



The AMA History Project Presents: Biography of ELMER WASMAN

Born October 8, 1908 Started modeling in 1928
AMA #33563



Written & Submitted by CR (03/2000); Transcribed by NR (12/2000); Edited by SS (2002), Reformatted by JS (02/2010)

Career:

- 1929: built and flew his first successful rubber-powered model airplane
- 1936: designed, built and flew his first Radio Controlled prototype model called the White Peril
- 1936: Designed and built a receiver, a three-tube regenerative detector, on the five-meter band. The whole control system weighed three and a half pounds
- 1937: Designed, built and entered one of the first Radio Controlled airplanes at the 10th National Championship Model Airplane Meet in Detroit, Michigan; placed third
- The White Mystery placed third in the Nationals and won for its maker the Flying Aces second place silver trophy

Honors:

- 1996: Society of Antique Modelers Hall of Fame
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The following biography was written by Charlie Rich in 1999, and submitted to the AMA History Project (at the time called the AMA History Program) in 2000. Elmer Wasman was living in an assisted care facility in Jacksonville, Florida at this time. His wife, Johnnie, also contributed to the biography.

Elmer Wasman designed, built and entered one of the first Radio Control airplanes at the 1937 10th National Championship Model Airplane Meet in Detroit, Michigan. Elmer placed third in this inaugural event of the first six Radio Control models to ever be seen by the public.

This is his story.

Elmer always carried a fascination for airplanes even in his early years, his eyes ever turning skyward whenever an airplane would pass overhead. He became interested in model airplanes at an early age, as did most young men in the 1920s and 1930s.

Born on October 8, 1908 in Wanda, Illinois. Elmer attended high school in Le Roy, Illinois where Mr. W. E. Taylor, the industrial arts instructor, became his mentor, advising Elmer to pursue a career in industrial arts. It was in 1927 when Charles Lindbergh was facing the Atlantic Ocean that Elmer was facing graduation from high school.

Elmer attended the Illinois State University at Normal, Illinois and attained a two-year teaching diploma in 1930. His major was industrial arts, specializing in woodworking, electricity and mechanical drawing.

He entered a teaching position at Columbus Junior High School in Ottawa, Illinois for two years and spent his summers attending the Bradley Polytechnic Institute. The teaching position offered

Elmer good experience, background and reference for continuing his teaching career in future years.

Elmer entered the Bradley Polytechnic Institute summer school for teachers in Peoria, Illinois in 1929. It was there that Elmer's industrial arts teacher taught him all about model airplanes – how to carve propellers, skein rubber for the rubber motors, how to cover in bamboo paper, how to build small hardware like thrust washers, prop hooks etc. The end result was a rubber-powered single stick and twin pushers that used an eggbeater for a twin pusher winder. Bradley Polytechnical Institute only taught rubber-powered models; however, it was there that Elmer also learned about wind-powered control – a technique he would use in just a few short years on his Radio Control gas model. During this summer school course, Elmer built his first successful flying rubber-powered model airplane. This successful endeavor launched Elmer on a lifelong aeronautical and modeling career.

Elmer moved to Jacksonville, Florida and obtained a teaching position in 1934 at John Gorrie Junior High School. He served in the position of aeronautical instructor until the looming war years in 1940.

In 1940, Elmer felt the need to serve his country for preparation to go to war and joined the Civil Service at the Naval Air station in Jacksonville, Florida as instructor and aircraft mechanic. He served six-year tenure and retired from the Civil Service in 1946.

In the fall of 1946, Elmer joined Kirby Smith Junior High School in Jacksonville, Florida as its aeronautical instructor. He held this position until his retirement in 1958.

Elmer earned his pilot's license and flew and operated his own airplane from 1949 to 1952, but his real love was Radio Control model airplanes of all sizes.

After his retirement, Elmer became restless and wanted to return to the land. He moved back to his farm in Downs, Illinois where he resumed commercial soybean and corn farming from 1960 until 1975. During that time, Elmer was able to build several model airplanes and had a natural flying field, his farm, all to his own. After retiring from farming Elmer and his wife, Johnnie, decided to do some traveling and purchased an Airstream camper. They traveled throughout Alaska, Canada, Mexico and Europe for several years and finally made their permanent retirement residence in Jacksonville, Florida in 1996.

