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# Autobiography of ROBERT L. HOLLAND

Began modeling in 1926    October 15, 1914 to April 29, 2003    AMA Number: 2714

Written by RLH (10/01); Submitted by AH (5/03)

Transcribed & Edited by SS (6/03)

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## Career:

- Got involved with his first modeling club in the summer of 1926
- Started working as an engineer at Lockheed shortly after high school graduation; worked there for 30 years on such projects as the P-38 fighter and on secret projects
- Won a national model airplane championship
- Spoke at model conventions
- Received quite a few awards for his model airplanes

## Honors:

- 1987 – AMA Hall of Fame

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*Robert Holland began writing his own autobiography. His wife Ana submitted it to the AMA History Program in May 2003 and attached a few comments. For the complete letter, please see Mr. Holland's file in the National Model Aviation Museum Archives. Contact the AMA librarian for assistance.*

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The health of my husband, Bob, in the past few years did not permit him to continue writing his memories. All I can do is fill in of what I know.

He had a daughter by his first wife, Claire, whose name was Suzanne and an adopted son by the name of Charles. After 34 years of marriage, it terminated. I met Bob and his first family when he worked for Dynamic Models, Inc., one of the enterprises of my boss, Bill Jamieson, back in the 1960s. Little did I know that 28 years later we were to be married. I had just lost my first husband and Bob was kind to be my friend at a much needed time.

From my point of view, Bob was an excellent individual with a very analytical mind. He was precise in all that he did. Most of us did not measure up to his standards of perfection and maybe this is the reason that his autobiography was not finished.

I am sending an article that a friend of his had printed about his pranks while he worked for Lockheed. Bob's sense of humor was priceless and quite subtle.

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*The following is the autobiography that Mr. Holland wrote.*

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Born in Pomona, California, on October 15, 1914. Age 86 as of October 14, 2001, 76 years modeling and still living when I last checked with my doctor(s).

At about the age 5, I was riding my tricycle on the shady side of the house on a hot summer's day when I heard a drone that grew louder and louder by the second. I looked up in the direction from which the sound was coming and there it was! I was looking at my first airplane. It has been said many times that since that event took place I haven't been useful for anything else except airplanes.

After kindergarten, my mother (recently divorced from my father) decided to move in with my maternal grandfather, where we lived until she re-married in 1929.

Living across the street from my grandfather's home was a boy by the name of Vern Daniels, who became, after a fashion, a role model for me. I do not know where he got his inspirations but he would build something that interested me and I would try to emulate him.

During the next years of grammar school (through sixth grade), I did what most children my age were doing, playing softball, soccer and marbles and trying to find things that might inspire me.

Early into the summer vacation of 1926 my friend Vern from across the street told me about a club that was being started in town by a young man by the name of Herman Howard who worked at a local sport and bicycle store stringing tennis racquets, replacing bicycle tires, etc. Herman could do almost anything he set his mind to do.

Mr. Howard built models of many kinds including boats (both sail and electric-powered), trains, automobiles, etc., which he would occasionally display at the sporting goods store. He was always very helpful and generous with his knowledge to help any and all with any problems they might have with one of their projects. This motivated the members and contributed to the success of the club.

In due course, the club became the Pomona Model Yacht Club. Mainly because one of the older boys, Kenneth Pitzer, was boat oriented. His father, Mr. Pitzer, owned about half of Pomona and he was becoming quite a philanthropist. He was a member of many local boards, i.e., the school board, banks, etc. As a result he was in a position to recruit many of the city fathers and businessmen to get involved with the boys and model yacht club.

I fondly remember the many Sunday afternoons sailing our boats across one of the local reservoirs in those early formative days of our club.

After a few weeks, the club's membership outgrew the meeting room in the back of the sporting good store, so the city fathers arranged with the school board for the club to relocate to the rear half of an old building that was being used to store school supplies.

Now the club had become an asset to the community. Most of the boys who had no place to work at home now had a large room with work benches along the west and east walls. The efforts of local businessmen began to show.

The club started receiving donations of tools and small machinery. A few of the items that were not operable were rebuilt by members who were capable of doing the repairs and making them productive again.

The weekly meetings were Friday evenings. After the usual order of business was taken care of, there would occasionally be a presentation of one of the members of some new project he was working on – kind of a show and tell.

Evidently the news of the club was spreading, because one Friday night a big air-cooled Franklin Sedan pulled in with a Mr. Atwood from Riverside, another Citrus-growing town about 30 miles east of Pomona. Mr. Atwood had brought his son, Bill, to our club meeting to show us what they were doing in their model club in Riverside.

