Credits

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Introduction

In the last 10 years, the number of people participating in recreational boating has increased substantially. The costs of buying and financing a boat, however, have also increased. To find the right boat within their price range, many people are looking into used boats.

Buying a used boat is not easy and should not be attempted without some investigation into the type of boat that suits your needs. After you have found that boat, you should examine it carefully, determine its condition and arrive at a price.

This publication is intended to serve as a guide for the prospective used boat buyer, providing you with the specific information and checklist for evaluation. Small recreational powerboats and sailboats are discussed because their size and price range have made them popular purchases.

Powerboat enthusiasts are advised not to skip over sections on sailboats, and vice versa. Most information related to powerboats can be applied to sailboats, especially craft with auxiliary engines. Likewise, a powerboat buyer can benefit from the sections on rigging and sails. A glossary is included to define technical terms for both powerboats and sailboats.

Evaluating a used boat

I. Hulls

A. Wood

1. Look for loose or peeling paint or varnish. This in itself is not bad except that it will have to be stripped, sanded and reapplied in order to maintain good looks and resistance to the elements.

2. Hull planking which is loose may indicate that the fastenings have deteriorated or that the planks, the framing beneath or both are rotten. Check for all of these conditions.

3. Check the overall condition of the planking. A few loose or rotten planks can be replaced provided you can find the wood to do it yourself or a shop to do it for you. Boats needing extensive replanking may not be worth the effort and expense.

4. Check for open seams between planks due to warping, loose or deteriorated fastenings, or loss of caulking.

5. Look for cracked, broken or rotted frames. These can be repaired or replaced, but be sure that the end result will be worth the effort and expense.

6. Determine what kinds of woods are used in the boat. Some woods are stronger, more durable and more rot-resistant than others.

7. In boats with plywood hulls, check for delamination in the plywood. This may appear as "bubbles" in the plywood under and around which there is no evidence of rot.

8. Look closely for signs of rot. Check first inside the boat in areas where rainwater can collect, such as in cabin and deck seams, around bottom frames, base of transom, forefoot, along chines, etc. If the bilges are dirty and/or full of leaves or trash, check the condition of the wood underneath. Dirt and trash can hold moisture in the wood and lead to conditions favorable to rot.

In checking for rot, look for obvious signs such as soft, wet, crumbling wood; bubbles in paint or varnish with rotten wood underneath; and fungi growing on the exterior surface of the wood. Discoloration itself does not necessarily indicate the presence of rot; the wood may be stained or it may be bleached by sunlight. One way to check for rot is to test suspected areas with the blade of a screwdriver. If certain areas, for example, are significantly softer than surrounding areas of the same type of wood, as determined by

pressing the blade into both areas, then check those soft areas more closely for evidence of wet, crumbling, rotten wood.

9. Look for hull distortion due to inherent weakness of the framing, weakness due to rot and fatigue, or caused by improper or inadequate support if on a trailer or resting on blocks.

10. Check for evidence of past repairs, and, if any are noted, check the quality of work and materials used in making them.

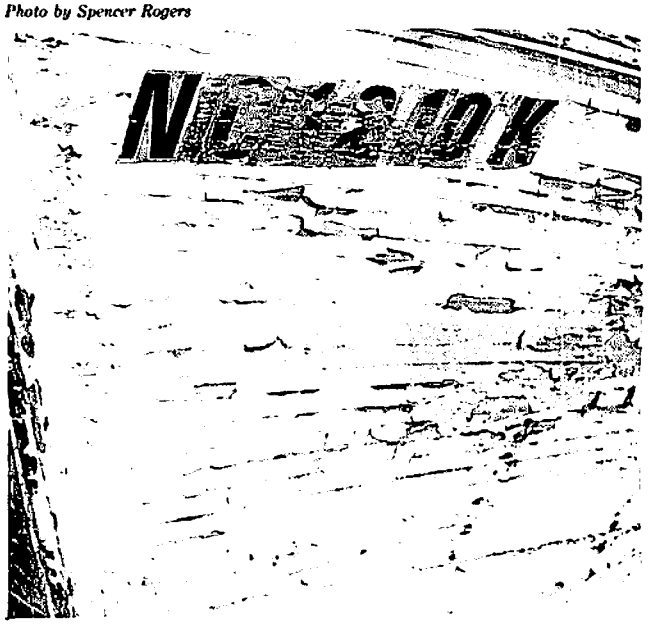
B. Fiberglass

1. Look for cracks in the outer gel-coat layer of the hull. These are actually not serious in that they probably are only in the gel-coat and do not extend into the layers of fiberglass beneath. These usually occur in areas where there are sharp bends, such as around transom cutouts, coamings, where the cockpit sole bends into the side of the liner, etc.

Cracked areas several inches or more in diameter with cracks radiating outward from the center are usually the result of impacts which flexed the laminate enough to crack the gel-coat. The laminate may still be okay, however, so check such areas carefully, from inside the hull if possible. Such areas should be repaired, especially if below the waterline, to guard against further deterioration. Crazing of the gel-coat—fine hairline cracks scattered at random all over the boat or over large areas—usually results from gel-coat being sprayed on too thickly in the mold when the boat was built. This is analagous to applying paint too thickly which oftentimes results in its cracking or crazing upon drying. This is not serious since it is only in the surface gel-coat.

2. Look for hull distortion caused by improper support. Look for such signs as twisting along the center line, high or low spots in the boat's bottom, a "hook" in the bottom or along keel. Some boats are designed with a hook in the bottom, however. If a hook is evident, try to determine whether it is designed that way or if it is caused by improper support. Check the literature on new boats of the same manufacture, look at other boats of the same make, or ask a local dealer who sells that boat.

Photo by Spencer Rogers



Loose or peeling paint on wood boats will have to be stripped, sanded and reapplied to maintain good looks and resistance to the elements. Consider these repairs before you offer a price.

3. Look for "rubberiness" of the hull. Shake the hull vigorously. If it shudders and wobbles all over, this may be a sign of poor construction, loose, rotted or inadequate reinforcement, or a loose hull-to-deck joint.

4. Determine the kind of material used in the inner core of the stringer system, transom and hull. In areas where they are accessible, look for any obvious signs of deterioration of the core. Builders use various materials for cores, such as plywood (deck, transom, stringers), closed-cell foam (stringers, hull) and balsawood (hull). Where screws, bolts or thru-hull fittings pass through the surface and into or through the core, water can seep in and cause rot in wooden cores. These areas should be sealed with resin or bedding compound when the fitting is installed.

Additionally, if the hull is of sandwich construction with an inner core of foam or balsawood, you should be aware of that fact if you plan to add any thru-hull equipment later, or if you plan to install a depth recorder with the transducer mounted inside the hull. In the latter case, the installation will not work properly in a hull with a core.

5. Look for evidence of past repairs, such as bulges or non-matching gel coat,

and make sure that such areas are soundly repaired.

C. Aluminum

1. Look for loose or missing rivets. If the boat is of welded construction, look for cracked or broken welds.

2. Make certain that any paints used on aluminum hulls, particularly anti-fouling paints, contain no copper or mercury as these will cause corrosion of the hull.

