

## SCHEDULE 2

### RESCUE BOATS

Regulations 2(3), 5 and 6

## PART III

### INFLATED RESCUE BOATS

#### General

##### 1.

**1.1.** An inflated rescue boat is a craft combining a flexible lower hull and inflated tubes fitted at the edge of the lower hull together forming a watertight boundary and which relies solely on the buoyancy of the inflated tubes as the inherent buoyancy of the craft.

**1.2.** All inflated rescue boats prescribed in this Part shall:

- (1.2.1) be constructed with proper workmanship and materials;
- (1.2.2) not be damaged in stowage throughout the air temperature range—30°C to +65°C;
- (1.2.3) be capable of operating throughout a seawater temperature range of -1°C to +30°C;
- (1.2.4) be rot-proof, corrosion-resistance, and not be unduly affected by seawater, oil or fungal attack;
- (1.2.5) be resistant to deterioration from exposure to sunlight;
- (1.2.6) be of a highly visible colour on all parts where this will assist detection;
- (1.2.7) be fitted with retro-reflective material where it will assist in detection and the dimensions and location of the material shall be to the satisfaction of the Secretary of State;
- (1.2.8) be capable of satisfactory operation in a sea environment.

#### Construction

##### 2.

**2.1.** All boats shall be properly constructed and shall be of such form and proportion that they have ample stability in a seaway and sufficient freeboard when loaded with their full complement of persons and equipment. All boats shall be capable of maintaining positive stability in an upright position in calm water when loaded with their full complement of persons and equipment and fully swamped.

**2.2.** All boats shall be of sufficient strength to:

- (2.2.1) enable them to be safely lowered into the water when loaded with their full complement of persons and equipment; and
- (2.2.2) be capable of being launched and towed when the ship is making headway at a speed of 5 knots in calm water.

**2.3.** Seating shall be provided on thwarts, benches or fixed chairs fitted as low as practicable in the boat and constructed so as to be capable of supporting the number of persons each weighing 100 kg. for which spaces are provided in compliance with the requirements of paragraph 2.5.2.

**2.4.** Each boat shall be of sufficient strength to withstand, when loaded with its full complement of persons and equipment and with, where applicable, skates or fenders in position, a lateral impact

against the ship's side at an impact velocity of at least 3.5 metres per second and also a drop into the water from a height of at least 3 metres.

**2.5.** The number of persons which a boat shall be permitted to accommodate shall be equal to the lesser of:

(2.5.1) The number of persons having an average mass of 75 kg., all wearing lifejackets, that can be seated in a normal position plus one person lying down without interfering with the means of propulsion or the operation of any of the boat's equipment; or

(2.5.2) the number of spaces that can be provided on the seating arrangements in accordance with Figure 2 in Part I of Schedule 2 plus one person lying down.

**2.6.** Each seating position shall be clearly indicated in the boat.

**2.7.** All boats shall have a boarding ladder that can be used on either side of the boat to enable persons in the water to board the boat. The lowest step of the ladder shall be weighted and float at a level not less than 0.4 metres below the boat's light waterline.

**2.8.** The boat shall be so arranged that helpless people can be brought on board either from the sea or on stretchers.

**2.9.** All surfaces on which persons might walk shall have a non-skid finish.

**2.10.** All boats, when loaded with 50% of the number of persons the boat is permitted to accommodate seated in their normal positions to one side of the centreline, shall have a freeboard measured from the waterline to the lowest opening through which the boat may become flooded, of at least 1.5% of the boat's length or 100 mm, whichever is the greater.

**2.11.** All boats shall:

(2.11.1) be not less than 3.8 metres and not more than 8.5 metres in length;

(2.11.2) be capable of carrying at least five seated persons and a person lying down.

**2.12.** Unless the boat has adequate sheer, it shall be provided with a bow cover of highly visible colour extending for not less than 15% of its length, and shall be angled upwards to deflect water and spray.

**2.13.** Boats shall be capable of manoeuvring at speeds of at least 6 knots and maintaining a speed of 6 knots for a period of at least 4 hours.

