

SAFETY & EMERGENCIES WITH POOLE SAILING



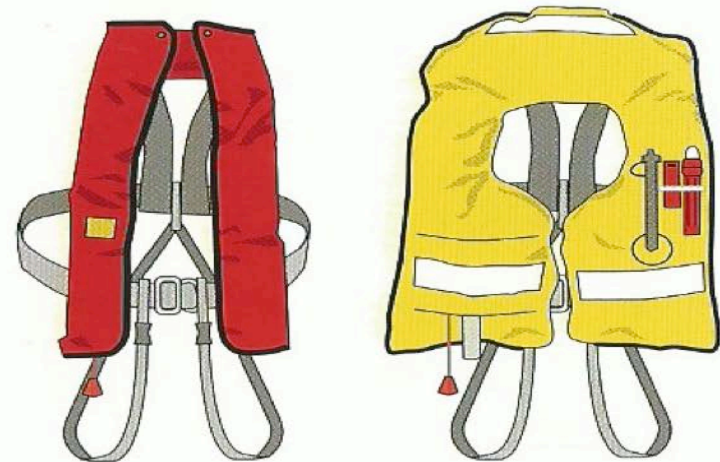
Personal Safety

We are all responsible for our own safety, but most organisations have rules relating to the use of life jackets that we must follow. At Poole Sailing we wear them all of the time that we are sea.

Modern lifejackets are compact and comfortable and more and more sailors are sensibly taking the decision to wear one at all times. When buying one for yourself or wearing one belonging to the boat, check it is self-inflating or manual. Also, check that it has the correct buoyancy rating for your body weight.

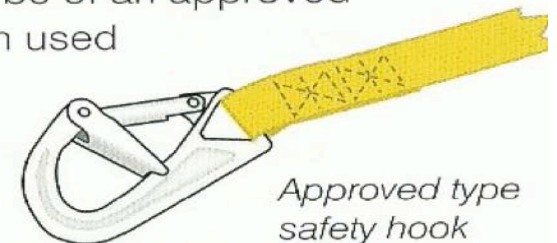
Most lifejackets are now combined with harnesses. Sailboat crew should tether themselves to the boat in rough weather, fog or at night. The tether should be long enough to reach from your harness to your feet plus a few centimetres, so that you can walk comfortably along the side deck with the tether sliding on a jack stay. But not so long that you could be dragged underwater if you go overboard. It's a good idea to secure the tether onto the high side of a heeled sailboat so that a fall will leave you on deck rather than over the leeward rail. Clips on tethers should be of an approved type, or they can be prone to accidentally 'tripping' open when used on metal 'D' rings.

Some countries insist on the use of lifejackets at all times for certain classes of vessel, so check local regulations when sailing abroad.



Deflated

Inflated



*Approved type
safety hook*

Distress Call

If we find ourselves in a life threatening emergency, the best way to summon assistance is to make a distress call to the Coast Guard on our VHF radio following these instructions.

Lift the cover and press the red distress button for 10 seconds to make an automated call, that will give your identity and position.

Then follow up with a voice message on channel 16 using hi power. Lift the microphone squeeze the PTC trigger and say the following message, slowly and clearly. substituting your boat name and unique call sign or MMSI number

- MAYDAY - MAYDAY - MAYDAY
- YACHT UNO - YACHT UNO - YACHT UNO
- MAYDAY, YACHT UNO, BOAT'S CALLSIGN / MMSI
- POSITION (Your geographic position as a Lat. & Long.)
- PROBLEM (The nature of the distress)
- PEOPLE (The total number of people involved)
- OTHER RELEVANT INFORMATION

Distress Flares

The next best way to attract attention when in distress involves the use of pyrotechnic flares. Red or Orange mean, “we are in distress and require all possible assistance”.

■ DISTRESS FLARES

Always read the manufacturer's instructions and store in a waterproof container.

There are several different types of flare for marine use.

