

FIT FOR THE LONG HAUL

FITTING OUT YOUR BOAT FOR LONG-TERM CRUISING CAN BE QUITE DAUNTING, SO WE ASKED VETERAN BLUEWATER CRUISER AND TECHNICAL WRITER, **DUNCAN KENT**, TO SUMMARISE HIS PREPARATION PRIORITIES



When you're preparing your boat to take you and your family offshore in all weathers,

safety is paramount, but just how far do you go and what should one consider a mandatory level of equipment? Of the many electrical and electronic devices being heavily promoted to boat owners as 'essential' for offshore cruising, which should you really be carrying?

SAFETY

Obviously, any offshore yacht will be equipped with basic safety gear such as a liferaft, lifejackets, MOB mark and retrieve kit, but how many other electronic devices are really necessary?

I wouldn't set off on a long ocean passage without an EPIRB on board and I also believe every crewmember should have their own PLB and keep it on their person whenever they're venturing on deck. A float-

free EPIRB will self-trigger and alert the SAR authorities should your vessel sink before you have time to make contact via other means. A PLB, however, has to be manually activated and is more suitable for attachment to your lifejacket.

AIS rescue beacons can also be useful – especially if they are the type that can call and send a voice message to the mother ship on VHF radio, as well as transmitting a general MOB alert via AIS. But what if you're sailing as a couple and the other half is deep asleep off-watch below? Personally, I'd want to know I could summon the SAR guys myself, rather than rely on my other half waking up some hours later and backtracking over our course to hopefully spot me in the dark.

LED lifejacket lights are cheap as chips these days too, so make sure you fit one and maybe carry a small LED torch too. Recently, I've got into the habit of wearing a waterproof head torch loosely around my neck at night – one

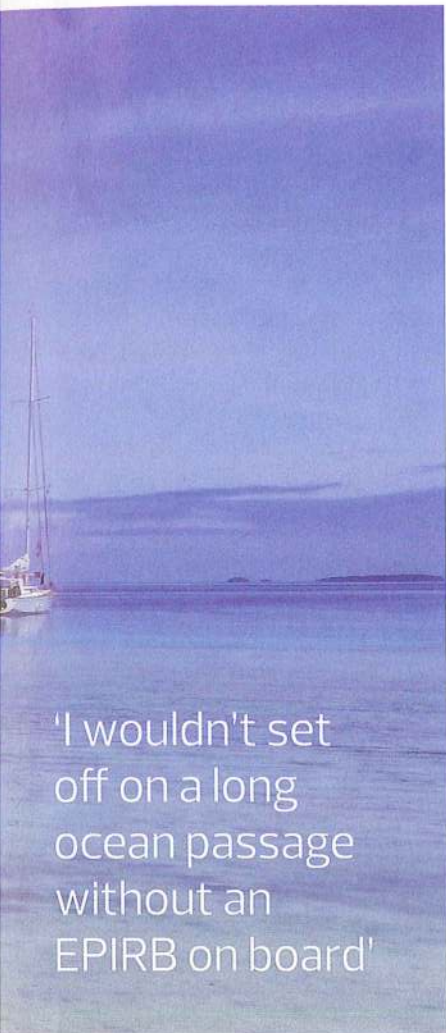
ABOVE
Fitting your boat out for bluewater cruising can be time consuming, but deeply satisfying

that can flash for at least 48 hours continuously. There's nothing more frustrating than knowing a rescue vessel is nearby, but not being able to guide them to your exact location.

If I had the room to carry a handheld radio and a laser flare in my lifejacket as well I would, but it already weighs a ton with the PLB, light, sprayhood etc. But, it's a good idea to keep these devices in the cockpit for the watch keeper to put in their jacket pocket or, in balmy climes, stuff into the cargo pockets of their shorts.

Latest kit

- Exposure Marine has a new MOB location device (see new gear, p78) exposurelights.com
- Ocean Signal has three new products: A new PLB, plus an AIS MOB; the smallest to include DSC. Its EPIRB1 is the world's most compact EPIRB. oceansignal.com



'I wouldn't set off on a long ocean passage without an EPIRB on board'

SPOT tracker or the Yellow Brick all use LEO satellite constellations to transmit position updates, either manually or automatically at regular intervals. They also act as a back-up GPS receiver and can even be used to send and receive texts, as well as alerting the SAR authorities in the event of distress.

Latest kit

- Garmin's In Reach is new to the market and can send and receive messages, track and share your journey and – if necessary – trigger an SOS to get emergency help from the 24/7 global monitoring center. garmin.com

NAVIGATION

One thing you'll soon find when you set off on a long passage is that you don't want to be hand steering for hours on end. So the first question that arises is invariably, 'Do I fit an autopilot or windvane steering?' The first is simple to master and less expensive, but can be a trifle power hungry. Wind vanes are cumbersome and pricy, but very cheap to run and use none of the yacht's limited resources. An alternative to fitting either one or the other is to fit the latter, but to also link a low-power tiller pilot to the vane in such a way that the vane gear does the hard work of steering while the pilot takes control of the course. When sailing in light or following winds this can not only be more effective, but also requires far less electrical power than a more powerful, direct drive autopilot.

