PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL

UNITED STATES COAST GUARD

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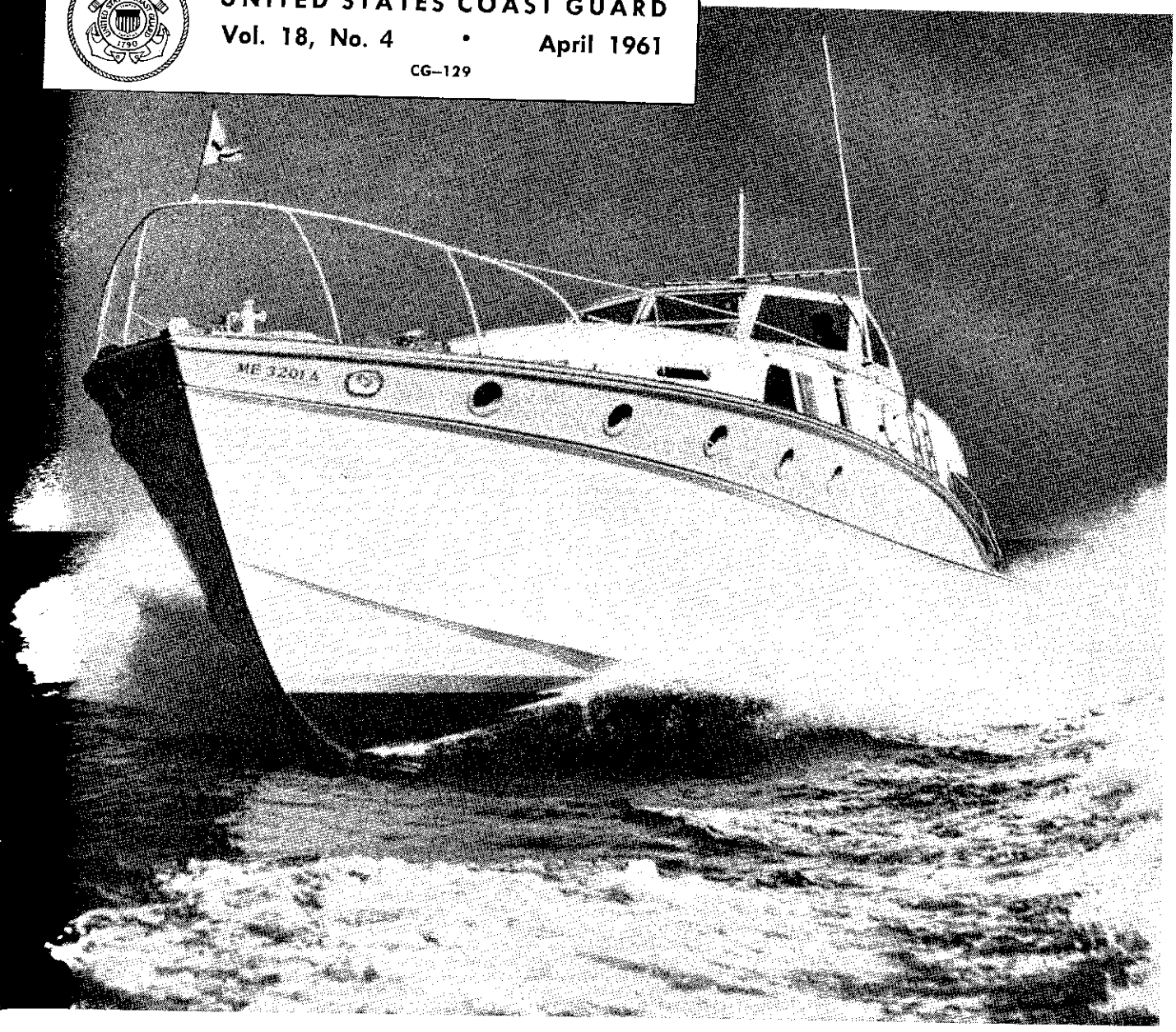

PLEASURE BOAT SAFETY ISSUE

PROCEEDINGS

OF THE

MERCHANT MARINE COUNCIL

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The Merchant Marine Council of The United States Coast Guard

This Copy FOR NOT LESS THAN 20 Readers PASS IT ALONG

LCDR N. B. Binns, USCG
Acting Editor

CONTENTS

FEATURES

FRONT AND BACK COVER

These striking scenes represent the "coming and goings" of the motorboat public on our vast system of waterways. Photographs by *Morris Rosenfeld*, New York City.

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MESSAGE FROM THE COMMANDANT

During 1960 an estimated 40 million persons participated in some form of recreational boating on our waterways, employing over 8 million boats of all sizes, shapes, and classifications. This means that recreational boating is enjoyed by one out of every four people over 5 years of age. Boat-safety is a "big business."

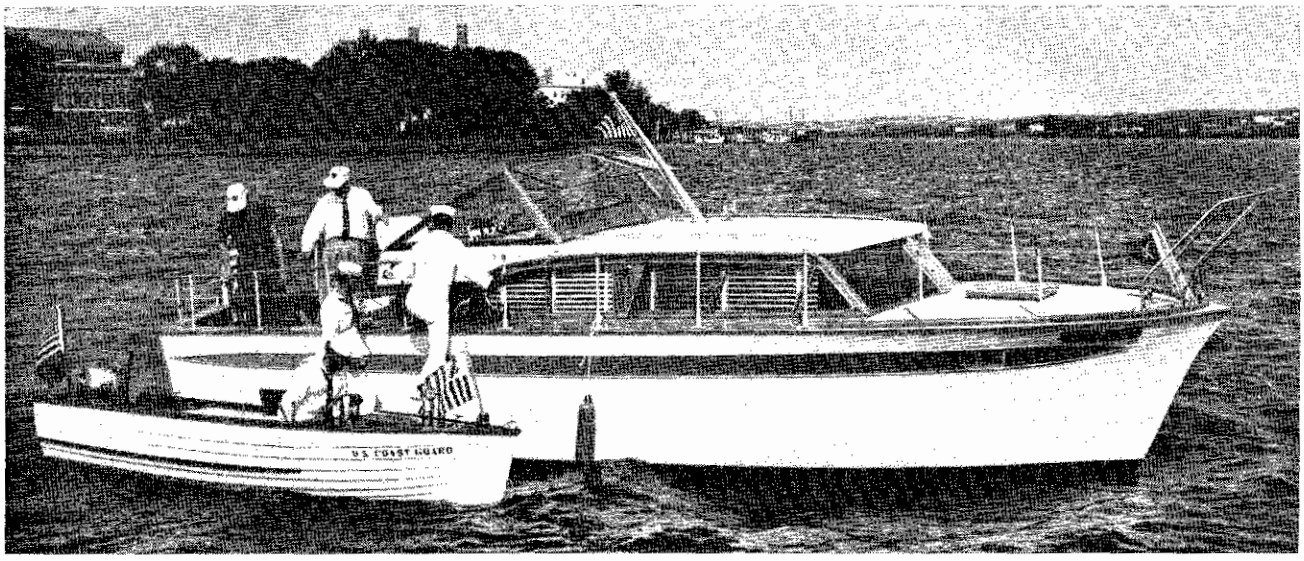
Safety afloat is a combination of education, common sense, and courtesy. The Coast Guard and the Coast Guard Auxiliary endeavor to assist boat owners and operators by recommending safe boating practices and sponsoring educational materials and classes. The remaining safety elements of common sense and courtesy must be supplied by you—the boating public.

Only with your help can we make our partnership in boating safety a success. Help us to halt the growing record of needless death and injury.

A. C. Richmond

Admiral, U.S. Coast Guard
Commandant

COAST GUARD NUMBERING



A U.S. COAST GUARD Mobile Boarding Team checking pleasure craft, boards a 30-foot cabin cruiser.

THE COAST GUARD numbered 233,000 motorboats in 12 States (Alaska, Connecticut, Hawaii, Idaho, Iowa, Maine, New Hampshire, New Jersey, Pennsylvania, Tennessee, Washington, and Wyoming) and the District of Columbia during the 9-month period between 1 April and 31 December 1960.

Already the system has started to pay off in dividends to the public. After hurricane "Donna" there were several hundred calls requesting the identification of the owners of numbered boats that had gotten adrift. This enabled the speedy return of lost boats to their rightful owners. Last summer there were daily calls from city, county, and state law enforcement officers seeking the owners of boats, in most cases in order to return a lost boat. It has paid the biggest dividend in safer operation and sound navigation. An identifiable boat operator is not as apt to be "reckless."

The new system of numbering is premised on convenience to the boating public and economy. The Administrative Management Division, Coast Guard Headquarters, devised this system and obtained the cooperation of the Post Office Department for setting it into effect on 1 April 1960, the effective date of the Federal Boating Act of 1958. They worked against time and the unknown "Just what states will we be numbering in?" Several weeks prior to the deadline a couple of states became exempt from Coast Guard numbering until 1 July 1960 in order to have an opportunity to put their state systems into effect. One state came up with an approvable numbering system on 1 April. We numbered 1,162 boats in this state, and our boat listings were turned over to them. The system was well-engineered and is a splendid example of organization and intergovernment team work.

In a few minutes in the post office, an application is filed and screened for errors by the postal clerk and the applicant has a Temporary Certificate of Number (good for 60 days pending receipt of the Certificate of Number) and can then operate his boat. The post offices at the close of each working day put all the applications in a special envelope bound for Box 125, Kensington, Md. There the applications are picked up by the numbering contractor and are rescreened, converted to punch cards, and machine processed to produce the durable certificate and the statistics tabulations as required by the Federal Boating Act. In most cases the applicant will receive his attractive wallet-size plastic Certificate of Number in from 25 to 50 days, depending on the volume of applications.

Applications which are incomplete, illegible, or improperly filled out will be delayed. Sometimes the wrong form is used. If the application is correct and depending on volume, it takes from 4 to 8 weeks from time of receipt at Kensington until the applicant's name is in the alphabetical file. It is impossible to answer the inquiry on the status of an application until it is in alphabetical file, making it mandatory to have the application correct in the first place.

REVIEW OF THE NUMBERING PROCEDURES

The following forms are used in the new numbering system:

- **Form CG–3876 "Application for Number"**
- **Form CG–3919 "Application for Duplicate Certificate of Number" (for use when plastic certificate is lost)**
- **Form CG–3920 "Change of Address Notice"**
- **Form CG–3921 "Notification of Change in Status of Vessel"**

Applicants must use the proper "form" and must fill it out carefully, legibly (ALL INFORMATION MUST BE PRINTED), and completely. Each new owner of a motorboat within the scope of the Federal Boating Act of 1958 must apply on form CG-3876 (the instructions are on the back of this form.) and a $3 Federal Boating Stamp is required. The last three of the above forms are only to be used by the record owner of a motorboat numbered by the Coast Guard since 1 April 1960.

AMPLIFICATION OF "TRANSFER OF OWNERSHIP"

The Federal Boating Act of 1958 is not a "Title" act; a Certificate of

Number is not a title to a boat. Conveyance of title may be made on any conventional bill of sale acceptable to the new owner. No proof of ownership is required for issuing a Certificate of Number (unless there is something questionable). The owner's signature on Form CG–3876 is all that is required. Superfluous material sent in with an application will delay processing. (Exceptions—see "Sales to Aliens.")

"Transfer of Ownership," as used in forms CG–3876 and CG–3921, applies only to motorboats numbered by the Coast Guard since 1 April 1960. Each seller (except dealers) of a motorboat, numbered since 1 April 1960, must notify us in writing (preferably using form CG–3921) and surrender his plastic Certificate of Number. The buyer (except dealers) of a motorboat, numbered since 1 April 1960, must apply on form CG–3876. He must indicate the present number in item 5, and check "Transfer of Ownership" as reason for application. He will then be reassigned the same number.

"Transfer of Ownership," as used on form CG–3921, merely tells us that the old owner sold his boat, and removes the old owner's name from our active files.

If the boat has not previously been numbered by the Coast Guard since 1 April 1960, the application (form CG–3876) is for an original number.

The old "CERTIFICATE OF AWARD OF NUMBER TO AN UNDOCUMENTED VESSEL" (form CG–1513) is obsolete and should not be sent into the Coast Guard. All old numbers assigned on these certificates are void.

Motorboat numbers (except dealer's numbers) are not transferable from boat to boat. Special numbers cannot be assigned.

DEALERS AND MANUFACTURERS

For testing and demonstration purposes, numbers are assigned to dealers which may be shifted from boat to boat. The description of the boat is omitted from the Certificate. Removable signs may be temporarily but firmly mounted or attached to a boat being demonstrated or tested. (See Regulation 46 CFR 171.05–15.)

In many cases the dealer will take a boat on trade for resale purposes which has the new Coast Guard number. In accordance with the law, the previous owner will have surrendered his Certificate of Number for cancellation. If the dealer demonstrates the boat on navigable waters, he must use his aforementioned dealer number and the existing number must be temporarily blanked out. When the new buyer applies for a number he must indicate the "temporarily blanked out" number as present number in item 5 of the form CG–3876. In this case, the new buyer must make sure that all data is correct and in conformance with the data already on record with Coast Guard, otherwise there will be a delay in processing.

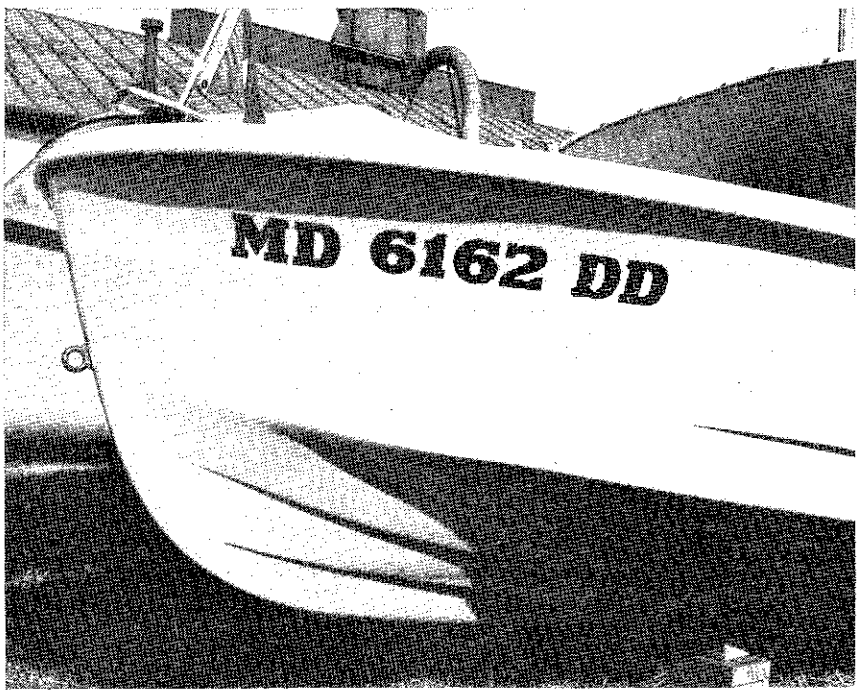
The dealer has an obligation to point out to both the previous owner and the new owner the required Federal procedures, but it is the responsibility of the person concerned to carry out these procedures. The dealer cannot perform this task for him.

SALES TO ALIENS

Under the provisions of the Shipping Act, 1916, as amended, the sale of motorboats of 40 feet or more in length or 50 or more horsepower to any alien, and the sale of all motorboats to a national of Soviet Union, Latvia, Lithuania, Estonia, Poland, Czechoslovakia, Hungary, Rumania, Bulgaria, Albania, North Korea, the Soviet Zone of Germany, Manchuria, Communist China, or the Communist-controlled area of Viet Nam, require the prior specific approval of the Maritime Administration. It is emphasized that this approval must be obtained by the seller (dealer or individual) before the sale, transfer, and delivery are made, not after the transaction has been completed. The seller must make application for this approval to the Maritime Administration on form MA–29A (Forms can be obtained from Maritime Administration, Department of Commerce, Washington 25, D.C.). The approval is in the form of a Transfer Order. (See 46 CFR Part 221.)

Alien applicants for a motorboat number in the foregoing category must submit the "Transfer Order" with the application for number. If the alien applicant is unable to produce evidence of the Maritime Administration's approval in the form of the "Transfer Order," the acquisition of ownership and possession by the alien of the craft was accomplished in violation of the provisions of Federal law and, under the law, the sale by the U.S. Citizen owner is void and the craft itself subject to forfeiture to the United States.

When a "Transfer Order" is not required, it is recommended that the alien applicant write in the actual horsepower of the motor in item 11 "propulsion" of the application for number (form CG–3876). This will expedite processing.



A MARYLAND BOAT registration number showing proper spacing and contrast, but not proper block type.

WHERE TO GET YOUR NUMBER

UNDER The Federal Boating Act of 1958, motorboats of more than 10 horsepower and operated on the navigable waters of the United States must be numbered in the State of principal use. Motorboats documented by the Bureau of Customs are exempt from this Act.

A vessel numbered by the Coast Guard or by a State having an "approved" numbering system may use the navigable waters of the United States within any of the 50 States for at least 90 days. After that, the owner must comply with the numbering requirements applicable in the new State of principal use.

The Coast Guard is numbering motorboats in the following States: ALASKA, CONNECTICUT, DISTRICT OF COLUMBIA, HAWAII, IDAHO, IOWA, MAINE, NEW HAMPSHIRE, NEW JERSEY, PENNSYLVANIA, TENNESSEE, WASHINGTON and WYOMING. Apply at the local post office and buy a $3 Federal Boating Stamp.

The States listed below have their own (approved) numbering systems in accordance with the Federal Boating Act of 1958 and numbering is required on all waters of the State. Application should be filed with the State or local agency indicated.

States	Boats Required To Be Numbered	Where Numbers May Be Obtained
ALABAMA	All undocumented motorboats, all sailboats and all boats for hire.	(a) Department of Conservation, Montgomery 4, (b) A License Commissioner, (c) a probate judge's office.
ARIZONA	Every watercraft	Motor Vehicle Division, Boat Number Section, 1739 West Jackson St., Phoenix.
ARKANSAS	All undocumented motorboats of more than 10 hp.	County Clerk.
CALIFORNIA	All mechanically propelled undocumented boats (except those having *electric* motors of 10 hp. or less) and all sailboats of more than 8 feet in length.	Department of Motor Vehicles, 2570 24th St., Sacramento 18.
COLORADO	Every motorboat of more than 10 hp	State Park and Recreation Board, 221 State Services Bldg., Denver 3.
DELAWARE	Every motorboat	Small Boat Safety Division, Delaware Commission of Shell Fisheries, Dover, Del., or Dewey Beach, Del. (mail address P.O. Box 48, Rehoboth, Del.).
FLORIDA	All motorboats of more than 10 hp	(a) county tax collector, (b) Board of Conservation, Knott Bldg., Tallahassee, (c) Florida Game and Fresh Water Fish Commission.
GEORGIA	Every undocumented motorboat of more than 10 hp. and all undocumented motorboats engaged in commercial fishing, regardless of horsepower.	State Game and Fish Commission, Motorboat Registration Unit, 401 State Capitol, Atlanta 3.
ILLINOIS	Every undocumented motorboat	Department of Conservation, 400 South Spring Street, Springfield.
INDIANA	Every motorboat of more than 6 hp	Department of Conservation, 311 West Washington St., Indianapolis 9.
KANSAS	All motorboats of more than 10 hp	Kansas Forestry, Fish and Game Commission, Pratt.
KENTUCKY	Every undocumented motorboat	Circuit Court Clerk in county of residence, or Circuit Court Clerk in county where boat is principally operated.
LOUISIANA	Every undocumented motorboat of more than 10 hp.	Wild Life and Fisheries Commission, 400 Royal Street, New Orleans.
MARYLAND	All undocumented vessels of over 7½ hp. and all sailboats of over 25 feet in length.	Department of Tidewater Fisheries, State Office Building, Annapolis.
MASSACHUSETTS	Every undocumented motorboat of more than 10 hp.	Apply to Registry of Motor Vehicles (Numerous branch offices).
MICHIGAN	Every motorboat	Sheriff's Department in every County, as agents of the Secretary of State.
MINNESOTA	All undocumented watercraft are required to be numbered except (a) Duck boats during the duck hunting season, (b) Sailboats, (c) Canoes and (d) Rice boats during the harvest season, PROVIDED they are not equipped with motors in excess of 10 hp.	Commissioner of Conservation, State Office Building, St. Paul, or to a county auditor or his agent.
MISSISSIPPI	All undocumented vessels of more than 10 hp. must be numbered.	Sheriff of the County.
MISSOURI	Every undocumented motorboat of more than 10 hp.	Missouri Department of Revenue, Jefferson City.
MONTANA	All undocumented motorboats of more than 10 hp.	State licensing agents.
NEBRASKA	All motorboats	Director, Game, Forestation and Parks Commission, Lincoln 9.

