U.S. Department of Transportation
United States Coast Guard

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Boating Safety Circular 68

This issue of the *Boating Safety Circular* is devoted to providing condensed versions of our responses to some of the more popular questions about recreational boating safety.

CLEARLY VISIBLE

What is your interpretation of "clearly visible to the operator when getting the boat underway" in referring to the required location for a U.S. Coast Guard Maximum Capacities label or a label required as a provision of a Grant of Exemption?

The definition of "clearly visible to the operator when getting the boat underway" varies from helm configuration to helm configuration; however, here are some general guidelines to consider when selecting a location:

(1) The U.S. Coast Guard Maximum Capacities label and the Safe Loading and Safe Powering Standards are intended to give the consumer a guide to safe loading and safe powering capacities. The standards presume an often inexperienced boat operator who may be unfamiliar with a particular boat's configuration. Thus, "clearly visible to the operator when getting the boat underway" means one doesn't need to get down on hands and knees to see the label.

(2) If a boat is manually propelled or outboard powered and lacks remote starting or controls, the label should be mounted on or near the inside of the transom in a position that is readily visible to the operator when seated in a normal operating position.

(3) If a boat is equipped with remote starting and controls, when the operator is sitting in the helm seat on boats so equipped, or standing at the wheel on boats lacking a helm seat, he or she should be able to see the label clearly.

On some bowriders with hinged walk-through windshields the capacity label is mounted on the hinged portion of the windshield. Unfortunately, many people have a tendency to operate their boats with the walk-through windshield open. This means that if the capacity label is still visible (and it frequently is not), the only people likely to see it are passengers who are seated up forward.

On other boats with remote starting and controls, the capacity labels are located beneath the gunwale coaming and partially hidden by the throttle and shift mechanism. Obviously, those labels too would not be "clearly visible" to an inexperienced operator who may be unfamiliar with a particular boat's configuration.

INHERENTLY UNSAFE

Why doesn't the Coast Guard declare certain boats such as personal watercraft inherently unsafe?

The fact that a high level of skill is required to operate a boat safely does not necessarily mean that the boat should be declared unsafe. Consider the following:

(1) Raceboats can't be operated by the average boater without danger of flipping.

(2) Whitewater canoes cannot be kept upright by unskilled paddlers.

(3) Some personal watercraft require several hours of practice before operators can learn to steer them in a predictable fashion.

Inside:

ATTENTION TO DETAILS

I am told that my 25-foot sailboat does not comply with the Ventilation Standard because the portable fuel tank for my outboard motor is stored in a locker that must be ventilated. I assumed the boat complied with applicable regulations when I bought it. What happened?

Section 183.620 states, in part, that a natural ventilation system must be provided for each compartment in a boat that contains a fuel tank that vents into that compartment.

The problem you describe was created because many builders of 20 to 25-foot sailboats are very thoughtful about providing a locker in which to place a portable fuel tank. Unfortunately, these builders have a habit of forgetting that when the boat owner opens the vent on the tank in order to run the outboard motor, the locker becomes a compartment which must be ventilated.

Because these boats are sold without a motor, there is no need for the builders to worry about providing probable fuel storage compartments with ventilation. Thus, the owner/operator becomes the individual responsible for compliance with the ventilation regulations.

If the locker containing your portable tank is "open to the atmosphere," ventilation would not be required. A compartment is "open to the atmosphere" when there are at least 15 square inches of openings to the atmosphere for each cubic foot of compartment volume.

Although the builder of your boat has not violated any Coast Guard regulations, we will bring this matter to the company's attention. Obviously, manufacturers are in a better position to address the problems of safe fuel storage.

PEOPLE AND POUNDS

Why do the regulations require the display of the maximum persons capacity in the number of people and the number of pounds?

Label effectiveness studies reveal that persons capacity in whole numbers of persons is a more effective means of communication than persons capacity in pounds and that people can better identify and comprehend information presented in that way. Accordingly, the U.S. Coast Guard Maximum Capacities label format highlights persons capacity as a whole number of persons.

The Coast Guard considered several methods of calculating persons capacity as a whole number. Methods used by international boating safety organizations, State boating safety programs and various voluntary standards were examined.

