

REMARKS FROM THE OSTIV PRESIDENT

As announced in Technical Soaring Vol. 19, No. 3 an extended report about the XXIV OSTIV Congress will follow in this issue. The author is Mr. Alan Patching, OSTIV Board Member, who was our Australian OSTIV Representative for long years, an outstanding engineer of high scientific and technical wisdom and experience, an expert in all questions of safety and a great friend, enthusiast and teacher in all fields of gliding.

He is resigning now as our Australian OSTIV Representative and will be followed by Mr. John Ashford, Member of the OSTIV Sailplane Development Panel, also an aeronautical engineer and highly engaged in all matters of our gliding sport.

IN MEMORIAM – Dr. Willy Andre Eichenberger

OSTIV has lost its Honorary Vice President Dr. Willy Eichenberger, who died on December 29, 1994. Dipl. Ing. Andreas Deutsch, Deputy Director of the Federal Office of Civil Aviation and a good friend of him honors the work of Dr. Eichenberger remembering main stations of his life.

POSTHUMOUS FAME

Dr. Willy Andre Eichenberger was born November 6, 1911, at Cortaillod/Neuchatel in Switzerland. He was married and had a daughter.

After having completed his general education, Dr. Eichenberger made his Bachelor's degree in the scientific field. He then went through studies at the University at Neufchatel (1933-1936) with Physics as the main subject and graduated with a Doctor's degree. After an interim time of teaching he started a two-year study at the Institute of Physics at the University of Gottingen (1937-38).

In 1938 Dr. Eichenberger was engaged by the Federal Office of Civil Aviation as collaborator in its aeromechanical school center. During World War II he was detached to the airfield of Locarno as a weather forecaster (1940-1942) and returned then to the main office as a scientifique employee in the Division of surveillance for flying, personal.

At the time of his retirement in 1976, he was Head of the Section Flight Crew Licensing.

During his stay at the office Dr. Eichenberger completed different additional formations and training in the field of aviation and meteorology. He was holder of a glider pilot license with instructor extension, a Private Pilot License for night flight and aerobatics, a helicopter license and a navigator license for long distance flights.

Interesting to know are the activities of Dr. Eichenberger in the international field. These started in 1939 with work in the Internationale Studienkommission fur den Motorlosen Flug (ISTUS), followed in 1948 by activities in the successor organization, the Organisation Scientifique and Technique Internationale due Vol a Voile (OSTIV). During this time he was elected as a Board Member, later Vice President and resigned from his active time as Honorary Vice President after 28 years of servicing as Vice President.

As national delegate of Switzerland he participated in many different scientific and meteorological events, e.g., the Congress, Jet Streams and Atmospheric Waves in Torino (1959) and the Alpine Meteorological Congress at Varese (1961). As delegate he was also active in the International Civil Aviation Organisation and the respective European organisation, especially in the working groups for Flight Crews Licensing problems, here Instruction and Examination. His perfect knowledge in various languages (French, German, English, Italian and Spanish) supported these activities.

Last but not least, Dr. Eichenberger was a well-known author of numerous scientific publications, manuals for pilot education, etc., the best known of it is Flugwetterkunde, a most valuable meteorological handbook for generations of pilots, first printed in 1958, and now in the 7th edition.

After his retirement he was active in the Swiss Veteran Gliderport Association.

We all know Willy as a warm hearted, open minded and cooperative personality and we will keep him in good remembrance.

The report of Alan Patching on the OSTIV Congress at Omarama.

OSTIV at Omarama

by Allan Patching (Reprinted with permission from Australian Gliding, April, 1995.)

Despite indications that the high cost of travel to New Zealand would seriously limit the number of participants, there was a total of over 300 attendees from 17 countries.

There was a full program of OSTIV activities including joint and separate meetings of the Crashworthiness subcommittee, glider parachute recovery systems (GPRS) working group, Training and Safety Panel (TSP), Sailplane Development Panel (SDP), OSTIV Board, together with the congress and general conference. Many New Zealand glider pilots helping run the World Cham-

pionships took every opportunity to participate as observers at meetings, or to hear papers of interest during the Congress.

