

Power overload

The 'SS' moniker in the Elliott 9 SS denotes Supersport. It 30-foot canting keeler has already hit a top speed of the big boat technology that has seen *Overload* get a class

could also stand for super slippery – the 23.3 knots. Rebecca Hayter tested ahead of herself in more than one race.





With a layout optimised for competition, *Overload*'s usual racing complement is six crew. Her canting keel and all carbon construction allows her to run a larger than normal rig and offers the sort of performance one would expect from a 40-footer.

When Larry Randell and his sons, Matt and Scott, commissioned a new racing yacht from designer Greg Elliott, they wanted to target the records in the 30-foot range – the likes of the Coastal Classic and the Auckland-Tauranga Race. That meant heading into the future of boating, and that meant a canting keel.

The result is *Overload*, the new Elliott SS 9m. Canting keels are rare on boats of this size – they tend to be the domain of bigger yachts – and the Randells had no experience of them. But, as Larry says: “It gives you so much more power, like turning a Mini into a V8.”

They had no experience of building boats either, but they set up tools at Larry's factory, Randell Stainless.

“I said, ‘Let's get into this and chew it out as fast as possible. Otherwise it will drag on for years and be outdated,’” Larry says.

They worked on the boat every night and every weekend. With professional boatbuilder Kerry Lilley, regular help from friend Macka Cottrell and with designer Greg Elliott dropping in regularly, they

built the plugs for the hull, deck and other components. CT Marine made the moulds from the plugs and the Randell team did the rest, including making all the stainless steel parts such as pulpit, pushpit, pad eyes, stanchions and keel components at the factory.

The engineer in Larry Randell was set on carbon-fibre for the hull.

“You need it as rigid as possible,” he says. “You've got the canting keel trying to twist the boat one way, and the mast trying to twist it the other way.”

Scott is an apprentice at Mast and Spars, where he made the two-spreader, carbon-fibre mast with guidance from his boss, Bruce Elliott, brother to Greg.

The Randells call *Overload* a dual-purpose boat: inshore racing and coastal racing. Scott, 19, and Matt, 21, are looking at the 2010 Two-Handed Round North Island Race and possibly an Auckland-Noumea race. Home comforts may be sparse but they don't expect to be out there for long – Elliott says *Overload* sails upwind at the same speed as a Farr 40, and slightly faster downwind.

For most racing *Overload* sails with six crew. Her first outing was the 2008 Coastal Classic in which she managed 35 knots head winds with storm jib and one reef in the mainsail. She was the first 30-footer home, and fifth on line in her division.

So how did she handle the big swells? “Fantastic,” says Elliott. “It's very kind through the water because it's narrow. It's very quick reaching and running.”

In January, *Overload* sailed up to the Bay of Islands Race Week regatta and took eight guns from nine races, including six windward-leewards. Her main competition was *Whatever*, the modified Mumm 36.

Overload is slender, with refined foils – daggerboard, keel and rudder. Her rudder is transom-hung because Elliott wanted it well aft, for efficient steerage and the more simple installation over an inboard rudder. The cockpit takes up much of her length, reflecting her total dedication to racing. The 8hp outboard engine lives in a pod in the cockpit; it is raised while sailing and the hull opening is sealed with a flap like a duck's foot. A tiny venturi empties the pod.





Overload is an Elliott 9 SS; the SS denotes Supersport. Elliott's other Supersport is the 52 SS *Outsider*, which swept up the trophies at the Bay of Islands Regatta in 2007 before being shipped to Germany. SS denotes a no-compromise race boat: canting keel, maximum sail area and carbon construction.

"It's the first small boat I've done for such a long time," Elliott says. "It makes use of all the research and development from my much larger projects."

That experience is reflected throughout *Overload*, including the canting keel configuration, the deck layout and generally refining the sailing techniques.

Overall, *Overload* is fairly simple. The retractable prod lies in a trench on the foredeck, forward of the daggerboard. Both are controlled by lines in the cockpit.

The tiny cuddy cabin has neither galley nor head but it will provide narrow sleep spaces among the sails. With offshore safety in mind, the berths and other bulkheads provide enough watertight buoyancy to keep her afloat in the event of serious damage.

Canting technology

The canting keel is the basic ingredient in the boat's superior speed over fixed keel boats. In simple terms, it achieves this by generating greater righting moment so that the boat can carry more sail area for its size.

