

# BOAT REPORT

# BROOM

# 44

Broom's new flagship is a serious boat for serious cruising. We tested the first example in the face of gale warnings from Southampton to Great Yarmouth.



"AND now the Shipping Forecast, issued by the Meteorological Office at 1305 hours on Monday 24 September 1990. There are warnings of gales in Forties, Tyne, Dogger, Fisher, German Bight, Humber and Sole."

If you were contemplating an idyllic passage from Southampton to Great Yarmouth, this is definitely not the forecast you would want to hear. On the other hand, if you wanted to test the capabilities of a new boat, there was no doubt that this was the trip to be on.

Broom's new 44 made its debut at the 1990 Southampton Show. With the show over, it had to be returned to its base at Brundall in Norfolk, and we were invited along for the ride.

## Delivery trip

The boat was the first model of a new design, and this was its first major sea passage. As such, the trip was being used to iron out any pre-production details that needed attention, with Broom's senior commissioning engineer on board. We went along to see for ourselves the care this company takes to ensure that its craft are fully prepared to serve their owners well. It is fair to say that the majority of Broom owners tend to be serious long-distance cruising people, so we were running a more than usually critical eye over the boat's ability to handle a long passage in adverse conditions.

While the bald facts of the gale warnings made setting out appear unwise, the detailed forecast helped us decide to leave. "Humber, Thames, west veering north west, 6 to gale 8, decreasing 3 or 4. Dover and Wight, westerly 5 or 6, becoming variable 3." The waves would be behind us on the first leg of the trip, and the land would give us some shelter as we rounded into a decreasing gale. Ours was a strong, well-found ship, and we had an experienced crew. We decided to leave.

**1426.** Left outer pontoon of Boat Show with 100% fuel and 50% water. Three crew: Bill Betts, sales engineer Broom Boats; Terry Clarke, master mariner; Keith Langridge, an ex-merchant navy engineer, but observer on this trip. Wind westerly Force 5-6, rain imminent.

**1450.** Passing Calshot. Speed 18 knots. Heavy rain, visibility poor. Boat tending to run bow-up, ▷



probably due to full fuel tanks at the aft end of the engineroom, but applying trim tabs helps. Compass difficult to read — helm seat should be higher. Bathing platform door starting to rattle annoyingly — rubber stops needed here. Slight leaks from centre of windscreen. Also wiper blades need to be longer as they do not clear the bottom of the screen. First appearance of Bill's Christmas cake, given to him by Mrs Broom before we set out. This is to prove invaluable for the well-being of the crew. Course 180°.

**1504.** Reduce revs to 1850. Speed 17.2 knots. Seas coming from starboard quarter. Boat handling well.

**1620.** Pass Boulder Buoy. Waves still from south-west, 4-5ft high. I have been at helm for last half hour. Boat handling well. In the big troughs she rolls a bit, and you can be thrown against the wheelhouse side or the console ahead if you are not prepared. More padding needed here. The motion makes it difficult for the helmsman to adjust the echo sounder, compass and log, which are set a long way forward. It is also not easy for someone alongside to reach these. A similar problem with the VHF, which is down on the helmsman's right.

**1915.** Passing Beachy Head. The lighthouse is surrounded by a light mist, and the beam shines eerily through. Speed 16.5 knots. Heavy seas from astern now. Waves minimum of 5ft high, crests 40-50ft apart. More trim tab to get the bow down enough to see over. Boat still handling well, but a lot of turns needed on the wheel to keep on course — perhaps the steering lock could be reduced from five and a half turns to four turns. The bow almost buries itself in the angry seas ahead as we plough through the foaming mass. Change course from 090° to 078°. Daylight fading — the light from the Royal Sovereign platform can be seen on the horizon. Bill goes down to the engineroom to check all is well.

**2137.** Dungeness Lighthouse on port beam. We can see the lights of Dungeness 'B' power station. The swell has reduced at the moment. Speed a steady 16 knots. The engines are stopped alternately to check oil levels. One takes half a pint, the other a pint.

**2205.** Folkestone on the port beam. The workings of the Channel Tunnel are lit up like a fairy grotto. Course 055°, speed 15.2 knots, with a moderate following sea. At this point we discover that a loose plug on the back of the speedometer/log has been giving an intermittent connection, with the result that our cumulative distance run is wiped out. Estimate distance run at 100 miles.

**2234.** Dover Harbour ahead. Warnings of gales and poor visibility, on Ch16. Also warning of a buoy in the approaches to the Humber unlit due to a collision — that's all anybody needs on a night like this.

