

# PROCEEDINGS OF THE MERCHANT MARINE COUNCIL UNITED STATES COAST GUARD

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PASS IT ALONG

CG 129



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# MERCHANT MARINE COUNCIL

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For each meeting two District Commanders  
and three Marine Inspection Officers are  
designated as members by the Commandant.

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## COUNCIL ACTIVITIES

The Merchant Marine Council will hold a public hearing on Tuesday, March 24, 1953, commencing at 9:30 a. m., in Room 4120, Coast Guard Headquarters, 13th and E Streets NW., Washington, D. C., for the purpose of receiving comments, views, and data on the proposed changes in the navigation and vessel inspection regulations, as set forth in Items I to XIX, inclusive, of the Merchant Marine Council semi-annual meeting agenda (CG-249). The agenda contains the specific changes proposed and where possible the present and proposed regulations are set forth in comparison form, together with reasons for the changes where necessary.

Copies of the Merchant Marine Council semi-annual meeting agenda (CG-249) have been mailed to persons and organizations who have expressed a continued interest in the subjects under consideration and have requested that copies be furnished them. Copies of the agenda will be furnished upon request to the Commandant (CMC), United States Coast Guard, Washington 25, D. C., so long as they are available. After the supply of extra copies is exhausted, copies will be available for reading purposes only in Room 4104, Coast Guard Headquarters, or at the Offices of the various Coast Guard District Commanders.

Comments on the proposed regulations are invited. All persons who desire to submit written comments, data, and views prior to the hearing for consideration in connection with the proposed changes should submit them in writing for receipt prior to March 23, 1953, by the Commandant (CMC), Coast Guard Headquarters, Washington 25, D. C., or comments, data, and views may be presented orally or in writing at the hearing. In order to insure consideration of comments and to facilitate checking and recording, it is essential that each comment regarding a section or paragraph of the proposed regulations shall be submitted on Form CG-3287, showing the section number, the proposed change, the reason or basis (if any), and the name, business firm or organization (if any), and the address of the submitter. A small quantity of this Form CG-3287 is attached to this agenda. Additional copies may be obtained upon request from the Commandant (CMC), or from any Coast Guard District Commander. Oral comments may be submitted before the Merchant Marine Council on March 24, 1953.

At this Public Hearing, the proposed changes in the navigation and vessel inspection regulations will be considered in the following order:

Continued on page 63.

# BASIC SEAMANSHIP FOR MOTORBOAT OPERATORS

The art of seamanship, and it is justly an "art" whether one sails a schooner or pilots a motorboat, has been developed by thousands of men through the centuries to cope with the sea. These pages will attempt to sum up the basic principles of handling a boat on the water, but the only method of becoming a confident seaman is that of continual practice and experience in the various conditions of sea and weather.

*"Sink or swim", as the saying goes,*

*Is good enough for most of those  
Who never learn and seldom try  
To make their eye a sailor's eye;  
Who scorn the forces of the sea  
And laugh at those within the lee,  
Yet, knowing naught of sail or power,*

*Hang simple hope on a lucky hour;*

*Happy the sailor who knows his part*

*And gives free passage to his art.  
Wise the seaman whose happy trip*

*Is sure because of seamanship.*

In effect this is the purpose and the message in this discussion of basic seamanship for small boat operators.

## Effect of Rudder and Propeller

A vessel is steered by a vertical pivoted blade, called the rudder, placed at the stern. When the rudder is swung to port or starboard, the force of the water acting against it causes the stern to swing either to port or starboard as the case may be. When the rudder is in a position parallel to the fore-and-aft line of the vessel, the vessel will proceed in a straight line.

The force of the water acting on the rudder is the result of two things: the flow of water due to the boat's motion through the water; and the flow of water caused by the thrust of the propeller stream. When a boat is making speed through the water, the flow caused by the motion has a far greater effect than the stream from the propeller. When a boat is standing still or has very little way on, the propeller stream is the predominant factor.

This latter fact can be used to advantage when maneuvering in close quarters by using plenty of engine power with the rudder full over to port or starboard. The powerful stream of water acting on the rudder will swing the stern in the desired direc-

tion before the boat has had time to gather much way, and thus turn the boat with little forward or backward movement.

However, it must be remembered that a boat does not steer like an automobile, rather it pivots at some point about amidships. This pivoting action causes the stern to swing as well as the bow. Therefore, it is good seamanship to watch the stern when turning to be sure that there is plenty of room for it to swing through.

On a boat propelled by a single screw the effect of the rudder, when the engine is going astern, is just opposite to its effect when the engine is going ahead. In going astern, there is one unusual factor that must be borne in mind. Due to the action of the propeller stream striking the starboard side of the keel area, with the rudder held in a line parallel to the keel, the stern of a single screw boat will tend to swing to the left (facing forward). Usually this tendency can be counteracted by the use of the rudder.

A single screw boat is one propelled by a single right-handed screw propeller, which turns clockwise looking forward. Some boats have twin screws, each of which turns in an opposite direction. The starboard screw turns clockwise and the port screw turns counterclockwise. We may apply the principles set forth above to these boats in a like manner. A twin screw boat has the advantage as far as maneuvering goes. Besides being able to apply varying amounts of power to each propeller separately, the propellers are placed on either side of the centerline of the vessel and thus have a greater turning moment or leverage.

Skill in handling a boat will depend on the amount of practice. However, one difficulty in steering small boats that is often overlooked is the size of the rudder. The rudder must be large enough to give positive and almost instantaneous reaction to the turning of the steering wheel. Usually the design of the rudder on most boats has been well worked out by the designer, though there might be some difficulty with one that is homemade.

## Anchoring

The term applied to all equipment used in anchoring a vessel is "ground tackle." Ground tackle is an important item of equipment for the safety of the boat and its crew. Con-

sequently it is unfortunate there is a large percentage of boats very poorly equipped with ground tackle. Many yachtsmen study piloting and navigation and can find their way about, but many of them do not consider it a great problem to stay safely in a harbor after they get there. This study is one that every boatman ought to take up for his own protection.

Each boat should carry not less than two anchors. One anchor may be of light weight and small size for easy handling. The other should be larger and heavier for use during bad weather conditions or when it is intended to anchor overnight when there might be danger of dragging the anchor. The size of the anchors will, of course, depend on the size boat on which they are to be used.

Independent judgment in selecting an anchor should give way to the motorboat manufacturer's recommendation. There are many types of anchors available on the market today. For the motorboat, a so-called patent anchor is usually recommended. These anchors are known by the names of their manufacturers, such as "Northill," "Danforth," "C. Q. R.," and have very great holding power for their weight. They have more or less replaced the "Old Fashioned" or "Stocked" anchors, because of their advantage of light weight, although the stocked anchor has never been equalled for its great holding power and dependability under all conditions.

The size and length of the anchor cable or "rode" will depend on the size of the anchor used and on the depth of water the boat is to operate in. But, the operator should always be sure that the end of the anchor cable is secured to the boat before dropping the anchor overboard. The loss of anchor and line in this manner has embarrassed more than one yachtsman.

When anchoring there are just a few simple rules to remember:

- (1) Head the boat up into the wind and sea.
- (2) Reduce speed and make sure the anchor cable is ready for free running.
- (3) Reverse the engine, and when the boat starts to make slight sternway through the water, drop the anchor.
- (4) When there is enough cable out, usually five to seven times the

depth of the water, stop the engine and make the cable fast to a *forward cleat or bitt* to make the anchor dig into the bottom.

A definite halt in the drifting of the boat should be felt as the anchor digs in. It is wise at this time to sight on some stationary object on shore to make sure that your anchor is not dragging along the bottom. If the anchor is not holding, it sometimes can be made to bite in by letting out more line. An anchor will hold better in mud than in sand, so it is a good practice to note the nature of the bottom. However, there should be adequate precautions that so much cable is not let out that a changing wind or tide will swing the boat into another boat, a dock, buoy or beacon, or onto the shore. If wind and sea conditions get bad while at anchor, more cable can be let out. Frequent bearings will indicate drifting.

### Mooring and Docking

Now let's consider a few of the problems that will be encountered in handling a boat around moorings, docks, and floats. Moorings are permanent anchors sunk deeply into the bottom near a yacht club, in a harbor, or other places where vessels congregate. They offer safe, convenient anchorages, eliminating the need for a boat to use her own anchor and keeping all boats anchored in an orderly manner.

A mooring has five parts: (1) a heavy anchor; (2) an anchor cable or chain; (3) a "mooring buoy;" (4) a "mooring pennant," consisting of a wire cable or fiber line attached to the mooring buoy; and (5) a small float which keeps the pennant on top of the water. A boat is moored by securing the end of the pennant to a bitt or cleat on the bow. Simple procedures may be followed in "picking up" or leaving a mooring.

When picking up a mooring, approach against the force of the wind or current, whichever is the stronger. If any other boats are moored in the vicinity, observe how they are heading. They will be heading into the wind or current, and you can adjust your course to roughly parallel them. Disengage the clutch when you see that you have enough forward motion to reach the buoy. Have a man on the bow pick up the pennant float and secure the pennant to a forward bitt or cleat. Then, use your engine to maneuver as necessary. When the pennant is made fast, stop the engine, and let the boat drift back on the buoys' anchor cable.

Leaving the mooring is a fairly simple operation. About the only difficulty is the possibility of getting the pennant fouled in the propeller. When the pennant is let go, the en-

gine is backed slowly, until there is enough room to maneuver without hitting the buoy or fouling the pennant.

Because of the construction of docks and floats, the operator does not always have a choice as to which side of the dock to make the landing on. If there is no wind or current it is better, with a right-handed propeller, to approach with the port side of the boat to the dock. In this way, when the engine is in reverse, the stern will swing toward the dock rather than away from it. When the wind and current act in a direction parallel to the face of the dock, it is better to head into it in the same manner as picking up a mooring. In this way the boat is under better control, as the propeller can be turned over slowly to offset the wind and current. In coming alongside, it is always best to depend on the engine as little as possible. Speed should be reduced to a minimum, and it should be necessary to back the engine gently or not at all. Failure of the engine to back when most needed can cause a bad smash-up if the boat is carrying much way. In addition, hard backing imposes an undue strain on clutch and engine and can often result in a breakdown.

### Heavy Weather Handling

It is often thought that the mark of a good seaman is his ability to handle a boat in heavy weather, while the sea is running high. The mark of a better seaman is the ability to avoid being caught in such circumstances and having enough good judgment to stay in port when the small craft warnings are up. If, however, someone is compelled to be underway under hazardous conditions, there are a few things to bear in mind.

In heavy weather the various types of boats react differently, depending on their size, design, trim, and load. The average well-designed and properly trimmed cruiser will usually find little difficulty in meeting the waves head on. Some spray will probably be encountered, and there might be a tendency to pound when the bow takes the impact of the sea. If so, a decrease in speed and the putting of the sea slightly on one's bow will usually suffice to make the course less laborious and minimize the danger of being tossed end for end. Slowing down is the most effective step one can take in running into heavy weather.