- Hand-held – pinpoint your position for up to approximately 3 miles in good visibility.
- Rocket or Parachute – can be seen for up to fifteen miles in good visibility. Not good in low cloud when they should be fired at 45° to the horizon.
- Smoke

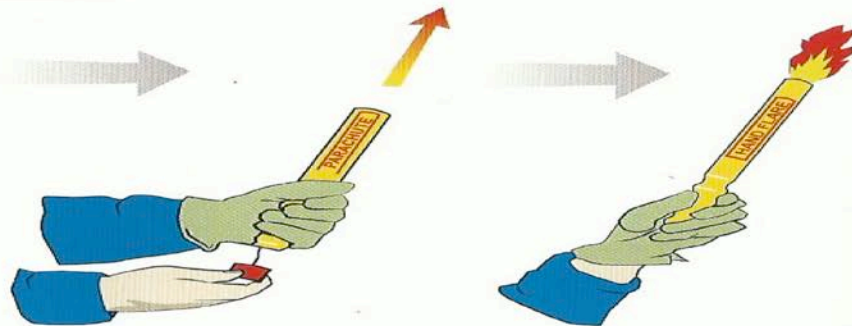
They come in three colours:

- Red – for signalling distress. Difficult to see in bright sunshine when orange should be used.
- White – to attract attention and avoid collision
- Orange – for signalling in distress in bright sunshine.



When firing a flare

1. Never fire a rocket or parachute flare near to a helicopter.
2. Wear gloves when firing and do not look directly into the flare.
3. Fire downwind from the leeward side which will take smoke and sparks away from the boat and crew.
4. Fire a series of flares at short intervals because the first may not have been seen.
5. All flares have a “use by date” so check flare dates regularly.



Distress Flares, More Advice

Buoyant orange smoke

Daylight use only.
Use within three miles of a rescuer.
Throw downwind



Orange hand-held smoke

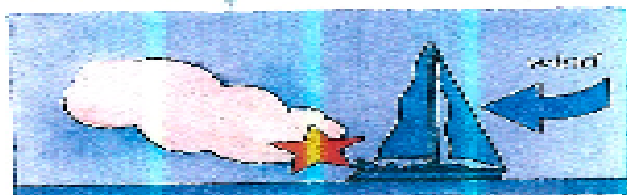
Cloud lasts approximately one minute.



Orange smoke is easy for a rescue helicopter to see.

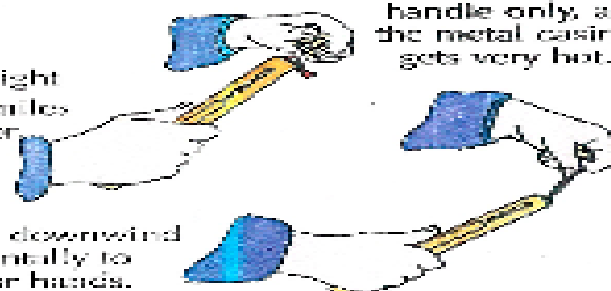
Hold by the handle only, as the metal casing gets very hot.

Red hand-held flare

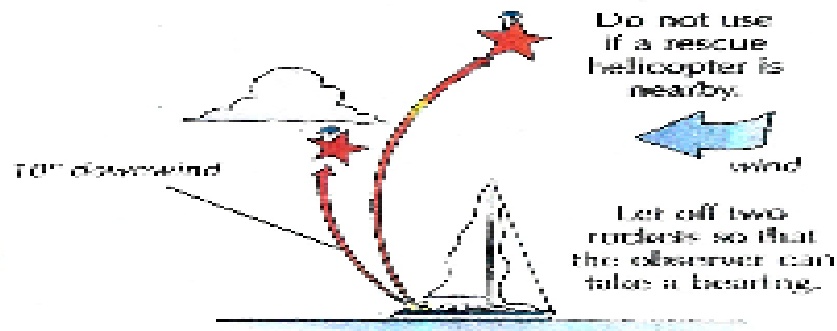
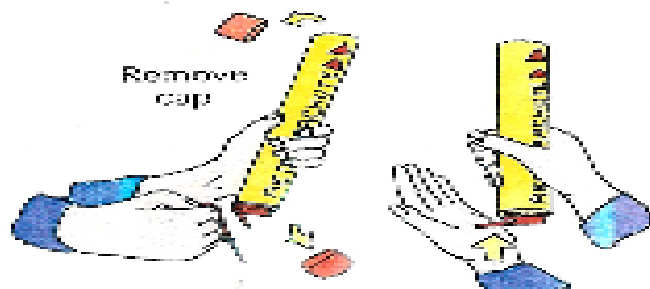


Use day or night within three miles of a rescuer.

Hold the flare downwind and horizontally to protect your hands.



