

PRESS RELEASE

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High-Speed Launch

Automotive Airbag Inflators Provide the Push for New Surface Vessel Launcher

NEWPORT, RI - May 24, 2004 /Send2Press Newswire/ -- SEA CORP (www.seacorp.com) announced today that it supported the Naval Undersea Warfare Center in a series of tests in Rhode Island's Narragansett Bay to demonstrate a new torpedo launcher concept for surface ships and to gather launch vehicle water entry data from high speed launches. From the deck of a high-speed catamaran "flying" at over 35 knots (40 mph, 65 km/hr) several torpedoes and countermeasures of various diameters were launched using the U.S. Navy's developmental "Advanced Surface Launcher (ASL)." The launches were conducted over a broad range of platform speed, launcher exit velocities and launcher pitch angles.

The data obtained will be used to quantitatively analyze launcher performance, in-air trajectories and water impact dynamics. This capability is invaluable in developing new launcher systems in support of both new platforms and payloads.

Eyed as a replacement for the venerable Mk32 ASW torpedo tubes (used in various but similar forms by navies around the world for over 40 years) the ASL is not only modular and reconfigurable for various-size payloads, it uses automotive airbag inflators as a source of launch energy. Until now, torpedoes launched from destroyers and cruisers have used high-pressure air, replenished from the ships' compressors. "We need a source of energy that is 100% reliable and can be tailored to fit the needs of various sized vehicles," explained Dan Godfrey, a senior Navy engineer overseeing the project.

"We also want a modular launcher, a completely self-contained system that can be loaded aboard a ship like the new Littoral Combat Ship for a shallow-water ASW mission, and then removed when the mission is over," he went on. In order to satisfy the requirements of future Navy warships for flexibility, a new concept was needed and that's where the automotive airbag inflators came in.

In an R&D project spanning several years, SEA CORP, a Rhode Island-based engineering services company worked in collaboration with its Navy sponsors to design and test the "modular gas generator launch canister," on which the ASL is based. In a process jointly developed with NUWC and patented by SEA CORP, off-the-shelf inflators are built into the launcher breech and then initiated in a computer-controlled timing sequence to achieve variable launch pressure. "This variable launch pressure enables us to custom tailor the acceleration profile and exit velocity of the projectile," explained SEA CORP's Vice President for R&D, Dave Lussier.

"We've launched projectiles ranging from 4 inches to 12 3/4 inches (324 mm-the diameter of all common surface ship torpedoes) in diameter and weighing from 17 lbs (7.7 Kg) to 750 lbs (340 Kg). Through the use of different-diameter tube inserts we can shoot a torpedo or an acoustic countermeasure or the new anti-torpedo, all from the same basic launcher system. And, because the airbag inflators are so stable, the loaded, modular launcher can be sealed and require no maintenance for the shelf life of the payload." The inflators have an operational shelf life of over twenty years.

In a related development, SEA CORP is also developing a helicopter sonobuoy launcher based on the same principle, but using relatively tiny inflators from side-door airbags. "We can reduce the complexity and weight of launchers like these and make them much more versatile," said Lussier. "We hope to see these launchers become the standard for cold launches aboard Navy ships and aircraft."

More information: <http://www.seacorp.com>

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