Cleveland, Ohio, July 27, 1951

HELP WANTED

Esther Wagner is looking for several Lab girls to help her in serving luncheons at the Inspection to be held sometime in October. This is a big job, so how about some of you girls lending her a helping hand. Secure approval from your supervisor first, then contact Esther in Room 3-A, Ad. Bldg. or call her at 3109 for more details.

WING TIPS

Issued in the interest of the personnel of the Lewis Flight Propulsion Laboratory, NACA

Vol. IX | Cleveland, Ohio, September 28, 1951 | No. 12

LEAVE CARD CHANGES

For the convenience of those employees who are keeping a record of their annual leave on card form C. 148, the chart below shows new earned leave figures in accordance with the recent legislation. Individual leave cards should be changed if an accurate record is be kept. The new regulations were explained in an official bulletin issued September 14.

Pay Period	Leave Earned
June 24-July 7	7
[illegible] 8-21	6
[illegible] 22-Aug. 4	6
Aug. 5-18	6

LABORATORY PREPARES FOR INSPECTION

After a lapse of two years, the Lewis Laboratory will again conduct an Inspection. This is the first in the program to be put on a biennial basis. The dates are October 9, 10 and 11.

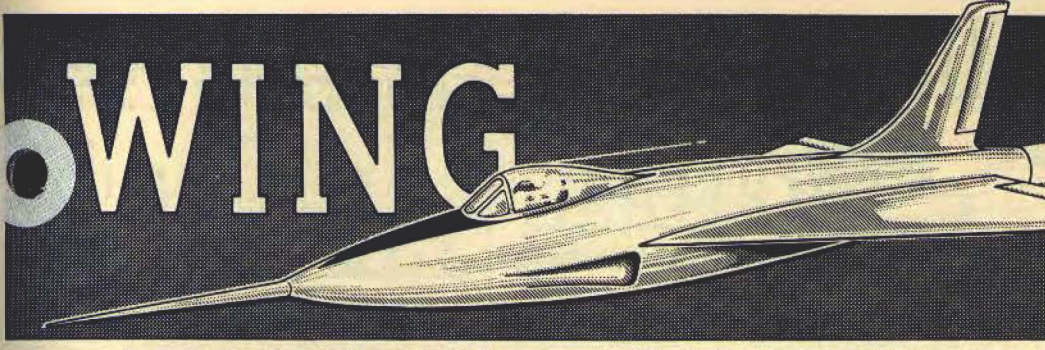
Some 1200 visitors are expected during the three days, representing the leaders in the aircraft industry, tops from the armed services and universities, and civic and industry leaders from the Cleveland area.

The eight stops on the Inspection schedule will present a cross section of Laboratory activities including the shop skills and instrumentation work which are closely related to the research program.

The theme of the 1951 Inspection revolves around the integration of all Lewis activities into the coordinated overall program aimed at the single objective of "more power."

On Friday, October 12, the Inspection will be thrown open to the employees. Details of this program will be announced soon by a memorandum to staff.

WING



Issued in the interest of the personnel of the Lewis Flight Propul

Vol. IX Cleveland, Ohio, October 12, 1951

INSPECTION SHOWS RESEARCH PROGRESS

Visitors at the Laboratory's inspection heard discussions and witnessed demonstrations which were representative segments of the propulsion research being conducted here.

At the 8 X 6-foot Supersonic Wind Tunnel the performance of a full-scale ram-jet engine for a supersonic guided missile was shown. By means of a schlieren apparatus, the image of which was projected by television to a viewing screen, shock wave formation about the inlet was made visible.

In the field of turbine cooling research present approaches to the problem were summarized and recent advancements such as air cooling were discussed. The effectiveness of air cooling in a turbojet engine was demonstrated. The fabrication of turbine blades from non-critical metals was stressed.

The coordination of altitude facilities with research setups was explained in the Control Room in the Engine Research Bldg. At this stop a movie showing operation of a J-34 engine under simulated conditions of altitude and speed was screened.