**2.14.** Boats shall have sufficient mobility and manoeuvrability in a seaway to enable persons to be retrieved from the water, marshal liferafts and tow the largest liferaft carried on the ship, when loaded with its full complement of persons and equipment, or its equivalent, at a speed of at least 2 knots.

**2.15.** The boat shall be fitted with an inboard or outboard engine complying with the relevant parts of paragraph 3.

**2.16.** Arrangements for towing shall be permanently fitted in boats and shall be sufficiently strong to marshal or tow liferafts as required by paragraph 2.14.

**2.17.** All boats shall be fitted with weathertight stowage for small items of equipment.

**2.18.** An inflated rescue boat shall be constructed in such a way that, when suspended by its bridle or lifting hook:

(2.18.1) it is of sufficient strength and rigidity to enable it to be lowered and recovered with its full complement of persons and equipment;

(2.18.2) it is of sufficient strength to withstand a load of 1.1 times the mass of its full complement of persons and equipment at an ambient temperature of  $-30^{\circ}\text{C}$  with all relief valves operative;

(2.18.3) it is of sufficient strength to withstand a load of 4 times the mass of its full complement of persons and equipment at an ambient temperature of  $20 \pm 3^{\circ}\text{C}$  with all relief valves inoperative.

**2.19.** Inflated rescue boats shall be so constructed as to be capable of withstanding exposure:

(2.19.1) when stowed on an open deck on a ship at sea;

(2.19.2) for 30 days afloat in all sea conditions.

**2.20.** The buoyancy of an inflated rescue boat shall be provided by either a single tube subdivided into at least five separate compartments of approximately equal volume or two separate tubes neither exceeding 60% of the total volume. The buoyancy tubes shall be so arranged that, in the event of any one of the compartments being damaged, the intact compartments shall be able to support, with positive freeboard over the boat's entire periphery, the number of persons which the boat is permitted to accommodate, each having a mass of 75 kg., and seated in their normal positions.

**2.21.** The buoyancy tubes forming the boundary of the inflated rescue boat shall on inflation provide a volume of not less than 0.17m<sup>3</sup> for each person the rescue boat is permitted to accommodate and the diameter of the main buoyancy chamber must be at least 0.43 metres.

**2.22.** Each buoyancy compartment shall be fitted with a non-return valve for manual inflation and means for deflation. A safety relief valve shall also be fitted to each buoyancy compartment.

**2.23.** When inverted in the water a boat shall be capable of being righted by not more than 2 persons.

**2.24.** Rubbing strips shall be provided underneath the bottom and on vulnerable places on the outside of the inflated rescue boat.

**2.25.** Where a transom is fitted it shall not be inset by more than 20% of the overall length of the inflated rescue boat.

**2.26.** Suitable patches shall be provided for securing painters forward and aft and becketed lifelines inside and outside the boat.

**2.27.** The inflated rescue boat shall be maintained at all times in a fully inflated condition.

**2.28.** All boats shall be fitted with a protective stowage cover and shall be kept covered at all times when the boat is not in use. The cover shall be arranged for quick removal in an emergency.

### **Inflated rescue boat propulsion**

#### **3.**

##### **3.1. Inboard engine**

(3.1.1) Where a boat is powered by an inboard engine it shall be of the compression ignition type. No engine shall be used for any boat if its fuel has a flashpoint of  $43^{\circ}\text{C}$  or less (Closed Cup Test), and the engine shall;

(3.1.1.1) be provided with either a manual starting system, or a power starting system with two independent rechargeable energy sources. Any necessary starting aids shall also be provided; the engine starting systems and starting aids shall start the engine at an ambient temperature of  $-15^{\circ}\text{C}$  within 2 minutes of commencing the start procedure unless, in the opinion of the Secretary of State having regard to the particular voyages in which the ship carrying the boat is constantly engaged, a different temperature is appropriate; the starting systems shall not be impeded by the engine casing, thwarts or other obstructions;

(3.1.1.2) be capable of operating for not less than 5 minutes after starting from cold with the boat out of the water;

(3.1.1.3) be capable of operating when the boat is flooded up to the centreline of the crank shaft.

