

LALIZAS 
ISO 9650-1 **ISO~RAFT**

and

LALIZAS 
ISO 9650-1 **ISO~RAFT**
RACING

INFLATABLE LIFERAFT

OPERATION MANUAL
for ISO Liferrafts

www.lalizas.com

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1. Introduction

This manual applies to the Inflatable Liferaft series LALIZAS ISO-RAFT & LALIZAS ISO-RAFT Racing, which are approved according to ISO 9650-1 and ISO 9650-3 Standards for use onboard recreational crafts. The LALIZAS Liferaft series LALIZAS ISO-RAFT & LALIZAS ISO-RAFT Racing are available in the following versions: for 4 persons, 6 persons, 8 persons, 10 persons and 12 persons. All versions of this liferaft are of Group A as described in ISO 9650-1.

2. Description of the Liferaft

The liferaft, as belonging in Group A, has an Operating Temperature of -15°C to +65°C and a stowage/drop height of maximum 6m above the sea-level.

The liferaft can be packed either in a canister that is usually located on the cradle alongside the ship board or in a waterproof valise which can be stored in an internal locker as well. The liferaft container is manufactured by materials that are resistant to exposure of bad weather. Furthermore, the container is capable to float after its launch into the water.

The liferaft can be up-righted in case of it being capsized and it is able to withstand the number of the persons it is approved to accommodate when it floats. It automatically inflates by pulling the painter line and retains its normal condition when it is loaded with all the persons and the equipment. Its floor is manufactured by waterproof and insulated materials.

The main body of the Liferaft consists of two buoyant compartments (containing safety valves) inflated through a non-return valve ensuring the flotation of the liferaft. This construction ensures that the Liferaft will continue floating even in the case that one compartment is damaged or does not inflate properly. But, even in the latter case the bellow, that is included in the standard equipment of the Liferaft, can be used for restoring the pressure.

The canopy of the liferaft, which is of vivid color, is designed to protect the persons in the liferaft against bad weather conditions and is erected automatically with the inflation of the liferaft. If one of the buoyancy tubes deflates, canopy will remain inflated. It bears at least one entrance that is easily indicated (for liferafts designed for 8 persons or more, the liferafts has 2 entrances from each side), and allows the flow of sufficient air for the persons onboard (even when it is closed). There is finally provision for a person to see the entire horizon line from one opening and provides systems that can collect rainwater. The Liferaft also bears a thermally insulated floor.

The inflation system of the liferaft provides enough gas to inflate all buoyancy chambers and bears a valve activated by an operating head that is driven by the painter line.

LALIZAS Inflatable Liferafts ISO-RAFT Series:



Picture 1. Valise of the liferaft



Picture 2. Canister of the liferaft



Picture 3 Basic Construct of the Liferafts

- 1. Thermal insulated floor 2. Opening for embarkation
- 3. Automatic light 4. Rain water collection system
- 5. Water pockets for stability 6. Inflation points 7. Safety knife
- 8. Sea anchor 9. Lifebuoy safety quito

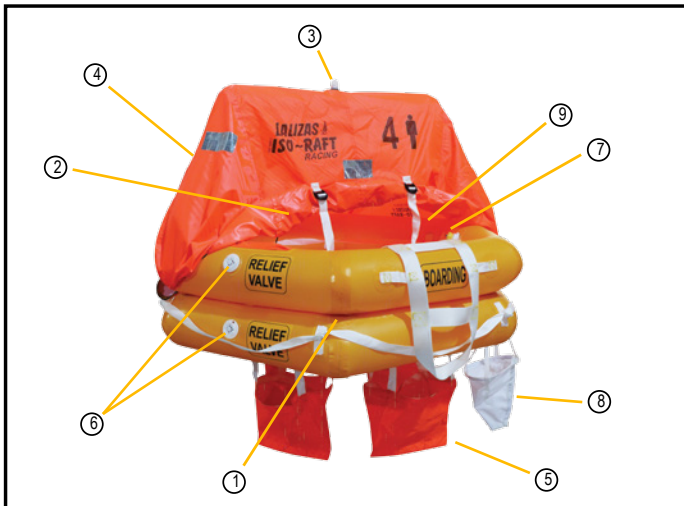
LALIZAS Inflatable Liferafts ISO-RAFT RACING Series:



Picture 4. Valise of the liferaft



Picture 5. Canister of the liferaft



Picture 6. Basic Construct of the Liferafts

1. Thermal insulated floor
2. Opening for embarkation
3. Automatic light
4. Rain water collection system
5. Water pockets for stability
6. Inflation points
7. Safety knife
8. Sea anchor
9. Lifebuoy safety quito

Table 1: Fittings of the Liferaft

FITTINGS	
Lines, ropes, painters, bands.	Weatherproof, rot-proof, medium affected by oil/hydrocarbons. Attached to the life raft's body in a way that they don't hurt the liferaft accidentally.
Painter line (12m)	The portion of it coming out of the container is light resistant.
External & internal lifelines	Proper for being grasped, they don't slide from hands.
Righting device	Used by one person in order to right the liferaft when capsized.
Sea anchor (30m line)	Connected to the liferaft by a 30 meters long line.
Buoyant rescue quito (with 30m line)	Inside the liferaft, next to an entrance. Attached to a buoyant, 30 meters long line, whose free end is attached to the liferaft.
Safety knife	In the side of the entrance to the connection of the painter to the raft. Connected to the liferaft by a line of a suitable length. Buoyant, with fixed blade, rounded tips (so no damage is created to the liferaft in any case)
Retro-reflective material	Fitted on the canopy and on the floor external part
Internal & External lights	They turn on automatically when they are in contact with water or during the inflation of the liferaft. During the day, the lights should be turn off.

3. Instructions for use of the Liferaft

When the time to use the liferaft comes, first of all you should send alarms and signals by all means and put on lifejackets or other protective appliances on ship. You should also remember to carry emergency position indicator, GPS, fresh water and food as much as possible.

Make sure than the liferaft is attached to a solid point of the boat. Then, free the liferaft from any possible belts or any other attachment. If the liferaft is in valise, never open the package using the zip.

Take the container (canister/valise) and throw it into the water. The container of the liferaft will float.

During the time of the canister falling into the water, the painter line will be pulled out continuously. When the container arrives at the water surface, the pulling out of painter line shall go on immediately, until the release cable connected to the painter line activates the operation head of the cylinder. The cylinder gas will then inflate the buoyancy tube of the liferaft to its full shape and the liferaft will float on the water surface. After the inflation, a small normal air escape from the pressure relief valves of the liferaft may occur in order to stabilize the chambers pressure. If the liferaft is in upward-floating position after it is fully inflated, pull the painter line to draw the liferaft close to the ship. If the liferaft is in reversed position after it is fully inflated, one person shall right it over to upward-floating position in the following way:

The operator shall stand putting the feet on the side which is equipped with the cylinder, pull the righting rope and push the feet forward to right the liferaft. It will be easier under condition of down wind.

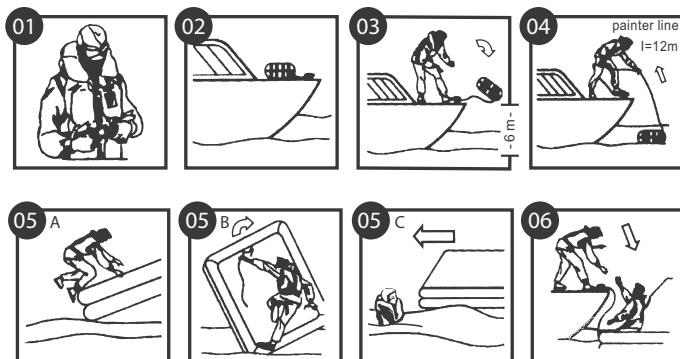
After the liferaft is close to the shipboard, the passengers can board the liferaft through boarding ramp or boarding ladder or other ways, after they have taken off shoes and sharp objects. If the passenger's position is not far away from the water surface, he or she can jump into the liferaft directly. The passengers fallen into the water shall swim close to the liferaft, and then board the liferaft through boarding ramp or boarding ladder. The safety valves produce normally a sound that will stop after a while.

