



Escaping Gravity

Ashland astronaut Clayton Anderson climbed to new heights while reaching for the stars

BY ALAN J. BARTELS

Mankind has gazed with wonder toward the heavens since the sun set on his first day. Taking the giant leap to escape gravity has become reality for a select few adventurers willing to risk their lives to explore the final frontier. From Ashland, Clayton Anderson – Nebraska’s first astronaut – blasted off to achieve his big dreams in outer space.



FORTY-ONE THOUSAND feet over the Gulf of Mexico is no place to experience turbulent skies. The 200-mph takeoff was smooth. The violent shaking of the aircraft after leveling off was cause for concern. Strapped into the backseat of a 25,000-horsepower T-38 training jet, Anderson – the fledgling astronaut candidate from Nebraska – heard the pilot repeat, “Clay, can you hear me?”

Hand signals helped communicate the problem – the radio was down. Rocking the jet capable of traveling 850 mph was Col. Andy Roberts’ attempt at getting the attention of NASA’s newest trainee. Anderson’s only task was to operate the radio. With the aircraft descending toward the tarmac, Anderson wondered what he’d done wrong.

One mistake could jeopardize his career. He thought all the connections were secure. He had double checked each one. After landing, Anderson heard the flight line leader ask Roberts, “What did he screw up?”

The equipment failure was no fault of Anderson. The radio was quickly swapped out and the jet rocketed back to its aerial classroom more than 7 miles over the Earth.

“Do you want to break the sound bar-

At left, Clayton Anderson and fellow astronaut Rick Mastracchio perform maintenance on the International Space Station during a spacewalk. Anderson lived in space for 167 days.

rier?” Roberts asked. Anderson, envisioning traveling straight and level, replied with an enthusiastic “yes.” Roberts’ mission was to introduce trainees to the extreme G-forces of spaceflight through these “zoom and boom” flights. He immediately yanked the control stick, inverting the machine nose first toward the gulf.

A glance at the instrument panel revealed the plane had surpassed Mach 1, faster than the speed of sound, so fast that the men could not hear the sonic boom left in their wake. Roberts ratcheted the stick again. Remembering his training and a scene from *Top Gun*, Anderson grunted loudly to stay conscious as Roberts guided the plane through high-speed loops.

“I thought I was hot snot after we landed and I hadn’t got sick,” Anderson told *Nebraska Life*. He technically achieved his goal of not vomiting during his first training flight, but the “zoom and boom” mission became “whirl and hurl,” when Anderson spotted a trash can and took a nose-dive.

EARTHLY BEGINNINGS

Born in Omaha in 1959 and raised by parents Alice and Jack in Ashland, Anderson grew up playing outdoors with siblings Kirby and Lorie. Countless hours were spent hitting homeruns into the stratosphere from a vacant lot at the corner of 14th and Furnas streets. Anderson’s parents would ring a cowbell to call their children home. Gathering around the radio for Nebraska Cornhusker football games was family tradition.

Anderson’s adventurous nature led him to enlist the help of friends to build forts along the untamed wilderness of Salt Creek. The boys explored the subterranean labyrinth of Ashland’s storm sewer while riding skateboards on their bellies. Their plans of tunneling 10 blocks and up through the floor of a local dime store to gorge on candy and comic books fell through when Anderson’s father spotted the earthly beginnings of the excavation in the family’s backyard.

Even though the boyish prank was thwarted, Anderson’s parents taught him to never give up. If the Anderson children participated in extracurriculars, they were expected to stick with it. That entrenched resolve would come in handy during Anderson’s first 14 attempts at qualifying for NASA’s astronaut training program.

Inspired by a conversation about becoming an astronaut that has faded from Anderson’s memory, his mother made her son a costume as Ashland’s annual Stir-Up Days celebration approached. “Mom was creative, and we didn’t have a lot of money. She went to her closet and got a hatbox, cut holes for my eyes and wrapped me in tin foil to look like a Mercury astronaut,” Anderson said. “I won a red ribbon in the kiddie parade. I was 6.”

The Andersons woke their children late on Christmas Eve 1968 and turned on their black-and-white TV. History was being made over Earth, and it wasn’t Santa. Humans were about to orbit around the

dark side of the moon for the first time.

Anderson remembers being nearly panicked as Apollo 8 floated out of view and lost contact with Mission Control. The static seemed to last hours. In his book, *The Ordinary Spaceman*, Anderson recounts imagining that an unseen lunar volcano or space dragon had burned the craft to bits.

Finally, from 240,000 miles away, Frank Borgman’s voice broke radio silence, “Apollo 8, over!” Anderson breathed a sign of relief. With no idea how long it would take him to get there, the young Nebraskan with stars in his eyes set his sights on the heavens.

Anderson made no secret of his lofty goal. Science and music teachers at Ashland-Greenwood High School helped launch him toward success.

