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MSC.1/Circ.1631*
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REVISED STANDARDIZED LIFE-SAVING APPLIANCE EVALUATION AND TEST REPORT FORMS (RESCUE BOATS)

1 The Maritime Safety Committee, at its 102nd session (4 to 11 November 2020), approved the *Revised standardized life-saving appliance evaluation and test report forms*.

2 The original forms, as set forth in the *Standardized life-saving appliance evaluation and test report forms* (MSC/Circ.980) and its addenda, were developed on the basis of the requirements of the International Life-Saving Appliance (LSA) Code and the *Revised recommendation on testing of life-saving appliances* (resolution MSC.81(70)) by the Maritime Safety Committee, at its seventy-third session in 2001, with a view to providing guidance on how to conduct tests, record test data and verify tests. The Committee has since adopted seven amendments to the LSA Code and eight amendments to resolution MSC.81(70). These amendments have been incorporated in the original forms which, due to their volume, are now presented in six separate circulars, i.e. MSC.1/Circ.1628, MSC.1/Circ.1629, MSC.1/Circ.1630, MSC.1/Circ.1631, MSC.1/Circ.1632 and MSC.1/Circ.1633, pertaining to the equipment addressed in chapters II to VII of the LSA Code, respectively. The forms annexed to this circular apply to the equipment addressed in chapter V of the LSA Code, i.e. rescue boats (outboard engines for rescue boats; rigid rescue boats; inflated rescue boats; rigid/inflated rescue boats; rigid fast rescue boats; inflated fast rescue boats; and rigid/inflated fast rescue boats).

3 The use of the revised forms will continue to be of benefit to Administrations and other parties, such as manufacturers, test facilities, owners and surveyors, and will be a major help in mutually accepting the type approval of appliances approved by other Administrations.

4 Member Governments are invited to bring the annexed, revised forms to the attention of all parties concerned with approving, manufacturing and testing life-saving appliances and to encourage them to use the forms.

5 This circular supersedes MSC/Circ.980.

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* *This document has been re-issued to correct editorial errors in references to SOLAS regulations.*

ANNEX

REVISED STANDARDIZED LIFE-SAVING APPLIANCE EVALUATION AND TEST REPORT FORMS (RESCUE BOATS)

INTRODUCTION

Reference

These standardized life-saving appliance evaluation and test report forms have been revised on the basis of the requirements of the International Life-Saving Appliance (LSA) Code, as amended through resolution MSC.425(98), *the Revised recommendation on testing of life-saving appliances* (resolution MSC.81(70)), as amended through resolution MSC.427(98), and the *Recommendation on means of rescue on ro-ro passenger ships* (MSC/Circ.810).

Status

In general, the tests described in the Revised recommendation (resolution MSC.81(70)) constitute the test procedures and the LSA Code sets the acceptance criteria. The evaluation and test report forms are guidelines on how to conduct tests, record test data and verify tests. These forms are not intended to change the standards given in the LSA Code and the Revised recommendation, as amended. In the case of inconsistency between the forms and the LSA Code or the Revised recommendation, the text of the Code/resolution should prevail over that of the forms.

Layout

Each Administration may use electronically distributed evaluation and test report forms as the basis for customizing the layout to reflect the profile of the approving body, without changing the original contents.

Internal references

The evaluation and test report forms should be stand-alone documents. Therefore, all internal references in the original text from the LSA Code or the Revised recommendation have been replaced by either the full-length text or a reference to other relevant evaluation and test report forms. However, in some of the forms, external references are kept for updating purposes.

Documentation of tests

For approval purposes, all detailed records of test data are to be enclosed with the report forms.

Verification of tests

Each test is to be verified passed or failed by an Administration representative's initials (e.g. recognized organization or surveyor) and date of testing. Each page is to be verified on completion by the Administration representative's signature and its date of completion.

Reporting of type approval

To facilitate unified reporting procedures, the completed evaluation and test report forms are to be seen as a documented verification of required type approval tests for each type of equipment. When documentation of type approval is required by a third party, the verified evaluation and test report forms should constitute the complete documentation of the type approval together with the relevant approval certificates.

REVISED STANDARDIZED LIFE-SAVING APPLIANCE EVALUATION AND TEST REPORT FORMS (RESCUE BOATS)

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5.1 OUTBOARD ENGINES FOR RESCUE BOATS

EVALUATION AND TEST REPORT

Manufacturer	
Engine type	
Serial number	
Fuel type	
Design power output (kW)	
Propeller diameter and pitch	
Required battery capacity	
Starting aids	
Date	
Place	
Name and signature of surveyor	
Approving organization	

Outboard engines for rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.1.1 Submitted drawings, reports and documents

Submitted drawings and documents			**Status**
Drawing No.	**Revision No. & Date**	**Title of drawing**	

Submitted reports and documents			**Status**
Report/Document No.	**Revision No. & Date**	**Title of repot / document**	
		Maintenance Manual -	
		Operations Manual -	

Outboard engines for rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.1.2 Quality assurance	**Regulations: MSC.81(70) 2/1.1, 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of life-saving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: Quality assurance Procedure: Quality assurance Manual: Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Outboard engines for rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.1.3 Visual inspection		**Regulations: LSA Code 1.2, 4.4.6; MSC.81(70) 1 /7.7**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the engine. Conduct measurements and verify equipment as required.	The engine should be provided with either a manual starting system, or a power starting system with two independent rechargeable energy sources. Any necessary starting aids should be provided. Propeller protection should be in place during test.	Passed_____Failed _____ Passed_____Failed _____ Passed_____Failed _____ Comments/Observations

5.1.4 Power test		**Regulations: LSA Code 5.1.1.8; MSC.81(70) 1 /7.7.2 - 7.7.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The motor, fitted with a suitable propeller, should be placed in a test rig such that the propeller is completely submerged in a water tank, simulating service conditions. Propeller protection should be in place during the test. The motor should be run at the maximum continuous rated speed using the maximum power obtainable for 20 min.	The rigid means of rescue should not show any permanent damage from such a loading The motor should not overheat or be damaged.	Protection of propeller in place Passed_____ Failed _____ Duration :_____min Any significant damage? Passed_____ Failed _____ Overheating? Passed_____ Failed _____ Comments/Observations

Outboard engines for rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.1.5 Water drench test		**Regulations: LSA Code 5.1.1.8; MSC.81(70) 1 /7.7.4**
Test Procedure	Acceptance Criteria	Significant Test Data
The motor protective cover should be removed and the motor thoroughly drenched with water, by hose, except for the intake to the carburetor. The motor should be started and run at speed for at least 5 min while it is still being drenched.	The motor should not falter or be damaged by this test.	Duration :_____min Any significant damage? Passed_____ Failed _____ Comments/Observations
5.1.6 Hot start test		**Regulations: LSA Code 5.1.1.8; MSC.81(70) 1 /7.7.5**
Test Procedure	Acceptance Criteria	Significant Test Data
While still in the test rig referred to in 5.1.4 (Power Test) 7.7.2, the motor should be run at idling speed in order to heat up the cylinder block. At the maximum temperature achievable, the motor should be stopped and immediately restarted. This test should be carried out at least twice.	The motor should not fail to restart.	Test carried out :_____times Restarts Passed_____ Failed _____ Any significant damage? Passed_____ Failed _____ Comments/Observations

Outboard engines for rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.1.7 Manual start test		**Regulations: LSA Code 5.1.1.8; MSC.81(70) 1 /7.7.6 - 7.7.7**
Test Procedure	Acceptance Criteria	Significant Test Data
The motor should be started at ambient temperature by manual means. The means should be either a manual automatic-rewind system or a pull cord round the top flywheel of the motor. The motor should be started twice within 2 minutes of commencement of the start procedure. The motor should be run until normal operating temperatures are reached, then it should be stopped and started manually twice within 2 minutes, by means of a manual automatic-rewind system or a pull cord round the top flywheel of the motor.	The motor should not fail to start within 2 minutes on any try.	Ambient temperature test carried out :_____times Does the motor start twice within 2 min? Passed_____ Failed _____ Operating temperature Does the motor start twice within 2 min? Passed_____ Failed _____ Comments/Observations

Outboard engines for rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.1.8 Cold start test		**Regulations: LSA Code 4.4.6.2; MSC.81(70) 1 /7.7.8 - 7.7.9**
Test Procedure	Acceptance Criteria	Significant Test Data
The motor, together with the fuel, fuel lines and battery, should be placed in a chamber at a temperature of –15°C and allowed to remain until the temperature of all parts has reached the temperature of the chamber. The temperature of the fuel, battery and motor should be measured for this test. The motor should be started twice, within 2 min of commencement of the start procedure, and allowed to run long enough to demonstrate that it runs at operating speed. It is recommended that this period should not exceed 15 s. Where lower temperature service is intended, that lower temperature should be substituted for –15°C in the above-mentioned test.	The engine starting systems and starting aids should start the engine at an ambient temperature of –15°C within 2 min of commencing the start procedure unless, in the opinion of the Administration having regard to the particular voyages in which the ship carrying the rescue boat is constantly engaged, a different temperature is appropriate. The engine must start at the specified temperatures.	Starting power Source: Starting aids used: Measured temperatures Chamber: °C Fuel: °C Lubricant oil: °C Cooling fluid: °C Number of starts: Duration of first run: seconds Duration of second run: seconds Duration of last run: seconds Type of battery: Required capacity of starting battery: Passed_____ Failed _____ Comments/Observations

Outboard engines for rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.1.9 Engine-out-of-water test		**Regulations: LSA Code 4.4.6.2; MSC.81(70) 1 /7.7.10**
Test Procedure	Acceptance Criteria	Significant Test Data
The engine should be operated for at least 5 min at idling speed under conditions simulating normal storage.	The engine should be capable of operating for not less than 5 min after starting from cold with the rescue boat out of the water. The engine should not be damaged as a result of this test.	Cooling water supplied during test? Yes/ No If so, by what method? Duration_____min Any damage after this test? Passed_____ Failed _____ Comments/Observations

Outboard engines for rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.1.10 Extra test for outboard engine for fast rescue boats	**Regulations: LSA Code 5.1.4.8; MSC.81(70) 1/7.7.11**	
Test Procedure	Acceptance Criteria	Significant Test Data
Engine inversion test: The engine and its fuel tank should be mounted on a frame that is arranged to rotate about an axis equivalent to the longitudinal axis of the boat at the height of the boat transom. The propeller should be in a water basin to the height of the cavitation plate. The engine should then be subjected to the following test procedures, and then dismantled for examination: .1 start the engine and run it at full speed for 5 min; .2 stop the engine and rotate it in a clockwise direction through 360°; .3 restart the engine and run it at full speed for 10 min; .4 stop the engine and rotate it in a counter- clockwise direction through 360°; .5 restart the engine, run it at full speed for 10 min, and then stop the engine; .6 allow the engine to cool; .7 restart the engine and run it at full speed for 5 min;		Means of stopping the engine in case of capsizing: Capable of restarting after re-righting: Amount of loss: ml Passed_____ Failed _____ Comments/Observations Are all the tests carried out according to the procedure as prescribed? Passed/ Failed Does the engine stop when turned in either direction? Passed/Failed If it stops, does it easily restart? Passed/Failed Does the engine fulfil the requirements after the tests have been carried out according to the procedure? Passed/Failed

Outboard engines for rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.1.10 Extra test for outboard engine for fast rescue boats (continued)	**Regulations: LSA Code 5.1.4.8; MSC.81(70) 1/7.7.11**	
Test Procedure	Acceptance Criteria	Significant Test Data
Engine inversion test (continued): .8 slowly rotate the running engine in a clockwise direction through 180°, hold at the 180° position for 10 s, and then rotate it 180° further in a clockwise direction to complete one revolution; .9 if the engine is arranged to stop automatically when inverted, restart it; .10 allow the engine to continue to run at full speed for 10 min; .11 shut the engine down and allow it to cool; .12 repeat the procedure in .7 through .11 above, except that the engine should be turned in a counter-clockwise direction; .13 restart the engine and run it at full speed for 5 min;	With regard to step .9, the engine should be stopped automatically or by the helmsman's emergency release switch when inverted. When the rescue boat has righted each engine or motor should be capable of being restarted, provided the helmsman's emergency release, if fitted, has been reset. The design of the fuel and lubricating systems should prevent the loss of more than 250 ml of fuel or lubricating oil from the propulsion system should the rescue boat capsize. The engine should not overheat or fail to operate. When examined after being dismantled the engine should show no evidence of overheating or excessive wear.	Amount of oil lost from engine during each inversion: .2 : ml .4 : ml .8 : ml .12 : ml Total amount of oil lost from engine: ml Evidence of overheating or excessive wear? Passed/ Failed Comments/Observations

5.2 RIGID RESCUE BOATS

EVALUATION AND TEST REPORT

5.2.0 General information

- 5.2.0.1 General data and specifications
- 5.2.0.2 Submitted drawings, reports and documents
- 5.2.0.3 Quality assurance

5.2.1 Visual inspection

- 5.2.1.1 Occupant space
- 5.2.1.2 Fittings, provisions and ladders
- 5.2.1.3 Engine and starting system
- 5.2.1.4 Steering mechanism and fuel tank
- 5.2.1.5 Release mechanism
- 5.2.1.6 Drain valve

5.2.2 Freeboard, stability and self-righting tests

- 5.2.2.1 Flooded stability test
- 5.2.2.2 Freeboard test
- 5.2.2.3 Righting test (for non self-righting rescue boats)

5.2.3 Seating strength and space tests

- 5.2.3.1 Seating strength test
- 5.2.3.2 Seating space test

5.2.4 Release mechanism tests

- 5.2.4.1 Simultaneous release
- 5.2.4.2 Towing release test
- 5.2.4.3 Load and release test
- 5.2.4.4 Cyclic loading test
- 5.2.4.5 Actuation force test
- 5.2.4.6 Second release mechanism test – actuation force and tensile strength

5.2.5 Operational tests

- 5.2.5.1 Liferaft towing
- 5.2.5.2 Endurance, speed and fuel consumption
- 5.2.5.3 Engine out of water
- 5.2.5.4 Compass test
- 5.2.5.5 Helpless person recovery
- 5.2.5.6 Manoeuvrability with paddles or oars

5.2.6 Towing and painter tests

- 5.2.6.1 Towing test
- 5.2.6.2 Painter release test

5.2.7 Strength tests

- 5.2.7.1 Impact, drop and operation after impact and drop test
- 5.2.7.2 Overload test

5.2 RIGID RESCUE BOATS

EVALUATION AND TEST REPORT

Manufacturer	
Type	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.0.1 General data and specifications | **Regulations: LSA Code 4.4, 5.1, MSC.81(70) 1/7.1.9**

General Information	Rescue boat Dimensions	Rescue boat Weight
Construction Material: Hull: _____ Canopy: _____ Fire-retardancy documentation:_____ Rescue Boat Inherent Buoyancy (Type App.) Material: _____ Weight: _____ Occupancy: Persons (82.5 kg each): _____ Engine(s) Installed: 1 2 Type App by: _____ Manufacturer:_____ Type: _____ Power: _____ Gear ratio (inboard engine):_____ Additional rigid or inflatable buoyancy: _____ Release mechanism(s) (if applicable) 1 2 Manufacturer:_____ Type: _____ SWL: _____	Dimensions: LOA: _____ Breadth Maximum: _____ Depth to Sill: _____ Depth to Gunwale: _____ Moulded Breadth: _____ Moulded Depth: Provision for securing hanging-off pendant (if applicable):_____	Design Weight: Unloaded Boat: _____ Loose Equipment: _____ Fuel: _____ Persons: _____ Calculated Loaded Weight: Fully Equipped: _____ With Persons: _____ Weight as Tested: Fully Equipped: _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.0.2 Submitted drawings, reports and documents

Submitted drawings and documents			**Status**
Drawing No.	**Revision No. & date**	**Title of drawing**	

Submitted reports and documents			**Status**
Report/Document No.	**Revision No. & date**	**Title of report / document**	
		Maintenance Manual -	
		Operations Manual -	

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.0.3 Quality assurance	**Regulations: MSC.81(70) 2/1.1, 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended, or the International Life-Saving Appliance (LSA) Code to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of life-saving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard used: Quality assurance procedure: Quality assurance manual: Description of system: Quality assurance system acceptable Yes/No Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.1.1 Occupant space		**Regulations: LSA Code 4.4.2.2, 4.4.3.5, 5.1, MSC.81(70) 1/7.1.9**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**General** Unless the rescue boat has adequate sheer, it should be provided with a bow cover extending for not less than 15% of its length. Length is at least 3.8 m and not over 8.5 m. **Seating Space** Width – at least 430 mm Depth – at least 100 mm each side of a point 215 mm from the back Knee Space (Seating on seats) at least 635 mm from the back Knee Width – at least 250 mm Leg Space (Seating on floor) – at least 1190 mm from the back Overlapping Seat Vertical Separation – at least 350 mm Seat Horizontal Overlap – 150 mm maximum Each seating position should be clearly indicated. **Stretcher(s) space:** Rescue boats should be capable of carrying at least five seated persons and a person lying on a stretcher of minimum 2130 x 610 mm. **Walkway Surfaces** The surfaces on which persons might walk should have a non-skid finish.	Passed_____ Failed _____ Passed_____ Failed _____ Width:_____mm Depth:_____mm Knee Space:_____mm Knee Width:_____mm Leg Space:_____mm Vert. Separation:_____mm Overlap:_____mm Position Indication: PASSED FAILED Stretcher space:_____x____mm Location:_____ Passed_____ Failed _____ Non-Skid Surface: Passed_____Failed Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.1.2 Fittings, provisions and ladders		**Regulations: LSA Code 4.4.3, 4.4.7, 5.1, MSC.81(70) 1/7.1.9**		
Test Procedure	Acceptance Criteria	Significant Test Data		
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Fittings and Provisions** Suitable handholds or buoyant lifeline becketed around the outside rescue boat above the waterline and within reach of a person in the water, except in the vicinity of the rudder and propeller	Passed_____	Failed _____	
	On other than self-righting rescue boats, handholds on the underside arranged to break away without damaging the rescue boat	Passed_____	Failed _____	
	Weathertight stowage for small items of equipment	Passed_____	Failed_____	N/A
	Approved position indicating light provided at highest point	Passed_____	Failed _____	
	Provided with effective means of bailing or be automatically self-bailing.	Passed_____	Failed _____	
	Ladders Ladders that can be used at any entrance should be on board and the lowest step when in place should not be less than 0.4 m below the light waterline.	Passed_____	Failed _____	

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.1.2 Fittings, provisions and ladders		**Regulations: LSA Code 4.4.3, 4.4.7, 5.1, MSC.81(70) 1/7.1.9**
Test Procedure	Acceptance Criteria	Significant Test Data
Visual Inspection-Fittings, provisions and ladders (continued)	**Other Provisions** Buoyant material may be installed external to the hull of the boat, provided it is adequately protected against damage and is capable of withstanding exposure when stowed on an open deck on a ship at sea and for 30 days afloat in all sea condition. **Colour** The boat is of a highly visible colour where it will assist detection.	Lowest step_____m below waterline YES NO N/A Passed_____ Failed _____ Highly visible colour: Passed_____Failed _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.1.3 Engine and starting system		**Regulations: LSA Code 4.4.6, 5.1, MSC.81(70)1/7.1.9**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Type of starting system - Two independent rechargeable energy sources provided for power starting systems - Required starting aids provided - Starting system is not impeded by engine casing, thwarts, or other obstructions - Propeller arranged to be disengaged from the engine and provision for ahead and astern propulsion - Exhaust arranged to prevent water from entering engine in normal operation - System designed with due regard to the safety of persons in the water and to the possibility of damage to the propulsion system from floating debris - Engine casing made of fire-retardant material or other suitable arrangements providing similar protection - Personnel are protected from hot and moving parts - Shouted order can be heard with engine running at speed necessary for 6 knot operation - Watertight casing around bottom and sides of starter batteries with a tightly fitting top which provides for gas venting - Means for recharging engine starting, radio, and searchlight batteries provided by solar charger or ship's power supply - Radio batteries not used to provide power for engine starting	Manual Power YES NO N/A Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.1.3 Engine and starting system		**Regulations: LSA Code 4.4.6, 5.1, MSC.81(70)1/7.1.9**
Test Procedure	Acceptance Criteria	Significant Test Data
Visual Inspection-Engine and starting system (continued)	- Recharging for engine batteries provided by ship's power supply does not exceed 50 v - Recharging means for engine batteries can be disconnected at the rescue boat embarkation station - Instructions for starting and operating engine are water resistant and mounted in a conspicuous place near the engine starting controls - Towing arrangements for marshalling liferafts	Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.1.4 Steering mechanism and fuel tank		**Regulations: LSA Code 4.4.7.2, 5.1.1.8, MSC.81(70)1/7.1.9**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Steering** A tiller should be capable of controlling the rudder (rudder and tiller may form part of outboard motor). Rudder permanently attached to the rescue boat. Except when remote steering is provided, the tiller is permanently attached or linked to the rudder stock. Rudder and tiller arranged so as not to be damaged by operation of the release mechanism or propeller. **Fuel Tank** If fitted with petrol-driven outboard motor, the fuel tank(s) should be specially protected against fire and explosion.	Passed_____ Failed _____ Passed_____ Failed_____N/A Passed_____ Failed_____N/A Passed_____ Failed _____ Passed_____ Failed_____N/A Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.1.5 Release mechanism		**Regulations: LSA Code 4.4.7, 5.1, MSC.81(70)1/7.1.9**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Clear operating instructions Release control marked in a colour that contrasts with the surroundings For on-load release mechanisms: Suitably worded danger sign for on load release Mechanical protection (interlock) engages only when mechanism is completely and properly reset, to prevent accidental release during recovery On-load release mechanism needs deliberate and continued action by the operator Mechanical protection provided beyond that normally required for off load release For a single fall and hook system with suitable painter, on-load release capability is not required; in such an arrangement a single capability to release the boat only when it is fully waterborne will be adequate. NOTE: Such single fall hook systems may be attached to the boat or to the davit fall wire.	Passed_____ Failed _____ Passed_____ Failed _____ Passed_____ Failed_____ N/A ___ Passed_____ Failed_____ N/A ___ Passed_____ Failed_____ N/A ___ Passed_____ Failed_____ N/A ___ Comments/Observations Passed_____ Failed_____ N/A ___ release mechanism type (if installed in boat): _____ Approval:_____

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.1.6 Drain valve		**Regulations: LSA Code 4.4.7.1, 5.1, MSC.81(70)1/7.1.9**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required (not applicable for self-bailing boats)	Fitted near lowest point on the hull. Automatically opens when the boat is not waterborne and closes to prevent water entry when the boat is waterborne. Cap or plug attached to the boat by a lanyard, chain or equivalent. Readily accessible from inside the rescue boat. Position clearly marked.	Passed _____ Failed_____ Passed _____ Failed_____ Passed _____ Failed_____ Passed _____ Failed_____ Passed _____ Failed_____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.2.1 Flooded stability test		**Regulations: LSA Code 4.4.1.1, MSC.81(70)1/6.8.1-.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with its equipment. If provision lockers, water tanks and fuel tanks cannot be removed, they should be flooded or filled to the final waterline resulting from this test. Rescue boats fitted with watertight stowage compartments to accommodate individual drinking water containers should have these containers aboard and placed in the stowage compartments which should be sealed watertight during the flooding tests. Ballast of equivalent weight and density should be substituted for the engine and any other installed equipment that can be damaged by water. Weights representing persons (of 82.5kg mass) who would be in the water when the rescue boat is flooded (water level more than 500 mm above the seat pan) may be omitted.	When loaded as specified, the rescue boat should have positive stability when filled with water to represent flooding which would occur when the rescue boat is holed in any one location below the waterline assuming no loss of buoyancy material and no other damage.	Comments/Observations Passed_____ Failed _____

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.2.1 Flooded stability test	**Regulations: LSA Code 4.4.1.1, MSC.81(70)1/6.8.1-.3**	
Test Procedure	Acceptance Criteria	Significant Test Data
Flooding Stability test (continued): Weights representing persons who would not be in the water when the rescue boat is flooded (water level less than 500 mm above seat pan) should be placed in the normal seating positions of such persons with their centre of gravity approximately 300 mm above the seat pan. Weights representing persons who would be partly submerged in the water when the lifeboat is flooded (water level between 0 and 500 mm above the seat pan) should additionally have an approximate density of 1 kg/dm^3 (for example water ballast containers) to represent a volume similar to a human body. Note: Several tests may have to be conducted if holes in different areas would create different flooding conditions.		

