

Broom 450 OS

Given that Broom's CL range (where CL stands for 'Coastal') are very capable boats for passagemaking and extended cruising, you might expect their OS range (where OS stands for 'Offshore') to be even more serious vessels.

In part this is true, as the hulls have a slightly heavier construction. But the main difference is actually in hull shape. The OS boats have planing rather than semi-displacement characteristics, allowing higher cruising speeds to be attained with more potent engine installations.

The 450 was launched at the 2002 London Boat Show, as a direct replacement for the 44, which had been in production at Broom's highly regarded Norfolk yard for more than a decade.

We seized the opportunity of a test, keen to see how much of an advance had been made from the old boat to the new one.

DESIGN & LAYOUT

The 450 utilises the same hull lines as its predecessor, with some alterations to the transom to incorporate the new integral stairwells on each quarter. Otherwise, designer John Bennett's medium-vee hull is retained, with its slight convex sections and its very slight run of keel.

Above the gunwale, the boat is completely new, with a less angular superstructure than the 44, and a number of modifications which add to the boat's attraction as a serious offshore cruiser.

Outside, the raised aft deck feels cosseted like a cockpit, being inset from the hull sides by the width of the side deck and surrounded by a full coaming.

As on other recent Broom models, this area incorporates the boat's only helm station, leaving the saloon solely as a living space. This of course makes it imperative that the driving position is well protected — something which is achieved by means of a deep, all-embracing coaming and windscreen, plus a clip-down pramhood-type cover that infills between the top of the screen and the GRP radar hoop.

A few further canopy options are offered for battening down the after part of the deck, including the full-width dinette: either a second folding pramhood or a bimini arrangement, which would be a useful alternative if you do your

Well engineered for comfortable offshore cruising, this update on a proven hull has extra power on tap. We tested it in short seas.

REPORT BY MARK TURLEY



highlights



LARGE, AIRY SALOON

You get a lounge area and a six-person dinette, with no interior helm station to get in the way.

PROTECTED EXTERIOR HELM

A deep coaming and a clip-down pramhood cover make the single driving position well sheltered.



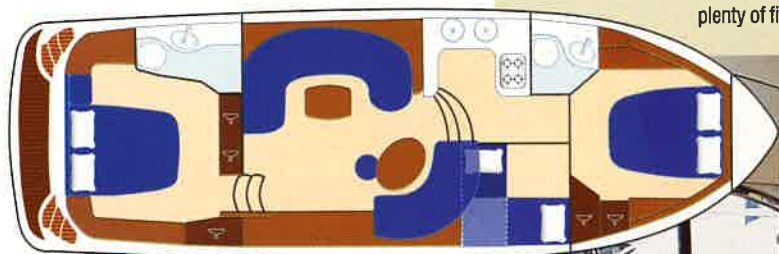
EASY BOARDING

You can embark via steps moulded into the aft quarters, or by way of others set in the hull sides amidships.

boating in sunnier climes.

Devoid of a space-consuming internal helm, the saloon is impressive to say the least. Even if you opt for a three-cabin layout, as on our test boat, there is room enough for both a lounge area and a six-person dinette, all on one deck level. In the two-cabin version, the dinette is dropped down opposite the galley (replacing a good-sized midships double), leaving even more space in the saloon.

Either way, you have a well proportioned and well appointed cabin both forward and aft, each benefiting from en-suite facilities.



POWER OPTIONS

Broom always offer a comprehensive choice of engines, both in terms of horsepower and make. In this case they offer diesel installations from Caterpillar, Volvo Penta and Yanmar.

These start with twin 318hp Volvo TAMD63Ls, giving a top speed in the low 20s, and go up to a pair of Yanmar's recently launched 500hp 6CXM-GTE2 units, allowing the boat to obtain 30 knots. Our test boat was fitted with the latter.

PERFORMANCE & HANDLING

The 450's predecessor the 44 has always been considered a very capable boat, as we

accommodation

The wide, easy-to-negotiate companionway from the aft deck takes you down into a truly light and generously sized saloon.

Immediately to port is the lounge settee area, set opposite a bow-fronted sideboard that houses the entertainment essentials, both electrical and liquid. The dining area just ahead of this will seat six, with the aid of a couple of neat little chairs.

Don't be fooled into thinking that this mighty array of seating hides a vast amount of underseat stowage. Quite a lot of proportion of the voids have actually been worked into other areas of the accommodation.

