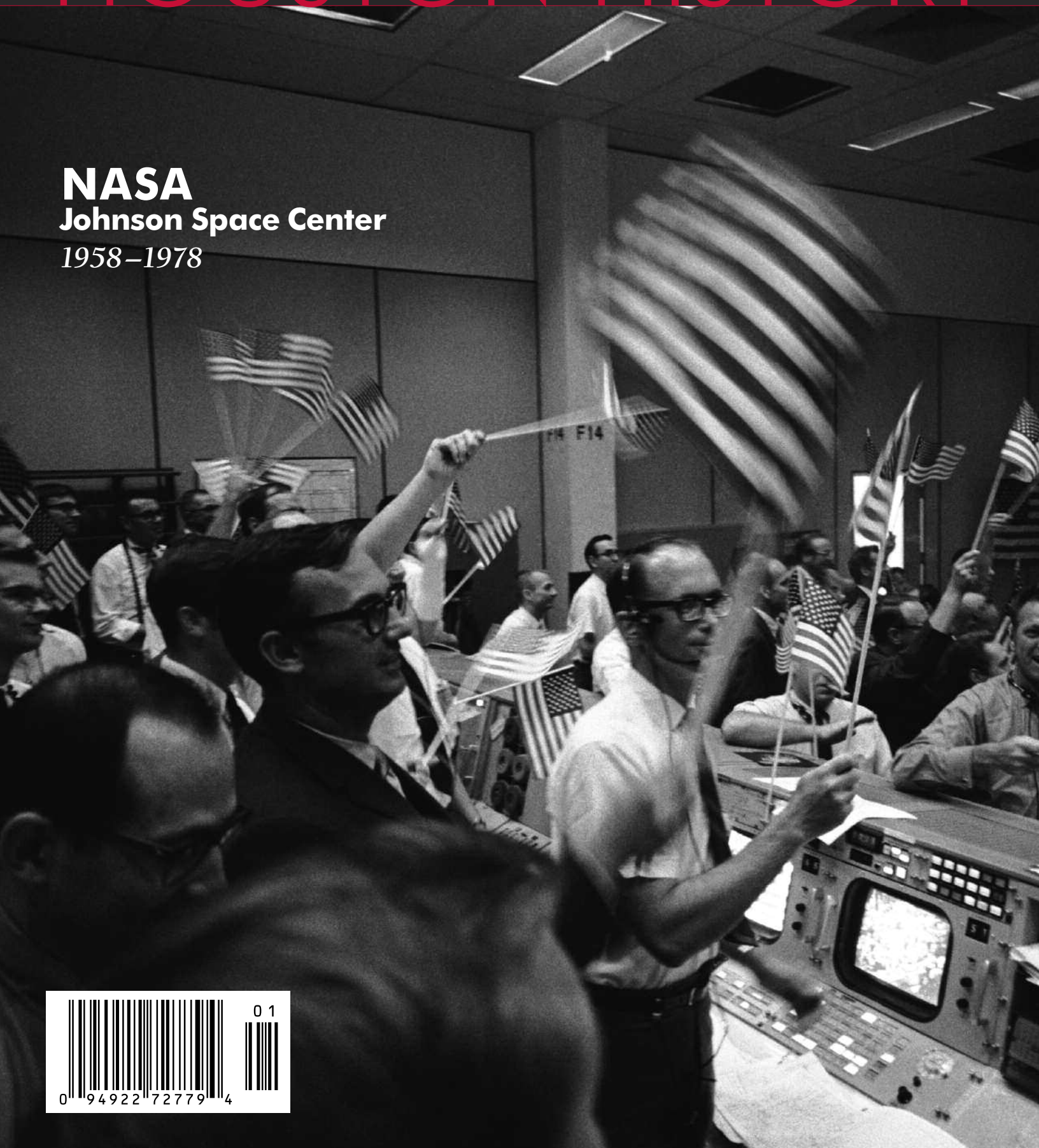


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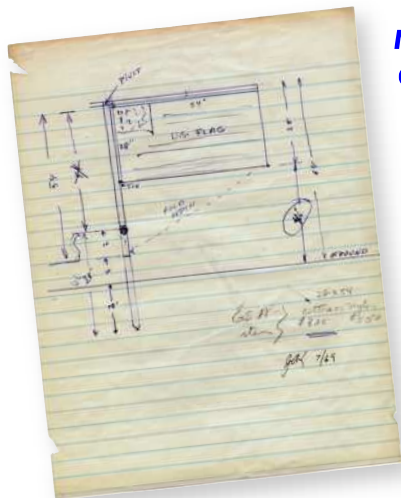


