

☉ * ○ ● SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

4	early a. m.	Meteors visible from constellation of Aquarius	19	3:22 p. m.	Moon in last quarter
5	5:33 p. m.	Moon in first quarter	22	10:00 a. m.	Moon farthest distance 251,600 miles
6	4:20 p. m.	Moon passes Saturn	27	6:24 p. m.	New moon
10	11:00 a. m.	Moon nearest, distance 224,900 miles	28	1:48 p. m.	Moon passes Mercury
	4:00 p. m.	Mercury farthest east of sun		5:37 p. m.	Moon passes Venus
12	8:51 a. m.	Full moon			Subtract one hour for CDT, two hours for MDT, and three for PDT.
17	10:14 a. m.	Moon passes Jupiter			Science News Letter, April 23, 1949

AERONAUTICS

Speed for Air Supremacy

➤ PROGRESS in aerodynamics research during the past year has been more rapid perhaps than in any other year since the Wright Brothers' first powered flight, the annual report, just issued, of the National Advisory Committee for Aeronautics states. Superior speed is essential to supremacy in the air, it declares.

Aerodynamics is concerned with aviation problems of aircraft design to achieve speed, stability and safety in flight. Speed is the most valuable single characteristic of aircraft, particularly military, Dr. Jerome C. Hunsaker, chairman of the committee, states in his letter of submittal to Congress. One immediate objective is to solve, as quickly as possible, the most pressing problems attendant to high-speed flight.

The research of the National Advisory Committee for Aeronautics, a government agency known as NACA for short, is directed toward the over-all objective of acquiring new scientific knowledge essential to assure American leadership in aeronautics. The committee, with its several laboratories and hundreds of aircraft scientists, directs its research to the needs of military, commercial and private aviation to obtain the scientific information to permit flight at increasing speeds to be accomplished in a safer and more economical manner.

As a consequence of the similarity of the basic objectives of both military and civil aviation, to carry greater loads faster, farther, and more economically, scientific research conducted with the objective of im-

proving military aircraft is applicable to civil aviation. In general the research results are first applied to military aircraft and, after further practical experience and development, to civil aircraft.

Much work has been done during the year by NACA in the design and testing of various types of wings for airplanes. The wings of aircraft designed to fly at near the speed of sound are, in general, characterized by thin airfoil sections. Of the wing plan forms suitable for flight at moderate supersonic speed, triangular wings, such as used on the new so-called Delta-wing plane, combine the structural efficiency with the dynamic efficiency of a highly sweptback leading edge.

Science News Letter, April 23, 1949

PHYSICS

Attain Absolute Stillness In New Echo-Proof Chamber

➤ ABSOLUTE stillness, a condition few have ever encountered, is achieved in a new silent chamber revealed at the U. S. Army Signal Corps base in Fort Monmouth, N. J. This no-echo chamber was designed and constructed for the testing of delicate instruments.

Absolute quietness is a condition that few persons can expose themselves to for 30 minutes without pronounced discomfort, the engineers who built the chamber discovered. Therefore, provisions were made so that the instruments inside can be read

from the outside. The engineers also learned that the presence of anyone inside the structure impaired the complete efficiency of tests.

The chamber is to be used primarily to determine operational accuracies of microphones, head-sets, loud-speakers and other items requiring minute examination. It is known scientifically as an anechoic chamber. The term means "no-echo". An ordinary sound-proof room was not enough because any variation, such as the reflection of sound from walls, introduced a false reading on the indicators. Glass fiber plays an important part in the construction because it is one of the best sound-absorbent materials available.

The value of an accurate means of knowing how much noise is made by all kinds of machinery used by the Army, and effective methods of eliminating the noise, can not be underestimated. The noise made by a hand generator operating a piece of equipment in the field, for instance, would reveal the presence of the operator to the enemy, even if he could not be seen. He would be quickly eliminated and that piece of apparatus put out of action. The Signal Corps objective is to produce apparatus which gives off so little noise that they defy detection.

Science News Letter, April 23, 1949

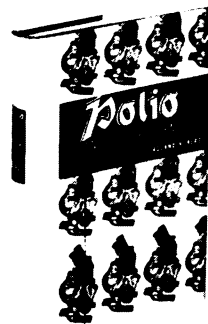
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