

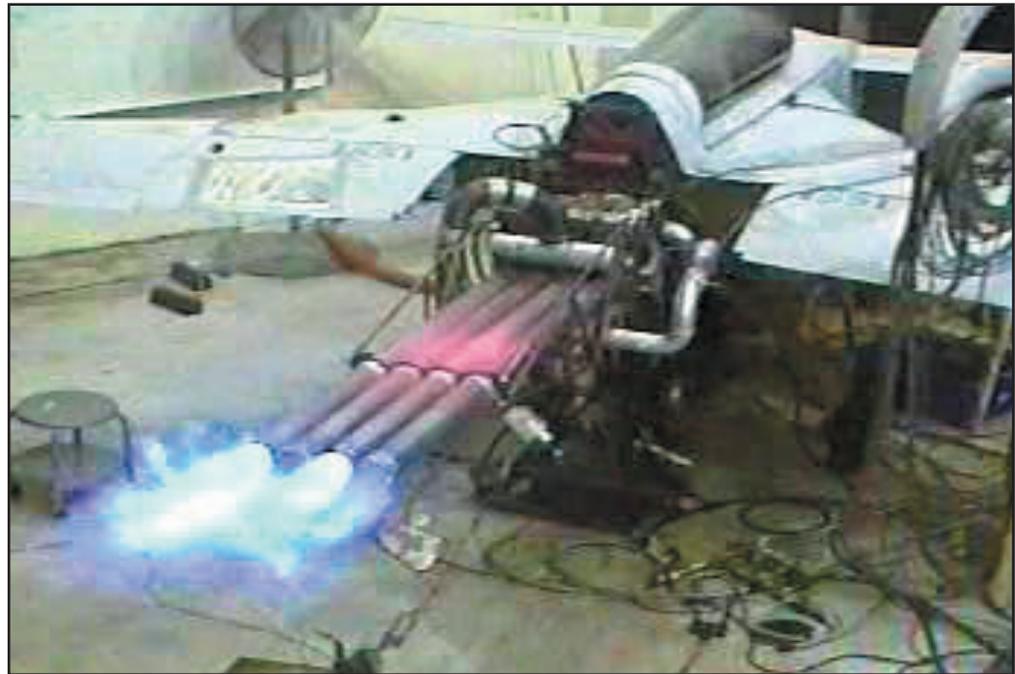


Air Force Research Laboratory | AFRL

Science and Technology for Tomorrow's Air and Space Force

Success Story

PROPULSION DIRECTORATE'S PULSED DETONATION ENGINE COMPLETES GROUND TESTING



The Propulsion Directorate's pulsed detonation engine (PDE) successfully completed ground tests while installed in an amateur-built, experimental airframe and running on common general aviation-grade gasoline, demonstrating proof of concept. The tests met the Federal Aviation Administration certificate requirements for the future manned-flight test phase program.



Air Force Research Laboratory
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Accomplishment

The directorate's Combustion Science Branch completed ground testing of its PDE, designed and built in-house. This milestone highlights the directorate's many significant achievements in this technology. The 20-hour test program marked the first pure PDE sustained and controlled operation.

Background

The directorate established the PDE program to focus on the potential uses and benefits of detonating engine technology over conventional deflagrating engines. A few program goals were to generate nonproprietary PDE data for government use, develop detonation methodology for common aviation fuels without the need to use dangerous and expensive pure oxygen or solid explosive detonation initiators, and establish a research baseline for future Air Force PDE technology development programs.

Propulsion
Emerging Technologies

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (04-PR-15)