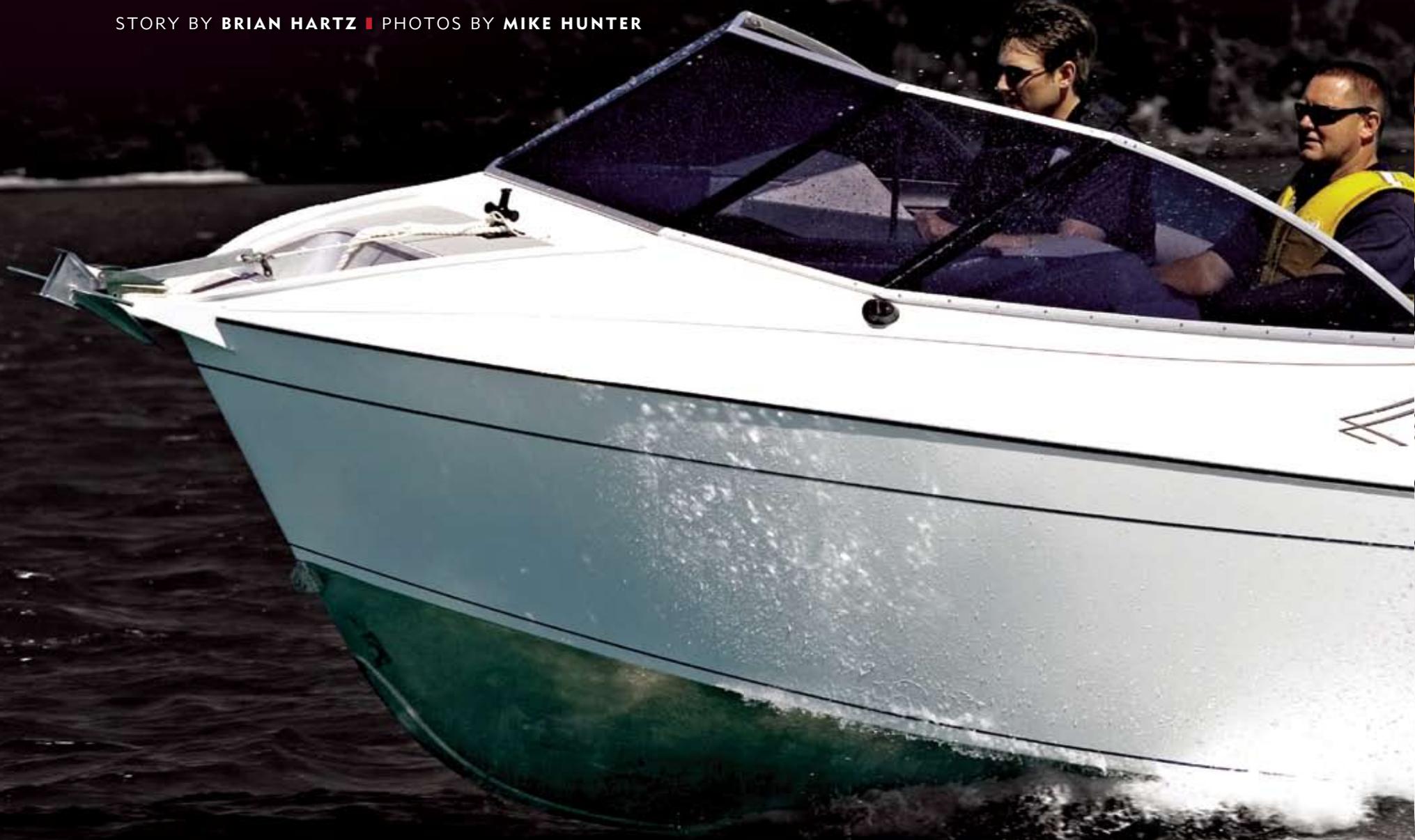


# Kitset or ready

Do-it-yourself yachties and wooden boat aficionados have for decades enjoyed kitsets as a relatively inexpensive way to get on the water – provided they had the necessary tools and skills and were willing to put in the time, effort and discipline to build a boat at home.