States	Boats Required To Be Numbered	Where Numbers May Be Obtained
NEVADA	Every undocumented motorboat	Applications are to be made in person to the County Assessor in the county in which the owner resides, except in Washoe County where a branch office of the Department of Motor Vehicles is located in Reno. In Elko County apply to the County Clerk. The certificate of number will be immediately issued.
NEW MEXICO	Every undocumented vessel "of 10 hp. or greater."	State Park Commission, Box 958, Santa Fe.
NEW YORK	Every undocumented motorboat	Conservation Deportment, Division of Motorboats, State Campus Site, Albany.
NORTH CAROLINA	All motorboats of more than 10 hp	Motorboats Registration and Licensing Section, North Carolina Wildlife Resources Commission, P.O. Box 2919, Raleigh.
NORTH DAKOTA	Every motorboat having 10 hp. or more	North Dakota Game and Fish Department, Bismarck.
OHIO	Every watercraft	Division of Watercraft, Department of Natural Resources, 1106 Ohio Department Building, Columbus 15.
OKLAHOMA	All undocumented motorboats	(a) Boat and Water Safety Division, Oklahoma Planning and Resources Board, Oklahoma City (b) Properly licensed boat dealer.
OREGON	All motorboats of 10 hp. or more	Oregon State Marine Board, Room 311, State Capitol Bldg., Salem.
RHODE ISLAND	All mechanically propelled undocumented boats.	Division of Harbors and Rivers, Department of Public Works, Providence 3.
SOUTH CAROLINA	All motorboats of 10 hp. or more	South Carolina Wildlife Resources Department, Division of Boating, P.O. Box 360, Columbia.
SOUTH DAKOTA	Every motorboat in excess of 6 hp	Department of Fish and Game, Pierre.
TEXAS	All motorboats of more than 10 hp	Motor Vehicle Division, Texas Highway Department, 40th and Jackson Ave., Austin.
UTAH	Every motorboat	State Park and Recreation Commission, Salt Lake City, accompanied by tax certificate from county assessor.
VERMONT	All mechanically propelled undocumented boats.	Department of Public Safety, State of Vermont, Montpelier.
VIRGINIA	Every undocumented motorboat of 10 hp. or more.	Commission of Game and Inland Fisheries, 7 North Second St., Richmond 13.
WEST VIRGINIA	All motorboats of more than 5 hp	West Virginia Conservation Commission, Boat License Section, State Office Building No. 3, Charleston.
WISCONSIN	Every undocumented sailboat and motorboat	Wisconsin Conservation Department, 2158 Atwood Ave., Madison 1.

MOTORBOAT NUMBERING

1. What are the specifications for boat numbers?

The requirements for boat numbers are set forth in 46 United States Code 527, which states, "The number awarded shall be required to be painted on, or attached to, each side of the bow of the vessel for which it was issued, and shall be of such size, color, and type, as prescribed by the Secretary." The prescribed requirements are enumerated in Title 46 Code of Federal Regulations 171.01 to 171.20. These regulations state in part, "* * * The numbers shall read from left to right and shall be in block characters of good proportion not less than three inches in height. The numbers shall be of a color which will contrast with the color of the background and so maintained as to be clearly visible and legible; i.e., dark numbers on a light background, or light numbers on a dark background."

2. Do you feel that these specifications will allow any amount of individuality of design among manufacturers?

The requirements of the laws and regulations as to size and style do impose certain limitations on the individuality of numbers. However, there are no restrictions as to type of material used (e.g., "Scotchlite," plastic, metal, etc.) or as to the color, as long as the required contrast with the hull is adequate to furnish clear legibility for identification. It must be remembered that these numbers are placed on boats for identification and not for ornamentation, serving the same purpose as do license plates on an automobile.

3A. Will numbers now in use that don't meet Coast Guard requirements have to be replaced?

Yes. Boat owners who operate their craft on the navigable waters of the United States with numbers which do not meet the requirements of Federal regulations will be cited by

Coast Guard boarding officers and may be subject to administrative penalty. State law enforcement officers in those states which have a Coast Guard approved numbering system will undoubtedly cite operators of such improperly numbered boats. One consideration in approving such state acts is that they provide for a numbering system which as a minimum meets these requirements noted in the answer to question 1 above.

3B. If so, when?

The requirements for boat numbers have been in effect since the passage of the act of June 7, 1918. There has not been a relaxation in their enforcement at any time and none is contemplated. These regulations are being enforced now.

4. Who will decide about sufficient contrast and proper spacing?

It is not possible to determine contrast or proper spacing until the numbers have been applied by the owner to a boat with color of his selection. Therefore, the decision as to proper contrast must rest with the law enforcement officers in the field.

5. Will manufacturers' numbers have to meet Coast Guard approval before they can be sold—such as lifesaving equipment?

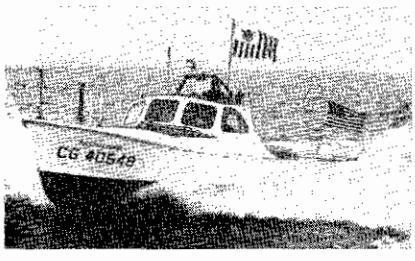
Manufacturers' numbers are not subject to Coast Guard "approval." Numbers do not become a matter of concern to this service until they are placed upon a boat at which time they must meet the requirements of the laws and regulations.

THE BOAT on the left displays a registration number which is incorrect—the symbols are too close together and there is no spacing between the letter groups and the numbers. The boat on the right displays correct spacing of the letters and numbers.

COAST GUARD CAUTIONS AGAINST DISPLAY OF IMPROPER BOAT NUMBERS

Many motorboats are displaying identification numbers of the wrong size, type or color contrast, according to an announcement today by Admiral Alfred C. Richmond, Commandant, U.S. Coast Guard.

Admiral Richmond pointed out that Federal numbering regulations have, since 1918, required that boat identification numbers must be at least three inches high, block character of good proportion, and of a color that contrasts with the background color to which they are affixed so that they can be seen and read easily. The purpose of both the Federal Boating Act of 1958 and the regulations promulgated thereunder is to provide ready identification of the boat. The regulations place the responsibility for meeting these requirements upon the boatowner.



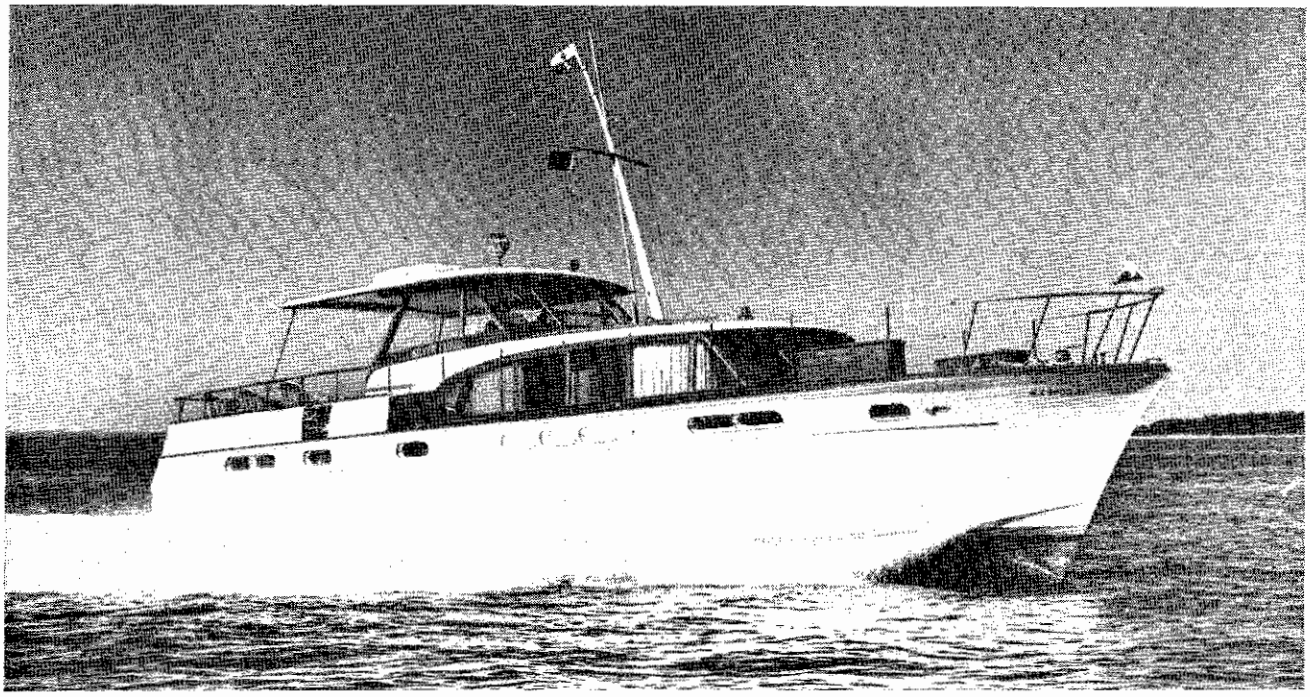
Obtaining proper contrast is the principal problem facing both the State and Coast Guard law enforcement officers. This problem, to a great extent, has been brought about by owners affixing to their boats numbers of two or more colors having a primary color, such as white, bordered or outlined with white, bordered or outlined with another color, such as black. When such a number, of the proper size and shape, is affixed to a dark background, the contrast of the primary color and the dark background will provide the required legibility. However, when affixed to a light background, the primary color, white, will blend in with the background color and the narrow black border in itself fails to provide the required legibility.

In addition, the number must be located on each side of the forward half of the boat as near the stem as practicable, and where it can best be seen. Furthermore, between each part of the number there must be a hyphen or space. For example: "NJ–1234–AA" or "NJ 1234 AA." This separation of prefix and suffix from the numerals improves readability. Only those numbers assigned by the Coast Guard or a State in accordance with the Federal Boating Act of 1958 are to be displayed on the bow of any boat which is being used on the navigable waters of the United States.

In conclusion, the Admiral indicated that some numbers have been advertised as "Coast Guard approved." This is misleading as the Coast Guard does not grant specific approval for products of this type.

BOATING SAFETY—EVERYONE'S BUSINESS

By Captain C. H. Broach, USCG
Chief, Merchant Vessel Inspection Division, Headquarters



Photograph by *Morris Rosenfeld*, New York City.

THE COAST GUARD is unique among the Armed Forces of the United States because its primary objective is the preservation of life and property. Recreational boating safety has a very high priority among our many responsibilities. In general, our duties can be broken down into the broad categories of Search and Rescue, Aids to Navigation, and Law Enforcement.

In June of 1960 the Coast Guard logged 2,875 assistance cases. This search and rescue activity involved 2,075 vessels of all kinds and almost 7,500 persons.

Almost 40,000 Aids to Navigation are established and maintained by the Coast Guard. These aids are of immeasurable value to planes and ships and boats of all types. For that reason their meaning and use are discussed at considerable length in our latest publication—the new "Recreational Boating Guide (CG-340)."

Law enforcement by the Coast Guard is basically an accident prevention activity and boarding teams can properly be regarded as Safety Patrol officers. Their activities are aimed at protecting the public from the careless boat operators and furnishing information and assistance at any time.

Recreational Boating is big! No one knows precisely how many pleasure craft are afloat today, but estimates are in the neighborhood of over 8 million.

For many years the Coast Guard has been the primary agency exercising control over watercraft on the navigable waters of the United States. State laws affecting boating laws were heretofore rather sporadic, and almost solely confined to waters outside of Coast Guard jurisdiction. But since the passage of the Federal Boating Act of 1958 there has been a public consciousness of the need for adequate enforcement and a demand for more, or revised, boating laws and regulations AT ALL LEVELS OF GOVERNMENT.

The effectiveness of any regulatory program depends upon its enforcement. One problem is finding a proper balance between a penalty severe enough to deter potential violators and yet not so severe that prosecutors will be reluctant to press charges.

REGULATION VS EDUCATION

Opinion is divided as to the relative degree of effectiveness of laws and regulations in promoting safety afloat. This opinion ranges from one extreme to the other. Some are firmly convinced that only rigid and detailed laws can effectively regulate the boats and those who operate them. Others are equally positive that safety is achieved most satisfactory through education, with a minimum of burdensome laws. The third theory is that best results are obtained from a combination of good law, good enforcement, and safety education.

Any approach to this problem must recognize the diverse interests of those directly concerned with boating—boatmen, swimmers, shoreside property owners, fishermen and skiers. Boatmen are further divided—some preferring sail to motor, or racing, or cruising, or fishing. Others are primarily concerned with boat rentals or some other commercial operation. All may use and enjoy the waters, but this can only be done with mutual understanding and an acceptance of individual responsibility. This is no longer only a Coast Guard job; everyone concerned must participate! Boating safety is Everyone's business.

THE OWNER

The boat owner assumes various legal responsibilities when he buys a boat and operates it. More important, in my mind, is his moral responsibility to be considerate of others. He should learn the rules of the road, the traffic rules for "driv-

ing" on the water. He should learn how to use and take care of his safety equipment. He should recognize the need for laws and cooperate in their enforcement. I have said nothing new or startling. The review of boating accident reports and investigations in my office at Coast Guard Headquarters can only lead to the conclusion that numerous persons have not gotten the word. How can we comply with the dictate of the Congress in the Federal Boating Act of 1958 to "compile, analyze, and publish" boating accident statistics and make recommendations for their prevention unless boatmen fulfill their responsibility for timely and accurate notice and reporting. Our first tabulation under this law was issued on 1 August 1960, the second report on 10 November 1960, and subsequent reports will be released soon.

BOAT LIVERIES

The responsibility of boat liveries for boating safety shows up in a good number of casualties. Renting boats obviously too small for the party or load, or with too low transoms for the size motors being used are common, but the major violation of both law and *common sense*, is renting boats without life preservers or other life-saving equipment.

MANUFACTURERS AND DEALERS

The manufacturers of boats and equipment and their dealer outlets have serious responsibilities for safe boating. A recent casualty was reported where two men drowned when their boat with a cutaway transom and no watertight bulkhead forward of it swamped. The boat was advertised as capable of carrying "5–6 persons with loads of room for gear and equipment" and indicated that it could be powered with "up to 70 horsepower." No mention was made of whether this could be done with safety. It could not! This closely related responsibility of dealers in boats, motors, and equipment is mainly a moral one, but it is very strong, in my opinion.

It is gratifying to know of the fine work done in this area of manufacturer-dealer responsibility by the Outboard Boating Club of America, the National Association of Engine and Boat Manufacturers, and the National Association of Marine Dealers. Salesmen of boats and equipment should be required to know and explain the safe use and care of the product he sells. One who sells an unapproved life preserver as being "just as good" as an approved one, or a salesman who does not know and cannot explain the proper use and limitations inherent in buoyant cushions or vests is working in the wrong department, if not in the wrong trade.

PUBLISHERS AND EDITORS

Publishers of boating magazines have a big stake in boating safety. They would be well advised to screen carefully their ads to prevent misleading ones which can result in the purchase of improper (and thereby unsafe) equipment. Boating or outdoor editors or columnists in newspapers and on radio and TV stations reach thousands of potential boatmen. Most of them include items of common sense and safe boating in their reports. All of them should.

STATE AND FEDERAL GOVERNMENTS

What about the responsibility of State governments for safe boating? Launching ways, marinas, areas of operation, public safety programs, education, and numerous other facets are matters of local concern. I note a recognition of the need and a movement towards such aspects of boating safety in various localities throughout the country.

The many and varied responsibilities of the Federal Government for boating safety are carried out in diverse ways. The Coast and Geodetic Survey has recently issued excellent small craft navigational charts. The Weather Bureau works for safety through its reporting, forecasting recording and storm warning systems. The Federal Communications Commission contributes through the regulation and control over radio facilities.

In my opinion, boating safety is everyone's business, and the degree of safety attained is proportional to the amount of responsibility assumed. We in the Coast Guard need and solicit the assistance of all concerned in carrying out our duties.

The Coast Guard program directed towards safe boating takes this assistance and cooperation into account. We believe that *unsafe* boating in most instances is due to lack of knowledge (and practice) of the basic and elementary safe boating procedures. We try to impart the necessary knowledge through personal contact in our boating activity, through our Coast Guard Auxiliary courses and examinations, and with our various publications and other public information material.

WHAT LIES AHEAD?

In our contacts with the officials of practically every State, we find a sincere desire to achieve safety with a minimum of regulation, restriction, or interference. There are differences of opinion in some areas as to how this may best be achieved. For example, whether or not there is a need for licensing boat operators. It is possible that such licensing would be beneficial but such a conclusion should not be hastily drawn. The Coast Guard, with the cooperation of the States and of the boating public, will accumulate in the next few years comprehensive statistics which should determine whether or not such regulatory action is necessary.

Federal, State, and other officials concerned with boating safety are meeting together more frequently than ever before, and these conferences will do much toward establishing uniformity of regulation and procedure in the various jurisdictions. Safety is the prime objective.

I predict a great contribution to boating safety and thereby a bright future for our most recent publication, "Recreational Boating Guide (CG 340)". In his foreword, Admiral Richmond said, "This booklet is intended to acquaint recreational boatmen with the requirements of the various federal boating laws, and to provide them with some basic guide lines for safe and enjoyable operation. The approach to the subject has been non-technical and, so far as possible, laymen's language has been employed throughout". These booklets are available from the Superintendent of Documents, Government Printing Office, Washington, D.C. The price is 40 cents but there is a 25 percent reduction if bought in lots of 100 or more. I highly recommend this booklet to every boat owner (and all members of his family)—every operator—every club—and anyone else concerned with recreational boating. We think it is the answer to getting "the word" to all boatmen whether weekend sailors or old salts of the Yachting fraternity. There is something there for everyone. It covers such subjects as numbering, minimum equipment requirements, additional equipment recommended, and the responsibilities of boat operators. It also covers aids to navigation, offers hints on safety afloat and discusses emergency procedures. It describes the mouth to mouth technique of artificial respiration. It contains an explanation of the services which the Coast Guard Auxiliary make available to boatmen, and includes in its appendix the laws which are of prime importance to boatmen, and lists (in considerable detail) other agencies of the federal government where additional information might be obtained.