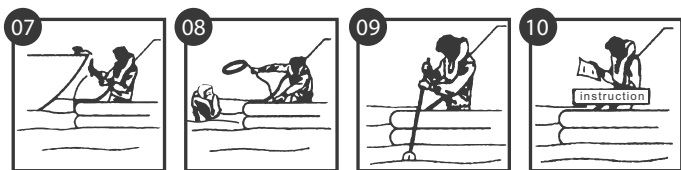
After all the passengers have boarded the liferafts, separate the liferaft from the ship quickly by cutting off the painter line. Check the position of the safety knife in the diagram of the liferaft (see Picture 3 & 6). Then paddle away the liferaft from the sinking ship.

After boarding, except seating orderly, the occupants shall search the others in the water and help them to board the liferaft by giving priority to the injured ones. The occupants can throw the rescue quoit with enough length of rope to the persons in the water, pull them to the liferaft side after having grabbed the rescue quoit, and then help them to board into the liferaft. Any fainted persons in the water must be put on board after been carried with their back close to the tube and lifted from armpits. During the night, the occupants can search the sea surface by electric torch and whistle to raise the attention of the persons in the sea. All the persons that are onboard shall be as dry and heated as possible.

When the liferaft is away from the sinking ship and in a safe position, after checking that the sea anchor is connected to the Liferaft properly, unroll it so as to avoid liferaft floating too far away from the sinking ship for the shake of rescuing in time.

Read carefully the instructions manual inside the liferaft. Keep the liferaft in a good condition.





Picture 7 Launching Instructions

IMMEDIATE ACTIONS

The first measures to be taken as soon as the persons have boarded the Liferaft, include the following:

A. Cut the painter line and move away from the parent vessel.

Help must be given to the wounded and injured passengers. By using the rescue quoit, you can rescue possible survivors in the sea and help them to board into the liferaft. If the persons in the water are fainted, they must be raised on board by lifting them from armpits, after they had been carried with their back close to the tube. All the persons that are on-board shall be as dry and heated as possible. After rescue the survivors, you must quickly use the knife and cut the painter line connecting the liferaft to the boat. The knife is located inside the liferaft, as shown in the Diagram. Then, leave the sinking boat using the paddles of the standard equipment of the liferaft. If any other liferaft is present, you should link to it.

B. Deploy the sea anchor to resist capsize

Make sure that the anchor is properly connected to the liferaft and that it works properly. Then, launch it.

C. Close all liferaft entrances.

D. Maintain the liferaft in good condition by bailing out water using the bailer and the sponges (included in the equipment of the Liferaft). Look for leaks and repair them if any, immediately as instructed in the Paragraph "Advice on the Maintenance of Liferaft" of the Manual.

Important Note: Make sure that all the parts of the liferaft are inflated. If one of the total two tubes of the liferaft is deflated, you should restore the pressure by using the bellow of the standard equipment of the liferaft. After 10-15 minutes from inflation, you should close the overpressure valve caps. The overpressure valves are usually located outside the liferaft. If they are located inside the liferaft or there is a leak of the inflation gas, the raft must be ventilated using the canopy opening.

Water: Eliminate the water that had entered the liferaft using the bailer and the sponges of the standard equipment of the liferaft.

