

PERMANENT A

HUNTER, SANDERS ATTEND LIGHTPLANE CONFERENCE

In an all day session devoted exclusively to problems of the personal airplane, the NACA took the wraps off a large fund of war-time research knowledge for the benefit of lightplane industry engineers. The meeting, held on September 20 at the NACA's Hampton, Virginia laboratory marked the first extensive application of the invaluable information gained from military aircraft designs during the war to the design of light aircraft for private use.

Out of the large number of NACA wartime reports, those that have a direct bearing on small airplane design have been selected and indexed and are being de-classified to make them easily drawn upon by the design engineer. The index was distributed to all those who attended the conference.

Design factors given consideration included: propellers of high ef-
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PINKEL MAKES HIGHEST GRADE

Mr. Irving Pinkel, Chief of the Wind Tunnel Analysis Panel, has qualified for registration as a professional mechanical engineer with the highest grade for the state among 101 successful applicants according to an announcement made by the State Board of Registration for Professional Engineers and Surveyors. Pinkel, who has been trained as a Physicist, wished to be registered as a Mechanical Engineer and was therefore required to pass a written examination. He went to Columbus in July, 1946, and spent eight hours on each of two days in taking the examination.

Officials Attend Ames Inspection

Significant advances in supersonic aerodynamics and new transonic research data were the outstanding features at the second biennial inspection held at the Ames Aeronautical Laboratory on July 12 and 13.

Among the 800 aircraft manufacturing executives, Air Force and Naval Aviation officers, and leading scientists who attended the two-day session were the following officials from this Laboratory: John H. Collins, Jr., Chief of the Engine Performance and Materials Division; Jesse H. Hall, Research Staff Assistant; Willson H. Hunter, Chief, Icing Research Branch; Benjamin Pinkel, Chief, Fuels and Thermodynamics Division; Major V. C. Rethman, AMC, Engineering Liaison Officer; Edward R. Sharp, Director; and Robert E. Tozier, Chief, Instrument Division.

The Ames Aeronautical Laboratory, located on the Navy's Moffett Field, near San Francisco, is conducting research mainly in the field of aerodynamics associated with the transonic and supersonic flight regimes. Of considerable interest to those attending the inspection were the results of research work being done on wing design. Swept-back and straight wing designs are being assigned their proper places to insure optimum performance in the sonic ranges of speed.

Research is continuing on propellers up to supersonic speeds with swept-back and thinner blades the two most promising forms under consideration. The 40 X 80 foot wind tunnel at Ames is being used to test the influences of fuselage and wing interference of twin engine aircraft on propeller efficiency.

Those attending the inspection paused to pay a minute's silent tribute to the memory of Dr. George W. Lewis, former NACA research director, whose death was announced at the inspection.

AWARD FOR AIR SAFETY ACHIEVEMENT

Another team of Lewis laboratory scientists and technicians has won recognition for achievement: one of the three annual awards by the Flight Safety Foundation. These awards are made by the Foundation on behalf of "Aviation Week" magazine.



		Arthur Busch	Solomon Weiss		
Anthony Eiband	Jacob Moser	G. Merritt Preston	Irving Pinkel	Gerard Pesman	Dugald Black

The award reads as follows: "To I. Irving Pinkel and his Associates at the Lewis Flight Propulsion Laboratory of the NACA for classic research into the Mechanism of the Start and Development of Aircraft Crash Fires, for uncovering means to reduce the probability of crash fires, for scientific appraisal of Hazards to Human Survival in Airplane Crashes. Special recognition should be given to the NACA Sub-committee on Fire Protection, to Mr. Ray Kelley, Chairman of that Committee, and to Mr. Lewis Rodert of the NACA who was instrumental in guiding the early stages of this research program."

Mr. Pinkel directed the work which was carried on by the Flight Research Branch headed by G. Merritt Preston and the Operating Problems Section headed by Gerard J. Pesman.

