BIG BOAT REVIEW

By Sam Mossman

Senator 13.5m Offshore Custom

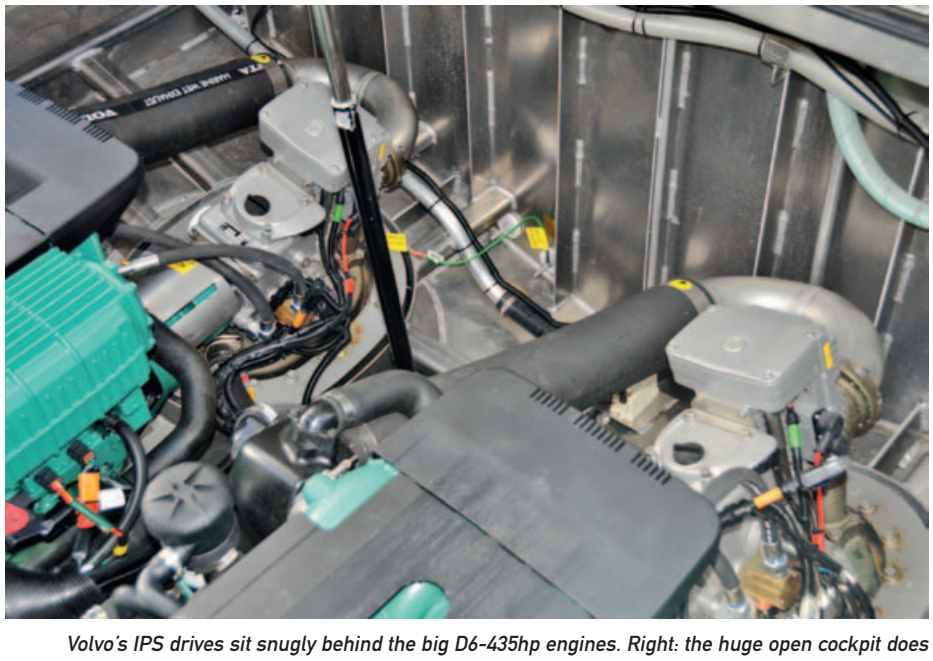
The boat review this month is a departure from the usual 'Trailerboat Trial', but the 13.5m launch *Ai Toa Lua*, built by Senator Boats, is also a departure from the norm.

Wayne McKinley's Napier-based Senator Boats is a well-established builder known for its range of aluminium pontoon and monohull trailerboats – but the company also turns its hand to larger craft. A 17m cat is currently in build, and the most recent large craft to hit the water is the 13.5m flybridge cruiser *Ai Toa Lua*, built for local businessman David Smith. The owner is not scared to embrace new ideas, and the latest boat is very much a showcase for some interesting designs and the latest in engine drives and electronic technology, packaged up as an elegant, but practical fishing craft.

Design and construction

Ai Toa Lua is built to survey. Bottoms and chines are 8mm aluminium, with 6mm sides and 4mm topsides. Deadrise is variable from 26° at the bow to 18° at the transom. The 13.5m hull is beamy at 4.3m, giving masses of internal space. The hull is supported lengthwise by 10 bearers and a keel bar; laterally there are three full bulkheads (plus transom) and frames at 300mm centres.

Although there is plenty of head



Volvo's IPS drives sit snugly behind the big D6-435hp engines. Right: the huge open cockpit does encourage the crew to spread their gear out! Note the big fish bin, swivelling table over the top, and transom island.

height in the main and forecabins, the flybridge hardtop has been kept deliberately low to keep the look of the boat in proportion and avoid raising the hull's centre of gravity. To open up the flybridge, an aluminium-framed Lexan 'sunroof' has been incorporated into the rear half of the hardtop and can be moved forward on rollers, allowing the helmsman to sit out in the open at a centrally-positioned helm console that puts you in mind of the Starship *Enterprise*. When I first had a look at the raw aluminium hull about halfway through its 18-month build, I was undecided about this low, sliding flybridge top, but the finished item actually works very well when out on the water, both in mechanical and practical terms.

The huge open cockpit's chequerplate deck is just about big enough to hold a dance on, and two transom step-throughs give access to a large stern platform that, with substantial rails on the outside thirds, is high enough above water level to provide a dry-footed fishing position in all but the roughest conditions.

Besides performing well in a practical sense, the boat also does duty as a live-aboard apartment when the owners are in town, so it had to look good. This is where David Smith's wife Pam got involved, along with Heather Thornley Internals, choosing and sourcing some specialist fabrics that combine a degree of elegance with practical water resistance and ease of cleaning.

Painting the large craft locally was a bit of an issue, and in the end Napier Auto Collision provided a big spray booth especially for the job.

