

LOOPING the LOOP



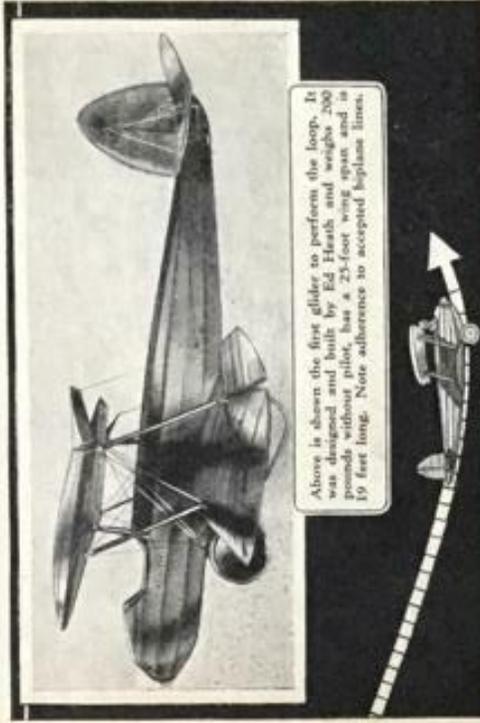
Diagram shows the mechanics of the glider loops. With a strong tail wind the pilot dives to get up speed. Pulling the stick sharply brings the nose up and stalls the glider, which is then pulled over backward about 90 degrees. At the point, inset shows Ed Heath, the first to perform the loop in a motorless glider.

The impossible has been accomplished again! To Ed Heath, America's pioneer in designing, building and piloting light planes, goes the honor of first looping the loop in a motorless glider. How this thrilling stunt is accomplished is described here by the designer of the Baby Bullet.

MOST all pilots who have had considerable air time realize that an airplane traveling close to the ground down wind can be put into a vertical bank and face about into the wind without loss of altitude. They very early in their experiences also found out that it was impossible to reverse this condition without fatal results. That is to say the plane cannot be flown into the wind, then quickly turn with the wind close to the ground. It is because of this factor that so many accidents occur from pilots attempting to turn back to the field after the motor has given trouble, whereas they

In a GLIDER

by ED HEATH
Father of
American Light Planes



Above is shown the first glider to perform the loop. It was designed and built by Ed Heath and weighs 200 pounds without pilot, has a 25-foot wing span and is 19 feet long. Note adherence to accepted biplane lines.

carefully the pilot will then find by making a vertical turn back down wind that the plane has a marked tendency to spin and at last will dive before it can again be flown horizontally. Now reading the altimeter, a loss of 400 to 500 feet will be noticed, this varying according to the wind velocity as well as the suddenness of the turn. It is this wind force that can be used to hinder or help the pilot in flight. It was this wind force that was utilized in looping of the glider.

Unlike an airplane the glider stalls almost instantly when not kept in a normal glide or when the tow rope slackens. This is due to the fact that the resistance of the glider is comparatively high in proportion to its weight.

You can visualize this best by towing a piece of paper and suddenly slackening the string. It does not keep on traveling but stops almost instantly. Bearing in mind these laws it is impossible to loop a glider in still air, as no matter how far you dive it will only obtain a speed at which acceleration of gravity is balanced by the resist-

ance of the plane and the minute the plane is pulled up from the dive it is in a stall. Therefore, to loop a glider, it is essential that a high wind prevail and that the glider be traveling down wind.

The speed of the wind must exceed the flying speed of the glider. This means that the glider has a rolling moment or what we may say a traveling speed in relation to the earth at least twice that which is required to keep the glider in the air. In this condition the glider may be suddenly pulled upward. It is now in a vertical position and lost its flying speed.

The only concentrated mass or weight to the glider is the man. With this mass at the top the tail is then swept on and out from under the glider. This rotates the nose in the direction of the wind and as the glider noses further over on its back it is heading into the wind and again assumes flying speed although it has lost rolling moment. As the wind is in excess of that required for normal flight it has flying speed, therefore the controls are completely affected and a perfect loop can be made.

National Soaring Museum Historical Journal

Summer 2020

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Looping the Loop: A History of Glider Looping Records

by Gary Fogel

History suggests that Russian pilot Nesterov or Frenchman Pegoud made the first recorded inside loop in the world using powered aircraft in 1913. Lincoln Beachey, America's first popular "stunt pilot," made headlines on November 24, 1913, with a loop (actually two on the same day) over the skies of North Island, near San Diego, the first public inside loop in American aviation history. Beachey later stated, "the Silent Reaper of Souls and I shook hands that day." On Thanksgiving Day 1913, Beachey made three loops and proceeded to quickly raise the number of consecutive loops to 10. Then, a British pilot completed 27 in a row. The following week Beachey made 28. A Frenchman then made 64. Beachey made 65. Then 80...and so went the race to loop as many consecutive times as possible with power.