The most important aspect of long-term cruising is to keep things simple. If you're planning on upgrading your instrument system before you set off, then by all means go for a 'Plug and Play' NMEA-2000 (or SeaTalk ng) network, but I strongly advise to install instruments of the same make wherever possible.

No matter what the salesmen say, not all brands of marine instruments will talk to each other – especially autopilots – so 'mix and match' is not recommended! Apart from allowing every instrument to share data



COMMUNICATIONS

At one time HF radio was how bluewater cruisers kept in touch and received weather information and indeed a few still swear by SSB. These days, however, most cruising folk tend to rely on satcomms to do the same job. The cost of satellite phones and data transmissions has dropped noticeably over the past decade, making it rare to find a BW boat without at least an Iridium mobile.

Other low-cost alternatives include the V-Sat system, whereby the user can send and receive emails, use VOIP for calls and receive weather GRIBS for their local sea area. Don't expect to browse the Internet forever like you can at home, but used wisely these systems are an excellent and relatively inexpensive method of keeping in touch.

Another economical way of letting friends and family back home keep up with your travels is to fit a tracker to your boat. Devices such as Garmin's In-Reach, the

with all the others on the network, another benefit of a NMEA-2000 network is the ability to just unplug a duff instrument or transducer and plug in a replacement, all in a matter of minutes.

Buying charts for a world trip can also be a bank-breaking exercise – whether digital or paper. These days it's unlikely you'll have the space for too many detailed paper charts on board, so many stick with small-scale paper charts for passage planning and then switch to the large-scale electronic charts within 20nm or so of the coastline. Many bluewater cruisers also like to keep a laptop on board with back-up charting programs and weather mapping.

Latest kit

- Raymarine's new A Series touch – MFD: raymarine.co.uk
- Garmin's 820 and 1020 MFD. garmin.com
- B&G's new Zeus3 range is fresh to the market: bandg.com

ELECTRICS

Modern bluewater yachts tend to have many more luxuries than they did a few decades ago, but along with the increase in labour-saving devices comes an inevitable rise in power consumption.

Start by reducing your power consumption as far as possible by installing all LED lights (navigation as well as internal) and upgrading any old, high-current-draw kit such as pumps and fridge compressors to newer, more efficient devices. Then calculate your average 24-hour power consumption in amp-hours, so you can correctly spec up your service battery bank. Bear in mind you'll need to add at least 50 per cent capacity to your calculations as discharging below this level will seriously reduce the life of your batteries unless they're the expensive Lithium-based models.

Once you've decided on capacity you need to work out how best to keep them charged. It makes sense to use as much natural power as possible, both for cost and peace



CLOCKWISE FROM TOP
Three different methods of topping up your batteries without using your engine: solar panels, a hydro generator and a wind generator



and solar come into their own. Wind gennies (see *ST* Jan 2017) are great for producing high currents when anchored in a breezy spot, but if you prefer to tuck in close, under the lee of a headland say, then you'll need solar to take over the charging duties.

As a guide I would recommend the following instruments as a bare minimum for bluewater cruising: **Essential:** Radar, fixed GPS receiver, chart plotter or MFD, a means of downloading and viewing weather GRIBs, autopilot and/or self-steering, AIS transponder, VHF radio with DSC, emergency VHF antenna, SSB radio or satellite phone, 406MHz EPIRB and a PLB and AIS beacon for each crewmember.

Useful: Laptop (preferably with SSD), SSD back-up storage, long-range Wi-Fi booster, GPS/satellite tracker, handheld VHF and GPS.

Latest kit

- Marlec new 1200 wind generator is the first to remain quiet across all windspeeds and features a low windspeed start up: marlec.co.uk
- Solar power specialist Barden has teamed up with Solbian to provide a new range of solar panels: barden-uk.com

and quiet. Yes, a big diesel genny will sort the job out, but it will involve more spares, servicing and fuel expenses, as well as being downright noisy to live with. In my experience you probably already have one large, underworked oil burner on board, so why fit another? A high-power alternator on your main engine, coupled with a smart regulator is a must for bulk charging and emergencies, but wind, water or solar power should always be considered first.

For most bluewater cruising yachts a combination of wind and solar generation is the ideal setup. Those with long ocean passages in mind might also want to consider a hydro-generator (see *ST* Oct 2016), or better still a combined hydro-wind unit as most cruisers spend at least half their time at anchor, when wind

Terms

- EPIRB** – Emergency Position Indicating Radio Beacon
- PLB** – Personal Location Beacon
- AIS** – Automatic Identification System
- MFD** – Multi Function Device
- SAR** – Search And Rescue
- GRIB** – Gridded Information In Binary (compressed weather data file)
- HF** – High Frequency (radio)
- VHF** – Very High Frequency (radio)
- SSB** – Single Side-Band (type of HF radio)
- DSC** – Digital Selective Calling
- PV** – Photo-Voltaic (solar panel)
- SSD** – Solid State Drive
- LEO** – Low Earth Orbit