In running before the sea there is always the danger of being thrown off course, by yawing. However, if the stern of the boat can be kept up to the sea safely, so the propeller does not rise out of the water so high that

the sea takes charge of the stern, running before the sea can be done safely at a reduced speed. The danger is that should the propeller be ineffective by being out of the water, the boat may be swung about and broached to. Ordinarily, some relief may be obtained by streaming a piece of heavy line, a bucket, or sea anchor astern, though care must be exercised that the propeller does not get fouled.

Common sense is a key factor in deciding whether a boat should be used when the wind and sea are increasing in velocity and size. When in doubt, it is best to decide against it. The more a man takes to the sea, the greater respect he has for it. In heavy weather, it's no place to tempt fate.

### Practical Hints

When going alongside a dock or other vessel in a strong current, care should be exercised to keep the boat headed directly into the current. If the bow is permitted to fall off in either direction, a landing can be made most difficult or a new approach may be required.

A boat will lie alongside in a strong current quite comfortably if a line is led over the inboard bow and the rudder is placed just enough off midships to cause the bow to sheer out slightly.

In swells of any considerable size speed should be reduced to avoid placing too much strain on the hull and shipping unnecessary water.

Be careful not to be swamped when passing boats which may leave a heavy swell. Head up, momentarily when confronted with this situation. Know the character of your own wake and do not embarrass others or run the risk of damaging property because of excessive speed.

Whenever you have a line over the side, take extreme care not to get fouled in the screw. This is most important when taking another boat a tow.

Never approach swimmers any closer than may be necessary.

Keep out of the way of large craft and towboats. You may have a right-of-way but they are difficult to handle and, rather than run the risk of piling-up themselves, they may stop you down. Do not unnecessarily crowd close under the bows or sterns of small craft.

Avoid passing too close to buoys or other aids to navigation. The current may set you down and cause collision before you can prevent it. Remember every buoy is moored to the bottom; do not get your propeller fouled in the mooring chain.

# THE U. S. COAST GUARD AUXILIARY

## A Member Cites Conditions Found on a Courtesy Examination

As many readers undoubtedly know, the U. S. Coast Guard Auxiliary, consisting primarily of private pleasure-boat boatowners, is a non-military organization sponsored by the U. S. Coast Guard, through which those pleasure boat owners interested in safe boating may help themselves and the public, in general, achieve pleasure with safety. Starting with Headquarters in Washington, D. C., the organization is divided into Coast Guard Districts within the continental limits of the United States, with Units in Hawaii and Puerto Rico. In turn, the Auxiliary within the Districts is broken down to Divisions and Flotillas.

Any 10 pleasure boat owners may start a Flotilla, the basic unit of the Auxiliary.

Members of the Auxiliary conduct courtesy examinations of nonmember owned boats during boating seasons, issuing a Decal to those boats meeting their safety standards. During the winter months, members conduct Flotilla projects to improve their boating ability. Knowing experience to be a hard teacher, they, in turn, hold local instructions for nonmembers, passing on what some of them have learned the hard way.

The following letter, which was written by an Auxiliary member to the Director of the Auxiliary for the New York area, should prove to be of interest to all pleasure-boat operators. It not only points out the manner in which the Auxiliary conducts its courtesy examinations, but also why many pleasure boat owners have banded together.

BROOKLYN 16, N. Y., August 8, 1952.

LCDR. FROST, Director, USCGA,

10 Lafayette Street,  
New York City, N. Y.

DEAR SIR: May I call to your attention a very hazardous condition I came across in the course of my boat examinations.

On August 1, 1952, I made an examination of a 30-foot class 2 boat. I was appalled by the conditions I found on this boat. While I was making examinations, this boat came in for gasoline from another yard. Since he did not have a Decal, I asked the owner whether he wanted me to examine his boat to which he said "yes." The boat was loaded to ca-

capacity with about eight children and four adults. The children consisted of youngsters under 12 and a few teen-agers. The passengers aboard were all over the boat, atop the cabin, on the deck and rear cockpit.

Of course, the first thing I asked him for was his Boat Registration Certificate.

Violation No. 1: He did not have his Certificate aboard, said he had left it in his coat pocket at the yard where he kept his boat. I explained to him that it was against regulations not to have his Registration Certificate on board at all times. He had intended to take his family and friends for a ride, but I told him to go back to his yard first, and get his Registration Certificate before going anywhere in his boat. He said he would, and I made arrangements to continue the examination at his yard.

When I went to his yard, he still did not have his papers aboard, but did go and get them, and I began my examination.

[Ed. note: Violations listed indicate failure to comply with the auxiliary safety standards and code. They are not necessarily failures to meet the minimum legal requirements.]

Violation No. 2: Life preservers. I checked his life preservers. There were only four preservers on board, no children's preservers. Two Kapok life preservers were rotten and torn, and not of approved type. Two were approved cork preservers, whose covering was rotted and badly torn. There were 12 persons aboard, mostly children, yet he did not have children's life preservers, buoyant cushions, nor ring buoys aboard that could be used in case of emergency.

Violation No. 3: Horn. Was of an approved type, but out of adjustment and could not be heard more than a few hundred feet.

Violation No. 4: Lights. His side lights and running lights were O. K., but his bow light was installed so that it was visible only from dead ahead to approximately two points on either side, and not visible at all through the remaining eight points on each side, as required by the regulations.

The bell was of an approved type and size.

Violation No. 5: Fire extinguishers. There were two 1-quart Carbon-Tet

extinguishers aboard. One was full, one was empty.

Violation No. 6: Generator. There was no cover band over the commutator and brush end of the generator, where arcing of the brushes could ignite any gas fumes present in the bilge or elsewhere.

Violation No. 7: Backfire trap. There was no approved backfire trap on the carburetor—carburetor was an old type.

Violation No. 8: Drip pan. No drip pan under carburetor.

Violation No. 9: Shut-off valves. No approved type of shut-off valves at tank or engine.

Violation No. 10: Fuel tank. The cap on the fill spout of the tank was under a board used as a seat. The tank was filled by lifting the board and removing the cap. The tank was filled inboard and had no vent running outboard. On examining the tank I found a small hole in the top of the tank and a patch approximately 12 by 16 inches where the tank had been repaired previously. The tank was badly rusted all around this patch. I found the screws rusted away, and the patch could be lifted right off; it was that loose. When lifted, I uncovered a hole about nine inches square where the rust had eaten through the top of the tank. I could see to the bottom of the tank. There was about 25 gallons of gasoline in the tank.

The payoff was that the adults were smoking within two feet of this defective tank, unaware of the hazardous condition that existed because of this, and the attendant danger in which they had placed themselves and the children aboard. They were literally sitting on a keg of dynamite.

I pointed out the dangerous situation to all on board and advised them to stop smoking at once and not to light a fire or smoke aboard until this tank was removed from the boat and replaced with a tank in good condition. I also advised them all to get off the boat as soon as possible and not to bring women or children aboard again until the condition had been corrected.

I instructed the owner about the proper and approved way to have the new tank installed, together with the approved shut-off valves and vents.

I also advised the yard owner as to the hazardous condition of this boat so that he could take proper precautions in order to prevent fire and damage to his yard, docks, and other boats tied up near by. The boat is now tied to a buoy out in the water away from the docks and other boats.

Of course, he did not get a "Decal." But, I advised him about the course in motorboat safety given by the Auxiliary each winter and urged him to attend, so that he could learn about the hazards of gasoline and the legal equipment required on all motorboats.

Needless to say, when I discovered the condition of that tank and saw those people smoking right next to it, I was not only concerned about their safety, but was scared for myself also, as long as I was aboard the boat.

This total ignorance of all the rules and regulations, carelessness, thoughtlessness, and utter disregard of everyone's safety aboard, including his own, and of the boats in his vicinity, is so serious that I believe it should rate more than a routine report or casual attention by all concerned. This is only one case, but I have examined several others almost as bad.

I believe there should be a clarification of the rules and regulations regarding strictness of inspection and examinations, so that a boat will not receive a "Decal" from one examiner after a previous examiner has explained to the owner that certain corrections have to be made in the interest of safety, before a "Decal" could be issued.

Certainly when checking gasoline tanks, filler pipes, shut-off valves, and gasoline lines, vents, drippans, cooking equipment, etc., one cannot be too strict in applying the rules of safety, to avoid the slightest chance of fire. This should be emphasized to the examiners.

Most of the boats examined by me had all the equipment required, many even more than was actually required by law. It was a pleasure to examine and place a "Decal" on these boats.

More and more boat owners are beginning to appreciate the value of our examinations and are anxious for us to come aboard to check their boats and make suggestions, where necessary, to improve conditions aboard. Though some were refused "Decals" on first examination, most of these now proudly display their "Decals" after conditions were corrected according to regulations, so that the examinations could be completed. These are now our best press agents.

I thought a report of these conditions would be of interest to you.

Respectfully yours,

(S) A. H. J.

A. H. J., V. Comm. Flotilla  
1100 RIDIV.

The overall scope of Auxiliary activities during 1952 is indicated in the following table. Pleasure boat boatowners desiring to join the Auxiliary, or seeking additional information about its activities, should write to the nearest Coast Guard District Office for information regarding local Flotillas.

## SCOPE OF AUXILIARY PARTICIPATION IN COAST GUARD ACTIVITIES

### PERIOD 1 JANUARY 1952 TO 31 DECEMBER 1952

Coast Guard District	Auxiliary boats inspected	Non-member courtesy examination decals issued	Boats rejected on courtesy examination	Operational assistance rendered	Lives saved	Regattas patrolled	Number enrollees in public instruction course	Basic seamanship certificates issued
1	249	1,569	80	84	216	133	0	44
2	1,018	452	0	70	21	16	84	55
3 (NA)	612	3,693	508	210	6	2	590	260
3 (SA)	240	671	55	32	0	3	287	63
5	303	425	40	65	4	16	180	0
7	563	2,118	116	225	8	16	0	0
8	219	209	5	111	8	16	170	20
9	702	3,175	229	751	41	08	0	282
11	652	133	6	63	0	13	360	116
12	555	303	70	197	59	21	110	92
13	513	1,343	34	82	8	33	288	90
14	82	34	22	81	0	5	0	0
Total..	5,708	14,125	1,168	1,970	371	342	2,067	1,021

## THE RULES OF THE ROAD

Just as there are rules and regulations governing automotive traffic on our highways, there are also certain rules and regulations which govern the actions of vessels while they are in the proximity of other vessels. The purpose of these rules is to reduce the likelihood of collision, and, where they are violated, the courts will impose responsibility for whatever damage may result.

All small craft operators should be familiar with the "Rules" applicable to the locality in which the particular boat is being operated. It is just as foolhardy to operate a boat while not knowing the "Rules" as it is to attempt to drive an automobile while not understanding the traffic system.

A copy of the "Rules" applicable to a particular geographical area may be obtained upon request from the nearest Coast Guard district office. Small boat operators are urged to do so if they do not already have a copy.

At the same time, small boat operators are urged to temper the use of the "Rules" with common sense and courtesy. Small boats are much more maneuverable than larger commercial vessels and do not require as much depth of water for safety. When small boats close upon larger vessels, not only is courtesy ignored, but there is danger as well, for large vessels are cumbersome.