On bigger yachts, keels are canted by electric or hydraulic power but smaller boats mostly use block and tackle. The control lines for the keel have dedicated jammers at the front of the cockpit.

One conundrum about canting keels is how to manage the water that enters where the keel passes through the hull. Most boats seal off the sea chest in some way; *Overload* does it with a boot, which works brilliantly.

Skellerup made the boot in 4-5mm thick rubber over a metal mould created at the Randell factory. The shape of the boot means it sits low in the sea chest and seals tightly around the outside of it, while leaving the block and tackle clear for easy inspection.

To minimise water in the sea chest, foam wedges fill the space not required

Elliott 9 SS

loa	9.1m
beam	2.4m
draft	2.4m
ballast	1 tonne
displacement	2.5 tonnes
outboard	8hp

sail area

main	43 m ² 3DL Aramid full batten, square top
J2	24.8m ² 3DL Aramid 4 x battens
#3	18m ² panelled Kevlar
Jib Top	32.5m ² panelled Kevlar free-flying tight luff furling sail
A5	59.2m ² laminate reaching semi-tight luffed sail
AP	95m ² all-purpose gennaker, nylon
A2	120m ² running gennaker, nylon

It can be lonely racing *Overload*: she consistently outstrips B Division and nips at the heels of the bigger boats in A Division.



by the cant of the keel. A pin at the pivot point can be removed to drop the keel out of the boat, so she can fit in a shipping container. That makes it relatively inexpensive to do Hamilton Island Race Week or even a Transpac.

As the crew prepare the boat for sailing, the cockpit becomes a cat's cradle of running backstays, gennaker sheets and jib sheets crossing over the cockpit so that crew can winch on the windward side.

In pre-starts, the keel is centred because the boat needs to tack or gybe quickly. As soon as she's racing, the keel is canted to windward.

Underway

Our vague plan was to try out a new gennaker and then join the rum race. On a canting keeler, gennaker rides are even more fun than usual, thanks to the generous power-to-weight ratio.

In 15 knots of breeze, under gennaker *Overload* felt like a racing multihull. Elliott was decisive rather than gentle on the helm, aiming to maintain 140 degrees apparent wind angle. The wind only has to sneeze and *Overload's* numbers spin upwards; she decelerates just as quickly

in the lulls, with boat speed flicking between nine and 12 knots. Sometimes as the wind eased, she heeled to windward – something you have to get used to on a canting keeler – and felt dead in the water, but was usually still trucking along at eight knots.

Our top speed was 15.3 knots, which matched the true wind speed but was a mere dawdle compared with *Overload's* personal best of 23.3 knots.

The Randells pay tribute to their wife and mother, Stephanie, for her patience



during the build and for supplying the perfect name for the boat. *Overload* generates loads close to those of a conventional 40-footer – which is why it has four size-46 winches in the cockpit, to provide the necessary grunt and trimming speed for the keel and gennaker. As a reminder of the loads, when a sheet suffered an over-ride, it blew the block.

With land fast approaching, we dropped the gennaker and gybed back to start the rum race. The call for tack or gybe gets everyone's attention. Scott is in charge of canting the keel and calls a countdown to keep everyone in time. The jammer opens and the keel drops from its windward cant to just past centre, which heels the boat well over to leeward as the helmsman puts the boat through the wind.

The other keel trimmer is working fast to take up the slack and winch up the keel to its new windward position. If he's quick, he'll have about 15 seconds of hard winching. Meanwhile other crew have looked after the gennaker or jib, as the case may be, and managed the running backstays. The daggerboard is lowered when sailing

upwind to provide lateral stability.

"All the time we're getting better and making things a lot easier," Scott says.

The jib top provides almost as much fun as the gennaker. It hoists on a furler, which made it easy for us on the rum race, but it can get lonely on *Overload*. We sped away from B Division and soon were nipping at the heels of A Division.

Under jib top *Overload* felt like a dinghy – sensitive to trim, quick to accelerate, and her stiff, carbon construction feels the bumps. As we spun around Rough Rock and headed home into the wind and the harbour chop, she suddenly changed gears and felt like a much bigger boat. She had the momentum, the speed and the fine bow to cut through the waves in a smooth, constant surge. Her speed was mostly around eight knots, a good 1.5 knots over a conventional nine-metre yacht in those conditions.

Scott and Matt Randell are campaigning the boat regularly and are clearly enjoying the high speeds delivered by the canting keel. The moulds for *Overload* are available, should anyone wish to build an Elliott 9 SS and join the canting keel club.