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.2.2 Freeboard test		**Regulations: LSA Code 4.4.5, MSC.81(70)1/6.8.4-.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat with its engine should be loaded with a mass equal to that of all the equipment. One half of the number of persons for which the rescue boat is to be approved should be seated in a proper seating position on one side of the centreline. The freeboard should then be measured on the low side. The freeboard of the boat should be taken in the loading condition with all equipment, engine and fuel, or equivalent mass positioned to represent engine and fuel.	This test should be considered successful, if the measured freeboard, on the low side, is not less than 1.5% of the rescue boat's length or 100 mm, whichever is greater.	Measured Freeboard _____mm 1.5% of Boat's Length:_____mm Passed_____ Failed _____ Comments/Observations

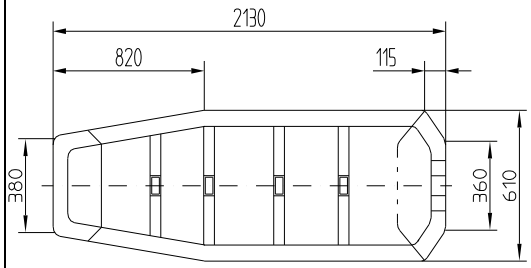
Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.2.3 Righting test (for non self-righting rescue boats)		**Regulations: MSC.81(70)1/7.1.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that both with and without engine and fuel or an equivalent mass in place of the engine and fuel tank, the rescue boat is capable of being righted by not more than two persons if it is inverted on the water. For rescue boats with inboard engines, the test without engine and fuel is not applicable. This test is not required if the righting test in 4.4.2.3 or 4.5.2.3 has been performed.	The rescue boat is capable of being righted by not more than two persons if it is inverted on the water.	Is the boat self-righting? YES NO (If YES, refer to lifeboat report 4.5.2.3 and 4.4.2.3) Can the boat be righted by 2 persons? With engine and fuel: Passed_____ Failed _____ Without engine and fuel: Passed_____ Failed _____ Method used to right boat: _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.3.1 Seating strength test		**Regulations: LSA Code 4.4.1.5, MSC.81(70)1/6.6.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The seating should be loaded with a mass of 100 kg in each position allocated for a person to sit in the rescue boat. In the case of a rescue boat launched by falls, each type of seat should be loaded with a mass of 100 kg in any single seat location when dropped into the water from height of at least 3 m. (This test may be performed in conjunction with the Drop Test in 5.2.7.1.)	The seating should be able to support this loading without any permanent deformation or damage. The seating should be capable of supporting this loading. No damage should be sustained that would affect the seat's efficient functioning.	Observed damage Passed_____ Failed _____ Passed_____ Failed_____N/A___ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.3.2 Seating space test		**Regulations: LSA Code 5.1.1.3.2, MSC.81(70)1/7.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The rigid rescue boat should be fitted with its engine and all its equipment. The number of persons for which the rescue boat is to be approved, having an average mass of at least 82.5 kg, and all wearing lifejackets and immersion suits and any other essential equipment required, should then board; one person should lie down on a stretcher of similar dimensions to those shown in the figure and the others should be properly seated in the rescue boat. The rigid rescue boat should then be manoeuvred and all equipment on board tested to demonstrate that it can be operated without difficulty or interference with the occupants.  Stretcher dimensions (mm)	Equipment can be operated without interference with the occupants. The rescue boat must be capable of carrying at least five persons and a person lying down on a stretcher. Except the helmsmen, persons may be seated on the floor, provided the space used conforms to the leg space requirements of test form 5.2.1.1. No seating is on the gunwale, transom, or buoyancy chambers on the sides of the boat.	Equipment operated: YES NO Number of persons carried: Seated on seats _____ Seated on floor _____ Lying on a stretcher _____ Total _____ Passed_____Failed _____ Lifejacket and immersion suit used during the test: Lifejacket– Inflatable/Inherently Buoyant _____ Immersion suit– Uninsulated/Buoyant Insulated

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.4.1 Simultaneous release		**Regulations: LSA Code 4.4.7.6, MSC.81(70)1/6.9.1-.2**
Test Procedure	Acceptance Criteria	Significant Test Data
For rescue boats launched by fall or falls, the rescue boat with its engine fitted should be suspended from the release mechanism just clear of the ground or the water. The rescue boat should be loaded so that the total mass equals 1.1 times the mass of the rescue boat, all its equipment and the number of persons for which the rescue boat is to be approved. The rescue boat should be released simultaneously from each fall to which it is connected without binding or damage to any part of the rescue boat or the release mechanism. Single fall systems not intended for on-load operation are exempt from this test.	It should be confirmed that the rescue boat will simultaneously release from each fall which it is connected without binding or damage to any part of the rescue boat or the release mechanism. It should be confirmed that the rescue boat will simultaneously release from each fall to which it is connected when fully waterborne in the light condition and in a 10% overload condition. There should be no damage to the release gear or its connection to the boat.	Light condition Passed_____ Failed_____N/A (N/A – Single fall, off-load only) 1.1 x Loaded Mass:_____kg Passed_____ Failed_____N/A (N/A – Single fall, off-load only) Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.4.2 Towing release test		**Regulations: LSA Code 4.4.7.6.5; MSC.81(70) 1/6.9.3**
Test Procedure	Acceptance Criteria	Significant Test Data
With the operating mechanism disconnected it should be demonstrated when the rescue boat is loaded with its full complement of persons and equipment and towed at speeds of 5 knots that the moveable hook component stays closed. Furthermore, with the operating mechanism connected, it should be demonstrated that the rescue boat when loaded with its full complement of persons and equipment when towed at speeds of 5 knots can be released. Both of the above should be demonstrated as follows: .1 a force equal to 25% of the safe working load of the hook should be applied to the hook in the lengthwise direction of the boat at an angle of 45° to the vertical. This test should be conducted in the aftward as well as the forward direction; .2 a force equal to the safe working load of the hook should be applied to the hook in an athwartships direction at an angle of 20° to the vertical. This test should be conducted on both sides; and .3 a force equal to the safe working load of the hook should be applied to the hook in a direction halfway between the positions of tests 1 and 2 (i.e. 45° to the longitudinal axis of the boat in plan view) at an angle of 33° to the vertical. This test should be conducted in four positions.	There should be no damage as a result of these tests. The rescue boat is released satisfactorily by the release mechanism. Single fall systems not intended for on-load operation are exempt from this test	Operating mechanism disconnected and boat towed at 5 kts: _____Pass _____ Fail <u>Operating mechanism connected tests</u>. Test 1: 25% SWL, lengthwise to the boat at 45° to the vertical: Force Applied: _____ N. Forward direction: _____Pass _____ Fail Aft direction: _____Pass _____ Fail Test 2: 100% SWL, athwartships at 20° to the vertical: Force Applied: _____ N. Starboard: _____Pass _____ Fail Port: _____Pass _____ Fail Test 3: 100% SWL, 45° to the longitudinal axis of the boat in plan view at an angle of 33° to the vertical. Force Applied: _____ N. Position 1: _____Pass _____ Fail Position 2: _____Pass _____ Fail Position 3: _____Pass _____ Fail Position 4: _____Pass _____ Fail Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.4.3 Load and release test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A release mechanism should be conditioned and tested as follows: The rescue boat release and retrieval system and the longest used connection cable/linkage associated with the system should be mounted and adjusted according to instructions from the original equipment manufacturer and then loaded to 100% of its safe working load and released. Load and release should be repeated 50 times. The rescue boat release and retrieval system should then be disassembled, the parts examined and wear recorded. The release and retrieval system should then be reassembled.	During the 50 releases, the rescue boat release and retrieval system should be released simultaneously from each fall to which it is connected without any binding or damage to any part of the lifeboat release and retrieval system. The system should be considered as "failed" if any failure during the conditioning or unintended release occurs when load is applied but the system has not yet been operated.	Working Load:_____N Force Applied:_____N Check the box for each release: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ 11: ☐ 12: ☐ 13: ☐ 14: ☐ 15: ☐ 16: ☐ 17: ☐ 18: ☐ 19: ☐ 20: ☐ 21: ☐ 22: ☐ 23: ☐ 24: ☐ 25: ☐ 26: ☐ 27: ☐ 28: ☐ 29: ☐ 30: ☐ 31: ☐ 32: ☐ 33: ☐ 34: ☐ 35: ☐ 36: ☐ 37: ☐ 38: ☐ 39: ☐ 40: ☐ 41: ☐ 42: ☐ 43: ☐ 44: ☐ 45: ☐ 46: ☐ 47: ☐ 48: ☐ 49: ☐ 50: ☐ Passed_____ Failed _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.4.4 Cyclic loading test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The hook assembly, while disconnected from the operating mechanism, should be tested 10 times with cyclic loading from zero load to 1.1 times the safe working load, at a nominal 10 seconds per cycle; unless the release mechanism has been specifically designed to operate as an off-load hook with on-load capability using the weight of the boat to close the hook, in this case the cyclic load should be from no more than 1% to 1.1 times the SWL. For cam-type designs, the test should be carried out at an initial cam rotation of 0º (fully reset position), and repeated at 45º in either direction, or 45º in one direction if restricted by design.	The specimen should remain closed during the test. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Working Load:_____N Force Applied:_____N Check the box for each release and/or strike out the cam rotation if no applicable: Cam rotation 0°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation +45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation -45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Passed:_____ Failed: _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.4.5 Actuation force test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.4**
Test Procedure	Acceptance Criteria	Significant Test Data
The cable and operating mechanism should then be reconnected to the hook assembly; and the rescue boat release and retrieval system should then be demonstrated to operate satisfactorily under its safe working load. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer.	The actuation force should be no less than 100 N and no more than 300 N, if a cable is used it should be the maximum length specified by the manufacturer, and secures in the same manner it would be secured in the rescue boat. The release mechanism is deemed to have passed the testing in 5.2.4.3, 5.2.4.4 and 5.2.4.5 when the tests have been conducted successfully. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Actuation Force: _____ N Passed: _____ Failed: _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.4.6 Second release mechanism test - actuation force and tensile strength		**Regulations: LSA Code 4.4.7.6.4, MSC.81(70)1/6.9.5.1, 6.9.5.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A second release mechanism should be tested as follows: .1 the actuation force of the release mechanism should be measured loaded with 100% of its safe working load. If a cable is used, it should be of the maximum length specified by the manufacturer, and secured in the same manner it would be secured in a lifeboat. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer; and .2 the release mechanism should be mounted on a tensile strength testing device. The load should be increased to at least six times the working load of the release mechanism.	.1 The actuation force should be no less than 100 N and no more than 300 N. The release mechanism does not fail.	Actuation Force: _____ N Tensile strength @ 6xSWL. Force applied: _____ N. Passed: _____ Failed: _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.5.1 Liferaft towing		**Regulations: LSA Code 4.4.6.8, 5.1.1.7, 5.1.1.9, MSC.81(70) 1/7.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The maximum towing force of the rescue boat should then be determined. This information should be used to determine the largest size of fully loaded liferaft the rescue boat can tow at a speed of at least 2 knots. The fitting designated for towing other craft should be secured to a stationary object by a tow rope fitted with a means to measure bollard pull. The engine should be operated ahead at full speed for a period of at least 2 min. and the maximum force recorded. (For rescue boats equipped with outboard motor, bollard pull trials may be carried out with engines of various powers to assess the rescue boat's performance.)	The maximum towing force of the rescue boat should be recorded on the type approval certificate. There should be no damage to the towing fitting or its supporting structure.	Smallest Engine Largest Engine Make/model: _____ _____ Bollard pull: N _____ _____ (Record on type approval certificate) Observed damage: Propeller: Pitch: _____ Diameter: _____ Passed _____ Failed _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.5.2 Endurance, speed and fuel consumption		**Regulations: LSA Code 4.4.6.8, 5.1.1.6, MSC.81(70)1/7.1.5, 1/7.1.6**
Test Procedure	Acceptance Criteria	Significant Test Data
(Note: Run this test after the impact and drop tests in 5.2.7.1.) The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The engine should be started and the boat manoeuvred for a period of at least 4 hours to demonstrate satisfactory operation. The rescue boat should be run at a speed of not less than 6 knots for a period which is sufficient to ascertain the fuel consumption and to establish that the fuel tank has the required capacity. (This determination may be made during the 4-hour period of operation.) For rescue boats equipped with outboard motor, speed and manoeuvring trials should be carried out with engines of various powers to assess the rescue boat's performance.	The boat should operate satisfactorily throughout the 4-h operation. The fuel tank should have sufficient capacity to operate at a speed of 6 knots for a period of 4 hours in calm water.	Smallest Engine Largest Engine Make/model: _____ _____ Engine Speed: rpm _____ _____ Boat Speed: kts _____ _____ Consumption: L/h _____ _____ Fuel Tank Capacity: _____ L Endurance: hrs _____ _____ Propeller: Pitch: _____ Diameter: _____ Passed _____ Failed _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.5.3 Engine out of water		**Regulations: LSA Code 4.4.6.3, MSC.81(70)1/6.10.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The engine should be operated for at least 5 minutes at idling speed under conditions simulating normal storage. Note: If a water flushing device is intended to be used for this purpose, it should be fitted during the test.	The engine should not be damaged as a result of this test.	Passed_____ Failed _____ Comments/Observations

5.2.5.4 Compass test		**Regulations: LSA Code 5.1.2.2.3, MSC.81(70)1/6.10.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be determined that the compass performance is satisfactory and that it is not unduly affected by magnetic fittings and equipment in the rescue boat.	The compass operates satisfactorily.	Compass Make: _____ Compass Model: _____ Passed_____ Failed _____ Comments/Observations

5.2.5.5 Helpless person recovery		**Regulations: LSA Code 4.4.3.4, 5.1.1.7, MSC.81(70)1/6.10.8, 7.1.1**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated by test that it is possible to bring helpless people on board the rescue boat from the sea.	Helpless people can be brought on board the rescue boat from the sea.	Method of recovery: _____ Number of Persons required and any special equipment used:_____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.5.6 Manoeuvrability with paddles or oars		**Regulations: LSA Code 5.1.2.2.1, MSC.81(70)1/7.1.8**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the rescue boat can be propelled and manoeuvred by its oars or paddles in calm water conditions at a speed of at least 0.5 knots over a distance of at least 25 m. when laden with the number of persons, all wearing lifejackets and immersion suits, for which it is to be approved.	The rescue boat should be capable of being satisfactorily paddled and manoeuvred.	Distance travelled:_____m Time Required:_____s Calculated speed:_____m/s = _____ knots Lifejacket and immersion suit used during the test: Lifejacket – Inflatable/Inherently Buoyant _____ Immersion suit – Uninsulated/Buoyant Insulated _____ Passed_____ Failed _____ Comments/Observations

5.2.6.1 Towing test		**Regulations: LSA Code 4.4.1.3.2, 4.4.7.7, MSC.81(70)1/6.11.1**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the fully equipped rescue boat, loaded with a properly distributed mass equal to the mass of the number of persons for which it is to be approved, can be towed at a speed of not less than 5 knots in calm water and on an even keel using the rescue boat's painter securing device.	The rescue boat should not exhibit unsafe or unstable characteristics. There should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.6.2 Painter release test		**Regulations: LSA Code 4.4.7.7, MSC.81(70)1/6.11.2-.3**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the painter release mechanism can release the painter on a fully equipped and loaded rescue boat that is being towed at a speed of not less than 5 knots in calm water. The painter release mechanism should be tested in several distinct directions of the upper hemisphere not obstructed by the canopy or other constructions in the rescue boat. The directions specified in test 5.2.4.2 should be used if possible.	The painter should release and there should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Test Direction _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.7.1 Impact, drop and operation after impact and drop test	**Regulations: LSA Code 4.4.1.7, MSC.81(70)1/6.4.1, 6.4.3, 6.4.5, 6.4.7**	
Test Procedure	Acceptance Criteria	Significant Test Data
.1 For boats launched by fall or falls, the fully equipped rescue boat, including its engine, should be loaded with weights equal to the mass of the number of persons for which the rescue boat is to be approved. Included in this loading should be a weight of 100 kg loaded in one of each type of seat installed in the lifeboat. The remainder of the weights should be distributed to represent the normal loading in the rescue boat. (These weights need not be placed 300 mm above the seatpan.) Skates or fenders, if required, should be in position. The rescue boat, in a free hanging position, should be pulled laterally to a position so that when released it will strike a fixed rigid vertical surface at a velocity of 3.5 m/s. The boat should be released to impact against the rigid vertical surface. .2 The same rescue boat with its engine, loaded as described above, should then be suspended above the water so that the distance from the lowest point of the rescue boat to the water is 3 m. The rescue boat should then be released so that it falls freely into the water. .3 After the impact and drop tests, the boat should be examined to detect the position and extent of damage that may have occurred as a result of the tests, and an operational test should then be conducted in accordance with 5.2.5.2. .4 After the operational test, the rescue boat should be unloaded, cleaned, and carefully examined to detect the position and extent of damage that may have occurred as a result of the tests.	The impact and drop tests should be considered successful if: .1 no damage has been sustained that would affect the rescue boat's efficient functioning; .2 the damage caused by the impact and drop tests has not increased significantly as a result of the operational test in 5.2.5.2; .3 machinery and other equipment has operated to full satisfaction; and .4 no significant ingress of seawater has occurred.	Load in boat:_____kg Observed Damage: Increased Damage: YES NO Satisfactory Operation: YES NO Ingress of Water: YES NO Weight of heaviest engine tested:_____ Final Evaluation: Passed _____ Failed _____ Comments/Observations

Rigid rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.2.7.2 Overload test		**Regulations: MSC.81(70)1/7.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with a properly distributed load of four times the weight to represent the equipment and full complement of persons each weighing 82.5 kg for which it is to be approved and suspended for 5 minutes from its bridle or hooks. The weights should be distributed in proportion to the loading of the boat in its service condition, but the weights used to represent the persons need not be placed 300 mm above the seat pan. The boat and bridle or hooks and fastening device should be examined after the test has been conducted. Testing by filling the boat with water should not be accepted. This method of loading does not give the proper distribution of weight. Machinery may be removed in order to avoid damage, in which case weights should be added to the boat to compensate for the removal of such machinery. The rescue boat and its bridle or hooks (release mechanism) and fastening device should be examined after the test for any signs of damage.	The rescue boat and its bridle or release mechanism should not show any signs of damage.	Load in boat:_____kg Comments/Observations Passed_____ Failed _____

5.3 INFLATED RESCUE BOATS

EVALUATION AND TEST REPORT

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5.3.7 Strength tests
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5.3 INFLATED RESCUE BOATS

EVALUATION AND TEST REPORT

Manufacturer	
Type	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.0.1 General data and specifications | **Regulations: LSA Code 5.1**

General Information	Rescue boat Dimensions	Rescue boat Weight
Construction Material: Hull: _____ Occupancy: Persons (82.5 kg each): _____ Engine(s) Installed: 1 2 Type App by: _____ Manufacturer: Type: _____ Power: _____ Release mechanism(s) (if applicable) 1 2 Manufacturer: Type: _____ SWL: _____ Propeller:_____	Dimensions: LOA: _____ Breadth Maximum: _____ Depth to Gunwale: _____ Length to transom: Length of hull: _____ (insert diagram of hull for reference) Provision for securing hanging-off pendant (if applicable):	Design Weight: Unloaded Boat: _____ Loose Equipment: _____ Fuel: _____ Persons: _____ Calculated Loaded Weight: Fully Equipped: _____ With Persons: _____ Weight as Tested: Fully Equipped: _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.0.2 Submitted drawings, reports and documents

Submitted drawings and documents			**Status**
Drawing No.	**Revision No. & date**	**Title of drawing**	

Submitted reports and documents			**Status**
Report/Document No.	**Revision No. & date**	**Title of report / document**	
		Maintenance Manual -	
		Operations Manual -	

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.0.3 Quality assurance	**Regulations: MSC.81(70) 2/1.1,1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of life-saving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: Quality assurance Procedure: Quality assurance Manual: Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.1.1 Occupant space		**Regulations: LSA Code 5.1, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**General** Unless the rescue boat has adequate sheer, it should be provided with a bow cover extending for not less than 15% of its length. Length is at least 3.8 m and not over 8.5 m. **Seating Space** Width – at least 430 mm Depth – at least 100 mm each side of a point 215 mm from the back Knee Space (Seating on seats) at least 635 mm from the back Knee Width – at least 250 mm Leg Space (Seating on floor) – at least 1190 mm from the back Overlapping Seat Vertical Separation – at least 350 mm Seat Horizontal Overlap – 150 mm maximum Each seating position should be clearly indicated. **Stretcher(s) space:** Rescue boats should be capable of carrying at least five seated persons and a person lying on a stretcher of minimum 2130 x 610 mm. **Walkway Surfaces** The surfaces on which persons might walk should have a non-skid finish.	Passed_____ Failed _____ Passed_____ Failed _____ Width:_____mm Depth:_____mm Knee Space:_____mm Knee Width:_____mm Leg Space:_____mm Vert. Separation:_____mm Overlap:_____mm Position Indication: PASSED FAILED Stretcher space:_____x____mm Location:_____ Passed_____ Failed _____ Non-Skid Surface: Passed_____Failed_____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.1.2 Fittings, provisions and ladders	**Regulations: LSA Code 4.4.3.3, 5.1.3, MSC.81(70)1/7.2.16**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Colour: The boat is of international or vivid reddish orange, or a highly visible colour where it will assist detection.**	Passed_____ Failed _____
		Passed_____ Failed _____
	Buoyancy compartments fitted with: Non-return valve for manual inflation	Passed_____ Failed_____N/A
	Means for deflation	Passed_____ Failed _____
	Safety relief valve unless waived by Administration	Passed_____ Failed _____
	Suitable patches for securing painters fore and aft	
	Fittings and Provisions Suitable handholds or buoyant lifeline becketed around the outside of the rescue boat above the waterline and within reach of a person in the water, except in the vicinity of the rudder and propeller	Passed_____ Failed_____N/A
	On other than self-righting rescue boats, handholds on the underside arranged to break away without damaging the rescue boat	Passed_____Failed _____
	Weathertight stowage for small items of equipment	Passed_____Failed _____
	Approved position indicating light provided at highest point	Passed_____Failed _____
	Rubbing strips on bottom and vulnerable places on the outside	Passed_____Failed _____
	Transom, if fitted, not inset by more than 20% of overall length	

5.3.1.2 Fittings, provisions and ladders (cont'd)	**Regulations: LSA Code 4.4.3.3, 5.1.3, MSC.81(70)1/7.2.16**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Provided with effective means of bailing or be automatically self-bailing. **Ladders** Ladders that can be used at any entrance should be on board and the lowest step when in place should not be less than 0.4 m below the light waterline.	Passed_____ Failed _____ Comments/Observations YES NO N/A Lowest step_____m below waterline Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.1.3 Engine and starting system		**Regulations: LSA Code 4.4.6, 5.1, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Type of starting system - Two independent rechargeable energy sources provided for power starting systems - Required starting aids provided - Starting system is not impeded by engine casing, thwarts or other obstructions - Propeller arranged to be disengaged from the engine and provision for ahead and astern propulsion - Exhaust arranged to prevent water from entering engine in normal operation - System designed with due regard to the safety of persons in the water and to the possibility of damage to the propulsion system from floating debris - Engine casing made of fire-retardant material or other suitable arrangements providing similar protection - Personnel are protected from hot and moving parts - Shouted order can be heard with engine running at speed necessary for 6 knot operation - Watertight casing around bottom and sides of starter batteries with a tightly fitting top which provides for gas venting - Means for recharging engine starting, radio, and searchlight batteries provided by solar charger or ship's power supply - Radio batteries not used to provide power for engine starting - Towing arrangement for marshalling liferafts	Manual Power YES NO N/A Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.1.3 Engine and starting system		**Regulations: LSA Code 4.4.6, 5.1, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visual Inspection-Engine and starting system (continued)	- Recharging for engine batteries provided by ship's power supply does not exceed 50 v - Recharging means for engine batteries can be disconnected at the rescue boat embarkation station - Instructions for starting and operating engine are water resistant and mounted in a conspicuous place near the engine starting controls	Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.1.4 Steering mechanism and fuel tank		**Regulations: LSA Code 4.4.7.2, 5.1.1.8, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required	**Steering** A tiller should be capable of controlling the rudder (rudder and tiller may form part of outboard motor) Rudder permanently attached to the rescue boat Except when remote steering is provided, the tiller is permanently attached or linked to the rudder stock Rudder and tiller arranged so as not to be damaged by operation of the release mechanism or propeller **Fuel Tank** If fitted with petrol-driven outboard motor, the fuel tank(s) should be specially protected against fire and explosion	Passed_____ Failed _____ Passed_____ Failed_____N/A Passed_____ Failed_____N/A Passed_____ Failed _____ Passed_____ Failed_____N/A Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.1.5 Release mechanism	**Regulations: LSA Code 4.4.7, 5.1, MSC.81(70)1/7.2.16**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required	Clear operating instructions Release control marked in a colour that contrasts with the surroundings For on-load release mechanisms: Suitably worded danger sign for on load release Mechanical protection (interlock) engages only when mechanism is completely and properly reset, to prevent accidental release during recovery On-load release mechanism needs deliberate and continued action by the operator Mechanical protection provided beyond that normally required for off load release For a single fall and hook system with suitable painter, on-load release capability is not required; in such an arrangement a single capability to release the boat only when it is fully waterborne will be adequate NOTE: Such single fall hook systems may be attached to the boat or to the davit fall wire	Passed_____ Failed _____ Passed_____ Failed _____ Passed_____ Failed_____ N/A _____ Passed_____ Failed_____ N/A _____ Passed_____ Failed_____ N/A _____ Passed_____ Failed_____ N/A _____ Passed_____ Failed_____ N/A _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.1.6 Drain valve		**Regulations: LSA Code 4.4.7.1, 5.1, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat Conduct measurements and verify clearances as required (not applicable for self-bailing boats)	Fitted near lowest point on the hull Automatically opens when the boat is not waterborne and closes to prevent water entry when the boat is waterborne Cap or plug attached to the boat by a lanyard, chain or equivalent Readily accessible from inside the rescue boat Position clearly marked	Passed _____ Failed _____ Passed _____ Failed _____ Passed _____ Failed _____ Passed _____ Failed _____ Passed _____ Failed _____ Comments/Observations

5.3.2.1 Damage test		**Regulations: LSA Code 5.1.3.5, MSC.81(70)1/7.2.8-.9**
Test Procedure	Acceptance Criteria	Significant Test Data
The following tests should be carried out with the inflated rescue boat loaded with the number of persons (of 82.5 kg mass) for which it is to be approved both with and without engine and fuel or an equivalent mass in the position of the engine and fuel tank: .1 with forward buoyancy compartment deflated; .2 with the entire buoyancy on one side of the rescue boat deflated; and .3 with the entire buoyancy on one side and the bow compartment deflated.	In each of the conditions prescribed, the full number of persons for which the rescue boat is to be approved should be supported within the rescue boat.	Comments/Observations 1 With engine and fuel: Passed _____ Failed _____ Without engine and fuel Passed _____ Failed _____ 2 With engine and fuel: Passed _____ Failed _____ Without engine and fuel Passed _____ Failed _____ 3 With engine and fuel: Passed _____ Failed _____ Without engine and fuel Passed _____ Failed _____

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.2.2 Stability test		**Regulations: LSA Code 4.4.5, MSC.81(70)1/6.10.8, 7.2.6-.7**
Test Procedure	Acceptance Criteria	Significant Test Data
The following tests should be carried out with engine and fuel or an equivalent mass in place of the engine and fuel tanks: .1 the number of persons for which the inflated rescue boat is to be approved should be crowded to one side with half this complement seated on the buoyancy tube, and then to one end. In each case the freeboard should be recorded; and .2 the stability of the rescue boat during boarding should be ascertained by two persons in the rescue boat demonstrating that they can readily assist from the water a third person who is required to feign unconsciousness. The third person should have his back towards the side of the rescue boat so that he cannot assist the rescuers. All persons should wear approved lifejackets. These stability tests may be carried out with the rescue boat floating in still water.	.1 Under these conditions the freeboard should be everywhere positive. .2 The rescue boat should be stable.	1 Freeboard crowded to one side_____mm To bow:_____mm To stern:_____mm Passed_____Failed _____ 2 Stability observations during recovery of unconscious person: Clothing/Suits on helpless person: _____ Method of recovery: _____ Number of persons required and any special equipment used: _____ Passed_____ Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.2.3 Loading test		**Regulations: MSC.81(70)1/7.2.4-.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The freeboard of the inflated rescue boat should be taken in the various loading conditions as follows: .1 rescue boat with all its equipment; .2 rescue boat with all its equipment, engine and fuel, or an equivalent mass positioned to represent engine and fuel; .3 rescue boat with all its equipment and the number of persons for which it is to be approved having an average mass of 82.5 kg so arranged that a uniform freeboard is achieved at the side buoyancy tubes; and .4 rescue boat with the number of persons for which it is to be approved and all its equipment, engine and fuel or an equivalent mass to represent engine and fuel and the rescue boat being re-trimmed as necessary.	In each condition the minimum freeboard should be not less than 300 mm at the buoyancy tubes and not less than 250 mm from the lowest part of the transom.	.1 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm .2 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm .3 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm .4 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm Passed_____ Failed _____ Comments/Observations

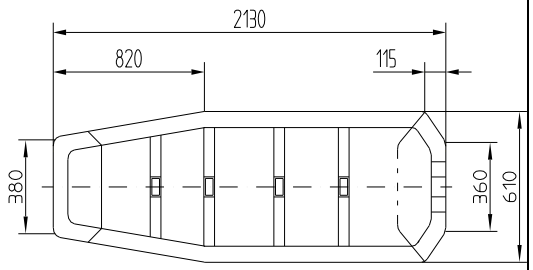
5.3.2.4 Swamp test		**Regulations: MSC.81(70)1/7.2.11**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the rescue boat, when fully swamped, is capable of supporting its full equipment, the number of persons each weighing 82.5 kg for which it is to be approved and a mass equivalent to its engine and fully filled fuel tank. It should also be demonstrated that the rescue boat does not seriously deform in this condition.	The rescue boat should be capable of supporting the full load and should not seriously deform.	Passed_____ Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.2.5 Righting test (for non self-righting rescue boats)		**Regulations: MSC.81(70)1/7.1.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that both with and without engine and fuel or an equivalent mass in place of the engine and fuel tank, the rescue boat is capable of being righted by not more than two persons if it is inverted on the water. For rescue boats with inboard engines, the test without engine and fuel is not applicable. Test without engine is only applicable for outboard engines.	The rescue boat should be capable of being righted by not more than two persons if it is inverted on the water.	Is the boat self-righting? YES NO (If YES, refer to lifeboat report 4.5.2.3) Can the boat be righted by 2 persons? With engine and fuel: Passed_____ Failed _____ Without engine and fuel: Passed_____ Failed _____ Method used to right boat: _____ Comments/Observations

