

Boat Report

# BIRCHWOOD

## CRUSADER 400 FLYBRIDGE



*With a new regime at Birchwood has come new ideas, and the flagship of their semi-displacement range comes with a revised hull and a rejigged layout. Just how much of an improvement has been made on the previous 380 model?*





Since Birchwood's change of ownership last year, the boats in their range have been modified both inside and out, with new managing director Richard Oddie drawing on his engineering background to push the designs a stage further.

The new line-up has a two-pronged attack, comprising the fully planing Challenger series and the semi-displacement Crusader models.

We took Birchwood up on their invitation to test the flagship of the latter class, to see what new management and new ideas have brought to one of the household names of British motorboating.

## Design & layout

The aft-cabin Crusader 400 is available in two guises, with or without a flybridge. We tested the Flybridge version, which has an interior helm to complement the one up top; the alternative Compact model locates the exterior helm on the raised aft deck, in such a well protected position that Birchwood have decided to offer an interior helm only as an option, potentially leaving extra room in the saloon.

If the scalloped topsides are reminiscent of earlier designs, that is no surprise, for the 400 uses the same hull as the 380 (and the previous TS37), albeit with modified stern sections that add that couple of feet to its overall length.

This additional portion of moulding at the stern

not only makes more of the transom and bathing platform area, but also, according to Steve Flood of distributors Birchwood Solent, improves the hull's performance in following seas, making it less prone

## Decks

A single step leads down from the aft deck to each of the side decks, and breaks in the guardrails allow boarding from alongside.

The decks are easy to move along, being 10in (25cm) wide, and the superstructure provides a conveniently placed guardrail.

There is no shortage of mooring hardware, which includes 10in (25cm) cleats fore and aft, a slightly smaller one conveniently placed on each quarter, and two further sets along both side decks. An electric windlass is half-sunk into a foredeck well, beside a hatch to the chain locker.

## Bathing platform

The bathing platform makes for easy boarding from astern, and if starboard side-to you can proceed straight up the short stairwell to the aft deck, helped by a steadying handrail.

There is a further chest-high rail running across the transom, and a shower is incorporated here, together with a stowage locker in the sole. Both the platform itself and the stair treads are laid to teak as standard.

to being pushed around.

Apart from the new sloping profile of the transom, the topsides are much the same as in the earlier models, but the superstructure is all-new. The most obvious difference is that the windowline is split, and that there is more curvature to the moulding, although the flybridge layout now benefits from an L-shaped seating area opposite the helm position.

The accommodation offers two well-proportioned cabins, the forward one having either a double berth or above-and-below intersecting vee-berths, the en-suite aft one a central double. The saloon, with its pair of facing settees, has a helm which has been pulled back slightly from that in the 380, with a hinge-away seat to recoup the space lost, while the galley is at a lower level amidships.

Opposite the galley, our test boat had a

## Flybridge

The flybridge layout provides a single, adjustable helm seat, biased to starboard, accompanied by an L-shaped moulding which offers seating for four people and incorporates a corner table. Disappointingly, the latter is bereft of glass-holders or a fiddle to help keep things in situ.

The console is fairly compact, with just warning lights for the engines rather than full instrumentation. This permits a modicum of space to add some navigation gear to join the Bidata log/sounder, compass and dual-station VHF which come as standard.

The throttles are set on a slight return to the skipper's left hand. This is handy when manoeuvring,

allowing him to stand amidships, where he can see right round him, rather than being hemmed in to one side of the flybridge.

The radar hoop is engineered to hinge back easily, to reduce the boat's air draught when necessary.

## Aft deck

With the transom gate sited to starboard, rather than centrally, the break in the moulded seating around the periphery of the aft deck is not intrusive, which makes for a sociable

arrangement once a table is brought into play.

Grabrails extend right around these settees, and the lockers in the bases are a good size, one of them being segmented to house a couple of gas bottles.

The teak decking continues up the stair treads to the flybridge.

convertible dinette, although a third cabin with a pair of bunks can be specified here instead.

Headroom is generous at around 6ft 4in (1.93m) through most of the accommodation.

The boat's hull lines are medium-to-shallow vee over the stern portion, having a deadrise of around 12.5°, but with keen bow sections. These run into a measure of keel which tracks as far aft as the propellers but does not drop so deep as to offer any major protection for the sterngear.

The underwater panels are slightly convex, in deference to the topsides' concave, double-scallop shape, and are clear of sprayrails. The chine is fashioned without much of a flat, except over the forward sections which have to keep the water from running up the hull

and making a wet nuisance of itself.

A choice of twin six-cylinder diesel engine installations is available, ranging from 200hp Volvo Penta TAMD 41Ps to the same company's 270hp 44P EDCs. Our test boat was fitted with 250hp Mercruiser D-Tronic D4.2Ls, with fuel-injection controlled by an electronic management system.





