

AMERICAN DESIGN INNOVATION



- StrikeZone[™] Watertight Collision Bulkhead
- Dedicated Structural Grid
 - SecureSocket[™] Chainplate System
 - DeepDefense[™] Rudder System
 - T-Beam MastStep[™] System
 - Teak Interiors
 - Lead Keels

The Closer You Look The Better It Gets!

Ask about the unique design advantages of the Catalina 5 Series

> Designed and Built in the USA

Standard Features with the 5 Series

- Collision-safe forward Strikeone™ bulkheads and impact absorbing chamber
- DeepDefense[™] rudder systems with stainless rudder posts
- Stainless Steel T-Beam MastStep[™] system structure providing all the benefits of a deckstepped mast and the strength of a keelstepped mast
- SecureSocket[™] mast support/chainplate system
- Centralized filter lockers
- Knitted fabrics used for a stronger laminate and stiffer structure
- Dramatically styled teak interiors and laminates finished with a satin varnish for durability and beauty
- Five-part structural construction, insuring a stronger boat and more rigid structure
- Offshore hull to deck joint capped with a slotted toe rail
- Navigation AC/DC panel with additional circuits for added options, plus a built in amp draw meter to monitor electrical usage
- Wide, clear weather decks designed with inboard shrouds for moving forward with ease, and a diamond non-skid pattern for safety and durability
- Low profile cabin design for sleek appearance, great visibility forward and low windage
- Comfortable, ergonomically correct cockpits with seats long enough to stretch out on
- Lead keels for durability, and impact shock absorption for safety of the crew and structure
- Oversized travelers, winches and lines for ease of sail handling in all conditions
- Solid surface countertops
- Proprietary laminate cabin sole floor
- Innerspring mattress in all sleeping quarters
- All Catalinas larger than 30 feet are built to robust standards: rated CE category A Ocean, NMMA Yacht Certified Program, and follow all applicable American Boat and Yacht Council Standards



Take a Closer Look

Catalina's philosophy is straightforward: Design boats that stand up to real world conditions and sail well. They must be comfortable above and below, easy to maintain and hold their value.

Lead Keels

Hull Structural Systems

Mast Support System

Hull to Deck Joints

Deck Ergonomics

Rigging, Sailing & Deck Hardware Hand Crafted Interiors

Mechanical, Electrical & Plumbing Systems

10 Out of Sight Features

10 More Out of Sight Features

Understanding Needs and Dreams

Catalina listens to active owners and sailors to build boats that reflect the collective wisdom and experience of thousands of cruises and sea miles. Catalina's design is evolutionary, building on the success of previous models by incorporating many favorite, proven features.

Catalina builds honest, sturdy boats that hold up in the real world. This means more sailing pleasure, less maintenance and excellent resale value for owners.







The Closer You Look, The Better It Gets!



10 Out of Sight Features



The deck liner is a one-piece molded fiberglass part that is bonded to the deck. This forms a textured finished surface that is attractive, durable and low maintenance.

The fiberglass hull liner goes all the way to the shear where it is bonded in place, creating an insulating air space which prevents condensation and makes a/c and heating more efficient. The hull liner is covered in solid, traditional teak or ash battens in most models.

The storage compartments under the berths and settees are sealed from the bilges to prevent water intrusion and bilge odor migration. All compartments are coated with gel coat to create an impervious, easy to clean surface.

Conduits are used extensively throughout for A.C. power, D.C. power, plumbing and refrigeration systems. All are separated and color-coded, per A.B.Y.C. recommendations. Conduits are superior to cable ties, because wiring can be easily replaced or added. Conduits also offer superior chafe protection.

Keels (not shown) are cast of lead, with approximately 2% antimony added for hardness. This makes the keel less susceptible to damage. Lead keels provide greater stability than an equal volume cast iron keel, and are much easier to maintain because they will not rust. Keel bolts are 316 stainless steel for superior corrosion protection. Cabin sole panels are made from pressure-treated, rot-resistant plywood, with Catalina's proprietary high-pressure laminate, with an embossed grain texture for a slip-resistant surface. Edges are all coated to prevent water absorption and the bottom surface is also laminate-covered to prevent warping. These sole panels wear well and require no maintenance.

Catalina 400 MKII

The stainless steel compression post takes the load of the mast through the deck, directly to the structural grid. This - system relieves the deck of any compressive loading from the mast, just as a keel-stepped mast does, while eliminating leaks and reducing noise.

The mast wires pass through the compression post and are led through conduits to the electrical panel. Junction boxes or buss bars are provided for easy commissioning or decommissioning.¹

The sub-sole grid is a one-piece structure molded of biaxial and unidirectional fiberglass for strength and stiffness. The grid is filled with a high-density foam in the mast step and engine bed areas. The grid reinforces the hull in the keel area, and supports the mast, tanks and engine.

The deep bilge created by the keel sump allows water to collect in the deepest part of the hull without contaminating storage compartments.