### A Little More

The Guy who gets ahead usually is the guy who's got a little more—

A little more knowledge of the job.

A little more skill with his hands.

A little more hard-working ambition.

A little more cooperative spirit.

A little more safety-mindedness.

That last item not only helps give him a better chance to get ahead, but it also helps him stay in front of the accident eight-ball.

For carrying out recommended first-aid practices, the medicine cabinet begins with gauze pads, white petroleum jelly (for applying a light film to small facial burns), and two kinds of sterile, fine-meshed bandages—one of petrolatum gauze, the other dry.

# CHECK LIST FOR GASOLINE FUELED CRAFT

Are all carburetors fitted with back-fire flame arresters? Yes ☐ No ☐

Are the carburetors (except down-draft type) fitted with a drip pan underneath to prevent gasoline from dripping into bilges? Yes ☐ No ☐

Is the exhaust pipe in good condition and arranged and insulated so as not to scorch or ignite adjacent woodwork? Yes ☐ No ☐

Is the muffler, if fitted inboard, absolutely tight, so that no carbon monoxide fumes can leak into the structure of the boat? Yes ☐ No ☐

Are fuel tanks in good condition and properly secured to prevent vibration or movement? Yes ☐ No ☐

Are filling, sounding pipes, and vents so arranged that vapors, both from filling pipes and from vents, as well as fuel in case of overflow when filling, will not enter the interior of the boat? Yes ☐ No ☐

Are such filling and sounding pipes tightly attached to the tank and to a deck fitting? Yes ☐ No ☐

Do the filling pipes extend nearly to the bottom of the tank? Yes ☐ No ☐

Is the fuel-tank vent pipe solidly attached to the top of the tank? Yes ☐ No ☐

Does the fuel-tank vent pipe terminate in the open air, clear of openings in the vessel's hull, cabins, etc.? Yes ☐ No ☐

Can the fuel supply be shut off at the tank, the shut off control being outside the compartment in which tank is located? Yes ☐ No ☐

Is the entire fuel system, including piping and fittings, tight and in good condition, containing no pet cocks which might accidentally release fuel into the bilges? Yes ☐ No ☐

Are all enclosed parts of the vessel provided with means for proper ventilation? Yes ☐ No ☐

Is the ventilating system for spaces, such as engine rooms and those containing gasoline machinery, arranged to circulate air in the lower part or bilge? Yes ☐ No ☐

Is the entire electrical system in good condition? Yes ☐ No ☐

Are explosion-proof appliances and fittings installed in spaces likely to contain explosive mixtures, such as gasoline and fuel tank compartments, and near storage batteries, which are charged on board? Yes ☐ No ☐

Are electric storage batteries located in a well-ventilated space? Yes ☐ No ☐

Are such batteries protected to prevent metallic objects being dropped on the batteries, shorting them, and causing sparks? Yes ☐ No ☐

Are all life preservers, buoyant cushions, ring buoys, fire-fighting equipment, navigation lights, etc., in good serviceable condition and ready for immediate use? Yes ☐ No ☐

Have carbon dioxide extinguishers, which are more than ten percent underweight, been recharged? Yes ☐ No ☐

Is all equipment located in a permanent place and readily accessible, in case of an emergency? Yes ☐ No ☐

Have you checked to see that your fire extinguishers are not too close to the most likely site of a fire, so that in case of fire in such a site, the extinguisher will not then become inaccessible to you? Yes ☐ No ☐

Are all of the requirements for approved equipment, safety devices, and installations, as provided by the Motorboat Act and required by the Coast Guard's rules and regulations for motorboats and certain motor vessels complied with? Yes ☐ No ☐

The vapors from a teacup of gasoline have the explosive force of 15 sticks of dynamite!

Do not tolerate an installation which lacks modern safeguards.

Do not allow gas or oil in the bilge.

Do not allow rubbish to accumulate.

Do not make temporary repairs except in emergencies.

Valuable additional information covering the various phases of safety in operation and maintenance may be obtained by contacting the Commander of your nearest flotilla of the Coast Guard Auxiliary. Complete information concerning all laws relative to motorboats may be obtained at your nearest Coast Guard District Office, Coast Guard Marine Inspection Office, or Coast Guard station or unit.

## SHORT HISTORY OF AN ACCIDENT

"Injured," said the workman.  
"Inattention," said the foreman.

"Inflammation," said the nurse.

"Incurable," said the doctor.

"Incredible," said the mourners.

"Inquest," said the coroner.

"Interred," said the undertaker.

"Income," said the heirs.

"In probate," said the lawyer.

"In court," said the judge.

"Insolvent," said the bailiff.

"In peace," said the tombstone.

"In doubt," said St. Peter.

## Use COMMON SENSE AFLOAT—



LEM LUBBER is the symbol created by the Outboard Boating Club of America . . . the "horrible example" in boating . . . the poster character who does everything wrong. His lubberly actions violate the rules of boating courtesy . . . showing what NOT to do on the water.

LEM doesn't know anything about COMMON SENSE AFLOAT. He has never heard of the few simple rules that make boating fun . . . what's more . . . he doesn't care. He displays no consideration for others on the water . . . he ignores their rights . . . he's careless.

# BUOYAGE OF THE UNITED STATES

Significance of Shapes, Coloring, Numbering, and Light Characteristics  
Symbols shown adjacent to Buoys are those used on Charts to indicate such Aids

## LATERAL SYSTEM

### PORT SIDE (Entering from Seaward)

Marks port side of channels and obstructions which must be passed on port hand

Color: BLACK

Numbering: ODD. (Does not apply to Mississippi River System)

Shape: CAN. (Lighted buoys, sound buoys, and spar buoys, have no shape significance)

Color of Light: WHITE OR GREEN

Light Phase Characteristics: (Does not apply to Mississippi River System)

#### FLASHING



#### OCCULTING



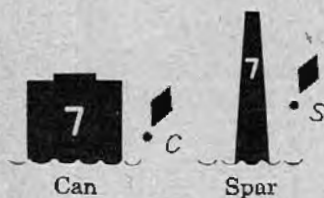
#### QUICK FLASHING



Marking important turns, wrecks, etc., where particular caution is required.



Lighted



Can

Spar



Unlighted Bell



Unlighted Whistle

### MID-CHANNEL (Entering from Seaward)

Marks Mid-channel

Color: BLACK AND WHITE VERTICAL STRIPES

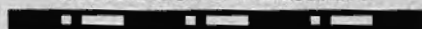
Numbering: NONE. May be lettered

Shape: NO SHAPE SIGNIFICANCE

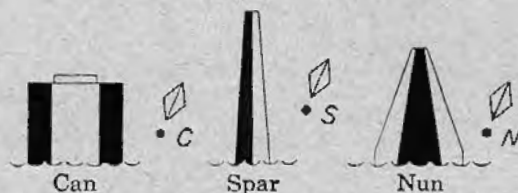
Color of Lights: WHITE ONLY

Light Phase Characteristics:

#### SHORT-LONG FLASHING



Lighted



Can

Spar

Nun

### JUNCTION (Entering from Seaward)

Marks junctions and obstructions which may be passed on either side. Preferred channel is indicated by color of top band.

Color: RED AND BLACK HORIZONTAL BANDS

Numbering: NONE. May be lettered

Shape: CAN OR NUN ACCORDING TO COLOR OF TOP BAND. (Lighted buoys, sound buoys, and spar buoys have no shape significance)

Color of Lights: WHITE, RED, OR GREEN

Light Phase Characteristics:

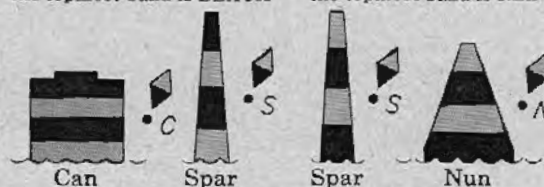
#### INTERRUPTED QUICK FLASHING



Lighted

Where preferred channel is to STARBOARD the topmost band is BLACK

Where preferred channel is to PORT the topmost band is RED



Can

Spar

Spar

Nun

### STARBOARD SIDE (Entering from Seaward)

Marks starboard side of channels and obstructions which must be passed on starboard side

Color: RED

Numbering: EVEN. (Does not apply to Mississippi River System)

Shape: NUN. (Lighted buoys, sound buoys, and spar buoys have no shape significance)

Color of Light: WHITE OR RED

Light Phase Characteristics: (Does not apply to Mississippi River System)

#### FLASHING



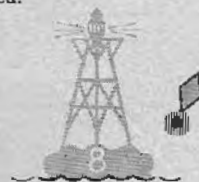
#### OCCULTING



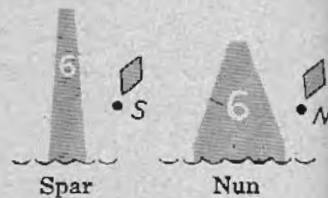
#### QUICK FLASHING



Marking important turns, wrecks, etc., where particular caution is required.



Lighted



Spar

Nun



Unlighted Bell



Unlighted Whistle

Editor's note: Buoys having no lateral significance are not reproduced here due to color limitations. Note that there are special buoys such as the following: Special purpose, Quarantine, Anchorage, Fish net, Dredging, etc. Also note that in the above representation red shades are reproduced in half-tone.

# BUOYS

# MOPE and DOPE

Buoys provide a means whereby the mariner may proceed safely from point to point by referring to visible markers along his path. As a rule, their location is determined by the channel. The buoys serve to mark its boundaries and to inform the navigator of the presence of shoals. Where the channel is narrow, or where it makes many turns, there are likely to be a greater number of such aids.

