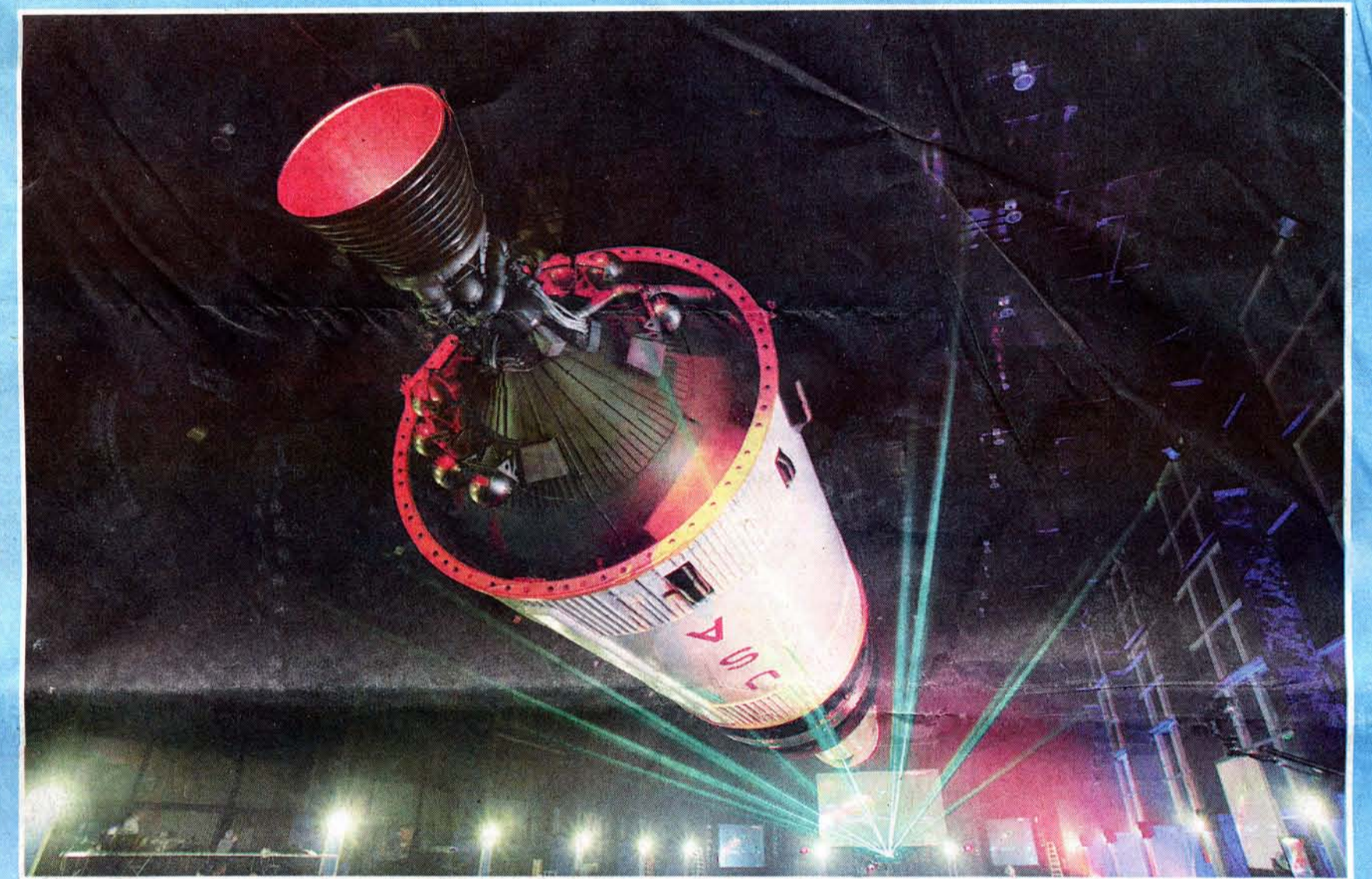




AMERICA IN SPACE

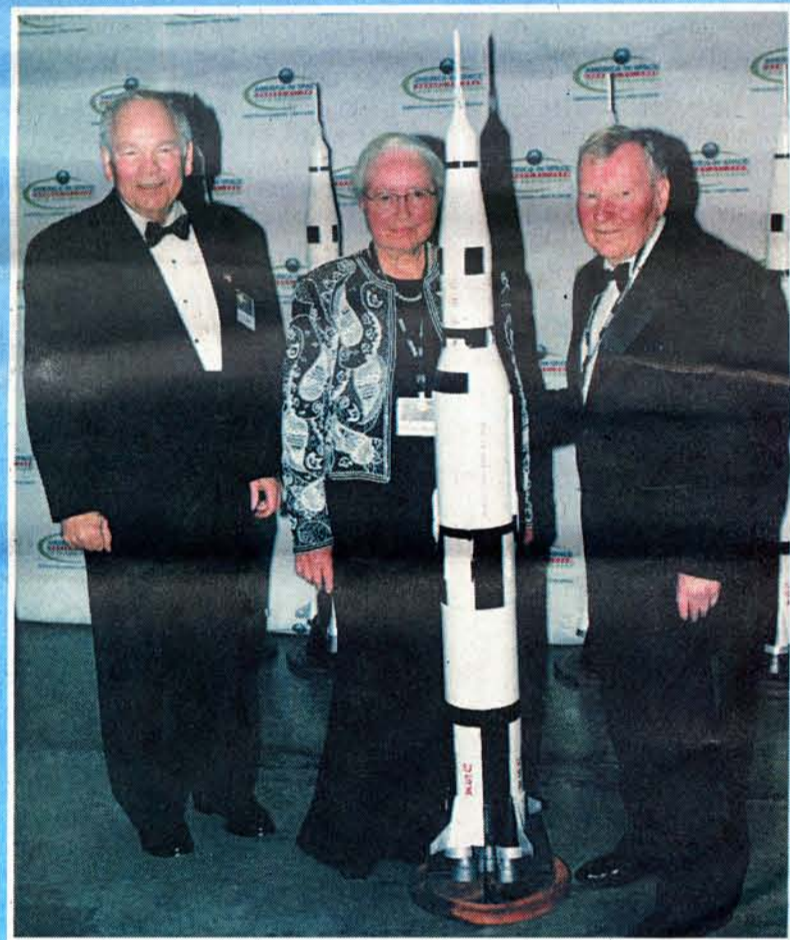
JANUARY 31, 2008

50TH ANNIVERSARY



"It's the ultimate of the space program."

Dr. Julian Davidson, explaining why he and his wife, Dorothy, made the leading donation to complete the \$22 million Saturn V display in the facility that now bears their name.



"This is a beginning in the long-range program to conquer outer space. ... We will move still onward to more challenging missions as fast as our resources permit."

Dr. Wernher von Braun, Jan. 31, 1958



THE 50TH ANNIVERSARY OF AMERICA IN SPACE

The past, the future

'Finest museum of its kind in the woorld'

On the cover

Backdrop: The Davidson Center for Space Exploration gleams at twilight. (Times photo by Michael Mercier)

Front center: Lasers and smoke highlight the display of the Saturn V rocket inside the Davidson Center. (Times photo by Michael Mercier)

Back top: Guests applaud as the first stage of the rocket is "lit." (Times photo by Michael Mercier)

Back bottom: Space & Rocket Center CEO Larry Capps honors Dr. Julian and Dorothy Davidson with a Saturn V replica. (Times photo by Michael Mercier)

Elsewhere in today's Times

Editorial: As the quest into space continues and new goals are achieved, at any moment the price of human progress can be exacted without warning. **Page B6**

Life: Meet a local preacher who helped evaluate the early astronauts. **Page E1**

Soul Food: Columnist Doug Mendenhall on what's really out there. **Page E2**

On the Net

Visit www.al.com for video and more photos.

I spent part of a teenage summer working at the U.S. Space & Rocket Center, or the Alabama Space & Rocket Center as it was known then. So did just about every other kid in town in the 1970s and 1980s, I think.

Remember Dr. Wernher von Braun's radio ads? "The finest museum of its kind in the woorld," he'd say in that great accent. Talk about your celebrity endorsements.



LEE ROOP

Columnist

Reporting to work at the closed and deserted Space Center was a

ton of fun. We knew every inch of it.

We'd check out the moon rock in the lobby and stop near the back stairs to visit Miss Baker, the monkeynaut then in residence.

