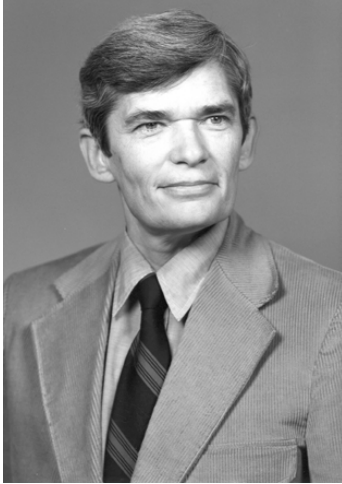


Deputy Technical Director

Dr. J. Leith Potter



AEDC Fellow Dr. J. Leith Potter made various contributions to the analysis of test results, techniques of testing and facility design during his 27 years at AEDC.

The foremost of these is his internationally recognized role in designing and using the unique Tunnel L facility in the 1960s. Beginning in 1960, Dr. Potter was a pioneering investigator in the aerodynamics of hypersonic vehicles in rarefied flows.

Tunnel L was the best known and most productive wind tunnel of its type. When the Air Force's interest in the Manned Orbiting Laboratory and aerospace planes terminated, support from the tunnel was curtailed.

However, fundamental research and development testing on early satellites and re-entry bodies that could not be done anywhere else were accomplished at AEDC before support was curtailed.

Dr. Potter was also a pioneer in the field of boundary layer transition. In the early 1950s, he was the first to appreciate the significance of the unit Reynolds number in the boundary layer transition process.

Recognition of the problem created by this phenomenon has enabled wind tunnel and flight test engineers to better understand their data.

Among his other contributions in this field are his work on thermo-molecular flow effects on pressures measured by means of surface orifices, the accurate measurements of aerodynamic forces and heating rates on lifting bodies at very high simulated altitudes, the design of a series of contoured wind tunnel nozzles giving highly uniform hypersonic, low density flows and methods for predicting aerodynamics of bodies in rarefied flows.

Dr. Potter directed the AEDC group that pioneered the successful use of aeroballistics ranges for nose cone ablation and erosion testing and the later use of gun-launched, track guided models for these purposes. This made a large contribution to development of U.S. strategic missiles and established AEDC's G-Range as the premier aeroballistics range in the world.

He also contributed his major personal effort to the establishment of the University of Tennessee/AEDC graduate studies program as the first instructor of the aerodynamics courses when the program started in 1956 and continued as the sole instructor in these courses until the University of Tennessee Space Institute was established.

He authored more than 30 published papers and journal articles. He received a bachelor's degree in aeronautical engineering from the University of Alabama in 1944 and a master's degree in engineering in 1949. He received a doctorate in mechanical engineering from Vanderbilt University in 1974 and another master's in engineering management from Vanderbilt.



1958: AEDC Fellow Robert L. Young, Martin Grabau, Victor J. Mizell and AEDC Fellow J. Leith Potter discuss the textbook to be used in the graduate degree program. (AEDC photo)