Red parachute rocket

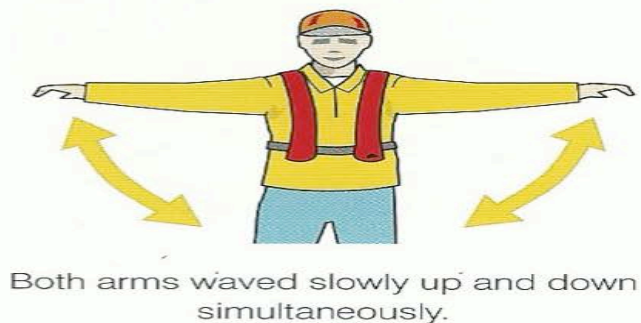
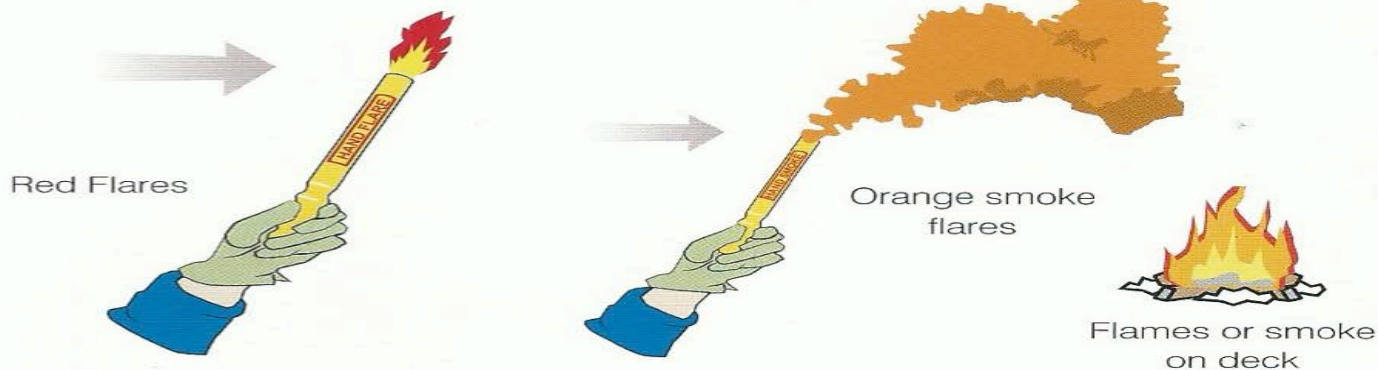


All brands of flare operate differently. Read the instructions before they are needed in a real emergency. Check flares are in date.

Other Distress Signals

8. VISUAL DISTRESS SIGNALS

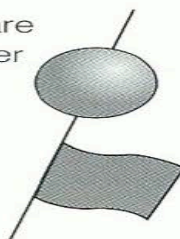
Skippers should know and recognise visual distress signals so that they can take the appropriate action, or indeed use one themselves. Internationally recognised signals are:




Code flags N and C hoisted together



A ball and square hoisted together



Morse code SOS with sound or loud continuous urgent noise



The illustration shows a yellow horn.

Code flag V isn't a distress signal but means 'I require assistance'.



The illustration shows a white flag with a red 'X' (Code flag V).

