

# Tube-Launched, Optically-Tracked, Wire-Guided (TOW) Missiles

## INVESTMENT COMPONENT

Modernization

Recapitalization

Maintenance

## MISSION

Provides long-range, heavy anti-tank and precision assault fire capabilities to Army and Marine forces.

## DESCRIPTION

The Close Combat Missile System–Heavy (CCMS-H) TOW (Tube-Launched, Optically-Tracked, Wire-Guided) is a heavy anti-tank/precision assault weapon system, consisting of a launcher and a missile. The missile is six inches in diameter (encased, 8.6 inches) and 49 inches long. The gunner defines the aim point by maintaining the sight cross hairs on the target. The launcher automatically steers the missile along the line-of-sight toward the aim point via a pair of control wires or a one-way radio frequency (RF) link, which links the launcher and missile.

TOW missiles are employed on the High Mobility Multipurpose Wheeled Vehicle (HMMWV)-mounted Improved Target Acquisition System (ITAS), HMMWV-mounted M220A4 launcher (TOW 2), Stryker Anti-Tank Guided Missile (ATGM) Vehicles, and Bradley Fighting Vehicles (A2/A20DS/A20IF/A3) within the Infantry, Stryker,

and Heavy Brigade Combat Teams, respectively. TOW missiles are also employed on the Marine HMMWV-mounted ITAS, HMMWV-mounted M220A4 launcher (TOW 2), LAV-ATGM Vehicle, and AH1W Cobra attack helicopter. TOW is also employed by allied nations on a variety of ground and airborne platforms.

The TOW 2B Aero is the most modern and capable missile in the TOW family, with an extended maximum range to 4,500 meters. The TOW 2B Aero has an advanced counteractive protection system capability and defeats all current and projected threat armor systems. The TOW 2B Aero flies over the target (offset above the gunner's aim point) and uses a laser profilometer and magnetic sensor to detect and fire two downward-directed, explosively-formed penetrator warheads into the target. The TOW 2B Aero's missile weight is 49.8 pounds (encased, 65 pounds).

The TOW Bunker Buster is optimized for performance against urban structures, earthen bunkers, field fortifications, and light-skinned armor

threats. The missile impact is at the aim point. It has a 6.25 pound, 6-inch diameter high-explosive, bulk-charge warhead, and its missile weighs 45.2 pounds. The TOW BB has an impact sensor (crush switch) located in the main-charge ogive and a pyrotechnic detonation delay to enhance warhead effectiveness. The PBXN-109 explosive is housed in a thick casing for maximum performance. The TOW BB can produce a 21- to 24-inch diameter hole in an 8-inch thick, double-reinforced concrete wall at a range of 65 to 3,750 meters.

## SYSTEM INTERDEPENDENCIES

M1121/1167 HMMWV, Stryker ATGM, ITAS

## PROGRAM STATUS

- **Current:** TOW 2B and BB RF in production

## PROJECTED ACTIVITIES

- **FY11–FY15:** TOW MY

## ACQUISITION PHASE

Technology Development

Engineering & Manufacturing Development

Production & Deployment

Operations & Support

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### FOREIGN MILITARY SALES

The TOW weapon system has been sold to more than 43 allied nations over the life of the system.

### CONTRACTORS

#### TOW 2B Aero and TOW BB

##### Prime:

Raytheon Missile Systems (Tucson, AZ)

##### Control Actuator, Shutter Actuator:

Moog Inc. (Salt Lake City, UT)

##### Warheads:

Aerojet General (Socorro, NM)

##### Gyroscope:

BAE Systems (Cheshire, CT)

##### Sensor (TOW 2B only):

Thales (Basingstoke, United Kingdom)

##### Launch Motor:

ATK (Radford, VA)

##### Flight Motor:

ATK (Rocket Center, WV)

##### Machined/Fabricated Parts:

Klune (Spanish Fork, UT)

