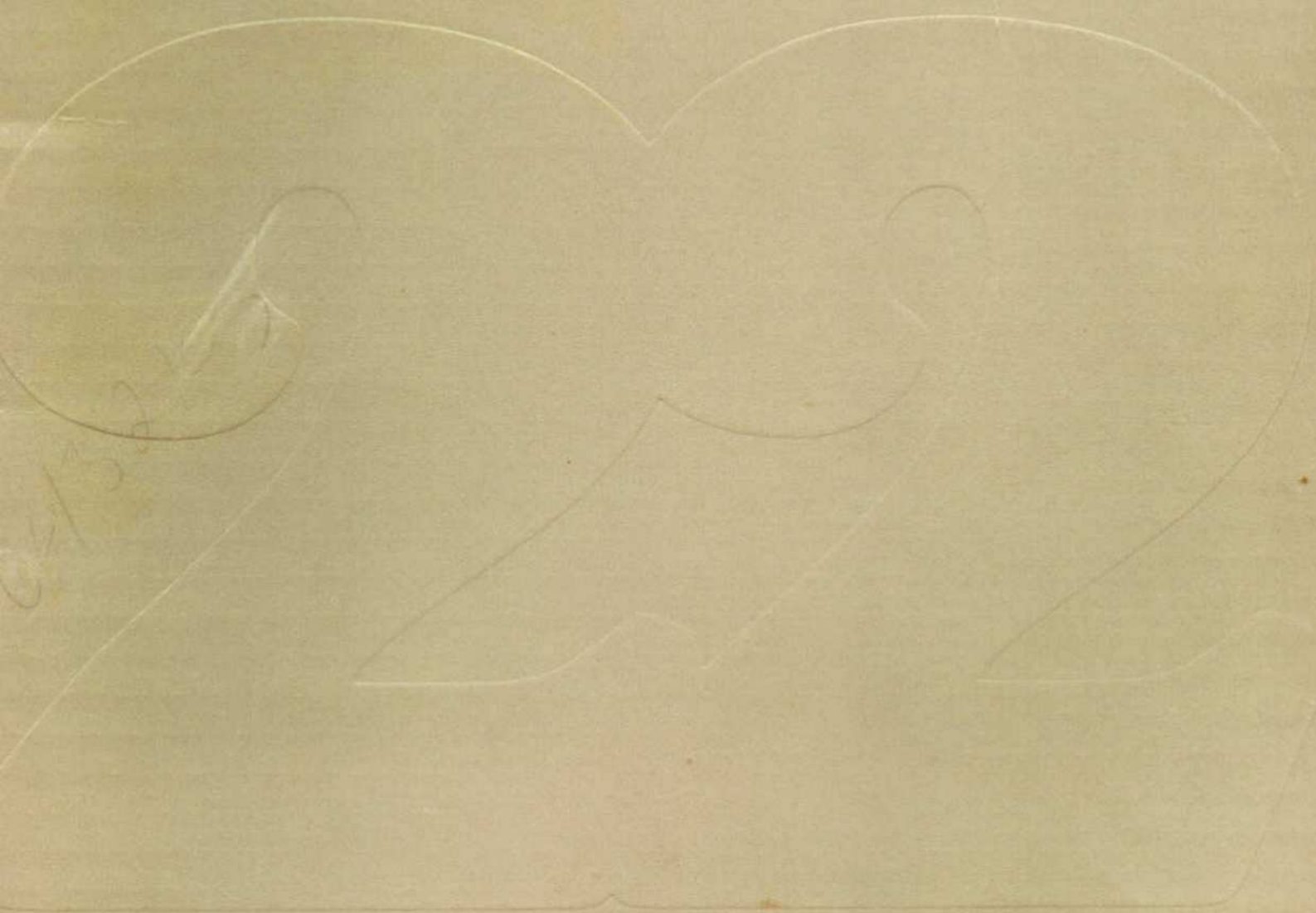

**Mull 22:
A Consumer Guide.**



04/13/2007

WEST COAST PLANT
200 A Kalmus
Costa Mesa, Calif. 92626
(714) 540 3440

JENSEN Marine



A BANGOR PUNTA COMPANY



REGISTRATION CERTIFICATE

Hull Identification No./Coast Guard Serial No. RAYBO 334M80H
(Located on transom, starboard side)

DEALER'S STATEMENT YES NO

On board literature kit delivered to owner

Sea test performed

Limited warranty delivered and explained by dealer

Make ready complete

If no, what short shipped parts are still in transit or on order?
NIL

Date of retail delivery Aug. 15 1980
[Signature]
Dealer's Signature

OWNER: COAST GUARD REGULATIONS REQUIRE THAT YOU INFORM THE MANUFACTURER OF DATE OF RESALE AND ADDRESS OF SECOND PURCHASER.

Mara-Shore Yachts
P.O. Box 892
Beaverton, Ontario
(705) 426-5247

OWNER'S STATEMENT

Intended Use: Pleasure Commercial

Other (Explain) Ontario, Canada

Boat documented? Yes No

If yes, what class? Yacht Commercial

Do you require a Master Carpenter's certificate?
 Yes No

Type of boat(s) previously owned/just traded in?
NIL

Favorite boating magazines, either regional or national
Charting

Other boats seriously considered before buying my new RANGER Yacht
0-DAY 2-5

I have read and fully understand and agree to the terms of the RANGER Yachts Limited Warranty and its policy and limitations therein.

[Signature]
Owner's Signature

NOTE: COAST GUARD REGULATIONS REQUIRE THAT THIS CERTIFICATE BE ON FILE AT THE PLANT OF MANUFACTURE.



A BANGOR PUNTA COMPANY • BUILDERS OF RANGER YACHTS, CAL BOATS, O'DAY SAILBOATS, STARCRAFT CAMPERS

Mara-Shore Yachts
P.O. Box 892
Beaverton, Ontario

DEALER CHECK OFF SHEET

DEALER (705) 426-5247

DATE 4-2-80

BOAT MODEL R-22

SERIAL NO. RAY B 0334 M 80 11

This form must be completed and returned to Jensen Marine Customer Service within (10) ten days of receipt of the boat. No parts and/or accessory shortages will be acknowledged after that time.

Items included and shipped with this boat are indicated by a check mark (X).

- | | | |
|---|--|---|
| <input type="checkbox"/> J O D O Auto bilge pump | <input type="checkbox"/> O O Head/compact | <input type="checkbox"/> O O Shower curtain(s) |
| <input type="checkbox"/> E O E O Auto Pilot | <input type="checkbox"/> O O Head/chemical | <input type="checkbox"/> O O Shower unit (s) |
| <input type="checkbox"/> N O A O Auto pilot jack shaft | <input type="checkbox"/> O O Head/imperial | <input checked="" type="checkbox"/> O O Spin gear (mast) |
| <input checked="" type="checkbox"/> S X L O Backstay | <input type="checkbox"/> O O Instruments | <input type="checkbox"/> O O Spin gear comp |
| <input checked="" type="checkbox"/> E X E O Backstay adjuster | <input type="checkbox"/> O O Jib blocks | <input type="checkbox"/> O O Spin pole |
| <input checked="" type="checkbox"/> N X R O Battery | <input checked="" type="checkbox"/> O O Lifelines | <input type="checkbox"/> O O Spreader lights |
| <input checked="" type="checkbox"/> O O Boom | <input type="checkbox"/> O O Lifeline gates | <input checked="" type="checkbox"/> O O Spreaders |
| <input type="checkbox"/> O O Boom vang | <input checked="" type="checkbox"/> O O Lightning ground | <input checked="" type="checkbox"/> O O Stanchions |
| <input checked="" type="checkbox"/> O O Bow pulpit stern | <input checked="" type="checkbox"/> O O Lights | <input type="checkbox"/> O O Staysail gear |
| <input type="checkbox"/> O O Bow/stern roller | <input checked="" type="checkbox"/> O O Manuals/warrantees | <input type="checkbox"/> O O Stove |
| <input type="checkbox"/> O O Carpet | <input checked="" type="checkbox"/> O O Mainsheet blocks | <input type="checkbox"/> O O Stove liner |
| <input checked="" type="checkbox"/> O O Cleats/winch | <input checked="" type="checkbox"/> O O Mainsheet | <input checked="" type="checkbox"/> O O Stern light |
| <input checked="" type="checkbox"/> O O Cleats/mooring | <input checked="" type="checkbox"/> O O Mainsheet traveler | <input type="checkbox"/> O O Salt water pump |
| <input checked="" type="checkbox"/> O O Cushions | <input checked="" type="checkbox"/> O O Mast | <input type="checkbox"/> O O Table leg (s) |
| <input type="checkbox"/> O O Dorade/vent (s) | <input checked="" type="checkbox"/> O O Outboard bracket | <input type="checkbox"/> O O Tack pin |
| <input type="checkbox"/> O O Emergency tiller | <input type="checkbox"/> O O Pedestal steering (w/brake) | <input type="checkbox"/> O O Tank key |
| <input type="checkbox"/> O O Emg. blower | <input type="checkbox"/> O O Pres. water system | <input type="checkbox"/> O O Toggle(s) |
| <input type="checkbox"/> O O Fairleads | <input type="checkbox"/> O O Prop (solid, Martec) | <input checked="" type="checkbox"/> O O Topping lift (boom) |
| <input type="checkbox"/> O O Furling Gear | <input checked="" type="checkbox"/> O O Reefing gear | <input checked="" type="checkbox"/> O O Turnbuckles |
| <input checked="" type="checkbox"/> O O Genoa cars | <input type="checkbox"/> O O Refrigeration | <input type="checkbox"/> O O Vents (cowl) |
| <input checked="" type="checkbox"/> O O Halyard, jib | <input checked="" type="checkbox"/> O O Running lights | <input type="checkbox"/> O O Water heater |
| <input checked="" type="checkbox"/> O O Halyard, main | <input checked="" type="checkbox"/> O O Shrouds, lower (aft/fwd) | <input checked="" type="checkbox"/> O O Winches |
| <input checked="" type="checkbox"/> O O Halyard, tails | <input checked="" type="checkbox"/> O O Shrouds, (upper) | <input checked="" type="checkbox"/> O O Winch handle (s) |
| <input type="checkbox"/> O O Hand bilge pump | <input type="checkbox"/> O O Shackles | <input type="checkbox"/> O O Windlass (bow/stern) |
| <input checked="" type="checkbox"/> O O Headstay | <input type="checkbox"/> O O Shore power | <input type="checkbox"/> O O Extra water tank |

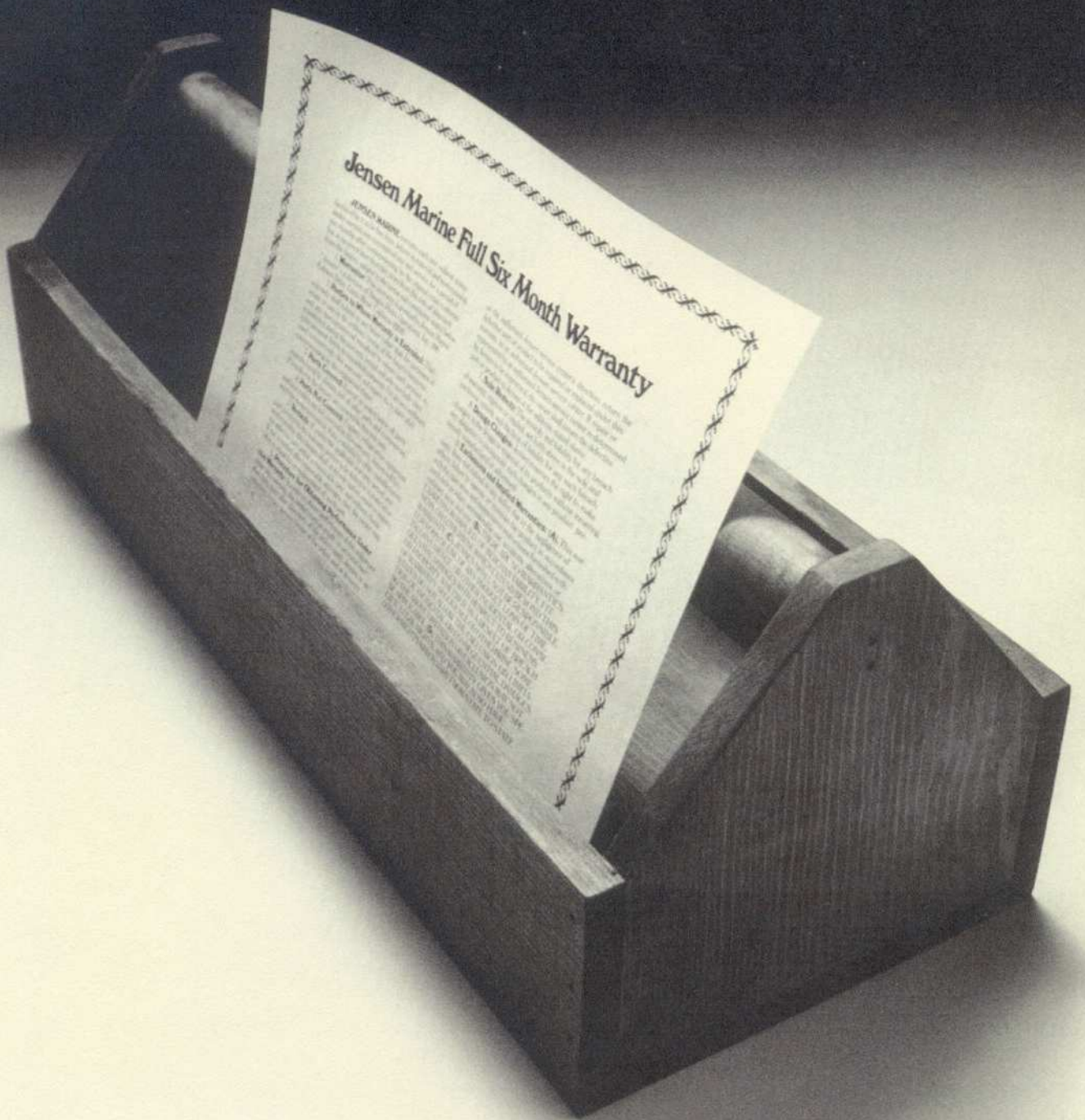
I certify that this boat has been inspected and is complete except as noted.