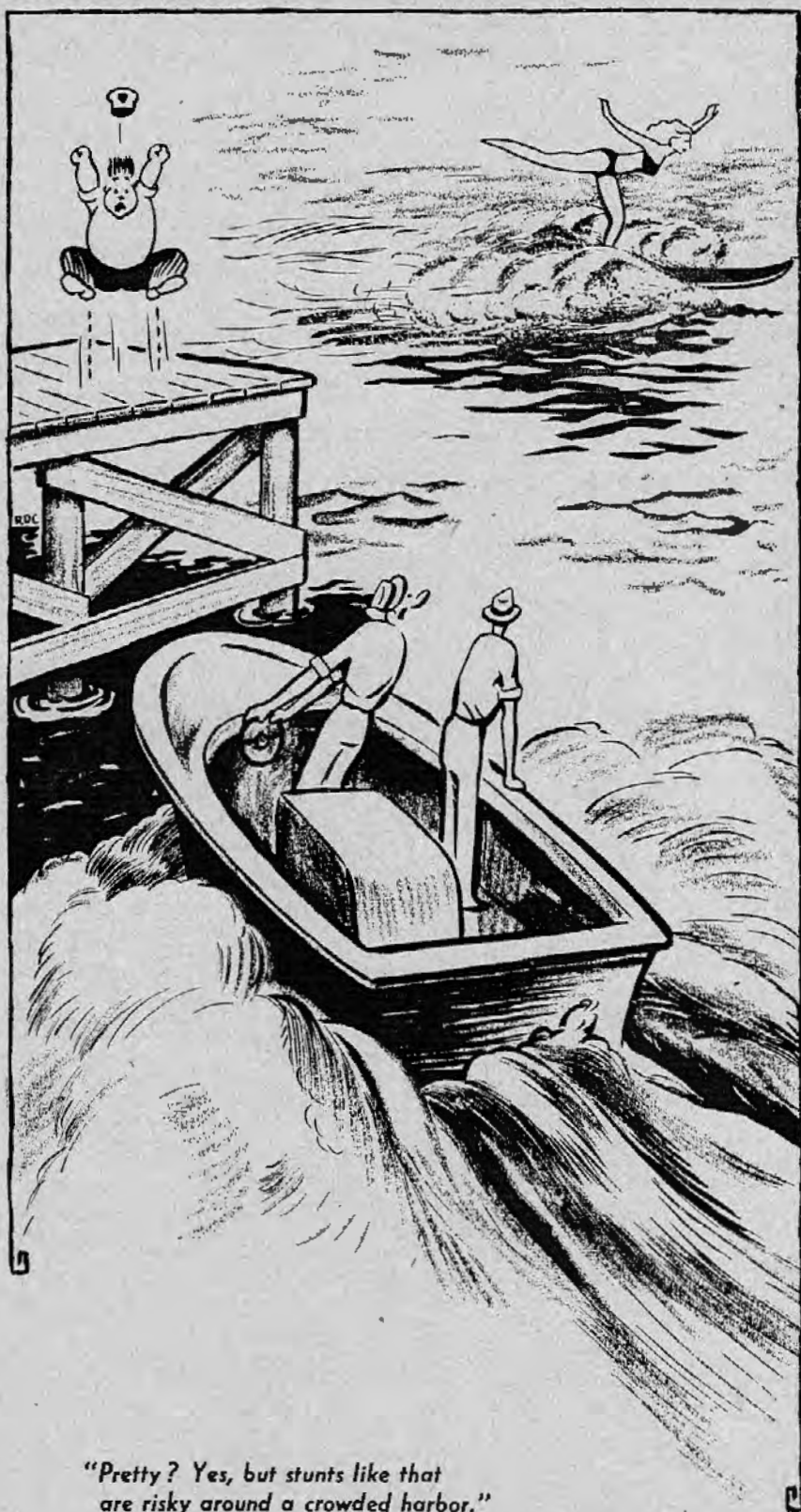
Buoys should be used in conjunction with a chart and light list. The significant buoy characteristics enable the mariner to determine his proper path through safe water, regardless of where he may be along the river. When properly used, they can be as helpful in marking the channel as are telephone poles in marking the highway across a snowbound countryside. With the use of a chart and light list the stranger is enabled to orient himself in relation to his destination with much greater ease.

Buoys consist of two types: lighted and unlighted. Unlighted buoys consist of spars and can or nun metal buoys. A can buoy is of the shape its name signifies; a cylinder which floats with its axis in the upright position. It is painted black with an odd number, and will be found on the left-hand side of the channel proceeding from seaward. The top of a nun buoy is shaped like a cone which is cut off at the apex. It is painted red with an even number, and floats with the smaller diameter on top. It will be found on the right-hand side proceeding from seaward.

There are other special types of buoys, such as quarantine, anchorage, channel, and obstruction buoys, etc. Special type buoys need special consideration by the average boatman. They are not too numerous, but they should be recognized whenever seen. They bear distinctive identifying colors the meaning of which are described in Coast Guard Light Lists.

Most of the important buoys bear white lights. When red lights are used on buoys they are always found on the right side of the channel as viewed when proceeding from seaward. Green lights on buoys are always found on the left side as viewed when proceeding from seaward. White lights may be on either bank.

Especially remember that odd numbers, black can buoys, and white or green lights on buoys apply to the left side of the channel when entering from seaward; even numbers, red nun buoys, and white or red lights on buoys apply to the right side of the channel when entering from seaward.



*"Pretty? Yes, but stunts like that are risky around a crowded harbor."*

# PROCEDURES FOR NUMBERING UNDOCUMENTED VESSELS

The authority for the numbering of undocumented vessels is the act of June 7, 1918, as amended (40 Stat. 602; 46 U. S. C. 288), which requires every undocumented vessel operated in whole or in part by machinery, owned in the United States and found on the navigable waters thereof, except public vessels and vessels not exceeding 16 feet in length, measured from end to end over the deck excluding sheer, temporarily equipped with detachable motors, to be numbered. When a number is awarded to such a vessel, a certificate of award is issued, which must be kept on board at all times and constitutes a document in lieu of enrollment or license.

The term "undocumented vessel" is used to describe those machinery-propelled vessels which are not required or entitled to be documented (registered, enrolled, or licensed) by the Bureau of Customs.

The following undocumented vessels are specifically required to be numbered:

(1) All vessels equipped with permanently installed motors. (This includes all vessels propelled in whole or in part by machinery.)

(2) All vessels over 16 feet in length equipped with detachable motors.

The following undocumented vessels are not required to be numbered:

(1) All vessels not exceeding 16 feet in length temporarily equipped with detachable motors.

(2) Sail vessels not equipped with auxiliary motors or sail vessels not exceeding 16 feet in length when equipped with detachable motors.

(3) Public vessels.

(4) Motor lifeboats carried as lifesaving equipment on inspected vessels.

Undocumented vessels that are not required to be numbered will not be numbered even though the owner may request that a number be assigned.

The owner of an undocumented vessel, or his duly authorized agent, is required to make application for an award of number to the Coast Guard District Commander having jurisdiction over the area in which the vessel is owned. When the District Commander is satisfied that the evidence submitted is sufficient to establish prima facie evidence of ownership, and the certificate of award of number is issued, he will return to the owner of the vessel upon request all canceled checks, receipts for materials used in construction,

and other miscellaneous papers. The District Commander will retain in his file all Builder's Statements, Master Carpenter's Certificates, and Forms CG 2945 (Claim of Ownership of Undocumented Vessel). However, certified copies of any such papers will be issued to the owner or other properly authorized or interested party upon request. In no instance will the surrendered bill of sale form on CG 1513 be returned to the owner, except in the case of exempted vessels.

## Papers Necessary to Obtain Award of Number

The papers generally necessary to obtain an award of number are set forth in the following paragraphs, and most applications will fall into these categories. These are not intended to cover every possible type of application, evidence of ownership, etc., which may be submitted, but only those which are ordinarily submitted.

(1) *New vessels purchased from manufacturers or dealers.*—Bill of sale are paid-in-full receipt and two application cards (Form CG 1513). If the vessel is 25 feet or over in length a Builder's Statement on Form CG 2895 or Master Carpenter's Certificate is required.

(2) *Vessels built by applicants.*—Receipted bills for materials used in construction and two application cards (Form CG 1512). If receipted bills are not available, Form CG 2945 (Claim of Ownership of Undocumented Vessel), together with the two application cards, may be accepted. If the owner is a recognized builder or manufacturer of boats, a Builder's Statement (Form CG 2895) or Master Carpenter's Certificate, together with the two application cards, will be acceptable.

(3) *Used vessels not previously numbered.*—Bill of sale or paid-in-full receipt and two application cards (Form CG 1512) and complete chain of ownership if possible (Form CG 2945—Claim of Ownership of Undocumented Vessel—may be accepted if chain of ownership is not obtainable with reasonable effort). If vessel is 25 feet or over in length, a Builder's Statement (Form CG 2895) or Master Carpenter's Certificate should be obtained if possible.

(4) *Vessels purchased as surplus property from the United States Government.*—Two application cards

(Form CG1512) and the "sale order" or "certificate of delivery of vessel" issued by the United States Maritime Administration, the former United States Maritime Commission, or the former War Shipping Administration. If the application is made by an owner who acquired the vessel subsequent to its acquisition by the successful bidder, the owner now applying for award of number should establish a complete chain of ownership from time of purchase by the successful bidder, if possible (Form CG 2945—Claim of Ownership of Undocumented Vessel—may be accepted if chain of ownership is not obtainable with reasonable effort).

## The Shipping Act of 1916

Section 37 of the Shipping Act of 1916, as amended (46 U. S. C. 835), became effective upon Presidential Proclamation 2914, dated December 16, 1950 (15 F. R. 9029). Accordingly, this proclamation has brought into operation, among others, the statutory provisions prohibiting the transfer of any interest in an American owned vessel or shipbuilding plant to foreign ownership without prior Maritime Administration approval. The prohibition extends to sales, charters, leases, and other transfers of interest in such vessels and plants; in agreements to effect such transfers; to agreements and understandings whereby the controlling interest or a majority of the stock of a corporation, organized in the United States and owning such vessels or facilities, would be vested in or for the benefit of a noncitizen; and to related activities. Accordingly, sales of undocumented and numbered vessels by American citizens to aliens without the consent of the Maritime Administration, U. S. Department of Commerce, under such regulations as are prescribed by that agency cannot be consummated.

[Ed. note: Vessels of less than 40 feet overall length and less than 50 horsepower are given blanket approval. Violations of any of the provisions of Section 37 of the Shipping Act of 1916, as amended (46 U. S. C. 835), are reported in the usual manner to the Maritime Administration, U. S. Department of Commerce, through the Commandant, U. S. Coast Guard.]

## Letters of Authorization

The District Commander is authorized to issue a letter of authorization permitting the vessel to temporarily operate without the certificate of

award of number on board after accepting the application with proof of ownership, pending the receipt of the certificate of award of number by the new owner.

### Certificates of Award of Number

A single copy of CG 1513, "Certificate of award of number to an undocumented vessel" will be prepared by the Coast Guard District Commander and delivered to the owner as soon as possible after receipt of the application and determination of satisfactory ownership is made.

If a person resides for an extended length of time or maintains a summer or winter residence within a Customs District other than the one where he has his permanent residence, and such a person acquires an undocumented vessel while at his temporary residence, he may make an application for a certificate of award of number to the District Commander having jurisdiction over his temporary residence. In such cases a number may be assigned and a certificate of award of number may be issued after satisfactory proof of ownership is established.

In cases of vessels undergoing manufacturers' test, as distinguished from vessels being used for demonstration to prospective purchasers, the District Commander is authorized to assign each manufacturer one identification number and to issue as many certificates bearing this number as may be required to furnish a certificate of award of number for each vessel that may be tested at any one time. Each certificate issued will be endorsed "this certificate has been issued for an undocumented vessel being operated solely for test purposes." When such a boat is sold or transferred by the manufacturer, it shall be treated as an undocumented vessel not previously numbered.

A certificate of award of number will be issued to each boat used for demonstration purposes by dealers. Upon the sale or transfer of the undocumented vessel, the application, a short form of bill of sale on the reverse side of the certificate, must be executed and submitted by the new owner for a new certificate of award of number.