The effect of jet lag was underestimated by some travelers, including Piero Morelli, who awoke to find the car he was driving doing a slow roll across a paddock. Apart from two brief visits to hospital he was found to be relatively undamaged, unlike the car. He commented that he is now more aware and interested in crashworthiness.

Since the success of a GPRS demands that the glider fuselage has crashworthy characteristics, the two groups combined for all meetings. Other interested persons were invited to attend. During the two days of discussion there was a total of 16 participants from eight countries.

Two major items were covered, firstly presentations and discussion of recent activities, and technical progress in parachute systems and crashworthy design features. There was a thorough discussion resulting in revision of the proposed OSTIVAS for GPRS.

Since pilot escape or recovery systems are not contained in OSTIVAS, it was agreed that the final draft should be issued as a Technical Specification. This will be circulated widely for review and comment by all interested persons, especially designers of gliders and GPRS. There was considerable discussion concerning standardization and operational requirements, all aimed at lowering a complete or damaged glider to the ground with the pilot still in the cockpit.

The SDP meetings were attended by 37 people from 9 countries including the GFA, CTO/A, John Ashford. Piero Morelli, chairman SDP invited John to join the panel as a full member.

The panel proposed further amendments to OSTIVAS, especially the determination of loads which the glider structure should withstand to allow pilots the greatest chance of surviving emergency landings. Central to this is the concept – similar to car design – of “soft nose, strong cage” for cockpit design.

Jan-Eric Olsson distributed amendment No. 3 to the 1986 edition of OSTIVAS, which will be available from the OSTIV Secretariat.

Piero Morelli and Oran Nicks reported on their successful negotiations regarding the certification and modifications to the PW-5 world class glider. One evening they outlined the current situation to a large audience in the Countrytime Hotel, which doubled as the Championships Headquarters.

The SDP finalized the proposals for OSTIV awards which were made during the official opening as follows:

- the OSTIV prize for any outstanding improvement in sailplane technology was given to - Richard Eppler, Hermann Naegle, Rudi Lindner, Eugen and Ursula Haenle, Ulrich and Wolfgang Huetter – with the citation – “Partly independent and in competition – sometimes using third part knowledge in composite technologies –

partly building on their own experience, creativity and co-operation, all seven prize winners together developed an outstanding part of the composite technology for sailplanes, opening the age of production of sailplanes in series.”

Two OSTIV diplomas were awarded for technical and meteorological papers given in Borlänge, being of particular value to OSTIV: Mr. Wojciech Chajec for his technical paper - “Critical Flutter Speed Of A Sailplane Calculated For High Altitude - Examples Of Calculation”. The author has created and made available PC based complex flutter calculations making the determination of critical speeds for high altitude flight of sailplanes economically possible.

Olivier Liechti and Bruno Neininger for their meteorological paper “ALP THERM A P-C Based Model For Atmospheric Convection Over Complex Topography.” At present this numerical model is the most developed tool to forecast with excellent temporal and vertical resolution thermals, lift rates, cloud cover, heights of base and tops of clouds in a mountainous area.

There were no nominations this year for the OSTIV Plaque with Klemperer Award which is given for the most scientific or technical contribution to soaring flight in recent years.

The subject of fatigue and service life received some attention, and the panel reaffirmed the OSTIV position conveyed to the Joint Airworthiness Committee that the SDP sees no need for a full scale fatigue test to be a requirement at this stage.

John Ashford summarized the service life situation for a number of gliders in Australia. There is no doubt that gliders in this country are truly – lead the fleet – aircraft, and if there are any fatigue-prone areas they will know about them first.

Christoph Kenschke presented life calculations for spar booms based on data from tests on wind turbine blades, using the Kossira load spectrum. The results give a very long life, however it does not apply to areas such as the attachment of shear webs to spar booms or points of high load transfer. The Janus test results at RMIT indicate that the latter areas could have a much shorter life.

The next SDP meeting will be held in Zlin, Czech Republic, in September, 1995.