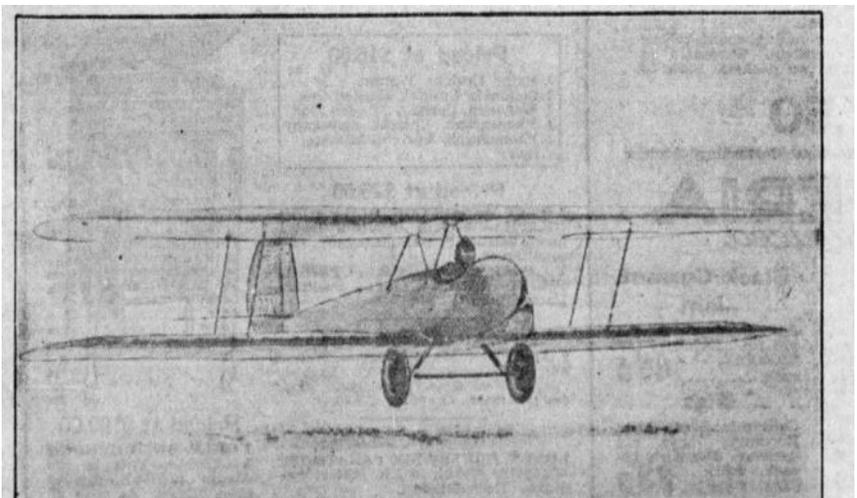
Beachey's "Little Looper" in flight

Aerobatics in unpowered aircraft required high altitudes and the conversion of potential energy into fun. We often forget that at the dawn of gliding most pilots were simply thrilled to be 10 feet off the ground, skimming downhill, only to land and trudge with the glider back up the hill for the next flight. But as gliders went ever higher, their pilots became encouraged to try aerobatics. For instance, following release from a high-altitude balloon in 1905, Daniel Maloney made intentional "side-somersaults" (rolls) with the Montgomery tandem-wing glider, the *Santa Clara*. (1,2) Once it was the case that gliders could be aerotowed to altitude, it didn't take long before pilots entered into a friendly competition to see just who could make the most consecutive loops in a glider before having to land - like Beachey, but without a motor. However, just getting up the nerve to make even one loop in a glider took considerable fortitude, as most of the gliders weren't designed for such stresses.



Edward B. Heath

Edward Bayard Heath, president of Heath Aircraft Corporation, claimed the first loop in a glider (at the very least the first glider loop in the United States) on January 5, 1930 at Chicago. Aerotowed to an altitude of 1,200 feet AGL behind a World War I Standard J-1 trainer, Heath proceeded to make four loops before landing his specially-designed Heath *Super Soarer* biplane glider (Identification mark #272V) a short distance from the point of takeoff at the airport. (3-8). Peter Bowers wrote a very nice description of the Super Soarer in 1957 and noted, "Aerodynamic knowledge, or the lack of it at that time, was amazing. According to a magazine account, Ed (Heath) maintained that he had to loop right off the tow, because otherwise the glider slowed right down to its glide speed of 25 mph, and that it couldn't be dived as fast as the 65 mph that the Standard could tow it! Also, the loop had to be entered downwind so that the wind could blow the tail over the top of the loop!" (9)



VETERAN AVIATOR CLAIMS HE IS THE FIRST TO LOOP IN GLIDER PLANE:
Edward B. Heath taking off in his glider in which he made four loops in descent from 1,200-foot altitude. He was towed into air by motor ed plane

Figure 1. News clipping from *The Leader Post*, January 21, 1930 showing Heath in the *Super Soarer*. The glider was actually designed as a 2-place but shown here flown with a covering over the second seat behind Heath as the pilot. →

Figure 2. Another view of the Super Soarer provided by the County Democrat newspaper on February 28, 1930. →



Heath's looping mark was popularized by articles in *Popular Aviation* as well as the *Flying and Glider Manual* (10), the latter of which contained details on the glider's construction. Sadly, just one year after his looping success, Heath passed away in 1931 from an aviation accident unrelated to gliding. (11)

During World War II, and well after Heath's death, the Heath Aerial Vehicle Company produced popular oscilloscopes, which then set in motion the company's transformation into an electronics company, selling the popular "Heathkit" to the burgeoning amateur radio and consumer electronics markets. Few realize that the name associated with this popular line of kits (some of which included kits for radio-controlled systems used by many early RC gliding enthusiasts) had its start with the nation's first glider loop record holder. (12)

On January 26, 1930, Lt. Norman A. Goddard (ret.) of Palo Alto, California attempted to make a gliding loop using a primary glider via aerotow. Released from aerotow at 3,000 feet over Alameda Airport, Goddard started his loop. But just as the glider was nearing the apex one wing folded...and then the other. Although equipped with a parachute, for the majority of the fall Goddard was unable to free himself from the glider. When he finally did manage to break free his parachute opened too late and he and the glider impacted the Oakland Estuary at considerable speed. His tragic death headlined the *San Francisco Examiner* the following morning. Goddard was 35 years old at the time of his accident and had flown for the British during World War I. He became a U.S. Naval reserve pilot and was the operator of a popular aviation school at Palo Alto. (13-19) Setting gliding loop records was fraught with peril, especially in fragile primary gliders. Even Heath wished to preclude others from making similar attempts. For instance, at the second annual aviation banquet of the St. Joseph Valley Aviation Club in South Bend, Indiana, Heath provided a lecture describing his glider loop record. His very matter-of-fact lesson for the attendees was: "I would not advise you to attempt this." (20) <https://www.youtube.com/watch?v=qQppiVZQhsY>

Back in Chicago, Lyman Voelpel (often misspelled "Voepel") obtained Heath's *Super Soarer* and soon thereafter made attempts at a new loop record. On May 9, 1930 he was aerotowed by Major Harold Darr over the skies of the Curtiss Airport as a part of the Chicago Air Show to 3,500 feet. Following release Voelpel proceeded to loop-the-loop 12 consecutive times before having to set up for his approach to landing. After his record flight, Voelpel went back up with passenger Jimmy Van Cise and Van Cise jumped from the glider with parachute at 3,500 feet, making what was believed to be the first parachute jump from a glider. (21) Voelpel hailed from Clinton, Iowa and had many previous hours as a stunt pilot in powered aircraft. (22-24) His 12 loops became the subject of increased notoriety. (25) Voelpel took this to a new level through the realization that glider loop record attempts could be incorporated into aviation events around the nation as a crowd pleaser, this despite of course there being no actual "official" record FAI category for glider loops. He made an unsuccessful attempt to surpass his loop record as a part of the Curtiss-Wright Air Circus at Curtiss-Bettis Airport (Bettis Field) near Pittsburgh, Pennsylvania in June, 1930.



Lyman Voelpel

GLIDER LOOPS THE LOOP



Figure 3. Lyman Voelpel (seated) and parachutist Jimmy Van Cice (standing) with the *Super Soarer*. *Upper Des Moines-Republican*, July 30, 1930.

