

## Langley Will Play Host At May Inspection

The NACA Biennial Inspection will be Langley's show this year. Tentative dates have been announced as May 18, and 21 through 25.

Laboratory research men are making arrangements to attend. Contingents of aircraft manufacturers, research experts and military representatives will tour the Langley facilities and see demonstrations.

The purpose of the inspec-

tion is to acquaint the experts in aviation with the advancements by the NACA during the past year and to give visitors a chance to view the equipment used on the projects.

# WING

# TIPS

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## Install Badge System

Employees and all other persons visiting or working at the Laboratory will be issued personal identification badges as a part of the NACA security program now being installed.

Every employee will receive a badge of one type except in restricted areas, at present, the Materials and Stresses Bldg. Admittance to this building for those not regularly assigned there will be only by proper clearance through the guard now stationed in the lobby of that building.

On or after June 11 all persons will be required to wear their badge on an outer garment in plain view.

It is especially important that all employees cooperate to the extent of reporting to Mr. Burton

## LANGLEY UNVEILS TRANSONIC TUNNELS

Approximately 50 staff members headed by Dr. Sharp and Mr. Silverstein attended the biennial inspection at the Langley Laboratory in Virginia for several days during the week of May 21.

The modification for transonic investigations of two of Langley's wind tunnels was foremost among the developments which interested the visitors.

### DESIGN DEVELOPMENT ELIMINATES CHOKING

According to Mr. Floyd L. Thompson, Chief of Research, flow conditions in the full transonic range with large models will be duplicated in the new tunnels for the first time. "This was made possible by the discovery of a way to eliminate the 'choking' effect that occurs in a wind tunnel when air rushes through the test section at nearly the speed of sound," Mr. Thompson explained. For security reasons design details as to how this phenomenon has been checked were not revealed.

Bracy, Security Officer, 4152, any misuse or lack of caution by any person while on the grounds. The program can only be effective if it is cross-checked by all persons concerned.

Complete regulations concerning  
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Both the 16-foot and 8-foot transonic tunnels can now accommodate large-scale models permitting extensive instrumentation, or even certain full-size components.

### X-1 SCALE MODEL USED

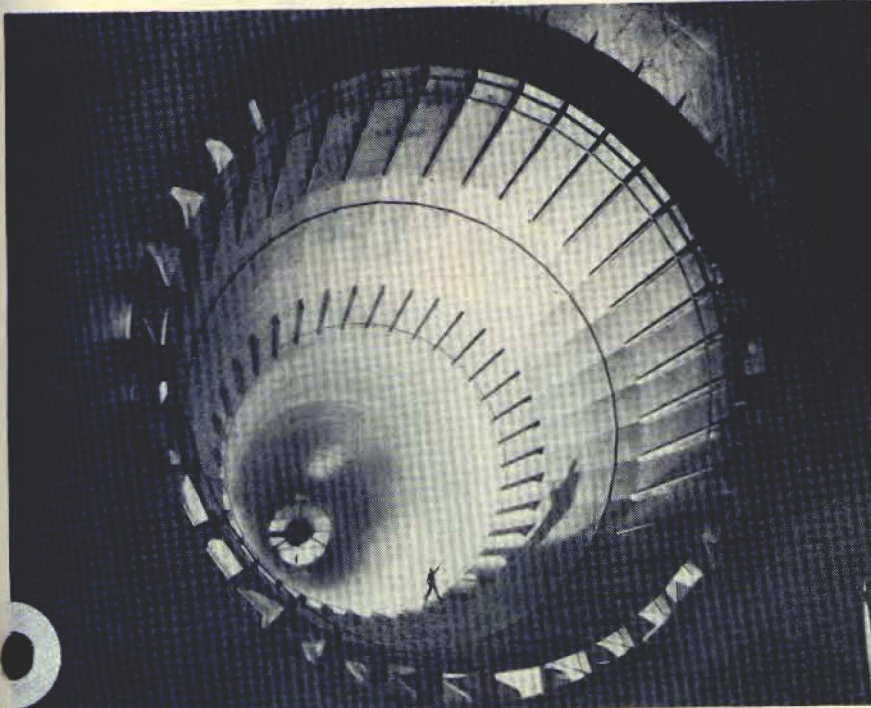
One of the first models installed was a one-quarter scale model of the Bell X-1, so instrumented that as many as 200 pressure distribution readings from the loading over the wing can be recorded simultaneously. Using models of this size, it may be possible to gather sufficient experimental information for analysis to permit development of mathematical and theoretical understanding of transonic flow phenomena.

The 8-foot tunnel is being used to study problems of stability and control, drag, wing performance and the shape of air inlets and missiles. New fan blades increased the thrust of the 16,000 hp motor in this tunnel.

### 4X4 SWT OUTPUT INCREASED

Among the tools used for studies in the supersonic range is the 4X4-foot Supersonic Tunnel. The power output was raised from 6,000 hp to 60,000 hp making possible ten times as much air density in the test section. By using a model of a missile or very small plane it is now possible to simulate full-scale conditions at high altitude.

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Large air vents shown in this interior view of the 16-ft. transonic tunnel at Langley remove warm air and substitute cool outside air.

## LANGLEY INSPECTION

### OTHER NEW CONSTRUCTION

The new construction and modification of existing facilities is a part of the broad program planned jointly by the three NACA laboratories. In addition to these named, another high-speed wind tunnel with a test section eight feet in diameter is under construction. Also, a large gas dynamics laboratory which will be used for supersonic research in the relatively unexplored field of gas dynamics is half completed. Additions to the Internal Aerodynamics Laboratory, the Instrument Research Laboratory, and the Pilotless Aircraft Research Laboratory are nearing completion.