The galley is a practical size with plenty of fiddled Corian

worktop and a useful amount of storage. All-electric as standard, with a 10kW generator installed, it offers a combi microwave oven and halogen hob (although the buyers of our test boat had swapped the latter for gas).

All three cabins have plenty of space, sitting headroom and generous berths, their standard length being 6ft 8 (2.03m). Dressing tables are incorporated amongst the array of chest-height lockers and wardrobes.

The aft master cabin's en-suite benefits from a separate shower cubicle, but the forward cabin's does not, and it is necessary to curtain-off the shower tray.

The midships cabin can be specified with a desk, to double as an office, or left out of the layout altogether, in favour of a lower-level dinette opposite the galley.



saloon Linked but separate dining and lounging areas, on the same level, offer good views. So as not to further reduce the saloon's 6ft 2in headroom, two separate overhead handrails have been positioned on either side of the saloon, rather than a single one along the centre.



cabin Besides plenty of room and stowage, there is ample light, thanks to hatches in the transom supplementing the side ports.



aft toilet The separate shower cubicle is complemented by a sculpted vanity basin.



galley Specification includes a dedicated rack for the sink infills, a large built-in rubbish bin, and extra storage under the teak and holly sole.

decks

The bathing platform, aft deck and stair treads all come teak-clad as standard.

The transom design neatly allows access up from the platform to the raised aft deck on either side, without the tender (on this boat housed in a cradle) getting in the way. For when boarding from here is impossible, there is a break in the guardrail, and a step set in the hull, amidships on both sides.

The aft deck seating is generous, both in quantity and comfort, including a well bolstered double seat for a brace of co-pilots opposite the similar helm seat. There is also plenty of stowage within the seat-bases.

The mast hinges to reduce the 450's air draught if you need to negotiate low bridges. This can be power-assisted if required, although it is not necessary.

Besides the solid guardrails, and handholds along the superstructure sides, the 12in wide side decks are bordered by a broad toerail, so you always feel well protected.

Mooring hardware is businesslike, with two sets of 13in (33cm) midships cleats in addition to those forward and aft. A no-nonsense bollard is also sited just adjacent to the electric windlass.

Fender holders are sensibly split between the forward guardrails and the transom, which is more convenient than being grouped together.



canopy The latest Broom canopies come with easily deployed clips, rather than push-studs.



stern Access forward from the bathing platform is via moulded steps on each quarter. If a passerelle is fitted, a transom gate can be incorporated into the aft deck.



aft deck The raised deck area is cosseted like a cockpit, being surrounded by a solid coaming.



helm Most instruments are well located within reach of the helmsman. Engine gauges are further away but clearly labelled. In front of the double co-pilots' seat is a large Perspex-covered chart area complete with handy storage trays.

found on our test during a delivery trip along the East Coast (see MBM Apr 91 p36), when we encountered anything up to a Force 6, from just about every direction.

The engine installation in that instance was a pair of 357hp Volvo Pentas, which gave a maximum of 27 knots. So we were interested to see how the similar 450 hull would cope with the extra power and higher service speed, not least because it has the same keel.

Although a keel can aid directional stability at lower speeds, it can produce unwanted side-effects in planing mode, adding to the boat's resistance through the water and potentially, if too big, acting as a longitudinal pivot which the boat starts to ride on.

However, we recorded a maximum of a jot over 31 knots, without any of the slight twitchiness that we were half-expecting. In

fact, the hull could not have felt more solid on the water.

Cruising at 26 knots, with the throttles set at 400 down on their maximum of 2900rpm, is likely to be the order of the day in most circumstances, with a lazy 2200rpm still giving 21 knots and a useful measure of economy to boot.

Response to the helm, at both high and low speeds, was well mannered and predictable. That means it comes as something of a surprise when you open the throttles and the boat gets up onto the plane in double-quick time, with the twin 500s pushing out a steady, effortless stream of power.

On the down side, this means that there is still a fair bit of power even at tickover. It presents no problem when manoeuvring, but you can all too easily encroach over a 6-knot river speed limit.