There is an old cliche "What is everybody's business is nobody's business." That is not always true.

BOATING SAFETY IS EVERYONE'S BUSINESS.

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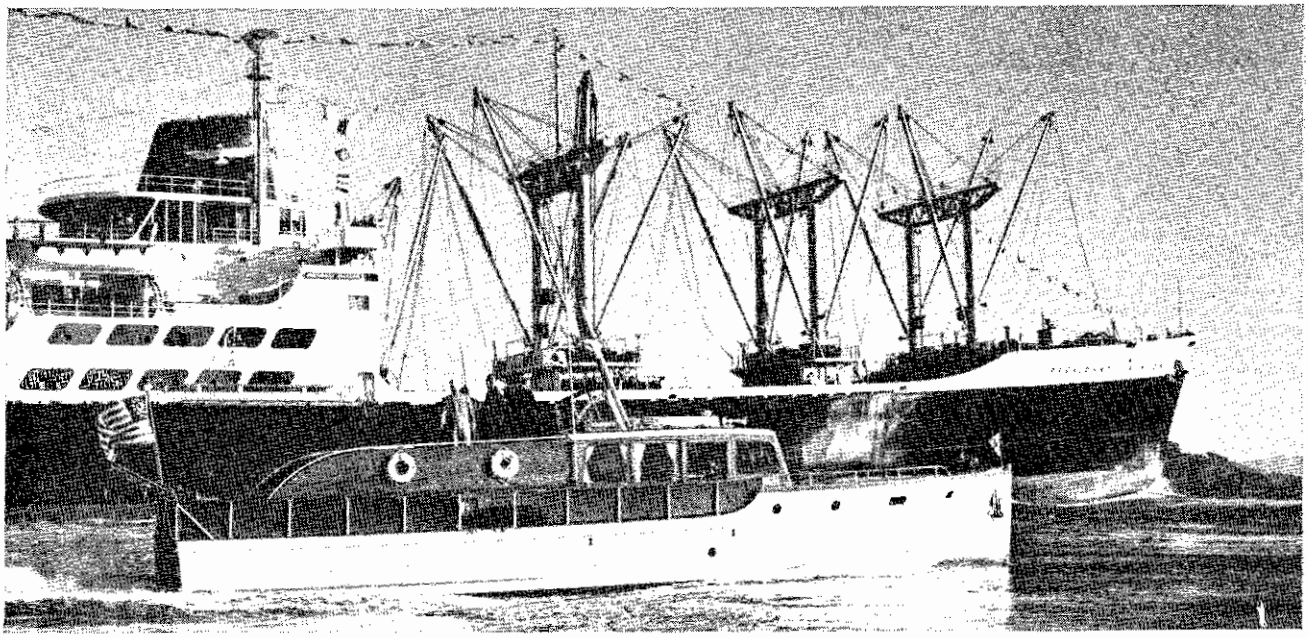
THE SMALL BOAT VS THE LARGE VESSEL

By Captain A. W. Johnsen, USCG

Chief, Merchant Marine Technical Division, Headquarters



THE LARGE AND THE SMALL OF IT meet in San Francisco Bay. The SS *President Jackson* is paced by the *Adventuress* as the big ship enters under pilotage. Remember, give the "big fellows" the maneuvering room they need. *Photo Courtesy Steve Stevens*

MANY YACHTSMEN and small boat operators have shaken their heads in disgust or their fists in anger at the masters and pilots of large ships who they feel have failed to yield or give to them their so-called right of way in navigating circumstances involving risk of collision.

Likewise, many masters and pilots of large vessels have cursed silently to themselves or loudly for all to hear about the apparent lack of knowledge of the rules of the road, or the failure to correctly apply the rules of the road and the lack of good seamanship on the part of the small boat operators in situations involving risk of collision with large vessels.

That many members of the Pleasure Boating Group and the Professional Seafaring Group are contemptuous of the opposite Group's navigating skill and ability is fact and not fiction. Another frequent source of complaint is the lack of courtesy of the nautical road displayed by some operators and navigators.

A review of the collision cases involving large ships and small boats clearly indicates and makes obvious the fact that differences of opinion exist as to what one thinks his rights are under the pilot rules and what one is expected to do by his fellow boatmen or ship masters under the same set of rules.

Most differences of opinion are due in general to misinformation or a lack of information on the subject under discussion. The differences of opinions which result in the collisions or near collisions under consideration at this time are for the most part caused by a lack of information, misinformation or misinterpretation of the pilot rules. A strong contributing factor is the average boatman's lack of information or appreciation of the operating or maneuvering characteristics of most of the larger ships.

Billions of dollars have been spent over a period of years to improve the inland waterways of this country. Basically much of this money was and is being spent to provide wider and deeper channels in order that larger and more heavily laden ships may fully utilize the facilities of our harbors as expeditiously as possible. After all, it should be realized by all that a busy shipping industry is essential to a sound economy and a sound economy is essential to the maintenance of our large fleet of pleasure boats.

Speed is a paradox today. Yachtsmen want speed. The ship owner wants it. The freight forwarder wants it. Everybody wants it. Despite our clamor for speed and more speed we are reluctant to admit that it presents any problems. Generally speaking, speed is not a problem in open water. It is, however, the major contributing cause of more collisions on restricted inland waters than any other cause.

Many, perhaps most, pleasure boat operators do not appreciate the full significance of the operating characteristics of a large fast moving merchant ship. It is not uncommon for a large fast heavily laden ship to require 8-minutes and a distance of over a mile in which to make an emergency stop. The turning circle of these ships is frequently in excess of one-half mile. The draft of these vessels is generally about 30 feet or all that the channels will permit. It should not require much imagination on the part of the small boat operator to realize that a large merchant vessel on inland waters is severely handicapped with regard to maneuvering ability to avoid a collision with a small craft.

Several years ago a rather heated controversy involving the rights and privileges of small boats, particularly sailboats participating in regattas, and the large ships navigating in restricted waters took place in one of the larger port areas of this country.

where there is no obstruction and the vessels are plainly visible to each other for a long distance without fault on the part of both vessels.

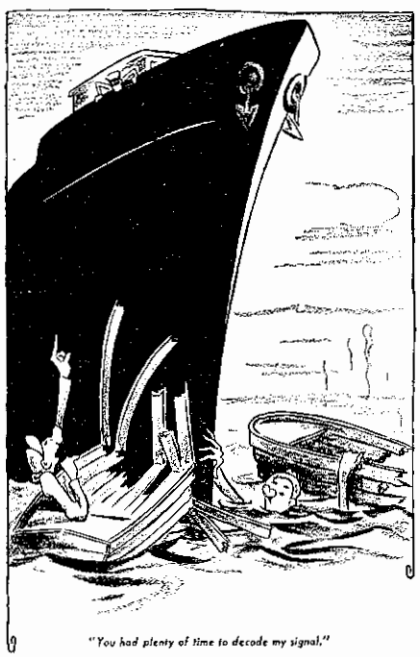
12. It seems to need repetition that no code of navigation gives leave to run into collision; the saving rule of special circumstance flavors every other rule with the salt of caution and common sense.

13. Navigation in narrow channels requires peculiar care in foreseeing and dealing with any difficulties which may arise from the lack of space for maneuvering.

14. Where a defined channel runs through a larger body of water, the (narrow channel) rule applies to the channel, but not necessarily to the body of water as a whole.

15. Even when collision is imminent, if it is clear that a sailing vessel could by appropriate action have avoided or lessened the collision, she may be held in fault for failure to do so.

16. The fact that one vessel is large and cannot maneuver so quickly as the other, makes no difference in her duty under the rules. But manifest difficulty in handling a vessel which is very large or one which is encumbered may constitute a special circumstance, for which allowance should be made by the other vessel. Likewise, if one vessel is in narrow waters or is encountering difficulties of wind, tide, etc., the other may be bound to shape her own navigation accordingly, even to the extent of yielding the right of way. But such difficulties do not create any legal "privilege."



"You had plenty of time to decode my signal."

17. The giving-way vessel navigating in a cut channel was unable, by reason of her draft, to swing to starboard so as to go under the vessel's stern, but while not held at fault for this, she was held at fault for not reducing speed to compensate for her inability to swing.

18. In some cases, where collisions have occurred in clear weather and without complicating circumstances, the courts have expressed the view that both vessels were in fault.

19. In collisions between steam and sail vessels the steamer's defense is usually that the sail vessel changed her course. Beating out a tack and then coming about where necessary is not a change in course, nor are slight fluctuations in the general course of the sailing vessel.

20. Proper precautions, other than those required by the rules, are not to be neglected.

It is strongly emphasized that these excerpts and quotations *have been taken out of context* and should not be used by themselves to interpret the pilot rules or as a substitute for the pilot rules. These excerpts and quotations are presented here for the purpose of emphasizing several points:

1. That it is impossible to formulate a set of pilot rules which will cover all possible circumstances and at the same time be simple enough to be practical.

2. That our courts are called upon to render many interpretations and decisions insofar as our relatively simple set of pilot rules are concerned.

3. That in interpreting the pilot rules the courts not only consider the letter of the rules but the intent of the rules as well.

4. That the intent of the pilot rules was and is that the less manageable type of vessel should, in general, be the privileged vessel.

At the conclusion of the conference between the small boat and large ship interests opinions were expressed and recommendations made substantially the same as those presented here. The opinions were in general well received and the recommendations accepted.

OPINIONS

1. The pilots, masters and officers of large commerical vessels have cause for anxiety when operating large vessels in restricted waters in the presence of numerous small boats particularly sailing vessels.

2. Large ships are frequently handicapped with regard to maneuverability due to the proximity of shoal water, rocks, or other obstructions when operating on inland waters.

3. Motorcraft and small sailing vessels generally have greater maneuvering ability and freedom than do the large merchant ships, especially so when the latter are operating in restricted waters.

4. It is difficult at times to determine the course and speed of a sailing vesssel and consequently, difficult to plan one's evasive actions when in the presence of sailing vessels.

5. Large ships with their speed, inertia and maneuvering characteristics generally reach a point of extremis with regard to risk of collision long before a position of extremis is reached by the more handy motorboat or small sailing boat. Consequently, the smaller more handy boat generally has the last chance to avoid a collision and would be expected to do so.

6. On a calculated risk basis it is logical to assume that the greater the advantage to be gained by crossing ahead of a steamer on the part of the racing sailing vessel the greater the risk the yachtsman will undergo to obtain that advantage. In other words, a yachtsman may take more chances under pressure in a race than he would while cruising.

7. A sailing race is a competitive sport with the contestants all having to comply with a given set of rules. The addition of an added reasonable racing or regatta regulation should not adversely effect the competition or the enjoyment from same.

8. That speed on the part of the merchant vessels is probably the greatest source of complaint as far as the yachtsmen are concerned. This fact is substantiated in the great number of collision cases in which speed has been the predominant factor or fault.

9. The piloting and general education of small boat interests should be intensified.

RECOMMENDATIONS

1. Regatta race courses for small sailing boats should not cross heavily traveled dredged main ship channels when it is possible to avoid such courses.

2. Dredged main channel buoys should not be used as turning points in race courses.

3. A regatta rule should be adopted by the sponsoring club or association disqualifying a yacht which embarrasses a large vessel in a narrow channel or tight situation. (Since other contestants would protest regatta regulation violations, this rule would be self-policing.)

4. The pilots, masters and officers should operate the large merchant ships with due regard for the existing situation and cause a substantial reduction in their speed within the proximity of racing sailing vessels.

5. The pilots, masters and officers should recognize the fact that a race is in progress and that they think twice before breaking through and breaking up a Regatta to save only a few minutes time.

A rather recent development in the case of the small boat vs. the large vessel are the changes to the International Collision Rules agreed to in the Safety of Life at Sea Conference 1960 at London. While it is true that the changes in the International Pilot Rules will not become effective for several years insofar as the letter of the law is concerned, the fact remains that the International Collision or Pilot Rules are in the process of being changed, and these changes reflect the present thinking with regard to the intent of the law. Our own Inland Pilot Rules will undoubtedly be changed in due time to include the changes being made in the International Rules.

Pertinent to this discussion are the proposed new International Collision Regulations, Rule 20(b) and 25(c), which are quoted as follows:

RULE 20

(a) When a power-driven vessel and a sailing vessel are proceeding in such directions as to involve risk of collision, except as provided for in Rules 24 and 26, the power-driven vessel shall keep out of the way of the sailing vessel.

(b) *This Rule shall not give to a sailing vessel the right to hamper, in a narrow channel, the safe passage of a power-driven vessel which can navigate only inside such channel.*

(c) A seaplane on the water shall, in general, keep well clear of all vessels and avoid impeding their navigation. In circumstances, however, where risk of collision exists, she shall comply with these Rules.

RULE 25

(a) In a narrow channel every power-driven vessel when proceeding along the course of the channel shall, when it is safe and practicable, keep to that side of the fairway or midchannel which lies on the starboard side of such vessel.

(b) Whenever a power-driven vessel is nearing a bend in a channel where a vessel approaching from the other direction cannot be seen, such power-driven vessel, when she shall have arrived within one-half (½) mile of the bend, shall give a signal by one prolonged blast on her whistle which signal shall be answered by a similar blast given by any approaching power-driven vessel that may be within hearing around the bend. Regardless of whether an approaching vessel on the farther side of the bend is heard, such bend shall be rounded with alertness and caution.

(c) *In a narrow channel a power-driven vessel of less than 65 feet in length shall not hamper the safe passage of a vessel which can navigate only inside such channel.*

The proposed amendments shown above (Rule 20(b) and 25(c)) only serve to further define and point up what should be present practice. Specifically, the conduct of large and small vessels with respect to each other when meeting in confined waters should be a mixture of mutual respect for the other's problems compounded with adequate knowledge of the Rules of the Road and seasoned heavily with the salt of common sense.

SUMMARY

1. The opinions and recommendations presented in this article are commended to your careful review for they are as valid today as they were when first written several years ago, and they have become more significant in view of the changes to the existing International Collision Regulations agreed upon at the International Conference on Safety of Life at Sea, 1960.

2. Judging by some of the decisions rendered in the courts, it is obvious that the small sailing boat operators and the operators of motorboats would be well advised to comply with the provisions of Rules 20(b) and 25(c), International Collision Regulations SOLAS 1960, for their own safety and to insure maximum liability protection.

3. To the shipowners, masters, pilots and ship's officers a word of caution: speed is the greatest single factor contributing to collisions on inland or pilot waters. Should excessive speed on your part contribute to additional collisions under the new rules when promulgated, you may expect, in all probability, less consideration before the courts than you now receive.

4. The purpose of this article is to promote safety through education and enlightenment. It is hoped that this article has reached its mark and that you will have a safe and satisfying boating season.

MANUAL DISTRESS SIGNAL

MANUAL DISTRESS SIGNAL for daytime use. The signal illustrated in the photograph above is made by slowly and repeatedly raising and lowering the arms outstretched to each side.

This signal is simple. A boatman needs no special equipment. The visibility can be improved by holding in each hand a handkerchief, towel, shirt, bathing suit, etc.

TROUBLE LOOKING FOR A PLACE TO HAPPEN

Three adults and three children put out to sea in a beautiful pea-green 17-foot outboard boat with an excessively deck "cut-out" in the transom to accommodate twin outboard engines. The weight of the passengers plus 255 pounds of fish plus three 5-gallon cans of gasoline (full) plus a "spare" 30-horsepower outboard motor reduced the freeboard to a maximum of 9 inches in way of the cut away portion of the stern. A 3-foot wave hit the stern of the boat, filling it with water. The boat promptly proceeded to stand on her stern and topple over backwards. One child drowned due to the vessel being operated in waters for which it was not suitable.

ALCOHOL AND WATER HAVE NEVER MIXED

On a nice evening in June four adults took a moonlight motorboat ride on Lake Saint Clair, and only two came back. A combination of alcoholic beverages plus a high speed turn were too much for the unfortunate couple standing upright in the stern, and they were flipped overboard. They were not wearing lifejackets. They drowned.

THIS CAN HAPPEN TO YOU

By CDR John H. Hawley, USCG
Chief, Casualty Review Branch, Headquarters

Photograph by *Morris Rosenfeld*, New York City.

MOST PEOPLE recognize that many of the actions they perform in boats are unsafe. They seem to feel that the risk involved is little more than that encountered in the daily task of getting out of bed. These people continue to play the boater's version of Russian Roulette by adopting the attitude that "Accidents only happen to the other fellow." Therein lies the biggest obstacle in selling boating safety to the public.

People are hard to convince. Perhaps it is because only the spectacular accidents make an impression. They know that accidents rarely have a single cause but are the result of a group of circumstances and that *every* unsafe act or condition does not result in a casualty. But they fail to realize that sooner or later the proper mixture of unsafe acts and conditions will be combined to produce just another statistic—in place of a happy boater—and this could be you.

Some of us may remember the newspaper coverage of the following cases: a man operated his boat too close to a dam and was carried over when the motor quit; a man flipped his boat over at high speed with a motor too powerful for the boat to handle—the one involving a swimmer whose legs were chewed up by a boat's propeller because the boat operator was not keeping a proper lookout. These are exceptions rather than the rule of most casualties, and are primarily an enforcement problem. The most frequent accident cases are actually more simple and are usually caused by carelessness or the failure to use common sense. Most folks do not hear of, or care to remember, the common garden variety of motorboat casualty.

Take the case of the man who was observed standing in the stern of his boat trying to start his 25 horsepower outboard motor. A few minutes later the boat was seen circling with no one aboard. When the boat was stopped the throttle was found to be one-third open. The operator was reported to have had a bad hip. He did not wear a life jacket although they were provided in the boat. The body was recovered by skindivers the following day.

This type of casualty is not restricted to older outboards. Last year a very deluxe model of recent manufacture was involved. The outboard was remotely controlled and equipped with a clutch and a push button electric starter. A young mother decided to take a friend for a boat ride. Her husband pushed the boat away from the shore. The woman forgot to check the clutch (which was engaged) and the throttle (which was wide open). When she pressed the starter button the boat surged full ahead immediately. In attempting to clear the shore she turned hard left which caused the boat to go broadside to the beach. Her 8-year-old son was standing at the water's edge and was struck by the propeller. The boy's right arm was amputated and he was cut deeply about the shoulders. He died on the way to the hospital.

How many times have you tried to start your car when it was in gear?

Perhaps the outboard motor manufacturers can take a lesson both from the auto industry and this type of casualty and design future motors that can only be started in neutral.

Overloading is one of the most serious threats to small boat safety. No matter how large a boat one buys, it never seems to be big enough. If you rent one, you usually wish it had more room.

Two businessmen and their two adult sons departed one night in a 14½-foot boat with a 25-horsepower motor for a fishing trip. The combined weight of the four men alone was over 800 pounds. Additionally, they carried the motor, fishing gear, and other equipment. The freeboard was later estimated to be about 5 inches. Soon after getting away a wind arose and water came over the bow, although the waves were not very high. The boat sank and two of the men were drowned. Life preservers were not worn although they were available. Common sense should have indicated that this boat was overloaded. With only 5 inches of freeboard, anything over a 5-inch chop will put water in a boat. In a somewhat similar case a party of seven (4 adults plus 2 young people plus a babe in arms) set out in a 14-foot outboard, carrying "minor" additional gear consisting of an extra outboard motor, guns, camp stove, and camping equipment, food, etc. The boat's freeboard was estimated to be no more than 2 inches. Five of the seven bodies were subsequently recovered. No one wore life jackets.