Bill Atwood had brought two rubber-powered models of about 36-inches span as well as a kit of parts to build one of these models.

He donated a set of drawings and a price list of parts to the club from which one could order any part separately, such as propellers that were already carved for 75-cents. One of the club members bought one of the propellers. Anyone of us who were so inclined to attempt to carve our own propellers could use it as a model to try to duplicate it. After seeing his models and studying the plans, a number of the club members began building model airplanes almost exclusively.

These models were a poor man's dream. By this I mean they were built using, in most cases, scrap materials. The wood structures were made of white pine, which was readily available at the local lumberyards' scrap heaps. The wire for landing gears, propeller shafts and motor hook were bicycle spokes. The spoke nipples made good bearings for wheels that we got from 10-cent cars from the local dime store. We squeezed the small end of the nipple closed and then pressed the squeezed end into the rear face of the propeller for a press fit with glue into the pre-drilled hub of the propeller and glued.

The propeller shaft was the threaded end of a spoke, cut off to the proper length and a hook for the rubber motor at the cut off end. The fuselage had a ¼-inch thick nose bulkhead that was drilled at the center for a snug fit for a spoke nipple. This nipple had the internal threads drilled, too, so that the propeller shaft could be inserted, threaded in from the inside and protruding forward onto which the propeller was screwed. This made for rapid changing of broken propellers.

The father of one of the club members had been a cabinetmaker and he had a nice table saw on which he would cut sticks and sheets from the wood that we supplied. When the model club got its own table saw we were then able to cut our own wood.

We nailed the frames together with small brads and glued them with LePages wood glue. These frames were covered with wrapping paper from the corner grocery store and attached to the wood with flour and water paste the way we had made kites.

The rubber motors were made from blown-out inner tubes from the local tire dealer. All automobile tires at that time had inner tubes and blowouts were very common. There was usually a good supply in the trashcans in the alley behind the tire shop. It did not take us long to learn to recognize good "live" rubber by stretching it and looking for surface cracks. We would take a few of the good tubes home and cut them into strips with my grandfather's tin snips and bind the ends together tightly with kite string to make loops of the proper length.

These models were generally short lived and most of us were building a new model every week. We very seldom repaired a model mainly because by the time we had one ready to fly we had already figured out how we could improve on it for the next model. Our building skills improved rapidly with this regiment and each flight usually meant a broken propeller so we were carving them by the dozens.

Bear in mind this was all going on before we knew about balsa wood or Ambroid cement. The LePages glue mentioned earlier was not waterproof. During dry days our models were sturdy, but come a foggy morning or a rainy day and they became very limp and rickety.

Every Sunday we would gather at the local night softball field to fly our models, which usually turned into a contest of sorts. We only flew for distance because most airborne flights lasted for a duration of a few seconds. The reason for this being we knew next to nothing about proper trimming for a successful flight.

The rudder was glued to the stabilizer as an assembly. This was, in turn, attached to the top aft end of the fuselage with rubber bands. The wing also attached to the top of the fuselage with rubber bands and could be slid back and/or forward to the proper balance point.

We knew about adding shims under the trailing edge of the stabilizer and/or under the leading edge of the wing and that was about it. We did not know about down thrust as yet and a spiral climb was not even considered because we were striving for straight flight for distance.

We would hand glide the completed model, sliding the wing for or aft, until we attained a nice steady glide which was assumed would be the proper flight trim. We didn't know about winders at that time, so the motors were wound by hand. We would wind the motors only a few turns at first to see if the model would fly straight. Any turn could be corrected by moving the rudder/stabilizer assembly in the required direction to get a straight flight.

All this was done with short motor runs, and when we were satisfied the model was in proper trim we would increase the number of winds for a longer flight. This, of course, resulted in a higher speed flight, which, in turn, increased the lift of the wing. And, due to the Decalogue (negative angle of the stabilizer), the model would continue to accelerate into an ever-increasing angle of climb until the model would dive into the ground resulting in a broken propeller or worse.

Our quest at that time was for distance, which was fairly easy to measure since the models were trimmed for a smooth glide. Dead stick and winding for a longer motor run invariably ended up with a broken propeller. The contestants, who didn't like carving lots of propellers made a rule that as long as the model was under its own power (no pushing), the distance the model traveled was all that was important.