3. Look for corrosion and pitting of the hull surface.

4. Look for hull distortion as mentioned under wood and fiberglass boats.

5. Look for evidence of past repairs.

6. Dents in the hull can be removed, but they do detract from appearance and could possibly affect performance if severe and located on the planing surface of the bottom.

II. Flotation

Determine the condition of material used for flotation. Flotation material generally consists of closed-cell plastic foam. Because of its closed-cell nature, it is not supposed to absorb water. Check it anyway. If you can get access to the flotation, particularly in the bilge area, squeeze it or press on it with your fingers to see if large amounts of water ooze out. Excess absorption of water increases weight and could affect performance and flotation qualities.

III. Cockpit liner and interior

A. Check the overall condition of the cockpit sole, side decks and gunwales, cabin bulkhead, cabin interior, etc.

On fiberglass liners, check for chipping, cracking and crazing. Walk around and note whether there is any play or movement of the surface layer of glass against the inner core. If so, the surface layer may be separating from the core. Severe scuffing or wear of the surface gel coat layer is not necessarily bad if the layer of glass beneath is still intact, but it can reduce the non-skid type paint.

If the sole covering is a synthetic material, check this for wear, rips, bonding to floor, etc.

B. Check all hatches, windscreens and ports to see if they open, close and lock properly. Check to see if the seals are intact and in good condition.

C. Check the cabin for a musty smell or other visible signs of mildew or rot. Feel cushions, headliner, etc., to see if they are damp. These signs can point to a leaking hatch, planking seam or other problems which allow entry of water.

D. Is the cockpit and cabin trim in good condition, or are pieces broken or missing?

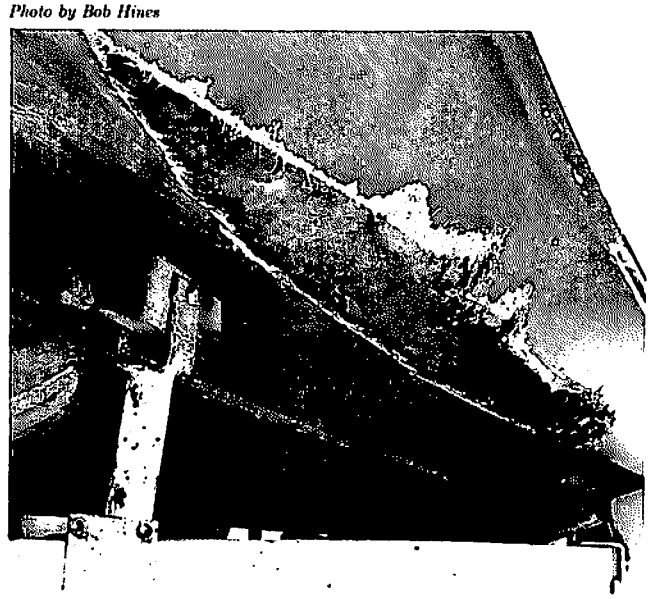
E. Check all upholstery and any wood used in seats, berths, etc., for signs of mildew and rot.

IV. Hardware and fastenings

A. Evaluate the condition of vents, hinges, railings, cleats, hawse pipes, screws, bolts and any other fittings and fastenings. Corrosion here will only get worse. If it is minimal, you may be able to live with it; but, if corrosion is extensive, replacement is not far in the future. Decide if the boat is worth that expense.

B. Check any through-hull fittings to make certain that sealing compound is intact and in good condition and that the fittings themselves are not corroded. Be sure that seacocks work properly and that hoses running to through-hull fittings are clamped and in good condition.

Photo by Bob Hines



A split hull on a used boat may not be worth the effort and expense needed for extensive repairs. Find out from the owner if this condition is the result of an accident or a defect in the boat's structure.

C. Where screws and bolts pierce the gunwales, deck or cockpit sole, check the condition of the core wood and wood backing plates. Water can seep into these screw holes if the holes are not sealed with resin or bedding compound and cause rot in the underlying wood.

D. On aluminum hulls, make sure that any hardware made of brass, bronze or chrome-plated brass or bronze is insulated from the hull by a plastic washer or bedding compound. This is to guard against galvanic corrosion resulting from two dissimilar metals being in contact in a saltwater environment.

V. Electrical system

A. Check the condition of the wiring and connectors. Look for corrosion of the male and female terminal connectors and look for blackening of the copper strands of the wire itself. Any corrosion here will only get worse, even if the circuits work at the moment. Eventual failure can be expected in the near future.

B. Check to see that all lights, particularly running lights, are in good condition and work properly.

C. Check the capacity of the circuit board and determine how many circuits are in use and whether the board is overloaded with circuits. If all circuits are in use or the board is overloaded, you will have problems if you anticipate adding electrical equipment later.

D. Check the main fuse and any other fuses in individual circuits and try to determine whether a fuse with too high an amperage rating is being used. You will have to use your own judgment based on the amperage rating of the item or items in the circuit, but a fuse that is obviously rated too high may indicate that the owner has compensated for faulty wiring or equipment.

E. Check the battery's specific gravity if you have a battery tester. Check the battery cables to see if they are in good condition and not corroded at either end.

VI. Fuel system

A. Check the fuel tank to make certain that it is in good condition and that no severe corrosion is evident.

B. Check all fittings and hoses for signs of corrosion, cracks, leaks and general deterioration.

C. Copper or other metal tubing in fuel lines should have rubber connecting pieces so that vibration will not cause cracking and failure.

VII. Engine and drive train

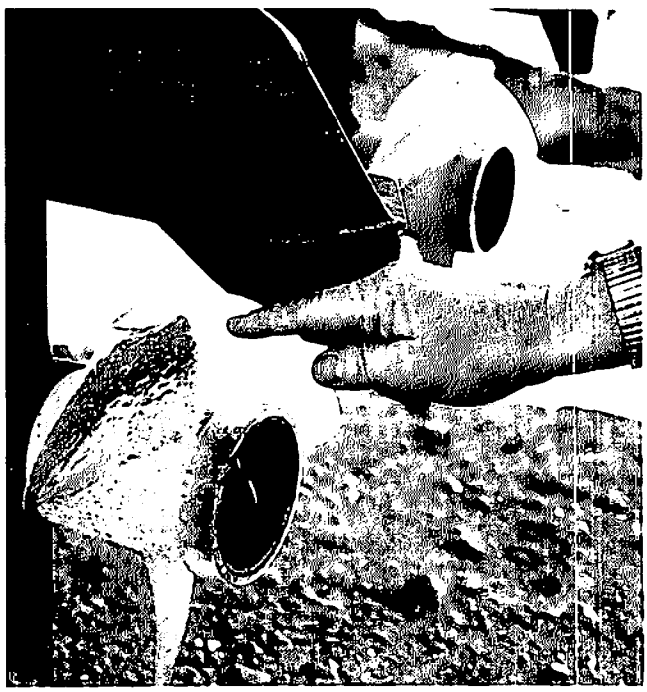
A. Check the propeller for bent or broken blades and nicked edges.

B. Check the outside condition of the engine and look for signs of rust and corrosion, coolant leaks, oil leaks, etc. Also, check the bilges for signs of excess oil, indicating possible leaks.