It is interesting to note that had these people used the six-tenths rule provided by the Outboard Boating Club of America and distributed by the Water Safety Congress, they could have determined just how overloaded the boat was. For example, in the first case, the boat measured 14 feet 6 inches in length, 4 feet 8 inches in breadth and 12 inches in depth. With the use of the formula

$$(L \times B \times D \times \frac{0.6}{12} \times 150)$$

they would have known that 510 pounds was the maximum safe load for their boat. Even with this formula careful consideration should be given to any peculiar design characteristics of the boat, weather conditions and unusual circumstances. One of the best rules of thumb is that when a boat looks or feels overloaded it probably is.

A particularly common type of casualty in small open boats is that of capsizing. When damage is slight and no one is hurt, we just don't hear about them, but it might be helpful to know what percentage of capsizings result in fatalities. In 1957 and 1958, capsizing, according to national figures, was given as the cause for roughly 25 percent of all fatal boating accidents and Coast Guard figures for fiscal 1960 revealed that capsizings accounted for almost one-third of all fatal boating accidents.

"Capsized" is a broad classification, which may be given to accidents resulting from various causes which do not all add up to negligence. Many casualties in this classification are due to what could best be called human element, not otherwise classified—another way of saying that it is the type of accident that can happen to any reasonably prudent man.

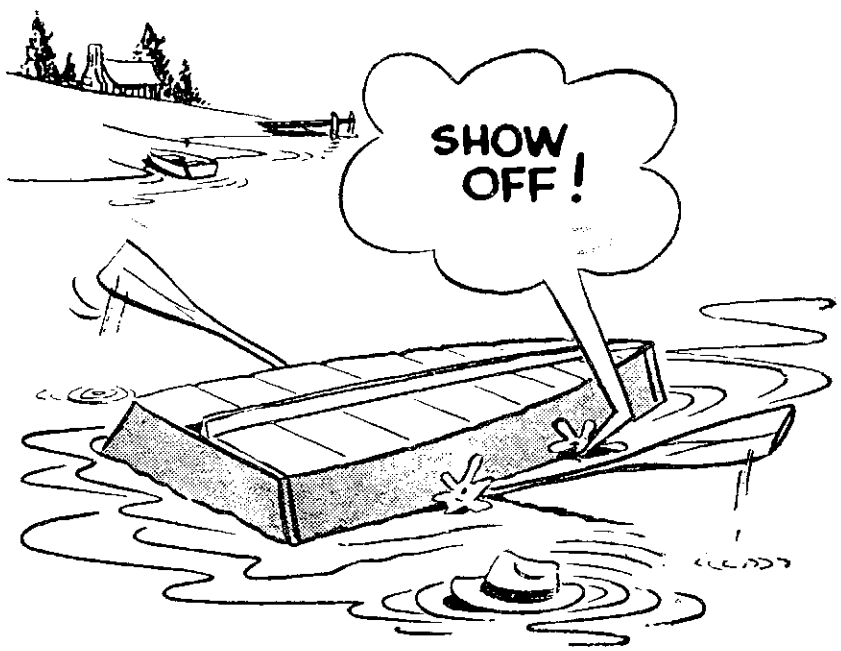
Let's look at the case of two elderly gentlemen who proceeded at about 10 miles per hour looking for a group in another boat. With all attention directed toward finding the other boat, the operator made a rather abrupt turn. His companion lost his balance and fell to the side of the boat. The boat immediately shipped water and capsized. The life preservers and buoyant cushions floated out of reach. One man was able to hold onto the boat, but the other drowned before he could get to it. In another particularly sad case a father and his two sons, age 9 and 7, were cruising down the river in their 14-foot outboard when the motor apparently came loose from the transom. The boat suddenly veered and capsized. The boat had three buoyant cushions aboard, but they drifted away. The father could swim under normal conditions, but the two boys could not. The father was unable to save his sons who drowned.

The striking of submerged objects has also had its toll. Two men went out on a lake before dawn in a 12-foot outboard which was found later that morning overturned and with a damaged bottom. Both men had drowned. A stump was discovered in the area just below the surface. The paint marks on the stump matched the paint from the boat. Two buoyant cushions were found floating in the area.

To avoid underwater obstructions (such as stumps) requires a thorough knowledge of the water in which you are operating. Running close to the shore should always be done cautiously and at minimum speed, but even that will not always guarantee safety. In the case mentioned above the stump was at least 1,000 feet from shore. In addition, there is always the possibility of encountering timbers partially waterlogged floating just below the surface. There is little the boatmen can do to prevent this type of casualty, but he should be made to realize that it can happen to him so that he can take steps to reduce the seriousness of the incident.

Perhaps you have noticed that in almost all the cases cited the inability of the victim to keep his face out of the water was, in the final analysis, the cause of death. This is true in most cases.

From strictly the safety point of view it would be desirable for everyone to wear a lifejacket at all times when



NATIONAL SAFETY COUNCIL

going out on the water. Not everyone will, but there are circumstances when commonsense dictates that a lifejacket be worn. The size and type of the boat must be taken under consideration, but generally lifejackets should always be worn by nonswimmers, young children, the aged, and the physically handicapped in a small open boat. Life preservers should also be worn by all persons in open boats at night or who are caught outside in a small boat when the weather threatens.

This should not suggest that buoyant cushions are of no value. They have saved many lives. Several years ago, in fact, a man was saved after being afloat at sea for 9 hours with the aid of a buoyant cushion. Buoyant cushions, nevertheless, can only be considered minimum protection. Buoyant cushions are not designed to be worn; they are only for holding onto. A cushion will be of little use if the person is injured or otherwise incapacitated, if he is overtaken by fear, or lacks confidence in the cushion's ability to keep him afloat. A readily accessible buoyant cushion is, on the other hand, particularly valuable when someone falls over the side from a moving boat. It can be thrown to the man in the water and gives him something to hold onto until the boat can be brought about. One man who took a mixed group of six for a cruise in his cabin outboard could have used this advice. A woman leaned against the guardrail which promptly broke and she fell into the water. The owner, who was not operating the boat at the moment, immediately jumped to her rescue when he saw what had occurred. He was observed coming to the surface twice and then for some reason he appeared to be swimming toward shore. He drowned before the boat could be brought about. The woman was rescued. The boat was equipped with buoyant cushions.

Regardless of whether buoyant cushions or lifejackets are utilized, the best course is to stay with the boat if a casualty occurs. That is if it remains afloat. Newer model boats are being provided with additional buoyancy, usually in the form of unicellular plastic foam. This additional buoyancy will not insure the boat against swamping or capsizing. It merely insures that the boat will float after such casualty provided there is not too much weight remaining in it.

There is a growing trend among boat owners to seek the extra measure of safety by adding plastic foam to their boats. A cubic foot of this material will support approximately 50 to 55 pounds in the water. There are many different kinds of unicellular plastic foam on the market today which calls for a note of caution in this regard. Some of it breaks down when it comes in direct contact with resins used for fiber glassing boats and must be covered. Some of it does not exclude water and must also be covered. Some of it will burn, or otherwise decompose in the presence of fire, although some of it is self-extinguishing. It is recommended that those who wish to install such material in their boats obtain it from a reputable dealer who can furnish the technical information about the product to insure proper installation for the maximum in additional safety.

As mentioned earlier, every unsafe act or condition does not produce an accident. This is particularly fortunate because it means that if the boat owner can develop a safety awareness, he will probably get the opportunity to mend his ways before an accident happens to him. The problem is one of education, not only for the Coast Guard and other organizations concerned with safety, but for the boater himself. If he can be convinced that "This Can Happen to You" the sad and needless waste of life from boating accidents will be drastically reduced.

NIGHT BOATING

Boating at night on quiet moonlit waters has inspired many a poet and songwriter. But many boaters have found that not all waters are quiet and moonlit, and after one or two nocturnal excursions which were punctuated with moments of stark terror, they prudently resolved to confine their boating activities to the daylight hours, and neatly rationalized the decision by pointing out that they were getting too old for romance, and besides the sun is warmer in the daytime.

But at one time or another everyone who owns a boat will be faced with the prospect of operating at night, whether it be by design or because of unforeseen circumstances.

You probably have heard an eager boat salesman describing boat operation to a prospective buyer as being "just like driving a car, only easier." The aircraft salesman says the same thing, although most people realize that what is actually meant is that these skills can be acquired as easily as learning to operate an automobile.

Since most of us are prone to equate the new with what is familiar, perhaps a comparison between night boating and night automobile operation might serve to highlight some of the hazards of the former.

To begin with, there are no "roads" on the water to which a small boat is confined. You can therefore expect another boat to come at you from any direction. This is like driving continually in an intersection not controlled by traffic lights. To operate safely under this handicap the boater must constantly be on the alert and must keep a sharp lookout all around. At night this is further complicated by the fact that boats have no headlights. Boats are not as easy to see as cars, and the lights they display may be hard to detect against a lighted background. Even the ex-

WHAD'YA MEAN UNSAFE? THIS BOAT'S BRAND NEW!!

Redrawn from an idea by LCDR N.F. *MAIN*, USCG

perienced seaman is occasionally surprised by another vessel coming toward him from a well-lighted shore. Good seamanship dictates that vessels and boats proceed at a cautious speed under these conditions.

The absence of headlights on boats presents another problem not shared by the motorist. The motorist can see the road ahead for a considerable distance, which permits the vehicle to operate at relatively high speeds with safety. Imagine trying to drive down a dark road at night with no headlights—this is what the boater must face. On all bodies of water there is flotsam of every description and while most of it poses no threat to the larger commercial vessels, the small pleasure boat is in constant danger. In a recent case, a 17-foot inboard boat was operating in a river on a clear, dark night with 5 persons aboard. There was no moon and trees along the bank made an inky blackness of the water. The boat was planing along at an estimated 17 miles per hour when suddenly a large log was observed not more than 10 to 15 feet ahead lying athwart the boat's course. Instinctively the operator turned to avoid the log, but it was too close. The impact threw two of the occupants out of the boat. In addition, the boat was disabled. Of the two in the water, one was recovered by another boat, and the other person drowned.

The distance that a boat's navigation lights are visible even on a clear dark night should also be taken into consideration by the operator. The Motorboat Act only requires that the white lights be visible 2 miles and the colored lights 1 mile. These, of course, are minimum standards, but there are many boats that do no more than meet these minimum requirements. In any event, the operator cannot safely assume that he will see the lights of another boat more than a mile away. In the case of two boats approaching each other, both making 15 knots, they will be only 2 minutes apart when their colored lights are visible to each other. This is precious little time when it is recognized that the proper course of action must be decided upon and whistle signal exchanged long before the 2 minutes are up. And yet there have been cases where boats have been operated at speeds in excess of 40 knots at night, thereby "overdriving" both their lights and their whistle. Operation of this type, except in authorized regattas or specially designated areas, is extremely dangerous and the penalties for such operation, particularly if an accident occurs, are severe.

Nor is high speed at night the limit of man's inventive genius when it comes to marine mayhem. There are also the night water skiers. In several states night skiing has already been outlawed after only a minimum history of skiers hitting floating objects, bridge abutments, seawalls and docks, or being run down by their own or another boat because they could not be seen. But whether specifically outlawed or not, an allegation of negligent operation against the operator towing a skier at night would, in most instances, be difficult—if not impossible—to refute unless such activity was carried on under controlled conditions in areas especially set aside for the purpose.

At least one aspect of boating is similar to driving; that is, it is poor consolation to the victim or to his next of kin to know that the law provides for stringent penalties for negligent operation. And remember—negligence does not mean wilfulness but simply the failure to exercise such care as a reasonably prudent man similarly situated would exercise under the same circumstances.

Night boating is sufficiently enjoyable to attract the boat owner—at one time or another. Obviously, everyone who owns a boat should know the principles of safe night operation. One last comparison—a boat has no brakes, so TAKE IT EASY!

ON BOATING SAFETY

Davy Jones will claim your bones,
If you don't use your head.
A seaworthy craft, not any old raft,
Then there is no dread.

Have equipment complete when you join the fleet;
You'll come back with a happy tale.
Know your motor and your boat,
And the waters where you will sail.

A check-off list before you start
Will make for a bonny cruise.
Tune up the motor, overhaul the boat,
And leave at home the booze.

Cogitate and ventilate
Before you press the starter.
Or "bang" she'll go, and sirens blow,
And you're a fool—not martyr.

Use your chart right from the start,
And you'll not go aground.

The buoys—they tell you where to go—
By color, shape, and sound.

Adhere to the "Rules of the Nautical Road";
Always have foresight.
Be prepared for emergency;
Don't get caught in a bight.

Heed the tides, and watch the glass;
Keep center of gravity low.
Be safety-conscious and ever alert
For the unexpected blow.

Keep small children in life jackets;
Have jackets or cushions for all.
Do not overload your boat, men;
And "Sailor, stay on the ball."

Learn the "Do's" and "Don't's", my friends;
Good seamanship is your vocation.
So be nautically wise, all of you guys,
And have a wonderful water vacation.

T.S. Pattison, Jr. Commander, USCG

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UNITED STATES COAST GUARD AUXILIARY

A Voluntary National Organization

dedicated to the promotion of SAFETY in the maintenance, operation and navigation of SMALL CRAFT

TWENTY-TWO YEARS AGO, Congress passed an Act which authorized a civilian organization with the primary purpose of PROMOTING SAFETY IN THE SMALL BOAT FIELD. This organization, the Coast Guard Auxiliary, has since compiled an outstanding record of public service and has gained the recognition of boating enthusiasts, experts and those in government.

The relatively young group was founded in the late 30's when more and more people were turning to water sports for recreation. The U.S. Coast Guard, charged with the enforcement of the navigation laws and the assistance of mariners in distress, had become increasingly concerned with the growing field of small boat operations. This government agency, seeing the need for public cooperation and assistance in the promotion of safety at sea, prepared the groundwork for the new group. On June 23, 1939, Congress created the Coast Guard Auxiliary:

a. to promote efficiency in the operation of motorboats and yachts.

b. to foster a wider knowledge of, and better compliance with the laws, rules and regulations governing the operation of motorboats and yachts.

c. to promote safety and effect rescues on and over the high seas and navigable waters.

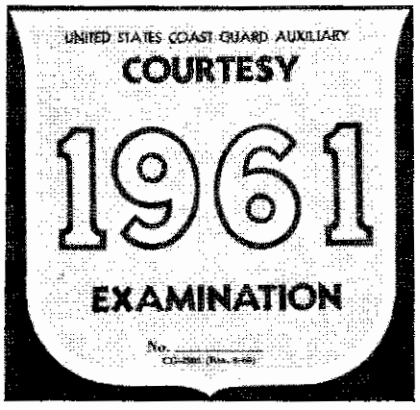
d. to facilitate other operations of the Coast Guard.

The Auxiliary promotes and encourages a number of programs designed to meet these purposes. They are commonly referred to as the four cornerstones of Auxiliary activity: VESSEL-EXAMINATION: EDUCATION: OPERATIONS, AND FELLOWSHIP.

Almost all boatmen—those who are already seamen and those who want to learn—are eligible for membership. Auxiliarists are U.S. citizens, who are over 17 years of age and own at least a one-fourth interest in a motorboat, yacht, licensed amateur radio station or airplane. While the Auxiliary is first and foremost a boatowner's organization, radio stations and aircraft are a valued adjunct, assisting in many of the operations.

Interested persons are offered the opportunity of instruction, most of which is on an informal basis, to prepare and pass the examination for membership. Their boats must also meet standards in equipment and seaworthiness. Distinctive uniforms and insignia are authorized and may be worn. The Coast Guard also authorizes members' boats to display the Blue Ensign. This flag, flown from a pleasure boat, serves notice to other boatmen that the vessel is seaworthy and properly equipped, and that the owner is a competent boatman. Yachtsmen all over the country enjoy the association with the Coast Guard, the privilege of flying this flag, as well as the fellowship of like-minded boatmen.

There are two ways to become a member of the Auxiliary. They are: (1) by joining an established flotilla; (2) by associating with at least nine other boat, aircraft or radio station owners who desire to enter the Auxiliary and form a new flotilla. As an objective of the Auxiliary is to develop competent seamen, there are opportunities for training. Most Auxiliary instruction is conducted within flotillas, with men and women who cruise your own waters and know local conditions. In addition, there are top-notch correspondence courses obtainable at cost from the U.S. Coast Guard Institute—piloting, celestial navigation, mathematics for navigators, and meteorology.



The Coast Guard supervises the Auxiliary and its programs in accordance with the policies set forth by the Commandant, U.S. Coast Guard. A Coast Guard officer, designated as Chief Director, Auxiliary, at U.S. Coast Guard Headquarters, Washington, D.C., assists the Commandant in the development and administration of the Auxiliary on the national level. Auxiliary officers in each Coast Guard District are supervised by a Coast Guard officer designated as District Director of Auxiliary.

The basic unit of the Auxiliary is the Flotilla, consisting of ten or more boats, planes or radio stations. Five or more Flotillas are grouped into a Division. These Divisions are organized geographically into Districts, the boundaries being those of the respective Coast Guard Districts. In 1961 there are 670 Flotillas in 101 Divisions in the Coast Guard Districts.

The Auxiliary organization is administered under the guidance of the District Director, by Auxiliary officers elected by the membership for one-year terms. A Commodore, a Vice Commodore and a Rear Commodore are elected for district office. Divisions elect a Division Captain, a Vice Captain, and a Training Officer, and Flotillas are guided by a Flotilla Commander, a Vice Commander and a Training Officer. Nationally, the organization has a National Commodore and Vice Commodore. In addition to these elected officers, other members particularly qualified in some field are appointed at each organizational level to serve as Staff Officers and assist in the administration of the many Auxiliary programs.

If you are a boat owner and enthusiast, you should belong to the U.S. Coast Guard Auxiliary. For additional information on the free boating services offered to you by the Auxiliary, or on how you may join, contact the Flotilla nearest you or the Director of Auxiliary of the Coast Guard District in which you reside.

FOUR CORNERSTONES

The four areas of Auxiliary activity are: VESSEL-EXAMINATION; EDU-

CATION; OPERATIONS and FELLOWSHIP.

VESSEL-EXAMINATION—An outstanding service to the boating public is the Courtesy Motorboat Examination. This gives the owner an opportunity to obtain a free safety check by a member of the Coast Guard Auxiliary especially qualified as an Examiner. The special sticker (decal) awarded to boats meeting the Federal equipment requirements and certain Auxiliary recommendations is recognized by the Coast Guard and the authorities in most states. Auxiliarist desiring to engage in this activity are trained and must qualify for the designation of Examiner. The vessels of members are similarly examined and, meeting additional standards, are awarded a distinctive decal. In 1960, more than 120,000 pleasure craft took advantage of this free boat check.

EDUCATION—Auxiliary members undergo basic training in seamanship, rules of the road, piloting, boating laws and motorboat operation. Members may then qualify as Instructors and engage in the training of provisional members, and of the general public. Three separate public instruction courses are offered, each with training aids, including slides and films, and books. In addition, special safety lectures and demonstrations are offered to civic, fraternal, industrial, etc., groups. In 1960, more than 100,000 persons attended the 3 types of courses offered; with several times that number viewing safety films.

OPERATIONS—Auxiliarists assist the Coast Guard in some of its civil functions, particularly those concerned with the safety of navigation. Search and rescue activities, patrolling of regattas, safety patrols of water pageants, marine parades are just a few of the activities in which Auxiliarists may assist. All of these are on a voluntary basis. During 1960, more than 900 patrols were performed by the Auxiliary. The members also accomplished 3,500 cases of assistance, and were credited with saving 142 lives.

