



IMO

Ref. T1/3.02

## IDENTIFICATION OF FLOAT-FREE ARRANGEMENTS FOR LIFERAFTS

1 The Maritime Safety Committee, at its sixty-eighth session (28 May to 6 June 1997), noted that there were three systems used in float-free arrangements, i.e. the external weak link system, the internal weak link system and the non-weak link system (see examples at annex). Because of this, compliance of any of the three systems with SOLAS regulation III/38.6.1 (section 4.1.6 of the LSA Code) could not be easily verified and this might cause difficulties, particularly to port State control officers.

2 The Committee, therefore, recommended that inflatable liferafts using internal or weak link systems should be marked on the outside of the container with appropriate wording or pictograms indicating the system used for the float-free arrangement.

3 Member Governments are invited to bring the above recommendation and the annex thereto to the attention of shipowners, shipping companies, liferaft manufacturers, liferaft servicing stations and all others involved in the manufacture, installation and servicing of inflatable liferafts, as well as port State control officers.

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## ANNEX

### THREE SYSTEMS USED IN FLOAT-FREE ARRANGEMENTS

The following three systems are offered as an example of those used in float-free arrangements (see also figures 1 to 5 below).

#### **1 Internal weak links system**

##### **1.1 Automatic release mechanism**

When the ship sinks, the hydrostatic release unit actuates at a depth of 2 to 4 m and disconnects the lashing wire from the cradle, and the container floats to the surface of the water.

At this time, the operating line fastened to the cradle is pulled and inflation of liferaft is started. And, at the same time, supplementary painters come loose from the cradle because the end of the painter is attached to the cradle with a fine thread and detached easily by being pulled. Finally, a safety belt (same concepts as weak link but has a breaking strength of 70 to 100 kgf) breaks, so the liferaft is released from the sinking ship and floats to the surface.

##### **1.2 Manual drop mechanism**

The end of the supplementary painter is detached from the painter indication plate and tied to the cradle by hand. And the hydrostatic release unit is released manually. The container drops from the cradle rolling and pulls the operating line so the liferaft reaches the surface of the water while inflating. At this time, the liferaft is tied to the ship by the painter and the supplementary painter.

#### **2 Non-weak link system**

##### **2.1 Automatic release mechanism**

When the ship sinks, the hydrostatic release unit actuates at a depth of 2 to 4 m and disconnects the lashing wire and painter from the cradle, and the container floats to the surface of the water. At this time, the operating line fastened to the cradle is pulled and inflation of liferaft is started. The raft is released from the sinking ship and floats to the surface. With this mechanism, the painter and operating line are separate, so there is no need to provide a weak link.

##### **2.2 Manual drop mechanism**

When the release handle (located on the cradle) is pulled, one end of the lashing wire is disconnected while the other end of the wire is connected to the hydrostatic release unit, the container drops from the cradle rolling and pulls the operating line so the liferaft reaches the surface of the water while inflating. At this time the liferaft is tied to the ship by the painter.

### **3 External weak link system**

#### **3.1 Automatic release mechanism**

When the ship sinks, the hydrostatic release unit actuates at a depth of 2 to 4 m and disconnects the lashing wire from the cradle, and the container floats to the surface of the water. At this time, the operating line tied to the painter is pulled and inflation of the liferaft is started. Next, a weak link fastened to the cradle breaks, so the liferaft is released from the sinking ship and floats to the surface.