Man Over Board

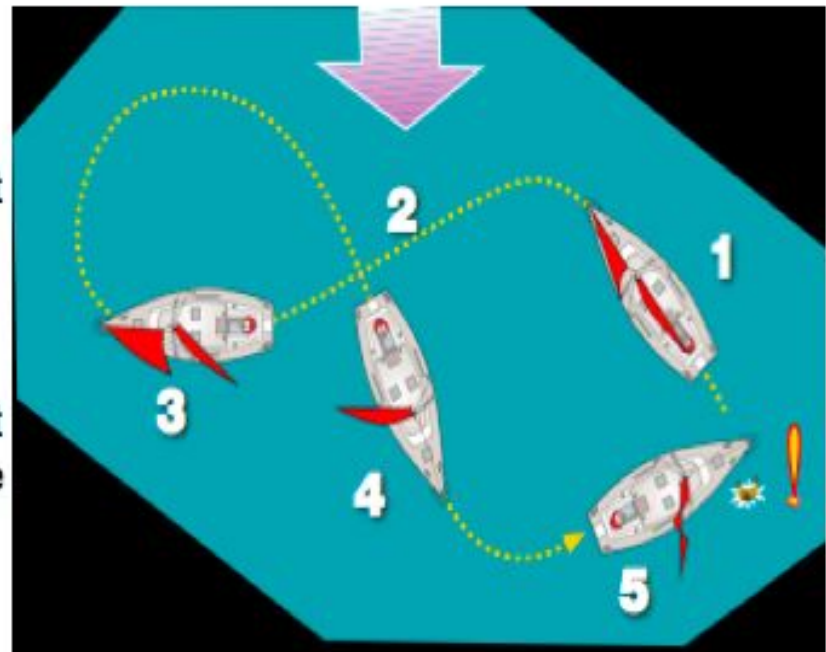
First Reactions

- **Raise the Alarm.** The helm is the most unlikely person to fall off of the boat and the most likely to see them go. They should call “man overboard” loudly to alert the crew, nominate somebody to keep the casualty in view and start one of the manoeuvres described later to **stay close** to the casualty.
- **Call MAYDAY on the radio.** The casualty is definitely in a life threatening situation so a mayday call is appropriate. When you make the call is a question of ‘priorities’ as you see them at the time. There is a good case for having a DSC radio ‘handy’ at the helm.
- **Press MOB buttons on your chart plotter, GPS, or radio.** Again a matter of ‘priorities’ but a fixed location for the casualty will help you locate them.
- **Dan Buoys and Life Buoys.** Launch a Dan Buoy as soon as possible, after all they are there to help locate the casualty. Life buoys with lights will serve the same purpose at night. Deploy a life-sling if you have one with the intention of towing it within reach of your casualty.
- **Approaching the casualty.** You want to make contact, with the casualty on your leeward side, amidships, and with the boat almost stopped. If they are unable to help, lasoo them with any handy rope (a loop in the leeward jib sheet is often easy), to secure them. If they are able to help pull them towards the boat using a ‘throwing line’.
- **If the casualty is ‘tethered’ to the boat,** they will probably have slipped off of the low, leeward side of the boat. Turn the boat ‘through the wind’ immediately , into a ‘hove to’ position. That will take way off of the boat and lift the casualty higher and hopefully clearer of the water.

Man Overboard

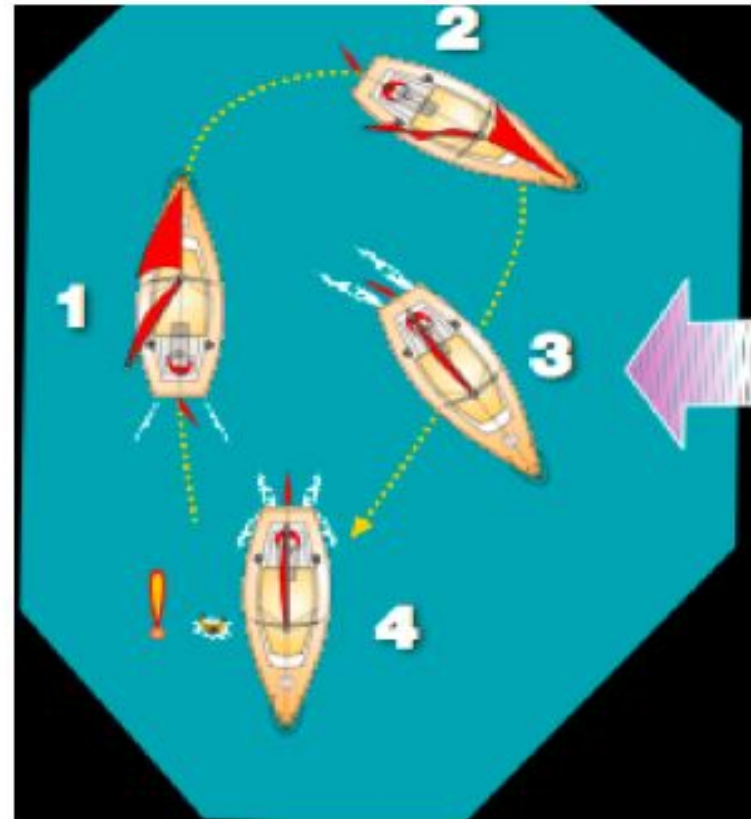
Figure of Eight Method

- Call "Man Overboard" and bear away onto a beam reach.
- Call for a tack and engine on.
- After tacking turn onto a broad reach. Let the jib and mainsheet fly.
- Turn up onto a close reach leaving the mainsail flapping.
- Use the engine to bring the boat to a halt with the casualty on the leeward side.
- With the casualty secured stop the engine.



Man Overboard Crash Stop Method

- Call "Man Overboard" and turn the boat through the wind.
- While 'Hove to' start the engine.
- Use forward and reverse gear to achieve a broadside-on drift towards the casualty.
- Pull the mainsail in tight to reduce drive and reduce the hazards from the boom.
- Make a pick-up on the leeward side mid-ships.
- With the casualty secured, stop the engine.



