

BLUEWATER OR CANALS

The Hardy 42 twin-diesel motor cruiser is known as a brawny boat, but this new diesel-electric version is as suited to the canals of France as she is to the wide blue yonder

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Above: The interior helm position with the two Raymarine control screens





Above left: the saloon (the table lowers to form a double berth)



Above right: The aft cabin with ensuite heads

The Hardy 42 was designed by Andrew Wolstenholme and first went into production at Hardy Marine in North Walsham, Norfolk in 2000. When Hardy Marine's owner, Mark Funnel, died suddenly at the age of 49 in 2012, the Hardy range was taken on by neighbouring company Windboats Marine which had previously been building Oysters for thirty years and subsequently began producing Gunfleets. Windboats was due to mark its centenary in 2020 but the celebrations came to nothing when the company got into financial difficulties not helped by the emerging pandemic and the Gunfleet side of their operation. The company had no choice but to call in the administrators. Julian Weatherill had been working for Windboats since 2018 and after he met Dave Cockwell in June 2020, an agreement was reached for Cockwells Modern and Classic Boatbuilding to acquire the Hardy brand and tooling, and for Julian to join Cockwells as sales manager.

By this time, 30 Hardy 42s had been built, and the 31st was under construction for Paddy and Sue Spink who, Julian told me, were "retiring from a lifetime of sailing" having most recently had a Discovery 55 on which they had cruised extensively. "They wanted a boat to do the inland waterways of Europe, and the original brief was for a boat that could go up the Rhine, down the Danube, through the Mediterranean and then back up to France, spending three years doing that."

PROPULSION

Many of the features of the boat would be customised to allow them to achieve this, the main consideration being the propulsion systems. The standard Hardy 42 comes with twin Yanmar 440 diesel engines which give a top speed of 25 knots. "But the speed limit in a lot of the canals is just 4 or 5 knots," said Julian, "and it wouldn't do the standard engines any good to have them running at tickover for such a long time." So a diesel/electric hybrid system was considered, initially with a view to having a diesel engine on the centreline and a separate electric engine off to one side. But the owners were worried that the wing engine propeller would hinder manoeuvring and might foul the riverbanks, so it was decided that the boat would have an in-line hybrid drive. The system that was then installed consists of a single Yanmar 6LY 440 440hp diesel engine and a Fischer Panda 20kW 48-volt electric motor. The four-bladed, 18.5in (47cm) diameter propeller is powered either by

the diesel engine through a Yanmar KMH61A hydraulic gearbox, or by the electric engine which is connected to the propeller shaft by a belt drive.

The electric engine can be powered for a limited time by two 48-volt lithium-ion battery banks, but the system includes a Fischer Panda 48-volt 22-kilowatt generator that can directly run the electric engine, charge the battery banks, or both. The boat also has Vetus 48-volt bow and stern thrusters. The battery banks can, of course, be charged by shore power when it is available.

When the construction of the Spinks' new boat was transferred from Norfolk to Cornwall, the hull and deck mouldings were complete, the external stainless-steel fabrications were fitted, about 70 per cent of the joinery was made but not fitted, and the diesel and electric engines had been dry fitted but not permanently installed. By continuing the construction at Mylor, the boat greatly benefited from Cockwells' experience – gained while building dozens of Duchys and superyacht tenders in recent years – of fitting EmpirBus digital switching systems controlled and monitored on Raymarine touch screens, in this case at both the flybridge and interior helm positions. This not only allows control and monitoring of the two engines, but also of all the boat's other electrical and engineering systems. "And it does away with the aircraft cockpit style, overhead panel with all the various switches, controls and dials above the helm in the wheelhouse," said Julian, "and this makes the boat look very minimalist, which was the modern look that the owners wanted."

The lithium-ion battery banks also provide power to all of the boat's 220-volt AC domestic systems through three Mastervolt inverters (including the fridge freezer, the washing machine, oven, induction hob and air-conditioning); and to the 24-volt DC systems through a DC/DC converter.

The hybrid engine arrangement necessitated a rethink of the fuel tanks' positioning: the standard boat has a 1,700-litre stainless steel tank on the centreline above the two propeller shafts and this was substituted by port and starboard wing tanks with a total of 2,100 litre capacity. A sophisticated fuel transfer system allows the diesel engine and generator to feed from, and return to, either of the tanks and includes a WASP fuel polisher.

