

Farm boy rises to moon challenge

Russel E. Rhodes, For FLORIDA TODAY 11:48 p.m. EST November 9, 2014



My memories of work in the Indiana fields and milking cows after school are still quite vivid.

I was assigned to Red, the hardest cow to milk because I had big, strong hands and milked fast. It was great fun to squirt milk at the cats' open mouths.

I did my homework at the kitchen table by the light of an Aladdin kerosene lamp and sometimes made a moonlit trip in the snow to the outhouse.

(Photo: CRAIG RUBADOUX/FLORIDA TODAY) It was my nature to be aggressive and mechanically inclined, so I was expected to drive the tractor at an early age and repair them. By request, I assembled a new side delivery hay rake, which lay on the dirt floor of the barn for several months. This was a challenge for an 8-year-old who had only assembled a bicycle.

My neighbor, who was a paralyzed polio victim, lived down the road, and I loved to ride my bike there to wash parts and hand him tools as he made major repairs on cars, clocks and watches. At the same time, I was learning skills and gaining confidence that would help me pay for college, repair my own car and my dad's farm equipment.

After graduation from Tippecanoe High School in 1954, I raised 20 acres of soybeans to earn \$600 so I could enroll in Indiana Tech at Fort Wayne. I answered an announcement to work for the development lab, which paid \$1 an hour.

This expanded into engraving face panels for testing magnet wire equipment, repairing equipment for the electrical engineering department, working on a fundraiser to build a \$600,000 engineering building, and maintaining the Wayne County Courthouse tower clock. A major task was operating the college's offset printing presses.

When I received an aeronautical engineering degree from Indiana Tech, I was pleasantly surprised that my parents would leave the farm to see me graduate. I was unable to get a job, because Uncle Sam's military draft was imminent, thus, I was soon drafted into the Army. Little did I know that I was about to embark on an amazing adventure of being on the team that would land man on the moon with a moon buggy before the decade ended.

My assignment was to the Army Ballistic Missile Agency at Huntsville, Alabama, where I was introduced to Albert Zeiler of Werner von Braun's German team. After a short discussion, he asked me to join their team with Dr. Kurt Debus, director of Missile and Firing Laboratory in Cape Canaveral.

At the rank of private, I was earning \$72 a month with a \$4 clothing allowance. Living at Patrick Air Force Base and being introduced to rattlesnakes, alligators, mosquitoes and Hurricane Donna was a real-world, eye-opening experience, but the best was yet to come.

I seized the opportunity to work on the new Army Pershing program still in early design. The flight test phase was completed in one year and turned over to the Army. I was assigned to work National Aeronautics and Space Administration programs since ABMA and two other existing organizations were transferred to the new organization of NASA in 1960.

After completing my two-year military commitment, I joined Fairchild Stratos Co. in Hagerstown, Maryland, to work a classified Army program. One evening, I stopped to visit the Potomac Playmakers, where I had the good fortune of meeting a schoolteacher who would later become my wife.

After six months, I returned to NASA to lead the maintenance and operation of the vehicle propellants and gases servicing systems for the Saturn launch. In addition, a new liquid hydrogen fuel needed to be handled safely to transfer man to the moon before the end of the 1960s.

The most memorable moment working with the German team was when the Saturn Lox fill and drain valve did not indicate close and a scrub was called. I quickly proposed a workaround to Dr. von Braun, and he, with the advice of his electrical engineer, agreed this was acceptable and a costly scrub was averted.

As the activities expanded to Merritt Island and became Kennedy Space Center, I was responsible for the design and development of the mighty Saturn V propellant fueling systems and its launch operations for sending men around the moon in 1968 and landing on the moon in 1969.

I am certain that my belief in God and his guidance enabled me to be a proud member of the NASA team to land man on the moon. When Neil Armstrong set foot on the moon, he could proudly say: "That's one small step for man, one giant leap for mankind."

From the author

Russel E. Rhodes was born Sept. 24, 1936, in a farmhouse. He graduated from Indiana Tech (now Indiana Institute of Technology) in 1958 with a degree in aeronautical engineering and was drafted in 1959. Pvt. Rhodes reported to the Cape Canaveral Air Force Test Facility with no idea he would be involved in an accelerated race to put the first American on the moon. After termination of the Saturn/Apollo program, he transferred to perform design engineering of the Shuttle Transportation System responsible for all fluid systems and other major engineering tasks. After the shuttle program terminated, he continued with NASA's follow-on programs.

He retired from NASA after dedicating 52 years to engineering. He continues his interest and pride in space progress by leading a national space propulsion team in weekly telecons. Their goal is to work with confidence toward an affordable/sustainable plan for human habitation in space.

He and his wife, Janice, live in Indian Harbour Beach, in the same house they purchased 51 years ago. They are still active in St. Paul's United Methodist Church in Melbourne, and are blessed with six children and 15 grandchildren.

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