'Most models



10 More Out of Sight Features



Structural aluminum plates are bonded in place below the laminate. The plates are tapped for mounting hardware. All fasteners are coated with insulating and anti-seize compound. This technique allows easy replacement of hardware and eliminates leaks.¹ The deck is cored with end grain, double scored, coated balsa, in a sandwich of hand laminated, knitted fiberglass, creating a very stiff and strong laminate with good insulating properties. All areas penetrated by hardware are solid fiberglass.

> Channels between the deck and liner are used as raceways for lighting wiring. Additional or replacement wires can easily be added.

Stainless steel tierods transmit shroud load to the below deck structural system. This allows the chainplates to be inboard for better sheeting angles, with a minimum of intrusion into the interior.

Catalina 400 MKII

Ball and socket chainplates transfer rigging loads from above the deck to the below deck structure. The stainless steel weldments align the loads and minimize stress on the deck, which reduces leak potential.

> The internal flange hull and dec joint is used on larger Catalina models. It is mechanically fastened under and through the extruded aluminum toe rail joined with a 3M 5200 bond between the mating surfaces or the deck and hull, This joint is th ultimate in strength.²

The hull is hand laminated usin knitted fiberglass fabric. The outside layer is laminated with vinyl ester resin which protects the hull from water absorption and prevents blisters.

A structural aluminum beam in a fiberglass box beam joins all tierods fore and aft. This system spreads the rigging load evenly on the hull. Note that wood or other materials subject to degradation from rot or moisture are not used in the structural systems.

The structural elements are fiberglass bonded to the hull with 45 degree x 45 degree knitted fiberglass fabric. Using this material creates a bond in which all the fibers in the fabric cross the joint for a maximum strength bond.

Through-hull valves are clustered for easy access and are clearly labeled. The valves are fiberglass reinforced nylon that are immune to galvanic activity, electrolysis and corrosion. These valves exceed all international standards, have Marine U.L. approval and exceed all current A.B.Y.C. 500 lb. side load requirements.

The hull liner forms the interior "furniture module." The hull liner creates an insulation space between the hull and the interior and forms seating and berths. This is a one-piece monocoque structure.

¹Most models.

²400 and 470, other models use an external flange, which is through-bolted.



Lead Keels for Superior Stability & Performance

Lead is the best material for keels

It is denser (heavier for its volume) than cast iron. Lead weighs almost twice as much per cubic inch compared to cast iron. This means a stiffer, more stable boat and more efficient keel (less wetted surface means less drag), while requiring far less maintenance than other materials. Unlike cast iron keels, Catalina's lead keels will not rust or require elaborate maintenance.

Catalina keels are cast from high quality lead with antimony added to make the castings harder than lead alone, and therefore less subject to damage from grounding. The keel bolts are 316-alloy stainless steel and are cast in place for strength. Catalina lead keels are faired and epoxy coated.





Catalina Yachts

The Closer You Look, The Better It Gets!



Hull Structural Systems



Catalina employs two types of sub-sole structural systems, each specially suited to the hull design, keel and rigging loads. Both systems are designed for long-term durability and strength. Because wood is subject to rot and deterioration, it is not used in the structural system of any Catalina or Morgan yacht.

A. The Laminated In-Place Grid System

Catalina models 250MKII through the 320MKII



This system uses four major fiberglass molded components: the deck, deck liner, hull liner and hull with an integral grid structure laminated as part of the hull. This system employs high-density urethane foam, fiberglass-infused

transverse and longitudinal structural members that are heavily fiber-glassed to the hull with multiple laminates while the hull is still in the hull mold.

The grid becomes an integral part of the hull and distributes the mast, rigging and keel loads to the hull. These structural members will not absorb water or deteriorate over time.

B. The One-Piece Pre-Molded Grid

Catalina models 350MKII through the 470



The grid is an engineered structure that is hand-laminated in a separate mold, using biaxial, unidirectional and non-woven fiberglass for strength and stiffness without excess weight. This one-piece structure is then

bonded into the hull while the hull is in the mold. This type



of grid structure is employed when the grid is more complex and bears the additional loads of tank supports and engine mounts.

The grid structure is never compromised by the need to accommodate interior furniture, as this is the function of the hull liner, a separate molded part. Separating the structure from the accommodation allows each part to be designed without compromise for its intended function. This is a benefit of Catalina's unique five-piece construction system.



Unique Proven Mast Support System



All interior components are designed and built in Catalina's mill and cabinet shop in the U.S.A.



Click illustrations for enlargement

"Ball and Socket" tie rods allow perfect alignment of loads to the hull structure. threaded stud, 316 stainless steel turnbuckle toggle, 316 stainless steel deck, solid fiberglass at chainplate penetration interior cover and backplate, 316 stainless steel socket and chainplate, 316 stainless steel tie-rod, 316 stainless steel ball interior cover

hull liner, fiberglassed to the hull, creating a longitudinal beam

Critical to your safety aboard is the transfer of rigging loads from the mast to the hull and structural system.

This unique assembly is of large diameter and passes through a round hole in the deck, eliminates stress, and passes through solid fiberglass which virtually eliminates potential water leaks, intrusion into the core and gel coat cracks.