C. Check the air cleaner to see if it is dirty and needs replacement.

D. If you have a compression gauge, check the engine's compression.

Photo by Bob Hines



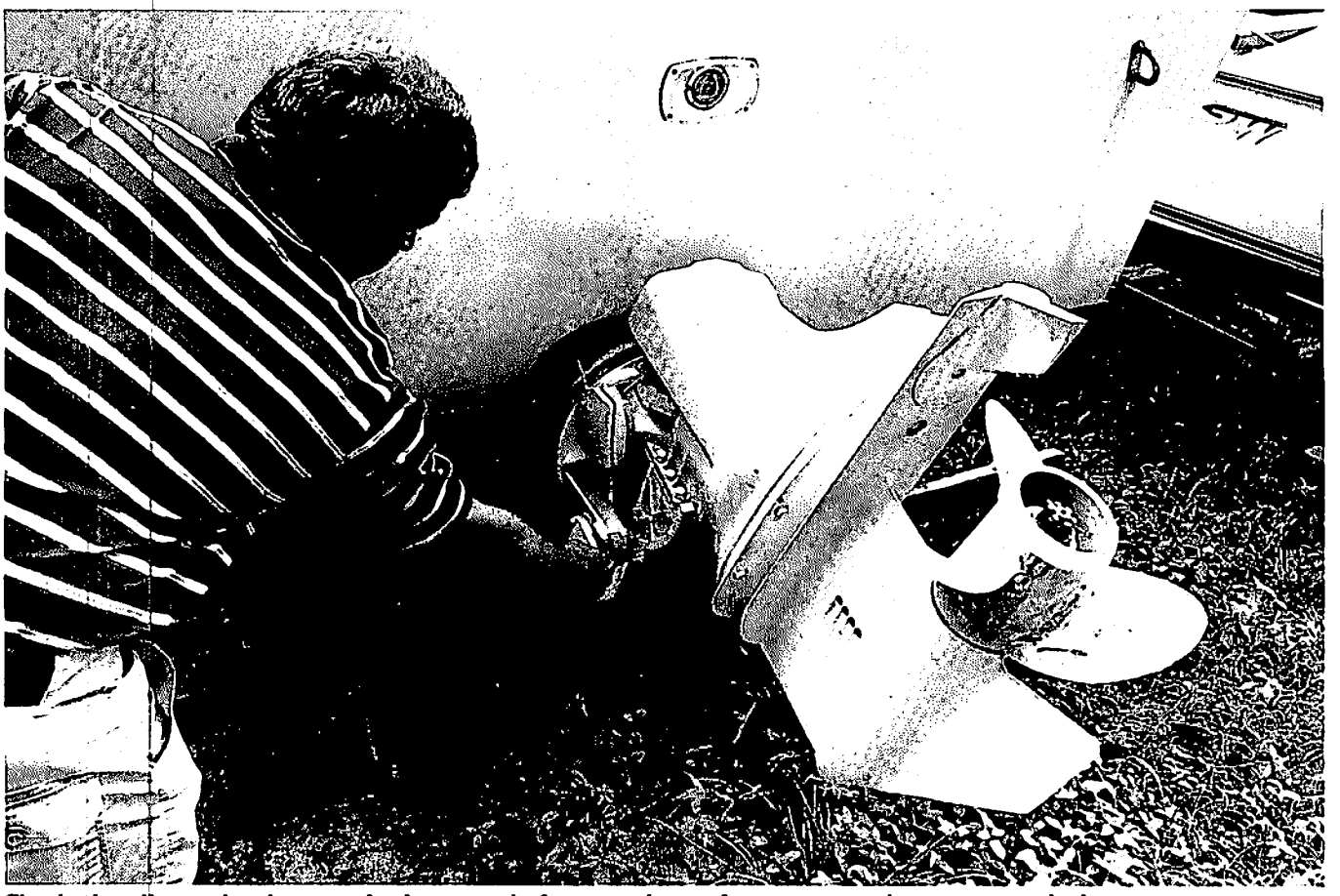
Check the propeller for bent or broken blades and nicked edges.

E. Check the lower unit on outboards and inboard/outboards for signs of wear, corrosion and general abuse. Look for cracks in the gear case and shaft housing.

F. Check the oil in the gear case for water and note the condition of the oil. Water may indicate the presence of a leak and possible internal damage to the gears. Also, check the crankcase oil on inboards and inboard/outboards.

G. On inboard/outboards check the condition of the rubber bellows where the lower unit comes through the transom. There should be no holes or cracks in the bellows.

Photo by Spencer Rogers



Check the tilt mechanism on the lower unit for any signs of wear, corrosion or general abuse.

H. Note the engine hour meter to see how many hours of use the engine has had if the boat is so equipped. If not, ask the owner how many hours are on it. As a general rule of thumb this is really only useful in evaluating the useful remaining life of an engine which can depend on proper maintenance and sensible operation as much as on total running time. An engine with many hours of use which has been properly maintained and operated within the manufacturer's recommended R.P.M. range can conceivably have more useful life left in it than one which has been abused.

VIII. Sailboats

When considering the purchase of a sailboat, you should realistically evaluate how and where you intend to use the boat. When looking the boat over, check the hull and other systems listed earlier in this publication. In addition, check the following items more commonly found on sailboats.

A. Hulls and deck

1. Look carefully around the centerboard trunk, particularly where it attaches to the hull, for rot or signs of any damage.

2. Inspect the mast step where the mast attaches to the deck or hull. For unstayed masts without standing rigging, the step must support all of the force of the sail. The mast should slide in easily, but fit snugly without any side-to-side movement.

3. Check all fittings for leaks or damage where the rigging attaches to the hull and to the deck.

B. Centerboard, daggerboard, keel

1. Check the daggerboard or centerboard for cracks and chips. It should fit snugly, but still be adjustable in its trunk. Neither the trunk nor the board should wobble from side to side under moderate hand pressure.

2. Centerboards are often operated with a line or a cable and winch. The cable or line should be in good repair. Check the pin that pivots the board and holds it in the well. The pin and the cable, where it

attaches to the board, are common problem spots for corrosion and wear. They will probably be hard to see so check carefully.

3. Ballasted keels either attach weights low inside the hull or may be completely outside the hull and bolted through the bottom. In either case, make certain the keel is securely attached to the hull. Keel bolts attaching external ballast should be snug and not corroded. Signs of damage or weakness here are reason for concern. If in doubt, have it checked by an expert.

4. If the boat is kept in water, it will be difficult to adequately check the centerboard or keel. A haulout before purchase is advisable. Check the centerboard pivot pin and cable connection. Look for the joint between the hull and an external keel or ballast. It should be well caulked and smoothly faired.

5. While the boat is out of water, inspect the rudder and its connections to the hull. Rudders are attached to the stern with hinge fittings called pintles and gudgeons. They should be securely attached to the hull and rudder and should not be bent or corroded. The rudder should also swing freely out of water. Some rudders are attached by a shaft extending through the hull. Look at the fittings where it passes through the deck and hull for leaks or damage. Inspect the connection of the shaft to the tiller and to the rudder. Some rudders are molded shells with a light core. Check around the edges for cracks or movement around the shaft. Some rudders kick up for shallow water. Does the rudder lock down properly and kick up under moderate hand pressure?

