

AN ACCOUNT OF THE FIRST ZERO-ZERO LANDINGS MADE WITH AN AUTOMATED APPROACH CONTROL SYSTEM IN A B-17G AROUND THE END OF 1944.

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This article should begin with a biographical sketch of myself to help the reader understand the motivation behind this test pilot to attempt such a feat with untried primitive equipment, no redundancy and no radar surveillance and with no thought of financial remuneration.

My father's people came to this country from Germany in 1733 and my mother's people go back to John Howland and Elizabeth Tilley, who came over on the Mayflower in 1620. I always wanted to be the first to try new things and to explore new places, probably as a result of some leftover pioneer blood in my veins. When I was between four and five years of age, I found that my grandfather's big umbrella would pull me off my feet when the wind was blowing so I got the bright idea of climbing up on the roof of the farm equipment shed and using the umbrella to parachute into the cow lot. Structural failure of the umbrella converted my descent into a free fall but a relatively soft but somewhat messy landing kept me from serious injury. When I was six years old I saw a silver monoplane fly over Asheville, N.C. and was told that it was the Spirit of St. Louis. That ignited a burning desire in me to fly. By the age of ten I was building balsa wood gliders and rubber band powered model airplanes.

I decided to go on to better things when I found a three cell metal flashlight with a nice screw on nozzle that held the light bulb and decided to build a rocket. I obtained some black powder from the hardware store and decided I could make it burn slower by mixing it with charcoal and sulfur. When the moment of ignition occurred, the resulting boom startled neighbors for blocks as the rocket disappeared from sight. The only casualty was my assistant, who got some burned powder particles imbedded in the back of his hand. For some reason this got his mother quiet upset with me. My uncle later developed the solid fuel used in rockets today.

When I was about thirteen my dreams came true and I got to ride in a Ford Trimotor. That was even better than walking the mountain ridges while hunting and envying the hawks soaring over the valleys below. When I was sixteen I hitch hiked eleven miles out to the little airport on the weekends with one of my model building friends and we worked all day on Saturdays cleaning the hanger and aeroplanes in exchange for 15 or 20 minutes of dual instruction in a 40HP Piper Cub.

Flying time accumulated slowly and in 1939 when I went to the University of North Carolina at the age of 18 I still did not have my pilot's license. In 1940 they started a civilian pilot training program where I could get college credit and my license free, so I was among the first to sign up and become a private pilot. In my junior year, the chemistry laboratory was becoming too confining and I knew that we were going to be in the war. I had a tour with the Calvary when I went to a citizen military training camp at the age of 16 and made the decision that any future military service would be in the Air Corps. I applied in the summer of 1941 and

was notified around November that I had been accepted for aviation cadet training and put on a waiting list. Pearl Harbor put an end to that and I was inducted on January 5, 1942.

When I finished basic flying school, I was told I was too big for fighters (which I wanted) and went to twin engine advanced training. I then had the choice of Air Transport Command or B-17 combat training and I chose the B-17. Upon completion of B-17 transition they selected six of the class to go to the ^{ARMY} Air Forces School of Applied Tactics in Orlando, Florida, where I was assigned to the 1st Bomb Sq. 9th Bomb Group under the command of Col. James T. Connally (Group C.O.) and my Sq. C.O. was later to be Col. Earl Tash. These two men are mentioned on Page 59 in the book titled "Flying Fortress" by Edward Jablonski. There at Brooksville, FL, we tested glide bombs which were made of wood and carried under the wing of the B-17. We carried Hollywood's Hal Roach (produced "Our Gang" movies) in the back seat of a Douglas Dauntless dive bomber to film their descent. There we also tested the electronic turbo-supercharger regulator, German radar equipment with searchlights and in the mountains. Because of my Piper Cub experience in the mountains, I got the job of flying in the mountain valleys. We tested radio control bombs, radio control bomb releases, incendiary bombs, formation designs (for head-on attacks) and everything that came down the pike.

