

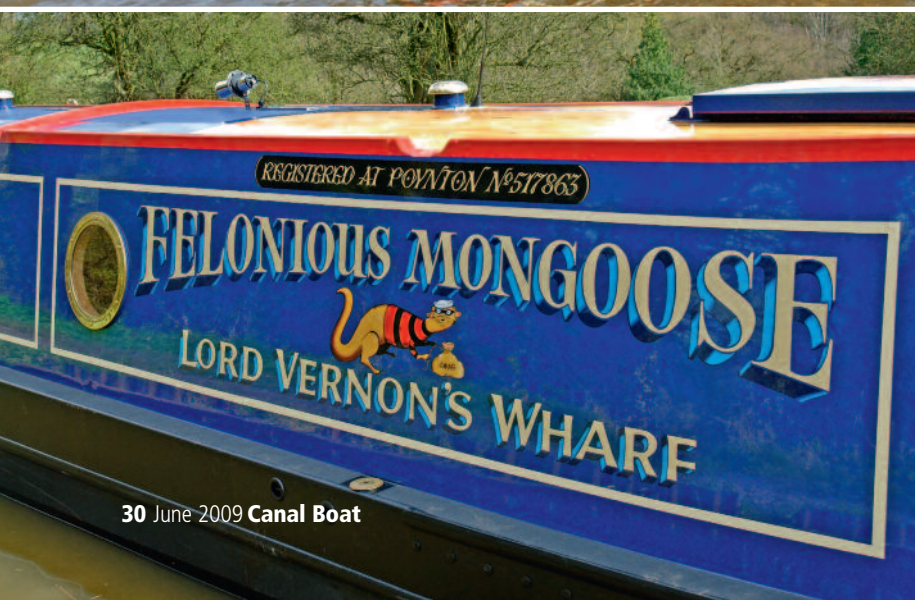


Silent running



Not surprisingly, ex-submariner Charley Johnston wanted a diesel-electric boat for retirement and has the first new hybrid – we find out what it's like

WORDS BY KEVIN BLICK PICTURES BY DAVID OAKES



Buy a narrowboat, visit beautiful places – and pollute them with smoke and noise! An exaggeration, true, but you get the point. Simply messing around in a canal boat can't compare with the flap of a sail or the creak of an oar when it comes to carbon footprints or ear-bashing.

The silent, pollution free alternative of electric boating is catching on fast in many areas with day boats and launches all gliding quietly along, but narrowboats have been slow to join. There are understandable

reasons why: electric power systems cost; they have implications in charging regimes and cruising ranges and they don't necessarily sit well with the fully-equipped, floating country cottages that most modern boaters prefer. Last but not least, narrowboaters tend to be a traditional bunch: even if we don't own one, many of us hanker after the slow thump-thump of a traditional engine rather than the whirl of a milk float.

A few enthusiasts have, though, explored alternative power routes. Some have opted ▶



As you'd expect, Mongoose is handsome and full of Braidbar touches



Peter and Susan (at tiller) and the new Braidbar team



◀ for pure electric or solar powered craft but the diesel-electric 'hybrid' has proved the more likely way of satisfying the demands of a modern cruising narrowboat. So much so that the boat we're testing here has been designed to be a continuous cruising craft with all the luxuries of land, right down to a washing machine and freezer.

Felonious Mongoose (we'll explain the name later) is the first new narrowboat to feature the diesel-electric parallel hybrid unit developed by Beta and hybrid specialists,

Hybrid Marine. The unit was shown at last year's Crick Show and the boat itself is at this year's show.

But the story goes back further than that. Naval doctor Charley Johnston had spent part of his career on submarines and with retirement coming up wanted to replicate the silent running of their diesel/electric power on his new narrowboat. He was already deep into researching hybrid drives when he discovered the Beta system which allows



both normal diesel cruising and silent electrical boating – it was just what he was looking for.

DESIGN AND EXTERIOR

The Mongoose is the eighth craft built by Braidbar Boats under its new ownership and, aside from the hybrid drive, it's very much a question of 'business as usual'.

It is 60ft long – a little longer than the usual 57 or 58-footer to accommodate the battery compartment without compromising interior accommodation, and fitted out on one of Tim Tyler's shells.

As ever, this is handsomely detailed with scrolled cants and handrails, a cabin beam across the roof, enough 'rivets' to catch the eye but not look gauche and even the trademark Braidbar cruciform cut-out on its rudder to match those on the joinery inside. Brass portholes (actually they should be called 'scuttles' points out our naval owner!) with large, 14-inch glass and brass fittings throughout provide the finishing touches.