Dealer's Signature

Date

15/8/80

Mara-Shore Yachts
P.O. Box 892
Beaverton, Ontario
(705) 426-5247



Ranger


LIMITED WARRANTY

Bangor Punta Marine warrants each new Ranger yacht manufactured by it to be free from defects in material and workmanship, under normal noncommercial use and service, for a period of one year after commissioning by the original retail customer, but in no event later than two years from the date of shipment by Bangor Punta Marine, subject to the terms and conditions stated below.

- 1) **Warrantor.** This warranty is granted by Bangor Punta Marine, a division of Bangor Punta Corporation, 848 Airport Road, Fall River, Massachusetts 02722 and 200 Kalmus Drive, Costa Mesa, California 92626.
- 2) **Parties to Whom Warranty is Extended.** This warranty shall extend to any buyer (other than for purposes of resale or use in the ordinary course of the buyer's business), and any noncommercial transferee to whom such product is transferred during the warranty period and who normally uses it for personal, family or household purposes. For Ranger yachts used commercially, this warranty also extends but it expires thirty (30) days after commissioning by the original purchaser.
- 3) **Parts Covered.** All parts manufactured by Bangor Punta Marine, including the hull, deck, and cabinetry are covered by this warranty; the installation work performed by Bangor Punta Marine on components not manufactured by it, is also covered by this warranty.
- 4) **Parts Not Covered.** The following parts are not covered by this warranty:
 - a) masts, plywood, teak, external finishes (which include paint and gelcoat), and upholstery; and
 - b) engines, toilets, stoves, refrigerators, batteries, ignition systems, lighting devices, blowers, propellers, and other parts and equipment manufactured by others.

Bangor Punta Marine will forward the owner warranties, if any, extended by other manufacturers.

- 5) **Remedy.** If within the applicable warranty period any part or installation work covered by this warranty proves to be defective in material or workmanship, then Bangor Punta Marine shall, at its sole option, repair or replace the defective part. Parts and labor shall be at the expense of Bangor Punta Marine, but not transportation costs.
- 6) **Procedure for Obtaining Performance Under This Warranty.** In order to obtain performance of the obligations under this warranty, the owner must promptly (within thirty days of discovery of the defect) notify Bangor Punta Marine or an authorized Ranger service center of the defect, and at Bangor Punta Marine's or the authorized Ranger service center's direction, return the defective part or product to be repaired or replaced under this warranty to an authorized Ranger service center. If repair or replacement by an authorized Ranger service center is determined by Bangor Punta Marine to be impractical, the owner shall return the defective part or product to Bangor Punta Marine at either of the addresses stated above. All transportation costs to and from the authorized Ranger service center or Bangor Punta Marine, and all haul-out, launching and rigging costs, will be at the expense of the owner.
- 7) **Sole Remedy.** The remedy and liability for any breach of warranty, express or implied, set forth above is the sole and exclusive remedy and the limit of liability for any such breach.
- 8) **Design Changes.** Bangor Punta Marine reserves the right to make changes in the design or material of its products without incurring any obligation to incorporate such changes in any product previously manufactured or advertised.
- 9) **Exclusions and Implied Warranties.** This warranty does not extend to any defect due to the negligence of others, failure to operate or maintain the product in accordance with the operating and maintenance instructions furnished with each new product, unreasonable use, accidents, alterations, or ordinary wear and tear. ALL IMPLIED WARRANTIES, IF ANY, ARISING UNDER STATE LAW ARE LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. EXCEPT FOR SUCH IMPLIED WARRANTIES, THERE ARE NO OTHER WARRANTIES WHICH EXTEND BEYOND THIS WARRANTY. BANGOR PUNTA MARINE SHALL NOT BE RESPONSIBLE FOR LOSS OF USE OF ANY PRODUCT, LOSS OF TIME, INCONVENIENCE OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES WITH RESPECT TO BUSINESS OR PROPERTY, WHETHER AS A RESULT OF BREACH OF WARRANTY, NEGLIGENCE OR OTHERWISE. Some states do not allow (a) limitations on how long an implied warranty lasts or (b) the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not be applicable. This warranty gives the owner specific legal rights, and there may also be other rights which vary from state to state.



We want you to know what you're getting into.

The more you know about the Mull 22 — and what went into her — the more you'll appreciate her performance.

And really, that's what this guide has been all about. We've simply tried to anticipate — and answer — the basic questions you undoubtedly have concerning the Mull 22's design, specifications and unique construction.

Of course, we also hope we've whetted your interest, just enough, to encourage you to schedule a test sail. And that's something your local Jensen dealer will be more than happy to arrange.

It's free. It's fun. And it'll give you a chance to find out more about Mull 22 fleets and clubs now forming in your area.

Happy sailing!

If you have any additional technical questions concerning the Mull 22, by all means, ask your local Jensen dealer. Or write: Manager of Consumer Affairs, Jensen Marine, 200-B Kalmus Drive, Costa Mesa, California 92626.

Jensen Marine
200-B Kalmus Drive
Costa Mesa, California 92626

Buy a new Mull 22 and you'll get one of these amazing new tools absolutely free.

It's called the Mull 22/Jensen Marine Full Six Month Warranty. And in addition to its unprecedented "fixing power," it's the first new-boat warranty with no fine print.

What that really means is during those first, critical 180 days of "shaking down" and "tuning up" your new Mull 22, any defects in materials, factory-installed hardware and even workmanship are thoroughly covered.

It's just that simple. No sea of fine print and disclaimers to decipher. Just plain and simple language that's easy

to understand. The *first* time you read it.

Our new full warranty even makes it easier on your dealer. Because he doesn't have to second-guess what's covered. Or waste time waiting for factory authorization. And that means you'll get things fixed promptly — and get things fixed right.

At Jensen Marine, we've been building better sailboats for over 15 years. Now we've built a better warranty — the Mull 22/Jensen Marine Full Six Month Warranty.

It's simply a matter of giving you the best tool for the job.

Anything on a new Mull 22 can be repaired with one simple tool.



Buying a sailboat is, without a doubt, a major purchase. In fact, it may well be the second largest purchase you make — next to your home.

So, a simple word of caution.

Make sure when you compare boats — and we definitely think you should — you're comparing "apples to apples."

It's not as easy as it looks.

For example, take the term "cost-per-pound." Some yacht salesmen seem to think it's magic. They try to pass it off as a realistic — and even scientific — way of determining the relative value of any number of boats you'd care to compare.

All you have to do is divide the cost of boat by its displacement and — bingo! — you've got a cost-per-pound number that tells you...

Well, that probably tells you very little. Because a low number *could* denote a shabby product — but not always. And a high number isn't always a guarantee of superior quality.

There is simply no magic number to tell you, without a doubt, that you're

getting a well-designed, well-made boat.

The only way to be sure is to check out the manufacturer and the methods and materials they use in construction and, if possible, the designer — before you buy.

If the boat has been in production awhile, it's also a good idea to ask a few owners how they feel about the boat's quality and performance.

Base-boat price and sailaway price: Two more fairy-tale terms floating around the docks.

In case you haven't already found out the hard way, one dealer's "base-boat price" can easily be another dealer's "sailaway price."

The only way to accurately compare

two boat prices is to make sure the prices quoted you are for equally equipped boats.

(We strongly suggest you always figure in standard commissioning charges, bottom paint, working sails, running lights and some type of outboard or auxiliary power. Past that — suit yourself.)

It might also be enlightening for you to take a peek at the *BUC Bluebook* — the *Kelly Bluebook* of sailboats.

It'll give you a rough idea of what brands and sizes of sailboats are performing well on the "sea of resale."

Besides, if you feel guilty about buying a Mull 22 just for fun, you can always buy one for the investment.

More and more people are.

The cost-per-pound myth. And other dock-side stories.

LIDO SHIPYARD



To maximize its strength and rigidity, the Mull 22's keel is cast from a special alloy of lead and antimony.

Then, during final assembly, the entire 900 lb. keel is bolted directly — and permanently — onto a waiting hull. Proper alignment is a certainty, thanks to the special recess and etchmarks molded into the boat's keel.

The Mull 22's rudder is also made by us — in our own rudder shop. This, again, ensures that our rigid tolerances are always met. The rudderpost and framework are fabricated from stainless steel. While the blade, like the boat's hull, is fashioned from a special core material and laminates.

The final construction innovation developed for the Mull 22 is a special hull-to-deck bonding system.

To add strength, yet simplify overall construction, rolled edge joints (gunwales) are literally molded into both deck and hull structures. The result is a self-keying system that guarantees proper hull-to-deck alignment.

When the deck is lowered onto the hull, they interlock to form an exceptionally strong bond. (A special adhesive is used to permanently "weld" the two components together.)

The bonded seam that this system produces is actually stronger and lighter than any conventional through-bolting methods. And virtually eliminates the possibility of leaks. While adding reserve sheer strength to the Mull 22's structure.

(A variation of this bonding method

is being successfully used on other high-performance boats.)

As an indication of how well these new construction techniques are working, here are two final notes:

First, the construction on all Mull 22's meets or exceeds specifications for fiberglass sailboat construction established by Lloyd's Register of Shipping.

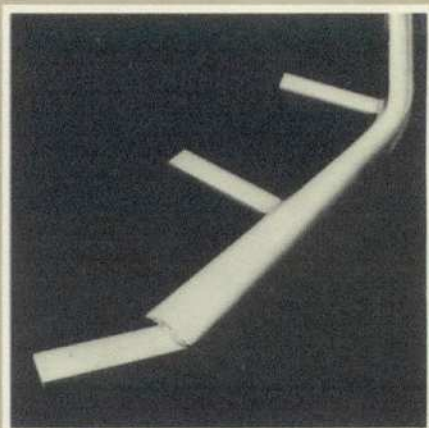
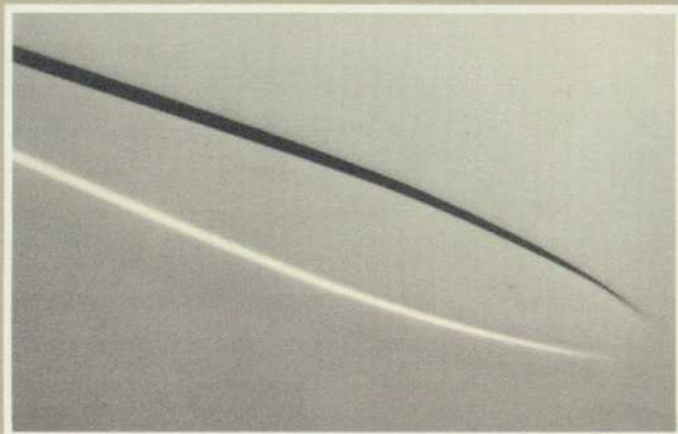
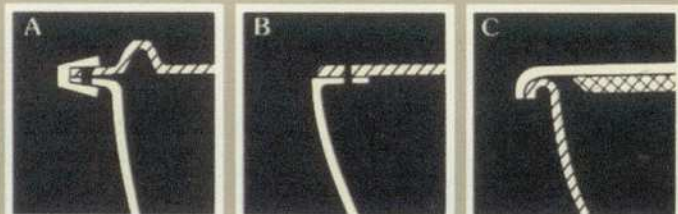
Second, the Mull 22 has earned a standard hull measurement certification from the United States Yacht Racing Union (U.S.Y.R.U.). A fitting testimonial to the Mull 22's uniformity.