5.3.3.1 Seating strength test		**Regulations: LSA Code 4.4.1.5, MSC.81(70)1/6.6.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The seating should be loaded with a mass of 100 kg in each position allocated for a person to sit in the rescue boat. In the case of a rescue boat launched by falls, each type of seat should be loaded with a mass of 100 kg in any single seat location when dropped into the water from height of at least 3 m. (This test may be performed in conjunction with the Drop Test in 5.3.7.1.)	The seating should be able to support this loading without any permanent deformation or damage. The seating should be capable of supporting this loading. No damage should be sustained that would affect the seat's efficient functioning.	Observed damage Passed_____ Failed _____ Passed_____ Failed_____N/A Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.3.2 Seating space test		**Regulations: LSA Code 5.1.1.3.2, MSC.81(70)1/7.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The rigid rescue boat should be fitted with its engine and all its equipment. The number of persons for which the rescue boat is to be approved, having an average mass of at least 82.5 kg, and all wearing lifejackets and immersion suits and any other essential equipment required, should then board; one person should lie down on a stretcher of similar dimensions to those shown in the figure and the others should be properly seated in the rescue boat. The rigid rescue boat should then be manoeuvred and all equipment on board tested to demonstrate that it can be operated without difficulty or interference with the occupants.  Stretcher dimensions (mm)	Equipment can be operated without interference with the occupants. The rescue boat must be capable of carrying at least 5 persons and a person lying down on a stretcher. Except the helmsmen, persons may be seated on the floor, provided the space used conforms with the leg space requirements of test form 5.3.1.1. No seating is on the gunwale, transom, or buoyancy chambers on the sides of the boat.	Equipment operated: YES NO Number of persons carried: Seated on seats _____ Seated on floor _____ Lying on a stretcher _____ Total _____ Passed _____ Failed _____ Lifejacket and immersion suit used during the test: Lifejacket – Inflatable/Inherently Buoyant _____ Immersion suit – Uninsulated/Buoyant Insulated _____

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.4.1 Simultaneous release test		**Regulations: LSA Code 4.4.7.6, MSC.81(70)1/6.9.1-.2**
Test Procedure	Acceptance Criteria	Significant Test Data
For rescue boats launched by fall or falls, the rescue boat with its engine fitted should be suspended from the release mechanism just clear of the ground or the water. The rescue boat should be loaded so that the total mass equals 1.1 times the mass of the rescue boat, all its equipment and the number of persons for which the rescue boat is to be approved. The rescue boat should be released simultaneously from each fall to which it is connected without binding or damage to any part of the rescue boat or the release mechanism. (Single fall systems not intended for on-load operation are exempt from this test.)	It should be confirmed that the rescue boat will simultaneously release from each fall which it is connected without binding or damage to any part of the rescue boat or the release mechanism. It should be confirmed that the rescue boat will simultaneously release from each fall to which it is connected when fully waterborne in the light condition and in a 10% overload condition.	Light condition Passed_____Failed_____N/A (N/A – Single fall, off-load only) 1.1 x Loaded Mass:_____kg Passed _____ Failed_____ N/A (N/A – Single fall, off-load only) Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.4.2 Towing release test		**Regulations: LSA Code 4.4.7.6.5; MSC.81(70) 1/6.9.3**
Test Procedure	Acceptance Criteria	Significant Test Data
With the operating mechanism disconnected it should be demonstrated when the rescue boat is loaded with its full complement of persons and equipment and towed at speeds of 5 knots that the moveable hook component stays closed. Furthermore, with the operating mechanism connected, it should be demonstrated that the rescue boat when loaded with its full complement of persons and equipment when towed at speeds of 5 knots can be released. Both of the above should be demonstrated as follows: .1 a force equal to 25% of the safe working load of the hook should be applied to the hook in the lengthwise direction of the boat at an angle of 45° to the vertical. This test should be conducted in the aftward as well as the forward direction; .2 a force equal to the safe working load of the hook should be applied to the hook in an athwartships direction at an angle of 20° to the vertical. This test should be conducted on both sides; and .3 a force equal to the safe working load of the hook should be applied to the hook in a direction halfway between the positions of tests 1 and 2 (i.e. 45° to the longitudinal axis of the boat in plain view) at an angle of 33° to the vertical. This test should be conducted in four positions.	There should be no damage as a result of these tests. The rescue boat is released satisfactorily by the release mechanism. Single fall systems not intended for on-load operation are exempt from this test.	Operating mechanism disconnected and boat towed at 5 kts: _____Pass _____ Fail <u>Operating mechanism connected tests</u>. Test 1: 25% SWL, lengthwise to the boat at 45° to the vertical: Force Applied: _____ N. Forward direction: _____Pass _____ Fail Aft direction: _____Pass _____ Fail Test 2: 100% SWL, athwartships at 20° to the vertical: Force Applied: _____ N. Starboard: _____Pass _____ Fail Port: _____Pass _____ Fail Test 3: 100% SWL, 45° to the longitudinal axis of the boat in plan view at an angle of 33° to the vertical. Force Applied: _____ N. Position 1: _____Pass _____ Fail Position 2: _____Pass _____ Fail Position 3: _____Pass _____ Fail Position 4: _____Pass _____ Fail Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.4.3 Load and release test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A release mechanism should be conditioned and tested as follows: The rescue boat release and retrieval system and the longest used connection cable/linkage associated with the system should be mounted and adjusted according to instructions from the original equipment manufacturer and then loaded to 100% of its safe working load and released. Load and release should be repeated 50 times. The rescue boat release and retrieval system should then be disassembled, the parts examined and wear recorded. The release and retrieval system should then be reassembled.	During the 50 releases, the rescue boat release and retrieval system should be released simultaneously from each fall to which it is connected without any binding or damage to any part of the lifeboat release and retrieval system. The system should be considered as "failed" if any failure during the conditioning or unintended release occurs when load is applied but the system has not yet been operated.	Working Load:_____N Force Applied:_____N Check the box for each release: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ 11: ☐ 12: ☐ 13: ☐ 14: ☐ 15: ☐ 16: ☐ 17: ☐ 18: ☐ 19: ☐ 20: ☐ 21: ☐ 22: ☐ 23: ☐ 24: ☐ 25: ☐ 26: ☐ 27: ☐ 28: ☐ 29: ☐ 30: ☐ 31: ☐ 32: ☐ 33: ☐ 34: ☐ 35: ☐ 36: ☐ 37: ☐ 38: ☐ 39: ☐ 40: ☐ 41: ☐ 42: ☐ 43: ☐ 44: ☐ 45: ☐ 46: ☐ 47: ☐ 48: ☐ 49: ☐ 50: ☐ Passed_____ Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.4.4 Cyclic loading test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The hook assembly, while disconnected from the operating mechanism, should be tested 10 times with cyclic loading from zero load to 1.1 times the safe working load, at a nominal 10 seconds per cycle; unless the release mechanism has been specifically designed to operate as an off-load hook with on-load capability using the weight of the boat to close the hook, in this case the cyclic load should be from no more than 1% to 1.1 times the SWL. For cam-type designs, the test should be carried out at an initial cam rotation of 0º (fully reset position), and repeated at 45º in either direction, or 45º in one direction if restricted by design.	The specimen should remain closed during the test. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Working Load:_____N Force Applied:_____N Check the box for each release and/or strike out the cam rotation if no applicable: Cam rotation 0°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation +45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation -45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Passed: _____ Failed: _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.4.5 Actuation force test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.4**
Test Procedure	Acceptance Criteria	Significant Test Data
The cable and operating mechanism should then be reconnected to the hook assembly; and the rescue boat release and retrieval system should then be demonstrated to operate satisfactorily under its safe working load. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer.	The actuation force should be no less than 100 N and no more than 300 N, if a cable is used it should be the maximum length specified by the manufacturer, and secures in the same manner it would be secured in the rescue boat. The release mechanism is deemed to have passed the testing in 5.3.4.3, 5.3.4.4 and 5.3.4.5 when the tests have been conducted successfully. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Actuation Force: _____ N Passed: _____ Failed: _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.4.6 Second release mechanism tests- actuation force and tensile strength		**Regulations: LSA Code 4.4.7.6.4, MSC.81(70)1/6.9.5.1, 6.9.5.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A second release mechanism should be tested as follows: 1. the actuation force of the release mechanism should be measured loaded with 100% of its safe working load. If a cable is used, it should be of the maximum length specified by the manufacturer, and secured in the same manner it would be secured in a lifeboat. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer; and 2. the release mechanism should be mounted on a tensile strength testing device. The load should be increased to at least six times the working load of the release mechanism.	.1 The actuation force should be no less than 100 N and no more than 300 N. The release mechanism does not fail.	Actuation Force: _____ N Tensile strength @ 6xSWL. Force applied: _____ N. Passed: _____ Failed: _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.5.1 Liferaft towing		**Regulations: LSA Code 4.4.6.8, 5.1.1.7, 5.1.1.9, MSC.81(70)1/7.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The maximum towing force of the rescue boat should then be determined. This information should be used to determine the largest size of fully loaded liferaft the rescue boat can tow at a speed of at least 2 knots. The fitting designated for towing other craft should be secured to a stationary object by a tow rope fitted with a means to measure bollard pull. The engine should be operated ahead at full speed for a period of at least 2 minutes and the maximum force recorded. (For rescue boats equipped with outboard motor, bollard pull trials may be carried out with engines of various powers to assess the rescue boat's performance.)	The maximum towing force of the rescue boat should be recorded on the type approval certificate. There should be no damage to the towing fitting or its supporting structure.	Smallest Engine Largest Engine Make/model: _____ _____ Bollard pull: N _____ _____ (Record on type approval certificate) Observed damage: Propeller: Pitch: _____ Diameter: _____ Passed _____ Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.5.2 Endurance, speed and fuel consumption		**Regulations: LSA Code 5.1.1.6, MSC.81(70)1/7.1.5, 1/7.1.6**
Test Procedure	Acceptance Criteria	Significant Test Data
(Note: Run this test after impact and drop tests in 5.3.7.1.) The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The engine should be started and the boat manoeuvred for a period of at least 4 h to demonstrate satisfactory operation. The rescue boat should be run at a speed of not less than 6 knots for a period which is sufficient to ascertain the fuel consumption and to establish that the fuel tank has the required capacity. (This determination may be made during the 4-hour period of operation.) For rescue boats equipped with outboard motor, speed and manoeuvring trials should be carried out with engines of various powers to assess the rescue boat's performance.	The boat should operate satisfactorily throughout the 4-h operation. The fuel tank should have sufficient capacity to operate at a speed of 6 knots for a period of 4 hours in calm water.	Smallest Engine Largest Engine Make/model: _____ _____ Engine Speed: rpm _____ _____ Boat Speed: kts _____ _____ Consumption: L/h _____ _____ Fuel Tank Capacity: _____ L Endurance: hrs _____ _____ Propeller: Pitch: _____ Diameter: _____ Passed _____ Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.5.3 Engine out of water		**Regulations: LSA Code 4.4.6.3, MSC.81(70)1/6.10.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The engine should be operated for at least 5 minutes at idling speed under conditions simulating normal storage. Note: If a water flushing device is intended to be used for this purpose, it should be fitted during the test.	The engine should not be damaged as a result of this test.	Passed_____ Failed _____ Comments/Observations

5.3.5.4 Compass test		**Regulations: LSA Code 5.1.2.2.3, MSC.81(70)1/6.10.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be determined that the compass performance is satisfactory and that it is not unduly affected by magnetic fittings and equipment in the rescue boat.	The compass operates satisfactorily.	Compass Make: _____ Compass Model: _____ Passed_____ Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.5.5 Manoeuvrability with paddles or oars		**Regulations: LSA Code 5.1.2.2.1, MSC.81(70)1/7.1.8**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the rescue boat can be propelled and manoeuvred by its oars or paddles in calm water conditions at a speed of at least 0.5 knots over a distance of at least 25 m. when laden with the number of persons, all wearing lifejackets and immersion suits, for which it is to be approved.	The rescue boat should be capable of being satisfactorily paddled and manoeuvred.	Distance travelled:_____m Time Required:_____s Calculated speed:_____m/s = _____ knots Lifejacket and immersion suit used during the test: Lifejacket – Inflatable/Inherently Buoyant _____ Immersion suit – Uninsulated/Buoyant Insulated _____ Passed_____ Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.5.6 Heavy weather/seas test		**Regulations: LSA Code 5.1.3, MSC.81(70)1/7.2.10**
Test Procedure	Acceptance Criteria	Significant Test Data
To simulate use in heavy weather the inflated rescue boat should be fitted with a larger powered engine than is intended to be fitted and driven hard in a wind of force 4 or 5 or equivalent rough water for at least 30 minutes. For boats with inboard engines the power does not need to be greater than that intended to be used.	The rescue boat should not show undue flexing or permanent strain nor have lost more than minimal pressure.	Tube pressure before test:_____mbar Pressure relief valves open/closed?_____ Wave height _____ m Wind Speed_____ m/s Tube pressure after test:_____mbar Passed_____ Failed _____ Comments/Observations

5.3.6.1 Towing test		**Regulations: LSA Code 4.4.1.3.2, 4.4.7.7, MSC.81(70)1/6.11.1**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the fully equipped rescue boat, loaded with a properly distributed mass equal to the mass of the number of persons for which it is to be approved, can be towed at a speed of not less than 5 knots in calm water and on an even keel using the rescue boat's painter securing device.	The rescue boat should not exhibit unsafe or unstable characteristics. There should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.6.2 Painter release test		**Regulations: LSA Code 4.4.7.7, MSC.81(70)1/6.11.2-.3**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the painter release mechanism can release the painter on a fully equipped and loaded rescue boat that is being towed at a speed of not less than 5 knots in calm water. The painter release mechanism should be tested in several distinct directions of the upper hemisphere not obstructed by the canopy or other constructions in the rescue boat. The directions specified in test 5.3.4.2 should be used if possible.	The painter should release and there should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Test Direction _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.7.1 Impact, drop and operation after impact and drop tests		**Regulations: LSA Code 4.4.1.7, MSC.81(70)1/6.4.1, 7.2.2. & 7.2.3**
Test Procedure	Acceptance Criteria	Significant Test Data
.1 For boats launched by fall or falls, the fully equipped rescue boat, including its engine, should be loaded with weights equal to the mass of the number of persons for which the rescue boat is to be approved. Included in this loading should be a weight of 100 kg loaded in one of each type of seat installed in the lifeboat. The weights should be distributed to represent the normal loading in the rescue boat. (These weights need not be placed 300 mm above the seatpan.) Skates or fenders, if required, should be in position. The rescue boat, in a free hanging position, should be pulled laterally to a position so that when released it will strike a fixed rigid vertical surface at a velocity of 3.5 m/s (keel is raised 0.624 m above the free hanging position). The boat should be released to impact against the rigid vertical surface. .2 The rescue boat complete with all its equipment and with a mass equivalent to its engine and fuel in the position of its engine and fuel tank should be dropped three times from a height of at least 3 m on to water. The drops should be from the 45-degree bow-down, level trim, and 45-degree stern-down attitudes. .3 On completion of these tests the rescue boat and its equipment should be carefully examined.	The impact and drop tests should be considered successful if: .1 no damage has been sustained that would affect the efficient functioning of the rescue boat and its equipment; .2 the damage caused by the impact and drop tests has not increased significantly as a result of the operational test in 5.3.5.2; .3 machinery and other equipment has operated to full satisfaction; and .4 no significant ingress of seawater has occurred.	Load in boat:_____kg Observed Damage: Increased Damage: YES NO Satisfactory Operation: YES NO Ingress of Water: YES NO Weight of heaviest engine tested:_____ Final Evaluation: Passed_____ Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.7.2 Ambient overload test		**Regulations: LSA Code 5.1.3.2.2, MSC.81(70)1/7.2.12**
Test Procedure	Acceptance Criteria	Significant Test Data
With all relief valves inoperative, the inflated rescue boat should be loaded with four times the mass of the full complement of persons and equipment for which it is to be approved and suspended for 5 minutes from its bridle at an ambient temperature of +20 ± 3°C. The rescue boat and its bridle should be examined after the test is conducted.	The rescue boat and its bridle or release mechanism should not show any signs of damage.	Passed_____ Failed _____ Comments/Observations

5.3.7.3 Cold overload test		**Regulations: LSA Code 5.1.3.2.3, MSC.81(70)1/7.2.13**
Test Procedure	Acceptance Criteria	Significant Test Data
With all relief valves operative, after 6 hours conditioning at a temperature of -30°C, the inflated rescue boat should be loaded with 1.1 times the mass of the full complement of persons and equipment for which it is to be approved and suspended for 5 minutes from its bridle. The rescue boat and bridle should be examined after the test is conducted.	The rescue boat and its bridle or release mechanism should not show any signs of damage.	Passed_____ Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.7.4 Mooring out test		**Regulations: LSA Code 5.1.3.3, MSC.81(70)1/7.2.15, 5.5, 5.17.7-.8**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with a mass equal to the mass of the total number of persons for which it is to be approved and its equipment and moored in a location at sea or in a seawater harbour. The rescue boat should remain afloat in that location for 30 days. The pressure may be topped up once a day using the manual pump; however, during any 24-hour period the rescue boat should retain its shape. Each inflatable compartment in the rescue boat should be tested to a pressure equal to three times the working pressure. Each pressure relief valve should be made inoperative, compressed air should be used to inflate the inflatable rescue boat and the inflation source removed. The test should continue for at least 30 minutes. The measurement of pressure drop due to leakage can be started when it has been assumed that compartment material has been completed stretching due to the inflation pressure and achieved equilibrium.	The rescue boat should not sustain any damage that would impair its performance. The pressure should not decrease by more than 5% as determined without compensating for temperature and atmospheric pressure changes, and there should be no seam slippage, cracking or other defect in the rescue boat.	Compartment 1 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 2 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 3 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 4 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 5 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Passed_____ Failed _____ Comments/Observations

Inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.3.8.1 Inflation chamber characteristics tests	**Regulations: LSA Code 1.2.2, MSC.81(70)1/7.2.14**	
Test Procedure	Acceptance Criteria	Significant Test Data
The inflatable compartment materials used to construct the rescue boat should be tested for the following characteristics: .1 tensile strength .2 tear strength .3 heat resistance .4 cold resistance .5 heat ageing .6 weathering .7 flex cracking .8 abrasion .9 coating adhesion .10 oil resistance .11 elongation at break .12 piercing strength .13 ozone resistance .14 gas permeability .15 seam strength .16 ultraviolet light resistance	The material characteristics should comply with ISO 15372:2000.	.1 tensile strength_____N/50 mm width .2 tear strength_____N .3 heat resistance – Blocking _____ .4 cold resistance – Cracking _____ .5 heat ageing_____% retained strength N/50 mm width .6 weathering_____% retained strength N/50 mm width .7 flex cracking – Cracking or deterioration _____ .8 abrasion _____mg/rev.; Base fabric not visible .9 coating adhesion _____N/50 mm width .10 oil resistance – Tackiness or other deterioration .11 elongation at break_____% .12 piercing strength _____ .13 ozone resistance -Visible cracking _____ .14 gas permeability _____bubbles/min or l/m^2/hr of _____ .15 seam strength _____N/50 mm width .16 ultraviolet light resistance_____% retained strength N/50 mm width Cracking _____ SATISFACTORY UNSATISFACTORY Comments/Observations

5.4 RIGID/INFLATED RESCUE BOATS

EVALUATION AND TEST REPORT

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5.4 RIGID/INFLATED RESCUE BOATS

EVALUATION AND TEST REPORT

Manufacturer	
Type	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.0.1 General data and specifications | **Regulations: LSA Code 4.4, 5.1, MSC.81(70)1/7.2.16**

General Information	Rescue boat Dimensions	Rescue boat Weight
Construction Material: Hull: _____ Canopy: _____ Fire-retardancy documentation:_____ Rescue Boat Inherent Buoyancy (Type App.) Material: _____ Weight: _____ Occupancy: Persons (82.5 kg each): _____ Engine(s) Installed: 1 2 Type App by: _____ Manufacturer:_____ Type: _____ Power: _____ Gear ratio (inboard engine):_____ Additional rigid or inflatable buoyancy: _____ Release mechanism(s) (if applicable) 1 2 Manufacturer:_____ Type: _____ SWL: _____	Dimensions: LOA: _____ Breadth Maximum: _____ Depth to Sill: _____ Depth to Gunwale: _____ Moulded Breadth: _____ _____ Moulded Depth: Provision for securing hanging-off pendant (if applicable):_____	Design Weight: Unloaded Boat: _____ Loose Equipment: _____ Fuel: _____ Persons: _____ Calculated Loaded Weight: Fully Equipped: _____ With Persons: _____ Weight as Tested: Fully Equipped: _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.0.2 Submitted drawings, reports and documents

Submitted drawings and documents			**Status**
Drawing No.	**Revision No. & date**	**Title of drawing**	

Submitted reports and documents			**Status**
Report/Document No.	**Revision No. & date**	**Title of report / document**	
		Maintenance Manual -	
		Operations Manual -	

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.0.3 Quality assurance	**Regulations: MSC.81(70) 2/1.1, 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of life-saving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: Quality assurance Procedure: Quality assurance Manual: Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.1.1 Occupant space	**Regulations: LSA Code 4.4.2.2, 4.4.3.5, 5.1, MSC.81(70)1/7.2.16**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**General** Unless the rescue boat has adequate sheer, it should be provided with a bow cover extending for not less than 15% of its length. Length is at least 3.8 m and not over 8.5 m. **Seating Space** Width – at least 430 mm Depth – at least 100 mm each side of a point 215 mm from the back Knee Space (Seating on seats) at least 635 mm from the back Knee Width – at least 250 mm Leg Space (Seating on floor) – at least 1190 mm from the back Overlapping Seat Vertical Separation – at least 350 mm Seat Horizontal Overlap – 150 mm maximum Each seating position should be clearly indicated. **Stretcher(s) space:** Rescue boats should be capable of carrying at least five seated persons and a person lying on a stretcher of minimum 2130 x 610 mm. **Walkway Surfaces** The surfaces on which persons might walk should have a non-skid finish.	Passed_____ Failed _____ Passed_____ Failed _____ Width:_____mm Depth:_____mm Knee Space:_____mm Knee Width:_____mm Leg Space:_____mm Vert. Separation:_____mm Overlap:_____mm Position Indication: PASSED FAILED Stretcher space:_____x____mm Location:_____ Passed_____ Failed _____ Non-Skid Surface: Passed_____Failed Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.1.2 Fittings, provisions and ladders		**Regulations: LSA Code 5.1.3, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Buoyancy compartments** fitted with: Non-return valve for manual inflation Means for deflation Safety relief valve unless waived by Administration Suitable patches for securing painters fore and aft **Fittings and Provisions** Suitable handholds or buoyant lifeline becketed around the outside of rescue boat above the waterline and within reach of a person in the water, except in the vicinity of the rudder and propeller On other than self-righting rescue boats, handholds on the underside arranged to break away without damaging the rescue boat Weathertight stowage for small items of equipment Approved position indicating light provided at highest point Provided with effective means of bailing or be automatically self-bailing	Passed_____ Failed _____ Passed_____ Failed _____ Passed_____ Failed_____N/A Passed_____ Failed _____ Passed_____ Failed _____ Passed_____ Failed _____ Passed_____ Failed_____N/A Passed_____Failed _____ Passed_____Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.1.2 Fittings, provisions and ladders (cont'd)		**Regulations: LSA Code 4.4.3.3, 5.1.3, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Ladders** Ladders that can be used at any entrance should be on board and the lowest step when in place should not be less than 0.4 m below the light waterline. **Other Provisions** Buoyant material may be installed external to the hull of the boat, provided it is adequately protected against damage and is capable of withstanding exposure when stowed on an open deck on a ship at sea and for 30 days afloat in all sea condition. **Colour** The boat should be of a highly visible colour where it will assist detection.	Passed_____ Failed _____ Lowest step_____m below waterline YES NO N/A Passed_____ Failed _____ Highly visible colour: Passed____Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.1.3 Engine and starting system		**Regulations: LSA Code 4.4.6, 5.1, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Type of starting system - Two independent rechargeable energy sources provided for power starting systems. - Required starting aids provided. - Starting system is not impeded by engine casing, thwarts or other obstructions. - Propeller arranged to be disengaged from the engine and provision for ahead and astern propulsion. - Exhaust arranged to prevent water from entering engine in normal operation. - System designed with due regard to the safety of persons in the water and to the possibility of damage to the propulsion system from floating debris. - Engine casing made of fire-retardant material or other suitable arrangements providing similar protection. - Personnel are protected from hot and moving parts. - Shouted order can be heard with engine running at speed necessary for 6 knot operation. - Watertight casing around bottom and sides of starter batteries with a tightly fitting top which provides for gas venting. - Means for recharging engine starting, radio, and searchlight batteries provided by solar charger or ship's power supply. - Radio batteries not used to provide power for engine starting. - Towing arrangements for marshalling liferafts.	Manual Power YES NO N/A Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.1.3 Engine and starting system		**Regulations: LSA Code 4.4.6, 5.1, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visual Inspection-Engine and starting system (continued)	- Recharging for engine batteries provided by ship's power supply does not exceed 50 v. - Recharging means for engine batteries can be disconnected at the rescue boat embarkation station. - Instructions for starting and operating engine are water resistant and mounted in a conspicuous place near the engine starting controls.	Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.1.4 Steering mechanism and fuel tank		**Regulations: LSA Code 4.4.7.2, 5.1.1.8, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Steering** A tiller should be capable of controlling the rudder (rudder and tiller may form part of outboard motor) Rudder permanently attached to the rescue boat Except when remote steering is provided, the tiller is permanently attached or linked to the rudder stock Rudder and tiller arranged so as not to be damaged by operation of the release mechanism or propeller **Fuel Tank** If fitted with petrol-driven outboard motor, the fuel tank(s) should be specially protected against fire and explosion	Passed _____ Failed _____ Passed _____ Failed_____ N/A Passed _____ Failed_____ N/A Passed _____ Failed _____ Passed _____ Failed_____ N/A Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.1.5 Release mechanism		**Regulations: LSA Code 4.4.7.6.5, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Clear operating instructions Release control marked in a colour that contrasts with the surroundings For on-load release mechanisms: Suitably worded danger sign for on load release Mechanical protection (interlock) engages only when mechanism is completely and properly reset, to prevent accidental release during recovery On-load release mechanism needs deliberate and continued action by the operator Mechanical protection provided beyond that normally required for off load release For a single fall system with suitable painter, on-load release capability is not required; in such an arrangement a single capability to release the boat only when it is fully waterborne will be adequate NOTE: Such single fall hook systems may be attached to the boat or to the davit fall wire	Passed_____ Failed _____ Passed_____ Failed _____ Passed_____ Failed_____N/A Passed_____ Failed_____N/A Passed_____ Failed_____N/A Passed_____ Failed_____N/A Passed_____ Failed_____N/A Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.1.6 Drain valve		**Regulations: LSA Code 4.4.7.1, 5.1, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required (not applicable for self-bailing boats).	Fitted near lowest point on the hull. Automatically opens when the boat is not waterborne and closes to prevent water entry when the boat is waterborne. Cap or plug attached to the boat by a lanyard, chain or equivalent. Readily accessible from inside the rescue boat. Position clearly marked.	Passed_____Failed _____ Passed_____Failed _____ Passed_____Failed _____ Passed_____Failed _____ Passed_____Failed _____ Comments/Observations

