



1960s

## Cal 40

### Lapworth's breakthrough

#### Editor's Note

*In honor of SAILING's 40th Anniversary, Bob Perry is reviewing one boat design from each decade the magazine has been published, including the current decade. While the choice of boats is somewhat arbitrary and limited to monohulls more than 30 feet LOA, we feel these designs represent the evolution of sailboat design over the last four decades.*

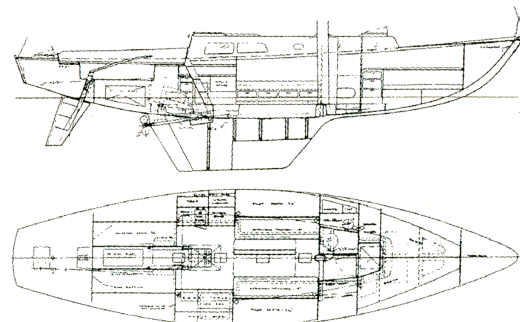
It was 1964. As I laid in bed listening to my transistor radio I heard a tune—"I Want to Hold Your Hand" by the Beatles. I was transfixed. For a high school guitar player this changed everything. For a sailor, the Cal 40 changed everything. The first Cal 40s were introduced in 1963, but they were really making an impact by 1964 and by 1967 the 40 was the most dominating production ocean racer ever built. In the 1966 Bermuda-Newport Race, 40s won five of the top 15 places overall. Cal 40s won the Transpac race in 1965, 1966 and 1967, and again in 1985, also winning the SORC in 1964 and 1966. The late Bill Lapworth designed the Cal 40 to the CCA rule and the boats were built by Jensen Marine in California.

The dominant types of the day

designed under the CCA rule had short waterlines and were relatively heavy with D/Ls around 320 due to their short DWL. The 40 has a relatively long DWL at 30.5 feet and is light at 15,000 pounds. This gives it a D/L of 236. This was also a time when the debate was raging over whether "serious" boats could have fin keels and still be suitable for offshore work. Bill Lapworth had done several fin-keeled boats and he went one farther and gave the 40 a spade rudder. The hull form shows a modest beam, by today's standards, of 11 feet for an L/B of 3.63. The BWL is wide with a hint of tumblehome amidships, a very firm turn to the bilge and a tight radius at the keel-to-hull tuck area. There is very little deadrise to this midsection although the deadrise does increase at the transom. The 40 was a very stiff boat and that won a lot of admirers who rejected the tippy IOR boats when the new rating rule was introduced. Lapworth made no attempt to integrate the hull shape into the root of the keel.

Hull and keel were treated as two distinct entities as they are today. The keel is really long in chord. But in 1963 this keel was radical and it worked. The bow treatment shows Lapworth's love affair with the big, full radius at the stem. I'm not sure where this detail came from but both Bill Lapworth and Britt Chance used it.

Looking at the sailplan I am struck by the fact that boats just don't look like this anymore. The freeboard is modest. There is a nice, pronounced spring to the sheer. The house



is low and short and the cockpit is very long and stops well short of the transom. The shortness of the cabintrunk is accentuated by long teak cockpit coamings. I have to admit that when I was a kid I didn't like the looks of the Cal 40. I found the house too rounded and lacking in detail and I couldn't get used to that large stem radius. Compared to the S&S and Rhodes designs of the day the Cal 40 was a bit on the bland side aesthetically. Today I have different eyes and a well-restored 40 is a great looking boat to me now.

The layout is as simple as possible with opposing settee berths forward of a small galley to port and a chart table over an icebox to starboard. There is a single head to port and V-berths forward. This is the layout of a 26-footer today. The engine is tucked under the companionway and drives the prop through a V-drive gearbox. There are quarterberths on both sides of the companionway.

The rig is an ultrasimple masthead, single-spreader rig with inline cap shrouds and fore and aft lowers. This was the standard rig of the day. The SA/D was a modest 18.5.

It's hard to grasp the significance of Lapworth's design without having it surrounded by the rest of the 1963 racing fleet. In 1963 racing boats were all over the map in terms of design and many of them were not good boats. The Cal 40 has endured as an efficient and handsome design. This modest appearing design changed the direction of racing boat design forever.

LOA 39'4"; LWL 30'4"; Beam 11'; Draft 5'7"; Displacement 15,000 lbs.; Ballast 6,000 lbs.; Sail area 700 sq. ft.; SA/D 18.5; D/L 236; L/B 3.63.

Designer: Bill Lapworth  
Builder: Jensen Marine

