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## Housekeeping rules I

STC-KNRM  
OFFSHORE SAFETY TRAINING

- All warning signs, safety signs, notices and instructions are to be observed at all times.
- Loose baggy clothing, jewellery, piercings etc. should not be worn during practical exercises.
- Working clothes are not allowed in the lunch and coffee room.
- You are not allowed on the training grounds without the permission of authorized personnel.
- Trainees are responsible for their valuables, lockers are available and are advised to be used. (STC-KNRM cannot be held responsible for any loss and/or damage)



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## Housekeeping rules II

- Smoking is not allowed on the training grounds and in the classrooms. Smoking is permitted in designated areas only.
- On the training ground, safety helmets must be worn at all times.
- The carriage or consumption of alcohol, drugs and other intoxicants during instruction is not allowed. Persons found under the influence will be dismissed.
- Mobile telephones should be switched off during instructions.



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## Housekeeping rules III

- Horseplay, wrestling and 'practical jokes' during instruction and training are not allowed.
- At all times trainees have to comply with the instructions of STC-KNRM personnel.
- It is the responsibility of every trainee to ensure the safety of the training in the best possible way.
- Persons acting with disregard to these housekeeping rules or intentionally removing/damaging equipment will be dismissed.
- Taking photo's and films during the practical-lessons are prohibited

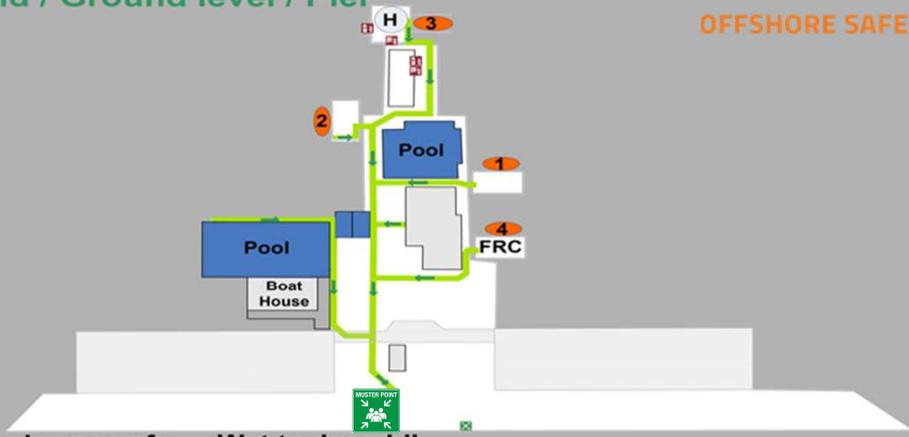


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<p><b>In case of emergency</b> Internal Emergency number <b>6112</b></p> <p><b>BHV</b> Follow the instructions of the Emergency Response team</p> <p>Go to the nearest assembly point</p> <p><b>Please take note of the safety instructions:</b></p>  <p><i>Always remain calm and use common sense during an emergency situation!</i></p> <p>Quarantaineweg 99 Rotterdam – Heijplaat <a href="http://www.stc-knrm.nl">www.stc-knrm.nl</a></p>	<p><b>+ ACCIDENT</b></p> <ul style="list-style-type: none"> <li>▶ <b>CALL 6112</b> and state:                     <ul style="list-style-type: none"> <li>- who you are</li> <li>- what happened</li> <li>- where it happened</li> <li>- what the injury is.</li> </ul> </li> <li>▶ Stay with the victim and try to stop serious bleedings.</li> <li>▶ If necessary, start CPR and continue until the Emergency Response Team [BHV] has arrived.</li> <li>▶ When the Emergency Response Team [BHV] has arrived follow further instructions.</li> </ul>	<p><b>🔥 FIRE</b></p> <ul style="list-style-type: none"> <li>▶ Activate the nearest fire alarm.</li> <li>▶ <b>CALL 6112</b> and state:                     <ul style="list-style-type: none"> <li>- who you are</li> <li>- where you are</li> <li>- what's on fire.</li> </ul> </li> <li>▶ Warn other people nearby.</li> <li>▶ Close doors and windows and calmly leave the building.</li> <li>▶ Do not use the elevator or escalator, but follow the escape route via the emergency exits and staircase.</li> <li>▶ Go to the nearest assembly point.</li> <li>▶ Follow the instructions of the Emergency Response Team [BHV].</li> </ul>	<p><b>🏃➔ EVACUATION</b></p> <ul style="list-style-type: none"> <li>▶ You will be alerted by Slow-Whoop alarm or by a member of the Emergency Response Team [BHV].</li> <li>▶ Close doors and windows and calmly leave the building.</li> <li>▶ Do not use the elevator or escalator, but follow the escape route via the emergency exits and staircase.</li> <li>▶ Go to the nearest assembly point.</li> <li>▶ Follow the instructions given by the Emergency Response Team [BHV] or the intercom.</li> </ul>	<p><b>Veiligheidsinstructie voor bezoekers</b></p> <p><b>STC-KNRM</b> OFFSHORE SAFETY TRAINING</p>  <p><b>This is how we do it!</b></p> <p><b>Welkom bij STC- KNRM</b></p> <p>Op het terrein van STC-KNRM gelden een aantal regels betreffende veiligheid, gezondheid en milieu. Als bezoeker wordt u geacht kennis te nemen van deze regels en ze te respecteren.</p> <ul style="list-style-type: none"> <li>• U meldt zich bij de receptie.</li> <li>• Betreden van de praktijkfaciliteiten is alleen toegestaan onder begeleiding van een STC- KNRM medewerker.</li> </ul>
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**Ontruimingsplattegrond / Evacuation plan**  
**Begane grond / Ground level / Pier**