Several major factors were considered important in determining an appropriate formula for computing persons capacity as a whole number. One is the assumed weight of the average person, which when divided into the persons capacity in pounds, results in the number of persons that may be carried. The weight of the average person as used in industry standards, State laws and international standards ranged from 150 to 165. Studies of boating accidents indicated average weights of 162 and 157 pounds. The Coast Guard adopted 160 pounds as the weight of an average person.

Another major factor was the grouping of persons in the typical boating outing, which is usually a combination of adults and children indicating that some adjustment in the number of persons that may be carried was necessary. The typical group on a boating outing was three to four persons as indicated in surveys conducted by the Coast Guard. This group was typically a boating family of two adults and one or two children.

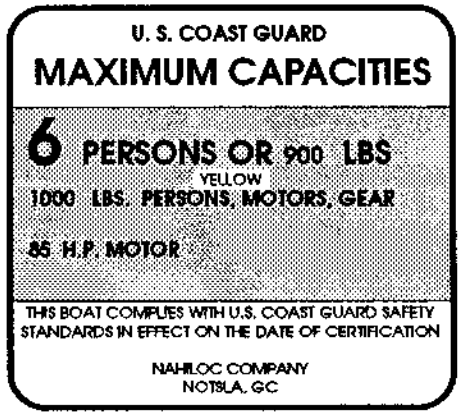
A third major factor was the different types of boats to which the formula would apply. Because of the variations in boat sizes and resulting loading capacities it was imperative that the formula apply equally to all boats without unduly restricting the usage of some boats and without allowing excessive capacities for other boats which could be hazardous.

An analysis of boats and their respective maximum persons capacities was conducted taking into consideration the factors discussed above. The result was a straight line graph which converted a boat's persons capacity in pounds to a persons capacity in whole numbers of persons. In order to avoid errors of interpolation, the graph was reduced to a simplified mathematical formula which involves adding 32 pounds to the persons capacity in pounds, dividing the result by 141 and rounding off the answer to the nearest whole number.

Under the formula adopted, a boat that has a maximum persons capacity of 500 pounds has a whole number persons capacity of four. Some existing State laws required dividing

CONFUSING CAPACITIES

The picture enclosed is a copy of the capacity label displayed on one of my competitor's boats. According to Column 6 of Table 4 in Subpart H, the dry weight of an 85 horsepower motor and related equipment is 550 pounds. How can the maximum weight capacity of the boat be 1000 pounds, when the combined weight of the motor and related equipment and the persons capacity is 1450 pounds?



While it would appear that the boat which bears this label is not in compliance with applicable regulations, we cannot determine the existence of a noncompliance without first knowing how the maximum weight capacity was calculated, or second, by physically testing the boat.

The Safe Loading Standard requires the determination of a maximum persons capacity and maximum weight capacity for monohull boats less than 20 feet in length (except sailboats, canoes, kayaks, inflatables, etc.). The values displayed on the U.S. Coast Guard Maximum Capacities label cannot exceed the values obtained after performing the tests and calculations provided in the Safe Loading Standard. However, a manufacturer always has the option to display lower values than the standard allows.

Some boats are sold with accessories which may alter the capacity which a builder is permitted to display. For example, a boat may have a remote steering console as an option which would change the allowable horsepower, or pedestal seats and storage boxes which are offered as permanently installed options which would change the maximum load capacity when installed. How does the manufacturer handle such a situation?

In the case you describe, your competitor might have labeled the boat for the "worst case" situation, i.e. the lowest possible capacity rating. The alternative would be for the builder to call the boat with options a different model and label it with ratings different from those displayed on the bare boat model.

the 500 pounds by the average weight of a person and displaying a fraction of a person on the capacity label. In this example, using 160 pounds for a person, the result was approximately 3.12 persons. This result discriminated against the typical boating family of two adults and two children whose combined weight would not normally exceed 500 pounds. The Coast Guard does not believe that permitting a typical boating family of four persons in a boat with a 500 pound persons capacity will adversely affect boating safety.

On the other hand, a boat with a persons capacity of 320 pounds is not allowed to carry more than 2 persons according to the formula adopted. The Coast Guard believed that the small lightweight boats with persons capacities of less than 320 pounds cannot safely accommodate three persons, even if one or more of the persons is a child. The small lightweight boats are generally very unstable and are easily affected by the motions of persons on board.

VIOLATING SAFE LIMITS

Is it a violation of any Federal law for a boat operator to exceed the values displayed on the U.S. Coast Guard Maximum Capacities label?

