

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Lewis Research Center
Cleveland, Ohio

I. IRVING PINKEL

Mr. Pinkel graduated with honors from the University of Pennsylvania in 1934, receiving a B.A. degree in Physics, and joined the government scientific service in 1935 as a physicist with the U.S. Bureau of Mines. In 1940, he joined NACA at the Langley Research Center to work on the mathematical analysis of non-stationary aerodynamic forces and airplane flutter. In 1942, he transferred to the Lewis Research Center to work on the hydraulics problems of aircraft engine lubricating systems operating at high altitudes.

In 1949, Mr. Pinkel was appointed Associate Chief of the Physics Division at Lewis, with responsibility for studies of aircraft operating problems. As a part of this work, full-scale airplane crash studies were conducted which resulted in means to reduce the incident of fire following aircraft crashes, and the development of a theory for the design of aircraft seats to withstand crash shock loads.

A mathematical theory for the design of supersonic nozzles which provides shock-free flow was developed under Mr. Pinkel's direction in 1948. He also contributed materially to the development of the theory of the "condensation shock" in supersonic flow. In 1952, he developed methods for obtaining the supersonic flow field around immersed bodies when heat is added to the flow.

Mr. Pinkel was appointed Chief, Fluid System Components Division in 1955. In this capacity he directed research for improving the performance of compressors and turbines for aircraft engines and space power generating systems, and turbopumps for rocket propellant systems. Presently he is Director of Aerospace Safety Research and Data Institute.

Mr. Pinkel was elected as an undergraduate to Phi Beta Kappa, Sigma Xi, honorary scientific society, and Pi Mu Epsilon, honorary mathematics fraternity. Among his honors are the Laura Taber Barbour Award in 1956 "for the development of a system for suppressing crash fires", the Flight Safety Foundation Award in 1953 "for contributions to the safe utilization of aircraft" and the NACA Distinguished Service Medal in 1957. In 1963, he received the Sustained Superior Performance Award from NASA. He is an Ohio Professional Mechanical Engineer, has served on the former NACA Subcommittees on Meteorological Problems, Icing Problems, Aircraft Fire Prevention, Flight Safety and the NASA Research and Technology Advisory Subcommittee on Aircraft Operating Problems. Mr. Pinkel is a Fellow of AIAA and a member of the New York Academy of Sciences. He has been a Special Lecturer, Case Institute of Technology Graduate School. In 1967, Mr. Pinkel served on the investigation team of the Apollo 204 accident and in 1970 he was involved in the Apollo 13 accident review.