

# MOTORISING THE VOSPER MTB

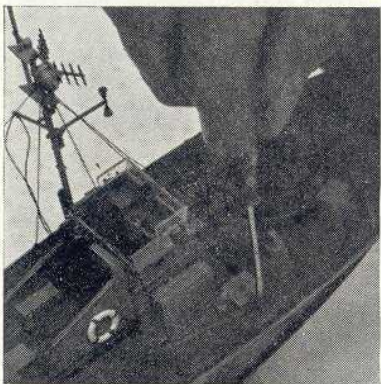
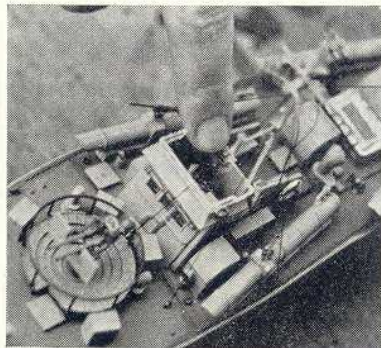
Bert Lamkin describes how to fit an electric motor into the new Airfix 1:72 scale kit

THE new Airfix kit of the Vosper MTB is a reasonably easy boat to motorise. The relatively flat bottomed hull providing plenty of space to fit motor, battery, etc. The conversion work is quite simple so a beginner could tackle this and still produce a reasonable model. All the parts used in this conversion are readily obtainable from most model shops and include items found in the average modellers' homes already.

Here is the list of parts: one small electric motor (a 1½ volt Japanese unit), one pencil type battery (an SP 7 or its equivalent), a 4 inch length of copper or brass tube (I used a piece supplied for point control on model railways), a piece of wire that will fit in the above tube, a short length of rubber tubing (bicycle valve tube or similar), some paper fasteners and wire paper clips, several elastic bands, a small compression spring that will fit over the shank of a paper fastener, some six inches of thin flex and, finally, a piece of 20 thou plastic card.

Start by assembling the hull; parts 6, 12, 14 and 15, not forgetting to fit the portholes, parts 1 to 11. Some care is needed when attaching the sides to get good joints at stem and stern. Fitting the deck in place without cement, in conjunction with elastic bands round the hull, will keep things in place while the cement between the sides and hull dries; a long band round stem and transom will take care of vertical joins. Let this set

**Below:** The completed model showing position of on/off switch in the bridge. **Bottom:** Showing screw fixing points in deck.



Vosper MTB number 382. Note canvas covers over torpedo tubes. Can any reader give us any information on this particular ship?

thoroughly before continuing with any more work as if this is disturbed before it is fully set you will not have a watertight hull and the camber will be incorrect.

The model, like the prototype, has three screws or propellers, but with this conversion only the centre one will be energised. The outer plastic shafts, parts 167 and 169, are fitted to show the angle required for the new unit and they will also protect the propeller.

The vertical portion of the centre shaft is used to support the metal tube, which is 3¼ inches long, see Diagram A, a small hole is drilled where the tube will enter the hull and a round file used to open it to the required angle, aiming for a good fit. The inboard end of the tube is held in place by plastic card drilled and shaped as in Diagram B.

For all the plastic to metal joins involved in this conversion I found Humbrol's new epoxy adhesive useful as it is easy to apply and dries in minutes, allowing you to get on with any further work quite quickly.

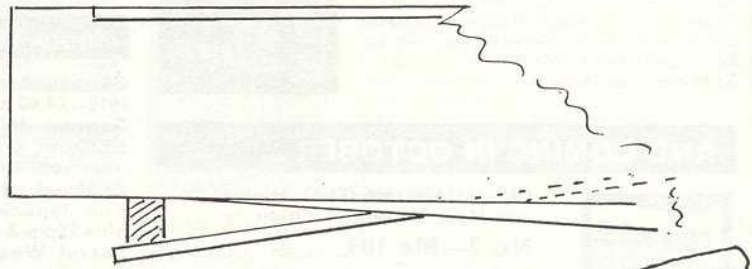


Diagram A: showing how vertical portion of centre shaft is used to support the metal tube (see text).

