The AMA History Project Presents:
Autobiography of HOWARD KELEM

January 30, 1925 – December 1, 2014
Started modeling in 1939 AMA #912

Written & Submitted by HK (07/2003); Transcribed & Edited by SS (07/2003), Reformatted and Updated by JS (10/2009, 12/2014)

Career:

- Attended Haaren High School of Aviation Trades in New York
- After high school, worked for American Airlines eventually becoming an aircraft and engine mechanic
- Enlisted in the Army in 1943; served as a pilot in the Army Air Force flying a B-29 then was discharged in November 1945
- Invented the automobile cruise control
- Invented a four-wire U-Reely type of handle for model airplanes
- Designed and patented a machine to automatically tie meat with an aluminum staple; began producing the machines and successfully sold them internationally
- In 1965 began teaching mechanical drawing (drafting) at a nearby junior high school
- Designed a flight simulator for his classroom; the New York City Board of Education liked the simulator so much it bought the rights for other schools in the city
- With the help of the Hobby Industry Association of America he set up the first Delta Dart program in his own classroom
- Was asked to join the Civil Air Patrol (CAP) and within a year was made director of aerospace education
- His aerospace education curriculum was copied and distributed to 2,000 teachers across the country
- Became assistant principal of career education at August Martin High School and helped set up the school's aviation program and curriculum
- Designed model airplanes and set up programs for many schools in New York City and around the country
- Has received numerous awards, plaques, commendations and medals as well as 53 trophies related to model aviation
- In 1968 won first and third place in Radio Control at the New York Daily Mirror contest
- Developed and directed a program that was offered at three high schools in the New York City area which trained high school students to become licensed pilots; the program continues today [2003]
- Built a replica of the Wright brothers' 1903 flyer for the Kennedy Airport International Arrivals Building in 1976; it was displayed there for seven years then moved to the Cradle of Aviation in Hempstead, New York
- Currently [2003] he conducts an after-school aerospace class at a local high school in Boca Raton, Florida, with his local Radio Control club
- By 1988 more than 500,000 students had participated in the techniques he developed for aerospace education
- Built a 100-foot display with more than 60 exact scale hand-painted models celebrating 75 years of aviation for the New York City Hall of Science

- Has eight United States and British patents

The following was written and submitted to the AMA History Project by Howard Kelem in 2003.

I can remember as a child that I always played with airplanes. All day long, I wore an aviator's helmet with goggles, which my father bought for me on my eighth birthday. Everybody in the neighborhood called me "Little Lindy" (after famous aviator Charles Lindbergh).

Lindbergh was my idol and I was told that we even had the same birthday.

All I could build at that time was paper airplanes and always got in trouble flying them all around the school.

I went to junior high school number 210 at Saint Marks Avenue in Brooklyn, New York, and became very friendly with a boy named Franky. His father started a model airplane store in the basement of his home on Lincoln Place called Mercury Models.

In order to earn some money to build airplanes, besides my 50-cent a week allowance, I ran errands for Spivac's grocery store on Lincoln Place and Ralph Avenue – just down the street from Mercury Models. I lived right around the corner on Eastern Parkway.

Frank's father, Tony, was very good to me. He gave me lots of second grade balsa wood and charged me very little for tissue paper, glue and other incidentals.

Franky and I built lots of airplanes together. Most of them were my own designs. Some of them flew pretty well. Franky would get a charge every so often by putting a match to one of his planes and would watch it burn as it flew.

I won several school contests, but the one I remember the most was held at Indian Point along the Hudson River. There were six schools involved and I won first place as my rubber-powered Free Flight model stayed up the longest and flew out of sight.

About two weeks later the school got a letter from France saying that they had my plane. Rumors went around the school that Howie's plane flew to France – I was a hero. What had really happened is that it landed on a ship in the Hudson River that was on its way to France. Unfortunately, the school kept the airplane and I never saw it again.

Because I wanted a career in aviation, I attended Haaren High School of Aviation Trades in New York. I was an excellent student. I excelled in every subject. I still have a letter from the school written to my father informing him that I made the honor roll. (*NOTE: A copy of this letter can be found in his file in the National Model Aviation Museum Archives. See the AMA Archivist for assistance.*) Lots of teachers told me that I should become a teacher. It was a fabulous school. It had a program where you attended school one week and the following week worked at Floyd Bennett Field for the Navy. I learned an awfully lot.

