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Beyond the beaten tracks, past suburban abodes, and smack-bang in the middle of barren landscapes,

our normal way of communicating with family, friends, and services may not always suffice. There's a beacon for that.
In this episode, Ben and Lauren enter the Snowys satellite and activate an extensive analysis of the various Personal Locator Beacons and communication devices available to avid adventurers. Be it spare tyres from mates, or dire straits – a Personal Locator Beacon or satellite message device activates assistance in those off-chance, off-grid emergencies.

Short Cuts:

Mentioned in this episode:

Snowys Pages:
Personal Locator Beacons
Spot brand page
Zoleo brand page
GME brand page
ACR brand page
Products:
Spot satellite message device
Zoleo global satellite communicator
Spot X 2-way satellite messenger
GME Accusat MT610G PLB
RescueMe Ocean Signal PLB
ACR ResQLink View PLB
ACR ResQLink 400
Podcasts:

Ep36 – UHF Radios with GME

PLBs and Satellite Message Devices

When we discuss this particular branch of emergency and safety equipment, we refer to the relevant devices as Personal Locator Beacons (PLBs). Examples of such include EPIRBs (Emergency Position Indicating Radio Beacons) and ELTs (Emergency Locator Transmitters). An EPIRB is designed for water vessels, mounted onto a boat and required at two nautical miles (almost four kilometres) from the shoreline. On the contrary, an ELT is fixed to an aircraft and activated in mid-flight accidents. That said, these regulations are as they stand at the time of this podcast recording – so it's wise to check a beacon's current guidelines at the time of purchase and use.
Lastly, a satellite message device serves a similar purpose to a PLB, with added functionalities.

What is a PLB?

A PLB is a small GPS device that sends an emergency signal via a satellite to the mission control or safety centre of the country you're currently situated in – all with the press of a button. A PLB uses the Search and Rescue satellite network and serves the sole purpose of transmitting a rescue signal. Once activated, help is on its way almost instantaneously – and for this reason, it's important to only utilise a PLB in dire strait situations.
PLBs provide last-resort relief in situations where it would be unreasonable or inappropriate to call an ambulance or emergency service otherwise contactable via a mobile phone. For example, in an outback ordeal where your car may have rolled, phone reception is weak or absent, and civilisation is still kilometres beyond dry, barren landscape – a PLB is necessary to turn to.
Emergency beacons also require registration with the authority of the country you live in. In Australia, PLBs are registered with the AMSA (Australian Maritime Safety Authority). When travelling overseas for short periods, a PLB needn't be registered with another country. That said, re-locating overseas to live indefinitely requires registering for the country to which you're headed.
Given the Search and Rescue satellites work on an international basis, a PLB will function as normal if activated in another country. Essentially, the satellites reflect a somewhat coordinated peace effort between particular countries around the world. For example, if one was to travel to France from Australia and set off a PLB, the Search and Rescue response in France will take control of the rescue mission while communicating with Australia to obtain information on the subject (such as family details). That said, some countries prohibit the activation of PLBs on the ground, while some airlines also forbid PLBs on-board their aircrafts. For this reason, it's recommended to review any relevant guidelines before travelling.

Satellite Messages Options

As well as PLBs, satellite message devices also allow for communication with rescue personnel off the grid. Brands such as Spot and Zoleo are available for purchase at Snowys,

while Garmin offer a satellite communicator model called inReach. Unlike a PLB, these devices operate via a private satellite network, where the rescue process is coordinated by a personal security response team. The primary function of a satellite message device is for communicating in situations where a mobile phone is unusable. For those without an accompanying PLB, these devices feature an SOS function for use in extreme circumstances. Zoleo and Garmin operate via Iridium satellite communications, with GEOS (Geostationary Operational and Environmental Satellite) as the Search and Rescue organisation coordinating their response. Alternatively, Spot function via the Globalstar Network, while their Search and Rescue coordination is operated by the private health security firm FocusPoint International.

Satellite message devices also allow for communication with rescue personnel off the grid. Credit: Spot

In the case of a Spot device, activating the SOS function in any country sends the message directly to Spot's rescue response team in America. This is unlike a PLB's process, which otherwise transmits the message to the mission control centre of the country help has been requested from. Spot's team coordinate the rescue and communicate with the subject's home country, conducting the entire search and rescue effort via their own private avenues in America. Essentially, this is private management as opposed to a public government operation.

