



At Belmont Park, N. Y., in 1910, an oldtimer prepares his Bleriot model. Electric motor spins the propeller. (Underwood & Underwood photo.)

1906 ~ 1910

## The Wonderful Years

by Ellery Lanier

***Three years after Kitty Hawk model aeroplane contests, both indoor and outdoor, abounded. Gas engines, electric and spring motors, and rubber strands spun the props on many amazing crates***

Before the Wright Brothers' first flight, and until the end of the first decade of the twentieth century, model airplane clubs mushroomed all over the world. This sudden mass enthusiasm for model plane making was no accident. Model airplane building was not unknown before the turn of the century. Before his death in 1880 Alphonse Penaud had built a successful small rubber powered model. In May 1896 Langley flew his powered model above the Potomac River and Edwin W. Smith had flown a rubber-powered model with landing wheels in 1901.

The most important years in the start of model airplane clubs are those from 1906 to 1910. In January of 1906 the first American exhibit of model airplanes was held by the Aero Club of America at the 69th Regiment Armory in New York. But this was not yet a model aero club. By 1907, the next year, individual model plane makers were popping up in cities and farms all over the country. For example, in August of 1907 a Mr. William Morgan of Fort Plain, N.Y was busy making flying machines of paper that flew very well. They had two propellers in front powered by rubber bands. On October 1, 1907 George A. Laurence of Sayre, Pa., flew a real contraption type model, 200 feet at a height of 15 feet.

The bug had caught on in England where, on April 15, 1907, the Aero Club held a contest at the Alexandra Palace that attracted a crowd of a thousand people. Of the 29 entries, 15 competed for the prizes. One of the rules stipulated that a model must weigh not less than two pounds and not more than fifty pounds. Prizes were: 1st-\$750, 2nd-\$375, 3rd-\$100. From a starting altitude of not more than five feet the model airplane had to fly at least 50 feet. No plane at the contest could win the first prize, so the prize money was held to be awarded at future meets. However, a second prize was awarded to A. V. Roe, and a third prize to W. F. Howard.

Roe's winning model was driven by a single propeller powered by twisted rubber mounted in a long triangular framework. Indoors it flew about 80 feet at a height of about a foot above the floor. Mr. Howard's machine was a single plane bent to form a dihedral angle. Its light kite-like construction had one small propeller at the front that was driven by a small clockwork spring. Mr. Howard's machine made its longest flight in the open, over 100 feet against 75 feet in the morning indoor trials.

Of the many machines entered in the contest the favorites in order were: the aeroplane, the flapping wing machine and the helicopter. A great deal of trouble was caused by the spoiling of the twisted rubber strands under the effect of heat and strain. As they expressed it, "any model has a critical speed necessary for complete equilibrium and slight variations can cause disasters." Of the 15 prize competitors, 11 used twisted rubber, one used a clock spring, one used a rocket; two had small gasoline motors, but the motors developed all kinds of trouble and the models failed to become airborne.

In the United States, it was February 1908 when the Junior Aero Club was first being organized under the directorship of members of the Aero Club of America. On the advisory board were Lee S. Burrige, Thomas S. Baldwin, Wilbur R. Kimball, A. Leo Stevens, and Ernest L. Jones. Headquarters were at 131 West 23 Street in New York City. As stated in its constitution, the object of the Junior Aero Club was to: promote interest in and encourage the study of Aerial Science among young people and to hold exhibitions and contests of apparatus designed for the purpose of aerial locomotion, voluntary or involuntary, made or owned by its active members. It was planned to include the subjects of wireless telegraphy, telephony, etc., as they related to the science and art of aeronautics. The club planned to hold many national and international contests.

The first national contest was planned for May 30, 1908. It was for distance flights of small "pilot balloons", starting near New York. The balloons were filled with hydrogen and contained notes requesting the finder to return them to the Junior Aero Club Headquarters in New York. Prizes were for greatest distance achieved, and for ingenious systems of ballast disposal. Clever ideas for ballast disposal were a chunk of ice that would lighten the balloon by melting and draining out, or boxes of sand with timed release valves.

