



# The AMA History Project Presents: Biography of CARL V. CARLSON

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## Career:

- Set a record in class E gas at the 1934 Nationals (Nats) competing in the senior division
- Joined the Illinois Model Aero Club in 1923
- Started designing his large bi-plane model, the Big Crate, in 1930 or 1931; flew it as the only gas model at the 1931 Nats
- In 1932 worked with Gilbert Nelson to develop a small, lightweight model airplane engine called the Gil
- Designed the Big Crate II around the Gil engine
- Redesigned and rebuilt the Big Crate II to become the Big Crate III in 1933, which he flew when he set a record at the 1934 Nats
- Owned and operated a small model airplane kit manufacturing business in the mid-1930s
- Received a degree in aeronautical engineering from the University of Michigan in 1937; by the 1960s, was head of his own engineering firm
- Holds patents on a special cantilever design used by some major airlines

## Honors:

- 1993: Society of Antique Modelers Hall of Fame

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*The following appeared in the August 1982 issue of Model Aviation magazine, written by Dave Ritchie.*

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## Carl V. Carlson: Gas Model Pioneer

By Dave Ritchie

Fifty years ago, a few modelers were beginning to experiment with something revolutionary – gas power. The exploits of Maxwell Bassett succeeded in creating a revolution in model aviation almost overnight. There were others – before and after him – who worked along parallel lines. Here is the story of one such pioneer.

*“In 1931 it is known that Carl Carlson of Chicago entered a gas model plane for a record flight, even though there was no event scheduled in that year’s Nationals. His plane had a span of 11 feet and weighed nine and a half pounds. Unfortunately it crashed shortly after takeoff, so no record was established.”*

That’s how the first appearance of a gas model at a U.S. Nationals – half a century ago last year – is recorded officially on page 22 of *The History of the Academy of Model Aeronautics* by Willis C. Brown and Dick Black. It would be something of an understatement to say there’s not much detail. Almost everything is left to the reader’s imagination.

To those interested in modeling's history, such brief blurbs only whet the appetite for more information. Who was Carl Carlson? What did his model look like? What kind of gas engine did he use to power it? What became of him afterwards? Questions like these usually go unanswered...unless one has the amazing good fortune to run across a few productive clues.

The first clue – tantalizing because it raised as many questions as it answered – came from a little booklet entitled “How to Built Model Airplanes” by Victor R. Fritz. It's the handbook of the old Philadelphia Model Aeroplane (sic) Association, and I had run across a copy while researching another project. The book's third edition, printed November 1934, contains a listing of official NAA model flight duration records in which the name Carl V. Carlson, Chicago, Illinois, appears along with Maxwell B. Bassett of Philadelphia as the only two record holders in class E (gasoline engine) category.

Bassett's time of 21 minutes, 57 seconds clearly corresponded to his second Texaco Trophy win at the 1934 Akron, Ohio, Nationals (Nats). It was listed as a record in the senior (which was then under 21-years-old) division. Carlson's time, considerably less at six minutes, 48.5 seconds, was the open (contestants 21 or over) record. Question: Were the two marks set at the same meet?

Newspaper accounts of the Akron Nats confirm that Carl V. Carlson, 21, of Chicago did indeed make several official flights, the longest of which (6:48.5) won the open class competition. Incidentally, the 1934 Nats was the first to allow contestant 21 or older to participate and so Carlson's mark stands at the first national open gas Free Flight record ever.

The newspaper recorded no more of Carlson than that. Most of their gas event coverage focused on Bassett, the favorite who (the year before) had swept all three Nats outdoor events (Stout, Mulvihill and Moffett Trophies) with his “revolutionary” Brown Junior-powered gas jobs. There were no pictures of Carlson or his plane in the clippings I was able to find.

Sometime later, by sheer chance, I happened to stumble on the name Carl V. Carlson once again – this time in a relatively modern setting. What's more, it was complete with an address close enough to Chicago to give hope it might be the same person. I dashed off a letter and waited. Weeks, then months went by without response. After more than a year, I gave up hope.

Then one afternoon a fat brown envelope arrived. A note inside explained that my request had become lost and was only recently discovered. The writer apologized for any inconvenience the delay might have caused. No inconvenience! Here were the details I'd been seeking for so long.

Carl V. Carlson was a member of the Illinois Model Aero Club (IMAC). Sometime around 1930 to 1931, he began the design of a large bi-plane model, which he called the Big Crate. He was assisted in his efforts by Walter L. Brock – early aviation pioneer and racing pilot who, according to Carlson, was the driving force behinds the IMAC in the late 1920s and early 1930s. The Big Crate, said Carlson, was designed as a bi-plane in order to have enough wing area in a manageable span to support the rather heavy engine he employed.

