

# SCSA's HIGH AND WIDE WAVE SOARING EXPEDITION

Bishop, Calif. — April 9-17, 1960

## VIEWS OF THE FIELD DIRECTOR

by DR. WERNER SPILGER

There was a typical wave with lenticulars all over Bishop at the time we arrived there on the first Saturday. However, the roll clouds indicated the dangerous type of turbulence so no flying was done that day. On Sunday the wave was more mild and Dr. Selvidge soared his 1-26 to 30,500 feet without much difficulty to earn his Diamond C altitude leg. A few other flights to 26,000 feet were made by Hank Stockham in the Antelope Valley Club's 1-26 and Marcel Godinat in the P-R from Arizona before the wave died out. Throughout the week we had beautiful sunshine and thermals. And again a new wave arrived just at the time we had to leave.

The soaring conditions at Bishop are extreme and the boundary between success and failure is quite narrow.

Unfortunately, Bill Hoverman had the misfortune to damage his 1-23D on take-off in extremely turbulent air late in the week.

The old soaring records of altitude and distance are still alive, but for how long? Bishop seems to be the key to the sky and the time may not be too far away when sailplanes will reach altitudes in excess of 60,000 feet and distances in excess of 600 miles. But the sailplanes must

be well equipped and the pilots must be aware of all the many dangers involved in such operations.

We flew in waves and in thermals, we made many friends and we had a good time at Bishop.

## THE TOW PILOT REPORTS

by CHUCK MOORE

A North American T-6G (AT-6-SNJ) was selected to do the towing at Bishop because of its structural integrity, good altitude performance (600 HP) and general suitability for operation.

The most important criteria was the ability to tow at speeds of 75 to 95 miles per hour. Basically, the T-6G aircraft has a stalling speed of 76 miles per hour with gear and flaps in the "up" position. With flaps (20°) and gear down, the stalling speed drops to 66 mph. The optimum glide speed is 95 mph in the "clean" configuration and 72 mph with 20° flaps only.

We determined that the best operation would be obtained at 75 mph minimum towing speed with 20° flaps and the landing gear up. A 300 fpm rate of climb was achieved on tow with only a modest increase in cylinder head temperature to a maximum of 220°C (mixture lean). A speed range from 68 to 90 mph was observed for most flights. Power setting was 2050 rpm at 31" (initial

T.O.-M.P.). Throttle was left in the maximum T.O. position (the first notch on the quadrant without going to METO position) throughout most of the climbing operation. In contrast, the L-K, with a maximum tow speed of 125 mph, was pulled at the T-6's best L/D of 95 mph and early climbs of 750 fpm were observed.

Controllability of the aircraft was excellent throughout the operation. Naturally the normal positive feel that is characteristic of the T-6 changes to a softer, mushier feel that would be expected when you are controlling behind the maximum L/D of the aircraft design, but positive control was obtained right up to the stalling point. Incidentally, several times stalling on the tow occurred, with excellent forward recovery. Obviously, tight turns are to be avoided, and the practice of increasing the speed to 85 mph on turns with over 15° banks was wisely adopted. No tendency to "snap" or "spin" was encountered.

This pilot's observation of the aircraft's response to gust loads is the feeling that the ship is constructed of ½ inch boiler plate: "G" loads registered were from 3½ neg. to 3 pos.

As for the effect of the sailplane on the towplane, there is none. A 1-23D, having difficulty on take-off, left the towline shortly after leaving the ground. The towpilot, believing the glider had gone into low-tow position (which is difficult to observe) climbed 4000 feet before he found, after an insistent look, that he was pulling only a line! Only a small change in trim is observed when the sailplane goes from high to low-tow. In the Sierra Wave opera-

Dr. Harner Selvidge about ready to go aloft in his Schweizer 1-26. He was the only pilot to obtain his Diamond C altitude leg during the expedition; 30,500 ft. attained, 18,100 ft. gained.

Photo: Dr. Werner Spilger



Barbara Spilger, Chuck Moore and Jack Lambie by one of the Pratt-Reads at Bishop. Chuck made the expedition possible by providing the only towplane, his AT-6, and doing most of the towing.

Photo: Dr. Werner Spilger

