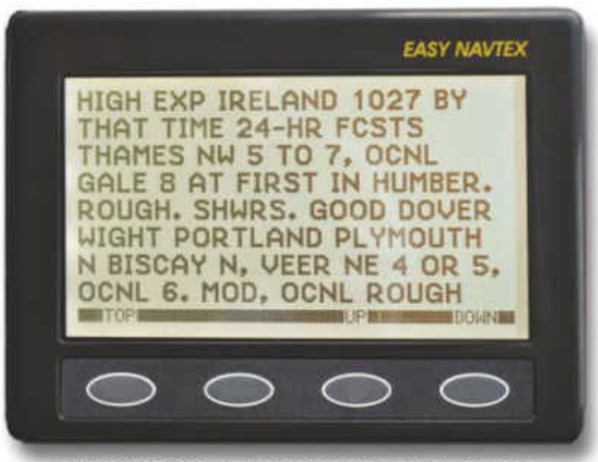

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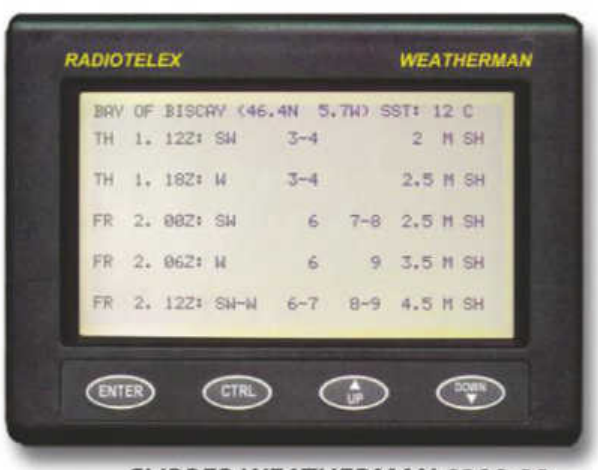

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Ask the experts

Got a question? Email pbo@timeinc.com

Here's just a selection of the latest questions from PBO readers. Email or write to the address on page 5 and our experts will answer your queries

SURVEY AND CORROSION

Paint loss around skin fittings

Q My bilge-keel Moody 34 berths in Haslar Creek, Gosport, close to the bridge. Effective antifouling has always been a problem, and over the years I have tried conventional antifoul, copper finish applied professionally and a single-transducer sonic system antifoul alongside the copper coating, and eventually found success with the use of two coats of an expensive soft antifoul in association with a two-transducer sonic system.

This season I lifted out in early September and the boat needed just a minimal pressure wash; but I am concerned about some sort of reaction adjacent to the exterior metal fittings which has caused the antifoul to come off completely, resulting in heavy fouling just in those areas. It cannot be a reaction between the antifouling and the residual copper finish underneath as it would have happened all over the hull rather just by the metal fittings. The anode on the hull seems to be performing well (it has been eaten away at a rate that I would expect) and, as far as I can tell, all the metal fittings are earthed together and do not show any appearance of having been eroded.

Am I correct in assuming that it is some reaction between the old copper, the antifoul and the metal fitting that is degrading the antifoul, or is it something more sinister? My other thought was that moisture adjacent to the fittings had reacted with the antifoul when it was applied this spring.

My present plan is to clean back the affected areas, apply the appropriate antifoul primer on a dry, warm day and follow that by three layers of antifoul. Any other thoughts?

John Mimpriss
By email

COLIN BROWN REPLIES: The paint loss around your metal fittings may have been caused by galvanic over-protection. It's difficult to say for sure without visiting the boat, but your pictures suggest that this is one possibility. Over-protection can occur when the anode produces a current higher than is necessary to protect the fittings connected to it. Alkaline conditions and hydrogen can be produced around the cathode and this can lead to 'cathodic disbondment' where paint coatings and some antifouling coatings can be 'blasted' off. Wooden boats can suffer serious damage from similar conditions.

Having a cocktail of antifoulings and possibly some wet surfaces prior to painting may have contributed to the tendency to lose paint. Another feature of over-protection is that it can accelerate the formation of calcareous deposits, including the calcium carbonate used to make barnacles and some tubeworms.

If your seacocks and skin fittings are made of good-quality materials they should be naturally resistant to corrosion and can be left galvanically isolated. Brass needs to be protected unless it is rated as dezincification-resistant (DZR).

If you are in a marina berth with shore power you should inspect all of your skin fittings and seacocks closely as stray currents may have been part of the problem and could drive rapid corrosion if your seacocks are electrically bonded together. If you suspect this you should fit a galvanic isolator or isolation transformer. Similar problems could arise if you were in electrical contact with any part of the bridge or any structure which may have steel sheet piling and an impressed current cathodic protection system.

You should investigate the reasons why the paint came off before simply reapplying it.

THE PBO EXPERTS

To ask a question email pbo@timeinc.com and include your address. Pictures are helpful

SEA SAFETY
Will Stephens is Staff Officer Operations (Coastal Safety) at the RNLI

BOAT BUYING
David Harding is a regular contributor to PBO: his photo archive is at www.sailingscenes.co.uk

CRUISING
Stuart Carruthers is the RYA Cruising Manager and has sailed extensively

SAILS
Ian Brown of the International OneSails loft group is an expert on sails

MASTS & RIGS
Mike Coates worked in the spar and rigging business for many years

SURVEY AND CORROSION
Colin Brown runs a marine survey and consultancy company, CB Marine Services

ELECTRICS
Paul Holland is chairman of the BMEA and MD of Energy Solutions (UK)

ENGINES
Pat Manley is a diesel engine course instructor and marine author

ENGINES

New motor and prop for a Konsort

Q I am considering replacing the engine of our Westerly Konsort, and when I mentioned this to the boatyard engineer the subject of prop size cropped up.

I recollect reading somewhere that the clearance between the prop and the bottom of the hull needs to be a certain amount – not merely of a size to just miss contact with the hull. The engineer was talking about a slightly bigger prop if I chose, for instance, a 28hp Nanni to replace the faithful 30-year-old, 20hp Bukh DV20. The Konsort, as you're probably aware, has a fairly flat hull bottom around the region in question, and there is not a lot of clearance between prop and skeg.

Also, do you have a view on which replacement engine might be most suitable?

Keith Carter
Watton, Norfolk

PAT MANLEY REPLIES: Ideally, the prop tip clearance should be 15% of the prop diameter, but 10% is acceptable. Beta are a possible alternative to the Nanni mentioned by your engineer – both use marinised versions of Kubota engines in this size range. The Beta 28 seems to have been discontinued, but there are options of 20hp, 25hp and 30hp versions. A 20hp engine should be able to propel your Konsort at about 7.1 knots in calm conditions, 25hp at 7.4 knots and 30hp at about 7.7 knots, all with a 'best size' prop (about 17in for the Beta 20, 17.9in for the 25 and 18.5in for the 30).

The actual diameter can be jiggled by changing the gearbox ratio or increasing the pitch to give a smaller diameter. The diameters mentioned are for a 2:1 ratio and an ideal pitch. Your chosen engine manufacturer should do the actual prop calculations for you.

The Konsort needs more power than a yacht with finer lines, especially as the going gets rougher. If you were completely happy with her performance with the old Bukh then 20hp should be fine, but if you'd like a bit more speed in heavier conditions then maybe 25hp would be a good choice – there's not a lot of difference in size and weight between the two. Check out the Westerly owners forum – many Konsorts will have been re-engined by now, and real-life experience of engine variations may help you make a choice.

BOATBUILDING

Well, buckle my veneer...

Q I have been using the information in an article by Tony Davies ('The art of veneering', PBO February 2012) to veneer some of the internal woodwork in my motor-sailer *Cecilia*. My first job was the saloon table: I bought several leaves of cherry veneer, using Timebond contact adhesive as suggested by Tony. The process went pleasingly, complete with some hardwood edging pieces, and all seemed to be well. However, as soon as I applied varnish there seems to have been some reaction between the varnish and either the veneer itself or the underlying adhesive. The veneer buckled, resulting in many lumps throughout.

At this stage I stripped the varnish using a water-based stripper and applied a water-based varnish, which rescued the situation to some extent although some lumps remain. I am now veneering the forward bulkhead, including a door that I brought home from the boat. I bought new tins of Timebond and International Original varnish. Again, the veneer was applied successfully, as was the initial coat of thinned varnish, that caused no buckling. However, the second coat, shown in my photo after 24 hours, was badly buckled. Can Tony please advise what measures he takes to ensure that this does not happen? Any other tips would be most welcome. Thanks.

This veneer buckled badly 24 hours after a second coat of varnish

Vyv Cox
By email

TONY DAVIES REPLIES: I'm sorry to hear of the problem with your veneering project, Vyv. I have not encountered this problem before, so I'll need to guess as to the cause. I know you are an expert in many areas from reading your contributions to the YBW forums, so I must apologise if some of my ideas are of the 'egg sucking' variety! Did you use the appropriate comb applicator when applying the adhesive, as too much adhesive may cause this problem? Did you allow the adhesive at least 24 hours to cure before applying the varnish? Was the varnish applied very thickly, causing the veneer to lift? (Although this should not happen if the adhesive has properly cured.) Was the work area damp at the time?

I must admit that I probably didn't mention any of these points in my article. I expect you have tried rolling the bumps out: this can sometimes work as the adhesive carries on curing. The problem occurs due to expansion of the veneer, which has not properly adhered to the underlying surface. You may be able to improve this by carefully slicing along the bumps and then flattening them. This may cause the edges to overlap, but these can then be rubbed down flush.

ELECTRONICS

Stop the squelch

Q My VHF radio is around 10 years old, and due to water damage I've recently had to replace the Vtronix antenna of the same age. I have a new Vtronix Raider antenna including the cable, but find it is now impossible to stop the squelch. This noise stops when a signal comes through loud and clear, but returns when the signal stops. On reinstating the now dried-out original antenna the set works as normal.

Has the new aerial got too much gain? If so, is there any gadget to reduce the gain so I can use the new antenna?

Nigel Fentiman
Cobham, Surrey

CHRIS ELLERY REPLIES: It sounds like something on board is radiating noise which the old, waterlogged and faulty aerial couldn't receive. Now that you have a good aerial, it's picking it up. I suggest you switch everything off on the boat to see if you can isolate whatever is generating the noise. Also, route the aerial cable away from other cables if possible.

Does the squelch lift on all channels or just some? Does the problem disappear when you go to different areas? The interference may not be from something on board, but from, say, a local paging transmitter. Here in Poole, for instance, there is a signal that lifts the squelch on Ch28 close to my office. It may be that the new antenna by its design just happens to be good at picking up noise from something local which isn't even transmitting in the marine band.

The other thing to check is whether you have made the push and screw connection into the Raider aerial correctly. Another option is have the radio and antenna tested away from the boat. There's no clear-cut answer to your problem, and only by eliminating things will you get to the cause. I have sold hundreds of Raider antennas and not heard of this problem before.

ELECTRICS

Keeping a third battery for best

Q My Westerly Konsort has two 115Ah leisure batteries, and as the boat now has a fridge I would like to be able to use both as house batteries, installing an extra, smaller car battery to ensure the engine can be started. All three batteries would be charged when on shore supply with a Sterling Pro Charge Ultra, which I believe will keep them all in excellent condition.

To avoid having to change battery switches every time I wish to start to engine, I would like to keep the third battery not as the starter battery, but for 'emergencies' – ie, when the house batteries cannot cope. Is this a satisfactory way to treat the third battery, being kept charged but only being used very seldom? Will it be there when needed?

Doug Pattison
Priston

PAUL HOLLAND REPLIES: It will be fine to use a battery in this way. An alternative would be to dedicate the new battery to engine starting and add a VSR to your system. This would remove the need for you to switch batteries, and ensure the starter battery is topped up first by your engine alternator.

SAILS

A balanced rationale for genoa reefing marks

Q With no reefs, the main and genoa of my 8.5m (28ft) Westerly Merlin bilge-keeler *Fauve* are nicely balanced, so I wish to mark the genoa with the appropriate points to reef so as to balance the mainsail with one, two or three reefs in. I estimate that the genoa should be reefed to 0.6, 1.25 and 1.92m from the tack to provide the equivalent areas of the mainsail when it is set with one, two and three reefs respectively (ie, the reefed genoa will have the same proportion of sail area as the reefed main).

However, the act of reefing moves the centre of effort forward on both sails, so with a reefed main there will be less weather helm due to both a reduced sail area and the centre of effort moving forward. I have countered the first element by reducing the genoa's sail area by an equivalent percentage. However, the second element should require a further reduction in the genoa. In addition, the forward movement of the centre of effort on the genoa will increase rotational moment, thereby requiring an even greater (third) reduction in genoa area. Are these factors sufficient to worry about, and if so, how do I calculate the required further reductions in genoa sail area for each reef of the mainsail? Or could I simply just guess what further reduction to apply?

I appreciate that perhaps the only accurate method of achieving a balanced rig is to finely adjust the genoa reefing to the specific conditions at the time of setting the reef in the main. The same logic could be used for identifying the approximate genoa reefing points: ie, go out in the conditions appropriate to those necessitating one, two or three reefs and mark the genoa when an appropriate balance is achieved, but life's too short. Besides, should I really be messing about outside when conditions are such that three reefs are necessary? Surely sailmakers have an approximate rule of thumb to follow?

Alan Pemberton
Plymouth

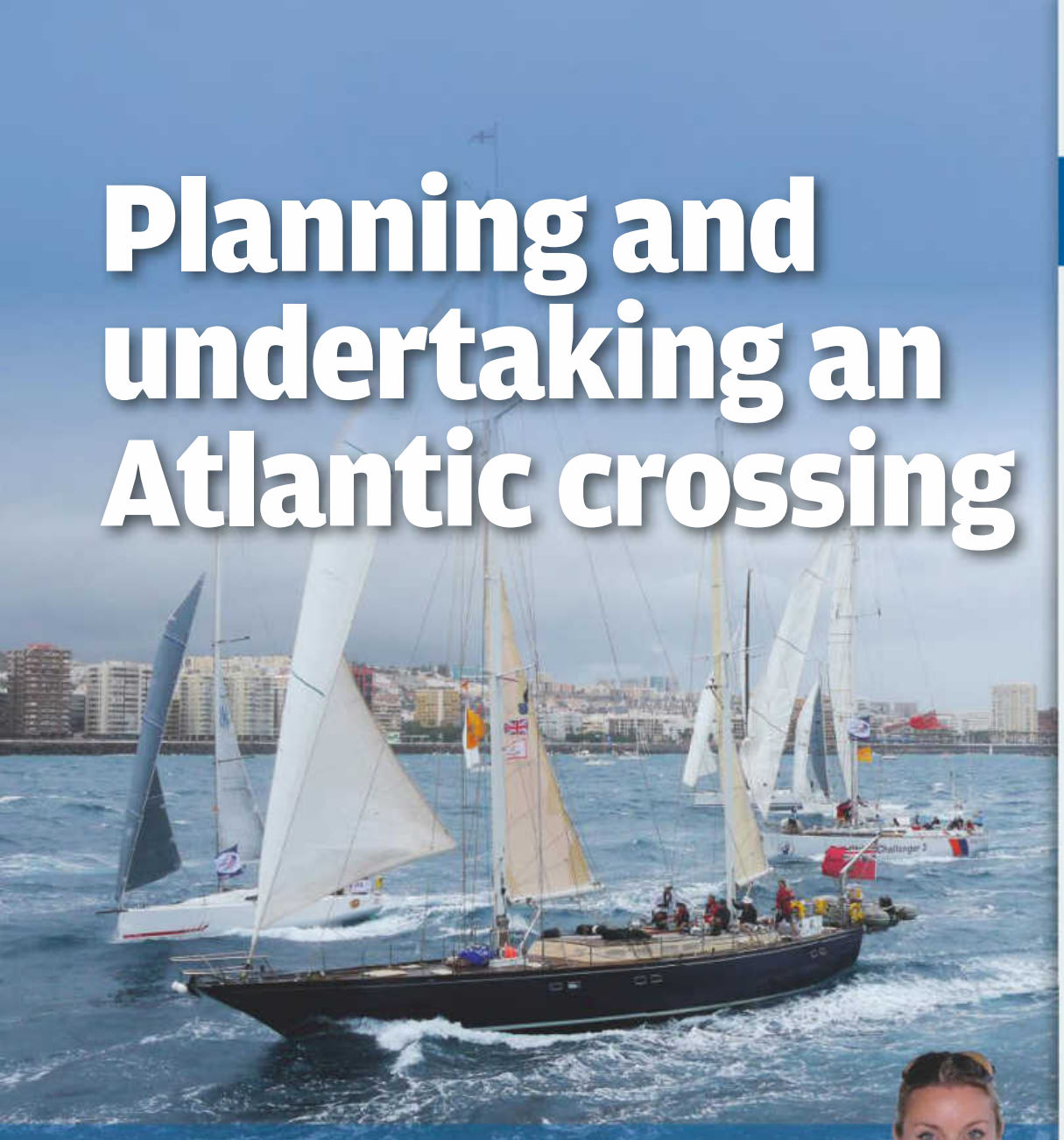
IAN BROWN REPLIES: Some interesting points are raised here. Yes, the centre of effort of both sails (and the relationship between them) will change as the boat is reefed, and in theory this will affect the boat's overall balance. No doubt sufficient time and expertise could be brought to bear in calculating some sort of theoretical optimal ratios, but these would fail to take into consideration a whole host of other factors that will combine to determine the overall feel and balance of the boat.

For example, a furled genoa – even with a luff flattener fitted – will become a less efficient aerofoil as it is furled, which will have a bearing on how much drag and heel it generates relative to the actual area. An unfurled blade jib of a given area will be more efficient than a larger headsail that has been reefed to the same area. The same applies to the mainsail. As the sails are reefed, therefore, the useful 'drive' component of the sails as a proportion of the area (and relative to each other) will change and this will influence the overall balance. A sail that is in better shape or made from better materials to begin with will behave differently to a poorer/older sail.

The way the sails are trimmed will also have a huge bearing on how the boat behaves, as of course will the degree of competence of those on board. Other factors will include sea state and point of sail. In other words, relying on sail area alone to work out how the boat should be balanced is in my opinion far too simplistic an exercise.

As you suggest, the best practical solution is to use your experience of the boat to know whether you need one, two or three slabs in the mainsail and then tweak the genoa accordingly. Fitting marks along the foot of the genoa at regular intervals will provide you with a reference point so that you can recreate comfortable settings next time around.

Planning and undertaking an Atlantic crossing



Thinking about an ocean passage? PBO's Laura Hodgetts shares some tips from sailors setting sail with the 30th ARC

If you're considering an Atlantic crossing, or simply pushing the boundaries of your sailing a bit further next season, you might well be looking for some advice. And while you might strike it lucky in the club bar or on an internet forum, there are few people better placed to advise than those already doing what you hope to achieve.

Every November, if you head to Las Palmas you'll find the largest collection of would-be transatlantic sailors you could ever hope to meet. Some of them are seasoned ocean cruisers; others are crossing the Atlantic for the first time. What they all have in common is that they have decided to do it together as part of the Atlantic Rally for Cruisers (ARC), opting to take advantage of the support and experience offered by organisers World Cruising Club, and the security of sailing with a large fleet.

Choosing to cross the Atlantic with the ARC is no devolution of responsibility, however. Each skipper is 100% responsible for their own boat and the crew it carries. The ARC team offer seminars and safety inspections, and will in rare cases refuse a boat entry which does not meet their safety criteria, but the decision to drop the lines and head west remains the skipper's.

The key to being able to make that decision with confidence is preparation. I spoke with the ARC organisers and participants to find out how they had planned for their voyage, and what they regarded as the most important things to consider when taking on an Atlantic crossing.

Getting ready

There are two sides to preparation: the boat and the crew. Part of getting the boat ready requires that you think through how you are going to supply essentials such as power and water for such a long time away from land, but much of it, says safety inspector Chris Brooke, who has worked at the ARC for 16 years, is 'checking everything you should check on the boat when you go to the Isle of Wight, but half of us don't do'.

Clare Pengelly points out that even with the boat in tip-top order, the crew needs to be in good fettle. Clare, who advises the 1,200-plus participants on how best to survive up to 21 days offshore, said: 'It's not all about sailing, it's also about the food, snacks and surprises, and discussing where the next meal is coming from.'

Las Palmas and the ARC

The ARC boosts the Las Palmas economy by 'several million euros' each year, according to World Cruising Club's Andrew Bishop.

Gran Canaria Tourist Board has been a principal sponsor since the start and remains, along with St Lucia Tourist Board, the event's biggest sponsors.

Andrew says: 'The revenue the ARC brings to the island is something we ask participants. How much they spend and where they spend it. Sailors don't like adding up what they spend, but it's several millions of euros as opposed to hundreds of thousands.'

Pablo Llinares, managing director of Gran Canaria Tourist Board, said this claim is backed by a Las Palmas university study, and added: 'It's amazing.'

The addition of the ARC+ route, which includes a stop in Cape Verde, means that rally boats now spend more than three weeks in Las Palmas. Andrew added: 'The marina has developed along with the ARC. If you go back 25 years, it was the ARC pushing for the development of the marina and luckily we had the support of the port authority who shared the vision and had the finances to actively do it. The City of Las Palmas' Councillor of the Sea position was inspired by the ARC.'

Year-round sunshine

A huge draw for Gran Canaria is its 'very soft climate' with an average temperature of 24°C, rarely exceeding 28°C or dropping below 21°C, which enables a year-round calendar of outdoor events including windsurfing world championships, surfing, sailing, marathons, music festivals and golf tournaments.

Other attractions include more than 120 beaches, small historic towns and a World Biosphere Reserve. Pablo said: 'Christopher Columbus visited here three out of four times on his trips to America.' One hundred and thirty-one airports fly direct to Gran Canaria. The economy of the Canary Islands is based in Las Palmas, which has a population of 400,000 and is the 'seventh-largest city of Spain'. Last year a record number of 3,000,600 tourists visited Gran Canaria, which 2015 looks set to beat.

Nearly one million tourists come via cruise ships, and a world-class aquarium is currently being built next to the cruise ship terminal.

Power on board

ARC participants are allowed to use their engines, providing they're not in the race fleet, but must record the time spent under propulsion. While engines in neutral are useful for charging batteries, they're also noisy, and several sailors this year opted to try hydrogenerators – essentially revamped towed generators which hinge down off the stern like outboard motors.

Solar panels are also a popular choice. Wind generators, while great at anchor, notoriously underperform in the trade winds which the ARC is timed to catch, as with the wind abaft the beam the apparent wind is low.

Back-ups are vital. Most boats had more than one power source, which with modern reliance on electronics for navigation, lighting and communications is essential. Less reassuring was that a lot of crews had pre-cooked all their meals, relying on a generator or engine to protect them. If you opt to do this, have a back-up plan in case the fridge or freezer fails.

Power failure will also render watermakers useless, and past ARCs have shown that these units sometimes fail, so complete reliance on them is inadvisable. Chris Brooke advises having more than one tank, and using the watermaker to refill empty plastic bottles, rather than topping up a contaminated tank. 'The marina water does have a slight taste,' he said. 'You can never be 100% sure your water tanks are pure.'

Bottled water is cheap in Las Palmas; €1 will buy around eight litres, so it's worth stocking up.

CASE STUDY

SKIPPER: BRIAN ALDERSON
STARLIGHT 39 *RHUMB*

Friends John Underwood, Brian Alderson, Ian Whitelock and Tim Gray on the Starlight 39 yacht *Rhumb*

One of the oldest crews on one of the oldest boats, the 26-year-old Starlight 39 yacht *Rhumb* (GBR) was originally due to sail with ARC 2014 but forced to withdraw after 350 miles. Skipper Brian Alderson, 67, who has sailed the ARC twice before, says: 'Last year our skipper and friend David Barber became ill, and we also had a problem with our steering.'

In an earlier ARC crossing, Ian and Brian had experienced steering failure and the ARC team brought a boat within one mile, for visible support. Brian added: 'The ARC is really good value for money. Our entry fee was about £1,000 for the boat and £125 per head for the crew. It makes sailing the Atlantic that much more reassuring for a crew of four.'

Sailing with Brian were school friends John Underwood, 66, Ian Whitelock, 66, and Tim Gray, 59. Preparations for the ARC included installing a watermaker, putting a generator and a satellite communications system on board and fitting a new fridge and freezer.

■ **HELPFUL HINT: Add a sunshade and corner seats on the aft quarter to open up a compact cockpit. Get an honorary crew member to cook all main meals for the trip and freeze them – thanks, Anne Whitelock!**

WCC/James Mitchell

Andrew Bishop at the ARC 2015 skippers' briefing at the Hotel Santa Catalina

30th anniversary ARC

Thirty years ago, the Atlantic Rally for Cruisers launched in response to an increasing number of yachts setting sail from the Canary Islands, bound for the Caribbean. The route's north-easterly trade winds stabilise in the winter months, running from south of the Canaries to just north of the Equator and helping even the slowest boat to complete the crossing.

The development of the Transit satellite navigation system, also known as NAVSAT or NNSS (Navy Navigation Satellite System), boosted numbers in the 1980s by enabling cruisers to make the 2,700NM crossing without astronavigation. Today, GPS fulfils the same function.

PBO's sister title *Yachting World* was instrumental in the inaugural 1985 event, which was inspired by *YW* contributor Jimmy Cornell visiting Las Palmas, Gran Canaria to conduct a survey of yachts leaving to go transatlantic.

The inaugural ARC quadrupled expectations by attracting 204 starters, and the event, now run by the World Cruising Club (WCC), has continued to grow.

After sailing to Barbados for the first four years, the rally re-routed to the larger marina at Rodney Bay, St Lucia. It takes an average of 18-21 days to make the crossing and, upon arrival, all ARC boats are met with a fruit basket and rum punch.

Former *Yachting World* editor Dick Johnson (left) says the past three decades have seen great changes in communication systems: 'You only have to look at how the boats can upload photographs to websites while at sea. Gone are the days when the majority of the fleet were VHF-only boats: most are now fitted with satellite communications.'

A record number of 254 yachts and more than 1,200 sailors registered for the 2015 ARC and for ARC+, which includes a stopover at Mindelo, on São Vicente in Cape Verde.

■ **www.worldcruising.com/arc**

Staying safe

In addition to checking that your insurance covers the crossing, make sure your liferaft is suitable to cross the Atlantic. It's also essential to make sure that your navigation and interior lighting is in good order as sailing the tropics at this time of year means only 11 hours of daylight. Chris said: 'Many people are surprised that half the trip is in darkness.'

Communications are essential, both for the crew and for loved ones at home. The ARC regulations recognise this, with every boat carrying a YB satellite tracking device that updates the ARC website every four hours. Many yachts have SSB radio and participate in daily sessions to share experiences and, often, just chat to people outside the boat. WCC managing director Andrew Bishop said the ARC Radio Net Group was divided up into three yacht groups, and yachts equipped with SSB could join in with the radio net in their group at the specified time. VHF plays a part too: sailors are warned not to be tempted to turn off or down the twice-daily VHF listening watch – 'it might be you who needs it!'

With this in mind, the rules insist on a spare antenna for the VHF, which according to Chris can prompt protests. He explained: 'People need to think outside the box. If you've lost the mast, the mains VHF will transmit 25W, while the handheld's only 5W. You get a much better transmission for a longer distance with a mains set.'

Medication

Any sailors with medication, particularly diabetics, are advised to put a week's supply of medication in the grab bag. Chris says: 'A lot of people think, "why a week's supply?" But if you're rescued by a commercial ship, they won't divert locally – you'll carry on to wherever.'