STORY BY BRIAN HARTZ ■ PHOTOS BY MIKE HUNTER



# made





**Y**acht designer Jim Pauling believes fans of tinnies should have access to kitset boats, too, and so he and partner Jason Swan, an engineer by trade, created DIYNO Kitset Boats – the acronym stands for Do It Yourself Not Others – to fill this gap in the market. Their first project, the Revo 501 reviewed here, is a 5m runabout.

As a professionally built boat with outboard and trailer, the Revo 501 is priced at \$32,000, but as a kitset it will cost you well under \$10,000 – and Pauling and Swan will provide support and guidance at no extra

charge. Hull-and-decks packages will also be available but Pauling and Swan are still working on details for that option.

Pauling had been the general manager at Lloyd Stevenson Boat Builders but he yearned to see his own designs getting built and thus set up shop as Jim Pauling Yacht Design.

“I wanted to do my own designs rather than oversee the build of someone else’s, but what I found was that you can’t sell boats off plans – people have to see boats before they decide to buy,” he says. “Two guys approached me to do an eight-metre

boat but when it came time to finalise the design, one of the guys said he’d never built a boat before and wanted to start with something smaller. So they settled on a five-metre. The clients were going to set up production, but things changed and I still had the design so I was just selling plans.”

To keep the books balanced while he was going it alone, Pauling dabbled in contract boat building but found that frustrating in that it restricted his ability to pursue design work. After selling a design for the Revo 501 to Swan, and

supplying cut files for the aluminium to be plasma cut, Swan suggested building and selling the design as a kitset.

“At first I declined because I was really only interested in designing,” Pauling says, “but eventually I agreed, on the condition that he come in as a partner.”

From that point on the Revo 501 became a joint venture between Revolution Yachts and Swan’s company, JHS Engineering, with a new company, DIYNO Kitset Boats, formed to market the kitsets based on the Revo designs. Pauling jokes that he supplied the design

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and Swan fixed his tractor in return. So now they're even.

Ironically, Swan was not a boatie and, as Pauling tells the tale, he used to confuse terms such as gunwale and girder. But his confusion re-enforced the need for comprehensive plans for the kitsets, which in theory would be built by amateurs who might be attempting their first boat.

Despite his lack of boating knowledge, Swan's engineering expertise was crucial to the conception of DIYNO Kitset Boats and the high-quality construction of the Revo 501.

"I'm a guy who looks around for interesting DIY projects," Swan says. "I said to Jim there's heaps more people like me who want to do kitsets at home. People have access to welding materials and they want to build alloy, not wood, so alloy could be the way to go. People will always build wooden boats off plans, so why not alloy?"

Pauling and Swan met us at Half Moon Bay Marina with the Revo 501, powered by a 90hp two-stroke Yamaha outboard and towed on a custom-built trailer – plans for which will be provided with DIYNO

For a 5m runabout, the Revo 501 turned in an outstanding performance on a choppy day in the Tamaki Strait.

kitsets. Pauling says the kitset boats will bear the DIYNO brand instead of Revo as per the test boat which is reserved for professionally built boats designed by Jim Pauling Yacht Design, of which the Revo brand name is a registered trademark.

The Revo 501 is a basic but attractively built and finished runabout suitable for two to four occupants. As tested, it's fitted with only two seats – for the helmsman

## TONY GLASSIE

Tony Glassie is one of the men who originally approached Jim Pauling about designing the 8m tinnie which eventually morphed into the 5m hull that became the basis of the Revo 501.

"Jimmy's an old friend of mine," Glassie says. "I've got a lot of faith in the guy. He's done a small boat that will be really well handling in the sloppy, choppy stuff of the Waitemata – it won't bang around as much as others in its class."