Alice Raikes, one of the toughest teachers he ever experienced, taught Anderson to love the scientific method. Bette Starnes, the school’s vocal music teacher, taught him to be better than he thought he could be. “Whether it was playing a challenging piece on the piano or singing a solo, just like Alice Raikes, she set standards and expectations,” Anderson said.

An appointment from congressman and former Nebraska governor Charles Thone after high school graduation in 1977 set Anderson briefly on course to attend the U.S. Naval Academy in Maryland. Instead, he enrolled at Hastings College in Hastings to play football and study education and coaching like his hero, Cornhusker football coach Tom Osborne, who also attended Hastings College. Quickly feeling that coaching wasn’t going to work out, Anderson’s career path was up in the air.

“A week into classes this young freshman knocked on my office door unsure of what he should do. That was a Friday afternoon,” said physics and astronomy

At left, space shuttle Atlantis lifts off from Kennedy Space Center on June 8, 2007. The mission, Anderson’s first in space, installed a solar array on the International Space Station. Top right, Anderson, who attended Hastings College, showing school pride while orbiting Earth. At right, Lincoln as seen from the International Space Station, Memorial Stadium visible lower left.



NASA



NASA (both)





Anderson, Japanese Aerospace Exploration Agency astronaut Naoko Yamazaki, and NASA astronaut Stephanie Wilson onboard a full-scale space vehicle mock up at Johnson Space Center. The training session was preparation for Anderson's 2010 flight aboard Discovery.

professor Clyde Sachtleben. "He hadn't signed up for any science or math. I made a call, and by Monday morning he was taking calculus, physics and chemistry. He wanted to learn and excelled."

ONE GIANT LEAP

Orbits overlapped when Maynard Huntley, a Hastings College alum working at Johnson Space Center in Texas, returned to Nebraska for a hunting trip with Dr. Gary Musgrave, the school's guidance counselor. While shooting pheasants and the breeze, Musgrave told Huntley about a driven college senior who hoped to work at NASA. Huntley later sent Musgrave an

application for NASA's summer internship program. Anderson filled it out and hoped for the best.

Sachtleben was at Anderson's side for the NASA phone interview in 1981. He held up notes as the astronaut wannabe answered questions, pointing out things Anderson had worked on at school that he thought NASA should know about.

After 30 minutes they thanked Anderson and hung up. "Tears came to his eyes. He thought he failed," Sachtleben said. "I told him they would have ended the call after 10 minutes if they weren't interested."

NASA was interested. Anderson was awarded one of 40 coveted internships. "My

foot was in the door thanks to Doc. S and a Nebraska pheasant hunt," Anderson said.

He received a crash course on operating the space shuttle simulator and spent the summer "flying" it for engineers developing training missions. With a week left in his internship, Anderson realized he hadn't yet met an actual astronaut. He had seen them but was too intimidated to approach. "I knew someone in Nebraska would surely ask about meeting astronauts," Anderson said. "I had to do something."

Anderson checked the flight simulator schedule and saw that two astronauts were scheduled for Friday at 7:30 a.m. Anderson was waiting for them, sitting on

the steps, at 6:30 a.m. "They'd have to walk over me to get there," Anderson said.

The plan worked. Handshakes and a 15-minute conversation inspired Anderson to keep moving toward his dream.

He was in his second year at Iowa State University in 1982 when NASA called with a job offer. Focused on getting his master's degree in aerospace engineering, he declined. When the offer came again closer to graduation in 1983, the young Nebraskan accepted.

Later that year, while working at Johnson Space Center on trajectory designs for the shuttle program and International Space Station, Anderson applied for NASA's astronaut training program for the first time. He was denied, but not deterred.

Anderson worked his way up to being manager of the center's emergency operations center. He met his future wife, Susan, in the cafeteria in 1990. Anderson wasn't much for greens, but he grabbed a tray and followed her through the salad bar, striking up a conversation. He later called her desk in NASA's human resources department and asked her out. They married two years later.

He continued applying for astronaut training while adding qualifications to his resume such as earning a private pilot's license and learning to speak Russian.

On his thirteenth attempt in as many years, Anderson learned some applicants had reference letters from real astronauts. "I had a letter from my pastor back in Ashland," Anderson said. His heavenly connection ended up being a blessing.

Anderson's prayers were answered in 1998. After missing a page from NASA, he called the number back, thinking it was probably for his wife.

The voice on the other end asked if Anderson was still interested in being an astronaut. Fifteen years of persistence had been rewarded. Anderson was now an official astronaut candidate, known around NASA as an "As-Can."

Three years of instruction on shuttle and space station operations, underwater training and survival techniques began in earnest. Along the way Anderson provided ground support for the space station. As an escort for the ill-fated Columbia mission in 2003, Anderson drove the



Anderson family (all)



Anderson was 9 when his parents, Jack and Alice, got him and his siblings out of bed to watch the Apollo 8 spacecraft orbit out of view behind the moon. The feat far from Earth was the first for mankind. Top right, Anderson with wife, Susan, and their children Cole and Sutton. Anderson retired in 2013 after a 30-year career with NASA.

crew's families to the launchpad for liftoff and runway for landing.