**Action to be taken in case of:**

- FIRE**
-  Break glass of fire alarm
  -  Call: 6112
- EVACUATION**
-  Follow the signs to the (emergency) exit
  -  Follow the instructions of the emergency response team

**Wat te doen bij**

- BRAND**
-  Handbrandmelder indrukken
  -  Bel: 6112
- ONTRUIMING**
-  Volg de borden naar de (nood)uitgang
  -  Volg instructies van het BHV personeel

**Legenda**

-  Handbrandmelder  
Fire alarm
-  Brandslanghaspel  
Fire hose reel
-  Klein busmiddel  
Fire extinguisher
-  Verzamelplaats  
Assembly point
-  Vluchtroute  
Escape route

STC-KNRM offshore – safety, Rotterdam  
Datum: November 2015  
Norm: NEN 1414  
Tekeningnr.: pier  
Formaat: A3  
[www.klein-rotterdam.nl](http://www.klein-rotterdam.nl)

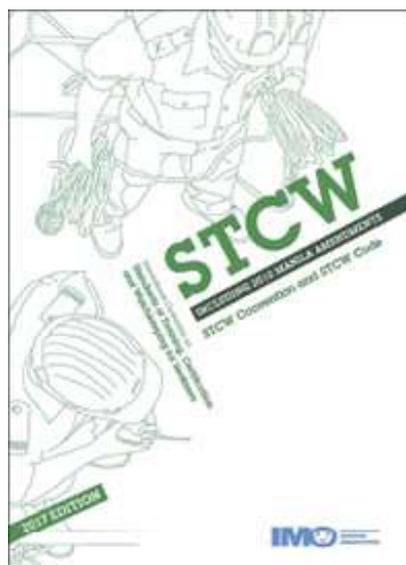
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## Time table

Tijd	Dag 1	Tijd	Dag 2
08.15-08.30	Intro. + safety instr.	08.15-08.30	Explain day 2
08.30-10.00	Theory	08.30-10.00	Theory / practical capsize
10.00-10.15	Coffee break	10.00-10.15	Coffee break
10.15-12.00	Theory	10.15-12.00	Practical fast boat handling
12.00-12.30	Lunch	12.00-12.30	Lunch
12.30-14.15	Practical engine check / launching	12.30-14.15	Practical pacing / towing / SAR
14.15-14.30	Coffee break	14.15-14.30	Coffee break
14.30-16.45	Practical slow boat handling	14.30-16.00	Practical pacing / towing / SAR
16.45-17.00	Evaluation	16.00-17.00	Cleanup / Evaluation & certification

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## STCW



- STCW Code, as amended: Part A, Chapter VI - Emergency, safety, security
- Section A-VI, /2 Mandatory minimum requirements for the issue of certificates of proficiency in survival craft, rescue boats and fast rescue boats

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# Objectives

- Control safe launching and recovery of a fast rescue boat
- Right a capsized fast rescue boat
- Handle fast rescue boat in prevailing weather and sea conditions
- Swim in special equipment
- Use communication and signaling equipment between the fast rescue boat and a helicopter and a ship
- Use the emergency equipment carried
- recover a casualty from the water and transfer a casualty to a rescue helicopter or to a ship or to a place of safety

# Assessment form PFRB

Specification of Minimum Standard of Competence in Fast rescue boats Annex A to STCW Code: Table A-VI/2-2		Score 1 to 5				
Knowledge, understanding and proficiency						
1	Take charge of a fast rescue boat during and after launch					
2	Operate a fast rescue boat engine					
3	Construction and outfit of fast rescue boats and individual items of their equipment					
4	Particular characteristics and facilities of fast rescue boats					
5	Safety precautions during launch					
6	Procedures for righting a capsized fast rescue boat and recovery of a fast rescue boat					
7	How to handle a fast rescue boat in prevailing and adverse weather and sea conditions					
8	Navigational and safety equipment available in a fast rescue boat					
9	Search patterns and environmental factors affecting their execution.					
10	Assessment of the readiness of fast rescue boats and related equipment for immediate use					
11	Knowledge of the maintenance, emergency repairs, normal inflation and deflation of buoyancy compartment of inflated fast rescue boats					
12	Methods of starting and operating a fast rescue boat engine and its accessories.					