Glassie's 5m DIYNO is almost complete, but he's also doing up a 45ft launch which is taking up a lot of his time.

"If you were to look at my DIYNO from a distance you couldn't tell it apart from Jimmy's demo boat, but I've got larger side decks and a different transom. That's the nice thing about these – they slot together easily but you can chop them up and do different interior things. They're pretty easy to build – not at all difficult. I'm not an expert in welding by any means and I'm not a boat builder; I just like boats. Fortunately, Jimmy's great with ongoing support throughout the build. He told me exactly how to cut the pieces."

Glassie is impressed with how well Pauling's kitset design works and believes it's more than comparable with tinnies from big-name builders.

"The man knows his stuff and when it comes to boat design there's a lot of engineering shops out there that just slap boats together and sell them with very little evaluation," he says. "Jimmy went the other direction and matched a really good hull design to a small boat. The actual building side of it was actually very easy. I had to cut everything originally but now the panels just arrive in a pack. It's easy."

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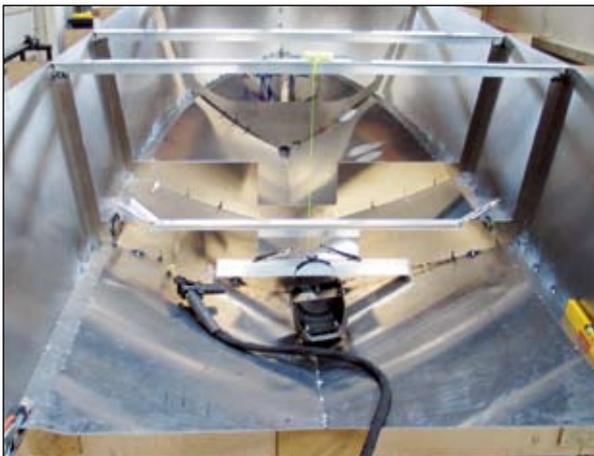
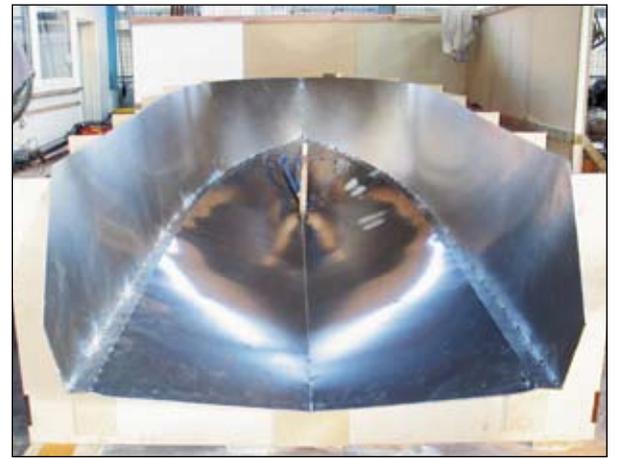
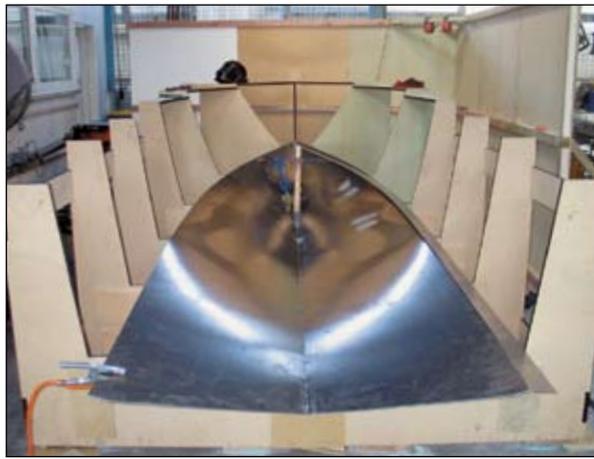
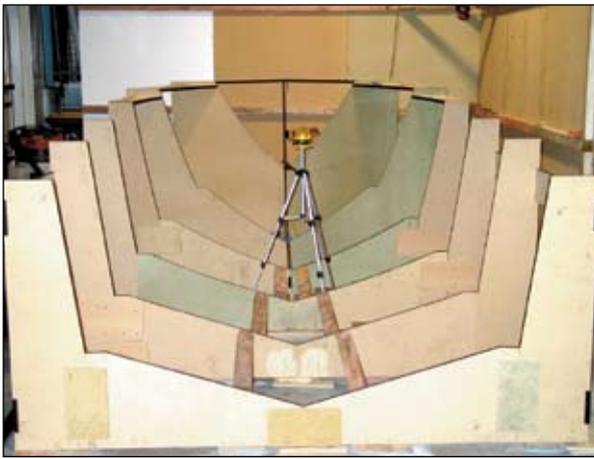
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and passenger – but Pauling says transom seats can be fitted if desired. The seats convert from fore to aft-facing for comfort while fishing, or to aid the passenger while spotting a skier or water toy user.

