The AMA History Project Presents:
Biography of MEL ANDERSON

Modeler since 1917

November 18, 1902 - June 1986 AMA Number: 176458

Written by various sources; Transcribed and edited by SS (6/2002), Updated by JS (10/2007), (05/2011)

Career:

- 1919: Designed his first motor at age 17; it was the first front rotor valve induction motor
- 1931: Made his first gas engine
- 1935: Worked with Bill Atwood for Major C. C. Moseley to help design and manufacture the popular Baby Cyclone engine
- 1936: Built and flew the first model airplane powered by two gasoline engines
- 1938: Set a world endurance record with a plane and engine he built himself
- Designed and produced the Super Cyclone engine which set all records in the .60 class in 1940
- 1946: Founded Mel Anderson Manufacturing Company
- Sold over a half a million of his Baby Spitfires; his following four engines sold just about as well

Honors:

- 1981: Model Aviation Hall of Fame

The following was written by Model Aviation *magazine staff and published in the March 1982 issue under "Hall of Fame Awards." He was inducted into the Model Aviation Hall of Fame in 1981.*

As World War I was going full swing, Mel built his first model airplane. Within two years (1919) he produced a model engine – a twin cylinder compressed air design with front rotor valve induction. This engine was the very first of its type and Mel still has it.

In 1935, Mel went to work for Major Moseley, President of Grand Central Air Terminal, Los Angeles. His assignment was to design and produce the "Baby Cyclone" engine which led to a total production of over 15,000 units between 1935 and 1939. The "Baby Cyclone" went through seven models but the basic design was never changed and in its day was considered by many to be the finest engine on the market.

The December 1936 issue of *Model Airplane News* contained an article on Mel Anderson's twin engine model airplane. He also found time to get involved with model boat racing, which was a popular sport in the L.A. area in 1936.

In 1939, Mel introduced the first geared model engine, using a Baby Cyclone with double ball bearings on the prop drive shaft, and dropped the prop speed by one-third. He next developed the "Super Cyclone" and sold over 50,000 by the time Pearl Harbor Day came in 1941. The .60 class engine owned all of the records by the end of 1940, which was just one year after it had hit the market.

With World War II over, Mel started his own company, designed and built a new engine – The Spitfire (.60 displacement) and sold thousands of them. When the glo-plug arrived on the scene, the "Baby Spitfire" was born with a displacement of .045. The "Baby Spit" was a great success (selling over 500,000) and was followed by the "Spitzy" .045, the "Royal Spitfire" .065, and the "Baby Spitfire" .049. Mel then moved on to become production engineer for a company manufacturing precision components for planes and missiles and stayed until he retired in 1973 at the age of 70.

The following was published in the October 1986 issue of Model Aviation *magazine.*

If you don't know the story of Mel Anderson, then you don't know about the man who designed and built the first crankshaft rotory valve model power plant, made the first needle valve for a model engine, and built and flew the first twin-engine model.

He was born in 1902 in Minneapolis, and his family moved to California in 1908. His first job, in a Los Angeles jewelry store, exposed him to the metal crafts and set the stage for his biggest accomplishments. In this job, he learned to run a lathe, make castings, and lap and hone the parts.

There were no model kits in those days, so Mel's first scratch-built models were rubber-powered and made of bamboo, wire, and silk. In 1919, no longer satisfied with rubber as a power source, he made a two-cylinder compressed-air motor out of brass fishing-rod ferrules. It was on this motor that he first used the crankshaft rotory valve, something he would carry over to many other projects. The motor required a large air tank; the whole thing was quite heavy, but the model flew.

Besides his interest in modeling, Mel, like many others of the day, was involved in hopping up and racing Model T cars and motorcycles. Careful scrutiny revealed to him that the piston in his Indian motorcycle fit the cylinder tighter at top dead center than at the bottom of the stroke. The increased heat at the top caused expansion of the cylinder and made the piston/cylinder fit more uniformly throughout the stroke.

In 1932, Mel started work on his first gas model engine. The crankshaft rotory valve had worked well in his compressed-air motor, so he tried it on the gas engine. He made his own patterns, core boxes, and castings. He lapped the piston and cylinder as he had learned at Welk's jewelry store, and he made the fit tighter at top dead center as he had learned from his Indiana motorcycle.

