

# Blue Water Sailing <http://bwsailing.com/bw/>

## Inside The J40

*A performance cruising boat from the 1980s, the J40 embodies the best of speed, simplicity and easy handling.*

When you say "J Boats," most sailors will not immediately draw the association - "blue water boat." Instead, what comes to mind is "racer," regatta winners sailed by macho, young sailors and their big, strong crews. That would be true, in part. J-Boats have proven over the last two decades to be consistently good performers around the buoys and winners in point-to-point events. So, part of the image is based in reality. But part is also based on product positioning -that artful manipulation of the consumer's perception that, in this case, has many sailors believing that no matter what boat Rod Johnstone drew next, the one constant would be high performance.

Obviously, the company's image was skillfully created by Bob Johnstone and then marketed. J Boats Inc. is one of the few American boat builders that has prospered right through the marine industry recession. But what has been left out of the overall J Boats mystique is that several, if not many, of Rod Johnstone's designs are also excellent cruising boats that are safe and fun offshore passage-makers. Now and then, J-Boats brings out a model with a "C" attached to it, the 34C and the 37C, for example. These have been fast, fun boats with a good motion at sea and the accommodations a couple or family need for comfortable cruising.

But of all the boats the Johnstones have brought to the market, our favorite blue water boat is the old J40, designed in 1983 and first launched in 1984. Since then, more than 100 of the boats have been built and several have undertaken notable offshore cruises. Today, a well equipped J40 can be bought for under \$130,000- which is a lot for a used 40-foot boat but close to \$100,000 less than the new J42

that has been designed to replace it. Compared to other boats in this size and price range -the Tartan 40, Nordic 40, Bermuda 40, Bristol 41 and so forth-the J40 is notable for its simplicity, its speed and its ease of handling. J Boats are rarely the least expensive of their class. Yet, they almost always represent good value for money and consistent value over time. There have been a few milestone 40 footers over the years. The Cal 40 was certainly one and we believe the J40, in the same vein as the Cal 40, has proven to be another.

## **The Numbers**

Offshore performance is always a compromise between comfort, sea keeping ability and speed. Weigh a design too heavily toward one of the three and the resulting boat will be a dog of some kind or another, either a fast uncomfortable one. or a teak and velvet-lined slow one. And if seakeeping, ie. the ability to weather a storm without coming apart, is ignored, the resulting boat will be the worst sort of mongrel - an unsafe one.

With a displacement/length ratio of 219, the J40 falls at the light end of the spectrum for offshore, live-aboard boats, but is, in fact, about average for modern (1990s) coastal cruisers and racer-cruisers, particularly those designed and build in Australia-New Zealand and Europe. At 219, the J40 has enough heft to carry its way through a chop when beating to windward -often the worst point of sail for light boats. With short ends and a fine entry, the hull is nicely balanced, so teeth-jarring slogs upwind don't result in hobbyhorsing. In 15 knots of breeze, the boat will claw upwind at 6.5 knots or better and will tack through 60o apparent wind. The rig of the J40 is of quite low-aspect for a boat designed to sail quickly. But, the concept of the design is to have a boat that will sail well under main alone and effectively with a 120% or even smaller genoa instead of the large number one (150%). The sail area/displacement ratio of 16.2 is moderate by modern standards, although in 1984 such a ratio would have been considered on the high side for a cruising boat. Times have changed. The point, however is that an easily-driven, moderate hull, with a moderate fin keel and large spade rudder can be powered by a rig that is not a man-eater. All part of the compromise, and here it turns out very nicely.

Part of the performance picture is the beam/length ratio, 35% in the J40, which is an indication of hull volume (good for carrying loads such as books, cans, water, fuel and so forth) and initial stability, which is good for upwind performance, but can also be an indication of a short, jerky roll off the wind. The J40's ratio is higher than that which will be found on more traditional designs, but hardly extreme. Modern IMS boats and new long-range voyagers such as Bob Perry's new Saga 43 are tending toward narrower hulls, making them easier to drive and quicker. But, the tradeoff with a narrow hull is that 15° to 20° of heel is a fact of life up wind. The J40 is happiest and fastest when sailing more upright than that, preferring heel angles in the neighborhood of 12° or less - a preference shared by many an offshore sailor.

A performance boat that is defined not by its extremes but by its consistent moderation in design and rig, the J40 will do several things well, most of all sail. In variable conditions, the boat should average 140 to 160 miles per day at sea. Reaching and running in the westerlies or trade winds, the boat should tick off 175 to 190 miles a day regularly, with occasional exhilarating runs of 200 miles or more.

## **Construction**

J Boats is not a boat building company, but a marketing and sales outfit. All of their boats are built by Tillotson-Pearson (TPI) in Warren, Rhode Island, known for its long boat-building history and dedication to the art and especially the science of reinforced plastic and composite construction techniques. These are not exotic boats, built of ultralight anything. They are sensible production boats built with good materials and proven techniques. The most notable feature about the J40 hull is the balsa coring of the hull and deck. Cored construction provides very high strength-to-weight ratios, which means that weight in the form of ballast can be applied where it does the most good, the keel, instead of spread throughout the hull. Concentrating the weight amidships enhances performance and dampens pitching. But light weight is not the sole advantage of cored construction; coring makes composite panels extremely stiff allowing for greater rig tensions and overall hull strength. Additionally, coring acts as both sound and temperature

insulation. In stormy conditions, the aft cabin provides a terrific sanctuary from the whine of the wind in the rigging and the whoosh of waves. And, in cold climates, the coring will eliminate condensation inside lockers and cabinets, which inevitably leads to mildew.

