

EPIRB News - Must update in 2008

Do you carry an EPIRB or PLB in your vehicle? – are you thinking of buying one? If the answer is “yes” to either question then this is very important information for you.

From 1 February, 2009, the 121.5 MHz distress frequency will no longer be recognized by the global search and rescue satellite system Cospas-Sarsat. From that date only the 406 MHz frequency will be recognised. So 2008 is the time to update.

Analogue EPIRB's (Emergency Position Indicating Radio Beacons), PLB's (Personal Locator Beacons), and ELT's (Emergency Locator Transmitters), all of which may simply be categorized as distress beacons, have provided coverage on both 121.5 MHz and 406 MHz for more than 20 years.

The decision to switch over to only 406 MHz was taken internationally some 10 years ago. One of the underlying reasons for the decision was that approximately 98% of distress beacon activations on 121.5 MHz are false alarms. That is an inordinately high number

The sooner you switch over, the safer you will be!

Digital 406 MHz distress beacons can be detected far more quickly and provide a much more accurate location than the old analogue beacons.

The old 121.5 MHz beacon satellite positioning provided a search radius of some 20 kilometres. 406 MHz beacons, without GPS capability, provide a search radius of some 5 kilometres. A 406 MHz beacon with GPS capability narrows the search radius down to about 100 metres. This translates to a faster and far more efficient rescue capability.

121.5 MHz will remain as the aviation distress frequency. Digital 406 MHz beacons will transmit on both 406 and 121.5 MHz. The 406 MHz transmissions will provide satellite positioning, and 121.5 MHz will be utilized by search aircraft to home in on the location.

So yes, this does mean that your old 121.5 MHz beacon will still be able to be detected by over flying aircraft. But unless you are under a regular flight path, your chances of detection are reduced dramatically and the search area will be much, much greater. So don't risk it – update in 2008.

PLB or EPIRB?

For land use, which of course includes 4WD touring, AMSA, (the Australian Maritime Safety Authority, who are responsible for detection and search and rescue in our 52.8 million square kilometre region of world responsibility), recommend the use of a PLB (Personal Locator Beacon). They are smaller and more lightweight than an EPIRB, and are thus easily carried on your person, in a backpack or in the vehicle. EPIRB's are essentially designed as maritime distress beacons, because they have inbuilt flotation, and an inbuilt strobe light. Generally, an EPIRB will be a larger unit than a PLB.

ELT's (Emergency Locator Transmitters) are generally reserved for aviation use, and are permanently fitted in aircraft.

How much?

A new 406 MHz PLB without GPS capability will set you back in the region of \$400. A new 406 MHz PLB with inbuilt GPS capability will set you back in the region of \$600. But when you look at the fact that a GPS capable unit reduces the search radius to about 100 metres, it's got to be the way to go. When you really need to be rescued, every second counts, so the smaller the search area, the quicker you should be found.

AMSA will generally pick up a distress signal from a 406 MHz beacon (whether GPS enabled or not) within about 5-10 minutes of activation if the distress beacon is in sight of one of the satellites in geo-stationary orbit over the Equator. However, an actual location from a non-GPS beacon may take a little longer to be established as an over flight of a Polar orbiting search and rescue satellite is required. Polar orbiting satellites pass over the Australian region (on average) every 90 minutes, with actual passes being anywhere from minutes to (up to) 5 hours apart depending on the orbit of the satellites. So if the first satellite location is inconclusive, it may take hours rather than minutes before your location is resolved by a second satellite pass. Conversely, GPS capable beacons automatically transmit a GPS location over the satellite uplink frequency so an accurate position can be gained with the initial distress signal alert from satellites in geo-stationary orbit over the Equator. This could be a huge advantage in an emergency.

Register your beacon!

406 MHz beacons are smarter and safer, because they can also identify their owner. They transmit a unique code, unique that is to your beacon. So if you register your beacon with AMSA, they will know exactly who you are; what make and model of vehicle you are in; its colour and registration number. And they will have contact details for you including your HF callsign (if you have one); your sat phone number (if you have one); mobile telephone number(s); and whether you have UHF capability. (As a 4WD club member, you should at the very least, have good UHF communications).

If you have registered with AMSA, the moment they first detect your emergency signal, they will know from the unique code that the transmission is from your vehicle. They can immediately begin to try to contact you to ascertain firstly; that it is indeed an emergency; secondly, where you are and the nature of the emergency. So if you have HF or sat phone capability, the whole rescue process could be in operation before the satellites have confirmed your position. (They may be able to phone or call in to you, even though you may not have been able to get a call out from your position). This could sometimes spell the difference between life and death.

So, ensure you REGISTER your details with AMSA. It's a FREE service.

Which brand?

AMSA will tell you that every unit on sale in Australia meets the appropriate standard, and thus will do the job efficiently and effectively. It is simply a matter of your personal preference as to brand, size, shape, features, etc., and of course, price.

Know your beacon!

Make sure you know exactly how your beacon is activated for maximum effect. Aerial position and the ground location where you activate the unit can be critical to ensure good connectivity with the satellites. And make sure you regularly test the unit, and replace batteries, in accordance with the manufacturers' recommendations.

Disposal of old beacons

When you buy your new beacon, DO NOT THROW YOUR OLD ONE IN THE BIN!! Binned beacons have been known to go off accidentally. It can then be a heck of a job to find the beacon in a garbage dump somewhere to shut it off. Battery World stores will happily accept your old beacon for disposal. Alternatively, most retailers of new beacons will also accept your old one for disposal.

Activation!

In an emergency, HF radio or sat phone are far better options than simply activating your beacon. The two-way communication capability of HF or sat phone provides the certainty of knowing that someone is actually coming to assist you. And, you can inform potential rescuers of the exact nature of the problem. However, if all you have is a distress beacon, the first indication you may have that someone is coming to assist you, is when a search aircraft or helicopter over flies you, or a ground party comes over the hill. And of course, they won't know the nature of your emergency until they actually get to speak to you, probably on your UHF. So your beacon should be considered as a device of last resort to be used in the event that you have no other method of contact, or your other communications processes have either failed, or are ineffectual.

If you are using a sat phone or HF radio in an emergency situation, it's highly likely that you will also be asked at some stage to activate your distress beacon (if you have one), so that searching aircraft can home in on your exact location.

And remember, in many emergency situations assistance is sometimes sought far too late. Sadly, this has also meant on a few occasions that help has also arrived too late. So assess your situation, make a decision, and act on it. Just don't leave it too late.

Want more info?

More information can be gained from the AMSA web site: www.amsa.gov.au/Search_and_Rescue/ or call 1800 406 406 (office hours) and speak with the AMSA team.

John Greig