There are two rod holders in each cockpit coaming plus two in the transom that can be used to hold the legs of a bait board. The cuddy is surprisingly deep and expansive considering the boat's moderate beam and features upholstered squabs with lined side shelves and pockets.

The topsides are quite tall for this class of boat: Pauling says the target market is fishos and divers who want the safety of higher topsides while working in rough water. Combine those topsides with a modest beam and finely curved side and bottom panels and you have an unusual-looking 5m runabout but one that nonetheless is appealing to the eye and the wallet.

"I've put a lot of work into design-

ing these boats and designing them right, getting the weight and geometric centres in all the right places and getting the structure right to match – all the factors that make a good boat, all the while maintaining a cost effective boat to build," Pauling says.

"Excessive beam can be detrimental to performance. If you don't match the beam to the displacement and speed of the boat, the boat becomes flighty and can result in a harder ride and non-optimal trim angles causing performance and handling problems. A soft-riding hull is about more than just deadrise; other important factors are bottom loading and sea-kindly shapes. Fortunately the original design was driven by performance criteria and not marketing angles.

"We want to emphasise that with a very modest financial outlay you can build yourself a very good boat off these kitsets – not just any old boat. And they

aren't all the same. You can set them up with different seating types and arrangements and different locker systems.

"We're providing the kitset or base boat and then people can customise the finer details. Some people might not buy a boat because of little things – they might not like the seating or the position of rod holders or baitboards – but by building their own boat with a good kitset as a base and adding their personal touch, they can get the boat they want."

As tested, the Revo 501's cockpit sole is fitted with optional dark blue marine carpet that can be pulled up to access the bilge and an under-floor fuel storage locker. Pauling says a water ballast system was originally designed into the 5-metre boats, but none of the builders has decided to go with it. The structure is also set up for a fixed under-floor fuel tank, but Pauling and Swan prefer tote tanks on a boat this size.

The above series of photo shows the construction of the first 5m DIYNO runabout – the kitset version of the Revo 501 – owned by Mike Penny and Blair Fraser, who are building it on Auckland's North Shore. At press time they were nearly finished with the build as can be seen in the final photo of the hull being turned over.

Two more Revo 501s are in build, as is a six-metre composite version, and an 8m Revo had just been launched as *Boating* went to press. With the design gaining traction, Pauling also has plans to build a range of personally designed 4.4-7.5m powercats in the near future to capitalise on the growing interest in power multi-hulls, so don't be surprised if you see his name popping up more often.

## PERFORMANCE

Launching the Revo 501 was no trouble at all, even in a brisk sou'wester blowing



20-25 knots and gusting 30. She slid easily from the trailer and was light and easy to handle at the dock. Due to sea conditions that would make most owners of 5m boats think twice before sallying forth, we offered Pauling the opportunity to head up the estuary for calmer water, but he wanted to give the Revo 501 a real workout. So we headed down the Tamaki River, around Musick Point and ran the boat in some tough wind against tide conditions to see what she could do.