The downside of coring is the aging process of the composite structure. If a cored boat suffers a serious collision and the coring is violated, moisture will creep into the balsa layer, thus beginning the rot process that can make the deck or hull spongy and ultimately unsafe. Moreover, if a boat is raced hard and left for long periods with its rig under maximum tension, the strain on chain plates can lead to the destruction of the core-fiberglass connection in the surrounding area. When inspecting or surveying a cored hull and deck, sounding with a hammer and checking for weeping from thru-hull and thru-deck fittings will give evidence of rot in the core.

J Boats and most other modern composite boats have solid glass reinforcing around all stress areas and where deck gear is bolted through the deck. This largely eliminates the ingress of water into the laminate. In the J40, specific areas to look at when inspecting the hull should be around the rudder post, around the prop shaft's thru-hull fitting, the partners where the mast passes through the deck and under the stanchion bases.

The layup of the J40 is of bi-axial and unidirectional fiberglass, hand-laid and laminated with polyester resins. In the outer layer, vinylester resin was used to prevent hull blisters. J Boats and Tillotson-Pearson offer a 10-year warranty against blisters.

## **Layout & Accommodations**

A sailor's boat, the J40 has been set up to be easy and efficient to handle on deck, and comfortable and seaworthy below decks. The cockpit is laid out to accommodate a sailing contingent of two couples, but will work well for a lone couple or a racing crew. The main traveler crosses the cockpit just forward of the binnacle, which can make moving to and from the helm awkward. But in this position, the sheet runs from the end of the boom, where it has the most mechanical advantage, and it is in a position handy to the helmsman. For those

sailing solo or as a couple, this arrangement is excellent. The genoa sheets run to either of the self-tailing winches. These can be handled by one person kneeling on the cockpit seat. The cockpit is well protected from deck wash and, with a dodger over the companionway, will be snug in just about all weather. The low bridge-deck will keep water out of the cabin should a wave come aboard. If the cockpit has a drawback it is simply that the seats aren't long enough for a tall person to sleep on comfortably.

Down below, the accommodation plan is set up for two couples in two private cabins, each with its own head. While this is a sensible cruising layout, it also works well at sea. The aft head doubles as a good wet locker for those coming off watch. The aft cabin and the two settee berths in the main saloon make excellent sea berths. The galley is set up for cooking under way, particularly with sinks positioned on the centerline so they will drain on either tack. Handholds are sensibly placed, although the stainless steel overhead handrails seem out of place with the rest of the decor. Saloon tables are notorious for breaking away when a large person lurches against them. Although we have not seen this happen on a J40, the addition of a floor to overhead pole, with the table end attached to it, would solve the problem and add an important handhold. The forward cabin is as good as can be found on boats of this size, with long, comfortable berths that are wide enough at the forward end for two sets of feet to fit neatly.

Two heads on a 40-foot boat is a lot of heads, considering the amount of time live-aboard sailors spend repairing and unplugging marine toilets. On the J40 we would consider tearing out the forward head and using the space for spare parts storage and a workbench. Or, should you want a good double berth, it could fit neatly forward of the main bulkhead. where the head used to be.

The design has a moderate amount of storage for long-range sailing. Tanks hold 80 gallons of water and 35 gallons of fuel. We would like to see another 25 gallons of fuel aboard and 20 more gallons of water. Accommodating more storage is another good reason to rip out the forward head. But it should be noted that in the modern world of offshore sailing, it is rare to be very far from a supermarket - even in Indonesia - or from fuel and water supplies, fax machines and a drop-off depot for Federal Express. One no longer needs to carry a ton of canned goods, nor all the spare parts in the world, which means that lighter, faster and simpler

boats can serve well in far-off lands.

Simplicity and moderation are important qualities in a good voyaging boat. We have long admired the old Cal 40 as a boat that could sail quickly and efficiently and roam the oceans of the world without complication. The J40, more modern and even more efficient, does all of that and more. Although more expensive than many voyagers can afford, the J40 will be just the right boat for those who are looking for a performance cruiser with excellent handling capabilities and the quality of both a Johnstone design and TPI construction.

### Retrofitting For Voyaging

Using the figure of 20 percent of the purchase price, or approximately \$25,000, here's how BWS would fit out for extended voyaging a used J40 bought with standard coastal cruising gear (including refrigeration already on board).

*Sails* Add a 100-percent, high-cut jib to be used when sailing in the Trades (\$2,500) plus a storm trysail (\$1,200).

*Self steering* Wind vane (\$3,000), a below-decks autopilot (\$4,250) and an Autohelm 3000 (\$750) as a back up.

*Safety gear* Six-person offshore raft (\$3,500), grab bag (\$200), EPIRB (\$400) and Galerider drogue (\$170), radar reflector (\$150).

*Anchors & tackle* Spare 300-foot nylon rode (3/4 inch or larger) with 50 feet of chain (\$160) and two spare anchors of 20 kilos, or 44 lbs., each (\$950), plus a large fluke type (Fortress) (\$450).

*Electrical system* New batteries, 440 amp-hours on house bank and 115 on the starter bank (\$650), a high-output alternator/regulator/monitor system (\$1,250).

*Electronics* GPS, built-in with cockpit repeater (\$600), spare hand-held GPS (\$200),

16-mile radar on stern pole (\$1,800). SSB/Ham transceiver with tuner and antenna (\$2,250), hand-held VHF (\$250).

*Miscellaneous* Weather cloths for cockpit, lee cloths for sea berths, sun awning over boom, Bimini over helmsman (\$950), cabin fans (\$200), and a small inverter (\$500).

That comes to **\$26,330**, which is only the first in a series of cost overruns that will precede the final act of taking any boat to sea!

(J40 Editor note: most J40's I have seen already have most of the extra gear listed above...)