the lookout for a suitable cumulus on which to "hook". Soaring back and forth, he jockeys for position, and when he is satisfied that a forming cloud is drifting toward him, he sails out to meet it. Soon his altimeter and his variometer show a rapid rate of climb. When well into the zone of rising air, the pilot starts to circle and the glider rises in a graceful spiral, drifting with the cloud, back over the ridge and entirely independent of any slope current.

It is easy going until just before the cloud level is reached. Unless equipped with a parachute and blind flying instruments, it is extremely dangerous to risk being drawn into the turbulent fog, and even so equipped, the average pilot dives away from his source of energy. Assuming that the pilot reaches an altitude of 5,000 feet before he is obliged to dive out into horizontally moving air, he then has about 20 to 30 minutes to glide around, constantly losing altitude, while searching for a new source of "lift". From the original altitude he is able to glide a distance of 20 to 30 miles in quest of another cloud or a ridge. He is usually able to reach a position under a suitable cloud, when he begins the process all over again, spiraling upward to new heights and continuing on his way.

Whenever possible, the course taken is with the wind, for then the wind's velocity is added to, rather than subtracted from, the air speed of the glider, and a much greater distance is covered. Finally, when in the late afternoon the cumulus clouds begin to thin out and grow smaller and the wind dies down, it becomes necessary to find a suitable landing place. Any hayfield or meadow is all right, if it is large enough and is situated near a highway so that a ground crew with the trailer may reach the glider.

There is nothing haphazard to the course taken by the pilot on a distance flight. Definite routes are laid out in advance, and these are planned so that advantage may be taken of the most favorable terrain. The contour maps for an area of several hundred square miles around the center of the soaring region, such as Elmira, for instance, are studied with great thoroughness by all pilots until the location of every ridge and valley is memorized. What seem the best courses for various wind directions are then planned. The pilot must presuppose a certain amount of altitude to be gained on one ridge, which will permit him to glide to the next; or start by means of a cloud from an isolated soaring location. Most record distance flights have been accomplished entirely by thermal soaring, but there are many long ranges of hills which offer excellent possibilities. With the mental picture of a pre-determined course in mind, the pilot then sets out on his fascinating adventure. Utmost patience is needed and the successful pilot is the one who has an abundance of that quality, for he may have to manoeuver for an hour over one location before getting the thermal current or cloud boost to send him on his way.

Soaring flight is an extremely scientific sport. The successful soaring pilot must not only be skillful in handling his plane, but also needs to be something of a meteorologist. He must have courage and patience to a high degree and must be a thorough and painstaking student of his avocation. The fact that it takes a number of years to become an expert soaring pilot is proof enough that a great deal of learning is involved. However, the thrill and exhileration of soaring flight fully justifies all the time and effort involved.

INTERNATIONAL AEROBATIC MEET

A sailplane, owned by the Lawrence Institute of Technology of Detroit, which was designed and built by students, will be the United States' entry in the international aerobatic gliding meet held in Paris, May 28, under the sponsorship of the Aero Club of France and Le Petit Parisien, French newspaper.

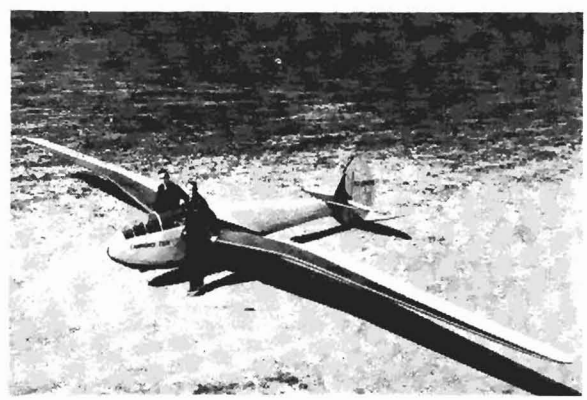
Dick Randolph, well known aerobatic sailplane pilot, and Randall Chapman, 23 year old Lawrence Tech student, arrived in France aboard the *Normandie* on May 22.

Since Randolph believed that the ship was one of the best aerobatic sailplanes in the country, permission for him to use it was granted by President George E. Lawrence, of Lawrence Tech.

It was designed by Jack Laister, of the 1938 graduating class. Students built the ship under the supervision of George Dalton, also of the 1938 class.

In describing the ship Laister said: "Chiefly, the sailplane constitutes the development of a sturdy steel tubing fuselage, highly faired to give the aerodynamic qualities of a plywood fuselage. The horizontal tail surfaces are full cantilever. The wing itself is a mono box type spar construction with a tortionally stiff plywood leading edge of conventional design and is attached to a permanently filleted center section."

Specifications of the ship are: wing span, 46 feet; wing area, 140 square feet; aspect ratio, 15.6; length



overall, 19 feet; weight empty, 290 pounds; sinking speed, approximately 2½ feet per second; best cruising speed, 50 to 60 miles per hour.

Prizes in the Paris meet totaled 100,000 francs. Competitors were towed to an altitude not exceeding 800 meters (approximately 2,640 feet). Fifteen minutes were allowed for looping, barrel rolls, and two additional stunts chosen by the pilot. As we go to press, we are informed that the meet was won by Mancel Doret. No other news is available.