Man Overboard

Running with a Spinnaker

- **Turn dead downwind**, easing the mainsail. Deploy Dan Buoys, press MOB buttons etc. and make a note of your heading.
- **Drop the Spinnaker**. Easy with a big crew, but if you are sailing short handed, you may need to let the spinnaker go, sail, sheets, guys and halyard, in the interest of getting back to your casualty.
- **Start your engine**, and as soon as all lines are out of the water, use it.
- **Turn into the wind** and motor back up your wake line on a reciprocal heading.
- **Locate your casualty** and make the pick-up on your leeward side at approximately 60 degrees to the wind, mainsail flapping.

Man Overboard

Recovery

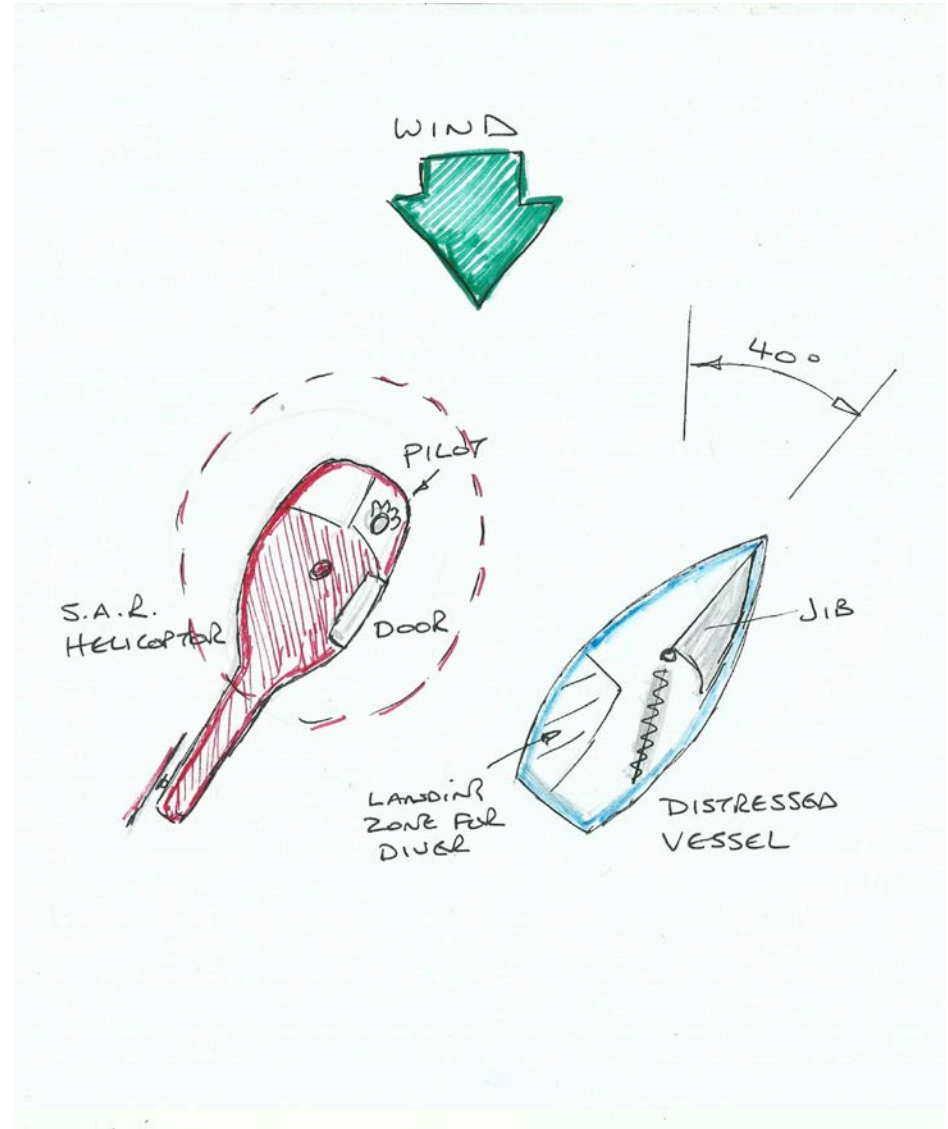
- **Have a plan** for securing the casualty to the boat, and then for lifting him/her aboard. You may have some specific gear, a 'handy billy' for instance or you may intend to winch the casualty back on board using a spare halyard, but remember that a plan is only good if everybody knows it and your system is only viable if you have proved that it works. **So practice!**
- **Don't expect the casualty to be able to help.** Casualties will lose strength quickly as a result of cold and shock and modern life-jackets leave casualties incapable of anything other than lying on their backs, waiting for assistance.
- **Still tethered to the boat,** you may be able to thread your casualty back under the life-lines, the way they left. If you need to rig your recovery system/ halyard 'over the rails', you may well have to take the strain out of the casualty's tether and release it before you can hoist the casualty on board.
- **Treat for Cold Shock and Shock.** Casualties must be closely monitored and treated for the symptoms of cold shock, shock and immersion. That is really a job for a professional so if it's at all possible have the casualty taken to hospital for proper care.
- **Prepare for Evacuation by air.** In most cases the coast guard will want the casualty treated ashore.