Progress in research to add strength to materials by partially eliminating surface cracks was outlined by speakers at the Materials and Stresses Bldg. Demonstrations showed the effects of cracks and proposed methods of mounting blades made of ceramals. Effects of vibration on blade life and methods of decreasing

(Continued on Page 2)

INSPECTION SHOWS PROGRESS

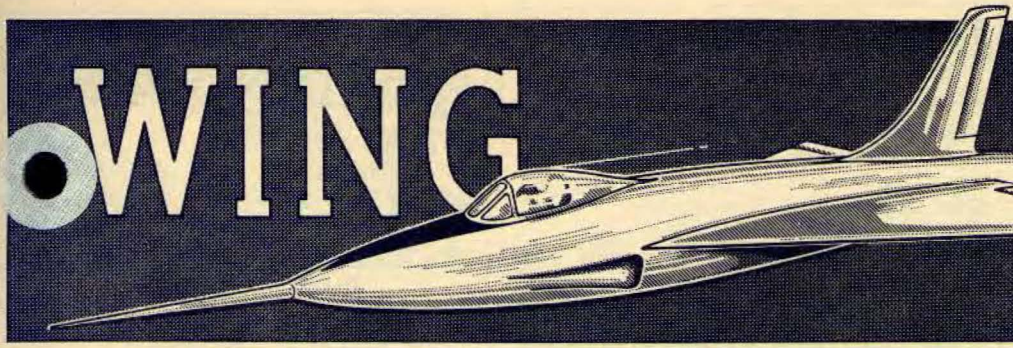
the amplitude of vibration were explained.

At the Technical Service Bldg. there was a demonstration of the various techniques of fabricating compressor and turbine blades using the latest machinery and methods. On view was a measuring machine designed by NACA which quickly measures the contour of blades.

Inflammability limits, ignition, and flame propagation of several hydrocarbon fuels were shown by actual experiment before the audience at the stop in the Fuels and Lubricants Bldg.

In the field of instrument research automatic machines which record and tabulate temperatures and pressures and then convert these readings into IBM data were shown. There were also exhibitions of high temperature thermocouples, compensated thermocouples for rapid fluctuation in temperature, and an electromagnetic flowmeter.

At the Altitude Wind Tunnel engine control problems and their solution by tunnel testing and the use of the analog computer were summarized. Also included was a talk on the importance of after-burning for supersonic flight. Actual burning inside the tunnel was televised in color.



Issued in the interest of the personnel of the Lewis Flight Prop

Vol. IX Cleveland, Ohio, November 9, 1951

DR. DRYDEN PRAISES INSPECTION

The following letter written by Dr. Hugh L. Dryden, NACA Director of Research, was received recently by Dr. Sharp:

Dear Ray:

Will you express my personal appreciation to the members of the Lewis Laboratory staff who participated in the planning and execution of the annual inspection. It may seem at first sight that the task of attempting to describe in simple non-technical language what we are doing and why, does not contribute to our goal of the technical advancement of aeronautics. Yet on closer consideration it will be realized that the financial and moral support of our work, which makes possible the technical advances, is dependent ultimately on an appreciation of its value, not only by technical specialists but by the executives of industry and government. The inspection activities are a great incentive to clear thinking as to our real objectives.

Comments on the inspection have been uniformly favorable, both as to content and manner of presentation. I was especially pleased to see the work of the supporting personnel presented as an integral part of the story to be told. The detailed arrangements for transportation, food, conduct of the parties from place to place, seating, lighting, amplification of sound, etc. were well taken care of. As stated by many visitors, it was the best inspection yet, and it set a high standard for the future.

Sincerely,

/s/ Hugh L. Dryden
Director

LIBRARY REVIEW

By Eleanore Wilkins

Lewis Laboratory's recent Inspection resulted in a number of articles in national magazines. Iron Age of October 18 stresses the developments in air cooling of jet engines and the consequent savings in scarce metals. Coverage in aviation journals was more general.

(Continued next column)

In American Aviation of October 29, William D. Perreault presents a two page summary of work going on at Lewis as evidenced by the exhibits and talks. This issue also carries an interview in question and answer form with Dr. Sharp and Mr. Silverstein on current trends in research here.

Aviation Week of October 22 has a brief news article on the demonstrations and a page of pictures of missile designs. In the issue of November 12, Irving Stone's story, copiously illustrated, gives more details of the Inspection, describing the work on instrumentation, cooling, combustion, controls, icing, inlet studies, shop developments, afterburning, and electronic computers. This article also mentions the news conference announcement of the new supersonic tunnel.

Robert McLarren, in Aero Digest for November, covers the Inspection in his usual competent and detailed manner, under the title, "NACA reveals progress in propulsion: 1951 Lewis Laboratory Inspection unveils new equipment, methods and research results"

All of these magazines are available in the Library.