C. The spars and rigging

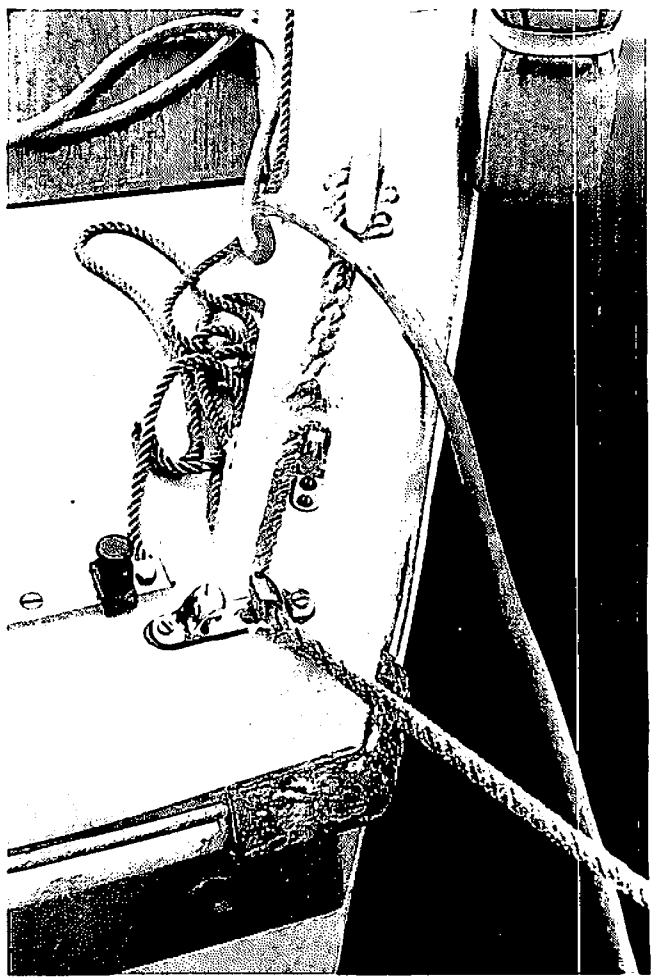
1. Check the mast, boom and spreaders for cracks, bends and corrosion. Sight along the grooves or tracks on the mast and boom. Some bending may be by design or due to improper adjusting of the standing rigging. Sharp bends usually indicate a past accident and can be a serious problem. Check wooden spars for rot. Common problem areas are the mast step at the deck, at the top of the mast and at the spreaders. The varnish or paint should be in good shape or another coat will be needed for proper protection.

2. Check the fitting that attaches the boom to the mast. It must move easily and have no defects.

3. The standing rigging that holds up the mast is usually multistrand stainless steel wire. End fittings can be a variety of machine-pressed, crimped or bolted connectors. Corrosion problems are often first apparent around or on the end fittings. A slight rusty discoloration is common in either and is not serious. A broken wire strand at an end fitting or a hairline crack in a fitting is reason to cut the wire and replace the end fitting. The wire may still be usable if it is not too short. Carefully run your hand down all of the rigging wire. A broken strand anywhere else in the wire usually requires replacement.

4. Check all of the fittings between the standing and running rigging and the hull or spars, such as turnbuckles, shackles and fairleads.

Photo by Spencer Rogers



Evaluate the condition of cleats and other hardware. Corrosion here will only get worse.

5. Check the running rigging. If it is supposed to move, move it. If not, wiggle it anyway to make sure it doesn't. Check the halyards to see that they move freely through the top of the mast. The sheaves in all of the blocks or pulleys should turn freely. Inspect all control lines, sheet ropes and halyards for excessive wear, chafe and broken strands. Check any winches, line stoppers and cam cleats for proper function under tension. Where are the winch handles?

D. Sails

A sailboat's propulsion is provided by the sails, and they should be given careful scrutiny. Like a powerboat engine, they can indicate the overall quality of care the boat has received. Sails have three major enemies: sunlight, chafe and overstressing. Dacron has replaced cotton canvas in most modern sails because it is highly rot-resistant and it keeps its shape well. Nylon is used in lighter, stretchy sails, such as spinnakers. Pull out all the sails and note what sails are included in the purchase. Lay out the sails on a large, clean surface for inspection.

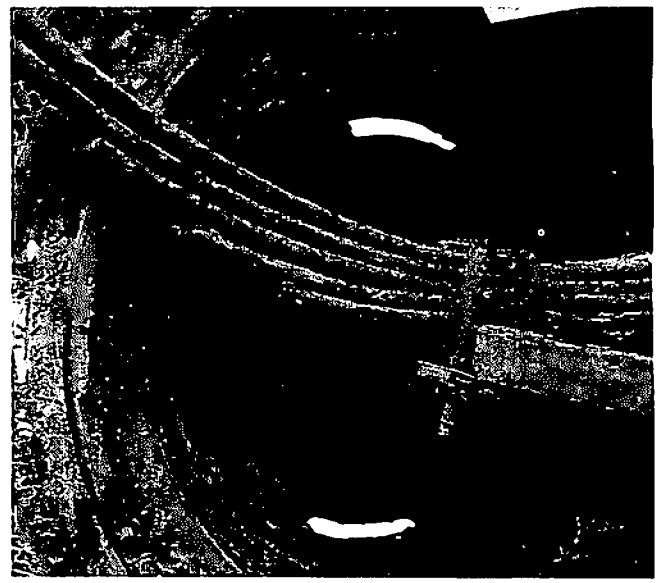
1. Sunlight gradually causes Dacron and nylon to decay. Check for sailcovers or expect to take the sails off and store inside when not in use. Dacron can get a chalky feeling on the surface when sun-damaged. Eventually, the cloth becomes so weak that it rips under normal sailing conditions. Check any sails or parts of sails left uncovered on the boat.

2. Check all sewn seams for worn or missing thread. The thread used to stitch the sails together at each seam is slightly raised above the cloth and is often the first to wear or chafe. Small sections can be easily repaired by handsewing, using the original needle holes. Larger jobs should be given to a sailmaker who can do the re-stitching on a heavy-duty sewing machine. Common areas for sail chafe are the batten pockets where the sail, when set, rubs against the spreaders, standing rigging or mast.

3. The corners of the sails receive the highest amount of stress. Check for tears or damaged eyes. Check the attachments, such as sail slides, slugs, jib hanks or loft ropes, used to fasten the sail to the mast, boom or stay.

4. Check for broken battens.

Photo by Bob Hines



Note the badly damaged springs on this trailer. New ones will be required to haul a boat safely.

IX. Trailer

A. Check the trailer tires for wear.

B. Check the condition of the wheels and note the extent of corrosion, if any. Use a lug wrench and see if you can turn the lugs or if they are frozen with corrosion.

C. Jack up the trailer so that the wheels are off the ground. Spin each wheel and listen for grinding or rumbling sounds which are signs of bad wheel bearings. If you can't do this, simply listen for bad bearings when you trailer the boat to a ramp for a water test.

D. Check the condition of the trailer frame and note whether the paint is chipped and flaking off or, if galvanized, whether the galvanizing is intact and in good condition. Inspect the welds in the frame for breaks or cracks. If any are noted, it may indicate that the trailer is not strong enough for the weight of the boat.