As a result of this rule, the wings would be moved back to where they would just barely lift off the ground at full speed, but probably 80% to 90% of the flight was a tail high taxi, which, of course, saved the propeller unless the model taxied into an obstacle.

During one of these Sunday get-togethers, a gentleman by the name of Robert Pollock from Glendale, a town about 30 miles west of Pomona, showed up with a couple of fellows who I would guess to be in their late teens. They said that they had heard of our club and came to demonstrate a couple of models they had built from kits that were manufactured by the Robert Pollock Company.

They were quite different from our models and were made of much higher quality materials than we were using. In other words, to say the least, they were professional.

These models had ball bearing propeller shafts and Stranded motors of “pure Para rubber.” They had rubber tire brass disc wheels and were covered with Japanese bamboo paper and doped with nitrate dope. They flew fast!

After the club flying session was over, the demonstration flights began. The first model to fly took off and flew in a big circle of about 300 feet in diameter and climbed to probably 100 feet high, making about two of these circles. It then made a very respectable landing – right side up. The next model may have had more power or maybe trimmed more nose heavy because it flew from one corner of the field diagonally to the opposite corner of the field. It was very fast, but flew too far, because it crashed into a stack of crates that were piled against a shed.

At the high rate of speed the model was traveling, it was totally demolished.

I am sure all our members felt more saddened about this mishap than Mr. Pollack and his cohorts did.

I was aware of balsa wood and asked Mr. Pollack about it and he said it was only good for fillets and wing tips, but was just not strong enough for structures. The irony of all this was 10 years later he was considered the best cutter of balsa wood on the West Coast. His trademark was Red End balsa. I still have a few random pieces in my balsa supply boxes.

A short time later a boy about my age arrived in my neighborhood from Kansas. He saw us flying our models and said he had a kit for a baby ROG (rise-off-ground) model, which he bought from the American Boy magazine. This publication was aimed primarily at the Boy Scouts of America and other boy organizations. This magazine even found its way out in the Wild West – which at that time was any place west of the Mississippi River – and into our junior high school library where I first saw it. A Mr. Merrill Hamberg from the Detroit, Michigan, area had induced the publishers of this magazine to run a series of articles on the building and flying of model airplanes. He established the National Organization called the American Model League of America or, for short, the AMLA. (I think he was an American for America.)

The best coverage of this era is by Frank Zaic in his publication of Model Airplanes and the American Boy book, which I highly recommend to anyone interested in the early days of model aviation.

I'm beginning to ramble, so let's get back to 1928 and the boy from Kansas. His name was Donald George and he had never built a model before and he asked if I could help him.

Of course, I was eager to try my hand at an entirely new approach to model construction. My eagerness slowly turned to fascination. Everything about this model was as different as night and day from what I had been building.

First off, the Ambroid cement had already dried up in its little bottle, so I used the only other glue I had, which was LePages. Wrong! It wouldn't stick the small wire parts to the balsa without warping the thread (too heavy). The banana oil wouldn't stick to Japanese tissue and bamboo frames (too thin) and dried too fast. So back to the LePages (wrong again), which was too heavy!

When the model was finally finished and powered with the two-strand rubber motor supplied in the kit, about all it could perform on a full hand wind was a gentle power glide to a most graceful landing.

We had no way, at that time, of weighing small, light parts so we had to assume the failures to be the lack of technique. Needless to say, this started a concerted effort to find better materials and to improve our method of construction.

We were slowly discovering that being more patient in our endeavors was making noticeable improvement in the quality of our models, both in appearance and flying ability. We were also discovering higher quality materials were increasing the cost of our models as well.

This brought on better quality and less quantity, which was also influenced by a mysterious disaster that had happened somewhere east of the Mississippi River. It caused people to jump out of skyscrapers or stand in line for a bowl of soup. The stock market crash of 1929 seemed to have something to do with money, but since we didn't have much of this stuff, the impact on our lives was quite small.

Slowly but surely the availability of supplies improved and, at the same time, the demands on our spare time seemed to be increasing. About this time my mother and stepfather bought a small store about four miles east of Pomona in a small community with the dubious name of Narod. This was to be the headquarters for the newspaper delivery agency for the town of Chino. My stepfather had been running the agency for a few years, and it was the main source of income. The town of Chino was primarily a farming and a dairy center surrounded by many of these ranches and farms. About half of the newspapers we delivered went to these ranches at the rate of about one paper per mile. This was not a very profitable situation, especially at collection time. The poor farmers had to have the paper to determine the market price of their crops, but there was usually nothing left over to pay for the paper; and we could take only a limited amount

of their produce in trade. The good thing about this was we didn't go hungry. The bad thing was we could not pay the Times Mirror Company or the Los Angeles Examiner with corn, chickens or piglets. But, in spite of all of these obstacles, I was still able to build a model occasionally.

