

Recommendations for Safety Equipment

The safety of a yacht and her crew is the responsibility of the skipper.

Introduction

Going to sea in a boat is potentially dangerous and no amount of equipment will make sea-going safe if the skipper and crew are not fully competent or if conditions become extreme. However, the right equipment can help everybody to cope with danger and misadventure, so that the risks are reduced to an acceptable level.

The plan for any cruise should take into account the strength and competence of the crew. A crew with a high proportion of novices and young children is unlikely to enjoy the physical stress of making long passages. In rough weather, their reserves of strength may be totally exhausted so that the yacht is placed in a situation which is hazardous not only for itself but for those who come to the rescue. The human resources are even more important than the equipment carried and sufficient hot food must be available to enable them to continue to function satisfactorily.

Watchkeeping

In a seaway, watch keeping is important and a routine should be established early in the passage. In the Irish Sea, ferries can come from hull down to collision danger in less than ten minutes so it is important to keep a deck watch at all times. The HSS are particularly dangerous, travelling at over 30knots. They do, however, carry sophisticated collision systems. NEVER change speed or course for an HSS or you may confuse these systems. In heavy weather it is particularly important that off-watch crew are well rested and well fed.

Seasickness

Seasickness pills should be carried but should be used with caution since many cause drowsiness. Unfortunately, to be effective, they must be taken in advance of the bad weather and this means that any tendency to seasickness should be confirmed before embarking on a passage. Experiment beforehand to determine the type appropriate to your metabolism and that of your crew, to maximise effectiveness and minimise unwanted side effects.

Safety Equipment

The equipment required in any yacht depends on the area in which she sails, the weather conditions she is likely to encounter and to some degree, the size of the yacht. The most important factor is deciding the extent to which a yacht is likely to be caught out in rough weather and this will necessarily depend on the distance from harbour that the boat ventures. The recommendations which follow have been drafted for yachts (generally between 8.0m and 13.7m) which are unlikely to be more than 12 hours from a harbour or suitable anchorage. That is, in broad correspondence with the RYA Category B (publication C8/98) conditions.

In the final analysis, though, the skipper must take full responsibility for the boat and her crew. The notes which follow are adapted from the RYA publication C8/98.

Means of Propulsion

Yachts should have:

- a deep reef in the main which will reduce the luff to 60% of full hoist or a storm trysail.
- a storm jib.
- an isolated battery whose sole purpose is to start the engine or means of hand cranking the engine.

Anchors

Anchors and chain should be at least as heavy as those recommended by the RYA in C8/98 (p14). A yacht should carry:

- at least TWO anchors of appropriate weight for bower and kedge.
- adequate chain or chain & warp for the waters in which it is sailing.
- anchor fittings which include:
 - a fairlead at the stem capable of being closed over the anchor chain (or warp).
 - a strong point on the foredeck - a mooring cleat, samson post or anchor winch - securely fitted to the structure of the hull.

Bailing & Bilge pumping

Bailing equipment should be chosen with the strength of the crew in mind.

- A small hand bailer.
- Buckets (2) of between 9 litres (1.2 galls) and 14 litres (3 galls) fitted with a lanyard and a strongly secured handle.
- Hand bilge pumps (2) (or one electric, one hand) discharging overboard and capable of being operated with all hatches closed.
- All through-hull fittings should be capable of being closed and attached softwood plugs.

Detection Equipment

- Radar reflector, properly mounted.
- Fixed navigation lights with masthead tri-colour (for sailing only).
- Foghorn (and spare cartridge).
- Powerful torch (preferably waterproof).
- Anchor light.
- Daytime signals
- motoring cone (for motor-sailing).
- anchor ball.

Pyrotechnics

The minimum set of flares should be in date (3 years) and should meet the requirements of SOLAS. Pyrotechnics should be stored in a waterproof container and must be easily accessible. Instant-access collision avoidance flares are often carried in the hatchway.

- Hand held red flares 4 off
- Hand held orange smoke signals 2 off
- Red parachute rockets 2 off
- Hand held white (collision) flares 4 off

Fire fighting equipment

The following recommendations are made by the RYA in C8/98.

- Fire blanket (BS 6575) placed for use in the galley.
- A minimum of two (2) and preferably three (3) multi-purpose fire extinguishers (5A/34B - Foam or dry powder, for example) or two 5A/34B and one larger 13A/113B on bigger boats.

Personal safety equipment

The following items should be available for every person on board:

- Warm clothing, oilskins, seaboots and hat.
- A lifejacket of 150 Newtons buoyancy (BS EN 396), fitted with crotch straps.
- Light attached to lifejacket.
- Safety harness to EN1095 (BS4474 for children).

General emergency equipment

- An emergency grab-bag containing food, navigation aids and medical supplies.
- An inflatable liferaft, either designed or adapted for use as such.
- Horse-shoe lifebelts with drogue, fitted with self igniting lights (2).
- Buoyant heaving line at least 30m in length.
- Boarding ladder.
- Dan buoy (NOT attached to yacht).

Radio

- Receiver capable of receiving shipping forecasts on LW (198khz) and from local radio stations.
- A marine band VHF radio telephone capable of transmitting 25w.
- Emergency aerial for the VHF R/T.

Navigational equipment

Increasingly, integrated electronic equipment is reducing the apparent necessity for basic navigation gear. However, complete power failure in the most adverse weather conditions (fog) must be assumed when equipping a yacht for any form of passage, however short. The following should be carried as a matter of course. Other boats must not be relied on to provide assistance.