A bit like the helm of the Starship Enterprise. *The control station for the Raymarine G-Series electronics is at lower right with the Volvo Joystick control to the right of it.*

Engines and drives

The big Senator is powered by twin Volvo Penta D6-435 inboard diesels, incorporating the common-rail fuel-injection system and Volvo's EVC (Electronic Vessel Control) remotes and displays. A hydraulic ram raises and lowers the big hatch in the cockpit deck to give easy access to the engines and drive units. These are, as the model number suggests, 435hp engines, and are matched up to Volvo's IPS (Inboard Performance System) drives – the forward-facing propeller system that Volvo released with great fanfare in 2006. These radical drive units are mounted as through-hull pods designed to shear off if you hit something hard enough, without compromising the integrity of the hull. Because the props are facing forward, up in clean water, Volvo claims 20% higher top speed, 30% reduced fuel consumption, 30% less CO2 emissions, 50% lower 'perceived' noise level and 'joystick docking' (which we will come back to later). Because of these benefits, Volvo also claims the 435hp engine's performance is equivalent to 600hp conventional shaft-drive engines.

I have no way of checking these claims, but can report that the engines and drives are exceptionally quiet and smooth when travelling under normal helm controls. Top-end speed is around 33 knots at 3400rpm – not too shabby for a 14-tonne vessel carrying a further 1800 litres of fuel. We cruised at a comfortable 23 knots at 2800rpm. At this speed the two engines were using a total of 96 litres per hour, or roughly four litres per nautical mile. We ran across Hawkes Bay from Napier to Portland Island off Mahia in 1.5 metres of slop at 23 knots in a bit over an hour.

Electrics and electronics

This is a big, complex rig. There are four house batteries and two starter batteries for each engine, for a total of eight. A Vectron inverter system allows the use of 240-volt lighting strips in the cabin. The ship's refrigeration includes Waeco freezer units in the hold and cockpit, along with a fridge in the galley. An extensive Onkyo sound/entertainment system with attached i-pod dock can pipe music right throughout the boat, and an LG flat-screen TV completes this aspect.

The core of the navigation and fishing electronics is the new Raymarine G-Series system. This integrated system has a GPM400 processor as the hub for a range of functions, including: Super HD digital radar (with bird radar function); VHF; HD digital fishfinder; remote video cameras; and a GPS chartplotter. There are a range of other options available. All units can be controlled from a single command-centre keyboard. *Ai Toa Lua* has twin helm stations – on the flybridge and in the main cabin – with the addition of a Furuno FCV295 sounder to the upstairs array. Dave brought this last unit over from his previous boat (also a Senator), and it is hard to beat for spotting fish.

The Raymarine G-Series was pretty impressive, although there were some communication problems between the upstairs and downstairs units at the time of testing; apparently new software is on its way that should cure this.

Plenty of seating room for passengers on the flybridge. Right: lots of galley space, too. The oven/stove is propane fuelled.

Owner David Smith brings Ai Toa Lua *into its berth using the Joystick. Right: the Joystick control makes docking a breeze.*

Layout

Let's start at the bottom. The interiors are completely lined with marine carpet. In the hold, under the main cabin, is a double berth and freezer. The longitudinal bearers are exposed on one side of the hull here and effectively form a series of useful shelves for tackle, clothing, etc. Tubes allow out of the way rod and reel stowage.

In the forecabin, large, comfortable V-berths can sleep up to six at a pinch, and side shelves and lockers provide plenty of stowage. A bi-fold hatch at the back of the main bulkhead gives access to the wiring etc. in the console. Wide, easy-to-climb stairs take you up into the spacious main cabin. On the starboard side is the helm position with a bench seat behind; on the port is a dining table which seats five to six people, with bench seats on two sides and two bucket seats on another. These last two seats have goose-neck pedestals so they can swing in out of the way when not in use.

Behind the helm, running to the rear of the cabin, is the galley, incorporating fridge, sink (the boat has a 400-litre freshwater capacity) and propane four-burner stove with griller and oven beneath. A gas califont provides hot water for the sink, as well as for the shower and hand-basin (gas bottles are in a locker under the flybridge ladder). A wide, two-leaf sliding door gives access to the cockpit and allows good ventilation. Toilet and vanity are in a separate room in the rear port side of the main cabin, with the toilet separated from the small vanity section by a door. A second separate entry from the cockpit allows the fishing crew to use the toilet without traipsing mess through the cabin. The toilet system incorporates a 400-litre holding tank.

Aspects of the flybridge design have already been mentioned – the sunroof and helm station in particular. Access is up a ladder/stairway, with plenty of pipe railing to hang onto. Extensive sheltered bench seating runs around the edges of the flybridge, and a table is built into the front of the helm console. The eight-person liferaft is also stored up here.

