



The front of the engine box slides away to give good access for servicing and repairs.

Flared Fin from Feeling

New hydrodynamic keel reduces draft on Feeling's latest fast cruiser

Combining a racy superstructure and powerful rig with smart, comfortable accommodation and shoal draft, the Feeling 960 will tempt both competitive and cruising yachtsmen alike. Yes, she's a cruiser/racer but in her shoal draft form the emphasis lies more in the cruiser than the racer.

That's not to say that her French builders, Kirié, are content to accept poor performance just because she's shed her high aspect-ratio deep keel. Far from it! The shoal option uses an efficient 'flared fin', working on the same principle as a Scheel keel, that saves a significant 15 inches over the deep keel's draft yet still lets the 960 carry a double-spreader rig with over 600 sq.ft. of sail.

As Denny Desoutter discusses on page 38, although designed over 20 years ago in America, Scheel keels, and their variations, are relatively new to Europe and follow an upsurge in interest in different keel designs since the Aussies lifted the America's Cup. Denny has described in detail how the Scheel keel works so suffice

to say here that the flared fin design reduces drag by preventing water from flowing from the high-pressure side of the keel to the low pressure side. By doing so, the keel becomes more efficient, creating proportionally more lift than drag than standard fin keels. In practice, therefore, a shallow flared fin can be as effective as a deep fin keel.

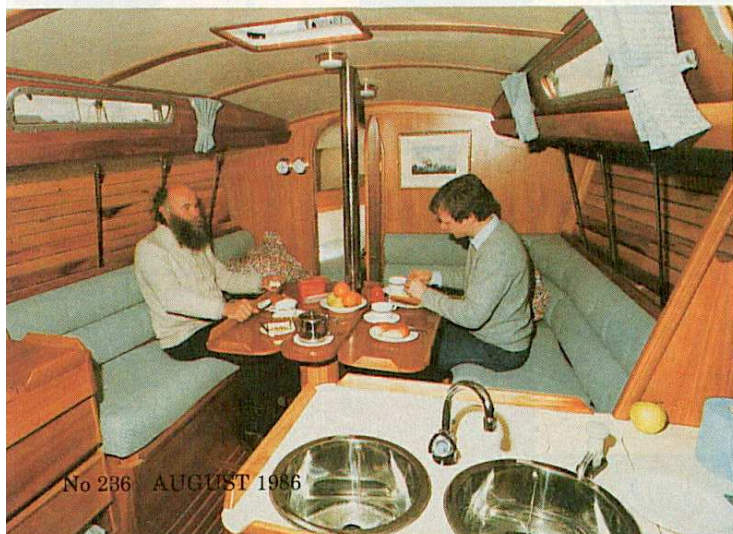
But if you're after shoal draft then why not fit a lifting keel? Why not indeed. Lifting keels can offer good hydrodynamic efficiency but in larger yachts the keels are heavy and the lifting gear needs to be properly engineered — any problems with the gear can't be sorted out by brute strength alone as in smaller lift-keel cruisers. And don't forget that with the keel up, you'll only be able to motor not sail. Twin keels are perhaps the flared fin's nearest competitor, when considering draft alone, but they're not as efficient and, in many cases, don't give the same steady feel as a single keel. On the other hand, you can dry out with twins on an even keel whereas you'll

need legs to do the same trick with a flared fin or Scheel.

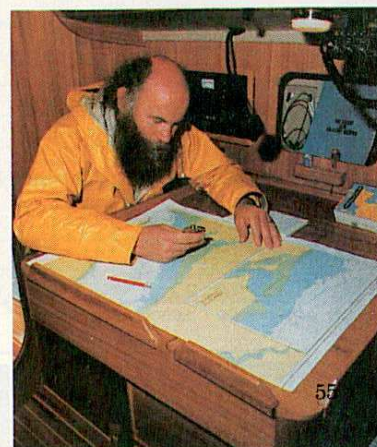
What of the 960? Well, she's a lengthened version of the 920, the additional 'bit' increases the boat's waterline length — and the rake of her retroussé stern — with the aim of increasing her speed (albeit marginally) when heeled over. Add to that her more powerful rig and you can see the attractions for the racing yachtsman.

We're not fans of the retroussé stern but if styling has to follow rating rules then at least the 960's seems to make the best use of what would otherwise be wasted space. Instead of just sloping down, the transom is cut away to form a small bathing platform which, with a stainless steel fold-down ladder, makes life easier not only for swimmers but should also prove useful when getting aboard from a dinghy.

Step over into the cockpit and you can begin to appreciate some of the boat's cruising attributes. For a start the cockpit's self-draining. Two-



Elm is everywhere. In the saloon, in the galley and at the navigator's station. Better than ubiquitous teak.