Elmer advises that his life's works went as planned in his early years, except for the interruption of the war years. After 75 years of building models and teaching the youth about model airplanes his greatest achievement and self-satisfaction has been in encouraging young people to enter the field of aeronautics. There are several prominent members in today's aeronautical industry that can lay claim to receiving their encouragement and tutelage under Mr. Elmer Wasman.

Elmer's modeling career is just as remarkable as his working career. In 1929 he built and flew his first successful rubber-powered model airplane.

In 1936, Elmer designed built and flew his first Radio Control prototype model called the White Peril. The following are some of Elmer's random comments about the construction of the prototype radio gear: "The unique feature of the White Peril was the wind driven controls in which a threaded rod was moved in and out for elevator controls or left or right for rudder control. Also one control was used to cut the ignition engine. The direction of the rotation of the threaded rod was controlled by magnetic clutches up or down, according to the magnetized clutch. An Erector set and some discarded parts from a telephone exchange were used in the construction."

In 1937, Elmer traveled to Detroit, Michigan to enter into the 10th National Championship Model Airplane Meet. This meet featured the first ever Radio Control event and Elmer entered his own design of gas-powered model airplane and a very complex radio guidance system. There were six entries in this inaugural event. The following is Walt Good's description of Elmer Wasman's Radio Control ship as observed by Walt at that same 1937 event where he was also entered as a contestant:

"Elmer Wasman was the second to fly with a well designed system. It was called the White Mystery because it had a wind-driven propeller on the front of the rudder fin. No one knew what it did except Elmer!"

He had an industrial arts degree and was teaching aeronautics at John Gorrie Junior High School in Jacksonville, Florida at the time. At 28, he was in the middle age group of the entries.

His 11-foot span model with a wing chord of 18 inches weighed 14 pounds, including the radio gear. With 16.5 square feet of wing area, that gives 13.6 ounces per square foot wing loading. This model really needed the Forster .99 engine with a 16-inch prop to fly it. Even then, the climb was marginally slow, but safe. This was his third gas model.

This plane was provided with controls for rudder, elevator and ignition cutoff. All of the engines in this Radio Control event were of the ignition type, requiring spark coil and two one to two volt (total three volt) D size dry cell batteries.

Elmer's control system was most elaborate for those early days. The radio signal went first to the airborne receiver, which closed the relay contact to the selector switch. This sequential switch had five positions to give up/down elevator, left/right rudder and engine cutoff. Absence of signal gave neutral rudder and elevator and full engine! A selector contact arm, driven by the air paddle wheel could be stopped at any one of the five contacts by sending the correct number of pulses. Examples: one pulse would give left rudder, two pulses right rudder, three pulses up elevator, four pulses down elevator. Five pulses would cut off the engine.

Note that only one control function was available at a time. That control was held as long as needed, then the pilot would proceed to the next control. This is characteristic of a sequential system, which does not allow simultaneous operation of the various controls. However, the

desired single control could be obtained quickly.

A set of three navigation lights was mounted on the plane and connected so that red was left rudder, green was right and white was down elevator. Thus he had a visual indication of the activated control.

How did the signal activate the control surface? The selector wiper connected the signal to one of five electromagnets, which engaged a rotating shaft to the selected control surface. The rotating shaft was powered by a four-bladed air driven propeller mounted at the front of the vertical rudder fin. Again, power was the motive force! Very clever – and very complex. Perhaps this is why the plane was called the White Mystery, because very few understood the complicated mechanism.

At the transmitter end, he used a simple switch, watching the navigation lights on the model to keep track of the airborne selector position.

The receiver, a three-tube regenerative detector, was on the five-meter band. The whole control system weighed three and a half pounds but the big ship carried that additional weight easily.

When it was his turn to fly he saw a dark thunderstorm approaching, so he tried to hurry things along. Roy Marquardt assisted and strained as he launched the plane into the gusty air, while Elmer worked busily at the transmitter control. The plane nosed up into a stall and sagged into the ground, ending its flight abruptly – much too soon to suit Elmer.

