

Brave new Beau Geste



After suffering a near-catastrophic structural failure in heavy offshore conditions with his wife and son on board, noted Hong Kong yachtsman Karl Kwok would have been forgiven for calling a pause, if not a total halt, to his ocean racing passion.

Yet, here he was in Auckland in late November for his first sea-trial on board his latest *Beau Geste*, with crew member Margaret Chan doing the champagne honours in traditional style.

And, nothing about the new *Beau Geste*

suggests he is taking his foot off the throttle as far as his racing ambitions are concerned. Indeed, the design brief for the new 80-footer was short and bold: take line honours in the Sydney-Hobart classic.

Given that at least a couple of 100-footers are intent on the same goal, this is an audacious mission. Designer Marcelino Botin acknowledges the long odds, but says in the right conditions he believes it could be done.

Themed in black – black hull, black mast and boom, black sails – this new

Beau Geste has a menacing air about it, reinforced by a powerful hull, aggressive prod and sharply angled dagger boards.

The low-key launching ceremony took place just over a year after its predecessor limped back to Auckland after sustaining major damage during the 2012 Auckland-Noumea Race. Sailing conservatively in heavy seas, the Farr-designed 80-footer cracked right across the middle.

"There was a mighty bang," said skipper Gavin Brady at the time. "We weren't sure exactly what had broken when one of the



crew members walking down the deck stumbled on a large crack that went all the way across the boat. When we looked over the side, we saw a big crack going all the way down the side to the keel and that crack went through the inside as well, so effectively the boat had broken in half.”

In the immediate aftermath, Brady spoke candidly about the wave of fear that went through the boat as the implications of the damage became clear. Water was pouring in and the sound of carbon grinding and splintering could be clearly heard over the wind, which was blowing at 50 knots by then. The prospect of the boat breaking completely apart and going down like *OneAustralia* in San Diego, seemed frighteningly real.

Although preparations were made to abandon ship, the highly-experienced crew managed to nurse the stricken yacht through heavy seas 100 miles to Norfolk Island. In an exposed anchorage, temporary repairs were made to the hull before gently motoring back to Auckland, where the boat, which had suffered two previous structural issues, was written off.

While the new *Beau Geste* is an entirely different beast, it carries the legacy of its predecessor in a couple of significant respects. Much of the equipment, including the Southern Spars rig, some sails, the Harken winch package, deck hardware and some of the electronics were salvaged and used for the new boat.

Also, a significant investment of time and resource went into the structural design by Giovanni Belgrano’s Pure Engineering group to safeguard against a repeat of the previous boat’s failures.

“It had to be a strong boat structurally,” said Karl Kwok, adding the quiet understatement: “we thought we should avoid those things happening again.”

That is not to say this is in any way a timid or conservative boat. The decision to utilize material from the previous boat set the size at 80ft, but there were few other constraints. “There was no thinking about rating rules, as such,” says Botin. “The objective was a fast boat to win the Sydney-Hobart race in real time, not on handicap. Knowing there are much bigger boats in the race, it is a big call, but in the

right conditions it is possible.

“If we have a lot of reaching, or light airs, there is not much we can do against much bigger boats. Our thinking has been to concentrate on good upwind and downwind performance.”

Brady’s take on it was to come up with a good VMG boat that would fly downwind and also be very efficient on the wind. “On passage races like the Hobart, you can’t divert from your course to sail around weather systems, like you can on round the world races,” he said. “You have to take what you get and go straight through the systems, so good VMG performance is what you are after.

“We have tried to maximize righting moment on this boat without just sticking the heaviest possible piece of lead on the bottom of the keel,” says Brady. “We have also tried to use very efficient foils, so that we make virtually no leeway upwind.”

To achieve righting moment with light displacement, the approach has been to combine a powerful hull shape with a very deep canting keel and aggressive dagger boards.

The draft is 5.5m and the keel cants to 45° on double hydraulic rams. The weight of the bulb is "confidential", according to Botin, but he adds that the total displacement of the yacht is about the same as a Volvo 70, with much more sail area and a 10ft longer hull.

The notable aspect of the foil package is the aggressive midships dagger boards, that are angled at 12°. These are straight, deep boards which will generate both side force, to reduce leeway, and vertical lift, effectively reducing displacement at speed.

"Obviously the amount of lift depends on your speed, but we predict that the boards will generate between 1,500 and 2,000kg of lift in certain conditions. It is not foiling in the sense of AC72 catamarans, but it is definitely helping to reduce displacement and compensate for the downforces generated by drag and from the sailplan," Botin explains.

He says curved foils were investigated and would provide some advantage, but not enough to justify the added complication.

The hull form is typically Botin, with slab sides and soft but pronounced chines.



The profile has a hint of reverse sheer towards the bow with a fixed prod to carry gennakers and code zero sails. The maximum beam of 6.15m is carried virtually all the way to the chopped off transom, making twin rudders the obvious choice. In hard running conditions, an aft 2000 litre water ballast tank will assist in keeping the bow attitude up.

Built by Cookson Boats, this is the fifth boat built in New Zealand from the Gavin Brady-Karl Kwok connection, the third by Cookson. "Cooksons have done an incredible job in the very short timeframe," comments Botin, who enjoyed returning

to the Cookson-Botin-Pure Engineering combination that produced the CAMPER Volvo 70 and the ETNZ Version Five America's Cup yachts for the 2007 campaign in Valencia.

For Squadron member Karl Kwok, the return to New Zealand was an obvious choice. "I believe it is the best place in the world to build race yachts," he said. "We have had very good experiences here and after all these years we have made good friends here. We are testing a bunch of new ideas with this boat, so we will see how far we can go with these in the Sydney-Hobart race."

After that, the plan is to return the boat to New Zealand, where it will be based for the next several years, competing in passage races to Fiji and other events in the region.

Brady has put together a powerful crew and says the plan for the Hobart campaign is to be based in New Zealand for a month of intensive training and working the boat up to speed and then a quick trip to Sydney in December in time for the traditional Boxing Day start.

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