## Handling & performance

We have encountered just about all the engine installations available with this Birchwood hull over the years, but this particular package, with the modified stern sections and Mercruiser D-Tronics, is the most agreeable yet.

At any semi-displacement speed the boat sits happily

wherever you set the electronic throttles, and quickly but progressively pushes up to a 21-knot fast cruising speed at a continuous rated 3400rpm, and a top speed of 24 knots.

Handling is hands-off steady in a straight line throughout the speed range, but the hull responds smartly and positively once any rudder is applied, making tight but well-mannered turns with just the right amount of reassuring inward pull. The helm

and throttles are comfortable to use at both driving positions.

Trim tabs are fitted, but the 400 seems happier to look after itself than in its predecessors the TS37 and 380; no doubt the increased planing area aft helps.

Admittedly the sea conditions on our test day were fairly uneventful, but we could not find anything that might adversely affect the boat's handling. If anything, again, the 'quartering seas' provided by the wash of

## Dinette

Conveniently positioned opposite the galley, the dinette can seat four in comfort or six at a squeeze. When necessary it can be made into a 6ft 3in (1.91m) by 3ft 8in (1.16m) berth, cordoned off by a curtain.

A cupboard-style locker is incorporated in the forward end, and further hatch-type ones beneath the rest of the seat cushions. A translucent portion of deckhead borrows light from above.



## Galley

The galley benefits from plenty of natural light courtesy of the main windscreen overhead, and we were pleased to find an extractor fitted.

There is plenty of space, in terms of both countertop and stowage, and the angling of the built-in eye-height oven/grill makes a feature of it as well as ensuring it is easy to use. Other appointments are a four-burner hob, a double sink and a good-sized fridge complete with a large-capacity freezer drawer.

Worksurfaces are in Corian, with cut-outs to cover the sink and hob; these covers have a dedicated stowage hanger to keep them tidied



away when the galley is in use.

Hatches in the sole give access to the bilge; this means rolling back the carpet, which we were pleased to see was bound at the edges.

## Saloon

Inside the sliding companionway door, the steps down from the aft deck into the saloon are wide and easily negotiated, with plenty of headroom and a pole to act as a steadying handhold.

The interior is bright, thanks to a low window-line which gives you an unimpeded view when seated. Just ahead of a nicely thought-out cocktail cabinet to starboard is a small L-shaped settee, and you can slide a portion of this across to marry up with the longer one opposite to make a 6ft 4in (1.94m) by 3ft 2in (0.97m) berth.

The helm is set slightly further aft on the 400 than it was on the

380, but the seat has been made to hinge down when not in use so it does not intrude too much into the socialising area.

Painted-out lockers in the seat-bases provide a reasonable amount of stowage, and built into the companionway stairs is a generous locker.



## Aft cabin

The layout of the 400's aft cabin is rather different from that on the old 380. Out goes the angled double berth to port and a combined toilet/shower compartment to starboard, and in comes a central berth flanked by two separate en-suite compartments.

The port one is a shower stall, while the starboard one houses a boxed-in toilet; both incorporate a basin.

This arrangement appears to work well, and you can really go to town in the shower without soaking everything else, but neither compartment has any dry stowage, which is something of an oversight. On the plus side, both benefit from an

extractor, as well as an opening port.

A shortcoming in the sleeping area is that, with the head of the 6ft 6in (1.98m) by 4ft 6in (1.37m) berth pinched-in between the two bulkheads, there is no room for side tables; a narrow shelf would be useful, or better still a shallow cave locker let into each bulkhead.

However, the cabin is well sorted with clothes storage, by way of a large hanging locker, a chest of drawers and a cupboard topped off with a dressing table.

Beneath the berth, varnished hatches allow access to the aft holding tank and the steering gear. There is also room here for engine spares and the like. A further hatch in the cabin sole gives onto the bilge, with its submersible pump set in the keel.



## Forward cabin

Our test boat had the twin bunk configuration in the forward cabin, with one crossing over the foot of the other. Buyers can specify a central double berth as an alternative, but the arrangement works extremely well.

Both berths are a good size, at around 6ft 0in (1.83m) long by a fairly uniform 2ft 6in (0.76m) wide, with plenty of legroom, and the

lower bunk also acts as a settee.

Stowage is excellent, not least due to the fact that (unlike on the Birchwood 380), there is no direct door though to the adjacent toilet compartment, so room has been found to port for a useful dressing table with a cupboard beneath it.

Opposite this is a large three-quarter-height hanging locker, outboard of the bunks are deep fiddled shelves, and beneath the starboard berth are a pair of good-sized lined lockers.



## Forward toilet compartment

Accessible through just one door, opposite the dinette, the forward WC is largely a moulded affair, as with most compartments which sport a shower. Alleviating the starkness of the white GRP, however, are a dark deckhead and Corian



worksurface, into which the sink is inset.

