WORK OUT or DAY OUT

Workboats don't make voyages, they make trips. As do we, most of the time. Nigel Sharp reviews the versatile versions of the proven Nelson 18.

With photographs by the author

In October 2021 a new company, Nelson Motor Yachts, was formed by Steve Brenner – who has been the Historian of the Nelson Owners' Club since its formation in 1984 and its Honorary Secretary for the last ten years – and time-served shipwright Andrew Oliver. The company's primary purpose is to build Nelson 18 motor boats which they are now doing in three different versions – Classic Cabin, Open/Workboat and Pilot House – each with options for three different propulsion systems: electric, diesel and hybrid.

The Nelson 18 originated as a clinker-planked wooden boat built by Keith Nelson & Co; a company founded by Keith Butt and Arthur Nelson Compton in the late 1950s. When John Askham joined them in 1961, one of his first tasks was to redesign the Nelson 18 for construction in GRP. These were then moulded initially by Halmatic and subsequently by Tyler Mouldings and fitted out by a variety of companies. Some early GRP boats had a variety of timber superstructures but later both moulding companies produced GRP superstructures to their own designs. Several hundred of the original Nelson 18s were built in this way and it is thought the last of them was produced in about 2011.

It took Steve a couple of years to acquire the Halmatic moulds for the Nelson 18. They were "lying on a farm and pretty much hidden under a pile of brambles". The hull mould was in reasonable condition, not least because its two parts were not properly joined together, so water couldn't collect. It was a different story with the deck mould. It was upside down and a moulding which had previously been laid up remained inside it. Water had crept between the mould and moulding and as a result both had osmosis. So the mould was discarded but the moulding was repaired and modified to allow a new mould to be taken off it.

Not least amongst the modifications were the addition of plinths on which to mount timber handrails and an upstand along the aft edge of the coachroof to deflect water and use as another handrail. Arthur Mursell of TT Boat Designs, the company which has done much of the design work for Nelsons over the years, was brought in to bring the design up to modern standards and to ensure compliance with the Recreational Craft Directive Category C for up to eight people. "Very few changes were necessary to enable the original design to pass these new rules," said Steve, "because the structure, as originally designed, is inherently very strong."

While the internal fit-out of previous Nelson 18s had

Facing page: *The Classic Cabin version of today's Nelson 18. The new range comes with the options of diesel or electric propulsion.*
Above: *The Classic's cabin has two berths with a chemical toilet hidden between them. The port berth can house a refrigerator.*

generally been in timber, a great deal of tooling work was carried out to use GRP to its best advantage in all three versions of the new boats. This included a grid of transverse floors and longitudinal girders fitted in the bilge – including the engine beds or battery supports according to the chosen propulsion system – and nine different mouldings for seats, berths, engine box and so on. However, if owners require it, wood trim can be added

The Classic Cabin version is a direct development of the Halmatic-built Nelson 18s but with redesigned windows to make them more pleasing from outside. There are two 6'6" (2m) berths in the cabin with a chemical toilet beneath their forward ends. In the middle of the cockpit there is an 'engine' box which houses one or more batteries for electric propulsion or a diesel engine. In future, crew comforts will be enhanced by the addition of a 45-litre compressor fridge built into the head of the port berth Although the aft end of the cabin is normally open to the cockpit, a bulkhead and door can be fitted and this would also allow the installation of wheel steering to replace the standard tiller. There is substantial D-shape fendering around the gunwales and as an option, traditional varnished timber badging can be fitted on the topsides and transom, although an alternative white cove line is offered for owners less keen on varnishing.

The first new version of the Nelson 18 which has now been developed is the Workboat, an open boat intended for use by marinas, harbour authorities, sailing clubs and the like. To allow for more heavy-duty usage, this boat has a GRP layup about 33% heavier than the Classic Cabin, including an extra laminate of woven rovings and there is additional fendering down the stem and diagonally across the topsides.

An open boat with a hull length of just 18' (5.5m) would not comply with RCD Cat C but the addition of a buoyant stern boarding platform to increase the length up to 19'8" (6.0m) solved the problem without too much fuss. This platform also provides additional benefits by allowing easier and safer boarding and disembarking. Although the Classic Cabin model doesn't require a platform from an RCD compliance point of view, it can be included for the boarding benefits.