# Assessment form PFRB

Specification of Minimum Standard of Competence in Fast rescue boats Annex A to STCW Code: Table A-VI/2-2		Score 1 to 5				
Methods for demonstrating competence						
1	Control safe launching and recovery of a fast rescue boat					
2	Right a capsized fast rescue boat					
3	Handle a fast rescue boat in prevailing weather and sea conditions					
4	Swim in special equipment					
5	Use communication and signalling equipment between the fast rescue boat and helicopter and a ship					
6	Use the emergency equipment carried					
7	Recover a casualty from the water and transfer a casualty to a rescue helicopter					
8	Carry out search patterns, taking in account of environmental factors					
9	Start, stop and operate the engine					

Assessed person:	
Date and location:	
Remarks:	
Assessors name:	
Assessors signature:	

# Duties of the fast rescue craft

- Primary
- Man overboard recovery
- Towing of life boats, life rafts and FRC's
- Secondary
- Evacuation
- Safe transfer of personnel
- Start a search and rescue
- Assisting during a SAR operation



## Construction and equipment

- Fast rescue boat design
- Length of the FRC
- Markings on the FRC
- Outfit of the FRC



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## Markings

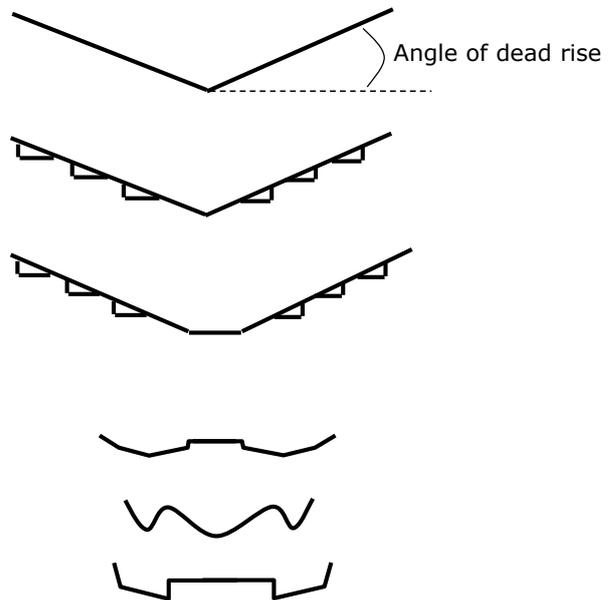
- Typical Markings
- MED (Marine Equipment Directive) wheelmark



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## Shape of the hull

- V shape
  - With strakes
  - With strakes and pad
- Catamaran hull
- Cathedral hull
- Tunnel hull



## Additional req. inflatable

- Overpressure valves
- 30 days on deck
- Chambers
- Residual buoyancy
- Special valves
- Rubber strengthening
- Additional equipment



## Individual items of equipment

### Personal life saving appliances:

- Lifejackets
- Lifebuoys
- Thermal protective aid
- Handling and maintenance



## Individual items of equipment

### Personal life saving appliances:

- Immersion suits
- Anti-exposure suits
- Handling and maintenance



## Characteristics and facilities

- ***Planing and displacement modes***
- Aeration
- Facilities of a FRC
- ***Towing arrangements***



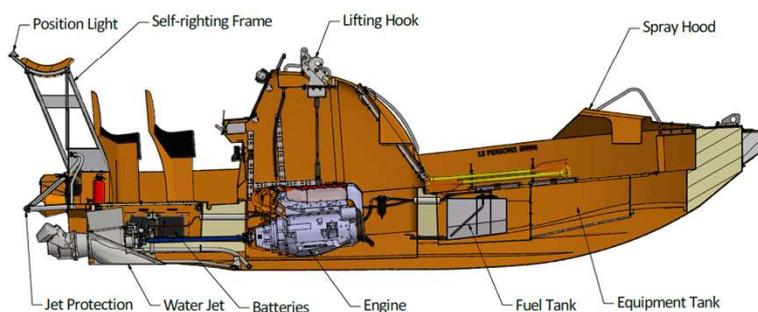
## Characteristics and facilities

- Planing and displacement modes
- ***Aeration***
- Facilities of a FRC
- Towing arrangements