SUBCOMMITTEE APPOINTMENTS

Appointments to the twenty-eight technical committees and subcommittees of the National Advisory Committee for Aeronautics, for the year 1954, have been completed. The following appointments have been made from the Lewis Flight Propulsion Laboratory of the NACA, at Cleveland, Ohio:

Reappointments:

Edmond E. Bisson
 Subcommittee on Lubrication and Wear
 Dr. John C. Evvard
 Subcommittee on Fluid Mechanics
 Dr. L. C. Gibbons
 Subcommittee on Aircraft Fuels
 Irving A. Johnson
 Subcommittee on Compressors and Turbines
 William Lewis
 Subcommittee on Compressors and Turbines
 Bruce T. Lundin
 Subcommittee on Engine Performance and Operation
 Eugene J. Manganiello
 Committee on Operating Problems
 Dr. Walter T. Olson
 Subcommittee on Combustion
 Benjamin Pinkel
 Subcommittee on Heat Resisting Materials
 I. Irving Pinkel
 Subcommittee on Icing Problems
 Subcommittee on Aircraft Fire Prevention
 John C. Sanders
 Subcommittee on Power Plant Controls
 Newell D. Sanders
 Special Subcommittee on Aircraft Noise
 Abe Silverstein
 Subcommittee on High-Speed Aerodynamics
 Committee on Power Plants for Aircraft
 John L. Sloop
 Special Subcommittee on Rocket Engines
 DeMarquis D. Wyatt
 Subcommittee on Internal Flow

These men, who are serving their country in a personal and professional capacity without compensation, are selected because of their technical ability, experience, and leadership in a special field. They provide material assistance in the consideration of problems related to their technical fields, review research in progress both at NACA laboratories and in other organizations, recommend research projects to be undertaken, and assist in the coordination of research programs.

Dr. J. C. Hunsaker, Chairman of the NACA, said in connection with the work of the research agency during the past year, "Coordination of the many interests concerned with aeronautical research has been effectively accomplished with the NACA because of the interlocking character of the membership of its technical subcommittees."

ON THE SPEAKING CIRCUIT

I. Irving Pinkel (Physics Division) sailed for England on April 9th, where he will give an address before the Royal Aircraft Establishment at Farnborough on the subject of aircraft fire research.

Dr. Gerhart Groetzinger, head of the Radiation Physics Section, will give a talk to the joint Solid State Colloquium of the Physics Department, and the Research Institute of Syracuse University on April 20. The subject of the talk is "Elucidation of the Nature of Strain Hardening and Fatigue in Metals by Investigation of Associated Changes in Non-Mechanical Properties."

On April 20th at 7:00 P.M. the Cleveland Physics Society will hold the third session of the Physics in Cleveland Symposium at the Main Physics Lecture Hall at Case. The topic is solid state physics and the chairman is Dr. Philip Schwed. Benjamin Welber will speak on "The Change of Young's Modulus and Internal Friction at the Superconducting Transition", and Mr. Burt Rosenbaum on "The Energy Stored in Metals during Sustained and Cyclic Deformation." Messrs. Schwed, Welber and Rosenbaum are members of the Radiation Physics Section.

THREE RECEIVE 15-YEAR AWARDS

Alvin A. Johnson, a native of Knoxville, Tennessee, joined the NACA at Langley in 1940 after 1 1/2 years with the U.S. Engineers. He transferred to Cleveland in December of 1941, being one of the early arrivals to what is now Lewis Lab. Al is presently serving the committee as Facilities Engineering Draftsman.



Martin B. Bazemore started with the NACA at Langley as an engineering draftsman in 1940. He too transferred in December 1941 to Cleveland and is now a Mechanical Engineer in the special projects group of Engineering Drafting. A native of North Carolina, Martin has his B.S. in Chemical Engineering from N. Carolina State and an A.B. in Education from Atlantic Christian College.



Irving I. Pinkel, Associate Chief of the Physics Division, joined the NACA at Langley in August 1940, transferring to Cleveland in 1942. Irv, born in Gloversville, New York, received his degree of Science of Physics at the University of Pennsylvania. Mr. Pinkel's reputation in his field has kept him especially busy on the speaking circuit, both at home and abroad.



IRVING PINKEL SPEAKS BEFORE AMERICAN & CANADIAN AERONAUTICAL ENGINEERS

The second annual joint meeting of the Institute of Aeronautical Sciences and the Canadian Aeronautical Institute will be held November 3rd and 4th in Ottawa, Ontario, Canada.

Nine technical papers will be presented during the two-day conference at the Chateau Laurier. Also included will be a tour of Canada's National Aeronautical Establishment, the first W. Rupert Turnbull Memorial Lecture and a dinner at which the Right Hon. C. D. Howe, Canadian Minister of Trade and Commerce, will speak.

Mr. Pinkel, Associate Chief of Physics Division, will present a paper on "Recent Results of NACA Crash-Fire Research With Jet Airplanes."