The next new development is the Nelson 18 Pilot House. Also designed by Arthur Mursell, a great deal of thought has been given to the fore and aft position of the 'pilot house' – wheelhouse – itself. It was generally thought that on the earlier versions of the concept, the wheelhouse was too far aft. It has now been moved about 21" (0.5m) forward which not only provides more cockpit space but also means there is 6'6" (2m) of headroom all the way round the engine box and as far forward as the space between the heads of the berths.

Above: *The Classic Cabin version tested had one pod motor and a single battery which delivered a run time of 8 hours at 4 knots.*
Facing page: *The Workboat version, with twin pods and two batteries, gave the same figures but with more power in reserve.*

The deck plug and moulding work for the prototype Pilot House was underway at the time of my visit to Emsworth in September and the boat is due to be completed early 2026.

To date, Nelson Motor Yachts has completed twelve new Nelson 18s: nine Classic Cabins and three Open/Workboats. Of the twelve, five have been ordered with electric propulsion and the other seven have had diesel engines; no one has yet opted for the hybrid version.

For the electric propulsion systems, Nelsons are fitted with pod drives and 48-volt lithium batteries supplied by E-Propulsion. Each boat can be fitted with one or two 6kW Evo series pod drives and with one or two 8kWhr E-Series batteries. The electric or diesel decision needs to be made before the hull is moulded because the electric installation requires recesses in the moulding for each of the pods. For a single pod installation, the keel needs to be shortened at its aft end to provide space for the pod.

The electric-powered Classic Cabin which we tested has the simplest installation of one pod motor and one battery. At a speed of 4 knots, the boat uses 1kW of power per hour and so can run for 8 hours giving a range of 32 miles in tideless and still conditions. However, as with all things electric, at top speed – about 7 knots – run time and range are considerably reduced to around 1.2 hours and 8.4 miles. The batteries can be charged by plugging into any 16 amp marina supply, with a charge time of 5.5 hours if the battery is run down to 20% of its capacity. However "Many of the boats we have sold come back after a day's outing with at least 50% charge remaining," Steve tells me, "And that takes just 3.5 hours to charge." There is no reason why single pod boats should not have two batteries connected in parallel to double the run time and range but it will also, of course, double the charging time.

We also tested a Workboat which had two pods, with two batteries connected in parallel. This gives the same speed and range as a one pod/one battery installation but it does provide greater power when towing and, with contra-rotating propellers, far greater manoeuvrability. It's possible to fit a bow thruster to improve manoeuvrability still further and of the twelve boats, three owners have opted for this.

By comparison, for the diesel engine to provide a speed of 4 knots in slack conditions it needs to run at 1800 RPM at which the fuel consumption is one litre (1.8 pints) per hour, giving a range of 120 miles for the standard 30 litre (6.7 UK gallons) fuel tank. At 3600 RPM, it will give a speed of 7 knots and fuel consumption of 5 litres (1.13 UK gallons) per hour, resulting in a range of 42 miles.

Unlike road vehicles, both diesel and electric options are offered at the same prices: £39,985 for the Workboat; £45,840 for the Classic Cabin; and £49,835 for the Pilot House – all ex VAT. Steve explains: "The electrical components are more expensive to buy than the diesel engine and its ancillaries but it is quicker to fit a pod system than install a diesel and line up a conventional shaft." Clearly the range provided by a diesel is much greater than the electric versions, with the option of increasing it even more by carrying cans of spare fuel. But in most cases, this kind of boat is likely to be used for daytime trips in sheltered waters, in which case the range at modest speeds need not be an issue at all.

The more important consideration for the electric powered boats is charging the batteries. For boats normally moored in a marina with a reliable shore supply, it need not be a problem at all but for those on swinging moorings it is obviously more significant. Although they may occasionally moor alongside, they will have to do so for the sole purpose of recharging – and for several hours. Steve investigated installing solar panels on the coachroof of the Classic Cabin to charge engine batteries but came to the conclusion that "there is not enough space and in the UK, not enough sun to make it worthwhile". However, solar panels have been installed on a couple of boats for topping up the 12-volt systems which power the navigation lights, VHF radio and bilge pump etc.

But the electric boats do have two massive advantages over the diesel ones: they produce zero direct emissions and run almost completely silently to the extent that the predominant noise at any one time is likely to be the usually very pleasant sound of the Nelson's own wash. Such low noise levels will not only be beneficial for the people on board but they will also show consideration to people in surrounding craft, not to mention minimising disturbance to wildlife.

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