

SOME OBSERVATIONS ON THE ELSINORE SHEAR LINES

by JACK LAMBIE
Field Manager of Elsinore Gliderport

The Elsinore Soaring Site owes a great deal of its popularity and consistency of soaring conditions to the meteorological phenomenon known as a shear line. A shear line is defined as the line between two different air masses. This line may, or may not, be pronounced depending on the difference between the masses. There is very often a wind shift present of 180 degrees between the masses of differing air. This wind shift or shear is what gives the condition its name.

All of us at Elsinore have noticed that the hazy air north of the valley in summer frequently will come moving in over the field late in the afternoon, and that updrafts will be found along the edges of this hazy air. It seems that when this condition occurs the soaring is not as good other places as it is at this shear line.

I remember the first few times I soared in these conditions that I was quite startled at the great differences in the type of thermals that were encountered. When one would fly into this area there would be severe jolting turbulence at times, and it was very difficult to get any steady variometer reading. This made it very hard to center the thermal. The climb would read 500 ft. min. for part of the circle, and then drop to zero, or even sink for part, then up, and sometimes a severe jolt as the actual line was apparently crossed. No amount of careful maneuvering seemed to be able to get one into a steady reading on the meter. The other gliders soaring the condition seemed to be positioned along the line at points 100 yards in or out of the haze. Sometimes in exceptionally good shear line conditions the lift is wide and smooth however.

It would appear that the line is not a straight line, but waves in and out. Some of the sailplanes would be working the lift out on one of the protrusions, and some in a cove of the shear line. If the shear line moves in across the field late in the evening the lift is much smoother, but this same waviness in the line can be detected. It is

interesting to note that under these late conditions the line can be soared only until shortly after sundown, and only up to about 2,000' above the field, then one by one the ships head toward the field according to sinking speed and the desire to "hang on" for the last 10 or 20 minutes.

The extent of the shear line in this area was not realized until I became Field Manager at the Elsinore Gliderport and purchased a Triumph Thunderbird Motorcycle, and used it to commute between Riverside and Elsi-

through a wind shift at approximately Perris consistently, and that it could have possibilities for lift.

On the Fourth of July a student, Terry Terman, and I were flying over the hills southeast of Elsinore Glider Port when Terry became somewhat airsick, so I flew awhile to let him rest. I decided to try a run toward Perris to see if there was anything doing over there. As we had enough altitude to get there and back even if there was no lift, I steamed over and immediately hit strong thermals



Mr. Jack Lambie and
Mike, aged 2, and
Suzy, aged 3, in the
Schweizer 1-26 which
he recently built from
a kit for Bruce
Carmichael.

nore daily. The winds encountered are much more apparent out in the open on a motorcycle and one almost becomes a human thermometer. It was observed that coming home after work, on Highway 395, the wind consistently shifted 180 degrees between March Air Force Base and a point somewhere south of Perris. An average 12 mph wind would be blowing from Riverside against my back as I cruised toward Elsinore on Highway 395 when suddenly without notice a sharp gust would hit me, and the wind would be encountered from the Elsinore direction. The line seemed to have the cooler air on the west side, and the hot dry air on the southeast side.

Realizing that this must be a shear line here, I thought of renting a small plane some time and exploring the area for lift. Little did I realize that the line extended all across the area, and started close to Elsinore. All I knew was that I was running

on the edge of what I recognized as the shear line. I could then see that the line ran from Alberhill north of Elsinore to Perris through Gilman Hot Springs, and on out into the San Geronio Pass. I followed this line flying straight to Romoland and then on to Gilman Springs. The line appeared to dissipate out into the Pass area so we turned around to go back. Outside of the line there was no lift at all, and we made this mistake for too long a time, thus finding ourselves very low over the Nuevo Mts. It was with great relief that we came over the mountains and worked back up from 800' off the ground to 2,000' and then on to Perris. At Perris we again encountered the strongest part of the lift and gained enough at 900 ft. per. min. to easily sail back to Elsinore Glider Port. It was 5:30 p.m. when we arrived over the field in smooth air and no other gliders in the air, yet just ten miles away the dustdevils were still smoking skyward.