

Arizona Soaring

By WILLIAM TRACY

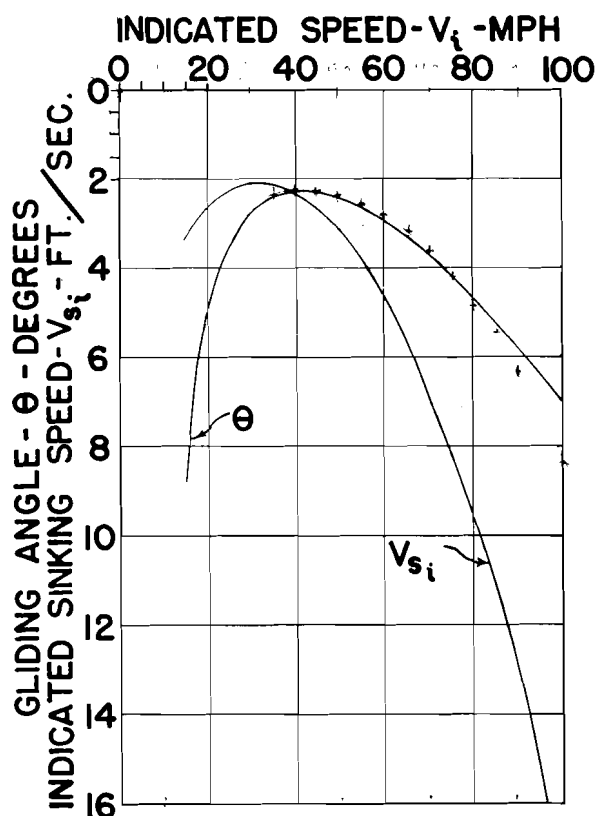


Fig. 5

TABLE I

V_i	V_{s_i}	V_{s_i}	V_{s_i}	
mph	fps	fps	fps	Deg.
20	.14	2.50	2.64	5.16
15	.06	3.31	3.37	8.80
25	.27	1.99	2.26	3.53
30	.47	1.66	2.13	2.77
35	.74	1.42	2.16	2.40
40	1.10	1.25	2.35	2.29
45	1.57	1.11	2.68	2.33
50	2.15	1.00	3.15	2.46
60	3.72	.83	4.55	2.96
80	8.80	.62	9.42	4.61
100	17.21	.50	17.71	6.96
120	29.75	.42	30.17	9.86

The minimum sinking speed conditions are obtained from Fig. (4), and the values are:

$$V_{s_i} = 2.11 \text{ ft./sec.}$$

$$V_i = 31.3 \text{ mph}$$

$$\theta = 2.64 \text{ degrees}$$

All performance can be determined from Fig. (2). The results are tabulated on Table I and plotted in Fig. (5). At sea level the indicated and true quantities are equal since the density ratio is equal to one. At any other altitude the true quantities can be calculated by dividing the indicated quantities by the square root of the density ratio.

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SINCE Peter Riedel flew his Kranich sailplane from Winslow, Arizona to Magdalena, New Mexico, northern Arizona and New Mexico have been a question mark in a lot of glider pilots' minds as to just what soaring conditions actually do exist in this region. Since March, 1945, my partner, Dave Johnson, and I have made some pretty fair flights with our Baby Albatross in the locality of Prescott, Arizona. I must say that Peter Riedel's optimism for this region's soaring conditions is well founded. The possibilities of distance flights to the east (with the prevailing winds) are practically unlimited. As regards altitude, the cloud bases average 10 to 15,000' above the ground (15 to 20,000' above sea level); need I say more?

Due to gas rationing we have not made any distance flights with the glider, but extensive airplane flying as far east as Denver has made us quite "eager" to roll up some mileage on the Baby. As to the soaring we already have done here; the Baby's log book shows that we made twenty flights from March through May with the flying time standing a little over fifty hours. The highest altitude made was 12,000' above release, which is 17,500' above sea level (ground elevation being 5000' here). The lowest altitude logged was 5000' above release. The average altitude of these flights was 10,000' above release. Most of this soaring was done with "dry thermals" as only six hours of it was made in cumuli. Since the last of May there have been no good clouds, so we haven't done any soaring recently but as the so-called nimbus season will soon be starting here, we are just waiting for them. As there are no auxiliary fields around here and no glider flying is permitted from Prescott Field, we have to take-off and land on a road about ten miles from the airport. Six hundred feet of wire usually tows us high enough to contact some lift.

So much for statistics—now we'll go back to May 30 and do some cloud flying. The day before the alto-cumuli had looked very good so we decided to take the Bowlus out and see what could be accomplished. It was my turn to fly, so after assembling the ship and eating, I climbed in and Dave hooked up the line. It was 12:00 o'clock and the cumuli were looking good. After releasing at 500', contact was soon made with some lift. It finally registered 10 ft./sec. on the vertical speed and the altimeter soon "got the idea" and started knocking out 1000' in a most regular and encouraging manner. There is something about an altimeter showing climb—well, it just looks good! It wasn't long before I reached the base of a nice cloud at 9,000'. After checking the suction gage to be sure that the turn and bank was well supplied, I spiraled on up into the cloud. Senility was soon upon this particular cloud, as 800' was all I could get from it; but for the rest of the afternoon I played around with all sizes, shapes and varieties of altocumuli. Finally I found one that pushed me up to 11,000'. Flying in small clouds like these is really fun; when they get

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