FELLOWSHIP—Gathering together to learn, to exchange ideas, to teach and spread the word on boating safety, to co-operate in patrols, and other volunteer missions, cultivates lasting friendships. Cruises, rendezvous, and other social events further promote fellowship. As members of a national organization affiliated with the Coast Guard, Auxiliarists take pride in the recognition accorded them for their many contributions to the advancement of safe boating.

LEARN SAFE BOATING

Whether you are a Skipper, 1st Mate or Landlubber, there is a course of instruction in seamanship and small boat handling designed for YOU. This is the opportunity for beginners to obtain a fundamental understanding of boating. More experienced boatmen can round out their knowledge and formally review the proper procedures and practices for safety afloat. Everyone can gain greater skill and pleasure by enrolling in a course presented by the U.S. Coast Guard Auxiliary:

OUTBOARD MOTORBOAT HANDLING (1 lesson). Designed primarily for outboard owners, it covers the fundamentals on boat handling, equipment requirements, and the common-sense rules of courtesy. It consists of a short lecture, series of color slides, a sound film summarizing the basic principles and a question and answer period.

SAFE BOATING (3 lessons). Provides the elements of seamanship, aids to navigation, rules of the road and boating safety for both outboard and inboard motorboat operators. The course consists of lectures and demonstrations using color slides, models, and sound films. Booklets summarizing the material are available.

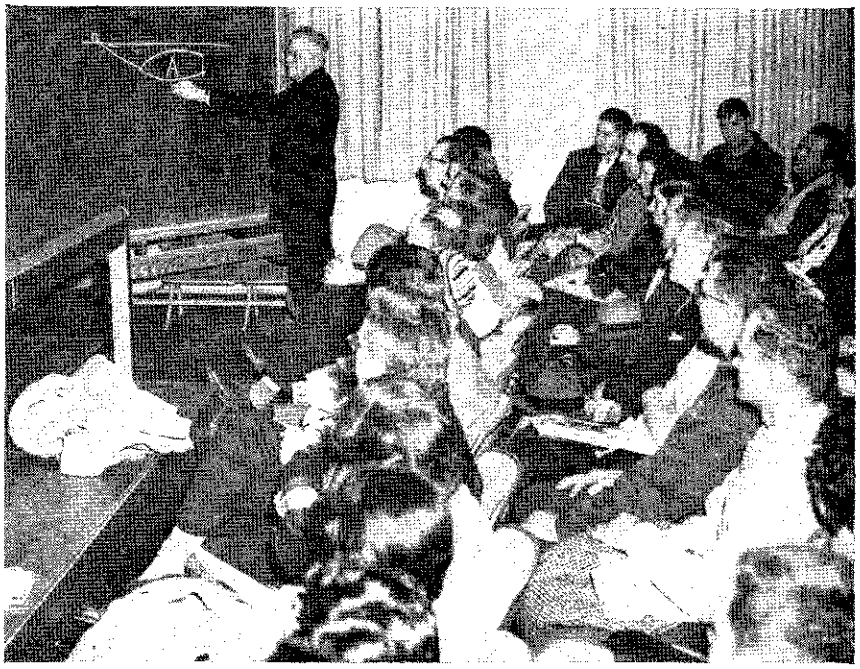
BASIC SEAMANSHIP AND SAFE BOAT HANDLING (8 lessons). Provides a comprehensive but practical study of boating covering seamanship, aids to navigation, piloting (charts and compass), rules of the road, safe motorboat operation and accident prevention. It consists of lectures and demonstrations with individual practice in chart work, knot tying, etc. Booklets on the material covered are available. Those successfully completing the course are awarded the U.S. Coast Guard Auxiliary Basic Small Boat Seamanship Certificates.

OTHER EDUCATIONAL PROGRAMS

In addition to the standard courses arrangements may be made for boating safety programs of one-half-hour to 2-hours. These are designed for presentation before luncheon, fraternal, and civic groups; boating, sport, youth and school clubs; and in the safety programs of Government and industrial organizations.

NATIONAL SAFE BOATING WEEK

By Presidential Proclamation, the week within which the Fourth of July falls is annually designated National Safe Boating Week. Boating and safety groups, cooperating as the National Safe Boating Week Committee, conduct a campaign to focus public attention on the need to know and observe basic safe boating rules and regulations.



FERDINAND R. HARDING of the First Coast Guard District Auxiliary gives instruction on docking to a public instruction class in Basic Seamanship and Safe Boat handling.

The Committee is composed of: American Boat and Yacht Council, Inc.; American National Red Cross; National Council Boy Scouts of America; Girl Scouts of the United States of America; National Association of Engine and Boat Manufacturers; National Association of Marinas and Marine Dealers; National Safety Council; Outboard Boating Club of America; United States Coast Guard; United States Coast Guard Auxiliary; United States Power Squadrons; Yacht Safety Bureau, Inc. The chairman is CAPT Richard Baxter, USCG Chief Director, Auxiliary, C.G. Headquarters, Washington, D.C.

Representatives of each of these groups on a local level similarly join forces to organize community Safe Boating Week Committees. Through this active support, the message of safe boating is being brought most effectively before the public.

The promotion of safety on the water is one of the important year 'round projects for each of these groups. Thus, many of these local committees have become continuously active and are not restricting their effort to just the single observance. An early example of this, which may serve as a guide in other areas, is the Midwest Small Boat Advisory Committee. Membership is widespread and includes, in addition to the groups represented on the NSBW Committee: the American Youth Hostels, YMCA, Central Marine Chamber of Commerce, the Great Lakes Cruising Clubs, the Lake Michigan Yachting Association, the Chicago Yacht Clubs Association, the Chicago Boating Improvement Association, the Chicago Commodores Association. Also, the City of Chicago, and the Conservation Departments of both the States of Illinois and Michigan.

This committee, in addition to sponsoring the annual event, fosters safe boating generally through several programs. It gathers information on the types of boating educational courses offered in the midwestern area by the member groups. The data is compiled and supplied to newspapers, magazines, radio and TV stations, so that interested boatmen can have a complete picture of all educational opportunities available. Another activity of the Committee, is the preparation of panel-type discussions on the various aspects of boating. These are used for radio broadcasts. An important benefit from those joint ventures is the receptive attitude of the members of the press, radio and television to the comprehensive articles and periodic releases.

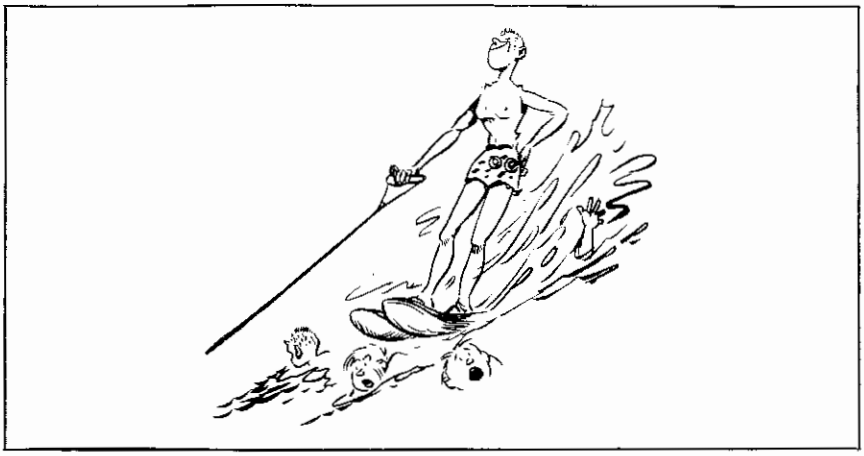
Public service groups—those allied with boating and local authorities—can easily adopt this successful means of advancing the cause of water safety.

THE AUXILIARIST—A FELLOW BOATMAN

In conducting courtesy motorboat examinations, Auxiliarists have been asked every possible question on the subject of boat numbers. Some examples are: "On which side of the bow do you put the Federal Boating Stamp?" or "I don't know why I haven't received my number. I bought my stamp last January." Further inquiry revealed that the complainant had failed to attach the stamp to his letter of application for number.

Another example, using fictitious numbers, involves a "Mr. A," whose certificate indicated the assigned number to be NJ 9012 G, which was properly displayed on the starboard bow. However, the port bow of the boat bore NJ 9102 G. The owner explained apologetically that he had not corrected the error as he might mar the finish on the hull.

Obviously there is a lack of understanding by a number of pleasure boatmen on how to apply for, let alone display, the numbers that may be required for their craft. It still remains a matter of education. And, the Auxiliarist once again serves as an important link between the authorities and the general boating public by passing the word and soliciting the proper compliance of pleasure boatmen with regulations.



CAN I GET BY?

A somewhat puzzling attitude is also encountered on occasion by Auxiliarists conducting the boat safety checks. Why does a small segment of the boating public continually ask: "Can I get by?" Too often they may find the answer in tomorrow's newspapers.

A boatman owns a 32-foot twin-screw beauty, complete with stainless steel galley, radio, depth finder and all the other trimmings, then asks: "Can I get by with only one fire extinguisher, or do I need two?" He ignores the principle that two relatively inexpensive fire extinguishers, aside from being required on a boat of this size, give more protection and greater safety to himself, his passengers, and to an expensive investment; but * * * "Can I get by?" In the same category, but on a smaller scale, is the outboard owner who "gets by" with no fire extinguisher because his boat is of open construction and the requirements are more lax in this respect. The fact that the requirements are strictly minimum apparently has not occurred to either of these owners.

There is no legal requirement prohibiting knife switches in the bilge compartments. All courtesy motorboat examiners can recall cases when owners protested the suggestions that the knife switches be moved or replaced with enclosed types for safety's sake. ("No, sir; I keep that switch there because it's safe—best place to cut off the battery, etc.") These owners believe they can "get by" with this installation, and the knife switch remains below the deck, waiting for the right conditions to trigger an explosion.

All too frequently, an owner will set out on an afternoon's cruise with a fuel supply that he thinks will be just enough. Time may be short, and he doesn't want to take the extra 20 minutes for gassing up. The possibility of bad weather before he gets back, the miscalculation of running time due to wind and current, or even the need to assist or to tow a fellow boatman back to port never occurs to him until it happens. While this may turn out to be more of an annoyance than a danger, it is properly included in the list of "get-by-withs."

The outboard owner who carries unsecured cans of gasoline in the cockpit is playing Russian roulette with weather and water conditions—and any passengers in the boat will be in the game; but not by choice. A little forethought in providing proper fastenings and suitable ground connections, and there would be no "getting by" with anything.

There are no regulations against batteries not being covered (to prevent tools from dropping across the terminals and sending out showers of sparks) or fuel tank vents not screened (to prevent insects from clogging them and perhaps stalling the engine at a critical moment). Some owners "get by" with them; some others may no longer be available for comment.

The question of the smallest vessel a boatman can "get by" with in troubled waters will never be fully answered. Too many amateur sailors go down to the bay or lake in tiny cockelshells and end by going down in the bay or lake. The same holds for overloading, speeding, and general reckless operations.

TRAGEDY OF ERRORS

And, as stated earlier, newspaper accounts reveal the "get by's" that didn't or almost didn't make it. An outstanding example is in the report of a rescue performed by an Auxiliarist and his wife, Mr. and Mrs. Louis Perullo, of New York, late last Fall. Seems that they were running down Freeport creek in their 25-foot cruiser when they saw two heads bobbing in the water. Their first reaction was that the men were skin divers. Thinking it a little cold for such sport, they decided to investigate. The "skin divers" turned out to be duck hunters, their boat having been swamped and sunk. One man was holding on to the bow, still remaining above the water, the other clung desperately to a gunny sack containing duck decoys. Both men were being weighed down by their heavy clothing, and had gone under during their struggle. Occupants of a large fishing boat nearby were calling to the men urging them to swim, not realizing that the men were actually drowning. Mr. and Mrs. Perullo approached and pulled the men aboard, chilled and exhausted, and administered first aid. Recovered from their ordeal, the men related how they had sailed off earlier that day, dressed in cumbersome foul weather gear, guns and decoys in a duck boat with outboard motor. Everything went fine until they were returning to port, when a stiff breeze and the stern wave of passing motorboats began to roll the low small boat dangerously. Suddenly, the tiny craft floundered—only the sack of decoys remaining afloat near the partially submerged boat.

This incident illustrates an interesting combinations of conditions that could have ended in tragedy excepting for the fortunate presence of an experienced boatman. Obviously, the boat had very low freeboard, and apparently lifesaving equipment was not readily accessible. Presumably, large craft passing close didn't use caution or a little courtesy in keeping their wake low. And, those aboard nearby boats did not appreciate the evident distress and struggle of the men in the water, nor attempt to assist them.

UNITED STATES POWER SQUADRONS

The United States Power Squadrons, a nationwide association of boatmen, also carries on a program of instruction in boating subjects for the benefit of its members and for others interested in the water. The local Squadrons throughout the country present a basic instruction course of ten lectures, known as the USPS Piloting Course, which is open to all boatmen. For the starting dates and locations of classes that may be conducted in your community, contact the Squadron Commander in your area, or write to USPS Headquarters, 96 West Street, Englewood, N.J.

OOPS!

Here is a list of the more common shortcomings found in pleasure craft by Auxiliarists conducting the courtesy motorboat examination. Check to see that none exist on your boat:

FIRE EXTINGUISHERS

1. Fire extinguishers inoperative.
2. Fire extinguishers not sufficient in numbers.
3. Fire extinguishers inadequate in size, or of unacceptable type.
4. Fire extinguishers not properly filled, or empty.
5. Hand portable fire extinguishers in engine compartment, and probably not available for use in case of fire at that point.

LIFE PRESERVERS

6. Life preservers damp, moldy, and/or rotted.
7. Life preservers in inaccessible location, or difficult to free from fastenings.

ENGINE AND BILGE COMPARTMENT

8. Ventilation inadequate.
9. Flammable items (rags, paint, etc.) in engine compartment.
10. Wooden hatch covers or engine boxes charred by proximity to hot engine components.
11. Knife switches in engine compartments.
12. Dirty bilges.

ELECTRICAL SYSTEMS

13. One or more lights not operating properly.
14. One or more lights incorrectly wired.
15. Forward or aft light necessary.
16. Batteries not securely fastened.
17. Electrical system in poor condition.

FUEL SYSTEMS

18. Fuel tank fillers are onboard.
19. Fuel lines not properly supported.
20. Fuel tanks vented inside hull.
21. Fuel tanks vents not screened.
22. Fuel filler flange not properly grounded beyond rubber connecting section.
23. Drain cocks in fuel lines, or at tanks or carburetors.
24. Open space between filler pipe and neck flange.
25. Unacceptable fillers and/or vents on auxiliary gasoline tanks.
26. Serious gasoline leaks.

GALLEY STOVES

27. Galley stoves not fastened.
28. No heat deflectors behind galley stoves.
29. Flammable material (curtains, cartons, etc.) behind galley stoves.

MISCELLANEOUS

30. Horn inoperative, missing, or wrong type for class of boat.
31. No bell as required on Class 2 and 3 boats.
32. Numbers not of color contrasting to background.
33. Incorrect numbers for papers carried.
34. No papers on boat or in owners' possession as required.

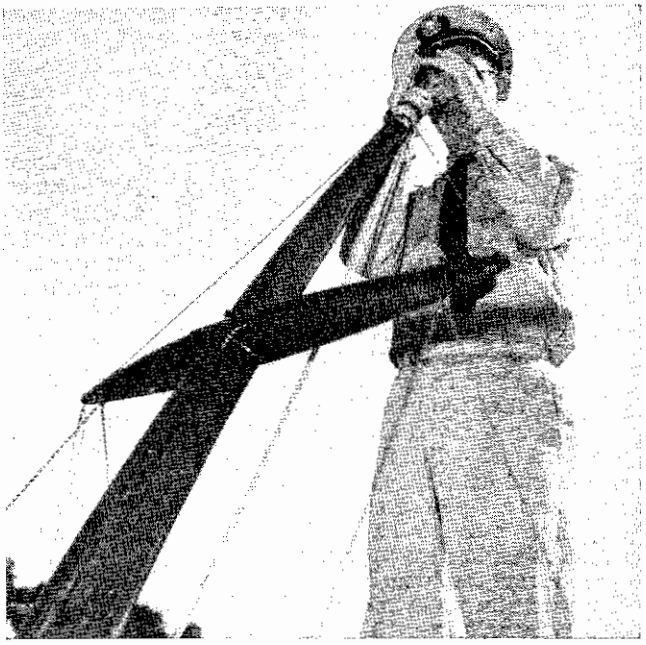
AUXILIARY COURTESY EXAMINATION

AUXILIARISTS MR. AND MRS. J. SCHUELER, Baltimore, Md., both qualified as Examiners are greeted by a boat operator as they prepare to make the examination he requested for his 40-foot cabin cruiser.

ONE AUXILIARIST examines a life jacket for weakness and to make sure that it bears the Coast Guard approval stamp, while the other checks off items on the form to be given to the owner.

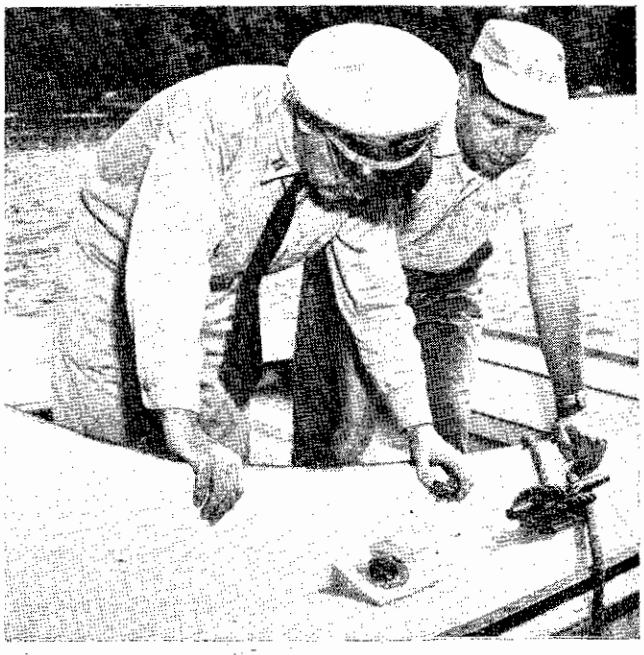
A most effective means of assisting pleasure boatmen to know and maintain boating safety, and to obtain their cooperation in meeting legal requirements is the Courtesy Examination program of the Coast Guard Auxiliary. The pictorial sequence below, illustrates part of the safety check, which is made only upon the request of the owner. The special sticker (decal) is awarded to the boat meeting the Federal requirements and certain safety practices recommended by the Auxiliary. The Coast Guard and many State authorities honor the decal and will normally refrain from making any official inspection unless there is an obvious violation of law.

THE AUXILIARY EXAMINER checks the fire extinguisher to make certain that it is of a type approved for marine use and is adequately charged and in good working condition.



AS CERTAIN LIGHTS MUST be displayed on a motorboat between sunset and sunrise, the Examiner checks to see that they are operating and will show within the prescribed sectors.

OUR LADY AUXILIARIST finds the galley stove to be of a type approved for marine use, securely fastened, and with no inflammable materials that might be ignited nearby.



CHECKING TO SEE that the gasoline filler pipes extend outside of the coaming and down to the bottom of the gas tanks is part of the examination of the entire fuel system, piping and accessories.

Even boats failing to qualify for the decal are given the check-off list used in the examination. No copy is retained by the Auxiliary Examiner, nor is a report made to any authorities. The Examiner points out and offers suggestions on how to correct any deficiencies of safety hazards. He stands ready to assist his fellow boatmen to obtain safety standards and earn the honored decal.