With the Mull 22, we've pulled-out all stops to create a boat that delivers more quality, performance and fun.

Now, all you have to add is enthusiasm.

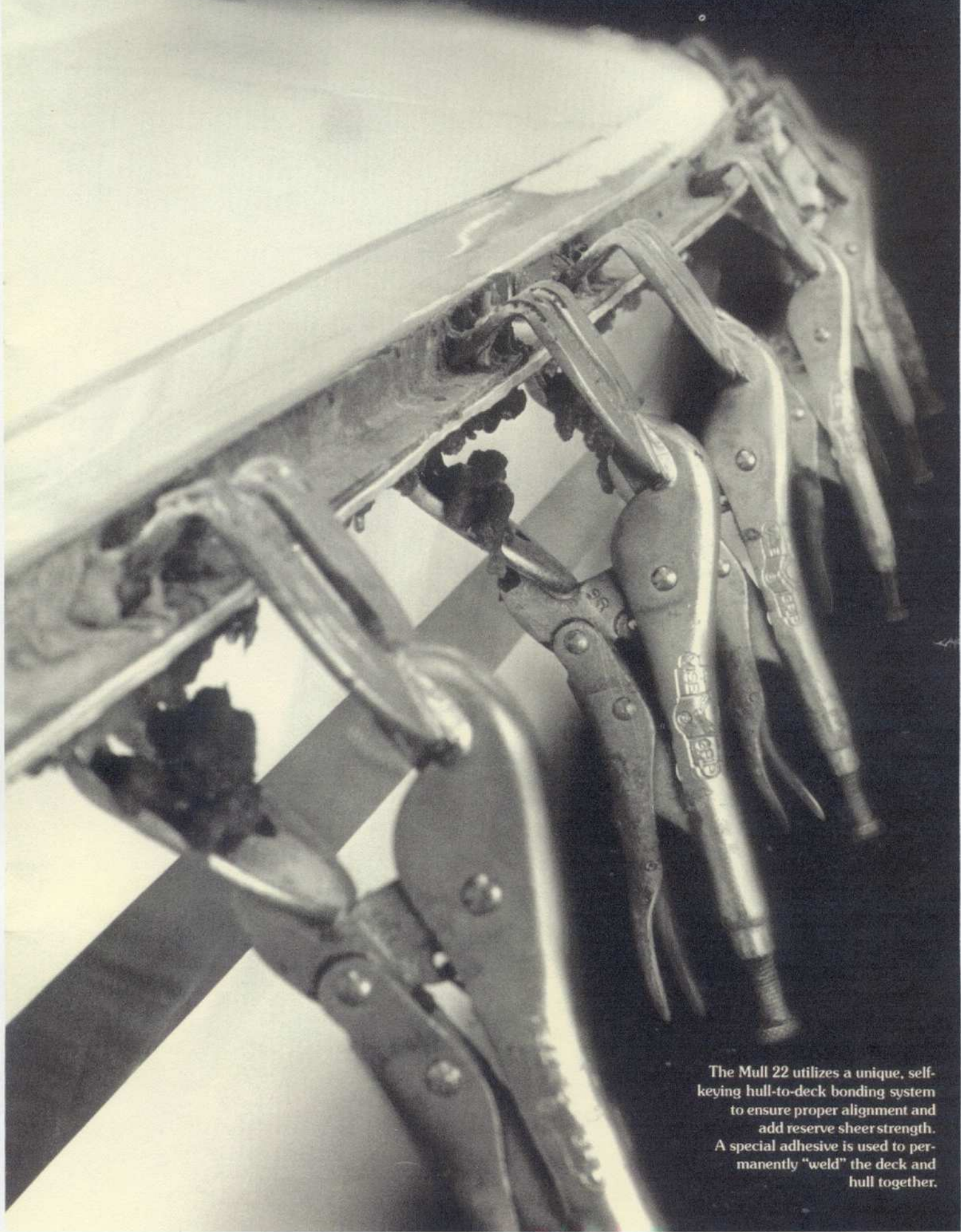
Construction Techniques: Putting all the pieces together.

Unlike other typical hull-to-deck bonding systems (A & B), the Mull 22's bonded seam (C) requires no through-bolting and is actually much stronger and lighter than other methods.



Every Mull 22 rudder is fabricated "in-house" (by Jensen Marine) to provide optimum quality. The rudderpost and frame are stainless steel to enhance structural reliability.

A molded-in recess and positioning marks guarantee accurate hull-to-keel alignment on every Mull 22.



The Mull 22 utilizes a unique, self-keying hull-to-deck bonding system to ensure proper alignment and add reserve sheer strength. A special adhesive is used to permanently "weld" the deck and hull together.

A boat as innovative as the Mull 22 demands equally innovative construction techniques.

To maintain optimum quality control, yet simplify overall construction, the Mull 22 is designed to require just three major structural components: the hull, the pan and the deck.

To ensure maximum quality and design integrity, we also build all of our own molds — instead of subcontracting the work out like so many other builders.

The first step is to meticulously construct a "plug" out of wood. This will serve as a "mold for the mold."

Its finish must be sanded to an exceptional degree of smoothness before fiberglass can be layed-up over it to produce the initial mold.

The next step is to lay-up the various hull or deck laminates within the new mold — by hand — and according to a strict and proprietary schedule.

The Mull 22's hull and deck lamination schedules have been precisely formulated to give additional strength to critical areas — while keeping overall weight to an absolute minimum.

To accomplish this, we drew upon Gary Mull's extensive experience and research in designing 6 Meter hulls.

The result is a lamination schedule that varies according to the form and function of specific hull and deck areas.

To give the Mull 22 exceptional strength — while reducing overall hull weight — Airex™ foam is used as a sandwich material between the various layers of fiberglass mat, cloth, roving and resin laminates. (Gel-coats are also used to provide molded-in hull colors and color accents.)

Here, it's important to note that *all* laminating on the Mull 22 hull is done entirely by hand. No "chopper-gun" techniques are ever used. (It could jeopardize the boat's structural integrity and rigid tolerances.)

The Mull 22's pan is another departure from traditional construction techniques.

It, too, is a laminate, but one with a dual purpose. (It's actually a giant laminated framing structure we completely glass into the hull.) Functionally, it not only supports interior subsystems and chainplate anchors, but also acts as a hull stiffener — longitudinally and transversely. Helping the hull keep its shape under stress conditions. (And a stiffer hull is a faster hull.)

material, it can never become over-saturated with resin and add additional weight to the deck.

Being non-organic, Klege-Cell™ is also virtually impervious to sunlight, water, dry-rot, mildew, etc. — something improperly sealed balsa or plywood is not. And its acoustical and thermal insulation qualities are excellent.

Carbon fibers (like those used in state-of-the-art tennis racquets and golf clubs) are another special component in the laminating schedule — adding extra strength to the house bridge section where the Mull 22's mast is stepped.

It should be additionally noted that to provide an extra margin of safety and strength, lifeline stanchion

Construction Techniques: How to build a better boat.

A special, non-organic foam — Klege-Cell™ — was chosen to be the sandwich material for the Mull 22 deck.

It has a higher strength-to-weight ratio than balsa-wood coring. And, thanks to the close cell structure of this

bases are backed-up with metal plates, and winch pads are reinforced with marine plywood.

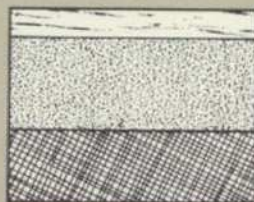
Special cutting and drilling templates are used for proper positioning-off of all cut-outs and deck hardware.

Typical hull lamination cross-section:

Gelcoat

Fiberglass Mat

Woven Roving



Typical deck lamination cross-section:

Gelcoat

Fiberglass Mat

Core Material

Fiberglass Mat



Before lamination begins, the entire Mull 22 mold is carefully waxed and polished by hand. This helps ensure the uniformity and smoothness of each hull's finish.

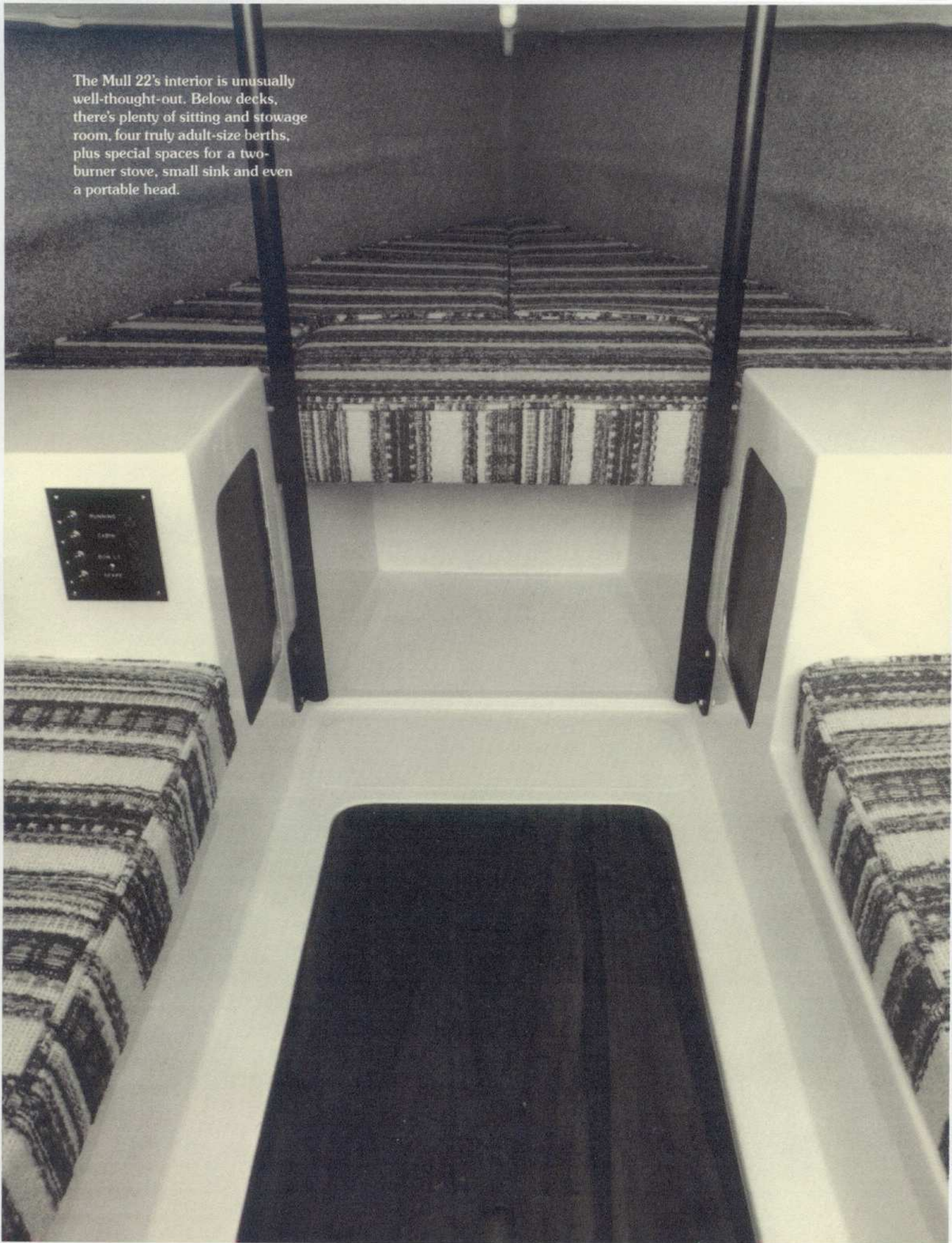
A fiberglass "pan" is glassed into the hull to support interior subsystems and act as an additional hull stiffener.



To ensure uniform strength and quality, each Mull 22 hull is layed-up completely by hand on a Jensen-made mold. Airex™ foam is used as a hull "core" material to increase overall strength and reduce weight.



The Mull 22's interior is unusually well-thought-out. Below decks, there's plenty of sitting and stowage room, four truly adult-size berths, plus special spaces for a two-burner stove, small sink and even a portable head.



The deck and cockpit layouts on the Mull 22 are both exceptional. Reflecting the extra care and planning that Gary Mull put into them.