Treatment for Cold Shock

- Change the casualty into dry clothes.
- Re-Warm slowly.
- Give warm drinks.
- Use thermal protective aids or sleeping bags.
- Monitor and record reflexes and any other symptoms.
- Obtain medical assistance.
- If in doubt, have him checked over once back ashore.

Evacuation By Helicopter (Med-Evac.)

- Both the Pilot and the Divers door are on the starboard side of an SAR helicopter, so it will want to hover into wind, on the port side of a yacht.
- You will need to be making a straight and steady course at between 3 and 5 knots to leave the down draught from the Helicopter behind.
- Noise from the helicopter is deafening so take instructions from the helicopter crew by radio before they arrive.
- Don't be afraid of static electricity, the helicopter crew will sort that out.
- If you don't have radio contact look out for written instructions at the diver's door.



Helicopter Rescue

Hi - Line Transfer

- **SAIL 'CLOSE HAULED' ON PORT TACK.** USE A HEADSAIL FOR STABILITY AND THE ENGINE IF NECESSARY TO MAINTAIN A CONSTANT SPEED – 3 TO 5 KNOTS.
- **CLEAR THE PORT QUARTER** FOR THE ARRIVAL OF THE DIVER. HAVE A BUCKET AT HAND TO COLLECT THE HI LINE.
- **BRIEF THE HELMSMAN** TO MAINTAIN A STEADY COURSE AND KEEP A LOOK OUT AHEAD.
- **GRAB THE HI LINE ASAP,** KEEP THE SLACK TAIL IN THE BUCKET AND USE IT TO GUIDE THE DIVER TOWARDS THE BOAT. DO NOT TIE THE HI LINE TO THE BOAT.
- **DO NOT USE TORCHES AT NIGHT, OR ROCKET FLARES** ONCE A HELICOPTER IS TASKED TO YOUR ASSISTANCE. DON'T TRANSMIT ON HI POWER ONCE THE HELICOPTER IS OVERHEAD.
- **PREPARE YOUR CASUALTY** FOR EVACUATION, AND GIVE AS MUCH INFO AS POSSIBLE TO THE AIRCREW WHILE THEY ARE ON ROUTE.
- **IF YOUR BOAT IS IMMOBILISED,** BE PREPARED TO PUT YOUR CASUALTY INTO THE LIFERAFT TO FACILITATE THE LIFT.

Helicopter Rescue

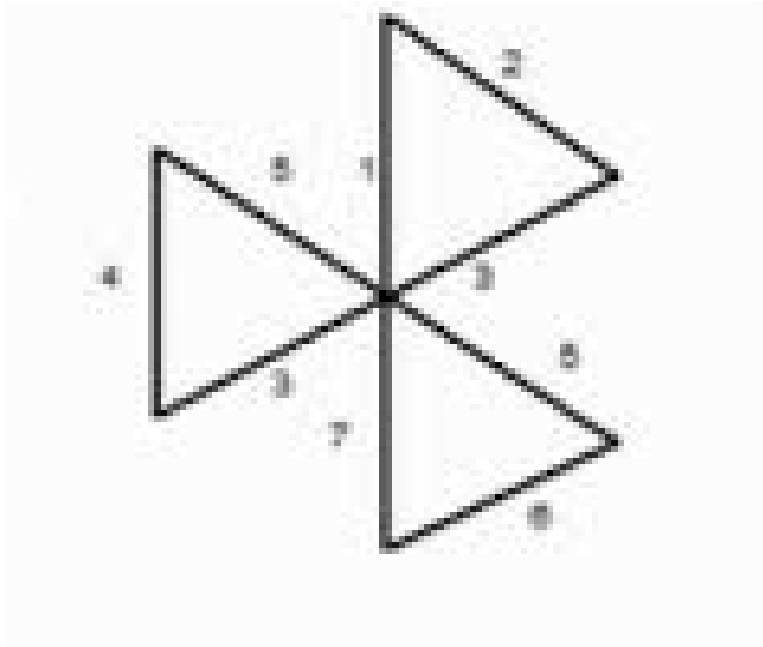
Lift Off!



