

China developing fastest amphibious multi-role vehicle

China is developing the world's fastest amphibious multi-role vehicle, which can be used in personnel and supply transportation at sea as well as for special warfare.

The four-wheeled vehicle is being developed at the China North Vehicle Research Institute in Beijing's southwestern suburbs. The facility is one of the biggest institutions under China North Industries Group Corp, the country's largest maker of land armaments.

The vehicle uses a v-shaped hull to minimize the hydraulic drag. It is propelled by compact pump jets in waters with the wheels retracted.

With a weight of 5.5 metric tons, the proof-of-concept vehicle reached a top speed of 50 kilometers per hour as it traveled through calm waters during a test earlier this year, the institute said. This bested the world's fastest amphibious vehicle of its kind, made by the British company Gibbs Amphibians, which has a maximum speed of 48 km/h in water.

The institute has not published other specs about the vehicle such as its land speed and operational range.

Amphibious vehicles are mainly used for military purposes and are usually launched at sea from amphibious assault ships, amphibious transport docks or hovercraft to conduct a forced entry into semi-aquatic areas. Their core mission is to spearhead a beach and to secure coastline for landing troops. Other tasks include transporting personnel between shores and ships and providing fire support.

Most amphibious vehicles in the world move slowly in water. For instance, the United States Marine Corps' Assault Amphibious Vehicle, commonly known as AAV7, has a top water speed of 13.2 km/h, and Italy's Iveco Super-AV, an eight-wheeled amphibious vehicle, is able to move 10 km/h in water. The US and Japan are developing new-generation military amphibious vehicles that will be capable of traveling at least 40 km/h.

A chief designer of the vehicle at China North Vehicle Research Institute who requested anonymity said designing such vehicles is never an easy job, as the engineers overcame a number of technical difficulties.

"We spent a lot of time and resources on finding proper methods to reduce hydraulic drag and the hull's weight. We also focused on devising a set of equipment to make sure the vehicle would be able to move fast on both land and water," he said, adding that all of the major parts used on the vehicle were developed by Chinese engineers on their own.

"Designs for some parts on this vehicle had never been worked out by others before us," the designer said. "We are leading in this field."

Qin Zhen, executive editor of Ordnance Knowledge magazine, said the ability to move fast in water is crucial to any amphibious combat vehicle. "It is difficult for them to use rapid-changing maneuvers in waters to dodge enemies' fire, therefore moving fast is the most reliable way to increase their survivability," he said.