Voelpel attempted loop records each day for the Iowa State Fair and Exposition as a part of the National Aircraft Show August 20-29, 1930. (27) Directly after the State Fair, he made a glider loop demonstration at the Ohio State Fair in Columbus, Ohio, as a part of Aviation Day on August 30, 1930. (28,29) From there he went to the Gordon Bennett Balloon Race in Cleveland and was reportedly featured as a stunt flyer as a part of the event - however, this remains unconfirmed.



Figure 4. The Heath *Super Soarer* at an unknown location in 1930. Photo from San Diego Air and Space Museum Flickr Catalog# 00067549



Figure 5. A front view of the 2-place Heath Super Soarer in 1930.

photo from San Diego Air and Space Museum Flickr Catalog# 00067550.



Figure 6. The Super Soarer in flight in 1930. Ironically, while the glider did a lot of looping in its day, there are no records of it actually soaring, despite the “super” name.

photo from San Diego Air and Space Museum Flickr Catalog# 00067551.

Continuing his tour of the Midwest, on September 6, 1930 Voelpel pushed the glider loop record to 13 loops at the Indiana State Fair at Indianapolis. (30-34) He made another attempt at Watson Airport in Cincinnati on September 7, 1930 but without success. (35). Voelpel arrived in Oklahoma City on September 18, 1930 eager to break his mark of 13 loops at the Oklahoma State Fair. However, after looping only 11 times, the landing gear on the glider came off during his landing on a racetrack. Although he wasn't injured, the glider required repairs. (36-39) Having made the necessary repairs, Voelpel arrived in Dallas to make another attempt at a glider loop record at Love Field on October 10, 1930. Towed aloft behind an aircraft called the *Greater St. Louis* by Dale Jackson, Voelpel released at 5,000 feet and made 17 loops over a flight of about 25 minutes in front of a crowd of about 5,000 people. (40-42)

From Texas, Voelpel took his showmanship to Los Angeles, arriving there on November 3. On November 9, 1930, Voelpel and a passenger, Miss Teddy Hall, went up together in the *Super Soarer*. Equipped with a parachute, the 21-year-old Hall climbed out of the glider at 2,500 feet using both hands to hold on to the bracing wires for the biplane. As she jumped, she spent additional time fumbling to find the release cord, and by the time she was successful, her trajectory had her heading for the top of a 25-foot tall tree on the edge of the Grand Central Air Terminal field. She was eventually rescued unharmed. Her jump however, was billed as the first ever parachute jump by a woman from a glider. The jump was made under the direction of Bert White, head of the Irving Parachute Company located at Grand Central Air Terminal. (43) After the successful jump, Voelpel was towed up again to 5,000 feet in an attempt to break his own loop record, however he only managed 15 loops with the last loop initiated at about 500 feet above ground level. 10,000 spectators witnessed both events. Two days later on November 11, Voelpel once again was out making loops above Glendale but only managed to tie his mark of 17 loops. (44-45).

Ever the notoriety seeker, Voelpel leveraged his location near Hollywood and its considerable local media interest. A mountain lion cub named Zimba had been born in the area three months prior. Somehow, Voelpel arranged for Zimba to hop a ride in the *Super Soarer*. There is no mention of looping on this particular flight, but apparently Zimba liked the ride well enough to pose for a cute photo op for the papers. Voelpel believed that Zimba was the first ever lion to fly in a glider.

On November 23, Voelpel made additional attempts for a loop record and was successful (without a lion passenger) with 20 loops over Glendale from an altitude of 4,000 feet. His last loop was completed with only 50 feet to spare from terra firma. Whew! (47-53) Voelpel made a brief visit to Stockton, California on December 21 to attempt a loop record at the Oranges Brothers Airport through a series of three afternoon expositions. However there is no indication of success. (54) From there he drove (complete with his now pet Zimba the lion) back to his hometown of Clinton, Iowa to visit his father E. W. Voelpel, a local manufacturer. The *Super Soarer* was shipped to Clinton, perhaps in anticipation of Voelpel's attendance at the National Air Show in Detroit. The oddity of Voelpel walking his lion down the street was not lost. The local paper noted, "Voelpel leads Zimba about on a leash and wherever the two appear business is suspended." (55) Sometime between December and late February, Voelpel had pushed the loop record to 22. He noted that "Zimba always brings me luck." and that Zimba "always accompanied him on his flights." (55) If the stories were true, one does have to wonder what Zimba thought of the looping adventures. By March 1931, Voelpel's wife filed for divorce as Voelpel had been touring all around the nation, now complete with a lion, while leaving Florence deserted in Chicago. And as if the stories weren't already crazy enough, Florence Voelpel had been performing in a musical comedy at the time in Chicago – not just any theater but at the "loop theater" downtown. Voelpel took a hiatus from gliders, perhaps in order to reconcile things with Florence.

Figure 7. Voelpel and Zimba pose for the cameras. *Quad City Times*, Feb 22, 1931. →



However, in June, 1931 the glider looping madness continued. At Elmira, NY, National Glider Champion, Al Hastings, took off on June 16 in a Franklin PS-2 Utility glider from South Mountain. After gaining sufficient height, he proceeded to make 5 loops and then spins and wingovers for fun. So adept was Hastings that local papers suggested that a special glider aerobatics event be added to the National Gliding Contest. Hastings' loops were believed to be the first ever made by a monoplane glider. (57,58) It should be noted that looping records for powered aircraft had also continued in parallel but the number of loops was far, far greater. For instance in 1931, Florence Klingensmith set a world record in a Stearman with 1,078 consecutive loops in a flight over Minneapolis, a staggering average of 4 loops a minute.

