

Clouds OVER DIABLO

By DAN SANBORN

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The average soaring pilot of today is not satisfied with the limitations imposed by slope lift and seeks the great possibilities to be found in atmospheric instability. The problems that present themselves pertain not only to the existing conditions, but to ways and means of utilizing these conditions.

It has been my experience in the past that, although many local sites present good ridge soaring, few offer opportunities for reaching the thermal and cloud lift which appears prevalent at higher altitudes. In view of this fact, and lacking equipment licensed for airplane towing, I have constantly been on the lookout for take-off sites from which it would be possible to investigate and take advantage of the better conditions which we know exist at some distance above the ground.

Such a site we found on Mount Diablo, 3,800 feet high and 30 miles east of San Francisco, at the junction of the great San Joaquin and Sacramento Valleys. The Soaring Society of Northern California made arrangements to use this excellent site in the Mt. Diablo State Park. The take-off point is 2,500 feet above the surrounding valleys and is accessible at all times of the year by a paved road. Excellent opportunities for distance flights exist in all directions, especially down-wind in the San Joaquin Valley toward Bakersfield, 250 miles away.

From this site, I have made some of my most interesting flights and obtained my first experience at cloud flying. When the humidity is high, the strong, slope winds on the mountain aid in producing clouds which rise up over the summit and drift away. Upon condensation, the water vapor releases its latent heat, which adds greatly to the strength of the upcurrents and turbulence within these clouds. This effect is very noticeable when attempting to fly through the clouds. On several occasions, I have watched the variometer jump to 4 meters per second climb when entering a cloud and suddenly change to 4 meters per second descent when emerging on the other side.

Some of these clouds appear to form in superimposed layers, and it was most interesting to watch the variations in the shadow of the ship when climbing into the clouds. When I approached the upper limits of some of the thinner cloud masses, it was possible to see the ship from the ground. Two or even three shadows appeared on the cloud layers below it, while from the air, the ground was not visible, but the shadow of the ship could be seen at some indefinite distance below, completely surrounded by a beautiful rainbow.

I have spent considerable time over Mt. Diablo, attempting to learn the art of blind flying without a turn indicator or compass.* I have found that the best method

*Not to be recommended.—Ed.



A. F. Hoefflich
The author in his Grunau 8

is to enter the cloud straight ahead, move the controls only to adjust the speed, and depend upon the inherent stability of the ship to bring me out on the other side. The ship knows more about flying blind than the pilot, but it takes much willpower not to doubt its judgment. I have sometimes found it possible to fly around the edge of certain clouds, keeping far enough inside for good lift, but close enough to the edge so that the sun would be barely visible as a beacon by which to fly.

An inversion prevails over the California coast during the warmer part of the summer, and soaring near the ocean is greatly limited. From late fall to late spring, numerous small fronts pass in from the Pacific and down the valleys. These fronts are undoubtedly ideal for distance flying, but are difficult to predict in advance due to lack of meteorological observations to the westward. Excellent cloud conditions exist for days at a time during the spring and early summer. Now, with Mt. Diablo as a means of reaching these conditions, great opportunities are opened for local soaring pilots.

With increasing interest in soaring, the completion of new ships and further exploitation of local conditions, it seems only a matter of time before some sailplane pilot will make a flight from Mt. Diablo down the San Joaquin Valley to Bakersfield or beyond.

Airplane Towing

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(Continued from Page 5)

Generally, the latter case is not prevalent. Normally, both ship and glider are carried upwards or downwards by thermals of large diameter which cause little trouble. Slight differences in altitude between plane and glider can be overcome by the control of the sailplane pilot. However, tows are sometimes made on days having a steep temperature gradient. If convection is good, the conditions will be very unstable. Many times this produces powerful and narrow upcurrents and vice versa—with the towplane in a violent updraft and the sailplane in a powerful downdraft so that the sailplane drops in the slipstream of the towplane. Under these conditions, the best advice is to release. Although a steel cable without weak link or shock absorbing device helped cause the accident, this is what caused the death of a German pilot several years ago who made a world record distance flight of over 313 miles and had his ship pulled apart when being towed home under such conditions.

(Concluded on Page 13)