Floyd Bennett Field was home to a lot of civilian aircraft, and I washed many airplanes to get a free ride or a short lesson.

However, I remember designing and building a special glider for an upcoming contest in school. Again, it was the longest flight that would win. My design was that the glider would have folding wings and be launched into the air with a rubber slingshot. I worked many weeks designing the mechanism that would open the wings when it reached maximum altitude. Upon completion about one week before the contest, I decided to give it a test flight. I took it to Lincoln Terrace Park on Eastern Parkway. With the help of some friends, I proceeded to fold the wings while they held the slingshot. I stretched the sling as far as I could, held my breath, and let it go. It looked so beautiful climbing toward the sky, like the space shuttle on liftoff. It went up well over 150 feet and leveled off. Now came the crucial moment. Would the wings open? A few seconds later, the wings unfolded. The mechanism worked. We all jumped for joy. Then, like a giant eagle, it gracefully and beautifully flew out of sight never to be seen again.

Although I was a bright student, I did not graduate high school. Unfortunately, I had to leave school about five months before graduation in order to help support the family. We were a large family of seven children – five boys and two girls. My father owned a small tailor shop where he worked very hard and long hours in order to make ends meet.

I had two jobs before I became employed by American Airlines. I worked in the fur coat industry as a nailer, stretching the animal skins to dry. The other was in a watch factory where I operated a lathe.

At American Airlines, I worked my way up to become an aircraft and engine (A&E) mechanic.

By that time, World War II had broken out, and I decided to join the service rather than be drafted. I was told that if you enlisted you could pick the branch of service you wanted. That was so far from the truth.

I received a letter from the Army telling me to report for duty on March 3, 1943, at Camp Upton, New York. It also included a paid ticket on the Long Island Railroad.

That day I was surprised to see that there were no other young men going to Camp Upton. I was the only enlisted man aboard and when the train arrived at the station, there was a bus waiting just for me. I felt as though I was getting the royal treatment, but that didn't last too long.

Camp Upton was an assignment center. After about a week of orientation my group shipped out and I was left behind. They assigned me to remain at Camp Upton to be a tailor because I worked in my father's tailor shop.

I was so mad that I ran in to see the captain and I blew my top. After all my training in aviation, how could I be a tailor? That was the reason I enlisted. With all my pleading and explaining the captain changed my status and assigned me to the Army Air Force.

I went through basic training in Florida. Then I went to aviation mechanics' school in Kansas City, Kansas. From there I went on to gunnery school at Shreveport, Louisiana.

It was fine, but I wasn't truly happy being trained as a B-24 crew chief. I wanted to be up front flying the airplane, but the requirements necessary included at least two years in college.

Several months later, I learned that the requirements had changed. They were accepting high school graduates. Well, I was desperate and I lied. Lucky for me that nobody ever checked my records in high school.

I took the entrance exam and I was among the 10 highest scores out of 2,000 applicants. I made it! I was a cadet and on my way.

They sent me to the University of Missouri in Columbia, Missouri, for a six-month refresher course and then on to San Antonio Cadet Center in Texas.

I was made cadet captain in charge of 2,000 cadets and was sent to several flight schools to become a pilot.

The most outstanding experience I ever had as a pilot was my first solo. Everyone in my class had already soloed, and I was beginning to think that there was something wrong with me. That day during flight, my instructor was yelling at me more than usual. "Stupid, get that wing up." "Throttle back." "You're banking too steep," etc., etc. I thought I was finished. Then he instructed me to land on the grass field below. I landed the plane and when it came to a stop, he climbed out of the cockpit, stood on the wing, and said to me, "You really stink. In fact so bad that I don't want to fly with you any more." I almost died. Then he continued, "So, go ahead, kid. This is your day to solo," and gave me a big smile. "You'll be fine." He jumped down from the wing and waved me on.

The reason I was the last to solo was that he was doing it alphabetically.

