

Basic Detail Report



Nautilus II

Vessel number

HV000078

Date

1912

Primary Maker

H Maumill

Description

NAUTILUS II was built in Melbourne in 1912 for successful businessmen brothers Fred and Percy Cornwell who had a pottery manufacturing business in Melbourne. They were also keen motor car enthusiasts. Separate references to the builder for NAUTILUS II cite either H Maumill or Jas. Edwards as the builder, but the references place both builders at Princes Bridge on the Yarra. An earlier reference to Maumill notes that he built an 'oil launch' or motor boat in Sydney in 1904 called DAWMEA, designed by the innovative Australian naval architect Walter Reeks. It is possible that he moved to Victoria and later built NAUTILUS II at the Jas. Edwards rowing shell and skiff boatbuilding yard, which was at Princes Bridge on the Yarra River. The design is shaped along the lines of an American Fauber type multi-stepped configuration from the same period. It seems likely that the design was sourced from the USA, otherwise it is an exceptionally accurate copy of the type. The steps are orientated across the vee-sectioned bottom from chine to keel, and the six steps are arranged to span almost two-thirds of the hull length forward from the transom. The profile view clearly shows a serrated profile of short vertical steps. Modern understanding of the high speed design principles show that the steps work in two ways. A normal planing hull has its lift concentrated toward the leading edged of the immersed hull area as it planes. With a stepped hull the lift is spread out over each step. At the same time air is channelled in under the hull through the open sides and in NAUTILUS II's case also through vent pipes in the bottom and this reduces wetted surface friction. There is potential for increased lift and reduced surface area drag, but the steps do increase the form drag from the shape of the hull. At certain speeds there would be a benefit from the steps, and the idea has remained in use for many years as designers experiment to find the right number, depth and angle for the steps. The stepped hull shape was not an easy thing to build compared to a normal hull bottom with its full run for the planking. The steps added weight and broke up the continuity of the planking and this contributed to a loss of strength in some boats. NAUTILUS II however has remained in good condition and true to its intriguing shape. It has two very large girders running almost the full length of the hull on the inside, and has closely spaced frames throughout the bottom. The steps are double planked. They were modified after the first EC Griffith Cup win and its performance was improved. This was picked up in a description of NAUTILUS II in a 13 January 1915 Newspaper article: "She was originally built with a double skin of King Billy pine, but the bottom has since been replaced with one of double diagonal cedar, which has made a much more satisfactory job. Planes- there are two 2in tubes at each of these, feeding air under

the bottom to relieve the enormous suction created by the planes at such high speed.” In 1914 and then again in 1915 NAUTILUS II won the nationally contested EC Griffith Cup for the Australasian Championship. It was widely reported in the press and large crowds lined the foreshores to watch Fred Cornwell drive NAUTILUS II to win these events in Sydney and Melbourne. At this time it raced with its first engine, a Napier six cylinder petrol motor developing 90 kw (120 hp). This engine was from a world land speed record holding car that had achieved 104 mph (over 160 kph). The first win in 1914 was against its primary competition from NSW, METEOR II, owned by Chas Relph. This was the famous BRAZIER- DESPAJOLS from Monaco, brought to Australia in 1909 by Anthony Hordern and renamed KANGAROO. This single stepped hull with a 140 hp engine had won the EC Griffith Shield three times, securing that trophy permanently. Griffith then donated the new cup as a trophy, and KANGAROO won the first EC Griffith Cup event in early 1913. 1914 was the second running of the event for the Cup, and Relph campaigned his recently bought KANGAROO as METEOR II, winning the NSW and Victorian Championships in the lead up to the main event, which was held on Sydney Harbour early in 1914. NAUTILUS II was shipped to Sydney, and most of the team went by ship while Percy Cornwell motored there in his Mercedes car. The course was set from Rose Bay to Manly and return. Chas Relph was unwell and had to pass over driving METEOR II to a colleague and co-driver. METEOR II won the first heat by a close margin. It then suffered engine trouble before the second heat. The Cornwells sportingly did not start at the prescribed time, and waited behind the line as long as the officials would allow them to give METEOR II time to rectify the problem. This returned the same sportsmanship offered by Relph a few weeks earlier when he held METEOR back as long as he could from the start of a race in Victoria when NAUTILUS had engine problems of its own. Eventually the race officials directed NAUTILUS II to start, and then awarded them the race shortly after as the only starter. In the third race NAUTILUS II built up a substantial lead on the first leg to Manly, and METEOR II could only peg back a minute on the return to Rose Bay. Race reports described the start as follows: “As the boats crossed the line, METEOR II was not even “planing.” NAUTILUS II, on the other hand, went away as she always did, like a shot from cannon, and was “right out to it” in a smother of spray in a hundred yards. At Steel Point she had shown a clean pair of heels to the local craft, and the result of the race was a foregone conclusion. The big six-cylinder engine of NAUTILUS II ran with clock-like regularity. The craft sped over the smooth surface of the water at 33 miles an hour as steadily as if the upturned bow was suspended from above by invisible wires. The regular pulsations of her engines, and high-pitched note of her transmission gears, could be heard three miles away, and as she came out of the mists from Manly, made a graceful curve round the mark boat, and was away again on the last lap before the fiddle like hull of the now beaten METEOR II came into view. But the local boat was game to the last. Probably some obstruction cleared from the fuel line; probably the magneto delivered a more even spark, but once round the mark boat her four cylinders belched fire in earnest and the frail hull quivered as three-quarters of her length were lifted clear of the water, and held there by the force of her propeller. The effort, however, had come too late.” NAUTILUS II held its big lead to the finish and with two wins NAUTILUS II, driven by Fred Cornwell while Percy controlled the engine, was declared the winner. As noted in a separate report: “The Victorian boat greatly pleased the spectator by the beautiful way in which she slipped through the water and she was handled splendidly.” The second win in Victorian waters off St Kilda took NAUTILUS II only two heats. With new owners METEOR II reverted to her name KANGAROO and came down as the principal competition again, but was plagued with engine problems early in the first race and did not start in the second. The