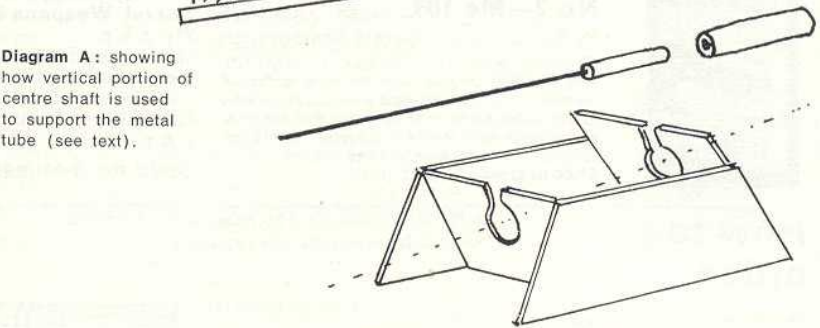


Diagram C: motor mount from plastic card (see text).

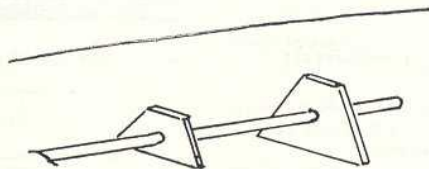
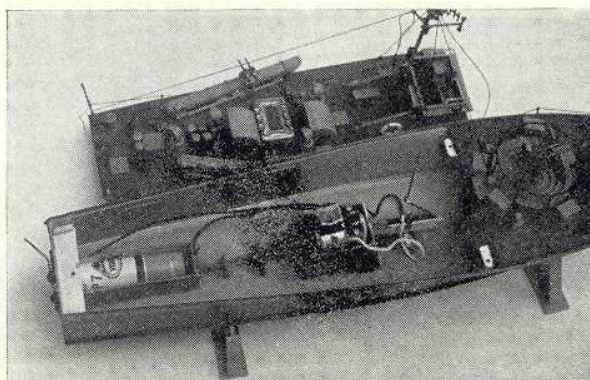
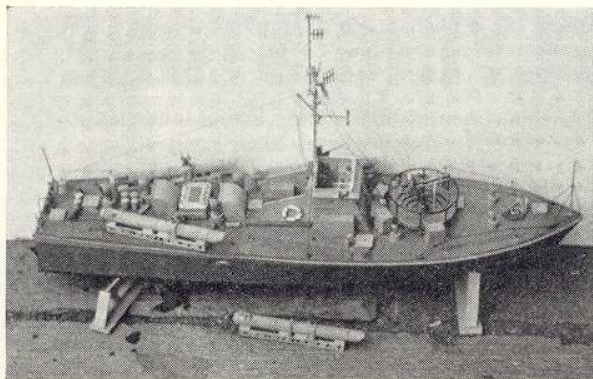
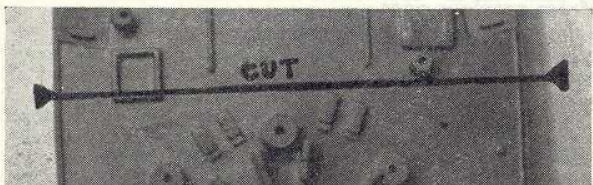


Diagram B: inboard end of tube held in place with plastic card.



**Above left:** The completed model with starboard torpedo tube removed, giving access to the screw in the decking. **Above:** The model with rear decking removed to show motor assembly.

