Organisation Scientifique et Technique Internationale de Vol a Voile
3 eme Congres Internationale

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To this meeting nine nations sent representatives: The United States of America, England, Holland, France, Belgium, Switzerland, Norway, Sweden, Jugoslavia, and Denmark. Five papers were given at the technical session:

1. Some Remarks on Glider Design and Related Subjects, L. L. Th. Huls of Holland.

2. Sailplane Blind Flight by W. Ledermann, Switzerland.

3. Atmosphere Waves and Rotors, J. Jucker of Switzerland.

4. Air Flow over an Extended Ridge by A. Raspet, U. S. A.

5. Performance Measurement of a Soaring Bird by A. Raspet, U. S. A.

A short film taken by R. Symons showing the motion of the lenticularis clouds over Owens Valley in California was also presented at the meeting. W. B. Klemperer of U. S. A. described the process shown on the film.

Following the technical meeting a sub-committee was appointed by the president, L. A. de Lange of Holland. This subcommittee was charged with preparing a constitution for the OSTIV. The first draft was submitted to the delegation and approved on July 8, 1950. Under this constitution the OSTIV is charged with the international dissemination of scientific and technical information in the field of motorless flight.

Two committees act as the working body of OSTIV, the Scientific Committee and the Technical Committee. To the former the writer was appointed chairman and to the latter Mr. W. Ledermann of Switzerland.

The first action of the Scientific Committee was to organize a series of comparison flight tests between the various high performance sailplane at the International Soaring Competition. The first test was run off on July 10 between the German design Weihe and the Jugoslavian design Orao II. The latter is particularly interesting because of its revolutionary design. The result of this test is given in Appendix B. In Appendix A is shown the plan for the remainder of the test program. Unfortunately the contest committee could not find it desirable to make further tests.

In examining the various sailplanes at the contest the writer was impressed by the fact that many of them carried artificial horizon instruments. These were in general driven by a venturi on the exterior of the sailplane. Not only is this arrangement costly in drag but in actuality the instrument furnishes incorrect information when the sailplane spirals (and a sailplane spirals continuously up through clouds.) See Appendix C in the next issue of Soaring.

Close observation of the sailplane showed that to a large degree attention to the fine details of reducing parasite drag were not exercised. In particular pitot-static and venturi tubes were placed on the fuselage nose in regions of high velocity flow. The windshields were also equipped with ventilators placed at the high velocity points instead of at the stagnation point at the forward edge of the windshield. Such a forward ventilator also acts as a scavenger to remove the turbulent boundary layer. Some sailplanes also had numerous unnecessary protruberances. Close attention to details such as these has resulted in a minimum drag coefficient of the American sailplane "Tiny Mite" of 0.0112. This sailplane was tested and modified at the Engineering Research Station at Mississippi State College.

Some sailplane with laminar profiles are now being built. In Holland the 491 is being built with the airfoil NACA 64 (215-7) (16.25), a—0.7. In the U.S.A. the Ross-Johnson 5 is built with NACA 64$_3$—615 section. This craft was finished at Mississippi State College and was flown in early August at the U. S. National Soaring Contest. Profile drag tests will be made to determine if the airfoil is behaving. Overall performance tests will also be made to determine the effective aspect ration of the wing.

On July 12 the writer gave a lecture "The Sailplane in American Science", to the personnel assembled at the International Soaring Competition. This lecture, a feature of the OSTIV, was illustrated by slides showing the various research applications to which the sailplane was put in the U. S. A. This same lecture was repeated in invitation at Gottingen, Dortmund, Frankfurt, and Darnstadt in Germany.

The author was also invited to visit Jugoslavia and to give two lectures at the universities at Ljubljano and Beograd. However, after receiving the required visa the author found it impossible to go there. The organization of the Jugoslavian soaring movement is very interesting. There is a plant with 45 people making sailplanes for the movement. They have several talented engineers who devote their spare time to designing sailplanes. One of these is Boris Cijan, designer of the Orao II and the other is a young student of Ljubljano Technische. Hochschule, Jaroslav Koser, who designed the Triglav and the Jadran amphibian sailplane.

The Jugoslav sailplane designers seemed very anxious to have the writer come up to their country to carry out performance measurements on their sailplanes. They seem to lack experience in this particular field. Not one of their sailplanes has been quantitatively flight tested, yet they have a number of designs which would yield valuable informtion to the technique of fine areodynamics.

For the international exchange of knowledge in motorless-flight science it appears that the offices of the UNESCO are needed. Standardized instruments will require transportation from one country to another. The customs officials of these countries can make the process very difficult. Data so collected will be reduced and published in the OSTIV publication "Contributions to the Science and Technology of Soaring". The international program of sailplane performance evaluation has been set up by the writer as a first project of the Scientific Committee. It is hoped that international barriers do not hinder the program.

APPENDIX A

Program for Sailplane Comparison Tests

It is a recommendation of the Scientific Committee of OSTIV that while so many progressive sailplane designs are assembled in one place as at this International Contest at Orebro the following pro-