The boat is painted in a classic combination of deep blue with cream coachlines and red detailing, all brought to vivid life by Andy Russell's superb scumbling

on the back cabin roof and his eye-catching signwriting of the boat's name and cartoon mongoose. The name itself is a tribute to Charley and Dolores Johnston's son who died suddenly: he came up with the phrase as a 'Googlewhack'.

Inside as well as out, *Felonious Mongoose* has all the hallmarks of a classic Braidbar craft. It is trad-sternd and traditionally set out inside. From the rear cabin we go forward to a full-width bathroom then a pullman dinette which is separated from the galley by the curved cutaway semi-bulkhead that is a Braidbar trademark. Up front is the saloon with free-standing seating and this leads out onto the well deck where a bow thruster locker provides plenty of storage as no thruster is fitted.

The fit-out style and timbers will be familiar to Braidbar-isti as well: the joinery work and mouldings are in solid American light oak, with matching light oak veneered ply for the roof and under the gunwales, complemented by ash beaded tongue and groove on the upper cabinsides. The floor is reclaimed oak planking that has been 'burned and oiled' to create an antique finish and looks much more attractive than the more usual factory-made oak flooring.



Galley is a mix of traditional style and practicality



Light floods into saloon through portholes, large prism and side hatch



THE NEW BRAIDBAR TEAM

NEARLY 18 MONTHS ago Peter and Susan Mason took over Braidbar from its founders Iain and Luisa Bryceland. The likeable owners of this highly regarded business were a hard act to follow but the new team has made a flying start. So far they have built nine boats and have orders into

next year. A hand-over spell when Peter and Iain ran the company together smoothed the change and Iain remains as a consultant.

Peter is a leather chemist by training and was a senior executive in an American automotive seat manufacturer before deciding to opt out of the

high-pressure life of the international car industry in favour of running his own business.

Narrowboat building seemed to fit the bill and he co-founded Prestige Narrowboats with sailing partner, Mark Cooper before moving on to buy Braidbar when that came up for sale. Sensibly,

Susan and Peter haven't tried to change the firm's winning formula: "We have simply aimed to work even harder on the quality," says Peter. "What we have done, though, is expand Braidbar's traditional repertoire by tackling technically demanding projects like *Felonious Mongoose*."

SALOON

Quite unusually, the Mongoose has had a starboard side hatch fitted near the front of the boat so it falls midway along the saloon. With the hatch doors open, those large portholes, half-glazed front doors and a roof prism as well, the interior is positively flooded with daylight. Braidbar uses lift in and out Perspex panels to close its hatches to the elements; it's simple, though a more elegant answer might be a sliding or fold-back permanent inner window.

It's not the largest of saloons but certainly isn't cramped. There's ample space for two ▶





In the cabin there's room for a full-size double bed plus plenty of storage



◀ captain's chairs and their footstools. The owners are keen readers so ample bookcases with adjustable shelves sit along the gunwale and on the forward face of the galley unit.

At the front are steps up to the deck, with storage under them and those trademark cruciform decorations. To the left of them is a solid fuel Squirrel stove while on the opposite side is a corner cabinet. This extends forwards under the deck to accommodate Charley's very sizeable Apple Mac computer tower which will be linked to a screen above as well as to a printer under one of the dinette seats, and by Cat 5 cable to the hybrid controller so that he can monitor power usage.

GALLEY & DINETTE

This area is a delightful mix of traditional style and practicality. Running along the port side of the central gangway is a large oak Welsh dresser, featuring three base cupboards with drawers above them and matching high-level cupboards that have a pretty, decorative edging. The dresser top returns at an angle to the gunwale, past a wine-rack and ends below the port-side hatch in a shallow but very useful under-gunwale cupboard.

A Stoves DIT freestanding cooker sits opposite the hatch, and running forward from this is a long stretch of black granite worktop into which is inset a rectangular stainless sink with a triflow (hot, cold and filtered) tap. Below the worktop, Bosch 240v fridge and freezer units sit either side of the

under-sink cupboard. Above it is a line of high-level cupboards to match those on the dresser, so in total there is more than ample kitchen storage.

The dinette, separated from the galley by the curved bulkhead, has another of Braidbar's design 'tweaks'. Normally dinette tables have to be relatively narrow to be able to drop into the space between the seat benches when converting the unit to a bed. So, if people are sitting either side of the table their heads virtually touch when leaning forward to eat! The answer is a wider table and small lift-out pieces in the seat base frames to accommodate it when necessary. Simple but ingenious.

There are large pull-out drawers fitted below the seats and part of one seat base frame can also be lifted out to provide access to the computer printer.

BATHROOM

The walk-through bathroom is a cross-over design with the front door to port and the rear to starboard. It is a simple and attractive room whose main feature is a very decent size 900 x 760mm quadrant shower, waterproofed by wallboarding rather than tiles. Cunningly hidden between this and the cabin side is a calorifier with an airing

cupboard above. Cunning because you won't spot the doors – there aren't any: instead it has lift-off panels which take up less space. (Incidentally, modern calorifier lagging is so efficient that the team had to fit a small Fin-rad in the engine coolant return to warm the airing cupboard above.)

