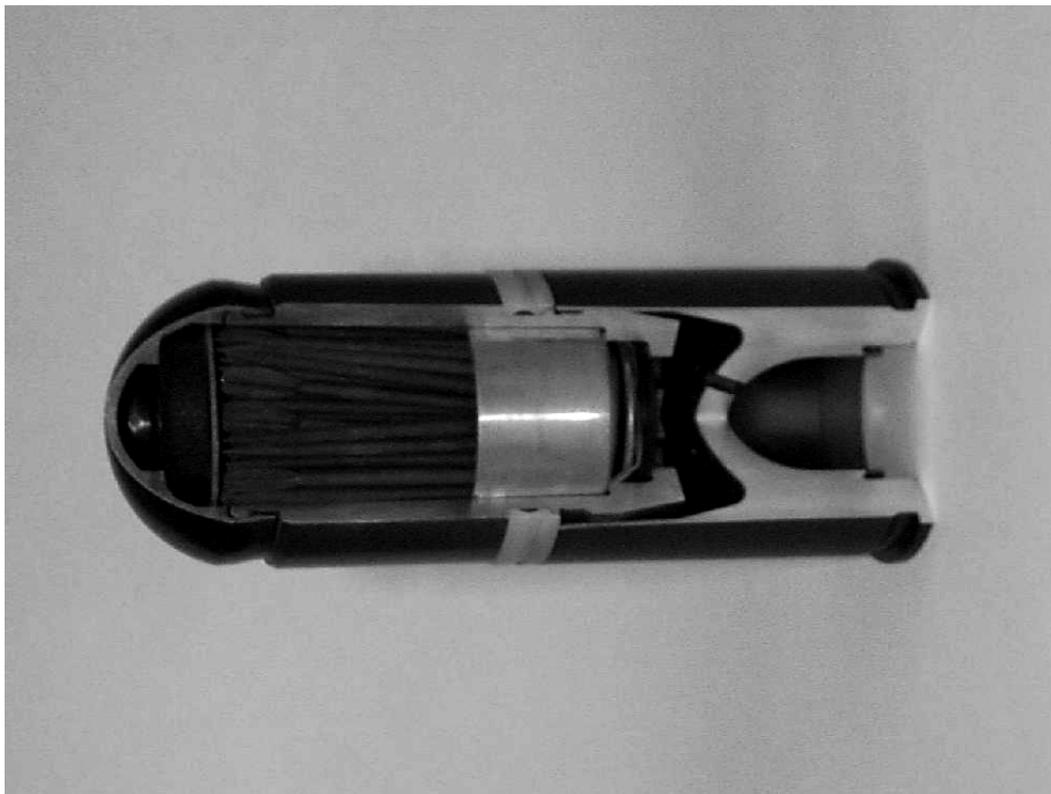


## **XM1001 40MM CANISTER CARTRIDGE**



### **Army ACAT III Program**

Total Number of Rounds:	1M (approx.)
Total Program Cost (TY\$):	\$200M
Average Unit Cost (TY\$):	\$200 per round
Full-rate production:	4QFY00

### **Prime Contractor**

Primex Technologies, Inc.

### **SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2020**

The XM1001 will provide a short-range antipersonnel capability (from muzzle to 100 meters) for the Mk 19 Mod 3 Grenade Machine Gun. This cartridge is a flechette-dispensing grenade that will be used by combat forces as a force multiplier against ground troops in: (1) exposed positions; (2) extremely rugged terrain; (3) dense vegetation; (4) military operations in urban environment; and (5) other scenarios where the effectiveness and user-safety of the current Mk 19 family of ammunition is limited. This capability will support the *Joint Vision 2020* concept of *dominant maneuver*.

This program was briefed to DOT&E as part of the Fourth Live Fire Test and Evaluation Oversight Review Conference for Small and Medium Caliber Ammunition held in December 1997. The total number of rounds produced is unknown at this time, but is estimated to be over one million. Hence, the Army nominated the XM1001 as a LFT&E program, and it was placed under DOT&E oversight in April 1998.

The XM1001 40MM grenade contains 113, two-inch long flechettes, with 13 of those packed within the grenade facing rearward. Upon exiting the muzzle of the Mk 19, an expulsion charge detonates, expelling the flechettes. Upon expulsion, the rearward facing flechettes rotate in-flight until they are forward facing.

## **BACKGROUND INFORMATION**

This munition is part of the Soldier Enhancement Program (SEP), and funds were first identified for it in the June 1996 SEP review. The combined LFT&E Strategy/Event Design Plan was approved by DOT&E on November 2, 1998, and the Detailed Test Plan (DTP) was approved by DOT&E on July 30, 1999. DOT&E activity for this program involved LFT&E only.

LFT occurred during October-November 1999, and consisted of firings against mannequins in the open and with protection. Prior to LFT, in June 1999, 38 rounds were also fired at the Aberdeen Test Center for the purpose of better characterizing flechette velocity and dispersion as a function of range.

## **TEST & EVALUATION ACTIVITY**

LFT was completed in 1QFY00. LFT&E activity during FY00 was focused on finalizing the DOT&E independent assessment report. DOT&E submitted this report to Congress in November 2000.

## **TEST & EVALUATION ASSESSMENT**

An adequate lethality test program, comprising 112 shots against a variety of targets (i.e., personnel simulants in the open and behind protection, with and without body armor), has been conducted in accordance with the DOT&E-approved combined LFT&E strategy and Event Design Plan.

## **CONCLUSIONS, RECOMMENDATIONS AND LESSONS LEARNED**

LFT&E results confirmed that the XM1001 exceeded its hit accuracy requirement. According to the user, this munition will be used primarily for suppression of threats in a MOUT environment, so there is no explicit lethality requirement for the XM1001. Since the LFT&E program was based on dynamic shots at representative test targets, not only was its probability of a hit measured, but a measure of its kill potential was also determined. As might be expected for a munition of this type, demonstrated anti-personnel lethality was rather low. The user will likely need to fire more rounds than the typical three-to-five round burst to achieve an acceptable level of wounding.