E. Read the specification sticker (usually on the trailer tongue) for the trailer and note whether its load rating is sufficient for the boat, motor and gear. (This assumes that you or the seller knows the weight of the boat and motor.)

F. Note the condition of the keel rollers and bunkers of the trailer.

G. Note the condition of the trailer springs and axle. If they are badly rusted, new ones may be required.

H. Does the trailer fit the boat and support the hull well? If not, the hull may sag, if it has

not already done so, when sitting for long periods on the trailer.

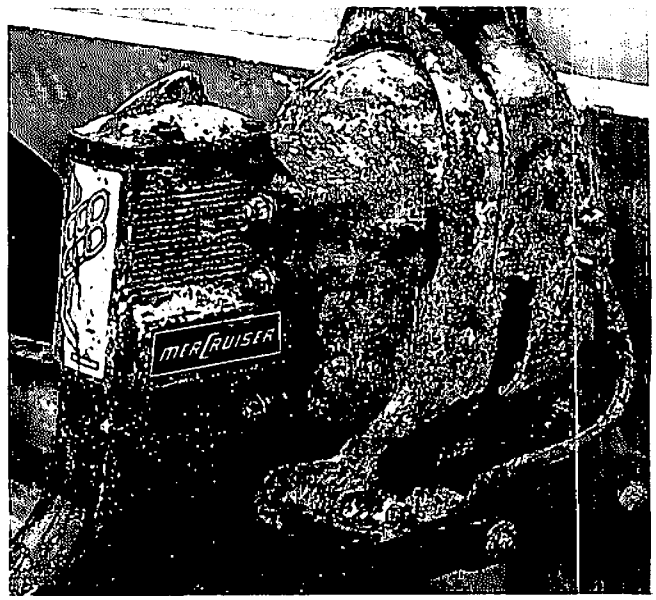
I. Do the trailer lights work?

J. Are the coupler and safety chains in good condition?

K. Are the winch and winch cable (rope) in good condition and workable? If the trailer has an electric winch, are the electric cables in good condition?

L. "Bearing buddies," which fit into the axle-bearing housing of the hub in place of the standard dust cover, are a plus if the trailer is so equipped. They allow the complete filling of the hub with grease and, in conjunction with the inside bearing grease seal, protect the wheel bearings from the entry of water into the hub.

Photo by Steven A. Wilson



Extensive corrosion of the engine may be indicative of the general care it has received. Give extra attention to its performance during the water test.

X. Water test

A. Boats in general

1. When you hook the trailer to hitch, note whether tongue weight seems excessive. This can be corrected by moving the boat rearward on the trailer.

2. Listen for grinding or rumbling sounds coming from the trailer wheels while you are trailering the boat to the launching ramp. Such sounds may indicate bad wheel bearings, loose wheels or other problems.

3. Does the trailer track well behind the car without excessive side-to-side sway?

4. When you launch the boat, is it a reasonably easy job for one person? If not, what will you do on those days when you go boating alone?

5. If the trailer is a break-frame type, note whether the frame breaks (tilts) properly.

6. Before you leave the dock, check the bilges for leaks. Also, sniff around for fuel leaks *before* you start the engine.

7. Does the engine start easily? If not, this may indicate it needs a simple tune-up or there might be some other problem.

8. As you move away from the dock and into open water, idle along in gear and note how the engine runs and how the boat handles at low speed. Listen for any abnormal grinding, thumping or whining sounds and note any excessive vibration which could indicate problems in the drive train.

9. Move the throttle ahead and note how the engine runs from low idle up through full speed. Outboards may sputter a little as the high speed carburetor jets cut in, but this is nothing to worry about.

10. Note whether the boat climbs onto plane smoothly and reasonably quickly or whether the engine labors and the boat "mushes" along with its bow in the air before coming on plane. If the latter is the case, you may need to simply redistribute the load in the boat, the motor angle or lower unit angle may need changing, the motor may not be sufficiently powerful for the boat, or the wrong propeller may have been installed.

You can get an idea of whether the right propeller is installed by noting the tachometer while the boat is planing at full throttle. If the engine is operating within the R.P.M. range specified by the manufacturer, the prop is okay for that boat and motor combination. If the engine is turning below the specified range, the prop has too high a pitch. If the engine is overrevving, the prop has too low a pitch.

Note whether the boat planes well at about ¾ throttle. If not, it is probably underpowered. An engine which has to run at full throttle to keep the boat on plane will be a fuel hog compared to one

which does not. This engine will also wear out faster.

11. Head the boat on a straight course and take your hands off the wheel for a bit. If the boat runs reasonably straight, okay; if not, the trim tab on the lower unit may need adjustment. If after adjusting the trim tab the boat still wanders off course badly, or if you have to fight the wheel to keep the boat on course, something is wrong.

B. Sailboats in particular

1. Check the motor as in any powerboat. See how the boat handles while backing up. It probably won't back up as well as a powerboat.

2. Lower the board and raise the sails. Trim the sails and sail the boat at a wide variety of angles to the wind. Does the boat seem to track in a straight line or does it slide sideways inefficiently?

3. How much effort does it take to steer the boat? If the sails are properly trimmed, only a slight effort should be required to keep the boat moving in a straight line. If heavy effort is necessary, then the sails are not properly set or there is a problem with the boat.

4. Look again for chafe in the likely areas, such as the spreader ends, where the sails rub the rigging.

5. Check the shape of the sails. Use all of the boat's sail controls to adjust the fullness and shape of the sails. All sails are designed for one specific wind speed. but the shape can be adjusted for a range of wind speeds. Most controls vary the amount of tension on the corners of the sail. The sails should be designed for the range of winds in which you plan to sail.

When properly trimmed, are the sails free of wrinkles and creases? Are the edges of the sails properly shaped, or do they flutter? The shape of the sails is critical in determining how well the boat will be propelled, and there is no substitute for an experienced eye when evaluating sail shape. If you are not familiar with sails, invite someone with experience along for the water test.

An experienced eye can also determine what shape the sail's shape is in. With age and use, sailcloth will gradually stretch, losing its original shape. Overtensioning the sail controls can also permanently stretch the sail out of its proper shape. Poor sail shape, wrinkles, creases and flutters are all signs of sail problems. Some problems can be corrected by a sailmaker.

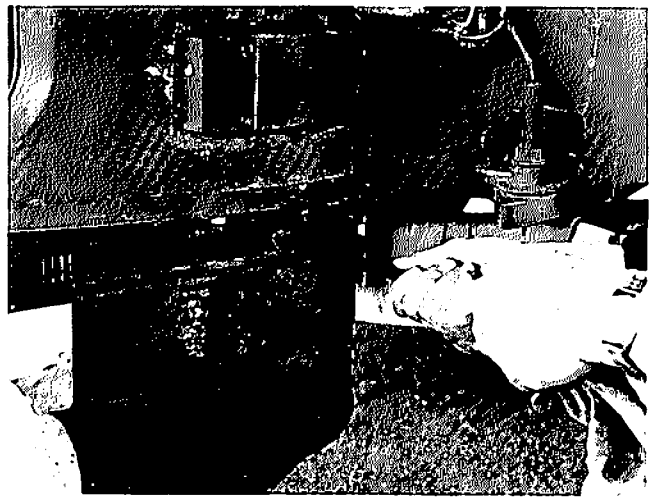
XI. General considerations

A. Chipped areas in gel-coat, battered chines, badly scuffed and scratched rub rails and sides, scuffing and wear on forefoot and keel from haphazard beaching and launching from trailer, and general cleanliness can tell a lot about the type of treatment and care a boat has had.

