

## Avenger (Pedestal Mounted Stinger)

The Avenger Pedestal Mounted Stinger system is a lightweight, mobile and transportable surface-to-air missile and gun weapon system, mounted on a High Mobility Multipurpose Wheeled Vehicle (HMMWV). The Avenger weapon system is fielded on both the light M998 HMMWV and M1097 heavy HMMWV. Avenger is designed to counter hostile cruise missiles, unmanned aerial vehicles, and low-flying, high-speed, fixed-wing aircraft and helicopters attacking or transiting friendly airspace. The Avenger, manufactured by Boeing in Huntsville, is a shoot-on-the-move, totally automated, day-and-night capable short-range air defense system. A key element of the Army's Forward Area Air Defense System, Avenger was deployed during Operation Desert Storm and is currently deployed in the Balkans.

Avenger is a two-man crew and can operate in day or night, clear or adverse weather conditions. The system incorporates an operator's position with displays, fire control electronics, and the Standard Vehicle Mounted Launcher (SVML). The SVML supports and launches multiple Stinger missiles (Basic Stinger, Stinger-POST (Passive Optical Seeker Technique), or Stinger-RMP (Reprogram able Microprocessor). Additionally, the SVML incorporates a .50 caliber machine gun and necessary fire control sensors for both weapons. The contribution this highly mobile, short range air defense system makes to the Army's full-dimensional protection enhances the ground components prospects for dominant maneuver by preserving key elements of the force.

The Avenger weapon system includes a 360° rotating turret mounted on a heavy HMMWV chassis with an upgraded suspension and 200 amp alternator. The baseline configuration consists of a gunner's turret with missile pods mounted on each side. Each missile pod, called the standard vehicle-mounted launcher, can hold four missiles that can be removed and fired in the MANPAD employment configuration. The rotation of the turret and the elevation of the standard vehicle-mounted launcher is accomplished by electric motors powered by batteries carried in the base of the weapons system. The vehicle's power system is in parallel with the Avenger battery set. The .50 caliber machine gun affords a measure of self-protection by providing additional coverage of the Stinger missile's inner launch boundary.

The Avenger weapons system has an unobstructed, 360° field of fire and can engage at elevations between -10 and +70°. The gunner has sufficient visibility out of the turret to easily acquire, track, and engage targets. A combination glass sight is used through which the gunner looks to aim the missiles and on which a driven reticle display is projected. The driven reticle indicates the aiming point of the missile seeker to confirm to the gunner that the missile seeker is locked onto the desired target.

The turret drive is gyro-stabilized to automatically maintain the missile pod aiming direction regardless of the vehicle motion. The gunner operates the turret drive control with a hand controller on which the missile and gun controls are placed. The gunner can transfer tracking control to an automatic turret drive control system that uses signals for the uncaged missile seeker of the FLIR video autotracker to track the target until the gunner is ready to fire. The firing sequence is entirely automated, including super elevation and lead, so that the gunner need merely push the fire button to initiate the fire sequence and immediately select and prepare the next missile for firing. These systems enable Avenger to accurately and rapidly launch missiles.

A two-man crew operates the AVENGER. The gunner operates from inside the turret, and the driver operates from the driver's compartment. The health hazard assessment identified heat stress as a potential health hazard.

