AEROSPACE PLANE ENGINE TESTED AT 5500 MPH

A supersonic combustion ramjet (scramjet) engine between test runs at NASA Langley Research Center, Hampton, Va. Designed and built by Rocketdyne, the Subscale Parametric Engine (SXPE) is part of the joint National Aero-Space Plane Program sponsored by the Department of Defense and NASA. Tests in the Langley Arc-Heated Scramjet Test Facility began in April and will continue through the end of the year. It is being tested up to speeds of Mach 8, or approximately 5,500 mph. The concept is a candidate for an eventual flight demonstration. A larger-scale version of the concept, the Concept Demonstration Engine (CDE), will be tested in Langley's newly-upgraded 8-Foot High Temperature Tunnel later this year.

NASA Langley Research Center, Hampton, Va., is NASA's lead center for the National Aero-Space Plane Program.

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LANGLEY AIRFRAME-INTEGRATED SCRAMJET RESEARCH

48° SWEPT SCRAMJET ENGINE MODEL
- Combustor-inlet interaction at M = 4
- Combustor entrance sweep

STRUTLESS SCRAMJET ENGINE MODEL
- Unswept combustor entrance
- Reasonable levels of thrust before combustor-inlet interaction
- 65% inlet mass capture
- 67% combustion efficiency