## Characteristics and facilities

- Planing and displacement modes
- Aeration
- **Facilities of a FRC**
- Towing arrangements



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## Boat equipment

- VHF
- Boat hook
- Paddles
- Compass
- Tools
- Search light
- Ladder / net



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## Boat equipment



- Additional inflatable FRC equipment

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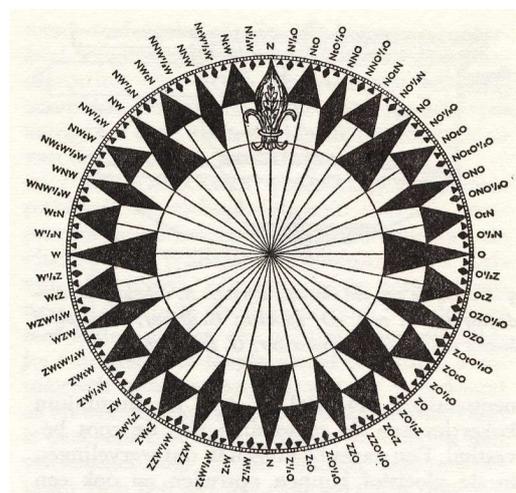
## Navigation equipment

- Magnetic compass
- VHF
- GPS, radar
- PLB
- Sea map



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# Compass



- Magnetic Compass

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# Communication equipment

- Fixed or handheld
- Watertight
- Operational in 5 seconds
- Channel 16 and 1 other channel
- Power supply for 8 hours
- Direct on battery
- 1Watt or 25 Watt
- Important channels:
  - 16 Emergency channel
  - 67 SAR units



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# GPS

## The functions we want to use with the GPS are:

- Navigate to a waypoint (position)
- Mark the position you are in now
- Mark the position you are in now as MOB and navigate to this position
- Add a GPS position you got from the coastguard where a helicopter ditched and name this MOB



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# Safety equipment



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# Safety equipment

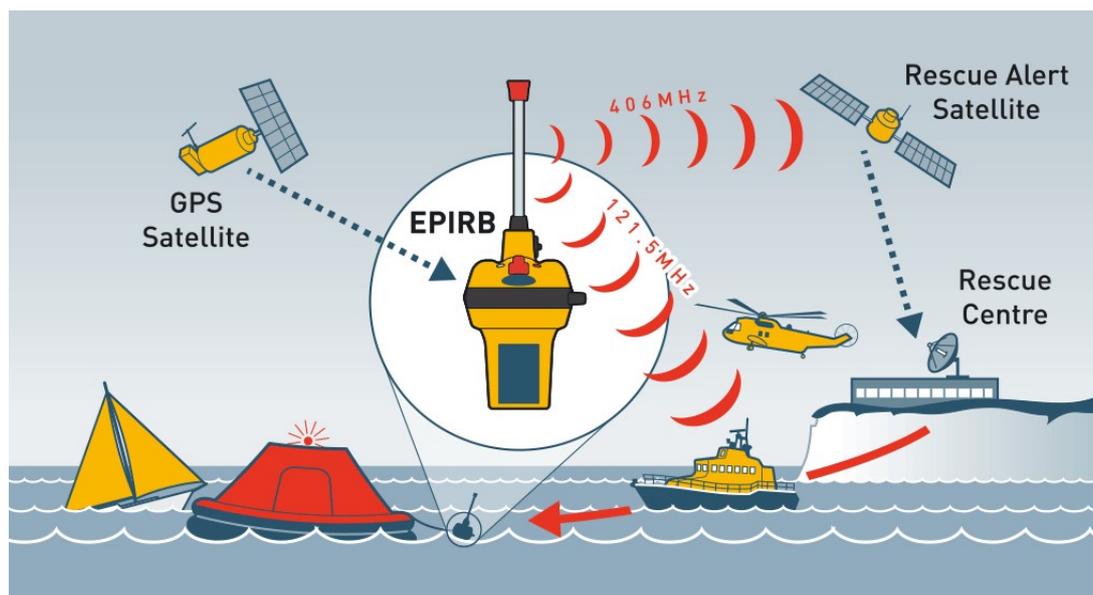
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- EPIRB
- (AIS EPIRB)
- SART
- (AIS SART)