The feisty little Revo held up well, maintaining a consistent entry and ride without any excessive thumping. I received a few full-on blasts of spray to the face, but that's to be expected in such conditions and not a fault attributable to the windscreen. The boat showed no

tendency to broach in a following sea, which is an area Pauling has paid particular attention to in the design. He believes it is all too often forgotten in the quest for a soft ride. He points out the importance of a boat that can bring the crew home safely with a following or quartering sea, particularly across a bar.

Cable steering was not as light as a hydraulic steering system would be, but the hull didn't flop around and I found steering corrections easy to make at all speeds.

Afterwards, we headed southeast toward sheltered Mellons Bay, where off in the distance we saw the tall ship *Spirit of New Zealand* anchored and her crew relaxing – a good sign that we'd find in that spot some relatively flat water in which

to observe the ride and trim angles of the boat in calmer water.

My only quibble with the Revo 501's performance was noted as we motored back up the Tamaki estuary to Half Moon Bay Marina. The engine was sitting at 1600rpm, which had the boat idling along at about 5 knots. Putting the throttle forward to 2000rpm caused the boat to slowly but dramatically increase its speed until it began to plane with no subsequent throttle adjustment.

There is no hump that requires full or near-full power to overcome, making the transition to planing smooth and easy, but I found this behaviour difficult to control: sometimes the boat would accelerate up to planing speed against my will. However, given more time with the boat

**FROM LEFT:** The Revo 501 comes with a trailer and its interior can be fitted with a range of seating and locker options.

one could learn to deal with this tendency. Pauling is proud of this aspect of the design, saying it is a testament to the easily driven nature of the hull.

"It's always trying to get on the plane," Pauling says. "It just up and goes, building up speed and generating lift due to the hull dynamics and balance."

The Revo 501 is a smooth operator and genuinely fun and safe to operate at all speeds. Whether sold as a professionally built boat or a kitset or hull-and-decks package under the DIYNO banner, Pauling's design might be driven by value but it is plain and simply a blast to drive. ■■■

## SPECIFICATIONS

BOAT	
model	Revo 501
designer	Jim Pauling Yacht Design
builder	Revolution Yachts/ JHS Engineering
construction	aluminium
thickness	4mm bottom, 3mm sides
loa	5.0m
lwl	4.27m
boa	1.93m
draught	0.3m
deadrise aft	17°
engine options	outboard

horsepower range	75-90hp
max speed	35kts
fuel capacity	3 x 24L tote tanks
length on trailer	6.4m
height on trailer	2.13m
trailerable weight	850kg
useable cockpit space	2.29m x 1.69m
price as tested	\$32,000
kitset packages from	\$6,400 (subject to change)

ENGINE	
make	Yamaha 90A
type	two-stroke outboard
horsepower	90hp

max rpm	5500rpm
propeller/pitch	17in
price	\$10,998
TRAILER	
manufacturer	JHS Engineering
brakes	unbraked
suspension	leaf spring
rollers	centre rollers
other features	skids for lateral support of hull

boat package supplied by	Revolution Yachts
other suppliers include	Richard Howe Upholstery: carpet and upholstery; Ken

Poulton: paint; Yamaha: engine controls; JHS Engineering: engineering; Papakura Auto Electrical: switchboard, electrical supply; Morse: cable steering; Hella Marine: lighting; Plus Plastics: polycarbonate; Trojan: trailer parts; Family Boats: outboard; Anzor Fasteners: stainless steel fasteners; Plytech: plywood; Rosenfeld Kidson: timber; Nalco: aluminium; EMF: plasma cutter; Akzo Nobel: paint; Letter Rip: sign writing; DecraStrip: stripes; Absolute Marine: pumps, fittings and hardware; Adhesive Technologies: resin and fairing compounds

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