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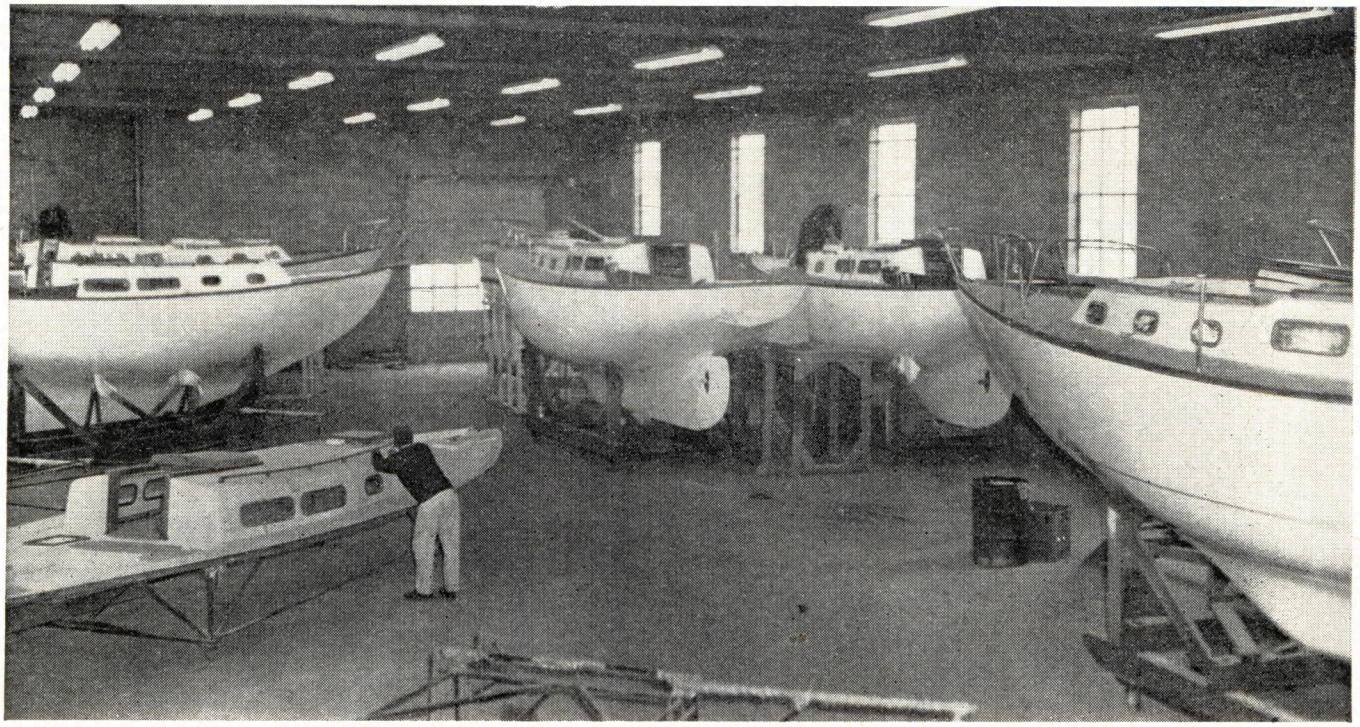


Seawind 30s (left) and Seabreeze 35s (right) in the fitting out bay. Note deck assembly with woodwork and windows in place.

MODERN BOATBUILDING

TREVOR KIRBY reports on the production techniques used by the Allied Boat Company Inc. in New York State. Good shop lay-out and the right equipment is most important.

BOATBUILDING in fibreglass bears little resemblance to the traditional methods that are used for orthodox wooden construction. Only eight or nine years ago the all fibreglass sailing cruiser was a real rarity, but in this short time the new material has established itself as a first choice where series mass-production methods are required.

In the early days a great many builders—who had been working in wood up to this time—made the drastic mistake of trying to adapt traditional boatbuilding techniques for use with fibreglass. Not only is it important that fibreglass construction be engineered in its own right, but modification of old building methods completely stifle the natural suitability of the material to series production.