The Junior Aero Club was finally organized under the direction of Miss. L. Todd, the only woman with a worldwide reputation as a model plane builder. To form a branch, it was necessary to have 10 members. An exhibit was planned for May 30, 1908. At these contests, the boys often took the prizes against the competition of their dads. A ruling was made that active members could not be over 21 years of age.

With the coming of the Junior Aero Club, model making spread like a rash. Over at the Stevens Balloon factory in June of 1908, a rubber-powered model built by Carl Hartman, achieved a straight and flat flight of 400 feet at a height of six feet. It weighed 3/4 of a pound and lifted an additional three ounces. It had two propellers in front and its supporting surface was one square foot. The wings and the motor were tilted up and down without changing the level of the frame of the model.

On December 18, 1908 the Junior Aero Club held an exhibit in connection with the Toy Show in Madison Square Garden. It was given permission to hold its regular practice meetings at the 71st Regiment Armory in New York, in February of 1909. A branch was organized in San Francisco by Virgil Moore and then more branches started popping up everywhere.

Plans for the first annual exhibit were announced in January 1909. Mailings were sent out asking for contest entries of models, drawings and photographs, and also announcing that prizes would be awarded. These circulars also said that a board of aviators would be appointed with Harold N. Platt as president. This board would receive and care for the models. The models were to be sent to 131 West 23 Street, New York, Room 19, where they would be kept safely. At this time the membership list had branches in 11 states: N.Y., Mass., Conn., N.J., Md., Oh. Ill, Mo., Col., Or. Wash.

In April of 1909, Miss E. L. Todd withdrew and the Office of President went to Walter H. Phipps, the earliest reporter of aeromodel plane club activities in America. In that same month a new chapter of ten young men was organized at Fond du Lac, Wis.

Weird looking models appeared. On June 26, 1909 a very odd model was flown at an exhibit of the aeronautical society by F. O. Andrae of Central Valley, N.Y. For its trial flight, it was hoisted up 300 feet by kites on a 2,000-foot piano wire. When 1200 feet of the wire had been unreeled the plane was released by a hook and ring arrangement. It was equipped with a steam motor and measured 10 foot by 10 foot, and weighed 35 pounds. It maintained its flight for only a few minutes.

The first ads for model airplanes appeared in April 1909. The H. I. Nice Co. of Minneapolis advertised a miniature flying machine. This machine was to be hand launched and if you started it upside down it was supposed to right itself. It measured 14 inches across, five inches high, six inches long and weighed less than one ounce. The ad claimed that it would fly over 100 feet in a circle or straightaway. The price was \$1.00, which was rather high for that time.

The next month, March 1909, an ad for the Aeriole appeared. This was described as the complete model aeroplane. It had twin screws and would fly 20 yards. The ad called it "A Real Flying Machine", saying further that it was a true airship, entirely different from a helicopter or balloon. The price was \$2.00. In December of that year another ad by the Airplane Toy Company at 15 Myrtle Avenue in Brooklyn, NY stated, "all our toys actually fly."

Companies that sold full sized aircraft, also sold model aircraft supplies. One ad offered kits for the following scale models: Cody D, Farman B, Bleriot XII C, Wright E, Curtiss A, and 25 other different aircraft designs. These were all rubber-powered models to be flown in competitions and the ad claimed that they would fly from 150 to 1000 feet.

One of the earlier model making manuals, published in 1903, explains why a curved surface is better than a flat surface for lifting power. It even predicted the coming of jet aircraft, "a diverted jet of gas or air, stored under pressure would, if rightly applied, be far more efficient than a rotary motor." There were instructions for building a kite equipped with a rubber-driven propeller that was tripped into action by a cable when the kite was already up. This manual also explained how to split bamboo, cover cells with light cardboard, use cement on linen strips for joints, avoid splitting bamboo by overlapping its joints, and binding them with strong thread that was then covered with thin cement. Surfaces were finished by sizing them and then giving them two to three coats of damar varnish.

