Beacons – How They Work

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C/S A.003

- Since the determination of the cause of false alerts is totally dependent on the feed-back information received from national RCCs and SPOCs, national Administrations should encourage their RCCs and SPOCs to provide timely information which describes the cause and disposition of each beacon activation, when an alert is received from their associated MCC.

C/S A.003

- Operational false alerts may have a variety of origins and their elimination is of interest to all users. Distress alert statistics should identify the cause of operational false alerts. Each operational false alert should be categorized as being caused either by beacon mishandling, beacon malfunction, mounting failure, environmental conditions, voluntary activation, or unknown circumstances.

C/S 406 MHz Beacons

- COSPAS-SARSAT 406 MHz Beacons

  EPIRB Emergency Position Indicating Radio Beacon

  PLB Personal Locator Beacon

  ELT Emergency Locator Beacon

  SSAS Ship Security Alert System

EPIRB

Electronic Position Indicating Radio Beacon

Two basic types

CAT I – automatic release and activation

CAT II – manual release

EPIRB – Brackets

CAT I

CAT II

Types of Brackets

- Category 1

(Float Free)

Automatic Release between 4 to 13 ft.

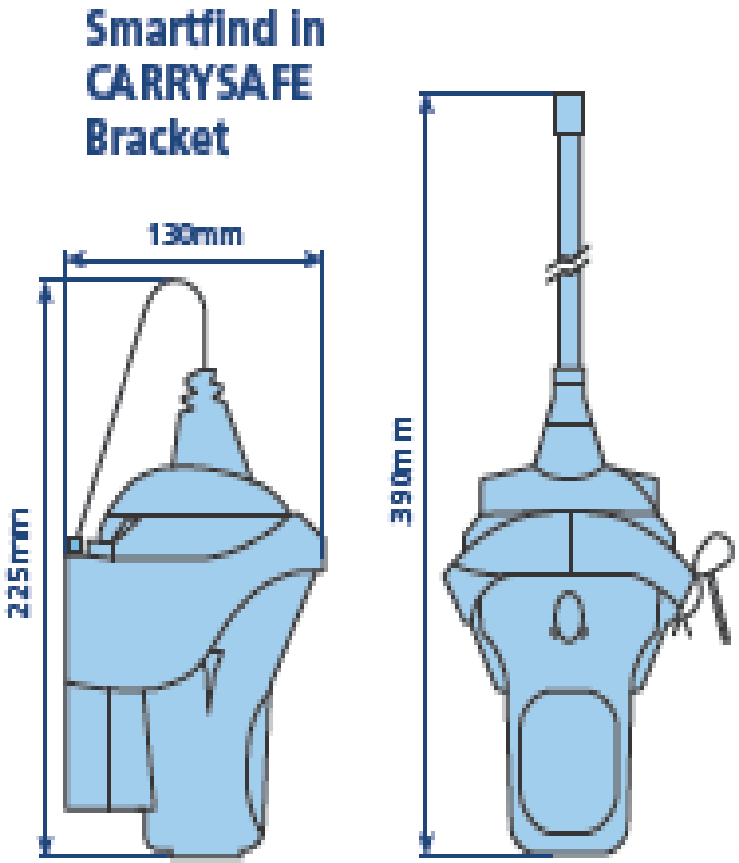
EPIRB is transmitting when it gets to the surface

Hydrostatic release needs replacement every two years.