When the first B-29's were ready, the squadron moved out. Ralph Taylor, (engineering officer) flew the weather B-29 and selected the target for Paul Tibbets to drop the "A" bomb. Tom Classen (operations officer) was Tibbets executive officer in charge of training for the bomb drop. I was sent to Pinecastle A.F.B., FL. I asked the executive officer (Hugh Shelton) to request my transfer when they got the B-29's which he did, but the request was turned down and I was locked in test work.

By now, ^{A.} A.F.S.A.T had been changed to the ^{ARMY} Air Forces ^{CENTER} Tactical Air ~~Command~~ and our test work was under the control of the Air Forces Board. We continued testing Azon Bombs, Razon Bombs, Heat Seeking Bombs, the use of Christmas tree tinsel for radar jamming, Formation Design, etc. Three of us went to Eglin Field to be checked out in a B-29 that was to be used in test work for the delivery of the A-Bomb. When we brought it back to Pinecastle instead of parking it on our ramp, we were told to park on the other side of the field on the B-24 ramp. I never flew that plane again as Col. Tibbets came there and took over that test program. There I did stall tests for the Boeing Co. on three different manufacturer's B-17G.

When the All Weather Project was established, I was selected to be the test pilot and project officer and I ended up reporting to Col. Tash who was on the Air Forces Board. My first problem was the SCS-51 localizer beam which was so crooked no airplane could follow it. The two engineers who worked with me (the names Logan & Setzer stick in my mind) put up shielding antennas and got the beam straightened out. They had installed a black box in a B-17G with a three position switch (outbound, inbound and final approach) to couple the localizer beam and glide path with the automatic pilot. They also installed an experimental radio altimeter that

worked without any lag. Bob Barry was my co-pilot during most of the test work when I was using blue goggles and amber glass in the windows to block my vision but not his. While working on this project a Major from Italy was sent to Pinecastle A.F.B. with his radar truck. He conceived the idea of G.C.A. while following a B-24 that crashed into a mountain in bad weather. He made up a plastic grid with circles. I was his guinea pig and he would tell me the corrections to make (right or left) and the altitude I should be at as I crossed the circles. he was new at the game and got his corrections mixed up quite often so I never tried approaches under actual instrument condition with him.

After we got the bugs out of the coupling unit and established the proper amount of control, I made enough blind approaches to satisfy myself that the system was trustworthy. Near the end of 1944 I reported to Col. Tash that we had gone as far as we could go with the system and that it was working well. he said, "You know what the proof of the pudding is, don't you?" He told me that he would not order me to test the equipment under actual instrument conditions but that if I had enough confidence in myself and in the equipment he would authorize the tests and take the responsibility for any problems. I told him that when the weather was right I would do it.

Some time later we had a dense fog blanket 500 feet thick with zero-zero conditions. I was assigned a first pilot to be my co-pilot. Bob Barry did not get to fly on the final test. I think the co-pilot's name was Tom O'Connell but I am not certain. The fog was so thick I could not see out the windshield to taxi, so I opened the side window and looked down following a line on the taxi strip. When I got to the south end of the 10,000 ft. runway I used the magnetic compass and localizer beam to line up the airplane and set the gyro compass. The takeoff was manual and we broke into the clear at 500 ft. I climbed to 800-1,000 ft. and set up the auto-pilot. When I crossed the localizer beam I set the unit on outbound. After sufficient time I switched the setting to inbound, dropped the gear, set 1/3 flaps, adjusted R.P.M. and power setting and readjusted the auto-pilot. When the glide path beam centered I switched to final approach and manually operated the throttles to maintain proper air speed. When we entered the soup the flight engineer, standing by my seat, called out the air speed and altitude (radio altimeter) at frequent intervals. When the altitude got below 100 ft. his voice became very tense and just before the wheels hit we could see the pavement below us and everyone shouted "there it is!" I pressed the red button on the wheel that disconnected the auto-pilot, chopped the throttles and landed manually using the localizer beam and gyro compass to keep me on the runway. My training in chemistry taught me to test unknowns in threes so I planned three landings. The conditions were still zero-zero on the second landing but by the time we were in takeoff position for the third try we could see 150 ft. so we discontinued the test.

