



Technical Information

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Iranian Classification Society

Subject: Resolution MSC.402 (96), MSC.404 (96)

Guidance for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boat, launching appliances and release gear

The objective of these Technical information for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear is to establish a uniform, safe and documented standard for maintenance, thorough examination, operational testing, overhaul and repair of the equipment's basis on IMO Res.MSC.402(96) as a mandatory requirement from 1 January 2020, then service provider approved by ship's administration or authorized RO shall carry out the maintenance, thorough examination, operational testing, overhaul and repair.

Application:

- 1- Lifeboats, free-fall lifeboats, rescue boats, fast rescue boats
- 2- Launching appliances and on-load and off-load release gear for lifeboats (including primary and secondary means of launching appliances for free-fall lifeboats), rescue boats, fast rescue boats and davit-launched life rafts.

Maintenance, inspection, relevant documents and certificate:

- 1- **Weekly and monthly** inspections and routine maintenance as specified in the equipment maintenance manual shall be conducted by authorized service providers or by shipboard personnel under the direction of a senior ship's office in accordance with the maintenance manual.
- 2- **Annual** thorough examination and operational tests shall be conducted by certified personnel of either the manufacturer or an authorized service provider.
- 3- **Five-year** thorough examination, any overhaul, overload operational test shall be conducted by certified personnel of either the manufacturer or an authorized service provider.
- 4- All reports and checklists shall be completed and signed by the person who carries out the inspection and maintenance work and countersigned by the Company's representative or the ship's master.
- 5- Records of maintenance, thorough examination, operational testing, overhaul and repair shall be updated and filed on board the ship for the service life of the equipment.
- 6- When thorough examination, operational testing, overhaul and repair are completed, a statement confirming that the lifeboat arrangements remain fit for purpose shall be promptly issued by the manufacturer or authorized service provider that conducted work. A copy of valid documents of certification and authorization as appropriate shall be included with the statement.

Instruction and procedures for inspection, maintenance, thorough examination, operational testing, overhaul and repair

❖ **Annual thorough examination and operational test**

- All items listed in checklists for the weekly/monthly inspections required by SOLAS regulations III/20.6 and III/20.7 also form the first part of the annual thorough examination.
- Records of inspections and routine on-board maintenance carried out by the ship's crew and the applicable certificates for the equipment shall be reviewed.
- for lifeboats (including free-fall), rescue boats and fast rescue boat, the following items shall be thoroughly examined and checked for satisfactory condition and operation:
 - a) Condition of the boat structure and external boundaries
 - b) Engine and propulsion system;
 - c) Sprinkler system, where fitted;
 - d) Air supply system, where fitted;
 - e) Maneuvering system;
 - f) Power supply system;
 - g) Bailing system;
 - h) Fender/skate arrangements; and
 - i) Rescue boat righting system, where fitted

- For release gear of lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and life rafts, the following shall be thoroughly examined for satisfactory condition and operation after the annual operational test of the winch brake with the empty boat or equivalent load:
 - 1) Operation of devices for activation of release gear;
 - 2) Excessive free play(tolerances);
 - 3) Hydrostatic interlock system, where fitted;
 - 4) Cables for control and release;
 - 5) Hook fastening.

- The operational test of davit-launched lifeboats and rescue boats on-load release function shall be carried out as follows:
 - 1) Position the boat partially in the water such that the mass of the boat is substantially supported by the falls and the hydrostatic interlock system, where fitted, is not triggered;
 - 2) Operate the on-load release gear;
 - 3) Reset the on-load release; and
 - 4) Examine the release gear and hook fastening to ensure that the hook completely reset and no damage has occurred.



- The operational test of davit-launched lifeboats and rescue boats off-load release function shall be carried out as follows:
 - 1) Position the boat so that it is fully waterborne;
 - 2) Operate the off-load release gear;
 - 3) Reset the off-load release gear; and
 - 4) Recover the boat to the stowed position and prepare for operational readiness.