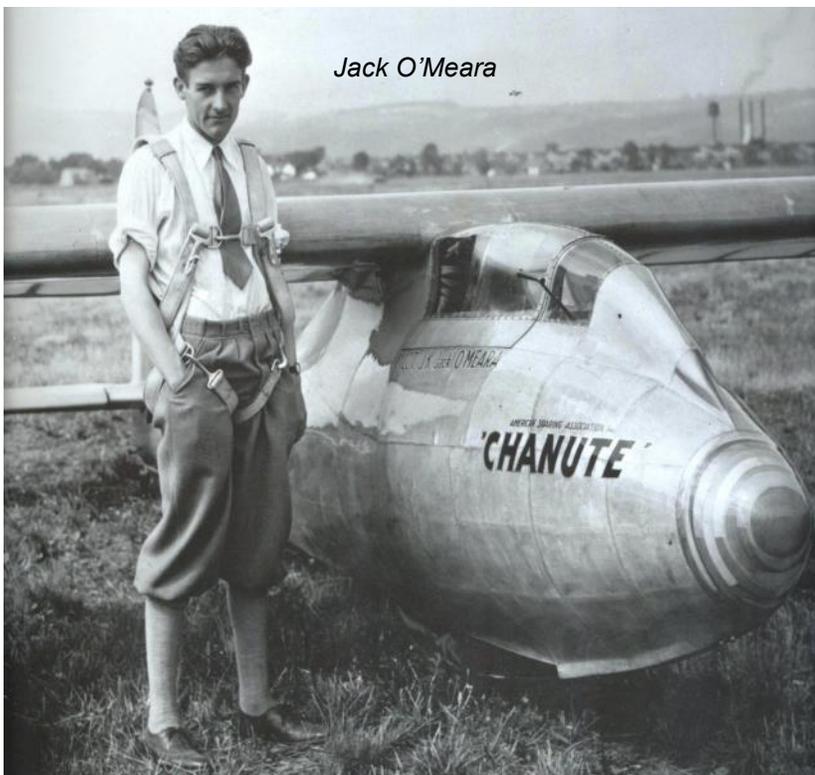
For most of 1932, no additional loop records were set. Eugene B. "Bud" Sutherland, a B. F. Goodrich pilot, of Akron, Ohio re-started the quest in the fall of 1932. On September 11, 1932 he made a demonstration of glider loops at the Akron Municipal Airport as a part of a Sunday program. On September 13, Bud managed to loop 19 times - nearly enough to tie Voelpel's mark. (60) But not long after on September 18 he set a new record of 26 loops from an altitude of 4,000 feet. This was boosted to 31 loops from an altitude of 3,200 feet on September 26 but there was a discrepancy in the count of the loops by personnel on the ground. According to reports (62) the counts ranged from 27 to 32... On October 24, 1932, Sutherland took flight and looped his glider 35 times at a glider meet to claim a new record with 10,000 spectators looking on at Akron Airport. (63-66). Newspapers in the United States reported that Austrian soaring ace Robert Kronfeld had managed to loop his 14-meter wingspan *Austria II* sailplane 6 times in late 1932 - and this was believed by the Germans to be the first time a glider had ever looped. (67) It remains unclear what if any glider looping records had actually been made in Germany or Austria prior to 1932.

Another sailplane pilot, Jack O'Meara, became U.S. National Glider Champion in 1932. O'Meara also gained notoriety for his glider aerobatics at air shows. Russell Holderman, owner of the D. W. Flying Service in LeRoy, NY, knew O'Meara well.



Eugene "Bud" Sutherland

On Sept 24-25, 1932, O'Meara was towed to 1500 feet above the D. W. Flying Service Airport to make loops and stunts for the crowd in his glider including snap rolls, slow rolls, and inverted flying. (68-69) The "race" for glider looping records heated up.



Jack O'Meara

On June 5, 1933 Bud Sutherland made 39 loops at Detroit, breaking his previous record. (70)

Another stunt pilot joined in the race for records when Charles F. Abel of Chicago was towed to 6,000 feet in the *Super Soarer* previously owned by Voelpel and completed 18 loops at the air races. It was not enough for a record. But on July 4, 1933, Bud Sutherland extended his loop record to 40 loops. (72)

On July 30, 1933, Willis Sperry of the Baker-McMillen Co. set a new record of 46 loops

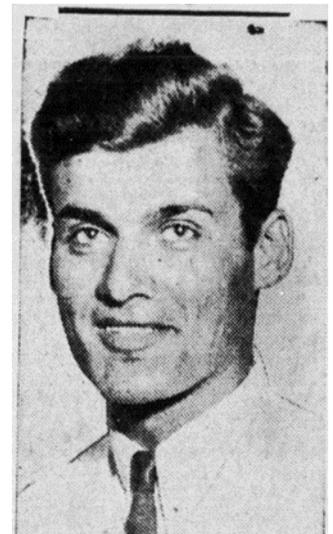


Figure 8. Glider looper, Willis Sperry, in 1933. *The Akron Beacon Journal*, July 31, 1933.

during an airshow to open the Sky Haven Airport near Northfield, Ohio. He released at 7,000 feet after aerotow by Edward "Slim" Honroth and continued his loops in a Baker McMillen Cadet until he was within 700 feet of the ground. (72) Sperry had lost count of his loops on the way down and only realized he had set a record after chatting with witnesses.

There was either considerable confusion about who held the “real” record at any given time or pilots quoted lower record thresholds to have to exceed as a way to “break” them in order to be a crowd pleaser. For instance in September 1933, Charles F. Abel, flew the *Super Soarer* to a new record of 48 loops at Chicago. (73) However news of this didn’t make national papers and thus many looping record fans and pilots were unaware of his success. On September 17, 1933, Russell Holderman looped 35 times in a Franklin PS-2 to exceed what was believed to be the previous mark of 17...but without knowledge of Abel’s 48. (74,75) https://www.criticalpast.com/video/65675041406_Russell-Holderman_Glider_motor-less-craft_world-record

On October 6, Jack O’Meara set what was believed to be another loop record with 46 loops at Roosevelt Field in New York as a part of the National Air Pageant. He was towed to 12,000 feet in a Franklin PS-2 behind a plane piloted by John Phillips. Making 46 loops from that altitude was a “gimmy” but just to make it exciting for the audience his last loop was made 500 feet off the ground. (76-77) However, O’Meara’s record didn’t last long. At the Akron Glider Meet on October 14-15, 1933 Bud Sutherland and Willis Sperry were both aerotowed to an altitude of 10,000 feet for their release. They then “raced” each other down to determine who would make the most loops. Sutherland completed 63 while Sperry completed 68, giving Sperry the new record. (78-80)