This warning became a reality for the British-flagged Moody Grenadier 134 *Magritte*, owned by Steve and Teresa Arnold. The four crew were evacuated by the cargo vessel *SCL Basilea* on 4 December after their cruiser began taking on water the previous evening. On the advice of MRCC Falmouth, a Mayday was issued and the yacht's EPIRB activated. *SCL Basilea* diverted to provide assistance, and with *Magritte*'s crew safely evacuated the ship continued en route to Spain, arriving 12 December.

CASE STUDY

CO-OWNER: DAWN KELLY
SOUTHERLY 42 RST *DAWN CHORUS*

Dawn Kelly and her partner Martin Whitfield were making their first ARC crossing with their two dogs plus two crew on their Southerly 42 RST yacht *Dawn Chorus*. Martin has his RYA Yachtmaster qualification, while Dawn has her Coastal Skipper. The couple did a one-day maintenance course with Hamble School of Yachting in preparation for the ARC, where they met crewmate Steven Fisher, who had recently completed his Yachtmaster.

Their other crew Debra Irizarry, a surgeon from Colorado, was found on Ocean Crew Link: Dawn said: 'we're really pleased with that'. At sea, the border collie dogs, Buzz and Bonny, wear 'state-of-the-art Ruffwear lifejackets' and have been trained to go to the toilet on pieces of AstroTurf, which have long sail ties attached so the fabric can then be sluiced down or dipped overboard to wash off.

Border collies Bonny and Buzz with their skipper Dawn Kelly aboard *Dawn Chorus*

Dawn and Martin's first Atlantic experience was ARC Europe, 18 days sailing from Bermuda to the Azores. Dawn said: 'All went brilliantly until we were 200 miles from the Azores and we got hit by a gale'. The sprayhood and windvane were ripped off, the staysail destroyed and the galley table broke off. Together with a 70-year-old experienced crewmate called Donny, Dawn and Martin lay on cushions on the floor to wait it out – for 20 hours. Dawn said: 'All of our electrics blew. Before it kicked off really badly we contacted the coastguard, gave our position and said "if you don't hear from us in the morning…"'

CASE STUDY

SKIPPER: NICK FABBRI
SOUTHERLY 38 *RUBY ROSE*

Nick Fabbri and his partner Terysa Vanderloo were undertaking their first Atlantic crossing in their Southerly 38, *Ruby Rose* (GBR), together with friends Neil and John. The couple, whose previous offshore sailing experience was three days, went through every emotion 'from excitement to abject fear'.

The pair installed a Watt&Sea hydrogenerator. Nick said: 'It cost a stupid amount, £3,000, but we got a £500 discount. 'We're quite a power-hungry boat as we run it like a house. We want to watch DVDs, we've got a bread machine and a watermaker. We've got three gas bottles, but the boat heats up hugely.

'We had an old towed generator and it was an absolute pain in the arse to retrieve, dragging 30m of line, and it only produced 6A. This new one is meant to do up to 25A. If we get 20A from it at 6/7 knots we're laughing; we can watch every single series of *Game of Thrones*.'

Other power sources on board *Ruby Rose* include 'a wind generator that's meant to generate 15A, although it won't downwind' and two 100W solar panels. There's also a Hydrovane wind self-steering device onboard.

***Ruby Rose*'s Terysa Vanderloo and Nick Fabbri with friends Neil and John**

An early test of the hydrogenerator showed positive results: 'It doesn't make any noise, which is important as our sleeping quarters are right next to it. It's meant to self-regulate, so if we end up with too much power it calms itself down.'

The biggest draws on the boat will be the navigation lights and fridge (3A). Nick said: 'We've done the entire boat to LED lights, which draw nothing. As long as we keep the fridge going, we're fine. It's full of frozen, vacuum-packed meats. We've got ribeye steaks for a midway treat: we've also got M&S sausages and bacon for a midway fry-up and for a fry-up the day after we arrive in St Lucia after a big sleep.' Follow Nick and Terysa's blog at www.rumsodomyandthelash.com.

■ **HELPFUL HINTS: Go to the butcher with your vacuum-packed meat and they will freeze it for you, then deliver it frozen. Fit LED lights. Fill the anchor locker with bottled water.**

Provisioning tips

Clare Pengelly, who has worked at every ARC since 2003 and completed several transatlantic crossings herself, continuously gathers tips from participants to add to her provisioning advice.

- Buy fruit and vegetables with different ripening times.
- Meat: Chicken lasts the shortest time, then lamb, pork and beef. Choose a solid cut of steak without any veins, add red wine, vacuum pack and freeze. That will be good for the duration.
- Wrap tomatoes and lettuce in kitchen roll and keep in the fridge. Change the paper frequently.
- Wrap root vegetables like carrots in tin foil. Juicy root vegetables should be allowed to dry out slightly before being wrapped.
- Salt water and cans don't mix, so beware bilges: use watertight lockers.
- Double-wrap pasta, bread and flour in plastic bags or watertight boxes to avoid infestation. Don't buy all your pasta from the same place or store it altogether.
- Have snack boxes for each week and ask each crew member what their favourite snacks are.
- If you've just got one fridge, think about eating the chicken and lamb very quickly, and store frozen things together.
- When you've cooked something like mince, cook it and keep the pan lid on, the next day stir it and cook it: eat it again and put the pan lid back on. Do the same the following day.

Washing and wrapping fruit and veg

ARC provisioning guru Clare Pengelly

- Anything you cut with a knife won't last as long as solid food as it will have air contamination.
- With legs of cured meat – pull back the fat, take meat slices and then lay the fat back on. Rub with salt if it starts to go off.
- Water is very important. Have a 2lt water bottle for each crew with their name on it, so all the crew can look after each other, and make sure they've drunk enough. Big bottles mean less plastic. If you have a really big bottle, get a plastic pump (€2.5) so you don't have to move it on a rolling boat.
- Water budget: At a minimum you're looking at 3.5lt per person per day – 0.5lt for brushing teeth, 2lt for drinking, teas, coffees etc, 0.5lt for cooking and washing-up, and 0.5lt for everything else.
- Liquid is liquid. If you're a British boat, remember to take a lot of UHT or powdered milk for tea.

Nothing goes to waste

The Caribbean has taken a while to catch up with the European drive to recycle, but sailors are now urged to separate their rubbish ready to recycle in St Lucia. ARC participants can also pass surplus food on to the ARC office for distribution to a number of charities.

CASE STUDY

SKIPPER: PAUL THOMPSON
CONTESSA 32 *PISCES*

Paul Thompson, from Dorchester, Dorset and David Everett from Adelaide, Australia met in Australia in 1978 and spent more than a year sailing together, covering more than 10,000 miles. The duo's Contessa 32, *Pisces*, 'one of the few boats here with a twistle rig,' was built in 1978 and was the second-smallest boat in the ARC 2015 fleet – 'and definitely the oldest'. The pair had a Honda petrol generator and no watermaker, instead carrying about 240lt in two separate tanks and bottles. David noted: 'It's for drinking and cooking, not washing – you'll smell us coming.' Paul clarified: 'We have a salt water pump at the sink for washing.'

- **HELPFUL HINT: Use salt water for washing.**

Double-handers Paul Thompson and David Everett onboard *Pisces*

CASE STUDY

SKIPPER: DUCO PULLE
NAJAD 34 *BRIET*

Australian-based Dutch sailor Duco Pulle has designed an innovative bow-thruster for his Najad 34 yacht *Briet*. Duco, who has a PhD in electrical engineering from Leeds, bought a conventional bow thruster unit and then removed the 12V brushed DC motor from the gear leg assembly and replaced it with a three-phase mains-powered permanent magnet synchronous motor, which is 50% lighter. He said: 'Existing bow thrusters have brushes that wear out and create black soot. This is easy to install, it took me an hour.'

Duco uses an inverter so he can run the bow thruster when the engine is on. At other times, the mains power can be used for other high-current loads. He added: 'All I say to my crew is "I'm about to use the inverter, please don't switch anything on". It's ideal, particularly for anchoring and going backwards.' With a long keel and a Hydrovane, Duco's boat is not manoeuvrable in astern, and he finds the bow-thruster a great help.

- **HELPFUL HINT: Use LiFe (lithium-ferrous) batteries: 'more capacity, generally better'.**

Duco Pulle and his yacht *Briet*

Top tips from Jerry the rigger

Jerry Henwood, aka Jerry the rigger of Gosport, has worked in the rigging industry for more than 25 years and is the ARC official rigger. Jerry and his right-hand-man Ross went up 100 masts in the run-up to the ARC 2015. Here's his rigging checklist:

Clare Pengelly

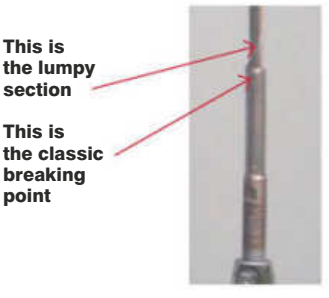
Jerry Henwood, aka Jerry the rigger, up a mast

1 Ask 'Is my rig up to this trip?' before leaving the UK. The answer will probably be yes, but get a professional rigger to check the mast and rigging. Remember, the more you know about your rig and how to spot faults, the safer you will be! Tell him that you are going to do the ARC and ask what he can suggest to make your rig easier to sail on a long downwind leg.

2 Make daily rig inspections while under way – part of this is looking aloft through binoculars. This should include going aloft periodically for an up-close inspection. One missing or damaged split pin could be enough to bring down a rig. A split pin is only working properly when both of its legs are open by a minimum of 20°.

3 Format a check sheet. Methodically start at one point on the vessel and work your way around. Once you are happy that all is OK at deck level, then it's time to check aloft. When you're halfway across the Atlantic, that isn't the time to learn how to climb a mast! Practise in the marina with your crew on a calm day, then try it on a windy day. Then add rain.

4 Check your standing rigging wire where it enters the swage. The most common place for standing rigging to break is just inside the swage: you can't always see it, but you can feel it. Run your hand over the wire for about 100mm to 150mm above the swage. Push each strand in turn: if it moves, it is broken. If you are in port, have the wire and the opposite wire replaced. We replace in pairs to keep the rig balance correct.



5 Check the shrouds. Look at the mast, boom and spreaders and the areas where anything joins, exits or is just attached. It should all be smooth with no cracks. All fastenings must be tight and secure.

6 Key rings. It is essential that these are taped up so that anything passing over them (ropes, clothing, sails, etc) does not catch on them and pull them open.

7 Lubrication. All moving parts should be able to move! If they don't, start with hot water. They may be just seized up by salt and general dirt. If this doesn't work, move onto penetrating fluids. Lastly, dismantle the item.

8 Winches require looking after. Dismantle the winch. Lay the parts out on a clean cloth in the order of removal. Thoroughly clean each piece. Check its condition, look for cracks and chips. Replace any part that is damaged, paying particular attention to the springs and pawls. Smear a thin coating of winch or gear grease onto all the surfaces, regardless of whether they come into contact with another part. Reassemble. Test. When carrying out the winch service, always replace the springs with new ones. Each spring is very small and only costs about 35p.

9 Check the boom. The part most often found at fault on a boom is the nylon wear washer that goes between the boom gooseneck toggle and the mast bracket. You may not have one; it will have worn away! Check all of the fittings that are attached to the boom.

10 The spinnaker pole. Make sure that the piston ends are freely moving. Check the trip lines for chafe. If you have a telescopic pole, make certain that the telescopic section slides freely and that the locking parts are in good condition.

11 The boom preventer. When sailing downwind, there is a risk of an unintentional gybe. You should use a boom preventer line. This line must be led from the aft end of the boom forward through a block and back aft. If you place the line further forward on the boom, you will break the boom if you broach. It will also help when the boat is rolling in a big swell and/or light winds.

Preventers should be rigged to the end of the boom

12 Shackles. Buy a couple of rolls of Monel seizing wire and seize all your shackle pins.

Seize shackle pins to prevent them from working loose

13 Wire cutters. When the worst happens and the rig has fallen down, you need a really good set of wire cutters (not bolt croppers). Go to see your local rigger and look at his cutters. Try them on an old piece of wire that is the same diameter as your largest wire, then imagine that the deck is rolling about. Are you or your crew strong enough to use them? These aren't cheap to buy, but are an essential safety item. Remember, a mast can quickly knock a hole through the side of a yacht: either get the mast back on deck quickly so that you can make a jury rig, or get rid of it.

14 Rigging repairs at sea. As soon as you notice a problem with the standing rigging, make the problem side the lee side of the rig. Brace the mast with spare halyards and then drop your sails. Do not let your sail flog. There are three main methods of repair. Carry a spare set of rigging; carry some lengths of wire and a supply of bulldog grips; use these to bridge the damaged area, or carry a set of Sta-Lok rigging repair terminals.

15 Always wear a helmet when climbing a mast at sea. PBO

Diesel data on screen

Andy Johnson reveals how you can add engine, transmission and electrical system data pages via the NMEA2000 network by linking three different data converters to the chart plotter on his Moody 31

Just about every engine installed in a yacht or power boat has some degree of instrumentation, ranging from the basic rev counter, warning lights and audible alarm (as in this project) to a full suite of dials and displays.

Modern chart plotters and marine instruments, in addition to displaying the chart, radar and many other functions, also offer a comprehensive set of data pages to display information for one or more engines, transmissions and electrical systems. Here, we take a Moody 31 and its Volvo Penta 2003 engine and add a host of engine and electrical data to display via the NMEA2000 network.

Three stages of conversion are involved, beginning with the sensors themselves – referred to as senders – which will convert the parameter being measured into an electrical signal. The second and third stages, accomplished by the data converter unit, are to convert the electrical signal into a digital number (digitisation) and arrange it into a format suitable for transmission onto the NMEA2000 network. Some larger engines use the automotive J1939 network, which would then have to be converted into the NMEA2000 format to display on the chart plotter.

The most common senders are resistive, such that their resistance changes with the parameter being measured, or pulse-type senders where the frequency of the pulses changes with the speed being monitored. The coolant temperature, oil pressure and fuel level senders used here are all resistive. Measuring current is achieved using either a resistive device called a current shunt or a Hall effect sensor (which measures current in a different way). The alternator itself provides the pulse output for engine revs so no additional sender is required.

Selecting the senders

The temperature and pressure senders need to fit in the same locations as the original senders, so they need the correct thread. The temperature sender should measure from about 25°C to above the alarm point (95°C). The oil pressure sender must cope with the highest possible pressure for a cold engine at start-up (7 Bar, 100psi in this case).

There are many tank level senders on the market: the one chosen was a simple tube type, changing the resistance in small steps as the float moves up and down. Once the flange is fitted, the actual sender simply screws in – providing there is enough height above the tank to poke it through (check this first!).

Oil pressure and coolant temperature senders with integral alarm switches

Measuring current presents more of a challenge. It would be useful to display total charging current and current consumption from the domestic batteries. Current can be measured by a 'resistive current shunt', which has a very small fixed value of resistance, creating a voltage across its terminals proportional to the current flowing through them (remember Ohm's Law?). Alternatively, a Hall effect sensor measures the magnetic field generated by the flow of current in the cable (passing through its aperture), producing a small voltage proportional to it. This type of sensor also needs a 12V supply. Both are 60A rated, as they would be damaged if subjected to prolonged currents greater than their rating. They give 1mV/A output, and this is increased by the use of differential amplifiers to multiply this very small signal by 50, increasing it to 50mV/A.

Measuring battery voltage only requires a wire from the battery terminal to the data converter channel input, or is measured internally on some units.

To minimise electrical interference, a new 0V bus was installed for all the instrumentation, connected directly back to the domestic battery negative terminal and screened multi-core cable was used for the sender signal connections.

The data converter itself is an electronic unit with configurable input channels, taking in the signals from the resistive and pulse-type sensors. The resultant numbers, representing the values of the parameters being measured, are then assembled into the correct format and sent to the display via the NMEA2000 data network.

Data converters either piggyback off existing sensors and instruments, picking up the sensor outputs at their terminals, or new sensors are fitted and wired to the data converter inputs, or a mixture of both.

Cables from the alternator and other sources of charging are passed through the Hall effect sensor aperture

ABOUT THE AUTHOR

Electronics engineer Andy Johnson has focused in recent years on teaching RYA courses and own-boat training in navigation, radar, boat electrics and electronic systems. He and wife Sue sail their Moody 31 wherever the weather and time allow.

NoLand RS11 Engine Data Converter

The NoLand RS11 has six configurable input channels and two pulse-type channels. It comes with a set-up utility software package and a USB lead to link your computer to the device. The set-up utility allows each channel to be configured to output a particular type of data and to set the calibration of the sender connected to the channel.

Channel allocation

A1 Oil pressure
A2 Coolant temperature
A3 Fuel tank level
A4 Domestic consumption current
A5 Charging current
A6 Battery 2
P1+/- Engine revs
P2+/- Not used

Engine hours are automatically logged, and you can set the existing engine hours into the RS11 (as its starting point) via the set-up utility. The unit is supplied from 12V or 24V, and the 0V is connected to the newly-installed instrumentation 0V bus.

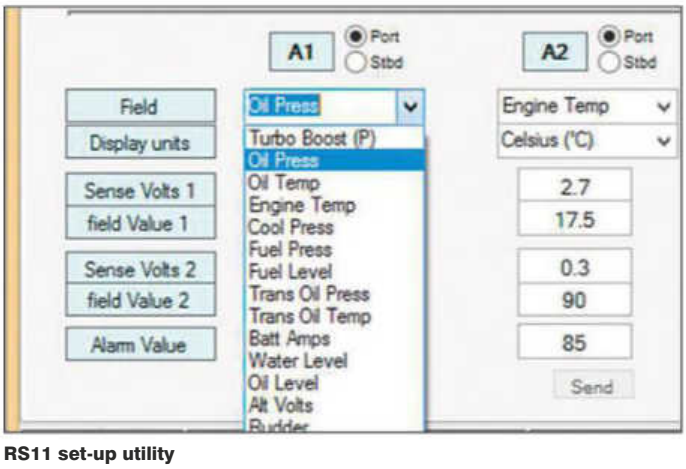
RS11 fully installed and connected to the Raymarine backbone via the DeviceNet to STNG cable adapter

Sender calibration

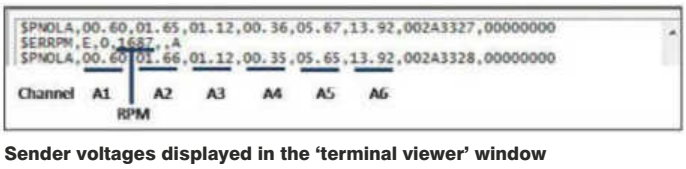
The oil pressure, coolant temperature and fuel level senders are resistive, and to create a voltage at their terminal they require a small constant current passing through them. If the current remains constant, then (by Ohm's law) the voltage at the terminal will be proportional to the resistance which, of course, is determined by the oil pressure, coolant temperature or fuel level. The constant current is provided by the RS11 channel itself. (If piggybacked off an existing instrument, that will provide the constant current.)

How the set-up utility works

An assumption is made in the RS11 that the relationship between the parameter being measured and the voltage seen at the sender is a linear one. To set this up we need to configure low and high end operating points, and the RS11 will 'draw' a straight line relationship between them. This works well for the oil pressure and the fuel sender, but is a limitation with the temperature sender. The utility helps by displaying the voltage at the sender connected to each channel in the 'terminal viewer' window. The pulse channel (P1+/-) is calibrated by entering a multiplier in the port RPM box.



RS11 set-up utility



Sender voltages displayed in the 'terminal viewer' window

Oil pressure

The new sender has two terminals, the resistive sender which is wired back to input A1 and the loss of pressure alarm switch terminal which has the original wire reconnected.

The set-up utility is now used to configure the channel: firstly we select 'port' engine (instance 0, the default for a single engine). It then allows A1 to be set to Oil Pressure and the current source turned ON. The sender voltage at zero pressure can be read from the terminal viewer window, with the engine switched off.

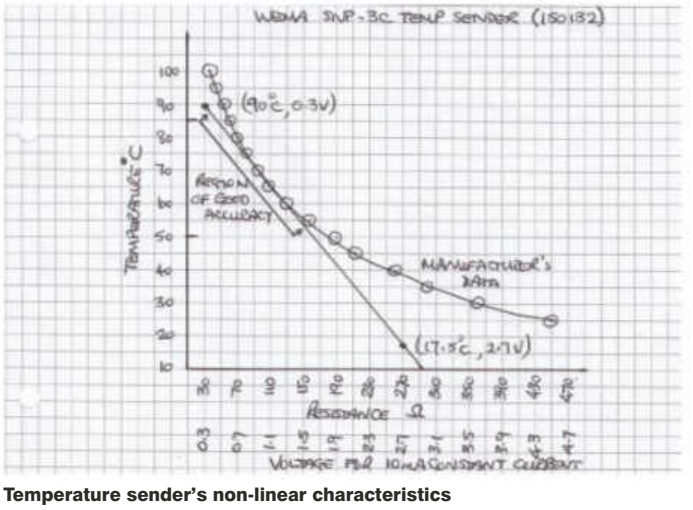
This gives:
Sense volts 1 (the sender voltage) = 0.1V
Field value 1 (the oil pressure) = 0 psi

For the high-pressure value, as this is a new sender, we will have to rely on the manufacturer's data sheet to calculate this, and the fact that NoLand Engineering quote their constant current as around 9mA. Taking 7 Bar (100psi) at start-up, the manufacturer quotes a sender resistance of 119Ω, resulting in a sender voltage of 1.07V (119 Ω x 0.009A).

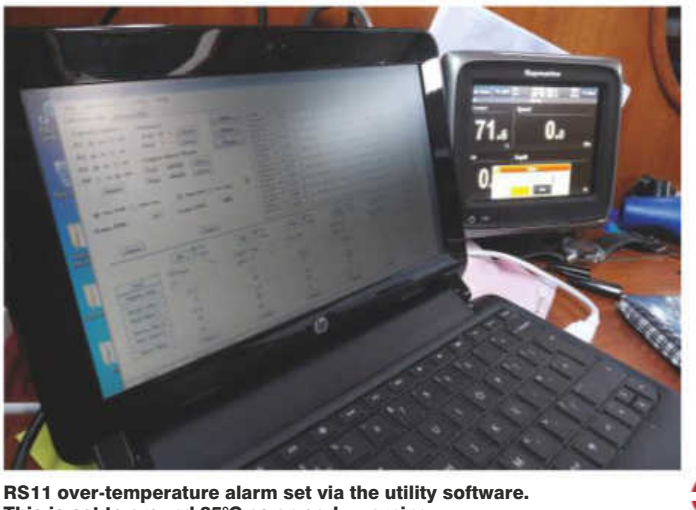
This gives the high value:
Sense volts 2 = 1.07
Field value 2 = 100 psi (7 Bar converted as I prefer pressure in psi).
Finally, set the alarm value to 00 to disable as the original alarm is still connected.

Coolant temperature

The graph shows how temperature sender characteristics are non-linear so a choice of operating point has to be made, accepting that away from that point the reading becomes less and less accurate. This actually isn't a problem, as the only temperature of real interest is the 60°C -70°C normal operating region. If things go wrong and temperature rises, it will show up



Temperature sender's non-linear characteristics



RS11 over-temperature alarm set via the utility software. This is set to around 85°C as an early warning

on the display: accuracy is secondary to the fact that it would be running 'higher than usual'. Don't forget, you still have the alarm switch function of the original engine electrics, and an early warning alarm value (say 85°C) can be set in the RS11 so the chart plotter sounds off before then.

Fuel tank level sender

Hold the sender with the float at the bottom and read the voltage in the terminal viewer, and repeat with the float at the top.

Domestic consumption and charging current measurement

Again this is straightforward, as the current signal for both the shunt (domestic consumption) and Hall sensor (charging), amplified by the AD50 differential amplifiers, give an output of 50mV/A and is linear. No current source is required.

Battery 2 voltage

No sender is required, and the set-up is simple.

Engine revs

Connect the 'W' terminal on the back of the alternator to the P1(+) input and P1(-) to 0V: this isn't normally necessary, but without it occasional glitches will occur with some alternators. The calibration is set by entering a multiplier value in the Port RPM box and matching the displayed value with the rev counter. For this engine/alternator combination, the value is 11.

Rev counter connection on the back of the alternator

The table below shows the full set-up. A little trial and error is required to get the displayed values just right. Where you have an alternative means of taking the same measurement, a comparison can be made. The main concern, however, is to detect a change in the normal operation of the engine due to a problem: absolute accuracy is a secondary issue, really.

	A1 Oil Pressure	A2 Coolant temp	A3 Fuel level	A4 Domestic current	A5 Charging current	A6 Battery 2 Volts	P1(+/-) factor
Sense volts 1	0.1	2.7	0.01	0	0	2	011
Field value 1	0	17.5	0	0	0	1.9	
Sense volts 2	1.19	0.3	1.64	0.75	3.0	14.1	
Field volts 2	102	90	100	15	60	13.9	
Alarm value	00	77	1	00	00	10	
Current source	ON	ON	ON	OFF	N/A	N/A	

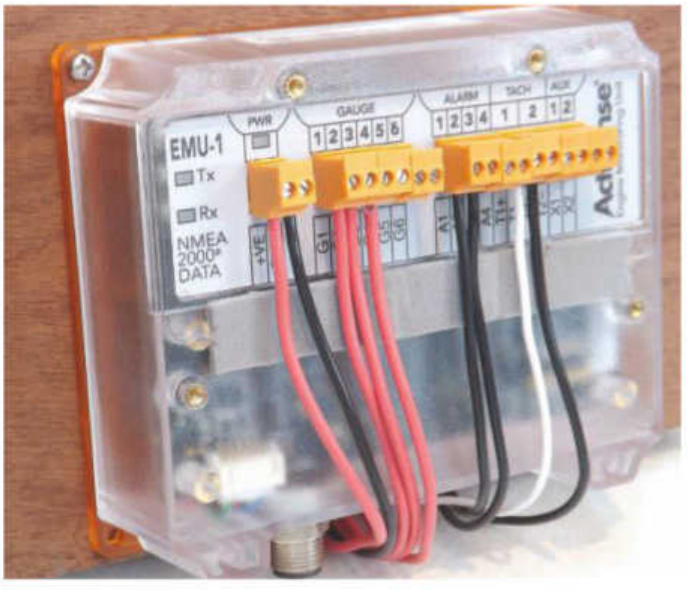
Engine and electrical data displayed on the chart plotter

Actisense EMU-1 Engine Monitoring Unit

Again, there are six 'gauge input' channels, but the main difference is that the Actisense EMU-1 is pre-loaded with a range of sender characteristics (including the non-linearity of temperature senders) which makes the configuration very simple but, of course, inflexible. You only have to choose the engine instance, then the parameter for each channel, and select your sender from the drop-down list. The EMU-1 then has four alarm inputs which are connected to the switch part of the senders: only two are used in this installation. It is strongly recommended that you retain the original engine electrics alarm connections, but you can also connect them to the EMU-1 alarm inputs as well if desired. Finally, there are two tacho inputs.

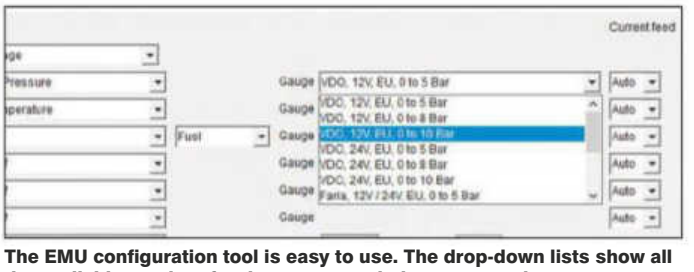
Channel allocation

(Instance 0 and current source 'Auto' for each)
G1 – Coolant temperature G2 – Oil pressure
G3 – Fuel tank level G4-G6 – Not used
A1 – Oil pressure sender low-pressure switch (set to trigger below 5V)
A2 – Temperature sender over-temperature switch (set to trigger below 5V)
A3 – A4 Not used
T1(+) – Alternator 'W' terminal for engine revs. (Ratio PPR = 11.5)
T1(-) – 0V
T2 (+/-) Not used
Battery volts are measured internally from the EMU-1 supply.