I pushed in the throttle and was on my way. I took off very nicely and as I was flying, I realized why instructors yell all the time. He was on the ground, but I could hear his voice as though he were sitting right behind me: "Stupid, get that wing up. Level off. Slow down. Watch your turns." He talked me all around and down to a beautiful landing. I was out of this world.

Then he waved his arm over his head and I thought he meant to turn toward him and pick him up. I turned left not realizing I was now in the path of another airplane with a student and an instructor just about to land. There was nothing I could do. The instructor in the other plane was a great pilot. His wheels bounced and he gave his plane full throttle and flew right over my head, missing me by inches. I could have touched the propeller.

My instructor was fit to be tied. How was I to know that he meant go around again when he waved his arm?

Upon returning to the field there was an immediate hearing. For two hours, I sat in the hall chewing my fingernails. When they brought me in for their decision, I was shocked. They didn't wash me out. Being that I lived to tell the story, they were positive that I would never do it again.

The fellows called me "rubber neck" after that. It never happened again!

Being that my marks were so high, after pilot training, they offered me the opportunity to attend other schools. I was doing exceptionally well in all classes when about one month before graduation, the Air Force posted a bulletin requesting that anyone with any aviation mechanical training enlist in the new B-29 flight engineering school.

I was drafted into it and attended school in Hondo, Texas.

Graduation was August 6, 1945 – the same day the atomic bomb was dropped on Japan. We were not aware of it, and our orders read to arrive at Maxwell Field, Alabama, in 10 days. The orders said to send your wife, car and personal items to your home wherever. They said that you will be assigned to your B-29 and crew and you will be on your way to the Far East.

Well, within 10 days the war was over. All assignments were on hold. Discharge procedures were being organized and until then we flew our planes and crew almost everyday all around the United States practicing missions.

My discharge was approved in November 1945. Our colonel called me into the office and tried to convince me to stay in the service, as I was a highly trained officer, and the Air Force needed men like me.

They offered me a promotion to captain with a long list of opportunities.

But, my wife said no. Although I had a wonderful career as a teacher/supervisor, I often wondered what a career I might have had in service.

Now being a civilian, I was offered a job as a pilot for American Airlines, but I turned it down because it meant being away from home three out of every four weeks. Besides, the salary was poor and it had no benefits.

In the meantime, I started working at a wholesale meat packing company called Eagle Brand Products, which was owned by my father-in-law. It was supposed to be a temporary thing, but salary was great and I only worked three days a week. That gave me plenty of time to do my flying on weekends – models and full-sized aircraft. I soon became a partner in the firm and the years flew by.

It was about that time that I invented the automobile cruise control. I would get many speeding tickets unintentionally, especially in the summertime when driving to work at 4 a.m. – a beautiful

evening, the top down on my convertible Cadillac, listening to the Glen Miller Orchestra, just cruising along the Belt Parkway. I would end up doing 60 to 65 mph in a 50 mph zone.

On June 3, 1950, a Saturday morning, I rented an Aeronca seaplane from the Long Beach Flying School and took my best friend, Ralph, with me. Ralph always wanted to go for a ride. After about an hour of flight, my friend started fooling around with the controls and we crashed in the bay at Jones Beach. We were up about 300 feet when Ralph stalled the plane. I immediately put the plane in a dive to gain air speed. I was cursing him all the way down. The water was coming up pretty fast and I was only doing 30 mph. I pulled back on the stick anyway, and the plane began to level off, but we were too low. Perhaps another 50 to 75 feet, and we might have made it. We crashed in the water, and, fortunate for us, it was low tide and we did not sink. Our arms and legs were broken and we could not get out of the plane. Soon a Coast Guard PBY landed along side and rescued us. It took a long time healing and Ralph is still my best friend.

Being heavy into Free Flight and U-Control I invented a four-wire U-Reely type of handle, but it never proved to be successful.

Years went by and our meat plant went into the production of packaging meat products. I didn't like the way the products were tied by hand with cord. There had to be a better way. After lots of experimenting, I finally designed and patented a machine to tie the meat products with an aluminum staple automatically.

It proved to be so successful that our company branched out into the manufacturing of machines known as Global Industrial Machinery, Brooklyn, New York. It went very well selling machines all around the world with many millions of staples with it.