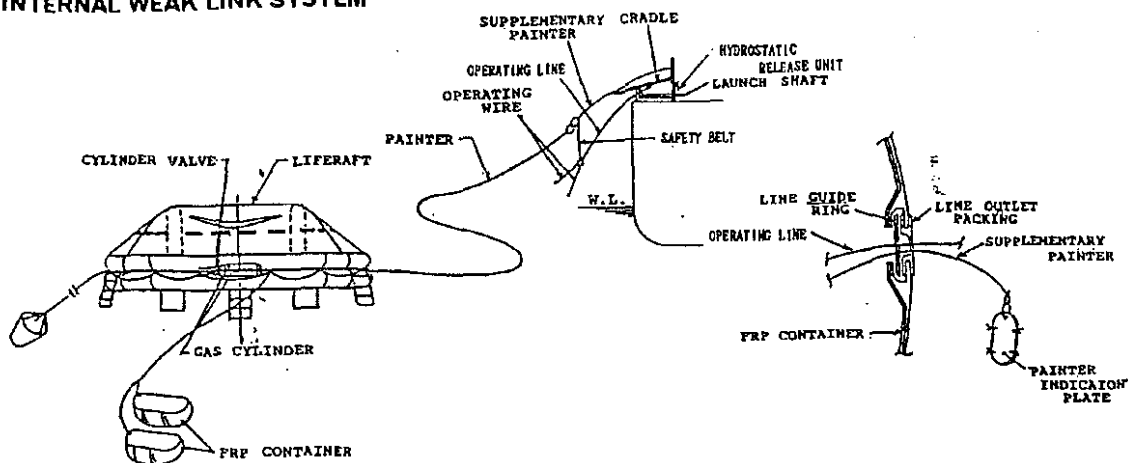
#### **3.2 Manual drop mechanism**

When the release handle (located on the cradle) is pulled, the lashing wire is disconnected while the other end of the wire is connected to the hydrostatic release unit. The container drops from the cradle rolling and pulls the operating line so the liferaft reaches the surface of the water while inflating. At this time, the liferaft is tied to the ship by the painter.

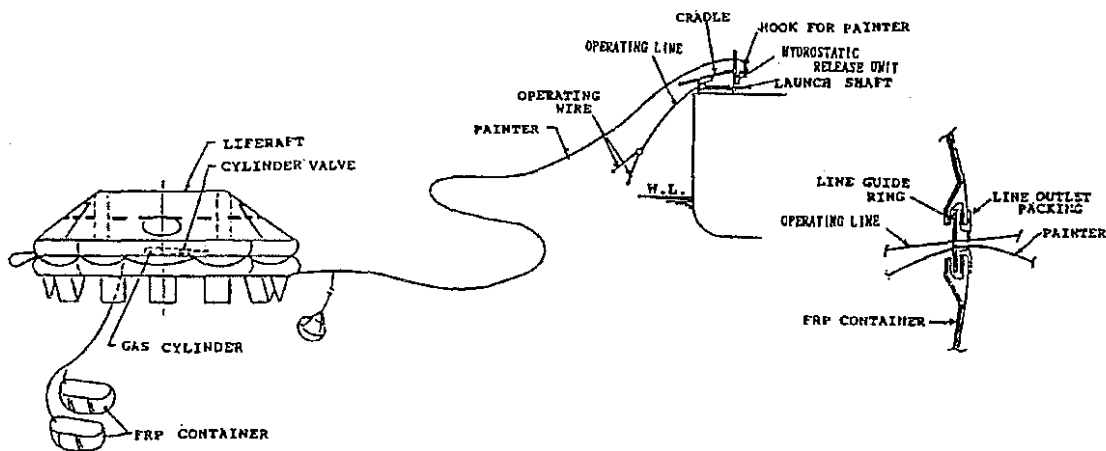
[ FIGURE 1 ]