# EPIRB

STC-KNRM  
OFFSHORE SAFETY TRAINING

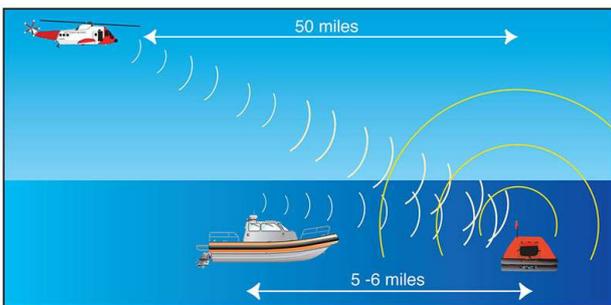
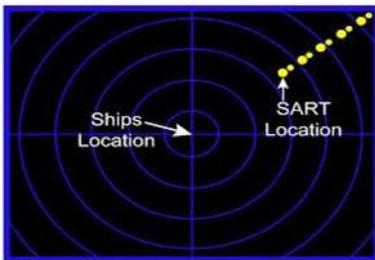


# EPIRB



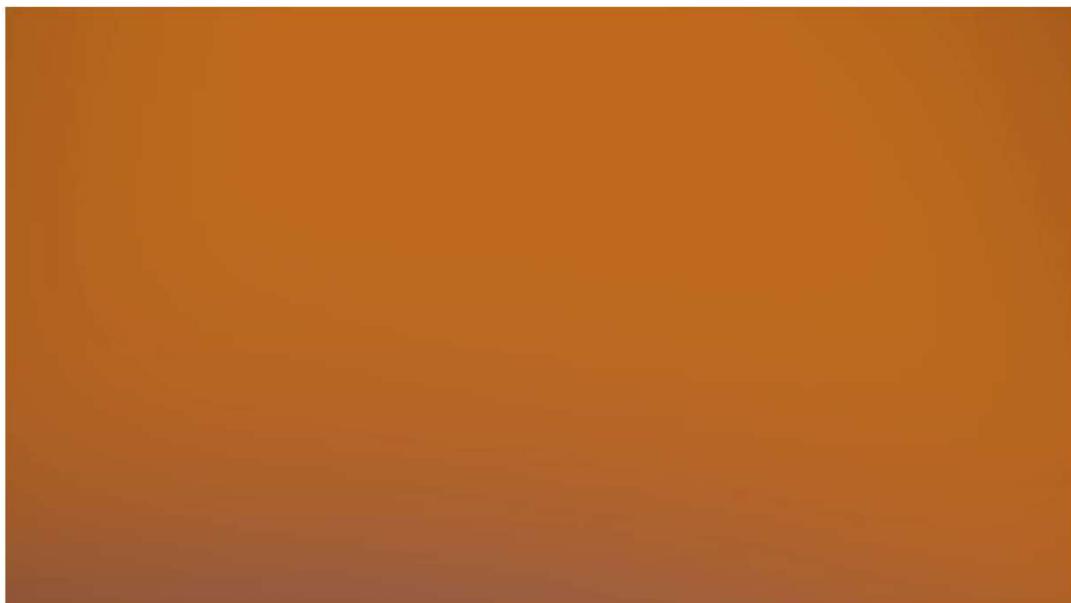
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# SART



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## SART



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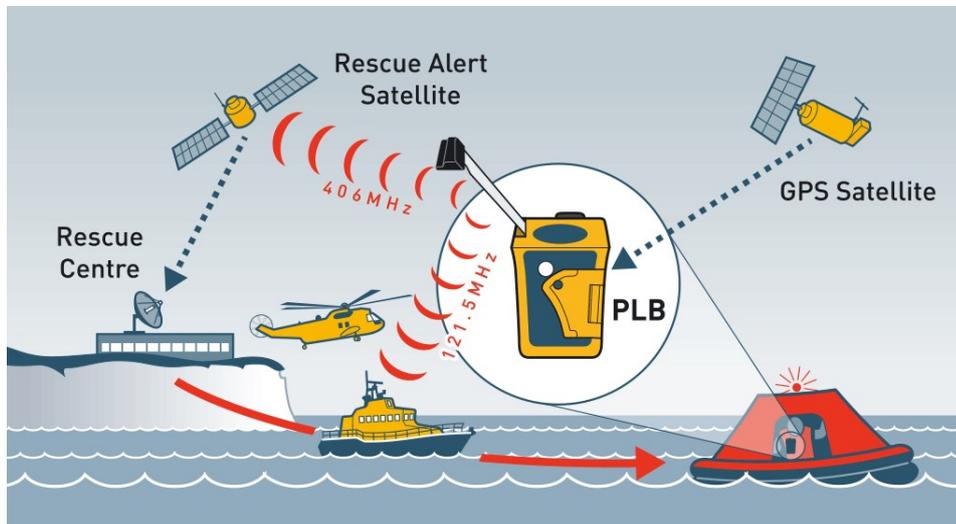
## PLB (PAB's)

- PLB (Personal Locator Beacon)
- PAB (Personal AIS Beacon)



