

In the combustor build-up area of ERB, Paul Adam (left) and George Michalson discuss plans for test of the twin ram combustor at center.

Their testing talent advances jet engines

The Research Operations Branch plays a key role in the Airbreathing Engines Division's mission to advance aeronautics technology. "Our engineers look for efficient test methods that will best evaluate full scale

jet engines and components in the shortest period of time," says William Rowe, Branch Chief. Often this requires new techniques, unique test hardware and instrumentation. Four sections totaling 28

men develop and oversee research operations. Robert Turek's Design Section works with others in the Branch to plan out hardware on paper. PSL Operations Section A, under Ralph Schuricht, is the interface between research interests and design efforts for the PSL Expansion under construction. Section B, under Frank Kutina, concentrates on engine systems tests in the present Propulsion Systems Laboratory. ECRL Operations Section, headed by Howard Calvert, directs activity on full scale annular combustors and turbine cooling in the two test cells of the Engine Components Research Laboratory.

Engine systems and major components are run in large facilities that simulate a range of operating conditions from sea level to altitude. Small components and materials undergo testing in even more specialized installations.



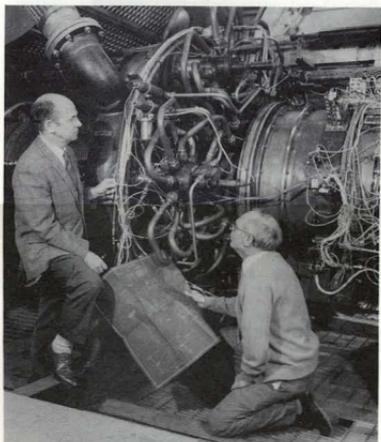
At a spin rig, Dick Jacobs inspects instrumentation being developed for rotating components tests.



Members of the Mechanical Design Section, from left, Dan Wills, Bob McCrone, and Andrew Mitchell, look over modification of a pressure rake to be used in a future test.



Jim Norris inspects experimental turbine blades being tested under high temperature engine conditions.



At the altitude chamber in the Propulsion Systems Lab, Ed Bartoo (left) discusses an engine systems test with Pete Verbulec. Piping introduces pressure distortions to the TF30 engine inlet.

Photos by Paul Riedel



Lee Wagoner (left) and Walt Bishop check a new temperature distortion device that burns hydrogen gas to heat air entering an engine. In actual flight, this distortion could occur as hot gases are ingested during thrust reversal.