In 1965, I met a man who was the principal of the junior high school around the corner from my factory. He convinced me to try and became an industrial arts teacher and work in his school, which would be very nice being so close to the factory. The requirements were to have at least five years business experience related to industrial arts, be able to pass the written and practical exam and to have at least a high school diploma.

I told him that I did not have a diploma. He assured me that my college training in service would surely make up the deficit.

So, it began. I passed the written exam with a 96% score and number one, top of the class, in the practical test. I was so pleased. I thought I made it, but the Board of Education wanted to see a diploma. Everything else was unacceptable. I thought that was the end, but on the way home, I noticed a sign in front of New Utrick High School, "G.E.D. exam being given tonight." I went back after dinner, took the test, and passed with flying colors.

I was assigned to teach mechanical drawing (drafting) and I enjoyed it very much. I found it very gratifying working with teenagers. After about two or three years later I began to realize that the curriculum did not justify the true meaning of a draftsman.

I decided to make an experiment without anybody's approval. The idea was to build something from a plan. I decided that we all build a glider out of balsa wood, which I paid for out of my own pocket. Each student drew his own design from average measurements that I gave them. When they finished drawing, I hit upon the greatest teaching aid by accident. Instead of each student building a model from their own drawing, they traded plans with each other. Now they had to use someone else's drawing. Within a few minutes, it was music to my ears.

"Hey, Harry! You left out the measurement for the wing!" " Joey, you made a mistake in the radius of the wingtip." " That too big." " That's too small." They found each other's mistakes, but actually, they were learning what a blueprint was and how important it was to make sure it was correct.

That was a great learning experience, but also it was the birth of the aerospace program in the New York City Board of Education.

One day while the students were building their model gliders, a tall, well-dressed, good-looking young man came into my room. He seemed shocked and said, "What the heck are you guys doing here?" I explained that it was an experiment, but he said nothing. He walked around the room, took two models that the students were building, and walked out. I learned later that he was a supervisor from the Bureau of Industrial Arts.

Well, I thought that was the end of my teaching career. Everyday I expected someone to walk into my room and hand me a pink slip. About a month went by and one day this same supervisor came into the room. Only this time he looked pleased and had a smile on his face. He said, "I took two of your models and entered them in an industrial arts contest and they won first and second place." He gave the two students a medal, turned to me, and said, "How would you like to teach aerospace education as a regular subject?" That was it.

All the wheels went into motion at the Board of Education. My room was converted to work benches. I filled the room with models and pictures. I purchased supplies. The only thing missing was the curriculum, which I had to provide.

At that time, I was attending Empire State College earning a bachelor's degree in science and education. Part of the program was to design a teaching aid. Now that I was an aerospace teacher, I designed a flight simulator for the classroom. It turned out to work exceptionally well. In fact, the Board of Education purchased eight of them for other schools in the city.

The Hobby Industry Association of America learned of my activities. Mr. Marty Namm came to visit me in school. Together we set up a program to introduce the Delta Dart program in my class. In March of 1971, officials from all over came to see the program in action. Hobby Industry Association, the Daily News, Model Airplane News magazine, Board of Education supervisors, CAP, the FAA, and Aero Products Research Inc.

That really started aerospace education throughout the country. I was asked to join the Civil Air Patrol (CAP) and within a year, I was made director of aerospace education.

I attended many seminars for the CAP and the Board of Education, lecturing and supervising hands on activities building models.

I have dozens of letters from schools and districts thanking me for my curriculum. The CAP printed and distributed 2,000 copies of my curriculum outline book for teachers.

Then there is the story about August Martin High School in Jamaica, Queens, New York.

The Board of Education was rebuilding this school previously named Woodrow Wilson High School. This was designed to be what they called a "magnet school" for aerospace education and it attracted students from all parts of the city. They needed someone with an aviation background to help set up the school's program and curriculum. I was told to apply for the job. Within a few weeks, I was in my new office at August Martin High School with a new title, assistant principal of career education.

It became one of the best schools in the city, and there was always a long list of students waiting to be accepted. I designed model airplanes and set up programs for many schools in the city and around the country. From elementary to college level. A lot of my material was printed in magazines and the newspapers. Estes Rocket Inc. used my models in the centerfold brochure for many months. Through the years, I have received lots of awards, plaques, commendations, medals and earned 53 trophies that are displayed on the shelves of my aviation awards room.