Our test day brought plenty of wind, to



above A high screen helps to keep the helm dry.

ensure there was an abundance of short seas and spray. The former did not interfere with the boat's performance in the least, apart from perhaps knocking a little off her top speed. And whilst quite a bit of water found its way back to the after part of the aft deck when we were heading into it, the combination of the high screen and the canopy infill kept the bulk of it dry, and the arrangement did not appear prone to leaks.

The helm position is excellent, with almost all-round visibility, and the spacious double seat opposite means plenty of people can share the watch.

engineroom

The stairwell to the aft cabin hinges up to allow a modicum of access to the midships engine compartment, and the sizeable manual bilge pump. But the main avenue of approach is via a large, gas-strut supported hatch in the saloon sole.

This allows you to descend a short ladder to a treadplate between the engines. Then there is plenty of space to move to and fro, as well as to get round to the outboard side of the engines for checking filters and pumps; additional deckhead panels can be lifted to gain alternative access to these.

Towards the rear of the compartment there is good access to the primary fuel filters and the battery banks ranged athwartships, as well as to the shaft logs. At the other end lies the generator, while the void ahead of the starboard engine is an ideal spot to stow spares.

Broom's standard of engineering is always heart-warming, and this boat is no exception. There is plenty of substance to the structure, not least in the form of huge engine beds, and everything is neatly executed.



above A ladder and treadplate provide easy access down between the engines.



left A false bottom to the wardrobe in the aft cabin lifts out to reveal the clear-topped raw-water strainers.

test data

rpm	knots	gph	lph	mpg	range	noise
1500	10.4	5.2	24	2.00	640	73
1800	13.7	10.2	46	1.34	429	75
2000	17.2	14.0	64	1.23	394	78
2200	21.3	18.0	82	1.18	378	79
2500	26.0	26.4	120	0.98	314	80
2700	28.0	34.4	156	0.81	210	81
2900	31.2	44.0	200	0.71	227	83

range in miles, allows 20% margin.

noise in dB(A), in saloon with door closed.

conditions wind northeasterly Force 4, sea slight.

load fuel 50%, water 50%, crew 4.

the rivals



ATLANTIC 444

£480,450 inc VAT

Also a John Bennett design, but built by a Dutch yard.
Tel: 01202 8266800.
Tel: 0113 940 3211.



AQUA-STAR 47 AC

£428,640 inc VAT

A semi-displacement rather than planing cruiser, also available with a flybridge layout.
Tel: 01481 44550.

conclusions

LAYOUT

Freeing the saloon of what might be a seldom-used helm position makes good sense, as long as the exterior one is well protected, which it is. Hence the main socialising area is grand, while still leaving space for three very pleasant cabins. The only disappointment is the lack of a separate shower in the forward WC.

BUILD

The quality of the fit-out, by way of both joinery and engineering, is extremely high, although we are perplexed by the use of chunky, highly visible hinges for many of the lockers. The standard specification is high, including teak decking, but without being too fussy.

PERFORMANCE

The well proven hull takes the extra horsepower made available in this latest incarnation in its stride. There is no problem about cruising above 25 knots, although the boat is equally happy to jog along more sedately if you prefer.

MBM verdict

Broom owners, who are usually great users of their boats, expect them to be well engineered, predictable in their handling and comfortable as liveaboard cruising vessels.

The 450 OS has all these virtues in spades, encapsulating all the good points of the well proven 44 while bringing it firmly up to date in terms of styling and speed.

specifications

BUILD	glass reinforced plastic
RCD	design category B
LENGTH OVERALL	45ft 0in (13.70m)
HULL LENGTH	42ft 6in (13.00m)
BEAM	15ft 3in (4.60m)
DRAUGHT	4ft 0in (1.20m)
AIR DRAUGHT	11ft 3in (3.43m) with mast lowered
DISPLACEMENT	16 tonnes
FUEL CAPACITY	400gal (1818lt)
WATER CAPACITY	130gal (590lt)
ENGINES	twin Yanmar 6CXM-GTE2s 6cyl 7.4lt diesels, 500hp at 2600rpm
BUILDERS	C J Broom & Sons Ltd, Brundall, Norwich, Norfolk NR13 5PX. Tel: 01603 712334. www.broom-boats.co.uk
SUPPLIERS	Offshore Powerboats Ltd, Lymington Yacht Haven, Kings Saltern Road, Lymington, Hampshire SO41 9QD. Tel: 01590 677955. www.offshorepowerboats.co.uk
PRICE	from £465,650 inc VAT