R.C. 'BOB' SCHEELER AND GLEN MORTON

Bob Scheeler was my father-in-law who died suddenly in February 2007. From my 50+ year acquaintance with him I knew of his association with the Morton family, Morton Aircraft and especially the M5 engine. It was only after his death that I realized while seeking information on the internet the current interest level, discussion and even the availability of parts and kits of the Morton M5 model engine. Through sources sent to me through the R and R engines group on the Internet the family now has more complete memorabilia to pass on to the younger generations. After his retirement he put some of his family history to paper and because of his history with Morton Aircraft I have extracted his comments on that subject to share with those interested.

I found Bob Scheeler to be a man of immense creativity, ability and resourcefulness. I have tried to provide enough of his comments so you can sense how his association with Glen Morton had influence throughout his life.

His comments are in **bold type**. *Any comments or paraphrasing that I added will be in italics.*

This starts when the Scheeler family moved to Kearny, Nebraska when Bob was 12 years old.

Spring of 1933.

In most respects I was still a kid and did things kids do. I liked to roller skate and run my scooter all over town on the concrete sidewalks. I liked to build miniature towns and roads and bridges in the backyard for my toy cars. I even scrounged or bought sand and cement to make real concrete roads.

One day when I was working on my miniature town in the back yard, a little five year old boy came over on his tricycle and stayed to watch me work. He lived around the corner. He said his name was Chuckie Morton. He came by often after the first visit. I learned that his father, Glen Morton, was an airplane pilot and operated a Chrysler, DeSoto, Plymouth dealership in town. Occasionally Glen flew his Lambert Monocoupe over town and much to the enjoyment of the townspeople he would put on an aerobatic demonstration. He would do dives and loops and barrel rolls as well as other exercises. If Chuckie was with me at the time, he would carefully explain each stunt his father did. Chuckie was a faithful audience of one that summer as I built my town.

1937

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During the summer before I did my senior year in high school, I learned that Glen Morton was manufacturing model airplane engines of his own design. He had set up a shop in his basement with all the necessary equipment. His sales were all by mail order. I paid him a visit and persuaded him to hire me part time to help in production. Glen had sold his automobile dealership and his airplane, which gave him funds to enter into this new enterprise. I loved working there and I liked the

people I was working with. But after school started, my heavy school load and my three paper routes took so much time that I had to quit my job with Glen by late September. I lost track of Glen after that until the following June after graduation.

1938

This is following a one week trip to Illinois after graduation.

When we arrived back home there was a message for me to call Virgil Morton there in Kearney. When I called him, he informed me that Glen was now plant superintendent of the old Swallow Aircraft factory in Wichita, Kansas. Glen wanted to hire me and had asked Virgil to pick me up in Kearney and take us both to Wichita for jobs there. I hadn't even unpacked my suitcase. But we went flying through the night to Wichita in Virgil Model B Ford coupe.

The old Swallow plant had manufactured many Swallow airplanes during the late teens, the twenties, and into the thirties. Glen and his brother Vern had, for several years, demonstrated these planes around the country, and had sold many of them. But the Swallow airplane wasn't much of an improvement over the World War I by-planes. In fact most of the engines used in the Swallows were World War I surplus. The head of Swallow had to declare bankruptcy in the early 30's and the plant sat idle until 1937.

A young aeronautical engineer named Herb Goldman designed a two-place high wing monoplane, powered with a four-cylinder in-line Monasco engine. He arranged to reopen the Swallow plant for the manufacture of his airplane. He had a prototype built and he had hired a pilot named Opie Swope as test pilot. Glen had been hired to get the airplane into production. After Virgil and I arrived we started right into making jigs and fixtures for making parts.

The power equipment was state of the art for the teens. The band saws had 60" throats. The table saws had 16" diameter blades. The jointer had 16" long knives. The planer could handle 24" wide stock. The table sander was 24" wide. The drum sander was 24" in diameter. All of this equipment was powered by one huge motor through a series of belts, crankshafts and pulleys. Everything was in working order, but appeared to be greatly oversized for the work we had to do.