### **3.2. Outboard engine**

(3.2.1) Petrol-driven outboard engines with an approved fuel system may be fitted to boats provided the tanks are specially protected against fire and explosion.

(3.2.2) A petrol engine shall be provided with either a manual starting system, or a power starting system. Any necessary starting aids shall also be provided. The engine starting systems and starting aids shall start the engine at an ambient temperature of  $-15^{\circ}\text{C}$  within 2 minutes of commencing the start procedure unless, in the opinion of the Secretary of State having regard to the particular voyages in which the ship carrying the boat is constantly engaged, a different temperature is appropriate. The starting system shall not be impeded by the engine casing, thwarts or other obstructions.

**3.3.** Unless the propeller is so arranged so as to avoid its rotation constituting a danger to people in the water adjacent to it the drive arrangement between the prime mover and the propeller shall be such that the propeller can be brought to rest without stopping the prime mover. Provision shall be made for ahead and astern propulsion of the craft.

**3.4.** The exhaust pipe shall be so arranged as to prevent water from entering the engine in normal position.

**3.5.** All boats shall be designed with due regard to the safety of persons in the water and to the possibility of damage to the propulsion system by floating debris.

**3.6.** The boat engine, transmission and engine accessories shall be enclosed in a fire-retardant casing or other suitable arrangements providing similar protection. Such arrangements shall also protect persons from coming into accidental contact with hot or moving parts and protect the engine from exposure to weather and sea. Adequate means shall be provided to reduce the engine noise. Starter batteries shall be provided with casings which form a watertight enclosure around the bottom and sides of the batteries. The battery casings shall have a tight fitting top which provides for necessary gas venting.

**3.7.** The boat engine and accessories shall be designed to limit electromagnetic emissions so that engine operation does not interfere with the operation of radio life-saving appliances used in the boat.

**3.8.** Means shall be provided for recharging all engine-starting, searchlight and, when fitted, radio batteries. Radio batteries shall not be used to provide power for engine starting. Means shall be provided for recharging rescue boat batteries from the ship's power supply. The electric power supply connection from the ship to any inflated rescue boat shall be at a voltage of not exceeding 55 volts direct current or 55 volts root mean square alternating current and shall be capable of being disconnected automatically at the inflated rescue boat embarkation station.

**3.9.** Water-resistant instructions for starting and operating the engine shall be provided and mounted in a conspicuous place near the engine starting controls.

### **Boat Fittings**

#### **4.**

**4.1.** All boats shall be provided with at least one drain valve fitted near the lowest point in the hull, which shall automatically open to drain water from the hull when the boat is not waterborne and shall automatically close to prevent entry of water when the boat is waterborne. Each drain valve shall be provided with a cap or plug to close the valve, which shall be readily attached to the boat by a lanyard, chain, or other suitable means. Drain valves shall be accessible and capable of being closed from inside the boat and their position shall be clearly indicated.

**4.2.** All boats shall be provided with a rudder and tiller or other suitable means of steering. When a wheel or other remote steering mechanism is also provided the alternative means shall be capable of steering the boat in the case of failure of the steering mechanism. Except where the rudder forms part of an outboard engine a rudder shall be permanently attached to the boat and a tiller shall be

permanently installed on or linked to the rudder stock. However, if the boat has a remote steering mechanism the tiller may be removable and securely stowed near the rudder stock. The steering arrangements shall be so arranged so not to be damaged by operation of the release mechanism or the propeller.

**4.3.** Except in the vicinity of the rudder and propeller, a buoyant lifeline shall be becketed around the inside and outside of the boat.

**4.4.** Boats which are not self-righting when capsized shall have suitable handholds on the underside of the hull to enable persons to cling to the boat. The handholds shall be fastened to the boat in such a way that, when subjected to an impact sufficient to cause them to break away from the boat, they break away without damaging the boat.

**4.5.** Every boat to be launched by a fall or falls shall be fitted with a release mechanism complying with Part IV of this Schedule, except those which are launched by a single suspension which may have an approved release mechanism which is operable when the boat is waterborne.