**2250.** Passing Dover. Busy ferry traffic all around. Tinted rear screen to the wheelhouse makes all lights look green — that's a definite change to be made. Clear sky at present. White Cliffs illuminated by the stars and the lights of the town, and really living up to their name. Instrument lights on the dashboard are too bright when we are trying to look for buoys. A dimmer switch is needed, but we turn them off for the moment.

**2308.** Course 020°. Waves coming round to our bow now. Many white crests, as we start to feel the effect of the northwesterly blow. Speed 15 knots.

**2400.** Passing North Foreland light. Course 035°. Wind increasing. Gale warning for Humber, Thames, Dover, Wight. Northwesterly Force 8 imminent. Time for a last trip to the forward heads. Quick-release side panel here has quick-released — something stronger than velcro needed to hold it in place. Hinged seat over WC looks good in theory, but when you open it, it covers the grabrail behind, leaving nothing to

Considering it was a brand new model sporting a different concept for the helm, and the first boat off the line into the bargain, our run in worsening conditions was impressive enough. Even more so was that the 44 managed to average 15 knots for most of the passage to Great Yarmouth.

hold on to.

**0043.** Weather seriously deteriorated. Course 025°. Speed 14.5 knots, heavy seas on port bow. Boat still handling it well, but a lot of spray over the bow making forward visibility poor. Single-speed wipers not up to the job — larger units are already on order. Looking for lights on buoys is hampered by reflection of the masthead light on the back of the pulpit rails. A shield is proposed for future models to cut out this effect. Also, some light from the port and starboard lights glimmers through side windows.

**0100.** If such a thing is possible, it is getting worse. Very heavy seas just off the port bow. Boat is riding well, but occasionally we take off from a big one, and land with a crash and a flurry of wild sea deluging the screen. Terry is at the wheel — it is difficult to prise him away from it. Boat yaws as the big waves hit us, but speed is still 16 knots. Heading towards the Kentish Knock buoy.

**0130.** Kentish Knock on the port beam. Weather is not letting up, and we are being buffeted mercilessly by wind and waves. The heavy weather has taken its toll on our fuel, and we are not going to make it to Yarmouth in one leg. Decide to put in to Suffolk Yacht Harbour on the Orwell to get a break and take on more fuel. Rpm still 1850, but with less fuel we are now up to 17 knots. Boat still loving it, crew less so. Screen still leaking from one fixing bolt, right onto the perspex chart top to port. No fiddle on the bottom edge of this hinged panel means that everything rolls off it. Also the whole lid jumps up when we hit a big wave, throwing everything off. Hard to envisage this in the peace and quiet of a marina, but a catch will solve the problem.

**0210.** Passing Long Sand Head buoy to port. To starboard are ships sheltering at anchor from the blow. Waves getting shorter and steeper. Reduce speed to 10 knots. Fuel gauges now in the red.

**0415.** Harwich Docks, and we are looking for the channel buoys to guide us into the Orwell. Heavy rain, and poor visibility. We manage to spot the buoys against the background of lights from Felixstowe and Harwich. Nearly run into a string of unlit barges left by a dredger nearby.

**0500.** Arrive off the entrance to the marina. Apart from two over the entrance, there are no other visible lights. We nearly run over the small unlit buoy marking the entrance, and spot a series of piles only by the lights of the boat. A searchlight would be helpful here.

**0515.** Tie up to the fuel pontoon. Get very wet putting out fenders and lines. Put our wet clothes in the engineroom to dry, and crawl into our sleeping bags.

**0815.** Our motley crew emerge like zombies from their pits. The boat takes on 30gal of diesel per tank. The crew take on breakfast, and more of Bill's cake.

**0930.** Leave marina.

**1015.** Clear outer Harwich marks. Course 010° at 1850rpm and 16 knots. Sea moderate, sky cloudy and grey, and very dark behind us, but we are heading away from it, to the north. The boat moves easily into the waves.

**1045.** Passing Orford Ness, and a series of Martello towers on the shore. It has started to rain, and the sea picks up again. To port are some big breakers crashing on the Aldeburgh Ridge, about two miles away. I certainly would not like to be washed up on its uninviting shores.

**1145.** Sizewell nuclear power station on the port beam. The sea is looking rougher up ahead. Gale warning for Thames: northerly Force 8, increasing 9, imminent. Steep waves and deep troughs. We crash and jar in the bigger ones. A leak of oily water is noticed from the port wiper mounting. It is discovered that this has come loose. We decide to turn it off, and realise at the same time that, since both wipers are protected







**The interior of the 44 is everything to be expected of a boat bearing the Broom badge, with the layout providing comfortable double cabins at both ends of the vessel. The biggest difference is the absence of an interior helm position, which gives extra space to an already large saloon area.**

by the same circuit breaker, a fault in one would cause both units to shut down. Heavy rain and poor visibility.

