



Transitioning from a Monohull to a Catamaran

Outfitting the Boat

by Julie Palm

complexity meant more maintenance, more failures, more frustration and more spare parts on board. On *Archer*, we are determined to keep things simple where we can.

THE BOAT

The Outremer 51 is a production boat that we specified with the offshore cruising package of options. The offshore package includes solar panels, watermaker, folding props, gennaker, rigid carbon bimini, davits and cockpit cushions.

We selected the three-cabin, two-head "Owner's Layout" and will enjoy the comfortable main saloon with its galley, seating area and nav/inside steering station.

With all the space on a catamaran, it is tempting to fill all the nooks and crannies with stuff, but, as we saw when we sailed cats during our search process, it is easy to overload a boat and slow it down. Our goal is to outfit the boat so that it can be fully loaded for a long offshore passage with full tanks, four crew and provisions for 20 days without exceeding the maximum weight that still allows the boat to sail on its lines as designed.

The first step was to decide what we didn't want. From the potential option list, we eliminated the washer-dryer, the TV with its automatic lift system, the generator, the

Rick just returned from a week in France to check out the progress on *Archer*, our Outremer 51, as it is making its way through the production process. How exciting is that!

We have outfitted monohulls for long distance cruising in the past, so we know that performance, safety, and comfort at sea and at anchor are paramount. But, between the long list of options available through Outremer and our ideas about what we want, well, the expression "kid in a candy store" comes to mind.

Though the process isn't new to us, two things make outfitting



Archer different. First, it is a catamaran and that means we need to control weight more carefully than we had on our monohulls. Rick is a pilot, so weight and balance is a familiar concept that we applied to our previous boats, but not to the degree required for a catamaran.

The second factor is simplicity. In the 12 years we owned *Altair*, our Saga 48, we allowed new technology to lure us to more complex systems than we really needed. More

Archer's Weight Estimate

Archer's Weight Estimate		Lbs	Kg
"Light Ship" Weight	Includes standard hull, installed furniture, empty tanks, standard mast and rigging, standard steering systems, engines, batteries	22000	10000
Layout modifications		77	35
Comfort modifications	Freezer	99	45
	Air Conditioning (main saloon only)	132	60
	Blinds, screens, fans, misc. extra lighting	74.8	34
Water System	Watermaker	121	55
	2nd holding tank/port side	55	25
	Deck wash down, stern shower, Seagull filter	26.4	12
Electricity	Battery chargers (100A + 60A)	66	30
	Battery, alternator Upgrades, inverter	354.2	161
	Solar panels - 560W	156.2	71
	Watt&Sea HydroGenerator	39.6	18
Propulsion	Props - Folding 3 - blade	8.8	4
	Larger fuel tanks (2@270liters vis 2@170liters)	33	15
Sails and Rigging	Kevlar shrouds	-110	-50
	Mast, boom, running rigging mods	50.6	23
	Extra sails, associated rigging	455.4	207
Deck Layout	Mechanical steering (vs std. hydraulic)	66	30
	Rigid bimini, davits	358.6	163
	Dodger; helm, deck hardware & winch mods	215.6	98
	Soft shackles (vs, standard shackles)	-11	-5
	Passarelle - carbon fiber	17.6	8
Electronics	Helm & nav station electronics & communications	99	45
Upholstery	Cockpit cushions, sunshades	68.2	31
Safety	Liferaft, MOM	160.6	73
	Rub rails, skegs, handrails	88	40
Achoring, Mooring	Mooring lines, fenders, upgraded anchors/chain	231	105
Miscellaneous Equipment	Dinghy & motor	211.2	96
	Outremer-supplied spare parts kit	66	30
Bottom Paint - 2 coats		110	50
Personal gear	Galley equipment, tools, spares, foul weather gear, (shipped from the US/added in France)	770	350
	Clothing, bedding, fishing gear, charts, books, safety equipment, PFDs, fenders	770	350
Fuel - 135 gal x 7.15 lbs/gal		965	439
Water - 100 gal x 8 lbs/gal		800	364
Total Estimated Cruising Weight for Archer		27854.8	12661.273
Maximum Allowable Cruising Weight As Designed		30140	13700
Amount Under Maximum De- signed Weight		2285.2	1039
Crew and Provisioning	Normal Cruising		
	Crew 2 people	300	136.364
	Provisions 10 days	140	63.636
	Total	440	200
	Amount under max designed weight	1845.2	838.727
	Transatlantic Passage		
	Crew 4 people	600	272.727
	Extra gear 2 people	40	18.182
	Provisions 20 days	560	254.545
	Total	1200	545.455
	Amount under max designed weight	1085.2	493



microwave oven, the air conditioning in the hulls (we did put AC in the main saloon for use in marinas), the icemaker and the dishwasher. Those wonderful comfort options were easy to give up because we really have never felt that they were necessities in our cruising life in the past.

But, let me assure you, cruising is not camping. We have found we do not have to sacrifice comfort for ourselves and our guests to meet our weight objectives and performance goals. The design parameters of the Outremer 51 allow sufficient payload to properly equip a cruising boat.

The attached chart (page 21) is the worksheet we have been using to track the weight impact of each decision we have made in outfitting the boat. Our thanks to Ronan Dreano, Outremer Process Engineer and project manager for Archer, for helping us develop this chart and, more importantly, guiding us through the decision-making necessary to effectively outfit the boat. It looks like we will achieve our goal with 1,000 or more pounds to spare, even when fully loaded for a long offshore passage. That's

about an inch above the designed waterline. We are comfortable that we are maintaining our commitment to safety and comfort, while achieving a weight target for best performance.