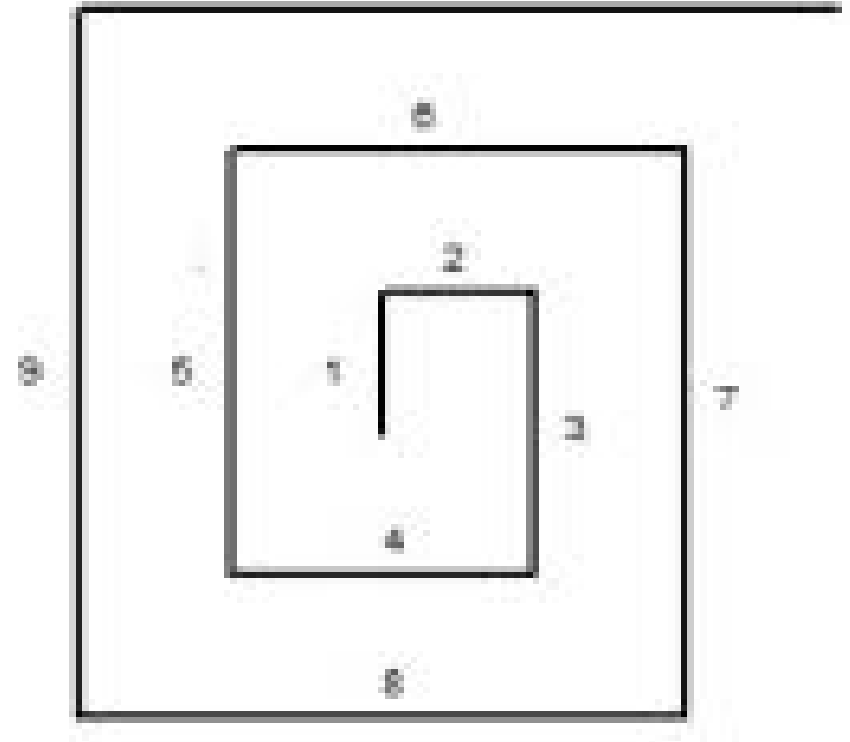
Search Patterns

If you lose sight of a casualty it is very easy to wander about aimlessly. You must have a clear idea of a search pattern in your head that will keep you centred on the casualty's 'last seen' position. Here are two patterns;

The Sector Search Pattern



The Expanding Box Search Pattern



FIRE

- Most boat fires start as a result of overheating of the engine or electrical systems and are, therefore, down below. In a confined space.
- The first rule of fire fighting is 'to know your escape route' and to be prepared to use it. So before you go below have the rest of the crew prepare the life-raft and to put on lifejackets.
- We have a big Co2 fire extinguisher ready for use plus 'dry powder' extinguishers in each cabin and an automatic gas filled extinguisher in the engine space. All of which are designed to fully discharge in about 30 seconds.
- The smoke produced by burning plastics and laminates, plus the powder and gases in our extinguishers are all toxic and lead to suffocation.
- So you can only fight fires in a confined space for as long as you can hold your breath.
- The most valuable reason for carrying a life raft is to have the ability to escape from a burning boat.

Common causes of fire

Smoking below decks



Solvents/paints stored below



Gas build-up in the bilges



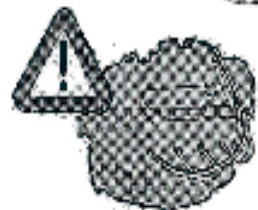
Faulty wiring

Cooking fats



Petrol vapour

Always vent engine space before starting an inboard petrol engine.



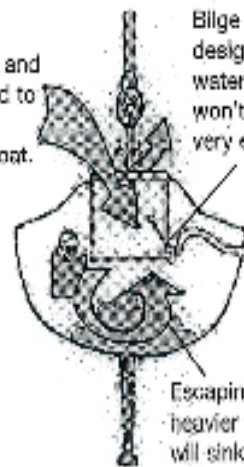
Keep outboards on deck to avoid the build-up of petrol vapour below.

Gas safety

Butane and propane can be highly dangerous.

To clear gas - open hatches and turn downwind to vent fresh air through the boat.

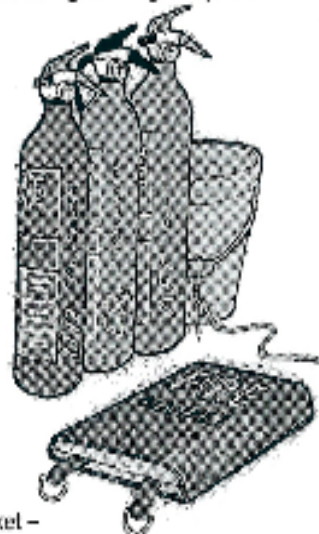
Bilge pumps are designed to pump water - many won't clear gas very effectively.



