

THAAD MISSILE PROPULSION

Boost Motor and Divert and Attitude Control System (DACS)

Powering America's Missile Defense

THAAD

A land-based element of the Missile Defense Agency's Ballistic Missile Defense system, built by prime contractor Lockheed Martin, THAAD shields deployed U.S. and allied forces and critical infrastructure from missile attacks.

OUR ROLE

Aerojet Rocketdyne supplies both the solid rocket boost motor technology that powers the interceptor, as well as the Divert and Attitude Control System (DACS), a high-precision, quick-reaction propulsion system that positions the interceptor to successfully defeat an incoming ballistic missile.

The unique DACS provides two kinds of propulsion: one for attitude control and the other for kill-vehicle maneuvering. The DACS uses six thrusters to provide roll, pitch, and yaw control for the interceptor.

These thrusters act in different combinations to precisely stabilize the interceptor-seeker field of view for proper viewing of the target. The seeker's target data are then converted into maneuvering or divert commands that actuate the other four DACS thrusters as required. The four divert thrusters provide short, forceful pulses to quickly and accurately position the THAAD kill vehicle for a collision with the target, like hitting a bullet with a bullet.

The booster and DACS perform over a demanding range of temperatures, shock, and vibration-flight environments.



800+

MOTORS AND DACS DELIVERED

Aerojet Rocketdyne has delivered more than 800 Boost Motors and Divert and Attitude Control Systems (DACS) for the Terminal High Altitude Area Defense (THAAD) system, one of the nation's primary defenses against short-, medium-, and intermediate-range missiles.



Lockheed Martin is the prime contractor and systems integrator for the THAAD weapons system.

Aerojet Rocketdyne provides both the Divert and Attitude Control System and the Boost Motor for THAAD.

KEY FEATURES

THAAD is the only terminal system designed to intercept ballistic missiles both inside and outside the Earth's atmosphere and has rapid mobility to defend anywhere in the world within hours.

A robust ground-testing program was initiated in 2004. Flight testing began in 2005 and, as of August 2019, THAAD has maintained a 100 percent success rate with 16 successful intercepts.

DESIGN BENEFITS

- > Hit-to-kill precision
- > Compact
- > Thrust Vectoring Booster Nozzle
- > Attitude and divert control DACS
- > Hypergolic, Bi-propellant DACS
- > Provides lightning strike mitigation



> Divert and Attitude Control System

> Solid Rocket Boost Motor

THAAD Sell Sheet

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