My mother and stepfather were living in the back of the store in a small apartment with meager furnishings; alongside of the store was a garage of considerable size, which was used for storage of old papers and whatever needed to be stored. Along side this, my stepfather built a tent-house, which would be my living quarters for a while until things got better. Only things did not get better for a long time.

*Unfortunately, the above biography is all Mr. Holland was able to write before his health worsened. A few more details about his life follow in pieces written by others.*

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*The following is an article that was written by James B. Pray about the pranks Mr. Holland pulled while working at Lockheed. According to Mr. Holland's widow, Ana, "His sense of humor was priceless and quite subtle."*

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## Reminiscence

By James B. Pray

It must have been somewhere in the late 1930s or early 1940s. I was working with a group of engineers ensconced in one of the buildings on the north side of the Gate 8 alleyway at B-1. The remains of the old china factory were right across the alley. There were about 20 or 25 of us located in one of the upstairs bays. Although it's somewhat vague, my best recollection is that we were doing some preliminary design work on the military version of the Lodestar.

Bob Holland ran the loft, which was in one corner of the room. Bob was a dedicated model builder. He later won a national model airplane championship. His latest kick was building tiny ultra-light flying models. As I recall, they had a wingspan of only eight or 10 inches. The wing and empennage were covered with pliofilm bounded by extremely light bamboo edges. The fuselage was a balsa stick. The whole model was a tiny work of art.

One morning, Bob walked in with a large glass jar full of robust looking blue bottle flies. Later in the morning, during a lull, he deftly selected a big one and quickly secured it to the forward end of the fuselage.

Always on the alert for an opportunity to goof off, we all dropped our collective work, so to speak, and watched, fascinated, as Bob gently launched the fly-powered craft. It worked beautifully, the big fly buzzing away like mad with the model gaining altitude. When it occasionally bumped the open truss roof supporters, it would just back off somewhat and recover with no problems. When the fly got pooped and quit buzzing, it would glide down a gentle glide path and then climb once again after it had rested.

There we were, all 20 of us, staring slack-jawed at the room rafters when who should come striding down the aisle, impeccably dressed as usual, but Hal Hibbard. He saw the model, smiled slightly, shook his head and moved on. In those days of "butt-up and nose down" drawing board

work, we all envisioned instant retirement in a blaze of pink slips. But, since no punishment ensued, we all realized we had just witnessed an outstanding example of executive restraint.

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*The following article ran in Mr. Holland's local newspaper, the Sun, in Banning, California, on May 2, 2003 shortly after his death.*

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## **Banning Man Enjoyed Working with Airplanes**

By Megan Smith

Robert Holland couldn't get enough of airplanes. He worked in an airplane factory and built award-winning model airplanes in his spare time.

"He's got planes he built in his garage that I just love. They're built to a T," said longtime friend Clayton Stine.

Holland, a 14-year resident of Banning, died Tuesday [April 29, 2003] at Redlands Community Hospital. He was 88.

He was born October 15, 1914, in Pomona. He graduated from Pomona High School in 1933. He soon was working at Lockheed as an engineer.

"He has been interested in (airplanes) since he was 8-years-old and saw his first airplane fly," said his wife, Ana Holland, of Banning.

Stine said Robert Holland worked on the P-38 fighter plane and on secret projects.

Robert Holland met his wife during his 30-year career with Lockheed.

"He had a very dry sense of humor," said Ana Holland.

Another friend from high school, Edward Hanson, agreed saying, "he was always telling long-winded jokes that took a long time to tell."

Robert Holland began building model airplanes when he was about 15. He became quite good at it, said Hanson.

"He has given speeches at model conventions," said Hanson.

Ana Holland said her husband, "got quite a few awards for his model airplanes and was a hall of famer with the American Modelers Association."

Other survivors include a daughter, Suzanne Holland; and a stepson, Charles Holland of Sunnyvale.

Mass will be at 10 a.m. Monday at Precious Blood Catholic Church, 157 W. Nicolet Street, Banning. Inurnment will be private. Emmerson-Bartlett Memorial Chapel in Yucaipa is handling arrangements.

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## Photographs of ROBERT L. HOLLAND

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Bob and his wife Ana in 1996.