Every Auxiliarist conducting Courtesy Motorboat Examinations can recount incidents similar to the following:

* * * Things are not always what they seem. The examination of a luxurious yacht was proceeding normally until the owner was asked to break out his life-preserving equipment for checking. Of 10 cork-filled jackets, not more than a few months old, 8 were infested with a cloth-eating insect and completely useless. The owner was mortified as well as shocked.

* * * Two Examiners were busy doing boat checks when a flashy new outboard runabout stopped at the marina gas pier for fuel. The owner requested an examination, and during its progress assured one and all, expansively, that his boat didn't need a fire extinguisher, according to the law. Any how, he had plenty of other equipment—lifevests, paddle, compass, etc. Technically, he was right; the boat was of open construction. The Examiners' suggestions were brushed aside until one of them enumerated the passengers in the boat: owner, wife, and three children, with the comment, "You value each life at less than $3; is that it?" The owner bought an extinguisher at the marina store. He received his decal.

SAFETY CHECK OF FUEL TANKS

With outboards getting bigger and thirstier, owners are compelled to carry more fuel, and are also taking to the sound practice of having an extra supply in a spare tank—just in case. While those tanks in specially built wells aft of the passenger spaces may be considered relatively safe, the extra fuel often carried in a nondescript 5-gallon can just behind Dad's operating station, is an accident waiting for an excuse to happen. Aside from the possibility of fumes getting into the bilge, a sudden turn or the wash from a passing boat can set the stage for statistics in Monday's newspapers. It is recommended that the portable cans be stowed securely; braced or strapped as necessary. Also, that the tanks be, as in the case of permanently installed tanks, of a noncorrosive material and of sufficient strength to withstand ordinary rough usage without distortion or leakage of fuel. Of course, outboard powered boats with permanently installed tanks are subject to the same legal requirements regarding outside filler pipes and vents, as are tanks on inboard boats.

PLAN FOR SAFETY—USE THIS CHECKLIST

LEGAL REQUIREMENTS*

—— Lights operating and satisfactory.
—— Lights visible through proper points.
—— Lifesaving devices of approved type.
—— Lifesaving devices in satisfactory condition.
—— Lifesaving devices in sufficient number.
—— Flame arrestor of approved type.
—— Fire extinguisher of approved type.
—— Fire extinguisher of adequate size.
—— Fire extinguisher in satisfactory condition.
—— Whistle adequate.
—— Bell adequate.
—— Ventilation adequate.

AUXILIARY RECOMMENDATIONS*

—— Galley stove of recommended type.
—— Galley stove installed as recommended.
—— Fuel tank filler pipe tight to deck plate.
—— Fuel tank filler pipe outside of coaming or within selfbailing cockpit.
—— Fuel tank vents installed leading outboard.
—— Lifesaving devices easily accessible.
—— Fire extinguishers easily accessible.
—— Bilges clean and free from oil and grease.
—— Electrical installation satisfactory.
—— General vessel condition satisfactory.
—— Anchor and sufficient line.

ADDITIONAL RECOMMENDATIONS FOR CLASS A MOTORBOATS

—— Pump or bailer.
—— Paddle or oar.
—— Distress flare.

*Vary with class of boat and type of construction.

BEFORE BUYING A RADIO—THINK!

FOR SAFETY OR FOR PLEASURE?

Are you buying a radio for your boat for pleasure or for safety? Whom do you want to talk with? Will you be able to reliably summon help in an emergency?

These are just a few of the questions you should ask before you ask yourself the most important question: What kind of a radio should you buy?

WHAT IS AVAILABLE?

There are 3 radiotelephone communications systems available for marine application (standard 2 Mc/s, Class D Citizens Band, and VHF-FM). By far, the two most popular types in use by boat owners today, are the standard 2 Mc/s marine radiotelephone sets and the Class D Citizens' Band sets. The latter, although relatively new on the scene, have become very popular because they are relatively inexpensive, easy to install, simple to license, and offer an easy means for "social communications." But Citizens' Band radios have some very serious safety limitations when compared with the 2 Mc/s marine radiotelephone radios; so let's compare the capabilities of each.

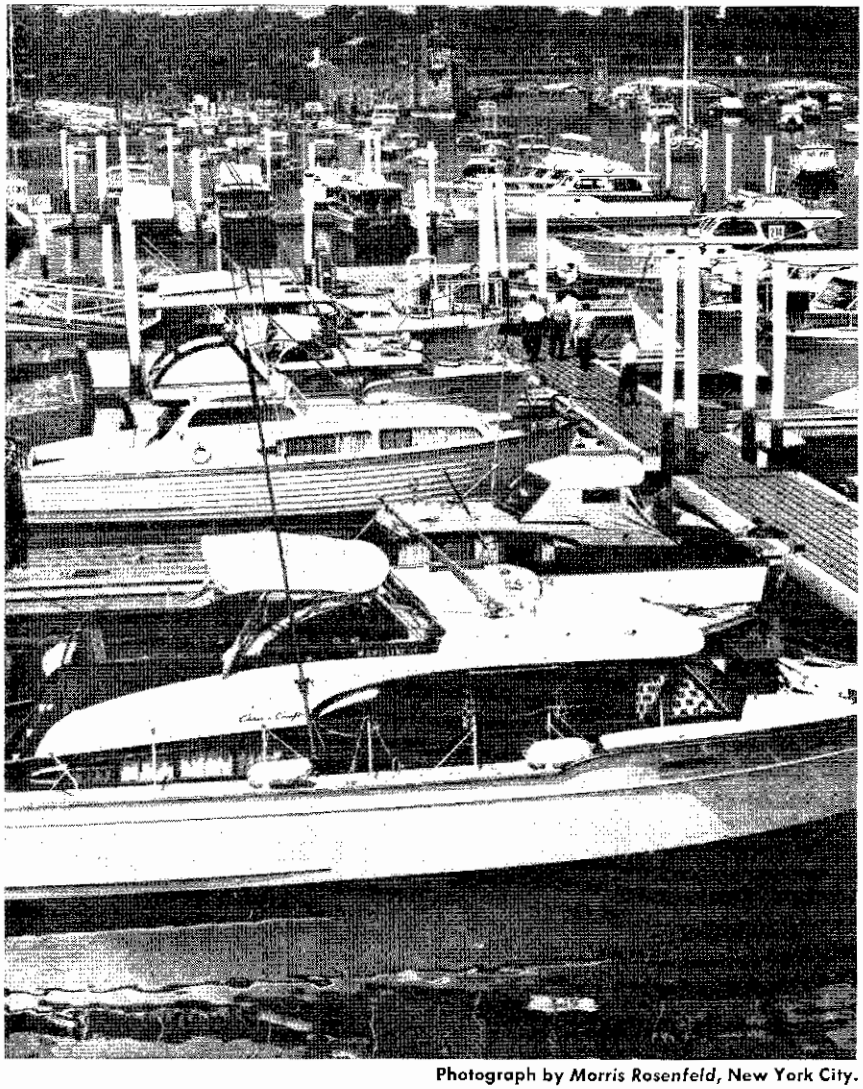
2 MC/S MARINE RADIOTELEPHONE SYSTEM

The 2 Mc/s marine radiotelephone system is designed to meet three of the boat-owners' communications needs, namely, safety, operational and business communications. 2182 kc/s (the International Distress and Calling Frequency), is available for establishing communications with other stations, communications concerning distress and safety of navigation, emergency weather broadcasts, and emergency notice to mariners broadcasts. Stations using this system keep their sets tuned to 2182 kc/s when they are not actually using other frequencies, and the Coast Guard stands a continuous listening watch on 2182 kc/s at nearly all of its stations.

Operational information, which is not of a safety or distress nature, can be exchanged with other boats on one of the appropriate intership frequencies. In addition, you can exchange operational information with most of the Coast Guard ships and shore stations on 2670 kc/s.

Lastly, by means of the marine operator, you may be connected with any telephone in the United States to conduct your business or personal communications.

Depending on the input power of the set, the antenna efficiency, and the atmospheric conditions, the maximum reliable propagation range of the 2 Mc/s radiotelephone set will vary from 50 to 300 miles.



Photograph by *Morris Rosenfeld*, New York City.

CITIZENS' BAND SYSTEM

The Class D Citizens' Band radio service was established in 1959 by the Federal Communications Commission to provide a means for private short distance radio communications for personal and business use.

Of the 22 frequencies available in the Citizens' Band (26.96 through 27.23 Mc/s), none have been designated for distress traffic, nor is any portion of the band reserved for the exclusive use of boat-owners. Virtually any U.S. Citizen over 18 years of age can establish his own Citizens' Band radio station for communicating with other persons, whether for business or pleasure.

On a Citizens' Band radio you can only communicate with another person similarly equipped on shore or in another boat. You cannot call the Coast Guard for help; the Coast Guard does not monitor the Citizens' Band since none of the 22 frequencies are designated for distress. Neither does the Coast Guard broadcast its notices to mariners or weather information on Citizens' Band frequencies. Also, you cannot make a telephone call ashore by means of the marine operator.

The frequencies used and the required low power operation of the Citizens' Band radio limit the range to not more than 20 miles.

WHAT ARE YOUR NEEDS?

In conclusion, reexamine your communications needs, and then make sure that the radio you buy will adequately meet these needs.

WHAT'S YOUR "BOATING I. Q.?"

ARE YOU A "SKIPPER,"

"1ST MATE" OR "LANDLUBBER?"

Match your boating knowledge against the following 20 True-False questions. You are a "Skipper" if your score is 90% or higher, "1st Mates" score better than 80%; less than 80% rates you a "Landlubber."

Each correct answer counts five points. The correct answers are on Page 86.

TRUE OR FALSE?

Instructions: Place check under "T" column if statement is true; place check under "F" column if statement is false.

	T	F
1. A dragging anchor will hold if you let out an anchor buoy	—	—
2. The distance from waterline to gunwale is "freeboard"	—	—
3. Vessels thrown broadside to the sea have "broached"	—	—
4. Registration numbers on boats must be no less than 3 inches high	—	—
5. The amount of "charge" present in a CO–2 Fire extinguisher may be determined by weighing	—	—
6. Buoyant cushions are not to be worn like life vests	—	—
7. Open all hatches prior to gassing a motorboat	—	—
8. While fueling, prevent gasoline nozzle from grounding to tank	—	—
9. In a crossing situation, vessel on your right has right of way	—	—
10. A junction or obstruction buoy is painted red	—	—
11. A boatman is legally liable for damage caused by his wake	—	—
12. Courtesy Motorboat Examination decals are issued by the USCG	—	—
13. Variation and deviation are noted on nautical charts	—	—
14. Hanging ignition keys under bilge hatch is safe boating practice	—	—
15. Returning to harbor, keep red buoys on your starboard side	—	—
16. A "burdened" vessel is one with a vessel in tow	—	—
17. Most single screw vessels have "right handed" propellers	—	—
18. Rules of the Road do not apply to outboards under 16 feet	—	—
19. The "lubber line" is the chief support for the compass bowl	—	—
20. The USCG Auxiliary sponsors boating instruction courses	—	—

GRADE ———

COAST GUARD DISTRICT COMMANDERS AND MERCHANT MARINE ACTIVITIES

District	Title	City and State
1st	Commander, 1st Coast Guard District	Boston, Mass.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.
	do	Portland, Maine.
	do	Providence, R.I.
2d	Commander, 2d Coast Guard District	St. Louis, Mo.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.
	do	Cairo, Ill.
	do	Dubuque, Iowa.
	do	Cincinnati, Ohio.
	do	Louisville, Ky.
	do	Memphis, Tenn.
	do	Nashville, Tenn.
	do	Pittsburgh, Pa.
	do	Huntington, W. Va.
3d	Commander, 3d Coast Guard District	New York, N.Y.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.
	do	New London, Conn.
	do	Albany, N.Y.
	do	Philadelphia, Pa.
5th	Commander, 5th Coast Guard District	Norfolk, Va.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.
	do	Wilmington, N.C.
	do	Baltimore, Md.
7th	Commander, 7th Coast Guard District	Miami, Fla.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.
	do	Tampa, Fla.
	do	Charleston, S.C.
	do	Savannah, Ga.
	do	Jacksonville, Fla.
	do	San Juan, P.R.
8th	Commander, 8th Coast Guard District	New Orleans, La.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.
	do	Mobile, Ala.
	do	Port Arthur, Tex.
	do	Galveston, Tex.
	do	Corpus Christi, Tex.
	do	Houston, Tex.
9th	Commander, 9th Coast Guard District	Cleveland, Ohio.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.
	do	Buffalo, N.Y.
	do	Oswego, N.Y.
	do	Detroit, Mich.
	do	Duluth, Minn.
	do	Toledo, Ohio.
	do	Saint Ignace, Mich.
	do	Chicago, Ill.
	do	Ludington, Mich.
	do	Milwaukee, Wis.
11th	Commander, 11th Coast Guard District	Long Beach, Calif.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.
	do	San Diego, Calif.
12th	Commander, 12th Coast Guard District	San Francisco, Calif.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.
13th	Commander, 13th Coast Guard District	Seattle, Wash.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.
	do	Portland, Oreg.
14th	Commander, 14th Coast Guard District	Honolulu, Hawaii.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.
17th	Commander, 17th Coast Guard District	Juneau, Alaska.
	Marine Inspection Officer	Do.
	Officer in Charge, Marine Inspection	Do.

ARTIFICIAL RESPIRATION

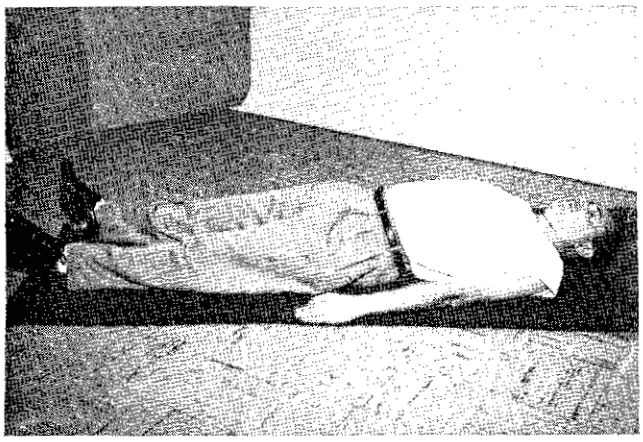


FIGURE 1. Lay victim on back so you can see face. Move injured man carefully.

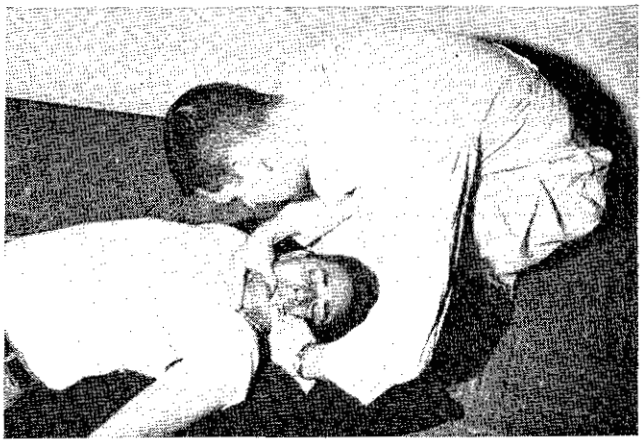


FIGURE 2. Turn head to side, open and clean mouth and throat with cloth or your fingers.

ASPHYXIA

WHEN BREATHING stops for any reason a condition results which is known as asphyxia.

The physiological causes of asphyxia may include lack of stimulation of the respiratory center in the brain, paralysis of the respiratory center, and inability of the blood to absorb oxygen from the lungs or to effect the normal exchange of gases in the body tissues.

When it is due to physical causes, it may be spoken of as suffocation. In asphyxia resulting from physical causes, the lungs are deprived of air because of stoppage of the air passages mechanically. Such causes may include water in the air passages, as in drowning; foreign body in the air passages; tumor in the air passages; swelling of the mucous membrane in the nose and throat, following inhalation of live steam or an irritating gas; constriction around the neck, compressing the windpipe; and the lack of oxygen from any cause. The most frequent causes of stopping of breathing are drowning, electrical shock, and gas poisoning. Asphyxia may be present also in victims of shock or collapse, of extreme exposure to heat or cold, and chemical poisoning. Whatever the cause of asphyxia, death will result unless breathing is started quickly. A few seconds' delay in starting artificial respiration may lead to fatal result.

SYMPTOMS OF ASPHYXIA

The symptoms of which the necessity for artificial respiration may be recognized are: Cyanosis (blueness of the skin and membrane), suspension of breathing, or shallow breathing in some cases of poisoning.

TREATMENT OF ASPHYXIA

The first thing to do in treatment is to remove the cause of the asphyxia or to remove the patient from the cause. Then administer artificial respiration. Later treat as for shock. In some cases artificial respiration can be administered while the patient is being removed from the cause to more suitable surroundings. The treatment for shock can often be started while artificial respiration is being administered.

The patient's mouth should be cleared of any obstruction, such as chewing gum, tobacco, false teeth, or mucous, so that there is no interference with the entrance into and escape of air from the lungs.

Artificial respiration should be started immediately. Every moment of delay is serious. It should be continued at least 4 hours without inter-

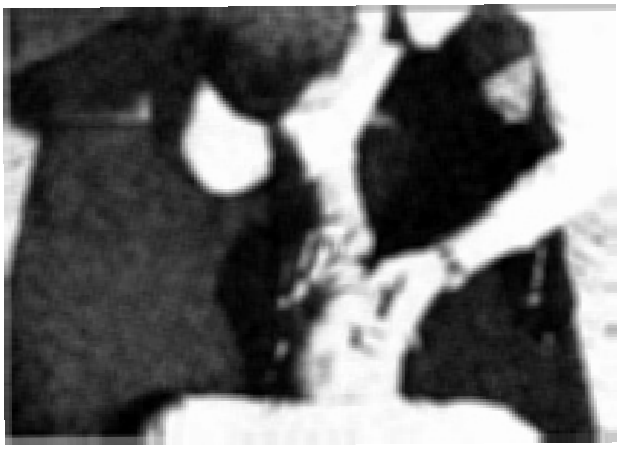


FIGURE 3. Pull head back, extending neck. Hold lower jaw up.

FIGURE 4. With left thumb between teeth, grasp lower jaw at midline, and lift lower teeth higher than uppers. Close nose with right hand.

FIGURE 5. Take deep breath. Put victim's mouth inside your lips and blow into it 12 to 20 times per minute. Watch his chest. When it rises, remove your mouth and let victim exhale passively. If his chest does not rise, improve support of air passageway and blow harder.

FIGURE 6. Use an airway tube if it is available.

ruption, until normal breathing is established or until the patient is pronounced dead by a medical officer.

Not infrequently the patient, after a temporary recovery of respiration, stops breathing again. The patient must be watched and if natural breathing stops, artificial respiration should be resumed at once. Perform artificial respiration gently and at the proper rate. Roughness may injure the patient.

Every precaution must be taken to prevent further injury to the patient. In the application of pressure, injury to the skin, ribs, and internal organs must be avoided.

GENERAL PRINCIPLES OF MANUAL ARTIFICIAL RESPIRATION

Time is of prime importance. Seconds count. Do not take time to move the victim to a more satisfactory place; begin at once. Do not delay resuscitation to loosen clothes, warm the victim, or apply stimulants. These are secondary to the main purpose of getting air into the victim's lungs.

Begin artificial respiration and continue it rhythmically and without interruption until spontaneous breathing starts or the victim is pronounced dead.