The engine had a 7/8-inch bore and stroke for a displacement of .525 cubic inches. It had an updraft intake and the first true needle valve. Made of aluminum, it had a cast iron sleeve and used a miniature spark plug that AC had built for use in an advertising campaign. The result of Mel's talents and observations ran perfectly.

The following year saw the completion of Mel's second engine. It was also made of aluminum and featured a cast iron lapped piston and sleeve, but the cylinder and case were one piece, something unheard of in those days. With a displacement of .363 cubic inches, it was slightly downsized from its predecessor – but it ran even better.

Concurrently, Mel's friend and neighbor Bill Atwood was making his own model engines. At one of Bill's flying sessions, Major Corliss C. Moseley, WWI fighter pilot and co-founder of Western Air Express (now Western Airlines), asked Bill to go to work for him to manufacture model engines.

A month later, Bill asked Mel to join him at Moseley's Grand Central facilities. Mel's starting salary was $20 a week, plus 15 cents per engine. A month after Mel started, another local modeler who also was making his engines – Ira Hassad – was hired. It couldn't be known then, but quite a team had been assembled. Each of these three would later make a name for himself in modeling circles.

Moseley's Grand Central plant was the West Coast overhaul facility for Wright Cyclone engines. It was Major Moseley, himself, who suggested the name of Baby Cyclone for their new engine.

The first Baby Cykes, as they were called, went on sale in December 1935. They were made of pot metal and equipped with fixed ignition points. It was the first production engine to have a crankshaft rotory valve. Seven different models, all of which had .363 cubic inch displacement, comprised the production run, which lasted through 1938. All told, more than 15,000 Baby Cykes were sold.

In 1936, gas powered model boat racing became popular among modelers in the L.A. area, and Pop's Willow Lake in Big Tujunga Canyon became the local hot spot. Mel put together a boar and engine for what was then known as Class B. The engine was aluminum with an aluminum piston, and had a conrod that had been machined from a piece of a Chevrolet drive shaft. Three ball bearings supported the crankshaft. It used standard auto breaker points, and it was water-cooled. There were two carburetors, both a front and a rear downdraft. The spark plug was from a Packard, and the coil hand wound from a Model T coil.

In Class B racing, the boats ran on a tether and were timed for 16 laps, exactly one mile. Mel's engine ran on straight gas. To lubricate the engine, castor oil was fed into the crankcase from a tank pressurized by a balloon. When asked why he didn't mix the oil with the gas like everyone else, Mel's standard answer was, "Because it ran faster on straight gas."

The brute force of Mel's engine was too much for the boat, and it had a tendency to flip over onto its back during launch. Mel took the timer from a Kodak camera and attached it to the front carb. The engine was then started on only the back carb. On the second lap, the timer would open the front carb, and the thing would take off like afterburners had been lit. The boat won every contest it entered. Soon Mel's timed mile was faster than the world record, then held in England. The officials of the meet signed a notarized statement giving the official time and claiming the title. The British commission wrote back and said if Mel would bring the boat to England and let them time it, they would give him the official record. Otherwise, forget it. In the middle of the Depression, it was out of the question.

In 1939, both Bill Atwood and Ira Hassad left Grand Central to manufacture engines on their own. Major Moseley came to Mel and said it was time to design a completely new engine. After

12 prototypes the engine was finally ready, and the major thought the name Super Cyclone would be appropriate. The engines were made in both .647 and .603 cubic inch sizes, and they arrived on the market in early 1940. By the end of that year, all records for .60-class engines were held by the Super Cyclone. In all, more than 50,000 were sold in that first year. When World War II began, model engine production ceased. Mel got a manufacturing job for the war effort.

When the war ended, Mel told the major that he would like to go into business for himself. He had ideas for a still better engine. Moseley tried to talk him into staying and making the engine for him, but Mel declined, saying he wanted to be his own boss. Two years of designing and setting up production resulted in the Anderson Spitfire. Called by engine reviewer Peter Chin the Rolls-Royce of the spark ignition era, this engine was also well ahead of its time. It was a marvelous piece of craftsmanship, but it was expensive to make. The timer alone had more than twice the parts of most others, and the engine was priced at twice the cost of other .60s on the market. At the same time, the smaller displacement engines began to gain in popularity. The Anderson Spitfire was not a financial success, and the company was soon in trouble.