4. Equipment of the liferaft

The equipment of every liferaft is installed according to the Flag Regulations of the vessel (check the List on the Equipment bag). However, the Equipment, as determined by ISO 9650-1 is listed in the following table:

Table 2: List of the Equipment of the Liferaft

No.	Name	Unit	AMOUNT	
			ISO 9650-1, Pack 1 (>24h)	ISO 9650-1, Pack 2 (<24h)
1	First-aid kit	Pack	1	0
2	Rocket parachute flares	Pc	2	2
3	Hand red flares	Pc	6	3
4	Food ration	Pack	10000kJ/p	0
5	Fresh water	Bag	1,5L/p	0
6	Waterproof electric torch	Pc	2	1
7	Buoyant Bailer	Pc	1	1
8	Buoyant Paddle	Pc	2	2
9	Sea-anchor	Pc	1	1
10	Sponge	Block	2	2
11	Whistle	Pc	1	1
12	Daylight signaling mirror	Pc	1	1
13	Thermal protective aids	Pc	2	0
14	Seasickness bag	Pc	1 pc/p	1 pc/p
15	Instructions for life-saving signals	Book	1	1
16	Pump/Bellow	Pc	1	1
17	Buoyant rescue quoit	Pc	1	1
18	Safety Knife	Pc	1	1
19	Instructions for immediate actions card	Pc	1	1
20	Anti-seasickness pills	Pc	6 pills/p	6 pills/p
21	Operational manual	Book	1	1
22	Repair kit	Pc	1	1

5. Advice on the transportation and the storage of the liferaft

5.1 The location of the liferaft.

- The liferaft must always be located in a dry place, without obstacles and always be stored in right position, so anyone can see the graphic instructions on the top of the canister or the side of the valise.
- Pay attention that the height of the stowage of the liferaft shall not be more than 6 meters above the sea level.
- Do not put weights or any metallic stuff in the main body of the liferaft.

- It is always necessary to follow the regulations that are obliged about the installation of the rescue means on board.
- The liferaft should never be used as a step or as a seat.
- The liferaft should never be attached using chains or any device which is difficult to be separated.
- You should install more liferafts on the same boat. If so, in order to ensure the safety from this action, the liferafts must be located with a certain distance one to the other.
- If the liferaft is in a valise, it must be stowed in such a way that would not suffer any collisions and would be protected against any factors by the atmospheric air.
- If the liferaft is in a fabric valise which has major damages on the external cover, you should contact a LALIZAS authorized Service Station.
- If the liferaft is in rigid container, vertically assembled, the vibrations may damage the inflation system as well as the pneumatic portion of the liferaft. Therefore, the liferaft must be put horizontally, with its labels facing upwards. Furthermore, it must be readily accessible so in case of emergency, you should save time and energy in finding it.
- There is a possibility that some of the standard equipment of the liferaft may affect the performance of a compass, so you should keep it at least one meter away from the liferaft.

5.2 The connection of the operating line

- The operating line is located on one side of the liferaft and it must always be connected to a solid part of the boat.
- You should connect the operating line with the boat by using a shackle or a snap-hook of stainless metal. The length of the rope permits a safe launch of the liferaft into the water.

5.3 The fastening of the liferaft on the boat

The attachment means of the liferafts, if any, must be of fast release type so to allow an easy and quick launch of the liferaft into the sea.

Before launching the liferaft into the sea, you should check that the painter line is well-fitted to the liferaft and that the container is intact.

6. Advice on survival on board, maintenance and servicing of the liferaft

6.1 Advice on survival on board

6.1.1 Behavior of the survivors

You should follow the medical instructions in order to take care of yourself or the other passengers onboard.

In any case, you should never lose your temper and always keep your mind clear about what to do. Due to the technological progress, the possibility of a quick rescue by air or by sea is increased hugely.

If no one of the passengers onboard the liferaft is an officer, one of the passengers must be nominated as the master of the team, who will have the responsibility for any liferaft's emergency as well as the distribution of food and water to the survivors. The master must always keep the survivor's spirit up so as to never lose hope. This can be achieved by keeping the survivor's mind busy (playing quiz games, telling happy stories, etc), and avoid any state of distress. In addition to these, the master should organize the routine operations and make sure that everyone respects the given dispositions. Finally, the master must be in control of the use of the emergency pack and must distribute the food, the water and the medicine needed to the survivors onboard.