After I had made jigs for the wing ribs I began cutting 3/8" square spruce strips on a table saw. The size of the machine at first threatened me. But when I found it was perfectly balanced with accurate controls, I delighted in cutting the smallest wooden strips as we needed them. The radial arm saw was even more threatening. A 16" diameter blade was suspended from above on an oak pendulum about six feet long. The arm was hinged at the high end. There was a handle grip attached to the arm at the center of the blade. The blade swung across a 24" wide wooden bench that had a fence guide. This large blade was drawn towards the operator, across the table and through the work piece. I soon discovered that this cumbersome looking machine was so well balanced and accurately made that it would cut tiny pieces or large logs with equal accuracy.

The plant had a large supply room, a welding room, a paint room and an assembly room large enough to assemble six or eight airplanes at one time. The plant was located on a large enough parcel of land so that it had its own landing strip. It was an excellent place to start this new venture. However, these were days of the great depression. Money was in short supply.

Virgil and I lived and ate at Glen's house. Eve, Glen's wife, was a good cook and we ate well. But none of us received a paycheck while I was there. We were all taking our chances on the success of the project. I went to work there in June of 1938. I got married August 6, 1938. So I had to have an income. I went to Omaha and found work in construction to support my new bride.

February, 1940

But the bottom fell out of this market and we had some tough times. In February of 1940 I was working at a gas station, twelve hours a day, seven days a week. One day I decided to go to Wichita to see if Glen had something better for me to do by that time. I drove the old Model "A" to Wichita. I found that Glen had, with a partner, started an aircraft training school which was doing well. They had decided to expand and were considering Omaha. Glen and his cohorts were in Omaha looking for a building at the same time I went to Wichita. Glen hired me over the phone and I returned to Omaha. I went through all of the start-up stages of the school. The building Glen bought had originally been an electric car servicing shop. The walls were lined with electric receptacles spaced at ten feet. I built a 20' x 20' stock room in the middle of the building. Then I helped make drafting tables, work benches, testing booths, a welding shop and many other things that were needed.

Aviation Industries – 1940-41 - Bob Scheeler standing front row left.

Glen had designed a two place high wing monoplane in Wichita and his students at the school built a prototype. This airplane, after testing, was placed in a large display room at the new school in Omaha. Glen hired an aeronautical engineer to run additional tests and to make the required drawings for licensing the airplane. After getting the school ready for operation Glen asked me to teach blue

print reading and, as I had time, assist the engineer by making drawings for the airplane. My sole training for this work was one semester of mechanical drawing during my freshman year of high school. I was only nineteen years old. But I thought I could do anything in those days. So I got all the materials together to teach a quickie course in mechanical drawing. I reasoned that learning the fundamentals of mechanical drawing would be the best way to know how to read them. I taught about 1000 students during the next two years, using the study course I had put together.

I made most of the drawings for Glen's airplane, which was later named the Morton FSB. A second plane was built by the Omaha school using my drawings. The original prototype was scrapped and the new plane was put on display. It was a beauty. But with the war starting December 7, 1941 the government told Glen they needed him to produce parts for other aircraft. They had no need for an airplane like his. So it was never licensed.

Morton instructors
(Bob Scheeler at right)

Morton FSB

Glen and his partner decided to break up the partnership. The partner took the Wichita school and Glen kept the Omaha school. The Omaha operation, which had been called Aviation Industries, was renamed Morton Aircraft Company. During the war years they manufactured parts and sub-assemblies for bombers being built by the Glen L. Martin Company at Omaha.

Morton Aircraft corp., 3227 Harney St., Omaha, NE – *The building is still there.(look at Google satellite map)*

February, 1942

In February of 1942 Louie Shetler and I decided to take jobs with Emerson Electric Company at St. Louis, Missouri. We quit our jobs at Morton and became inspectors on assembly lines at Emerson. This was in a new building built by the government for making twenty-one different kinds of gun turrets for bomber aircraft. It was the largest machine shop

in the world at the time it was built. Emerson operated the plant on a cost plus 10% contract.