As confusion reigned over who actually held “the” loop record, Dr. Wolfgang Klemperer suggested that the Fédération Aéronautique Internationale (FAI) should establish a category for glider aerobatics. Klemperer had witnessed Sperry’s October 1933 loop record. (81) While it remains unclear if FAI established a category or not, glider looping did soon become international. On March 29, 1934, German soaring ace Wolf Hirth set a new world record with 74 (or 76 as some reports suggest) loops over the skies of Buenos Aires, Argentina. (82-85)

Set New Glider Loop Record



Figure 9. O’Meara’s accomplishment as noted in *The Evening News* on Oct. 10, 1933.



Wolf Hirth

Hirth not only set the record, it became clear that it was going to take significant effort (and a seriously solid stomach) to make more than 74 loops. While some in the US tried, on June 13, 1934, a Mr. F. Kuhn increased the mark to 85 loops at Danzig, Germany. (86,87) Kuhn’s mark was widely reported and interest in loop records in the United States waned. However this wasn’t the case in the U.S.S.R. where a pilot by the name of Stepanchok made 184 loops, while another pilot Borodin made 209 loops and finally a pilot named Baruzdin managed to make a whopping 227 consecutive loops in a four hour flight in October 1934. (88,89) Such figures were considered only possible in continuous slope lift, not via aerotow. Rather suddenly, even Hirth’s previous record of 74 loops didn’t seem as daunting as it once did. It was no surprise then when the Soviets announced in April 1935 that glider pilot Smirnov had made a flight of 300 consecutive loops at Koktebel, Crimea in a flight of 5 hours in a strong wind. (90,91) One can debate the differences of loops via aerotow or loops via ridge lift. Given there were no official rules, only the number of loops counted, but it would have been nice had the FAI stepped in at the time with rules for different categories.

In the United States, glider loops still attracted local interest at airshows. Russell Holderman made loops for a crowd of 2,000 spectators at D.W. Airport in LeRoy in May, 1935. https://www.criticalpast.com/video/65675041406_Russell-Holderman_Glider_motor-less-craft_world-record (92) No records were set that day, but on June 2, he managed to make an even 50 loops over the skies of LeRoy, New York, still far from Sperry’s national record of 68. (93) As part of the California Pacific International Exposition in San Diego on March 16, 1936, Don Stevens set what was billed as a looping “record” of 54 consecutive loops after an aerotow by Earl Ortman in a Waco F-2 from Lindbergh Field to 16,000 feet over Balboa Park. Stevens used a Briegleb BG-1 owned by Speed Westphal for the flight and landed back at Lindbergh Field. After the flight, the glider was aerotowed back to Los Angeles Municipal Airport in a flight that took 1 hour and 35 minutes. (94-98) Don Stevens on auto tow: <https://www.youtube.com/watch?v=9o3IUxmqVLE>

Stevens was at it again at the National Glider Contest in 1936 when he made 92 consecutive loops using Ted Bellak's Baker- McMillen Cadet, *Allure*, after an aerotow to 15,000 feet. (99, 100) Stevens had hoped to break 100 loops but at least it was a new national record. Stevens really caught the looping bug as he was quite a showman. Launching from the Hollywood Riviera Gliderport near Redondo Beach, California on December 12, 1937, he used the ridge lift at the Palos Verdes Hills to make 36 consecutive ridge-lift loops in a 1 hour and 40 min flight. It wasn't a record but the idea of someone considering this "fun" on the weekend made the *Los Angeles Times*. On August 4, 1940, Stevens was hired to attempt to break his loop mark of 92 loops as a part of the third annual Joliet Air Show in Illinois. The weather and issues with the towplane made it very difficult and he was able to only manage 31 for the crowd of 12,000 spectators. (102). Stevens came closer to his record with 82 loops at the 1941 Southern California Soaring Championships at Arvin, California as a part of a triple aerotow to 4000 feet from Kern County Airport in Bakersfield. (103-105)

As World War II started not long after, Stevens and many other glider pilots assisted the Army Air Corps with their glider training program. Stevens went on to fly Waco CG-4A gliders. Near the end of the war, Flight Officer Stevens and copilot 2nd Lt. Wilbur A. Brown as well as two observers managed to loop their Waco CG-4A over the skies of Italy. Releasing at 10,000 feet into a 25 mph headwind, Stevens set off for not one, not two but a series of 54 loops with the transport glider, appropriately named *Big Job*. Stevens later went up in *Big Job* with only a dog as a passenger. Proceeding to make a loop, the dog didn't look too pleased. Once the door was opened after landing, the dog exited swiftly and could never be coaxed into an aircraft again. (106, 107) I guess his name wasn't Zimba! After the War, Stevens continued with his upside-down ways, extending the U.S. glider loop record to 118 in his specially-converted Bowlus Baby Albatross. (108-110)

Today the FAI has both the World Glider Aerobatics Championships (WGAC) and World Advanced Glider Aerobatics Championships (WAGAC) with specific airspace requirements, flights over a 10-day period with buffer for weather delays, launch via aerotow, etc. These FAI contests began in 1985 and administrated by the FAI Aerobatics Commission "Commission Internationale de Voltige Aérienne" (CIVA). However, it is important to remember that a more general history of glider aerobatic competition begins with these early pioneers who used looping as a fun way to increase public interest and awareness of gliding. Next time you try a loop, will you try two or three? 20? 50?

Acknowledgements

The author would like to thank Jack Wyman, Lindsey Chew, and David Hall for their comments and assistance.

