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## **Port Kembla - Hart Marine editorial for Australian Ports News**

Kestrel takes off at Port Kembla

Sydney Ports Corporation took delivery of the Kestrel a new state-of-the-art pilot boat at Port Kembla on October 1, 2014.

The vessel, a Pantocarene-designed 15.6m HM ORC 15.6HR5 fast pilot boat, had been built for the client by Hart Marine at their yard in Melbourne. According to Hart Marine General Manager Graeme Taylor, the vessel is the latest and best of a string of pilot boats built at the yard for clients across Australia.

"The ORC pilot boats we have built over the years have been carving out a reputation for reliability, comfort and seaworthiness among their users and operators and, with the Kestrel, we have surpassed ourselves in reducing cabin noise by a further 3Db to a comfortable 68Db which, together with the resiliently mounted cabin, leads to unparalleled levels of operator comfort," Mr Taylor said.

Construction of the Kestrel began in November 2013 and she was launched in Melbourne on September 8, 2014. Then followed a rigorous program of sea trials including testing maximum, cruising and transfer speeds and to certify fuel consumption. In addition, the vessel's compasses were swung and she was subjected to a crash stop and steering test.

One of the most important tests was to check her stability curve to ensure that she will self-right if that is ever required. The tests were conducted by Hart Marine experts, including Mr Taylor, who were then joined by the coxswains who will pilot the vessel at Port Kembla for the delivery journey north from Melbourne.

Kestrel was designed to incorporate exceptional levels of usability and safety even in the most extreme conditions. She is surveyed to carry two crew and six pilots and is fully self-righting in the event she ever capsizes. The wheelhouse is well thought out with comfortable seating for 6 persons and a command chair and station amidships with excellent all-round vision. Olectric Systems supplied the Furuno electronics package including radar, echo sounder and plotter and Icom radios – all sited in a central console with everything being convenient and at hand for the coxswain.

The vessel has a cabin with forward-sloping windows to minimise heat transmission to the cabin interior. She is equipped with substantial Trelleborg fendering around her hull, as well as cabin-mounted grab rails and everything required for the safe and speedy exchange of personnel between the boat and large vessels underway.

Safety equipment was supplied by RFD and includes a six-person RFD life raft sited to port on the aft deck. The vessel was equipped with another potentially life-saving piece of equipment in the form of a forward-looking infrared (FLIR) camera which is able to detect the heat given off by human beings and track their position in the sea, making it possible for her to recover them from the stern-mounted MOB platform.

The vessel is powered by twin C18 700hp Caterpillar diesel motors delivering power to two Mikado 750mm propellers through remote-mount MGX5135A gear boxes. These will give Kestrel a top speed of 28.5 knots and more than ample power to tackle any conditions she will meet.

The ORC craft offer a particularly stable platform and integral to this is the unique hull design which has oversized rudders and wide trim-tabs that deliver outstanding manoeuvrability and sea-keeping characteristics. The hulls are light but super-strong and made from resin-infused E-glass with carbon fibre frames.

The design fundamental making the ORC pilot boats unique are their wave-piercing beak hulls which evolved from years of tank testing and sea trials by Pantocarene and combine the characteristics of planing and semi-planing hulls. Vertical acceleration is reduced when compared to typical semi-planing hulls, with the best results being obtained at high speed.

In following seas, the beak hulls behave better than traditional planing or semi-planing hulls. The feature imparts inherent roll damping and the vessel slows only moderately as its beak bow pierces the next wave. The importance of this feature cannot be overstated with pilots and crews of the craft reporting that the design offers a much smoother ride and greatly reduced levels of fatigue. Many also report that, although they had experienced sea-sickness on older-style pilot boats, the new design has worked to virtually eliminate it.

Noise and vibration in the crew cabin are further reduced by the composite materials used in construction, the fact that the wheelhouse is resilient-mounted and that Kestrel's twin 750mm five-blade propellers have the effect of reducing cavitation and noise.

Mr Taylor said that Hart Marine staff were proud of the pilot boats they built and that they were Australian through and through, being built by Australians for Australian ports using components sourced in the country. He said that the already great design provided by Pantocarene was constantly being tweaked and improved by Hart Marine after regular consultations with clients including Port Phillip Sea Pilots who were located in close proximity to Harts and who had long experience of operating the craft in the extreme conditions of the Bass Strait.

One other of the prime selling points of the Hart Marine-built pilot boats, said Mr Taylor, is their estimated 35-year lifespan and the fact that they will have a resale value long after vessels with conventional metal hulls would have deteriorated to the point where they would have to be scrapped.

The craft have performed impeccably even in extreme sea conditions and this has led directly to a number of new orders which are currently in production. These include another Orc 18 for Port Phillip Sea Pilots and two vessels for Svitzer which are destined for service at Barrow Island and Wheatstone.

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