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For Marine divers, high-tech future is now

By Andrew Tilghman - Staff writer
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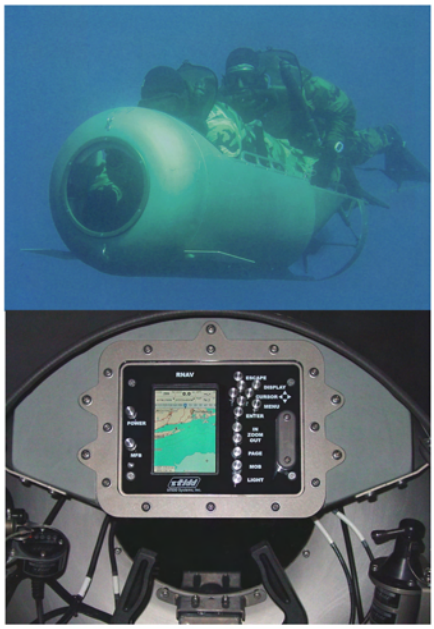
Decades ago, James Bond faced off against Cold War-era foes who jetted around underwater with motorized swimming devices in the 1965 movie "Thunderball." High-tech combat scuba gear appeared again more recently in "The Rock," a 1996 movie with fictional Navy SEALs using small propulsion packs for their underwater mission — attacking Alcatraz Island in San Francisco Bay.

Now, the Corps is pulling ahead of Hollywood as it bulks up on sophisticated combat diver equipment to offer recon Marines a new set of tools for coastal operations. For years, the Corps has trained recon Marines at the Naval Diving and Salvage Training Center in Panama City, Fla., but its operational capabilities remained limited. Now, the new equipment will outfit the Corps more on a par with Navy SEALs and allow leathernecks to conduct underwater missions in littoral regions. The shift began a few years ago when the Corps started moving beyond diving fins and aerobic swimming. The breakthrough was the Diver Propulsion Device, a two-man metal tube with a propeller designed to help divers swim at speeds of more than three miles per hour.



Top: STIDD Diver Propulsion Device (DPD). Below: RNAV is an advanced electronic navigation system purpose built for the STIDD DPD. *STIDD photos.*

"When you have a propulsion unit, you can save your strength and use a lot less air and get there much faster," said retired Navy Master Chief Boatswain's Mate Ernie Caltenback, a former master diver familiar with the new equipment.

Made of aluminum and foam, the craft carries a lithium ion battery providing more than two hours of power per charge. The Corps bought and fielded Diver Propulsion Devices between 2003 and 2006. The biggest advantage is allowing Marines to launch underwater missions from a greater distance. A main limitation to that is oxygen for the divers to breath, but the propulsion devices allow a team to travel further on fewer tanks of air. The same equipment is used by Special Operations Command troops and Navy SEALs, said David Wilberding, a vice president with STIDD Systems, the New York-based company that sells the propulsion devices to the military. STIDD has also developed a larger underwater tactical vehicle that allows divers to travel greater distances and bring along more equipment or weapons. The Corps and other services are looking at a watercraft — known as the Multi-Role Combatant Craft — but have not made large-scale commitments, Wilberding said.

The 32-foot long craft can travel quickly across the surface and also drop into a semi-submerged position for lower visibility, or submerge entirely up to 66 feet and continue traveling under the surface at nearly six miles per hour. The craft could be used for locating, tracking or attacking larger ships. It could mount weapons systems for surface combat. Marine divers could park it on the ocean floor and leave the craft for extended operations ashore, Wilberding said.

These new underwater crafts make it possible for divers to carry along larger and more sophisticated equipment.

Coming soon is a navigation-and-mapping device offering divers GPS information to help guide their missions. The new technology could also let Marines chart the ocean floor and identify the best penetration points for an amphibious assault, Marine officials said. Currently under development, it is known as Tactical Hydrographic Survey Equipment. The Corps' underwater upgrade also includes a new face mask, which will be purchased later this year, said 1st Lt. Geraldine Carey, a spokeswoman for Marine Corps Systems Command in Quantico, Va.

The mask will add two-way voice communication between divers and with their support craft. The mask also will provide easy-to-see diving information such as depth, pressure and timer information

STIDD 32.5 MRCC Multi-Role Combatant Craft offers a fast surface boat, reduced semi-submerged observability and submerged propultion in one package.