Six years later, in 1909, a model airplane manual gives instructions for laying out wing-section templates. It then shows how to shape ribs for it from U-Section umbrella ribbing. The umbrella rods were first annealed by heating them cherry red and plunging them into sand to cool. Then the parallel edges of the rod were cut in V notches with a three-cornered file and then slowly tapped into shape on the template. When the joints were all closed, they were brazed for strength. Other instructions were given for attaching fabric to the plane's framework, propeller layout, handy winding gadgets, and plans for a compressed air motor with an aluminum tube for the pressurized air. The favorite technique was to enclose the rubber motor strands in a paper tube. Balsa is not mentioned since it was not until 1912 that it was first imported into this country.

Courses in building flying airplane models were started in October 1909 under the direction of Wilbur R. Kimbal, at the West side YMCA, 318 West 57th Street, in New York. The models were flown on a big athletic field located at 57th Street and 8th Avenue.

On November 27, 1909 a contest was held at the West Side YMCA for the Lewis R. Adams Cup. A name that was to become important in model airplane circuits appears as a winner. This was a Dr. Dederer whose plane won with a distance of 92 feet, 1 inch, Walter Phipps who was now President of the Junior Aero Club came in second with 83 feet, 2 inches, and James K. Dalkranian was 3rd with 77 feet, 6 1/2 inches. Fourteen machines had been entered in the contest.

About a week later on December 4th, a contest was held at Frank Gould's Riding Academy. There were 15 entries. Again Dr. Dederer led with 112 feet 11 1/2 inches, Percy Pierce second with 87 feet 6 1/2 inches, Wilson Marshall Jr. came in third with 69 feet 6 1/2 inches.

A model Bleriot was shown at this contest by a Mr. Sage which was considered to be an unusually good looking job. Because of the long flight of Dr. Dederer's plane, the YMCA was compelled to get larger quarters. They succeeded in getting the 22nd Regiment Armory and on December 11 another contest was

held there. Again of the 15 entered machines Dr. Dederer's came in first with 147 feet 6 inches, Percy Pierce, second with 105 feet, and C. C. Graves from Newark, N.J., third with 97 feet. Since this was Dr. Dederer's third win, according to the rules the cup became his property. After he had won the cup, a representative of Aeroobilia and Flight informed the YMCA that they would donate a solid silver cup, to be competed for by men.

In the contests that followed, two new rules were important. One was that the machine start from the ground and the other that the models must be built in such a manner that a man carrying machine could be built from the design of the model. Another contest was planned for boys for a silver cup trophy given by Leo Stein. After a layoff of a number of weeks owing to all the models being on exhibit in Boston and Newark, the YMCA contests at the 22nd Armory were continued on Saturday, March 5, 1910. A cup for the boys' class was offered by Edward Durant to the boy winning the first three legs. The A. Leo Stevens cup for longest distance flight in 1910 was placed on exhibit on March 5. The cup was about two feet high and beautifully engraved. On March 5th, the men's class contest was held. In order the winners were: W. Merrill Sage, with a Wright biplane-71 feet 4 inches; M. P. Talmage with a Curtiss biplane-53 feet 2 inches. There were 24 entries. The winner in the boys class was: F. M. Watkins with a monoplane original -121 feet 7 inches.

Another contest held March 12, 1910 had as winner Merrill Sage again with a Wright biplane-81 feet 5 inches. Winner in the boys' class was, D. Frier, with a Langley two-propeller model which flew 133 feet. Frank Schober brought a Bleriot model which measured six feet long with a seven-foot wing spread. It was a well-made and powerful machine, but on one of its first trial runs it ran into a spectator and smashed a wing and a propeller. Schober promised to have it ready for the next contest. It showed every sign of being a sure winner.