"One of the things you run up against in a small boat is that although everything gets smaller, the people that sail on her do not. And as a consequence, you just can't reduce everything by — say 35% — and hope for the best."

The Mull 22's deck, then, is as well-thought-out as any larger boat's deck. It's clean, safe and work-oriented.

For openers, there's a molded-in jib-stay well at the bow — adding convenience. And reducing windage, too.

Next, another Mull 22 exclusive: molded-in, "water-cooled" pad eyes (in place of cleats).

According to Gary, "Cleats have always been such a pain in the neck. So we, in essence, buried them."

"The beautiful thing about water-cooled pad eyes is they can't foul a jib or spinnaker, they can't snag your feet or your pants and they won't tear sails.

"They're simply a cleaner, stronger, newer approach. And they do a better job."

(They're, obviously, a lot safer, too.)

The Mull 22 also boasts an excellent non-skid molded right into her slightly cambered deck. Plus a house that's nicely cambered, angling down into the foredeck.

The Mull 22's sidedecks are relatively wide, too, affording plenty of room for the crew to work. What's more, all

chainplates, genoa sheets and tracks are carried inboard. So there's no "obstacle course" to trip-up the crew.

As added conveniences, there are even turning blocks mounted on the coaming that permit you to do cross-sheeting with the winches. And a ball-bearing-mounted traveler to make mainsheet handling a snap.

What about the cockpit?

Here is the designer's opinion: "In developing a small boat like the Mull 22, you really have to be careful to build the boat around real-size people, rather than just scaling down some hot idea you had in a big boat."

Maybe that's why the cockpit on the Mull 22 is bigger than any other boat in her class.

It's also unusual in that there are two separate seats forward for the crew. Putting them below deck level and reducing windage even more.

Better still, there are soft, molded-in curves all around that are extra kind to backs and legs.

The helmsman, too, fares royally. With his or her own exclusive cockpit, a flush seat and, again, plenty of soft, molded-in curves for extra comfort on a long haul.

The coaming is also molded-in, relatively high and does an excellent job of keeping the crew and equipment in — and sea spray out.

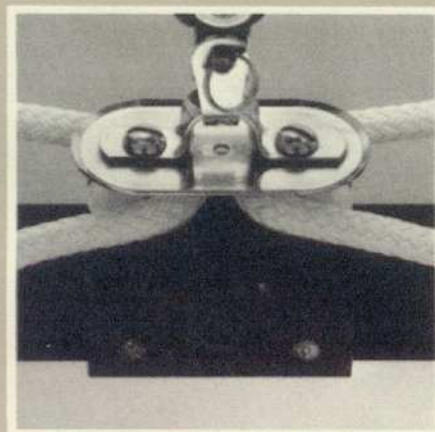
Deck and Cockpit Design.



A molded-in jib-stay well helps make the Mull 22's deck layout clean and convenient.

"Water-cooled" (because they do tend to collect moisture) pad eyes are another molded-in convenience. They're safer than cleats — but even stronger.

A ball-bearing traveler is standard equipment and makes mainsheet handling a cinch.



Below decks, the Mull 22 provides amazingly ample accommodations for four adults. And the kind of genuinely comfortable sitting-room rarely found on a boat this size.

All in all, we think the Mull 22's interior is full of eye-opening improvements, while making more efficient use of interior space.

Forward, there's a man-sized, double V-berth that's covered, like all Mull 22 berths, with extra thick, four-inch-deep foam cushions.

Plus a filler section with a built-in platform that makes adding a portable head quick and easy work.

Overhead, the entire cabin headliner is professionally finished-off with a handsome, white, fiberglass gel-coat.

length, they'll sleep just about any crew member in total comfort.

But that's not all. There's a foam-backed fabric hull-liner that runs throughout the entire interior.

Not to mention two stowage lockers with open fronts for stowing lots of gear.

There's even a room for a two-burner stove and a small sink if you're looking forward to some weekend cruising.

What's more, below the companion way, there's a special spot for your outboard motor directly under the cockpit sole.

Above all, she's comfortable yet uncomplicated below. And unlike most other boats in her class, even measures

The Interior Design.

There are also two additional full berths located amidship — extending back slightly under the cockpit seats.

Because they're both 7'0" in

up to mini-ton rules governing acceptable headroom and accommodations.

When it comes to interior space, the Mull 22 always plays it by the rules.

Stowing your outboard motor is no problem with a Mull 22. We've designed-in a special spot.



For stowing sails and gear, the Mull 22 also provides two built-in lockers.

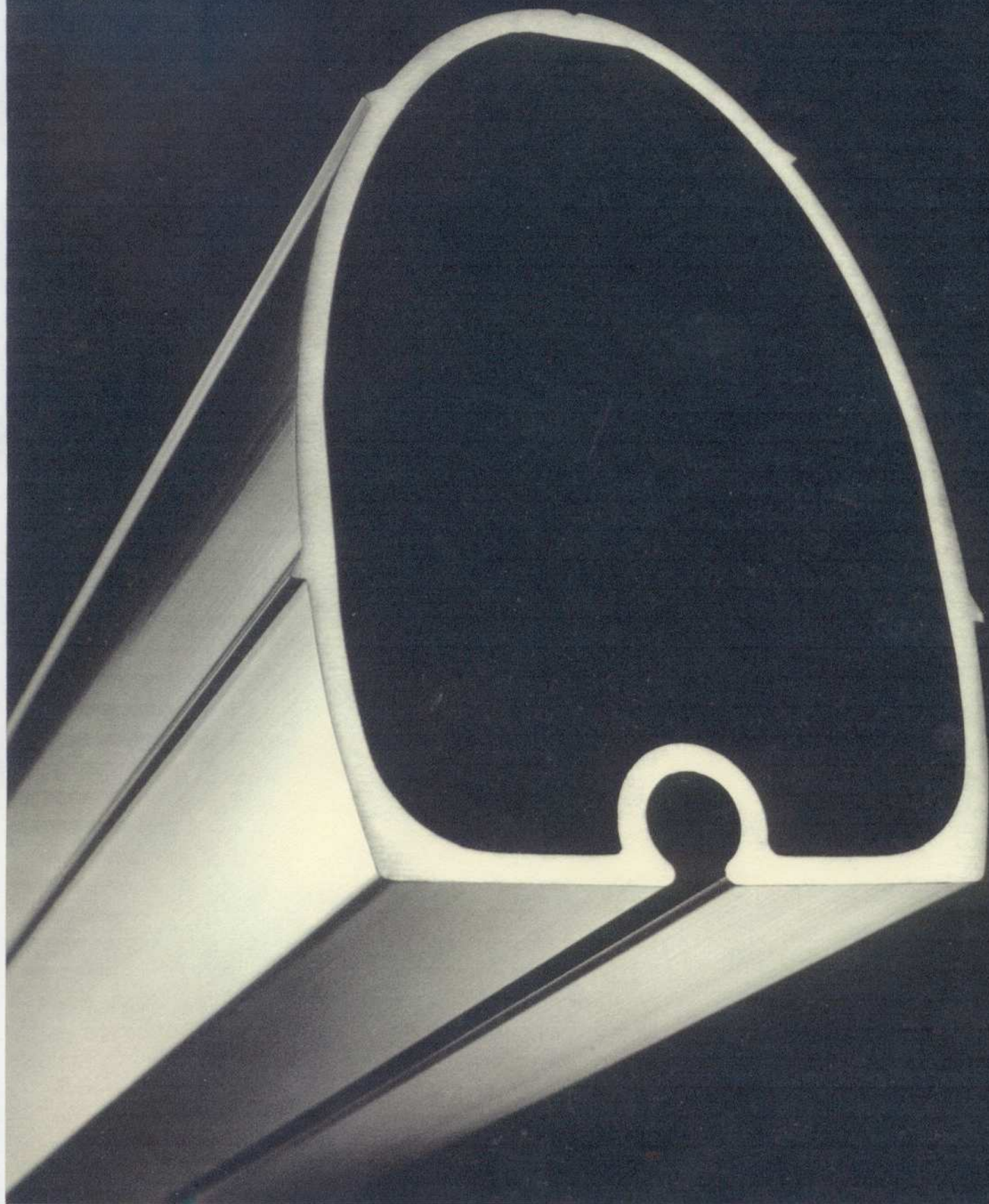


Instead of stepping the mast on the keel (as illustrated), we've stepped the Mull 22's mast on the house and split internal supports. The result: a more spacious interior without sacrificing strength.



The Mull 22 is designed for "real-size" people. To that end, she's got a bigger cockpit than any other boat in her class and an uncommonly spacious deck.

The backbone of the Mull 22's seven-eighths rig is a custom-made, cam-shaped mast. To increase lift, "turbulence stimulators" are an integral part of the extrusion.



When it came time to give the Mull 22 a mast, we couldn't find an existing extrusion that really measured up.

So, with the help of extensive wind tunnel data, we designed a better one. A unique one. Totally dedicated to helping make the Mull 22 faster and more fun to sail.

Even the basic look of the mast is unique. It's a cam-shaped section. A design that reduces mast weight and windage significantly, without sacrificing the extrusion's structural integrity.

You've never seen a mast like this one before. There are even "turbulence stimulators"—similar to those on the wings of Boeing jets—to help give the mast and mainsail additional lift.

These specially designed "stimulators" (nodes, really) help keep the wind flow "attached" to the sail for a longer period by actually causing the flow to become prematurely turbulent.

The benefits are simple even if the principle isn't: less overall drag and a more efficient mainsail.

For additional convenience and reduced windage, this extraordinary

new mast design also features internal halyards as standard equipment.

We've taken a different approach with the Mull 22's rigging, too. Instead of angling straight down, all upper and lower shrouds are swept aft approximately 3° for better bend control in the mast.

The basic idea was to provide greater flexibility of sail shape over a wider range of wind conditions, with shroud and main leach tensions playing the major roles.

The sail plan, itself, is a clever seven-eighths rig. One that offers several distinct advantages to a smaller boat like the Mull 22.

First, its small jib doesn't require as much brute force and winch work

to control, so it can often be trimmed by hand.

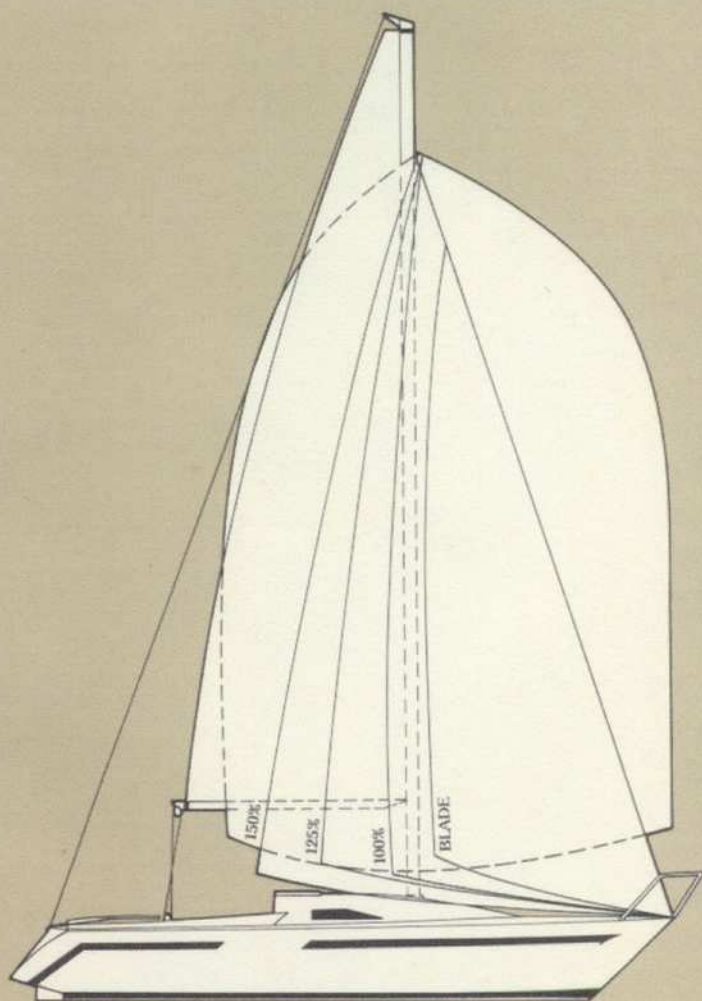
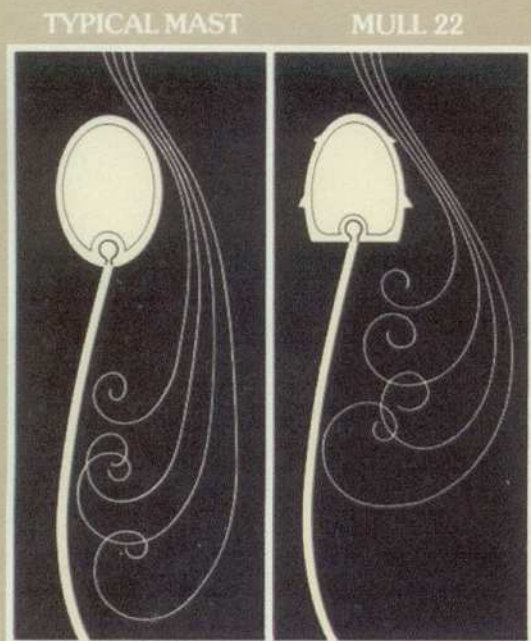
Second, its larger mainsail is still reasonably easy to handle. So in light air, you've got full power. And in a stiff blow, you've got full control.