An individual owner or manufacturer or a dealer duly authorized by the manufacturer of a boat not yet completed may obtain a number from the District Commander of the District in which the purchaser resides, upon compliance with the requirements in 46 CFR 29.14. A number and certificate of award of number in the name of the owner may be issued. Under such circumstances, the number when awarded, may be placed on

## NUMBERED AND UNDOCUMENTED VESSELS

The following table gives the cumulative total of undocumented vessels numbered under the provisions of the act of June 7, 1918, as amended (46 U. S. C. 288), in each Coast Guard district by Customs ports for the quarter ending 31 December 1952. Generally speaking, undocumented vessels are those machinery-propelled vessels of less than five net tons engaged in trade which by reason of tonnage are exempt from documentation. They are also those motorboats and motor vessels of five net tons and over used exclusively for pleasure purposes which are not documented as yachts or those of less than five net tons which by reason of tonnage, are not entitled to be so documented.

Coast Guard District	Customs Port	Total
1 (Boston)	(4) Boston.....	17,549
	(1) Portland, Maine.....	11,935
	(2) St. Albans.....	2,659
	(5) Providence.....	5,031
	Total.....	37,474
2 (St. Louis)	(45) St. Louis.....	9,497
	(12) Pittsburgh.....	1,011
	(34) Pembina.....	68
	(35) Minneapolis.....	2,087
	(40) Indianapolis.....	3,238
	(42) Louisville.....	2,590
	(43) Memphis (part).....	8,360
	(46) Omaha (part).....	260
	(47) Denver.....	12
	Total.....	28,032
3 (New York)	(10) New York.....	44,464
	(6) Bridgeport.....	8,263
	(11) Philadelphia.....	19,020
	Total.....	71,747
5 (Norfolk)	(14) Norfolk.....	17,046
	(13) Baltimore.....	24,660
	(15) Wilmington, N. C.....	9,104
	Total.....	50,810
7 (Miami)	(18) Tampa (part).....	23,557
	(16) Charleston.....	2,031
	(17) Savannah.....	3,424
	(49) San Juan.....	405
	(51) St. Thomas.....	107
	Total.....	29,524
8 (New Orleans)	(20) New Orleans.....	20,921
	(18) Tampa (part).....	767
	(19) Mobile.....	8,684
	(21) Port Arthur.....	4,089
	(22) Galveston.....	11,246
	(23) Laredo.....	2,207
	(24) El Paso.....	6
	(43) Memphis (part).....	76
	Total.....	47,896
9 (Cleveland)	(41) Cleveland.....	6,761
	(7) Ogdensburg.....	2,576
	(8) Rochester.....	4,824
	(9) Buffalo.....	4,222
	(36) Duluth.....	2,557
	(37) Milwaukee.....	3,578
	(38) Detroit.....	16,915
	(39) Chicago.....	5,504
	Total.....	47,027
11 (Long Beach)	(27) Los Angeles.....	9,576
	(25) San Diego.....	1,881
	(26) Nogales.....	118
	Total.....	11,575
12 (San Francisco)	(28) San Francisco.....	21,219
	Total.....	21,219
13 (Seattle)	(30) Seattle.....	16,731
	(29) Portland, Oregon.....	8,487
	(33) Great Falls.....	431
	Total.....	25,649
14 (Honolulu)	(32) Honolulu.....	4,175
	Total.....	4,175
17 (Juneau)	(31) Juneau.....	7,079
	Total.....	7,079
Grand Total		382,207

the undocumented vessel by the manufacturer and the certificate delivered to the purchaser at the time of delivery of the vessel. Should, for any reason, the vessel be not delivered to the person named in the application, the certificate must be returned for cancellation.

### **Certificates Replacing Those Lost, Destroyed, Etc.**

In case a certificate of award of number is lost, destroyed, or mutilated, another certificate will be issued upon application by the owner to the District Commander. No charge will be made for the issuance of a certificate of award of number, nor for the issuance of another certificate, when the first certificate is lost, destroyed, or mutilated.

### **Cancellation of Certificates**

The owner is not authorized to make any changes on a certificate of award of number, Form CG 1513. If changes occur the owner may voluntarily surrender the certificate and changes may be made on that certificate by the Coast Guard or a new certificate may be issued.

When the owner of a numbered vessel changes the name, service, or engine of the vessel the District Commander shall request the surrender of the certificate of award of number so that such changes may be entered on the certificate, or he may issue a corrected certificate of award of number.

### **Procedure Upon Change of Permanent Residence**

When the owner moves his permanent residence to a place in another customs district, or to a place within the jurisdiction of another District Commander, the original number awarded the vessel will be changed and the owner will be required to surrender the certificate of award of number for reassignment of another number and issuance of a certificate of award of number.

### **Placement on Vessel of Number Awarded**

The act of June 7, 1918, as amended (46 U. S. C. 288), and the numbering regulations in 46 CFR Part 29 require that the numbers assigned shall be placed on the bows of undocumented vessels and that certificates of award of number shall be kept on board while on navigable waters of the United States.

The vessels being tested by a manufacturer must carry the number assigned to the manufacturer in some temporary form on each bow of the vessel.

## **A NOTE OF CAUTION**

Perhaps the most dangerous aspect of motorboat operation is the constant possibility of a gasoline fire or explosion. Gasoline fires and explosions are the chief causes of loss of life on small power boats. In addition, numerous boats are partially or completely destroyed each year from the careless handling and use of gasoline. Whereas gasoline can be an economical and safe propellant, lack of familiarity with the dangers of handling gasoline, or careless handling, frequently results in an unnecessary casualty.

The pleasure boating season will soon be underway throughout the nation. This could be the safest season to date if the simple rules and precautions recommended by such fire conscious organizations as the National Fire Protection Association and the Yacht Safety Bureau were adopted and used by one and all. Let's hope it will be.

The basic rules and precautions might be summed up as follows:

1. Have fuel tanks properly installed and vented.
2. Keep bilges clean and gas free at all times.
3. Have a filled extinguisher on hand at all times.
4. When moored at a service station for fueling:
  - (a) Do not smoke, strike matches, or touch electrical switches.
  - (b) Stop all engines, motors, fans, and devices liable to produce sparks.
  - (c) Put out all lights and galley fires.
5. Whenever possible, complete fueling before dark. If fueling is necessary at night, do so only under well-lighted conditions.
6. Before starting to fuel:
  - (a) See that the boat is moored securely.
  - (b) Close all ports, windows, doors and hatches.
  - (c) Ascertain definitely how much additional fuel the tanks will hold.
7. During fueling:
  - (a) Keep nozzle of hose, or can, in contact with fill opening to guard against possible static sparks.
  - (b) See that no fuel spillage gets into the hull or bilges.
8. After fueling is completed:
  - (a) Close fill openings tightly.
  - (b) Wipe up ALL spilled fuel.
  - (c) Open all ports, windows, doors and hatches.
  - (d) Permit boat to ventilate for at least five minutes.

(e) See that there is no odor of gasoline in the engine room or below decks before starting machinery or lighting fire. Dangerous vapors will settle to the lowest level of the bilges.

(f) Be prepared to cast off moorings as soon as engine starts.

Obviously, these are common sense rules and precautions which require very little time and practically no expense.

A properly installed gasoline tank results in surplus gasoline spilled in overflow running on deck in the open air where it may be washed away immediately, rather than into the bilges.

Opening the engine compartment after fueling to let fumes escape, with engine stopped until there is no trace of gasoline vapor, is deemed necessary in view of the fact that most explosions and fires on small motor craft occur within 15 minutes after fueling. Usually, in such cases, these precautions were overlooked.

The checking of fuel lines, the tank, valves, and other connections for leaks is to avoid the accumulation of dangerous vapors and free fluid in the bilges. Gasoline vapors will remain in the bilges indefinitely unless removed by proper ventilation. A spark of any kind or any fire on the boat may ignite them with disastrous results at any moment.

The need for an efficient backfire flame arrester of an approved type should be obvious.

Perhaps even more obvious should be the need, in the case of a gasoline fire, to use a fire extinguisher immediately, with the stream directed at the base of the fire, until the fire is extinguished. The secret behind the successful extinguishment of gasoline fires is to use the fire extinguisher while the fire is small and the capacity of the extinguisher is sufficient to cover the area on fire. Safety rules and precautions merely minimize the dangers of fire and explosion in varying degrees. None of them are a guarantee against a casualty of this type. Should there be no extinguisher available, or if it should be inoperative, a rather harmless blaze might develop into a holocaust.

To sum up this note of caution, recognize the inherent dangers of gasoline as well as its advantages, take reasonable precautions to minimize the danger of fire and explosion from this source, and, should these precautions fail you, be prepared to fight the resultant flames in the most effective and timely manner.

# Your Fact Forum

Q. What lights are required to be carried by the following classes of motorboats:

- (a) Classes A and 1?
- (b) Class 2?
- (c) Class 3?

A. (a) Classes A and 1, combination red and green bow light showing from ahead to 2 points abaft the beam and a 32-point white stern light.

(b) Class 2, a 20-point white bow light, side lights, and a 32-point white stern light.

(c) Class 3, same as class 2.

Q. When the red side light of another vessel is visible and is showing toward your green light, what action should you take?

A. The other boat has the right of way, give way.

Q. Between what hours should lights be carried?

A. From sunset to sunrise.

Q. What motorboats are designated class 2?

A. Those 26 to 40 feet in length.

Q. Is an examination required to obtain a license to operate a motorboat carrying passengers for hire? What type?

A. Yes, an oral one.

Q. Will a buoyant cushion pass as a life preserver on motorboats not carrying passengers for hire?

A. Only on boats up to 40 feet in length.

Q. Will a buoyant cushion pass as a life preserver on boats carrying passengers for hire?

A. No!

Q. Is there a substitute for life preservers, buoyant cushions, etc., on motorboats not carrying passengers for hire?

A. Yes, ring buoys.

Q. Are motorboats over 15 tons, carrying passengers for hire, subject to inspection?

A. Yes.

Q. What is the purpose of the rules of the road?

A. To prevent collisions at sea and on the local waters.

Q. When do the rules of the road apply? To which vessels?

A. To all types of vessels under way.

Q. Is there any special burden placed upon motorboats when there is danger of collision with a large commercial boat?

A. Yes, as they are small and readily maneuvered, they should attempt to keep clear, regardless of their position under the rules of the road.

Q. What is one's duty in case of collision?

A. Stand by and give every assistance possible. Exchange name, port, etc. If the accident is of a serious nature, report it to the local District Commander, U. S. Coast Guard.

Q. What are the requirements as to speed in fog?

A. The operator must be able to stop the vessel within one-half the limits of visibility, unless current conditions are such that a greater speed is necessary to maintain steerage.

Q. What is the fastest way of getting to a person who has fallen overboard from the boat in question?

A. Full left or right rudder if the boat is a motorboat. If a sail-propelled vessel, it usually is best to jibe.

Q. Where on a motorboat will the dangerous concentrations of gasoline fumes lie, if present?

A. In the lowest part of the bilge, since the fumes are heavier than air.

Q. What is the small craft warning?

A. A red pennant, which indicates strong winds.

Q. How does a motorboat indicate that she is in distress at night?

A. By the continuous sounding of any fog signaling apparatus, rockets, guns, or other explosives fired at short intervals, or the burning of a flare-up.

