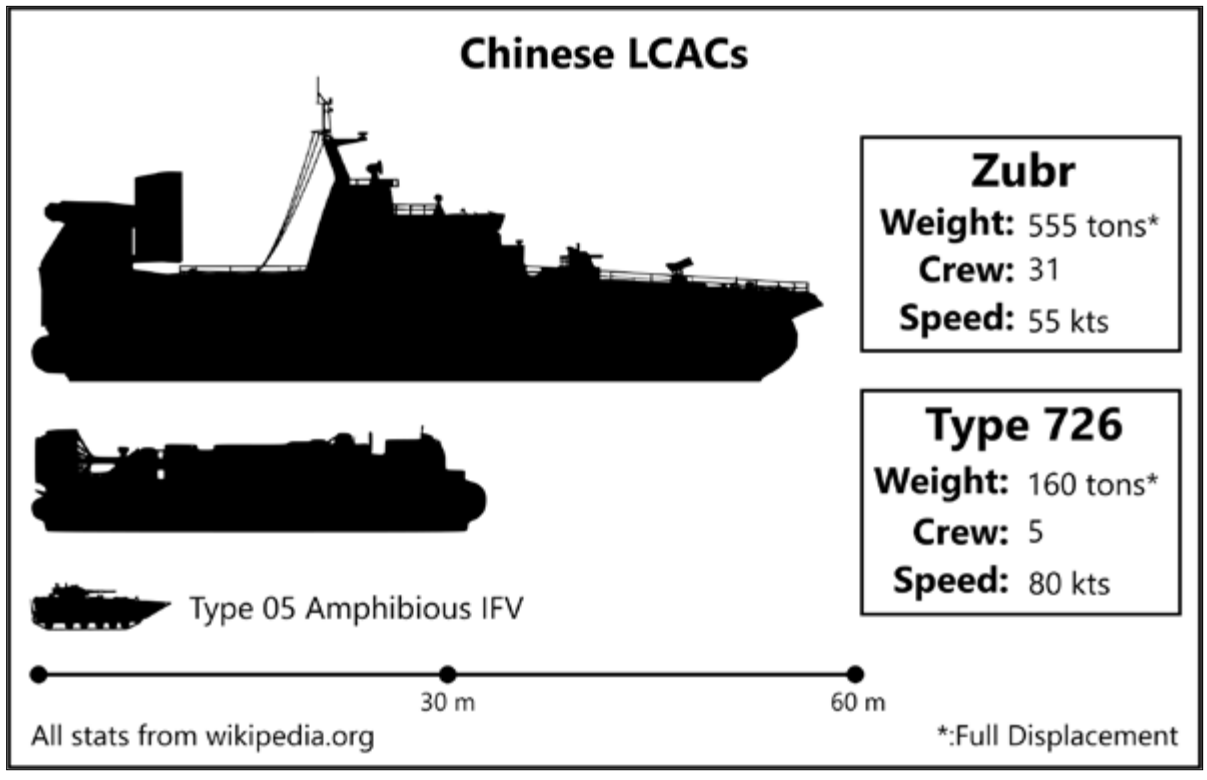
Chinese LCAC Development

OE Watch Commentary: The accompanying passage from an article in China's *Shipborne Weapons* magazine provides an overview of China's long path toward developing Landing Craft Air Cushions (LCAC)—military hovercraft.

With the PLA Navy Marine Corps undergoing rapid expansion, there is a need for commiserate number of ship-to-shore connectors. Hovercraft or Landing Craft Air Cushion (LCAC) type ships allow rapid movement of tanks and equipment from ships at sea to beaches and even further inland. Importantly, their design allows them to navigate environments where other amphibious ships (like landing tank ships) or amphibious tanks are unable to approach. However, as explained in the article, China's experience in developing successful hovercraft has been anything but easy.



"Chinese LCACs" by Peter Wood

Work began on small passenger hovercraft in the 1960s with the first trials in 1971. These first hovercraft were limited to river journeys on the Yangtze River. Development of an ocean capable craft, the 50-70 ton Type 722 began in the late 70s, with long-distance tests in the Bohai Gulf in 1980. Difficulties with power plants and other aspects of the technology, however, limited the capabilities of these hovercraft. Purchases and license-production deals have been more successful. The Type 726 (Yuyi class) LCACs have been purchased from Ukraine (the primary shipyard responsible for them at Feodosia in Crimea is now under Russian control). China has continued to attempt to indigenize the design, manufacturing more at its own shipyards and adopting engine domestic engine technology for later variants. China also has purchased two of the 550+ton Ukrainian Zubr LCAC and produced two more under license. More appear to be under construction.

China has built seven Type 071 (Yuzhao) amphibious assault ships—each of which can accommodate four Type 726 LCACs. The 250-meter-long Type 075 LHD currently under construction in Shanghai is likely capable of transporting at least two of the Type 726 LCACs. Open source analysts observing building programs at China's major shipyards via commercial satellite imagery have noted more Type 726As under construction.

China is rapidly expanding its amphibious and expeditionary power projection capabilities. Given defense priorities such as contested islands in the South and East China Seas and Taiwan, developing fast ship-to-shore connectors to move troops and material into a beachhead will remain a major construction priority for Chinese shipbuilders for the foreseeable future. **End OE Watch Commentary (Wood)**

> *"Type 726 hovercraft have a displacement of between 150–160 tons, are approximately 30 meters long, and 16 meters wide. They have a maximum load of about 50 tons, a maximum speed of more than 60 knots at sea, and a range of 320 nautical miles. They can carry a single Type 99 or Type 96 main battle tank or 4 armored vehicles."*

Continued: Chinese LCAC Development

Source: "国产气垫船的创新发展 (Innovation and Development of Homemade Hovercraft)," *Shipborne Weapons* 《舰载武器》, May 2019 pp. 42- 48.

The Type 726 hovercraft used by the Chinese navy currently has six vessels: the prototype, No. 3320, Nos. 3321 and 3322 from the first production group, and Nos. 3330, 3331, and 3332 from the second production group. The 726 hovercraft is a supporting project of the Type 071 comprehensive landing ship, but due to the difficulty of the involved technology, the overall progress lagged behind the Type 071. The first 726 hovercraft, later renamed No. 3320, conducted a test in the Pearl River (near Hong Kong) in 2009 and was further improved in 2010 to carry out escort missions with the Type 071 "Kunlunshan" [昆仑山] and participate in the testing. It was not until 2011 that the No. 3320 hovercraft officially entered service after publicly participating in an amphibious landing exercise.

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The Type 071 comprehensive landing dock can accommodate four Type 726s. Large and medium-sized hovercraft, although not as amazing, its technical threshold has forced countries to look at the aviation industry slightly associated with the high-precision, high-cost ship species, and the most core of which is its gas turbine engine is generally the core aircraft of aviation engines. The 726 also faced the weakest heart problem at the beginning of its development. In 2005, Aviation Industry Corporation of China (AVIC) modified the core design of the WS-10 engine (used in fighter jets) and modified it for use in LCACs as the QC-70 gas turbine.

It was not until 2013, three years after the first boat was made, that the second 3321 entered service after further development. The 726 has experienced "growing pains," but it has been doggedly developing, and beginning with the No. 3321 hovercraft, which entered service in 2013, the design has matured. In 2016, the Type 726 hovercraft began to enter mass production.

The total number of type 071 integrated landing ships and Type 726s is increasing in the new round of naval plans. Practice shows that our country based on self-reliance and hard work, and finally developed a focus on mission, with Chinese characteristics of dual-use hovercraft, and achieved better military and economic benefits.