Completing the bathroom is a black granite-topped vanity unit and large mirror, two towel rail rads and a Saniflo SN35 macerator toilet connected to a holding tank below the bed on the boat's centre-line.

CABIN

A 6ft 3in long double bed sits along the port side of the cabin. It has pull-out slats that allow it to be extended to five feet wide, but the owners have opted to stick with the standard width mattress and just use the slatting to ease this away from the gunwale to make more space for the person sleeping on that side.

The cabin has ample storage. A double width wardrobe sits across the rear bulkhead and has drawers below with hanging space above. A neat thoughtful touch is that the hanging space on one side extends lower to allow stowage of dresses and coats (one door has a dummy drawer front; the other a real drawer below it).

Overhead lockers along the length of the bed provide more stowage and, though the waste tank takes up under-bed space, there's enough room for more storage accessed via a door in the end of the bed base and from above by lifting out parts of the bed frame. Awkward, true, but a handy hide-away for rarely used items.



Finger power: the electric control is simply three buttons, speed up, slow down and stop



24 two-volt batteries have automatic gas discharge and topping up



TECHNICAL

First, the batteries. Exiting the cabin door one starts to step up toward the rear deck and immediately on the right is a small

‘Only the serrated cowling covers of the electric motor and drive belt give the game away’

compartment that will house a washing machine. More significantly, here too are housed 1092kg of batteries!

These are two-volt deep cycle units from PB Batteries totalling 875aH. They should allow a good ten hours cruising at reasonable speeds and would need the equivalent in diesel running time to recharge. They also provide the domestic on-board power.

They are proper deep-cycle batteries very different in construction to the ‘leisure’

batteries used in conventional narrowboats and with the correct charging and watering regime are said to be able to last at least ten years. For more detail on these, turn to our in-depth focus on the Hybrid Marine system on page 39.

Beyond the battery compartment lies the engine hole which looks pretty familiar in many respects with that Beta Greenline engine, a large hospital silencer tucked under the counter, Webasto heating boiler on the rear bulkhead and a lonely looking engine start battery.

Only the serrated cowling covers of the electric motor and drive belt give the game away. It sits above and behind the engine unit on its own steel frame. The driveline only has to accommodate the drive pulley so the unit needs little space and the engine sits in its normal position. An option, which the *Mongoose* does not have, is a clutch to disconnect the diesel engine from the driveline so it can spin without turning the prop if being used just for re-charging.

Charley Johnston feels it is not necessary – he wants his diesel engine to work efficiently by cruising-charging and doesn't intend to sit idling at banksides.

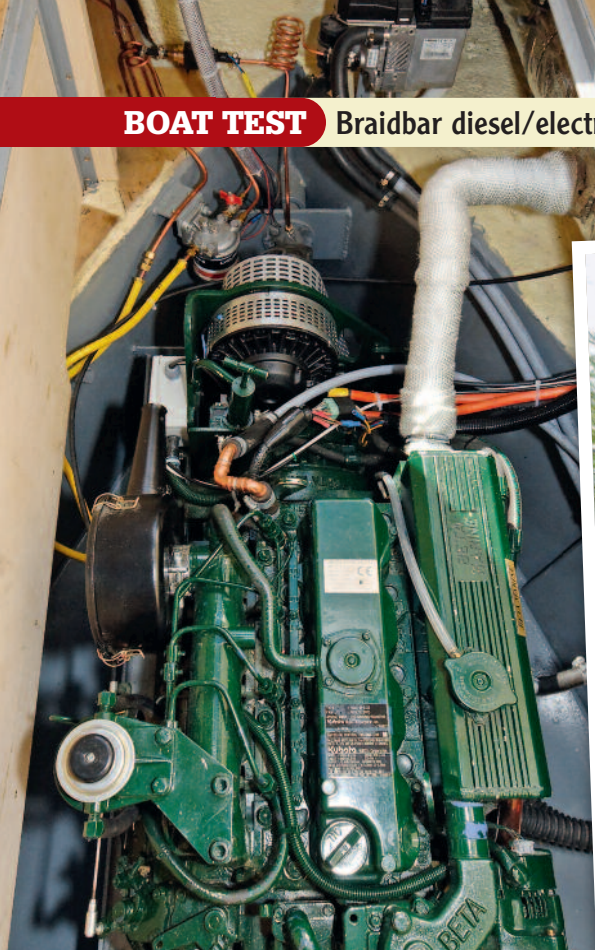
The electrical cupboard above the engine houses the Hybrid Marine electronic control box which regulates the system. As the motor is 48-volt, a Victron 48v Combi inverter charger is fitted to charge the battery system and to provide domestic AC needs. To drop the 48v down to 12v needed for domestic DC use there are two bespoke 48v to 12v converters. The DC Link Box seen in the photos houses the complex wiring connections for all this. ▶