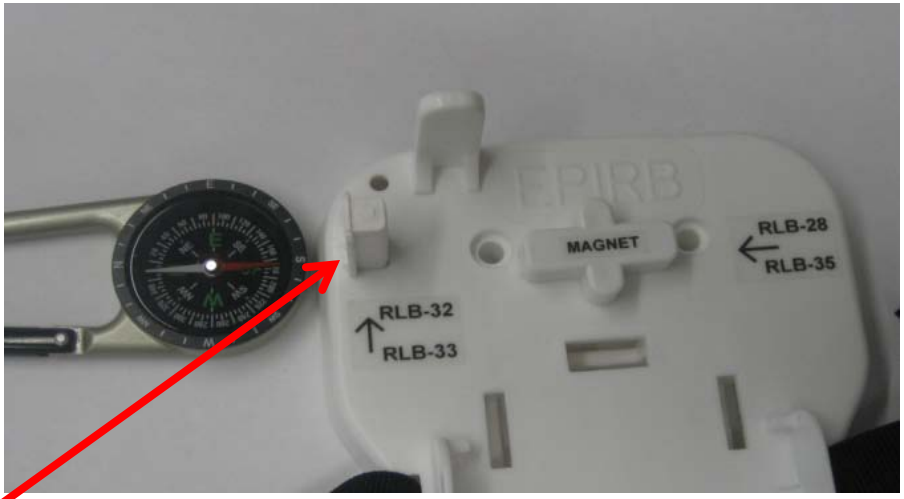
CAT 2 BRACKET

CAT 2 Bracket

CAT 2



Testing Bracket Magnet



A Compass provides simple detection on bracket magnet.

Activation

- Typical activation includes
- Auto – put in “Armed” or “Ready” position
- Manual - switch to “Manual” or “On”
  Has a barrier to keep from accidental manual activation.

EPIRB SWITCHES

EPIRB SWITCHES

EPIRB SWITCHES

406 MHz S-VDR

Simplified Voyage Data Recorder

- Is a CAT 1 EPIRB

Lanyard

Lanyard:

- 5 to 8 meters
- Orange/yellow color
  Not rot/deteriorate

PLB

Personal Locator Beacon

PLB

- Manual activation
- Carried on persons
- May or may not float
- Held out of water to transmit
- NO Strobe light required
- Min 24 hour transmit
- Some GPS Enabled

Red 406 Button Underneath

PLB

ELT

Electronic Locator Beacon

Operational Applications

- Automatic Fixed - AF
- Automatic Portable - AP
- Survival Equipment – S
  - Class A (buoyant)
  - Class B (non-buoyant)
- Automatic Deployable - AD

406/121.5 MHz

24 hr Transmitter

"ON-OFF-ARMED-RESET" controls

ELT activated by pilot, crash forces or water activated.

AUTOMATIC ACTIVATION

- G-Switch - fixed

- Some are water activated portable/ditch bag

DESIGNED FOR ROTARY WING

EPIRB – MANUAL ACTIVATION

RESET

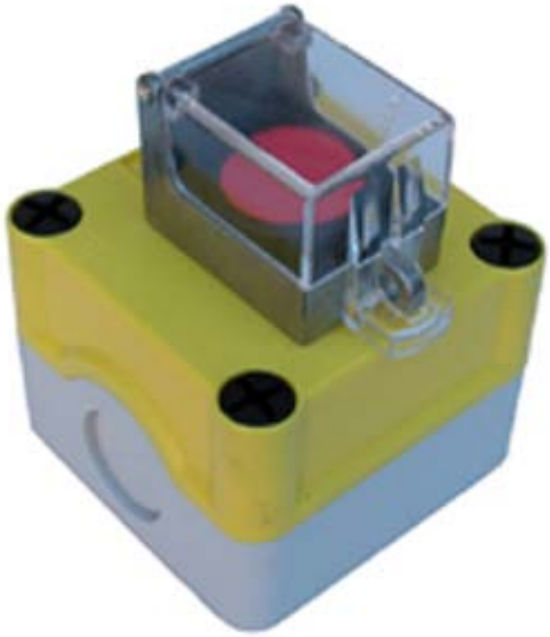
VARIOUS ANTENNA TYPES

SSAS

Ship Security Alert System

- 406 MHz Ship Security Alert System (SSAS)
- All SOLAS vsls on international voyages.
- Two stealth switches for remote activation.
- Alert goes to Atlantic Area.

Manual Activation



Questions

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