Two trophies go back to 1968 when I won first and third place in Radio Control at the New York Daily Mirror contest. I have eight awards from the local Radio Control clubs – parks, LIDS (the Long Island Drone Society), Geritson Beach and the Merokees. The rest won at flying and static displays from the Board of Education, Department of Transportation, Port Authority, FAA, Bureau of Industrial Arts and the Lincoln Memorial Bank.

The Lincoln Memorial Bank had a citywide contest honoring 75 years of flight since the Wright brothers.

One of my students, McKinley Gomillion, won first place with his quarter scale J-3 Cub. He was invited to be on the Joe Franklin television show and then was invited to visit the White House to meet President Jimmy Carter with me as his mentor.

McKinley was the greatest builder I ever knew. I met him one day after I posted a circular on the board for anyone who would be interested in joining the after-school aerospace class together with a note to bring in something you built at home so that I might judge where you would fit in.

The next day McKinley brought in two models. They were small – about a 10-inch wingspan – but were magnificent. Built from his own plans and copied from a magazine picture. It had seats, an instrument panel, radio and microphone, parachute, cushions – the whole works. Just beautiful, but I said to him, "Sorry, you didn't build these."

A few minutes later, a teacher came in my room and told me that a student was outside my door crying. It was McKinley. When I brought him inside, he kept insisting that he built the airplanes. It was hard to believe, but I felt sorry for him. I asked him to come back at lunchtime. When he came back, I gave him a model airplane kit and asked him to build it right then. Well, before the period was over, I apologized to him for not believing. Since then he has won many awards and contests with model airplanes besides earning a scholarship to college.

Several wonderful years went by and one day the president of the Parent Teachers' Association, Mrs. Gloria Shepperd, learned that the U.S. Justice Department had one-half of a million dollars every year to spend toward the prevention of crime. Mrs. Shepperd came to me with an idea and together we sat down and wrote a proposal based on an aerospace program. All subject matters and curriculum was designed using aviation as its theme and to included flying lessons toward earning a private pilot's license.

They loved the idea and in 1975, the proposal was approved. The program involved three schools – August Martin High School, Part West, which was previously known as Haaren High School (my alma mater), and Wingate High School. Each school received three link trainer flying simulators, instructors, teachers and a director. Plus they gave us seven 172 Cessna airplanes based at Farmingdale Republic Airport with 10 licensed pilot instructors rotating their time.

I directed all programs and flight time for all three schools.

The idea was not to make pilots, but a means of motivation to help the students in school.

However, it proved to be very successful and many of our boys became pilots for United Airlines, Pan American, American and the U.S. Army and Navy.

The program still continues today [2003].

In 1976, the nation's bicentennial, the New York, New Jersey Port Authority wanted a replica of the Wright brothers' first airplane to hang on display at the International Arrivals Building at Kennedy Airport. [*NOTE: A copy of the Kitty Hawk story together with pictures, photos, and the magazine where the article appeared can be found in Howard Kelem's collection in the National Model Aviation Museum Archives. See the AMA Archivist for assistance.*]

An updated version called "Kitty Hawk Revisited" was submitted to Model Aviation editor Bob Hunt for possible publication in honor of the 100th anniversary of the Wright brothers' first flight. The article with photographs will be printed in the November 2003 issue of Model Aviation magazine.

Now that I am retired, I spend the winter months in Florida. I am still called upon to give lectures and demonstrations wherever. Every Tuesday I'm part of a group from the Gold Coast RC Club who conducts an after-school aerospace class at Olympic High School in Boca Raton, Florida, teaching students how to build and then fly their own airplane.

You can find me almost everyday either at the new field for the Gold Coast RC Club in Florida or at Cedar Creek at Wantagh County Park in New York teaching new flyers – young and old alike – how to fly.

It has been a wonderful, wonderful career and it's far from over.

Happy landings!

(signed) Howard Kelem
July 2003

The following is a letter that was submitted to nominate Howard for the Scott Crossfield National Award in 1988.