Escaping gas is heavier than air and will sink into bilges.

Don't attempt DIY repair to your system - always call in a qualified fitter.

Blanket - good for smothering flames and if clothing is on fire.



Extinguishers

Dry powder - don't use on flammable liquids.
CO2 - good for enclosed spaces.
AFFF - foam, good for flammable liquids.
Halocarbon gas - engine space

Location of extinguishers

Automatic for engine space.



Saloon



Forecabin



Extinguishers should be to hand near the exit to each accommodation space.

The engine space should have its own dedicated extinguisher which is automatic or can be activated remotely without having to open the engine compartment and let in oxygen. Or a small fire port that extinguishant may be fired through.

Fighting the fire



Aim the extinguisher at the base of the flames.



Fire blankets can be used to smother a galley fire.



They are also essential for clothing fires.

REMEMBER

The boat will fill up with smoke very quickly.

- Get everyone on deck with a lifejacket.
- You may have to send a Mayday/fire distress flares etc.

If you cannot fight the fire
BE PREPARED TO ABANDON SHIP



This fire started when an engine was left running unattended after servicing. An expensive lunch break that could have been a lot worse if people hadn't been in a position to drift the burning boat clear of other yachts.



It took about twenty minutes to reduce the boat to a worthless hulk



Collision

In the case of a collision, think about the following actions but not necessarily in this order.

- **Count and Check** all crew for injuries, including those below. Make sure that nobody has fallen over board.
- **Stop any influx of water** by filling holes with sleeping bags, kit bags, bungs, inflating a spare lifejacket in hole, etc.
- **Clear flood water** to improve stability.
- **Report situation** to Coast Guard. You may need assistance later and they will monitor your progress.
- **Check the Rig!** Particularly chain plates forestay fixings.
- **Think** before separating two boats. One boat may be plugging a hole in the other.
- **Tack** to put hole above the waterline. If you have hit a partially submerged object for instance.

FLOODING

A free surface of moving water inside a boat will destroy its inherent stability. So flooding must be dealt with quickly.

- You should know where all of your boat's hull openings are so that you can check them quickly.
- There will be openings and maybe sea cocks for the; engine drive shaft, raw cooling water inlet, heads water inlets, heads outlets, sink and shower drain outlets, salt water inlets and the log impellor.
- There could be leaks at any of the above points or in the pipework associated with them. Have a selection of bungs handy so that broken pipes or skin fittings can be plugged easily.
- A break in the engines raw water cooling system will pump large quantities of water into the boat very quickly.
- If it's 'none of the above', suspect structural damage to the hull or to the hull/ keel joint.
- Know how to work your bilge pumps, but remember that a frightened man with a bucket will shift a lot more water.

Loss of Rudder

- **Stabilize course by balancing sails.** You may need to drag a bucket, drogue, or loop of rope astern on the centre line to stop the boat from spinning around the keel.
- **Check for ingress of water** and plug any holes. If the rudder stock falls out of the bottom of the boat the resulting 'hole' could be quite large.
- **Check for sea room**, and shelter on the easy course. If you can't make harbour on the 'sailable' course then you may be able to reach shallow water and anchor.
- **Report situation to the Coast Guard.** Even in a non-emergency situation they may be able to organise a tow home.
- **Jury rig a steering system.** Try to make a jury rudder from an oar or a spinnaker pole with a wash board attached. A bucket on a rope yoke that can be winched right and left across the boat's stern might work better.

Loss of Steering

- Most reports of jammed, or lost steering are a result of somebody inadvertently engaging the auto-helm.
- Sometimes you may have a sail, rope, or something similar wrapped around your rudder.
- If your steering cable breaks but you have an auto-helm that works on the steering quadrant, then use it.
- If you don't have an auto-helm on the quadrant, you should have an emergency tiller that can be slotted into place. Find it and practice, it's well worth the effort.

Loss of Mast

- Check and count Crew.
- Cut away parts of the rig damaging the hull.
- Recover sails easily saved and cut away the rest.
- Check for ropes and wires that could tangle with rudder or propeller.
- Set up emergency VHF aerial.
- Report situation to Coast Guard.
- Motor home or set up Jury Rig.
- Before setting out make sure that you have adequate, tested, means of severing the toughest elements of your rig. Hack Saws. Bolt Croppers or Angle Grinders.