All the passengers should sit on the floor of the liferaft leaning their shoulders against the tubes and cover all the possible perimeter of the liferaft in order to remain it stable. Also, they should grasp the handle and lean against the chambers but try to avoid sitting on the liferaft's chambers.

6.1.2 Swimming/Diving into the water

You should avoid diving into the water. However, if it is necessary, you should always be close to the liferaft and use a rope so as to be connected to it.

6.1.3 Smoking

Smoking onboard is forbidden, because it may be either intolerable by the other survivors or it may damage permanently the Liferaft and sink it.

6.1.4 Survivors' keeping together

Every liferaft must be kept as linked to the others as possible. If so, the survivors would be able to help each other and be more identified by a rescue team. The ropes on the liferafts can be used so as to link the liferafts. There must be an adjustment of the ropes' length so as to avoid violent tears that may be caused by extreme weather conditions. However, you should always be ready to cut the rope with the knife of the standard equipment of the liferaft.

6.1.5 Dry the liferaft's floor

Use bailer and sponge to remove the accumulated water in the liferaft in order to keep the liferaft's floor as dry as possible. The material of the floor is thermally insulated so as to limit the impact of the cold seawater. You should always close the canopy door in the cold

season and during the night to resist cold wind. The survivors will obtain a temperature sufficient enough to dry their clothes inside the liferaft.

6.1.6 Sea anchor

You should make sure that the sea anchor can be unrolled and unfolded properly. The sea anchor tries to maintain the liferaft in a vertical position with respect to the direction of the wind so as to reduce the drift of the liferaft and make the rescue easier.

6.1.7 Entrances of the liferaft

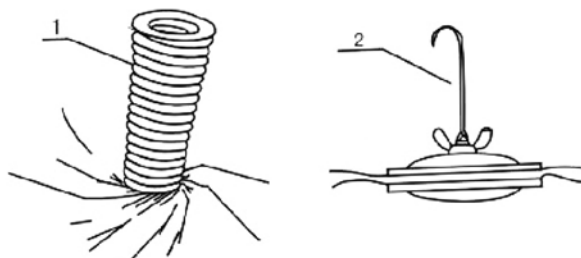
You should close the entrances of the canopy whenever this is necessary and always according to the weather conditions, in order to keep the liferaft clear from cold, wind, waves and warm weather.

6.1.8 Advice on the maintenance of the liferaft

Pay attention to the maintenance and repairing of the liferaft during the period of floating on the sea to keep it in good condition. Be very careful with the flammable fabric of the liferaft, which is also damageable to the sharp goods.

For the ISO-RAFT series:

If the liferaft body is damaged, repair it immediately. There is repair kit inside the emergency pack of the liferaft, which includes repair tools and materials. Use rubber plug, repair clamp or fabric together with glue to repair according to different situation of damage (Picture 8).



1. Conical plug for patching and its use

2. Clamp and use

Picture 8 Repairing ISO-RAFT

For the ISO-RAFT Racing series:

If the liferaft body is damaged, repair it immediately. There is repair kit inside the emergency pack of the liferaft, which includes repair tools and materials.

In order to repair the torn fabric on the liferaft, please apply glue around the torn part and on the fabric patch that is inside the Repair Kit. Then, place the fabric patch on the torn fabric of the liferaft and press it firmly by using the relevant tool of the repair kit (Picture 9).



1. Applying glue on the patch & torn fabric

2. Press the patch on the torn fabric

Picture 9 Repairing ISO-RAFT RACING

6.1.9 Distribution of water and food to the survivors (if included in the Equipment).

In these extreme conditions, everyone's survival depends on knowing how to deal with their energy, so everyone should distribute their energy and physical strength wisely and try to maximize them in any way. This means that you should save your energy, reduce any loss of it and recover your energy's loss as quickly as possible.

There are food ration, fresh water and first aid kit inside the liferaft, but in limited quantities, which shall be used restrictively. The master of the liferaft has the responsibility of distribute the food and the water to the survivors.

