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Success Story

IHPRPT PHASE I SOLID BOOST DEMONSTRATOR A SUCCESS

An aggressive 23-month Integrated High Payoff Rocket Propulsion Technology (IHPRPT) program, jointly funded by the Propulsion Directorate and Thiokol Corporation, recently resulted in a highly successful full-scale solid rocket motor demonstration.

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Accomplishment

The Phase I Solid Boost Demonstrator program demonstrates new technologies for the case, propellant, nozzle, and control technologies in a 92 in. diameter, 120,000 lb class motor. This motor contained the most recent technologies of any one demonstration since the Trident I (C4) 25 years ago.

Preliminary data indicates meeting or exceeding all program goals. These technologies demonstrate the potential to yield a 23% increase in payload capability at a 32% lower cost for solid booster space lift applications.

These technologies are now ready to transition into small and large launch vehicles as stages or strap-on boosters, and defense missiles. Building off the success of Phase I, the second phase of this program is currently under way.

Background

This IHPRPT program demonstration is part of a three-phase, government and industry-coordinated effort that began in 1996 with the vision to double propulsion capability by 2010. A demonstration, held at the end of each of the three distinct phases, shows the achievement of goals.

The Solid Boost Demonstrator program represents the climax of years of materials development, design, and analysis work performed in partnership between the directorate and industry. IHPRPT is an excellent example of talented people working together as an integrated team to achieve an aggressive objective.

Propulsion
Emerging Technologies

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTT, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (01-PR-03)