Before fitting the wire shaft into the tube, solder a piece of the same tube, about  $\frac{1}{2}$  inch long, on to one end, this will then provide a grip for the flexible coupling. After making sure that this is quite straight, slip the shaft through the tube and, allowing enough to go through the propeller boss, cut off any surplus length. I used a propeller from the kit after cleaning up any slight burrs and roughness from the blades, with a tiny hole drilled through the centre of the boss. This must be a tight fit on the shaft so glue into place close to the end of the tube. A smear of grease like Vaseline on the shaft before insertion will lubricate the gland and act as a water seal. The shaft should rotate freely



The Vosper deck showing saw line to make removable stern portion. Care is needed to ensure an even break.

without excessive end play as it is now balanced by the propeller at one end and the coupling collar at the other.

The next stage is to construct the motor mount, this is from plastic card and designed to hold the motor with its spindle in line with the propeller shaft with about an  $\frac{1}{8}$  inch gap between them. Diagram C shows the general idea. With the mounting in position and the cement dry, the motor can be installed, slipping the coupling, the rubber tube, on to both shafts in the process.

I should mention here that with only one propeller this Vosper will not be so speedy as the prototype; it is quite rapid nevertheless and looks good when actually sailing. If all three screws in action are required, then a small transmission unit will have to be made and will rather complicate matters, although this can

be done. The aim here is to keep the model fairly simple and I would suggest that only someone with some experience of this sort of work should try it.

Four pieces of plastic card, cemented to the hull, as in Diagram D, will retain the battery. The contacts are paper fasteners, a small compression spring under the head of one will ensure a good connection and allow the battery to be changed easily.

With the propeller fitted, it is a good idea to assemble the stand, parts 16 to 19. Join the two sections together with a piece of scrap plastic then an elastic band will hold the boat and work can proceed without damaging the propeller and shaft.

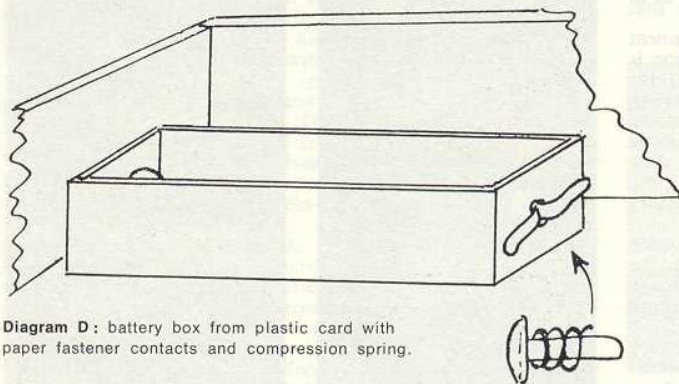
At this stage it is advisable to seal the exhaust ports with thin plastic to prevent water getting in when the boat is afloat. A spot of flat black paint on the outer face will preserve the appearance of this without detracting from the model.

The last item in this section is the starter switch. The arrangement I have used for this particular boat is shown in Diagram E, and is quite a simple device to produce. A small elastic band stretched between the operating rod, made from a wire paper clip, and the pivot, retains the switch arm in either the off or on position.

The entire assembly can now be wired, the switch is in series with one motor lead, the other goes direct to the battery, a light quick touch with the soldering iron here will give good joints without damaging the plastic. Now try a dry run to make sure the screw rotates freely. If this is all right then a water test should be carried out to ensure the hull is watertight. The normal trim of the MTB lifts the stem well up and the rear-mounted battery does likewise for the model.

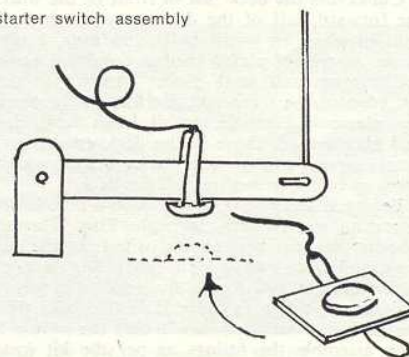
The next stage is to provide some steering and this entails a slight departure from the original craft. There are two methods that can be tried, one using the two outer rudders, parts 173 and

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**Diagram D:** battery box from plastic card with paper fastener contacts and compression spring.