Eating is not the priority; it is more important to keep away from cold, hot, exposure to sun and drink water than eat food. At the first day on the liferaft, eat nothing or less, dizziness and faintness due to the fast is normal. If you need to do the labor work, you should eat more than usual.

The food or any caught fish can be eaten only if there is enough water because eating food increases the need for water.

You can also collect rainwater by using the collection system which is located on the external part of the canopy. This can be used together with a proper bag which has to be fastened under the pipe which stretches out inside the liferaft. The first quantity of rainwater must be thrown away because it may be polluted by the salt remains on the canopy. We advise not to drink water on the first day, except for kids and harmed survivors. Half a

liter of water is the daily ration but it can vary related to the outside temperature and the survivor's needs.

6.1.10 First aid kit (if included in the Equipment)

You better not use any kind of cure unless there is a doctor or a medically skilled person onboard. You should rest and sleep as much as possible. If necessary, follow the below advices and the instructions on the first aid kit:

a. If you are freezing, smear the frozen parts with cream against burns and do not massage them because you may damage accidentally tissues. Always use dry clothes so as to bring the frozen parts at normal temperature.

b. If your feet are wet for a long time, you should keep the floor as dry as possible. You should also take off your shoes in order to facilitate your blood circulation.

c. If you sweat a lot, you should wear wet T-shirts that keep the body cool (dip the T-shirt into the sea and wring it before wearing it).

d. There is no need to worry if you experience any irregular function of intestine and of the bladder. This is completely normal due to lack of movement and reduction of food and water consumption.

e. If your eyes are irritated by the sun, use a cloth as an eye pad by making two little holes for the eyes. In case of conjunctivitis, rinse your eyes with fresh sea water.

f. If you developed any ulcer or open blister due to sitting in a position for a long time, you should dry them in order to facilitate their recovery.

g. If anyone has trouble in breathing, you should help him restoring his breath and his heartbeat.

h. If anyone has been injured or burnt, you should help him bind up the wound. If anyone has been fractured, you should try to fix his broken bones.

i. If anyone has any kind of circulation disease (pulse stop racing, catch a severe chill, anxious, thirst over ventilation), you should protect him and help him to escape as soon as possible.

6.1.11 Life-saving signals

There is emergency pack(s) inside liferaft, which includes various equipment and accessories. Read the Manual carefully to master the correct way of using all kinds of equipments and accessories and the correct processing methods in different emergencies.

In case that you don't get noticed at once when seeing many boats, you should cheer up and try again. Send various kinds of SOS signals correctly to be found and rescued as early as possible. Including:

A. Set up the radar reflector as early as possible.

B. During the night, turn on the indication light on the top of the liferaft. (The battery

of the indication light can be used for more than 12 hours.) Search the situation of the sea and the sky through outlook window. The indication light shall be turned off to save electricity during the day time. Also the electric torch can be used for lightning but only in case of emergency, as its main use is for Morse signals.

C. During the night, if there is a plane or ship passing by, launch the parachute signal or had flare, or send Morse signals by using electric torch (Picture 6). The hand flares and parachute signals should be activated with a view to avoid any damage on the liferaft and on the passengers of the Liferaft.

D. During day time, send SOS signal to the passing ships or planes by launching orange smoke signal (lighten it and throw it to the sea to float) or using signal mirror (use it to attract the attention of a plane or a ship passing by), following carefully the instructions on the products.

E. Use the whistle (in the Liferaft or of your Lifejacket) to send signals. This can serve for rescuing reasons or for locating possible survivors at sea. Furthermore, if there is a wireless radio, wireless indication light or radar responder in the liferaft, send SOS signal according to the usage.



Picture 10 Send signals for Help to Ship and Aircrafts at Night

6.1.12 Protection from extreme weather conditions

In any case, you should avoid the exposure to cold and wind conditions as well as the blazing sun for a long time.

