

# EXPLORING A

## *Desert Thunderstorm*

by John Robinson

On Sunday, August 27, 1939, Woodie Brown and I decided to try to soar into some of the high cumulus clouds and thunderstorms that spread over the deserts and mountains of Southern California frequently during July and August. As airplane tow was out of the question, due to C. A. A. regulations, we decided to start by auto pulley tow from a little dry lake east of Julian, California.

Woodie, with Ed True to help him, set up his beautiful R S 1 Sailplane, and Sparky Koenig helped me set up my "Robin" Sailplane and lay out all the rope we had, new and old, for a high tow. After the old rope broke twice, we cut it off. Using only the good rope, I got about 300 feet on the first tow. I sank down to 150 feet before I found weak thermal lift that kept my ship alternately climbing 2 feet per second and sinking 1 foot per second, while I hunted for the strongest lift. A huge alto-cumulus cloud was forming over the field, and, as there was very little wind, I continued spiralling over the field, hoping Woodie would join me. He made several hops but had to land again each time.

After one half hour of battling this weak thermal, I had 1000 feet altitude over the lake and was only about one mile south of it. As Woodie hadn't yet gotten up, I was determined to squeeze every foot of altitude out of this one weak thermal, rather than look for another one.

Suddenly the rate of climb jumped to 5 feet per second and then later 10 feet per second where it stayed while I made tight circles. At 2000 feet a large buzzard joined me in the thermal, and then another and a third came gliding over, so the four of us went around and around together. When one of them came very close to look me over, I noticed he was a large Eagle. After I nearly hit him with my left wing, he decided I wasn't a very good looking meal, and he kept a more respectful distance.

At 7000 feet they all left me and glided eastward while I continued to spiral with 10 feet per second climb. At 9000 feet I entered the cloudbase as the rate of climb was reduced to 5 feet per second, and at 10,000 feet the climb ceased altogether. It was very smooth in the cloud as I cruised thru it hunting for an updraft. I soon realized that all of the cloud's energy had been spent, and that it was now a drifting corpse of a cloud, so I left in search of a live, energetic one.

After flying thru several small clouds with no results, I slid under a large well-developed cumulus, and found I was not sinking, but neither was I climbing. I continued this search for over an hour without being able to enter another cloud. I would sink between clouds and climb very slowly under them, but the lift always vanished at the cloud base.

Now I was over the desert 15 miles east of our lake with 7000 feet above it. I started gliding toward the lake, and went under the edge of a cloud just as a peak formed there and I found a 5 feet per second lift. As I spiraled up, I noticed a very heavy rain falling south of me, and I was glad I didn't have to fly thru it.

When I reached the cloud base this time the climb increased to 10 feet per second. Shortly thereafter it jumped to 30 feet per second and the air became quite turbulent. I continued to spiral with a moderate turn—not too steep. The rate of climb varied between 20 and 30 feet per second, the airspeed between 45 and 55 m.p.h., the altimeter rose steadily, and the thermometer dropped the same way. Soon the air speed indicator ceased to function, due to water in the venturi, my cowl- ing frosted over, the thermometer dropped past freezing and the last time I looked at it in the cloud it registered 22° F. Suddenly one of the thin pyrilin panels in my hood broke and blew out, due to contraction from the cold. The wing was covered with ice on the leading edge, and I commenced to feel the cold air coming in the hole in the hood beside me.

As I was flying just for pleasure and was dressed for the 100° temperature of the ground, which means a short sleeved shirt, and my turn and bank venturi was probably icing up also, I decided to leave the cloud while it was still functioning and I was still flexible—not frozen stiff. As I straightened out the altimeter indicated 15,000 feet above the lake, which was 17,500 feet above sea level.

I lost considerable altitude in the 25 feet per second downdraft I encountered just before and after I left the cloud. There were many healthy looking clouds below to the east and north, with only two little peaks between me and a clear sky to the west. After going thru these two with no results, I looked back at the cloud I had been in and found it covered half the sky and was really a thunderstorm of quite huge dimensions that had developed while I was inside.

While gliding back toward the lake, I realized that I was bucking a head wind of about 15 m.p.h. Nevertheless, I decided to pass over the lake and glide across the mountains toward home. Since there were no more thermals west of the big clouds, I lost altitude steadily and reached El Cajon Valley with 3000 feet altitude. As there is a clear field with a telephone handy on the Walz ranch, I landed there, for I didn't want to undershoot Linda Vista Airport which was the next good field, and risk having to walk in.

### OUR GOVERNMENT

The N A A recently received an invitation to bid to supply one copy of NATIONAL AERONAUTICS for the U. S. Government. The invitation consisted of a two page blank, requesting information on date of delivery, discounts, and etc., filled out in triplicate, and opened in the presence of witnesses promptly at 10 A.M. A two page purchase order was then issued to the N A A which was required to make a 100 word statement on its bill that the magazine was manufactured in the United States. The N A A is still trying to collect \$.50.