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General Dynamics Ordnance and Tactical Systems and the U.S. Army Armament Research and Development Engineering Center (ARDEC) have successfully demonstrated a GPS-guided munition for use on small Unmanned Aerial Vehicles (UAV).

The testing consisted of three separate engagements using a Tiger Shark UAV launching an 81mm mortar equipped with General Dynamics' Roll Control Fixed Canard control system and an ARDEC-developed fuzing solution. All three mortars were launched from a UAV at altitudes of approximately 7,000 ft and guided to within seven meters of a GPS-identified target grid.

"This effort demonstrated a low-cost, tactical version of a GPS strike weapon for UAV platforms," said Mark Schneider, general manager of General Dynamics Ordnance and Tactical Systems' Seattle operations. "Together with ARDEC, we have demonstrated a weapon in the 10-pound class for tactical UAVs that can be used to quickly engage and defeat targets. Advancements in GPS targeting and data-link technology provide a built-in growth path for this demonstrated technology."

"The Air Drop Mortar (ADM) program with General Dynamics provided a platform to successfully demonstrate and mature subsystems including communication links, munition deployment, guidance and control and fuzing," said Tony Sebasto, senior associate for Munitions at ARDEC. "The utilization of existing mortar production components, along with demonstrated guidance and control and fuzing, gives the U.S. warfighter an option for a very affordable and very capable precision strike weapon."

Designed to meet the needs of the Army, Marine Corps and Special Forces for a rapid target response capability, the ADM uses existing mortar inventory to provide a low-cost, lightweight weapon system with proven energetics. The General Dynamics' patented Roll Controlled Fixed Canard (RCFC) guidance kit, with an innovative flight-control and GPS-based guidance and navigational system adds precision-strike capability to existing mortars.

The nose-mounted guidance kit replaces existing mortar fuzes and has been successfully demonstrated on multiple mortar calibers in both air-drop and tube-launch applications. The kit provides a common, multi-platform Guidance, Navigation and Control (GNC) and integrated weapon system for unmanned aircraft.