EMU configuration tool

This is very straightforward to load, although it is necessary to buy the Actisense NGT-1 USB to use it. The communication between the config software (on your computer) and the EMU-1 is through the NGT-1 USB into the NMEA2000 network backbone. If you have a Raymarine (STNG)-style backbone you will need two DeviceNet (female) to STNG cable adapters for the NGT-1 and EMU-1. Currently, the configuration software does not allow existing engine hours to be entered or allow the overall set-up to be saved, so write it down as you will have to re-enter it all next time.



The EMU configuration tool is easy to use. The drop-down lists show all the available senders for the parameter being measured

Veethree EGM (Engine Gateway/Monitor)

This unit has been included firstly because it also works with the automotive 'J1939' network used on larger engine instrumentation systems, converting the data into NMEA2000 format. Secondly, because it is probably the best-engineered product I have seen in a long time, and for that alone it deserves a mention. A massive capability is packed into this small unit and, if you read the manual from the beginning, you are guided through both the wiring and set-up details.

Data input sources

- J1939-derived data
- NMEA2000-derived data
- Seven pre-allocated sender signal inputs
- One tacho input
- One NMEA0183 input – for GPS data

Data output

- All the above can be displayed on the EGM itself and converted in format for pushing out onto the NMEA2000 network and displaying elsewhere.
- Fuel management 'page' performs a number of consumption calculations.

Simply scroll through the pre-configured senders

Setting up

Set-up is done directly into the EGM and very straightforward. As with the Actisense device there are industry-standard senders pre-configured, and you also have the ability to set your own calibration for new senders which will activate the current source. There are pre-set alarm levels for oil pressure, coolant temperature and fuel level; but again, retain the original engine alarms as well.

Each dial position in the display has different options, and there are several different 'pages' for display

WIRING ARRANGEMENT FOR SENDER INPUTS

Wire colour	Pre-allocated sender – function	Used in this project
Black/white	Oil pressure	Yes
Brown/white	Coolant temp	Yes
Red/white	Boost pressure	No
Orange	Tilt and trim	No
Pink	Oil temperature	No
Yellow/white	Rudder angle	No
Blue	Fuel level	Yes
Violet	Tacho (RPM from alternator)	Yes
Green	NMEA0183 GPS input	No
Measured internally	Battery voltage	Yes

PBO conclusion

All three data converters work well. The advantage with the NoLand RS11 is its flexibility (allowing current to be measured) at the expense of a slightly more complex set-up. For a more standard installation, without current measurement, then the Actisense EMU-1 is very simple to configure. The Veethree EGM is perfect for vessels with larger engines (or outboards) which have their instruments on the J1939 network, an approach becoming more common in the marine sector.

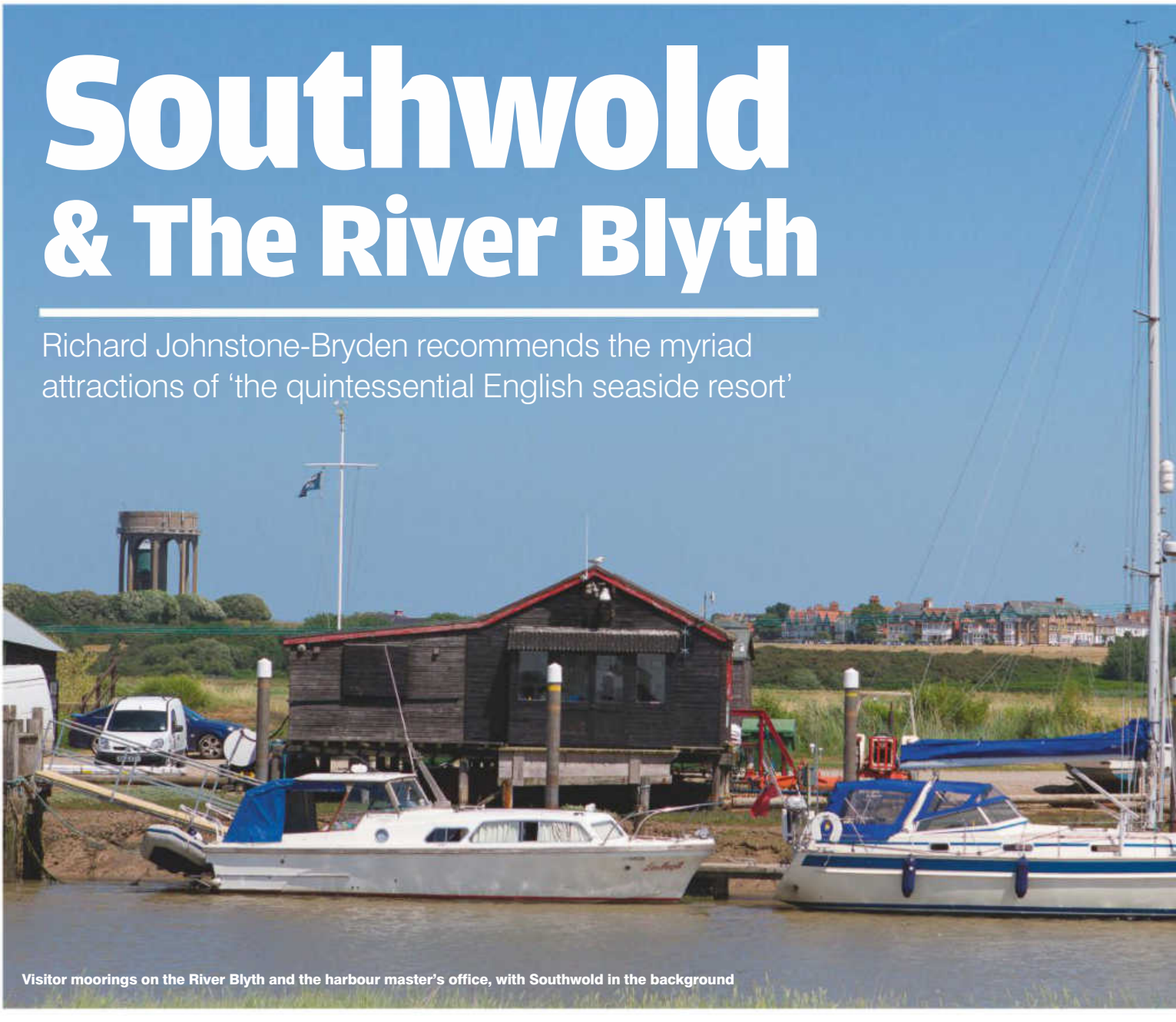
PARTS AND PRICES

	Manufacturers/suppliers	Part numbers used	Price guide £ incl. VAT unless stated
Engine data converters and accessories	NoLand Engineering	RS11	US$ 280 + duty
	Actisense	EMU-1 NGT-1-USB	£320 £144
	Veethree/Bainbridge Marine	Engine Gateway/Monitor	£655
	Chandlers, Raymarine agent or Actisense (same adapter works for each converter)	DeviceNet (female) to STNG adapter cable*.	£30 (each)
Differential amplifiers (required for current measurement only)	NoLand Engineering	AD50	US$ 35 + duty (each)
Temperature sender/switch combined. (M18 thread, resistance ranges from 450Ω at 25˚C to 38Ω at 100˚C)	WEMA	150132	£44
Oil pressure sender/ switch combined. (17Ω at zero and 170Ω at 10 Bar, 1/8 – 27NPTF thread)	WEMA (SRP-10 family).	150053	£45
	VDO	360-081-030-015C	£70
	KUS	FRG2010 (KE21100 SRP-TR-0-10)	£24
Fuel tank level sender	WEMA	S3 (35cm used, depends on tank depth)	£57
	WEMA	Nylon flange FL-2 (A stainless version is available)	£6
Hall effect current sensor	VDO	Sensor UK-UE-157 (60A)	£80
		Harness UK-UE-184	£14
		Bracket UK-UE-188	£7
Current shunt	VDO	A2C59514043 (60A)	£61

* Only required if using Raymarine backbone: two are needed for the Actisense solution, but only one for each of the NoLand or Veethree solutions.

Southwold & The River Blyth

Richard Johnstone-Bryden recommends the myriad attractions of 'the quintessential English seaside resort'



Visitor moorings on the River Blyth and the harbour master's office, with Southwold in the background

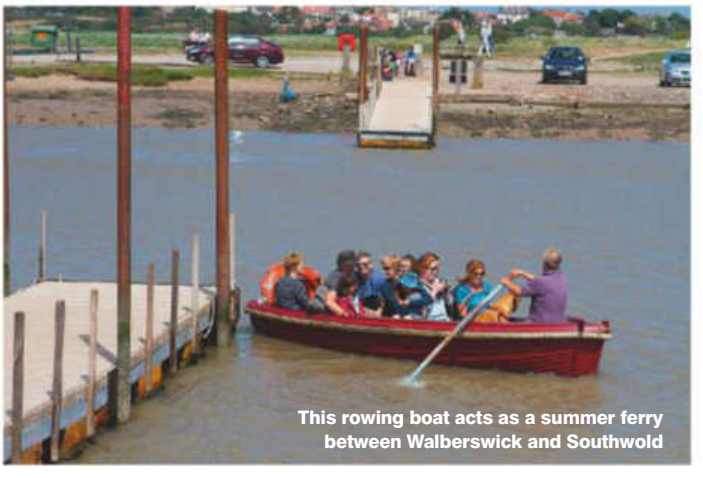
Widely known for its resident brewery, restored Victorian pier, towering lighthouse, cliff-top cannons and brightly-painted beach huts, Southwold is quite simply the quintessential English seaside resort. Those who arrive by sea will also discover that Southwold has a relatively unspoilt traditional small fishing port where you can still buy locally-caught fish and catch a wooden rowing ferry to the neighbouring village of Walberswick.

The approaches to Southwold are dogged by a series of sand and shingle banks which are constantly on the move, especially in the winter months when the seasonal gales cause the greatest movement. To keep track of this situation there is a regularly updated chart available free of charge from the harbour master. Equally, all visitors should make contact with the harbour master at least 24 hours before their planned visit, either by phone or VHF, to find out the latest information as well as ensuring there is an available berth.

Adnams brewery: visitor tours can be booked online or over the phone

The port's tides can be strong, with ebb tides flowing at up to 6 knots, so it is best to time your entry for the second half of the flood tide. Before making your final approach to Southwold you must establish VHF contact with the harbour master on Ch12.

Entry to the harbour is controlled by the following signals: three vertical red lights on the pole at the end of the North Pier – harbour closed. Two red flags flown from the pole at the end of the North Pier – harbour closed. (When the harbour is closed, contact the harbour master for advice.) No flags being flown from the pole at the end of the North Pier – harbour open. One green light from the pole at the end of North Pier and two green lights on The Knuckle – harbour open.


This rowing boat acts as a summer ferry between Walberswick and Southwold


The occasional ferry

The entrance has a minimum depth of 1.1m at chart datum. Aim to sail midstream through the harbour mouth until the channel opens up, at which point turn to starboard and keep close to the knuckle. On reaching the former Commercial Quay, turn to port and run straight up the harbour to avoid the very shallow water along the southern bank. To keep out of difficulty, you should stay within 3m of the recently refurbished quay, which is now used by larger visiting craft including the occasional Thames sailing barge and sail training ships as well as those requiring red or white diesel. The starboard mark at the end of the quay highlights the point at which you should move back to the middle of the channel for the voyage up the harbour towards the visitor moorings.

Even though a 4-knot speed limit officially applies within the harbour, this should not be taken at face value. Experience has demonstrated that it is impossible to set a speed limit that minimises wash without endangering boats at certain stages of the tide. Therefore, all users of the port are asked to act responsibly and keep their wash to a minimum at all times. This is particularly important when passing the small wooden open rowing boat that Dani Church operates as a ferry between Walberswick and Southwold. This popular summer service has been run by her family since the Second World War, when Dani's great-grandfather Robert Cross (better known as 'Old Bob') started taking troops across the river in his boat. If the weather takes a turn for the worst, Dani occasionally uses a more modern GRP open workboat as a temporary replacement for the traditional rowing boat to maintain the service.

Walberswick

Despite its modest waterfront, Walberswick was a bustling port trading in cheese, bacon, timber, corn and fish from the 13th century through to the early 20th century, when severe silting triggered its decline. These days, the village's main waterside activities centre around the age-old East Coast pursuit, enjoyed by generations of children, of fishing for crabs along the edge of Dunwich Creek. At times it feels as though the village has been colonised by celebrities, with Richard Curtis, Martin Bell, Geoffrey Palmer and Paul Heiney all owning holiday homes in Walberswick. Another of the village's former residents, Emma Freud, used it as the setting for her novel *The Sea House*.

Those who catch the ferry or follow the footpath to Walberswick


The Tearoom & Restaurant can be found on the edge of Walberswick green


Children fish for crabs at the edge of Dunwich Creek

Southwold's brightly-painted wooden beach huts change hands for up to £150,000

will be rewarded by the sight of a picturesque village where you can enjoy afternoon tea at the appropriately-named Tearoom & Restaurant on the edge of the green. Alternatively, the two pubs can provide something a bit stronger.

The southern bank beyond the last of Walberswick's fisherman's huts consists of private moorings and open marshland, whereas the opposite bank, known as Blackshore, is home to the port's remaining commercial ventures. The wooden buildings include two boatyards, the base for the 9m charter RIB *Coastal Voyager*, a chip shop, a seafood restaurant, a café and traditional fishermen's huts, some of which still sell locally-caught fish. The concrete public slipway beside the harbour master's office is the final landmark before you arrive at the visitor moorings.

The harbour master's office used to be Southwold's lifeboat station until the RNLI built a new one at the other end of the harbour in 1994. During the intervening years, it has undergone a series of changes including the installation of toilets and showers for visiting yachtsmen, while the removal of its slipway has enabled two pontoons to be installed in front of the wooden building for visitors.

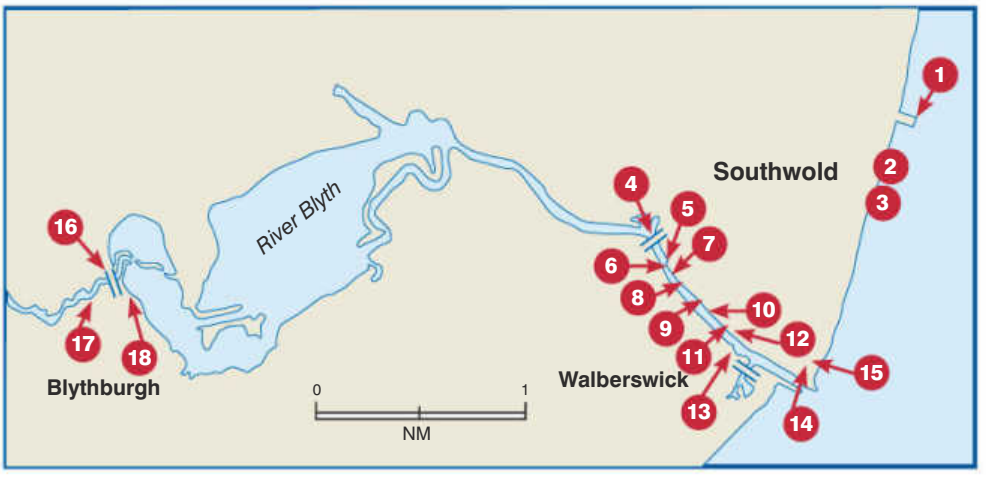
Those with powerful engines should have no difficulty coming in to moor at the visitor berths. However, it is important to be aware that the margin for error in a strong flood tide is reduced by the combination of moored boats along both sides of the river as well as the presence of the nearby Bailey bridge. Those who fail to take these constraints into account while manoeuvring can quickly become trapped by the Bailey bridge, which effectively marks the limit of navigation for many boats. The designated turning area for vessels over 12m (40ft) stretches from the harbour master's office to the end of the visitor moorings. Those with less powerful engines such as the larger classic boats that come into Southwold resort to the traditional 'ferry glide in' method. The procedure begins by placing the vessel's bow gently into the soft mud of the southern bank opposite the harbour master's office and allowing the tide to turn the boat. As the hull comes round, the water pressure brings it off the mud. At this point you either drop the anchor and ease out the line to place the craft on the moorings, or lower the anchor enough so that it drags along the bottom as you manoeuvre the boat on to the mooring, using the rudder to 'glide' on the tidal stream.

Southwold's visitor moorings are a valuable commodity, so the harbour master makes the best of his scarce resources by performing a juggling act to get the most out of the available quay heading and pontoons. Therefore, it is important to bring long ropes that can be used as shore lines, because at peak periods boats are moored up to four deep from the quay heading, and you must be prepared to change berths if asked to do so by the harbour master to create enough room or larger vessels. Plans have been drawn up to install additional pontoon moorings for visitors along the southern bank, although the potential timings have yet to be firmed up at the time of going to press.

Trailable boats can use, for free, the slipway by the harbour master's office

Blythburgh

Once alongside the visitor moorings, those with a sense of adventure and a small tender may wish to explore the 3¼-mile-long stretch of the River Blyth above the Bailey bridge to the village of Blythburgh. This waterway was once a busy commercial highway known as the Blyth Navigation



Out and about – places of interest

1. Southwold Pier, 01502 722105
2. Beach huts
3. Lighthouse (tours available, 01502 724729)
4. Southwold Bailey bridge
5. Visitor moorings
6. Harbour Inn, 01502 72238
7. Harbour master, 01502 724712, VHF Ch12
8. Harbour Tea Rooms, 01502 722593
9. Harbour Marine Services Ltd, 01502 724721
10. Fishermen's huts
11. Justin E Ladd Boatbuilding, 01502 724643
12. *Coastal Voyager,* 07887 525082
13. Southwold Ferry
14. RNLI lifeboat station
15. The *Alfred Corry* Museum, 01502 723200
16. Blythburgh Road Bridge, A12
17. Blythburgh Church
18. White Hart Inn, 01502 478217

The stretch of water above this Bailey Bridge was once a busy commercial highway known as the Blyth Navigation

Blythburgh Church

Upper Blyth to Blythburgh Road Bridge runs through a Special Protection Area

Trailable boats can use the Justin Ladd slipway by prior arrangement...

and flowed for a total of seven miles to the market town of Halesworth. The upper 3-mile section contained four locks that were closed under the terms of the 1930 Land Drainage Act, thus making the road bridge at Blythburgh the limit of navigation. The remaining navigable waters can be tackled by small boats capable of passing under the Bailey bridge a couple of hours either side of HW.

The use of this water is not actively encouraged because it flows through a Special Protection Area (an area identified and protected under the EU Birds Directive as being internationally important for breeding over-wintering and migrating birds). However, the navigable channel is indicated by painted wooden posts that are maintained by the River Blyth Navigation Association. The relatively narrow river meanders through Reydon and Tinker's marshes for the first two miles above Southwold before opening up into a large expanse of open water that dries out to a series of trickles at LW.

With the notable exception of a small stage built for the exclusive use of the River Blyth Navigation Association's members, there are no moorings available at Blythburgh. The village's stunning mediæval church dominates the surrounding landscape and is known locally as 'the Cathedral of the Marshes'. The narrow country lane leading to the church is lined by beautiful thatched cottages, while the White Hart pub is a good place to sit back and enjoy the scenery.

Highly-prized huts

Alternatively, those looking to unwind closer to the visitor moorings could walk across the road to the Harbour Inn, where you can also enjoy a good quality meal at a reasonable price. Afterwards, why not explore one of the area's numerous public footpaths to burn off the calories? I recently rediscovered the magic of the footpath that runs across the marshes from beside the Harbour Inn towards the common. By using this footpath or following the road, it takes about 15-20 minutes to reach the town itself. From there you can either explore the town or head to the seafront.

The walk along the golden sandy beach takes you past the brightly-painted wooden beach huts, which change hands for up to £150,000, despite a lack of electricity, running water and the right to sleep overnight in them. Comparable in size to the average garden shed, a few of these highly-prized huts are available for hire on a weekly basis, with prices ranging from £100 to £250 per week. The restored 623ft Victorian pier offers wonderful views of the seafront, especially in the morning sun. It has a nice tearoom and a collection of bizarre machines including a distinctive water clock and the unique 'Under The Pier Show'. Plans are afoot for the preserved passenger vessel MV *Balmoral* to visit the pier again in 2016 to embark/disembark people for cruises along the coast.

A classic Punch and Judy show can be seen by the pier throughout the summer months to round off the traditional seaside experience. The timings for these shows will be posted on the pier's website along with the details for

...and the Harbour Marine Services slipway, with the same proviso

Tudor cannons still line the aptly-named Gun Hill

The *Alfred Corry* Museum is based in the former Cromer lifeboat shed

any future visits by MV *Balmoral.*

Those wishing to stop for a bite to eat within the town will find plenty of choice. I have always found the Red Lion, the café between the beach huts and Mark's Fish & Chips good options. Not surprisingly, all of Southwold's pubs are owned by Adnams brewery, which forms the town's economic backbone with a portfolio that also includes the prestigious Swan and Crown hotels, as well as the Cellar & Kitchen store. If the idea of finding out how the company's award-winning beers and spirits are produced appeals, you could join one of the tours which include the obligatory tasting sessions.

The town's other nautical attractions include guided tours of the 101ft lighthouse and the Sailors' Reading Room on Long Island Cliff, which is well worth a visit. It was funded by the widow of Captain Charles Rayley to deter fishermen from working on the Sabbath and drinking too much! The room contains a selection of artefacts, models and fading photographs that provide a fascinating insight into the town's rich maritime heritage. Another aspect of this story is highlighted by the Amber Shop's museum, which is dedicated to the story of this translucent fossil resin. Southwold is sometimes referred to as the home of amber within the UK because this substance can often be found along the beach following the winter storms which tear lumps of it from the seabed.

To complete the round trip, simply follow an equally scenic route along the seafront towards the harbour which includes the Tudor cannons of Gun Hill, more luxurious villas, views across the open marshes and the former Cromer lifeboat house which is home to the Victorian lifeboat *Alfred Corry* and situated a stone's throw away from the RNLI's current lifeboat station near the harbour entrance. As you walk back up the harbour, why not stop off to buy some freshly-caught fish before returning to the boat?

Alternatively, you could walk to Walberswick by crossing the Bailey bridge at the top of the harbour and head along the southern bank until you reach the village. To return to the visitor moorings, simply cross the harbour in the rowing ferry and walk along the northern bank past the fishermen's sheds and boatyards.

Southwold fact file

Getting around

- By road, Southwold can be reached via the A12 by taking either the A1095 or B1127. Direct rail services to Southwold were closed in 1929, but there are regular buses to Lowestoft, Halesworth and Beccles where you can access Abellio Greater Anglia's regional and intercity train services.

Harbour authority

- The port authority for Southwold is Waveney District Council.
- Harbour master, 01502 724712, VHF Ch12

Boatyards

- Justin E Ladd Boatbuilding, 01502 724643
- Harbour Marine Services Ltd, 01502 724721, www.harbourmarine.co.uk

Visitor attractions

- Southwold Tourist Information Centre, 01502 724729
- Lighthouse tours, 01502 724729 (booked via the tourist information centre), www.trinityhouse.co.uk
- The *Alfred Corry* Museum, 01502 723200, http://freespace.virgin.net/david.cragie
- Southwold Pier, 01502 722105, www.southwoldpier.co.uk
- Coastal Voyager, 07887 525082, www.coastalvoyager.co.uk
- Adnams Brewery tours, 01502 727225, www.adnams.co.uk

Slipways

- Harbour dues are payable to Waveney District Council by all users of Southwold Harbour, regardless of where they moor or launch. The concrete public slipway by the harbour master's office can be used free of charge by all trailable boats throughout the tide, although those wishing to avoid the mud at the bottom of the slip may wish to avoid 3hrs +/- MLWS. Alternatively, the slipways owned by Harbour Marine Services and Justin Ladd can be used by trailable boats up to 25ft 3hrs +/- HW by prior arrangement.

Pilot books

- *Southwold Harbour Guide*, free from the harbour master
- *East Coast Rivers Cruising Companion* (latest edition 2008), Janet Harber, Nautical Data Ltd, £24.99
- *East Coast Pilot Lowestoft to Ramsgate* (latest edition 2015) by Colin Jarman, Garth Cooper & Dick Holness, Imray, £23.50 (updates listed on www.eastcoastpilot.com)
- *Reeds Aberdeen Asset Management Eastern Almanac 2016,* Adlard Coles Nautical, £35
- *East Anglian Skipper's Guide* (published annually), Sahira Publications, free from local boatyards, chandlers and YCs, www.skippersguide.co.uk
- *Local Boating East Coast* by Barry Hunter, Bubbles Publishing, £9.95

Charts

- Admiralty Leisure Folio Thames Estuary Essex and Suffolk Coast SC5607
- Imray C25 Southern North Sea Harwich to River Humber and Holland Passage Chart
- Imray C28 The East Coast Harwich to Wells-next-the-Sea
- Imray 2000 Suffolk & Essex Chart Pack – Lowestoft to Burnham-on-Crouch

General interest books

Several books have been written about Southwold's rich heritage. My favourites include the following:

- *Southwold: Portraits Of An English Seaside Town* by Rebecca and Stephen Clegg, Phillimore
- *The Story Of The Southwold-Walberswick Ferry* by Dani Church with Ann Gander, Holm Oak Publishing
- *The Best Of Southwold*, edited by John Miller, Sutton Publishing
- *Southwold River: Georgian Life In The Blyth Valley* by Rachel Lawrence, Suffolk Books

To vent or not to vent

Is ventilation a viable alternative to dehumidifiers? According to Richard Hare, it remains so

With a rainproof but breeze-friendly cockpit tent (and watertight windows), *Keppel* weathers all the UK can throw at her...

I was as nervous as the next man when it came to leaving upholstery, cushions and curtains aboard *Keppel* during long, damp UK winters.

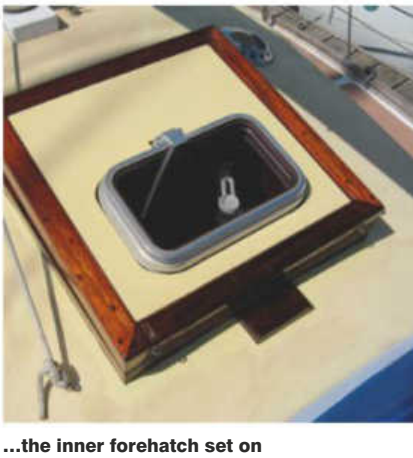
But then during *Keppel*'s 10 years wintering in various mainland European locations, I had no alternative but to do so. And when that edgy moment arrived each spring, as the washboards were unlocked after seven long winter months, we were always relieved to find her dry as a bone within. From the first night onwards we slept well in dry sleeping bags on dry berth cushions.

But that was 'there', then. What about 'here', now? Would it be the same after a UK winter? Would ventilation be enough to keep interior furnishings and electrics damp and mould-free? Ventilation alone had always kept my former boat sweet. She was, and remains, a clinker-built Finesse 24, ventilation being the norm for a wooden boat. In *Kilter*'s case we did remove the entire contents of the cabin, and raised some sole boards and locker bin lids. Left with her boat cover open both fore and aft, a steady breeze blew though her innards – yes, some snow too – but she was invariably as fresh as a daisy come springtime.

