Shaped Charge Munition Manufacturing Technology Available
C0887 - Low Cost Shaped Charge Munition Manufacturing

OBJECTIVE

The objective of this project was to demonstrate a manufacturing process that linked both the shaped charge munition manufacturing design and assembly to reduce costs. A novel shaped charge concept to neutralize mines was demonstrated during the Distributed Explosive Mine Neutralization (DEMNS) program. The shaped charge generates a jet with a mid-stream consolidated mass (lump). The jet, with a velocity greater than the lump, is designed to penetrate any mine overburden. The lump has sufficient impact energy to initiate the explosive fill of the mine. Two main thrusts were undertaken to reduce the overall cost of fabricating this shaped charge while maintaining its performance for mine countermeasures applications. One was the implementation of a two-piece (plastic/metal) liner configuration and the second was injection loading of the explosive fill.

PAY OFF

The concept for mine neutralization via the shaped charge munition was being transitioned to the Army/Marine Corps Explosive Standoff Minefield Breacher, Marine Corps Joint Amphibious Mine Countermeasures, and Navy Beach Zone Array. The following was achieved to minimize the shaped charge munition cost: reduced the number of components, reduced the number of precision interfaces, and reduced the number of precision Surfaces, and used the most efficient explosives load and assembly process.

IMPLEMENTATION

Excellent technical progress was accomplished during the execution of this project. The project was closed-out at the end of the third quarter 1998 due to elimination of program office requirements. However, the technical developments are available for transition if the need resurfaces. Results of this project were published and are available to US industry. Overall results were presented to Navy Systems Command managers and resource sponsors.

Please visit the Navy EMTC Web site:

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