Q. What is the difference between a true and magnetic course?

A. True courses are those referred to the true north or true compass rose of the chart. Magnetic courses are those referred to the magnetic north or the magnetic compass rose on the chart.

Q. On which side would you leave red buoys when entering a port or harbor?

A. On the starboard hand.

Q. On which side would you leave black buoys on leaving a port or harbor?

A. On the starboard hand.

Q. If you noticed a navigational light which was extinguished or not showing the proper light, to whom would you report the fact?

A. The nearest District Commander, U. S. Coast Guard.

Q. What Government publications should be carried on all motorboats?

A. Tide tables, current tables, light lists, notice to mariners, the coast pilot, and the chart catalog.

Q. What do the Pilot Rules specify about the use of searchlights?

A. Searchlights must not be flashed in the pilothouse of another vessel or used to hinder the navigation of another vessel.

Q. What does the direction of an arrow shown on a chart indicate?

A. The direction of the current.

Q. What is meant by the chronometer rate?

A. The amount in seconds or fractions which the chronometer gains or loses each day.

Q. What is the proper procedure in destroying or disposing of a national ensign which has become worn out?

A. It should be carefully burned.

Q. What is the proper method of exchanging salutes?

A. Dipping the ensign once.

Q. What courtesy should be exercised near motorboat race courses?

A. Other boats should not get on the course and should stay within the limits prescribed for the spectator fleet. If necessary and permissible to get under way, care should be taken that the wake does not disturb the racing craft.

Q. What should be done when passing other vessels?

A. Slow down enough so that the wash does not cause any damage or inconvenience.

Q. Is a vessel legally responsible for damage caused by her wash?

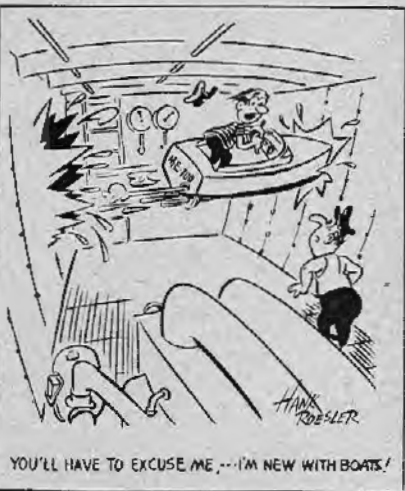
A. Yes.

Q. How should refuse be disposed of afloat?

A. At sea or in facilities provided at an anchorage. Refuse should never be thrown over the side in a harbor.

Q. What kind of footwear is desirable aboard yachts?

A. Soles and heels of nonskid type for use on wet decks and such that will not scratch or leave marks on the decks.



YOU'LL HAVE TO EXCUSE ME, ...I'M NEW WITH BOATS!

Courtesy Maritime Reporter

# LESSONS FROM CASUALTIES

## 5 WENT OUT 3 CAME BACK

It began as a private fishing trip; five people, three men, one woman, and a boy, age 10, boarded a 17-foot outboard-motor-propelled boat. It was a beautiful day with calm wind and smooth sea as the boat got underway.

Just outside the harbor, the fishing party anchored and, after fishing for about one-half hour, decided to have lunch.

While eating, the wind began to breeze and the boat began to roll. As the meal continued, water was discovered splashing into the stern portion of the boat in considerable quantity.

Mr. K, a man described as weighing 225 pounds, procured a sauce pan, went aft, and began bailing water out of the compartments adjacent to the quarter well. Mr. N, weight about 195 pounds, manned the pump, which was located in the cockpit aft. Mr. A called out "get the life preservers," and then proceeded to the bow to permit the stern to rise. Mrs. D and her son were inside the cabin.

When Mr. N became tired from pumping, he called for Mr. A to re-

lieve him. Mr. A, weighing 183 pounds, proceeded aft. As his weight was shifted from forward to aft, the stern settled to a greater degree and the water started coming in much faster.

Mr. A reached inside the cabin, grasped Mrs. D by the arm, and pulled her outside. At this moment the boat began to capsize and Mrs. D dashed back into the cabin to arouse her son, who, due to sea sickness, was lying down inside.

The boat overturned completely, trapping Mrs. D and her son inside the cabin. Mr. K was washed away from the boat and soon disappeared beneath the surface of the water. Mr. A and Mr. N clung to the bottom of the boat.

About 35 seconds had elapsed when the boy escaped from the cabin, floated to the surface, and thereafter clung to the overturned craft.

The attention of a passing motorboat was directed to the scene by an onlooker who was on shore.

The three survivors were taken ashore and treated for shock and exposure. The local harbor police appeared on the scene, and, upon examining the overturned boat, discovered the body of Mrs. D inside the cabin. Mr. K's body was not recovered until the following day.

There were five vest-type kapok life jackets on board at the time of the capsizing. Mr. N could not swim. Mr. A was unable to swim due to a lung condition. Mr. K was seen swimming on his back without a life jacket before he sank.

Apparently the life jackets were not used at all.

The evidence adduced in this case during the course of its investigation is quite conclusive as to the little knowledge of seamanship possessed by the persons on board this small boat.

To begin with, may it be said that five persons were an overload in view of the amount of freeboard in the motor well. (See figure 1.) The investigating officer, while alone on the boat, measured a freeboard of only nine inches. With three husky adults and a 17-horsepower motor aft, the freeboard would have been decreased considerably.

Moreover, at the time of the casualty the boat was anchored by the stern. This permitted the "choppy seas" to wash directly through the tunnel in the transom and over the motor well. Had the anchor line been removed from the cleat aft and secured at the back permitting the stern to fall off, this would have exposed the bow to the seas in lieu of the stern, thus decreasing the swamping effect of the waves.

Lastly, Messrs. K, N, and A became panicky, and, therefore, their efforts to relieve the dangerous conditions were without success.

Once again lives of unsuspecting citizens were snuffed out because of lack of knowledge as to the basic seamanship requirements.

## FOUND DEAD

Fire fighters boarding the burning auxiliary ketch, which was secured to the local pier, were able to extinguish the fire and confine it to the cabin.

The cabin was gutted, but the shell of the boat was not burned.

What surprised those entering the cabin was that they found it to be filled with charred old newspapers, magazines, and other rubbish. A coal fire stove was the source of heat (and presumably the source of the fire). Among the debris was the charred body of the 74-year-old owner.

It can well be said that this is another instance in drastic point that good housekeeping pays.

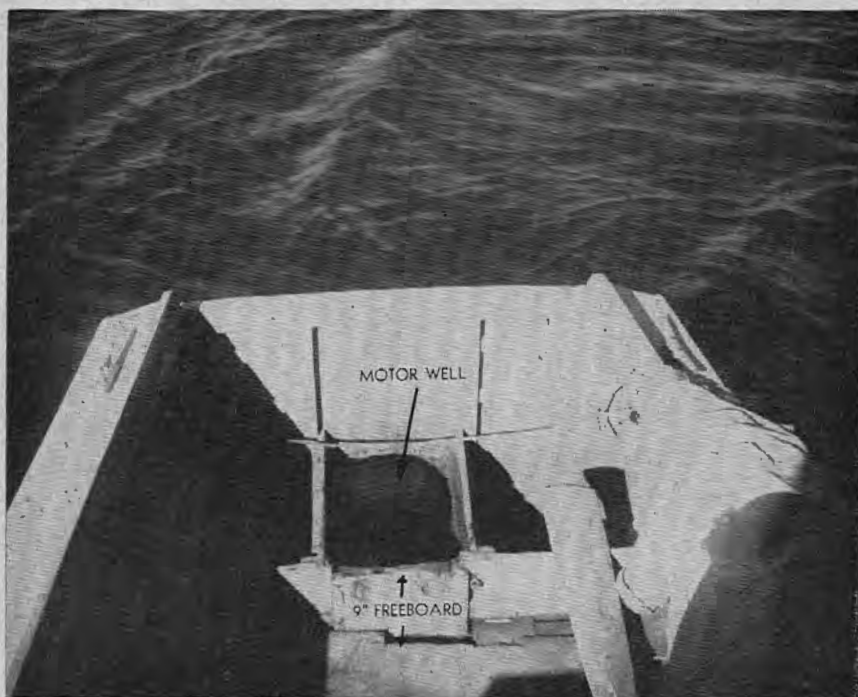


Figure 1

## FIRE? EXIT!

Q. Will you state the circumstances of this casualty, please?

A. I went to the wharf to get gasoline as usual on Saturday afternoon. When I put the gas in, filled the tank up, and was on the way back down the creek, the boat was chugging, running smoothly. Then it started missing on three cylinders. I smelled gas, and I figured maybe the float was hung down. I grabbed the screw driver and started to open the door, and it went "boom." The door came up and turned me around, almost knocking me out, but I had sense enough to go overboard.

Q. You jumped overboard?

A. Yes sir, and swam ashore, it was about 50 yards from shore and a very strong tide . . . .

There is always danger of fire and explosion on gasoline propelled motorboats. (See figure 2.) The best guarantee to minimize the danger of fire and explosion occurring on your boat is to religiously adopt the recommended practices for motorboats put out by the Coast Guard or Coast Guard Auxiliary and organizations such as the National Fire Protection Association.

The vessel concerned was a 21-foot motorboat, flat bottomed, with a cabin forward and, of course, gasoline propelled.

As the above abstract of the investigation indicated, one Saturday afternoon the operator, who was also the owner, had just completed refueling. When he was on his way back from the fueling point, the engine started to miss, and an explosion occurred.

The owner, who was attired in bathing trunks, suffered severe burns on his legs from the flare up of the explosion. He jumped overboard and swam to shore, where he was taken to the hospital for emergency treatment.

As for the boat, it drifted up against some pilings near the shore and was almost completely consumed, before the local volunteer fire department extinguished the fire.

Investigation of this casualty indicated that there was no gasoline in the bilges prior to the explosion. There were indications, however, that the explosion was due to the gas tank, which was in the back of the boat, rupturing, or that the fuel line from the electrical fuel pump broke, causing gasoline to be sprayed over the hot manifold of the engine. Most likely what happened was that a broken fuel line liberated a quantity of gasoline over the hot engine, which was then ignited by a spark.



Figure 2

## BACKFIRE

*Carelessness.*

*Improper ventilation.*

*Poor judgment.*

All these take their toll.

In this instance the toll was three injured; one boat totally lost!

The boat concerned was an uninspected motorboat, constructed of plywood, which had an open cockpit with a plywood canopy extending approximately 16 feet aft from the bow and over the cockpit, from where the boat was navigated and in which the engine, a 115 horsepower six-cylinder marine gasoline engine, was housed.

On board were the operator and a mechanic.

The mechanic had difficulty starting the engine. Frequent use of the choke caused the carburetor to flood and the battery to run down. The engine would not turn over.

When a new battery was installed, the engine started. Since it did not run to the satisfaction of the mechanic, he started to adjust the carburetor. But, apparently, he got the mixture too lean, because the engine started to backfire through the carburetor.