- The operational test of the free-fall lifeboat release function shall be carried out as follows:
 - 1) Engage the arrangements for the test without launching the lifeboat, required by paragraph 4.7.6.4 of the LSA Code, as specified in the manufacturer's operating instructions;
 - 2) If required to be on board, ensure that the operator is properly seated and secured in the seat location from which the release mechanism is to be operated.
 - 3) Operate the release mechanism to release the lifeboat;
 - 4) Reset the lifeboat in the stowed configuration;
 - 5) Repeat the procedures referred to in .2 to .4 above, using the back-up release mechanism, if applicable;
 - 6) Remove the arrangements for the test without launching the lifeboat,
 - 7) Verify that the lifeboat is in the ready to launch stowed configuration.

- The operational test of the davit-launched life raft automatic release function shall be carried out as follows:
 - 1) Manually release the hook with a load of 150kg on the hook;
 - 2) Automatically release the hook with a dummy weight of 200 kg on the hook when it is lowered to the ground;
 - 3) Examine the release hook and hook fastening to ensure that the hook is completely reset and no damage has occurred.

- For launching appliances for lifeboats(including free-fall lifeboats), rescue boats, fast rescue boats and life rafts, the following items shall be examined for satisfactory condition and operation:
 - 1) davit or other launching structures, in particular with regard to corrosion, misalignments, deformation and excessive free play;
 - 2) Wires and sheaves, possible damage such as kinks and corrosion;
 - 3) Lubrication of wires, sheaves and moving parts;
 - 4) If applicable:
 - a. Functioning of limit switches;
 - b. Stored power system;
 - c. Hydraulic systems;
 - 5) For winches:
 - a. Inspecting the braking system in accordance with winch manual;
 - b. Replacing brake pads, when necessary;
 - c. Winch foundation;
 - d. If applicable, remote control system and power supply system.



- For winches of the launching appliances for lifeboats(including free-fall lifeboats), rescue boats, fast rescue boats and life rafts, annual operational testing shall be done by lowering the empty craft or boat or equivalent load. When the craft has reached its maximum lowering speed and before the craft enters the water, the brake shall be abruptly applied. Following these tests, the stressed structural parts shall be re-inspected where the structure permits the re-inspection.

❖ **Five-year thorough examination, overhaul and overload operational tests**

- The five-year operational test of the winches of the launching appliances shall be carried out with a proof load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment. When the proof load has reached its maximum lowering speed, the brake shall be abruptly applied.
- Following these tests, the stressed structural parts shall be re-inspected where the structure permits the re-inspection.
- The operational tests and overhaul at five-year intervals of release gear for lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and life rafts shall include:
 - 1) Dismantling of hook release units;
 - 2) Examinations with regard to tolerances and design requirements;
 - 3) Adjustment of release gear system after assembly;
 - 4) Operational tests as per paragraphs above, as applicable, but with a load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment;
 - 5) Examinations of vital parts with regard to defects and cracks.



Requirements for authorization of service providers:

1. Authorization shall include, as a minimum, demonstration of:
 - a) Employment and documentation of personnel certified in accordance with a recognized national, international or industry standard as applicable, or a manufacturer's established certification programme.
 - b) Availability of sufficient tools, and in particular any specialized tools specified in the manufacturer's instructions, including portable tools as needed for work to be carried out on board ship;
 - c) Access to appropriate parts and accessories as specified for maintenance and repair;
 - d) Availability of the manufacturer's instructions for repair work involving disassembly or adjustment of on-load release mechanisms and davit winches;
 - e) A documented and certified quality system, which covers at least the following:
 - 1) Code of conduct for personnel involved in the relevant activity;
 - 2) Maintenance and calibration of measuring tools and gauges;
 - 3) Training programmes for personnel;
 - 4) Supervision and verification to ensure compliance with operational procedures;
 - 5) Recording and reporting of information;
 - 6) Quality management of subsidiaries and agents;
 - 7) Job preparation;
 - 8) Periodic review of work process procedures, complaints, corrective actions and issuance, maintenance and control of documents.
2. Administrations shall ensure that information regarding authorized service providers is made available.
3. In cases where a manufacturer is no longer in business or no longer provides technical support, Administrations may authorize service providers for the equipment on the basis of prior authorization for the equipment and/or long-term experience and demonstrated expertise as an authorized service provider.
4. Issuance and maintenance of authorization document:
 - a) Upon successful initial audit of a service provider, an authorization document shall be issued by the Administration defining the scope of services provided (e.g. makes and types of equipment). The expiry date shall be clearly written on the document;
 - b) The Administration shall ensure that work continues, e.g. by periodic audit, to be carried out in accordance with these requirements, and shall withdraw the authorization of service providers who are not in compliance;
 - c) The Administration may accept or recognize service providers authorized by other Administrations or by their Recognized Organizations.



Requirements for certification of personnel

- Personnel for the work shall be certified by the manufacturer or authorized service provider for each make and type of the equipment to be worked on in accordance with the provisions in this section.

- Education and training
 1. Initial certification shall be issued only to personnel having completed education, training and competence assessment. Education shall address, as a minimum:
 - a) Relevant rules and regulations, including international conventions;
 - b) Design and construction of lifeboats(including free-fall lifeboats), rescue boats and fast rescue boats, including on-load release gear and launching appliances;
 - c) Causes of lifeboat and rescue boat accidents;
 - d) Education and practical training in the procedures specified in above section (instruction and procedures for inspection, maintenance, thorough examination, operational testing, overhaul and repair)_for which certification is sought;
 - e) Detailed procedures for thorough examination, operational testing, repair and overhaul of lifeboat(including free-fall lifeboats), rescue boats and fast rescue boats, launching appliances and on-load release gear, as applicable;
 - f) Procedures for issuing a report of service and statement of fitness
 - g) Work, health and safety issues while conducting activities on board.
 2. Training shall include practical technical training on thorough examination, operational testing, maintenance, repair and overhaul techniques using the equipment for which the personnel are to be certified. The technical training shall include disassembly, reassembly, correct operation and adjustment of the equipment. Classroom training shall be supplemented by field experience in the operations for which certification is sought, under the supervision of a certified person.
 3. Prior to issuance of certification, a competency assessment shall be satisfactorily completed, using the equipment for which the personnel are to be certified.

- Validity of certificates and renewal
 1. Upon completion of training and competency assessment, a certificate shall be issued defining the level of qualification and the scope of the certification (i.e. makes and types of equipment and specifically state which activities in section 3.2 and 3.3 are covered by the certification). The expiry date shall clearly be written on the certificate and shall be three years from the date of issue. The validity of any certificate shall be suspended in the event of any shortfall in performance and only revalidated after a further competency assessment.
 2. A competency assessment shall be conducted to renew the certification. In cases where refresher training is found necessary a further assessment shall be carried out after completion.



Action to be taken by:

- **Ship's owners/operators:** When arranging service provider, ship's owners/operators are required to confirm whether the service provider is certified for the make and type of the equipment onboard. If approved service provider that does not have suitable list of make/type, contact ship's flag administration to inquire whether it is acceptable or not. Further, the confirmation shall be made that specific procedure, reports and records provided by service provider are complied with Res.MSC.402 (96).
- **Service providers:** If a service provider does not have proper certification for each make and type taking into account that training and certification for each make and type to carry out maintenance is required, contact ship's flag administration to inquire whether it is acceptable or not. Further, the confirmation shall be made that specific procedure, reports and records are complied with Res.MSC.402 (96).
- **Class surveyors:** Please ensure that Res.MSC.402 (96) is properly implemented when carrying out maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear on or after 1.Jan.2020.

For any questions about this Technical Information, please contact:

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