Facts & Figures Feeling 960

How She Compares

	Feeling 960	Fulmar 32	First 305	Attalia	Sadler 32
LOA	32ft. 9in.	31ft. 10in.	32ft. 2in.	31ft. 10in.	33ft. 6in.
Hull length	31ft. 6in.	32ft. 2in.	30ft. 8in.	31ft. 2in.	31ft. 6in.
LWL	25ft. 8in.	26ft. 0in.	26ft. 3in.	25ft. 11in.	24ft. 00in.
Beam	10ft. 7in.	10ft. 11in.	10ft. 8in.	10ft. 6in.	10ft. 6in.
Draft	4ft. 3in.	4ft. 0in.	4ft. 5in.	3'7"/6'6"	4ft. 6in.
Keel type	Flared	Twin keels	Shoal keel	Lift' keel	Shoal keel
Headroom	6ft. 2in.	6ft. 2½in.	5ft. 11in.	6ft. 0in.	6ft. 3in.
Displacement (lb.)	8600	9900	7938	7497	9500
Ballast (lb.)	3000	4210	2977	2977	4000
Engine	18hp Volvo	18hp Volvo	18hp Volvo or Yanmar	18hp Yanmar	18hp Yanmar or Volvo
Disp/(0.01LWL) ³	227	251	196	192	307
Sail Area Main (sq.ft.)	233	253	199	189	215
Sail Area Genoa (sq.ft.)	380	313	328	366	385
Total S.A. (sq.ft.)	613	566	527	555	600
SA/Disp ^{0.66}	24.2	20.3	21.9	23.9	22.1
Ballast Ratio (%)	34.9	42.5	37.5	39.7	42.1
Motion Factor	20.5	22.7	18.6	18.1	24.2
Builder	Kirié	Westerly	Benetau	Jeanneau	Sadler
Price ex. VAT	£28,450	£30,254	£24,007	£27,030	£24,000*

Notes: *price for deluxe version.

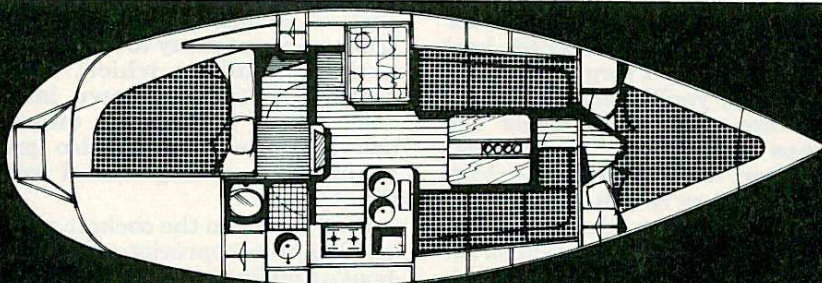
Factors: Disp (tons)/0.01LWL(ft)³ gives indication of performance. (lower number, faster speed.) E.g. moderate cruiser about 250, cruiser/racer below 200, above 300 heavy cruiser.

SA (sq.ft.)/Disp (cuft)^{0.66} gives indication of sail power to displacement. E.g. 13 to 14 = motor sailer, over 22 = cruiser/racer.

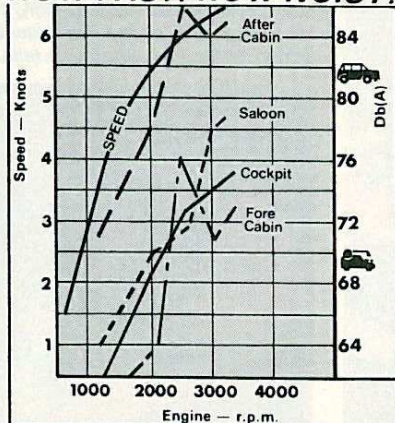
Ballast ratio compares amount of ballast to displacement — usual values between 35 to 45%.

Motion Factor: an approx' ratio devised by American naval architect Ted Brewer. Predicts yacht's motion in a seaway. Higher the number the more comfortable.

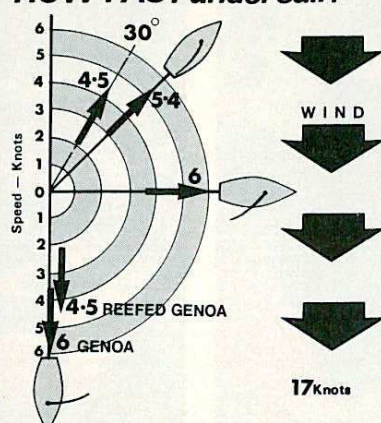
$$MF = \frac{\text{displacement (lb)}}{0.65(0.7LWL + 0.3LOA) \times B^{1.333}}$$



HOW FAST? HOW NOISY?