- These proven engineering principles are common to all models:
- Efficient transfer of rigging loads to hull structure
- Only fiberglass, aluminum and 316-grade stainless steel are used for mast support structure
- No wooden bulkheads or interior components used for mast support
- All system components are oversized with safety factors that exceed all recognized standards

Mast step compression post construction delivers benefits of a deck-stepped mast <u>and</u> strength of a keel-stepped mast.



This unique system delivers the benefits of a deck-stepped mast: less mast noise in the cabin, a dry bilge, more interior space; plus the compression strength of a keel-stepped mast.

This is achieved by a compression post that passes through the deck and incorporates the mast step and stand-pipe for throughdeck wiring. *This support system completely relieves the deck of compressive loads that can cause gel-coat cracks and leaks*. By passing the compression post through the decks and welding it to the mast step, only metal components are in compression from the masthead to the sub-sole structural systems.



Hull to Deck Joints



The hull to deck joint is one of the most critical connections in yacht construction. It must be above all, watertight throughout decades of service, able to take the punishment of docking impact and contribute to the strength of the boat by essentially making the hull and deck a single structure. Because Catalina builds daysailors and bluewater boats, three distinctly different style connections are employed, each suited to the type of boat and assembly method.

1. The External Rolled Flange

This system is appropriate for boats through twenty-five feet. The radiused contacting surfaces are joined with high-strength adhesive. Monel rivets through a heavy vinyl extrusion beneath the rubrail add additional strength. The vinyl rub rail insert protects the deck from edge damage and is easily replaced, if required.





2. The External Overlappping Flange

This hull to deck joint has proven durable and resistant to leaks in over fifty thousand boats. The joint is bonded and mechanically fastened (both screwed and through-bolted) through the aluminum rub rail extrusion. The vinyl insert is easily replaced if required. This joint is resistant to impact damage (docking) and is virtually leak proof.

3. The Internal Flange

This connection is appropriate for larger, heavier boats, when an aluminum or teak toe rail is installed. This traditional joint withstands impact loads well (from docking). Aesthetically this joint has the advantage of a very clean look and is the ultimate in strength. The joint is mechanically fastened and bonded with high strength adhesive.





Deck Ergonomics



Catalina decks are designed with careful attention to ergonomic needs. Styling trends come and go but the geometry and needs of the human body are constants. Understanding and respecting these needs creates a cockpit and deck that are comfortable for long periods, offer proper support, and are easy and safe to move about.





Rigging, Sailing & Deck Hardware



Catalina masts are well-supported for the rigors of offshore sailing and include **backstays**. This creates a system with a total of eleven attachment points to the deck for the standing rigging (most models), the ultimate in security.

All sail controls and blocks are ball-bearing and require a minimum of effort.

Travelers are multi-purchase and fully controllable from one side for convenience.

Winches are oversized and require less effort when sheeting. Primary and secondary winches are standard on most models and are available as electric powered, if desired.

Genoa tracks are long and inboard for narrow sheeting angles, and accommodate large overlapping headsails for good upwind performance over a broad range of conditions.

Anchoring systems feature powerful dual direction windlasses for both rope and chain. Double anchor rollers are designed for both anchor storage and easy deployment. Lockers are large and divided for two rodes in most models.

Critical deck hardware is secured with large metal back -up plates and stainless steel fasteners.





Hand-Crafted Interiors

All interior components are designed and built in Catalina's mill and cabinet shop in the U.S.A.

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Real teak used in interiors (not stained wood), coated with durable, low V.O.C. varnish making it easy to repair scratches

Real solid ash batten hull surfaces add to the warm, traditional ambiance

Raw teak lumber is milled and teak veneers are purchased in matched sets to ensure consitency

Solid teak door frames are hung in sturdy aluminum jambs – preventing bowing and warping. Latch sets are polished stainless steel.

Louvered doors, handmade from solid teak, provide ventilation and add traditional beauty

> Tables are made with solid teak edges for durability and high-gloss finished for beauty

Hand-crafted cushions made of multi-density foam are available in a variety of colors and fabrics

Solid surface countertops for beauty and durability



Hand crafted solid teak cabinetry and moldings, assembled with high quality hardware and ball-bearing drawer guides

Lathe-turned rounded corners on all fiddle rails for safety and yacht style (no sharp edges)



Mechanical, Electrical & Plumbing Systems

Systems are engineered for long-term durability and performance reliability. Owners who enjoy performing some maintenance will appreciate the attention to service-point accessibility. Components and equipment are selected for initial quality, after-market support and parts availability. Compare these important features:

Mechanical

- Large engines with full instrumentation
- Generous fuel tankage with oversize filters
 Single-lever engine controls

Electrical

- Electrical panels are logically arranged and allow for future additional functions
- All wiring is tinned for corrosion resistance
- Large (8D or 4D) deep-cycle battery banks for ample D.C. power

Plumbing

- Multiple tanks with selection valves
- High-quality chrome fixtures in galley and heads
- Variable-speed water pumps (most models) for smooth quiet operation
 - All through hulls meet ABYC standards, are double-clamped and labeled







Conduits for Smart Access

All models have extensive conduits bonded into place for wiring and plumbing runs throughout the vessel, making additions or replacements possible without damage or disassembly.