Wing Tips: April 11, 1956

FIRST TO RECEIVE AIR SAFETY AWARD

Four Lewis men are to be honored April 11th with the first presentation of the Laura Taber Barbour Air Safety Award.

I. Irving Pinkel, Chief of Flight Problems Research Division, will receive the gold medal award and G. Merritt Preston, Gerard J. Pesman and Dugald O. Black will receive bronze medal awards for their work in the Crash Fire Program.

The Laura Taber Barbour Air Safety Award will be an annual award, administered by the Flight Safety Foundation and presented in New York City. Congratulations, gentlemen!

AIR SAFETY AWARD WINNERS



The four smiling men on the left are justifiably happy, for they are the first recipients of the annual Laura Taber Barbour Air Safety Award. Left to right are pictured Gerard J. Pesman, G. Merritt Preston, I. Irving Pinkel, and Dugald O. Black as they received the award last week in New York.

AVIATION WEEK

EDITORIAL

Spearhead of Progress

The recent industry-military inspection of the National Advisory Committee for Aeronautics Laboratory at Langley AFB, Va., was a dazzling display of new research facilities and techniques actively exploring areas that, until a few years ago, were considered strictly within the realm of science fiction writers. Even the most technically sophisticated of the 1,600 engineers, executives, scientists and military airmen who saw the Langley display must confess to some astonishment at the variety of research tools revealed and the areas in which NACA is using them.

Good Leadership

NACA's performance as a spearhead of aeronautical progress in this country has been so consistent that its industry and military beneficiaries and the American public tend to take the committee's contributions for granted. Therefore, it may not be amiss to detail some of the hard, brilliant and expensive effort that has been necessary to produce the results with which NACA has laid a solid foundation of new research tools, techniques and data for the successful development of supersonic aircraft and hypersonic missiles.

One of the basic ingredients in the NACA formula is, of course, good men, both at the level of top leadership and on the firing line in the laboratories. Dr. Jerome C. Hunsaker, who has been chairman of NACA during the 15 critical years since the outbreak of World War II, has combined the practical experience of an aviation pioneer with a breadth of vision that saw clearly the needs of aeronautical research through the hypersonic range. Dr. Hugh L. Dryden, director of NACA since 1948, combines the talents of a scientist who made basic contributions on boundary layer control and turbulence with the administrative flexibility required to keep this organization hard at work on new frontiers and out of the rut of complacency.

Need New Tools

In the laboratories, NACA has been fortunate to retain the loyalty and enthusiasm of a host of men who could easily command much higher monetary rewards in private industry. Listing all of them would run far beyond the confines of this space, but typical are John Stack at Langley, a catalyst in the high-speed flight research program, inventor of the transonic wind tunnel and teacher of a brilliant crew of young researchers, including Dick Whitcomb and his area rule; Charles Zimmerman, persistent pioneer in STOL concepts; R. T. Jones of Ames, originator of the swept-wing concept in this country; Harvey Allen, with his fundamental work on missile nose cones; Bob Gilruth, whose multi-stage, rocket-powered models pioneered a new research technique at Wallops Island; Abe Silverstein of Lewis, basic researcher on rockets, ramjets, turbojets and nuclear

propulsion; Irving Pinkel, dedicated to safety research, and Walter Olson on fuels.

One of the basic problems of aeronautical researchers, as distinguished from those of explorers concerned with earth or water-bound vehicles, has been the difficulty of simulating the fantastic environment encountered and the forces generated by high-speed flight. In this field, NACA has developed a wide variety of clever concepts combined with practical ironmongery and pottery to produce basically new research tools for simulation of the high speed flight environment. Even before most of these new research tools were developed, NACA was a moving spirit in pushing development of high-speed flight research aircraft such as the Bell X-1 and X-2 and the Douglas D-558 Mark I and II.

It was no accident that this country was the first to put a level flight supersonic fighter into service; the first to put into production a Mach 2 fighter, and the first to push the limit of piloted flight to 126,000 ft. altitude and beyond 2,000 mph. NACA deserves no small share of the credit for our jump into the supersonic lead.

Proud Record

In addition to its basic job of fundamental research and development of tools and techniques to do this job, NACA also has functioned in the role of a technical trouble-shooter called on repeatedly by the military and industry to iron out major bugs in new aerial weapon systems. NACA is overly modest about its achievements in this field and perhaps it should be in the interests of maximum effectiveness, but there is hardly an airframe or engine maker in this country who has not benefited directly from this type of NACA work. Now, as an operator of unitary plan wind tunnels for industry development work, NACA is expanding its contribution in this field.