In order to protect yourself from extreme cold, you must close the canopy of the liferaft as air-tight as possible and use the thermal blankets, but keep them firstly for the wounded people. Furthermore, you should avoid getting wet and stay at places where there is a draught. You should stay together with others, ensure that there is enough food for every passenger (if included in the equipment) and that everyone has slept quite enough and always cover your head to protect it from the cold.

In order to protect yourself from extreme heat, you should open all the entrances in the canopy of the liferaft and make holes in the canopy so the wind can enter the liferaft. Moreover, you shouldn't make huge efforts so to avoid sweat or work in daytime. In any case, you should stay in shady and cool places, avoid exposure of your skin to sun, drink as much water as possible, put on a hat and protect your eyes in any possible way. Finally

you can wet your clothes in order to cool down your body's temperature and the liferaft's temperature (by laying the wet clothes on the canopy).

If the changes of the external temperature conditions affect the inflation pressure of the liferaft's body, you can use the bellows of the standard equipment.

6.1.13 Monitoring

The master of the liferaft is in charge of monitoring the area around the liferaft in order to look after rescue team or any other kind of help. So, the master must observe about the navigation of the liferaft, the weather conditions, whether there is possibility of a rescue team as well as the total liferaft's condition.

6.1.14 Arrival of the rescuers

When a rescue team appears on the horizon, these are the actions you must follow:

1. Signaling: Use all the means available in order to send signals to the rescue team (smoke signals, signal mirror, etc). You should use the pyrotechnic signals only if it is certain that the rescuers can see them. As mentioned before, use the parachute signals and the hand flares during the night and the smoke signals and the signal mirror during the day. It is wise to use the signal mirror also during the night in order to reflect the light of the rescuers' lights. You should send any kind of signaling until you are sure that the rescuers have seen them. Don't use all the signals' means because you might use some of them to guide the rescuing ships or for any emergency use. If the rescue team is on a plane, you should expect a period of time until the rescuing ships arrive. During this time, you should prepare the abandonment of the liferaft and make sure that all the liferafts are linked one to the other.

2. Rescue by towing: Use a rope in good condition (e.g. the cylinder operating line or the sea anchor rope) and fasten it to a solid point of the liferaft. This rope can be launch from the liferaft to the rescuing unit or from the unit to the liferaft. If the rope hasn't reached the liferaft, use a paddle or the fishing kit to collect it. The master of the liferaft must always make sure that the liferaft is stable and that the rope is in proper condition, in order to try to communicate with the rescuers' team

3. Rescue by helicopter: In that case, you should point to the rescue unit the direction of the wind by using flags or any kind of fabric piece. You should never use a parachute signal and turn off the radar reflector so it can not interfere to the helicopter's transmission equipment. During the rescue operations, the passengers of the liferaft must remain calm and lie down, mostly in the centre of the liferaft, so it can be remained stable and not affected by the air. Do not fasten the lifting equipment lowered by the helicopter to any part of the liferaft. Make sure that the lifting hook does not get caught somewhere. If a stretcher is lowered to rescue an injured survivor, before laying the person down on it, it must be detached from the lifting cable. All the instructions for the rescuing must be given by the operator of the lifting means on board of the helicopter. The survivors must abandon the liferaft in such way that its stability would remain.

4. Landing: If the liferaft has approach a coast, even a rocky one, you should let

the sea anchor slide for all the length of its line. When the liferaft is approaching the shore you should not lean out of entrance openings so as to avoid being thrown out on the rocks. Always sit in such a way as to maintain the centre of gravity as low as possible. If the sea is rough, we advise strongly to remain into the liferaft and not reach the shore by swimming. The internal line helps the survivors to remain as stable as possible when the sea is rough.

6.2 Advice on the servicing of the liferaft

The liferaft must be inspected and serviced periodically. In case of activation, or existence of damages, service it immediately. The inspection and service must be performed by a LALIZAS authorized Service Station. LALIZAS S.A. is not liable for any inspection or service carried out by an unauthorized Service Station.

For more information on LALIZAS world network of Authorized Service Stations please refer to the following link: <http://www.LALIZAS.com/service.php>

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