As soon as the victim is breathing by himself, or when additional help is available, see that the clothing is loosened (or removed, if wet) and that the patient is kept warm, but do not interrupt the rhythmic artificial respiration to accomplish these measures.

If the victim begins to breath on his own, adjust your timing to assist him. Do not fight his attempts to breathe. Synchronize your efforts with his.

Remember, it is all-important that artificial respiration, when needed, be started quickly. There should be a slight inclination of the body in such a way that the fluid drains better from the respiratory passages. The head of the subject should be extended, not flexed forward, and the chin should not sag lest obstruction of the respiratory passages occur. A check should be made to ascertain that the tongue or foreign objects are not obstructing the passages. These aspects can be cared for when placing the subject into position or shortly thereafter, between cycles. A smooth rhythm in performing artificial respiration is desirable, but split-second timing is not essential. Shock should receive adequate attention, and the subject should remain recumbent after resuscitation until seen by a physician or until recovery seems assured.

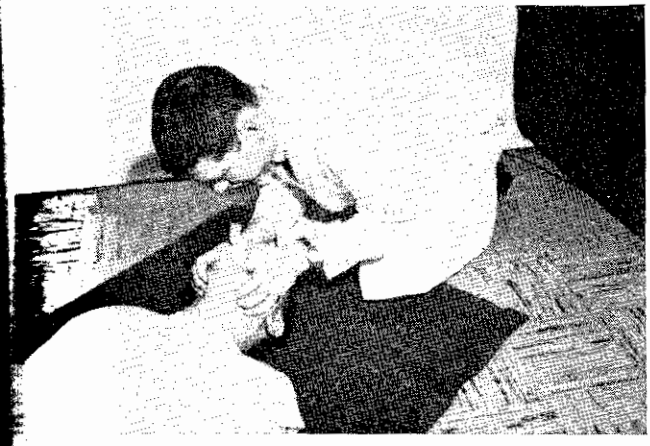


FIGURE 7. To use airway, open mouth and insert along tongue until flange is at his lips. Don't push tongue back in throat.

FIGURE 8. Grasp jaw firmly with both hands and pull upward, extending neck so chin juts out and front of neck is stretched. Close nostrils by pushing together with the thumbs and blow into airway.

MOUTH-TO-MOUTH BREATHING

1. Place the unconscious victim on his back, as you must be able to see his face Move an injured victim carefully.

2. If there is foreign matter visible at the mouth, turn victim's head to the side, force his mouth open and quickly clean the mouth and throat with your fingers or a piece of cloth as shown in fig. 2.

3. Place the victim's head in the "sniffing position", pulling the head as far back as possible, so that the neck is extended, and hold his lower jaw upward so that it "juts out".

It is important that the jaw be held in this position as shown in fig. 3.

4. Hold the jaw in this position in one hand, approach the victim's head from his left side as shown.

Insert the thumb of your left hand between the victim's teeth and grasp his lower jaw at the midline.

Lift the lower jaw forcefully upward so that the lower teeth are higher than the upper teeth.

Hold the jaw in this position as long as the victim is unconscious.

Close the victim's nose with your right hand.

5. After taking a deep breath, place your mouth over the victim's mouth with airtight contact; his entire mouth must be inside your lips as shown.

Blow into the victim's mouth—forcefully into adults and gently into children.

Watch victim's chest. When it rises, stop blowing and quickly remove your mouth from the victim's.

Let victim exhale passively by the elasticity of his lungs and chest.

When the chest does not rise improve the support of the air passageway and blow more forcefully.

Repeat these inflations 12 to 20 times per minute.

In an adult whose mouth cannot be opened for insertion of thumb, place mouth over victim's mouth, covering the nose with your right cheek.

Do not use the thumb in a child LESS THAN THREE YEARS OLD. Cover both mouth and nose with your mouth. Blow only with small puffs from your cheeks, not from your lungs, TO PREVENT DAMAGE TO THE BABY'S LUNGS.

6. An airway tube may be used for mouth-to-mouth breathing when it is available.

7. To use an airway—approach victim from the top of his head. Force the mouth open with one hand.

Insert the proper end of the airway along the curve of the tongue with the other hand until the flange comes to rest at the victim's lips. Do not push the tongue back into the throat. If the tongue is in the way push its base forward with the finger. If the victim is an adult, insert the long end of the large airway; if he is a small child or a baby, insert the short end of the small airway. The part of the airway which remains outside serves as mouthpiece for the rescuer as shown.

8. Grasp the jaw with both hands firmly and pull upward, extending the neck so that the chin "juts out" and front of neck is stretched.

Close the victim's nostrils by pressing them together with the large part of your thumbs as shown.

9. Close the corners of the victim's mouth by pressing the flange firmly against the victim's lips with your thumbs.

After taking a deep breath, blow into the mouthpiece of the airway as shown. Blow forcefully into adults and gently into children. With a baby, blow only small puffs from your cheeks, not from your lungs to prevent damage to the baby's lungs.

It should be considered that after mouth-to-mouth breathing has been performed for a period of time, the victim's stomach may be bulging. This bulging can be caused by air blown into the victim's stomach while blowing air into his lungs.

Air inflation of the stomach is not dangerous, but inflation of the lungs is easier when the stomach is empty. When the rescuer sees the stomach bulging, he should interrupt blowing for a few seconds and press with his hand between the victim's navel and breast bone which causes the air to be "burped". If this causes matter from the victim's stomach to be blown into his breathing passages, the rescuer must be ready to clean the throat at once.

TREATMENT OF SHOCK

When the patient revives, he should be kept under close observation for 48 hours even though he apparently feels all right. He should not be permitted to exert himself in any way.

The fundamental factors in the prevention and treatment of shock are heat, position, and stimulants.

A. Heat.
  1. Preserve body heat.
    a. Protect from exposure to cold.
    b. Remove wet clothing and dry the patient.
    c. Wrap the patient in blankets.
  2. Application of external heat.
    a. Care should be used to avoid burning the patient.
      (1) Test the object used for applying heat by holding against the cheek or elbow for half a minute.
      (2) Wrap in a layer of cloth or paper.
    b. Methods:
      (1) Hot water bottles.
      (2) Chemical heating pads.
      (3) Glass jars and bottles containing hot water.
      (4) Hot bricks.
      (5) Electrical heating pads.
    c. To various regions.
      (1) To the feet.
      (2) Between the thighs.
      (3) Along the sides of the body.
      (4) Over the abdomen if not uncomfortable to the patient.

B. Position.

1. Place the body in such a position so that gravity will help the blood flow to the brain and heart.
    a. Lay the patient on his back with the head low.
      (1) This can be accomplished by raising the foot of the bed, cot, bench, or litter at least 18 inches higher than the head.
      (2) If on a flat surface and other means are not available, elevate the feet, legs, and thighs.

C. Stimulants.

Do not attempt to make an unconscious person drink. Give in small quantities at a time.

1. Aromatic spirits of ammonia—a teaspoonful in half a glass of water—is one of the most satisfactory stimulants. This can be repeated every 30 minutes as needed.

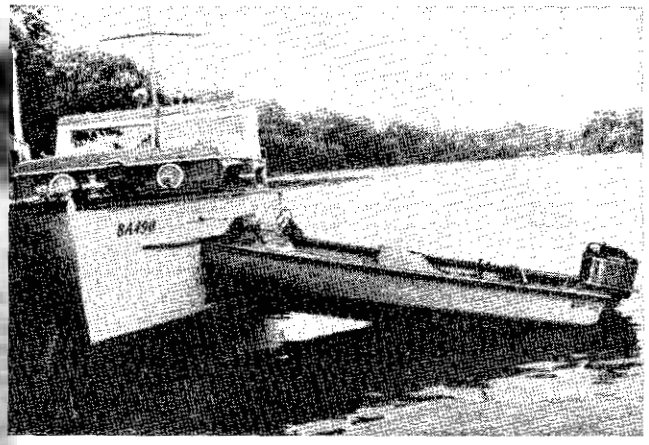
2. Coffee and tea both contain the drug caffeine, which is an excellent stimulant. Give the coffee or tea as hot as can be comfortably taken. A cupful may be given every 30 minutes as needed.

3. Hot milk, or even hot water, has some stimulating effect, due to the heat.

4. An inhalation stimulant, such as an ammonia ampule or aromatic spirits of ammonia on a handkerchief, may be placed near the patient's nose in cases in which the patient is not conscious. The one administering the stimulant should always test it on himself first.

5. Whiskey should not usually be given.

LESSONS FROM CASUALTIES



VIGNETTES OF DEATH

PLAYING BOTH ENDS AGAINST THE MIDDLE

Six persons set out on a river voyage in a 15-foot outboard boat. The boat was overloaded. No life jackets were onboard. One wave entered the boat over the bow. People and water rushed to the rear of the boat, arriving in time to take more water over the stern. The boat promptly sank. Four persons drowned.

SWAM LIKE A ROCK WITHOUT HIS LIFE JACKET

Man was being towed on water skis behind boat—not wearing life jacket—he fell off skis and did not appear on the surface again—"no damage to boat"—how do you measure the damage suffered by this man's next of kin?

"THAR SHE BLOWS—"

The port gasoline fuel tank had a deteriorated vent pipe, permitting vapor and overflow to drain into the bilge. When the tank was "topped-off" for the "last time", the resulting explosion blew the boat's two occupants overboard; one died by drowning and the other died from injuries received from the explosion.

A LIVIN' "BOMB"

A 14-foot boat propelled by an 80-horsepower outboard motor was proceeding at full speed—driver's vision was "obscured" by two passengers sitting on bow of boat with their backs resting against the operator's windscreen—the boat struck a buoy; the two passengers were jet propelled into the water—one died from loss of blood when slashed by the propeller of the 80-horsepower "bomb."

ONE WRONG TURN DESERVED SOMETHING BETTER

This casualty was alone in his 14-foot outboard boat, operating at high speed, with his son in tow on water-skis behind. Said casualty made a sharp turn which promptly threw him overboard; the driverless boat came around in a vicious circle narrowly missing the son, and striking said casualty who then sank beneath the surface of the water, and, as he was not wearing a lifejacket, he promptly became a statistic, the victim of his own carelessness and lack of commonsense.

ONE WENT OUT—NONE CAME BACK

A one armed man who could not swim and who never wore a lifejacket went to sea in a very small boat in very rough weather. Obviously he never returned from that trip.

A COSTLY ENGAGEMENT

Outboard boat motor stopped while boat was in midstream. Operator cranked motor over with clutch engaged and throttle wide open. Boat promptly reared up on its stern, flooded and swamped. Operator had no lifejacket. Operator is now deceased.

PRACTICE WHAT YOU PREACH

A 14-foot outboard went over a dam and threw its occupants, consisting of a young man, his wife, and their three children into the swirling river waters below. The young man was not wearing a lifejacket; he drowned. The three children were wearing life vests and all were safely rescued—two of the children after being swept downstream for 30 minutes! In effecting the rescue one of the boats of the local police department's River Rescue Service overturned and a young officer drowned—he was not wearing a lifejacket either!

OLD ENOUGH TO KNOW BETTER

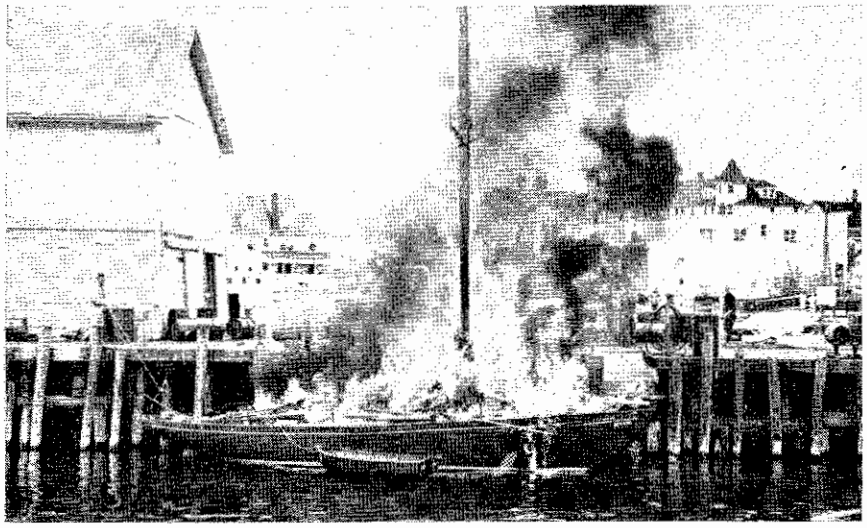
On a nice sunny June day an elderly gentleman who could not swim, and who suffered from dizzy spells, took a boat ride with friends on the Mississippi River. He apparently became dizzy, fell overboard from the outboard boat and drowned. He was not wearing a lifejacket.

THE BIG SLEEP

One of the most popular forms of suicide consists of running an automobile engine in a closed building or running the exhaust into the car with a hose so that a relatively painless death by carbon monoxide poisoning will result. That the same result may be obtained accidentally in a motorboat may not be appreciated by many pleasure operators. However, a recent casualty in a 26-foot cabin cruiser, where one man died of carbon monoxide poisoning and six other persons were made violently ill, emphasizes the dangers of exhaust gas leaking into boats and the insidious characteristics of this gas.

On a clear calm fall day the owner of the above pleasure boat, accompanied by his wife, four adult friends, and a 9-year old girl, set out across the bay on a fishing trip. A small pet fox terrier was also along.

About one hour later, while running at half speed and with no apparent wind circulation, the terrier became sick. Soon afterward the young girl became ill, vomited, kicked her feet, and screamed. Gradually, all the



occupants of the boat became sick, and two became comatose.

Apparently none of the party was able to think clearly or to rationalize what the difficulty was. (This numbing of the mind is one of the dire effects of carbon monoxide poisoning.) Fortunately, however, one of the men was still sufficiently conscious to signal an approaching motorboat for help, and shut off the gasoline engine.

When the engine was stopped, it was about one hour and a half since the puppy had become ill. During this interval all persons in the boat, except the man who signaled for help, had passed out and were not conscious when help arrived.

Upon being towed ashore by the assisting motorboat, all the occupants were transferred to a nearby hospital. All soon recovered without permanent injury, except for one man, aged 56, who was dead before he arrived at the hospital.

Approximately one week prior to this casualty, a patch consisting of half round of rubber hose had been clamped over a leak in the exhaust pipeline under the seat in the after end of the cockpit. This exhaust pipe passed through the transom, near the waterline, permitting water to run back into the line, and it became the dispenser of death. Although this is a common type of installation, the presence of water in the end of the exhaust line hinders the free exodus of exhaust gases and abets the leakage of exhaust gases if there is a leak in the line.

In the combustion of any fuel such as the gasoline used in many pleasure boats, the products of combustion contain carbon dioxide and carbon monoxide. While carbon dioxide is inert and harmless (except that it will not support combustion or life), carbon monoxide is far from harmless and the presence of this gas in air being breathed has harmful effects upon the body proportionate to the amount breathed.

Carbon monoxide, classed as a chemical asphyxiant, is absorbed readily into the blood stream where it combines chemically with the hemoglobin of the blood and thus renders it unavailable for oxygen carriage. The affinity of carbon monoxide for hemoglobin is approximately 300 times that which the hemoglobin possesses for oxygen. The anoxia produced by the lack of oxygen carriage destroys brain cells and causes eventual death if the exposure is prolonged.

Preceding death, the symptoms are dizziness, nausea, severe headache, lethargy, stupor, loss of control of body functions and reflexes, and unconsciousness resulting in death if relief is not afforded. Fortunately, carbon monoxide is not a cumulative poison, it does not collect indefinitely in the blood stream. In pure air and with regular respiration, small amounts of this gas will be gradually ventilated out of the blood.

For the treatment of a person overcome by carbon monoxide fumes, a doctor should be obtained as quickly as possible, and the patient should be hospitalized. If a doctor is not immediately available, first aid treatment is similar to that for shock. Most important, respiration must be continued or started, if it has stopped, and artificial respiration applied whenever there is doubt. Warmth and rest for the patient are essential. Oxygen inhalation may be helpful. Stimulants, however, should not be used in first aid treatment without the advice of a doctor.

The recovery process from the effects of carbon monoxide hemoglobin in the blood must be produced by the body itself and in most cases recovery will be complete if the exposure has not been too long or the concentration too high.

One of the most dangerous factors concerning carbon monoxide gas is that its presence is not readily detectable. Colorless, tasteless, and lighter than air, the first indications of its presence in air being breathed may be its effects on the body and mind, and then it may be too late, if the person affected is alone.

Carbon monoxide is one of the most important poisons associated with human life and industry. In fatalities it is outdistanced by only one other poison, methyl (wood) alcohol. It accounts for more deaths than all other gases combined (disregarding chemical warfare). Since the average carbon monoxide content of the exhaust from diesel and gasoline engines may be as high as 7 percent and an atmosphere containing as little as 0.2 percent of carbon monoxide is capable of destroying life, the lethal possibilities of a leak of exhaust gases into the interior of a motorboat are readily apparent.

Many small craft equipped with gasoline or diesel engines probably have a leak of some size between the exhaust manifold of the engine and the exhaust opening on the exterior of the hull. It is likely that these craft have been operated countless times with carbon monoxide entering the interior of the vessel under circumstances where there has always been enough true or relative wind to circulate and remove the poisonous gas before it reached a toxic concentration.

On many such craft either the engine and exhaust piping, or the occupants, are in the open and freely ventilated section of the craft so that toxic concentrations have never been felt. However, it is also likely that the time will someday arrive when such a craft will be operated under the ideal conditions for carbon monoxide poisoning, that is—the wind will have the same velocity and direction as the boat, resulting in no apparent wind or still air in the boat, or the occupants will remain inside a closed compartment where the gas is collecting, and disaster will strike.

Time and energy spent in locating and remedying exhaust leaks inside your motorboat may be repaid to you in the finest reward of all—your life.

A NEEDLESS WASTE OF LIFE

Shortly after midnight on 3 June 1960 a pleasure boatman needlessly lost his life by drowning in a boating accident on the Ohio River. This man, a valued professional man in his community, departed with a companion, the owner of the boat, from a town in Kentucky on the Ohio River in a 21-foot cabin cruiser at approximately 11 p.m., E.S.T., on 2 June 1960. Boatman X, who subsequently lost his life, and Boatman Y proceeded downstream toward their home in Indiana, 23 miles from their point of departure.

The night was foggy with visibility one-eighth of a mile. The condition of the Ohio River was "open river" with considerable quantities of drift moving along with the current. There was a slight southwest wind. These conditions were to prevail throughout the night.

Shortly after their departure, Boatman Y, the survivor, turned in the cabin to sleep, leaving Boatman X to operate the boat. Approximately two hours later the vessel struck an unknown object, and as a result of the collision, the boat was overturned and continued to float downstream, borne along by the current.

Boatman Y, who was asleep in the cabin, became conscious a few hours later, only to find himself out of the cabin and his body jammed under the floorboards in the cockpit of the overturned boat. He was able to breathe because of the trapped air in this area, the stern of the boat floating higher than the bow. He oriented his position with difficulty, made his way to the edge of the cockpit in the darkness, and hauled himself out and up to the top of the overturned boat. He then realized that Boatman X was missing. The darkness of the early morning, combined with the heavy fog, made it impossible to search for his companion. Boatman Y at this time was in a state of mild shock and suffering from cuts and contusions about the head after his ordeal of approximately four hours in the water under the overturned boat.