I changed jobs shortly after arriving at Emerson. I became a production tool designer. The pay was better and so was the work. However by the fall of 1943 the work slacked off and in December, when I sat at my desk for a week with nothing to do, I decided I wasn't helping the war effort. I called Glen Morton in Omaha to find out what he was doing. He asked me to move back because he had a project for me. We made the move to Omaha between Christmas and New Years, 1943.

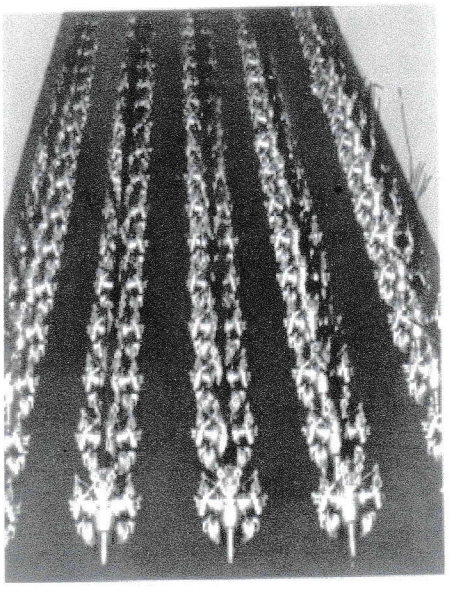
December, 1943

We had saved some money during our stay in St. Louis so we were able to make a down payment on a house at 524 S.35th St. in Omaha. It was located only three blocks from the Morton plant, which allowed me to walk to work.

The war wasn't going to last forever and Glen wanted to be into something besides defense work when the defense work stopped. He decided to design and manufacture a five cylinder radial model airplane engine. He bought an old Lambert five cylinder radial aircraft engine and several of us tore it down to examine its design. We developed a design for our miniature engine and I made the sixty-six "A" size drawings it required. Glen advertised the drawings for sale in hobby and trade magazines. Hundreds of drawing packages were sold, which helped to finance tooling up for the manufacture these engines. I worked in the plant, helping to make some of the tooling. I built a special test bench where we could "run in" three engines at a time. We never made a prototype; the first completed engine came right off the assembly line. I personally tested the first two hundred plus engines before giving that job to another employee.

Bob Scheeler at Morton Aircraft – 1944
(Note M5 Connecting Rod blueprint at his elbow).

M5 Production - 1945



Summer of 1945

Later that year the cash flow at Morton's became too low to provide for all the employees. So I left there to take on a temporary sales job *which* **was very lucrative and gave us an unusually high income for a few months. But it was short termed and I knew it would be going into it. So I needed to find other employment.**

Louie Shetler had moved back to Omaha. He was working out of his garage cutting balsa wood into sizes suitable for building model airplanes, and selling his product by mail order. We decided to go into the model airplane business. I drew up the plans for four different model planes. Then I set up assembly equipment in my basement. Louie furnished all of the balsa material from his operation. I handled the model kit operation. We set up an old platen type printing press in the garage so we could print our own boxes, literature, and drawings. We also die cut balsa parts on the same press. And we advertised in hobby magazines. Although we made many mail order sales the income was not sufficient for two families. Louie and I decided it would be best to split the partnership, him taking the balsa cutting operation and me taking the kits operation. Louie moved to a small town 150 miles west of Omaha to get in on cheaper rent. We discontinued using his material and started cutting our own to hold down costs.

Bob decided that he could get enough drafting and design work to support his family, so he started **"Omaha Drafting and Design"**. *The work* **picked up momentum and I became too busy. I had to spend so much time visiting clients daytime that I worked late into the night to get the jobs done. In the late fall of 1946 a man named Art Fant called me. He had been Chief Tool Designer for the Glen L. Martin Aircraft Company until the war ended. He had then started his own design and drafting business. He wondered if I would be interested in merging my business with his, assuming that bigger was better.**

They reached an agreement and the combined business did well until mid 1947. **Some of the interesting jobs I got to do during the time I was in the Design/Drafting business were:**

Steel Gates for Harrison Dam on the Missouri River – Omaha Steel Co.
Aluminum Casement Windows – Drexel Corp., DeMoines, Iowa
Plastic Lip Stick Brushes – Omaha Plastics
Drill Grinder - Lisle Corporation, Clarinda, Iowa
Power Loom – Gibson Corp., Harlan, Iowa
Disc Brakes for Ford, Chevrolet, Plymouth, Willys and Studebaker
Permanent Piston Mold – Cushman Motors, Lincoln, Nebr.

