

Full Day Discussion

DESIGN AND CONSTRUCTION OF ROTOR BLADES

Chairman A McCLEMENTS, A R T C, M I MECH E

An all-day meeting of The Helicopter Association of Great Britain was held on Saturday, October 6th, 1951, in the Library of the Royal Aeronautical Society, 4 Hamilton Place, London, W 1

The CHAIRMAN, opening the Proceedings, said "To-day we are going to discuss a subject of very great importance. Our rotating wings, as well as providing sustentation, must often provide propulsive thrust and control, and always operate with a reasonable degree of satisfaction under aerodynamic conditions which are far removed from the ideal. Further, our wings are maintained in equilibrium by a series of couples quite foreign to the fixed wing, also, they generate disturbances which must be kept under control, otherwise the overall level of vibration can become wholly unacceptable. Such considerations lead on quickly to the conclusion that we are concerned with a subject more complex in many respects than its fixed wing counterpart, and quite fundamental in the science of rotating wing aircraft. With thoughts such as these in mind your Council decided that to-day would be devoted to a study of the design and construction of rotor blades. We have accordingly arranged a programme which we believe will be of great interest."

There will be three sessions. The **morning session** will be devoted to theoretical considerations of various aspects of the problem. We shall hear two papers read by well known authorities. These papers will be followed by a short discussion. The **afternoon session** will commence at 2 p.m. It will be concerned with the more practical aspects of blade problems and it will include five papers read by speakers well known in their own fields. The **evening session** will extend from 4.30 to 5.45 p.m., and it will be devoted to discussion only.

Morning Session (FIRST PAPER)

Calling on Mr H. B. SQUIRE to present his paper on "Some Aerodynamic Aspects of Rotor Blade Design," the Chairman said that Mr Squire was so well known that there was little need for him to be introduced. We were aware of his contributions in the fields of performance evaluation methods, stability, and general theoretical work during his tenure of office at the Royal Aircraft Establishment, also of his work on the Helicopter Committee of the Aeronautical Research Council (of which he was Chairman from 1946-1951). The Chairman mentioned that Mr Squire was a member of the Staff of the National Physical Laboratory and it was gratifying to know that he still found time to devote to our problems.