



AIR COMBAT COMMAND

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AIM-9M SIDEWINDER/AIM-9X NEXT GENERATION SIDEWINDER

Current as of January 25, 2020

FEATURES: AIM-9M

The AIM-9M Sidewinder is a short range air-to-air missile that provides neutralization of fixed-wing aircraft, rotary helicopter, and cruise missile airborne targets. The AIM-9M is a supersonic, heat-seeking, air-to-air missile carried by fighter aircraft. It has a high-explosive warhead and an infrared guidance system. The missile is comprised of five major components: the Guidance Control Section (GCS), Target Detector (TD), Safety Arming Device (S-A), Warhead, and Rocket Motor (RM). Four fin assemblies attach to the GCS and four wings assemblies attach to the RM. An optional TMU-72 Coolant Tank, used by the Air Force, provides on-board source of coolant (argon) used to cool the Refrigerated Detector Unit (RDU) in the GCS during captive carriage phase of flight.

The AIM-9M has a cylindrical body with a roll-stabilizing rear wing/roller-on assembly. Also, it has detachable, double-delta control surfaces behind the nose that improve the missile's maneuverability. Both roller-ons and control surfaces are in a cross-like arrangement. The AIM-9M is integrated on A-10, F-15A-E, and F-16A-D and is manufactured by Raytheon.



FEATURES: AIM-9X

The AIM-9X is a short range air-to-air missile that provides neutralization of fixed-wing aircraft, rotary wing helicopter, and cruise missile airborne targets. It also has surface attack capability with equipped aircraft. The missile is planned for integration with a US Army ground launch system.

AIM-9X-2 improves Lock-On-After-Launch performance via an added data link capability. The AIM-9X is a 5th generation supersonic, air-to-air guided missile that has full day/night capability and employs a passive infrared target acquisition system, proportional navigational guidance, a closed-loop position servo Fin Actuation Unit (FAU), and an Active Optical Target Detector (AOTD). The AIM-9X is configured with an Annular Blast Fragmentation warhead controlled by an Electronic Safe-Arm Device (ESAD). The Propulsion/Steering Section consists of a solid-propellant RM that propels the missile and incorporates a manual SAFE-ARM selector assembly, a FAU to activate four control fins, mounted in line with four forward mounted fixed wings that provide aerodynamic lift and stability, and a Jet Vane Control that provides enhanced maneuverability by deflecting rocket motor thrust to aid in turning.

The AIM-9X-2 Sidewinder improves on the AIM-9X by incorporating updated processors within the Guidance Unit (GU) Electronics and improved AOTD with an integrated Data Link (AOTD/DL). Extended battery life and an Ignition Safety Device that replaces the manual SAFE-ARM assembly allows the GU to arm and initiate the RM. The AIM-9X and AIM-9X2 Air Force threshold aircraft are F-15C-D. The objective aircraft are F-16C-D, F-22 (internal), and F-35 (external).

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