5.4.2.1 Damage test (Does not apply if waterline is below lower side of inflated tube)		**Regulations: LSA Code 5.1.3.5, MSC.81(70)1/7.2.8-.9, 7.3.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The following tests should be carried out with the rigid inflated rescue boat loaded with the number of persons (of 82.5 kg mass) for which it is to be approved both with and without engine and fuel or an equivalent mass in the position of the engine and fuel tank: .1 with forward buoyancy compartment deflated; .2 with the entire buoyancy on one side of the rescue boat deflated; and .3 with the entire buoyancy on one side and the bow compartment deflated.	In each of the conditions prescribed, the full number of persons for which the rescue boat is to be approved should be supported within the rescue boat.	Comments/Observations 1 With engine and fuel: Passed _____ Failed_____ Without engine and fuel Passed_____ Failed _____ 2 With engine and fuel: Passed _____ Failed_____ Without engine and fuel Passed_____ Failed _____ 3 With engine and fuel: Passed _____ Failed_____ Without engine and fuel Passed_____ Failed

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.2.2 Stability test		**Regulations: LSA Code 4.4.5, MSC.81(70)1/6.10.8, 7.2.6-.7,**
Test Procedure	Acceptance Criteria	Significant Test Data
The following tests should be carried out with engine and fuel or an equivalent mass in place of the engine and fuel tanks: .1 the number of persons for which the rigid/inflated rescue boat is to be approved should be crowded to one side with half this complement seated on the buoyancy tube, and then to one end. In each case the freeboard should be recorded; and .2 the stability of the rescue boat during boarding should be ascertained by two persons in the rescue boat demonstrating that they can readily assist from the water a third person who is required to feign unconsciousness. The third person should have his back towards the side of the rescue boat so that he cannot assist the rescuers. All persons should wear approved lifejackets. These stability tests may be carried out with the rescue boat floating in still water.	.1 Under these conditions the freeboard should be everywhere positive. .2 The rescue boat should be stable.	.1 Freeboard crowded to one side_____mm To bow:_____mm To stern:_____mm Passed_____Failed _____ .2 Stability observations during recovery of unconscious person: Clothing/Suits on helpless person: _____ Method of recovery: _____ Number of persons required and any special equipment used: _____ Passed_____ Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.2.3 Loading test		**Regulations: LSA Code 5.1.3.6, MSC.81(70)1/7.2.4-.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The freeboard of the rescue boat should be taken in the various loading conditions as follows: .1 rescue boat with all its equipment; .2 rescue boat with all its equipment, engine and fuel, or an equivalent mass positioned to represent engine and fuel; .3 rescue boat with all its equipment and the number of persons for which it is to be approved having an average mass of 82.5 kg so arranged that a uniform freeboard is achieved at the side buoyancy tubes; and .4 rescue boat with the number of persons for which it is to be approved and all its equipment, engine and fuel or an equivalent mass to represent engine and fuel and the rescue boat being retrimmed as necessary.	In each condition the minimum freeboard should be not less than 300 mm at the buoyancy tubes and not less than 250 mm from the lowest part of the transom.	.1 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm .2 Freeboard at Buoyancy Tubes:__mm Freeboard at Transom:_____mm .3 Freeboard at Buoyancy Tubes:__mm Freeboard at Transom:_____mm .4 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm Passed_____ Failed _____ Comments/Observations

5.4.2.4 Swamp test		**Regulations: MSC.81(70)1/7.2.11**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the rescue boat, when fully swamped, is capable of supporting its full equipment, the number of persons each weighing 82.5 kg for which it is to be approved and a mass equivalent to its engine and fully filled fuel tank. It should also be demonstrated that the rescue boat does not seriously deform in this condition.	The rescue boat should be capable of supporting the full load and should not seriously deform.	Passed_____ Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.2.5 Flooded stability test (Required only when waterline is below lower side of inflated tube)		**Regulations: LSA Code 4.4.1.1, MSC.81(70)1/6.8.1-.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with its equipment. If provision lockers, water tanks and fuel tanks cannot be removed, they should be flooded or filled to the final waterline resulting from this test. Rescue boats fitted with watertight stowage compartments to accommodate individual drinking water containers should have these containers aboard and placed in the stowage compartments which should be sealed watertight during the flooding tests. Ballast of equivalent weight and density should be substituted for the engine and any other installed equipment that can be damaged by water. Weights representing persons (of 82.5 kg mass) who would be in the water when the rescue boat is flooded (water level more than 500 mm above the seat pan) may be omitted.	When loaded as specified, the rescue boat should have positive stability when filled with water to represent flooding which would occur when the rescue boat is holed in any one location below the waterline assuming no loss of buoyancy material and no other damage.	Passed_____ Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.2.5 Flooded stability test (Required only when waterline is below lower side of inflated tube) (cont'd)		**Regulations: LSA Code 4.4.1.1, MSC.81(70)1/6.8.1-.3**
Test Procedure	Acceptance Criteria	Significant Test Data
Weights representing persons who would not be in the water when the rescue boat is flooded (water level more than 500 mm above the seat pan) should be placed in the normal seating positions of such persons with their centre of gravity approximately 300 mm above the seat pan. Weights representing persons who would be partly submerged in the water when the lifeboat is flooded (water level between 0 and 500 mm above the seat pan) should additionally have an approximate density of 1 kg/dm^3 (for example water ballast containers) to represent a volume similar to a human body. Note: Several tests may have to be conducted if holes in different areas would create different flooding conditions.		

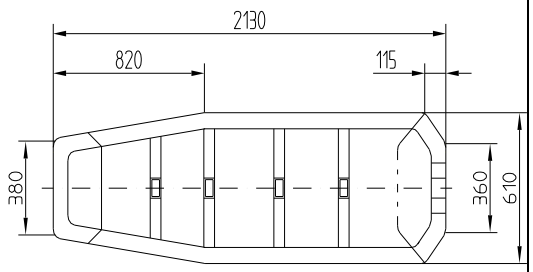
Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.2.6 Righting test (for non-self-righting rescue boats)		**Regulations: MSC.81(70)1/7.1.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that both with and without engine and fuel or an equivalent mass in place of the engine and fuel tank, the rescue boat is capable of being righted by not more than two persons if it is inverted on the water. For rescue boats with inboard engines, the test without engine and fuel is not applicable. Note: Test without engine is only applicable for outboard engines.	The rescue boat should be capable of being righted by not more than two persons if it is inverted on the water.	Is the boat self-righting? YES NO (If YES, refer to lifeboat report 4.5.2.3) Can the boat be righted by 2 persons? With engine and fuel: Passed_____ Failed _____ Without engine and fuel: Passed_____ Failed _____ Method used to right boat: _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.3.1 Seating strength test		**Regulations: LSA Code 4.4.1.5, MSC.81(70)1/6.6.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The seating should be loaded with a mass of 100 kg in each position allocated for a person to sit in the rescue boat. In the case of a rescue boat launched by falls, each type of seat should be loaded with a mass of 100 kg in any single seat location when dropped into the water from height of at least 3 m. (This test may be performed in conjunction with the Drop Test in 5.4.7.1)	The seating should be able to support this loading without any permanent deformation or damage. The seating should be capable of supporting this loading. No damage should be sustained that would affect the seat's efficient functioning.	Observed damage Passed_____ Failed _____ Passed_____ Failed_____ _____N/A Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.3.2 Seating space test		**Regulations: LSA Code 5.1.1.3.2, MSC.81(70)1/7.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be fitted with its engine and all its equipment. The number of persons for which the rescue boat is to be approved, having an average mass of at least 82.5 kg, and all wearing lifejackets and immersion suits and any other essential equipment required, should then board; one person should lie down on a stretcher of similar dimensions to those shown in the figure below and the others should be properly seated in the rescue boat. The rescue boat should then be manoeuvred and all equipment on board tested to demonstrate that it can be operated without difficulty or interference with the occupants.  Stretcher dimensions in mm	Equipment can be operated without interference with the occupants. The rescue boat must be capable of carrying at least 5 persons and a person lying down on a stretcher. Except the helmsmen, persons may be seated on the floor, provided the space used conforms with the leg space requirements of test form 5.4.1.1. No seating is on the gunwale, transom, or buoyancy chambers on the sides of the boat.	Equipment operated: YES NO Number of persons carried: Seated on seats _____ Seated on floor _____ Lying on a stretcher _____ Total _____ Passed_____Failed _____ Lifejacket and immersion suit used during the test: Lifejacket– Inflatable/Inherently Buoyant _____ Immersion suit– Uninsulated/Buoyant Insulated

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.4.1 Simultaneous release		**Regulations: LSA Code 4.4.7.6, MSC.81(70)1/6.9.1-.2**
Test Procedure	Acceptance Criteria	Significant Test Data
For rescue boats launched by fall or falls, the rescue boat with its engine fitted should be suspended from the release mechanism just clear of the ground or the water. The rescue boat should be loaded so that the total mass equals 1.1 times the mass of the rescue boat, all its equipment and the number of persons for which the rescue boat is to be approved. The rescue boat should be released simultaneously from each fall to which it is connected without binding or damage to any part of the rescue boat or the release mechanism. (Single fall systems not intended for on-load operation are exempt from this test.)	It should be confirmed that the rescue boat will simultaneously release from each fall which it is connected without binding or damage to any part of the rescue boat or the release mechanism. It should be confirmed that the rescue boat will simultaneously release from each fall to which it is connected when fully waterborne in the light condition and in a 10% overload condition.	Light condition Passed_____ Failed _____N/A (N/A – Single fall, off-load only) 1.1 x Loaded Mass:_____kg Passed_____ Failed _____N/A (N/A – Single fall, off-load only) Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.4.2 Towing release test	**Regulations: LSA Code 4.4.7.6.5; MSC.81(70) 1/6.9.3**	
Test Procedure	Acceptance Criteria	Significant Test Data
With the operating mechanism disconnected it should be demonstrated when the rescue boat is loaded with its full complement of persons and equipment and towed at speeds of 5 knots that the moveable hook component stays closed. Furthermore, with the operating mechanism connected, it should be demonstrated that the rescue boat when loaded with its full complement of persons and equipment when towed at speeds of 5 knots can be released. Both of the above should be demonstrated as follows: .1 a force equal to 25% of the safe working load of the hook should be applied to the hook in the lengthwise direction of the boat at an angle of 45° to the vertical. This test should be conducted in the aftward as well as the forward direction; .2 a force equal to the safe working load of the hook should be applied to the hook in an athwartships direction at an angle of 20° to the vertical. This test should be conducted on both sides; and .3 a force equal to the safe working load of the hook should be applied to the hook in a direction halfway between the positions of tests 1 and 2 (i.e. 45° to the longitudinal axis of the boat in plan view) at an angle of 33° to the vertical. This test should be conducted in four positions.	There should be no damage as a result of these tests. The rescue boat is released satisfactorily by the release mechanism. Single fall systems not intended for on-load operation are exempt from this test	Operating mechanism disconnected and boat towed at 5 kts: _____Pass _____ Fail <u>Operating mechanism connected tests</u>. Test 1: 25% SWL, lengthwise to the boat at 45° to the vertical: Force Applied: _____ N. Forward direction: _____Pass _____ Fail Aft direction: _____Pass _____ Fail Test 2: 100% SWL, athwartships at 20° to the vertical: Force Applied: _____ N. Starboard: _____Pass _____ Fail Port: _____Pass _____ Fail Test 3: 100% SWL, 45° to the longitudinal axis of the boat in plan view at an angle of 33° to the vertical. Force Applied: _____ N. Position 1: _____Pass _____ Fail Position 2: _____Pass _____ Fail Position 3: _____Pass _____ Fail Position 4: _____Pass _____ Fail Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.4.3 Load and release test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A release mechanism should be conditioned and tested as follows: The rescue boat release and retrieval system and the longest used connection cable/linkage associated with the system should be mounted and adjusted according to instructions from the original equipment manufacturer and then loaded to 100% of its safe working load and released. Load and release should be repeated 50 times. The rescue boat release and retrieval system should then be disassembled, the parts examined and wear recorded. The release and retrieval system should then be reassembled.	During the 50 releases, the rescue boat release and retrieval system should be released simultaneously from each fall to which it is connected without any binding or damage to any part of the lifeboat release and retrieval system. The system should be considered as "failed" if any failure during the conditioning or unintended release occurs when load is applied but the system has not yet been operated.	Working Load:_____N Force Applied:_____N Check the box for each release: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ 11: ☐ 12: ☐ 13: ☐ 14: ☐ 15: ☐ 16: ☐ 17: ☐ 18: ☐ 19: ☐ 20: ☐ 21: ☐ 22: ☐ 23: ☐ 24: ☐ 25: ☐ 26: ☐ 27: ☐ 28: ☐ 29: ☐ 30: ☐ 31: ☐ 32: ☐ 33: ☐ 34: ☐ 35: ☐ 36: ☐ 37: ☐ 38: ☐ 39: ☐ 40: ☐ 41: ☐ 42: ☐ 43: ☐ 44: ☐ 45: ☐ 46: ☐ 47: ☐ 48: ☐ 49: ☐ 50: ☐ Passed_____ Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.4.4 Cyclic loading test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The hook assembly, while disconnected from the operating mechanism, should be tested 10 times with cyclic loading from zero load to 1.1 times the safe working load, at a nominal 10 seconds per cycle; unless the release mechanism has been specifically designed to operate as an off-load hook with on-load capability using the weight of the boat to close the hook, in this case the cyclic load should be from no more than 1% to 1.1 times the SWL. For cam-type designs, the test should be carried out at an initial cam rotation of 0º (fully reset position), and repeated at 45º in either direction, or 45º in one direction if restricted by design.	The specimen should remain closed during the test. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Working Load:_____N Force Applied:_____N Check the box for each release and/or strike out the cam rotation if no applicable: Cam rotation 0°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation +45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation -45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Passed: _____ Failed:_____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.4.5 Actuation force test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.4**
Test Procedure	Acceptance Criteria	Significant Test Data
The cable and operating mechanism should then be reconnected to the hook assembly; and the rescue boat release and retrieval system should then be demonstrated to operate satisfactorily under its safe working load. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer.	The actuation force should be no less than 100 N and no more than 300 N, if a cable is used it should be the maximum length specified by the manufacturer, and secures in the same manner it would be secured in the rescue boat. The release mechanism is deemed to have passed the testing in 5.4.4.3, 5.4.4.4 and 5.4.4.5 when the tests have been conducted successfully. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Actuation Force: _____ N Passed: _____ Failed: _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.4.6 Second release mechanism tests- actuation force and tensile strength		**Regulations: LSA Code 4.4.7.6.4, MSC.81(70)1/6.9.5.1, 6.9.5.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A second release mechanism should be tested as follows: .1 the actuation force of the release mechanism should be measured loaded with 100% of its safe working load. If a cable is used, it should be of the maximum length specified by the manufacturer, and secured in the same manner it would be secured in a lifeboat. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer; and .2 the release mechanism should be mounted on a tensile strength testing device. The load should be increased to at least six times the working load of the release mechanism.	.1 The actuation force should be no less than 100 N and no more than 300 N. The release mechanism does not fail.	Actuation Force: _____ N Tensile strength @ 6xSWL. Force applied: _____ N. Passed:_____ Failed: _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.5.1 Liferaft towing		**Regulations: LSA Code 4.4.6.8, 5.1.1.7, 5.1.1.9, MSC.81(70)1/7.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The maximum towing force of the rescue boat should then be determined. This information should be used to determine the largest size of fully loaded liferaft which the rescue boat can tow at a speed of at least 2 knots. The fitting designated for towing other craft should be secured to a stationary object by a tow rope fitted with a means to measure bollard pull. The engine should be operated ahead at full speed for a period of at least 2 minutes and the maximum force recorded. (For rescue boats equipped with outboard motor, bollard pull trials may be carried out with engines of various powers to assess the rescue boat's performance.)	The maximum towing force of the rescue boat should be recorded on the type approval certificate. There should be no damage to the towing fitting or its supporting structure.	Smallest Engine Largest Engine Make/model: _____ _____ Bollard pull: N _____ _____ (Record on type approval certificate) Observed damage: Propeller: Pitch: _____ Diameter: _____ Passed _____ Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.5.2 Endurance, speed and fuel consumption		**Regulations: LSA Code 5.1.1.6,MSC.81(70)1/7.1.5, 1/7.1.6**
Test Procedure	Acceptance Criteria	Significant Test Data
(Note: Run this test after impact and drop tests in 5.4.7.1.) The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The engine should be started and the boat manoeuvred for a period of at least 4 hours to demonstrate satisfactory operation. The rescue boat should be run at a speed of not less than 6 knots for a period which is sufficient to ascertain the fuel consumption and to establish that the fuel tank has the required capacity. (This determination may be made during the 4-hour period of operation.) For rescue boats equipped with outboard motor, speed and manoeuvring trials should be carried out with engines of various powers to assess the rescue boat's performance.	The boat should operate satisfactorily throughout the 4-h operation. The fuel tank should have sufficient capacity to operate at a speed of 6 knots for a period of 4 hours in calm water.	Smallest Engine Largest Engine Make/model: _____ _____ Engine Speed: rpm _____ _____ Boat Speed: kts _____ _____ Consumption: L/h _____ _____ Fuel Tank Capacity: _____ L Endurance: hrs _____ _____ Propeller: Pitch: _____ Diameter: _____ Passed _____ Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.5.3 Engine out of water		**Regulations: LSA Code 4.4.6.3, MSC.81(70)1/6.10.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The engine should be operated for at least 5 minutes at idling speed under conditions simulating normal storage. Note: If a water flushing device is intended to be used for this purpose, it should be fitted during the test.	The engine should not be damaged as a result of this test.	Passed_____ Failed _____ Comments/Observations

5.4.5.4 Compass test		**Regulations: LSA Code 5.1.2.2.3, MSC.81(70)1/6.10.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be determined that the compass performance is satisfactory and that it is not unduly affected by magnetic fittings and equipment in the rescue boat.	The compass operates satisfactorily.	Compass Make: _____ Compass Model: _____ Passed_____ Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.5.5 Manoeuvrability with paddles or oars		**Regulations: LSA Code 5.1.2.2.1, MSC.81(70)1/7.1.8**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the rescue boat can be propelled and manoeuvred by its oars or paddles in calm water conditions at a speed of at least 0.5 knots over a distance of at least 25 m. when laden with the number of persons, all wearing lifejackets and immersion suits, for which it is to be approved. For boats with inboard engines the power does not need to be greater than that intended to be used.	The rescue boat should be capable of being satisfactorily paddled and manoeuvred.	Distance travelled:_____m Time Required:_____s Calculated speed:_____m/s = _____ knots Lifejacket and immersion suit used during the test: Lifejacket - Inflatable/Inherently Buoyant _____ Immersion suit - Uninsulated/Buoyant Insulated _____ Passed_____ Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.5.6 Heavy weather/seas test		**Regulations: LSA Code 5.1.3, MSC.81(70)1/7.2.10**
Test Procedure	Acceptance Criteria	Significant Test Data
To simulate use in heavy weather the rescue boat should be fitted with a larger powered engine than is intended to be fitted and driven hard in a wind of force 4 or 5 or equivalent rough water for at least 30 minutes.	The rescue boat should not show undue flexing or permanent strain nor have lost more than minimal pressure.	Tube pressure before test:_____mbar Pressure relief valves open/closed?_____ Wave height _____ m Wind Speed_____ m/s Tube pressure after test:_____mbar Passed_____ Failed _____ Comments/Observations

5.4.6.1 Towing test		**Regulations: LSA Code 4.4.1.3.2, 4.4.7.7, MSC.81(70)1/6.11.1**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the fully equipped rescue boat, loaded with a properly distributed mass equal to the mass of the number of persons for which it is to be approved, can be towed at a speed of not less than 5 knots in calm water and on an even keel using the rescue boat's painter securing device.	The rescue boat should not exhibit unsafe or unstable characteristics. There should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.6.2 Painter release test		**Regulations: LSA Code 4.4.7.7, MSC.81(70)1/6.11.2-.3**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the painter release mechanism can release the painter on a fully equipped and loaded rescue boat that is being towed at a speed of not less than 5 knots in calm water. The painter release mechanism should be tested in several distinct directions of the upper hemisphere not obstructed by the canopy or other constructions in the rescue boat. The directions specified in test 5.4.4.2 should be used if possible.	The painter should release and there should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Test Direction _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.7.1 Impact, drop and operation after impact and drop test	**Regulations: LSA Code 4.4.1.7, MSC.81(70)1/6.4.1, 7.2.2, 7.2.3**	
Test Procedure	Acceptance Criteria	Significant Test Data
.1 For boats launched by fall or falls, the fully equipped rescue boat, including its engine, should be loaded with weights equal to the mass of the number of persons for which the rescue boat is to be approved. Included in this loading should be a weight of 100 kg loaded in one of each type of seat installed in the lifeboat. The weights should be distributed to represent the normal loading in the rescue boat. (These weights need not be placed 300 mm above the seatpan.) Skates or fenders, if required, should be in position. The rescue boat, in a free hanging position, should be pulled laterally to a position so that when released it will strike a fixed rigid vertical surface at a velocity of 3.5 m/s. The boat should be released to impact against the rigid vertical surface. .2 The rescue boat complete with all its equipment and with a mass equivalent to its engine and fuel in the position of its engine and fuel tank should be dropped three times from a height of at least 3 m on to water. The drops should be from the 45-degree bow-down, level trim, and 45-degree stern-down attitudes. .3 On completion of these tests the rescue boat and its equipment should be carefully examined.	The impact and drop tests should be considered successful if: .1 no damage has been sustained that would affect the efficient functioning of the rescue boat and its equipment; .2 the damage caused by the impact and drop tests has not increased significantly as a result of the operational test in 5.4.5.2; .3 machinery and other equipment has operated to full satisfaction; and .4 no significant ingress of seawater has occurred.	Load in boat:_____kg Observed Damage: Increased Damage: YES NO Satisfactory Operation: YES NO Ingress of Water: YES NO Weight of heaviest engine tested:_____ Final Evaluation: Passed_____ Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.7.2 Overload test		**Regulations: MSC.81(70)1/7.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with a properly distributed load of four times the weight to represent the equipment and full complement of persons each weighing 82.5 kg for which it is to be approved and suspended for 5 minutes from its bridle or hooks. The weights should be distributed in proportion to the loading of the boat in its service condition, but the weights used to represent the persons need not be placed 300 mm above the seat pan. The boat and bridle or hooks and fastening device should be examined after the test has been conducted. Testing by filling the boat with water should not be accepted. This method of loading does not give the proper distribution of weight. Machinery may be removed in order to avoid damage, in which case weights should be added to the boat to compensate for the removal of such machinery. The rescue boat and its bridle or hooks (release mechanism) and fastening device should be examined after the test for any signs of damage.	The rescue boat and its bridle or release mechanism should not show any signs of damage.	Load in boat:_____kg Comments/Observations Passed_____ Failed _____

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.7.3 Mooring out test (Does not apply if waterline is below lower side of inflated tube)		**Regulations: LSA Code 5.1.3.3, MSC.81(70)1/7.2.15, 5.5, 5.17.7-.8**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with a mass equal to the mass of the total number of persons for which it is to be approved and its equipment and moored in a location at sea or in a seawater harbour. The rescue boat should remain afloat in that location for 30 days. The pressure may be topped up once a day using the manual pump; however, during any 24-hour period the rescue boat should retain its shape. Each inflatable compartment in the rescue boat should be tested to a pressure equal to three times the working pressure. Each pressure relief valve should be made inoperative; compressed air should be used to inflate the inflatable rescue boat and the inflation source removed. The test should continue for at least 30 minutes. The measurement of pressure drop due to leakage can be started when it has been assumed that compartment material has been completed stretching due to the inflation pressure and achieved equilibrium.	The rescue boat should not sustain any damage that would impair its performance. The pressure should not decrease by more than 5% as determined without compensating for temperature and atmospheric pressure changes, and there should be no seam slippage, cracking or other defect in the rescue boat.	Compartment 1 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 2 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 3 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 4 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 5 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Passed_____ Failed _____ Comments/Observations

Rigid/inflated rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.4.8.1 Inflation chamber characteristics tests		**Regulations: LSA Code 1.2.2, MSC.81(70)1/7.2.14**
Test Procedure	Acceptance Criteria	Significant Test Data
The inflatable compartment materials used to construct the rescue boat should be tested for the following characteristics: .1 tensile strength .2 tear strength .3 heat resistance .4 cold resistance .5 heat ageing .6 weathering .7 flex cracking .8 abrasion .9 coating adhesion .10 oil resistance .11 elongation at break .12 piercing strength .13 ozone resistance .14 gas permeability .15 seam strength .16 ultraviolet light resistance	The material characteristics should comply with ISO 15372:2000.	.1 tensile strength_____N/50 mm width .2 tear strength_____N .3 heat resistance – Blocking _____ .4 cold resistance – Cracking _____ .5 heat ageing_____% retained strength N/50 mm width .6 weathering_____% retained strength N/50 mm width .7 flex cracking – Cracking or deterioration _____ .8 abrasion _____mg/rev.; Base fabric not visible .9 coating adhesion _____N/50 mm width .10 oil resistance – Tackiness or other deterioration .11 elongation at break_____% .12 piercing strength _____ .13 ozone resistance -Visible cracking _____ .14 gas permeability _____bubbles/min or l/m^2/hr of _____ .15 seam strength _____N/50 mm width .16 ultraviolet light resistance_____% retained strength N/50 mm width Cracking _____ SATISFACTORY UNSATISFACTORY Comments/Observations

5.5 RIGID FAST RESCUE BOATS

EVALUATION AND TEST REPORT

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5.5 RIGID FAST RESCUE BOATS

EVALUATION AND TEST REPORT

Manufacturer	
Type	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.0.1 General data and specifications | **Regulations: LSA Code 4.4, 5.1, MSC.81(70)1/7.1.9**

General Information	Rescue boat Dimensions	Rescue boat Weight
Construction Material: Hull: _____ Canopy: _____ Fire-retardancy documentation:_____ Rescue Boat Inherent Buoyancy (Type App.) Material: _____ Weight: _____ Occupancy: Persons (82.5 kg each): _____ Engine(s) Installed: 1 2 Type App by: _____ Manufacturer:_____ Type: _____ Power: _____ Gear ratio (inboard engine):_____ Additional rigid or inflatable buoyancy: _____ Release mechanism(s) (if applicable) 1 2 Manufacturer:_____ Type: _____ SWL: _____ Propeller_____	Dimensions: LOA (including fixed fenders, if any): _____ Breadth Maximum: _____ Depth to Sill: _____ Depth to Gunwale: _____ Moulded Breadth: _____ Moulded Depth: _____ Provision for securing hanging-off pendant (if applicable):_ _____ _____	Design Weight: Unloaded Boat: _____ Loose Equipment: _____ Fuel: _____ Persons: _____ Calculated Loaded Weight: Fully Equipped: _____ With Persons: _____ Weight as Tested: Fully Equipped: _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.0.2 Submitted drawings, reports and documents

Submitted drawings and documents			**Status**
Drawing No.	**Revision No. & date**	**Title of drawing**	

Submitted reports and documents			**Status**
Report/Document No.	**Revision No. & date**	**Title of report / document**	
		Maintenance Manual -	
		Operations Manual -	