When this happened, the mechanic attempted to choke off the flame from the air intake on the carburetor, thereby deflecting the flame to the bilge. Fire and explosion followed,

which threw the mechanic against the door.

He suffered first degree burns on his face and second degree burns on the right hand. The operator likewise suffered first degree burns on the face and second degree burns on the hands. An innocent bystander, who was watching from the stern of an adjacent oyster boat, which was tied stern to stern with the subject motorboat, sustained first degree burns about the face. The boat was completely destroyed, though it was possible to salvage a few parts.

After the fire was extinguished and the boat was beached, it was noted that the sediment bowl was badly corroded, indicating that gasoline was leaking into the bilge from this bowl, which was located under the floor boards in the bilge, where it could not be observed.

Further investigation also indicated that the bilge was not properly ventilated, although the boat was of an open cockpit construction. Floor boards extended across the entire length of the boat, leaving a space of six to eight inches below the floor boards, where explosive gas fumes were evidently trapped. When carelessness on the part of the mechanic resulted in the carburetor flooding, poor judgment in not stopping the engine caused this inevitable toll.

## CARELESS FUELING

A 21-foot, cabin cruiser exploded, causing injuries to the owner and the single passenger on board. Both sustained second degree burns on the arms and face. Only the strip (See figure 3) shown in the photograph was left after the explosion. Aside from the physical injuries incurred, damage was estimated to be \$2,500 to \$4,000.

Subsequently, the owner stated he purchased this cabin cruiser at the end of the sailing season, in 1951, and refitted the boat prior to launching it in the spring of 1952. Indications were that the motorboat had been run only once before by the owner. This was about a week prior to the accident. There was no untoward incident at this time. The length of this trip was about five hours, but the boat was not refueled upon its completion.

The morning of the accident the owner and his guest decided to take the boat for a ride.

They proceeded to fill the gasoline fuel tank.

By the owner's statement, gasoline was carelessly allowed to overflow the filling line and the vent line at the

stern of the boat. Considerable gasoline overflowed into the after cockpit and into the floor boards in the bottom of the bilge.

When this happened, the owner decided the best way to use up the excess fuel was to get the boat underway and let the converted automobile engine, which propelled the boat, use it up. He started the engine without any incident and pulled away from the dock slowly.

When about a hundred yards off the dock, he opened up the throttle to increase the speed. The engine backfired. The cabin, which was locked at this time, blew out in a loud explosion.

Both occupants were engulfed by flames and were hurled into the air and landed in the water. The boat broke up and sank. The only part recovered was a broken section of the side, which is shown in the illustrative photograph.

The explosion was seen by a lookout on duty at an adjacent Coast Guard Lifeboat Station and by people on the shore near the scene. The officer in charge of the Lifeboat Station immediately dispatched a motor

launch to their assistance. The onlookers called the police and an ambulance.

A private motorboat was the first to reach the men in the water and picked up the two injured men and brought them ashore. Both were taken to the hospital for treatment of burns.

It developed that the owner had no prior experience in the operation of a motorboat. There was no spark arrester on his boat. Practically every rule for safe operation of motorboats was violated. The owner never aired out his cabin before starting the engine and was careless in spilling gasoline during refueling. He never availed himself of motorboat operators of experience, such as members of the Coast Guard Auxiliary, who were members of his very own yacht club, to inspect his boat.

This is another example of the need for continued emphasis on the safety of motorboat operation by the U. S. Coast Guard and its very capable adjunct, the Coast Guard Auxiliary. Past efforts to publicize safe practices to be used during motorboat operations cannot be relaxed, but must be continually repeated, so as to cover new boat owners such as this one.

## FRONT COVER STORY

Sometimes it is difficult to determine what has caused a particular casualty. Such is the case here. The vessel, a motorboat, raised deck, gas screw, wood hull, length 38 feet, was demolished.

One morning a fire broke out in the cabin. A cruising police car was the first to notice the fire and summoned the city fire department, who put out the fire very quickly. But, by that time approximately \$4,100 worth of fire damage had been incurred. (See front cover.)

The owner had left the boat the previous evening, at which time he considered everything to be in good order.

Damage to the vessel consisted of:

- Interior and cabin burned and charred.

- All glass windows broken.

- Foredeck partially burned.

- Overhead in cabin burned through.

The fire apparently started behind the engine controls. It may have been caused by faulty wiring in that area. It also may have been caused by numerous other factors. No one can be certain, but, whatever the cause, one thing is very clear. Casualties can occur from the slightest cause. Instances such as this serve warning that motorboat operators must be eternally vigilant.



Figure 3.

## EVER TRY TO DRY A CARBURETOR WITH A BLOWTORCH?

See figure 4.

This was a "V" bottomed, open cockpit, gas screw, 28 footer, with a wooden hull.

The man who was the owner (dead men lose property rights) had the boat tied to the dock while he was attempting to do some cleaning and repair work.

Fire broke out and was followed by an explosion, with the results indicated.

As closely as can be determined, mainly from the testimony of the caretaker at the dock, the owner had attempted to dry out the carburetor using a blowtorch. The carburetor exploded, setting fire to the hull and cockpit. The owner, though badly burned, jumped overboard. He was picked up and taken to the local hospital, where he died.

### BACK COVER STORY

Motorboat explosions do not always occur while the boats are in operation. In fact, as the back cover pictures illustrate, they are just as apt to happen while they are stored in between boating seasons.

The boat depicted in the picture on the back cover was a Class 2, 29-foot cabin cruiser. At the time of the explosion, it was stored at the boat club shed and was open to inspection by prospective purchasers.

Mr. K, his wife, and their three children boarded it as it lay in the boathouse. With them was the caretaker. After being aboard a few minutes the caretaker started the engine. The engine ran for only a matter of seconds before the explosion occurred. Water then poured rapidly into the boat, and it sank in a few minutes. The six people on board were helped to safety by some men who had been close by when the explosion occurred. All persons on board were injured.

The force of the explosion was so great that it blew the roof off of the boathouse and completely demolished the boat.

The subsequent investigation disclosed that the cruiser was not equipped with blowers or with forced ventilation in the bilges. Indications were that the explosion was due to an accumulation of gasoline vapors in the bilge while the vessel lay moored in the boathouse. The starting of the motor, in some manner, ignited these vapors.

This casualty could have been avoided had the caretaker opened the boathouse and ventilated the vessel before starting the engine. It should

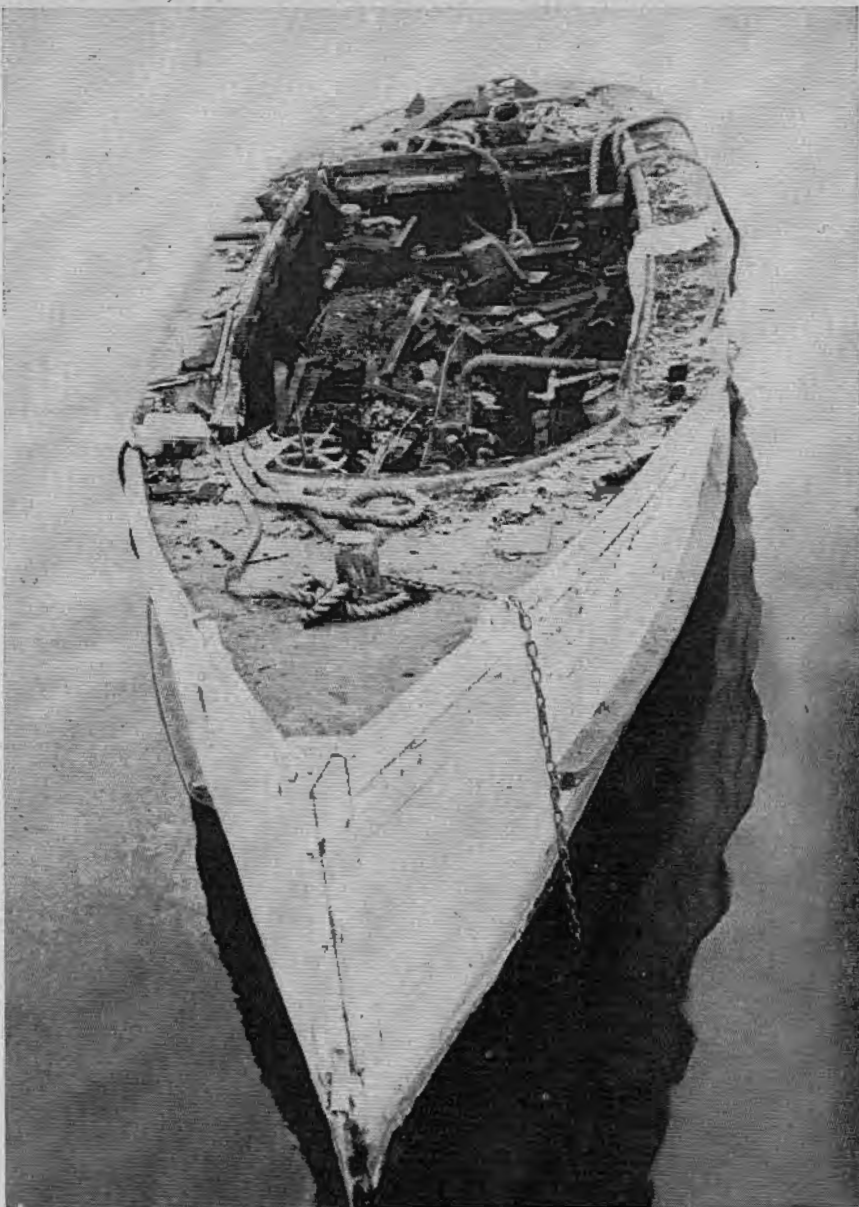


Figure 4.

serve as a reminder to those motorboat owners who follow a similar practice in storing a boat to not only equip their craft with proper blowers for proper ventilation, but also to take the additional step of opening the storage space and ventilating it before starting the boat engine.

### PITY THE INNOCENT

Each pleasure boating season brings its complaints (usually verbal) of the negligent operation of motorboats. In recent years there have been a few outstanding instances which have resulted in criminal prosecution and

national publicity. This case is illustrative of the dangers faced by the innocent when proper care is not exercised in the operation of a motorboat.

The craft at fault was a 20-foot Chris Craft. On board was a young lad who, with his fiancée, was in the process of making a fast run about the lake. During the run one blade of the propeller was slightly damaged. This necessitated decreasing speed from about 33 knots to 23 knots in order to eliminate vibration. Approximately 20 minutes after the boat had been underway, it struck the transom of a small skiff containing two men and passed over the port side of the

skiff. One man suffered shock and a bruised right leg. The other sustained a broken rib, bruises and burns on his back.

The skiff, an oar propelled one, was being used for fishing a few hundred yards off shore.

Later the two fishermen explained that they had seen the motorboat bearing down on them when it was approximately three-fourths of a mile away. At first they thought the operator intended to pass close by in order to scare them. As it drew nearer, they became frightened.

One of the fishermen, whom we shall refer to as Mr. E, stood on the stern sheet waving his arms and shouting. The motorboat still did not alter course.