He said later, that he hadn't had the time to test fly the big ship before the meet. It turned out that it was tail heavy, which had caused the, stall. Such happenings are normal when developing something new! Hindsight, says Elmer, tells him he should have entered a smaller ship with a simpler control for that first meet. He scored third place.

In March of 1985, Walt and Elmer were corresponding while Elmer supplied Walt with materials and information with which to publish the above article. In one letter, Elmer stated, “My system was certainly not the simplest. It certainly did draw a crowd all day long that liked to see the wheels spin and the controls move. I was embarrassed by all the reels of film the news/movie photographers took.”

A local Jacksonville, Florida school newspaper, The Siren, dated October 25, 1937 printed the following article about Elmer's Nationals achievement:

“Last week we interviewed our aeronautics teacher about the first Radio Control model airplane contest held in this country. Only six planes entered this event. One of these was built and owned by Elmer Wasman of John Gorrie Junior High School. Mr. Wasman's flight was cut short by a thunderstorm and he was unable to fully control his little ship, so for this reason he won only third place – the Flying Aces Award. The contest took place on July 12, 1937 in Detroit, Michigan. His plane, dubbed the Flying Windmill, was under construction for nine months. It

was given this nickname by other contestants because of the small four-blade propeller near the back, which furnished the power for the moving controls. It did not have a wind driven dynamo/generator as many people thought. The wingspread was of the rare midwing design. The completed model, including gasoline engine and radio controls, weighed almost 15 pounds and cost \$100.

“We are very proud of Mr. Wasman for bringing this distinction to our city and school and for the marvelous work he has done in the Aeronautical Department.”

The following comments are excerpts specifically about Elmer Wasman from the Flying Aces article, written by Phil Zecchitella, about the 10th Nationals Radio Control event:

“Wasman's model was rather complicated looking. The radio apparatus ran the entire length of the top part of the fuselage, which was covered by a sheet of cellophane. Wasman was second to fly in the event and was ready to fly. With its tiny engine roaring, the model scooted down the runway, lifted into the air, but only to slide downward onto a wingtip and crash. This washed out the landing gear. Flying Aces donated a silver trophy to Wasman for second place in the Radio Control event.”

In yet another mystifying explanation of how Elmer Wasman's complicated controls work, the following article appeared in a local Jacksonville, Florida newspaper shortly after the Nationals. The article was entitled “The Mystery of White Mystery Explained.”

“Here is Elmer Wasman, aeronautics instructor at John Gorrie Junior High School explaining the mysteries of the White Mystery to some his students. The White Mystery is the model in the foreground of the photograph.

“It's nothing new for Mr. Wasman and his plane to have their pictures taken for write-ups and pictures of them appear in Popular Mechanics, Flying Aces, Model Airplanes News and many newspapers. The reason for all this publicity is that Mr. Wasman's White Mystery is a Radio Control model, one of the few of its kind in this country, according to the teacher.

“The White Mystery placed third in the Nationals and won for its maker the Flying Aces second place silver trophy.

“The plane took about eight months to complete and is very complicated in operation. The black box is the transmitter, which controls the movement of the plane while it is in flight. The long rod projecting from either side of the box is the aerial of the apparatus. Up, down, left, right and stop are indicated on the transmitter by a dial. An indicator is turned to the desired movement, and automatically, dashes are sent off to the plane.

“These dashes actuate another dial on the plane, which corresponds to that on the transmitter. And when the dial in the plane gets actuated, then things happen, according to Mr. Wasman who explained it all in very technical terms.

“Movement of the plane's dial causes energy to be utilized and move the plane in the desired direction. The energy is provided by a windmill affair on the tail of the plane. This revolves all the time and provides power for turning elevators, the rudder and other controls.

“A few facts about the plane:

- Weight, 10 pounds, 10 ounces
- Wing spread 10 feet

“An one-third horsepower motor is used in the plane, and Mr. Wasman has found a mixture of four parts of gas to one part of oil, the best fuel.