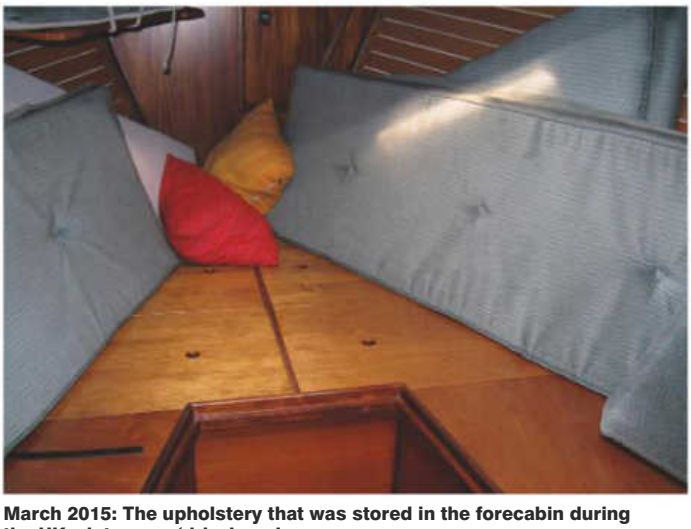
But let's return to the GRP-hulled and wooden-topped *Keppel*. Last winter I put my money where my mouth is. I left almost all her upholstery on board, in East Anglia. My aim was to demonstrate to myself at least that ventilation, a free force of nature, could work just as well in northern latitudes as is it did in the more southern ones.

During her time abroad *Keppel* had overwintered in two locations with winter weather not dissimilar to Suffolk – Rochefort on France's Atlantic coast and St Jean de Losne in Burgundy. The good results achieved at both boosted my confidence. So, with her cockpit tent rigged we left *Keppel* to breathe on the hardstanding at Robertsons Boatyard. As before, we left her with the aluminium forehatch on the 'vent' setting, two open Ventlites (one above the hanging locker, the other above the heads) and then there's the washboard grill that's permanently 'open'. Although the cockpit tent is weatherproof insofar as it excludes rain, there are plenty of places for breeze to whistle in. It is by no means hermetically sealed.

...albeit with an open washboard vent, and...



...the inner forehatch set on 'vent', plus two open Ventlites



March 2015: The upholstery that was stored in the forecabin during the UK winter was 'drizabone'

And at the end of the winter? All the soft furnishings were as dry as ever and there wasn't any mould anywhere, other than some very small traces of it on the curtains.

Med venting

Although the cockpit tent is rigged during northern European winters, we used to leave the cockpit uncovered during the five Mediterranean years. This was as much to do with savage winter wind damage as anything else: the Golfe du Lion mistral is merciless. Here, although *Keppel*'s interior remained very dry, her iroko cockpit seats did attract mould, but less so in Ionian Greece, this being a part of the Med that is notorious for prolonged winter rain. With hindsight, this surface mould problem could have been avoided with the simple expedient of brushing bare wood with a fungicide wood preservative once every two or three years – Cuprinol, for example. (See 'Keeping mould at bay', PBO February 2013.)

How does it work?

The usual cause of excessive relative humidity below decks is the accumulation of water within the cabin, most obviously in the bilge. This is commonly caused by leaks, be they from windows, hatches, failed deck fittings, dripping stuffing boxes etc. In our case, leaks are very minimal, if at all.

For boats that suffer from a steady ingress of water into their interiors we need to ensure that it is removed. Failure to do so leads to soaring relative humidity in the cabin, moisture contents going up as a result, and mould everywhere. So, the water/humidity cycle has to be broken. Automatic electric bilge pumps can be deployed to remove liquid water, and electric dehumidifiers will keep relative humidity under control. However, both rely on electricity and both can fail. If a boat is left unattended for seven or eight months a year it almost goes without saying that this is far from ideal.

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1 BEFORE
Behind this door is the original 61lt fridge

2 AFTER
The decorative door had to go to allow the new fridge door to open fully and to provide more volume for the 87lt unit

A tale of two fridges

Circumventing obstacles and applying painstaking measurements: David Berry recalls the chill factors which had to be addressed in order to replace his boat's 61lt fridge with a more modern, efficient, 87lt model

When the fridge in your kitchen at home dies you pop to the shop, buy a replacement, slip the broken one out and slip the new one into the vacated space. When the fridge on your boat needs replacing, you're likely to find that it came first and the boat was built around it. This is a tale of close measurements and unforeseen obstacles, offered to you in the hope of saving you shock and heartache should you ever need to change your fridge.

Our Moody Eclipse 33 *Aderyn Glas* came with a 61lt fridge built into a locker. In the spring of 2015 we had the opportunity to upgrade it to an 87lt unit of more modern and efficient design. We didn't want to hack the woodwork about so the fridge we chose had to fit in the existing locker. We measured the space available, the front opening and the aperture in the top of the locker I had cut with a hacksaw blade all those years ago in order to fit a cooling fan. We wanted to keep the fan to remove the heated air from the rear of the fridge, then we went looking for a fridge that would fit and found a Vitrifrigo 90i would fill the space perfectly. We blinked at the cost and wondered why a fridge for a boat should cost five times that of a larger one for the kitchen, but we bought it from Penguin and ran it in for a couple of months at home without trouble. It looked very nice sat on the worktop in our utility room and hummed quietly to itself, taking a negligible amount of energy to keep the wine cool. We took it to Greece in the back of our car wondering, as we drove past the Vitrifrigo factory in Italy, why we hadn't bought one there, particularly since the exchange rate was so good at the time.

Out with the old

We measured incredibly carefully, not just the overall internal geometry of the space the fridge would have to fit but even down to the battening that strengthened the corners.

Length, breadth, height and every obstacle was measured, photographed and sketched, as was the adjoining locker where we thought we might install a remote refrigeration unit.

We knew from the start that if we had to take it out through the top the aperture wasn't big enough, and since the top of the locker was glued and screwed it would have to be cut off. But it wasn't until we started pulling it forward that we realised the fridge door and the door of the gash locker opposite would both have to be removed to make sufficient room. This is where it slowly dawned on us that measuring the volume of the locker was not the whole story. Would we even get the old fridge out of the boat, let alone the new fridge into it?

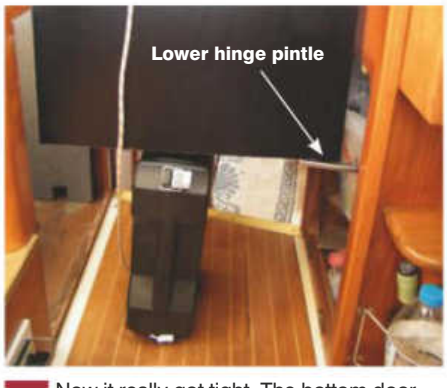
The first problem: it was impossible to get to the heads of the captive bolts under the fridge that held the runners onto which the fridge was screwed. They protruded so much that we thought at first we wouldn't be able to lift the fridge clear of them to extract it. In the end I tried a locknut and screwed them downwards, and this trick worked just well enough for us to get the fridge out.

The wiring was also difficult to get to. We had to detach both 12V and mains wiring at arm's length down at the bottom of the locker. With all the doors, hinges, saloon table and even the domestic radio removed there was just enough room to manoeuvre. And this was when we found out how heavy and unbalanced old-style fridges are.

With the fridge out of the way I could get to the offending captive bolts and literally hack them out of the baseplate. I filled the holes with chopped strand filler. It was pretty obvious now that when the boat was built the bolts came first, then the fridge, then the locker top was glued and screwed in place. Design for maintenance was obviously a foreign concept to the builders in 1992. I hope modern boat designers have embraced it now.

In with the new

1 The first thing that had to happen was removal of the lip at the bottom of the locker. A multi-saw was the perfect tool for this, cutting cleanly level with the locker floor. This is where all that measuring paid off, as it was the only modification to the locker we had to make.



4 Now it really got tight. The bottom door hinge was a bar with a pintle at its end screwed upwards into the base. We couldn't fit it once the fridge was in position and it protruded too much to be fitted before we carried the fridge into the saloon. In the end we had to balance the whole thing like this while the hinge itself protruded into the gash locker and I got underneath with a screwdriver.

8 Finally, ignoring the original method of fixing, we anchored the fridge with two sturdy battens which would also be responsible for supporting the settee and keeping people's weight off the fridge structure itself...

2 Next we had to get the new fridge through the companionway, something we'd not considered in our measurements. We found that as well as removing the saloon table, we had to remove the companionway doors and take the door and door hinges off the new fridge. Then if we lifted it high enough it would just clear the companionway surround.

3 There were two tasks to complete before we fitted the fridge to the locker: the wiring needed attention to bring the 12V and mains supplies to the correct position, and more efficient insulation had to be cut and fitted. This is medium-density expanded polystyrene sheet, built up in layers to completely surround the fridge except where an airflow is needed to the condenser.

5 The old fridge had the compressor at the bottom while the new one has a very neat arrangement at the top. This meant lengthening the wires and providing a mains isolation switch. The fridge as it comes is a 12V unit, but we bought a mains module which senses the availability of 240V mains and always defaults to it if it's available. I could see times when I would not want this to happen so I added the mains isolator to give me control.

6 All of the wiring connections had to be made before the fridge was finally pushed home. Both the mains and the 12V supplies run to the black box on the left of this view. Once the fridge was in its final position these connections were no longer accessible.

7 The Vitrifrigo has a fan-cooled condenser and the control unit has an option to add another fan switched in parallel to the condenser fan. This was ideal for us, and we wired up the computer fan we'd had in place for years to extract the hot air and push it through the heads and out of the boat.

...and it was while we stood and admired the result of all the hard work, measuring, cutting, fitting, wiring and making good that we realised – the fridge didn't have a door handle!

PBO conclusion

I suppose the moral of this story is to think wider than the problem that is staring you in the face.

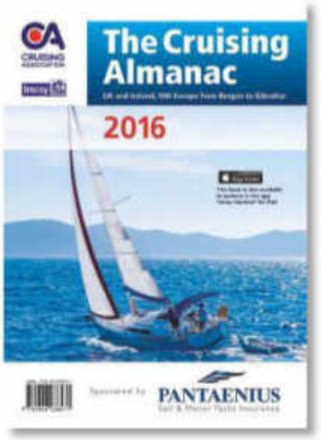
It's all very well to see if the fridge fits the cavity – you have to do this, of course, and with precision – but it's also important to ensure you can actually get the fridge (or any other large equipment) to the site in the first place without hacking half your boat apart. We never had any doubt that we could do it, but if the original fridge had been just 3cm deeper or if the Vitrifrigo had been 3cm wider we would have had to cut the top off the locker. Just a little wider again and it wouldn't even have passed through the companionway – then what?

We managed to get the old fridge out without hacking half the boat apart

It was well worth doing, though: Ann is really happy to have the additional volume and a freezer worthy of the name (it gets down to minus 15°C), plus the ability to open the door wide enough to reposition the shelves, which we could never do before.

PBO New Gear

Laura Hodgetts reports on the latest marine products



Cruising Almanac 2016

Compiled by Cruising Association members and edited by John Calver, the CA's 10th almanac covers the area from the Shetlands in the north round the coasts and islands of Great Britain and Ireland; and on the continent, from Bergen into the approaches to the Baltic and round the coast to Gibraltar. Passage notes are incorporated in the main text. Tide tables for 47 standard ports are included – published in a separate booklet for easier reference. Full tidal details for secondary ports are included in the main almanac.

Corrections are published every two months at www.theca.org.uk/almanac/corrections.

The almanac costs £25 for Cruising Association members and £35 for non-members, plus £10 postage. However, visitors to the CA stand (B031) at the London Boat Show can avoid postage and buy copies for the reduced price of £29. The book is also available in seven sections in the Imray Nautical app.

■ **www.theca.org.uk**

Humminbird Helix 7in Fishfinder and GPS units

The new Humminbird Helix 7in Fishfinder and GPS units are now available in the British Isles. The Helix 7 is claimed to be easy to use and dependable under any circumstances. The 800H x 480V resolution and 1,500-nit brightness are said to deliver a clear, precise picture of fish and fish-holding structures, while an ultra-wide 16:9 ratio gives ample room to view two screens side-by-side. The built-in quick-release gimbal mount facilitates angle adjustments and removal. Prices start from £369.99.

■ **www.marathonleisure.com**

The Mini-Pod

Salvare Worldwide, best known for its Seapod inflatable survival platform, has launched a smaller, lighter version called the Mini-Pod. Like the Seapod, its aim is to provide a place of refuge and buy hours rather than minutes for survivors waiting to be rescued from the sea. Although it doesn't take the place of a liferaft or lifejacket, the device is intended to be thrown instead of a life ring to solve the age-old problems of quick deployment, visibility and staying safely out of the water to avoid hypothermia.

The oblong-shaped Mini-Pod auto-inflates, and because of its symmetrical design it will always inflate the right way up. Manufacturers say the Mini-Pod is 'not hugely affected by wind conditions' and the skirt around the outside adheres to the water surface, making the whole platform 'extremely stable'. The Mini-pod has a small freeboard, designed to enable easy boarding even when wearing a lifejacket. Like the Seapod, the highly visible, yellow/orange Mini-Pod is equipped with Solas-approved LED lighting. Price £405.60.

■ **www.salvare.co.uk**

Solgaz Flameless Gas Hob GPC-2

The smallest of the Solgaz flameless gas hob models, the GPC-2 is designed for small flats, yachts and campers, particularly because of its lack of open flame and 12V power supply (which allows powering it with a boat or car battery), and the possibility to connect an LPG tank. Thorough gas combustion, pulse burner heating and 'free heat storage zones', which use the heat from the combustion fumes, are said to reduce gas consumption by 30-50% compared to traditional gas stoves. The ceramic hob, with two burners, is said to be easy to clean and to offer some protection against gas leaks.

The innovative hob received a Special Mention at the DAME 2015 design awards. The jury commented: 'This was this year's double-take product. At first glance, a ceramic hob: then the realisation hits that it is powered by flameless gas, not electricity.'

The GPC2+1T (timer) hob costs €735 (£529).

■ **www.solgaz.eu/en**

Spinlock Rig-Sense

This is a new rig tension device for measuring the loads in wire or rope on small keelboats and dinghies. It's designed to be simple to use, measuring the tension directly in kilogrammes. The diameter range is 2-5mm. It can be operated one-handed, supporting itself on the rig while being used. The device works in conjunction with the Rig-Sense app, utilising a calibrated composite leaf spring to output load readings.

The Rig-Sense received a Special Mention at the DAME 2015 design awards: the jury recognised it as a well-designed rework of a traditional piece of equipment using modern technology.

Price £24.95, with carry bag included.

■ **www.spinlock.co.uk**

Eberspächer UK

Eberspächer UK Ltd has announced that a noise reduction pack will be added free of charge to all future orders for Airtronic or Hydronic heater kits, with the exception of their 16 to 35kW range. The fully insulated flexible exhaust silencer (which usually costs around £250 as an extra), together with the silenced fuel system, should ensure that noise levels are significantly reduced.

Another development from the company is that the Hydronic range of marine water heating systems now have modern touch-screen heating control systems for improved marine heating and windscreen demisting capability.

Find Eberspächer UK at stand C042 at the London Boat Show.

■ **www.eberspacher.com**

International Safety Products (ISP) 'Super-Comfort' lifejackets

ISP have launched a new generation of 'Super-Comfort' inflatable lifejackets, promised to offer unrivalled comfort and complete freedom of movement. The range comes in three different models, with buoyancy from 170N to 320N. Features include AIS integration and QR-readable product servicing and maintenance labels to help manage service intervals and improve safety. Top of the range is the SC-320 lifejacket which incorporates a zip-front waistcoat design and twin pull-forward adjusters. Other features include twin high-strength soft-loop harness loops for attachment to the boat, plus new welded and sewn clear inspection windows. AIS integration using Ocean Signal's MOB1 unit will automatically alert all AIS-enabled chart plotters in a five-mile radius of a man overboard once the lifejacket is inflated. Prices start from £75 for the lowest buoyancy grade and range to £199 for the highest. ■ **www.ispl.co.uk**

PBO TESTED

Two waterproof backpacks

Aside from the obvious size difference between the 20lt Henri Lloyd Dri Pack Rucksack and 40lt Musto Evolution Waterproof backpack, there are many other style differences. Priced at £55 (£39 in the sale at the time of going to press!) the Henri Lloyd backpack is constructed from 100% waterproof thermoplastic polyurethane (TPU) material. The Henry Lloyd is incredibly light with a small horizontal clasp, while the far weightier Musto has a much thicker vertical clip and feels far more heavy-duty, with padded protection for items inside.

Both rucksacks include a dry roll closure and air-release valve design to reduce bulk and maximise storage space on board, plus adjustable padded shoulder straps and padded backs for comfort. They both also have a separate water-resistant front zip pocket for small essentials. At double the size, almost double the price (£109) and more than double the weight, the 40lt Musto backpack also features an internal organiser and padded laptop section, plus a waist adjuster. It is made from 100% PU-coated polyamide and is available in black, red and 'platinum' grey.

■ **www.henrilloyd.com**

■ **www.musto.com**

PBO verdict

Both rucksacks feature a simple, effective design: just chuck your stuff in, roll down the top, secure the clips and you're ready to go. I was impressed with the lightness of the Henri Lloyd waterproof backpack, which can hold lots of stuff while remaining compact. The extra features of the Musto design make for a much heavier weight, but the benefit of the rucksack style is that this is evenly distributed so it's less noticeable when worn. The Musto's slightly glossy material also seems to be more hardwearing. The Henri Lloyd version is already looking a little scuffed but it has had more use, just because it's such a handy size! ***Laura Hodgetts***

PBO CLASSIC KIT

Celebrate YOUR Classic Kit! What has served you well? Email pbo@timeinc.com

Guy Cotten yellow oilskins

French manufacturer Guy Cotten began creating bespoke clothing for the fishing industry in 1964. This was the period of heavy, uncomfortable, easily-damaged oilskins made of coated cotton. Guy Cotten's yellow oilskins made of coated 'nylon' were much stronger and far lighter. In less than four years, all the users of Breton fishing harbours chose to wear Guy Cotten oilskins.

Yachting circles caught on in 1966, when sailing clubs in South Brittany were equipped with the company's famous yellow oilskins – the light Rosbras jacket with its double flap combining self-grip fasteners (Velcro) and a zip which was more practical than the pea jackets available at the time. Guy Cotten claims these oilskins were the precursor to clothing designed specifically for sailing.

Since then, the range has developed with increasingly technical wear designed for trans-oceanic and round-the-world voyages. New technology has brought the Dremtech+ breathable textile clothing and the introduction of materials without any traces of lead following European regulations coming into force in 2012.

The Isolatech system is said to improve comfort and reduce condensation by using the double-glazing principle to minimise the difference in temperature between the outside and the inside of the garment.

www.guycotten.com

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BRIAN
30 JULY 2015
I've been using the antifouling for the past 5 years and have found the product to be very good. I paint the hull every year and it only requires light scrubbing after a year in the water.

PETER S.
21 AUGUST 2015
It as done a very good job this season. No sea grass or other fouling. I cannot see any difference in performance between GaelForce Antifouling and the far more expensive highly promoted brands

SANDY
14 JANUARY 2015
Hauled the boat out on 26/10/2013 after seven months on a swing mooring and was very impressed with the results of this antifouling - just a thin layer of slime, otherwise clean as a whistle. A quick blast with the jet hose and she ready for winter storage. I shall be using this again.

DEREK
29 JULY 2015
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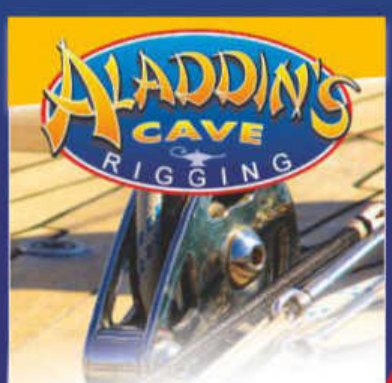

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Sargo 31

PBO TESTED

The Sargo 31 sits right in the middle of the Finnish firm's five-strong range: Nick Burnham takes the helm of a boat capable of covering 'serious distances at high speed'

To really get under the skin of Finnish boats you need to visit Finland. Largely flat, more undulating than actually hilly, and featureless in a very pretty, rolling field and pine forest kind of way, for miles and miles the only signs of habitation are the occasional attractive wooden house or barn. Traffic is light, but with barely a sign of conurbation it's hard to know where anyone's going at all…

What is apparent, however, is how many of those houses have a boat in the barn or sitting on the drive. These are generally small, trailable, outboard and practical, so it's clear that there is a serious boating culture here. And when you hit the coastline, you quickly discover the reason why. Spread over 5,000 miles and comprising in excess of 17,000 habitable islands, Finland boasts the largest archipelago in the world. There are about 60,000 permanent residents, a population which can double over the summer months.

Stats like this explain why Finland has the highest percentage of boat owners per adult in the world. One in seven owns a boat of some sort. It also explains the boats that they build. Fast, capable, tough – they frequently feature all-weather capability and are immensely practical yet seldom utilitarian – they're more than simple tools of transportation. Welcome, then, to the Sargo 31.

Sarins Båtar Oy Ab (builders of Sargo, a 2014 rebrand of Minor Boats) is based on Finland's tough west coast, where the often hostile Gulf of Bothnia separates it from Sweden, and has been in business for almost half a century. It began making small island-hoppers under the Sarin banner back in the '60s, later creating the Minor range of offshore powerboats for the world stage. The 31 has been a stalwart of the range virtually since the offshore brand was formed. Today, in lightly revamped form, it occupies the dead centre position of a five-strong range that spans 25 to 36ft. The recent gentle restyle, mainly concerning the profile of the wheelhouse roof, hasn't altered the fundamental concept of the craft one jot. It's still a superbly functional-looking beast, from its forward-sloping windscreens and chunky black rubbing band to its deep bulwarks topped by sturdy rails.

Although the sides are low enough to easily scramble over, the large bathing platform (complete with lifting flap to access the sterndrive) offers the easiest route on board, via a transom gate. You'll find yourself in an aft cockpit bordered on three sides by simple bench seats that contain storage beneath them. It's also possible to have an external helm fitted against the aft wheelhouse bulkhead for low-speed fishing or close-quarters manoeuvring – limited forward visibility precluding high speed work from here.

Wide decks sweep past the wheelhouse on both sides, giving easy access to the uncluttered foredeck with its offset anchor windlass and cradle, and its walk-through pulpit rails. (In the archipelago the water is deep and the terrain rocky, so the preferred method of access is to anchor the stern off the island, nose the bow in and tie it off to the land. The shore is then accessed over the bow.)

➔

ABOUT THE AUTHOR

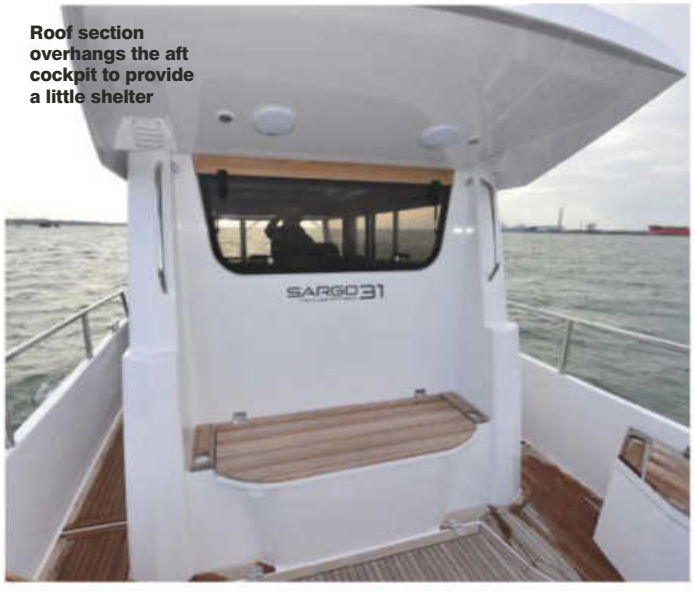
After 20 years as a yacht broker, Nick Burnham embarked on a marine media career, quickly rising to the position of boat test editor for *Motor Boats Monthly*. Nick is now a freelance writer and photographer covering all things nautical.

The low-level radar arch supports the radar and a gantry for the navigation lights

Cockpit seats double as deck lockers, but fender baskets would be a useful addition

INSET The bathing platform includes a central lifting section offering easy access to the outdrive

Forward-sloping windscreens and pantograph wipers – the mark of a serious all-weather boat



Roof section overhangs the aft cockpit to provide a little shelter

Wide, deeply bulwarked side decks make this a very easy boat to work

INSET Substantial stainless steel cleats

A seat let into the cabin top creates a pleasant perch at low speeds

Functionality

Large sliding doors either side gain you access to the interior. Yet again, the functionality shines through. A pair of deep, comfortable and adjustable bucket seats hug the helmsman and navigator. One step up, comfortable squared-off seating flows around both sides and the back of this area – another element improved in the revamp – surrounding a table that folds and swivels depending on whether you're dining or entertaining. Windows are generous – deep, wide and plentiful – banishing any sense of claustrophobia from this fairly compact area and ensuring that everyone gets a great view.

The only real area of compromise is the galley. Tucked into the forward port corner, lifting the lid reveals a sink and a smooth ceramic hob that looks like an electric unit but is in fact diesel-fired. There are a couple of small cupboards beneath it, and above in the header rail, and there is a fridge beneath the helm seats, but bar a microwave tucked into the passageway forward that's about your lot; you'll need to use the table as a work surface. It's perfectly adequate for making a quick sandwich, a bowl of soup or a cup of tea, but you'll be dining out regularly of an evening unless you want to court a mutiny.

Gentle revamp includes much-improved seating

RIGHT The galley is adequate, but lacks work surface

BELOW Twin bucket seats create a terrific driving environment...

INSET ...As does the ability to tilt the entire lower dash and wheel

Head down the companionway forward and you'll find the heads to starboard opposite a large locker with the microwave above it. Again, the word adequate springs to mind – enough room to do all that needs to be done, but no more. A shower curtain protects the wooden bulkhead between this and the vee-berthed forward cabin if you've specified the optional shower. There is plenty of headroom, a decent amount of storage and everywhere is very nicely finished with a minimalist combination of smooth GRP mouldings and classy walnut wood (teak being the other option). Had you cupped your hand against the saloon window and had a quick peek inside a locked Sargo 31 on the way down the pontoon, you'd have guessed at this layout and got it spot-on. The bit you probably wouldn't have imagined is further back...

Lift the port leg seat base of the three-sided dinette in the wheelhouse and you'll discover that it hinges toward the centre of the boat, self-supporting vertically on a gas strut and revealing an intriguing stairway. Access is a little tight, but the teak treaded steps are large and easy to negotiate, and doing so reveals another cabin. This is the reason that the dinette is raised (although increased visibility is a bonus of doing so); there's actually a double berth down here that runs transversely beneath it.

Interestingly, pre-revamp the bed was arranged lengthways down here: despite the cabin being no larger, turning it 90° has freed up a surprising amount of floor space. Headroom is limited, especially over the bed, but nonetheless it's a very usable area, not to mention very private. How many 30-footers boast separate access to each cabin? Not to mention the sheer distance between them. It's a very cunning arrangement, and while hardly palatial, it works well.

