

## **If you have a 406, they will get the Fix.**



**Hopfully you have heard that there is no monitoring of the 121.5 mhz ELT from the satellite system as of February 2010. Although FAA towers and FSS still keep a listening watch, this dose not place a position fix on a beacon. Most of our flying here in the southwest is not near any facility that monitors 121.5. Do you feel lucky?**

**The new 406Mhz ELT system is a satellite based, near real time, digital, and very accurate system now in use world wide. It has been the mainstay on marine search and rescue for a few years. It is proven and is state of the art, hears how it works...**

**In the event of a crash/impact or manual activation, the 406 Mhz ELT broadcasts a discrete digital code into space. This is received by two satellite systems. The GOES-8 geostationary satellites provide an immediate alert. However, as there is no relative motion of the satellite to the earth, they cannot provide a location of the signal. As your becon is registered with NOAA, SAR assets can be put on alert, and they can determine who and what is in distress as well as a general location.**

**The next satellite system that comes into play is the low earth orbit (LEO) COPSAS or SARSAT system. These satellites orbit the earth in a polar orbit and cross your position within an hour. Using the Doppler principle, your location can be pinpointed and forwarded to the SAR personnel enroute to you location.**

**To really make this system work, your GPS can be integrated into your ELT either built in or fed by an external GPS receiver. This GPS location is then encoded into the 406 Mhz signal and received by SAR instantly. Additionally, 406 Mhz ELT units have also a low power 121.5 becon that is used to home in on once SAR is in the vicinity.**

**This 406 system has been instrumental in over 6000 rescues so far. The older 121.5/243 Mhz becons had an average time to locate and rescue a downed aircraft**

of 10-15 hrs. - after the satellite told SAR that was a problem, potentially another few hours. Now, the new 406 Mhz system has a average time of alert to rescue of 4 hours.

The costs are coming down. Retrofit ELT's are coming out for around \$600-\$900. Plan on another \$500-\$700 for installation. However, if you ever needed this technology, it is priceless. Personal Locator beacons using the exact same technology are available from camping stores, aviation outlets, and outfitters. Although they cannot be activated by impact, they can be just as effective. You have to assess your risk tolerance of possibly being knocked out in an impact and not being able to activate the unit. But, on the other hand, they are registered to you and if you do any treks in the wilderness they may be useful as a personal emergency beacon. These units run from \$300 to \$600.

One other unit on the market is the SPOT system. This is a suscription based private satellite system that can inform your friends and associates where you are as you travel. There is a emergency function that can be activated. However, this is a commercial service that just calls the nearest sherriff and hope it works out for you. It is not a true part of the well established SAR system.

When you decide to ditch that old 121.5 Mhz unit, be sure to take the batteries out. There are cases when this was not done and the unit went off in the trash and sent SAR in search of a wreck in the local dump.

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