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# PLB



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# Emergency equipment

- First aid kit & TPA
- Rescue quitois
- Sea anchor
- Paddles
- Bailer
- Bilge pump
- Knife



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## Emergency equipment

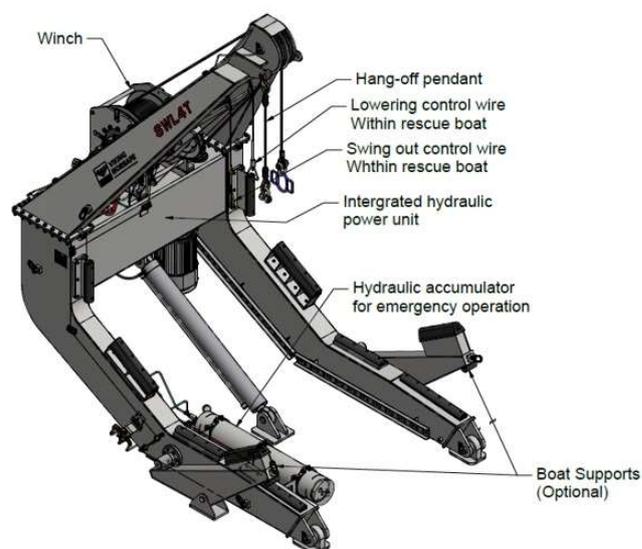
- Fire extinguisher
- Righting installation
- Towing
- Bellows



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## Launching arrangements

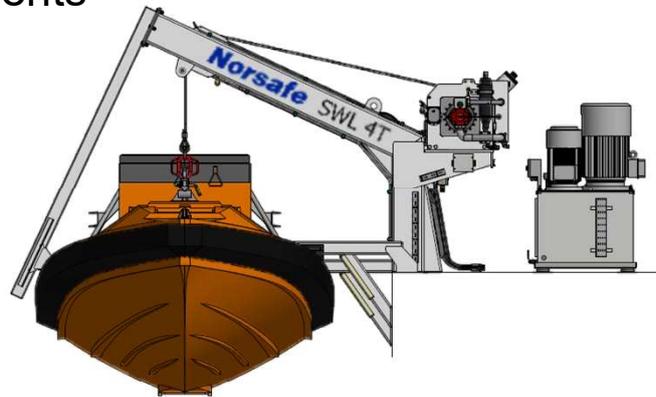
- **Types of launching arranger**
- Stowage onboard
- Disengaging lifting hooks
- Forces & wire tensioning



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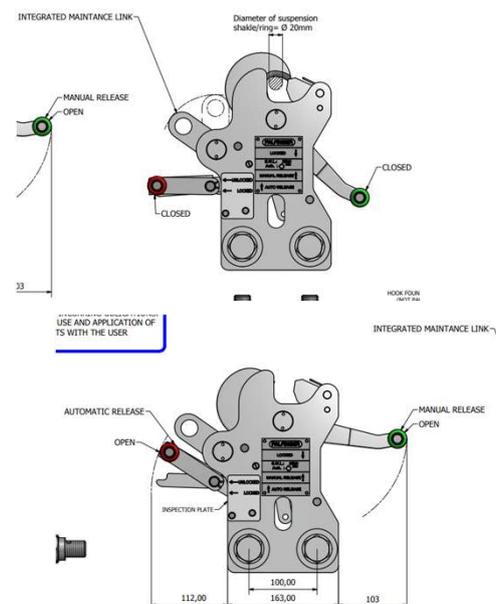
# Launching arrangements

- Types of launching arrangements
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# Launching arrangements

- Types of launching arrangements
- Stowage onboard
- **Disengaging lifting hooks**
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## Launching arrangements

- Types of launching arrangements
- Stowage onboard
- Disengaging lifting hooks
- ***Forces & wire tensioning***



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## Maintenance

**In SOLAS Chapter III Regulation 36, we find instructions for onboard maintenance of rescue equipment.**

- The instructions must be clearly understandable and illustrated where necessary.
- A relevant checklist when carrying out the inspections.
- Instructions for maintenance and repair.
- Timetable for periodic inspections.
- Timetable for lubrication points and lubrication oil to be used.
- List of spare parts.
- Regular log of inspections and repairs.

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## Pre launch checks

- PPE
- Sea fastening, tension on wire
- Properly inflated
- Painter line
- Dashboard cover
- Main switch, VHF, GPS, PLB
- Radio check
- Equipment secured
- Assess sea state



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## Safe launching

- FRC captain does final visual checks,
- Check for obstacles,
- Stay seated with arms and legs inboard,
- Deck crew keeps tension on bow and aft lines,
- Release painterline last,
- Never start outboard engine out of the water!

