

ONR's wall-climbing 'power' tool ratchets up Fleet Week New York

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A warfighter uses the hand-held Powered Rope Ascender to scale a rocky wall. Outfitted with a powerful high-density lithium battery, the device can hold a target load capacity up to 600 pounds at a 6-feet per second rate of ascension and will assist with naval operations involving the board of enemy vessels, remote casualty evacuation, helicopter extraction, or mountain warfare assault team deployment. The Powered Rope Ascender will be demonstrated at Fleet Week New York 2010, May 26-June 2. Credit: US Navy photo

Move over, Spiderman -- Sailors and Marines are right behind you.

The Office of Naval Research (ONR) is collaborating with industry partners on the ruggedized, hand-held wall-scaling tool called the Powered Rope Ascender, currently on display at Fleet Week New York, May 26-June 2.

The technology allows warfighters to ascend and descend vertical surfaces at high speeds, increasing the efficiency and functionality of their performance.

TechSolutions, part of the ONR's Office of Innovation, challenged Boston-based Atlas Devices to help create a next-generation Ascender for naval use. A visit, board, search and seizure (VBSS) team expressed a need for the technology to a science advisor for Marine Forces Pacific. From request to completion, only eight months passed.

"ONR's efforts were to make it lighter, smaller and more functional, to include a removable, rechargeable battery," TechSolutions assistant program manager Joseph Brus said. "We contributed by improving its usability and ergonomic design."

Originally built as a prototype for the Army in 2004 for use in urban combat and cave exploration, the Department of the Navy soon took interest in the tool's multipurpose function. The Ascender can aid in naval operations where boarding enemy vessels, evacuation of remote casualties, helicopter extraction, or mountain warfare assault team deployment is needed.

In testing, the Ascender proved it can hold a target load capacity up to 600 pounds at a 6-feet per second rate of ascension. The powerful rope not only lifts and lowers, but can tow vehicles and remotely move equipment and casualties as well, making it a valuable tool for VBSS teams. Its high-power, high-density [lithium battery](#) will allow a load to ascend 375 feet without recharging.

Sailors and Marines played an integral role in testing the device and providing feedback on its features and usability. Using their feedback, ONR evolved the next-generation's functionality, design and potential for commercial use.

"The beta version will be able to recapture 10 to 15 percent of its potential energy as it descends, which can be used to recharge the battery," Brus said. "That's a huge improvement from the original prototype."

While the release of the beta prototype is tentatively scheduled for September, attendees at this year's Fleet Week in New York City will get a glimpse of the machine in live demonstrations. The Marine Corps Mountain Warfare Training Center is scheduled to receive the first supply of advanced Powered Rope Ascender.

Provided by Office of Naval Research

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