References

1. *A Hazard in Aerobatics: Effects of G-forces on Pilots*, FAA, AC 91-61, February 28, 1984.
2. Harwood, CS and GB Fogel. *Quest for Flight: John J. Montgomery and the Dawn of Aviation in the West*, University of Oklahoma Press, 2012.
3. *Oakland Tribune*, January 6, 1930.
4. *St. Joseph News-Press*, January 6, 1930.
5. *Reading Times*, January 8, 1930.
6. *South Bend Tribune*, January 6, 1930.
7. *News Palladium*, January 6, 1930.
8. *Gettysburg Times*, January 7, 1930.
9. Bowers, Peter M. "Interesting Gliders," *Soaring*, Mar-Apr., 1957, p.15.
10. http://www.plans-for-everything.com/downloads/aircraft/aircraft_biplaneglider.pdf
11. "Plane Crash Kills Heath, Air Pioneer," *Chicago Tribune*, February 2, 1931.
- 12...http://www.ontheshortwaves.com/Ads/The_History_of_the_Heath_Companies_and_Heathki_1909-2019.pdf
13. *The Times*, January 27, 1930.
14. *The Daily Advertiser*, January 27, 1930.
15. *San Francisco Examiner*, January 21, 1930.
16. *El Paso Times*, January 27, 1930.
17. *Dayton Daily News*, January 27, 1930.
18. *Fairbanks Daily News*, January 27, 1930.
19. *Los Angeles Times*, January 27, 1930.
20. *South Bend Tribune*, January 6, 1930.
21. *San Bernardino County Sun*, May 10, 1930.
22. *Sterling Daily Gazette*, May 10, 1930.
23. *Sioux City Journal*, May 10, 1930.
24. *Billings Gazette*, May 10, 1930.
25. "Looping the Loop in a Glider," *Popular Aviation*, August, 1930.
26. *Pittsburgh Press*, June 22, 1930.
27. *Upper Des Moines-Republican*, July 30, 1930.
28. *News-Journal*, August 28, 1930.
29. *Palladium-Item*, August 29, 1930.
30. *Cincinnati Enquirer*, September 4, 1930.
31. *Rushville Republican*, September 6, 1930.
32. *The Hartford Courant*, September 7, 1930.
33. *The Indianapolis Times*, September 5, 1930.
34. *The Indianapolis Times*, September 6, 1930.
35. *Cincinnati Enquirer*, September 4, 1930.
36. *The Oklahoma News*, September 18, 1930.
37. *Pawhuska Journal-Capital*, September 21, 1930.
38. *Miami Daily News-Record*, September 26, 1930.
39. *The Daily Oklahoman*, September 28, 1930.
40. *St. Louis Post-Dispatch*, October 10, 1930.
41. *Los Angeles Times*, November 8, 1930.
42. *Pittsburgh Post-Gazette*, October 11, 1930.
43. *Los Angeles Times*, November 10, 1930.
44. *Appeal-Democrat*, November 12, 1930.
45. *Billings Gazette*, November 12, 1930.
46. *Oakland Tribune*, January 13, 1931.
47. *The Californian*, November 24, 1930.
48. *The Capital Times*, December 31, 1930.

49. *San Antonio Light*, November 24, 1930.
50. *Oakland Tribune*, November 24, 1930.
51. *Santa Cruz Evening News*, November 24, 1930.
52. *Pasadena Post*, November 24, 1930.
53. *Sacramento Bee*, November 24, 1930.
54. *Sacramento Bee*, December 20, 1930.
55. *Quad-City Times*, February 22, 1931.
56. *Chicago Tribune*, March 28, 1931.
57. *The Evening Times*, June 18, 1931.
58. *Elmira Star-Gazette*, June 17, 1931.
59. *The Times-Tribune*, June 24, 1931.
60. *The Daily Times*, September 13, 1932.
61. *Akron Beacon Journal*, September 10, 1932.
62. *Akron Beacon Journal*, September 26, 1932.
63. *Princeton Daily Clarion*, October 24, 1932.
64. *Dayton Daily News*, October 24, 1932.
65. *Wilmington News-Journal*, October 24, 1932.
66. *Marysville Journal-Tribune*, October 24, 1932.
67. *Knoxville News-Sentinel*, October 3, 1932.
68. *Democrat and Chronicle*, September 24, 1932.
69. *Democrat and Chronicle*, September 25, 1932.
70. *Evening Star*, June 5, 1933.
71. *Chicago Tribune*, July 2, 1933.
72. *Akron Beacon Journal*, July 31, 1933.
73. *Decatur Daily Review*, Sept 11, 1933.
74. *Indianapolis Star*, September 18, 1933.
75. *Kansas City Times*, Sept 18, 1933.
76. *Brooklyn Times Union*, October 6, 1933.
77. *Gliding and Soaring Bulletin*, Vol. II, No. 4, Oct. 1, 1933.
78. *The Times Dispatch*, October 16, 1933.
79. *Miami Herald*, October 16, 1933.
80. *Gliding and Soaring Bulletin*, Vol. II, No. 5, Nov 1, 1933.
81. *Akron Beacon Journal*, October 17, 1933.
82. *Akron Beacon Journal*, March 29, 1934.
83. *Daily News*, March 29, 1934.
84. *Chicago Daily Tribune*, March 29, 1934.
85. *Christian Science Monitor*, March 31, 1934.
86. *Evening Sun*, June 13, 1934.
87. *Daily News*, June 14, 1934.
88. *Tipton Daily Tribune*, October 22, 1934.
89. *The Montreal Gazette*, October 20, 1934.
90. *Nevada State Journal*, April 29, 1935.
91. *The Milwaukee Sentinel*, April 29, 1935.
92. *Democrat and Chronicle*, May 31, 1935
93. *Berkshire Eagle*, June 3, 1935.
94. *Christian Science Monitor*, March 16, 1936.
95. *Miami News*, March 17, 1936.
96. *Journal and Courier*, March 16, 1936.
97. *Daily News*, March 16, 1936.
98. *Los Angeles Times*, March 16, 1936.
99. *The News Journal*, July 8, 1936.
100. *Star-Gazette*, July 2, 1936.
102. *Los Angeles Times*, Dec 13, 1937.
103. *Chicago Daily Tribune*, August 5, 1940.
104. *Bakersfield Californian*, April 21, 1941.
105. *Los Angeles Times*, April 11, 1941.
106. *Bakersfield Californian*, April 11, 1941.
107. *Soaring*, November-December, 1944.
108. *National Soaring Museum Journal*, Spring 2011.
109. *Times-Advocate*, August 20, 1955.
110. *Times Advocate*, February 21, 1955.
111. Lambie, Jack "The Don Stevens Bowlus Baby Albatross," *Soaring*, May-June, 1955.