UNIVERSITY *of* HOUSTON • CENTER FOR PUBLIC HISTORY

RED, WHITE, & BLUE

U.S. FLAG AT HOME ON THE MOON

By Sandra L. Johnson



Manned Spacecraft Center (MSC) Director Robert R. Gilruth placed a call to Jack Kinzler

less than four months before the Apollo 11 launch. Gilruth needed him to attend a meeting with a high-level group of individuals from both MSC and NASA Headquarters to discuss ideas for celebrating the first lunar landing. Kinzler, in his capacity as the chief of the Technical

Services Division, arrived ready to present his concept for taking an American flag along with a commemorative plaque to the moon. However, this was not the first time Kinzler had received such a call from Gilruth asking him for his input.¹

Ten years earlier, Gilruth, then director of the Space Task Group at Langley Research Center in Hampton, Virginia, asked Kinzler to consider joining him in a new venture to put man in space. As Kinzler recalls, “I had been reading books about spaceflight and listened to some of the lectures that were available at the time, and I was primed, ready to jump onboard whenever he asked me.”²

Kinzler began his career at Langley in 1941 as an aircraft model maker. After completing an apprenticeship program,

he learned machining and eventually advanced to assistant supervisor of the machine shop. Kinzler also gained significant experience as “supervisor of the initial installation and shakedown phase of most of the major facilities at Langley.”³ By 1959, the space race was on and as Gilruth’s new technical services assistant, Kinzler bet that the race would be won by the home team.

After first traveling to Houston with the Space Task Group in 1961, Kinzler established the Technical Services Division, a group of approximately 180 highly skilled and experienced technicians specializing in machining and sheet metal work, welding, electronics, modeling, plastics, and electroplating, along with a field test branch. He quickly settled into a new life in the Clear Lake area and led his creative group in actively supporting the Mercury, Gemini, and first Apollo flights.⁴

So, when the call came from Gilruth to join the planning meeting for the first lunar landing, Kinzler went prepared with two ideas—a plaque and a flag. Both suggestions received approval and he was told to go forward with his plans. “So I got an action item out of the committee saying, ‘It’s up to you. You go do it.’ That was all I had, ‘Go do it.’”

Kinzler turned to his assistant chief, David McCraw, and together they came up with a prototype for a plaque to be installed on the Lunar Module (LM) descent stage ladder. The finalized stainless steel plaque contained the signatures of all three Apollo 11 astronauts, Neil A. Armstrong, Edwin E. Aldrin, Jr. and Michael Collins, along with the signature of

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Jack Kinzler, David McCraw, and the MSC Technical Services team, along with representatives from the Center’s Engineering Division and the Reliability and Quality Assurance Office, work together in Building 9 to pack the first American flag to be deployed on the moon by Neil Armstrong and Buzz Aldrin.

President Richard M. Nixon. The top of the plaque depicted the Eastern and Western Hemisphere and the inscription, "Here Men from the Planet Earth first set foot upon the moon. July 1969 AD. We came in peace for all mankind."⁵

Kinzler believed that the people of the United States would also want to see an American flag to commemorate the enormous achievement of landing a man on the surface of the moon. The original LM design had an American flag painted on the side of the descent stage, but he thought, "That's not a very effective way to celebrate with an American flag."⁶ Again with the help of McCraw, Kinzler sketched his idea of a freestanding full-size flag on a telescoping flagpole. The entire flag unit fit into a three-foot protective heat shroud attached to the LM ladder, making it accessible to the astronauts on the lunar surface, but not taking up any precious space inside the LM itself.⁷

They went to the warehouse and retrieved a standard-issue three-by-five-foot nylon flag. Kinzler proposed the idea of hemming the top of the flag and inserting a telescoping curtain rod so that once unfolded, the rod or crossbar, could be extended to allow the flag to appear to "fly." He credits this idea to his memory of watching his mother making curtains years before. A hinged latch connected the crossbar to the pole and allowed the crossbar to be held perpendicular to the pole once the latch was locked into position. A loop of material connected the bottom of the flag to the pole. The pole itself was gold anodized aluminum tubing about one inch in diameter and telescoped out to about six feet. The upper portion of the pole then fit into a base tube consisting of a hardened steel ring fitting and tip; this allowed the astronauts to use their geological hammers to drive the assembled pole into the lunar surface to a



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Jack Kinzler stands with the prototype of the full-size telescoping flagpole built from his sketch (shown on previous page).