**1230.** Benacre Ness coming up on port bow. Sea getting friendlier, wind decreasing, and ride easing up.

**1300.** Lowestoft abeam. Close to the land the waves are getting smaller, though the wind is now dead ahead, Force 4-5. Decide to do a quick speed run to check the performance with 30% fuel. 27.8 knots on the speedo, but dead into the wind. This compares with 27.0 knots with full tanks but no headwind.

**1330.** Enter Great Yarmouth harbour.

**1350.** Tie up alongside quay to wait for bridge to open. A delay is predicted here, so Bill says he will take her through and upriver to Brundall on his own. Terry and I make a dash for the station, and in the rush we forget to claim the last slice of cake. The only black moment on an otherwise fascinating and rewarding trip.

The 44 has acquitted itself magnificently: 240 sea miles in some of the worst conditions you would want to be out in, yet at a speed that averaged only just under 15 knots. True, there were niggling faults, but that is why Broom put their boats through this. There are none that could not be put right.

## The test

After the drama of our delivery trip, our formal test on the boat was always at risk of being an anti-climax, but Broom's new 44 is an exciting craft in its own right.

One of our most conservative and traditional of boatbuilders, this Norfolk company, with an 80-year heritage of craftsman-built vessels, have come up with an entirely new concept in motor cruisers. The design which features a cross between flybridge and conventional aft-cabin/outside helm position, is described by the manufacturers as a 'command-bridge' layout.

Broom have always favoured the aft-cabin layout as a means of providing the best accommodation for a serious cruising boat. The benefits are two double staterooms in a boat length where you would only usually get one, and a physical separation between the two cabins that ensures complete privacy.

Another advantage is that, with the outside helm position out on the aft deck, the overall height of the boat is reduced, coming down still further with folding windscreens, and making the boats popular on the inland waterways of both England and the Continent.

Previously the boats all had inside helm positions, but more and more owners found they were spending most of their time up at the outside helm. They asked for this to be better enclosed, with canopies and screens to keep out the weather. So for the new flagship of their fleet, Broom went the whole way and fully enclosed this position with a fixed GRP wheelhouse. Drop-down rear glass screens enabled the position to be completely closed up in bad weather, or opened up to link with the all-round seating on the aft deck.

Having made the upper helm an all-weather position, there was no need to retain the lower steering console, thus releasing space in the saloon for a second seating area.



## Design

For the design of the 44, Broom have stayed with their long-time partner, John Bennett. He has produced a hull that follows his current thinking, with medium-to-deep-vee sections, and a deadrise amidships of 20°, decreasing to 15° at the transom. Two short sprayrails run from the bow to just over one-third length back, but a chine flat runs full length.

Past Broom boats have always had a keel, and the 44 is no exception. This gives some protection to the sterngear, important in craft that will be travelling in shallow, rubbish-strewn rivers, and helps directional stability at low speeds, similarly important in a boat that will be used for some periods of its life on a river. The reverse transom includes an integral bathing platform, but the underwater transom is vertical, and set at the forward end of the platform.

## Exterior

The aft deck is a feature in its own right, with an enclosed seating area set in from the side-decks. This allows you to walk right aft to handle the mooring lines, without disturbing the people sitting there. A raised bulwark/coaming encloses the seating area, keeping much of the wind off, but openings each side allow you to walk quickly across the boat. The seating here comprises all-round cushioned benches aft, facing two more cushioned seats across the back of the wheelhouse, giving room for 8-10 people. In typical Broom style, ample stowage is available under all the seats, while fender racks are fitted on the transom, and on the guardrails forward.

An opening in the transom gets you onto a ladder, and down onto the bathing platform. The aft deck is laid teak, with the same finish available on the side decks as an extra. The side decks themselves are wide enough for easy access forward, with solid 30in (0.75m) high guardrails, a gunwale lip, and good inboard handrails on the cabin side making for complete safety. Two opening chained sections in the rails allow easy access on and off the boat, with rubber treads on the gunwale here assuring a safe footing. Substantial stainless steel bollards, four each side, enable trouble-free mooring.

Back up at the command position, the aft of the wheelhouse is closed off to half-height by the backs of the double navigator's seat port, and the single helm seat to starboard. Above these, clear perspex screens can be raised and lowered electrically, to complete the enclosure. With the screens down, the whole of the wheelhouse and aft deck become an open entertaining area. With the screens up, the wheelhouse is snug, warm and secure. Hatches overhead can be opened for ventilation, while sliding side windows allow more air in, and let the helmsman speak to the crew on deck.