B. Extra equipment which comes with the boat, such as radio(s), depth recorder, compass, speedometer, tachometer, fuel gauge, engine hour meter, outriggers, rod storage, trolling rod holders, extra fuel tanks, electric trailer winch, spotlight, is a plus provided you need it or want it. Check all such items to be certain that they work properly.

C. Once you have decided that a particular rig seems to be worth your purchase, if possible have a marine mechanic, boat dealer or marine surveyor go over the rig and give you his opinion. If the owner has recent survey papers, go over them carefully to see if anything in the survey points out some fault or faults which you failed to notice. Go home and think it over now and commit yourself tomorrow if you still think you've found the rig to suit your tastes, intended uses and pocketbook.

Photo by Bob Hines



Examine the oil in the gear case for water and note the condition of the oil. Water may indicate a leak and internal damage.

Rating the boat

This section provides a rating checklist for use when evaluating a boat. It is simply a table listing items to be evaluated with spaces for recording comments and observations on those items. Additionally, the table provides a space for assigning a numerical rating to each of the items in the checklist, or for others which may become apparent when evaluating a boat, but which are not included in the checklist.

In making an evaluation, one must use some sort of system in checking the good and bad points of a boat. You may have your own qualitative system or, possibly, a quantitative system. This is fine if you choose to use it. The following paragraphs outline a simple quantitative system which may prove useful.

Recognizing that used boats come in a range of conditions, we arbitrarily assume that the midpoint of that range represents an average boat in "good" condition. This implies that a boat is fully operable and ready to go on the water without need of any immediate repairs to hull, cabin or engine. There are no serious structural faults, and the paint and other materials in the boat are not seriously blemished. The boat may be a bit dirty and dull, but not so bad that a little spit and polish cannot remedy it.

Above "good" condition in the rating scale would be "very good" condition. A boat in this condition will be very clean and have a reasonable amount of extra equipment.

Highest on the scale would be "excellent" condition. An "excellent" boat would have a full range of extra equipment and be so well-maintained and fitted-out that it is equal to or better than a new boat.

Photo by Bob Hines

Some used-boat purchases include extra equipment, such as an extra fuel tank, radio, compass. Check all items to be certain they are in good working condition.

Ranking below "good" condition would be a boat in "fair" condition. This boat will require some work, particularly overdue maintenance, or it might lack some of the basic equipment necessary to operate it safely or comfortably under normal conditions.

Lowest on the scale, a boat in "poor" condition will need much repair and is in no condition to move without extensive work.

With these qualitative judgments in mind, we can assign quantitative values to each of the classifications as follows:

Qualitative	Quantitative
Excellent	10
Very good	8
Good	6
Fair	4
Poor	2

Now, using the checklist as you evaluate the boat, make a qualitative judgement of each item on the list and assign the corresponding numerical rating to it. When you have finished each section of the checklist, average the numerical scores and you have a numerical rating for that portion of the package. When you have done this for the whole package—boat, motor and trailer—average the scores for each section and you should have a fairly accurate appraisal, in your terms, of the whole package.

Next, use this numerical rating in conjunction with information given in section 3 to arrive at a price for the package.

Hull and liner

Rating	Item	Comments
	Paint and varnish	
	Frames	
	Planking	
	Gel-coat	
	Hull-to-deck joint	
	Hull core	
	Sole covering	
	Hatches	
	Ports	
	Cabin bulkhead	
	Water tightness of cabin	
	Trim	
	Upholstery	
	Rivets (metal boats)	
	Bottom paint (metal boats)	
	Hull plating (metal boats)	
	Flotation material	
	Cockpit top	
	Windshield	
	Past repairs	
	Others (list below)	
Total Average		

Hardware and fastenings

Rating	Item	Comments
	Vents	
	Hinges	
	Railings	
	Cleats	
	Through-hull fittings	
	Seacocks	
	Insulation from hull (metal boats)	
	Others	
Total Average		

Electrical system

Rating	Item	Comments
	Wires	
	Connectors	
	Running lights	
	Accessory lights	
	Gauge lights	
	Circuit board	
	Fuses	
	Battery	
	Battery cables	

Electrical System

Rating	Item	Comments
	Battery disconnect switch	
	Grounding system	
	Others (list below)	
Total Average		

Fuel system

Rating	Item	Comments
	Tank	
	Vent and vent line	
	Fill fitting and pipe	
	Grounding	
	Fuel delivery line	
	Others (list below)	
Total Average		

Engine and drive train

Rating	Item	Comments
	Propeller	
	Air cleaner	
	Compression	
	Lower unit	
	Upper gearcase (I/O's)	
	Crankcase oil (IB, I/O's)	
	Engine hours	
	Transmission assembly (IB)	
	Shift level	
	Throttle control	
	Gauges	
	Steering gear	
	Others (list below)	
Total Average		

Sailboat rigging

Rating	Item	Comments
	Mast	
	Boom	
	Running rigging	
	Standing rigging	
	Centerboard	
	Keel	
	Sails	
	Rudder	
	Other hardware	
Total Average		

Trailer

Rating	Item	Comments
	Tires	
	Wheels	
	Lugs	
	Wheel bearings	
	Frame	
	Capacity	
	Rollers	
	Springs	
	Axle(s)	
	Lights	
	Safety chains	
	Coupling	
	Winch & cables	
	Tongue weight	
	Brakes (if equipped)	
Total		
Average		

Water test

Rating	Item	Comments
	Ease of launching	
	Trailer tilt	
	Starting ease	
	Engine idling	
	Engine high speed	
	Ease of planing	
	Engine rpms at full throttle	
	Tracking	
	Cavitation	
	Ease of maneuvering at dock	
	Ease of loading on trailer	
	Others	
Total		
Average		

Determining a price

Assuming that Section One of this publication has provided you with some rationale in determining what condition a given boat is in, how do you arrive at a price? Of course, the seller may have posted a price, or may have one in mind. But, how do you determine if this is a reasonable price, too high or a bargain? Stated another way, how do you determine what you are willing to pay for the boat?

First, it might be helpful to consider the purchase of a used boat as involving two steps. Step one is determination of the market value of the type of boat you wish to buy. This will be a range of values, rather than a single figure. Step two is to find a boat in acceptable condition at a price you are willing to pay.

One source from which to obtain figures on the market values of used boats is to refer to one of the several publications available which catalog the selling prices of used boats, similar to the "blue book" of used car prices. Generally, these publications list a low and a high value for a given boat, the high figure being for a boat in top condition, in need of no major repairs, and the low figure being for boats in poor condition. Boat dealers generally have a set of these publications and most will be willing to let you look at them.