In 1949, two men from the local newspaper walked into Mel's shop and wanted to know if an engine could be made inexpensively enough that one could be given away with each new subscription as a promotion gimmick. With the glow plug just arriving on the scene, (timer, coil, condenser, and batteries no longer required), Mel believed it could be done. He set to work on an .045 engine to be called the Baby Spitfire. Just when development and tooling were completed, the paper changed its plans and cancelled the order. Mel decided to go ahead with production and sell them through jobbers.

Mel was using a glow plug made by K&B in his engines, and one day called John Brodbeck of K&B to order 10,000 plugs.

"What are you guys doing down there?" asked John. "You ordered 17,000 plugs last week!" Mel realized he had made a mistake. His cat was out of the bag on the number of engines he was selling. Mel decided to begin making his own plugs, but it was too late. By 1950, K&B was on the market with their own .049. Over half-a-million Baby Spitfires were sold. By 1950, Mel had his next design, a .045 with integral tank, called the Spitzy. This was followed by the Royal Spitfire and the Royal Baby Spitfire.

By 1953, the market was saturated with ½A engines, and Mel Anderson Manufacturing was developing internal problems. Thirty thousand dollars, a large sum in those days, was spent on a fuel facility that never turned a profit, and it was only a matter of time before the doors were closed and the assets auctioned. From there, Mel went to work at Henry Engineering where he designed the 100 series Veco .19, .29, and .35. He eventually had a falling out with Gil Henry, owner of the business, and quit to work as a tool engineer for a firm that made gyro components for aerospace, where he stayed until his retirement in 1970.

In 1981, Mel Anderson was bestowed modeling's highest honor when he was inducted into the Model Aviation Hall of Fame.

Modeling experienced a great loss, though, with the recent death of Mel Anderson on June 9, 1986. His work did much to make possible the reliable, powerful model engines we now take for granted. We will all miss him.

The following information is taken from the Model Aviation Hall of Fame application submitted by Irwin Ohlsson and William D. Simpson on March 14, 1981 on behalf of Mel Anderson. Mel was inducted into the Model Aviation Hall of Fame.

Mel Anderson, born November 18, 1902, began building and flying model airplanes at age 15. He built his first model motor in 1919, a twin cylinder compressed air motor using front rotor valve induction. This was the first front rotor valve induction motor. Mel still has the motor, a picture of which is on page 23 of the September 1960 issue of Model Airplane News.

In 1920, Mel went to work for Welk's Jewelry in Los Angeles where he learned how to run a lathe, make casting and lap and hone.

Mel made his first model gas engine in 1931 from aluminum castings for which he had made his own patterns. This was the firs gas engine to use front rotor induction. In ran beautifully. Bore and stroke were 7/8-inch (.525 cubic inches). It had updraft intake and the first true needle valve. Mel made three more engines in the next three years, each an improvement on the previous.

In 1935, Mel, along with Bill Atwood, went to work for Major C. C. Moseley, president of Grand Central Air Terminal, Los Angeles' largest airport, to design and manufacture the Baby Cyclone engine.

The first Baby Cykes were built and placed on sale around Christmastime of 1935. It had a displacement of .363 and was made from 1935 until 1939, during which more than 15,000 were sold. There were seven different models of the motor, each version an improvement over the last, but the basic design never changed. In its day, it was the finest engine on the market.

In 1936, Mel built and flew the first model airplane to be powered by two gasoline engines. Article and picture appeared in the December 1936 issue of Model Airplane News.

Boat racing was popular in the Los Angeles area in 1936. Boats were tethered to 67-1/2 foot line and timed on a lake in the San Fernando Valley. Mel built a model boat and engine with 1-5/16 bore and stroke, rear exhaust and had separate front and rear carbs. With the engine running on both carbs, it would jump out of the water when released. Mel adapted a self-timer form a Kodak camera to open the rear carb about the second lap. The engine ran on straight gasoline and was lubricated by an oil drip method pressurized by an inflated balloon. It had a Packard spark plug and 13-1 compression ratio. There were no model spark coils in those days and Mel used the wiring from a Model T coil to wind his own coils. The boat held the world speed record and no other boat in the area came close to its speed.

The first geared model engine was made by Mel in 1939 using a Baby Cyke engine. Gears reduced prop rpm by one third and double ball bearings were used in the prop drive shaft. A picture of the engine is on page 23 of the September 1960 issue of Model Airplane News.

