

Sidewinder Propulsion System

The United States premier short-range air-to-air missile system.



Overview

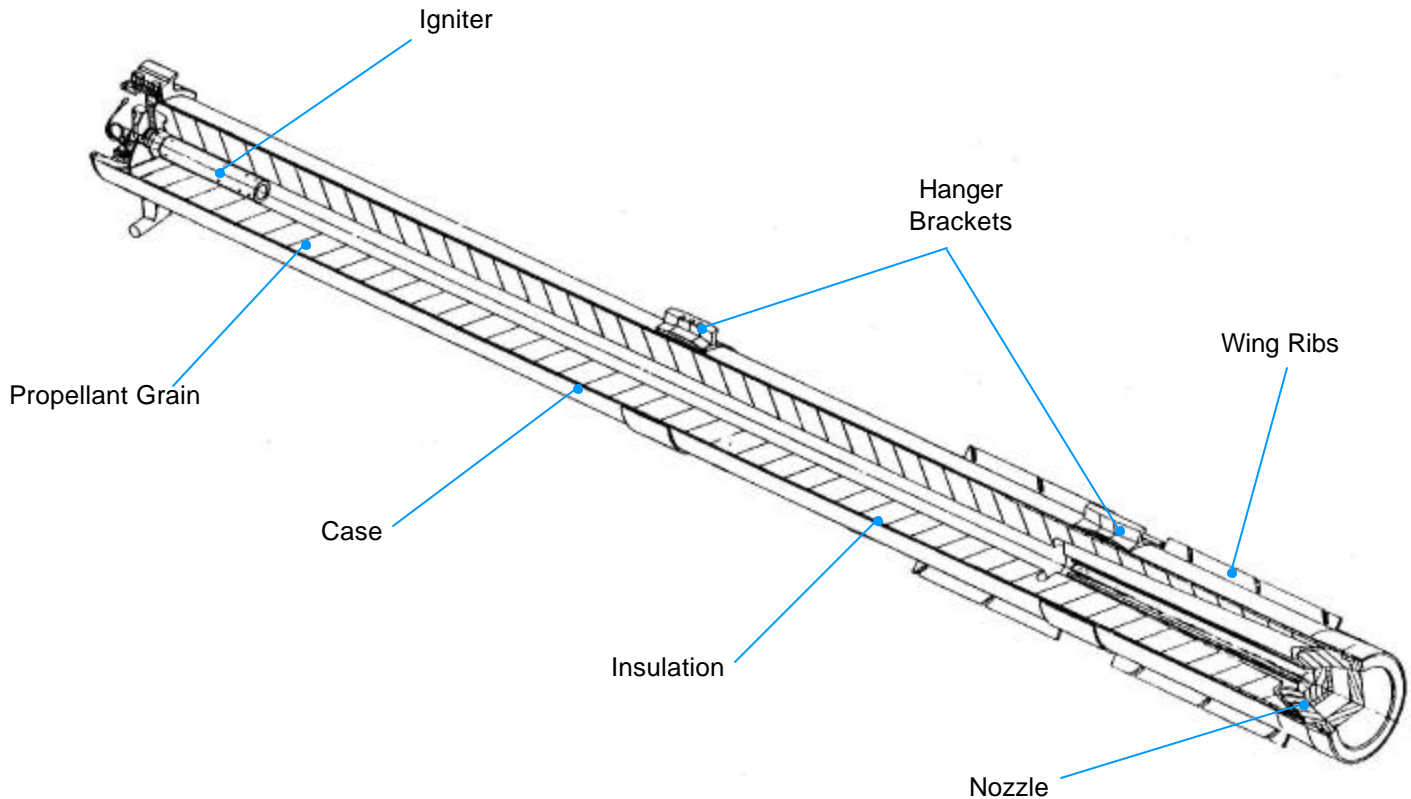
The AIM-9 Sidewinder is the premier short-range, infrared air-to-air missile system for the U.S. Air Force and U.S. Navy. The Sidewinder is also exported to NATO countries and other U.S. allies under foreign military sales. The Sidewinder's primary mission is to neutralize high performance enemy aircraft under all weather conditions. The missile is carried on a multitude of aircraft, such as the F-14, F-15, F-16, and F/A-18.

Application

The Mk 36 Sidewinder motor is a single-thrust propulsion system used to propel the AIM-9M short-range air-to-air missile. The AIM-9M Sidewinder's effectiveness and all-aspect launch capabilities have been combat proven in several theaters throughout the world. In addition, the AIM-9M missile incorporates advanced countermeasure features, including the reduced smoke Mk 36 rocket motor.

Development

ATK's McGregor, Texas, facility was chosen as the second-source contractor for the Mk 36 propulsion system in 1981. ATK was subsequently awarded a production contract in 1982 and have been competing for subsequent buys since then. ATK Tactical Systems Company was awarded a contract to produce Mk 36 rocket motors for foreign military sales at their Rocket Center, West Virginia facility. ATK has delivered over 12,000 reduced smoke (RS) propulsion units to the U.S. Navy.



Features

- Radial burn, finocyl propellant grain
- All-boost thrust profile
- Mechanical arm/fire device
- Forward end bayonet igniter
- Submerged nozzle design
- Same basic configuration as the Mk 112 propulsion unit used for the Rolling Airframe Missile (RAM)

Performance

- Temperature Limits:
 - Operating: -65°F to +160°F
 - Storage: -65°F to +160°F

Technical Data

Weight: 99.0 lbs
Length: 71.0 in.
Diameter: 5.0 in.
Case: 4130 steel
Insulator: R-184
Nozzle: glass phenolic
Propellant: reduced smoke HTPB
Igniter: pyrogen