Aviation, Travel Trailers and Trailer Courts - *Jean Doherty*

While editing Al Hastings' story in the Winter 2020 edition of the NSM Journal, I became very interested in the fact that Al and his family had lived in a trailer court while their daughter attended the University of New Mexico. Not being at all familiar with what the trailer court of the 1930s was like, I decided to do a little internet research. First, I looked up "Martin's Trailer Court" where Al had stayed, and found that it no longer existed. Then I went on to look up trailer courts of the 1930s in the southwest. Here I found some fabulous photos of a place called the Olympic Trailer Court in the Los Angeles area. Most of us know Ansel Adams as an American photographer and environmentalist, best known for his black-and-white photographs of the American West, but his photos (shown below) of the Olympic Trailer Court captured trailer park life in a time capsule.

Around 1939, Ansel Adams was commissioned by Fortune magazine to photograph a series of images for an article covering the aviation history of the Los Angeles area. For the project, Adams took photographs showing everyday life, businesses, street scenes, aerospace employees, and a variety of other subjects. Adams donated these photos to the Los Angeles Public Library, and at some point in recent history, they became available to curious internet surfers like me.

I was feeling a little bit sad that a great soaring champion and instructor in gliding was forced to live in a trailer court as his daughter went to college. I realized, though, that many of the early soaring champions were not wealthy people. They had gained fame, but not necessarily fortune. Then I also saw that many people all over the south and the southwest were living in this type of transitional housing, some as a result of financial hardships brought about by the Great Depression, and some because they were recruited to work for companies that had more than suddenly doubled their workforce to ramp up for WWII production.

Although the Olympic Trailer Court no longer exists, the views featured below certainly give a good feel of what life was like for those living there in the 30s and 40s.



These trailer court dwellings are far different from the mobile homes found in trailer parks today. I imagine that family living would be rather cramped to say the least. Take a little tour across the internet on this subject, and I can guarantee you will be entertained all afternoon!



Parsley Trailer Park outside of Jacksonville, FL
<https://mobilehomeliving.org/vintage-trailer-parks/>

Even before the 1930s, aircraft manufacturers took notice of the population's interest in camping and started designing and building camping trailers.

Aviation pioneer, Glenn Curtiss, created a lavish "motor bungalow" as early as 1919. In 1928, he revamped his design and called it the *Aerocar*. It looked, on the outside, like a fancy horse trailer. The most elaborate models featured four berths, a galley, running water and an "observatory cockpit with a glass roof," and cost a whopping \$2,500.

<https://tincantourists.com/wiki/curtiss/>

Not content with the over all construction and technology in use by the automotive industry, Glenn felt the engineering practice used for the aircraft of the time was better suited for trailers – hence the name, *Aerocar*.



Curtiss Aerocar

Much of the Curtiss *Aerocar* was designed and constructed like that of an airplane fuselage, utilizing wooden framework, guy wires for diagonal cross bracing and aerodynamic streamlining. Unlike the plain fabric covering of aircraft, the exterior materials varied to satisfy the customer. Covering the thin wooden shell could be found anything from simple paint schemes to match the automobile, to rich leather and fabric. The overall design allowed passengers to ride inside with ample headroom, permitting free movement during travel. Many of the custom-designed interiors also included a speedometer, a radio and an intercom to talk to the driver.

William Hawley Bowlus, American designer, engineer and builder of aircraft (especially gliders) and recreational vehicles, created in 1934, the first aluminum riveted travel trailer, the *Road Chief*. Weighing in at 1,100 pounds, the *Road Chief* was considered revolutionary for its advanced engineering. His designs quickly found many admirers and inspired other builders, including Wally Byam of *Airstream*, who expanded on Hawley's work.

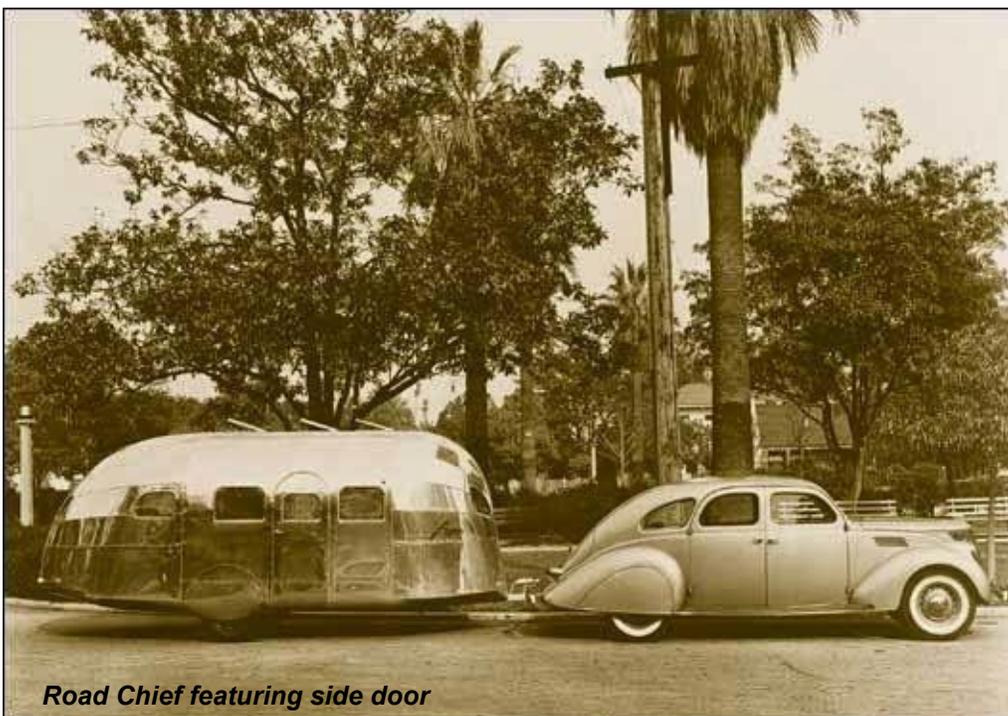
https://en.wikipedia.org/wiki/Hawley_Bowlus