What's more, the seven-eighths rig is looked upon favorably by most rating formulas. Because they consider that a jib—area for area—has greater "horsepower" than a mainsail. (If for no other reason than the drag generated by the mast isn't in front of the jib—where it is in front of the mainsail.)

The main point is the Mull 22's seven-eighths rig gives her a cloud of sail—207 sq. ft.—without a sky-high rating.

Mast, Rigging and Sail Plan Design.

A typical mast design contributes extra weight as well as drag. The Mull 22's mast reduces weight aloft, while its turbulence stimulators actually help make the rig more efficient.



The Mull 22's aft-section is the only area where we departed from our "strictly-for-fun" parameters by taking more than a " cursory glance" at the rating rules before putting pencil to paper.

Over the years, a lot of different aft-section shapes have been tried. Some have been V-shaped — looking almost like a bow. Others have been flat and wide. But all have come with their own peculiar advantages and disadvantages with regard to performance and rating rules.

Our primary concern with the Mull 22's aft-section design was to help make the boat well-balanced, easy to control and very stable directionally. (With no built-in behavior problems like

a tendency to point into or away from the wind.)

As we mentioned previously, some boats with a lot of beam carried aft tend to have a weather helm problem when they heel. More so than boats with V-shaped aft-sections.

The trade-off, though, is that these same boats with broader, more powerful aft-sections also tend to be faster reaching and running.

The Mull 22's aft-section, then, is a handsome compromise. Fairly flat, fairly broad and fairly powerful. Delivering extra stability and speed—reaching and running (plus reserve buoyancy)—without the temperamental steering problems.

There's also a "nifty little skeg"

(as Gary calls it) in the aft-section — just ahead of the rudder post.

It's partially an IOR-inspired improvement but, functionally, a major contributor to the boat's impressive handling and speed characteristics.

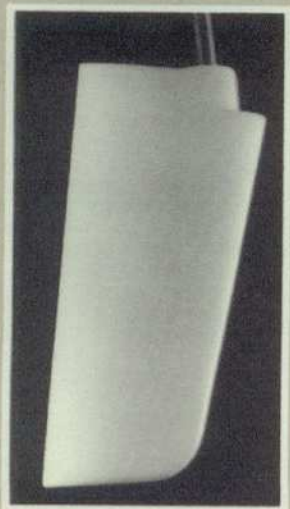
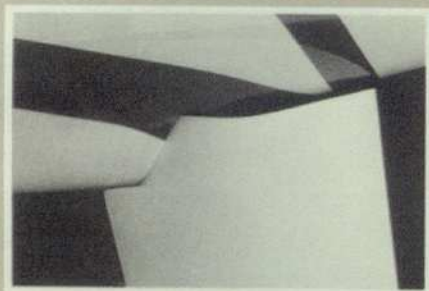
Directly following this skeg is the Mull 22's spade rudder. Like her fin keel, it was designed almost totally from N.A.C.A. "foil" data to provide an optimum amount of control with a minimum amount of wetted surface and drag.

The Mull 22's transom is, by anyone's definition, a reverse design. Testifying to the boat's fine lines and to the fact that most of her displacement is carried in the mid-section — where it, too, can make a positive contribution to speed.

A fine-ended boat, like the Mull 22, is easier to steer in a chop or confused sea because of its tendency to ride over — instead of punch through — the waves.

Aft-Section, Rudder and Transom Design.

To enhance directional stability, the Mull 22 has a small skeg molded into its hull — just ahead of the rudder post.



Although relatively fast, a boat with a broad, flat aft-section can have weather-helm problems.

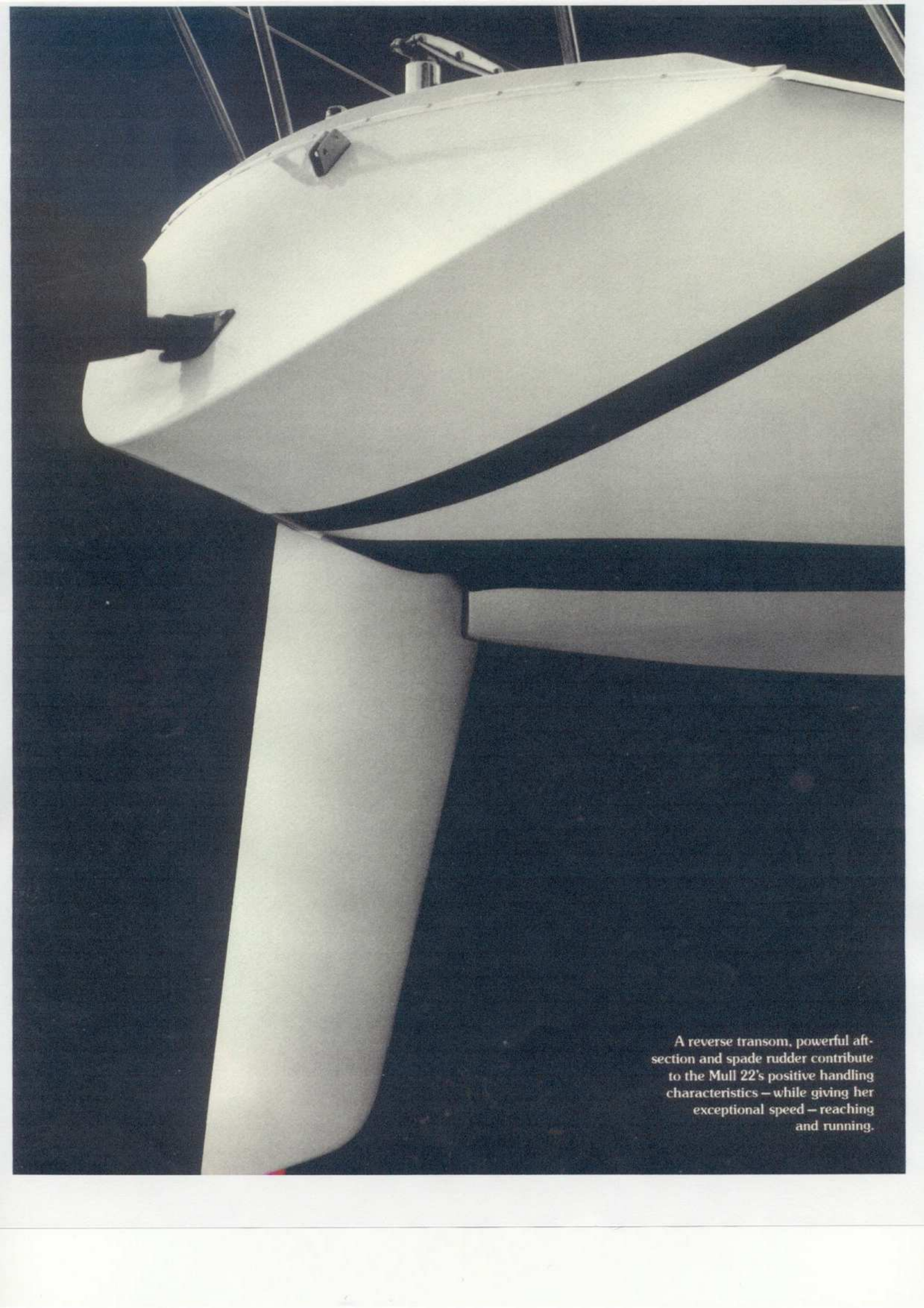


The Mull 22's aft-section is moderately flat and broad — delivering speed without the typical handling problems.

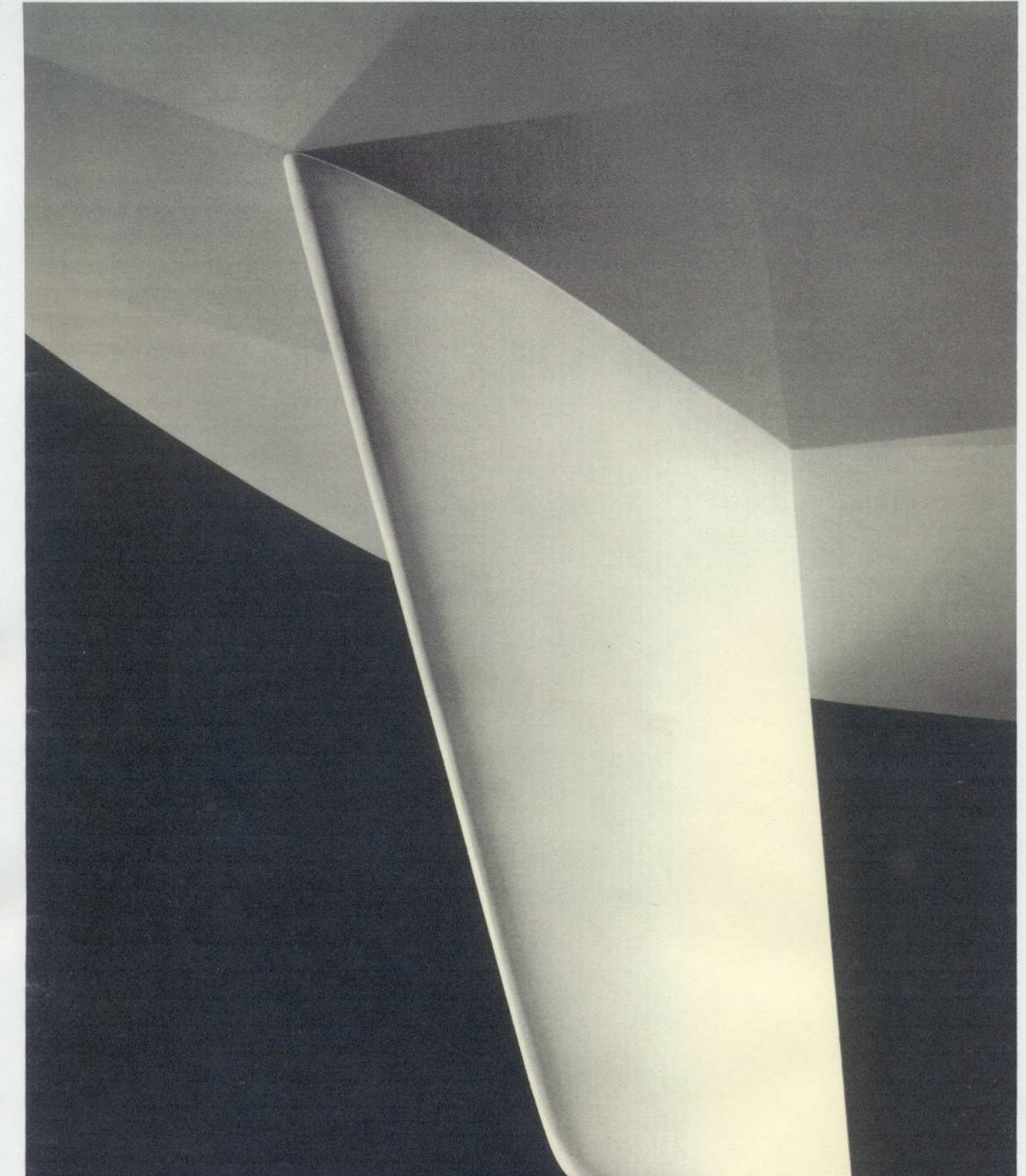


A V-shaped aft-section sacrifices some speed to solve weather-helm problems.

The Mull 22's spade rudder provides optimum control with a minimum amount of wetted surface and drag.



A reverse transom, powerful aft-section and spade rudder contribute to the Mull 22's positive handling characteristics – while giving her exceptional speed – reaching and running.



Hard bilges, a flat bottom and fin keel all help to make the Mull 22 extremely stable while reducing overall displacement.

Midship, the Mull 22's lines continue to be aggressive and stylish.

Here, she sports relatively hard bilges. In fact, her flat sides curve rather tightly into an almost flat bottom.