main competitor was MILLAWA from SA, and although having less power was a speedy craft driven well by its owner G McFarlane. MILLAWA started perfectly in heat one with a narrow margin over NAUTILUS II, but the champion quickly overtook the SA boat and went on to win by six minutes. In the second heat MILLAWA again started right on the last ball, while NAUTILUS II was over four minutes late crossing the line. It took off in pursuit and all could see it gradually making up the lost ground, eventually passing MILLAWA to win and retain the championship. "....and the excitement of the concourse of people who had assembled was stirred when Mr Cornwell's NAUTILUS II volleyed across the line to the accompaniment of a vociferous outburst of cheers. NAUTILUS has proved herself a reliable boat and Messrs Fred and Percy Cornwall are to be congratulated on their fine performance and team work." The start was an exciting affair- FIRST HEAT- 2.45PM "The Blue Peter was hoisted on the starter's boat (KATANDRA) five minutes before the start, and found the five contestants cruising slowly round and round all ready like hounds in leash. Four black balls were released, one every 15 seconds. As the last ball dropped MILLAWA (SA) was first across the line, followed by NAUTILUS (Vic.) two seconds later; then came VANISH (Vic.), followed in quick succession by KANGAROO (N.S.W.) and Katie B. (Vic.) close after her. MILLAWA was quickly overhauled by NAUTILUS, who, with KANGAROO at her heels soon left the others far astern. Then commenced a desperate fight for supremacy. NAUTILUS, with 100 yards lead, held her speedy rival for three-quarters of a lap when KANGAROO's pace started to die away." SECOND HEAT, 4 P.M. The race opened with an uneven start. KANGAROO could not get away at all in this heat owing to magneto trouble. Perfectly handled MILLAWA again crossed the line the instant the last ball fell, followed by KATIE B. NAUTILUS appeared on the line 4min. 40sec. late, closely followed by VANISH, who had circulating water trouble for a while. MILLAWA was by this time driving and smashing her way off Port Melbourne, appearing but a speck in the distance. With this big handicap to make up, the redoubtable champion, with the power of her 120 h.p. engines driving her at close on 40 m.p.h., thundered across the line and was immediately seen to be fast overhauling the disappearing speeders ahead. The end took place on the second leg of the last lap." Motor boat racing was now a significant spectator too, judging by this short report that just made it into the press after the racing took place. "POPULARITY OF EVENT How popular the event was, and also how rapidly motor boating is advancing in the estimation of people was evident from the large concourse of people, who gathered on St. Kilda pier, and the shore, and were rewarded with a magnificent and exciting race." NAUTILUS II raced again in 1916, but the SA hydroplane TORTOISE II driven by the Rymill Bros was the winner and took the cup to SA for the first time. NAUTILUS II was leading the first heat when it stopped with engine failure and when KANGAROO succumbed as well, TORTOISE went on to win. TORTOISE then raced the full course alone for the second heat, and was declared overall winner. After the First World War NAUTILUS II was given a new engine in 1919, a Sturtevant aircraft petrol engine. Its story from here remains not well documented, but it managed to stay in use and is understood to have had an outboard fitted, but how this was managed remains unclear. In the 1990s it was discovered by Geoff Dougall, stored in a shed at Williamstown. He had been looking at another craft when he noticed a craft under covers that looked familiar, it was NAUTILUS II. Recognising its importance he was instrumental in organising for the boat to be given to the National Trust of Australia's Victorian division, and for many years it was on display at the Polly Woodside Maritime Museum. The hull was still the double-planked pine topsides and cedar bottom construction from its early days, and the old steering support fittings were on the bevelled transom, but a new plywood deck was in place. There was no engine, but the original internal

structure remained in place, included the 2 inch diameter vents. In 2010 it was acquired by the Australian National Maritime Museum for the National Maritime Collection, joining a number of other high speed motor craft that tell the story of motor boat racing in Australia.

Dimensions

Vessel Dimensions: 7.6 m x 1.52 m (24.94 ft x 4.99 ft) 600kgs