Designed and manufactured by Northrop Grumman, the Mk139 Sidewinder rocket motor is a single-thrust propulsion system that incorporates a thrust vector control package for use on the AIM-9X missile to improve maneuverability.

Applications
Northrop Grumman’s Mk139 Sidewinder rocket motor propels the AIM-9X Sidewinder, the premier short-range, infrared, air-to-air missile system for the U.S. Air Force and U.S. Navy. 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 including the F-15, F-16 and F/A-18.

Product Features and Benefits
- High energy, reduced smoke propellant
- Rocket motor survivability to -65°F
- Integrated jet vane control system improves missile maneuverability

Qualification and Production Data
- Qualified – 2000
- Production – 2001 to present
Specifications

Technical Data
Weight: 102 lb (46 kg)
Length: 78 in (1981 mm)
Diameter: 6 in (152 mm)
Case: 4130 steel
Nozzle: 17-4 PH SST/Silica/phenolic
Insulator: Silica-filled rubber
Igniter: Boron potassium nitrate (BKNO₃)
Propellant: Reduced smoke hydroxyl-terminated polybutadiene (HTPB)

Performance Data
Temperature: Operating: –65°F to +145°F
                        (-54°C to +63°C)
Storage: –65°F to +145°F
                        (-54°C to +63°C)
Service life: 10 years

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