Positive experience

I've used the word 'adequate' a couple of times describing the interior of the Sargo 31. It's clearly not a floating caravan; there are plenty of other similar-sized boats

Tech spec

SARGO 31

Price: from £187,174 inc VAT
LOA: 32ft 8in (9.96m)
Beam: 10ft 10in (3.3m)
Draught: 3ft 5in (1.05m)
Displacement: 5.1 tonnes
Fuel capacity: 500lt
Builder: Sarins Båtar Oy Ab
UK dealer: Marco Marine, Tel: 02380 453245, www.marcomarine.co.uk

The heads features an optional shower

The aft cabin is a surprising bonus and remarkably practical

INSET Vee berth forward infills to create a double berth

A narrow gap, but chunky steps aid egress

that can offer as much or more space inside. No, what this boat is about is going boating, and on this subject the adjective 'adequate' to describe this or any other Sargo is firmly banished. This is what this boat is built for, and it starts before you even leave the marina. That transom gate and dips in the side rails make hopping on board a doddle for the crew, and almost waist-high rails atop those huge bulwarks mean that this is probably the easiest 30-footer you'll ever move around. The decks are completely devoid of any steps to trip over or stumble down, there's just a gentle slope upwards as you move forward. Stow your lines in the anchor locker or one of the three deck lockers beneath the seats back aft, haul in the fenders and you're good to go (although optional fender baskets would provide a useful home for these away from the dock).

It's a similarly positive experience at the helm. Those two side doors make communing with the crew easy – the big windows banishing virtually all blind spots. If you want to stand then after raising the seat bolster you can pull a knob on the dash and the entire section that the wheel emerges through, as well as the wheel itself, tilts through an arc, bringing the throttle and vital controls such as the bow thruster, anchor winch and wipers with it so that they're as easily accessed standing as sitting. The powerful bow thruster (standard fit on all but the smallest Sargo) is a real help on our test boat, powered as it is by a single Volvo Penta D6-400 400hp engine, largest of the three single options (all of the big D6 5.5 litre straight six units are available in 330, 370 and 400hp slices). A stainless steel ball on the steering wheel allows fast 'pointability' of the drive so you can direct the thrust easily at the rear and match it with the thruster at the front to punt the boat sideways.

There's a massive sliding roof section above your head at the helm. Slide that and both doors right back and you've got a surprisingly open experience considering it's a wheelhouse boat. Even the large window in the aft bulkhead hinges up, held open by a pair of gas struts – perfect for a bright warm sunny day. The day of our test, however, was none of those things, so we got to experience the boat's full all-weather capabilities. Usefully though, simple wooden catches that drop over the interior door handles to keep them shut at speed have two notches so you can pin the doors just slightly ajar for a little fresh air; and three glass panels let into the sliding roof (an option but a very worthwhile one) allow plenty of light to augment that which is flowing through the large windows.

Fast and capable

Acceleration is effortless, the boat planing nicely at 17 knots. With the throttle pinned, the top speed just clips 30 knots, well short of the manufacturer's 35-knot claim for this combination of boat and engine (in fact, on par with quoted figures for the smallest 330hp engine option). I believe it's a realistic claim, however, since we are also a good 250rpm off the normal 3,500rpm maximum revs for this engine. Years of experience with planing boats combined with the knowledge that this example had been in the water since May leads me to believe that an extra five knots is but a hull pressure-wash away. Whatever – 30 knots is quick by anyone's standards, and more pertinently, a mid-20-knot cruise is an effortless 3,000rpm, giving the boat serious cruising reach.

At this speed, the good news is twofold. Firstly, the hull is extremely capable. Fast, capable planing boats is something Scandinavians in general always do very well, and this is no exception. The flared bow keeps the spray down (and looks wonderful), while the deep vee hull soaks up turbulent topography like a well-damped luxury car. But the luxury car analogy stretches a little further, because the other piece of good news is the noise level. Even flat-out, this is an exceptionally quiet boat – my noise meter staying firmly south of 80dB(a). To give that some context, I've tested half-million-pound 40-footers that are noisier.

PBO verdict

It's at 25 knots that this boat's Finnish heritage really shines brightest and you really gel with this boat, because suddenly all that serious boating and practical thinking comes together to create a superb fast cruiser capable of covering big distances in effortless comfort. A keen sailor, the owner of this boat celebrated taking delivery with a trip to Paris for the Yacht Squadron Bicentenary Celebrations – indeed, in six months he's put 150 hours running on it! That's a long way when your cruising speed is 25 knots. If you do want a floating caravan, then there are better options; but if you want a boat first and foremost to go boating and to cover serious distances at high speed, then this could be the boat for you.

And if you want to go 'whole hog' on that speed thing, then just tick the twin-engine option – the combined 600hp punch of a pair of Volvo Penta D4-300 motors tops out at about 45 knots!

Replacing rudder bushes

Hugh Morrison describes the course of action involved in fitting a new rudder bush to a Westerly Solway

Astonel in the yard, bilge keels akimbo after a coat of Jotun's best

When a boat gets to a certain age, there is a growing collection of issues that need to be attended to, most of which have been part of an effort to avoid the work involved. But when the lower rudder bearing, or bush, gets a bit rattly and the surveyor of some years previous has said to 'keep an eye on it', there comes a moment when a decision is made, new bushes are sourced and the job becomes an inevitable part of a cold, rainy, muddy and sometimes frustrating renovation.

In principle, this is one of the most straightforward jobs on a boat. A transom-hung rudder is the simplest, so simple that it hardly needs dealing with: no holes to be dug, and an easy lift away from the hull. A rudder at the back end of a keel or skeg with pintles top and bottom is also simple. The weight of a rudder can be a surprise, and should always be taken into account.

A rudder stock in a rudder tube is the one with the work involved, and this is a description of such a rudder mounted on a Westerly Solway, a bilge-keel 10.9m (36ft) ketch. This has wheel steering, a relatively short 2in diameter stainless steel rudder stock inside a 2¼in rudder tube that rises to the top bearing mounted on an encapsulated steel crossbeam, then to the steering quadrant, just beneath the aft cabin bunk where the emergency tiller can be mounted and the boat can be steered from the aft hatch. Although all the retaining bolts are metric, the stock and tube are in imperial measurements on this boat. Because it is a bilge-keeler, the rudder blade is itself shorter in depth but longer fore and aft than its fin-keeled cousins (Conway and Medway and W35), and this one has a narrow ledge or plate at the bottom, often used to improve the flow over the rudder. This boat is generally very easy to work on. However, this rudder can only just be lifted by two people when it is clear of the boat: it is heavy and unwieldy.

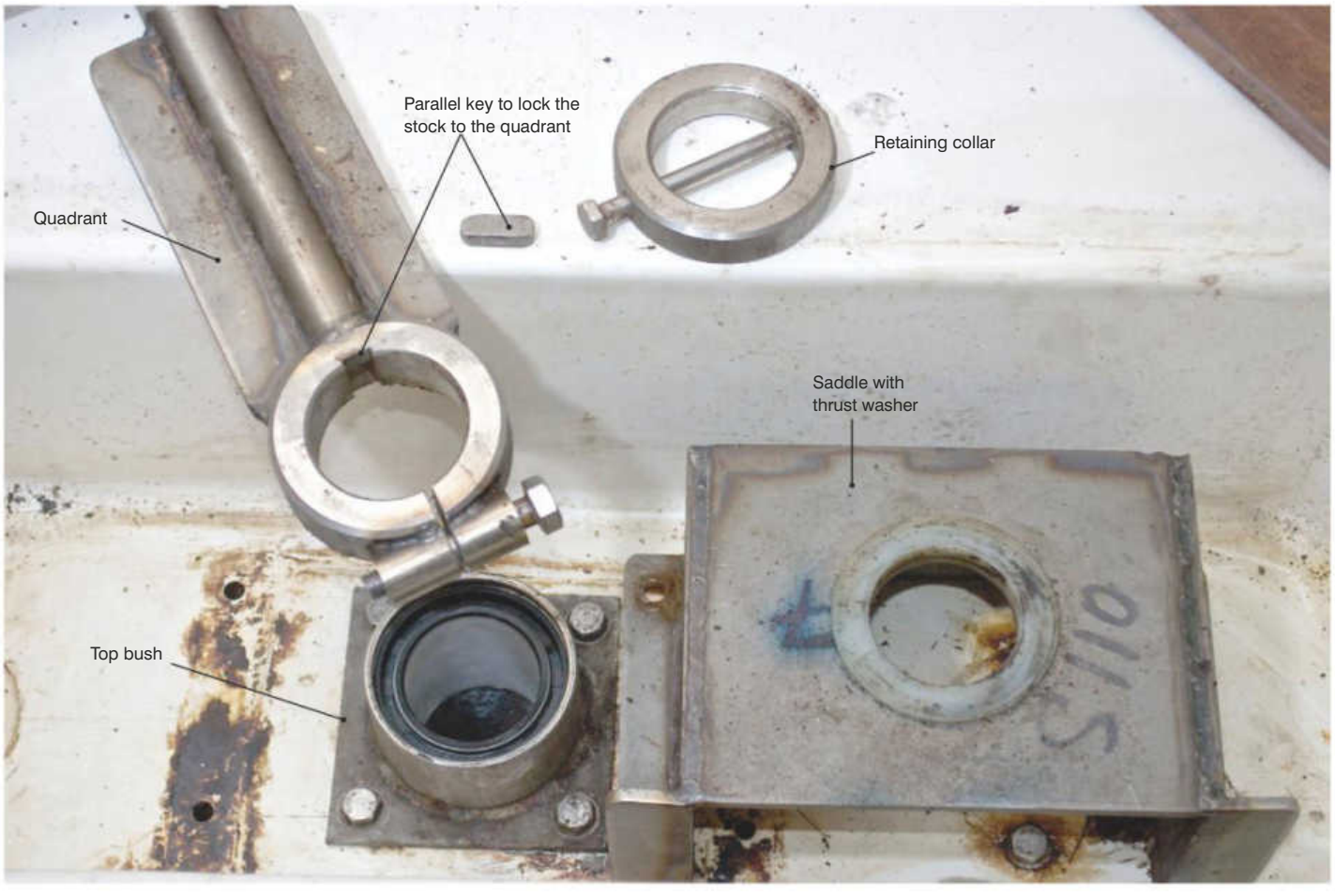
Tackling the job

We measured the approximate length of the rudder stock from the top of the rudder blade to the top of the rudder stock and dug a hole that deep from the bottom of the rudder blade, adding half a hand's depth to account for clearance and misjudgement. Next, we placed some blocks close to the rudder. A small hydraulic jack could be raised so that it contacted the bottom of the rudder and locked in place.

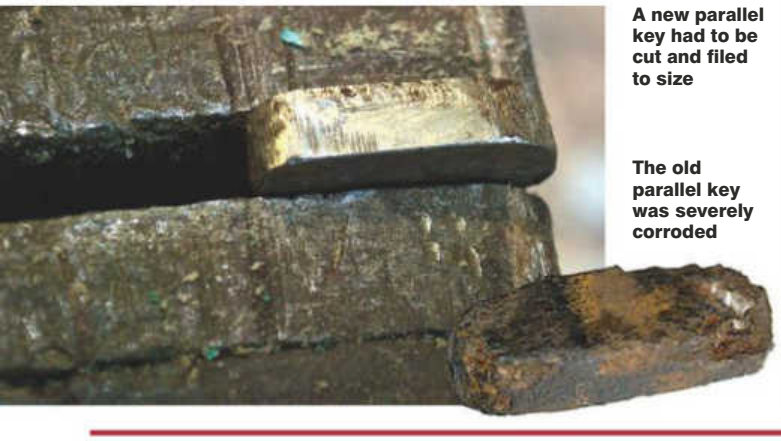
Before any attempt at lowering took place, a strong line was tied from a position on the boat vertically above the rudder stock and brought up firm against the bottom of the rudder. This was useful for lowering the rudder, and should have been useful when lifting the rudder back into position, although ratchet-type cargo ties were infinitely better. This line was lashed fore and aft on to the rudder blade to prevent it slipping off.

The rudder and the people working on it must be safe once the pins and bolts that secure it in place start to be removed. With the weight of the rudder now held by the jack, I tied the steering wires to prevent them falling off any of the guide sheaves, marked their position and undid them, removing all the retaining bolts and pins, the quadrant, the parallel key, and any other obstructions. The rudder was slowly lowered using the jack and the line around the bottom of the rudder.

The lowered rudder: a strong line was tied from a position on the boat vertically above the rudder



The worn original bush



A new parallel key had to be cut and filed to size

The old parallel key was severely corroded

Ready, steady, dig

The issue that can be most testing is digging the right-sized hole. Some boatyards are concrete, and digging would be out of the question: the boat would have to be chocked up high enough to provide clearance. If you are lucky it will be clay or sand, and not rubble or rock. This is a really physical job: a previous boat needed a 60cm hole in a yard of sand and stone, and a friend's boat needs over a metre. It is a couple of hours' work.

It rained, so the rudder was lowered into the pool of water that had been a neatly dug hole, surrounded by the clay-rich spoil that clung to shoes, waterproofs and pretty much everything else.

Having removed the rudder, I compared the old with the new. I measured the size of the rudder tube and compared this measurement with the new bearings. If I was to have had new bearings made up at this point, I would have made notes. The old bearings were tight in the rudder tube because they were old, so I cut them out carefully with a hacksaw blade.

At the top of this rudder tube is a housing that screws down on to the top of the rudder tube and is then bolted in place. It holds the top bush in place and also contains a water seal – basically the sort of seal used as an oil seal, a rubber-encased metal 'washer' with a lip that is held open by a stainless steel spring. The water seal is useful in preventing seawater ingress caused by following seas when the stern tucks down. The old seal was a mucky collection of bits of rubber.

As I already had new bearings,

I offered them up to see that they fitted. If they were a tight fit they would contract once they were driven home, and this would interfere with the fit of the rudder stock. If they were loose, then that could be a problem. The hope was to find that all was well, replace all the bearings, apply some gentle lubricant to the rudder stock and, with some help, replace the rudder.

The bearings are not nylon, as it swells in water and could possibly seize up the rudder stock. Although no specification was given – other than 'made to Westerly specifications' – they appeared to be acetal (sometimes sold as Delrin), which is what I would have chosen were I to have had them made up.

Modifying the new bearings

Preparation for raising the rudder again was at least as important as lowering it. Because the bottom bearing was loose, lowering the rudder wasn't obstructed by tight bearing clearances. Things could have happened in a bit of a rush, but some care was taken to prevent that. When replacing the rudder, difficulties arose because the bearings were oversize, and the rudder was difficult to align because lifting the rudder out of its pit in the ground was initially difficult – until a friend turned up with some ratchet luggage ties which gave us better leverage. The top bearing was around 3mm over size, and without a lathe it was only possible to grind the excess away. These bearings are naturally slippery but hard, almost like bronze, and grinding is a slow process which includes frequent visits to the boat itself, climbing up the ladder, distributing more clay around the cabin and trying the bearing for size. At the end of day one, this had been achieved. Once everything finally fitted after considerable resizing of the bearings, I replaced everything at the top end in reverse order.

The new bush in place, but with the stock not yet aligned

Collar, saddle and emergency tiller fitting

On day two, the lower bush was inserted into the lower end of the rudder tube, and found to be a good fit. It was removed and tried on the rudder stock, with the assistance of a wooden block. It was a good push-fit. But when the bush was pushed home into the rudder tube and the rudder offered up, it would not fit. Problems with alignment were blamed. The process was modified by putting the bearing on to the stock, and offering up the rudder again so that alignment was more manageable. The stock went in only as far as the top of the lower bearing, and then wouldn't go any further. We jacked the rudder up with some force but found that not only was the bearing starting to bulge, but we had lifted the back end of the boat a few millimetres, which isn't a good thing. When we removed the rudder yet again, the bearing was clearly too large for the tube. What seems to have happened is that in trying the bush on the rudder stock with the assistance of a wooden block it had expanded enough to cause interference. This had to be ground down to fit.

On the third day, using some webbing straps (of the kind used for holding down things on roof racks or trailers) to help raise the rudder again, the process took less than an hour. A new parallel key had been cut and filed and the quadrant was refitted over this. The key must be made of key steel, not mild steel. If you know the size, one can be ordered online.

Final fitting

There was still one snag. The rudder is prevented from falling out of the boat by a substantial stainless steel collar with a through bolt at the top of the stock. The new bushes were slightly oversized and the plastic collars that prevent the bushes slipping up or down the tube needed adjustment. Fortunately the amount needed was small, and by firming up the bolts of the saddle and lightly sanding off the surface of the flat thrust bearing at the top, the bolt could be inserted through the collar.

The final fitting completed, the steering was swung side to side several times to check it, and the cable tension rechecked. This is a job that could take four or five hours from start to finish, but in the case of our rudder, it took three days: a basic 8.30-9.00 start to a 3.30 finish on winter days, with some comfortable coffee breaks and the generous assistance of two others.

The final fitting completed

Problems were down to two things – in particular the size of the bearings supplied, and to a lesser extent the alignment of the rudder stock when refitting it – simply because getting a line under the centre of gravity of the rudder was difficult. But once the rudder was high enough to get the hydraulic jack under it, the job was easy, and made a bit easier by the fact that the bottom of the rudder is flat. A rudder with more profiling to it might be a little more difficult.

IN-MAST REEFING: mainsails made easy?

It's often seen as the simple solution for mainsail handling, but what are the pros and cons of a sail that rolls away inside the mast? David Harding investigates

If there's one subject guaranteed to divide opinion among cruising sailors, it's in-mast reefing. Those in favour often wax lyrical about the ease and speed of reefing and un-reefing and how the sail just disappears when you furl it away. There's no need to leave the cockpit to set sail or to help it down; no flapping Dacron on deck or bundles on the boom. Just release one line and pull another. You have a sail of infinitely variable area that, because it's rolled from the luff, can quickly be made smaller should the need arise. What's not to like?

Those less enamoured will point out – among other things – that the sail is normally smaller and that the shape is hugely compromised, because an in-mast mainsail has to be so much flatter than a conventional alternative. In the words of one happy but realistic owner, 'It's essentially a roller blind'. Unlike a roller genoa, an in-mast mainsail has to roll flat to fit through a slot and into a confined space. There's simply no room for excess bulk.

With in-mast reefing you have to accept that convenience comes at a cost in terms of both cash and performance – and, potentially, reliability as well if you don't look after both the system and the sail.

What you need to know

It's easy to imagine that all in-mast systems are broadly the same. In fact there are significant differences between them, and there's a lot to consider in terms of both the mechanism itself and the sail. These are relevant whether you're buying a new boat, converting your existing boat or, perhaps, looking to buy a second-hand boat that has in-mast reefing fitted – in which case you might want to know whether you can you upgrade to a newer system while keeping the existing mast. Does in-mast

reefing work with a fractional rig that needs pre-bend? What about maintenance, what happens if it all goes wrong, and how long will an in-mast mainsail last? Can you convert a conventional mast by adding a bolt-on-the-back system? What difference does a tensioned luff-spar make, and is it worth having?

Then there's the question of battens. If the sail doesn't have battens, can you change it for one that does? Will the system work with a battened sail? Some will, some won't. And are battens a good idea anyway?

The questions continue. We will be looking at all these and more in the following pages.

Performance first

Let's start by looking at performance, because that's one of the most fundamental factors. In-mast reefing is a compromise not only because of the flat sail but also because a sail without battens has to have a hollow (concave) leech. That makes it up to 20% smaller than a conventional alternative. With short vertical battens you can have a straight leech, while full-length vertical battens allow you to claw back some of the deficit by having a positive roach.

Regardless of the battens, however, you will have more weight aloft. This, combined with the reduced drive from a flat-cut sail, means that performance suffers. Also bear in mind that you can't bend the mast to depower the sail, so you have to forget about playing with the backstay.

Despite all these factors, it's not all bad news on the performance front. The ability to adjust sail area quickly and easily means that you're less likely to be hanging on to too much or too little sail. And, significantly for some sailors, in-mast reefing allows them to continue sailing when declining strength or mobility might otherwise force them to stop.

Yet another factor sometimes cited is that many cruising boats carry a significant amount of weather helm, and the only way to get rid of it is to reef the mainsail. On that basis, an in-mast sail is at less of a disadvantage once the wind reaches a Force 3 to 4 because it's like having a reefed sail to start with.

If you're buying a new boat and have no firm views either way, whether you end up with in-mast reefing or a conventional mainsail might come down to the builder.

***Dunreefin*: a hollow-leeched, battenless mainsail came with this Bavaria when the owner bought her, but he has since abandoned in-mast reefing and switched to a conventional sail**

One mast specialist points to two large European builders of mainstream cruisers. Both build boats of a broadly similar nature designed to appeal to a broadly similar market, yet one sells 75% of its production with in-mast reefing while the other sells 75% with conventional mainsails.

Progress and problems

Potential in-mast converts are sometimes worried about whether they'll one day find themselves with a sail jammed halfway in or out. In decades past, many sailors were hesitant to switch to roller-reefing headsails for the same reason, but reservations now tend to centre on the compromise in sail shape rather than on reliability.

In-mast mainsails are often viewed with more scepticism than roller-reefing headsails, both because they haven't been around for so long and because the mechanism is inside the mast. That means it's harder to get at and, if the system does jam, you don't have the option of spinning the boat in circles to furl the sail away.

Many of us will have experienced problems even if we haven't sailed extensively with in-mast systems. I was on a boat years ago when, with the (nearly new) sail flapping around as it was being reefed, the clew tore out. True, that was the

In-mast mainsails need looking after if they're to give good service

sailmaker's fault, but the point is that we were left with no useable mainsail. In the unlikely event that you lose the clew of a conventional main you can still sail with a reef.

On another boat test the sail wouldn't furl in as we were approaching a narrow and busy harbour entrance. It took several minutes of persuasion with a hammer and a wedge of wood before it cooperated. Experiences such as these will inevitably determine how readily any of us will embrace the whole notion of in-mast reefing, but the manufacturers have been steadily refining what they have to offer, even if some have gone in

Partial battens allow a straight leech or even a small roach

different directions from others.

It's also important to bear in mind that problems are not necessarily the fault of the manufacturer of the reefing system. Other significant factors include the type, age and condition of the sail, the way it's furled and unfurled, the deck hardware and, of course, maintenance by the owner. Tolerances with in-mast reefing are finer than with conventional sails.

Evolution of the species

In the early days of in-mast reefing, the luff spars (the aluminium extrusions, otherwise known as mandrels) were all untensioned: they simply ran inside the mast from the drum at the bottom up to the head.

About 15 years ago, however, Seldén decided to make a luff spar that could be tensioned. They had found that the system didn't always work particularly smoothly or produce a neat reef, particularly in the middle of the sail. When the luff-spar was pulled aft by weight in the sail, the sailcloth made contact with the inside of the mast. That led to friction, often making it hard to wind the sail in or out.

Seldén's systems have now been through several evolutions, some using a furling line on a helical worm-drive and others a drum with an endless line. The current Furlin RB system is the most refined yet and the one most commonly fitted to new production boats with in-mast

For the past 15 years or so, Seldén's Furlin RB system has used a tensioned luff spar with a bearing at the top and a bottlescrew at the bottom

reefing. It has a bearing at the top and a bottlescrew at the bottom, and is often used with mainsails that have full-length vertical battens to give a positive roach.

Significantly, the other makes you're most likely to see – Z Spars and Sparcraft – have adopted a very different approach. They have both chosen to keep things simple, sticking with an untensioned luff spar that's not even connected to the top of the mast, thereby eliminating the need for an upper bearing. It's effectively free-floating at the top, held in position by the halyard swivel when the sail is hoisted. Sparcraft maintain that this reduces compression loads and, therefore, weight.

Both the Z Spars system and the Sparcraft Stoway have been used by leading production builders, though Z Spars' has been best suited to battenless or short-batten sails rather than those with full-length battens (this is now changing with the new mast sections). So if you buy a second-hand Legend with an in-mast reefing system by Z Spars and a hollow-leech, battenless mainsail, don't assume that you can fit a new main with full-length battens and a positive roach to increase the area, because it might not work. It's principally a function of the size of the slot in the back of the mast.

While the Seldén system now dominates the market in terms of new boats, and has proved itself over many years, it inevitably needs more care and maintenance than the simpler alternatives and it also costs more to buy. For example, Z Spars (whose system has much in common with Sparcraft's) make the point that all the component parts are easy to replace and that even a complete new system to fit inside the existing mast can be bought for as little as £550.

As is often the case, you have the choice of paying for more complex engineering that offers additional features, or opting for economy and simplicity.

Options for upgrading

If you have an existing in-mast system, you might well be able to upgrade it without changing the mast or rigging. That will depend on its age, and you will need to talk to the supplier to see what's possible. Most Seldén in-mast-reefing masts from the past 25 years can accept the latest Furlin RB system. Those less than about 10 years old can usually be upgraded without the need even to change the standing rigging or move the spreaders, but each rig needs to be looked at individually.

Z Spars and Sparcraft (the latter having bought Isomat and Francespar, and now a sister company of Facnor) have changed their systems relatively little over the years, so again there's a good chance that an existing one can be replaced or upgraded inside the same mast.

That's all very well if you already have in-mast reefing – but what if you have a conventional rig and want to convert to in-mast? In this situation you can remove the existing rig and start again from scratch – that's the expensive route – or consider the Facnor CF, which fits behind the mast. Like the Sparcraft system it's fundamentally a rotating luff spar with the halyard swivel at the top, but this time it lives in its own separate housing fitted to the track of the existing mast (without the need for any holes to be drilled). It's not as elegant as an integral system, and windage is inevitably added, but it's a lot less expensive.

Facnor's CF fits on the back of a conventional mast, offering an economical conversion

Sails for in-mast reefing

In-mast systems won't tolerate stretched and baggy old sails. The bulk caused by the stretched fabric will lead to increased friction at the very least, and eventually to jams. Owain Peters from Kemp Sails says that a sail can be recut once – usually having a crescent cut out of the luff – but after that it's time for a new sail.

With a fully-battened sail there's even less tolerance for stretch, because once the battens are no longer parallel with the slot in the back of the mast they're unlikely go through. When designing the sail, the sailmaker needs to make sure each batten meets the mast perfectly parallel as it's rolled in. That calls for accurate measurement.

The luff length needs to be measured carefully, too. It's common to see in-mast sails with their head well below the top of the mast, possibly due to caution on the part of the sailmaker. Excessive luff length would lead to problems with the Seldén system in particular if the halyard swivel ended up being pulled against the top bearing.

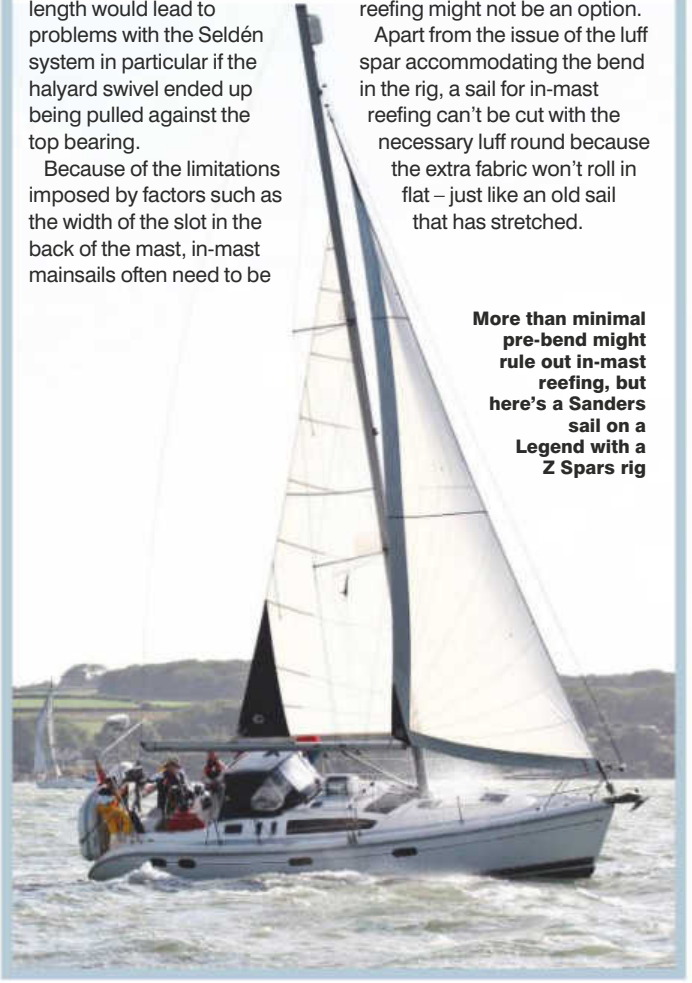
Because of the limitations imposed by factors such as the width of the slot in the back of the mast, in-mast mainsails often need to be made with a lighter fabric than would be used for a conventional mainsail.

