

LET'S BREAK SOME RECORDS

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All the present international sailplane records could be broken in United States territory, and many of them could be shattered rather than just broken. It would certainly be most pleasant to have an RJ-5, Jennie Mae, or Breguet 901 for the attempt, but even with your 1-26, Pratt-Read, or LK you might be able to get an 800 mile distance. The most spectacular flights would involve some exciting flying, but they can be done safely. The important factor is combining the perfect weather with the ideal terrain, and using some resourcefulness.

There are two categories which it would be wise to leave untouched. The first is altitude. The present single place and two place altitudes are so high that they cannot be safely exceeded with present unpressurized sailplanes. The upcurrents in the Sierra Wave could carry sailplanes higher, probably four or five days a year. The altitude-gained records are still vulnerable because you could start your flight from low altitude at Bishop or even nearby Death Valley. Most commonly during wave conditions there are no upcurrents near the ground, but occasionally you will find slope currents, low waves, and even convection.

The second "untouchable" record is duration. After this record reached 56 hours solo and a pilot had been killed trying to break it, the category was deleted because the flying involved mostly endurance rather than flying skill. A long two place flight could be done fairly safely in a Pratt-Read fixed up with a bed or reclining chair at one side. It would be possible to fly as long as you would care to stay aloft, say two weeks, cruising along the northeast slope of the mountains on Oahu in the Hawaiian Islands, being supported by the trade wind which blows night and day. This flight would be a bit risky. After completing it you would not have an official record, but you and your passenger would certainly be famous.

The beatable records are all the single and multi-place ones involving distance or speed; distance, goal, goal and return, and the 100, 200 and 300 kilometer speed triangles. Let's look at them one by one, and try to imagine some possible successful flights.

Distance and Goal Flights

In good thermal conditions a slow medium performance sailplane can average about 35-40 mph through the air mass, and the best sailplanes can average about 50-55 mph. Thermals can often keep a sailplane aloft around seven hours, of which about six hours may be good for covering distance. This means that in one good day a slow sailplane can go around 225 miles through the air, and a fast one 315 miles. If a 25 mph wind is moving the air along for the seven hours, it will add 175 miles to the flight, making the total distance 400 miles for the slow ship and 490 miles for the fast—the type of sailplane does not make as much difference as you might suppose. The present distance record, made by Dick Johnson in thermal conditions, is 535 miles. It would be hard to beat by conventional means, so we have to try something special.

One method is to stretch out the late end of the flight in some manner. At the International Contest in France on several days pilots got about 120 miles further than thermals would take them by relying on slope currents and then waves—and the flights would have been further yet if they had not been stopped by reaching the goal or the Mediterranean Sea. Such late flights are safe if you land while there is still some light or if you are always within reach of a lighted airport. In the U.S. there are no large river valleys ridged with sharp transverse mountains in safe terrain to provide a fast channeled wind and useable slopes, as there were in France, but there are many places where you could reach some good mountains late in the day and be able to con-



THE AUTHOR

tinue until dusk. On days with strong or moderate wind the slope currents should be good and there are fair chances for waves especially in the early evening. Yakima to Salt Lake City would be a rugged possibility. Another way of prolonging the end of the flight is to rise high in a towering cumulus cloud late in the day. Although thermals from the surface diminish as the sun's heating diminishes, the upper parts of cumulus clouds may still have good instability. A pilot should not trifle with large thunderstorms because of the danger of encountering large or severe icing, and the danger of being carried to unsafe altitudes (some thunderstorms can reach 70,000 feet). The turbulence inside these clouds is not a worry if you do not let the airspeed build up. In rising to good heights in cumulus clouds remember that you will pick up some ice, and this will cut the performance of the sailplane considerably.

Another method of extending a flight is to get started early. On some days at some places you can get a wave to, say, 30,000 feet in the morning, and by the time thermals are beginning far away you can be 200 miles along on the flight. If you use thermals only, you will find the earliest ones in mountain areas and so can start a thermal flight sooner if you begin in mountainous regions.

Another distance flight technique is to use waves over the whole western U. S. Start at Bishop just before daybreak, make the flight at 30,000-40,000 feet altitude, catching wave after wave. With the strong 120 mph tail wind, the high true airspeeds you get at high altitudes, and the strong wave lift you could actually average a 200 mph ground speed