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.0.3 Quality assurance	**Regulations: MSC.81(70) 2/1.1, 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of life-saving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: _____ Quality assurance Procedure: _____ Quality assurance Manual: _____ Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.1.1 Occupant space	**Regulations: LSA Code 4.4.2.2, 4.4.3.5, 5.1, MSC.81(70)1/7.1.9**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**General** Unless the rescue boat has adequate sheer, it should be provided with a bow cover extending for not less than 15% of its length. Length is at least 6.0 m and not over 8.5 m. **Seating Space** Width – at least 430 mm Depth – at least 100 mm each side of a point 215 mm from the back Knee Space (Seating on seats) at least 635 mm from the back Knee Width – at least 250 mm Leg Space (Seating on floor) – at least 1190 mm from the back Overlapping Seat Vertical Separation – at least 350 mm Seat Horizontal Overlap – 150 mm maximum Each seating position should be clearly indicated. **Stretcher(s) space:** Rescue boats should be capable of carrying at least five seated persons and a person lying on a stretcher of minimum 2130 x 610 mm. **Walkway Surfaces** The surfaces on which persons might walk should have a non-skid finish.	Passed_____ Failed _____ Passed_____ Failed _____ Width:_____mm Depth:_____mm Knee Space:_____mm Knee Width:_____mm Leg Space:_____mm Vert. Separation:_____mm Overlap:_____mm Position Indication: PASSED FAILED Stretcher space:____x _____mm Passed_____ Failed _____ Non-Skid Surface: Passed_____Failed _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.1.2 Fittings, provisions and ladders	**Regulations: LSA Code 4.4.3, 4.4.7, 5.1, MSC.81(70)1/7.1.9**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Fittings and Provisions** Suitable handholds or buoyant lifeline becketed around the outside of rescue boat above the waterline and within reach of a person in the water, except in the vicinity of the rudder and propeller. On other than self-righting rescue boats, handholds on the underside arranged to break away without damaging the rescue boat. Weathertight stowage for small items of equipment. Approved position-indicating light provided at highest point. Automatically self-bailing or capable of rapidly clearing water. **Ladders** Ladders that can be used at any entrance should be on board and the lowest step when in place should not be less than 0.4 m below the light waterline. **Other Provisions** Buoyant material may be installed external to the hull of the boat, provided it is adequately protected against damage and is capable of withstanding exposure when stowed on an open deck on a ship at sea and for 30 days afloat in all sea condition. **Colour** The boat is of a highly visible colour where it will assist detection.	Passed_____ Failed _____ Passed_____ Failed_____N/A Passed_____ Failed _____ Passed_____ Failed _____ Passed_____ Failed_____N/A YES NO N/A Lowest step_____m below waterline Passed_____ Failed _____ Highly visible colour: Passed ____ Failed _____ Comments/observations:

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.1.3 Engine and starting system	**Regulations: LSA Code 4.4.6, 5.1, MSC.81(70)1/7.1.9**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Type of starting system - Two independent rechargeable energy sources provided for power starting systems. - Required starting aids provided. - Starting system is not impeded by engine casing, thwarts, or other obstructions. - Propeller arranged to be disengaged from the engine and provision for ahead and astern propulsion. - Exhaust arranged to prevent water from entering engine in normal. operation. - System designed with due regard to the safety of persons in the water and to the possibility of damage to the propulsion system from floating debris - Engine casing made of fire-retardant material or other suitable arrangements providing similar protection. - Personnel are protected from hot and moving parts - Shouted order can be heard with engine running at speed necessary for 6 knot operation - Watertight casing around bottom and sides of starter batteries with a tightly fitting top which provides for gas venting. - Means for recharging engine starting, radio, and searchlight batteries provided by solar charger or ship's power supply. - Radio batteries not used to provide power for engine starting. - Recharging for engine batteries provided by ship's power supply does not exceed 50 v. - Recharging means for engine batteries can be disconnected at the rescue boat embarkation station. - Instructions for starting and operating engine are water resistant and mounted in a conspicuous place near the engine starting controls. - Towing arrangements for marshalling liferafts.	Manual Power YES NO N/A Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.1.4 Steering mechanism and fuel tank	**Regulations: LSA Code 4.4.7.2, 5.1.1.8, MSC.81(70)1/7.1.9**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required	**Steering** A tiller should be capable of controlling the rudder (rudder and tiller may form part of outboard motor) Rudder permanently attached to the rescue boat Rudder and tiller arranged so as not to be damaged by operation of the release mechanism or propeller Steered by wheel at helmsman's position Has emergency steering system providing direct control of rudder, water jet or outboard motor Hands-free, watertight VHF radio provided **Fuel Tank** If fitted with petrol-driven outboard motor, the fuel tank(s) should be specially protected against fire and explosion	Passed_____ Failed _____ Passed_____ Failed_____N/A Passed_____ Failed _____ Passed_____ Failed_____N/A Passed_____ Failed _____ Passed_____ Failed _____ Passed_____ Failed_____ N/A Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.1.5 Release mechanism	**Regulations: LSA Code 4.4.7, 5.1, MSC.81(70)1/7.1.9**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required	Clear operating instructions Release control marked in a colour that contrasts with the surroundings For on-load release mechanisms: Suitably worded danger sign for on load release Mechanical protection (interlock) engages only when mechanism is completely and properly reset, to prevent accidental release during recovery On-load release mechanism needs deliberate and continued action by the operator Mechanical protection provided beyond that normally required for off load release For a single fall system with suitable painter, on-load release capability is not required; in such an arrangement a single capability to release the boat only when it is fully waterborne will be adequate This capability to release the boat may be attached to the boat or to the davit	Passed_____ Failed _____ Passed_____ Failed _____ Passed_____ Failed_____N/A Passed_____ Failed_____N/A Passed_____ Failed_____N/A Passed_____ Failed_____N/A Passed_____ Failed_____N/A Comments/Observations release mechanism type: _____ Approval:_____

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.2.1 Flooded stability test		**Regulations: LSA Code 4.4.1.1, MSC.81(70)1/6.8.1-.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with its equipment. If provision lockers, water tanks and fuel tanks cannot be removed, they should be flooded or filled to the final waterline resulting from this test. Rescue boats fitted with watertight stowage compartments to accommodate individual drinking water containers should have these containers aboard and placed in the stowage compartments which should be sealed watertight during the flooding tests. Ballast of equivalent weight and density should be substituted for the engine and any other installed equipment that can be damaged by water. Weights representing persons (of 82.5 kg mass) who would be in the water when the rescue boat is flooded (water level more than 500 mm above the seat pan) may be omitted. Weights representing persons who would not be in the water when the rescue boat is flooded (water level less than 500 mm above seat pan) should be placed in the normal seating positions of such persons with their centre of gravity approximately 300 mm above the seat pan. Weights representing persons who would be partly submerged in the water when the lifeboat is flooded (water level between 0 and 500 mm above the seat pan) should additionally have an approximate density of 1 kg/dm^3 (for example water ballast containers) to represent a volume similar to a human body. Note: Several tests may have to be conducted if holes in different areas would create different flooding conditions.	When loaded as specified, the rescue boat should have positive stability when filled with water to represent flooding which would occur when the rescue boat is holed in any one location below the waterline assuming no loss of buoyancy material and no other damage.	Comments/Observations Passed_____ Failed _____

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.2.2 Freeboard test		**Regulations: LSA Code 4.4.5, MSC.81(70)1/6.8.4-.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat with its engine should be loaded with a mass equal to that of all the equipment. One half of the number of persons for which the rescue boat is to be approved should be seated in a proper seating position on one side of the centreline. The freeboard should then be measured on the low side. The freeboard of the boat should be taken in the loading condition with all equipment, engine and fuel, or equivalent mass positioned to represent engine and fuel.	This test should be considered successful, if the measured freeboard, on the low side, is not less than 1.5% of the rescue boat's length or 100 mm, whichever is greater.	Measured Freeboard:____mm 1.5% of Boat's Length:_____mm Passed_____ Failed _____ Comments/Observations

5.5.2.3 Righting test (for non self-righting fast rescue boats)		**Regulations: MSC.81(70)1/7.1.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that both with and without engine and fuel or an equivalent mass in place of the engine and fuel tank, the rescue boat is capable of being righted by not more than two persons if it is inverted on the water. The engine should be running in neutral position and, after stopping automatically or by the helmsman's emergency release switch when inverted, it should be easily restarted and run for 30 minutes after the rescue boat has returned to the upright position. For rescue boats with inboard engines, the test without engine and fuel is not applicable. (This test is not required if the righting test in 5.5.2.4 has been performed.)	The rescue boat should be capable of being righted by not more than two persons if it is inverted on the water. When the rescue boat has righted, each engine or motor should be capable of being restarted, provided the helmsman's emergency release, if fitted, has been reset. The design of the fuel and lubricating systems should prevent the loss of more than 250 ml of fuel or lubricating oil from the propulsion system.	Can the boat be righted by 2 persons? With engine and fuel: Passed_____ Failed _____ Without engine and fuel: Passed_____ Failed _____ Method used to right boat: _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.2.4 Self-Righting test (for self-righting fast rescue boats only)		**Regulations: MSC/Circ.809, Annex, 4.1.5, 4.1.8; MSC.81(70)1/6.14**
Test Procedure	Acceptance Criteria	Significant Test Data
A suitable means should be provided to rotate the rescue boat about a longitudinal axis to any angle of heel and then release it. The rescue boat should be incrementally rotated to angles of heel up to and including 180º and should be released. These tests should be conducted in the following conditions of load: .1 when the rescue boat with its engine is loaded in the normal position with properly secured weights representing the fully equipped rescue boat with a full complement of persons on board. The weight used to represent each person, assumed to have an average mass of 82.5 kg, should be secured at each seat location and have its centre of gravity approximately 300 mm above the seatpan so as to have the same effect on stability as when the rescue boat is loaded with the number of persons for which it is to be approved; and .2 when the rescue boat is in the light condition. In the case of open fast rescue boats, the self-righting test should only be done in the light condition.	After release, the rescue boat should always return to the upright position without the assistance of the occupants. At the beginning of these tests, the engine should be running in neutral position and: .1 unless arranged to stop automatically when inverted, the engine should continue to run until stopped by the helmsman's emergency release switch; and .2 after resetting the helmsman's emergency release, if necessary, the engine should be easily restarted and run for 30 minutes after the rescue boat has returned to the upright position. Water should not enter the engine. The design of the fuel and lubricating systems should prevent the loss of more than 250 ml of fuel or lubricating oil from the propulsion system.	Angle of Heel / Righting Moment Loaded / Light 45^0 _____ _____ 90^0 _____ _____ 135^0 _____ _____ 180^0 _____ _____ Result: PASSED FAILED PASSED FAILED Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.2.5 Flooded capsizing test (for self-righting fully enclosed fast rescue boats only)		**Regulations: MSC.81(70) 1/6.14.3, 6.14.4, 6.14.5, 7.4.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Perform the following for fast rescue boats with a closable canopy. This test is not applicable to open fast rescue boats. The rescue boat should be placed in the water and fully flooded until the rescue boat can contain no additional water. All entrances and openings should be secured to remain open during the test. Using a suitable means, the rescue boat should be rotated about a longitudinal axis to a heel angle of 180° and then released. For the purpose of this test, the mass and distribution of the occupants may be disregarded. However, the equipment, or equivalent mass, should be secured in the rescue boat in the normal operating position.	After release, the lifeboat should attain a position that provides an above-water escape for the occupants.	Result: PASSED FAILED Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.2.6 Engine inversion test (inboard) (for self-righting fast rescue boats only)		**Regulations: LSA Code 4.6.4.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The engine and its fuel tank should be mounted on a frame that is arranged to rotate about an axis equivalent to the longitudinal axis of the boat. A pan should be located under the engine to collect any oil which may leak from the engine so that the quantity of such oil can be measured. The following procedure should be followed during this test: .1 start the engine and run it at full speed for 5 minutes; .2 stop the engine and rotate it in a clockwise direction through 360°; .3 restart the engine and run it at full speed for 10 minutes; .4 stop the engine and rotate it in a counter-clockwise direction through 360°; .5 restart the engine, run it at full speed for 10 minutes, and then stop the engine; .6 allow the engine to cool; .7 restart the engine and run it at full speed for 5 minutes;	The engine and engine installation should be capable of running in any position during capsize and continue to run after the rescue boat returns to the upright or should automatically stop on capsizing and be easily restarted after the rescue boat returns to the upright. The design of the fuel and lubricating systems should prevent the loss of fuel and the loss of more than 250 ml of lubricating oil from the engine during capsize. During these tests, the engine should not overheat, fail to operate or leak more than 250 ml of oil during any one inversion. When examined after being dismantled the engine should show no evidence of overheating or excessive wear.	Passed _____Failed _____ Comments/Observations

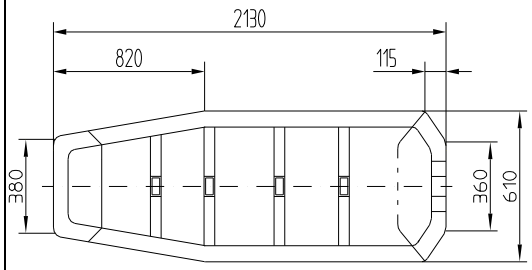
Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.2.6 Engine inversion test (inboard) (continued)	**Regulations: LSA Code 4.6.4.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1**	
Test Procedure	Acceptance Criteria	Significant Test Data
The following procedure should be followed during this test (Continued): .8 slowly rotate the running engine in a clockwise direction through 180°, hold at the 180° position for 10 s, and then rotate it 180° further in a clockwise direction to complete one revolution; .9 if the engine is arranged to stop automatically when inverted, restart it; .10 allow the engine to continue to run at full speed for 10 minutes; .11 shut the engine down and allow it to cool; .12 repeat the procedure in .7 through .11 above, except that the engine should be turned in a counter-clockwise direction; .13 restart the engine and run it at full speed for 5 minutes; .14 rotate the engine in a clockwise direction through 180° and stop the engine. Rotate it 180° further to complete a full clockwise revolution; .15 restart the engine and run it at full speed for 10 minutes; .16 repeat the procedure in .14 above, turning the engine counter-clockwise; .17 restart the engine, run it at full speed for 10 minutes and then shut it down; and .18 dismantle the engine for examination.	During these tests, the engine should not overheat, fail to operate or leak more than 250 ml of oil during any one inversion. When examined after being dismantled the engine should show no evidence of overheating or excessive wear.	Are all the tests carried out according to the procedure as prescribed? Passed/Failed Does the engine stop when turned in either direction? Passed/ Failed If it stops, does it easily restart? Passed/Failed Does the engine fulfil the requirements after the tests have been carried out according to the procedure? Passed/ Failed Amount of oil lost from engine during each inversion: .2 : ml .4 : ml .8 : ml .12 : ml .14 : ml .16 : ml Total amount of oil lost from engine: ml Evidence of overheating or excessive wear? Passed/ Failed Amount of oil lost from engine _____ ml Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.3.1 Seating strength test		**Regulations: LSA Code 4.4.1.5, MSC.81(70)1/6.6.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The seating should be loaded with a mass of 100 kg in each position allocated for a person to sit in the rescue boat. In the case of a rescue boat launched by falls, each type of seat should be loaded with a mass of 100 kg in any single seat location when dropped into the water from height of at least 3 m. (This test may be performed in conjunction with the Drop Test in 5.5.7.1).	The seating should be able to support this loading without any permanent deformation or damage. The seating should be capable of supporting this loading. No damage should be sustained that would affect the seat's efficient functioning.	Observed damage Passed_____ Failed _____ Passed_____ Failed_____N/A Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.3.2 Seating space test		**Regulations: LSA Code 5.1.1.3.2, MSC.81(70)1/7.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The rigid rescue boat should be fitted with its engine and all its equipment. The number of persons for which the rescue boat is to be approved, having an average mass of at least 82.5 kg, and all wearing lifejackets and immersion suits and any other essential equipment required, should then board; one person should lie down on a stretcher of similar dimensions to those shown in the figure and the others should be properly seated in the rescue boat. The rigid rescue boat should then be manoeuvred and all equipment on board tested to demonstrate that it can be operated without difficulty or interference with the occupants.  Stretcher dimensions (mm)	Equipment can be operated without interference with the occupants. The rescue boat must be capable of carrying at least 5 persons and a person lying down on a stretcher. Except the helmsmen, persons may be seated on the floor, provided the space used conforms with the leg space requirements of test form 5.5.1.1. No seating is on the gunwale, transom, or buoyancy chambers on the sides of the boat.	Equipment operated: YES NO Number of persons carried: Seated on seats _____ Seated on floor _____ Lying on a stretcher _____ Total _____ Passed_____Failed _____ Lifejacket and immersion suit used during the test: Lifejacket– Inflatable/Inherently Buoyant _____ Immersion suit– Uninsulated/Buoyant Insulated Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.4.1 Simultaneous release		**Regulations: LSA Code 4.4.7.6, MSC.81(70)1/6.9.1-.2**
Test Procedure	Acceptance Criteria	Significant Test Data
For rescue boats launched by fall or falls, the rescue boat with its engine fitted should be suspended from the release mechanism just clear of the ground or the water. The rescue boat should be loaded so that the total mass equals 1.1 times the mass of the rescue boat, all its equipment and the number of persons for which the rescue boat is to be approved. The rescue boat should be released simultaneously from each fall to which it is connected without binding or damage to any part of the rescue boat or the release mechanism. Single fall systems not intended for on-load operation are exempt from this test.	It should be confirmed that the rescue boat will simultaneously release from each fall which it is connected without binding or damage to any part of the rescue boat or the release mechanism. It should be confirmed that the rescue boat will simultaneously release from each fall to which it is connected when fully waterborne in the light condition and in a 10% overload condition. There should be no damage to the release gear or its connection to the boat.	Light condition Passed_____ Failed _____N/A (N/A – Single fall, off-load only) 1.1 x Loaded Mass:_____kg Passed_____ Failed_____ _____N/A (N/A – Single fall, off-load only) type of release system:_____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.4.2 Towing release test	**Regulations: LSA Code 4.4.7.6.5; MSC.81(70) 1/6.9.3**	
Test Procedure	Acceptance Criteria	Significant Test Data
With the operating mechanism disconnected it should be demonstrated when the rescue boat is loaded with its full complement of persons and equipment and towed at speeds of 5 knots that the moveable hook component stays closed. Furthermore, with the operating mechanism connected, it should be demonstrated that the rescue boat when loaded with its full complement of persons and equipment when towed at speeds of 5 knots can be released. Both of the above should be demonstrated as follows: .1 a force equal to 25% of the safe working load of the hook should be applied to the hook in the lengthwise direction of the boat at an angle of 45° to the vertical. This test should be conducted in the aftward as well as the forward direction; .2 a force equal to the safe working load of the hook should be applied to the hook in an athwartships direction at an angle of 20° to the vertical. This test should be conducted on both sides; and .3 a force equal to the safe working load of the hook should be applied to the hook in a direction halfway between the positions of tests 1 and 2 (i.e. 45° to the longitudinal axis of the boat in plain view) at an angle of 33° to the vertical. This test should be conducted in four positions.	There should be no damage as a result of these tests. The rescue boat is released satisfactorily by the release mechanism. Single fall systems not intended for on-load operation are exempt from this test.	Operating mechanism disconnected and boat towed at 5 kts: _____Pass _____ Fail <u>Operating mechanism connected tests</u>. Test 1: 25% SWL, lengthwise to the boat at 45° to the vertical: Force Applied: _____ N. Forward direction: _____Pass _____ Fail Aft direction: _____Pass _____ Fail Test 2: 100% SWL, athwartships at 20° to the vertical: Force Applied: _____ N. Starboard: _____Pass _____ Fail Port: _____Pass _____ Fail Test 3: 100% SWL, 45° to the longitudinal axis of the boat in plan view at an angle of 33° to the vertical. Force Applied: _____ N. Position 1: _____Pass _____ Fail Position 2: _____Pass _____ Fail Position 3: _____Pass _____ Fail Position 4: _____Pass _____ Fail Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.4.3 Load and release test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A release mechanism should be conditioned and tested as follows: The rescue boat release and retrieval system and the longest used connection cable/linkage associated with the system should be mounted and adjusted according to instructions from the original equipment manufacturer and then loaded to 100% of its safe working load and released. Load and release should be repeated 50 times. The rescue boat release and retrieval system should then be disassembled, the parts examined and wear recorded. The release and retrieval system should then be reassembled.	During the 50 releases, the rescue boat release and retrieval system should be released simultaneously from each fall to which it is connected without any binding or damage to any part of the lifeboat release and retrieval system. The system should be considered as "failed" if any failure during the conditioning or unintended release occurs when load is applied but the system has not yet been operated.	Working Load:_____N Force Applied: _____N Check the box for each release: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ 11: ☐ 12: ☐ 13: ☐ 14: ☐ 15: ☐ 16: ☐ 17: ☐ 18: ☐ 19: ☐ 20: ☐ 21: ☐ 22: ☐ 23: ☐ 24: ☐ 25: ☐ 26: ☐ 27: ☐ 28: ☐ 29: ☐ 30: ☐ 31: ☐ 32: ☐ 33: ☐ 34: ☐ 35: ☐ 36: ☐ 37: ☐ 38: ☐ 39: ☐ 40: ☐ 41: ☐ 42: ☐ 43: ☐ 44: ☐ 45: ☐ 46: ☐ 47: ☐ 48: ☐ 49: ☐ 50: ☐ Passed_____ Failed _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.4.4 Cyclic loading test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The hook assembly, while disconnected from the operating mechanism, should be tested 10 times with cyclic loading from zero load to 1.1 times the safe working load, at a nominal 10 seconds per cycle; unless the release mechanism has been specifically designed to operate as an off-load hook with on-load capability using the weight of the boat to close the hook, in this case the cyclic load should be from no more than 1% to 1.1 times the SWL. For cam-type designs, the test should be carried out at an initial cam rotation of 0º (fully reset position), and repeated at 45º in either direction, or 45º in one direction if restricted by design.	The specimen should remain closed during the test. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Working Load:_____N Force Applied:_____N Check the box for each release and/or strike out the cam rotation if no applicable: Cam rotation 0°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation +45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation -45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Passed: _____ Failed: _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.4.5 Actuation force test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.4**
Test Procedure	Acceptance Criteria	Significant Test Data
The cable and operating mechanism should then be reconnected to the hook assembly; and the rescue boat release and retrieval system should then be demonstrated to operate satisfactorily under its safe working load. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer.	The actuation force should be no less than 100 N and no more than 300 N, if a cable is used it should be the maximum length specified by the manufacturer, and secures in the same manner it would be secured in the rescue boat. The release mechanism is deemed to have passed the testing in 5.5.4.3, 5.5.4.4 and 5.5.4.5 when the tests have been conducted successfully. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Actuation Force: _____ N Passed: _____ Failed: _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.4.6 Second release mechanism tests- actuation force and tensile strength		**Regulations: LSA Code 4.4.7.6.4, MSC.81(70)1/6.9.5.1, 6.9.5.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A second release mechanism should be tested as follows: .1 the actuation force of the release mechanism should be measured loaded with 100% of its safe working load. If a cable is used, it should be of the maximum length specified by the manufacturer, and secured in the same manner it would be secured in a lifeboat. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer; and .2 the release mechanism should be mounted on a tensile strength testing device. The load should be increased to at least six times the working load of the release mechanism.	.1 The actuation force should be no less than 100 N and no more than 300 N. The release mechanism does not fail.	Actuation Force: _____ N Tensile strength @ 6xSWL. Force applied: _____ N. Passed: _____ Failed: _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.5.1 Liferaft towing		**Regulations: LSA Code 4.4.6.8, 5.1.1.7, 5.1.1.9, MSC.81(70)1/7.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The maximum towing force of the rescue boat should then be determined. This information should be used to determine the largest size of fully loaded liferaft the rescue boat can tow at a speed of at least 2 knots. The fitting designated for towing other craft should be secured to a stationary object by a tow rope fitted with a means to measure bollard pull. The engine should be operated ahead at full speed for a period of at least 2 minutes and the maximum force recorded. (For rescue boats equipped with outboard motors, bollard pull trials may be carried out with engines of various powers to assess the rescue boat's performance.)	The maximum towing force of the rescue boat should be recorded on the type approval certificate. There should be no damage to the towing fitting or its supporting structure.	Smallest Engine Largest Engine Make/model: _____ Bollard pull: N _____ (Record on type approval certificate) Observed damage: Propeller: Pitch: _____ Diameter: _____ Passed_____ Failed _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.5.2 Endurance, speed and fuel consumption		**Regulations: LSA Code 4.4.6.8, 5.1.1.6 MSC.81(70)1/7.1.6, 7.4.2.1-.2**
Test Procedure	Acceptance Criteria	Significant Test Data
(Note: Run this test after the impact and drop tests in 5.5.7.1.) The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The engine should be started and the boat manoeuvred for a period of at least 4 hours to demonstrate satisfactory operation. The rescue boat should be run at a speed of not less than 8 knots with a full complement of persons and equipment and 20 knots with a crew of 3 persons for a period which is sufficient to ascertain the fuel consumption and to establish that the fuel tank has the required capacity. (This determination may be made during the 4-hour period of operation.) For rescue boats equipped with outboard motor, speed and manoeuvring trials should be carried out with engines of various powers to assess the rescue boat's performance.	The boat should operate satisfactorily throughout the 4-hour operation. The fuel tank should have sufficient capacity to operate at a speed of 8 knots for a period of 4 hours with its full complement of persons and equipment. The fuel tank should have sufficient capacity to operate at a speed of 20 knots for a period of 4 hours with a crew of 3 persons.	Smallest Engine Largest Engine Make/model: _____ _____ Fuel Tank Capacity: _____ L Propeller: Pitch: _____ _____ Diameter: _____ _____ @8 knots: Engine speed (RPM):_____ _____ Boat speed (kts) _____ _____ Consumption (L/h) _____ _____ Endurance (hrs.) _____ _____ @20 knots: Engine speed (RPM):_____ _____ Boat speed (kts) _____ _____ Consumption (L/h) _____ _____ Endurance (hrs.) _____ _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.5.3 Engine out of water		**Regulations: LSA Code 4.4.6.3, MSC.81(70)1/6.10.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The engine should be operated for at least 5 minutes at idling speed under conditions simulating normal storage. Note: If a water flushing device is intended to be used for this purpose, it should be fitted during the test.	The engine should not be damaged as a result of this test.	Passed_____ Failed _____ Comments/Observations
5.5.5.4 Compass test		**Regulations: LSA Code 5.1.2.2.3, MSC.81(70)1/6.10.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be determined that the compass performance is satisfactory and that it is not unduly affected by magnetic fittings and equipment in the rescue boat.	The compass operates satisfactorily.	Compass Make: _____ Compass Model: _____ Passed_____ Failed _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.5.5 Helpless Person Recovery		**Regulations: LSA Code 4.4.3.4, 5.1.1.7, MSC.81(70)1/6.10.8, 7.1.1**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated by test that it is possible to bring helpless people on board the rescue boat from the sea.	Helpless people can be brought on board the rescue boat from the sea.	Number of Persons required and any special equipment used: _____ Passed_____ Failed _____ Comments/Observations