“About two ounces of fuel can be carried, which is sufficient to keep the plane in flight about 30 minutes. About two pounds of batteries are carried in the model to provide electricity.

“Mr. Wasman estimates the speed of the model at about 30 miles per hour.”

Elmer continued entering the Nationals. Winning nothing in 1938 and winning again in 1939 after which he retired his complicated wind powered control system considering the advent of the Good brother's rapid development with a much simpler Radio Control system.

Elmer married Miss Johnnie Partin on December 26, 1954.

Elmer has one daughter, three grandsons and one great-grandson. Elmer is very proud of his family as they all have good families and good professions.

Radio Control modeling has always been Elmer's favorite hobby as he continued to build and fly a multitude of models into the late 1990s. He was an early member of the Society of Antique Modelers (SAM) and loved to build the Radio Control replicas of the models of his youth. At age 87, Elmer was still an active SAM competitor and usually attended the annual SAM Champs. Elmer was nominated by Fred Mulholland and elected, with great pride, into the SAM Hall of Fame in 1996.

Elmer donated his original 1937 Flying Aces/Nationals trophy to the AMA museum for future generations to enjoy.

On his 90th birthday, a fly-in was held in his honor by the first Jacksonville, Florida Radio Control club that was organized in June 1955. On that special day, Elmer flew and landed a Radio Control model successfully by himself.

Elmer moved into an assisted care facility in Jacksonville Florida in 1999 at the age of 91. His eyes still gleam with joy when conversation turns to model airplanes and the good old modeling days.

Elmer gave the original White Mystery model to Fred Mulholland for restoration, and then to be donated to the AMA museum. Fred is fully documenting the structure and will provide plans to the AMA for future use or study.

Unfortunately, the complex Radio Control mechanism is missing, lost to the annals of time. Fred Mulholland is attempting to reconstruct a working diagram from Elmer's comments and notes; however, there are no known original drawings existing and it is doubtful if anyone will ever again lay eyes upon the mystifying electronic array and listen to the whirl of belts and pulleys as the model responds to the magic command of its maker.

*Story by Elmer Wasman.
As told to Charlie Reich (February 2000)*

Below is an excerpt taken from the November/December 1996 issue of SAM Speaks, the newsletter for the Society of Antique Modelers. The column heading was "Hall of Fame" and listed all the recipients of this prestigious award given that year. Elmer Wasman was among them.

Elmer Wasman

Elmer flew in the world's first Radio Control model airplane contest held in 1937 at Detroit. He flew a model of his own design using a homemade radio with Roy Marquardt as his assistant. The model, named the Mite Mystery, was 11-foot span and weighed 14 pounds with a wing area of 16-1/2 square feet. His radio was the most complex of the four designs that were entered in the 1937 radio event at the old Detroit airport. His system had five functions: up and down elevator, right and left rudder and engine cutoff.

Elmer admitted; because of a lack of time he had not been able to test fly the plane. On its maiden flight, it rose under its own power, stalled and crashed. He was awarded the third place trophy based on his demonstration of the control system on the ground, prior to the flight attempt.

At the 1994 SAM Champs, Elmer presented to the AMA museum the third place award that he had won that day at Detroit. He later earned an industrial arts degree and taught mechanical drawing and aeronautics in the public schools of Illinois and Florida...

Prior to World War II Elmer served as an Army aircraft engine mechanic at Chanute field. He later transferred to the Navy and taught mechanical drawing. At 87, Elmer is still an active competitor and is usually seen at the SAM Champs.

Walter Good, also a participant at the 1937 Radio Control contest said, "I strongly agree with the nomination of Elmer Wasman to the Hall of Fame as an early Radio Control model pioneer. P.S. I knew him well."

Fred Mulholland

This is one of the first Radio Control models built by Elmer Wasman from Jacksonville, Florida and entered in the inaugural Radio Control contest at the 1937 10th National Championship Model Airplane Meet in Detroit, Michigan. Third place Nats winner and second place Flying Aces silver trophy award, the model contained a very complex radio control system with rudder, ailerons (unheard of in models of that era) elevator and ignition cutoff. Powered by a Forster .99, controls were actuated by a four bladed wind driven propeller mounted in front of the rudder. 11 ft. wingspan, 14 pounds, 13.6 oz. Wing loading

A set of navigation lights was mounted on the plane and connected so that red was left rudder, green was right and white was down elevator. Thus, he had visual indication of the activated control.