I went into Col. Tash's office that morning and told him that I had gotten the proof of the pudding by making two zero-zero landings. A visiting Col. was sitting in the room and he jumped up and said, "I don't believe it, no one has ever made a zero-zero landing." I told him

I did not know about that but he could call the control tower to verify what I said. Col. Tash then introduced me to Col. Joe Duckworth who was in charge of the Bryan Instrument School in Texas.

After reporting to Col. Tash I heard through the grape vine that I was going to Fort Worth to run some acceptance tests (maximum load, etc.) on the B-32 which was similar in size to the B-29. At that time, Gen. Eisenhower put out an order that all who had not been overseas would go immediately, so they had to release me for transfer to an overseas replacement depot and I was on board a troop ship in mid atlantic when President Roosevelt died. I was assigned to the 452nd B.G., 8th AF and after the war I flew a B-17G back from England to the States and was discharged in November, 1945.

Since I had a wife and two children to support I went back to school and obtained a B.S. degree in chemistry at the University of Florida and worked there as an Assistant In Research for two years in the pulp and paper laboratory. From there I went to work with St. Regis Paper Co. in Pensacola, FL and retired thirty-six years later as a Senior Development Engineer in the Cooperate Technical Division.

During my years at Pensacola I had the opportunity to work on a number of projects that resulted in major changes in the paper industry. In the fun area I had the first aqua lung in Pensacola, taught myself how to use it and taught many the art of diving and spear fishing. Since I had a 16HP outboard in 1950 I got into the ground floor of the water skiing sport. Following three heart attacks and an open heart surgery, I was going to be a guinea pig for a new laser procedure in July, 1993 but they could not do it, so I settled for a new surgical procedure only available at the Washington Hospital Center in D.C. Since I had no spare veins left they used an artery out of my arm. Everything still works so I content myself with flying 1/4 scale radio controlled planes and dream of younger days. I am wondering if I will get to fly my own B-17 when the Lord Jesus Christ calls me home.

In 1983 I went to Alaska on Wien Airline and saw an article in their July/August issue of "Flight Time" describing the new Boeing museum and the "Red Barn". This stirred up old memories so I wrote the Museum of Flight to see if they had any records of the zero-zero landings. They did not. Wright Field had no file on the All Weather Project either. In 1985 I went back to England with members of the 452nd B.G. Association for the 40th anniversary of VE Day. When talking to some of the pilots about the zero-zero landings they encouraged me to get them on record as a milestone in aviation history. In December of 1985 the Air Force Magazine published my letter requesting names and information. The response gave me contacts and information. I learned that after my departure the project had been moved (March 6, 1946) to Clinton County Airbase in Wilmington, Ohio which became The All Weather Flying Center, and the staff had been increased from a project officer and two civilian engineers to an entire division, which included civilian scientists. One of my contacts provided me with information

on the test work there and found that several years elapsed before anyone else made a zero-zero landing. I was able to obtain sworn statements from the Test and Development Officer and his Administrative Officer, the Squadron C.O. and the co-pilot (who flew with me on most of the tests) that verified I had made the zero-zero landings.

I am greatly indebted to Dr. William Elliott, Department of the Air Force, AFMC/HO, Wright Patterson AFB, who gave me encouragement and assisted me in obtaining information. Through our efforts he now has a very good historical file on the All Weather Project containing names and events that now fill a blank space in aviation history.

I declare that all I have written is true to the best of my knowledge.

Coman Wendell Rothrock, Jr.
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then 1st Lt. O-793381

NOTARY JURAT (F.S. 117.03)

No. 1

Sworn to (or affirmed) before me this 11th day of March, 1994.

STATE OF FLORIDA

COUNTY OF Essex

by Coman Wendell Rothrock who is/are personally known to me or

has/have produced _____ as identification.
(Type of identification)



"OFFICIAL SEAL"
Cheri B. DeCoux
My Commission Expires 1/31/95
Commission #CC 141792

Cheri B. DeCoux Notary Public - State of Florida
(Signature)

Cheri B. DeCoux (Name of Notary typed, printed or stamped)

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