This basic design accomplishes four important things:

First, it reduces the Mull 22's displacement and lightens the boat.

Second, it helps increase the boat's stability while giving her added sail-carrying ability.

Third, it gives the Mull 22 excellent performance characteristics in a variety of conditions — upwind and down — while promoting her surfing abilities. (Since most lift is created in the first 3/4 of the hull.)

And finally, it gives the boat a wider cabin sole and increased floor space.

For her class, she's fairly beamy, too. (8' to be exact.) And that makes trailering her convenient, as well as legal, in virtually every state.

What's more, we've carried her beam just far enough aft to add stability — without creating the notorious weather helm problems associated with many other wide-bodied designs.

(Typically, these boats — once heeling — display a definite urge to shoot upwind. We gave the Mull 22 a lot more built-in discipline.)

A keener keel.

The keel or "foil" section of the

Mull 22 is unquestionably a fin.

It goes without saying that when flat-out performance is a goal, a good fin keel is a major, competition-proven asset.

The Mull 22's fin keel design is based on an N.A.C.A. (National Advisory Committee for Aeronautics) set of data points that produced the best all-around keel in terms of windward and downwind ability — with the least drag.

Opinions, however, are not so unanimous when it comes to the shape of the bottom of the keel.

On a transverse plane, keel bottom shapes vary from designer to designer.

Here, some designers opt for an elliptical transverse section. (Even

though it keeps ballast higher and adds to the draft.)

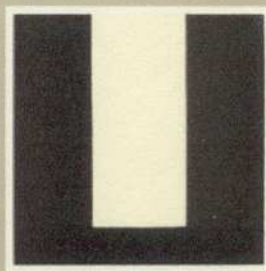
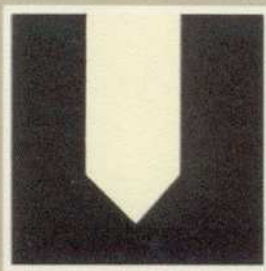
Some designers favor what amounts to a chisel-shaped bottom edge (if you view it head-on). Others feel a perfectly flat keel bottom provides additional lift under windward conditions. Our tests showed, however, under most other conditions, a flat edge contributed a fair amount of additional drag.)

The Mull 22's keel bottom edge, then, is a practical compromise. A semi-circular design decision based on extensive tank-test data.

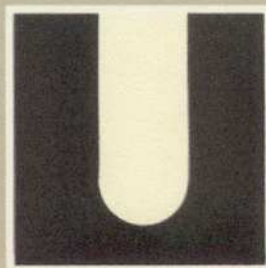
We feel it's a better design and a better solution. One that offers improved all-around performance characteristics over the other two extremes in design.

Mid-Section and Keel Design.

Keel bottom shapes, on a transverse plane, vary greatly. Some are chisel-shaped. Others are completely flat.



The Mull 22's keel bottom is semi-circular — a tank-tested design that reduces drag and increases all-around performance.



The Mull 22's bow is the culmination of several years of testing and experimenting done by Gary Mull and his firm.

For starters, it's a relatively fine, modern design. Straight-stemmed and stylish from the word go. With a slight knuckle (or "chin") emerging just below the waterline.

What's more important, though, is that it's an uncommonly efficient bow — particularly going upwind in a chop.

Many fuller bows are adequate — even fast — going downwind in smooth seas. But going upwind under less-than-ideal conditions, they can have a tendency to slow the boat down.

(Especially if this fuller bow hasn't been carefully matched to the rest of the boat's design.)

We've also purposely avoided creating a bow that's too skinny and knife-like. And for a very important reason. Going downwind in the ocean, this type of bow has a tendency to bury itself. And that's anything but fast.

The "chin" on the Mull 22's bow is a departure from the traditional, too. Even from Gary's earlier designs.

Whereas some boats (including older Rangers) have a softer chin to help increase speed in an off-the-wind situation, the Mull 22 has a little steeper, more pronounced chin. The result is uncanny windward performance, in any type of sea. And another example

of a designer's experience paying off in a better-performing product.

A final benefit the Mull 22's refined bow delivers is a "kinder" rating under IOR rules.

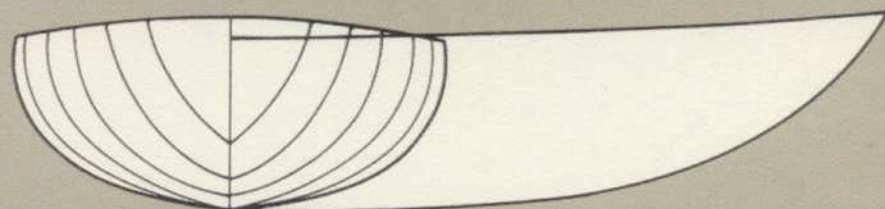
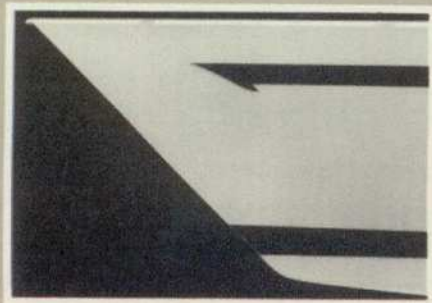
Pretty and powerful. What more could a bow be?

Bow Design.

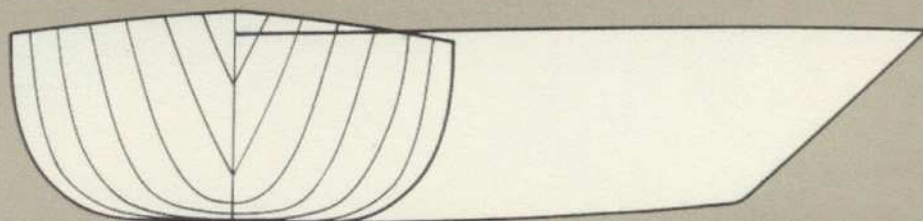
A fuller bow, like the one illustrated, typically sacrifices upwind ability in favor of downwind speed.

A bow that's too skinny and fine can have a dangerous tendency to bury itself going downwind in rough seas.

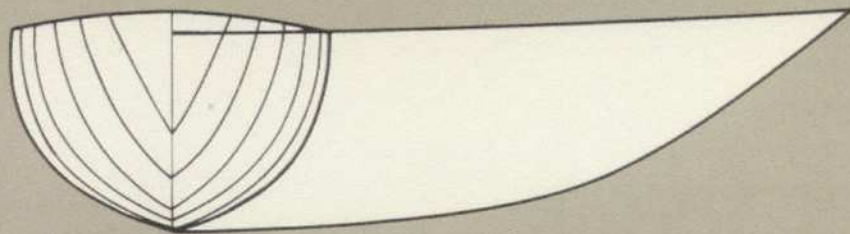
The "chin" on the Mull 22 is slightly steeper and more pronounced than on many other boats her size. The result: improved windward performance.