1937: Elmer and his White Mystery. It was one of the first Radio Control models that he built. It won third place at the Nats and received the second place Flying Aces silver trophy award.

Radio Control Mechanism of Elmer Wasman's White Mystery - 1937 Radio Controlled Model Airplane

As dictated to wife, Johnnie, by Elmer Wasman on December 24, 1999

The unique feature of the White Mystery was the wind driven controls in which threaded control rods were used to move the elevator and rudder. Motor cut-off control was also provided for the Forster 99 ignition engine.

The direction of rotation of the threaded rods was controlled by magnetic clutches via a selector switch, which in turn was pulsed by a relay. Various "Erector Set" pulleys, plus bicycle spokes and other available parts were used to complete the model's control assembly. Even discarded telephone exchange boxes were salvaged for magnets and various electronic control components. The control pulleys were driven by belts made from rubber bands.

Lights were installed on the model to give visual indication to the pilot as to which control was

engaged at the time. Right rudder indicated by a red wing tip lamp. Left rudder by a green wing tip lamp. Up elevator by a white tail lamp.

A large aileron trim tab on the left wing was set manually.

This system was installed in 1936 and was used only for the 1937 Nationals contest. After that, more conventional Radio Control controls were employed, like those of Chet Lanzo and the Good brothers.

See separate photo file for the 1937 wind driven prop drive mechanism used for early Radio Control model control mechanism as drawn by the original designer, Elmer Wasman, in 1999 at the age of 91. The small upper shaft contained a four-blade windmill type prop and constantly turned. The tower was made from pieces of an old Erector set. The lower shaft was connected to the upper windmill by a rubber band belt drive. The lower shaft ran the full length along the top of the model and supplied power (somehow?) to actuate the control mechanisms. The proper control was engaged (somehow?) by a circular set of magnetic clutches surrounding the lower shaft.

The original mechanism has been lost to the annals of time. Unfortunately, Elmer cannot recall all the working details of his very complex early radio system at age 91. Not to fret because the people that stood and watched the controls work in 1937 never understood how it worked either. That's why this first radio control model was called the White Mystery.

In the year 2000, Elmer Wasman gave the following vague description as to how this system worked:

“The unique feature of the White Mystery was the wind driven controls in which a threaded control rod moved in and out for elevator controls or left and right for rudder. This control was also used for engine cutoff. The direction of rotor and all of the threaded rod was controlled by magnetic clutches, up or down or left and right according to the magnetized clutch engaged at the time.

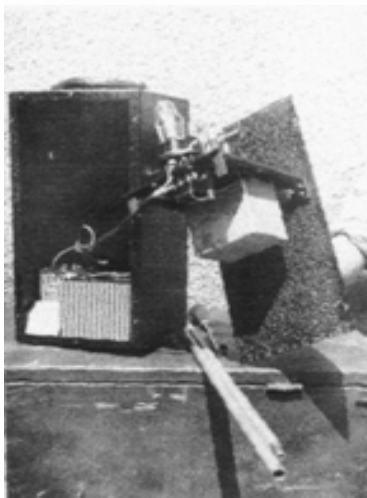


*1938: Elmer Wasman with his White Peril
(second version.)*

“An Erector set was used in constructing the wind vane tower and parts from a telephone exchange box were used in the magnet/can structure. I didn't use electric/magnetized controls after 1940. I decided to build more conventional models while the art of Radio Control was advancing with newly developed Raytheon tubes and signal relays. Chet Lanzo and the Good brothers carried on at that time with the development of Radio Control equipment.”



Above and left: 1938: Elmer Wasman with his second version Radio Control model called the White Peril. The four-bladed windmill-type propeller to actuate controls is located midway in the fuselage.



c. 1937: Elmer Wasman's handheld transmitter



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