So which approach is more reliable? How fast might one's response time be over the other? Within the scope of this podcast, stating that the power of influence in public operations is higher, or that private is better than public, isn't that simple. Essentially, all employees within these businesses are committed to sitting at their computers, monitoring phone lines, and coordinating rescues.

PLBs Vs Satellite Message Devices

Unlike a satellite message device, a PLB often sends a distress signal with a GPS location to enable the Search and Rescue team to narrow down where you are located. Contrasting to a PLB, a satellite message device requires a subscription. As per a satellite phone, users will need to sign up for a plan. Without a subscription, the SOS function (i.e. for use as a PLB) is also ineffective.

That said, a satellite message device is a beneficial option for solo adventurers who require and desire the ability to check in with loved ones throughout their ventures. A subscription unlocks additional features as well as an SOS function, while some brands such as Zoleo also offer reduced costs when the device isn't in use.

While Zoleo requires the presence of a mobile phone, the new Spot message device demands Bluetooth connectivity. Put simply, Zoleo devices boost a mobile phone's signal and maintains this ability with WiFi connection too. While it's possible to pre-program messages reflecting your status ("I'm OK", or "I've arrived safely"), communicating predominantly requires the corresponding phone app.

On the other hand, the Spot X model offers both. This is helpful in situations with a flat phone battery, though the interface of the device itself is inferior. The black and white screen allows the user to view weigh points and breadcrumbs to indicate tracking and progress. The associated app overlays with more detailed maps and greater functionality. Essentially, while

the Spot X model offers multiple abilities via its screen and keypad, the app enables easier navigation of the device.
All the above considered, the main difference between a satellite message device and a PLB is how they're most likely to be used. For example, Ben doesn't venture on remote adventures every weekend, so his PLB mostly sits in its box. He registers it yearly, checks its battery regularly, and nestles it safely in his vehicle on long trips away. On the other hand, someone who travels alone – beyond patches with phone range and throughout remote environments – would likely benefit more from a satellite message device. Given it offers both communication and emergency-based services, the device aids in scenarios where adventurers simply require support over more serious safety assistance.

Considering a PLB

Aside from the above, Ben and Lauren conclude that a PLB should be considered simply for the sake of your own safety. Be it foreseeing yourself in a problematic situation on an outback trip, knowing you're unlikely to be in proximity to local towns, or planning to travel without others – it's recommended to incorporate a PLB into your essentials.
On family trips, Ben suggests teaching children how to operate a rescue beacon in the case a parent, caregiver, or capable adult is unable to do so. Given her previous work in Customer Service online, Lauren supports this recommendation, having identified a large portion of PLB buyers as parents and children who aim to feel a sense of safety and security on their off-grid adventures.
PLBs also operate via one of two frequencies, sending a signal on either 406MHz or the Local Area System of 121.5MHz. The former is for broader GPS coordinates, while the smaller signal is designed for when Search and Rescue authorities are only a matter of metres away. Most PLBs have the capability of transmitting both frequencies.

When to NOT Use a PLB

Rustic, remote, and reckless venturing aside – a PLB is also necessary for use in dangerous scenarios that unfold within metropolitan areas. For example, a motorbike accident in the Adelaide hills involving broken legs, a smashed phone, and a rogue bike, calls for a PLB device. This is one of the few life-threatening examples concerning an area within a five-kilometre radius of the suburbs that is necessary for more immediate emergency service.
On the contrary, breaking down in the outback with adequate levels of food, water, and means of setting up camp for the night is not deemed as severe. In these circumstances, one shouldn't call on a PLB – just the RAA, or state-equivalent! Ultimately, becoming bogged off the beaten track without phone signal many prompt the telling question – 'Should I *not* activate this PLB, will I find myself in increasingly more danger?' Put simply – if the answer is yes, it's time to pull out the PLB.
Scenarios like the above often shed light on satellite message devices as more viable options. As mentioned, pre-programmed messaging allows flexibility to send updates to friends or family members reflective of the type of assistance needed – for example, "I'm not in fatal danger, but please send help", or simply "I'm running a day late – I'm not going to return home on [date]".

Sending the Search and Rescue authorities for emergency operations is an expensive affair. For this reason, it's just as important to first de-activate a PLB before disposing of it. This will prevent the accidental triggering of a rescue signal during the rubbish disposal process – and arriving at the tip without cause brings a whole new meaning to 'a load of rubbish'!
As an additional precautionary step too, this approach should be applied even when a PLB's battery has reached its expiry date.

Which PLB Should I Buy?