The next contest was scheduled for March 26, 1910...two weeks ahead. Some of the contestants complained that this would not allow them enough time to work on their machines. So the YMCA decided to hold contests on a bi-monthly basis to give the model builders enough time to get their machines into good condition.

The Aeronaut Society held its first elimination contest for teams of three to represent in future competitions for the Octave Chanute Challenge Model Cup on March 3rd at the 69th Armory in New York. This was open to boys and men. A boy named Frederick M. Watkins won with an original monoplane that flew 148 feet.

At an Aero exhibit held in Boston on February 23rd 1910, the Church Aeroplane Co. sold out all their model planes. One wealthy Bostonian ordered a \$75, two-inch-to-the-foot model of the Voisin biplane. The Boston YMCA showed models. The International School of Aeronautics showed a model of the Baldwin dirigible, the Harvard Aeronautical Society showed a Bleriot and Wright model. Charles F. Duxant, son of the first American Aeronaut (balloonist), showed a flag carried by his dad in his pioneering flights

In April 1910, the National Model Acre Club was started at 282-9th Ave. N.Y. Its purpose was to control and regulate all competitions throughout the United States and to promote exhibitions and contests. The regulations called for machines less than six feet in any dimension. The club was not meant to compete with any other existing clubs but to cooperate with them. There was a senior and junior membership limited to those under 21. Officers were W. H. Crocker, President; W. Merrill Sage, first V.P.; C. W. Wilcox, second V.P. The object of the club was to promote study of problems as demonstrated by models, and to secure the dissemination of information about model airplane making.

On Saturday March 29, 1910 the "Y" held a contest at the 22nd Regiment Armory and, on April 2nd, another contest was held at the 14th Regiment Armory in Brooklyn, where 22 machines were entered.

On April 8th 1910, something unique in airplane model demonstrations took place. This was a simulated flight across the English Channel. This was on an evening of the French Fair at the Metropolitan Opera. The space between the balconies of the Metropolitan Opera House in New York were to represent the English Channel. A certain Mr. Lesh flew his model plane across the "channel" and won the silver cup offered by Henry Chapal.

The National Model Acre Club drew up a set of 24 rules for contests. Some of these make interesting reading today:

Rule No. 1: These Rules shall apply to indoor and outdoor contests, and shall be enforced at all open competitions.

Skipping a few,

Rule No. 5: Every machine competing must be built or designed by the competitor (no toys allowed). Every machine must be built on practical lines that are in a form capable of development to a man-carrying machine.

Rule No. 6: A machine must conform to the following: A. must be equipped with suitable wheels or skids B. motive power must be self contained C. must be capable of starting under its own power.

Rule No. 7: All machines must be started from a table or platform which shall not be over three feet in height from the floor or ground; distance of flight shall be measured from the edge of the platform and shall be in the right direction of flight.

Rule No. 8: Each contestant shall be allowed three trials in every class for which they are entered. No flight shall be counted as such unless the machine covers more than 20 feet. But only one such "no start" shall be allowed. If any machine collides with a spectator or suffers any interference within the line of flight, that flight shall not be counted against the competitor. Any machine which turns over in the air or alights improperly shall be disqualified for that flight. In the outdoor competitions all machines must be started facing into the wind.

Rule No. 9: Special prizes may be giver for stability, excellency of construction originality of design, and special contests (See diagram of official landing area o NMAC rules.) Any machine alighting properly within the lines qualifies as a flight.

Model airplane contests had become regular part of inter-school competitions In May 1910. The seven following schools is New York were holding contests, (69, 77 78, 1311, 1611, 166, 173).

In June 1910, the Junior Aero Club issued a challenge to all Aero Clubs to enter a model contest and in that same month an American model airplane maker took the first prize at an International meet held in Paris, France.

The hobby was truly International and is still going strong!

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