Development of the TG-1A Glider

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THE STORY of the TG-1A begins with the Cinema Sailplane, which in turn dates from my model building days in Hollywood, and in particular with one model airplane I built to order, but for which I was never paid.

That was in 1935, when I was still in high school. I had started building and selling model planes as an easy way of increasing my spending money, and in my senior high school year opened a model shop. One of my customers, a glider pilot, let a small account drag on too long to suit me, and finally offered to square it by teaching me to fly his glider.

I had two sessions with him at an airport in a Franklin glider. Then we went to Shannon Hills near San Bernardino. I caught the knack of ridge soaring on my first tow, but after about ten minutes I noticed everybody waving their arms, so I came down. My instructor informed me that the waving was not a signal to land, so I took off again and ridge soared a little over two hours. That was enough to start me dreaming of what my sailplane should be, and I began planning what turned out to be the Cinema I.

Knowing about what I wanted in the way of performance, my first step was a detailed study of all existing gliders for which I could get accurate data. From these I selected the specifications which I believed would give me the results I was after. They were:

Span	45 feet
Length	19 ft. 8 in.
Root chord	5 feet
Tip chord	2½ feet
Aspect ratio	10.7
Wing area	190 sq. ft.
Wing section	Gottingen 549
Weight	315 lbs.

The short length and light weight made the ship highly maneuverable; it could make a continuous series of 360° turns at the rate of one complete revolution every four seconds. This made it possible to work very small thermals, which on many occasions spelled the difference between forced landing and continuing the flight. Sinking speed at 35 mph was about 2½ fps. This fact, combined with its high maneuverability, made it possible to gain altitude very rapidly when working thermals, which more than offset its relatively low cruising speed of about 45 mph.

I took the Cinema I to Elmira in 1938 while still a novice at soaring and cross-country flying. My first flight was 183 miles, much better than I had dared hope. My next two flights were 146 and 202 miles respectively, for an average of 177 miles that year. Peter Riedel, with a flight of 225 miles, took top honors