

## M829E3 120-MM APFSDS-T CARTRIDGE



### Army ACAT II Program

Total Number of Rounds:	25,400
Total Program Cost (TY\$):	\$127M
Average Unit Cost (TY\$):	\$5K
Full-rate production:	FY02

### Prime Contractor

Alliant Techsystems

### SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2010

The M829E3 Armor-Piercing Fin-Stabilized Discarding Sabot-Tracer (APFSDS-T) cartridge is one of the main gun (120-mm) ammunition rounds that will be fired from the M1A2 Abrams Tank. It is the kinetic energy round being developed to counter threat explosive reactive armor advancements, and is scheduled to be fielded early next century. Propulsion and penetrator improvements are key elements of this program. The M829E3 is an improved version of the M829A2, which was fired in Operation Desert Storm and commonly referred to as the “Silver Bullet” by U.S. troops. It was noted for killing many Iraqi T-72 tanks in the Southwest Asian War. This improved tank round will support the *dominant maneuver* force aspect of *Joint Vision 2010* by supplying improved firepower capability to the M1A2 Abrams Tank.

Due to the funding threshold, the M829E3 is not required to undergo operational test oversight from this office. However, this system does qualify for LFT&E oversight.

## **BACKGROUND INFORMATION**

DOT&E (LF) activity in this program includes lethality and vulnerability evaluations. System lethality is assessed with respect to expected threat tanks. The M829E3 must not increase the vulnerability of the M1A2 tank as compared to the M829A2. The LFT&E Strategy has been agreed to in principle by DOT&E (LF) and DUSA (OR); however, a detailed LFT&E Strategy has not been formally approved at this time. The proposed strategy would leverage developmental testing and preliminary qualification testing against range targets and shotline simulant targets for the lethality evaluation. Simulated and full-scale ammunition compartment tests would provide data for the vulnerability evaluation. An EMD contract was awarded in 3QFY98. EMD development testing, which provides empirical data in support of design and LFT&E, began in FY99 and continues through FY00. The LFT&E program is currently scheduled for FY02.

## **TEST & EVALUATION ACTIVITY**

Testing during FY99 has been EMD testing in support of design development and the LFT&E program. This testing has focused on penetration and perforation testing against armor coupon samples.

## **TEST & EVALUATION ASSESSMENT**

A robust LFT&E lethality program, comprising 378 shots against a variety of targets; e.g., rolled homogeneous armor, range targets, and threat shotline targets (including base armor and explosive reactive armor), has been outlined in the latest draft LFT&E strategy. Another 173 shots using the current M829A2 will also be conducted to provide a baseline comparison. The contribution of M829E3 to Abrams Tank vulnerability will be examined in five tests against simulated ammunition compartments and three tests against full-scale ammunition compartments. Testing has supported various design trades and comparisons.