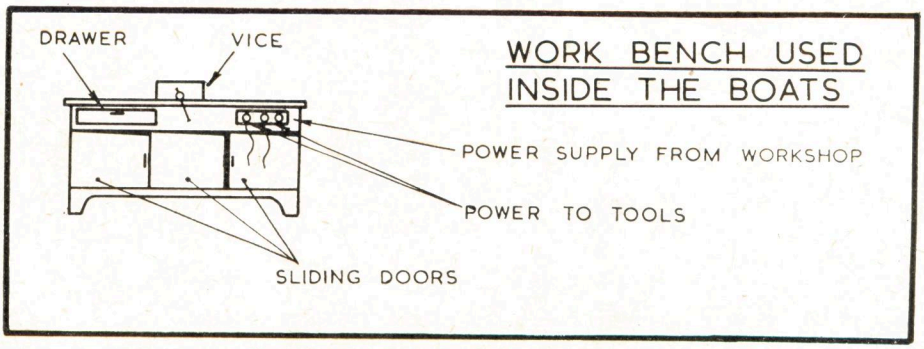
Old building traditions die hard, but the one aim of every boatyard must be to make a reasonable profit while turning out a really satisfactory product for a fair price—the price must be fair to both the purchaser *and* the boatbuilder. There is no point at all in the builder producing 500 boats per year and later finding that he is, in fact, losing pounds on each one!

Earlier in the year I had an opportunity to visit the Allied Boat Company Inc. of Catskill, New York State. Very kindly the company showed me over their plant which turned out a completed 30 ft. Seawind or 35 ft. Seabreeze auxiliary cruiser every week.

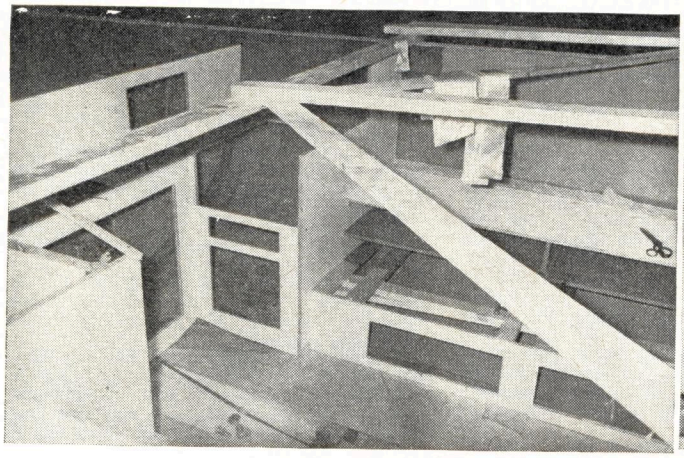
In the old days of traditional wooden construction there was little choice but to bring all materials and separate items of joinery to the boat. In the up to date fibreglass boat factory, however, the boat itself passes from the moulding shop where the hull and deck and any sub-mouldings are born, to the departments responsible for each stage in the assembly. Each man, or small team of men, is responsible for one section of the work. Repetition helps to iron out assembly snags and also cuts down man-hours.

In the sketch plan of the plant it is clear that the moulding shops and the machine and carpentry shops are both separated from the main assembly section while being easily accessible to this part of the works.

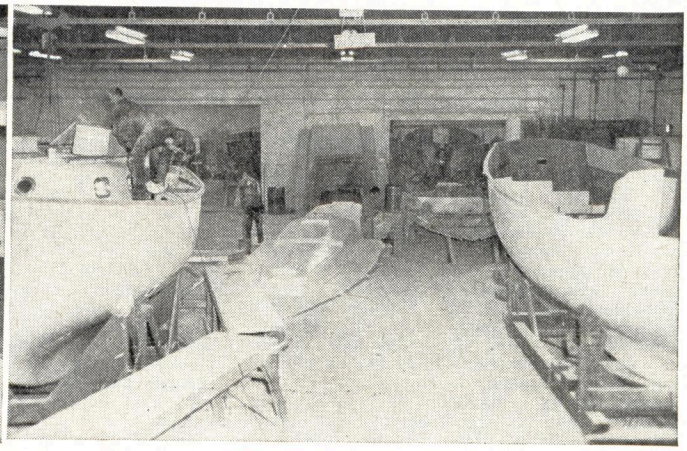
The boats which are shown in the photographs are based upon fibreglass deck and hull mouldings, but all bulk-



These neat carpenter's benches are used aboard each boat before the deck is put on. They are removed once all the interior joinery has been completed.



Simple wooden jigs are placed on each bare shell to help position the bulkheads. In the boat the bulkheads and interior sub-structures are plywood and glass taped to the hull.