The layout of the command position we have described at length in the account of our trip— suffice it to say that when we saw boat number two at Earls Court, the changes discussed had been made.

## Accommodation

Other changes made became apparent as we went down the three steps into the saloon. A second banister here for the stairs made entry

more secure, while a second grabrail on the saloon overhead made moving forward safe if the ship should be rolling. Also, press-to-lock catches are now fitted to all lockers and doors.

The saloon itself is expansive, aided by the 44's generous beam and opened up by the absence of the lower helm station. The photographs show the layout better than our words, but details worth noting are the fiddles round the tops of all the lockers and sideboard, with corners cut away for ease of cleaning. The L-shaped settee to port is complemented by the circular dinette forward to starboard, where the lower helm would have been. The standard of joinery is all we have come to expect from generations of joiners in this Norfolk yard.

The galley forward is a good size, and we liked the neat semi-circular gash-bin set in the worktop, and the moulded GRP locker under the sole, for storing that extra food you need for long-distance cruising.

Forward again, the toilet compartment is also a good size, with ample lockers for taking passengers' gear. Access can be either from the lobby area or direct from the double guest cabin forward. The latter is a large compartment, with generous headroom, full-height wardrobe, and several lockers and drawers.

The second guest cabin to starboard can be supplied with twin berths, or as an office for the businessman afloat.

The master cabin is located aft of the saloon, and is a spacious stateroom, with ample storage, two dressing tables and bathroom en-suite.

## Engines

The power units, either 306hp Volvo TAMD61s or 357hp TAMD71s, are mounted under the saloon. Normal access is via a hatch in the saloon sole, with a ladder to help you down. Two smaller hatches either side of this allow quick access to the header tanks, while to get to the aft end of the compartment, you can lift the steps that lead down to the owner's cabin. If the engines should need to be lifted out in the life of the boat, a removal hatch is set in the overhead of the saloon.

Once in the engine space, there is plenty of room to move around. Aluminium treadplate underfoot has a neat bent-up lip each side to stop things rolling off. Sea-inlet strainers, fuel filters and stern-glands are all easily reached. Getting

**A shade over 44ft of John Bennett-designed hull heads towards the camera at 27 knots.**



## Broom 44

**Engines:** twin Volvo TAMD 71A diesels, 357hp at 2500rpm, 6cyl, 6730cc.

**Conditions:** wind W Force 3, sea slight. **Load:** fuel 100%, water 50%, crew 4.

rpm	knots	gph	lph	mpg	range	trim	Sound levels dB(A)			
							saloon	whlhse	aftcab	aftdck
1250	9.4	6.4	29.1	1.47	588	1.0	74	77	78	81
1500	10.6	9.8	44.6	1.08	433	2.5	75	77	80	81
1750	13.4	13.1	59.6	1.02	409	4.0	76	78	83	81
2000	18.0	17.7	80.4	1.01	408	4.5	78	76	84	82
2250	22.0	21.5	97.8	1.02	409	4.5	79	78	87	83
2500	27.1	28.5	130.0	0.95	380	4.5	79	81	87	85
2600	27.6	31.7	144.0	0.87	348	4.5	79	81	87	85

**Acceleration:** 0-20 knots, 15.1sec.

<b>Loa</b>	44ft 8in (13.60m)	<b>Displacement</b>	13 tonnes
<b>Hull length</b>	42ft 4in (12.90m)	<b>Fuel capacity</b>	2×190gal (1725lt)
<b>Waterline length</b>	36ft 0in (11.00m)	<b>Water capacity</b>	130gal (590lt)
<b>Beam</b>	15ft 3in (4.60m)	<b>Designer</b>	John Bennett
<b>Draught</b>	4ft 0in (1.20m)		