**Diagram E:** starter switch assembly (see above).



175, or a mounting on the transom can be fitted to carry a single rudder.

With the first idea the rudders are given a new pivot, an ordinary pin epoxied to the leading edge and a plastic extension from the dummy shafts to provide the lower pivot hole. Keep this on the tight side so as to retain the rudder in position. The pin is trimmed to fit the recess in the hull rather than stuck through it as this would cause unnecessary complications and need extra work to keep the boat watertight.

If you decide to use the single rudder as I have done, a wire paper clip will provide pivot and tiller; open this and straighten out and attach the rudder to the clip using the epoxy adhesive. Then cut two small triangles of plastic card and drill through them to take the clip, then cement them about 1/4 inch apart on the centre line of the transom, the lower one level with the bottom of the hull. When all the joints are set, the clip can be slipped into position. If it is too loose and drops away, cement a small washer, scrap plastic will do for this, above the top bracket to hold it in position.

This clip and the one controlling the switch will be bent and trimmed when the deck is in place.

In view of the fact that the Vosper's deck is pretty well cluttered with fittings, I decided to make half the deck detachable for access to the engine and battery, instead of just a hatch as in previous conversions I have detailed in this magazine.

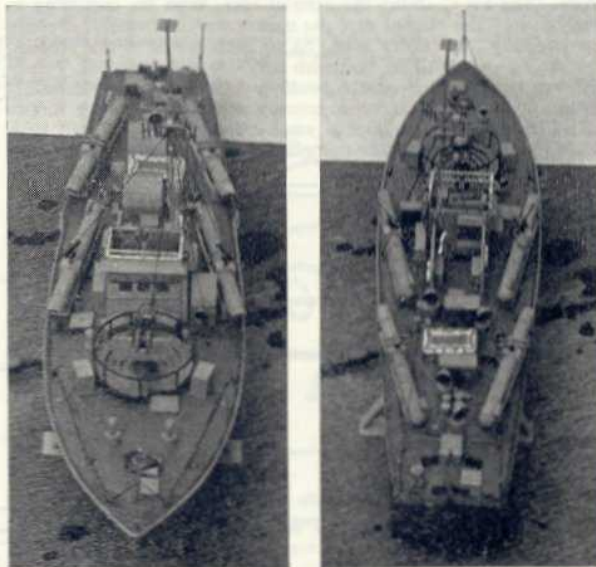
Cut across the deck just in front of the wheelhouse and cement the forward half of the decking to the hull. The rear section is held in place by small bolts and nuts, I used 10 BA size for these. A strip of plastic card is cemented across the hull close to the transom and small pieces attached to the underside of the cut edge of the front section, these were placed each side above the rearmost porthole. Small holes were drilled through deck and plastic card, those in the deck opened to clear the bolt, the others tapped 10 BA; thus we have a three point fixing, necessary because of the curvature of the deck.

Before attaching the rear portion a hole is needed for the switch operating rod to pass through. This is arranged to be in the wheelhouse near the steering wheel, so the hole will go through deck and floor. As the superstructure is not yet fitted, careful measurements will locate the spot, the wire clip acting as rod will need bending to bring it in line with this hole. Now attach the deck and satisfy yourself that the switch functions correctly, then assemble the fittings as per the kit instructions, the front

torpedo tubes detachable to give access to the deck screws. Finally, if the single rudder has been fitted, the wire is bent at right angles to act as a tiller.

When rigging the boat, it will be found that the anchor rings for the front mast stays are on the front section of the deck; this will hinder the removal of the rear deck so they need to be re-sited nearer the wheelhouse. For rigging, cotton, stretched sprue or nylon fishing line can be used. If the latter, use flat paint to kill the shine. All painting should be carried out during assembly to avoid awkward corners. The figures that come with this kit have not been included as they would tend to hamper operation of the control switch and are easily knocked off when handling the boat during sailing.

*Two more views of the completed model. Crew figures have been omitted from the bridge to give access to the on/off switch.*



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