Glen Morton had become proficient in aluminum die-casting while manufacturing model airplane engines, and as that engine business faltered, he sold it to Burgess Battery Company. He kept his aluminum die casting equipment, moved to a smaller, cheaper location in Omaha, and began contracting die-casting work. He became very successful.

One of the design jobs I did, when I was still with Fant, was a permanent mold for casting aluminum pistons for Cushman Motor Company at Lincoln, Nebraska. This was a steel mold with lever operated removable cores. The pistons had been done previously using the old standard sand molding technique. When Cushman tried to use the mold I designed, it wouldn't fill properly. I was already working at N.N.G.Co. *(Northern Natural Gas Co., Omaha)* **by this time so they went to Glen Morton for help with their problem. Glen immediately saw the problem and the solution. I didn't learn about this until years later when I and Glen got together for a visit.**

May, 1947

In May of 1947 I took a job with Northern Natural Gas Company in downtown Omaha and worked for them as a designer in their Engineering Dept. until October 1952.

October, 1952

I reported for work October 25, 1952 as a designer in the Engineering Dept. at Phillips Petroleum Company at Bartlesville, Oklahoma. About two years later I was assigned to establishing the use of scale models in the design of process plants. For the next fifteen years I was involved in developing a system for using models as a design tool, during which time I implemented its use in the regular design program. Models were built by the designers; planning and installing piping and other equipment as they worked out their design on the model. Sometimes the model was shipped to the construction site as an aid in construction. Eventually I developed a way of photographing the models so the photos could be used as construction drawings in lieu of standard drawings.

The company provided me with a 4000/5000 sq. ft. model shop. At one time we had twenty model builders working in the shop. In order to have a steady flow of work for these men, we did patterns for castings, plastic product models and prototype molds for blow-molded, vacuum formed and injection molded products. We must have made at least a hundred models of different designs for gallon size milk cartons.

During the fall of 1959 I took up flying, taking my training at the Dewey, Oklahoma airport ..... The training plane was an old Piper Cub. A friend was also training with the same instructor. We decided to buy a plane together. We finally, after much searching, found a 1940 Cessna 140 two place airplane at an airport in Tulsa. It had been recently refurbished with new paint, new cabin interior and only

50 hours after a major engine overhaul. It also had been converted to a tri-landing gear. We bought it and shared its use.

July 1960

On July 3, 1960 I went on a cross country flight from Bartlesville to Omaha, to Colo. Springs, *and back* to Bartlesville. We discovered that Glen Morton had built a new die-casting plant on the southern edge of Omaha and a new home right across the street from the plant. There was a landing strip within a mile of the plant. We landed there and Glen had someone pick us up and take us to the plant. He gave us the grand tour of his very successful operation.

The reason for his success was that he had invented a way to evacuate die cavities of the air very rapidly ahead of filling it with the molten metal. The castings were at least twice as strong as compared to those done conventionally. It revolutionized the design of aluminum castings. He got the process patented and became wealthy by licensing his system to die casters all around the world.

He took us out to Omaha International Airport to see his new twin engine Beechcraft and his son's new twin engine Cessna. Glen and his son Chuck spent much of their time flying to new licensees to help them get their equipment set up. These planes made our little Cessna seem puny by comparison.

Before we left in the afternoon Glen tried to persuade me to set up a die casting plant in Bartlesville. He said he would finance the entire project if I would agree to run it. I had to refuse the offer.