5.5.5.6 Maneuverability With Paddles Or Oars		**Regulations: LSA Code 5.1.2.2.1, MSC.81(70)1/7.1.8**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the rescue boat can be propelled and manoeuvred by its oars or paddles in calm water conditions at a speed of at least 0.5 knots over a distance of at least 25 m. when laden with the number of persons, all wearing lifejackets and immersion suits, for which it is to be approved.	The rescue boat should be capable of being satisfactorily paddled and manoeuvred.	Distance travelled:_____m Time Required:_____s Calculated speed:_____m/s = _____ knots Lifejacket and immersion suit used during the test: Lifejacket – Inflatable/Inherently Buoyant _____ Immersion suit – Uninsulated/Buoyant Insulated _____ Passed_____ Failed _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.6.1 Towing test		**Regulations: LSA Code 4.4.1.3.2, 4.4.7.7, MSC.81(70)1/6.11.1**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the fully equipped rescue boat, loaded with a properly distributed mass equal to the mass of the number of persons for which it is to be approved, can be towed at a speed of not less than 5 knots in calm water and on an even keel using the rescue boat's painter securing device.	The rescue boat should not exhibit unsafe or unstable characteristics. There should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Comments/Observations

5.5.6.2 Towing & Painter Tests—Painter release test		**Regulations: LSA Code 4.4.7.7, MSC.81(70)1/6.11.2-.3**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the painter release mechanism can release the painter on a fully equipped and loaded rescue boat that is being towed at a speed of not less than 5 knots in calm water. The painter release mechanism should be tested in several distinct directions of the upper hemisphere not obstructed by the canopy or other constructions in the rescue boat. The directions specified in test 5.5.4.2 should be used if possible.	The painter should release and there should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Test Direction _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.7.1 Impact, drop and operation after impact and drop test	**Regulations: LSA Code 4.4.1.7, MSC.81(70)1/6.4.1, 6.4.3, 6.4.5, 6.4.7**	
Test Procedure	Acceptance Criteria	Significant Test Data
.1 For boats launched by fall or falls, the fully equipped rescue boat, including its engine, should be loaded with weights equal to the mass of the number of persons for which the rescue boat is to be approved. Included in this loading should be a weight of 100 kg loaded in one of each type of seat installed in the lifeboat. The remainder of the weights should be distributed to represent the normal loading in the rescue boat. (These weights need not be placed 300 mm above the seatpan). Skates or fenders, if required, should be in position. The rescue boat, in a free hanging position, should be pulled laterally to a position so that when released it will strike a fixed rigid vertical surface at a velocity of 3.5 m/s. The boat should be released to impact against the rigid vertical surface. .2 The same rescue boat with its engine, loaded as described above, should then be suspended above the water so that the distance from the lowest point of the rescue boat to the water is 3 m. The rescue boat should then be released so that it falls freely into the water. .3 After the impact and drop tests, the boat should be examined to detect the position and extent of damage that may have occurred as a result of the tests, and an operational test should then be conducted in accordance with 5.5.5.2. .4 After the operational test, the rescue boat should be unloaded, cleaned, and carefully examined to detect the position and extent of damage that may have occurred as a result of the tests.	The impact and drop tests should be considered successful if: .1 no damage has been sustained that would affect the rescue boat's efficient functioning; .2 the damage caused by the impact and drop tests has not increased significantly as a result of the operational test in 5.5.5.2; .3 machinery and other equipment has operated to full satisfaction; and .4 no significant ingress of seawater has occurred.	Load in boat:_____kg Observed Damage: YES NO Increased Damage: YES NO Satisfactory Operation: YES NO Ingress of Water: YES NO Weight of heaviest engine tested: Final Evaluation: Passed_____ Failed _____ Comments/Observations

Rigid fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.5.7.2 Overload test		**Regulations: MSC.81(70)1/7.1.4**
Test Procedure	Acceptance Criteria	Test Procedure
The rescue boat should be loaded with a properly distributed load of four times the weight to represent the equipment and full complement of persons each weighing 82.5 kg for which it is to be approved and suspended for five minutes from its bridle or hooks. The weights should be distributed in proportion to the loading of the boat in its service condition, but the weights used to represent the persons need not be placed 300 mm above the seat pan. The boat and bridle or hooks and fastening device should be examined after the test has been conducted. Testing by filling the boat with water should not be accepted. This method of loading does not give the proper distribution of weight. Machinery may be removed in order to avoid damage, in which case weights should be added to the boat to compensate for the removal of such machinery. The rescue boat and its bridle or hooks (release mechanism) and fastening device should be examined after the test for any signs of damage.	The rescue boat and its bridle or release mechanism should not show any signs of damage.	Load in boat:_____kg Comments/Observations Passed_____ Failed _____

5.6 INFLATED FAST RESCUE BOATS

EVALUATION AND TEST REPORT

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5.6.7 Strength tests
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5.6 INFLATED FAST RESCUE BOATS

EVALUATION AND TEST REPORT

Manufacturer	
Type	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.0.1 General data and specifications	**Regulations: LSA Code 4.4, 5.1, MSC.81(70) 1/7.2**	
General Information	Rescue boat dimensions	Rescue boat weight
Construction Material: Hull: _____ Canopy: _____ Rescue Boat Inherent Buoyancy (Type App.) Material: _____ Weight: _____ Occupancy: Persons (82.5 kg each): _____ Engine(s) Installed: 1 2 Type App by: _____ Manufacturer:_____ Type: _____ Power: _____ Gear ratio (inboard engine):_____ Additional rigid or inflatable buoyancy: _____ Release mechanism(s) (if applicable) 1 2 Manufacturer:_____ Type: _____ SWL: _____ Propeller:	Dimensions: LOA: _____ Breadth Maximum: _____ Depth to Sill: _____ Depth to Gunwale: _____ Moulded Breadth: _____ Moulded Depth: Provision for securing hanging-off pendant (if applicable):_____	Design Weight: Unloaded Boat: _____ Loose Equipment: _____ Fuel: _____ Persons: _____ Calculated Loaded Weight: Fully Equipped: _____ With Persons: _____ Weight As Tested: Fully Equipped: _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.0.2 Submitted drawings, reports and documents

Submitted drawings and documents			**Status**
Drawing No.	**Revision No. & date**	**Title of drawing**	

Submitted reports and documents			**Status**
Report/Document No.	**Revision No. & date**	**Title of report / document**	
		Maintenance Manual -	
		Operations Manual -	

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.0.3 Quality assurance	**Regulations: MSC.81(70) 2/1.1, 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of life-saving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: _____ Quality assurance Procedure: _____ Quality assurance Manual:_____ Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.1.1 Occupant space		**Regulations: LSA Code 5.1, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**General** Unless the rescue boat has adequate sheer, it should be provided with a bow cover extending for not less than 15% of its length. Length is at least 6.0 m and not over 8.5 m. **Seating Space** Width – at least 430 mm Depth – at least 100 mm each side of a point 215 mm from the back Knee Space (Seating on seats) at least 635 mm from the back Knee Width – at least 250 mm Leg Space (Seating on floor) – at least 1190 mm from the back Overlapping Seat Vertical Separation – at least 350 mm Seat Horizontal Overlap – 150 mm maximum Each seating position should be clearly indicated. **Stretcher(s) space:** Rescue boats should be capable of carrying at least five seated persons and a person lying on a stretcher of minimum 2130 x 610 mm. **Walkway Surfaces** The surfaces on which persons might walk should have a non-skid finish.	Passed_____ Failed _____ Passed_____ Failed _____ Width:_____mm Depth:_____mm Knee Space:_____mm Knee Width:_____mm Leg Space:_____mm Vert. Separation:_____mm Overlap:_____mm Position Indication: PASSED FAILED Stretcher space:____x _____mm Passed_____ Failed _____ Non-Skid Surface: Passed_____Failed_____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.1.2 Fittings, provisions and ladders		**Regulations: LSA Code 5.1.3, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Buoyancy compartments** fitted with: Non-return valve for manual inflation	Passed_____ Failed _____
	Means for deflation	Passed_____ Failed _____
	Safety relief valve unless waived by Administration	Passed_____ Failed_____N/A
	Suitable patches for securing painters fore and aft	Passed_____ Failed _____
	Fittings and Provisions Suitable handholds or buoyant lifeline becketed around the outside of rescue boat above the waterline and within reach of a person in the water, except in the vicinity of the rudder and propeller	Passed_____ Failed _____
	On other than self-righting rescue boats, handholds on the underside arranged to break away without damaging the rescue boat	Passed_____ Failed_____N/A
	Weathertight stowage for small items of equipment	Passed_____Failed _____
	Approved position indicating light provided at highest point	Passed_____Failed _____
	Rubbing strips on bottom and vulnerable places on the outside	Passed_____Failed _____
	Transom, if fitted, not inset by more than 20% of overall length	Passed_____Failed _____
	Automatically self-bailing or capable of rapidly clearing water	Passed_____Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.1.2 Fittings, provisions and ladders (cont'd)		**Regulations: LSA Code 4.4.3.3, 5.1.3, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Ladders** Ladders that can be used at any entrance should be on board and the lowest step when in place should not be less than 0.4 m below the light waterline. **Colour** The boat should be of a highly visible colour where it will assist detection.	Passed_____ Failed _____ Lowest step_____m below waterline Highly visible colour: Passed_____Failed_____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.1.3 Engine and starting system	**Regulations: LSA Code 4.4.6, 5.1, MSC.81(70)1/7.2.16**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Type of starting system - Two independent rechargeable energy sources provided for power starting systems - Required starting aids provided - Starting system is not impeded by engine casing, thwarts, or other obstructions - Propeller arranged to be disengaged from the engine and provision for ahead and astern propulsion - Exhaust arranged to prevent water from entering engine in normal operation - System designed with due regard to the safety of persons in the water and to the possibility of damage to the propulsion system from floating debris - Engine casing made of fire-retardant material or other suitable arrangements providing similar protection - Personnel are protected from hot and moving parts - Shouted order can be heard with engine running at speed necessary for 6 knot operation - Watertight casing around bottom and sides of starter batteries with a tightly fitting top which provides for gas venting - Means for recharging engine starting, radio, and searchlight batteries provided by solar charger or ship's power supply - Radio batteries not used to provide power for engine starting - Recharging for engine batteries provided by ship's power supply does not exceed 50 v - Recharging means for engine batteries can be disconnected at the rescue boat embarkation station - Instructions for starting and operating engine are water resistant and mounted in a conspicuous place near the engine starting controls - Towing arrangement for marshalling liferafts	Manual Power YES NO N/A Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.1.4 Steering mechanism and fuel tank		**Regulations: LSA Code 4.4.7.2, 5.1.1.8, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Steering** A tiller should be capable of controlling the rudder (rudder and tiller may form part of outboard motor) Rudder permanently attached to the rescue boat Rudder and tiller arranged so as not to be damaged by operation of the release mechanism or propeller Steered by wheel at helmsman's position Has emergency steering system providing direct control of rudder, water jet or outboard motor Hands-free, watertight VHF radio provided **Fuel Tank** If fitted with petrol-driven outboard motor, the fuel tank(s) should be specially protected against fire and explosion	Passed_____ Failed _____ Passed_____ Failed_____N/A Passed_____ Failed _____ Passed_____ Failed_____N/A Passed_____ Failed _____ Passed_____ Failed _____ Passed_____ Failed _____N/A Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.1.5 Release mechanism		**Regulations: LSA Code 4.4.7,.6.5, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Clear operating instructions	Passed_____ Failed _____
	Release control marked in a colour that contrasts with the surroundings	Passed_____ Failed _____
	For on-load release mechanisms:	
	Suitably worded danger sign for on load release	Passed_____ Failed_____N/A
	Mechanical protection (interlock) engages only when mechanism is completely and properly reset, to prevent accidental release during recovery	Passed_____ Failed_____N/A
	On-load release mechanism needs deliberate and continued action by the operator	Passed_____ Failed_____N/A
	Mechanical protection provided beyond that normally required for off load release	Passed_____ Failed_____N/A
	For a single fall system with suitable painter, on-load release capability is not required; in such an arrangement a single capability to release the boat only when it is fully waterborne will be adequate.	Passed_____ Failed_____N/A Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.2.1 Damage test		**Regulations: LSA Code 5.1.3.5, MSC.81(70)1/7.2.8-.9**
Test Procedure	Acceptance Criteria	Significant Test Data
The following tests should be carried out with the inflated rescue boat loaded with the number of persons (of 82.5kg mass) for which it is to be approved both with and without engine and fuel or an equivalent mass in the position of the engine and fuel tank: .1 with forward buoyancy compartment deflated; .2 with the entire buoyancy on one side of the rescue boat deflated; and .3 with the entire buoyancy on one side and the bow compartment deflated.	In each of the conditions prescribed, the full number of persons for which the rescue boat is to be approved should be supported within the rescue boat.	Comments/Observations 1 With engine and fuel: Passed _____ Failed _____ Without engine and fuel Passed _____ Failed _____ 2 With engine and fuel: Passed _____ Failed _____ Without engine and fuel Passed _____ Failed _____ 3 With engine and fuel: Passed _____ Failed _____ Without engine and fuel Passed _____ Failed _____

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.2.2 Stability test		**Regulations: LSA Code 4.4.5, MSC.81(70)1/6.10.8, 7.2.6-.7**
Test Procedure	Acceptance Criteria	Test Procedure
The following tests should be carried out with engine and fuel or an equivalent mass in place of the engine and fuel tanks: .1 the number of persons for which the inflated rescue boat is to be approved should be crowded to one side with half this complement seated on the buoyancy tube, and then to one end. In each case the freeboard should be recorded; and .2 the stability of the rescue boat during boarding should be ascertained by two persons in the rescue boat demonstrating that they can readily assist from the water a third person who is required to feign unconsciousness. The third person should have his back towards the side of the rescue boat so that he cannot assist the rescuers. All persons should wear approved lifejackets. These stability tests may be carried out with the rescue boat floating in still water.	.1 Under these conditions the freeboard should be everywhere positive. .2 The rescue boat should be stable.	.1 Freeboard crowded to one side_____mm To bow:_____mm .2 To stern:_____mm Passed_____Failed _____ .3 Stability observations during recovery of unconscious person: Clothing/Suits on helpless person: _____ Method of recovery: _____ Number of persons required and any special equipment used: _____ Passed_____ Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.2.3 Loading test		**Regulations: MSC.81(70)1/7.2.4-.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The freeboard of the inflated rescue boat should be taken in the various loading conditions as follows: .1 rescue boat with all its equipment; .2 rescue boat with all its equipment, engine and fuel, or an equivalent mass positioned to represent engine and fuel; .3 rescue boat with all its equipment and the number of persons for which it is to be approved having an average mass of 82.5 kg so arranged that a uniform freeboard is achieved at the side buoyancy tubes; and .4 rescue boat with the number of persons for which it is to be approved and all its equipment, engine and fuel or an equivalent mass to represent engine and fuel and the rescue boat being re-trimmed as necessary.	In each condition the minimum freeboard should be not less than 300 mm at the buoyancy tubes and not less than 250 mm from the lowest part of the transom.	.1 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm .2 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm .3 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm .4 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm Passed_____ Failed _____ Comments/Observations

5.6.2.4 Swamp test		**Regulations: MSC.81(70)1/7.2.11**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the rescue boat, when fully swamped, is capable of supporting its full equipment, the number of persons each weighing 82.5 kg for which it is to be approved and a mass equivalent to its engine and fully filled fuel tank. It should also be demonstrated that the rescue boat does not seriously deform in this condition.	The rescue boat should be capable of supporting the full load and should not seriously deform.	Passed_____ Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.2.5 Righting test (for non self-righting fast rescue boats)		**Regulations: MSC.81(70)1/7.1.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that both with and without engine and fuel or an equivalent mass in place of the engine and fuel tank, the rescue boat is capable of being righted by not more than two persons if it is inverted on the water. The engine should be running in neutral position and, after stopping automatically or by the helmsman's emergency release switch when inverted, it should be easily restarted and run for 30 minutes after the rescue boat has returned to the upright position. For rescue boats with inboard engines, the test without engine and fuel is not applicable. (This test is not required if the righting test in 5.6.2.6 has been performed.)	The rescue boat should be capable of being righted by not more than two persons if it is inverted on the water. When the rescue boat has righted, each engine or motor should be capable of being restarted, provided the helmsman's emergency release, if fitted, has been reset. The design of the fuel and lubricating systems should prevent the loss of more than 250 ml of fuel or lubricating oil from the propulsion system.	Can the boat be righted by 2 persons? With engine and fuel: Passed_____ Failed _____ Without engine and fuel: Passed_____ Failed _____ Method used to right boat: _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.2.6 Self-righting test (for self-righting fast rescue boats only)		**Regulations: MSC.81(70)1/6.14**
Test Procedure	Acceptance Criteria	Significant Test Data
A suitable means should be provided to rotate the rescue boat about a longitudinal axis to any angle of heel and then release it. The rescue boat should be incrementally rotated to angles of heel up to and including 180° and should be released. These tests should be conducted in the following conditions of load: .1 when the rescue boat with its engine is loaded in the normal position with properly secured weights representing the fully equipped rescue boat with a full complement of persons on board. The weight used to represent each person, assumed to have an average mass of 82.5 kg, should be secured at each seat location and have its centre of gravity approximately 300 mm above the seatpan so as to have the same effect on stability as when the rescue boat is loaded with the number of persons for which it is to be approved; and .2 when the rescue boat is in the light condition. In the case of open fast rescue boats, the self-righting test should only be done in the light condition.	After release, the rescue boat should always return to the upright position without the assistance of the occupants. At the beginning of these tests, the engine should be running in neutral position and: .1 unless arranged to stop automatically when inverted, the engine should continue to run until stopped by the helmsman's emergency release switch; and .2 after resetting the helmsman's emergency release, if necessary, the engine should be easily restarted and run for 30 minutes after the rescue boat has returned to the upright position. Water should not enter the engine. The design of the fuel and lubricating systems should prevent the loss of more than 250 ml of fuel or lubricating oil from the propulsion system.	Angle of Heel — Righting Moment: Loaded / Light 45° _____ _____ 90° _____ _____ 135° _____ _____ 180° _____ _____ Result : PASSED FAILED PASSED FAILED Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.2.7 Flooded capsizing test (for self-righting fully enclosed fast rescue boats only)		**Regulations: MSC.81(70) 1/6.14.3, 6.14.4, 6.14.5, 7.4.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Perform the following for fully enclosed rigid fast rescue boats. This test is not applicable to open fast rescue boats. The rescue boat should be placed in the water and fully flooded until the rescue boat can contain no additional water. All entrances and openings should be secured to remain open during the test. Using a suitable means, the rescue boat should be rotated about a longitudinal axis to a heel angle of 180° and then released. For the purpose of this test, the mass and distribution of the occupants may be disregarded. However, the equipment, or equivalent mass, should be secured in the rescue boat in the normal operating position.	After release, the lifeboat should attain a position that provides an above-water escape for the occupants.	Result: PASSED FAILED Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.2.8 Engine inversion test (for self-righting fast rescue boats only)	**Regulations: LSA Code 4.6.4.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1**	
Test Procedure	Acceptance Criteria	Significant Test Data
The engine and its fuel tank should be mounted on a frame that is arranged to rotate about an axis equivalent to the longitudinal axis of the boat. A pan should be located under the engine to collect any oil which may leak from the engine so that the quantity of such oil can be measured. The following procedure should be followed during this test: .1 start the engine and run it at full speed for 5 minutes; .2 stop the engine and rotate it in a clockwise direction through 360°; .3 restart the engine and run it at full speed for 10 minutes; .4 stop the engine and rotate it in a counter- clockwise direction through 360°; .5 restart the engine, run it at full speed for 10 minutes, and then stop the engine; .6 allow the engine to cool; .7 restart the engine and run it at full speed for 5 minutes;	The engine and engine installation should be capable of running in any position during capsize and continue to run after the rescue boat returns to the upright or should automatically stop on capsizing and be easily restarted after the rescue boat returns to the upright. The design of the fuel and lubricating systems should prevent the loss of fuel and the loss of more than 250 ml of lubricating oil from the engine during capsize. During these tests, the engine should not overheat, fail to operate or leak more than 250 ml of oil during any one inversion. When examined after being dismantled the engine should show no evidence of overheating or excessive wear.	Passed _____ Failed _____ Comments/Observations

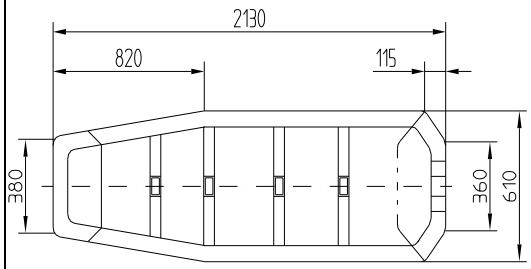
Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.2.8 Engine inversion test (continued)	**Regulations: LSA Code 4.6.4.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1**	
Test Procedure	Acceptance Criteria	Significant Test Data
The following procedure should be followed during this test (Continued): .8 slowly rotate the running engine in a clockwise direction through 180°, hold at the 180° position for 10 s, and then rotate it 180° further in a clockwise direction to complete one revolution; .9 if the engine is arranged to stop automatically when inverted, restart it; .10 allow the engine to continue to run at full speed for 10 minutes; .11 shut the engine down and allow it to cool; .12 repeat the procedure in .7 through .11 above, except that the engine should be turned in a counter-clockwise direction; .13 restart the engine and run it at full speed for 5 minutes; .14 rotate the engine in a clockwise direction through 180° and stop the engine. Rotate it 180° further to complete a full clockwise revolution; .15 restart the engine and run it at full speed for 10 minutes; .16 repeat the procedure in .14 above, turning the engine counter-clockwise; .17 restart the engine, run it at full speed for 10 minutes and then shut it down; and .18 dismantle the engine for examination.	During these tests, the engine should not overheat, fail to operate or leak more than 250 ml of oil during any one inversion. When examined after being dismantled the engine should show no evidence of overheating or excessive wear.	Are all the tests carried out according to the procedure as prescribed? Passed/Failed Does the engine stop when turned in either direction? Passed/Failed If it stops, does it easily restart? Passed/Failed Does the engine fulfil the requirements after the tests have been carried out according to the procedure? Passed/Failed Amount of oil lost from engine during each inversion: .2 : ml .4 : ml .8 : ml .12 : ml .14 : ml .16 : ml Total amount of oil lost from engine: ml Evidence of overheating or excessive wear? Passed/Failed Amount of oil lost from engine _____ ml Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.3.1 Seating strength test		**Regulations: LSA Code 4.4.1.5, MSC.81(70)1/6.6.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The seating should be loaded with a mass of 100 kg in each position allocated for a person to sit in the rescue boat. In the case of a rescue boat launched by falls, each type of seat should be loaded with a mass of 100 kg in any single seat location when dropped into the water from height of at least 3 m. (This test may be performed in conjunction with the Drop Test in 5.6.7.1).	The seating should be able to support this loading without any permanent deformation or damage. The seating should be capable of supporting this loading. No damage should be sustained that would affect the seat's efficient functioning.	Observed damage Passed_____ Failed _____ Passed_____ Failed_____N/A Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.3.2 Seating space test		**Regulations: LSA Code 5.1.1.3.2, MSC.81(70)1/7.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The rigid rescue boat should be fitted with its engine and all its equipment. The number of persons for which the rescue boat is to be approved, having an average mass of at least 82.5 kg, and all wearing lifejackets and immersion suits and any other essential equipment required, should then board; one person should lie down on a stretcher of similar dimensions to those shown in the figure and the others should be properly seated in the rescue boat. The rigid rescue boat should then be manoeuvred and all equipment on board tested to demonstrate that it can be operated without difficulty or interference with the occupants.  Stretcher dimensions (mm)	Equipment can be operated without interference with the occupants. The rescue boat must be capable of carrying at least 5 persons and a person lying down on a stretcher. Except the helmsmen, persons may be seated on the floor, provided the space used conforms with the leg space requirements of test form 5.6.1.1. No seating is on the gunwale, transom, or buoyancy chambers on the sides of the boat.	Equipment operated: YES NO Number of persons carried: Seated on seats _____ Seated on floor _____ Lying on a stretcher _____ Total _____ Passed_____Failed _____ Lifejacket and immersion suit used during the test: Lifejacket– Inflatable/Inherently Buoyant _____ Immersion suit– Uninsulated/Buoyant Insulated Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.4.1 Simultaneous release		**Regulations: LSA Code 4.4.7.6, MSC.81(70)1/6.9.1-.2**
Test Procedure	Acceptance Criteria	Significant Test Data
For rescue boats launched by fall or falls, the rescue boat with its engine fitted should be suspended from the release mechanism just clear of the ground or the water. The rescue boat should be loaded so that the total mass equals 1.1 times the mass of the rescue boat, all its equipment and the number of persons for which the rescue boat is to be approved. The rescue boat should be released simultaneously from each fall to which it is connected without binding or damage to any part of the rescue boat or the release mechanism. (Single fall systems not intended for on-load operation are exempt from this test.)	It should be confirmed that the rescue boat will simultaneously release from each fall which it is connected without binding or damage to any part of the rescue boat or the release mechanism. It should be confirmed that the rescue boat will simultaneously release from each fall to which it is connected when fully waterborne in the light condition and in a 10% overload condition.	Light condition Passed_____ Failed_____N/A (N/A – Single fall, off-load only) 1.1 x Loaded Mass:_____kg Passed_____ Failed_____N/A (N/A – Single fall, off-load only) Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.4.2 Towing release test		**Regulations: LSA Code 4.4.7.6.5; MSC.81(70) 1/6.9.3**
Test Procedure	Acceptance Criteria	Significant Test Data
With the operating mechanism disconnected it should be demonstrated when the rescue boat is loaded with its full complement of persons and equipment and towed at speeds of 5 knots that the moveable hook component stays closed. Furthermore, with the operating mechanism connected, it should be demonstrated that the rescue boat when loaded with its full complement of persons and equipment when towed at speeds of 5 knots can be released. Both of the above should be demonstrated as follows: .1 a force equal to 25% of the safe working load of the hook should be applied to the hook in the lengthwise direction of the boat at an angle of 45° to the vertical. This test should be conducted in the aftward as well as the forward direction; .2 a force equal to the safe working load of the hook should be applied to the hook in an athwartships direction at an angle of 20° to the vertical. This test should be conducted on both sides; and .3 a force equal to the safe working load of the hook should be applied to the hook in a direction halfway between the positions of tests 1 and 2 (i.e. 45° to the longitudinal axis of the boat in plain view) at an angle of 33° to the vertical. This test should be conducted in four positions.	There should be no damage as a result of these tests. The rescue boat is released satisfactorily by the release mechanism. Single fall systems not intended for on-load operation are exempt from this test.	Operating mechanism disconnected and boat towed at 5 kts: _____Pass _____ Fail <u>Operating mechanism connected tests</u>. Test 1: 25% SWL, lengthwise to the boat at 45° to the vertical: Force Applied: _____ N. Forward direction: _____Pass _____ Fail Aft direction: _____Pass _____ Fail Test 2: 100% SWL, athwartships at 20° to the vertical: Force Applied: _____ N. Starboard: _____Pass _____ Fail Port: _____Pass _____ Fail Test 3: 100% SWL, 45° to the longitudinal axis of the boat in plan view at an angle of 33° to the vertical. Force Applied: _____ N. Position 1: _____Pass _____ Fail Position 2: _____Pass _____ Fail Position 3: _____Pass _____ Fail Position 4: _____Pass _____ Fail Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.4.3 Load and release test	**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2**	
Test Procedure	Acceptance Criteria	Significant Test Data
A release mechanism should be conditioned and tested as follows: The rescue boat release and retrieval system and the longest used connection cable/linkage associated with the system should be mounted and adjusted according to instructions from the original equipment manufacturer and then loaded to 100% of its safe working load and released. Load and release should be repeated 50 times. The rescue boat release and retrieval system should then be disassembled, the parts examined and wear recorded. The release and retrieval system should then be reassembled.	During the 50 releases, the rescue boat release and retrieval system should be released simultaneously from each fall to which it is connected without any binding or damage to any part of the lifeboat release and retrieval system. The system should be considered as "failed" if any failure during the conditioning or unintended release occurs when load is applied but the system has not yet been operated.	Working Load:_____N Force Applied:_____N Check the box for each release: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ 11: ☐ 12: ☐ 13: ☐ 14: ☐ 15: ☐ 16: ☐ 17: ☐ 18: ☐ 19: ☐ 20: ☐ 21: ☐ 22: ☐ 23: ☐ 24: ☐ 25: ☐ 26: ☐ 27: ☐ 28: ☐ 29: ☐ 30: ☐ 31: ☐ 32: ☐ 33: ☐ 34: ☐ 35: ☐ 36: ☐ 37: ☐ 38: ☐ 39: ☐ 40: ☐ 41: ☐ 42: ☐ 43: ☐ 44: ☐ 45: ☐ 46: ☐ 47: ☐ 48: ☐ 49: ☐ 50: ☐ Passed_____ Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.4.4 Cyclic loading test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The hook assembly, while disconnected from the operating mechanism, should be tested 10 times with cyclic loading from zero load to 1.1 times the safe working load, at a nominal 10 seconds per cycle; unless the release mechanism has been specifically designed to operate as an off-load hook with on-load capability using the weight of the boat to close the hook, in this case the cyclic load should be from no more than 1% to 1.1 times the SWL. For cam-type designs, the test should be carried out at an initial cam rotation of 0º (fully reset position), and repeated at 45º in either direction, or 45º in one direction if restricted by design.	The specimen should remain closed during the test. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Working Load:_____N Force Applied:_____N Check the box for each release and/or strike out the cam rotation if no applicable: Cam rotation 0°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation +45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation -45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Passed: _____ Failed: _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.4.5 Actuation force test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.4**
Test Procedure	Acceptance Criteria	Significant Test Data
The cable and operating mechanism should then be reconnected to the hook assembly; and the rescue boat release and retrieval system should then be demonstrated to operate satisfactorily under its safe working load. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer.	The actuation force should be no less than 100 N and no more than 300 N, if a cable is used it should be the maximum length specified by the manufacturer, and secures in the same manner it would be secured in the rescue boat. The release mechanism is deemed to have passed the testing in 5.6.4.3, 5.6.4.4 and 5.6.4.5 when the tests have been conducted successfully. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Actuation Force: _____ N Passed: _____ Failed: _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.4.6 Second release mechanism tests- actuation force and tensile strength		**Regulations: LSA Code 4.4.7.6.4, MSC.81(70)1/6.9.5.1, 6.9.5.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A second release mechanism should be tested as follows: .1 the actuation force of the release mechanism should be measured loaded with 100% of its safe working load. If a cable is used, it should be of the maximum length specified by the manufacturer, and secured in the same manner it would be secured in a lifeboat. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer; and .2 the release mechanism should be mounted on a tensile strength testing device. The load should be increased to at least six times the working load of the release mechanism.	.1 The actuation force should be no less than 100 N and no more than 300 N. The release mechanism does not fail.	Actuation Force: _____ N Tensile strength @ 6xSWL. Force applied: _____ N. Passed: _____ Failed: _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.5.1 Liferaft towing		**Regulations: LSA Code 4.4.6.8, 5.1.1.7, 5.1.1.9, MSC.81(70)1/7.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The maximum towing force of the rescue boat should then be determined. This information should be used to determine the largest size of fully loaded liferaft the rescue boat can tow at a speed of at least 2 knots. The fitting designated for towing other craft should be secured to a stationary object by a tow rope fitted with a means to measure bollard pull. The engine should be operated ahead at full speed for a period of at least 2 minutes and the maximum force recorded. (For rescue boats equipped with outboard motors, bollard pull trials may be carried out with engines of various powers to assess the rescue boat's performance.)	The maximum towing force of the rescue boat should be recorded on the type approval certificate. There should be no damage to the towing fitting or its supporting structure.	Smallest Engine Largest Engine Make/model: _____ _____ Bollard pull: N _____ _____ (Record on type approval certificate) Observed damage: Propeller: Pitch: _____ Diameter: _____ Passed _____ Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.5.2 Endurance, speed and fuel consumption		**Regulations: LSA Code MSC.81(70)1/7.1.6, 7.4.2.1-.2**
Test Procedure	Acceptance Criteria	Significant Test Data
(Note: Run this test after the impact and drop tests in 5.6.7.1.) The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The engine should be started and the boat manoeuvred for a period of at least 4 hours to demonstrate satisfactory operation. The rescue boat should be run at a speed of not less than 8 knots with a full complement of persons and equipment and 20 knots with a crew of 3 persons for a period which is sufficient to ascertain the fuel consumption and to establish that the fuel tank has the required capacity. (This determination may be made during the 4-hour period of operation.) For rescue boats equipped with outboard motor, speed and manoeuvring trials should be carried out with engines of various powers to assess the rescue boat's performance.	The boat should operate satisfactorily throughout the 4-hour operation. The fuel tank should have sufficient capacity to operate at a speed of 8 knots for a period of 4 hours with its full complement of persons and equipment. The fuel tank should have sufficient capacity to operate at a speed of 20 knots for a period of 4 hours with a crew of 3 persons.	Smallest Engine Largest Engine Make/model: _____ _____ Fuel Tank Capacity: _____ L Propeller: Pitch: _____ _____ Diameter: _____ _____ @8 knots: Engine speed (RPM):_____ _____ Boat speed (kts) _____ _____ Consumption (L/h) _____ _____ Endurance (hrs.) _____ _____ @20 knots: Engine speed (RPM):_____ _____ Boat speed (kts) _____ _____ Consumption (L/h) _____ _____ Endurance (hrs.) _____ _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.5.3 Engine out of water		**Regulations: LSA Code 4.4.6.3, MSC.81(70)1/6.10.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The engine should be operated for at least 5 minutes at idling speed under conditions simulating normal storage. Note: If a water flushing device is intended to be used for this purpose, it should be fitted during the test.	The engine should not be damaged as a result of this test.	Passed_____ Failed _____ Comments/Observations