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## Recovery

- Coming alongside
- Painter line
- Safety precautions
- Disembarkation
- Checks prior to hoist signal
- Stowage



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## Launching & recovery

### Launching & recovery in rough sea:

- Reduce risk
- Lowering in heavy swell
- Clear the vessel of blocks
- On-load systems
- Clear from ship's side
- Recovery



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## Clearing the ship's side

- Clearing the ship's side
- Painter line
- Clearing the ship's side in a swell



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## Maneuvering at low speed

- Displacement at slow speed
- Pivot point
- External forces affecting boat handling
- Decrement factors

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## Maneuvering at high speed

- Safety; one hand on the helm one on the throttle
- Fast turning



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## Boat handling

### Adverse weather:

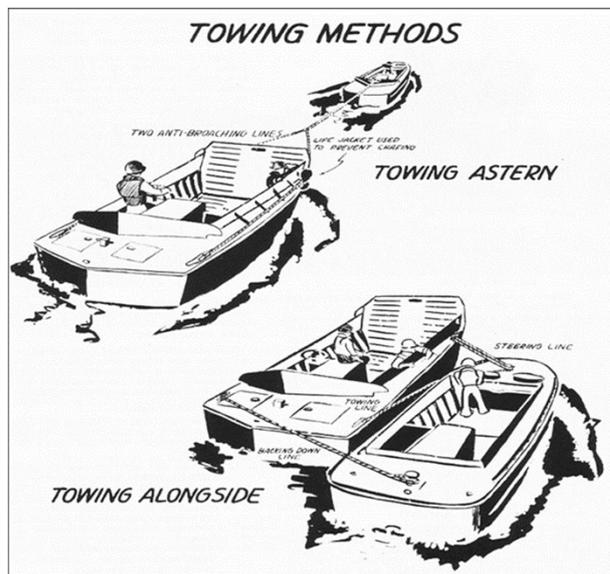
- Influence control
- Safety and comfort



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# Towing

- Equipment
- Communication
- Types of tow
- Preparation of the tow
- Tow plan prior to approach
- Weather factors



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# Pacing and transfer

- Reasons for pacing
- Hazards
- Pacing factors
- Control and steering
- Safety
- Pace position



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# Helicopter operations

- Communication
- Signalling
- Preparation
- Method of transfer
- Safety



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## Information and action

- SAR Operations
- Marshall life rafts, towing lifeboats
- What to do when the alarm goes off
- FRC Captain's responsibility
- Contingency plan
- Planning SAR OPS



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## IAMSAR

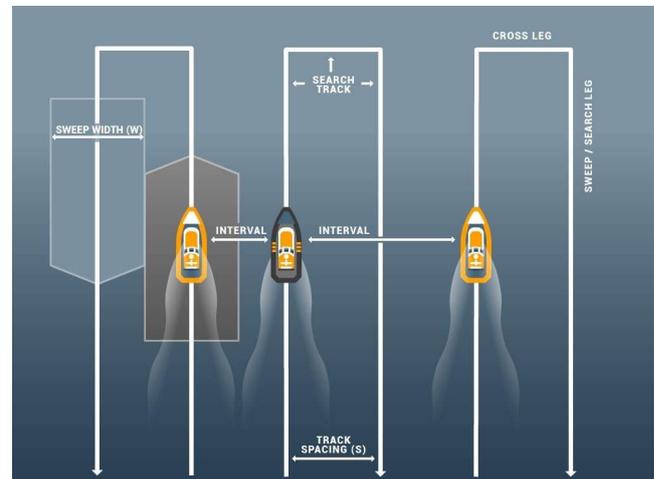
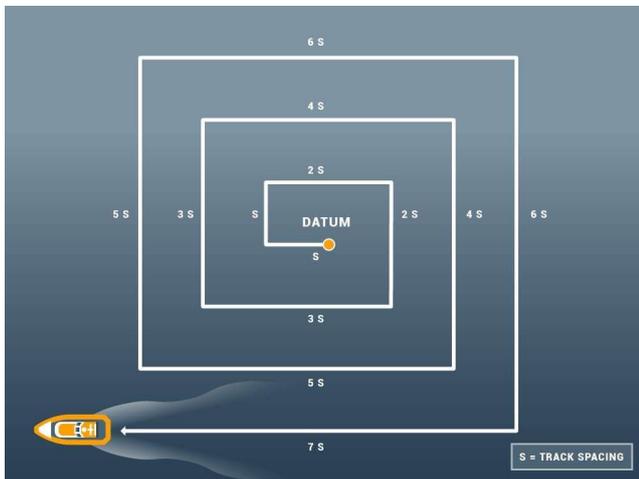
- Amendments to the International Aeronautical and Maritime Search and rescue (IAMSAR) Manual will become applicable on 1 June 2022
- Governments are recommended to ensure that all ships entitled to fly the flag of their countries carry on board a copy of Volume 3 of the IAMSAR Manual.

