



AIR COMBAT COMMAND

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AIM-120 Advanced Medium Range Air-to-Air Missile (AMRAAM)

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FEATURES

The AMRAAM program provides all front-line Air Force, Navy and many FMS fighter aircraft with the ability to attack airborne targets at beyond visual range, in all weather, in a launch and leave mode. The AIM-120 series missile is a medium range, radar guided air-to-air missile with ground-to-air potential. The missile is 12 ft. long, weighs about 350lbs., has four mid-body fixed wings, four movable rear fins, and an umbilical connection which allows communication with the launch platform for targeting and initialization.

The missile consists of four sections: guidance, armament, propulsion, and control. The AIM-120B, AIM-120C series, and AIM-120D missiles are field re-programmable. A buffer connector electrically connects the missile to the aircraft while the missile is loaded on the aircraft launcher. The guidance section includes the hardware and software necessary to perform the functions of acquisition and track, a navigation data link processing, and section secondary power. The guidance section contains: seeker/servo electronics, transmitter/electrical conversion unit, electronics unit, inertial reference unit, and target detection device (TDD). For the AIM-120B/C series, the TDD antennas are mounted in the aft portion of guidance section and are covered with a fiberglass wrap. For the AIM-120D, the TDD antennas are also mounted in the aft portion of guidance section and are not covered with a glass wrap, but are covered with a radome. Other additions to the AIM-120D guidance section include the Data Link Electronics and the GPS antennas.

The armament section includes a warhead assembly and a MK44 MOD 1 booster threaded onto a safe and arming (SAF) device. The high performance propulsion section uses a single, reduced-smoke hydroxyl-terminated polybutadiene solid propellant in a boost-sustain configuration, encased in an asbestos-free insulated steel case (an integral part of the weapon). It is also equipped with an integral aft closure/blast tube/nozzle assembly with a removable exit cone. Beginning with the AIM-120C-7 the missile has an enhanced motor with an additional 5 inches of propellant and is commonly referred to as the "+5 rocket motor".

The control section consists of control electronics, actuator batteries, and four independently controlled servo-actuators. A shortened control actuation section (SCAS) is used with the +5 rocket motor. A Value Control Actuation Section is the replacement for the SCAS, and is used with AIM-120D with modified Guidance Sections. The Air Force carriage options are F-15A-E, F-15EX, F-16A-D, F-35, and F-22.

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