At the *Road Chief*'s peak popularity, Bowlus produced an estimated eighty travel trailers in assorted designs before he returned full-time to the aircraft industry in 1937. But Bowlus had chosen his building materials to last, and they did - over half of the original Bowlus *Road Chiefs* built in the 1930s are still around today, often held in private collections. The last one publicly traded hands in 2011 at the Gooding & Co. Auction in Scottsdale, AZ for \$187,000.

<https://bowlusroadchief.com/the-story-of-bowlus/>

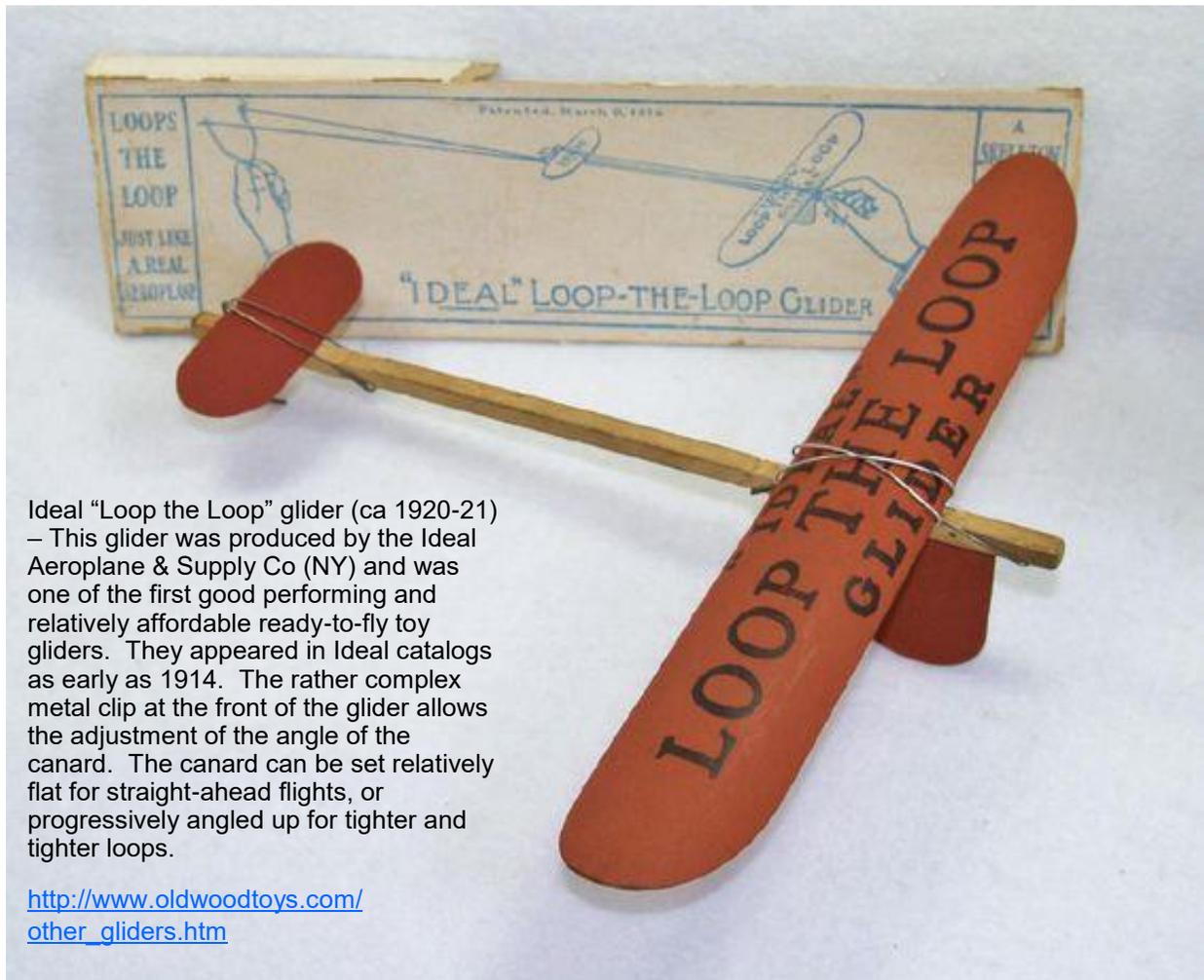


The Road Chief's unusual front entrance utilized the hitch as the step up into the camper. Like the Airstream of today, the Road Chief could be buffed up to a bright shine.



Road Chief featuring side door





Ideal "Loop the Loop" glider (ca 1920-21)
– This glider was produced by the Ideal Aeroplane & Supply Co (NY) and was one of the first good performing and relatively affordable ready-to-fly toy gliders. They appeared in Ideal catalogs as early as 1914. The rather complex metal clip at the front of the glider allows the adjustment of the angle of the canard. The canard can be set relatively flat for straight-ahead flights, or progressively angled up for tighter and tighter loops.

[http://www.oldwoodtoys.com/
other_glidern.htm](http://www.oldwoodtoys.com/other_glidern.htm)

ISBN #0892-0516

The **NSM Historical Journal** is a publication of the National Soaring Museum

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Anyone is invited to contribute article material and photographs with identification about historical soaring activities, renovation of old sailplanes, soaring pioneers, unusual uses of sailplanes, etc.

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