He explains: “There really wasn't a practical small gasoline engine on the market at that time. The only successful small engine that I was aware of then was a motor designed by Elmer Wall

of Chicago, who offered only kits of drawings and rough castings for sale to the modeler who had to have the necessary skill and machine tools to build the engine...I was fortunate enough to be able to borrow one of these Wall engines from a man in our area in Chicago for use in the Big Crate. After our experiments were completed and we had not damaged the engine, I returned it to him.

“All in all,” continues Carlson, “I made three flights with the Big Crate, each one resulting in some damage. At no time were we able to carry the development of the plane far enough along so that it could be flown for any great length of time. One of the flights was at the Nats in Dayton (1931). To my knowledge, that was the first attempt to fly a Free Flight gas model at any National Model Airplane contest, and it was the only gas model present at Dayton as far as I know.”

A year later in the fall of 1932, Carlson, while attending college, teamed up with another Chicagoan by the name of Gilbert Nelson who was trying to develop a “small lightweight aluminum engine for model planes.” This engine was the Gil, hardly small or lightweight by modern standards.

Carlson obtained an example of the Gil engine, which he says worked “fairly well,” and proceeded to design an entirely new model around it. The Big Crate II, as he called it, was a sleek wire-braced low-wing job of approximately nine-foot span. The wire wing bracing was the plane’s downfall, however. It was difficult to keep in adjustment, and the model’s success was, therefore, only marginal at best.

In the fall of 1933, Carlson redesigned and rebuilt this model, employing a strut-bracing system that proved far more reliable. This Big Crate III flew quite well and was the model he took to the Akron (Ohio) Nats the following summer.

In between attending college and working with Gil Nelson on model engines, Carl Carlson owned and operated a small model airplane kit manufacturing business that sold mostly small solid and rubber-powered flying models. He and Gil Nelson were also trying to develop a smaller and lighter engine than the Gil. A few examples of it were sold by the Power Model Boat and Airplane Company of Chicago around 1934 or 1935.

“Accordingly,” says Carlson, “I designed a high-wing cabin model for the smaller engine and had decided to offer a kit for it. Unfortunately, the engine was not a success. The model, being dependent on the new engine, never had a chance to be flown.”

There was one other reason Carl Carlson’s beautiful high-wing cabin shop was never flown – a reason that made its designer give up the hobby for good. Late in 1934, Carlson’s model kit business was burglarized. All his models and gas engines – by this time he had acquired a Brown Junior – were stolen and never recovered. “At this point,” says Carlson, “I returned to school full-time and graduated as an aeronautical engineer. I’ve been in aviation or related businesses ever since.”

That remark is quite an understatement. In one of his first jobs after gaining his AE degree from the University of Michigan in 1937, Carlson served as chief engineer of Howard Aircraft Corporation of Saint Charles, Illinois. During the late 1940s and 1950s, while operating his own steel products company, he began to specialize in the design and construction of aircraft hangars, maintenance docks, fueling docks and other support systems for commercial and military airfields in the U.S. and abroad.

As head of his own engineering firm in the 1960s, he provided complete management and installation of sophisticated environmental control systems at 10 Minuteman missile bases in the Midwest. Since then he has been responsible for the design of over 400 different projects for the U.S. Air Force, major airlines, and aircraft manufacturers. These include the design and construction of complete work dock systems for major overhauls of the Air Force C-141 as well as the Douglas DC-10, Lockheed L-1011 and Boeing 747 jumbo jets. He holds patents on a special cantilever hangar design, which is now used by American Airlines, Ozark Airlines, and Douglas Aircraft Company for maintenance and painting of DC-9s.

Over the past year, Carl has decided to ease up a bit and enter what he calls “semi-retirement” while still maintaining a consulting relationship with his former business associates. One of his first activities was to crisscross the country in his motor home, visiting a son in Hampton, Virginia, and his three daughters in Los Angeles. He has also found time to build a model or two.

“Last winter,” he reports, “I built my first indoor model since 1928 (a Pennyplane), and I hope to build both indoor and outdoor Free Flight models in the future – when I have time.” So far, he’s found time to complete one other model, and more are in the planning stages.

Incredibly, Carl V. Carlson is still a member of the Illinois Model Aero Club, which he first joined in 1923. “I believe the IMAC is the oldest continuously active model airplane club in the United States, if not the world,” he declares proudly.

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