

SSA JOINS IAS AND AMS IN TECHNICAL MEETINGS

IAS-SSA

by BEN SHUPACK

Joint technical sessions held early this year between SSA-AMS and SSA-IAS proved highly successful. SSA Director Ben Shupack chaired the SSA-IAS section of the meetings and reports the following papers:

1. Design Studies for the Evolution of an Economical Towplane by Robert C. Kidder, Flight Research Dept., Cornell Aero Lab., Inc.

2. Application of Sailplane Performance Analysis to Airplanes by August Raspet, Aerophysics Dept., Mississippi State College.

3. Measurement of Vertical Air Motions from a Glider by Paul B. MacCready, Jr., Consultant in Meteorology.

Re. No. 1, the discussion was initiated by Capt. Ralph S. Barnaby (U.S.N. Ret.) who inquired whether the CAA is reluctant to permit towing with cabin airplanes. To this Mr. Kidder replied that such restriction is purely a local thought and not of the CAA. Walter Setz observed that attaching the line to the CG point would help the towplane, and though should be given to recovery of the rope in flight on a permanent reel in the towplane. Dr. Raspet confirmed Mr. Kidder's performance computations by quoting measurements made on a super Cub 125.

Re. No. 2, Capt. Barnaby started the discussion by asking whether the flush smooth wing will lose its effect unless it is polished before each flight, and would there be any performance gain left if the wing is left dirty. Dr. Raspet affirmed that the residue of performance gain would still make it worth while to have a super smooth wing, though dirty. He went on to urge that airport attendants wipe wings off like gas station attendants wipe off windshields. R. Griswold, USAF, questioned the economic value to airplanes of smoothing a wing with the application of putty. Dr. Raspet was positive that the saving in fuel would more than pay for the work of smoothing the wing, and he quipped that in the case of the BOAC Comet, it would be more

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by BARNEY WIGGINS

Mr. Wiggin, associated with the Weather Bureau, United States Department of Commerce, is probably America's foremost expert on soaring meteorology. He has officiated in numerous motorless flight tournaments in this country over a period of many years. His analysis of forecasts on many occasions in these soaring contests has been all but uncanny.

Mr. Wiggin's report follows —

Attendance at this first joint AMS-SSA meeting exceeded two hundred with the SSA well represented from clubs in New York, New Jersey, Pennsylvania, New England, District of Columbia, Mississippi and California.

It was a successful meeting in spite of losses due to lack of time for ade-

economical to remove the windows and substitute for the outward view, girlie shows.

Re. No. 3, Commander H. C. N. Goodhart, R.N., opened the discussion with the observation that a static connection would reduce the icing difficulties attendant to the use of a pitot as suggested by Dr. MacCready in his paper for the connection of sinking speed variations of the sailplane. Dr. MacCready countered that ideally one wishes a higher power variation of pressure with speed than provided by the use of a pitot tube. Stanley Smith brought up the old dream of glider pilots to see thermals and touched off a few remarks by Dr. Karl Lange, of the University of Kentucky, a pioneer research worker in the investigation of up currents.

His studies indicated that the buoyancy of a particle of air in a thermal is as much due to humidity as it is due to a temperature difference. In many cases he traced back the up current to a swamp. Dr. Raspet told of the very small temperature differences he had measured in 1938 and would seem to support Dr. Lange's remarks.

quate presentation of the papers. The program proceeded from the first paper on new observations of random thermals by Dr. Paul McCready, to their organization into cloud streets by Dr. Joachim Kuettner. These papers provided a lively discussion.

Dr. Robert Long of John Hopkins introduced the subject of gravitational waves. He evolved a theory to account for them, then demonstrated by means of experiments with continuous density liquids in a tank just what happens when a barrier interrupts their free flow. His work is in a developmental stage. It suggests, however, that there is a great deal more to learn about gravitational barrier waves, much of which will prove useful not only to sailplane pilots but to all flights of aircraft over mountainous terrain. Their effects are much more widespread than was first recognized.

Mr. DeVer Colson of the Weather Bureau presented his paper on his observations of the Bishop wave.

Actual measures of the Bishop wave phenomenon were given in Mr. Klieforth's paper (read by Dr. Kuettner since Mr. Klieforth was unable to attend.) Here is where our shortened schedule began to hurt. There was no time to discuss the important part sailplane measurements contributed to this first attempt to get full scale measures of the Sierra wave. We had to move on with no discussion to the final paper.

It was, as intended, a real climatic paper by Dr. Tepper of the Weather Bureau. It suffered most from our shortened schedule. The new field of moving waves which we have discussed from time to time at pilot meetings in Elmira was just thrown in. Dr. Tepper had a dense network of observing stations in the Central Plains states from which he was able to track these waves or pressure jumps, as he calls them, from their beginning until they finally subside. He explained their part in setting off severe local storms. Tornadoes may be triggered by them. Some day in the future a sailplane pilot may establish a phenomenal distance record by riding along with them.

But Dr. Tepper was able only to skim his material. Time ran out before he could finish and so closed the first in what I hope will become a series of meetings with the American Meteorological Society.