Particularly if you're planning to sail long distances, bear in mind that chafing patches have to be sacrificed. Chafe can be a problem with full-length vertical battens, and Peter Sanders is one sailmaker who wouldn't recommend them for offshore cruising for this reason.

Fractional rigs

Given that a luff spar needs to rotate freely inside the mast, there are limitations to the amount of pre-bend that can be set into a rig before the system no longer works. As a rule, fractional rigs are designed to be set up with more pre-bend than masthead rigs, though the newer, high-fractional configurations are generally both stiffer and straighter than the whippy, low-fractional rigs of the 1970s and 1980s. If a rig is of the type that needs more than a minimal amount of pre-bend, in-mast reefing might not be an option.

Apart from the issue of the luff spar accommodating the bend in the rig, a sail for in-mast reefing can't be cut with the necessary luff round because the extra fabric won't roll in flat – just like an old sail that has stretched.



More than minimal pre-bend might rule out in-mast reefing, but here's a Sanders sail on a Legend with a Z Spars rig

In-mast reefing: a case history

To experience a new in-mast system I went for a sail with David Peters on his Southerly 115. David and his wife Jenny bought *Subtle Alchemist* about 15 years ago, at which time she was fitted with the then-current Seldén system and a battenless, hollow-leech sail.

It didn't work particularly well and that was partly because the sail had stretched (baggy sails cause problems), so David had it re-cut. That reduced rather than resolved the problem, so the next step was to order a new sail from MaxiRoach. Although the sail was bigger and better, getting it in and out was still a challenge at times, partly because of the extra bulk of the battens. The decision was made to upgrade to Seldén's latest Furlin RB system with the tensioned luff spar. The mast had to come down, but the rigging remained the same. The biggest external changes were to the deck hardware to accommodate the endless furling line.

Having a son who by then was working at Kemp Sails, David and Jenny thought the best way to do justice to the new system would be to have a new sail, also with full-length battens, so that's what David, Owain and I went sailing with. David bought this particular Southerly 115 because she had in-mast reefing and he had no reason to believe that it would be less than perfectly functional. After all, the system was fitted from new by the builder. With two reputable companies working together, why should anything be amiss? 'Not having done the research I've done since,' he said, 'I had no idea there were systems that didn't work and others that did.'

***Subtle Alchemist* with her MaxiRoach mainsail and original Selden system...**

...and as she is now, with the tensioned luff spar and a new Kemp sail

Reefing in practice

With a system that works well, there's not a lot to worry about when furling, unfurling, reefing and unreefing the sail.

Each manufacturer and sailmaker offers advice on the best way to do it. Some suggest keeping a little tension on the outhaul when you wind the sail in; others say it's best to leave the outhaul slack but have the wind slightly off the bow, then tension the sail around the luff spar once it's wound in.

As a starting point, the boom should be set at around 90° to the mast. Seldén recommend 87° in their notes to sailmakers. If it's too low, the leech will be tighter than the foot as the sail is wound in. Too high and the leech will be too slack. A slack leech can lead to the sail rolling in with sections of the leech folded over itself – most likely with a battenless sail. Then the sail will roll in but not want to come out again. Seek advice from the manufacturer, sailmaker and other owners and then combine this with your own experience. Experiment in light conditions, note the optimum height of the boom and adjust the kicking strap (and topping lift if necessary) to make sure it's at that height when you're reefing or furling in or out.

Kemp Sails stress the significance of the stopper in the boom, which stops the slider moving more than about half way forward and prevents too much downward pull on the clew.

If the system is stiff or prone to jamming, don't assume it's the mechanism inside the mast. It might be that the sail has stretched so there's simply excess cloth that's not rolling in flat, or it might be the way you're furling the sail. Don't forget the deck hardware, either. If the blocks and deck organisers leading the lines to the cockpit are old and worn, they can add a lot of friction.

One important feature on *Subtle Alchemist* is the donut at the clew, on the outhaul line between the slider on the boom and the sheave in the sail. This prevents metal-to-metal contact from the sheave being pulled down on to the slider.

A donut at the clew keeps the sheave from making contact with the outhaul slider

The boat is on a close reach and Owain eases the main sheet...

...until the sail starts to luff

Tweaking and trimming

An in-mast mainsail inevitably offers a good deal less scope for trimming than a conventional alternative. You can adjust the kicker to control the twist as long as you reset it to the right position when rolling the sail in or out. A sprung kicker is ideal as it saves the need for a topping lift, though some owners say the topping lift shouldn't be adjusted once it's set.

Halyard tension is important. Too much tension creates a vertical crease down the luff, which increases the bulk of the sail as it's rolled in and can cause problems. With untensioned luff spars, excess luff tension can strain the bearings in the halyard swivel. Most of the same trimming principles apply as with a conventional sail, as these photos show.

Here's a nicely set sail for fresh conditions, with the right amount of twist (top telltales flying)...

...and a tight foot, which you need in any breeze. Ease it on a reach or in less wind

Here the kicker is too tight and there's not enough twist (top telltales stalled)

Too much twist (not enough kicker tension) and too little outhaul results in an inefficient shape

The clew should be close to the boom, not way above it like this

He releases the outhaul (the blue line)...

...and pulls the endless furling line

The sail flaps gently as it's wound in

Now Owain tensions the outhaul...

...before re-tensioning the main sheet, and that's it.

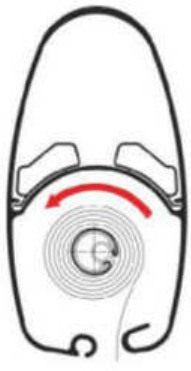
Here's the gas kicker, and the drum for the endless furling line

AT A GLANCE: Who offers what?

Seldén

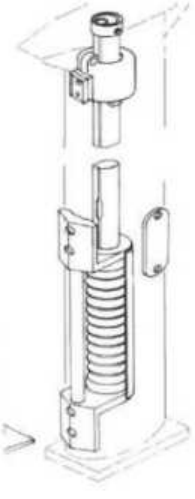
The only system available in the UK with a tensioned luff spar, Seldén's Furlin RB comes in sizes to suit yachts up to around 24m (80ft). Earlier versions have untensioned luff spars. Because of the bearing at the top of the luff spar with the new systems, inspection is recommended every five years, though some have gone for much longer without being touched. Access points are built into the mast where lubrication is needed.

The sail should be lowered to allow the halyard swivel to be greased together with the bottom bearing once a year. Reaching the top bearing means taking the head-box off the mast. This is usually done when the standing rigging is due for replacement.



PRICE (APPROX. FOR 10M/33FT YACHT): £6,000-£6,500

www.seldenmast.com



Z Spars

Z Spars' system uses a helical drum at the base, with the halyard swivel at the top of an untensioned luff spar. An annual rinse in warm soapy water is recommended for the bearing and drum. It has been used on boats up to 21m (70ft). Wider slots on the new masts will allow them to accept fully-battened sails, which has not always been the case with the old sections. Check before buying a fully-battened sail.

PRICE (APPROX. FOR 10M/33FT YACHT): £3,600

www.zsparsuk.com

Facnor

Made for boats from 6-16m (20-52ft), Facnor's Compact F is added to the back of an existing mast. The housing comes in lengths of 1.7m (5ft 7in) that slide up the track. A line-drive just above the gooseneck rotates the luff spar, with the halyard swivel acting as the swivel at the top. Earlier systems used an internal halyard. No holes need to be drilled in the mast and the system can be fitted with the rig in place.

PRICE (APPROX. FOR 10M/33FT YACHT): £2,500

www.facnor.com

Bamar

Behind-the-mast reefing system.

www.bamar.it

Sparcraft

Sparcraft's Stoway masts are for sections up to 23m (76ft) in length. With an untensioned luff spar, maintenance is relatively simple: the halyard swivel and helical drum should be inspected periodically and given an annual rinse in fresh water, and the furling line can easily be replaced when the need arises.

PRICE (APPROX. FOR 10M/33FT YACHT): £6,000

www.sparcraft.com

In-mast names from the past

As well as systems that are still made, there are plenty of others you might find fitted to older boats. A popular behind-the-mast add-on was Paul Trickett's EasyReef, supplied with his MaxiRoach mainsail. Paul sold the MaxiRoach name to Sanders Sails some years ago but still has a few extrusions left.

Proctor used to make a fairly basic in-mast system, found on some of the older Nicholson models. Also seen on larger boats including Oysters were those from Hood Yacht Systems, which sailmakers tend to like because of the large exit slot in the mast. Large slots allow the use of stiffer battens and generous cloth weights, which can create too much thickness for masts with narrower slots. If a sail is too thick it simply won't wind in or out or, at the very least, will be more prone to jamming.

Romar in The Netherlands made in-mast reefing at one stage – as did another Dutch company, Rondal – but have now moved to in-boom systems for larger boats. More familiar names in the UK include Profurl and Rotostay, both of whom made external, behind-the-mast systems that looked a bit like headsail roller-reefing kits attached at the gooseneck and masthead.

EasyReef behind-the-mast systems were supplied with MaxiRoach mainsails and are often seen on smaller boats

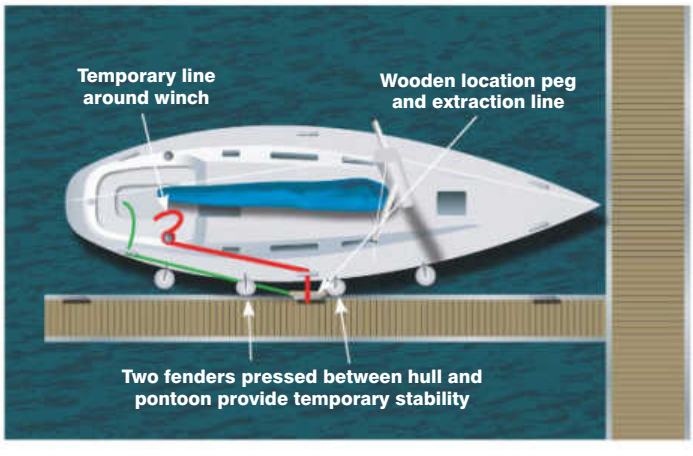
Casting-off single-handed

Colin Haines explains why he has no need to simultaneously release bow and stern lines when leaving a pontoon single-handed

I now sail alone after my wife died and have devised ways of getting round the need to do several things at once, such as casting off the bow and stern lines at the same time when moving away from a pontoon.

My solution was to delete the bow and stern lines in favour of one midships mooring line that could be remotely released from a pontoon-mounted cleat. Or more accurately, after starting the engine, I rig the single line before casting off the springs, bow and stern lines. This is because while the boat may be held against the pontoon, it is not the best way to moor any boat by a single line for a period of time.

The obvious problem of how to detach the temporary mooring line is solved with a bowline loop on its outer end. The loop does not go around the pontoon's mooring cleat, but instead passes over the top and under it, between the cleat's two support legs. A wooden location peg, attached to a cord led back to the cockpit, is passed through the bowline's eye to stop it from retreating backwards the way it came.



Applying tension

Applying tension with a sheet winch to the temporary mooring line jams the wooden peg in place and, at the same time, pulls the hull tight against the two fenders, preventing the hull from moving. Obviously, if wind and tide conspire to make the use of two fenders inadequate to control the boat's movement, more can be used. The trick is to maintain the tension on the temporary mooring line and thus keep the peg in place.

As soon as all is clear to move away from the pontoon, slackening the temporary mooring line allows the floating wooden peg to be pulled out and quickly recovered on board. The bowline eye falls free and dangles down beside the hull, where only being a short rope it probably doesn't even reach the water and definitely can't reach the propeller. Recovery can be done at leisure.

Near horizontal

An observant reader will note that the same technique can be used to release a mooring line at the bows from the cockpit and that, depending on boat and mooring cleat, the rope can equally pass under the pontoon cleat. This choice is based on keeping the rope as near horizontal as possible. If a bollard is involved, turning the open end of the bowline eye into a cow-hitch round the mooring line and positioning the peg in the eye can achieve the same results.

Temporary mooring line rigged. Because it is tailed round a sheet winch, it can be tightened sufficiently to compress the two fenders slightly, adding to the boat's stability against being moved by the wind and tide.

As soon as the tension is released, the white cord can pull the wooden peg out of the bowline's eye, releasing the temporary mooring line.

Another view of the temporary mooring line, showing it being slipped as soon as the 1½in-diameter pale wooden peg is fully pulled out of the bowline's eye. If the bowline is passed under the cleat (instead of over it) before the wooden locator is inserted into the eye, the angle of the cord leading to the boat's stern may make it harder to release the bowline. Besides which, the mooring line may work at an unfortunate angle, nearer to vertical.

The same technique can be used when leaving a raft of boats, provided that the adjacent boat has something like a midships cleat to carry the bowline and peg.

Things made from rope and wood will not damage the neighbour's boat.

If the boats are reversed in this situation, the bowline could pass under the tubular toerail and then be locked in place by turning the loop into a sort of cow-hitch.

Onboard diesel polishing

Keen to eradicate all traces of diesel bug after installing a new stainless steel tank, John Mimpriss fits a fuel polishing loop to his Moody 34


Diesel polishing

The article about diesel polishing in November's PBO, written by Damian Walker, touched on a subject very close to my heart; namely, clean fuel. My passion for clean fuel started about 18 years ago, during a return trip from the West Country in my Moody 34.

En route, I found that I had picked up some dirty fuel, which manifested itself halfway across Lyme Bay. We managed to get back to Gosport having drained out the worst from the bowl of the inline filter, and changing both that and the engine filters. On return, I inspected the inside of the tank and was horrified at what I saw. The interior of the mild steel tank was covered in curtains of slime and there was plenty of sludge and mess at the bottom of the tank; the exterior also showed signs of rusting. The upshot was that, rather than cleaning and treating the existing contamination, I opted for a new bespoke stainless steel tank made to my dimensions.

Unlike the old tank, where the fuel was sucked through a stack pipe, my new tank was constructed with a V-shaped sump with a drain-off at the lowest point and fuel fed to the engine from a tapping in the wall of the tank above the sump. The intention was to ensure that fuel could still be fed to the engine under gravity alone if the engine-driven lift pump should fail. A stopcock on this pipe enabled filter changing without losing fuel into the bilge. An inline 30-micron filter with a bowl and water drain was fitted in the fuel line between the tank and the integral engine 5-micron fuel filter.

As a matter of routine I added anti-bug additive whenever I refuelled, and I tended to keep the 155lt tank at least half-full in the season and full over the winter. Also, twice a year I would drain off from the sump of the tank and continue until I achieved clear fuel. Until two years ago I was draining about 2-3lt each time, but in March 2014 I found serious quantities of water and sediment and had to drain off nearly 25lt!

Having confirmed that water was not entering through the deck refuelling fitting, I continued my six-monthly routine, but was concerned to note that it was now averaging about 10lt drain-off to get clear fuel every time.

So, I wrote to PBO expert Pat Manley and asked him if I was in fact being overzealous and wasting good fuel – especially since throughout this period I'd not seen any sign of contamination in the inline filter bowl. His response was very supportive, and he went further by commenting that the increase in biodiesel as an additive to marine diesel had increased the risks of water absorption and, as a result, diesel bugs in the fuel tank. His reply started me thinking about how I could obtain clean fuel in a more efficient and environmentally acceptable manner.

Having done some research, I found a very useful basic fuel polishing system on the website of ASAP Supplies which included an itemised list of all the required components – down to the last Jubilee clip! I could have just gone for a simple solution by incorporating an additional fuel filter (Racor turbine type) in my existing engine fuel supply line, but that would have meant that the operation of the filter was reliant on the engine running. So I opted instead to install an onboard fuel polishing loop. I was lucky as I could use the existing sump drain outlet in the fuel tank as a supply and connect into the engine 8mm fuel spill return line running to the top on the opposite side of the tank.

Fitting the loop

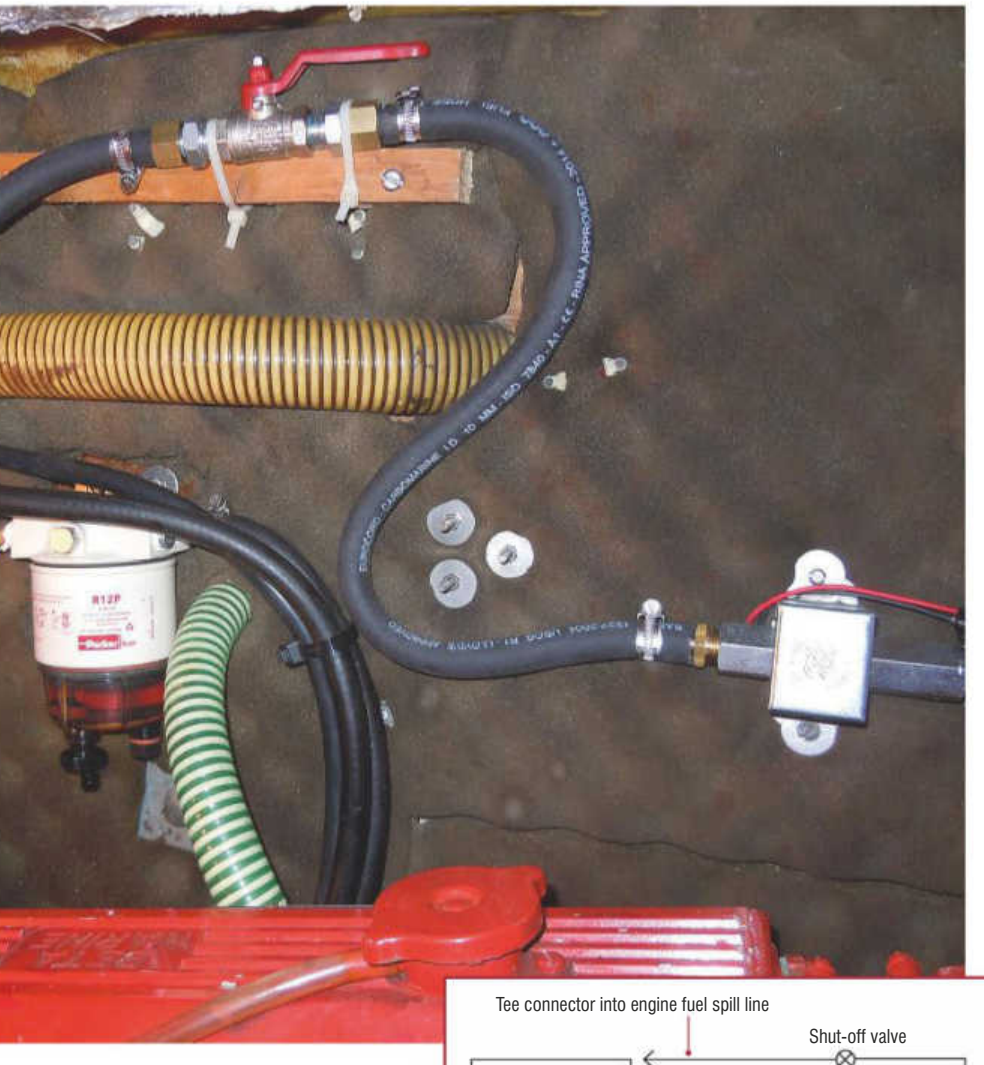
Having decided on my plan, I purchased the following components:

- One Racor 500FG diesel turbine fuel filter (10-micron) with

The bottom of the tank, showing the supply from tank to engine sited above the sump outlet that feeds into the polishing loop

ABOUT THE AUTHOR

Retired after a career as a pilot, John Mimpriss was introduced to sailing aged 8, crewing on his uncle's East Coast- based Vertue. Since 1960 he has sailed either by chartering or on his own yacht. Yachtmaster qualified, John has owned his Gosport-based Moody 34 (*Lonk Avel*) since 1997.



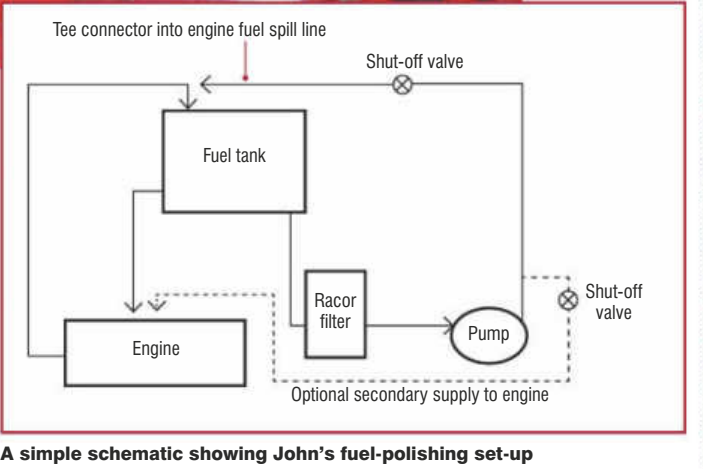
LEFT The fuel pump supplies polished fuel back to the tank through the stopcock to the tee connector in the spill return line. Below is the in-line 30-micron filter that feeds tank fuel to the engine

BELOW The Racor 500FG turbine fuel filter is sited in front of the engine to enable easy access for servicing

see-through bowl and water drain; with ¾ inch ports which required two Racor hosetail ¾ to ⅜in connectors and also two ⅜in to 10mm hose couplings.

- One 12V fuel pump with ⅜in ports to which two ⅜in to 10mm hose couplings were fitted.
- One tee piece with ⅜in ports to which two ⅜in to 8mm and one ⅜in to 10mm hose couplings were fitted.
- One lever-handle ball valve with ⅜in ports to which two ⅜in to 10mm hose couplings were fitted.
- One tube of Hylomar universal blue joint compound – which was used on the threads of all the couplings.
- Two metres of 10mm flexible fuel hosing along with eight 13-20mm Jubilee clips and two 9.5-12mm Jubilee clips.

First of all I had to site the new fuel filter in the engine bay; I had considered the alternative of stowing it in the cockpit locker adjacent to the fuel tank, but I rejected that idea since the filter would be exposed to damp and damage from other items stowed in the locker. The actual position selected for the filter was quite critical as space was needed both above and below it in order to change the filter from the top and to drain it from underneath. In all, I needed a space of about 20in (50cm) in height, and it ideally needed to be neither below the bottom nor above the top of the tank to enable the pump to provide a maximum flow rate. In the end I moved the automatic fire extinguisher along the bulkhead in order to place the filter in front of the engine, where it was easy to get at, and clear of any rotating components.



A simple schematic showing John's fuel-polishing set-up

The filter works more efficiently if it is upstream of the pump, therefore the supply from the bottom of the fuel tank sump was fed by 10mm fuel hosing through the bulkhead direct into the filter. The outlet from the filter was connected via a short length of 10mm hosing to the electric 120lt/hour fuel pump. From the pump I ran 10mm hosing to a convenient place on the 8mm engine fuel return spill line, which I cut and reconnected using the tee piece (with two 8mm and one 10mm hose connections). I have also fitted a stopcock between the tee piece and the electric pump as I did not want to risk a backflow from the engine fuel return spill line into the Racor filter when the engine was running. I suspect that I was worrying needlessly… but it does give me the option to fit another T connector and stopcock from the electric pump direct to the engine fuel supply line so that I could swiftly swap fuel supply to the engine. I had a spare circuit breaker on my electrical panel, so it was a simple task to run an electrical supply cable behind the wall furniture of the heads (using my trusty GRP cable 'puller' rods) into the engine bay to the pump.

Once a fortnight

Having finished the installation, I can now polish the fuel once a fortnight throughout the winter even though the boat is laid up ashore – and, of course, as necessary during the season. The cost was about £200, so I would need to save a lot of fuel before it has paid for itself; but at least I'll sleep easier. As a retired aviator, I have this dread of the sudden sound of silence – especially as, in my experience, it has the habit of happening at the most inopportune moment!

A Lugger round Ireland

Nathaniel, left, and Fergus, right, in their Drascombe Lugger

Alan Betson

David Hare

Nathaniel Ogden and his teenage brother Fergus undertake a 29-day sail over two months around Ireland in their family's 1996 Drascombe Lugger – during Ireland's stormiest summer in 41 years

ABOUT THE AUTHOR

A recent graduate of geology, 23-year-old Nathaniel Ogden is currently taking time out from university before (possibly) pursuing an MSc in Digital Media. Having raced and instructed in dinghies since his childhood, he is now hoping to take up more ocean sailing.

Tired of our usual family summer sailing, my 16-year-old brother Fergus and I had been discussing taking our 1996 Drascombe Lugger *Lughnasa* on her first proper voyage for some time. An entire circumnavigation of Ireland, however, was a slight escalation of any previous plans. Dad had always insisted on the seaworthiness of our open-decked Lugger, something we rarely put to the test in Baltimore harbour, although we certainly found other uses for her build quality. 'They're unsinkable,' he said as we once packed 11 people plus a dog on board before making the treacherous journey to Sherkin Island, 1NM away.

We were more accustomed to weighing *Lughnasa* down until her gunwales met the waterline than experiencing seas any higher than her freeboard. Although the Drascombe's ocean-sailing capabilities are well proven, ours had barely left Roaringwater Bay – something Fergus and I wanted to change. *Lughnasa* had diligently served as our family's 'cargo ship' for almost 20 years before we finally decided it was time to let her stretch her legs a little and see how she fared in foreign waters. With a bit of time on our hands over the summer, it was a case of now or never. I was on a gap year that had ground to a halt by January, which allowed me to begin preparing for the challenge. Fergus was in transition year at school, which allowed him some freedom to think about the voyage – just not the time to help prepare!

Nathaniel and his father prepared *Lughnasa* for the voyage in Cork

While researching for the voyage, I noticed that a Lugger hadn't yet completed a circumnavigation of Ireland. Not quite the ocean crossing they've become famous for, but it gave us another incentive to leave the confines of Baltimore harbour!

With a departure date set for 1 June, I spent a hectic five months trying to organise everything for our round-Ireland voyage. We didn't leave ourselves much time to prepare, only fully committing to the task at the end of January. Not having much of a benchmark to work from I was lucky to get some advice from Jeremy Warren and Phil Kirk of Hafren Round Britain, and Rob Henshall, who has completed four solo circumnavigations of the country since 1990. As this would be our first attempt at something like this, it was a great boost for morale to hear their first-hand experiences – that our goal wasn't as unattainable as many people thought appropriate to tell us. Obviously, though, there was work to be done, even more so once we decided to try completing the circumnavigation in aid

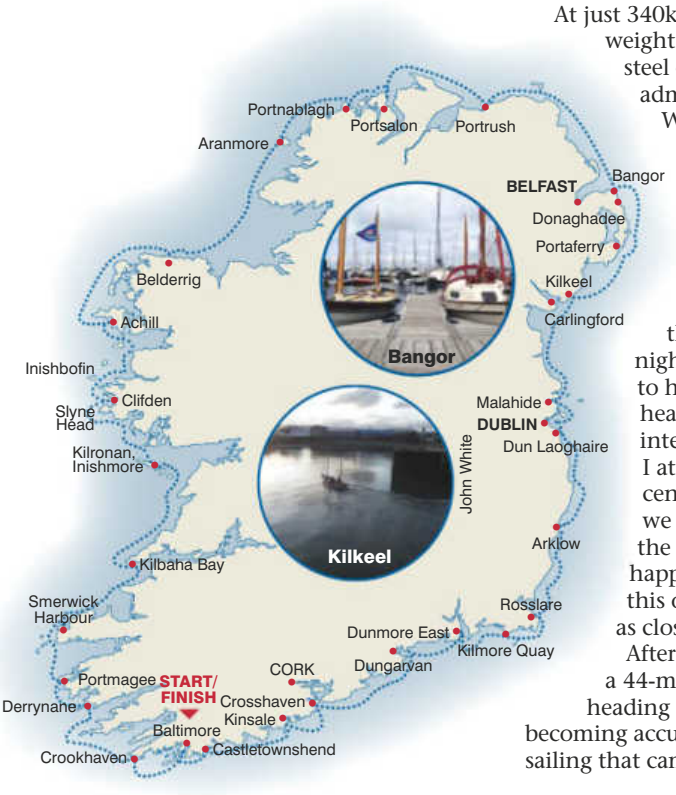
of the RNLI; an obvious choice, but a worthy cause.