Hidden in a moulded enclosure, the toilet is an electric unit linked to a holding tank. Whereas there is plenty of space allowed for the integral shower tray, the loo is squeezed a bit too tight against the adjacent bulkhead for comfort.

Stowage is good, and ventilation is by way of both an opening port and an extractor.



## Interior helm

When hinged up into position, the helm seat is high enough to offer the skipper and companion good visibility, and for a temporary arrangement it is quite comfortable, with a footrest provided.

The console is inset with veneer and tidily laid-out, with the main engine instrumentation in a pod topped off by the compass. There is room on the co-driver's side and overhead to mount further electronics, above and beyond the standard log/sounder and VHF set.

A useful 'bits' tray is moulded into the console top. There is limited room to keep a folded chart directly to hand, although the flat worktop opposite could serve as a chart table.

The screen is cleared by two sizeable pantograph wipers, and we

were pleased to find these were dual-speed.

Within the footwell is the main electrics panel, and the controls for

the remote battery switches. This is all very neatly tucked away, but a bit of a fiddle to get at when the seat is stowed down.



## Engine room

For day-to-day checks and maintenance, an access door to the engine room from the aft cabin is perfectly adequate, using the crawlway formed by the sturdy battery boxes.

For more major servicing, or for access to items at the front of the engines or to the fuel filters situated outboard of the port unit, it is best to hike up the saloon sole, which is easy enough to accomplish.

With this approach, there is sufficient room between the engines

and wing tanks, or between them and the forward bulkhead, to wave a spanner.

The raw-water filters are handily positioned between the engines, while the primary fuel filters are split



up, which is a shame; you have to stretch over the gearbox to get at the port one. Fuel shut-offs are located within the seat-bases just above the tanks.

The installation is tidy, with room to the head of the compartment for a generator if required, and the builders have gone to the trouble of insulating the compartment throughout.

The submersible bilge pumps, of which there are four in all, are tucked into the keel. Thoughtfully, Birchwood have fitted them in wire cages to reduce the likelihood of debris clogging them.

passing ships were dealt with in better grace than by previous incarnations of the hull.

Visibility from the interior helm position is fine, with a good, clear view over the bow, although as

with most aft-cabin boats you have to be extra-vigilant to see what is going on astern.

Noise levels in the saloon and on the flybridge are not bad, although the aft cabin suffers

once you begin to open the throttles.

## Conclusions

We are pleased to see that the new regime at Birchwood are continuing to develop the aft-cabin format, with its arrangement of separate sleeping areas and a roomy midships living area which so suits comfortable cruising.

They have come up with some alternative ideas, and from what we have seen so far they are all to the good. The Crusader 400's hull modifications appear well worthwhile, while the new styling of the superstructure moves it on from its predecessor the 380, and the layout offers some clear practical advantages.

In terms of engineering and fit-out we were well pleased, but do not expect the high-gloss finish that other major British boatbuilders go in for. This is a practical boat aimed at practical boating people. □

## BIRCHWOOD CRUSADER 400 FLYBRIDGE

PERFORMANCE & CONSUMPTION							SOUND LEVELS dB(A)		
rpm	knots#	gph†	lph†	mpg†	range*	trim	saloon	aftcab	flybdg
2200	10.0	7.8	35	1.28	205	3.0	68	79	67
2600	13.2	10.9	50	1.21	193	4.0	69	80	68
3000	17.7	13.9	63	1.27	203	5.5	71	81	69
3200	19.0	15.8	72	1.20	192	5.5	71	82	69
3400	21.3	17.2	78	1.23	198	5.0	73	84	69
3600	23.0	18.9	86	1.21	194	5.0	74	86	70
3750	24.0	21.6	98	1.11	178	5.0	75	87	71

# Measured by radar gun. † Calculated from engine manufacturers' figures. \* Allows 20% margin.

ACCELERATION ~ 0-20 knots, 9.6sec

CONDITIONS ~ wind notherly Force 3, sea calm

LOAD ~ fuel 50%, water 100%, crew 4



### BUILD

glass-reinforced plastic

### DIMENSIONS

#### LOA

41ft 1in (12.50m)

#### HULL LENGTH

40ft 0in (12.20m)

#### BEAM

12ft 8in (4.10m)

#### DRAUGHT

3ft 0in (0.91m)

#### AIR DRAUGHT

15ft 5in (4.70m)

with mast up;

10ft 10in (3.30m)

with mast down

#### DISPLACEMENT

8.5 tonnes

#### FUEL CAPACITY

200gal (91.0lt)

#### WATER CAPACITY

60gal (273lt)

#### ENGINES

two Mercruiser D-Tronic 250s

6cyl 4.2lt diesels

250hp at 3800rpm

#### PRICE

£170,240 ex VAT

### SUPPLIERS

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### BUILDERS

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