<https://www.iridium.com/network/>

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# Search patterns

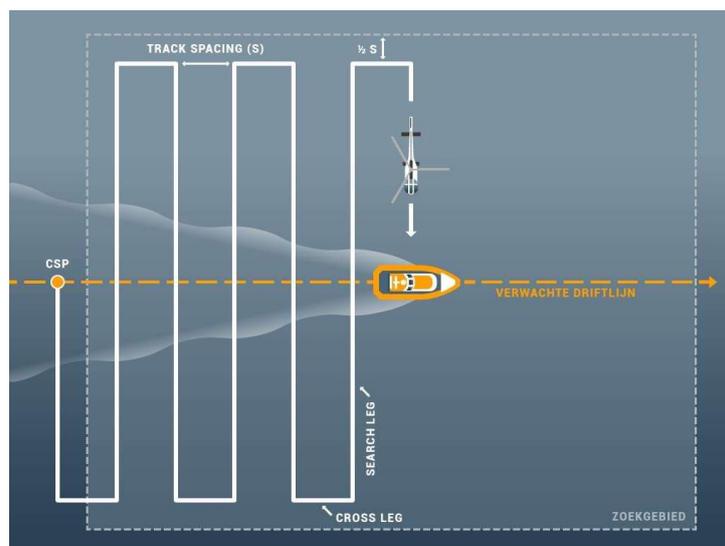
## Square & parallel search



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# Search patterns

## Coördinated vessel - aircraft search pattern



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## Search patterns

- Assessment of dangers
- Lookout
- Search speed
- Different position different duty
- Keeping your course
- Take environmental factors and your surroundings into account when planning a search pattern

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## Rescuing survivors

- Retrieval method
- Boat position
- Hydrostatic pressure
- Any rescue swimmer should be attached to a swimmer line



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## Casualty care

- Assess the patient
- First aid
- Hypothermia
- Casualty position



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## Cold shock

- First defense of the body against cold water.
- Automatic gasp reflex in respond to rapid skin cooling.
- Body conserves heat – blood vessels narrow.
- Increase of blood pressure, heart rate and ventilations.
- Last for about a minute.

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# Hypothermia



Hypothermia is a medical emergency that occurs when your body loses heat faster than it can produce heat, causing a dangerously low body temperature.

# Hypothermia

Light hypothermia	Treatment
Shivering	Shelter
Pale skin	Remove wet clothing
Tiredness	Hot drink, no alcohol
Conscious	Keep warm and dry
Overall feeling very cold	Be careful with hot shower



# Hypothermia

Deep hypothermia	Treatment
Stops shivering	Shelter
Behavioural change (agression)	Horizontal position
Slow and weakening pulse	Avoid sudden movement
Sleepy / loss of consciousness	Do not warm up actively
Needs professional medical care	No drinking



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# Frostbite

## Frostbite:

- 1st grade
- 2nd grade
- 3rd grade



## Note:

Extent of freezing is only visible after thawing!!!!

Thawing is extremely painfull!

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## Boat readiness

- Operation readiness
- Pre launch checks



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## Equipment readiness

- Batteries
- Testing VHF
- Fuel



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## Maintenance

- Routine maintenance plan
- Hull, sponsons maintenance
- Engine maintenance
- Propulsion maintenance



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## Inboard engines

- Pre start checks
- Priming
- Start & throttle setting
- Stop engine (kill cord)
- Checking fuel quality
- Emergency steering



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## Outboard engines

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- Securing arrangements
- Fuel tank connection, filters
- Cooling system
- Choke
- Starting, throttle and stopping (kill cord)
- Changing the gear (neutral)



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## Water jet

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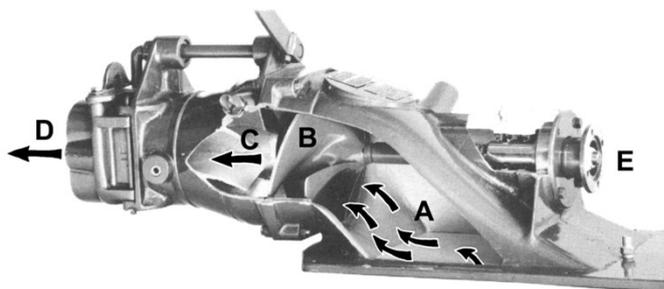
- Jet propulsion
- Steering, reverse
- Pre start checks
- Control setting
- Start, throttle, stopping the engine
- Emergency stop (kill cord)



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## Water jet

- Boat handling with water jet
- Emergency steering
- Comparing to other means of propulsion



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