With Fergus stuck in school until the end of May, Dad and I spent several weekends down in Cork de-wintering *Lughnasa* and making some minor adjustments to her rigging and hull. I was keen to keep our boat as original as possible, but since the tragic capsizing of a Drascombe Lugger in West Cork last summer there were several important changes I wanted to make. Our stock vessel came with a fixed mainsheet block which always twisted when under full sail, making spilling wind in gusts almost impossible. Although the jib is the most important sail to release in squally conditions, fitting a swivelling block was the first item on my list. This initial job worked exactly as I'd hoped: so far, so good.

Lughnasa's original bilge pump had developed a small split in its bellows over years of use and had begun spurting water into the aft locker, which we discovered early on during our Easter shakedown cruise. Likely to get worse under heavy use, it quickly became a major item on our to-do list. Twenty years of salt water had well and truly seized it in place, making every attempt at removing it more and more difficult as the screw heads became ever more rounded. With all of the Ogdens lending a hand, it was Fergus who finally got it unstuck. Not a moment too soon either, as we set sail the next day. With the benefit of hindsight, this proved to be one of our most valuable pieces of work, and I'm glad we persisted with it. The stormiest summer Ireland had experienced in over four decades meant our new bilge pump was as welcome as any bit of new kit we had, and we wasted no time putting it to use.

The first leg

Our first leg from Baltimore to Crookhaven, just 14 miles, began in a fresh Force 5-6 headwind, sending sheets of spray across *Lughnasa*'s beam and into our faces for the first few hours of sailing. Once we left the shelter of the islands and reached more open sea, these sheets of spray became waves which came crashing over the bow and into the cockpit. Much time was spent bailing that day, but as we bedded down on the sopping planks that night our thoughts turned to the promise of high pressure coming our way. Sadly for us this was to be short-lived, and *Lughnasa*'s floorboards remained saturated until several days after our final return home.



At just 340kg, much of the Lugger's weight comes from her heavy steel centreplate, which behaves admirably in choppy water. With most of the boat's weight here I was keen to avoid risking the centreboard crashing through its casing in the event of a capsize. Not only would this damage the boat, it would make the job of righting her a nightmare. As there is nothing to hold it down (I've recently heard of Drascombe's intentions to remedy this), I attached a cleat to the teak centreboard casing, to which we could secure a line when the plate was down. We happily didn't have to test this one, although we came as close as we dared.

After 11 hours of beating on a 44-mile leg from Inishmore, heading for Inishbofin, we were becoming accustomed to the heavy sailing that came with squalls of Force 6

A stop for dinner at Smerwick Harbour

Lughnasa enters Kilkeel Harbour

John White

Nathaniel and Fergus prepare for day three

Pulling the boat in

A rare moment enjoying sunny weather

and above. Although the sea was rough, the swell remained long and generally consistent under the Atlantic rhythm, and *Lughnasa* coped magnificently. We got used to constant salty spray and the occasional wave breaking over the bow or across the beam: just a few minutes of bailing would solve that. Even lunch and loo breaks weren't a problem.

As we neared Galway's Slyne Head, the tide turned in our favour. Running at speeds of up to 3 knots, we wouldn't do well sailing against it: it was just our luck that we were on yet another dead beat and now had a wind over tide. Despite seas up to 30ft, *Lughnasa*'s centreboard anchored her hull to the water as 30 knots of wind buffeted the reefed mainsail. Those seas were the largest we experienced during our circumnavigation, although not the choppiest, as the stronger tides and headwinds on the east coast whipped up chaotic steep seas.

During this wind against tide some of the rhythmic swell gave way to rogue waves and multidirectional chop which caught us out a few times. Mostly it resulted in breakers crashing into the boat and filling the cockpit – not a problem for our new (although rapidly ageing) bilge pump! Twice, however, we found ourselves riding the crests of waves which broke, dropping us into the trough and plunging *Lughnasa*'s leeward gunwale under water. With water cascading into the boat over the entire length of her beam we stalled as we spilled wind, and used our body weight to help the centreboard pull us upright again. The second near-capsize made a 7-mile reach for Clifden look far more tantalising than the 11-mile beat ahead of us. Fergus took some convincing, but the incredibly hospitable Clifden RNLI station, with hot showers, helped him see the brighter side of calling it a day!

Missing the tide

In preparation for our journey I used Imray charts to plot our general course and decide the logistics, including overnight stopovers, contingencies, daily distances and tides to contend with. We loaded a standard Garmin GPS with all of our charted waypoints and finally transferred these to two Navionics chart plotter apps on our iPhones. Though we never fully relied on them, in practice we predominantly used the €30 Navionics apps, which contain thousands of pounds worth of digital chart data, as well as real time weather updates, current tidal heights and streams and aerial photos showing local topography.

We safely sailed the four corners of the country without any major mishap

Some seriously slow learning on my part: I only realised the true value of the tidal streams function after our botched attempt at the Inishtrahull Sound, Ireland's most northerly point, where we remained for four more hours than we had intended. Not my finest moment, but now at least we were prepared for the next phase of the journey – the North Channel, where we averaged 7-9 knots for the next few days.

Heading south

Whatever our previous feelings towards tides, our north-east leg from Donaghadee to Carlingford was another of several days cut short by violent chop, and certainly not the last. With what we later heard were Force 8 gusts sweeping over 4 knots of tide off the northern coast of Strangford Lough, the sea whipped into a short, steep and confused frenzy, sending yachts running for shelter in nearby Ardglass. With our reduced sail area and slow and bumpy sailing, not to mention soaking clothes and a missed lunch, we decided to make an unplanned stop at Portaferry in Strangford Lough.

Forgetting (or perhaps ignoring) what I'd read about the approach to the Lough, we entered on the last hour or so of incoming tide, delighted to finally ease off onto a reach. Instantly we began tearing towards the mouth as its notorious tides swept under us, increasing our speed to 9 knots. Now well and truly committed, there was

no possibility of turning back, even if we had wanted to. Slightly shaken, and glad to be on flat water for a change, we tried to find the best line to take, opting for some reason (and unknown to us at the time) for one that took us through the Routen Wheel – one of only two named whirlpools in Ireland. We clocked 14 knots going through it, *Lughnasa* jerking wildly to port and starboard as she was flung about while we clung on to the tiller and tried to keep her straight. Definitely the fastest we've ever been in a Lugger, maybe even a new speed record! Though it was exhilarating to cover 60- and 70-mile legs in a day in a Lugger, if you want to know my true feelings about tides you can ask me in the Mediterranean next summer.

'Lunacy in *Lughnasa*'?

Lughnasa, which was the demo model at the 1996 London Boat Show, we named after the Celtic harvest festival which historically took place in August. Pronounced 'Loo-nasa' (although 'Lug-nasa' is also fitting), she was appropriately named as we barely launched her at any other time of year. While we were organising our round-Ireland trip a number of people considered our intentions foolhardy, that an open boat this size shouldn't be taken to the open sea. Prompting me to name our initial blog Lunacy in *Lughnasa*, they clearly hadn't heard what these boats are capable of. Fortunately lunacy didn't feature too prominently during our circumnavigation, and we managed to safely sail the four corners of the country without any major mishap.

I'm not a purist. Overhauling our 2001 Honda 5hp outboard was one of the most important pieces of work we carried out, greatly encouraged and paid for by our Dad. Coming from a background of mostly lake sailing, tides were always going to be a major contender. Several misjudged tidal streams, particularly through the Dursey, Blasket and Inishtrahull sounds, made having an engine that started first pull very favourable indeed. A second tank may also have been useful, especially when we had to refuel at the northern entrance of the Dursey Sound during a heavy wind over tide.

In any case, during a voyage that saw the stormiest summer in 41 years and 25 days of headwind out of 29 days sailing over two months, having a trustworthy engine was peace of mind for more than just our Dad. Other sources of comfort came from the array of safety gear that was insisted we carry: two VHF radios, a set of flares and an EPIRB neatly attached to the glassfibre beside the Honda 5hp. It seems to always be the case that the most expensive sailing gear provides the least obvious 'value for money': our €800 EPIRB remains smugly pristine while the €20 bilge pump was hardly allowed a moment's rest.

Having a trustworthy engine was peace of mind for more than just our Dad

Bailing is a lasting memory of our voyage. So too is salty spray, stinging eyes and cracked lips, cold water pouring down our collars, blisters, sleepless nights and early starts, cold baked beans, dew… the list goes on. But tides, above all, remain the cause of our greatest shocks, annoyances and thrills at every stage of the journey. With a maximum hull speed of about 6 knots, favourable tides were always a major factor for a successful circuit in our Drascombe Lugger, most of all along the notorious northern and eastern coasts where Springs run up to 7 knots.

Gratefully home

It took an incredibly busy few months to make our pipedream a reality, which really couldn't have been achieved without help from family and friends. At the time I completely underestimated quite what I was asking of our Mum, by placing the safety of her youngest son in the hands of her eldest. From the first mention of the plan, when our parents took out a new insurance policy and bravely let us use *Lughnasa* for the challenge (not entirely convinced she would return in one piece), the support we received has been the contributing factor to its success. We owe a thank-you to those who helped during the planning stages; to everyone who looked after us along the way, who kindly donated to the RNLI on our behalf; to Blessington Sailing Club, which focused its annual fundraising event on A Lugger Round Ireland; our sister, Flora, who helped organise fundraisers and our blog; and Eddie English from SailCork, who kept us updated with expert weather advice.

Fergus' fearless and unflinching helm through stormy weather, his patience through sleepless nights at anchor and long days waiting for better weather, and his tireless dedication during so many 16-hour windward legs helped bring *Lughnasa* safely home without a single new scratch. It wasn't quite the balmy cruise we expected – the amount of unused gear such as books, sun cream and tennis rackets are a testament to that – but our Lugger rose to every challenge that faced her without hesitation. Next time we'll just sail towards a balmier latitude. PBO

Flora Ogden

***Lughnasa*'s final return to Baltimore**

Nathaniel and Fergus set the sails

Great ideas and tips from PBO readers

Email your projects and tips to pbo@timeinc.com or write to us at the address at the top of page 5. We pay at least £30 for each one published

We're so cool we don't need fans

Alkis Logothetis describes his method of increasing the efficiency of his boat's fridge

Re reader Peter Lyle's project 'Keep your cool' (PBO Summer 2015) about making his fridge more efficient, here's another road leading to similar or better results!

I disposed of the fan altogether – saving energy, getting rid of the noise and the hot air in the cabin – and welded two extensions to the copper freon pipes (out/in). Now the freon is circulated out via a serpentine flow tube in the through-hull fitting where it is cooled by seawater: it is fitted at the deepest part of the boat, almost on the centre line. Then it returns into the compressor having been cooled by the seawater. It works incredibly well, especially in warmer climes.

The galley water discharge through-hull fitting

Now, a little light relief

COST AROUND 99p

John Macdonald makes a low-wattage anchor light from odds and ends – plus an outlay of 99p

Needing a low-wattage light for use under my cockpit cover and also to double as an anchor light, I shook out the contents of my scantling bag to look for suitable components. There I found a 12V plug, a length of electrical flex, a cable clamp, a cable connector and a 12V LED white light block. All that was needed to complete the job was a reflector. This came in the form of a garden light from the local 99p store from which I removed the solar bulb and replaced with the LED block. Half an hour's effort with a screwdriver and pincers then produced the result shown – a 99p dual-purpose cockpit lamp!

A cure for leaky chainplates

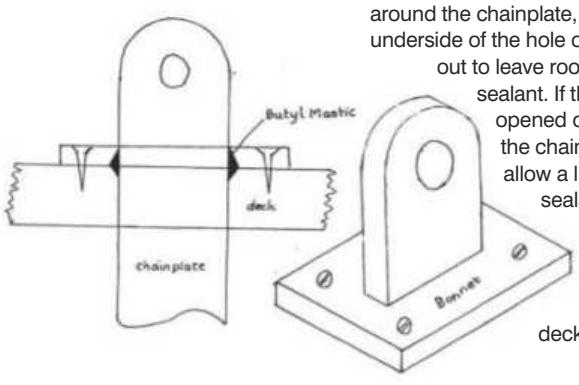
Douglas Brooker breaks out the Bakelite – and swears by the use of butyl mastic

The illustration shows the only way I have been able to stop through-deck chainplates from leaking. The 'bonnet' is made of ¼in (6mm) canvas Bakelite, also known as Tufnol or Novasteen.

It has probably gone the way of the dodo, but can be found in old switchboards or similar. It is an inert material and can be worked with woodworking or metalworking tools.

The secret is to use butyl mastic for the sealant. This is the old windscreen sealant and is a little like Blu-Tack. It stays sticky for years, so it can move with the chainplate while your boat is lying on her side with the sails flogging. It will then re-adhere after the movement stops. Silicone rubber or Sika are not suitable, either under a bonnet or a welded flange, because if stretched too far after they cure the seal will break and they will leak, permanently.

The top of the bonnet fits neatly around the chainplate, with the underside of the hole opened out to leave room for the sealant. If the deck is opened out around the chainplate it will allow a little more sealant, but remember to seal the exposed deck edge.



Readers' Tips

HELPING HANDS (OF TIME)

How many times have you been frustrated by the well-intentioned but often unhelpful cry of: 'It's over there!' when questioning the location of a racing mark, fishing pot marker, navigation buoy etc? One of my regular crew is a retired RAF navigator, and he had already schooled us in the 'o'clock' technique for indicating the actual direction of a particular feature – often including, where appropriate, the add-on comment of 'no threat at this time'…

However, there still remained the thorny issue of identifying which side of 12 o'clock we were referring to: was it 2 or 10 o'clock, etc? Why this was a problem is not clear, but it had occurred too many times to be ignored; so I therefore added a few discreetly-positioned number stickers to the front of the cockpit and this has helped resolve the issue.

Over the top? Maybe, but with advancing years we need all the help we can get! The cost was negligible, just a few pence for some sticky-backed plastic.

Ron Sykes

KEEL BOX COVERS ON THE SLIDE

There are often occasions when it is necessary to make a watertight seal between two components that subsequently require to be separated. An example would be the keel box covers on my Fairey Atalanta. If mastic is used, the adhesive properties make it very difficult to separate the components when needed and will undoubtedly result in some damage. The solution is to apply the mastic to one surface and lightly and thoroughly smear Vaseline on the other. When tightened together the mastic will spread and provide a watertight seal in the usual way, but on parting the components the mastic will not have adhered to the surface with the Vaseline on it. The components will come apart easily with no damage.

Greg Manning

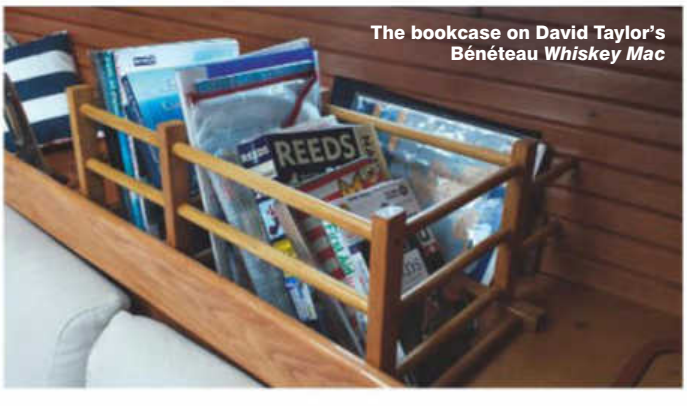
Ikea is brought to book...

COST AROUND £9

David Taylor adapts an Ikea wine rack to build a serviceable bookcase

We have a Bénéteau Océanis 390 which lacked any form of book rack/stowage, although there was a wide shelf in the saloon.

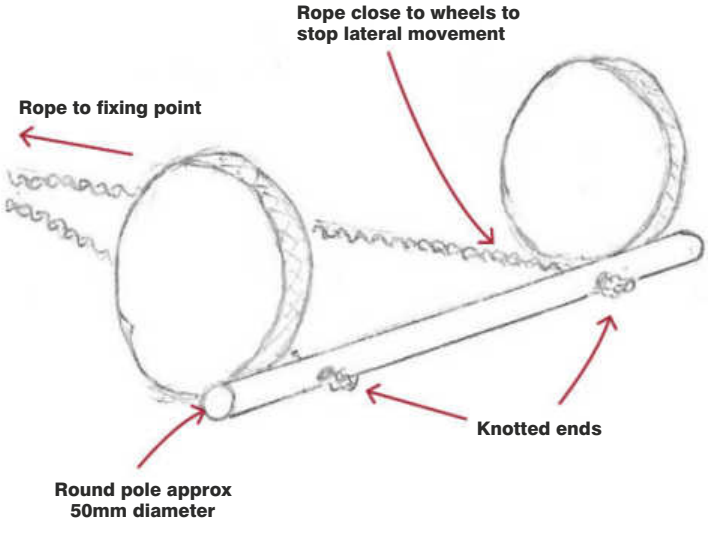
Wandering around Ikea, I saw a simple wine rack (model name HUTTEN) that I thought would form the basis of a bookcase for the usual collection of navigational publications. The wine rack came with a collection of dowels and battens drilled to suit, so it was pretty easy to use most of these to form the structure. All that I had to add was a length of 12mm dowel from a local builder's supplier and a few additional holes in the battens. The bookcase fitted neatly onto the saloon shelf and I braced it off the hull lining with short lengths of dowel. A few coats of stain and varnish completed the job. Total cost about £9, and about three hours of work.



The bookcase on David Taylor's Bénéteau *Whiskey Mac*

Memorise this one-way system

G Spelling's system pulls a dinghy up a ramp and stops the trailer rolling back into the water



In PBO October 2014, the article 'Shove me tender' mentioned a means of pulling a dinghy up a slope with a portable winch.

My diagram may be of interest to you. I used this 'one-way' system during my sailing dinghy days; it stopped the trailer rolling back into the water and it can be zig-zagged up a slope. This has probably been done before, but I offer it for what it's worth.

A blaze of glory

Mike Taylor catches up with the famous lifeboat *Guy And Clare Hunter*, now in private hands, which continues to be lovingly maintained in her original condition

The seas around the South Cornish coast are treacherous in the extreme, with reefs littering the waters off Land's End and the Isles of Scilly some 28 miles to the south-west. Two reefs are especially hazardous; the notorious Wolf Rock, eight miles south-west off Land's End, marked by a lighthouse, and Seven Stones, east-north-east off the Isles of Scilly, indicated by the Seven Stones light vessel.

Critically, the channel between the Isles of Scilly and Seven Stones is just seven miles wide, an almost impossibly narrow gap for navigating a massive 974ft-long supertanker with a 68.7ft draught; disaster can only be a compass degree of inaccuracy away, a fact which proved fatal for the doomed tanker *Torrey Canyon*.

Built in the USA in 1959, *Torrey Canyon* had an initial load capacity of 60,000 tons. Later, she was enlarged to a monster 120,000 tons in a Japanese shipyard. Powered by a single engine and propeller drive train, her helm reactions were mind-numbingly ponderous: she took a tardy five miles to stop and roughly a minute to turn through 20° of compass bearing at her cruising speed of 17 knots.

By 1967, she was owned by a subsidiary of Union Oil and registered in Liberia. For her fateful voyage, she was chartered to BP with an Italian crew. Her navigation aids included a standard system of the day, which incorporated an autopilot with a bridge-located three-position lever that gave full autopilot

The former RNLI lifeboat, *Guy And Clare Hunter*, as she looks today – still in fine condition

LEFT **The 974ft supertanker *Torrey Canyon* foundered on the Seven Stones reef on 19 February 1967**

BELOW LEFT **Matt Lethbridge was coxswain of the *Guy And Clare Hunter* lifeboat which attended the disaster**

BELOW **Matt Lethbridge surveys the wreck of the *Torrey Canyon* after six of her oil tanks were ripped open**

control (which still enabled a +/- 3° of manual change), full manual override, or enabled steering to be done from another station aboard. In auto or manual mode, the system produced audible 'clicks' to notify to the crew that a course change of 1° or more had been made.

On 19 February 1967, captain Pastrengo Rugiati ordered that the tanker slip her lines at the Mina al-Ahmadi refinery in Kuwait and set sail, bound for the Atlantic. On board was a full cargo of crude oil. As was often the case, at this point the captain was unaware of the tanker's final destination. *Torrey Canyon* reached the Canary Islands on 14 March, whereupon Rugiati was instructed to make for Milford Haven in Wales by 18 March, creating a stressful situation if the supertanker was to make land on the required day, and demanding the near-2,000-mile passage be covered in just five days. And while Rugiati had sailed through the Isles of Scilly and Land's End channel 18 times before, it is rumoured that just one chart was relied upon for navigating these hugely hazardous waters.

Sea state conditions on 18 March were said to be good for a vessel of this size, with a tide running from west to east across her bows. After just a few hours' sleep, the captain was awoken to be told that the Isles of Scilly were now on the radar scope, but on their port quarter rather than to starboard, which is where they expected them to be. At 0800, there was a change of watch; an inexperienced second-in-command and an experienced helmsman took over.

Ahead lay a group of fishing boats surrounded by a swathe of nets, and the captain ordered a change of course. Meanwhile, the junior officer performed a dead-reckoning exercise. With this information now placed on the chart, the captain and crew realised to their alarm that they were just 2.8 miles from Seven Stones. Worse was to come.

Perhaps due to tiredness, the captain ordered a change of course to north, putting the huge tanker in direct line with the reef, which was now only around two miles away. Significantly, the crew suddenly realised that there were no 'clicks' coming from the autopilot, and the captain checked that both the navigation and the rudder control systems (both known to have malfunctioned in the past) were operating correctly. Finally, he saw to his horror that the autopilot lever was set in the 'disengage' mode and that the ship had not been responding to the course changes he had ordered. Nothing short of panic must have ensued.

Sadly, it was too late. The feelings of anguish and helplessness of those on the bridge can only be imagined as the tanker steamed her last mile, the perilous reef and rusty red lightship in full view ahead. At around 0900 she hit Pollard's Rock on the Seven Stones reef at her full cruising speed of 17 knots, ripping open six of her tanks and allowing many thousands of gallons of viscous, sticky black oil to escape into the seas, causing an environmental disaster of unimaginable proportions and wedging the vessel amidships, sufficient to eventually break her back. A message of emergency was issued, and the lifeboat *Guy And Clare Hunter* – based at St Mary's on the Isles of Scilly – put to sea with coxswain Matt Lethbridge in charge.

Torrey Canyon hit Pollard's Rock at her full cruising speed of 17 knots

After attending the *Torrey Canyon* for many hours, the *Guy And Clare Hunter* was relieved by the Penlee lifeboat, *Solomon Browne*. However, just as *Guy And Clare Hunter* returned to the safety of the St Mary's station another call was received, requesting that she return once more to the stricken tanker. An explosion had caused a crew member to sustain serious injuries. Within 10 minutes the lifeboat, now covered in oil and with its weary crew aboard, was on its way back to Seven Stones. By then the casualty had already been transferred to a tug, which was heading to Newlyn harbour. Finally, the St Mary's lifeboat was stood down. In total, the crew of the *Guy And Clare Hunter* had been at sea for 54 hours, of which 33 had been in continuous watch by the tanker's side.

Lifeboat designs

In late Victorian times, lifeboats were either rowing (pulling) or sail-powered and of self-righting design. However, stations around the UK coastline were critical of the instability of these self-righting craft, and the RNLI's naval architect George Watson was tasked with designing a new lifeboat. The silhouette of these wooden boats remained largely similar for around 100 years. A critical characteristic of his lifeboats was a scalloped centre to the hull form with a rising sheer to bow and stern, the prerequisite being to reduce pitching and thus give the craft stability. A canoe stern was added to produce greater balance.

As development of the internal combustion engine progressed the RNLI began research into installing motor power, the first being an existing self-righting-type lifeboat converted in 1904, followed soon after by three similar motor-powered lifeboats. Over the years, with marine diesel engines bringing more power with lighter weight, improvements in facilities for crew and those saved by the lifeboat, and updates in navigation and communications, strides were made in the function and performance of RNLI vessels. Modifications to

the familiar Watson-type hull shape included recesses to protect the blades of vulnerable propellers as well as providing safety when rescuing survivors from the sea.

After three 46ft Watsons were completed the length was increased by 9in, the first five craft looking very similar to their forbears. Then in 1948, the design underwent a major update. The superstructure and deck arrangement was changed with an aluminium structure featuring an open cockpit amidships and a large 'survivors' cabin aft, which also housed the radio equipment. Forward was a smaller cabin with engine controls and access to the engine room below. Power was supplied by twin Ferry 40bhp VE4 engines, specially built to exacting RNLI specifications with exhaust outlets emitting high up on the foremast.

From 1960, the 46ft 9in lifeboats were taken out of service one by one to undergo their first major redesign/refit programme. This included modifying the cockpit to an enclosed design, thus protecting the coxswain from the elements. Later, radar was installed on many of the lifeboats. Next came an early-1970s project to change the Ferry marine diesel engines for the latest 70bhp Ford Mermaid-type 6-cylinder diesels with exhausts repositioned to exit either side of the hull structure. Also, a once-only self-righting system was installed which involved fitting an inflatable airbag, located on the cabin roof.

An illustrious career

The lifeboat operation based at St Mary's on the Isles of Scilly provides vital rescue service duties to the perilous western approaches. The first oar-powered lifeboat took up duty in 1874, followed by a 42ft self-righting type before the first motor lifeboat arrived in 1919. She was replaced in 1930 by a 45ft 6in Watson type,which saw service until 1953.

After seven donations were received by the RNLI, a new lifeboat was delivered to St Mary's in November 1955. In acknowledgement for the largest legacy from Mrs Clare Hunter of Lincolnshire the boat was christened *Guy And Clare Hunter*. Of 49ft 6in Watson-type design, she was built by J Samuel White of Cowes, Isle of Wight – one of a number of carefully selected yards to be tasked with building lifeboats to the RNLI's demanding standards.

The original engines were replaced with 70bhp Ford Mermaid diesels

During her illustrious career this lifeboat was involved in several major rescue operations, perhaps the most significant and memorable being attending the *Torrey Canyon* in February 1967, which remains the UK's worst environmental disaster. Just two months later she went to the aid of the motor yacht *Braemar*, which was on hire to ITN for TV coverage of the homecoming of Sir Francis Chichester in his yacht *Gypsy Moth* from a triumphant solo round-the-world voyage. *Braemar* developed engine trouble and began to take on water around 28 miles from Bishop's Rock Lighthouse: in storm-force conditions, the *Guy And Clare Hunter* took her in tow. After 18 hours she brought *Braemar* to the safety of Newlyn harbour, Cornwall, her logbook recording that at one point the 'tow' was making a speed of a quarter of a knot. The lifeboat had been at sea for a total of 27 draining hours.

