and that have a mass of not more than 185 kilograms (407 pounds);
(4) Are carried in excess of the survival craft for 200 percent of the total number of persons on board the vessel and that are stowed for launching directly from the stowed position under unfavorable conditions or trim of 10 degrees and list of 20 degrees either way; or
(5) Are provided for use in conjunction with a marine evacuation system and that are stowed for launching directly from the stowed position under unfavorable conditions of trim of 10 degrees and list of 20 degrees either way.
(c) With the exception of the secondary means of launching for free-fall lifeboats, each launching appliance must be arranged so that the fully equipped survival craft it serves can be safely launched against unfavorable conditions of trim of up to 10 degrees either way and of list of up to 20 degrees either way—
(1) When the survival craft is loaded with its full complement of persons; and
(2) When not more than the required operating crew is on board.
(d) A launching appliance must not depend on any means other than gravity or stored mechanical power, independent of the vessel’s power supplies, to launch the survival craft it serves in both the fully loaded and equipped condition and in the light condition.
(e) Each launching appliance’s structural attachment to the vessel must be designed, based on the ultimate strength of the construction material, to be at least 4.5 times the load imparted on the attachment by the launching appliance and its fully loaded survival craft under the most adverse combination of list and trim under paragraph (c) of this section.
(f) Each launching appliance must be arranged so that—
(1) All parts requiring regular maintenance by the vessel’s crew are readily accessible and easily maintained;
(2) The launching appliance remains effective under conditions of icing;
(3) The same type of release mechanism is used for each similar survival craft carried on board the vessel;
(4) The preparation and handling of each survival craft at any one launching station does not interfere with the prompt preparation and handling of any other survival craft at any other station;
(5) The persons on board the vessel can safely and rapidly board the survival craft; and
(6) During preparation and launching, the survival craft, its launching appliance, and the area of water into which it is to be launched are illuminated by lighting supplied from the vessel’s emergency source of electrical power.
(g) Each launching and recovery arrangement must allow the operator on the deck to observe the survival craft at all times during launching.
(i) If there is a danger of the survival craft being damaged by the vessel’s stabilizer wings, the stabilizer wings must be able to be brought inboard using power from the emergency source of electrical power. Indicators operated by the vessel’s emergency power system must be provided on the navigating bridge to show the position of the stabilizer wings.

§ 199.153 Survival craft launching and recovery arrangements using falls and a winch.

Survival craft launching and recovery arrangements, in addition to meeting the requirements in §199.150, must meet the following requirements:
(a) Each launching mechanism must be arranged so it may be actuated by one person from a position on the vessel’s deck, and except for secondary launching appliances for free-fall launching arrangements, from a position within the survival craft.
(b) Each fall wire must be of rotation-resistant and corrosion-resistant steel wire rope.
(c) The breaking strength of each fall wire and each attachment used on the fall must be at least six times the load imparted on the fall by the fully-loaded survival craft.
(d) Each fall must be long enough for the survival craft to reach the water with the vessel in its lightest seagoing
§ 199.157 Free-fall lifeboat launching and recovery arrangements.

(a) The launching appliance for a free-fall lifeboat must be designed and installed so that the launching appliance and the lifeboat it serves operate as a system to protect the occupants,

unless the motor is designed to prevent such overstressing.

(1) Each launching appliance must be fitted with brakes that meet the following requirements:

(1) The brakes must be capable of stopping the descent of the survival craft or rescue boat and holding the survival craft or rescue boat securely when loaded with its full complement of persons and equipment.

(2) The brake pads must, where necessary, be protected from water and oil.

(3) Manual brakes must be arranged so that the brake is always applied unless the operator, or a mechanism activated by the operator, holds the brake control in the off position.

§ 199.155 Lifeboat launching and recovery arrangements.

Lifeboat launching and recovery arrangements, in addition to meeting the requirements in §§199.150 and 199.153, must meet the following requirements:

(a) Each lifeboat must be provided with a launching appliance. The launching appliance must be capable of launching and recovering the lifeboat with its crew.

(b) Each launching appliance arrangement must allow the operator on the vessel to observe the lifeboat at all times during recovery.

(c) Each launching appliance arrangement must be designed to ensure persons can safely disembark from the survival craft prior to its stowage.

(d) Each lifeboat, other than a totally enclosed lifeboat, must be provided with a davit span with not less than two lifelines of sufficient length to reach the water with the vessel in its lightest seagoing condition, under unfavorable conditions of trim, and with the vessel listed up to 20 degrees either way.

§ 199.157 Free-fall lifeboat launching and recovery arrangements.

(a) The launching appliance for a free-fall lifeboat must be designed and installed so that the launching appliance and the lifeboat it serves operate as a system to protect the occupants,

unless the motor is designed to prevent such overstressing.

(1) Each launching appliance must be fitted with brakes that meet the following requirements:

(1) The brakes must be capable of stopping the descent of the survival craft or rescue boat and holding the survival craft or rescue boat securely when loaded with its full complement of persons and equipment.

(2) The brake pads must, where necessary, be protected from water and oil.

(3) Manual brakes must be arranged so that the brake is always applied unless the operator, or a mechanism activated by the operator, holds the brake control in the off position.

§ 199.155 Lifeboat launching and recovery arrangements.

Lifeboat launching and recovery arrangements, in addition to meeting the requirements in §§199.150 and 199.153, must meet the following requirements:

(a) Each lifeboat must be provided with a launching appliance. The launching appliance must be capable of launching and recovering the lifeboat with its crew.

(b) Each launching appliance arrangement must allow the operator on the vessel to observe the lifeboat at all times during recovery.

(c) Each launching appliance arrangement must be designed to ensure persons can safely disembark from the survival craft prior to its stowage.

(d) Each lifeboat, other than a totally enclosed lifeboat, must be provided with a davit span with not less than two lifelines of sufficient length to reach the water with the vessel in its lightest seagoing condition, under unfavorable conditions of trim, and with the vessel listed up to 20 degrees either way.

§ 199.157 Free-fall lifeboat launching and recovery arrangements.

(a) The launching appliance for a free-fall lifeboat must be designed and installed so that the launching appliance and the lifeboat it serves operate as a system to protect the occupants,