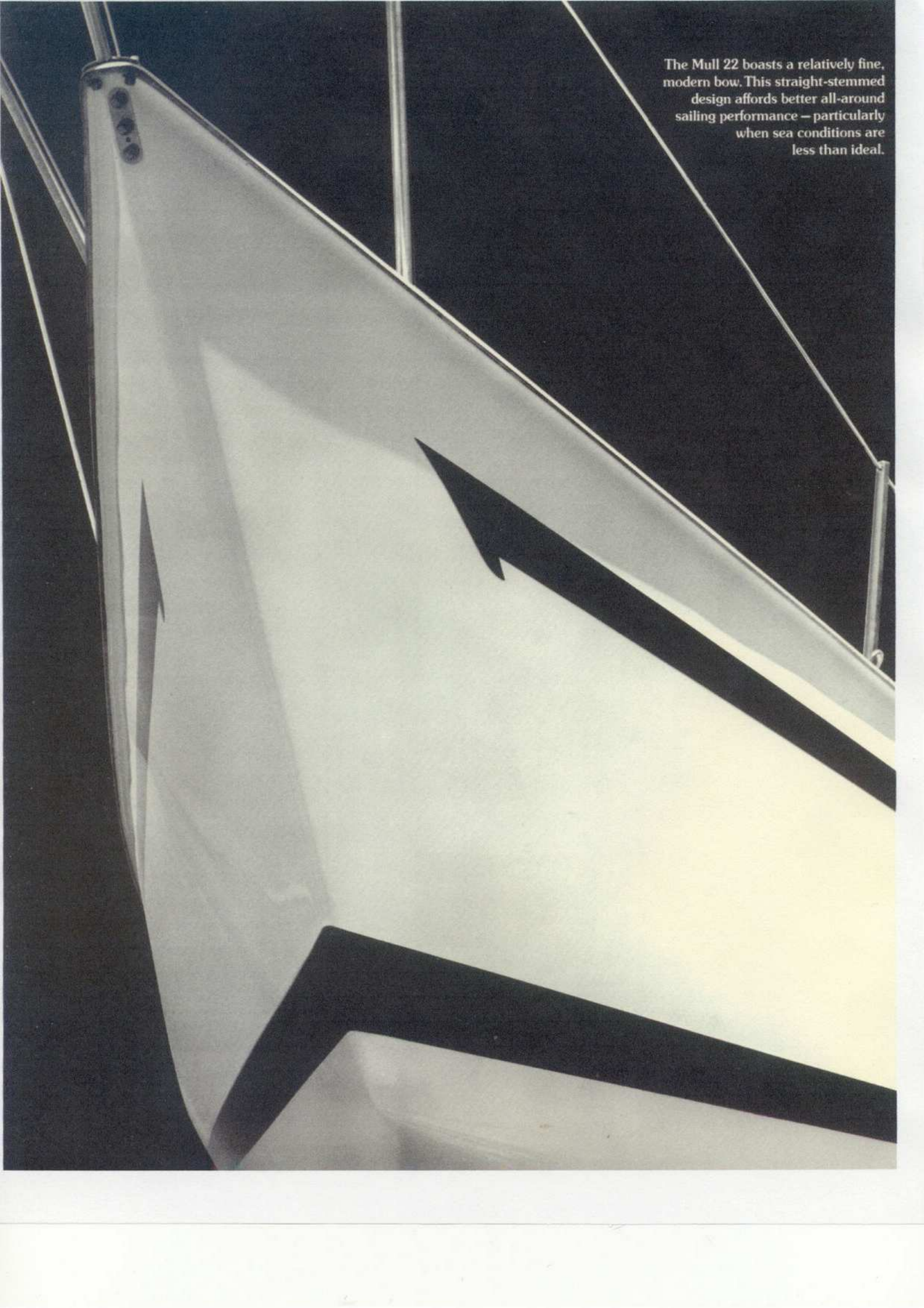
FULLER BOW



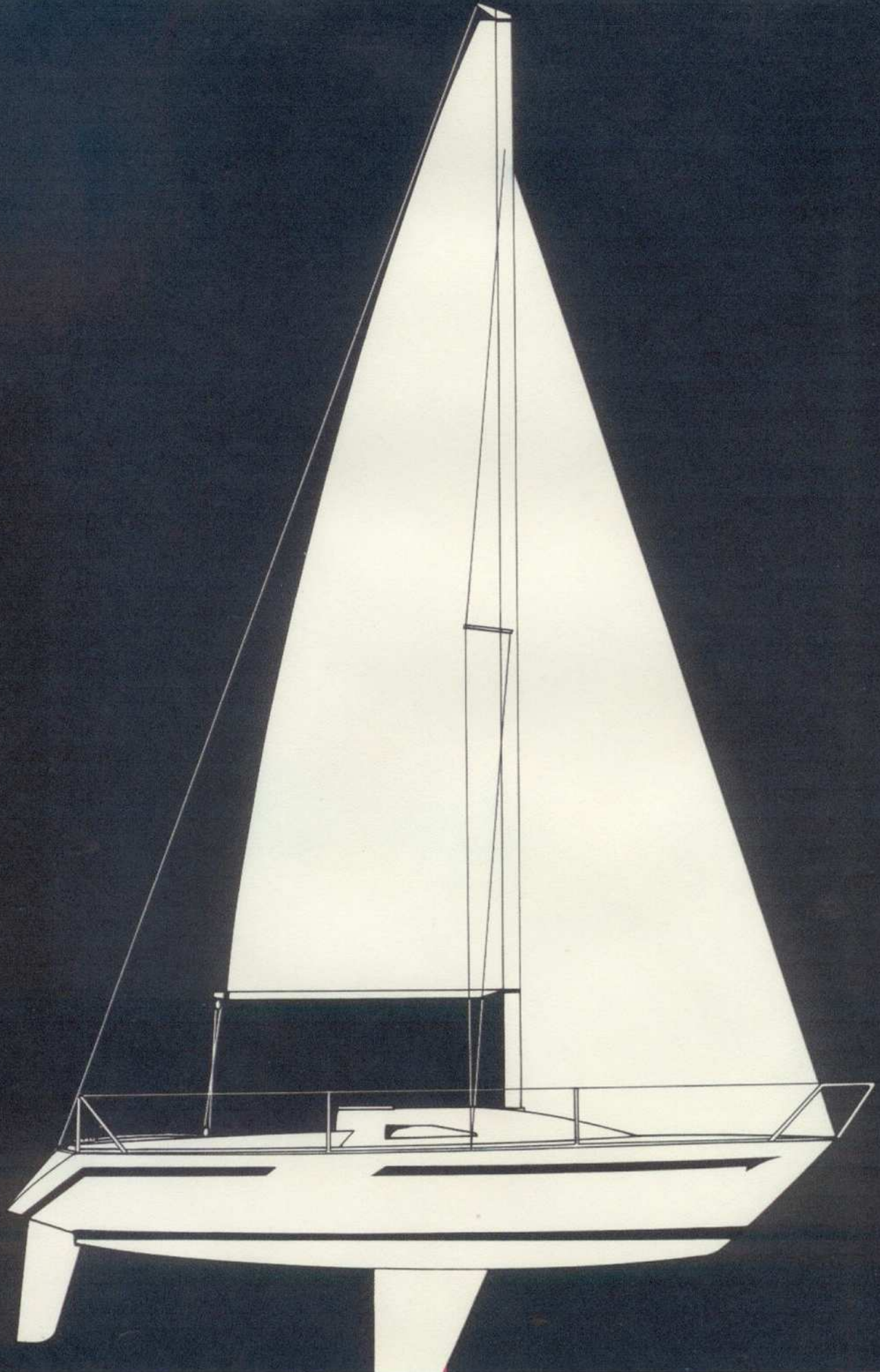
MULL 22



SKINNY BOW



The Mull 22 boasts a relatively fine, modern bow. This straight-stemmed design affords better all-around sailing performance — particularly when sea conditions are less than ideal.



THE SPECIFICATIONS

L.O.A.	22'6"
L.W.L.	17'6"
Beam	8'
Draft	4'3"
Sail Area	207 sq. ft.
Displacement	2,182 lbs.
Ballast	900 lbs.
Mast Above Water	33'3"
Typical IOR Rating	16.0
Typical MORC Rating (1978)	17.9
Prismatic Coefficient	0.53
Dellenbaugh Angle	21°
Sail Area to Wetted Surface Ratio	3.0
Displacement to Length Ratio	181
Ballast to Displacement Ratio	0.39
Sail Area to Displacement Ratio	19.7

A boat's specifications most certainly provide a valid means of comparison — as well as a practical overview for any prospective buyer.

In fact, that's why we've put them on this page for you.

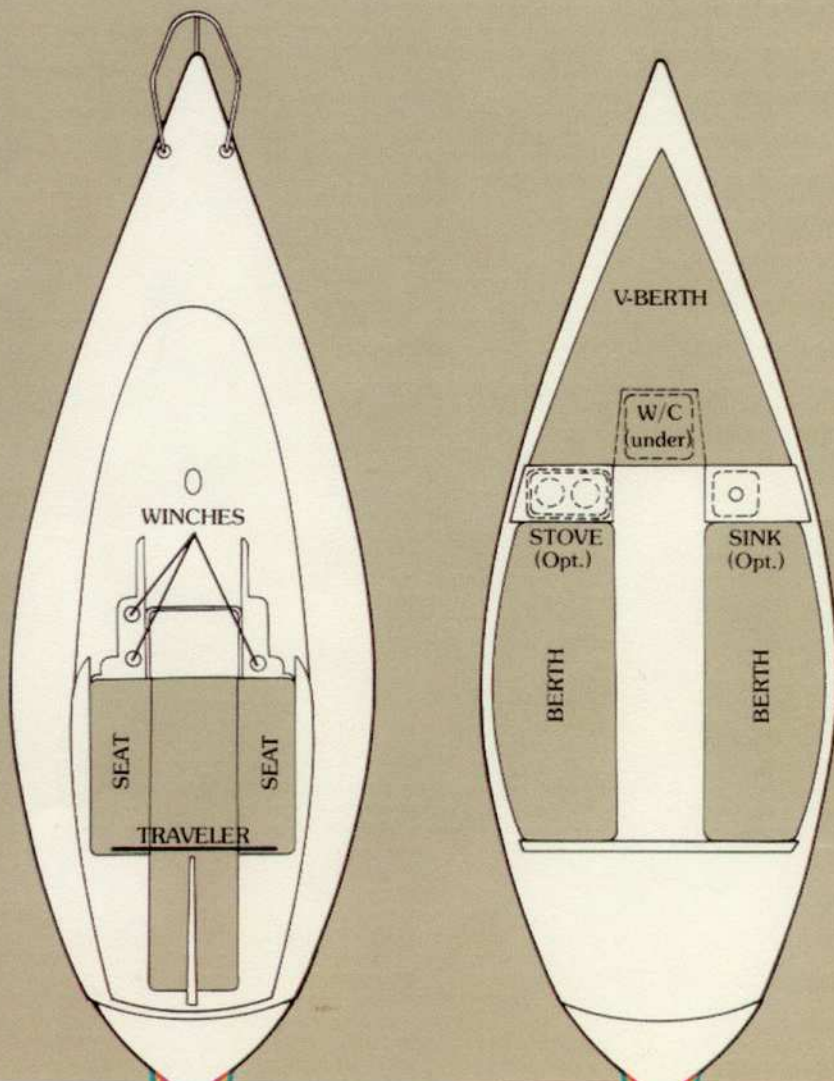
But a designer's goals — if they're from the heart — provide a much more personal yardstick than any group of numbers. No matter how impressive.

Here are some of Gary's thoughts:

"My interest wasn't in just designing another boat. I'd go back to designing barges before I'd do that.

"What I really wanted to do was design a better boat. A boat that was better engineered, better detailed, better equipped, better styled... and, above all, was more fun to sail."

The Mull 22: By the numbers.



...**“the basic parameter was fun.”**

(The following excerpts are from several discussions we had with Gary Mull concerning the creation of the Mull 22.)

Q. Gary, what were your basic objectives in designing the Mull 22?

A. “Basically, to design a really fast, fun boat in the 20 to 23-foot size range.”

Q. Any other official or unofficial parameters?

A. “I think the basic parameter was fun. That was it, really, more than anything else. Whenever we had a decision to make in the design office, we always asked, ‘Is it going to contribute to making it more fun?’...and that gave us some good handles.”

Q. What about the inevitable construction-cost compromises?



A. “Actually, another goal was to try to simplify construction as much as possible so...we could keep the basic cost of the boat down. Not only the cost of construction, but the cost of maintenance and equipping and what-not. And I think, to a very large extent, we were successful in keeping the construction of the Mull 22 simple and economical.”

Q. In what ways, specifically?

A. “We wound up with a number of innovations resulting in some really good time and material savings.

“For instance, the boat, basically, is built in three pieces. There’s a hull, a deck and a pan.”

Q. Anything else?

A. “Plenty. We used Airex™ foam in the hull laminate — something usually found only on much larger boats.

“We also discovered Klege-Cell™ to be a much stronger and lighter deck core material than the traditional balsa wood.

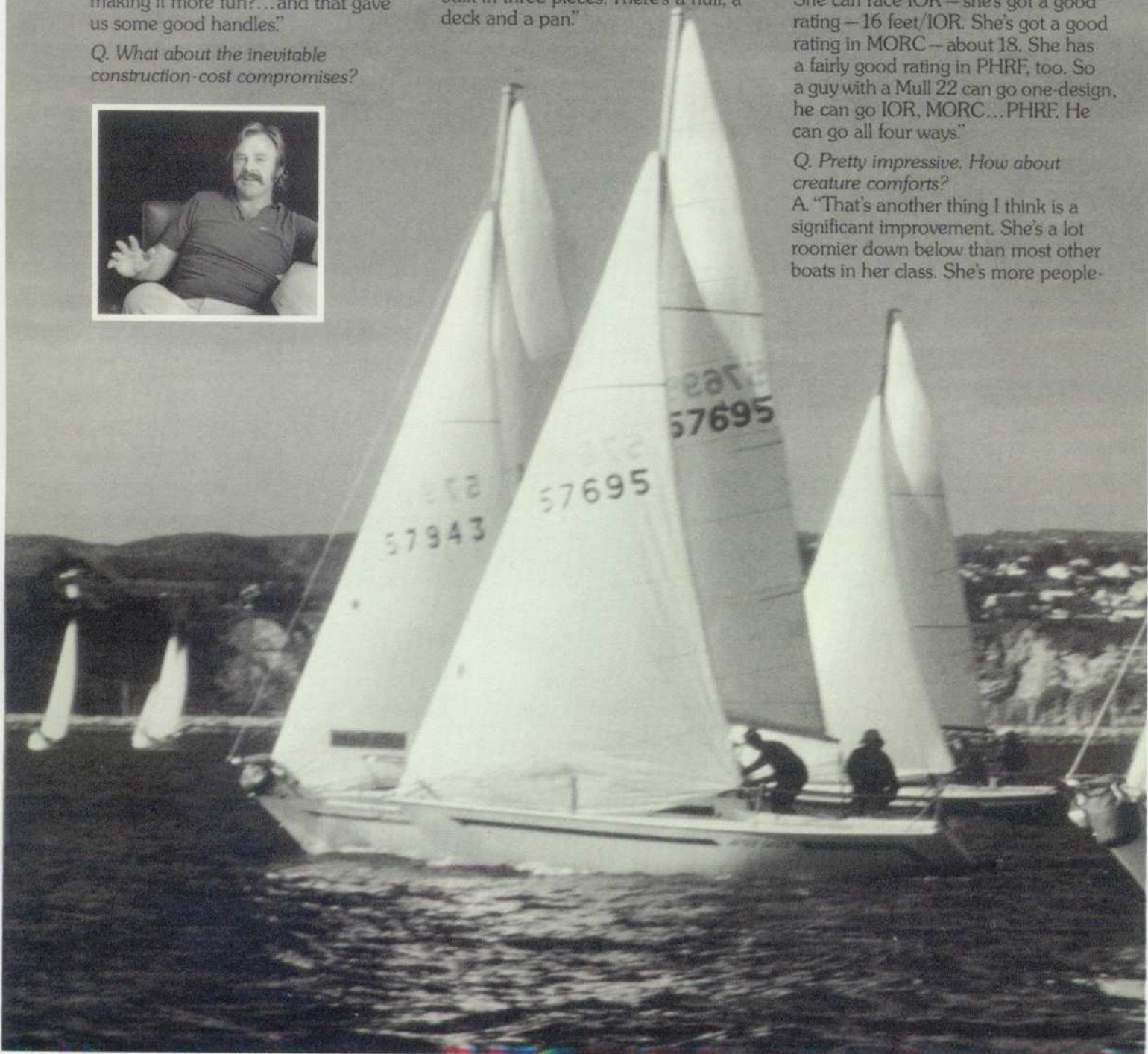
“And then there’s the carbon fibers we used to...”

Q. We get the idea — a lot of innovations. So, what about the Mull 22’s competitive side — how will she fare?

A. “We tried to make her as usable as possible in a broad variety of places. She can race IOR — she’s got a good rating — 16 feet/IOR. She’s got a good rating in MORC — about 18. She has a fairly good rating in PHRF, too. So a guy with a Mull 22 can go one-design, he can go IOR, MORC...PHRF. He can go all four ways.”

Q. Pretty impressive. How about creature comforts?

A. “That’s another thing I think is a significant improvement. She’s a lot roomier down below than most other boats in her class. She’s more people-



sized where it counts. So, you can actually sleep four people...

"The cockpit, too, is the largest of any boat in her class.

"All in all, I think the Mull 22 makes a much more effective and efficient use of space than most trailerable, fixed-keel sailboats."