5.6.5.4 Compass test		**Regulations: LSA Code 5.1.2.2.3, MSC.81(70)1/6.10.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be determined that the compass performance is satisfactory and that it is not unduly affected by magnetic fittings and equipment in the rescue boat.	The compass operates satisfactorily.	Compass Make: _____ Compass Model: _____ Passed_____ Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.5.5 Manoeuvrability with paddles or oars		**Regulations: LSA Code 5.1.2.2.1, MSC.81(70)1/7.1.8**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the rescue boat can be propelled and manoeuvred by its oars or paddles in calm water conditions at a speed of at least 0.5 knots over a distance of at least 25 m. when laden with the number of persons, all wearing lifejackets and immersion suits, for which it is to be approved.	The rescue boat should be capable of being satisfactorily paddled and manoeuvred.	Distance travelled:_____m Time required:_____s Calculated speed:_____m/s =_____ knots Lifejacket and immersion suit used during the test: Lifejacket – Inflatable/Inherently Buoyant _____ Immersion suit – Uninsulated/Buoyant Insulated _____ Passed_____ Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.5.6 Heavy weather/seas test		**Regulations: LSA Code 5.1.3, MSC.81(70)1/7.2.10**
Test Procedure	Acceptance Criteria	Significant Test Data
To simulate use in heavy weather the inflated rescue boat should be fitted with a larger powered engine than is intended to be fitted and driven hard in a wind of force 4 or 5 or equivalent rough water for at least 30 minutes. For boats with inboard engines the power does not need to be greater than that intended to be used.	The rescue boat should not show undue flexing or permanent strain nor have lost more than minimal pressure.	Tube pressure before test:_____mbar Pressure relief valves open/closed?_____ Wave height _____ m Wind Speed_____ m/s Tube pressure after test:_____mbar Passed_____ Failed _____ Comments/Observations

5.6.6.1 Towing test		**Regulations: LSA Code 4.4.1.3.2, 4.4.7.7, MSC.81(70)1/6.11.1**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the fully equipped rescue boat, loaded with a properly distributed mass equal to the mass of the number of persons for which it is to be approved, can be towed at a speed of not less than 5 knots in calm water and on an even keel using the rescue boat's painter securing device.	The rescue boat should not exhibit unsafe or unstable characteristics. There should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.6.2 Painter release test		**Regulations: LSA Code 4.4.7.7, MSC.81(70)1/6.11.2-.3**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the painter release mechanism can release the painter on a fully equipped and loaded rescue boat that is being towed at a speed of not less than 5 knots in calm water. The painter release mechanism should be tested in several distinct directions of the upper hemisphere not obstructed by the canopy or other constructions in the rescue boat. The directions specified in test 5.6.4.2 should be used if possible.	The painter should release and there should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Test Direction _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.7.1 Impact, drop and operation after impact and drop test		**Regulations: LSA Code 4.4.1.7, MSC.81(70)1/6.4.1, 7.2.2 & 7.2.3**
Test Procedure	Acceptance Criteria	Significant Test Data
.1 For boats launched by fall or falls, the fully equipped rescue boat, including its engine, should be loaded with weights equal to the mass of the number of persons for which the rescue boat is to be approved. Included in this loading should be a weight of 100 kg loaded in one of each type of seat installed in the lifeboat. The weights should be distributed to represent the normal loading in the rescue boat. (These weights need not be placed 300 mm above the seatpan.) Skates or fenders, if required, should be in position. The rescue boat, in a free hanging position, should be pulled laterally to a position so that when released it will strike a fixed rigid vertical surface at a velocity of 3.5 m/s. The boat should be released to impact against the rigid vertical surface. .2 The rescue boat complete with all its equipment and with a mass equivalent to its engine and fuel in the position of its engine and fuel tank should be dropped three times from a height of at least 3 m on to water. The drops should be from the 45-degree bow-down, level trim, and 45-degree stern-down attitudes. .3 On completion of these tests the rescue boat and its equipment should be carefully examined.	The impact and drop tests should be considered successful if: .1 no damage has been sustained that would affect the efficient functioning of the rescue boat and its equipment; .2 the damage caused by the impact and drop tests has not increased significantly as a result of the operational test in 5.6.5.2; .3 machinery and other equipment has operated to full satisfaction; and .4 no significant ingress of seawater has occurred.	Load in boat:_____kg Observed Damage: Increased Damage: YES NO Satisfactory Operation: YES NO Ingress of Water: YES NO Weight of heaviest engine tested:_____ Final Evaluation: Passed_____ Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.7.2 Ambient overload test		**Regulations: LSA Code 5.1.3.2.2, MSC.81(70)1/7.2.12**
Test Procedure	Acceptance Criteria	Significant Test Data
With all relief valves inoperative, the inflated rescue boat should be loaded with four times the mass of the full complement of persons and equipment for which it is to be approved and suspended for 5 minutes from its bridle at an ambient temperature of +20 ± 3°C. The rescue boat and its bridle should be examined after the test is conducted.	The rescue boat and its bridle or release mechanism should not show any signs of damage.	Passed_____ Failed _____ Comments/Observations

5.6.7.3 Cold overload test		**Regulations: LSA Code 5.1.3.2.3, MSC.81(70)1/7.2.13**
Test Procedure	Acceptance Criteria	Significant Test Data
With all relief valves operative, after 6 h conditioning at a temperature of -30°C, the inflated rescue boat should be loaded with 1.1 times the mass of the full complement of persons and equipment for which it is to be approved and suspended for five minutes from its bridle. The rescue boat and bridle should be examined after the test is conducted.	The rescue boat and its bridle or release mechanism should not show any signs of damage.	Passed_____ Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.7.4 Mooring out test		**Regulations: LSA Code 5.1.3.3, MSC.81(70)1/7.2.15, 5.5, 5.17.7-.8**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with a mass equal to the mass of the total number of persons for which it is to be approved and its equipment and moored in a location at sea or in a seawater harbour. The rescue boat should remain afloat in that location for 30 days. The pressure may be topped up once a day using the manual pump; however, during any 24-hour period the rescue boat should retain its shape. Each inflatable compartment in the rescue boat should be tested to a pressure equal to three times the working pressure. Each pressure relief valve should be made inoperative, compressed air should be used to inflate the inflatable rescue boat and the inflation source removed. The test should continue for at least 30 minutes. The measurement of pressure drop due to leakage can be started when it has been assumed that compartment material has been completed stretching due to the inflation pressure and achieved equilibrium.	The rescue boat should not sustain any damage that would impair its performance. The pressure should not decrease by more than 5% as determined without compensating for temperature and atmospheric pressure changes, and there should be no seam slippage, cracking or other defect in the rescue boat.	Compartment 1 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 2 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 3 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 4 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 5 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Passed_____ Failed _____ Comments/Observations

Inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.6.8.1 Inflation chamber characteristics tests		**Regulations: LSA Code 1.2.2, MSC.81(70)1/7.2.14**
Test Procedure	Acceptance Criteria	Significant Test Data
The inflatable compartment materials used to construct the rescue boat should be tested for the following characteristics: .1 tensile strength .2 tear strength .3 heat resistance .4 cold resistance .5 heat ageing .6 weathering .7 flex cracking .8 abrasion .9 coating adhesion .10 oil resistance .11 elongation at break .12 piercing strength .13 ozone resistance .14 gas permeability .15 seam strength .16 ultraviolet light resistance	The material characteristics should comply with ISO 15372:2000.	.1 tensile strength_____N/50 mm width .2 tear strength_____N .3 heat resistance – Blocking _____ .4 cold resistance – Cracking _____ .5 heat ageing_____% retained strength N/50 mm width .6 weathering_____% retained strength N/50 mm width .7 flex cracking – Cracking or deterioration _____ .8 abrasion _____mg/rev.; Base fabric not visible .9 coating adhesion _____N/50 mm width .10 oil resistance – Tackiness or other deterioration .11 elongation at break_____% .12 piercing strength _____ .13 ozone resistance -Visible cracking _____ .14 gas permeability _____bubbles/min or l/m^2/hr of _____ .15 seam strength _____N/50 mm width .16 ultraviolet light resistance_____% retained strength N/50 mm width Cracking _____ SATISFACTORY UNSATISFACTORY Comments/Observations

5.7 RIGID/INFLATED FAST RESCUE BOATS

EVALUATION AND TEST REPORT

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5.7 RIGID/INFLATED FAST RESCUE BOATS

EVALUATION AND TEST REPORT

Manufacturer	
Type	
Date	
Place	
Name Surveyor printed	
Signature	
Approving Organization	

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.0.1 General data and specifications	**Regulations: LSA Code 4.4, 5.1, MSC.81(70)1/7.2.16**	
General Information	Rescue boat Dimensions	Rescue boat Weight
Construction Material: Hull: _____ Canopy: _____ Fire-retardancy documentation:_____ Rescue Boat Inherent Buoyancy (Type App.) Material: _____ Weight: _____ Occupancy: Persons (82.5 kg each): _____ Engine(s) Installed: 1 2 Type App by: _____ Manufacturer:_____ Type: _____ Power: _____ Gear ratio (inboard engine):_____ Additional rigid or inflatable buoyancy: _____ Release mechanism(s) (if applicable) 1 2 Manufacturer:_____ Type: _____ SWL: _____	Dimensions: LOA: _____ Breadth Maximum: _____ Depth to Sill: _____ Depth to Gunwale: _____ Moulded Breadth: _____ Moulded Depth: Provision for securing hanging-off pendant (if applicable):_____	Design Weight: Unloaded Boat: _____ Loose Equipment: _____ Fuel: _____ Persons: _____ Calculated Loaded Weight: Fully Equipped: _____ With Persons: _____ Weight as Tested: Fully Equipped: _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.0.2 Submitted drawings, reports and documents

Submitted drawings and documents			**Status**
Drawing No.	**Revision No. & date**	**Title of drawing**	

Submitted reports and documents			**Status**
Report/Document No.	**Revision No. & date**	**Title of report / document**	
		Maintenance Manual -	
		Operations Manual -	

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.0.3 Quality assurance	**Regulations: MSC.81(70) 2/1.1, 1.2**
Except where all appliances of a particular type are required by chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended or the International Life-Saving Appliance (LSA) Code, to be inspected, representatives of the Administration should make random inspections of manufacturers to ensure that the quality of life-saving appliances and materials used comply with the specification of the approved prototype life-saving appliance. Manufacturers should be required to institute a quality control procedure to ensure that life-saving appliances are produced to the same standard as the prototype life-saving appliance approved by the Administration and to keep records of any production tests carried out in accordance with the Administration's instructions.	Quality assurance Standard Used: _____ Quality assurance Procedure: _____ Quality assurance Manual: _____ Description of System: Quality assurance System acceptable Yes/No Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.1.1 Occupant space		**Regulations: LSA Code 4.4.2.2, 4.4.3.5, 5.1, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**General** Unless the rescue boat has adequate sheer, it should be provided with a bow cover extending for not less than 15% of its length. Length is at least 6.0 m and not over 8.5 m. **Seating Space** Width – at least 430 mm Depth – at least 100 mm each side of a point 215 mm from the back Knee Space (Seating on seats) at least 635 mm from the back Knee Width – at least 250 mm Leg Space (Seating on floor) – at least 1190 mm from the back Overlapping Seat Vertical Separation – at least 350 mm Seat Horizontal Overlap – 150 mm maximum Each seating position should be clearly indicated. **Stretcher(s) space:** Rescue boats should be capable of carrying at least five seated persons and a person lying on a stretcher of minimum 2130 x 610 mm. **Walkway Surfaces** The surfaces on which persons might walk should have a non-skid finish.	Passed_____ Failed _____ Passed_____ Failed _____ Width:_____mm Depth:_____mm Knee Space:_____mm Knee Width:_____mm Leg Space:_____mm Vert. Separation:_____mm Overlap:_____mm Position Indication: PASSED FAILED Stretcher space:_____x____mm Location:_____ Passed_____ Failed _____ Non-Skid Surface: Passed_____Failed_____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.1.2 Fittings, provisions and ladders		**Regulations: LSA Code 5.1.3, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Buoyancy compartments** fitted with: Non-return valve for manual inflation	Passed_____ Failed _____
	Means for deflation	Passed_____ Failed _____
	Safety relief valve unless waived by Administration	Passed_____ Failed_____N/A
	Suitable patches for securing painters fore and aft	Passed_____ Failed _____
	Fittings and Provisions	
	Suitable handholds or buoyant lifeline becketed around the outside of rescue boat above the waterline and within reach of a person in the water, except in the vicinity of the rudder and propeller	Passed_____ Failed _____
	On other than self-righting rescue boats, handholds on the underside arranged to break away without damaging the rescue boat	Passed_____ Failed _____
	Weathertight stowage for small items of equipment	Passed_____ Failed_____N/A
	Approved position indicating light provided at highest point	
	Provided with effective means of bailing or be automatically self-bailing	Passed_____Failed _____ Passed_____Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.1.2 Fittings, provisions and ladders (cont'd)		**Regulations: LSA Code 4.4.3.3, 5.1.3, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Ladders** Ladders that can be used at any entrance should be on board and the lowest step when in place should not be less than 0.4 m below the light waterline. **Other Provisions** Buoyant material may be installed external to the hull of the boat, provided it is adequately protected against damage and is capable of withstanding exposure when stowed on an open deck on a ship at sea and for 30 days afloat in all sea condition. **Colour** The boat should be of a highly visible colour where it will assist detection.	Passed_____ Failed _____ Lowest step_____m below waterline YES NO N/A Passed_____ Failed _____ Highly visible colour: Passed____Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.1.3 Engine and starting system	**Regulations: LSA Code 4.4.6, 5.1, MSC.81(70)1/7.2.16**	
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Type of starting system - Two independent rechargeable energy sources provided for power starting systems - Required starting aids provided. - Starting system is not impeded by engine casing, thwarts, or other obstructions - Propeller arranged to be disengaged from the engine and provision for ahead and astern propulsion - Exhaust arranged to prevent water from entering engine in normal operation. - System designed with due regard to the safety of persons in the water and to the possibility of damage to the propulsion system from floating debris - Engine casing made of fire-retardant material or other suitable arrangements providing similar protection. - Personnel are protected from hot and moving parts - Shouted order can be heard with engine running at speed necessary for 6 knot operation - Watertight casing around bottom and sides of starter batteries with a tightly fitting top which provides for gas venting. - Means for recharging engine starting, radio, and searchlight batteries provided by solar charger or ship's power supply. - Radio batteries not used to provide power for engine starting. - Recharging for engine batteries provided by ship's power supply does not exceed 50 v - Recharging means for engine batteries can be disconnected at the rescue boat embarkation station - Instructions for starting and operating engine are water resistant and mounted in a conspicuous place near the engine starting controls - Towing arrangement for marshalling liferafts	Manual Power YES NO N/A Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____ Passed_____Failed_____

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.1.4 Steering mechanism and fuel tank		**Regulations: LSA Code 4.4.7.2, 5.1.1.8, , MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	**Steering** A tiller should be capable of controlling the rudder (rudder and tiller may form part of outboard motor) Rudder permanently attached to the rescue boat Rudder and tiller arranged so as not to be damaged by operation of the release mechanism or propeller Steered by wheel at helmsman's position Has emergency steering system providing direct control of rudder, water jet or outboard motor Hands-free, watertight VHF radio provided **Fuel Tank** If fitted with petrol-driven outboard motor, the fuel tank(s) should be specially protected against fire and explosion.	Passed_____ Failed _____ Passed_____ Failed_____N/A _____ Passed_____ Failed _____ Passed_____ Failed_____N/A _____ Passed_____ Failed _____ Passed_____ Failed _____ Passed_____ Failed_____ N/A Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.1.5 Release mechanism		**Regulations: LSA Code 4.4.7.6.5, MSC.81(70)1/7.2.16**
Test Procedure	Acceptance Criteria	Significant Test Data
Visually inspect the rescue boat. Conduct measurements and verify clearances as required.	Clear operating instructions	Passed_____ Failed _____
	Release control marked in a colour that contrasts with the surroundings	Passed_____ Failed _____
	For on-load release mechanisms:	
	Suitably worded danger sign for on load release	Passed_____ Failed_____N/A
	Mechanical protection (interlock) engages only when mechanism is completely and properly reset, to prevent accidental release during recovery	Passed_____ Failed_____N/A
	On-load release mechanism needs deliberate and continued action by the operator	Passed_____ Failed_____N/A
	Mechanical protection provided beyond that normally required for off load release	Passed_____ Failed_____N/A
	For a single fall system with suitable painter, on-load release capability is not required; in such an arrangement a single capability to release the boat only when it is fully waterborne will be adequate.	Passed_____ Failed_____N/A
		Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.2.1 Damage test (Does not apply if waterline is below lower side of inflated tube)		**Regulations: LSA Code 5.1.3.5, MSC.81(70)1/7.2.8-.9, 7.3.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The following tests should be carried out with the inflated rescue boat loaded with the number of persons (of 82.5 kg mass) for which it is to be approved both with and without engine and fuel or an equivalent mass in the position of the engine and fuel tank: with forward buoyancy compartment deflated; .1 with the entire buoyancy on one side of the rescue boat deflated; and .2 with the entire buoyancy on one side and the bow compartment deflated.	In each of the conditions prescribed, the full number of persons for which the rescue boat is to be approved should be supported within the rescue boat.	1 With engine and fuel: Passed _____ Failed _____ Without engine and fuel Passed _____ Failed _____ 2 With engine and fuel: Passed _____ Failed _____ Without engine and fuel Passed _____ Failed _____ 3 With engine and fuel: Passed _____ Failed _____ Without engine and fuel Passed _____ Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.2.2 Stability test		**Regulations: LSA Code 4.4.5, MSC.81(70)1/6.10.8, 7.2.6-.7**
Test Procedure	Acceptance Criteria	Significant Test Data
The following tests should be carried out with engine and fuel or an equivalent mass in place of the engine and fuel tanks: .1 the number of persons for which the inflated rescue boat is to be approved should be crowded to one side with half this complement seated on the buoyancy tube, and then to one end. In each case the freeboard should be recorded; and .2 the stability of the rescue boat during boarding should be ascertained by two persons in the rescue boat demonstrating that they can readily assist from the water a third person who is required to feign unconsciousness. The third person should have his back towards the side of the rescue boat so that he cannot assist the rescuers. All persons should wear approved lifejackets. These stability tests may be carried out with the rescue boat floating in still water.	.1 Under these conditions the freeboard should be everywhere positive. .2 The rescue boat should be stable.	1 Freeboard crowded to one side_____mm To bow:_____mm To stern:_____mm Passed_____Failed _____ 2 Stability observations during recovery of unconscious person: Clothing/Suits on helpless person: _____ Method of recovery: _____ Number of persons required and any special equipment used: _____ Passed _____ Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.2.3 Loading test		**Regulations: MSC.81(70)1/7.2.4-.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The freeboard of the inflated rescue boat should be taken in the various loading conditions as follows: .1 rescue boat with all its equipment; .2 rescue boat with all its equipment, engine and fuel, or an equivalent mass positioned to represent engine and fuel; .3 rescue boat with all its equipment and the number of persons for which it is to be approved having an average mass of 82.5 kg so arranged that a uniform freeboard is achieved at the side buoyancy tubes; and .4 rescue boat with the number of persons for which it is to be approved and all its equipment, engine and fuel or an equivalent mass to represent engine and fuel and the rescue boat being re-trimmed as necessary.	In each condition the minimum freeboard should be not less than 300 mm at the buoyancy tubes and not less than 250 mm from the lowest part of the transom.	.1 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm .2 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm .3 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm .4 Freeboard at Buoyancy Tubes:_____mm Freeboard at Transom:_____mm Passed_____ Failed _____ Comments/Observations

5.7.2.4 Swamp test		**Regulations: MSC.81(70)1/7.2.11**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the rescue boat, when fully swamped, is capable of supporting its full equipment, the number of persons each weighing 82.5 kg for which it is to be approved and a mass equivalent to its engine and fully filled fuel tank. It should also be demonstrated that the rescue boat does not seriously deform in this condition.	The rescue boat should be capable of supporting the full load and should not seriously deform.	Passed_____ Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.2.5 Flooded stability test (Required only when waterline is below lower side of inflated tube)		**Regulations: LSA Code 4.4.1.1, MSC.81(70)1/6.8.1-.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with its equipment. If provision lockers, water tanks and fuel tanks cannot be removed, they should be flooded or filled to the final waterline resulting from this test. Rescue boats fitted with watertight stowage compartments to accommodate individual drinking water containers should have these containers aboard and placed in the stowage compartments which should be sealed watertight during the flooding tests. Ballast of equivalent weight and density should be substituted for the engine and any other installed equipment that can be damaged by water. Weights representing persons (of 82.5 kg mass) who would be in the water when the rescue boat is flooded (water level more than 500 mm above the seat pan) may be omitted. Weights representing persons who would not be in the water when the rescue boat is flooded (water level more than 500 mm above the seat pan) should be placed in the normal seating positions of such persons with their centre of gravity approximately 300 mm above the seat pan. Weights representing persons who would be partly submerged in the water when the lifeboat is flooded (water level between 0 and 500 mm above the seat pan) should additionally have an approximate density of 1 kg/dm^3 (for example water ballast containers) to represent a volume similar to a human body. Note: Several tests may have to be conducted if holes in different areas would create different flooding conditions.	When loaded as specified, the rescue boat should have positive stability when filled with water to represent flooding which would occur when the rescue boat is holed in any one location below the waterline assuming no loss of buoyancy material and no other damage.	Comments/Observations Passed_____ Failed _____