By 1939, Bill Atwood had left the company and Mel set out to design a new engine, the incredible Super Cyclone. Twelve different experimental engines were made, each with modifications on the previous, until the final design. At the end of 1940, all records for the .60 class engine were held by the Super Cyke. Over 50,000 Super Cykes were sold before production was halted by order of the government following the attack on Pearl Harbor.

In 1946, Mel struck out on his own, forming the Mel Anderson Manufacturing Company. His first design was the Anderson Spitfire, originally .60 displacement, later increased to .65. Thousands of Anderson Spitfires were sold.

In 1949, Ray Arden came out with his glow plug, which was to revolutionize the model engine business. Mel began work on a new baby engine that year and the Baby Spitfire went into production with a displacement of .045.

The Baby Spitfire was an immediate success and over half a million were sold and nearly as many of its later successors, the Spitzy .045, the Royal Spitfire .065 and the Baby Spitfire .049.

These last four engines were the climax of Mel Anderson's career in the model industry and they were the last motors he produced before leaving the model business to become a production engineer for a manufacturer of high precision components for both airplanes and missiles. Mel retired in 1973 at the age of 70.

The present front rotor induction used in most model engines today was developed by Mel Anderson. He set a world endurance record in 1938 with a plane and engine he built himself. Mel Anderson's Super Cyclone was the first engine to use a tangent mounted down draft carb with vacuum feed. The port timing of the Super Cyke is still the standard, even today. The Super Cyke was the first engine with a relief ground piston.

Mel and his wife of 55 years, Ruthie, live in the same house in Alhambra, California, that they have occupied for the last 40 years.

Mel Anderson is truly one of the great pioneers and innovators of model aviation (and boating) and deserves to be in the [Model Aviation] Hall of Fame.

(signed) Irwin Ohlsson and William D. Simpson
March 14, 1981

The following article was sent to Carl Wheeley after the above information ran about Mel Anderson in the March 1982 issue of Model Aviation magazine. It is a correction of information that William D. Simpson submitted.

William S. Simpson
7413 Via Lorado

Rancho Palos Verdes, California 90274

February 10, 1982

Mr. Carl Wheeley
Model Aviation

Dear Carl:

The March Model Aviation, page 76, Mel Anderson, has a small error.

Bill Atwood should be credited with the design of the Baby Cyclone engine. Major Moseley hired Bill to make the engine that he was flying at the time. Bill had the blueprints drawn to his specifications. He was with Moseley at Grand Central two weeks when he asked his friend Mel Anderson to come and work with him and he did.

By the time the first production engines were ready for shipment, another person, who would later become a well-known engine designer, was working with them – Ira Hassad.

The original engine had an extensive modification before the first production engines were sold. Seems the cast iron cylinders leaked. [Out of] the first batch of about 40 engines, they could only get a few to run. They were going to throw them out and try again when Art Andersen, who was the subcontractor along with Ernie Carlson, suggested the cylinder be machined and an aluminum muff be sweated on. This was done and the engines ran fine. Only four of the original cast iron cylinder engines were saved, according to Mel Anderson.

The only reason I am bringing this to your attention is because Art Swift will be submitting a nomination for Bill Atwood to the [Model Aviation] Hall of Fame. Art's nomination credits Bill Atwood with the Baby Cyke design and according to Mel Anderson Bill Atwood gets the credit.

This letter is not intended for publication and no correction is requested.

Sincerely,
William D. Simpson

This is the letter that Mel Anderson received informing him of his acceptance into the Model Aviation Hall of Fame.

Academy of Model Aeronautics
National Headquarters
815 15th Street N.W.
Washington, D.C. 20005

December 21, 1981

Mel Anderson
2013 Edgewood Drive
Alhambra, CA 91803

Dear Mel,

It will be my pleasure to present to you the [Model Aviation] Hall of Fame award at the IMS show in Pasadena on Sunday, January 10, 1982, sometime between noon and 1:30 p.m.

If this arrangement meets with you approval, I will see you there. If this time and date creates any problem for you, let me know immediately.

Sincerely,

John C. Grigg
AMA President

AMA History Project
National Model Aviation Museum
5151 E. Memorial Dr.
Muncie IN 47302
(765) 287-1256, ext. 511
historyproject@modelaircraft.org

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