

even in the small towns. If my memory serves me right, there are 80,000 members in the D.A.C., 10,000 pilots and, by this Christmas 1,000 gliders will be flying. In the book stores were quite a few books on gliding and flying, and the "C" pin was in the lapels of many a businessman's suit.

Down in picturesque southern Germany is the new Klippeneck glider field. Like Alleberg, Sutton Bank and the Hornberg it is situated on top of a large bluff with a beautiful view of the countryside. I visited Klippeneck twice on Sundays and each time the number of spectators surprised me. Such a location is perfect for a Sunday's picnicking and watching the gliders and the panorama. Thousands attend German meets as spectators. I can't remember all the types of gliders I saw at Klippeneck but among them were the Condor IV, a nicely built two-place; Karl Ruckstuhl's Moswey IVa, the ultimate in fine machine work and detailing; the new Doppelraab; the tiny Hütter H17b; the Vogt; as well as the ubiquitous Grunau and a SG-38. German soaring is progressing rapidly, perhaps too rapidly; but, when one realizes that most of these gliders, including intricate ones such as the Weihe, are being built by local clubs, the progress seems even more remarkable.

My next visit was to Austria to the Alpine Soaring School at Zell-am-See. The gliders and methods were German in nature. It was a beautiful day and they were soaring off a winch launch. The setting there is splendid. On one side is the lake and on the other the snow-capped Alps. My camera got a good work-out.

Similar to Zell-am-See in natural splendor is the scene of the 1948 international meet at Samedan, Switzerland. They were not flying the day I visited but did have a nice collection of Mosweys and Spalingers in the hangar.

I had wondered what had happened to the Elfe III I had read about in "Soaring" (July-Aug. 1949) and found, upon enquiry, that it and the WLM II were under construction at Wildegg at the factory of A. Isler, builder of the WLM I. I met Mr. Rudolf Sagesser, plant manager, who showed me both new ships and others there at the plant. The Elfe III appeared to be much the same as described in "Soaring" and I will not describe it further. However the WLM II was new to me.

The WLM II is being built by a new constructional method which pro-

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LET'S IMPROVE OUR TRAILERS

by HERMAN J. STIGLMEIER

Who cares about the trailer? Some pilots say that it is only the glider that really counts. I can't agree.

To me, a trailer is like a special piece of tooling or jig to do a ready production job at any moment. If the jig isn't operating, the glider isn't either. I have seen many a glider on a trailer doing the job of the trailer in the nature of torque and bending.

First in designing a trailer, we must consider the weight, size and distribution of the ship. An example would be a trailer for the average glider such as the TG series or the modern single place production type. The length will vary from 20 to 30 feet. The main weights of the ship are the roots of the wing and the cockpit. Thus, the wing roots should be forward, tips aft, rudder forward and cockpit aft. By this distribution you will have a trailer easy to handle.

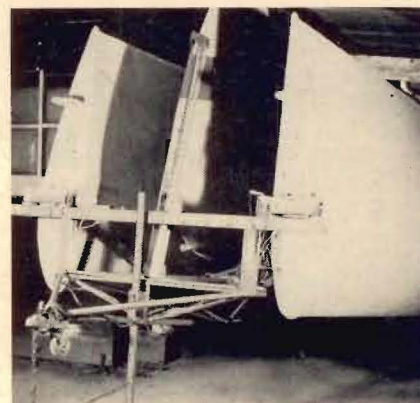
Your single axle will fall well aft near the C.G. and should be placed approximately six to ten inches aft of the loaded trailer's center of gravity. Not less than twenty-five lb. and not more than seventy-five lb tongue load should be allowed.

A pilot friend of mine turned the fuselage around on an L.K. This has put such a tongue load on the trailer that it became necessary for him to ballast the rear of the trailer in order to relieve the pressure. This is not sound engineering. Well designed trailers should be capable of speeds of 50 to 70 m.p.h. on the highways without undue fish-tailing—in any kind of weather conditions.

Many designers omit the possibility that their trailers may be towed behind autos in any part of the United States or in other countries. They forget about the chances of the wind blowing the trailer over.

I recall a TG-2 being towed from Texas to California on a high trailer. It was necessary to purchase two railroad rails twenty feet long each to hold the trailer right side up. Many a western glider pilot has stopped on the desert roadway and added two to five hundred pounds of rocks to his gear in order to get home safely. Therefore, as low a C.G. as possible should be incorporated in your design. This would mean that the structure length-

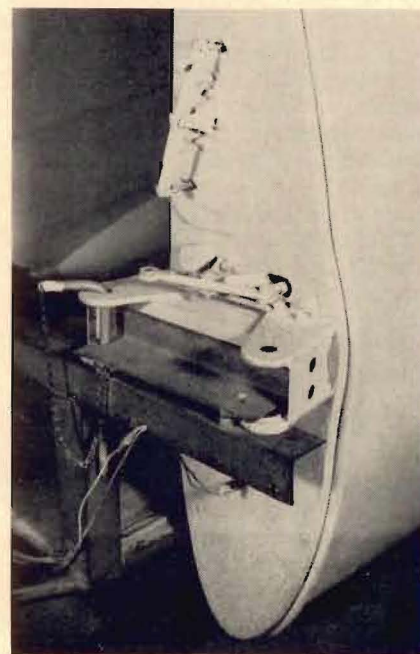
wise be narrow enough to allow the wings to fall alongside. Canting the wings in or together at the trailing edge helps also.



All trailers should be built torsionally rigid and with a marginal safety factor (bending moment) in the truss work lengthwise.

Here are a few suggestions for improving the trailers we have. The L.K. trailer is a fine one in most respects. However, it has no torsional qualities. If you have one, remove the plywood deck and weld in diagonal tubes in all the bays. Replace the plywood.

Practically all the surplus trailers built have springs many times too rigid. Manufacturers design springs for 1800 to 2000 lb., etc. If this is



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