

SOLID ROCKET MOTORS

A Powerful Past With an Extraordinary Future

Aerojet Rocketdyne’s solid rocket motors incorporate advanced technologies and materials, including next generation propellants and lightweight motor cases, which improve performance and lower costs.

ADVANCING SOLID ROCKET MOTOR PRODUCTION

In 2020, Aerojet Rocketdyne opened its Engineering, Manufacturing and Development (EMD) facility in Camden, Arkansas. Camden is the company’s “Solid Rocket Motor Center of Excellence,” producing more than 75,000 solid rocket motors a year.

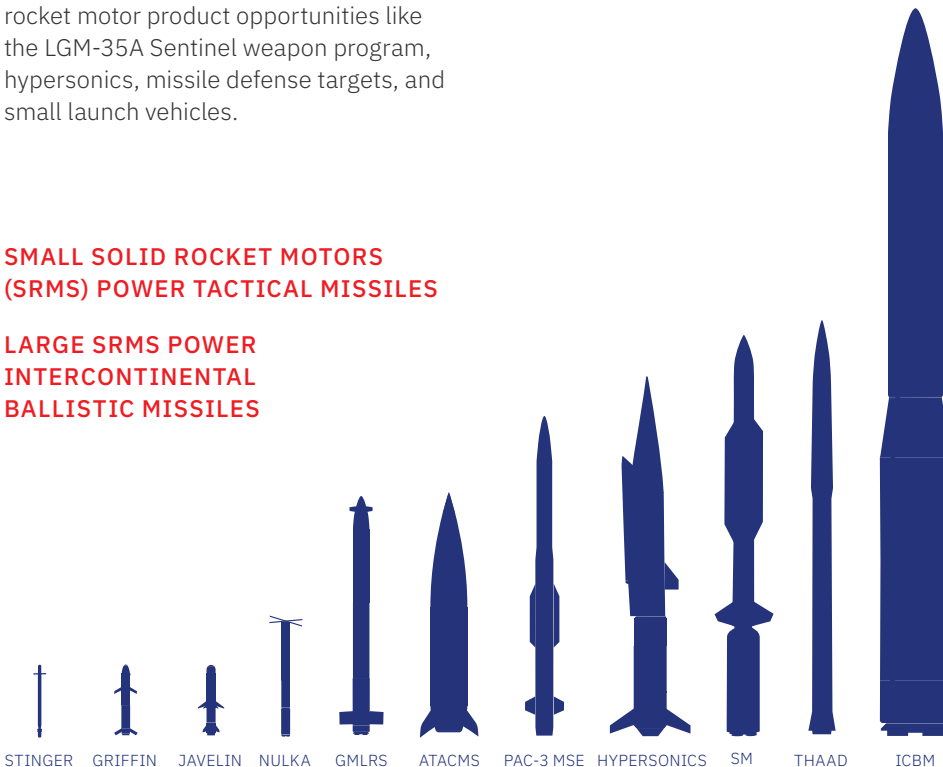
The EMD facility is expanding the company’s decades long production of solid rocket motors in Camden. The EMD facility was specifically designed to serve as the developmental gateway for future Aerojet Rocketdyne large solid rocket motor product opportunities like the LGM-35A Sentinel weapon program, hypersonics, missile defense targets, and small launch vehicles.

For more than 80 years the men and women of Aerojet Rocketdyne have produced solid rocket motors to power defense systems that have protected our warfighters, our nation, and our allies.

Today the company is building solid rocket motors incorporating advanced technologies and materials, including next generation propellants and lightweight and robust motor cases, improving performance at lower costs.

SMALL SOLID ROCKET MOTORS (SRMS) POWER TACTICAL MISSILES

LARGE SRMS POWER INTERCONTINENTAL BALLISTIC MISSILES



Not to scale



PAST

Test firing of the 25AL1000 rocket at Aerojet-General in Pasadena, California



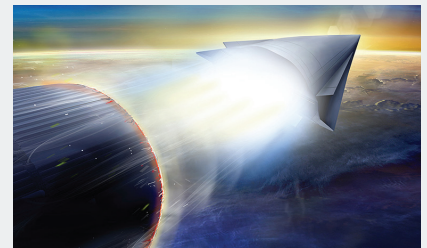
PRESENT

SM-3 propulsion for precision surface-to-air defense



FUTURE

Pioneers of hypersonic technology, continuing to lead in its evolution



SOLID ROCKET MOTORS

- > Consist of a mixture of fuel, oxidizer and binder that are baked to a pencil-eraser consistency
- > Are innovative, reliable and can be safely stored for long periods
- > Can be launched from land, sea, air and space
- > Are ideal for lifting large amounts of mass

HOW THEY WORK

- > An electrical signal is sent to the igniter which creates hot gases which ignite the main propellant grain
- > The propellant contains both fuel and oxidizer, so these motors can operate in the vacuum of space
- > Thrust is developed as the high thermal energy of the combustion gases is converted to kinetic energy in the exhaust
- > With few structural components, the solid rocket motor is efficient since the vast majority of its weight is usable propellant

EFFICIENT

- > There are few structural components, so the majority of their weight is usable propellant, providing high thrust and long range for relatively low cost.

RELIABLE

- > They can be stored for a long time with minimal propellant degradation which makes them very dependable.

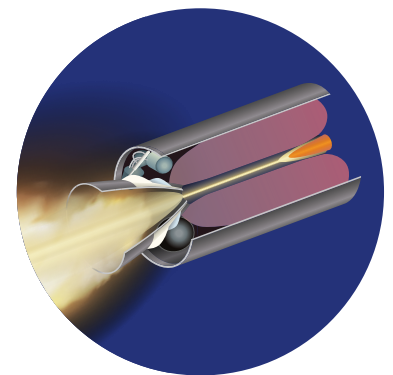
FLEXIBLE

- > The propellant contains both fuel and oxidizer so they can operate in the vacuum of space.



Solid Rocket Motor Applications

- > Missile Defense Systems
- > Strategic Systems
- > Tactical Missiles
- > Targets & Decoys
- > Maritime & Undersea Systems
- > Space Systems



Solid Rocket Motor Sell Sheet

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