HOW FAST under sail?



Boat Data

Construction: Built from hand-laid glassfibre, using chopped strand mat and woven rovings, with orthophthalic resin and a light-grey pigmented isophthalic gelcoat. The inside of the hull is painted with resin to prevent wicking. Superstructure stiffened with a core of end-grain balsa. Hull and superstructure bonded with a flush-deck flange joint, through-bolted, covered with an aluminium alloy toe-rail and laminated over on the inside.

Underwater: Cast-iron flared fin bolted on with stainless steel bolts to the locally-reinforced hull. High aspect-ratio (Spittfire-wing type) balanced rudder, tiller operated from the cockpit.

Rigging: Mast-head Bermudan sloop with anodised aluminium mast and boom. Mast is deck-stepped, with a supporting strut beneath, held with 1 x 19 stainless steel shrouds on a double-spreader rig.

Standard Sails: Main, No. 1 genoa and storm jib

Engine: 18hp Volvo 2002, naturally-aspirated diesel engine

Fuel capacity: 20 gallons

Fuel tank material: stainless steel

Water capacity: 42 gallons

No. of berths: 6 (2 doubles, 2 singles)

Designer: Philippe Harlé

Builder: Kirié Construction Nautiques SA,

Route de la Rochelle, 85100

Les Sables d'Olonne, France.

Supplier: Plain Sailing Ltd,

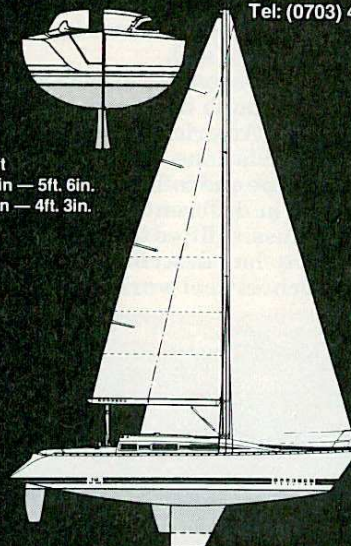
Hamble Point Marina, School Lane,

Hamble, Southampton, Hampshire.

Tel: (0703) 453900.



Draft
D. Fin — 5ft. 6in.
F. Fin — 4ft. 3in.



Test Conditions

Wind Speed: 17 knots (Force 5)

Sea state: choppy (12-18in.)

Temperature: 11°C

Sails: mainsail (2nd reef), plus partially-furled genoa (see photos)

N.B. — speeds under sail indicate the average speed with wind from either side and are not maximum speeds (i.e. typical cruising speeds).

inch diameter drains through the transom double as water and gas scuppers since the area beneath the removable and cambered, wooden-slatted seat acts as the gas-bottle locker. Any escaped gas goes out the same way as rain water. And there's enough space left over to stow one of those flat-pack liferafts. But if you don't want them pinched, then you'll have to chain them down in some way.

More secure stowage is available in the port sail locker which is easily big enough to stow sails and extras such as fenders and warps.

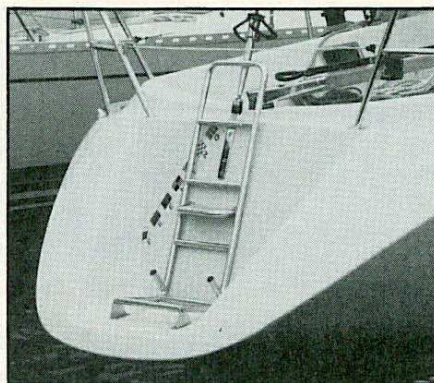
Five winches handle the sailing requirements — two self-tailing 6in. winches handle the foresail sheets while two 3in. winches plus separate rope-stoppers are used to haul main, foresail and spinnaker halyards. The fifth winch is fastened to the mast and caters for the mainsail reefing lines. The lines run inside the boom and exit through stoppers close to the mast. Unfortunately, that means somebody has to go forward to reef the main, both to hook-on the luff cringle and tighten the leech pennant.

The mainsail is controlled by a four-part tackle leading down to a jamming block attached to a traveller and track which runs across the front of the cockpit.

With all its racy gear and style on the outside you'd expect the inside to be stripped out and almost bare. Not so! She's as comfortable and attractive as a cruiser should be. Elm is everywhere — in the furniture, on the bulkheads and lining the hull and coachroof sides — giving a warm, traditional feel. In fact, moulded glassfibre modules have been avoided except in the toilet/shower compartment where functionality takes precedence.