Working within our weight limitations, we have reviewed each system, using the best of what has worked for us on *Altair*, adding what we have learned about sailing cats and then applying the simplicity filter where possible.

SAILS & RIGGING

We will continue to sail in a wide range of conditions on both long passages and island-hopping day trips, usually with just the two of us on board. Sometimes we will enjoy one or two extra crew for passages and cruising fun. We want to run single person watches as we have done in the past, so it's critical that one person can handle reefing and trimming in most conditions. We are getting older—as much as we try to deny it—so the assist-devices, like electric winches and roller furlers, are an important element of our planning.

In trying to keep things light we went with Kevlar shrouds and

added electric winches—Antal 2-speed, instead of the standard Lewmars. We will have a genoa, a staysail on a removable stay, a symmetrical spinnaker and a gennaker. The main will have a square top, full battens and three reefs, with lines brought back to the cabin top. We haven't had much luck with single line reefing so there will be six lines, three from the forward end and three from the aft end, coming back to the cabin top. We are staying with a modified Dacron fabric—bulletproof.

ELECTRICAL SYSTEMS

In keeping with the goal of simplicity, we have elected to wire Archer as a predominantly 12 volt boat. We circumnavigated on a 12 volt boat, our Tayana 52, and found the simpler electrical system to be nearly problem-free and easier to maintain. So, we want to return to that concept. Only a few systems will run on 120 V: the AC in the main saloon (when at a marina), the battery chargers, and the outlets for charging mobile devices and a few small appliances. It is amazing how important the mobile devices have become for downloading

audio books and songs for night watches and charts and stargazing apps, too. We added a battery to build the house bank up to 800 Amp hours.

Without large appliances like a washer-dryer, a microwave and an icemaker, we will not need a generator. That saves weight and helps keep things simple.

POWER GENERATION

The Outremer, like many catamarans, provides a platform for solar panels over the dinghy davits. We will have 560 watts worth of panels. Unlike a monohull, which often heels away from the sun for parts of the day, the cat's level platform should result in higher efficiency while underway.

Based on the success of a Watt & Sea hydrogenerator that we had on *Altair*, we are adding one to *Archer* as well. When sailing at eight knots on *Altair*, we routinely enjoyed 18 amps of input from the Watt & Sea, making it possible to cruise comfortably for days at a time while making water, running night lights, chartplotters and the autopilot, all without using the generator.

The Watt & Sea unit for *Archer* will have a shorter overall length and a smaller propeller to compensate for the faster speeds of the cat. Rick designed and built a stainless steel bracket to secure the Watt & Sea in place and to allow for its easy removal when not in use.

STEERING SYSTEMS

On cats, the helmsman feels less feedback from the steering system than on a monohull. In our test sailing, we found that mechanical systems allow the helmsman to feel a cat's response better than hydraulic systems. For that reason, we have selected the mechanical steering system option for *Archer*.

In addition, the Outremer features a auxiliary carbon fiber tiller steering system for even better helm feel (and more fun!) that we have also included in our specs.

The all-important autopilot control is at the helm station, and we added a control head at the nav station in the main saloon to afford

us the comfort of steering from the inside during cold, wet offshore conditions.

ELECTRONICS

Furuno electronics have worked well for us on *Altair*, so we are staying with that brand on *Archer*. Instead of having two chart plotters—one at the helm station and one in the nav station—we have elected to use a chartplotter at the helm station and a more versatile computer with MaxSea at the nav station. We will be experimenting with our iPad to see if it will eventually replace some of our needs for those heavy backup paper charts.

SAFETY EQUIPMENT

Within our weight planning considerations was a full complement of safety equipment for offshore passagemaking. We often participate in World Cruising Club rallies, so we use their safety equipment list as a minimum guideline for what to include on the boat. On the Outremer, the life raft is integrated into the trampoline design. Man overboard equipment (MOM 8A and LifeSling) is rail mounted as it was on our monohulls.

PROTECTION

One of our goals in outfitting *Archer* has been to assure that we can get out of the weather, both for comfort and to protect our skin. Outremer has worked with Rick to improve their dodger design and we have added a full enclosure under the bimini in the cockpit.

GETTING AROUND

We have reduced the size of the inflatable dinghy to 10 feet three inches and engine to 10 hp to help reduce the overall weight hanging from the davits. The 10 hp motor is small enough for me to start manually and avoids the complexity of the electric start system.

AND THE GALLEY

All this talk of weight planning and simplicity has not led to sacrifices in the galley, I assure you.

I have a three-burner propane stove, an oven with broiler, a pressure cooker, china plates, wine glasses and stainless steel utensils. Unlike one of the catamarans we test sailed, we expect to forego the two wine "cellars" in the bilge—one for red and one for white—but expect to carry enough wine to celebrate safe arrivals in port without first heading to the local liquor store. The pantry is large; the front-access fridge actually has shelves and the freezer should meet our needs for fine dining at sea. I am looking forward to being able to see and reach what's in the fridge and freezer easily instead of diving into the abyss of our monohull units.

Outfitting *Archer* has been an adventure in itself—taking what has worked in our monohull experience and adapting it, hopefully improving it, for use on *Archer*. We will see how all these outfitting decisions work out when we take delivery in late August at the Outremer Shipyard in La Grande Motte, France and sail her across the Atlantic in November. So stay tuned!■

Julie Palm has made a circumnavigation with her husband Rick and for the last decade they have worked with the Caribbean 1500 as advisors and inspectors.