In the case of satellite message devices, Ben and Lauren encourage buyers to first assess the features, options, subscriptions, and services available that best suit their lifestyle. For example, spending hundreds of dollars on a device upfront, before a further $60 or so per month moving forward, is likely to be less ideal than other plans on offer. For general use, assess what functions and features the device offers through your phone too.
It's wise to consider that Search and Rescue services aren't offered for situations that unfold within organised events. For example, while an arranged desert race should already involve the appropriate safety equipment and integrate relevant procedures in the case of an emergency, it's wise to first determine what the private company constitutes as a search and rescue effort.
In regards to a PLB, these devices deliver the same, sole function – triggering distress signals in the case of emergencies. With this in mind, consider what your primary activities involve:
Are you a kayaker, a stand-up paddleboarder (SUP-er), or a recreational fisherman?
Do you travel overseas often – and if so, where to?
Do you plan to re-locate indefinitely?
Lastly, is Australian-made important to you?
On the latter, Kinetic Technology International (KTI) was initially Australian-made before it was bought by a Norwegian company and eventually ceased operation in response to the Coronavirus pandemic. When KTI devices were still in production, they boasted a ten-year battery life and a small, compact design – popular among the avid adventurers.
Another Australian-made brand is GME, offering products such as the Accusat MT610G PLB for all-round land use with a seven-year battery life. It's important to note that the battery life lasts to its full extent when not in use or activated. Considering this, it's recommended to replace the battery at the three-year mark following the activation of the PLB's distress signal. While Snowys have ceased stocking of KTI locator beacons, GME are available on the shelves and online.
As well as PLBs, GME also manufacture EPIRBs and radios such as those for marine operations for many years. Given their long-standing services, the company operate via many service centres around the world where customers can have their PLB assessed, and batteries replaced. For more on GME and their history, services, and products, check out Ben and Lauren's interview with GME employee Tony in Ep36 – UHF Radios with GME.

GME offers products such as the Accusat MT410G PLB for all-round land use, boasting a seven-year battery life. Credit: GME

While the GME Accusat PLB can go from country to country, the KTI was unable to be re-coded – that is, re-registered with the country to which you're moving to. In the event a user

decides to re-locate, most PLBs sold in Snowys stores can be re-coded to other nations.
GME PLBs can also be de-activated. Some locator beacons such as the RescueMe Ocean Signal and the GME MT10G enable a 50-second delay after activating, allowing for any accidental triggering to be resolved quickly. A PLB's manual will indicate how to determine when the beacon will transmit – but even in the case of de-activating a PLB within the 50-second window, it's recommended a user contacts the AMSA immediately to quote the PLB registration number and confirm that Search and Rescue services are not required.
The ACR ResQLink – an American-manufactured product – is available in two units. The ResQLink View includes a wireless detection component that allows your phone to read the beacon's battery life when held at an adequate distance. The standard ResQLink 400 model is of a similar construction and displays your current GPS location – a handy additional feature that is uncommon in most PLBs, dismissing the need for a satellite message device subscription.
While ACR devices also allow for worldwide battery replacement, recoding, and de-activation – they prompt an instant rescue transmission once the PLB has been activated. Essentially, this will leave adventurers more red-faced after accidentally triggering a distress signal on an ACR beacon, than if they do so via a GME.
Popular with aqua adventurers, the RescueMe Ocean Signal PLB is waterproof up to 15 metres. That said, this device isn't to be used onboard a boat that exceeds two nautical miles from the shoreline as per an EPIRB. Instead, an Ocean Signal is best utilised for recreational watersports such as SUP-ing and kayaking. With this in mind, multi-watersport adventurers will benefit more from a device with a 15-metre waterproof rating over that of only one metre. While GME and ACR beacons feature inbuilt flotation devices, they don't offer the same IPX (waterproof) rating as an Ocean Signal which instead requires a pouch for use in water.
While all the gadgets discussed throughout the podcast boast a robust blend of durability, quality, and user-friendly technicalities – there's always a buy that's better built for your unique outback endeavours. For the adventurers who value Aussie-made equipment, GME is a highly recommended label to explore – while Ocean Signal offer the most apposite, aqua-based devices for those after small, compact tackle designed to withstand water. Lastly, for ultimate security amid outback serenity, the ACR ResQLink range is fancy, flash, and fosters greater functionality – including access to GPS coordinates, battery life status, and a worldwide network of search and rescue satellites.

Thanks for listening, tune in again for next week's episode!

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Catch you out there!