1. Float-free arrangements for liferaft

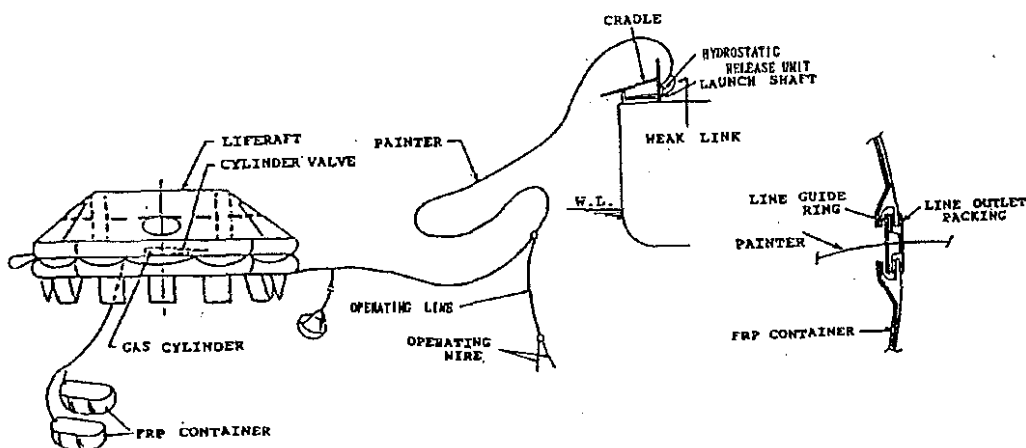
**INTERNAL WEAK LINK SYSTEM**



**NON WEAK LINK SYSTEM**



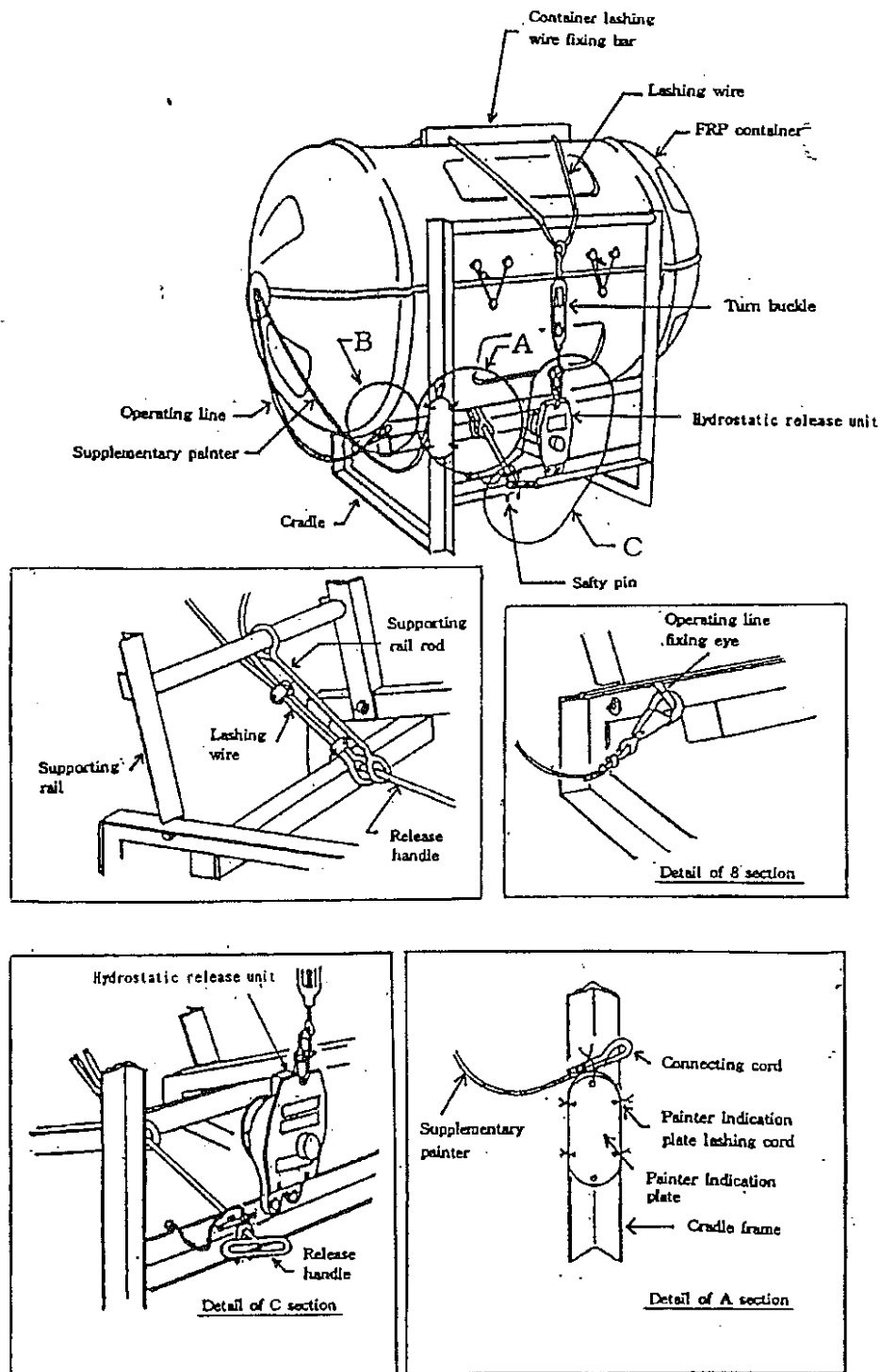
**EXTERNAL WEAK LINK SYSTEM**



[ FIGURE 2 ]