No. The information displayed on the U.S. Coast Guard Maximum Capacities label is intended for the use of the boat operator as a guide in loading a boat, and, if the boat is outboard powered, in powering a boat. There is no violation of Federal laws if a boat operator exceeds the values displayed on the label.

However, some States consider overloading or overpowering a boat beyond the values displayed on the capacity label a violation and may cite an operator who exceeds posted limits. In addition, some insurance companies will not insure a boat that is powered with a larger motor than the Maximum Horsepower Capacity displayed on the label, and some boat manufacturers will void any applicable warranties for the same reason.

PORTABLE GENERATORS

What are the prohibitions concerning the use of a portable generator on a recreational boat?

Coast Guard regulations do not prohibit the use of a portable generator on a recreational boat. The Electrical and Fuel System Standards cover generators which are permanently installed and apply only to the boat builder; not the eventual owner of a boat.

We urge you to consider the following before using a portable generator on your boat:

A portable generator, like any internal combustion engine, consumes oxygen and produces carbon monoxide. Therefore, we would discourage any type of portable generator installation below decks or adjacent to accommodation areas, because of the danger of carbon monoxide poisoning.

Many portable generators are air cooled. Therefore, they require a relatively large volume of fresh air. We would encourage use of a portable generator only where it is fully exposed to the atmosphere.

You should also be alert to the fact that most portable generators are not designed to withstand exposure to a marine environment. This means that their parts wear out more quickly.

IMPORTED ENGINES

What are the Coast Guard standards applicable to sterndrives imported for resale?

Sterndrives imported into the United States do not need to meet any special requirements as far as the Coast Guard or the Bureau of Customs are concerned. This is because, the requirements for certification apply to the boat manufacturer. However, 46 U.S.C. 4307 prohibits the sale of a boat or item of associated equipment (motor or engine) unless it complies with applicable Coast Guard safety standards and regulations. Therefore, a boat manufacturer who purchased sterndrives you imported would still have to bring them into compliance with the Electrical and Fuel System Standards.

As a result, it would be in your best interests and the interests of purchasers of those engines, for you to try to have them built in compliance with applicable standards before you imported them. Otherwise, someone might have to make expensive alterations before they, in turn, could legally sell them.

Also, as the importer of those sterndrives, you would be considered the manufacturer as described above, and would be responsible for repairing any defects.

RIGHT HANDERS

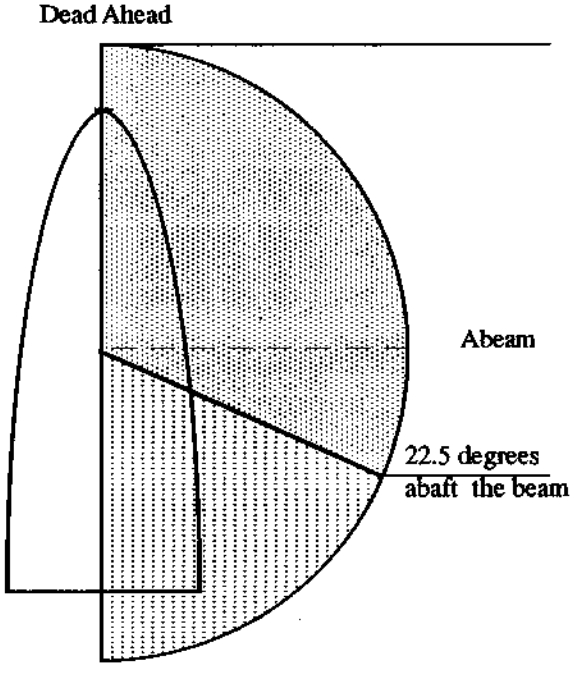
Why are most boats operated from the right-hand side?

At right is an illustration of a boat's "danger zone".

Although the danger zone concept is not specifically referred to in the Navigation Rules, it is a very helpful way to remember who has the right of way in a crossing situation. Your boat's danger zone extends from a point dead ahead to a point 22.5 degrees aft of your starboard beam (the same horizontal arc as your boat's green sidelight).

If you are operating a vessel and you see another vessel within the danger zone, it probably has the right of way, and you must alter your course or speed to avoid a collision.

With the helm station on the starboard (right-hand) side the boat operator has an unobstructed view of the danger zone.



THE "DANGER ZONE"