



## SWORDFISH

|               |                 |
|---------------|-----------------|
| LENGTH        | 15 foot         |
| BEAM          | 5 foot          |
| WEIGHT        | 875 lbs.        |
| DRAUGHT       | 5 Foot          |
| SAIL AREA     | 130 square feet |
| RIG           | Bermudan        |
| HULL MATERIAL | Hot Moulded ply |
| DESIGNER      | Uffa Fox 1946   |





Errata:

-219 were built, not 2015

- the Albacore actually had a smaller sail than the Swordfish & had no spinnaker, being a more family-friendly boat; as far as we know it was never called a National 15

## HISTORY OF THE CLASS

The Swordfish was designed by the world famous yacht and boat designer Uffa Fox. In WW11 Uffa fox had designed lightweight lifeboats that could be flown over and dropped for the crews of planes that had been shot down over the sea. He was also a prolific designer of other boats with military use and a string of highly successful yachts and motor boats. Uffa used the technology that had been developed for early aircraft made of wood and applied it boat design. He worked with the aircraft manufacturers Fairey, who after WW11 turned to making fast wooden motor launches for both private and government uses. Uffa collaborated with the design team at Fairey Marine on the Hamble river in Hampshire, to develop a lightweight sailing dinghy using the same method of hull construction. In 1946 she was the official National class boat at the 15 foot length, only 2015 were built by Faireys and a further 4 by Davies Brothers. The boat did not sell as well as Fairey's expected and production ceased. A further development of the hull Known as the *Albacore*, replaced the Swordfish on the production line. The Albacore was a slight improvement of same the design that enabled her to carry more sail. In 1963 the Albacore also became the National 15 class- boat replacing the Swordfish.





## CONSTRUCTION

The first hulls were built from birch plywood and were painted battleship grey (presumably war surplus). Later hulls were built using Agba veneer and the paint persisted. It was these early owners who scraped off the paint and applied their own varnish. Fairey Marine quickly followed suit and the early beautiful Swordfish emerged.

The hot moulding process was an adaptation to post war boat building of the method originally developed by de Havillands in the 1930s for "stressed skin" wooden aircraft production, using layers of thin birch plywood sandwiched together with glue over a male mould and "cooked" in a large oven called an "autoclave". By using true mass-production techniques, Fairey Marine were able to turn out vast numbers of identical boats at an unprecedented quality and price. Moulds were constructed from spruce, built up on a steel base plate. Seven by three inches planks cut to the waterplane sections provided the starting point. Working from the sheerline, the planks were built up in a series of steps, arriving quickly at a close representation of the designed shape. Subsequent fairing yielded finished dimensions. Rebates for the keel, stem and transom completed the mould building process. Although the veneers used to produce Fairey boats may appear to be parallel sided, every one was in fact profiled. Rather than shaping each veneer to fit on the mould, as in traditional boat building, Faireys saved an enormous amount of time by sawing complete sets of veneers to precision patterns. Veneers were produced in stacks of six. Boats were then typically built in batches of 24 or 36. Early boats used 1/8" spruce ply, surplus to the War Department's de Havilland Mosquito aircraft programme. When this material became unavailable it was replaced by 3 layers of 2.5 mm agba veneers. Chosen for its high gum content, agba formed easily without splitting and glued well. Initially all the veneers were laid at 45° while later boats changed to fore and aft outer planking for aesthetic reasons. With the keel, stem and transom in place, veneers were applied starting on the centreline and working out towards the shear. Each veneer was held in place by just three staples at the keel, bilge and sheerline. Roller-application of Borden One-Shot waterproof glue preceded each veneer except the first. With all veneers in place a vacuum bag was drawn over the moulding and secured in place using a clamp plate and G-clamps. Early vacuum bags were made from war surplus barrage balloon fabric. After about 1950, individual rubber bags were prepared on the moulds using uncured rubber sheets which were subsequently vulcanised in the autoclaves used for production.