**4.6.** Every boat shall be fitted with a release device to enable the forward painter to be released when under tension.

**4.7.** Boats intended for launching down the side of a ship shall have skates and fenders as necessary to facilitate launching and prevent damage to the boat.

**4.8.** Unless expressly provided otherwise, every boat shall be provided with effective means of bailing or be automatically self-bailing.

## **Markings**

### **5.**

**5.1.** The dimensions of the boat, the number of persons which it is permitted to accommodate, the makers serial number, name or trade mark and the date of manufacture shall be marked on the boat in clear permanent characters.

**5.2.** The name and port of registry of the ship to which the boat belongs shall be marked on each side of the boat's bow in block capitals of the Roman alphabet.

**5.3.** Means of identifying the ship to which the boat belongs and the number of the boat shall be marked in such a way that they are visible from above.

**5.4.** All materials used to mark an inflated rescue boat shall be of a type which is compatible with the boat's coated fabric and approved by the boat manufacturer.

## **Boat Equipment**

### **6.**

**6.1.** All items of boat equipment, with the exception of the boat-hook which shall be kept available for fending off purposes, shall be secured within the boat by lashings, storage in lockers or compartments, storage in brackets or similar mounting arrangements, or other suitable means. The equipment shall be secured in such a manner as not to interfere with any launching or recovery procedures. All items of boat equipment shall be as small and of as little mass as possible and shall be packed in suitable and compact form.

**6.2.** The equipment of every boat shall consist of:

(6.2.1) sufficient buoyant oars or paddles to make headway in calm seas; thole pins, crutches or equivalent arrangements shall be provided for each oar; thole pins or crutches shall be attached to the boat by lanyards or chains;

- (6.2.2) a buoyant bailer;
- (6.2.3) a sea-anchor complying with the requirements of Part I of Schedule 7;
- (6.2.4) a painter of sufficient length and strength, attached to the release device complying with the requirements of paragraph 4.6 and replaced at the forward end of the boat;
- (6.2.5) one buoyant line, not less than 50 metres in length, of sufficient strength to tow a liferaft as required by paragraph 2.14;
- (6.2.6) one waterproof electric torch suitable for Morse signalling, together with one spare set of batteries and one spare bulb in a waterproof container;
- (6.2.7) one whistle or equivalent sound signal;
- (6.2.8) a first-aid outfit complying with the requirements of Part II of Schedule 7 in a waterproof case capable of being closed tightly after use;
- (6.2.9) two buoyant rescue quoits, attached to not less than 30 metres of buoyant line with a breaking strain of at least 1.0kN;
- (6.2.10) a buoyant safety knife;
- (6.2.11) two sponges;
- (6.2.12) an efficiently manually operated bellows or pump;
- (6.2.13) a repair kit in a suitable container for repairing punctures;
- (6.2.14) a safety boat hook; and
- (6.2.15) a portable fire extinguisher.

## **Instructions and Information**

### **7.**

**7.1.** Instructions and information required for inclusion in the training manual specified in Part I of Schedule 11 and in the instructions for on-board maintenance specified in Part II of Schedule 11 shall be in a form suitable for inclusion in such training manual and instructions for on-board maintenance. Instructions and information shall be in English in a clear and concise form and shall include the following:

- (7.1.1) general description of the boat and its equipment;
- (7.1.2) installation arrangements;
- (7.1.3) operational instructions including use of associated survival equipment;
- (7.1.4) survival instructions;
- (7.1.5) emergency repair instructions;
- (7.1.6) deployment, boarding and launching instructions;
- (7.1.7) method of launching from within the boat;
- (7.1.8) release from launching appliance;
- (7.1.9) on board maintenance requirements;
- (7.1.10) servicing requirements;
- (7.1.11) use of engine and accessories; and
- (7.1.12) recovery of boat including stowage and securing.

## **Access into boats**

### **8.**

**8.1.** Every inflated rescue boat shall be so arranged that it can be rapidly boarded by its rescue complement of persons. Rapid disembarkation shall also be possible.