Another source for price information is the classified ad section of your newspaper. Here it would be good to refer to several newspapers over a period of time—say 60 days—in order to get as complete a range of figures as possible.

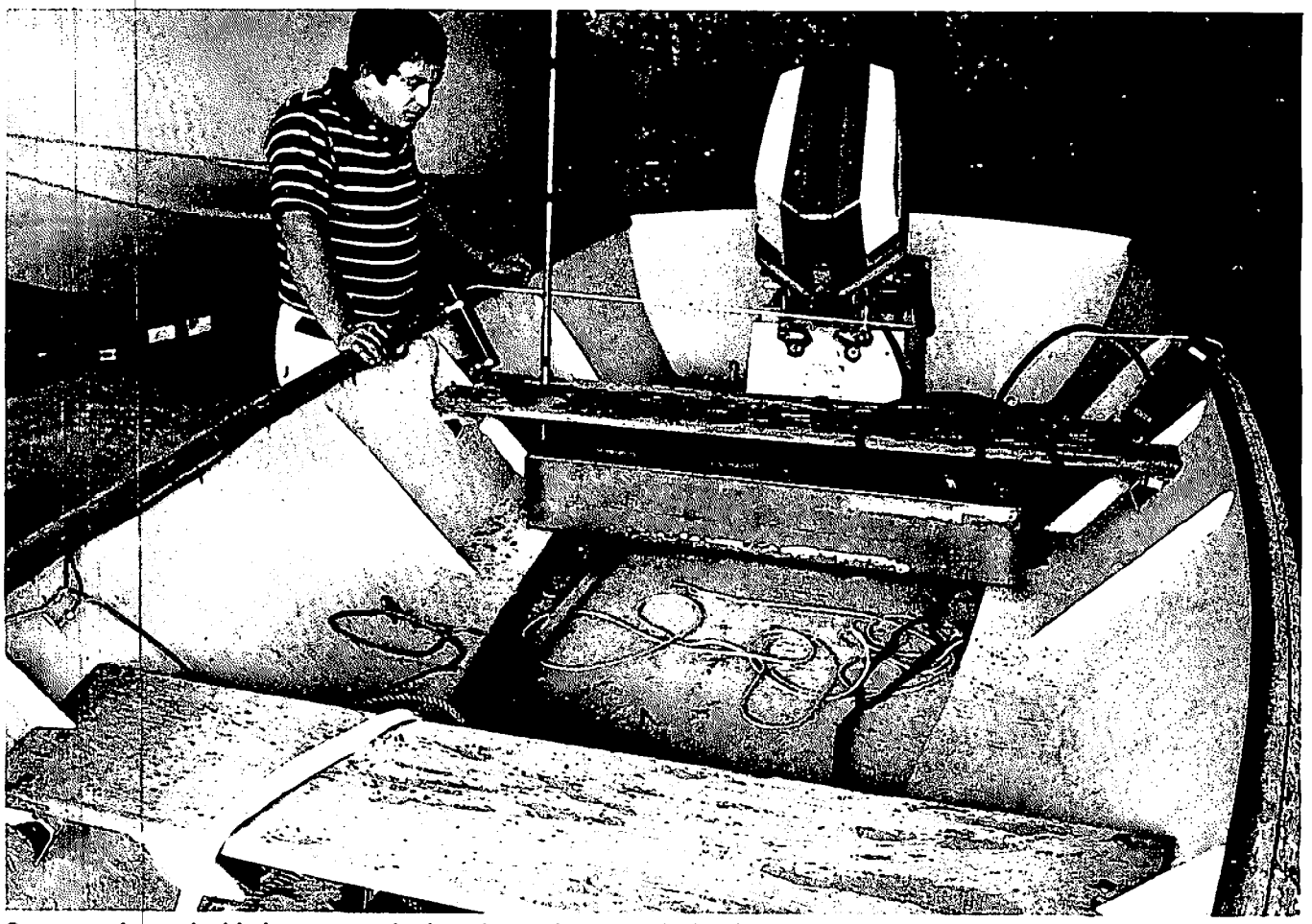
Now, assume that you have consulted a used boat directory and/or newspaper ads, and you find that prices for the type of boat you want range from $5500 to $8000 for a boat that is two years old. Here it would be helpful to think of the average or middle boat within this range as being in "good" condition with a value of $6750, the middle figure of the range. Additionally, you find one boat with a few extras that is advertised at a price of $7000 and decide to take a look at it. Now, using the checklist in section two, you rate the boat and find that on a scale of 10 she rates an 8. Under the rating system, this would qualify as "very good" condition.

Here, it will be helpful to refer to the following table:

Condition	Price factor
Excellent	**+20%**
Very good	**+10%**
Good	**—**
Fair	**—15%**
Poor	**—30%**

Now, using the middle figure from the range of values, $6750, apply the price factor of +10%. This gives an adjusted value of $7425 for a boat in very good condition. The boat has a few

Photo by Spencer Rogers



Once you have decided on a particular rig, go home and give it a good, long, second thought. If it suits your tastes, intended uses and pocketbook, call the owner and make him an offer.

extras—a radio, compass and depth recorder—and is in good operable condition. So, $7000 is indeed a fair price. But, for the sake of a bargain you offer $6800, and the seller accepts. You have made a very good buy.

In addition to demonstrating how to use the checklist and rating system, the point of this exercise is to show that in buying a used boat one is well-advised to approach the transaction with a plan. Buying a boat, for most of us, is an emotional experience. But, the prospective buyer who controls his emotions and evaluates each potential transaction coolly and logically is most apt to make a good buy on a boat.

Glossary

Batten—A thin, flat strip of wood or plastic which helps give a sail a better aerodynamic shape. Usually used on the mainsail.

Batten pocket—Pockets sewn into the sail to hold battens in place.

Bilge—The lower interior areas of the hull of a vessel.

Block—A pulley used to increase a hoisting or pulling force.

Bolt rope—A rope sewn into the edges of a sail to strengthen it or attach it in a groove to the master boom.

Boom—The horizontal spar along the lower edge of usually the mainsail.

Bulkhead—Any vertical partition which separates different compartments from one another.

Caulking—Material used for filling or sealing the seams between planks in boats, particularly hull planking or around fittings.

Cavitation—A condition occurring during the rotation of a propeller wherein air cavities form in contact with the propeller blades, reducing its thrust which reduces propulsive efficiency.

Centerboard—A movable plate of wood, metal or fiberglass hinged so that it can be raised or lowered through the hull of a sailboat to prevent sliding sideways with the wind.

Centerboard trunk—A housing which maintains the watertight integrity of the centerboard, allowing it to be raised and lowered.

Chine—A longitudinal piece which runs from stem to stern where the side and bottom frames join in a V-bottom boat.

Cleat—A wood or metal fitting with outward curving arms on which lines are made fast.

Coaming—The raised borders about the edge of hatches and cockpit which prevent water on deck from running below.

Cockpit—An open well in the deck of a boat outside of deckhouses and cabins.

Daggerboard—Similar to a centerboard except without a hinge. It is raised and lowered vertically and usually by hand.

Deck—The platform in a vessel covering the hull and forming the floor.

Delamination—Condition occurring when fiberglass, plywood or other items composed of layers of material separates into the composite layers.