When the shuttle did not return on time after its 6-million-mile mission, Anderson ushered his charges into a convoy of waiting SUVs and back to their rooms. Something had gone terribly wrong.

He held it together as families learned that the shuttle had disintegrated 200,000 feet over Texas during reentry. When the children of one dead astronaut began sobbing, Anderson stepped into the hallway, fell to his knees and began praying.

Anderson's wife and their son, Cole and daughter, Sutton, along with Hastings College professors Clyde Sachtleben and Carl Throckmorton, and other friends and family, said prayers of their own on June 8, 2007.

Nebraska's first astronaut was on his back, strapped into space shuttle Atlantis. The clock was counting down.

With memories of Columbia in his young mind, tears streamed down Cole's face. "Your dad is so excited right now

— he's so happy," Susan said. "He's doing things he's dreamed of since he was 9 years old and we need to be happy for him."

THE BOWELS OF SPACE

Anderson was happy. Nervous, too. As voices bounced through his headset, he tried to take it all in. Seconds were ticking away toward reaching his lifelong dream. All he could think about was having to pee.

"Trying to pee in one of NASA's adult diapers is not easy," Anderson said. "Thankfully, the closer you get to launch, the less you have to go."

The *Star-Spangled Banner* played, and with six seconds left on the countdown clock, the shuttle's engines roared to life. Atlantis broke free of earth's gravity. Astronauts exchanged high-fives. For eight and a half minutes, traveling at a top speed of 17,000 mph, Anderson and crew thundered toward the stars. Then the engines shut off and everything fell silent. Anderson was finally in space. He removed his helmet, and it floated in front of him.

The shuttle docked with the International Space Station. Anderson was scheduled for a nearly six month stay. He gives a practiced answer when asked what it was like being in space. “I was Superman every day,” Anderson said, “I flew to breakfast, I flew to work, I flew to the bathroom.”

One day, a Russian crewmember floated into the space station laboratory with a serious look on his face. “In Russian he said, ‘Clay, the toilet doesn’t work, don’t eat!’ I was thinking how I had just enjoyed a pretty big lunch,” said Anderson, whose bowels moved like clockwork in zero gravity.

The cosmic commode was broken for 16 hours. A coffee can-like device fitted with a plastic bag provided relief. The story elicits laughter from the school classes Anderson speaks to. Their most common question, “How do you go to the bathroom in space?”

Known for aiming his 800mm lens through the station’s windows, Anderson said taking photos while moving 5 miles per second requires good timing and luck. After trial and error, he captured stunning photos of Egypt’s pyramids, Lake McCaughy and even Lincoln’s Memorial Stadium on game day. Zooming in shows the Cornhusker faithful “Sea of Red” visible from space.

During another orbit, Anderson readied his camera hoping for a photo of Ashland taken from up on high.

“I followed the Missouri River down the squiggly border of Nebraska, but there’s no star on Lincoln. Then I saw the south bend of the Platte River and Ashland,” Anderson said. “Here I was, an astronaut 230 miles over my hometown where my parents, family, neighbors and teachers all raised me. I missed them and didn’t get a single photo. All I could do was cry.” There would soon be more tears for Anderson.

He was a third of the way into his mission when a call came from home. When his wife said, “It’s back,” he knew what she meant.

Before launch, a tumor in his mother’s lung had been successfully treated. Now, with her son in space, the cancer had returned. The prognosis was not good. Loved ones urged her to hold on long enough to see her son again.

“By the grace of God, she was in Flor-



Suzi Nelson/The Ashland Gazette

Ashland, Anderson’s hometown, held a parade for their native astronaut after he returned from his first mission to space. His journey began decades earlier, at age 6, along the same parade route, when his mother dressed him as an astronaut for a town celebration.

ida when I landed,” Anderson said. “We were together 30 minutes and she held my hand the whole time. That was the last time I saw her.”

DOWN TO EARTH

Shortly after returning to Ashland for his mother’s funeral, the community threw a parade for their hometown space hero. Four decades had passed since Anderson marched those same three city blocks wearing the astronaut suit his mother – the woman who provided the spark for becoming an astronaut – made for him. Anderson was given the key to the very community that helped him unlock his dreams.

He blasted off again in 2010, this time riding space shuttle Discovery to the space

station for a 15-day resupply mission. While there he spent more than 20 hours outside the station during three spacewalks. He couldn’t help but glance down at the big blue orb in the distance and think about how far the boy from Ashland had come.

Anderson retired in 2013 at 54, on top of the world, after a 30-year career with NASA. He was a crew member for two different space shuttles and lived in space for 167 days. Anderson has written four books about his journey and helps prepare future astronaut hopefuls through classes he teaches at Iowa State University.

He tells them, that with a little luck and a lot of hard work they can succeed, just like the little boy from Ashland who grew up with stars in his eyes. ▼

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