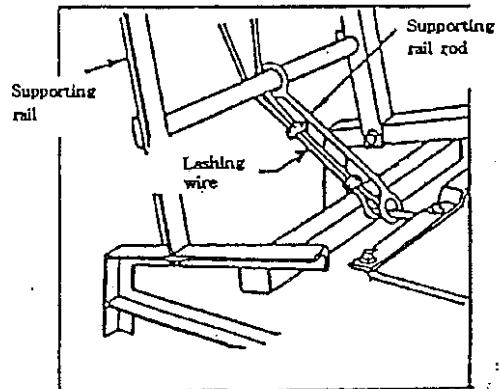
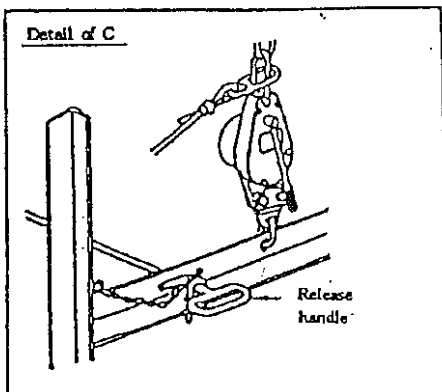
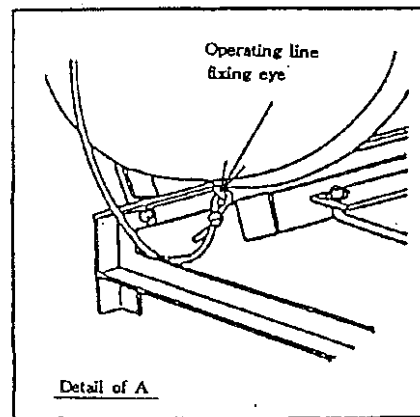
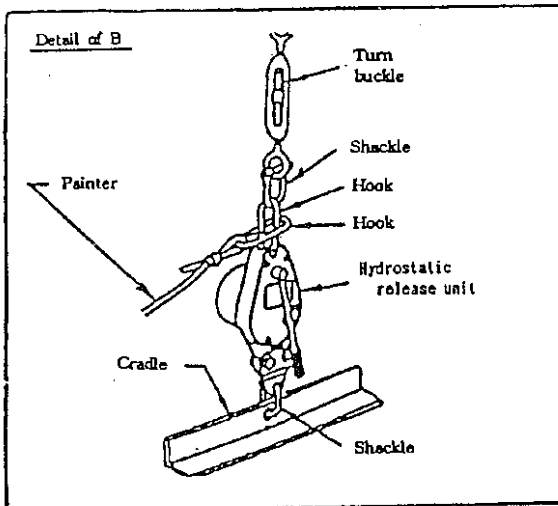
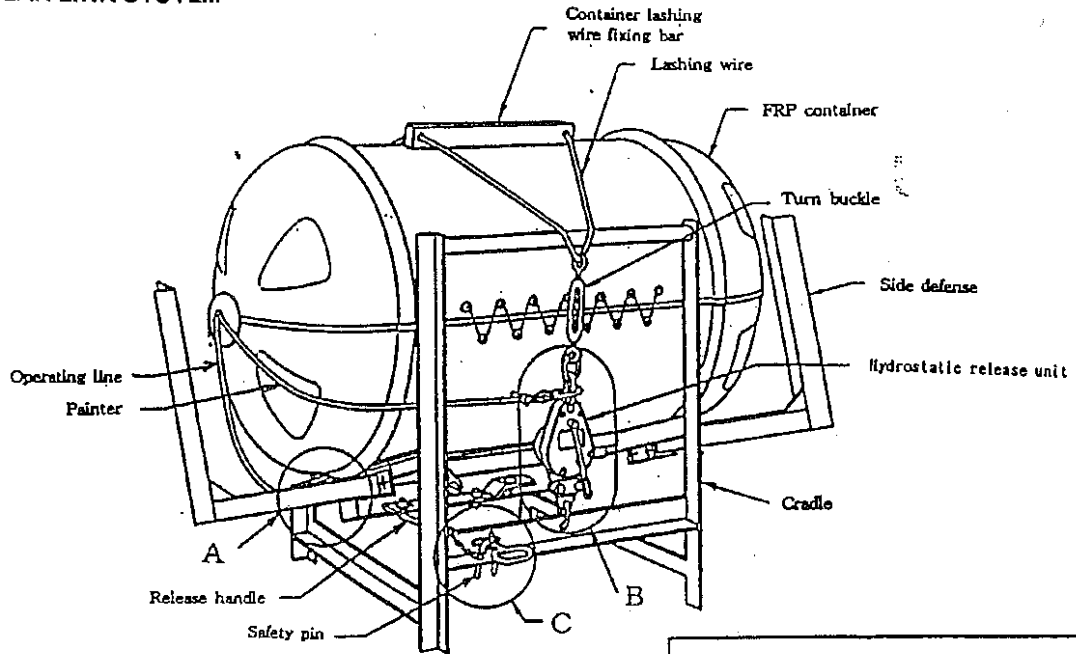
2. Structure of stowage cradle