Draft—The maximum distance the boat extends below the water. The shallowest depth of water in which a boat can navigate.

Fairlead—A strip of board with holes in it for running rigging to pass through; any ringbolt, eye or loop which guides a rope in the required direction; a block or thimble of wood or metal suitably placed to lead ropes to their proper places.

Fastening—A term applied to the screws or specially designed nails which hold planks to the frames.

Fiberglass—Marine material for modern small craft; fiber-reinforced plastic; glass fibers embedded in a thermosetting plastic.

Gel-coat—A thin finishing outer layer of plastic on the outer surface of a fiberglass boat that contains no reinforcing glass fibers, being purely for appearance and water protection.

Gudgeon—One of the several lugs or brackets projecting from the after side of the stern or rudderpost to support the rudder.

Gunwale—The upper edge or rail of a boat's side.

Halyard—A line used for hoisting or lowering the sails.

Hatch—An opening in the deck of a vessel to provide access below.

Headsail—The sail forward of the mast or ahead of the most forward mast.

Hull—The main body or shell of a boat, exclusive of superstructure.

Jib—A single headsail.

Keel—A longitudinal timber or plate extending along the center of the bottom of a vessel. Helps to make the boat travel a straight course.

Mainsail—The principal sail of a boat.

Mast—The principal vertical spar from which sails are set.

Pintle—A heavy pin or bolt on the rudder frame by which the rudder is hinged to the gudgeons of the rudderpost and around which it pivots.

Rudder—A device used for steering and maneuvering a vessel.

Rudder stock—That part of the rudder which acts as a vertical shaft through which the turning force of the steering gear is transmitted to the rudder body.

Running rigging—All lines used to control sails, movable rigging.

Seacock—Valve that opens and closes the through-hull openings to the head, sink, etc.

Shackle—A U-shaped fitting with a pin across the throat, used as a connection between lengths of chain or to attach other fittings.

Sheave—A grooved wheel in a block, pulley, mast or yard over which a rope passes.

Sheet—A rope fastened to one or both of the lower corners of a sail, and used to point and shape it.

Shrouds—Wire stays leading from the upper part of the mast to the deck on either side to provide lateral support, comprises the standing rigging.

Spar—A term used broadly to cover masts, booms, etc.

Splice—Method of joining ropes by braiding two ends together or by braiding one end into the standing part of the rope or wire.

Spinnaker—A large, three-sided sail of light material used when running before a fair wind.

Spreader—A horizontal metal tube or wooden strut fitted on the mast to spread the shrouds for more effective bracing.

Standing rigging—The wires which hold up the mast.

Stays—Rigging which supports the mast in a fore-and-aft plan.

Stringer system—The longitudinal frames in a boat, running lengthwise of the hull for additional structural strength.

Tiller—A horizontal arm extending forward from the top of a rudder or rudder post which is moved from side to side for steering.

Transom—The framework of the stern; the boards forming the flat stern area of the boat not having a pointed stern.

Trim tab—Small fin on the under trailing edge of the cavitation plate on the lower unit of outboard and inboard/outboard motors. Adjusts to compensate for drift in steering.

Turnbuckle—A device for adjustment of length fitted at the lower end of shrouds, stays, etc.

Winch—A mechanical device, either hand or power operated, for hoisting or hauling in rope, cable or line.

Notes

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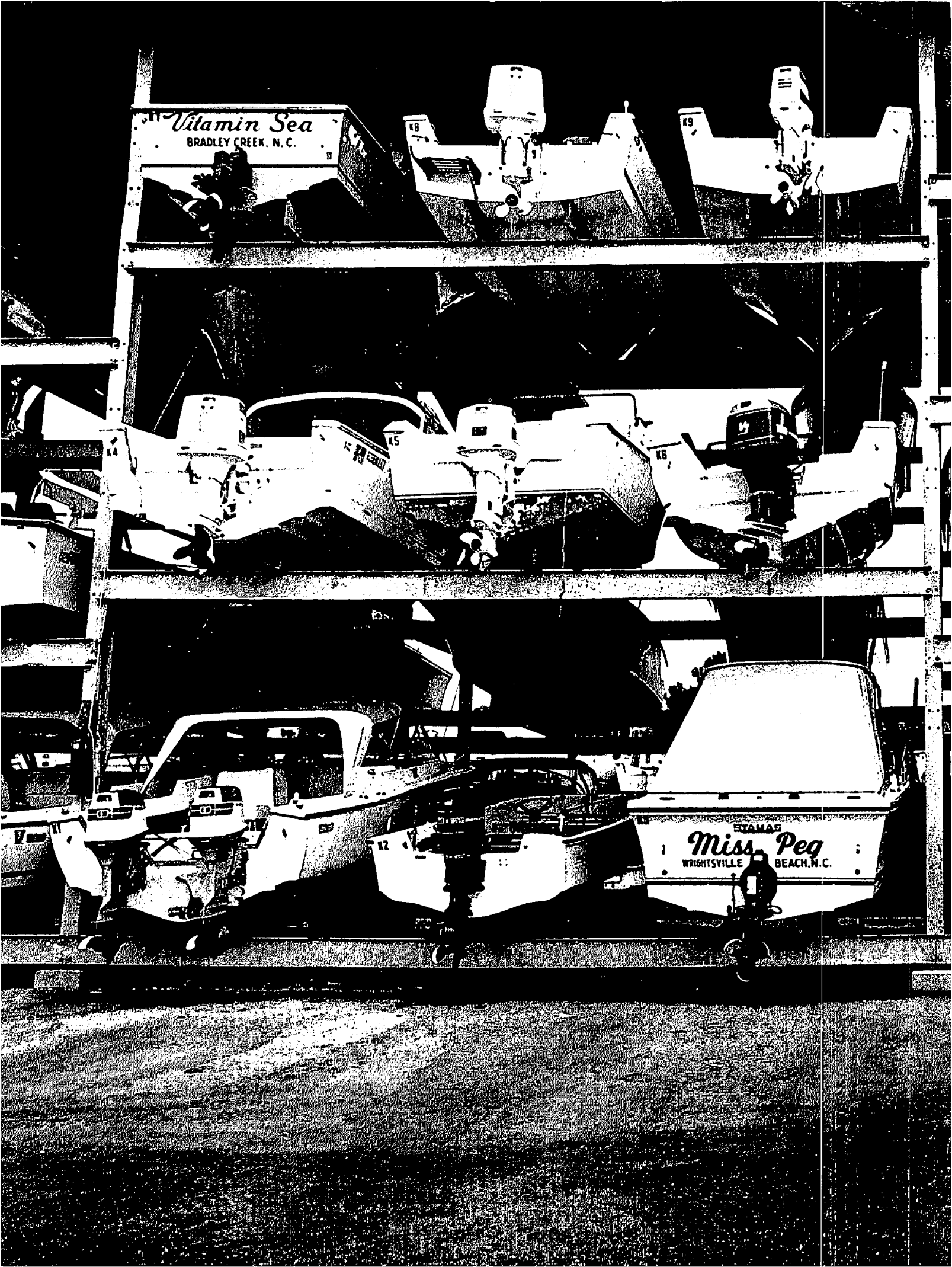
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