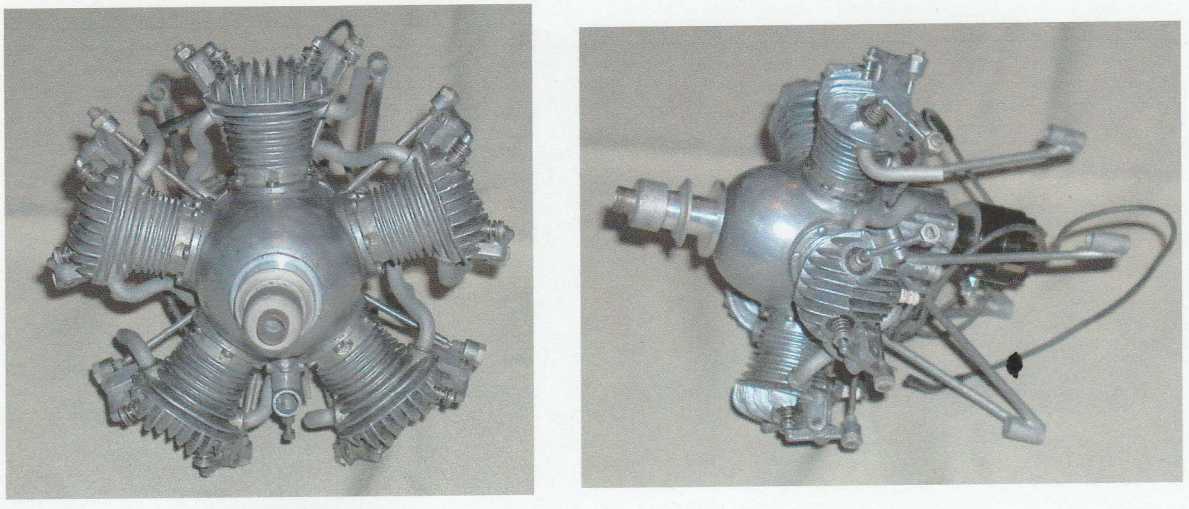
October 1971

An avid collector of Glen Morton memorabilia, Robert Knutson, stopped by the house on October 25, 1971. He was searching for items that were a part of Glen's model airplane engine history. We looked through boxes in my attic and work shop. We found the original drawings I had made for a 44" Beechcraft model plane to be powered with a Morton M5 five cylinder radial model engine. We also found the original drawings I made for the M5 engine and the M4 engine. We also located parts to M5's, and some castings for the original single cylinder engines we built in Glen's basement in Kearney, Nebraska back in 1937. Robert later sent back copies of all the printed matter I had given him, and several pictures of model planes built in 1944 at Morton Aircraft.

Summer 1979 *(this year may be a typo error as I have seen 1975 listed elsewhere as the year of Glen Morton's death)*

During the summer of 1979 Chuck Morton and his wife stopped by our house. Chuck was in sales for an aircraft supply company. They had been on a trip in the west and were returning to their home in Missouri. They informed us that Glen and Eve had retired to a secluded home in the hills south of Eureka Springs, Arkansas. This was the last information we received about Glen Morton.

Bob Scheeler 1920-2007



BOB SCHEELER'S Morton M5 Engine

R.C. "Bob" Scheeler & Glen Morton

Timeline

1933 -	*12 year old Bob moved to Kearny, NE and met Chuck Morton, Glen Morton's son.*
1937 -	*Worked for Glen Morton assembling model airplane engines.*
1938 -	*Worked for Glen Morton from June-September at old Swallow Aircraft factory in Wichita, KS*
Feb. 1940 – Feb. 1942	*Worked at Aviation Industries, Inc.- (Glen Morton's aircraft training school in Omaha, NE)*
Feb. 1942 - Dec. 1943	*Worked at Emerson Electric, St. Louis, MO*
1943 – Mid 1945	*Worked at Morton Aircraft Corp., Omaha, NE*
Mid 1945 - ?	*Partnered with Louie Setler manufacturing model airplane kits and selling them through mail order*
? – Fall 1946	*Formed 'Omaha Drafting and Design'.*
Fall 1946 - May, 1947	*Merged into Al Fant's Design & Drafting business.*
1947 – 1952	*Designer – Northern Natural Gas Co., Omaha*
1952 – Retirement	*Designer – Phillips Petroleum Co., Bartlesville, OK*
July, 1960	*Visited with Glen Morton and toured Glen's manufacturing plant in Omaha.*
October, 1971	*Met with Robert Knutson, author of ECJ articles, "The Morton Story"*
Summer 1979	*Visited with Chuck Morton, son of Glen Morton*