Walk-through bathroom is neatly fitted out with good-sized shower



BOAT TEST Braidbar diesel/electric hybrid 60ft



Electric motor, identified by its serrated chrome covers, is just behind the Beta 43

ON THE WATER

Felonious Mongoose does everything a good narrowboat should do – but quietly. So quietly you can hear the scrape of the stern across the gravel of any shallows, or the sound of the prop cavitating when reversing hard. The motor is inaudible from outside the boat – good job there's a large klaxon horn – and from the helm just hums quietly. In fact



Electrical cupboard for 48v and hybrid control box

once sound deadening has been installed you won't even hear that. The loudest sound won't be the tick of the tick of the clock but the hybrid equivalent – the occasional hum of the control box computer cooling fan.

Driving the boat is simplicity itself: just press one button to increase revs and the other to decrease them. Tap, tap, tap on the button – the motor ramps up almost as quickly as that. To stop the motor touch the 'stop' button. If you want to reverse, stop the motor, then use the 'slow' button to begin ramping the speed up in reverse.

If that sounds complicated, it's not. It's simple, intuitive and quick to master.

CONCLUSION

Felonious Mongoose is a lovely boat. It looks terrific, is fitted out to the usual high, Braidbar standard and cruising silently along the cut is sublime. But what is the price of silence?

That's tricky to answer. The Hybrid is a £7.5k extra to a Beta 43, the batteries cost £5k plus the cost of enclosure, monitoring, topping up and battery case, the 48v to 12v converters are another £1000. Plus, a conventional equivalent boat could be two feet shorter.

In short, *Mongoose* cost £125,000; a 58ft to a similar specification would cost around £105,000. That's a big difference but Charley has a top-spec set-up and a basic system would be a lot cheaper – the Hybrid could work with just four 12v heavy duty deep-cycle batteries (costing £1000) and remember you will no longer need a high power domestic-side alternator or to consider a Travepower AC alternator or in-built marine generator on a boat with heavy electrical demand.

Then there's the diesel saving, the reduced engine hours that mean less maintenance and, by making use of charging points, increasing the cruising range fuelled by mains electricity which is a lot cheaper than diesel. Against all this is the key factor of battery life; if they don't last as long as predicted, costs rise sharply.

But all Charley Johnston wants is peace and quiet – and he is delighted with the result.

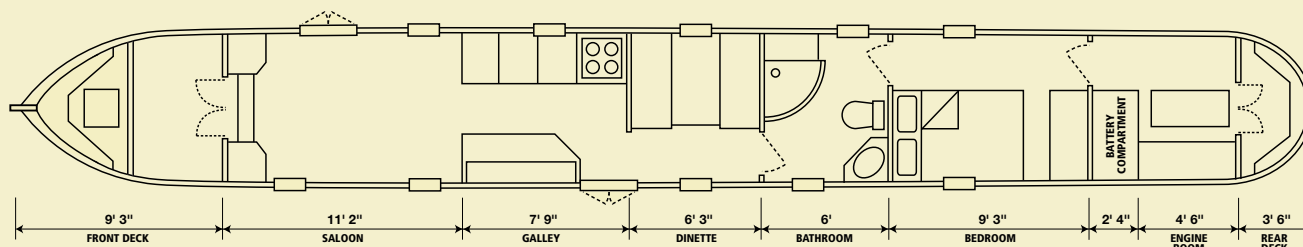
How the hybrid works – page 39. CB

TECHNICAL SPECIFICATIONS



Felonius Mongoose

£125,000



LENGTH	60ft
WIDTH	6ft 10in
SHELL	Tim Tyler
	Tel: 01142 786490
STYLE	Trad
FIT-OUT	Oak and ash

PAINTING	Andy Russell
	Tel: 01625 850853
ENGINE	Diesel/electric hybrid
	Beta Marine www.betamarine.co.uk
HYBRID MARINE	Tel: 01983 403236
	www.hybrid-marine.co.uk

BATTERIES	PB Batteries
	www.pbbatteries.com
ELECTRICS	
	Victron 48v Combi inverter/charger
	2 x 48v/12v converters
	www.victronenergy.com

Braidbar Boats Ltd
Lord Vernon's Wharf
Lyme Road, Higher Poynton
Cheshire SK12 1TH
Tel: 01625 873471
www.braidbarboats.co.uk

Verdict: 'A lovely boat with an interesting drive system that works well'