Another consideration with regard to the European canals was air draught. The Hardy 42 comes with a folding mast as standard but this would only reduce the air draft to 3.6m (11ft 10in), whereas the Spinks'



Above, L to R:
Electric engine
and drive belt
connected to the
prop shaft;
Lithium-ion
batteries; The
inverters

requirement was to get it down to 3.5 metres. This was achieved – in fact it ended up at 3.4 metres – by lowering the hinge point of the mast, by modifying the spray screens around the flybridge so that they can be removed or folded outboard, making the two flybridge seats removable, and by modifying the whole helm console so that it can hinge back on itself. All that may seem like a lot to do in preparation for going under a low bridge, but the whole process normally only takes two people about half an hour.

The standard Hardy 42 has a sliding door leading from each side deck into the saloon and helm area but the owners were keen to have an additional companionway between the aft deck and the saloon. This modification was designed in-house at Cockwells with the hardware being custom-made by Lewmar. “It’s one of those things that make you wonder why it was never done before,” said Julian, “because it’s the natural way to get between the saloon and the flybridge, and much safer in rough seas.”

SEA TRIALS

The new Hardy 42 was launched in May 2021 and christened *Mabel O*, and was then taken through a programme of extensive sea trials throughout the summer by both Cockwells and the owners. The boat consistently managed a top speed of just under 16 knots under diesel engine (but with the most economical speed being about 8 knots) and 6 knots under electric engine. “That suited the owners very nicely having come from a sailing boat in which more than 7 knots felt quite an achievement,” said Julian.

When the lithium-ion batteries drop to 20 per cent of total usable capacity, the generator automatically starts up and begins charging them. At 6 knots under electric engine, this happens after about an hour but at 4.5 knots, it is more like three hours. “And at 5 knots the generator can run the electric engine, keep the batteries topped up and still provide enough power to be doing all the cooking and washing,” said Julian.

Unfortunately, the world has changed somewhat since Paddy and Sue Spink first dreamed of spending three years cruising around the European canals. “The pandemic has made them a little bit wary as to where they were going to go with the boat,” said Julian, “and Brexit has also had a big impact because, although the

boat can stay in Europe for up to 18 months, they themselves can’t be there for more than 90 days.” As a result of this, they are now thinking that a better plan, for now at least, is to spend next summer cruising around the Baltic.

At the end of the summer, Cockwells exhibited *Mabel O* at the Southampton Boat Show which, Julian told me, “was very good for us – everyone could see that Hardy was back and in good hands.” This resulted in some very serious enquires for various boats in the Hardy range including the Hardy 42 and two 42 derivatives based on the same hull. These are the Hardy 40DS (deck saloon) which has no flybridge and no aft cabin, but has a large cockpit on the same level as the galley and saloon, with one step up at the forward end of the saloon to the helm position; and the 45, on which “we’ve modified the superstructure and given everything a bit of a lift,” said Julian. “We’ve gone to a radar arch instead of a radar mast which allows us to include a sliding, curved glass companionway from the saloon to the aft deck. We have also changed the side window profiles, including flush fit sliding side doors, and the interior styling has had a long overdue refresh.”

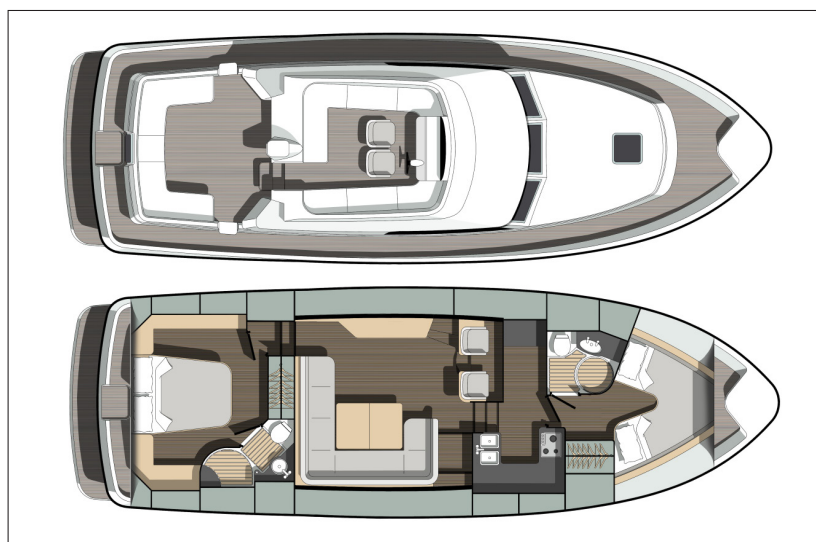
“But the Hardy 42 is still a popular, sought-after model even after 20 years so we are happy to keep building them,” he added, “and they’re all built to order so we can do whatever people want really.”

HARDY 42
LENGTH
46ft (14m)

BEAM
14ft 4in
(4.3m)

DRAUGHT
4ft (1.2m)

WEIGHT
13.8 tonnes



Mabel O's general arrangement