When it was a few feet away, Mr. E lost his balance and fell out of the boat. In falling, he pushed the stern of the skiff off to starboard. The other fisherman, whom we shall refer to as Mr. R, lost his balance when Mr. E fell from the boat and sprawled face down on the bottom of the skiff.

The starboard chine of the motorboat passed over Mr. R's back, tearing his shirt and undershirt and causing a long burn and bruise of approximately 18 inches on his back. Mr. E, who had fallen sufficiently clear, was not struck by the motorboat. Though unable to swim, he managed to keep afloat until picked up. Mr. R remained in the skiff in a prone condition.

Immediately after striking the skiff, the operator of the motorboat put the helm hard over, made a complete turn, and returned to the scene. He pulled Mr. E from the water into the cockpit of the motorboat and then went alongside the skiff. Mr. R was assisted into the motorboat, and a line was attached to the skiff, which had remained afloat. The motorboat was then headed to the dock, from where the two survivors were taken to the hospital for examination and treatment.

Subsequent examination of the motorboat showed only superficial damage. The starboard underwater body was scratched in six places for a distance of about six feet and a depth of one-quarter inch. The starboard chine had the paint scratched off, and the wood was chewed up in an area approximately three feet long. The tip of one blade of the propeller was bent approximately one-half inch out of alignment.

Further examination of the motorboat disclosed the following:

(1) The steering wheel was located on the starboard side of the front seat, approximately 8 feet from the stem and 12 inches inboard of the starboard gunwale.

(2) There were two seats in this boat, each the width of the boat and each equipped with three leather cushions of the approved buoyant type. Under normal conditions the operator would sit on one cushion.

(3) The boat was capable of being operated at a maximum speed of approximately 35 knots. In fact it was designed to plane on the water at high speed. When planing the boat would be level and the visibility would be satisfactory through an arc of 360°.

(4) The boat could idle at approximately five knots and, though not planing, would ride level in the water until a rate of speed of approximately 18 knots was reached. In the speed range between 18 and 25 knots, the bow would rise. In this condition visibility would be impaired directly ahead for approximately 100 yards over a 90° sector. However, under such conditions the blind area could be scanned by several methods, i. e., by leaning out on the starboard side, by sitting erect in the operator's seat, or by adjusting the height of the seat as required.

When the investigating officer examined the skiff, it was noticed that the skiff was of light wood construction, but so constructed that it could be subjected to heavy strain and retain its original shape. Examination also disclosed the following damage:

The boat gunwale was broken in four places.

The longitudinal was broken in several places.

There were seven ribs broken.

The top of the transom was cut and splintered in an area 3 by 3 inches.

There were red paint markings from the underbottom of the motorboat on top of the transom and along the boat gunwale.

One oar was missing. The other was damaged, and the rowlocks were torn away.

When the operator of the motorboat was questioned, he stated he decreased speed from 33 knots to 23 knots to eliminate vibration. Finding his visibility impaired at 23 knots he headed his craft parallel to the shore, several hundred yards off. He claimed that he did not maneuver the boat so that he would have unimpaired visibility, because on his run south, he had observed no other craft in the vicinity. As it was late in the afternoon, he did not believe there was any danger of colliding with another vessel. He added that at no time did he see or hear the occupants of the skiff until it was too late to avoid collision. When he did see the hands of Mr. E, right off the bow, he cut the throttle and swung the wheel hard over, but at that instant the motorboat struck the skiff.

The occupants of the skiff, of course, in no way contributed to the accident, nor could they have taken any action to avoid the collision. Actually Mr. E, in losing his balance, and thereby throwing himself from the boat and causing Mr. R to fall flat in the bottom, inadvertently saved himself and his companion of even more serious injury or even death.

It should be apparent that the motorboat was operated in an extremely dangerous and reckless manner and that the operator took no precautions to prevent the occurrence of a serious accident. Moreover, the boat was operated at such a speed that the visibility ahead was impaired for a period of several minutes prior to the collision. The sole credit, insofar as the motorboat operator was concerned, was that after the collision he acted correctly and possibly saved Mr. E from drowning.

Due to the circumstances preceding the collision, the motorboat operator was indicted and brought to trial for violating section 13 of the Motorboat Act of April 25, 1940, which states: "No person shall operate any motorboat or any vessel in a reckless or negligent manner so as to endanger the life, limb, or property of any person."

Upon completion of the trial, he was found to be guilty as charged.

The penalty for negligent operation of a boat in violation of the Motorboat Act is covered by section 14 of this Act and reads as follows:

"(Apr. 25, 1940, sec. 14; 54 Stat. 166; 46 U. S. C. 526m.) Any person who shall operate any motorboat or any vessel in a reckless or negligent manner so as to endanger the life, limb, or property of any person shall be deemed guilty of a misdemeanor and on conviction thereof by any court of competent jurisdiction shall be punished by a fine not exceeding \$2,000, or by imprisonment for a term of not exceeding one year, or by both such fine and imprisonment, at the discretion of the court."

How do you compute a nautical mile? A nautical mile equals the length of 1 minute of arc of a great circle of a sphere whose surface equals that of the earth. It equals 6,080.204 feet or 1.1516 statute miles.

A dredge is to drag an anchor at short stay over the bottom as a steadying influence on the ship.

*Every summer a lot of folks die from over-confidence in small boats. It's a common disease, but not contagious.*

# Merchant Marine Personnel Statistics

## MERCHANT MARINE OFFICER LICENSES ISSUED November 1952 DECK

Grade	Original	Renewal
<b>Masters:</b>		
Ocean	26	179
Coastwise		5
Great Lakes		11
B. S. & L.	7	48
Rivers	4	19
Radio officer licenses issued	39	
<b>Chief mate:</b>		
Ocean	26	33
Coastwise		
<b>Mate:</b>		
Great Lakes		
B. S. & L.		2
Rivers	2	13
<b>Second mate:</b>		
Ocean	29	45
Coastwise		1
<b>Third mate:</b>		
Ocean	23	38
Coastwise		1
<b>Pilots:</b>		
Great Lakes		24
B. S. & L.	59	125
Rivers	25	39
<b>Master: Uninspected vessels</b>	2	6
<b>Mate: Uninspected vessels</b>	1	1
<b>Total</b>	<b>243</b>	<b>590</b>
<b>Grand total</b>		<b>833</b>

## ENGINEER

Grade	Original	Renewal
<b>STEAM</b>		
<b>Chief engineer:</b>		
Unlimited	26	171
Limited	4	71
<b>First assistant engineer:</b>		
Unlimited	28	43
Limited		19
<b>Second assistant engineer:</b>		
Unlimited	45	50
Limited	1	3
<b>Third assistant engineer:</b>		
Unlimited	29	64
Limited		
<b>MOTOR</b>		
<b>Chief engineer:</b>		
Unlimited	5	44
Limited	12	55
<b>First assistant engineer:</b>		
Unlimited	2	5
Limited	1	6
<b>Second assistant engineer:</b>		
Unlimited	3	5
Limited		1
<b>Third assistant engineer:</b>		
Unlimited	1	62
Limited	1	1
<b>Chief engineer:</b>		
Uninspected vessels	3	2
<b>Assistant engineer:</b>		
Uninspected vessels	6	
<b>Total</b>	<b>167</b>	<b>611</b>
<b>Grand total</b>		<b>778</b>

## INVESTIGATING UNITS

Coast Guard Merchant Marine Investigating Units and Merchant Ma-

## ORIGINAL SEAMEN'S DOCUMENTS ISSUED November 1952

Type of document	Atlantic coast	Gulf coast	Pacific coast	Great Lakes and rivers	Total
Staff officer	18	5	16	2	41
Continuous discharge book					
Merchant mariner's documents	473	224	461	453	1,611
AB any waters unlimited	44	19	27	5	95
AB any waters, 12 months	31	11	21	14	77
AB Great Lakes, 18 months	2		1	5	8
AB tugs and towboats, any waters					
AB bays and sounds	1				1
AB seagoing barges	109	25	82	16	232
Lifeboatman	83	43	47	23	196
Q. M. E. D.	473	231	461	451	1,616
Certificate of service	2	31	7	44	84
Tankerman					

<sup>1</sup> 12 months, vessels 500 gross tons or under, not carrying passengers.

NOTE.—The last 11 categories indicate number of endorsements made on United States merchant mariner's documents.

## WAIVER OF MANNING REQUIREMENTS

Waivers	Atlantic coast	Gulf coast	Pacific coast	Great Lakes	Total
Deck officers substituted for higher ratings	1			1	2
Engineer officers substituted for higher ratings	1	1	1	2	5
O. S. for A. B.	6		6		12
Wiper or coalpassers for Q. M. E. D.	4		3	4	11
Total waivers	12	1	10	7	30
Number of vessels	8	1	8	4	21

NOTE.—In addition, individual waivers were granted to permit the employment of 21 able seamen holding certificates for "any waters—12 months" in excess of the 25 percent authorized by statute.

rine Details investigated a total of 731 cases during the month of November 1952. From this number, hearings before Examiners resulted involving 16 officers and 65 unlicensed men. In the case of officers, no license was revoked, three were suspended without probation, seven were suspended with probation granted, no license was voluntarily surrendered, one case was dismissed after hearing, and no hearings were closed with an admonition. Of the unlicensed personnel, 10 certificates were revoked, 20 were suspended without probation, 22 were suspended with probation granted, 10 certificates were voluntarily surrendered, two hearings were closed with admonitions, and six cases were dismissed after hearing.

Item I: Merchant Marine Licenses; Period of Grace for Renewal.

Item II: Welding; Marine Engineering Regulations.

Item III: Emergency Drinking Water for Lifeboats and Life Rafts; Rules and Regulations for Passenger, Cargo, and Miscellaneous Vessels.

Item IV: Length of Service Line for Impulse-Projected Rocket Type Line-Throwing Appliance; Rules and Regulations for Passenger, Cargo, and Miscellaneous Vessels.

Item V: Oil Fuel Units or Settling Tanks; Rules and Regulations for Passenger, Cargo, and Miscellaneous Vessels.

Item VI: Kapok and Fibrous Glass Life Preservers; Specifications.

Item VII: Cork and Balsa Wood Life Preservers; Repairing and Cleaning Life Preservers; Specifications.

Item VIII: Lifeboats; Specifications.

Item IX: Combination Solid Stream and Water Fog Fire Hose Nozzles; Specifications.

Item X: Deck Coverings; Specifications.

Item XI: Bulkhead Panels; Specifications.

Item XII: Incombustible Materials; Specifications.

Item XIII: Admonitions to Licensed and Certificated Merchant Marine Personnel in Lieu of Hearings.

Item XIV: Class A Explosives; Handling and Transportation of.

Item XV: Corrosive Liquids; Dangerous Cargo Regulations.

Item XVI: Anhydrous Ammonia; Compressed Gas; Dangerous Cargo Regulations.

Item XVII: Combustible Liquids; Dangerous Cargo Regulations.

Item XVIII: Hazardous Articles; Dangerous Cargo Regulations.

Item XIX: Load Lines for Great Lakes Vessels.





March 1953