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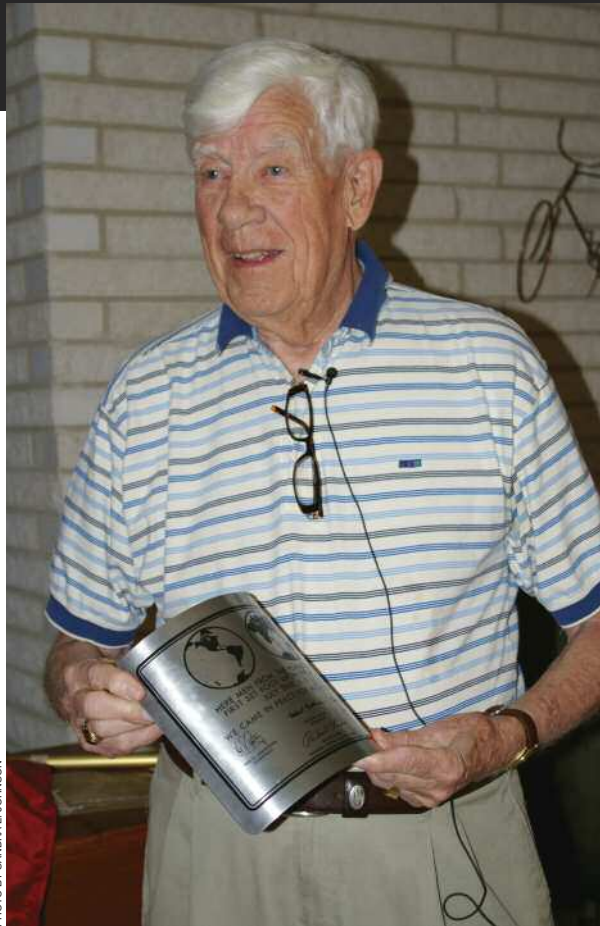


PHOTO BY SANDRA L. JOHNSON

Installed on the lunar module, the plaque includes words of peace for all mankind.

minimum depth of approximately ten inches. This depth had been marked on the pole with a red ring. A second red ring painted at about eighteen inches indicated the maximum depth to prevent the flag from being too low next to the astronauts. The flag assembly was a relatively low-cost endeavor—\$5.50 for the flag and about \$75 for the aluminum tubing.⁸

After the development of the protective heat shroud,

Kinzler created step-by-step procedures for packing the flag, installing it on the LM and deploying it on the moon. He then trained Armstrong and Aldrin on the deployment procedures and supervised the assembly and packing of the flag. With the Apollo 11 launch date fast approaching, a chartered Lear jet flew the plaque and flag, along with Kinzler; George Low, manager of the Apollo Program; and Low's secretary to Kennedy Space Center in Florida. Under Kinzler's supervision, the installation of the plaque and flag assembly took place just hours before launch as the LM sat on top of the Saturn V rocket.⁹

On July 20, 1969, as the world watched in awe, humans landed on another celestial body for the first time. They carried with them these two items for all future generations—a simple stainless steel plaque and an inexpensive American flag. Along with those items was a straightforward message—“We came in peace for all mankind.” But the design of those two items demonstrated something else—a can-do spirit and a willingness to create something out of nothing with little or no direction.

As Kinzler described the attitude at the time, “We, as a group of people, didn't worry about everything being just exactly according to Hoyle. Just *improvise* is the word we used many, many times.”¹⁰ And with that improvisational spirit, Kinzler and his Technical Services Division continued to support NASA's human spaceflight programs, culminating in his award of the highest achievement in NASA, the Distinguished Service Medal, for his role as the man who saved America's first space station, Skylab. But then, that's another story... ★

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On a mock-up of the Lunar Module, David McCraw demonstrates the deployment sequence of the flag, following step-by-step procedures created for the astronauts. The entire flag unit fit into a three-foot protective heat shroud, stored on the side of the descent stage ladder.



PHOTO BY SANDRA L. JOHNSON

A simple stainless steel plaque and inexpensive American flag, like the ones shown above, flew onboard with the Apollo 11 crew, leaving a message for future generations.

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Red, White, & Blue— U.S. Flag at Home on the Moon

by Sandra L. Johnson

¹ Jack Kinzler, interview by Paul Rollins, January 16, 1998, CD, transcript, JSC Oral History Project, JSC History Collection, University of Houston-Clear Lake, University Archives, Houston, TX.

² Jack Kinzler, interview by Roy Neal, April 27, 1999, CD, transcript, JSC Oral History Project, JSC History Collection, University of Houston-Clear Lake, University Archives, Houston, TX.

³ Jack Kinzler interview by Robert Merrifield, October 31, 1967, Oral History, CD, transcript, Merrifield MSC History Interviews, JSC History Collection, University of Houston-Clear Lake, University Archives, Houston, TX.

⁴ Jack Kinzler interview, January 16, 1998.

⁵ Ibid.

⁶ Jack Kinzler interview, April 27, 1999.

⁷ Anne M. Platoff, “Where No Flag Has Gone Before: Political and Technical Aspects of Placing a Flag on the Moon,” Johnson Space Center History Portal, NASA Johnson Space Center, <http://www.jsc.nasa.gov/history/flag/flag.htm>.

⁸ Jack Kinzler, interview by Rebecca Wright, March 26, 2008, WAV, JSC History Office, Houston, TX.

⁹ Ibid.

¹⁰ Jack Kinzler interview, April 27, 1999.