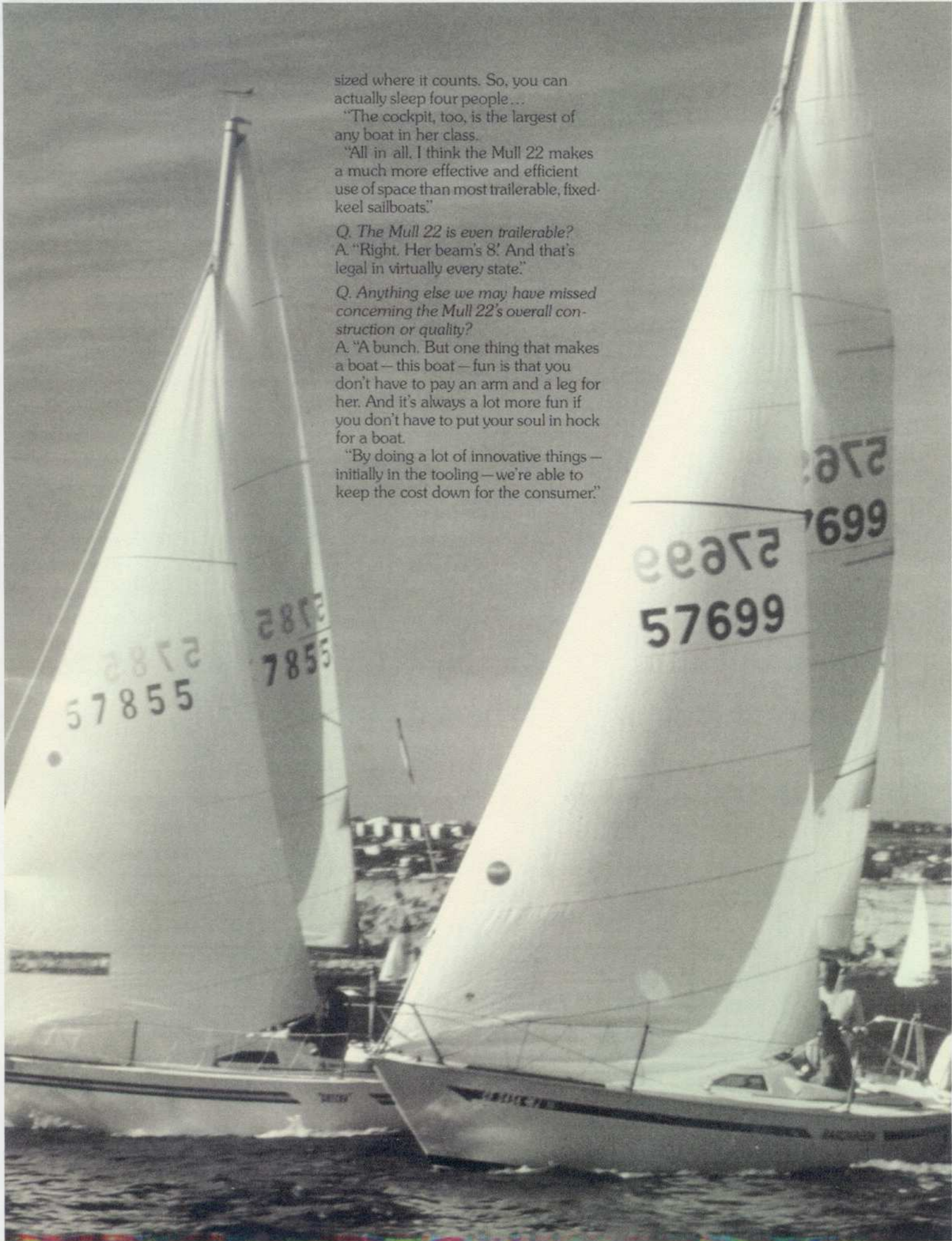
Q. The Mull 22 is even trailerable?

A. "Right. Her beam's 8'. And that's legal in virtually every state."

Q. Anything else we may have missed concerning the Mull 22's overall construction or quality?

A. "A bunch. But one thing that makes a boat — this boat — fun is that you don't have to pay an arm and a leg for her. And it's always a lot more fun if you don't have to put your soul in hock for a boat.

"By doing a lot of innovative things — initially in the tooling — we're able to keep the cost down for the consumer."



Gary W. Mull, like the Mull 22 he has designed, is most definitely one-of-a-kind. He's aggressive, innovative and has this obvious "thing" about fast sailboats. (We think, maybe, it's love.)

Anyway, Gary tells us he wasn't always a "living legend." No indeed.

In fact, way back in June, 1963, he was just another freshly commissioned Cal-Berkeley graduate—with a dual degree in engineering and naval architecture.

But fate soon smiled. And Gary won a job with the prestigious Sparkman & Stephens in New York.

First assignment: Help develop rigging and deck-layout plans for the America's Cup defender, Constellation.

But two years later, fate "sneezed"—sending Gary back to California. Initially,

to help out with a family business. Then, as the Chief Naval Architect for Pacific Coast Engineering (PACECO)—a firm that, ironically, specialized in tug, barge and suction dredge designs.

In 1965, fate grinned Gary's way again. This time, it was during a lunch with an old friend, W.D. Schock, when Schock asked Gary what could be done to "blow the Cal 20 out of the water."

Gary rattled off a few ideas, half in jest, which later turned into the popular Santana 22. (Followed, in turn, by the Santana 27 and 37.)

Since hanging out his own shingle, back in 1967, Gary has managed to keep himself busy.

First, with a never-waning interest in 6 Meters. (St. Francis V and VI, both

Mull designs and American-Australian Challenge Cup Champions, are recent examples.)

Second, with an ever-increasing number of winning custom designs, such as Lively Lady, Improbable, La Fortza del Destino, Swamp Fire and Gonnagitcha. Suffice to say that Mull custom designs are currently under construction in at least 10 countries worldwide.

Of course, Gary and his firm have also managed to create an impressive list of production designs, too. Not the least of which include: the Newport 30 and 20. And the Ranger 23, 26, 28, 29, 32, 33 and 37.

We don't think our new Mull 22 could have had a better heritage.

The Designer: Gary Mull

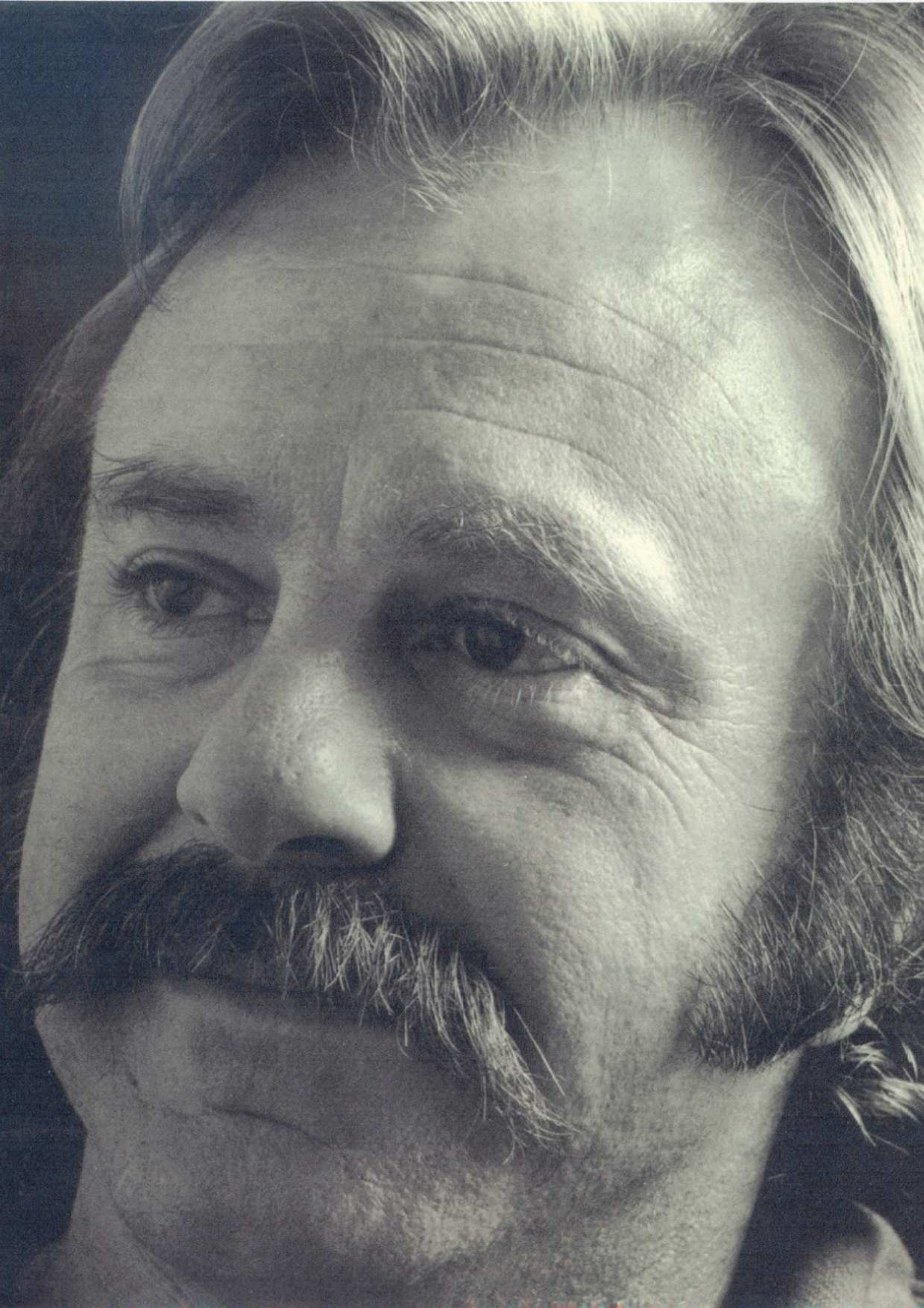
Jensen Marine's Ranger 26, designed by Gary in 1968, is still considered a highly competitive MORC boat. More than 600 boats of this popular design were produced.

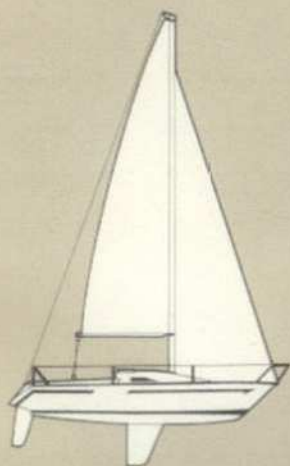


Since 1969, Gary has maintained a keen interest in 6 Meter competition. His St. Francis VI design captured the American-Australian Challenge Cup in 1976.



Another Mull design, Jensen Marine's Ranger 37, made headlines by becoming the first production boat in history to win the SORC with six straight first place finishes.





The Company: Jensen Marine. The Mull 22 is built by the Performance Sailboat Group of Jensen Marine. To help you better appreciate her design and construction, we've included this information about her heritage and Jensen Marine's coming of age. ⚓ Jack Jensen founded the company that still bears his name in 1958 in an empty backyard in Torrance, California. ⚓ His first designer: the legendary Bill Lapworth. His first product: the Cal 24. (A fiberglass keel/centerboard beauty that still has representatives sailing – particularly on the West Coast.) ⚓ What followed was an unprecedented family of one-design successes in fiberglass. Including the Cal 20, Cal 25 and the renowned Cal 40. (The first production boat to ever win the coveted SORC.) ⚓ They all helped make “spade rudder” and “fin keel” household words among sailing enthusiasts throughout the world. ⚓ Needless to say, the company prospered and continued to grow with each new Lapworth design. ⚓ In 1969, Jack Jensen enlisted the aid of another bright, young naval architect to help him establish a new line of sailboats to complement the Cal line. ⚓ The architect was Gary Mull. The line was Ranger Yachts. And the timing and chemistry both superb. ⚓ Gary's first effort was the Ranger 26 – still a top MORC contender after more than a decade. Followed by six more Ranger designs that included the Ranger 37 – the first production boat in history to win the hotly contested SORC with six straight first place finishes. ⚓ Today, Jensen Marine is a Bangor Punta company – with manufacturing headquarters occupying 19 acres in the heart of Costa Mesa, California. ⚓ Our modern facility houses both Cal Boats and Performance Sailboat Groups, side by side. And has grown, over the years, to include more than 500 people and 12 buildings. Including separate shops for mold-making, spars and even upholstery. ⚓ The Mull 22 couldn't have had a better birthplace.



The Return of Ranger.

Please note that the Ranger 22 and the Mull 22 referred to in this Consumer Guide are one-and-the-same boat.

The discrepancy — in name only — simply reflects the fact that on October 12, 1978, Bangor Punta Corporation (Jensen Marine's parent company) enhanced its entire national sailboat program by forming a single new company to produce and market all of its Ranger, Cal and O'Day sailboats.

This new company is Bangor Punta Marine.

To assist you in making a timely sailboat selection, we've taken the liberty of sending you a Mull 22 Consumer Guide that was produced by Jensen Marine just prior to the creation of Bangor Punta Marine and the re-introduction of the Ranger name.

Rest assured that — name changes aside — it is totally accurate in every respect and detail.

Thank you for your understanding and continued interest.