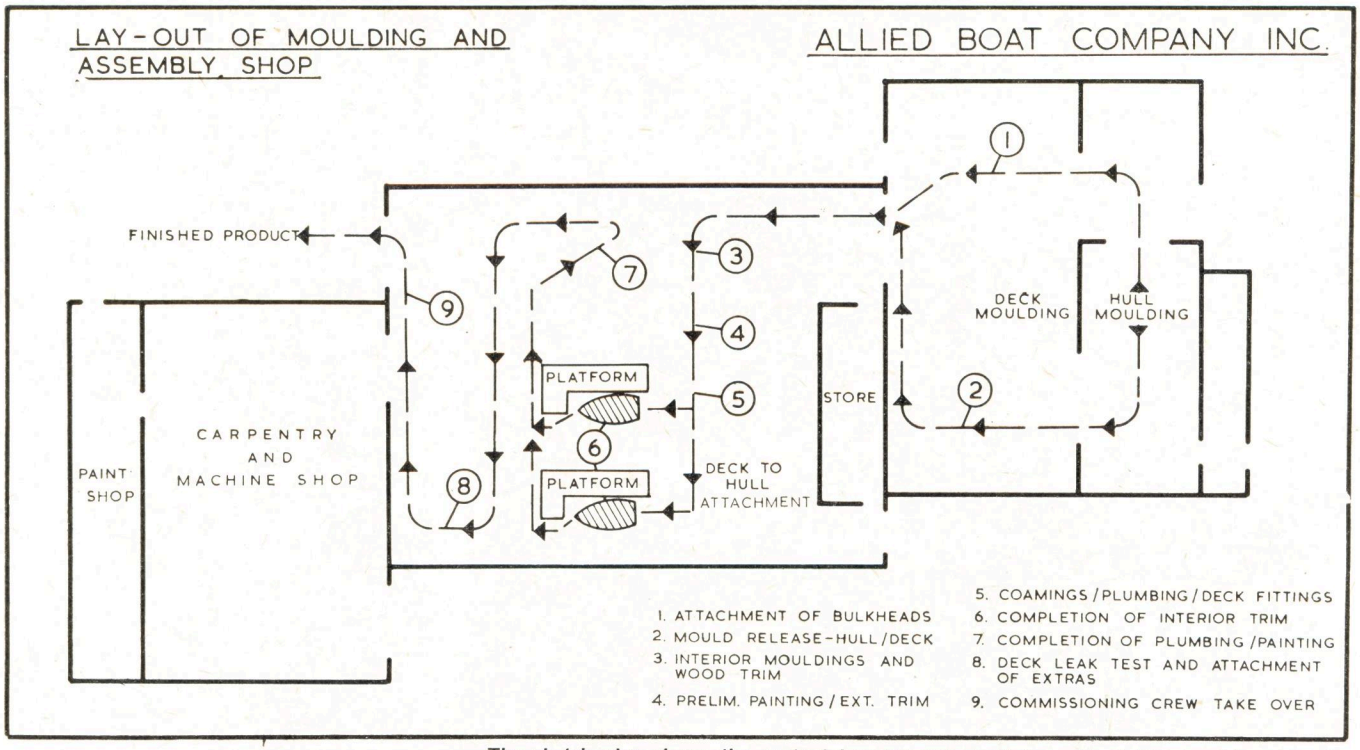
Having been released from the split mould the hull shells are fitted into castor-mounted cradles so that they may be easily moved to the required department in the assembly shop.

heads and interior work are in wood. Most of the interior joinery is dropped in place as a semi-completed unit, even better results are possible where the interior arrangement consists of the minimum number of sub-mouldings. Some boats currently in production in Britain consist of little more than four mouldings including hull and deck and a number of easily fitted wooden locker lids and drawers!

The secret of the Allied Boatbuilding Company's efficiency is simply that they are highly organised and from the moment that the boat is first ordered by the customer, its progress is closely and accurately controlled by written instruction sheets. Everything is run to a tight schedule and the works manager keeps right up to date with progress throughout the factory by means of an "operations map". Any hold-up immediately becomes apparent and the boat affected is removed from the main stream until the matter causing the delay has been rectified. In this way the rest of the production is hindered as little as possible.

After the hull has been moulded and allowed to cure it is removed from its split mould and craned on to a castor-mounted cradle. From now on every effort is made to fit the minimum number of completely finished sub-assemblies. The interior joinery is painted and varnished where possible before being put into the boat and the deck moulding is fitted complete with its windows, wooden grab rails, fittings and coamings.

One useful point I noticed was the small work box that travelled round the factory in each hull until the time came to fit the deck. This provided a handy vice and power take-off points for electric drills. These saved a great deal of clambering in and out of the boats for tools and power leads.



The sketch plan shows the route taken by each boat from the initial mouldings to the completed job ready for delivery. Note how the moulding shops and those dealing with joinery and machining are kept well separate from the department dealing with assembly. This plant turns out one complete 30 or 35 footer every week.