

in paragraphs (a) (1) and (3) on March 24, 1978.

[CGD 76-082, 44 FR 73027, Dec. 17, 1979, as amended by CGD 82-010, 48 FR 8273, Feb. 28, 1983; USCG-2000-7223, 65 FR 40059, June 29, 2000; 69 FR 18803, Apr. 9, 2004]

§ 183.610 Powered ventilation system.

(a) Each compartment in a boat that has a permanently installed gasoline engine with a cranking motor must:

- (1) Be open to the atmosphere, or
- (2) Be ventilated by an exhaust blower system.

(b) Each exhaust blower or combination of blowers must be rated at an air flow capacity not less than that computed by the formulas given in Table 183.610, Column 2. Blower rating must be determined according to AMCA Standard 210-74, Figure 12, or UL Standard 1128.

TABLE 183.610

Col. 1 ¹	Col. 2 ²	Col. 3 ³
Below 34	Fr=50	Fo=20
34 to 100	Fr=1.5V	Fo=0.6V
Over 100	Fr=V/2+100	Fo=0.2V+40

¹Net compartment volume of engine compartment and compartments open thereto (V) cubic feet.

²Rated blower capacity (Fr) cubic feet per minute.

³Blower system output (Fo) cubic feet per minute.

(c) Each exhaust blower system required by paragraph (a)(2) of this section must exhaust air from the boat at a rate which meets the requirements of Table 183.610, Column 3 when the engine is not operating.

(d) Each intake duct for an exhaust blower must be in the lower one-third of the compartment and above the normal level of accumulated bilge water.

(e) More than one exhaust blower may be used in combination to meet the requirements of this section.

(f) Each boat that is required to have an exhaust blower must have a label that:

- (1) Is located as close as practicable to each ignition switch;
- (2) Is in plain view of the operator; and
- (3) Has at least the following information:

WARNING—GASOLINE VAPORS CAN EXPLODE. BEFORE STARTING ENGINE OPERATE BLOWER FOR 4 MINUTES AND CHECK ENGINE COMPARTMENT BILGE FOR GASOLINE VAPORS.

§ 183.620 Natural ventilation system.

(a) Except for compartments open to the atmosphere, a natural ventilation system that meets the requirements of § 183.630 must be provided for each compartment in a boat that:

- (1) Contains a permanently installed gasoline engine;
- (2) Has openings between it and a compartment that requires ventilation, where the aggregate area of those openings exceeds 2 percent of the area between the compartments, except as provided in paragraph (c) of this section;
- (3) Contains a permanently installed fuel tank and an electrical component that is not ignition protected in accordance with § 183.410(a);
- (4) Contains a fuel tank that vents into that compartment; or
- (5) Contains a non-metallic fuel tank:

(i) With an aggregate permeability rate exceeding 1.2 grams of fuel loss in 24 hours per cubic foot of net compartment volume, or

(ii) If the net compartment volume is less than one cubic foot, having a permeability rate exceeding 1.2 grams of fuel loss in 24 hours.

NOTE: Reference fuel “C” at 40 degrees Celsius plus or minus 2 degrees Celsius from ASTM standard D 471 (incorporated by reference, see § 183.5) is to be used in determining the permeability rate.

(b) Each supply opening required in § 183.630 must be located on the exterior surface of the boat.

(c) An accommodation compartment above a compartment requiring ventilation that is separated from the compartment requiring ventilation by a deck or other structure is excepted from paragraph (a)(2) of this section.

[CGD 76-082, 44 FR 73027, Dec. 17, 1979, as amended by CGD 76-082(a), 46 FR 27645, May 21, 1981; CGD 85-059, 51 FR 37577, Oct. 23, 1986; USCG-1999-5832, 64 FR 34716, June 29, 1999; USCG-1999-5151, 64 FR 67176, Dec. 1, 1999]

§ 183.630 Standards for natural ventilation.

(a) For the purpose of § 183.620, “natural ventilation” means an airflow in a compartment in a boat achieved by having:

§ 183.701

33 CFR Ch. I (7-1-08 Edition)

(1) A supply opening or duct from the atmosphere or from a ventilated compartment or from a compartment that is open to the atmosphere; and

(2) An exhaust opening into another ventilated compartment or an exhaust duct to the atmosphere.

(b) Each exhaust opening or exhaust duct must originate in the lower third of the compartment.

(c) Each supply opening or supply duct and each exhaust opening or exhaust duct in a compartment must be above the normal accumulation of bilge water.

(d) Except as provided in paragraph (e) of this section, supply openings or supply ducts and exhaust openings or exhaust ducts must each have a minimum aggregate internal cross-sectional area calculated as follows:

$$A=5 \ln (V/5);$$

where:

(1) A is the minimum aggregate internal cross-sectional area of the openings or ducts in square inches;

(2) V is the net compartment volume in cubic feet, including the net volume of other compartments connected by openings that exceed 2 percent of the area between the compartments; and

(3) $\ln (V/5)$ is the natural logarithm of the quantity $(V/5)$.

(e) The minimum internal cross-sectional area of each supply opening or duct and exhaust opening or duct must exceed 3.0 square inches.

(f) The minimum internal cross-sectional area of terminal fittings for flexible ventilation ducts installed to meet the requirements of paragraph (d) of this section must not be less than 80 percent of the required internal cross-sectional area of the flexible ventilation duct.

[CGD 76-082, 44 FR 73027, Dec. 17, 1979; 45 FR 7544, Feb. 4, 1980]

Subpart L—Start-in-Gear Protection

SOURCE: CGD 79-137, 46 FR 3515, Jan. 15, 1981, unless otherwise noted.

§ 183.701 Applicability.

This subpart applies to outboard motors and starting controls, and to man-

ufacturers, distributors or dealers installing such equipment.

[USCG-1999-5832, 64 FR 34716, June 29, 1999]

§ 183.705 Definitions.

For the purposes of this subpart:

(a) *Outboard motor* means a self-contained propulsion system of any horsepower rating designed to be installed on, and removable from the transom of a boat.

(b) *Static thrust* means the forward or backward thrust developed by an outboard motor and associated propulsion unit while stationary.

(c) *Starting control* means the motor throttle, shift and starting control mechanisms located at a position remote from the outboard motor.

(d) *Local starting* means operating a mechanical or electrical starting device built into the outboard motor.

(e) *Distributor* means any person engaged in the sale and distribution of boats or associated equipment for the purpose of resale.

(f) *Dealer* means any person who is engaged in the sale and distribution of boats or associated equipment to purchasers who the seller in good faith believes to be purchasing any such boat or associated equipment for purposes other than resale.

§ 183.710 Start-in-gear protection required.

(a) Any outboard motor which is capable of developing a static thrust of 115 pounds or more at any motor operating speed with any propeller or jet attachment recommended for or shipped with the motor by the manufacturer, must be equipped with a device to prevent the motor being started when controls are set so as to attain that thrust level, as follows:

(1) Outboard motors designed for local starting must have a built-in start-in-gear protection device.

(2) Outboard motors designed for remote starting must have either a built-in start-in-gear protection device or be installed with remote starting controls containing this device. An outboard motor designed for remote starting that does not have a built-in start-in-gear protection device must, at the time of sale, have a tag or label attached at the location of the control