All of the joinery is to a good standard with no rough or sharp edges and sensible high fiddles on work tops and tables. Floor boards can be lifted for access to hull once a couple of screws are removed. And there's attention to detail too. For example there's a removable dust trap in the middle of the sole to sweep sand and dirt into, there's a sump in the top of keel for bilge water to run into, the chart table has plenty of stowage and a personal light on a flexible boom. There's a capacious wet locker in the toilet (tucked beneath the side deck) and the galley should please most slaves. Here they've included two stainless steel sinks, a deep moulded drainer cum sink for mugs and cutlery, a cold box, plate stowage, held by pegs, and a two burner stove over an oven and grill.

All-in-all, there are six berths. A double Vee-berth with an infill in the forward cabin another double in the



Getting the best from a racing retromuse stern.

after-quarter cabin and two singles in the saloon. And the rest of the boat is designed accordingly. Six can sit round the fold-down saloon table and six can sit in the cockpit with room to spare.

But nothing's perfect and we felt that the overall finish was let down by its drawers in the galley and chart table. These were made from polythene trays with a piece of facing ply at the front and another across the back making them more functional than attractive.

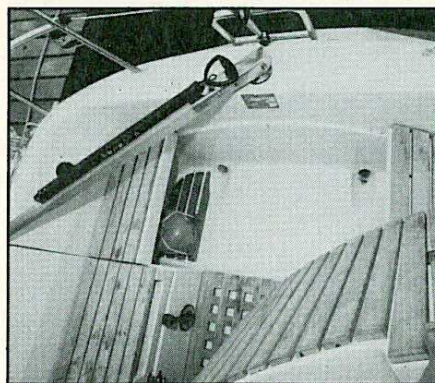
She's powered by a single 18hp Volvo 2002 diesel engine, conventionally mounted in a sound-proofed box hidden beneath the companionway steps. Access to the engine is good either for a quick glance, by lifting the step, or, for more major surgery, by pulling out the whole of the front of the box and removing a hatch in the quarter cabin.

It's a neat installation with wires clipped back securely, pipework double-clipped to proper seacocks — not gate valves — and good-sized ducting, to let the engine breathe, leading out of the compartment's after end. Two batteries were fitted to our test boat, both were installed well, in moulded glassfibre boxes, and charged via a splitting diode. The electrical control panel is fitted with contact breakers rather than fuses and is mounted within easy reach of the chart table.

Our only criticism concerns the position of the engine control panel. It's mounted about four inches above the cockpit sole, a position that's not conducive to checking rpm or ensuring that the alternator's charging.

Under power she nips along happily with a top speed of just under 6½ knots at 3200rpm, a shade beneath the boat's hull speed and the engine's maximum rpm. Perhaps a lesser pitch propeller would get a better performance from boat and engine. However, she motored best at around 3000rpm.

Noise levels were, on the whole, fairly good except at 2500rpm which seemed to hit a resonant note in the forward and after-cabins.



Cockpit drains that let out both water and gas.

Under sail she feels reasonably stiff and well balanced, offering slight weather helm. Our test boat had a roller-reefing 150% genoa and a slab reefing main. With a wind of around Force five we had the main on its second reef and the genoa rolled back to just past the mast's shrouds. Heeling over between 25 to 30 degrees, we were tending to luff up in the gusts and sailing was becoming hard work. We reduced sail by rolling up the genny until its clew was just forward of the shrouds. This did the trick and we were sailing far more comfortably and controllably at a heel angle of around 15 to 20 degrees.

However, if we had wanted to reduce sail any more we could only have pulled the headsail in further and we reckon an extra reefing point in the main would be better.

Nobody would have known that we had a shallow draft flared fin below. She tacked well — pinching up as close as 30 degrees to the wind albeit at a much reduced speed. On a beam reach she averaged 6 knots with top speed between 6½ and 7 knots. Running down wind we unleashed the genny and goosewinged back to the moorings at around six knots.

As always, we averaged our speeds over port and starboard tacks but interestingly there was considerable difference when close-hauled. An extra ½ knot could be added to the port tack and we couldn't help but wonder if the bulk of the rolled headsail was affecting the sail's efficiency when on the opposite tack.

Although well balanced, the tiller felt relatively heavy both under sail and under power. The simple solution would be to lengthen the tiller to improve the helmsman's mechanical advantage. On the other hand the builder could change the rudder design, perhaps a little more area forward would lighten the load.

Nevertheless, I found the Feeling 960 fun to sail and reckon she might be the answer for those who like a competitive boat but still want to cruise in relative comfort. KC