Cockpit and fishing systems

The cockpit, as mentioned earlier too, is a large one. Wide gunwales are topped by Flexiteak, with hatched side lockers beneath that store gaffs, poles, ropes etc. A capstan and fold-out fairlead is fitted on one side to allow for lifting cray pots, should it be required. Transom step-throughs in each stern corner create a long transom 'island' that features a freshwater wash-down and large sink, plumbed live-bait tank and a stainless BBQ under a hatch. Jabsco saltwater wash-down hose units are mounted at either end.

Centrally in the cockpit is a large worktop/table that fits a deck mounting, which also takes the gamechair when required. Under the table is a massive 450-litre Icey Tek ice bin for the catch and bait (this can be moved around the cockpit as required). The table can be swung to the side and locked in place to allow access to the bin.

The cockpit deck was lined with an interesting product called Ergo Tile from the Wholesale Matting Company. These rubber tiles can be clipped together to form a mat of whatever size and shape is required. They are easy on the feet and appear simple to clean as well. Other fittings include: low-level cockpit lighting; two rear-facing spots on the bridge; two power takeoffs for the electric downriggers or electric reels; and a pair of tuna tubes set into the gunwales. A big filleting table fits over the transom island and is stored in the engine compartment when not required.

Rod storage includes an 11-position rocket launcher on the rear of the flybridge, which can be just reached on tip-toes from the cockpit. There are five through-gunwale rod holders along each side and a further four across the transom island, making 14. Custom outriggers have also been fitted and the crew were looking forward to the arrival of the first gamefish in the Bay with anticipation.

Being a brand-new, one-off boat with a number of 'first release' systems, you can expect some teething problems. The use of Volvo-Penta engines and IPS drives allows the fitting of another new application called DPS (Dynamic Positioning System), apparently the first fitted in Australasia. Working from its own GPS receivers (two of them), it is an automatic drive control that will maintain the boat's position and heading (apparently to within a couple of metres) despite wind, current etc.

DPS was designed for the US market to make life easy for skippers waiting to get into fuel docks or for drawbridges to open and for single-handed berthing etc. My first thought when I heard about it was that it would be ideal for holding a boat over a deepwater mark while bottom fishing, without anchoring or trying to set up a drift.

Unfortunately, for whatever reason (a systems problem or our own unfamiliarity with it), we could not get it to work and settled for an old-fashioned anchor in the end.

Owner Dave Smith, son Aaron and his two buddies JB Harmer and Andrew Common, along with Ian Paramore and I, made six lines in the water; we spread around the cockpit and across the boarding platform. It was blowing 15, gusting 20 knots over the day, so pretty sloppy in such exposed water. In a lesser boat there is no way we would have been fishing out there, but the big Senator handled it well and we put 13 groper in the bin, as well as a bunch of big tarakihi and the odd trumpeter, before heading back to Napier early in the afternoon. With a following sea, it was a comfortable ride back, and most of the crew took the opportunity for a nap.

Joystick docking

Back at Napier, Dave demonstrated the other really neat feature available with the IPS drives and Joystick control. The Joystick is a simple, intuitive control: just move it in the direction you want to move the boat and the computers do the rest. The further you move the stick, the more power you get. You can move the boat directly sideways, or twist the stick and it will spin around in its own length, all without bow thrusters. Very cool indeed, and it makes putting a big boat into a tight space – even for a total novice – a breeze!

There were three Joysticks spread around the boat – one at each helm station and a third on the cockpit's port side, which can be used for tight manoeuvring on fish or for coming into dock on the port side, as the boat does when loading fuel into the port tank.

All in all

Although there are still a few teething troubles with so many new systems and a crew still coming to grips with them, by and large this is an impressive craft. The Volvo-Penta engines and their IPS drives are quiet and smooth, and, as just mentioned, I loved the Joystick docking system. The DPS, when it is sorted out, should be another interesting addition to the rig.

This big custom Senator is fast and smooth – ideal for fishing offshore hotspots and for prolonged live-aboard trips in considerable comfort.

Specifications

Material:	aluminium
Configuration:	flybridge cruiser
LOA:	13.5m
Max beam:	4.3m
Bottoms and chines:	8mm
Sides:	6mm
Topsides:	4mm
Weight:	approx. 14 tonnes
Engines (2):	Volvo Penta D6-435hp
Drives:	Volvo Penta IPS
Max speed:	33 knots at 3400rpm
Cruise speed:	23 knots at 2800rpm
Fuel Capacity:	1800 litres
Fuel use at cruise speed:	96 litres per hour
Water tanks:	400 litres