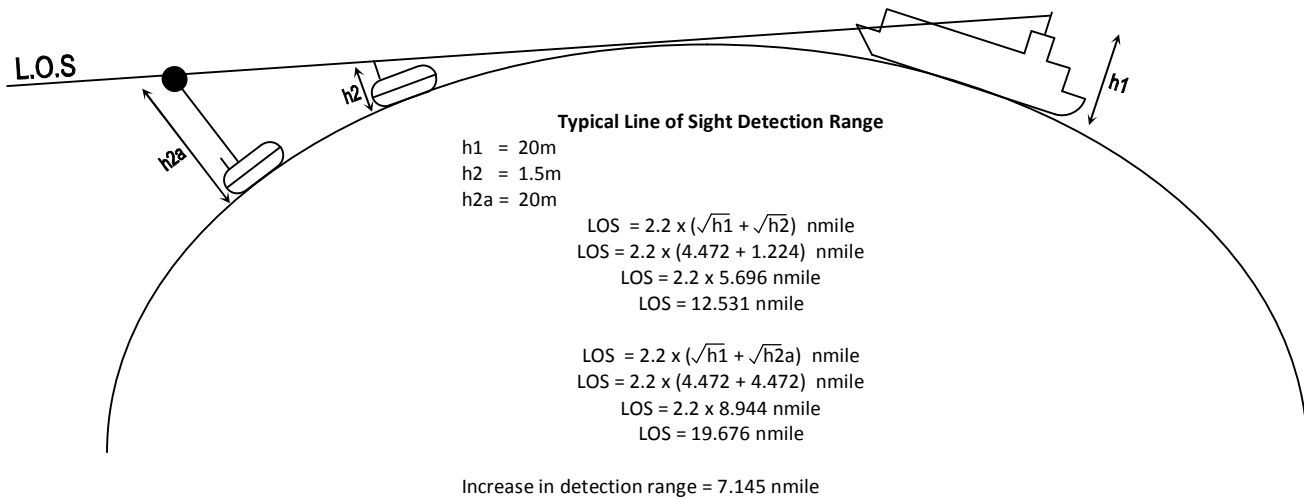


Survival Craft Location Aid



GUARDIAN : SKYLINE

During any Search and Rescue operation time is of the essence. The quicker lifeboats / liferafts / people can be located the higher the likelihood of a successful outcome. At sea level, in a survival craft, the range to SAR surface vessels for AIS SARTs is usually the line-of-sight (LOS) distance between antennas - this can be calculated using the formulas below.

$$\text{LOS} = 2.2 \times (\sqrt{h_1} + \sqrt{h_2}) \text{ nmile}$$

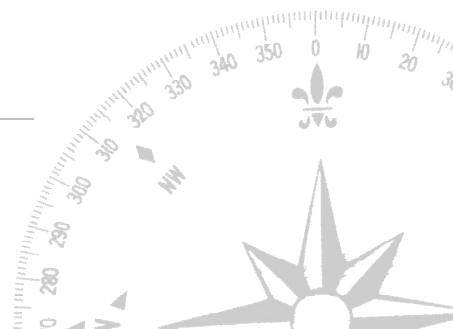
$$\text{LOS} = 4.1 \times (\sqrt{h_1} + \sqrt{h_2}) \text{ Km}$$

Now if the transponder could be elevated to say, 20m, the range would be significantly increased.

This can be achieved by attaching the transponder to a helium lift envelope securely tethered to the survival craft. The envelope would also be coloured day-glo orange for better daytime visibility and carry a flashing beacon for location at night.

The envelope is easily deployed (hand winch); stored in a waterproof pouch; securely attached to the craft; and simply inflated. Constructed from strong polyurethane to give maximum air time the 2m dia envelope can be easily retrofitted to most survival craft.

In high seas the survival craft may only be visible for brief periods as it crests the waves, where as the envelope if deployed at a suitable height will always be visible.



Features

Main Lift Envelope:

Manufactured from polyurethane to ensure longer inflation times (helium, over time, tends to leach through the envelope material leading to loss of lift). Stored in a sturdy waterproof pouch for simple deployment when required.

2m in diameter, when fully inflated, the envelope is capable of lifting approx. 1Kg, which is more than sufficient to carry an AIS SART (450gm on average).

The envelope is day-glo orange for maximum visual detection during daytime and carries a waterproof flashing LED beacon for detection at night.

Inflation:

The envelope is inflated using helium which is stored in a suitably sized gas bottle. The gas bottle would be secured to the survival craft.

Tether:

The envelope is securely attached to the survival craft by a 800lb breaking strain nylon tether, which is waterproof and resistant to salt water.

Deployment:

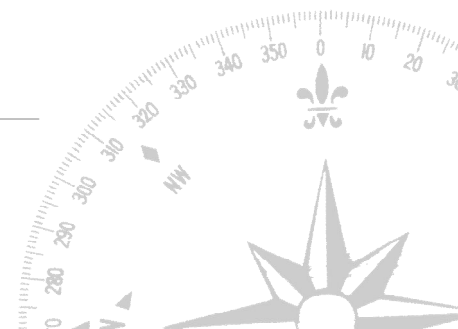
The envelope should be inflated outside the survival craft and then deployed in a controlled manner using either a hand winch or an electric driven winch. The speed and height can therefore be carefully controlled.

Beacon:

The location beacon can be turned on and attached to the envelope tether prior to deployment. The red flashing beacon is waterproof to 150m and has a operational life of approx 30 hours.

Carry Pouch:

The AIS SART can be securely attached to the envelope tether using the waterproof pouch. The pouch will allow most shapes of transponder can be carried. Alternatively the transponder can be attached through the transponder's casing built-in eye.



Specifications

STANDARD SUPPLY	
MAIN LIFT ENVELOPE	
SIZE (INFLATED)	2M DIA
SIZE (PACKED)	0.1M X 0.1M X 0.4M / 4.5KG
MATERIAL	POLYURETHANE
COLOUR	BRIGHT DAY-GLO ORANGE
TETHER	
SIZE	30M
BREAKING STRAIN	800LB
DEPLOYMENT	
ELECTRIC WINCH	153:1 RATIO
POWER	12V DC
	POWER OUT / POWER IN
HAND WINCH	SPUR GEAR
	FREE SPOOLING / AUTO BRAKE
INFLATION	
INFLATION MEDIUM	HELIUM
GAS BOTTLE SIZE	9L
LOCATION BEACON	
COLOUR	FLASHING RED
OPERATION TIME	APPROX. 30 HOURS (CONTINUOUS)
WATERPROOFING	SUBMERSIBLE TO 150M