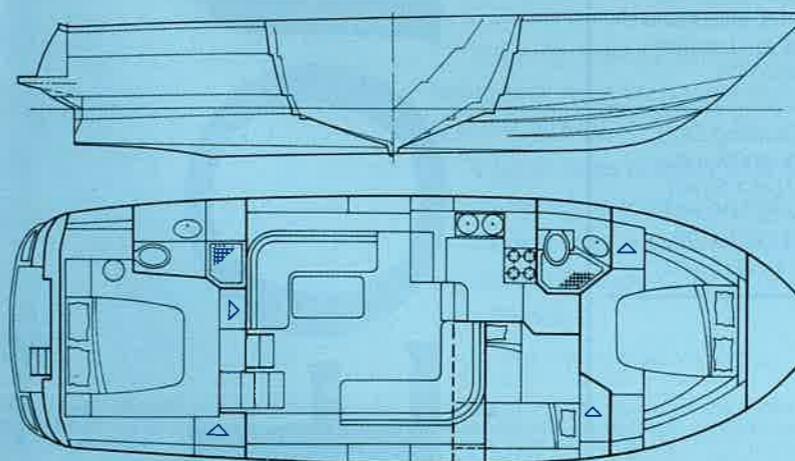
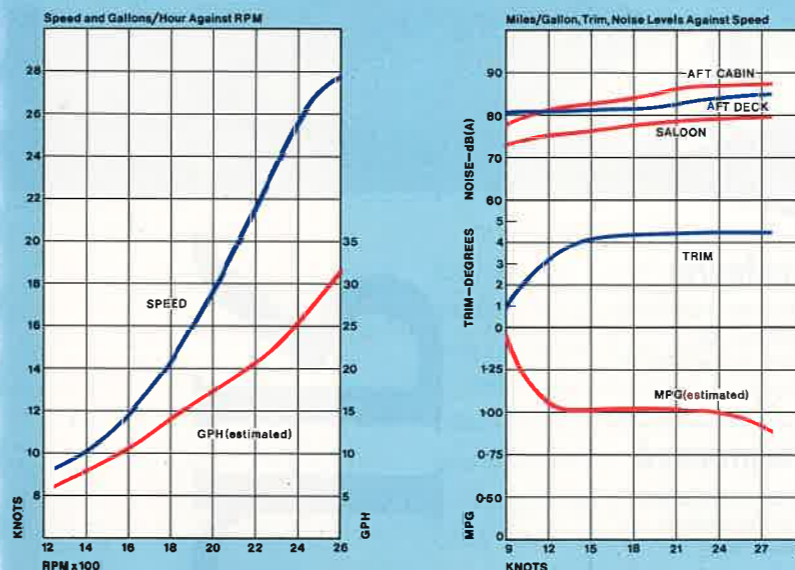
### Builder

C J Broom & Sons, Brundall, Norwich, Norfolk NR13 5PX. Tel: 0603 712334.

### Price

Standard boat with 306hp Volvo TAMD61s, £240,000 ex VAT.

With 357hp TAMD 71s, £246,800 ex VAT (price increase due shortly).



to the outside of the engines though would involve something of a crawl. The bearers and frames are massive, and we were interested to see a partial watertight frame forward of the stern-glands, to help contain any leak here.

Bilge-pumping consists of four automatic electric units, with one manual back-up. Fire extinguishers, in addition to portable units in the accommodation, include a remotely-operated Firemaster system for the engine compartment, with its control panel located next to the electrical distribution board by the steps to the aft cabin. Three battery systems are fitted, with four batteries for domestic power, four for engine start, and one for the generator. The generator itself comes as standard, and powers the all-electric galley, plus a ring main round the boat. Its location is in a separate compartment, forward of the engines, with access via a hatch under the saloon carpet.

Sound insulation is provided by foam and rubber fixed to all overheads, bulkheads and tanks, and this worked effectively.

## Handling and performance

Our passage notes sum up the handling of this new Broom. The powerful hull kept up a steady 15 knots plus in the heaviest of head seas, which was the speed we had set ourselves for the trip. We could have easily increased this as the conditions moderated, as shown by our short dash at maximum speed to check the performance figures. Downwind we would have liked fewer turns on the wheel, something easily achieved, but even so the boat never once gave us cause for alarm.

Broom quote a top speed of 27 knots, and as our radar gun figures show, the 44 delivered this with half a knot to spare, and with 380gal of fuel filling the tanks. At half-load you could reckon on adding another knot or two to this, giving a good margin in reserve in case of extra gear or a dirty bottom in later life.

The theoretical maximum range should be around 350 miles, more than adequate for normal cruising, though our passage demonstrated graphically the point made in 'Fuel Fore Thought' (see p72), that bad weather can drastically increase fuel consumption, and reduce range. Having said that, our detour into the Orwell was a matter of simple seamanlike prudence with a new boat, whose fuel gauges might have been suspect, and on a gale-wracked night where there would have been no room for error.

Sound levels in the saloon and wheelhouse were good, only registering 79dB(A) and 81dB(A) respectively at maximum speed, though they were higher in the aft cabin and on the aft deck, due to propeller and exhaust noise.

## Conclusion

This report breaks with our normal pattern, but was definitely worthwhile.

The point is sometimes made that we only seem to test boats in good conditions. Our reply is that unfortunately you cannot lay on gales to order. This time however we had the opportunity to try a boat designed for serious offshore cruising in the conditions that one day it might encounter, and the new addition to the Broom fleet proved itself more than equal to the task. □