Attendees at the official opening included representatives from the world championship teams, together with local and international dignitaries. The keynote address was given by Dick Georgeson, the well known pioneer of wave flying in New Zealand. Dick gave a brief history of gliding in New Zealand which received a “kick start” from Arthur Hardinge who gave demonstration flights in the Olympia “Yellow Witch”. Dick also gave an interesting overview of weather situations, their exploration and use for record flights.

The OSTIV Congress occupied four days with most

of the papers covering technical subjects. The topic of glider recovery and pilot rescue systems was certainly appropriate, with one bail-out and five emergency landings during the championships. Fortunately there were no injuries.

Wolf Roger showed videos of a number of tests at Aachen University. It was interesting to see how various fuselages distorted during nose down impacts. James Ritchie described the various tests and calculations which should enable the GCV to extend the operating life of their IS-28 gliders, well beyond the current 12,000 hour limit.

According to Loek Boermans the current airfoil sections cannot be made more efficient with boundary layer control. Already the various combinations of blowing, sucking, etc. are producing a reverse flow around the trailing edge.

He proposes new airfoils designed to use suction, similar to the De Havilland glider fitted with a wing designed here at the Aeronautical Research Laboratories and built at the Government Aircraft Factories, which flew in the early 1950's.

New porous carbon fiber composite promises to provide a solution for the wing surface of high performance sailplanes.

A new 12m foot-launched tailless sailplane with a gull wing, slotted flaps in the inner wing, elevons in the outer wing, as well as variable sweep of the outer wing segments has been designed and the prototype almost finished at the University of Pretoria. Perhaps it was not unexpected that the two authors along with Richard Eppler and James Ritchie made a visit to the Royal Albatross colony at Dunedin to watch the birds fly.

Bernald Smith talked one evening on the current and proposed use of GPS - all aimed at making safe maximum use of our airspace the capabilities and possibilities were mind boggling. The soaring community is fortunate in having Bernald as a member of numerous committees, both in the USA and Europe.

In addition to the papers concerning training and safety aspects, there were two separate sessions attended by instructors from several overseas countries as well as New Zealand operations officers and instructors. Discussions covered spin training, launch failures, winching and supervision of foreign pilots. Training methods were discussed and experiences shared, all of

which was excellent value for those attending.

The meteorological sessions not unexpectedly included a number of papers on waves and rotors.

All the papers will be published in *Technical Soaring* within the next two years. These can be obtained by joining OSTIV; send 70Dm to OSTIV Secretariat, c/o DLR, D82234, Wessling, Germany.

The General Conference accepted the recommendations of the Board to leave the subscriptions for active and scientific members at 500 and 150Dm, but reluctantly increased the individual fee from 60 to 70Dm, because of rising bank and postal charges.

The elections resulted in all retiring Board members being re-elected for another two years. Cedric Vernon was elected an honorary life member for his many years as secretary to the SDP and editor for all OSTIV publications.

To help relieve the tension from all the OSTIV activities there was the usual mandatory day of "Free Discussion" during which members traveled to Queenstown for bungee jumping. (Only Bernald Smith partook and I am not sure whether it was the fact that if you are over 60 it is free, or the suggestion that it is good for your back). Many of the group also went for a ride in a jet boat which includes spectacular 360° turns, in a fast flowing narrow river.

From the atmosphere at the closing dinner it was quite apparent that all participants had enjoyed a most interesting OSTIV occasion. There were a few informal speeches including an account by Hermann Steglemeir, an 80 year "young" glider pilot, of the first flight of a 15-troop carrying glider in the USA. The officials were rather unwise in letting Hawley Bowlus and Wolfgang Klemperer do the flight, because to their surprise the glider was soared for the next two hours.

Francois Ragot issued an invitation for the next OSTIV Congress to be held at Saint-Auban, with supporting informative documents printed in English which indicated that it will be a very suitable venue.

The efforts of the New Zealand pilots who made all the arrangements was appreciated by OSTIV members and their friends. The meetings were held close to the airfield making it possible for all to attend the daily briefing, and later to be on the field when the gliders were finishing.