



Valley Tech Systems Validates Controllable Solid Propulsion for U.S. Air Force

Propulsion System Prototype Achieves Successful Hot-fire Test Under SBIR Program

RENO, NEVADA, UNITED STATES, July 8, 2021 /EINPresswire.com/ -- [Valley Tech Systems, Inc.](#), has successfully validated its solid-fueled proportional thruster technology for application to post boost propulsion systems for future strategic missiles. Under a [U.S. Air Force Small Business Innovation Research](#) (SBIR) program managed by the [Air Force Research Laboratory](#), Edwards AFB, the company conducted a hot-fire test of a high-fidelity, multi-thruster prototype of its Affordable Solid Post Boost Propulsion System. The prototype demonstrated precision multi-axis thrust and continuous operation to control, steer and orient a missile's post boost vehicle in space for deployment of its payloads. The test was conducted at Derby Field, Nev., June 9.

The Affordable Solid Post Boost Propulsion System design uses proportional thrust (patent pending) and throttling technology to increase accuracy while conserving solid propellant to extend the thrusters' operational duration per unit of fuel. Proportional thrusters perform flexibly at any thrust level from zero to full. Unlike conventional solid systems that do not regulate ballistic thrust performance, controllable solid propulsion technology can achieve levels of precision and long-duration operation that approach those of liquid propellant systems. By providing superior reliability and safety, controllable solid propulsion technology can reduce lifecycle costs for strategic weapon systems.

"This test is a significant milestone in the maturation of this innovative technology for application to future strategic ballistic missile programs, as well as to other space and defense systems," said Russell Carlson, vice president, Aerospace Division, Valley Tech Systems. "The U.S. Air Force's SBIR program has enabled the advancement of this important next-generation propulsion technology."

The test advances the company's Affordable Solid Post Boost Propulsion System technology to the Department of Defense's Technology Readiness Level 5, positioning it for further ground and flight system demonstrations of increasing fidelity. The company previously conducted multiple single-thruster hot-fire tests.

The design includes an additively manufactured thruster housing to reduce weight and increase strength, advanced high-temperature refractory metals, reusable high-temperature insulation material and a Department of Defense-qualified solid propellant.

Valley Tech Systems developed the transformative technology with funding from the Air Force's Commercialization Readiness Program via SBIR Phase II and Phase II Enhancement programs with Lockheed Martin as its commercialization and technology transition partner.

Valley Tech Systems, Inc., is an aerospace engineering company that specializes in innovative rocket propulsion systems and intelligence, surveillance and reconnaissance (ISR) systems. The privately held company has offices in Folsom, Calif., Reno, Nev., and Dayton, Ohio. More information is available at www.vts-i.com.

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Note: Photos are available on the company's website.

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