Another memorable rescue was when the lifeboat attended to a Mayday call from the Swedish ship *Nordanhav* on 21 February 1970. In severe gale-force conditions the cargo had shifted, and the vessel was in serious danger of foundering. That night, the *Guy And Clare Hunter* assisted in saving all 10 crew from the stricken ship.

In 1981, the *Guy And Clare Hunter* was replaced by a fast Arun class lifeboat. However, perhaps the most tragic of events to take place that year was when the Penlee lifeboat, *Solomon Browne*, was lost with all eight crew while attempting a daring rescue in horrific conditions on 19 December to rescue the crew of eight from the coaster *Union Star*, all of whom also perished as well. *Guy And Clare Hunter* then became the temporary replacement lifeboat at Penlee until a new Arun class lifeboat was delivered and a new lifeboat station built at Newlyn.

During her illustrious career the *Guy And Clare Hunter* saved a total of 155 lives and earned for coxswain Matt Lethbridge three RNLI silver medals for gallantry, plus numerous other citations for the lifeboat. Perhaps one of the most poignant memories of being rescued by the lifeboat and coxswain Matt came from Lucille Langley-Williams, when she recalled: 'It was the most wonderful moment in my life, to see the coxswain's face as he reached down over the side of the lifeboat.' Matt Lethbridge was the subject of an edition of the long-running TV programme *This is Your Life*, hosted by Eamonn Andrews. A talented painter who recreated in oils some of his more daring rescues, his autobiography *All in a Lifetime* covers his fascinating life. He died on 10 August 2010.

Into private hands

In 1987, the *Guy And Clare Hunter* was sold off from the RNLI's operational fleet into private hands. Says current owner and enthusiastic member of the Historic Lifeboat Owners Association, Quinton Nelson: 'I come from a long line of seafarers. I am the fifth generation of lifeboatmen in our family, having joined the local lifeboat service in Northern Ireland in 1966. My father, two of his brothers, a cousin and an uncle were all involved in the famous rescue of the ferry *Princess Victoria* which sank just a few miles from Belfast on 31 January 1953. The lifeboat

***Guy And Clare Hunter* now pilots swimmers across the North Channel between Donaghadee and Scotland**

***Guy And Clare Hunter* in the slings**

Quinton Nelson with the *Guy And Clare Hunter*: 'She gives pleasure wherever she goes'

Sir Samuel Kelly saved 33 lives and is now the subject of a local restoration project. During my life in the RNLI I was well aware of the *Guy & Clare Hunter*'s history and the courageous actions she'd been involved in.'

In September 1992, Quinton saw the *Guy And Clare Hunter* advertised for sale by the same person who had originally purchased her from the RNLI. Significantly, Quinton didn't want a converted or altered boat; and, knowing the history of this illustrious vessel, it was the ideal choice. 'I think the 46ft 9in Watson is a particularly good-looking craft, a well-proportioned boat,' asserts Quinton. 'Many similar Watson-class lifeboats have been converted to gain some degree of comfort and make them more user-friendly. Luckily, the *Guy And Clare Hunter* was still in the same condition as when she had been sold out of service. When I went to see her she was moored in a small harbour in Southern Ireland, unused and unloved. Nevertheless, when we tried the engines they started first time, and all the machinery and electrics worked perfectly.'

'Many Watson-class lifeboats have been converted to gain comfort'

For the first few years after Quinton purchased her, the *Guy And Clare Hunter* needed only regular painting and fettling to keep her in top condition. 'The machinery was and still is in excellent condition,' he continues. 'Obviously, as the boat is constructed of timber it requires regular maintenance and periodic repairs. However, the build quality is second to none, J Samuel White using only the very best materials available.'

Close examination of this iconic lifeboat reveals just how the materials and fittings were rigorously selected and constructed to the highest standards. The hull planking is a double layer of Honduras mahogany fixed to the ribs and frames of Canadian rock elm, all fastened to a keel of English oak and a deadwood of Burmese teak. Beneath is a 2.5-ton cast steel ballast keel, which enables the lifeboat to safely sit upright on a sea or riverbed, unaided. While this class of Watson is not strictly of a self-righting design, the opportunity was taken when she was constructed to aid buoyancy by filling every available free space with around 200 airtight wooden cavities.

After roughly eight years of continuous use, the *Guy And Clare Hunter* needed more detailed repair work. 'In 2010 we took her out of the water and put her in the workshops for a thorough overhaul,' Quinton recalls. 'It was the beginning of a three-year intensive programme which involved taking apart each of the 200 airtight compartments for a full inspection before being repainted. The condition of the bilges was excellent, with hardly a trace of moisture.' As for the engines, they were found to be in remarkable condition and still within the manufacturer's tolerances: Quinton had carried out regular oil changes which contributed to ensuring they remained in first-class order. The outer surface of the hull was sanded back and freshly painted in the RNLI's original 1960s colours. 'Overall, nothing major was needed or replaced. It was a huge testament to her builders,' reflects Quinton.

In 2013 the lifeboat was slipped back into her natural habitat, looking stunning in her original blue and white livery. 'Wherever possible, I have gone to a lot of trouble to replace anything missing from her inventory of RNLI equipment,' explains Quinton. 'She continues to give a lot of pleasure wherever she goes. I have taken her back to the Isles of Scilly and Penlee three times, and the reception we and the boat received on each occasion was superb and very gratifying.

'Recently, we have returned to piloting swimmers across the notorious North Channel between Donaghadee and Scotland. For this the *Guy And Clare Hunter* has proved excellent as the support boat, but the time is fast approaching when we'll need to slip her again, let the timbers dry out and give her another coat of paint to keep her in the condition she deserves.'

As for the *Torrey Canyon*, on 28 March 1967 the Fleet Air Arm sent a strike force of Buccaneers to drop bombs onto the wreck. Later, the Royal Air Force followed up with a group of Hawker Hunter jets to set the oil ablaze. However, exceptionally high tides put the fire out, and further effort was necessary to ignite the black sticky mess. What was left of the *Torrey Canyon* hulk then finally sank. Today she lies in just 30m of water.

Our thanks go to the daughter of Matt Lethbridge, Lucy Wilkins, and the owner of *Guy And Clare Hunter*, Quinton Nelson, for their help with this article.

TECH SPEC

Guy And Clare Hunter

Cruising speed: ..... 8 knots
Weight: ..... 21 tons
Range: ..... 208 miles
Cost: ..... £34,000 approx
Construction: ..... Wood with aluminium superstructure
Engines: ..... Twin 40bhp Ferry diesels (replaced by 70bhp Ford Mermaid)
Crew: 8
Service started: 1955
Length overall: 46ft 9in
Builder: ... J Samuel White, 1954

Guy And Clare Hunter service record

St. Mary's, Scilly Isles: 1955-81
Fowey, Cornwall: 1981-82
Penlee, Cornwall: 1982-83
Padstow, Cornwall: 1983-84
Cromer, Norfolk: 1984-85
Relief duties: 1985-87
Sold: 1987

Chain of events

Chris Binks explains how a spur-of-the-moment decision touched off a series of potential calamities – not least a near-miss with a chain ferry

Send us your real-life experience – and win a painting of your boat!*

This was potentially a dream coming true. I had been looking for a cheap dinghy, but what I had found was so much more exciting. In a poorly-written and badly-photographed eBay post was a functional mini yacht with anchor, engine, mooring, tender and sails, going for what I was ready to spend on an old Wayfarer. If I entered the right bid within the next two minutes I could end up with my own Leisure 17 (which actually turned out to be a Starsailor 18).

Impulse was bid upon blind, in the slow lane in rush hour (I wasn't driving). My bid was successful, so we suddenly had our own yacht, which at that time resided on the South Coast. We lived in the north-west, and our top priority was going to be bringing her up as soon as she was ready – by water. Preparation took several visits and much spending. The engine ran perfectly when first tested, but only provided thrust for 20-minute bursts. Also, the anchor chain was only about 3m long: these discoveries were made on our first outing as we floated rapidly backwards out of Langstone Harbour.

So, we invested in a replacement engine, a suitcase back-up generator, new battery, new anchor chain, new anchor, a complete rewire and nav lights, and repaired the radio – but we were running out of time. The only three-week window we had for sailing up to the north-west was upon us. Work on the boat wasn't quite completed; the solar regulator was lying about how much charge the battery held, and the outboard bracket needed work. We couldn't find the parts we needed in Portsmouth, but were assured that we'd be able to do so in Poole.

Off the end of the passage plan

Early in the morning, we three set off – one experienced sailor, one beginner and one novice. We got the tides bang-on on the first day, and sailed neatly into the Beaulieu River. The following day worked out equally well at first; we had the spring tide with us, passing Hurst Point and ferry-gliding sideways under sail around the south cardinal buoy and working her upwind towards Christchurch, intending to arrive about three hours before sunset. Successfully handling the boat had swollen my self-confidence and boosted my faith in the plucky little craft.

However, en route it had become apparent that night sailing wouldn't be possible with the new crew member – she was not having fun – so, with timetable in mind, contemplating the attraction of waking up in Poole, ready to fit the part and be off again, we tacked 1,000m from the entrance light to Christchurch Harbour into reducing light, a turning tide and a head wind, and off the end of the passage plan.

The consequences of this impulsive decision soon became apparent: every tack gained less ground than the last. I started the outboard and turned straight into the wind. In the decreasing light we contoured around the bay on the depth sounder, looking for the lateral marks of Poole. As we progressed and the tidal flow increased, the chop steepened; and we discovered a rather concerning attribute of short yachts with an outboard on cantilever brackets. *Impulse* see-sawed dramatically, and while one tall chop lifted the bow the previous wave rose behind the boat, submerging the engine. The engine steadfastly carried on, but the plate on the mounting bracket was delaminating and breaking up with the surging motion. Lines were added to reduce the leverage, and this helped somewhat, but the bracket's condition was still deteriorating.

We could now see the lights of Poole; we were nearly there. As this wasn't our planned destination on this sail, and as I'd been too busy running the boat to get below, I needed a last-minute plan. I nipped below at roughly the same time we switched from fighting the westerly tide to being assisted by the water flooding into Poole. I was just reading the strong tides at the entrance when I heard a shout from the deck. On emerging, I saw that we were flying past the lights of the groynes and converging rapidly with the chain ferry – and this sent a jolt of adrenaline through my tired body and mind. The outboard was put hard over and the throttle opened up. 'Go-ey', as we christened the new engine for its tendency to actually go (unlike the previous one, which had accrued various unkind nicknames), instantly stopped dead. I spent a few moments fruitlessly trying to

ABOUT THE AUTHOR

Chris Binks has been a keen sailor since Scouting showed him the joy of the water. He has taught sailing in Craobh Haven, the Scillies and Windermere. He sold *Impulse* when a Hurley 22 came up at a silly price on eBay.

coax it back to life: we were in danger of colliding with the ferry within seconds.

I quickly cut the anchor's retaining tie and booted it off the front, followed by 30m of chain and 15m of warp, and said a little prayer. The samson post creaked, the boat lurched round and thankfully stopped, approximately 25m from the ferry. The engine, rested and refuelled, now restarted and was barely a match for the water sucking against us, but we only needed to glide sideways a few metres to clear the ferry and be carried into the waiting harbour.

I succeeded in sweating the boat forwards, having the hawser and about 10m of chain aboard, using the engine at full throttle and a hastily-rigged pulley system to give purchase. However, now the system was pulling the bow down into our own pillow wave rather than raising the anchor!

I then tried contacting the ferry crew, who didn't seem to know how close we were: if they moved off, that would remove the immediate threat. I pushed the transmit button – and watched the battery life drain out in an instant. As soon as the button went down, the ship went dark. I passed out the big torch to light us up, but this also died instantly: fortunately, I had spare torches. Guess what happened to the handheld's new batteries, after it had somehow switched on in the grab bag? Again, luckily, I had spares.

I couldn't raise the ferry, but the coastguard heard my calls and enquired about our situation. Within a couple of minutes a RIB came alongside, and we were handed a line to attach to our prepared bridle: the RIB pulled us slowly away from the ferry. After several attempts to free the anchor the bolt croppers were brought out, and my penance to Neptune was to lose a brand-new anchor and 20m of chain.

Go-ey the engine had done us proud, but it was too much for the bracket, which gave way when the crew tried to raise the engine and was held on by the supplemental lines we had added. Our rescuer kindly took us all the way into the marina, and after a debrief with the coastguard officer we staggered off for a stiff drink and spent a couple of days upgrading the various bits which had failed us.

LESSONS LEARNED

1 Don't ignore your gut feelings: the outboard plate bothered me, as did the battery indicator, as did the decision to push on beyond Christchurch.

2 On a single battery system with no easy power generation, it is essential to know how much power you have in reserve.

3 Accept that the cheapest solution exposes you to additional risks. After this I replaced the searchlight, battery charger (for the generator), the solar regulator, the handheld VHF (swapped for one which charges on its mount) and the outboard bracket.

4 Having the anchor easy to deploy can save your skin.

5 Had the crew been properly trained on Mayday procedure etc they could have put the call out much more quickly.

6 Having the handheld radio, spare batteries and spare torches to hand in the grab bag was a great help.

7 Don't push your luck to breaking point: I learned a lot about appreciating a good passage rather than the longest one.

*Send us your boating experience story and if it's published you'll receive the original Dick Everitt-signed watercolour which is printed with the article. You'll find PBO's contact details on page 5.

We pay for your published cruising stories and harbour updates. Email pbo@timeinc.com or write to the address at the top of page 5

Brits helping Brits in the Ionian

Phil Johnson meets some of the ex-pats keeping visiting cruising boats afloat under the Ionian sun

It's hot, and you've only got a few weeks to enjoy your boat in the beautiful Greek islands. You've been to the shops, unpacked your clothes, planned your route… and, just as a smile fills your face, the engine won't start, the toilet is blocked or the depth sounder refuses to read.

You've got just one question… 'So how quickly can you fix it? We have to be in Corfu by Tuesday!'

There are a handful of British ex-pats living and working in Greece who know these problems and these phone calls only too well. Between them they rescue, repair and restore both boats and their owners, working long hours in extreme and sometimes dangerous conditions, relying on decades of experience and guts to solve problems as quickly as possible.

'It's often lack of maintenance. At the beginning of the season it's dirty fuel or batteries left all winter,' said Joe Charlton, who runs perhaps the Ionian's biggest boat repair and maintenance business, Contract Yacht Services in Lefkas, with his wife Robyn.

'I'm a sailor,' Joe said. 'My job is 100% helping other sailors. I cover a broad spectrum of work, from unblocking toilets to offering travel advice and going out on breakdowns.' Joe employs around 20 people, but he's not one for sitting at a desk – he's out there on breakdowns, crashing through waves to assist a stranded yacht or climbing to the top of a mast swaying in the breeze to fix a wind indicator.

Joe Charlton with his wife Robyn and two sons in Lefkas town

It was in 1979 that Joe left his job at a sailing base in Norfolk as an assistant manager and instructor to answer a job advert for a new type of holiday venture – a flotilla. His skipper and friend on those first flotillas was Rod Heikell. Joe loved the life and settled in Lefkas, when it was very different. He said: 'There were no yachts based here. No facilities. You couldn't even buy a stainless steel screw. Boats were smaller then: 26- to 28-footers, Snapdragons and Cobras. Sadler 32s were considered too big!'

It was in Lefkas that Joe met his Australian wife Robyn, who was on a backpacking tour. The couple have two adult sons, James and Thomas, who both grew up and went to school locally.

Spares and maintenance

Sivota, an idyllic port on the south-east of Lefkas, is where Simon Trippier and his wife Michelle run Sivota Yacht Services. Simon is more of a one-man (or rather 'one-couple') band. A former heavy plant engineer, Simon, from north Wales, came to Greece to work for Sunsail back in the late 1990s. He met and married Michelle, who was fresh out of the army and also working on boats. The Trippiers decided to set up on their own in Greece, and quickly built up a good reputation.

'Stern glands, windlasses, toilets and lack of maintenance' are the main issues Simon faces on a daily basis. Many of the boats Simon looks after are based at the three big boatyards at Preveza on the mainland, which sees him spend many hours driving up and down the

LEFT Simon and Michelle Trippier are based in the idyllic port of Sivota

BELOW Simon and Michelle in their chandlery

ABOUT THE AUTHOR

Phil Johnson is a former BBC and ITV producer/reporter who, with his wife Fiona, spends as much time as he can on their HR34 in the Ionian. They also sail the Broads, and Phil is now an author.

Helen Morgan, centre, with two of her clients, the Nisos Yacht Charter owners

winding roads of Lefkas, working alone long into the night. He told me: 'People who ring up often think they're the only people with a boat, but we're available to help 50 or 60 boats.'

Simon though, like Joe, will always help whenever he can and as soon as he can, but lack of parts and the distances involved can cause problems. Michelle said: 'In the UK, parts arrive overnight, but here they can take days. It can be so embarrassing.'

Michelle does the admin and runs the small chandlery on Sivota's pretty quayside. 'Working together is hard, but it makes us stronger,' she said smiling. 'When we started out we lived in a camper van in a boatyard in Preveza for the first six months!'

Simon and Michelle have two children, Coral and Bertie, who attend the local school and are, like Joe's boys, bilingual. Despite the long hours and demanding workload, the Trippiers love the lifestyle.

The 'super fixer'

Between Sivota and Lefkas town lies Nidri, and it's here you'll find Helen Morgan, if you can catch her. Helen is a sort of 'super fixer' and is always rushing around, paperwork in hand. 'I know all the Port Police personally,' she explained, sitting in the Flisvos taverna on Nidri's quayside. It was here many years ago that Helen got her first job, as a waitress. The Onassis family used to be regulars, along with many of their celebrity guests including Henry Fonda, William Holden and the original Batman, Adam West, and their photos adorn the walls.

Helen liaises with the Port Police to help British boat owners

Helen is married to Vasilis, a local Greek businessman who runs a dayboat hire business, and the couple have three children.

Helen's fluent, not just in the language but also in the culture. She sorts out the most complicated paperwork on boat purchases as well as arranging holiday accommodation and house buying for those yachties who want a foothold on dry land. She's also engaged by the local courts when they need a translator, and even arranges weddings for British couples who want that *Mamma Mia!* moment.

Helen makes regular visits to the Port Police to help British boat owners, and warns: 'If people don't have updated crew lists and their paperwork in order, they may face large fines.' Her advice is: 'when it comes to the Port Police, respect the uniform.'

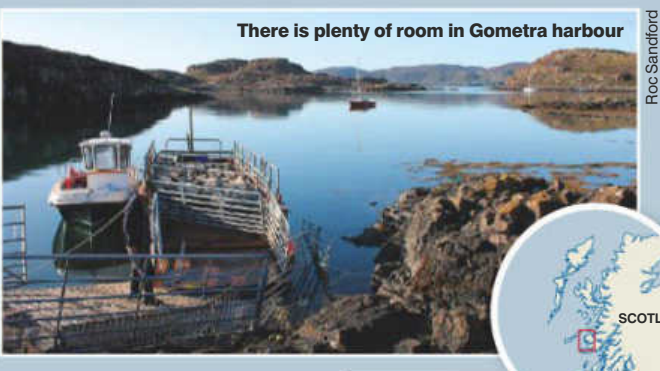
On the go

Pinning these people down for interviews wasn't easy: they're all constantly on the go, but despite the demands they all seem to love their jobs and the lifestyle.

Joe Charlton puts his success down to 'optimism and obstinacy,' and a 'can-do' attitude which is shared by Simon, Michelle and Helen too. It's all summed up by Joe, who said that whatever the problem, 'I refuse to be beaten. I'll make it work somehow.'

Free anchorage!

Gometra harbour



There is plenty of room in Gometra harbour

Roc Sandford

This is a favourite bolthole for sailors on passage around the west side of Mull, or having a rough time out at the Treshnish Islands. Gometra harbour certainly attracts lots of boats, but there is plenty of room.

The cruising website www.scottishanchorages.co.uk advises that there are two anchorages on Gometra island (which is connected to Ulva by a causeway), these being Gometra harbour in the south and Acarsaid Mor in the north, so it's good in all winds. There is a pleasant stroll to be found along a farm track, with stunning views to Mull, Iona, Treshnish and Coll. There's also an idyllic beach at the head of the first bay west of Gometra harbour, and before that an unkempt burial ground just up from the anchorage – Bail' A'Chlaidh, in which three unidentified men of the British merchant navy from the Second World War are buried. Nearby is a small honesty shop selling local stamps, jewellery and art.

Gometra House is an 18th century building with a well-organised farm, and has signposts to direct visitors around the place. It is said that grain was once grown here for the monastery on Iona. Now the resident population of the whole island is less than 10, which is not too surprising given the difficulty in getting supplies from the mainland to Mull, then Ulva and Gometra.

www.scottishanchorages.co.uk

The Bail A' Chlaidh burial ground

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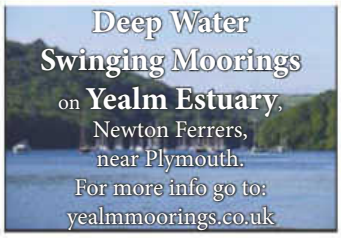

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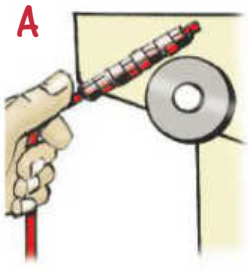
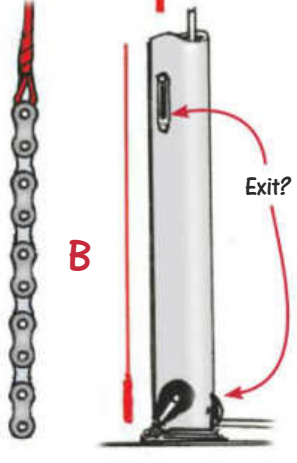
Reeving new halyards

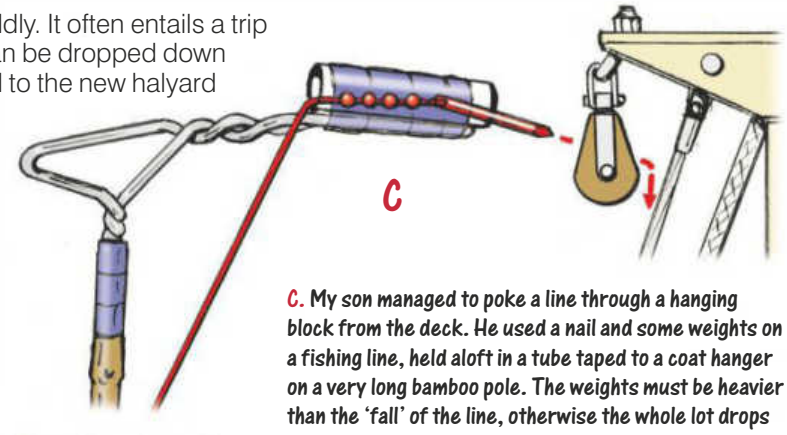
Reeving a new halyard through the mast can be very fiddly. It often entails a trip to the top of the mast, so a weighted messenger line can be dropped down inside it. Then it's fished out at the bottom and attached to the new halyard



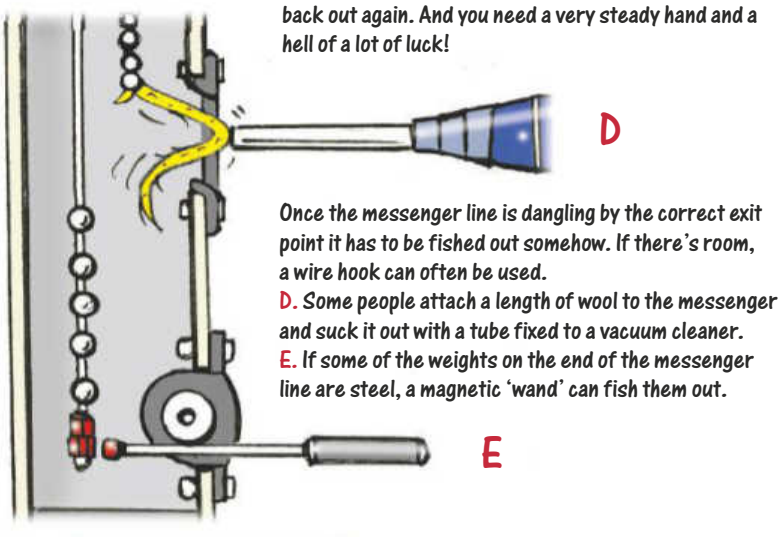
A. A row of small nuts can be threaded on to a messenger line to form a weight that can be pushed over sheaves. One reader uses the inner part of the cable from an old cable-driven log as a heavy, flexible messenger.



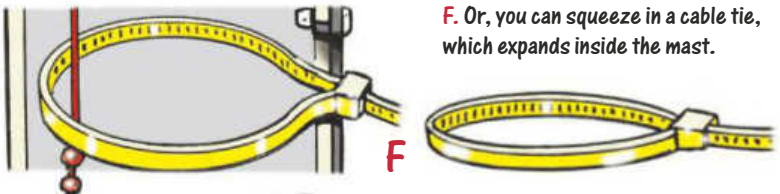
B. A bit of bike chain also makes a 'controllable' weight to poke through fiddly gaps. But first, lower the weighted messenger line down the outside of the mast, to its intended exit point, and mark off its length. Then lower that amount down inside the mast. Heeling the mast, so the weight runs down one side, can help it clear obstructions.



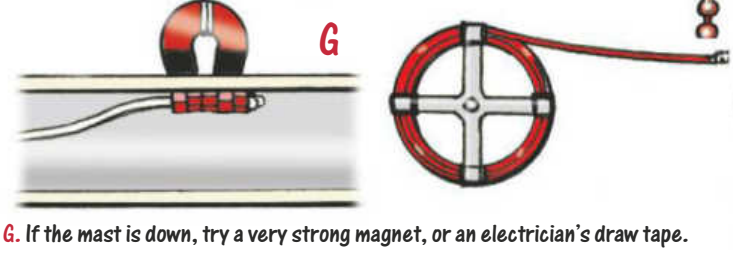
C. My son managed to poke a line through a hanging block from the deck. He used a nail and some weights on a fishing line, held aloft in a tube taped to a coat hanger on a very long bamboo pole. The weights must be heavier than the 'fall' of the line, otherwise the whole lot drops back out again. And you need a very steady hand and a hell of a lot of luck!

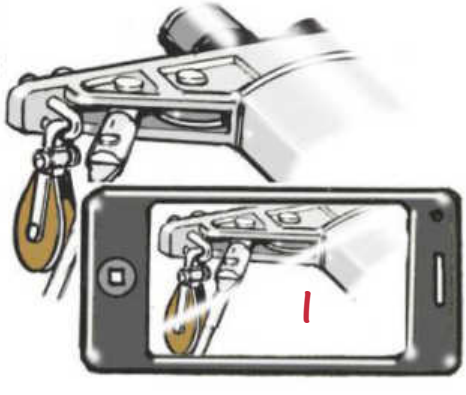


Once the messenger line is dangling by the correct exit point it has to be fished out somehow. If there's room, a wire hook can often be used.
D. Some people attach a length of wool to the messenger and suck it out with a tube fixed to a vacuum cleaner.
E. If some of the weights on the end of the messenger line are steel, a magnetic 'wand' can fish them out.



F. Or, you can squeeze in a cable tie, which expands inside the mast.





I. When the mast is down, it is a good idea to photograph the details at the top with your camera phone. Then if you have any problems at sea, you can explain what's needed to any younger and lighter crewmen, you are hoisting aloft!

G. If the mast is down, try a very strong magnet, or an electrician's draw tape.
H. Sewn and taped joints should feed through small gaps quite easily, but very thin messenger lines can jam down the side of sheaves.

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