Headquarters
New York Wing, Civil Air Patrol
Auxiliary of the United States Air Force
817 Stewart Avenue (Rear)
Garden City, NY 11530

December 8, 1988

Headquarters
Civil Air Patrol/EDF
Maxwell Air Force Base, AL 36112-557

Dear Nominating Committee:

I would like to take this opportunity to introduce you to one of the most outstanding and dedicated individuals who has been involved in aerospace education for over 20 years. He was the first in a nationwide comprehensive study utilizing model airplanes in the classroom. His hands-on teaching techniques involved over 500,000 participating students all over the United States.

He was born January 30, 1925, on the east side of New York City. He graduated from Haaren High School (aviation trades) and received his B.A. degree from Empire State College and his M.A. degree in education, supervision-administration from Saint John's University. He also attended the University of Missouri, Nassau Community College, and New York University.

His interest in aviation dates back to his youth when he washed airplanes just for a free ride. At age 18, he worked for American Airlines as an aircraft and engine mechanic.

During World War II, he was trained as an aircraft crew chief, aerial gunner, a bombardier, a pilot and a B-29 flight engineer. He is the holder of a private pilot certificate, the winner of 11 trophies in nationwide competition and has won first place awards in the New York City citywide industrial arts exhibition in aerospace technology for the past 15 years.

From 1966 to 1972, he was an industrial arts teacher at Cardoza Junior High School in New York. There he conceived and directed the aerospace sequence in mechanical drawing with students designing and building model gliders. He also directed an experimental aerospace program for the New York City Board of Education during the summer of 1969. This led to a pilot program encompassing six junior high schools under his supervision. For this program he did curriculum planning, teacher training, established budgets, arranged field trips, and inter-school competitions. The result of these efforts led to the acceptance of aerospace education in the classroom as a regular subject of industrial arts. He is known as Mr. Aerospace, especially within the New York City Board of Education.

He also designed and built a wind tunnel type flight simulator where the student flies a model airplane as though he/she were flying a real aircraft. Several schools have copies it and it is presently being considered for mass production as a teaching aid by a large organization.

In 1972, he was transferred to August Martin High School in Jamaica, New York, to serve as acting chairman and to develop an all new aerospace program as a continuation for the graduates from the junior high schools who are involved in aerospace education. There are now 11 junior high school and six high schools in New York City involved in aerospace education where three of the high schools offer free flying lessons as part of their curriculum.

It was there that he supervised and helped build a full-scale exact replica of the Wright brothers' Kitty Hawk airplane for the New York, New Jersey Port Authority in celebration of the bicentennial. The replica was on display at the International Arrivals Building at Kennedy Airport for seven years. It has since been moved and is now on display at the Cradle of Aviation in Hempstead, New York.

As a favor, he built a 100-foot display for the New York City Hall of Science in celebration of 75 years of aviation. He made over 60 exact scale hand-painted models beginning with the "balloon age" and progressing through the years to the "man on the moon."

He is also famous for his model airplanes, which he has displayed throughout the country for the National Congress on Aerospace Education, many college seminars and the FAA. The plans of his mini-circus of planes have been put into booklet form and thousands have been distributed to teachers and educators as far as the Civil Air Patrol and the FAA extended.

He has been honored for his contributions to aerospace education with dozens of letters of commendations and awards from schools and districts all over the United States – from children, teachers, supervisors, principals, colleges, directors, and the New York City Board of Education. He was even invited to escort one of his students to visit the President of the United States in the White House for winning the first place award in a citywide model airplane contest in memory of Charles Lindbergh.

He is an inventor and has eight United States and British patents to his credit. The two most popular are the cruise control that is now used in almost every automobile and the machine that

puts the little metal clip at the end of the bologna, liverwurst and other sausage products. His credits can fill a book.

I think it is about time he has been recognized and I hereby take this opportunity to nominate him for the A. Scott Cross Field Aerospace Educational Teacher of the Year Award. I take pleasure in introducing you to Major Howard Kelem, Director of Aerospace Education for the New York Wing, Civil Air Patrol.

Thank you for this opportunity.

Respectfully yours,
Col. Rov Arral
Commander, Northeast Region CAP

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