- Charts (corrected to latest Notices to Mariners) covering the intended cruising area and all adjacent coasts where stress of weather might force the yacht to go.
- Tide tables and pilots covering the same areas.
- Fixed steering compass, capable of being lit at night.
- Hand bearing compass (at least one).
- Surface suitable for use as nav. table, with plotting instruments and dividers.
- Echo sounder and/or leadline.
- Distance Log.
- Binoculars (at least one pair).
- Radio navigation system (GPS).
- Barometer.
- Accurate Clock.

First Aid & Medical

A first aid kit should be carried, containing:

- Dressings, bandages and lotions (a suitable list is given in RYA publication C8/98).

- Drugs (a suitable list is given in RYA publication C8/98).
Manuals, from Red Cross or St. John Ambulance for instance. Additional information about medical care overseas (E111 form, from Post Offices), vaccinations etc. are available from GP's and the Health Travel Line (0800 555 777).

General Equipment

- Emergency tiller on wheel steered yachts.
- Towing warp (12/14 mm, at least 30m in length) or anchor warp.
- Mooring warps and fenders.
- Tender - rigid or inflatable.
- Tool kits for: Engine, Electrics, Sails, General.
- Spares for engine, electrics, sails and bosun's bag (shackles, blocks, winch springs, clevis pins, split pins, assorted nuts & bolts etc.)
- Emergency water supply, isolated from main tank.
- Emergency hull repair materials.

Publications

General

Skippers are recommended to purchase the RYA booklets: C8/98, G2/90, G22/99.

In order to meet the legal requirements of SOLAS V, yachts must carry an illustrated document showing life-saving signals and must be able to prove that passages have been planned (a Log Book). The Coastguard (MCA) produce a free leaflet for the former, a scanned version of which may be downloaded from their site.

SOLAS (Safety Of Life At Sea)

SOLAS, for yachts, is essentially a re-statement of the obvious, but with a few irrational twists which could, in a worst case scenario, create problems for a skipper. These include a requirement to carry certain forms eg the Life Saving Signals and Logbook.

DISTRESS SIGNALS

Wave both arms vertically

Hoist 'X' at yardarm

Hoist anchor ball over any 'flag' up forestay

Use handheld flare to pinpoint precise position at night or in dull conditions

Parachute flare for use at long range offshore

White flare - collision warning

Handheld orange smoke to pinpoint precise position in bright conditions

Floating orange smoke

Signal Morse S O S by sound or light

Fire rockets vertically

NEVER fire a parachute flare if a helicopter is approaching.

NEVER fire into the wind

If windy fire 15° downwind

In low cloud fire at 45°

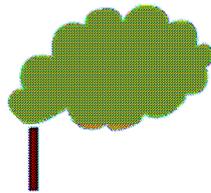
Orange smoke for use by day - especially in strong sunlight

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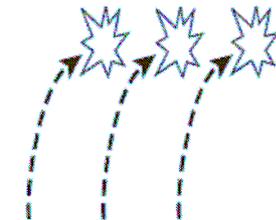
LIFE SAVING SIGNALS

Search and Rescue Unit Replies

You have been seen, assistance will be given as soon as possible.



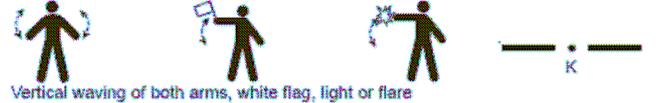
Orange smoke flare



Three white star signals or three light & sound rockets fired at approx. 1 minute intervals.

Shore to Ship Signals

Safe to land here



Unsafe to land here. Additional signals mean safer landing in direction indicated



Horizontal waving of white flag, light or flare. Morse S. Putting one flag, light or flare on ground and moving off with a second indicates direction of safer landing.

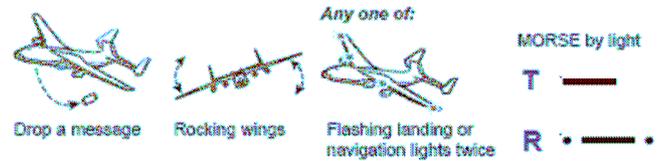
Surface to Air Signals

Message	International Code of Signals	ICAO Visual Signals
I require assistance	V	V
I require medical assistance	W	W
No or Negative	N	N
Yes or affirmative	C	Y

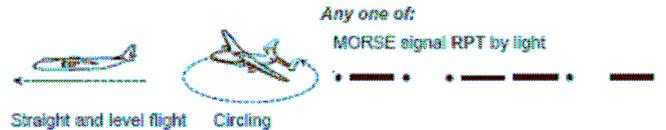
Proceeding in this direction

Air to Surface Replies

Message understood

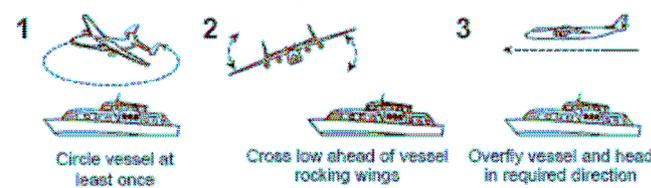


Message NOT understood - Repeat



Air to Surface Direction Signals

Sequence of 3 manoeuvres meaning proceed in this direction



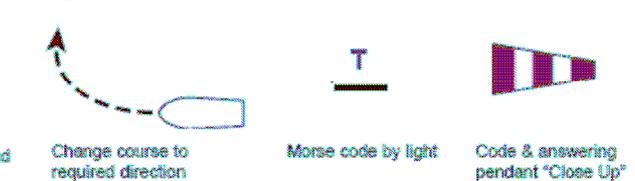
Your assistance is no longer required



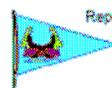
As a non preferred alternative to rocking wings, varying engine tone or volume may be used.

Surface to Air Replies

Message understood - I will comply



I am unable to comply



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