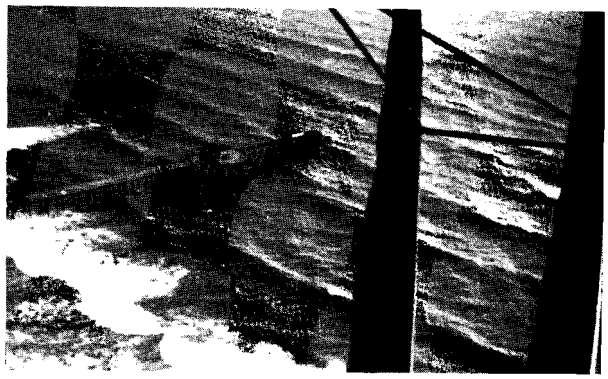
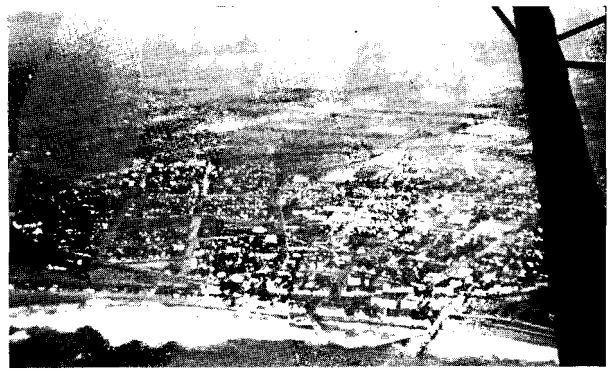


Pier at Manhattan Beach from 300 feet



Redondo from 1200 feet

Gust Soaring

by Albert C. Slatter

ON Thursday afternoon, March 18th, I had a chance to try out a theory on Gust Flying. On that day there was a cold northwest wind blowing, so at our lunch hour Charles Patterson, Stanley Hall, Dave Roe, Gene Hall and myself decided we would devote the afternoon to soaring if we could talk Jay Buxton into using the "Transporter". As we rushed into the Buxton shop, which is only a few blocks from the Plant, we found Jay and his brother Ben in a co-operative mood. It wasn't long before we had the ship set up at our Hollywood Riviera Glider Hill, 325 feet above the Pacific.

We took off into an 18 mile an hour northwest wind, and it was a matter of only a few minutes until we reached 2,000 feet over the larger Palos Verdes Hills—which lie to the South. Several flights to this altitude gave each of the fellows a chance to practice sharp banks and tight spirals. After half an hour of soaring, I instructed my students to head back for the take-off point, when they found that getting the "Transporter" down much harder than taking it off. However, with the help of a few good slips, they were generally able to land within a few feet of our starting point. With these beautiful spot landings I found that it wasn't necessary to climb out of the ship between any of the five flights we made. Since Jay and Ben each had had a long flight with me, Jay at Elmira, 8 hours 48 minutes, an official record—and Ben, a few months earlier at our Hollywood Riviera site, of 10 hours 3 minutes, an unofficial record, they both felt content to operate the tow car.

Our last flight of the day was by far the most interesting. We changed the routine and flew straight out over the ocean with 2,000 feet altitude, which we had gained from slope currents. As the wind was increasing the air was getting very rough. I wanted to get out beyond the slope winds and try my theory of "gust soaring". As we headed straight into the northwest wind, I noticed the sea straight ahead and out 8 or 10 miles—the water was literally being torn to bits, and was moving in fast. I was naturally a bit worried as to just how rough it would be, but as these were the conditions I was looking for, I headed straight for it. I dived to get out over the water several miles before I would have to start fighting this violent wind squall. The ship soon began to bob around like a small boat on the water, so I started riding the gusts a little easier as the air speed would sometimes shoot up to 90 miles an hour.

Charles Patterson, who was taking pictures from the rear cockpit, commented on the strength of the ship in these onslaughts, and asked if I realized how far from shore we were getting. By this time the wind had picked up so much that we were making little headway, and I had to begin riding the gusts somewhat in the way you would ride a heavy sea in a small boat. At first I would cut into the gust head on in a slightly stalled position, and as the gust struck I would level off a slight bit to relieve the strain on the wings and immediately after pull back on the stick, as much as I dared, to bring the ship back to a normal air speed. No sooner would I get the airspeed down to about 35 miles an hour than the gust would leave me in a beautiful stall, and the ship would mush downward and I would find that I had lost as much altitude as I had gained in the previous gust.

This reminded me of being in a small boat heading directly over a wave, and smacking down hard as the wave would pass under the boat. I then recalled the proper way I had learned to navigate a small boat in rough water—which was to quarter into the oncoming wave at about a 45 degree angle, at the same time banking or rocking it up so water wouldn't come in over the side. I now decided to try this in the air. So, quartering off, pointing the ship due west and flying about 32 miles an hour, I waited for the next gust, which, as it struck the side of the ship, would tend to turn the ship back to northwest and I would fight against its doing so by banking the ship in a climbing turn toward the south. By the time I would win out, the air speed would be down to normal again and the ship would be pointing about southwest, and drifting about southeast at a fairly rapid speed. I would hold it in this position until the gust would drop, and as the speed I had