Like all research organizations, NACA finds its work is never finished. Every major discovery or breakthrough merely opens a new frontier that must be explored and breeds a new family of problems that must be solved. This is a characteristic of its job that NACA always finds difficult to explain to members of the Congress concerned with its annual appropriations and its never-ending need for new types of research facilities.

NACA is a vital part of the great American aeronautical research complex that includes the Air Research and Development Command, the Office of Naval Research and the research organizations of universities and private industry. It can be justly proud of its record during the past 15 critical years in the air. The American people and the aircraft industry can look forward with confidence to its aggressive and skillful attack on the aeronautical problems of the future.

—Robert Hotz



PINKEL AWARDED NACA DISTINGUISHED SERVICE MEDAL

NACA's highest award, the Distinguished Service Medal, was conferred on I. Irving Pinkel, Chief of the Fluid Systems Division, during a meeting of the Committee at Washington on Thursday, June 20. The honor was presented by Dr. James H. Doolittle, NACA chairman, for Mr. Pinkel's part in the Lewis research on causes of fire and impact hazards in aircraft crashes. This research led to successful demonstrations of fire prevention equipment and to principles of seat design which enhance passenger safety.

When congratulated by WING TIPS, Mr. Pinkel said, "Naturally I'm happy to receive this award, but it was really the whole laboratory which was honored. It took the brainpower and work of many individuals to make our research program successful. Merritt Preston, Jerry Pesman, Dugald Black, Sol Weiss, Art Busch, the hangar crew, and the pilots are just a few of those who deserve credit for what was accomplished. They are the ones who brought the NACA Distinguished Service Medal to Lewis."

The crash fire research program enabled the design and building of experimental equipment to suppress ignition sources during crashes. The U.S. Air Force has entered into contracts for development of prototype equipment based on these studies. On the basis of data obtained during the crash impact phase of the research program, a design method for aircraft seat has been devised which greatly reduces the impact hazard to aircraft occupants.

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 Editor.....Marjorie Hyre Reporters.....NASA Employees

MANGANIELLO NAMED ASSOCIATE DIRECTOR



Eugene G. Manganiello



John C. Evvard



Bruce T. Lundin

Concurrently with the establishment of the NASA, organizational changes at Lewis Research Center went into effect.

Mr. Eugene J. Manganiello, formerly Assistant Director, succeeds Dr. Abe Silverstein as Associate Director. Appointed assistant directors are Dr. John C. Evvard, formerly Chief, Propulsion Aerodynamics Division and Mr. Bruce T. Lundin, formerly Chief, Propulsion Systems Division. Dr. Walter T. Olson and Mr. I. Irving Pinkel are appointed Special Consultants to the Office of the Director. As Special Consultants, Dr. Olson, Chief, Propulsion Chemistry Division and Mr. Pinkel, Chief, Fluid Systems Division, in addition to their regular duties, will share with Dr. Evvard and Mr. Lundin in the research planning and coordination activities of the Lewis Research Planning Council.

Dr. Evvard will direct the activities of the Materials and Structures Division, Nuclear Reactor Division, Instrument and Computing Research Division (formerly the Physics Division), and a newly created Advanced Propulsion Division. Mr. Lundin will direct the research conducted in the Fluid Systems Division, Propulsion Aerodynamics Division, Propulsion Chemistry Division and Propulsion Systems Division. Mr. Wolfgang E. Moeckel is appointed chief of the Advanced Propulsion Division. This division will be concerned with research into thermonuclear, ion, plasma, magnetohydrodynamics and other energy sources for propulsion of aerodynamic and space flight vehicles.

Chief of the Instrument and Computing Research Division is Mr. Jesse H. Hall. This division consists of the former Physics Division minus the aerodynamic noise research, plus the Computing Sections of the now-abolished Research Services Division.

Mr. Carl F. Schueller succeeds Dr. Evvard as Chief of the Propulsion Aerodynamics Division. Mr. William A. Fleming is appointed Assistant Chief of this Division. Mr. David S. Gabriel succeeds Mr. Lundin as Chief of the Propulsion Systems Division.

Mr. Henry C. Barnett is appointed as Assistant to the Director in which position he will assume the duties formerly discharged by Mr. J. H. Hall, including supervision and control of the Research Reports Division and the Library and Translation Sections.