



# BOATBUILDER'S HANDBOOK

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## PART 2

*Revised November, 2003*

# U.S. Coast Guard Boating Safety Circulars

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### NOTICE:

It is the responsibility of the Boat Manufacturer to ensure that the applicable Federal Regulations have not been updated since the reference date. The U.S. Coast Guard, Office of Boating Safety website (<http://www.uscgboating.org>) contains an index and links to current recreational Boat Manufacturing Federal Regulations for reference.



# Boating Safety Circular 83

## **RECREATIONAL BOATING STANDARDS POLICY GUIDELINE: U.S. COAST GUARD COMPLIANCE TESTING**

Periodically the Coast Guard contractor testing boats for compliance with the Display of Capacity Information, Safe Loading and Flotation Standards buys boats on the open market and physically tests them in a tank for compliance with the standards. Experience with the Coast Guard compliance test program has shown that there are certain procedures followed in the test lab that the regulations, the compliance guidelines and the test procedures do not explicitly describe. This Compliance Testing Policy Guideline explains those procedures.

### **SAFE LOADING TESTS**

#### **1. Openings Sealed During the Maximum Weight Capacity Test:**

**Background:** In the Safe Loading Standard the test for the Maximum Weight Capacity (MWC) of an outboard powered boat (33 CFR 183.35) allows the boat manufacturer to seal only one (1) hole in the motor well (with a maximum dimension of three (3) inches) for outboard motor controls or fuel lines.

Unfortunately, this penalizes boats with large drain holes and other openings.

**Policy:** The MWC is based on the gross volume of water displaced by the boat at its maximum level immersion. Therefore, the test lab will seal hull openings during the test for MWC except where specifically prohibited by the CFR or the compliance test procedures. The test lab will seal the following openings:

- (1) all scuppers, freeing ports (with or without flaps) or back flow devices, regardless of size;
- (2) drain holes in the bow;
- (3) bait, fish, and anchor well fill/drain holes;
- (4) holes in the motorwell with boots (in addition to the 3-inch hole already allowed by the regulations); and
- (5) the hull-to-deck joint.

However, transom doors or equivalent may be open during normal boat use and are left open during testing. Drain holes or scuppers that may flood the boat during normal boat use are reviewed on a case by case basis, and may be considered major down flooding or water ingress points.

### **FLOTATION TESTS**

#### **1. Permanently Installed Fuel Tanks:**

**Background:** During compliance testing, permanently installed fuel tanks must be filled with fuel. Due to the hazards of handling, storing, and testing with gasoline indoors, Coast Guard policy has allowed the test lab to substitute iron weights for the weight of gasoline. These iron weights are normally placed on top of the tank during testing, and the tank is left empty.

**Policy:** Weights equivalent to the weight of fuel are placed on the deck over the center of gravity of the fuel tank. If the boat fails to comply with flotation requirements, then the iron weights are removed and the fuel tank is filled to three-fourths capacity with water. If the boat still fails to comply, then the tank is completely filled with water. If the boat still fails to comply, the Coast Guard will send the manufacturer a report describing the compliance test failure.

**2. Time Allowed To Stabilize Between Flotation Tests:**

**Background:** No duration is specified before a flotation compliance test is considered valid.

**Policy:** The time allowed for a boat to comply with the flotation safety standards is 15 minutes after all test conditions have been met, and the water levels inside and outside the boat are equal. If a boat is still bailing out or filling up with water at the end of 15 minutes, but is within passing test parameters, then the boat passes the test.

**3. Flooded Wells (bait, anchor, and fish wells, coolers, etc.) During Flotation Tests:**

**Background:** The regulations do not provide guidance on how to treat bait wells, anchor wells or coolers during tests for compliance with the Flotation Standard.

**Policy:** The lab will remove risers and drain plugs (if they can be removed) and let wells flood or drain during tests.

**4. Trolling Motors and Flotation testing:**

**Background:** Many boats sold today are equipped with mounting pads, battery locations, and electrical harnesses for trolling motors. In some cases, no flotation is installed for future installation of these devices.

**Policy:** If a boat is equipped or wired for a trolling motor, the lab will place weights from the table below at the normal operating positions of the trolling motor and battery during compliance testing. A least one dedicated battery is assumed for the trolling motor. If the actual weight of the trolling motor is known, or if the boat or trolling motor manufacturer provides the weight of the motor, the lab will use that weight, instead of the weight from the table below.

**In Pounds (does not include batteries)\***

40	12
50	23
60	34
70	50
80	56
90	68
100	79
110	90
120	101
130	112

\* For battery weight see Table 4 of Subpart H

**5. Kicker Engines and Flotation Testing:**

**Background:** Some boats sold today are equipped with mounting pads, battery locations, and electrical harnesses for kicker engines. In some cases, no flotation is installed for future installation of these devices.

**Policy:** If a boat is equipped with a pad or wiring for a kicker engine, then the manufacturer should provide flotation for the swamped weight of the engine and controls. If the manufacturer does not provide a label on the boat specifying the horsepower of the kicker engine, then the lab will assume the kicker engine horsepower is 10 percent (10%) of the main engine's horsepower rating. Weights for the kicker engine will be obtained from Table 4 in Subpart H of 33 CFR Part 183, and placed in the location of the engine and battery. The kicker engine weight will not be subtracted from the maximum weight capacity to determine person's capacity.

*Except from Boating Safety Circular Number 83, pages 3 & 4.*