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.2.6 Righting test (for non-self-righting fast rescue boats)		**Regulations: MSC.81(70)1/7.1.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that both with and without engine and fuel or an equivalent mass in place of the engine and fuel tank, the rescue boat is capable of being righted by not more than two persons if it is inverted on the water. The engine should be running in neutral position and, after stopping automatically or by the helmsman's emergency release switch when inverted, it should be easily restarted and run for 30 minutes after the rescue boat has returned to the upright position. For rescue boats with inboard engines, the test without engine and fuel is not applicable. (This test is not required if the righting test in 5.7.2.7 has been performed.)	The rescue boat should be capable of being righted by not more than two persons if it is inverted on the water. When the rescue boat has righted, each engine or motor should be capable of being restarted, provided the helmsman's emergency release, if fitted, has been reset. The design of the fuel and lubricating systems should prevent the loss of more than 250 ml of fuel or lubricating oil from the propulsion system.	Can the boat be righted by 2 persons? With engine and fuel: Passed_____ Failed _____ Without engine and fuel: Passed_____ Failed _____ Method used to right boat: _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.2.7 Self-righting test (for self-righting fast rescue boats only)		**Regulations: MSC.81(70)1/6.14**
Test Procedure	Acceptance Criteria	Significant Test Data
A suitable means should be provided to rotate the rescue boat about a longitudinal axis to any angle of heel and then release it. The rescue boat should be incrementally rotated to angles of heel up to and including 180° and should be released. These tests should be conducted in the following conditions of load: .1 when the rescue boat with its engine is loaded in the normal position with properly secured weights representing the fully equipped rescue boat with a full complement of persons on board. The weight used to represent each person, assumed to have an average mass of 82.5 kg, should be secured at each seat location and have its centre of gravity approximately 300 mm above the seatpan so as to have the same effect on stability as when the rescue boat is loaded with the number of persons for which it is to be approved; and .2 when the rescue boat is in the light condition. In the case of open fast rescue boats, the self-righting test should only be done in the light condition.	After release, the rescue boat should always return to the upright position without the assistance of the occupants. At the beginning of these tests, the engine should be running in neutral position and: .1 unless arranged to stop automatically when inverted, the engine should continue to run until stopped by the helmsman's emergency release switch; and .2 after resetting the helmsman's emergency release, if necessary, the engine should be easily restarted and run for 30 minutes after the rescue boat has returned to the upright position. Water should not enter the engine. The design of the fuel and lubricating systems should prevent the loss of more than 250 ml of fuel or lubricating oil from the propulsion system.	Angle of Heel — Righting Moment: Loaded — Light 45^0 _____ _____ 90^0 _____ _____ 135^0 _____ _____ 180^0 _____ _____ Result: PASSED FAILED PASSED FAILED Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.2.8 Flooded capsizing test (for self-righting fully enclosed fast rescue boats only)		**Regulations: MSC.81(70) 1/6.14.3, 6.14.4, 6.14.5, 7.4.1**
Test Procedure	Acceptance Criteria	Significant Test Data
Perform the following for fully enclosed rigid fast rescue boats. This test is not applicable to open fast rescue boats. The rescue boat should be placed in the water and fully flooded until the rescue boat can contain no additional water. All entrances and openings should be secured to remain open during the test. Using a suitable means, the rescue boat should be rotated about a longitudinal axis to a heel angle of 180° and then released. For the purpose of this test, the mass and distribution of the occupants may be disregarded. However, the equipment, or equivalent mass, should be secured in the rescue boat in the normal operating position.	After release, the lifeboat should attain a position that provides an above-water escape for the occupants.	Result: PASSED FAILED Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.2.9 Engine inversion test (for self-righting fast rescue boats only)		**Regulations: LSA Code 4.6.4.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The engine and its fuel tank should be mounted on a frame that is arranged to rotate about an axis equivalent to the longitudinal axis of the boat. A pan should be located under the engine to collect any oil which may leak from the engine so that the quantity of such oil can be measured. The following procedure should be followed during this test: .1 start the engine and run it at full speed for 5 minutes; .2 stop the engine and rotate it in a clockwise direction through 360°; .3 restart the engine and run it at full speed for 10 minutes; .4 stop the engine and rotate it in a counter- clockwise direction through 360°; .5 restart the engine, run it at full speed for 10 minutes, and then stop the engine; .6 allow the engine to cool; .7 restart the engine and run it at full speed for 5 minutes;	The engine and engine installation should be capable of running in any position during capsize and continue to run after the rescue boat returns to the upright or should automatically stop on capsizing and be easily restarted after the rescue boat returns to the upright. The design of the fuel and lubricating systems should prevent the loss of fuel and the loss of more than 250 ml of lubricating oil from the engine during capsize. During these tests, the engine should not overheat, fail to operate or leak more than 250 ml of oil during any one inversion. When examined after being dismantled the engine should show no evidence of overheating or excessive wear.	Passed _____Failed _____ Comments/Observations

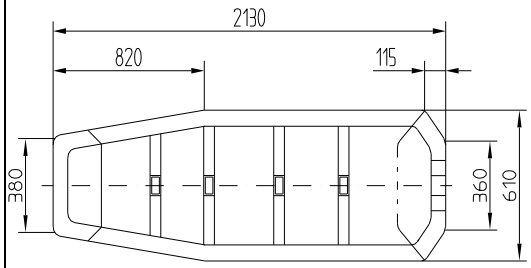
Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.2.9 Engine inversion test (continued)		**Regulations: LSA Code 4.6.4.2; MSC.81(70) 1/6.14.6 - 6.14.8, 7.4.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The following procedure should be followed during this test (Continued): .8 slowly rotate the running engine in a clockwise direction through 180°, hold at the 180° position for 10 s, and then rotate it 180° further in a clockwise direction to complete one revolution; .9 if the engine is arranged to stop automatically when inverted, restart it; .10 allow the engine to continue to run at full speed for 10 minutes; .11 shut the engine down and allow it to cool; .12 repeat the procedure in .7 through .11 above, except that the engine should be turned in a counter-clockwise direction; .13 restart the engine and run it at full speed for 5 minutes; .14 rotate the engine in a clockwise direction through 180° and stop the engine. Rotate it 180° further to complete a full clockwise revolution; .15 restart the engine and run it at full speed for 10 minutes; .16 repeat the procedure in .14 above, turning the engine counter-clockwise; .17 restart the engine, run it at full speed for 10 minutes and then shut it down; and .18 dismantle the engine for examination.	During these tests, the engine should not overheat, fail to operate or leak more than 250 ml of oil during any one inversion. When examined after being dismantled the engine should show no evidence of overheating or excessive wear.	Are all the tests carried out according to the procedure as prescribed? Passed/Failed Does the engine stop when turned in either direction? Passed/Failed If it stops, does it easily restart? Passed/Failed Does the engine fulfil the requirements after the tests have been carried out according to the procedure? Passed/Failed Amount of oil lost from engine during each inversion: .2 : ml .4 : ml .8 : ml .12 : ml .14 : ml .16 : ml Total amount of oil lost from engine: ml Evidence of overheating or excessive wear? Passed/ Failed Amount of oil lost from engine _____ ml Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.3.1 Seating strength test		**Regulations: LSA Code 4.4.1.5, MSC.81(70)1/6.6.1**
Test Procedure	Acceptance Criteria	Significant Test Data
The seating should be loaded with a mass of 100 kg in each position allocated for a person to sit in the rescue boat. In the case of a rescue boat launched by falls, each type of seat should be loaded with a mass of 100 kg in any single seat location when dropped into the water from height of at least 3 m. (This test may be performed in conjunction with the Drop Test in 5.7.7.1.)	The seating should be able to support this loading without any permanent deformation or damage. The seating should be capable of supporting this loading. No damage should be sustained that would affect the seat's efficient functioning.	Observed damage Passed_____ Failed _____ Passed_____ Failed_____N/A Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.3.2 Seating space test		**Regulations: LSA Code 5.1.1.3.2, MSC.81(70)1/7.1.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The rigid rescue boat should be fitted with its engine and all its equipment. The number of persons for which the rescue boat is to be approved, having an average mass of at least 82.5 kg, and all wearing lifejackets and immersion suits and any other essential equipment required, should then board; one person should lie down on a stretcher of similar dimensions to those shown in the figure and the others should be properly seated in the rescue boat. The rigid rescue boat should then be manoeuvred and all equipment on board tested to demonstrate that it can be operated without difficulty or interference with the occupants.  Stretcher dimensions (mm)	Equipment can be operated without interference with the occupants. The rescue boat must be capable of carrying at least 5 persons and a person lying down on a stretcher. Except the helmsmen, persons may be seated on the floor, provided the space used conforms with the leg space requirements of test form 5.7.1.1. No seating is on the gunwale, transom, or buoyancy chambers on the sides of the boat.	Equipment operated: YES NO Number of persons carried: Seated on seats _____ Seated on floor _____ Lying on a stretcher _____ Total _____ Passed_____Failed _____ Lifejacket and immersion suit used during the test: Lifejacket– Inflatable/Inherently Buoyant _____ Immersion suit– Uninsulated/Buoyant Insulated Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.4.1 Simultaneous release		**Regulations: LSA Code 4.4.7.6, MSC.81(70)1/6.9.1-.2**
Test Procedure	Acceptance Criteria	Significant Test Data
For rescue boats launched by fall or falls, the rescue boat with its engine fitted should be suspended from the release mechanism just clear of the ground or the water. The rescue boat should be loaded so that the total mass equals 1.1 times the mass of the rescue boat, all its equipment and the number of persons for which the rescue boat is to be approved. The rescue boat should be released simultaneously from each fall to which it is connected without binding or damage to any part of the rescue boat or the release mechanism. (Single fall systems not intended for on-load operation are exempt from this test.)	It should be confirmed that the rescue boat will simultaneously release from each fall which it is connected without binding or damage to any part of the rescue boat or the release mechanism. It should be confirmed that the rescue boat will simultaneously release from each fall to which it is connected when fully waterborne in the light condition and in a 10% overload condition.	Light condition Passed_____ Failed_____N/A (N/A – Single fall, off-load only) 1.1 x Loaded Mass:_____kg Passed_____ Failed _____N/A (N/A – Single fall, off-load only) Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.4.2 Towing release test		**Regulations: LSA Code 4.4.7.6.5; MSC.81(70) 1/6.9.3**
Test Procedure	Acceptance Criteria	Significant Test Data
With the operating mechanism disconnected it should be demonstrated when the rescue boat is loaded with its full complement of persons and equipment and towed at speeds of 5 knots that the moveable hook component stays closed. Furthermore, with the operating mechanism connected, it should be demonstrated that the rescue boat when loaded with its full complement of persons and equipment when towed at speeds of 5 knots can be released. Both of the above should be demonstrated as follows: .1 a force equal to 25% of the safe working load of the hook should be applied to the hook in the lengthwise direction of the boat at an angle of 45° to the vertical. This test should be conducted in the aftward as well as the forward direction; .2 a force equal to the safe working load of the hook should be applied to the hook in an athwartships direction at an angle of 20° to the vertical. This test should be conducted on both sides; and .3 a force equal to the safe working load of the hook should be applied to the hook in a direction halfway between the positions of tests 1 and 2 (i.e. 45° to the longitudinal axis of the boat in plan view) at an angle of 33° to the vertical. This test should be conducted in four positions.	There should be no damage as a result of these tests. The rescue boat is released satisfactorily by the release mechanism. Single fall systems not intended for on-load operation are exempt from this test.	Operating mechanism disconnected and boat towed at 5 kts: _____Pass _____ Fail <u>Operating mechanism connected tests</u>. Test 1: 25% SWL, lengthwise to the boat at 45° to the vertical: Force Applied: _____ N. Forward direction: _____Pass _____ Fail Aft direction: _____Pass _____ Fail Test 2: 100% SWL, athwartships at 20° to the vertical: Force Applied: _____ N. Starboard: _____Pass _____ Fail Port: _____Pass _____ Fail Test 3: 100% SWL, 45° to the longitudinal axis of the boat in plan view at an angle of 33° to the vertical. Force Applied: _____ N. Position 1: _____Pass _____ Fail Position 2: _____Pass _____ Fail Position 3: _____Pass _____ Fail Position 4: _____Pass _____ Fail Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.4.3 Load and release test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.1, 6.9.4.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A release mechanism should be conditioned and tested as follows: The rescue boat release and retrieval system and the longest used connection cable/linkage associated with the system should be mounted and adjusted according to instructions from the original equipment manufacturer and then loaded to 100% of its safe working load and released. Load and release should be repeated 50 times. The rescue boat release and retrieval system should then be disassembled, the parts examined and wear recorded. The release and retrieval system should then be reassembled.	During the 50 releases, the rescue boat release and retrieval system should be released simultaneously from each fall to which it is connected without any binding or damage to any part of the lifeboat release and retrieval system. The system should be considered as "failed" if any failure during the conditioning or unintended release occurs when load is applied but the system has not yet been operated.	Working Load:_____N Force Applied:_____N Check the box for each release: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ 11: ☐ 12: ☐ 13: ☐ 14: ☐ 15: ☐ 16: ☐ 17: ☐ 18: ☐ 19: ☐ 20: ☐ 21: ☐ 22: ☐ 23: ☐ 24: ☐ 25: ☐ 26: ☐ 27: ☐ 28: ☐ 29: ☐ 30: ☐ 31: ☐ 32: ☐ 33: ☐ 34: ☐ 35: ☐ 36: ☐ 37: ☐ 38: ☐ 39: ☐ 40: ☐ 41: ☐ 42: ☐ 43: ☐ 44: ☐ 45: ☐ 46: ☐ 47: ☐ 48: ☐ 49: ☐ 50: ☐ Passed_____ Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.4.4 Cyclic loading test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.3**
Test Procedure	Acceptance Criteria	Significant Test Data
The hook assembly, while disconnected from the operating mechanism, should be tested 10 times with cyclic loading from zero load to 1.1 times the safe working load, at a nominal 10 seconds per cycle; unless the release mechanism has been specifically designed to operate as an off-load hook with on-load capability using the weight of the boat to close the hook, in this case the cyclic load should be from no more than 1% to 1.1 times the SWL. For cam-type designs, the test should be carried out at an initial cam rotation of 0º (fully reset position), and repeated at 45º in either direction, or 45º in one direction if restricted by design.	The specimen should remain closed during the test. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Working Load:_____N Force Applied: _____N Check the box for each release and/or strike out the cam rotation if no applicable: Cam rotation 0°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation +45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Cam rotation -45°: 1: ☐ 2: ☐ 3: ☐ 4: ☐ 5: ☐ 6: ☐ 7: ☐ 8: ☐ 9: ☐ 10: ☐ Passed:_____ Failed: _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.4.5 Actuation force test		**Regulations: LSA Code 4.4.7.6.4; MSC.81(70) 1/6.9.4.4**
Test Procedure	Acceptance Criteria	Significant Test Data
The cable and operating mechanism should then be reconnected to the hook assembly; and the rescue boat release and retrieval system should then be demonstrated to operate satisfactorily under its safe working load. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer.	The actuation force should be no less than 100 N and no more than 300 N, if a cable is used it should be the maximum length specified by the manufacturer, and secures in the same manner it would be secured in the rescue boat. The release mechanism is deemed to have passed the testing in 5.7.4.3, 5.7.4.4 and 5.7.4.5 when the tests have been conducted successfully. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.	Actuation Force: _____ N Passed: _____ Failed: _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.4.6 Second release mechanism tests- actuation force and tensile strength		**Regulations: LSA Code 4.4.7.6.4, MSC.81(70)1/6.9.5.1, 6.9.5.2**
Test Procedure	Acceptance Criteria	Significant Test Data
A second release mechanism should be tested as follows: .1 the actuation force of the release mechanism should be measured loaded with 100% of its safe working load. If a cable is used, it should be of the maximum length specified by the manufacturer, and secured in the same manner it would be secured in a lifeboat. The demonstration should verify that any interlocks, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer; and .2 the release mechanism should be mounted on a tensile strength testing device. The load should be increased to at least six times the working load of the release mechanism.	1. The actuation force should be no less than 100 N and no more than 300 N. The release mechanism does not fail.	Actuation Force: _____ N Tensile strength @ 6xSWL. Force applied: _____ N. Passed: _____ Failed: _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.5.1 Liferaft towing		**Regulations: LSA Code 4.4.6.8, 5.1.1.7, 5.1.1.9, MSC.81(70)1/7.1.2**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The maximum towing force of the rescue boat should then be determined. This information should be used to determine the largest size of fully loaded liferaft the rescue boat can tow at a speed of at least 2 knots. The fitting designated for towing other craft should be secured to a stationary object by a tow rope fitted with a means to measure bollard pull. The engine should be operated ahead at full speed for a period of at least 2 minutes and the maximum force recorded. (For rescue boats equipped with outboard motors, bollard pull trials may be carried out with engines of various powers to assess the rescue boat's performance.)	The maximum towing force of the rescue boat should be recorded on the type approval certificate. There should be no damage to the towing fitting or its supporting structure.	Smallest Engine Largest Engine Make/model: _____ _____ Bollard pull: N _____ _____ (Record on type approval certificate) Observed damage: Propeller: Pitch: _____ Diameter: _____ Passed _____ Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.5.2 Endurance, speed and fuel consumption		**Regulations: LSA Code 5.1.1.6,MSC.81(70)1/7.1.5, 1/7.1.6**
Test Procedure	Acceptance Criteria	Significant Test Data
(Note: Run this test after the impact and drop tests in 5.7.7.1.) The rescue boat should be loaded with weights equal to the mass of its equipment and the number of persons for which the rescue boat is to be approved. The engine should be started and the boat manoeuvred for a period of at least 4 hours to demonstrate satisfactory operation. The rescue boat should be run at a speed of not less than 8 knots with a full complement of persons and equipment and 20 knots with a crew of 3 persons for a period which is sufficient to ascertain the fuel consumption and to establish that the fuel tank has the required capacity. (This determination may be made during the 4-hour period of operation.) For rescue boats equipped with outboard motor, speed and manoeuvring trials should be carried out with engines of various powers to assess the rescue boat's performance.	The boat should operate satisfactorily throughout the 4-hour operation. The fuel tank should have sufficient capacity to operate at a speed of 8 knots for a period of 4 hours with its full complement of persons and equipment. The fuel tank should have sufficient capacity to operate at a speed of 20 knots for a period of 4 hours with a crew of 3 persons.	Smallest Engine Largest Engine Make/model: _____ _____ Fuel Tank Capacity: _____ L Propeller: Pitch: _____ _____ Diameter: _____ _____ @8 knots: Engine speed (RPM):_____ _____ Boat speed (kts) _____ _____ Consumption (L/h) _____ _____ Endurance (hrs.) _____ _____ @20 knots: Engine speed (RPM):_____ _____ Boat speed (kts) _____ _____ Consumption (L/h) _____ _____ Endurance (hrs.) _____ _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.5.3 Engine out of water		**Regulations: LSA Code 4.4.6.3, MSC.81(70)1/6.10.5**
Test Procedure	Acceptance Criteria	Significant Test Data
The engine should be operated for at least 5 minutes at idling speed under conditions simulating normal storage. Note: If a water flushing device is intended to be used for this purpose, it should be fitted during the test.	The engine should not be damaged as a result of this test.	Passed_____ Failed _____ Comments/Observations

5.7.5.4 Compass test		**Regulations: LSA Code 5.1.2.2.3, MSC.81(70)1/6.10.7**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be determined that the compass performance is satisfactory and that it is not unduly affected by magnetic fittings and equipment in the rescue boat.	The compass operates satisfactorily.	Compass Make: _____ Compass Model: _____ Passed_____ Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.5.5 Manoeuvrability with paddles or oars		**Regulations: LSA Code 5.1.2.2.1, MSC.81(70)1/7.1.8**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the rescue boat can be propelled and manoeuvred by its oars or paddles in calm water conditions at a speed of at least 0.5 knots over a distance of at least 25 m. when laden with the number of persons, all wearing lifejackets and immersion suits, for which it is to be approved.	The rescue boat should be capable of being satisfactorily paddled and manoeuvred.	Distance travelled:_____m Time Required:_____s Calculated speed:_____m/s = ___ knots Lifejacket and immersion suit used during the test: Lifejacket – Inflatable/Inherently Buoyant _____ Immersion suit – Uninsulated/Buoyant Insulated _____ Passed_____ Failed_____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.5.6 Heavy weather/seas test		**Regulations: LSA Code 5.1.3, MSC.81(70)1/7.2.10**
Test Procedure	Acceptance Criteria	Significant Test Data
To simulate use in heavy weather the inflated rescue boat should be fitted with a larger powered engine than is intended to be fitted and driven hard in a wind of force 4 or 5 or equivalent rough water for at least 30 minutes. For boats with inboard engines the power does not need to be greater than that intended to be used.	The rescue boat should not show undue flexing or permanent strain nor have lost more than minimal pressure.	Tube pressure before test:_____mbar Pressure relief valves open/closed?_____ Wave height _____ m Wind Speed_____ m/s Tube pressure after test:_____mbar Passed_____ Failed _____ Comments/Observations

5.7.6.1 Towing test		**Regulations: LSA Code 4.4.1.3.2, 4.4.7.7, MSC.81(70)1/6.11.1**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the fully equipped rescue boat, loaded with a properly distributed mass equal to the mass of the number of persons for which it is to be approved, can be towed at a speed of not less than 5 knots in calm water and on an even keel using the rescue boat's painter securing device.	The rescue boat should not exhibit unsafe or unstable characteristics. There should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.6.2 Painter release test		**Regulations: LSA Code 4.4.7.7, MSC.81(70)1/6.11.2-.3**
Test Procedure	Acceptance Criteria	Significant Test Data
It should be demonstrated that the painter release mechanism can release the painter on a fully equipped and loaded rescue boat that is being towed at a speed of not less than 5 knots in calm water. The painter release mechanism should be tested in several distinct directions of the upper hemisphere not obstructed by the canopy or other constructions in the rescue boat. The directions specified in test 5.7.4.2 should be used if possible.	The painter should release and there should be no damage to the rescue boat or its equipment as a result of this test.	Passed_____ Failed _____ Test Direction _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ _____ Passed_____Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.7.1 Impact, drop and operation after impact and drop test		**Regulations: LSA Code 4.4.1.7, MSC.81(70)1/6.4.1, 7.2.2**
Test Procedure	Acceptance Criteria	Significant Test Data
.1 For boats launched by fall or falls, the fully equipped rescue boat, including its engine, should be loaded with weights equal to the mass of the number of persons for which the rescue boat is to be approved. Included in this loading should be a weight of 100 kg loaded in one of each type of seat installed in the lifeboat. The weights should be distributed to represent the normal loading in the rescue boat. (These weights need not be placed 300 mm above the seatpan.) Skates or fenders, if required, should be in position. The rescue boat, in a free hanging position, should be pulled laterally to a position so that when released it will strike a fixed rigid vertical surface at a velocity of 3.5 m/s. The boat should be released to impact against the rigid vertical surface. .2 The rescue boat complete with all its equipment and with a mass equivalent to its engine and fuel in the position of its engine and fuel tank should be dropped three times from a height of at least 3 m on to water. The drops should be from the 45-degree bow-down, level trim, and 45-degree stern-down attitudes. .3 On completion of these tests the rescue boat and its equipment should be carefully examined.	The impact and drop tests should be considered successful if: .1 no damage has been sustained that would affect the efficient functioning of the rescue boat and its equipment; .2 the damage caused by the impact and drop tests has not increased significantly as a result of the operational test in 5.7.5.2; .3 machinery and other equipment has operated to full satisfaction; and .4 no significant ingress of seawater has occurred.	Load in boat:_____kg Observed Damage: Increased Damage: YES NO Satisfactory Operation: YES NO Ingress of Water: YES NO Weight of heaviest engine tested:_____ Final Evaluation: Passed_____ Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.7.2 Overload test		**Regulations: MSC.81(70)1/7.1.4**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with a properly distributed load of four times the weight to represent the equipment and full complement of persons each weighing 82.5 kg for which it is to be approved and suspended for 5 minutes from its bridle or hooks. The weights should be distributed in proportion to the loading of the boat in its service condition, but the weights used to represent the persons need not be placed 300 mm above the seat pan. The boat and bridle or hooks and fastening device should be examined after the test has been conducted. Testing by filling the boat with water should not be accepted. This method of loading does not give the proper distribution of weight. Machinery may be removed in order to avoid damage, in which case weights should be added to the boat to compensate for the removal of such machinery. The rescue boat and its bridle or hooks (release mechanism) and fastening device should be examined after the test for any signs of damage.	The rescue boat and its bridle or release mechanism should not show any signs of damage.	Load in boat:_____kg Comments/Observations Passed_____ Failed _____

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.7.3 Mooring out test (Does not apply if waterline is below lower side of inflated tube)		**Regulations: LSA Code 5.1.3.3, MSC.81(70)1/7.2.15, 5.5, 5.17.7-.8**
Test Procedure	Acceptance Criteria	Significant Test Data
The rescue boat should be loaded with a mass equal to the mass of the total number of persons for which it is to be approved and its equipment and moored in a location at sea or in a seawater harbour. The rescue boat should remain afloat in that location for 30 days. The pressure may be topped up once a day using the manual pump; however, during any 24-hour period the rescue boat should retain its shape. Each inflatable compartment in the rescue boat should be tested to a pressure equal to three times the working pressure. Each pressure relief valve should be made inoperative, compressed air should be used to inflate the inflatable rescue boat and the inflation source removed. The test should continue for at least 30 minutes. The measurement of pressure drop due to leakage can be started when it has been assumed that compartment material has been completed stretching due to the inflation pressure and achieved equilibrium.	The rescue boat should not sustain any damage that would impair its performance. The pressure should not decrease by more than 5% as determined without compensating for temperature and atmospheric pressure changes, and there should be no seam slippage, cracking or other defect in the rescue boat.	Compartment 1 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 2 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 3 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 4 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Compartment 5 Initial Pressure:_____mbar Final Pressure:_____mbar Calculated Decrease:_____Percent Passed_____ Failed _____ Comments/Observations

Rigid/inflated fast rescue boats	Manufacturer: _____ Model: _____ Lot/Serial Number: _____	Date: _____ Time: _____ Surveyor: _____ Organization: _____

5.7.8.1 Inflation chamber characteristics tests		**Regulations: LSA Code 1.2.2, MSC.81(70)1/7.2.14**
Test Procedure	Acceptance Criteria	Significant Test Data
The inflatable compartment materials used to construct the rescue boat should be tested for the following characteristics: .1 tensile strength .2 tear strength .3 heat resistance .4 cold resistance .5 heat ageing .6 weathering .7 flex cracking .8 abrasion .9 coating adhesion .10 oil resistance .11 elongation at break .12 piercing strength .13 ozone resistance .14 gas permeability .15 seam strength .16 ultraviolet light resistance	The material characteristics should comply with ISO 15372:2000.	.1 tensile strength_____N/50 mm width .2 tear strength_____N .3 heat resistance – Blocking _____ .4 cold resistance – Cracking _____ .5 heat ageing_____% retained strength N/50 mm width .6 weathering_____% retained strength N/50 mm width .7 flex cracking – Cracking or deterioration _____ .8 abrasion _____mg/rev.; Base fabric not visible .9 coating adhesion _____N/50 mm width .10 oil resistance – Tackiness or other deterioration .11 elongation at break_____% .12 piercing strength _____ .13 ozone resistance -Visible cracking _____ .14 gas permeability _____bubbles/min or l/m²/hr of _____ .15 seam strength _____N/50 mm width .16 ultraviolet light resistance_____% retained strength N/50 mm width Cracking _____ SATISFACTORY UNSATISFACTORY Comments/Observations

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