**INTERNAL WEAK LINK SYSTEM**



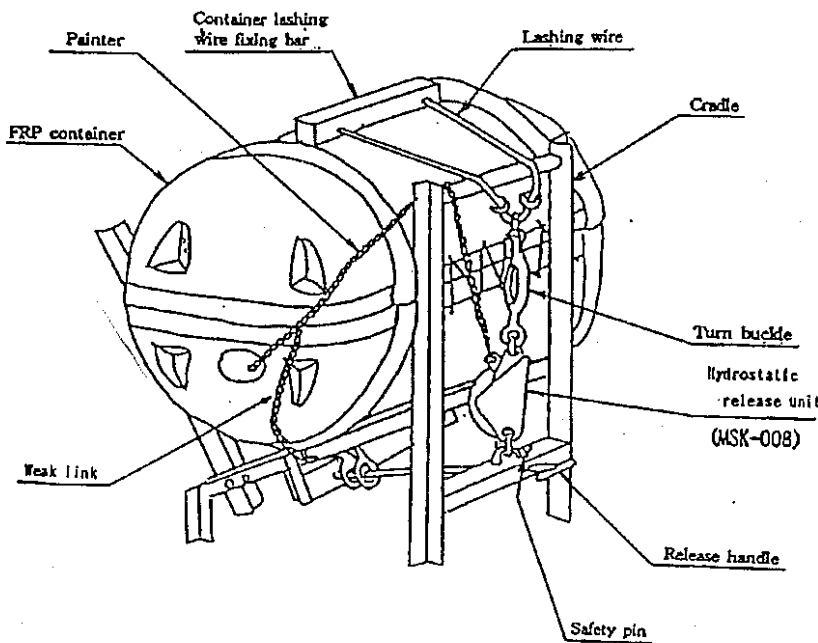
[ FIGURE 3 ]

NON WEAK LINK SYSTEM



[ FIGURE 4 ]

EXTERNAL WEAK LINK SYSTEM (FIBER ROPE TYPE)



[ FIGURES ]

EXTERNAL WEAK LINK SYSTEM (STEEL WIRE TYPE)