His cries for assistance were fortunately heard by personnel at an oil terminal on the Ohio bank, 20 miles below their point of departure. A deckhand on a towboat moored at the terminal launched a small aluminum oar-propelled boat, rowed out into the fog, and rescued Boatman Y from his precarious position on the overturned boat.

The police in the boatmen's home town, a river town three miles below the terminal, were notified that the motorboat was continuing downstream. The authorities recovered the boat, and as it was pulled to the shore, the body of Boatman X was discovered. He had become entangled in the manila mooring line, which was in the cockpit of the boat, and had drowned.

Examination of the hull subsequent to the casualty showed extensive damage. The craft apparently struck a large object with the initial impact on the port side of the stem. Further contact opened up the starboard side of the hull to the after end of the cabin. The impact also broke the keel. The onrush of water capsized the boat, carried the sleeping Boatman Y into the cockpit, and jammed his body under the floorboards. Boatman X, although a strong swimmer, was less fortunate as he became entangled in a mooring line and apparently drowned shortly after the collision.

The inescapable conclusion to be drawn from these events is that the boat never should have left the dock under the exceedingly poor operating conditions that existed. Although the only conscious witness to the disaster is dead, the chain of events leading up to the collision can be easily imagined: the boat proceeding through thick fog at night, speed not known but undoubtedly assisted by the current in the open, hazardous river; the sudden impact with a moored barge, an unseen object, (perhaps a large tree moving downstream); the rupturing of the hull; the sudden inrush of water and capsizing of the vessel; panic overtaking the operator as he struggled to swim clear of the overturned cockpit; entanglement in the rope, and subsequent death by drowning.

The moderate speed rule was obviously ignored in this case. All the statutory rules of the road, including the Rules of the Road, Western Rivers, have articles requiring moderate speed under conditions of low visibility. Moderate speed has been defined by court decision as such speed that will enable a vessel to stop within half the distance of visibility. Thus it must be concluded that in the event of no visibility as often occurs in heavy fog, the vessel should heave to, or as is the usual practice on the Western Rivers, tie up to the nearest bank.

The loss of life clearly points up the hazard of operating in violation of the rules of the road and ignoring the ordinary common sense practices of good boatmanship.

CHANCES FOR A COMEBACK

For the statistical-minded the American Red Cross has listed chances for recovery from drowning and electrical shock by use of artificial respiration. Stress has been placed on the fact that it may take three to four hours before signs of recovery are apparent in severe electrical shock. In the case of drowning, signs of recovery should appear after approximately 25 minutes.

After breathing has stopped and artificial respiration started, the chances for recovery are:

1 minute after breathing has stopped, it's 98 out of 100.
2 minutes after breathing has stopped, it's 92 out of 100.
3 minutes after breathing has stopped, it's 72 out of 100.
4 minutes after breathing has stopped, it's 50 out of 100.
5 minutes after breathing has stopped, it's 25 out of 100.
6 minutes after breathing has stopped, it's 11 out of 100.
7 minutes after breathing has stopped, it's 8 out of 100.
8 minutes after breathing has stopped, it's 5 out of 100.
9 minutes after breathing has stopped, it's 2 out of 100.
10 minutes after breathing has stopped, it's 1 out of 100.
11 minutes after breathing has stopped, it's 1 out of 1,000.
12 minutes after breathing has stopped, it's 1 out of 10,000.

SPECIAL CASUALTY ANALYSIS

TABLE I

BREAKDOWN OF ACCIDENTS

TYPE OF CASUALTY	MONTH OF OCCURRENCE													TYPE OF WATERS				TYPE OF VESSEL						
	1959						1960																		
	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	TOTALS	OCEAN OR GULF	GREAT LAKES	TIDAL	NON TIDAL	OUTBOARD	INBOARD	ROWBOAT	CANOE	SAIL—NO MOTOR	OTHER	TOTALS
COLLISION	2		2							1			5		1		4	8	2					10
CAPSIZING	15	11	10	5	7	6	1	6	3	9	12	11	96	10	14	36	36	75	8	5	3	4	1	96
SWAMPING	4	4	2	2	3	1			2	1	5	5	29	2	10	9	8	25	1	1		1	1	29
STRUCK OBJECT, FIXED, FLOATING OR SUBMERGED	3	1		2		3		1		1	4	7	22	2	2	4	4	19	3					22
FELL OVERBOARD	19	29	9	8	7	2	3	1	4	7	10	13	112	5	14	46	47	79	28	3		1	1	112
GROUNDING			1			1							2	1		1		1	1					2
SINKING		1											1		1			1						1
FIRE/EXPLOSION	2	1											3	1		1	1	1	1				1	3
DISAPPEARANCE			1		1		1						3	1		2		2					1	3
OTHER	1	8	4	2	2	1		2	1	2	5	2	30	3	2	14	11	14	11	2	1	1	1	30
TOTAL	46	55	29	19	20	14	5	10	10	21	36	38	*303	25	44	113	121	225	55	11	4	7	6	*308

* Totals indicate 303 fatal accidents involving 308 boats.

TABLE II

BREAKDOWN OF PERSONS KILLED AND PERSONS RESCUED FROM THE WATER

TYPE OF CASUALTY	NUMBER OF PERSONS ON BOARD	NUMBER OF PERSONS OVERBOARD	PERSONS KILLED—ALL CAUSES												PERSONS RESCUED FROM POSITION OF PERIL IN THE WATER											
			MALE						FEMALE						MALE						FEMALE					
			AGE UNKNOWN	UNDER 12	12–18	19–25	26–50	OVER 50	AGE UNKNOWN	UNDER 12	12–18	19–25	26–50	OVER 50	AGE UNKNOWN	UNDER 12	12–18	19–25	26–50	OVER 50	AGE UNKNOWN	UNDER 12	12–18	19–25	26–50	OVER 50
COLLISION	33	8			1		3						1				2									
CAPSIZING	293	270	12	5	13	16	50	23		5	3	2	6	3	55	1	9	5	23	1	5	1	2	3	4	3
SWAMPING	97	*105	2	1	3	8	20	8		1	1	1		1	29	1		5	1	2	4	1	2			
STRUCK OBJECT, FIXED, FLOATING OR SUBMERGED	55	48		1	1	2	19	5					2		9		1	3	1		1					
FELL OVERBOARD	322	136	4	3	9	14	61	19	2	1		2	1	1	6				3		2					
GROUNDING	8	8					1	2							5											
SINKING	2	2				2																				
FIRE/EXPLOSION	18	3					1			3						1							1			
DISAPPEARANCE	6	6	1			1	2																			
OTHER	90	59		6	6	9	21	2		2			1		2	1			2		1					
TOTAL	924	645	19	16	33	52	178	65	2	12	4	5	11	5	106	4	12	13	33	3	16	2	5	3	4	3

*Persons overboard in excess of those on board were swimmers and skin divers.

Total males killed 363
Total females killed 39

Total lives lost 402

Of these 402 persons killed 386 actually died in the water. (See TABLE III.) Sixteen persons succumbed in the boat or ashore.

Total males rescued from the water 171
Total females rescued from the water 33

Total rescued from the water 204

There were 55 additional persons overboard for whom there was no information regarding rescue.

TABLE III

ANALYSIS OF DEATHS OF 386 PERSONS WHO PERISHED IN THE WATER

PERSONS THAT DIED IN THE WATER		LIFE-SAVING APPLIANCES					CAUSE OF DEATH			
		HAD BUOYANT CUSHIONS	HAD LIFE JACKETS	HAD RING BUOY	HAD OTHER	HAD NONE	DROWNED	EXPOSURE	DISAPPEARED	TOTAL DEAD
MALE	UNDER 12		1			14	14	1		15
	12-18	1	2			30	33			33
	19-25	2	5		1	43	51			51
	26-50	10	12	1	4	142	167	1	1	169
	OVER 50		9			52	61			61
	AGE UNKNOWN	1	1			17	19			19
	TOTAL MALES	14	30	1	5	298	345	2	1	348
FEMALE	UNDER 12					11	11			11
	12-18					4	4			4
	19-25					5	5			5
	26-50	1				10	11			11
	OVER 50	1		1		3	5			5
	AGE UNKNOWN					2	2			2
	TOTAL FEMALES	2		1		35	38			38
	OVERALL TOTAL	16	30	2	5	333	383	2	1	386

TABLE IV

ANALYSIS OF THE RESCUE OF 204 PERSONS FROM THE WATER

PERSONS RESCUED FROM THE WATER		LIFE-SAVING APPLIANCES					TOTAL
		UNKNOWN	HAD BUOYANT CUSHION	HAD LIFE JACKETS	OTHER	NONE	
MALE	UNDER 12		1			3	4
	12-18	2		2		8	12
	19-25	2	4	1		6	13
	26-50	9	3	3		18	33
	OVER 50					3	3
	AGE UNKNOWN	17	19	17	1	52	106
	TOTAL MALES	30	27	23	1	90	171
FEMALE	UNDER 12			1		1	2
	12-18	1		1		3	5
	19-25	1	2				3
	26-50	1				3	4
	OVER 50					3	3
	AGE UNKNOWN	1	5			10	16
	TOTAL FEMALES	4	7	2		20	33
	OVERALL TOTAL	34	34	25	1	110	204

The preceding tables were compiled from a study of 303 fatal accidents involving pleasure boats which were investigated by the Coast Guard during fiscal year 1960. The cases studied were only those occurring on navigable waters of the United States and for which a complete report of investigation had been received. Accordingly, the totals are less than the national figures. In addition to the information contained in the tables the study revealed that:

In 52 cases resulting in 84 deaths there was evidence of an insufficient number or a complete absence of lifesaving appliances.

In 119 cases resulting in 174 deaths it appears that circumstances should have dictated that lifejackets be worn before the casualty occurred. The circumstances considered were: night operation; deteriorating weather; occupants unable to swim or had only limited swimming ability; occupants incapacitated due to age, physical or mental conditions; and entering area of rough or otherwise dangerous waters such as crossing a bar.

In 13 cases resulting in 22 deaths there was evidence that lifesaving appliances were inaccessible.

Of 386 persons who died in the water 333 did not have a lifesaving appliance of any kind.

SUGGESTIONS FOR SAFE OPERATION . . .

- Do not overload your boat.
- Do not leave shore in a leaky or poorly constructed boat.
- Liquor and safe boating do not mix.
- Observe the pilot rules.
- Instruct at least one of your passengers or "crew" in the rudiments of handling your boat if you should become disabled, and, without alarming them, see that all hands know what to do in an emergency. Show all hands the location of emergency equipment.
- Don't hurry when operating your boat or when securing equipment and supplies for it—take your time and use caution.
- Obtain local information and familiarize yourself with the locality in which you are going to operate your boat. Do not venture into dangerous or restricted waters.
- Have life preservers readily available and wear when conditions warrant.
- Check your weather and tides before going out and have due regard for them.
- Gasoline filler pipes outside of combing and extending to bottom of gas tanks.
- Fuel tanks vented.
- Bilges free from oil, waste, grease, etc.
- Electrical equipment and wiring in accordance with good marine practices.
- Have adequate fuel filter.
- Check your battery and its ventilation.
- Do not operate near swimmers in the water.
- Do not use gasoline stoves.
- Do not use kapok-filled life preservers to sit upon, as such action compresses the filler and reduces its efficiency.
- Do not fail to provide lifebelts for children.
- Do not be afraid of a boat—respect it.
- Do not forget your wake can damage others.
- Do not fail to reduce speed through anchorage areas.
- Do not lie at anchor with short cable; allow sufficient scope.

ANSWER TO BOATING I. Q. FROM PAGE 77

1. F, 2. T, 3. T, 4. T, 5. T, 6. T, 7. F, 8. F, 9. T, 10. F, 11. T, 12. F, 13. F, 14. F, 15. T, 16. F, 17. T, 18. F, 19. F. 20. T.

MARINE SAFETY PUBLICATIONS AND PAMPHLETS

The following publications and pamphlets are available and may be obtained upon request from the nearest Marine Inspection Office of the United States Coast Guard. The date of each publication is indicated in parenthesis following its title. The dates of the Federal Registers affecting each publication are noted after the date of each edition.

CG No.	Title of Publication
101	Specimen Examinations for Merchant Marine Deck Officers (7–1–58).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (8–1–58).
115	Marine Engineering Regulations and Material Specifications (3–1–58). F.R. 5–10–58, 4–25–59, 9–5–59, 3–17–60, 10–25–60, 11–5–60, 12–8–60.
123	Rules and Regulations for Tank Vessels (12–1–59). F.R. 3–30–60, 10–25–60, 11–5–60, 12–8–60.
129	Proceedings of the Merchant Marine Council (Monthly).
169	Rules of the Road—International—Inland (5–1–59). F.R. 5–21–59, 6–6–59, 5–20–60, 9–21–60.
172	Rules of the Road—Great Lakes (5–1–59). F.R. 6–1–59, 1–7–60, 3–17–60, 5–20–60, 9–21–60.
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (7–2–51).
175	Manual for Lifeboatmen and Able Seamen, Qualified Members of Engine Department, and Tankerman (9–1–60).
176	Load Line Regulations (9–2–58). F.R. 9–5–59, 8–2–60,11–17–60.
182	Specimen Examinations for Merchant Marine Engineer Licenses (12–1–59).
184	Rules of the Road—Western Rivers (5–1–59). F.R. 6–1–59, 6–6–59, 5–20–60, 9–21–60, 10–8–60, 12–23–60.
190	Equipment Lists (4–1–60). F.R. 6–21–60, 8–16–60, 8–25–60, 8–31–60, 9–21–60, 9–28–60, 10–25–60, 11–17–60, 12–23–60, 12–24–60.
191	Rules and Regulations for Licensing and Certificating of Merchant Marine Personnel (11–1–60). F.R. 11–30–60, 1–4–61.
200	Marine Investigation Regulations and Suspension and Revocation Proceedings (7–1–58). F.R. 3–30–60, 5–6–60, 12–8–60.
220	Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels (4–1–57).
227	Laws Governing Marine Inspection (7–3–50).
239	Security of Vessels and Waterfront Facilities (7–1–58). F.R. 11–1–58, 12–18–58, 12–30–58, 9–19–59, 2–24–60, 3–30–60, 7–29–60.
249	Merchant Marine Council Public Hearing Agenda (Annually).
256	Rules and Regulations for Passenger Vessels (3–2–59). F.R. 4–25–59, 6–18–59), 6–20–59, 7–9–59, 7–21–59, 9–5–59, 1–8–60, 5–6–60, 8–18–60, 10–25–60, 11–5–60, 11–17–60, 12–8–60, 12–24–60, 12–29–60.
257	Rules and Regulations for Cargo and Miscellaneous Vessels (3–2–59). F.R. 4–25–59, 6–18–59, 6–20–59, 7–9–59, 7–21–59, 9–5–59, 5–6–60, 5–12–60, 10–25–60, 11–5–60, 11–17–60, 12–8–60, 12–24–60.
258	Rules and Regulations for Uninspected Vessels (9–1–59). F.R. 3–17–60, 11–5–60, 12–8–60, 12–29–60.
259	Electrical Engineering Regulations (9–2–58). F.R. 6–20–59, 7–21–59, 9–5–59, 1–8–60, 11–5–60, 12–8–60.
266	Rules and Regulations for Bulk Grain Cargoes (5–1–59).
267	Rules and Regulations for the Numbering of Undocumented Vessels and the Reporting of Boating Accidents (5–1–59). F.R. 7–11–59, 7–18–59, 7–25–59, 9–5–59, 9–17–59, 10–2–59, 10–23–59, 11–19–59, 11–21–59, 12–5–59, 12–29–59, 1–1–60, 1–30–60, 2–13–60, 3–4–60, 3–17–60, 3–18–60, 4–6–60, 4–14–60, 4–20–60, 5–6–60, 5–11–60, 6–25–60, 6–29–60, 7–14–60, 7–29–60, 10–25–60, 12–8–60.
268	Rules and Regulations for Manning of Vessels (9–1–60).
269	Rules and Regulations for Nautical Schools (3–1–60). F.R. 3–30–60, 8–18–60, 11–5–60.
270	Rules and Regulations for Marine Engineering Installations Contracted for Prior to July 1, 1935 (11–19–52). F.R. 12–5–53, 12–28–55, 6–20–59, 3–17–60.
290	Pleasure Craft (7–1–59).
293	Miscellaneous Electrical Equipment List (3–7–60).
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (10–1–59). F.R. 10–25–60.
323	Rules and Regulations for Small Passenger Vessels (Not More Than 65 Feet in Length) (6–1–58). F.R. 9–29–60.
329	Fire Fighting Manual for Tank Vessels (4–1–58).

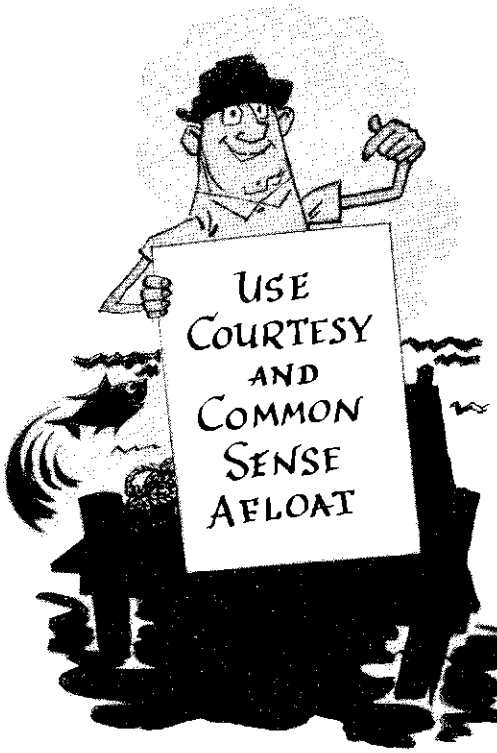
The Federal Register is a sales publication and may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. It is furnished by mail to subscribers for $1.50 per month or $15 per year, payable in advance. Individual copies desired may be purchased as long as they are available. The charge for individual copies of the Federal Register varies in proportion to the size or the issue and will be 15 cents unless otherwise noted on the table of changes.

Let's Remember, Folks!

FOR MORE FUN IN A BOAT

NEVER

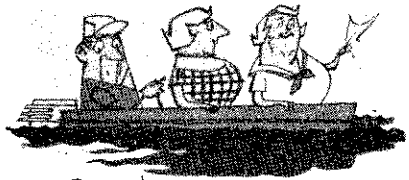
MAKE A SHARP TURN AT HIGH SPEED



IN ROUGH WATER, KEEP LOW IN THE BOAT AND HEAD INTO THE WAVES

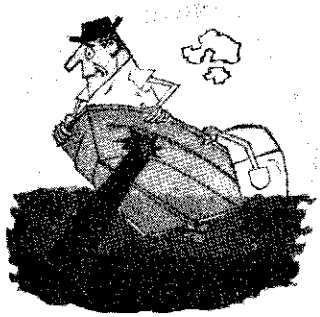
DON'T STAND UP

IF YOU MUST STAND, OR CHANGE SEATS, KEEP TO THE CENTER WITH BOTH HANDS ON GUNWALES, KEEP LOW



DON'T OVERLOAD

. . . MATCH YOUR BOAT AND MOTOR . . . LOOK FOR THE OBC PLATE ON YOUR BOAT



KEEP WATCH

FOR ROCKS, LOGS OR OTHER OBSTRUCTIONS, AS WELL AS FOR OTHER BOATS, SWIMMERS AND WATER SKIERS

Courtesy of Outboard Boating Club of America.

U.S. GOVERNMENT PRINTING OFFICE: 1961