



Navy SBIR/STTR Success



A Compact Swaging Machine for Aircraft Carrier Purchase Cable Terminals

Innovations in hydraulics design, swaging process, and design elements which maximize structural strength and lifetime have created a lightweight and rugged swaging machine capable of use in a shipboard environment.

Topic Number: N06-T023

SBIR Investment:
\$1,523,497

Phase III Revenue:
\$3,208,959

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About the Technology:

Most swaging machines, which are designed to attach arresting gear purchase cable terminals on ships, are extremely large and cumbersome to use. Creare responded by developing a high power density swaging machine that is lightweight, portable, and will improve the quality of life for shipboard personnel. The Compact Swaging Machine (CSM) is an advanced hydraulic system that replaces the current method with a safe, highly automated process that significantly reduces maintenance hours and keeps arresting engines ready to recover aircraft.

Naval Benefit

The portable swaging machine technology eliminates the labor intensive and inconsistent splintering process currently used to attach wire rope terminals on Navy aircraft carriers. The existing process applies molten metal as the attachment method and is labor intensive, dangerous and time consuming. While the current process takes multiple sailors as much as 12 hours to complete one terminal, the CSM enables one sailor to complete the automated and highly repeatable swaging process in less than one hour. The CSM can be used in cramped pouring rooms and can be easily moved throughout the ship. This will provide substantial cost savings and quality-of-life improvements for U.S Navy sailors. It is estimated the CSM will reduce V-2 workload requirements by up to 500 man-hours per deployment.

Transition

Phase III funding for CSM was provided by The Aircraft Launch and Recovery Equipment Program Office (PMA-251). The Compact Swaging Machine team, composed of Creare and PMA-251, developed a swaging system to replace the current time-consuming process of pouring zinc sockets when replacing arresting gear cables. The CSM has successfully passed MIL-SPEC qualification tests and is currently being readied for shipboard testing onboard CVN69 during 2013 – 2014.

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