

Compact Kinetic Energy Missile

Background: The Compact Kinetic Energy Missile (CKEM) program objective was to develop and demonstrate an anti-armor KE missile half the size and weight of the previous generation line-of-sight missile to provide overmatching lethality against current and projected anti-tank advanced armor, explosive reactive armor, and hard point targets, bunkers, and buildings. CKEM provides hit-to-kill, precision lethality in a missile system integrated on a HMMWV package that is less than 60 inches long and weighs less than 100 lb. CKEM provides long-range firings beyond that of tank main guns, and utilizes a novel lethality system.

The AMRDEC began development on the CKEM concept in 2000. The primary pacing technologies were identified and matured to provide a direct-fire, line-of-sight KE missile capability for the Army.

Success: In FY 2002, critical CKEM technologies were demonstrated, including advanced propulsion, lethal mechanisms, high-G guidance, and control. These were demonstrated in full-scale technology flight tests. In FY 2003, the CKEM program demonstrated “overwhelming lethality” against advanced threat targets of interest during full-scale sled testing, and continued demonstration of critical hypervelocity technologies in operational environments. In FY 2004, the program performed risk reduction flight tests, continued critical technology testing, demonstrated short-range lethality performance, performed subsystem integration testing, and validated simulation models. In FY 2006, the CKEM ATD successfully conducted integrated weapon system flight test demonstrations on a modified HMMWV. These flight test demonstrations were conducted with lethal mechanism against representative advanced threat armor vehicles and MOUT targets.

Year: FY 2006





Launch photo from CKEM Lethality Test Flight—Sequential (LTF-Seq) Mission—9 November 2006 at Eglin Air Force Base, Florida