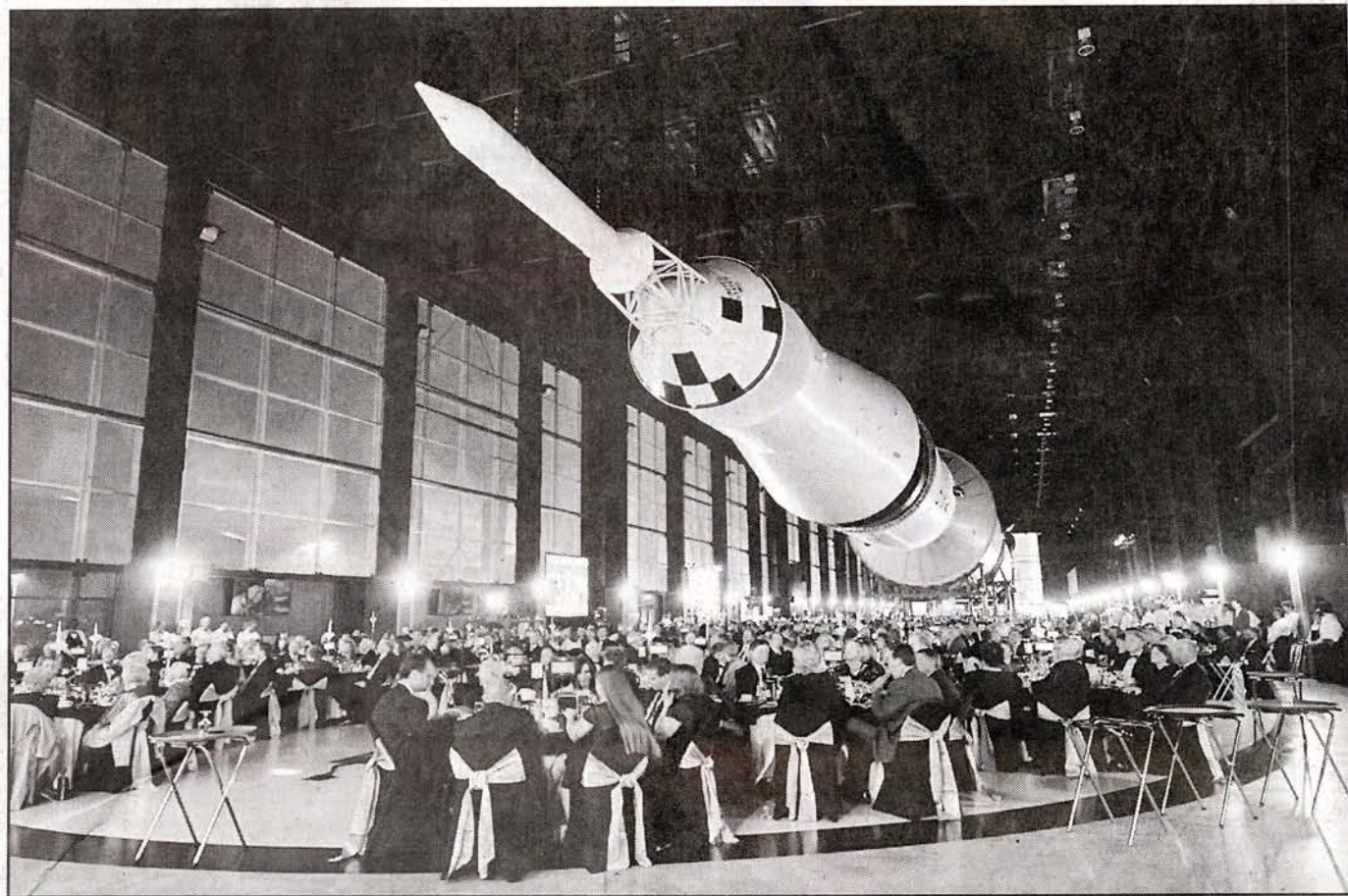
The usual question at her crib was, "Has there ever been a more foul-tempered primate in the history of the planet?"

As though she could read our lips, the not-so-divine Miss B would throw something nasty at us.

We'd wander through the rocket park, where military and civilian space rockets, many developed by our fathers, represented history.

The big star, then as now, was the Saturn V, which lay on its side at the back of the park. When no one was looking, we'd climb up into the huge engine nozzles and recline, talking about girls, cars and how long it would take our boss to find us.

I barely recognized the Sat-



Bob Gathary/Huntsville Times

Guests listen to the program under a restored Saturn V rocket inside the Davidson Center for Space Exploration.

urn V this week when I saw it ensconced in its fine new digs at the Davidson Center for Space Exploration. Now, that's movin' on up.

The Saturn V looks even bigger indoors. Last night, 1,400 party-goers made her look bigger still. It's something about a little human perspective, one of our editors commented, and he's right.

A gleaming new paint job helped, too, and so did the display method of resting sections of the rocket atop elevated stands so the body is at

least 10 feet off the ground.

Why'd they do that? I wondered as I strained to see the intricate engine wiring that now seems far above you. I got one possible answer right away.

"Boy, I'd sure like to write my name on that," some joker teased as we walked underneath.

He was kidding but, clearly, some people wouldn't be. The temptation to "tag" that gleaming new fuselage would be irresistible for some of the cretins who walk around

today.

It cost a small fortune — \$22 million — to create this new home for the Saturn V, and \$2 million of that came from Julian and Dorothy Davidson, for whom the center is named.

Money well spent when people are living under overpasses a few miles away? You can make a case it was.

In one magnificent stroke, the Davidsons helped provide "the finest museum of its kind in the woorld" with a new centerpiece, new life and a

new way to attract visitors for generations.

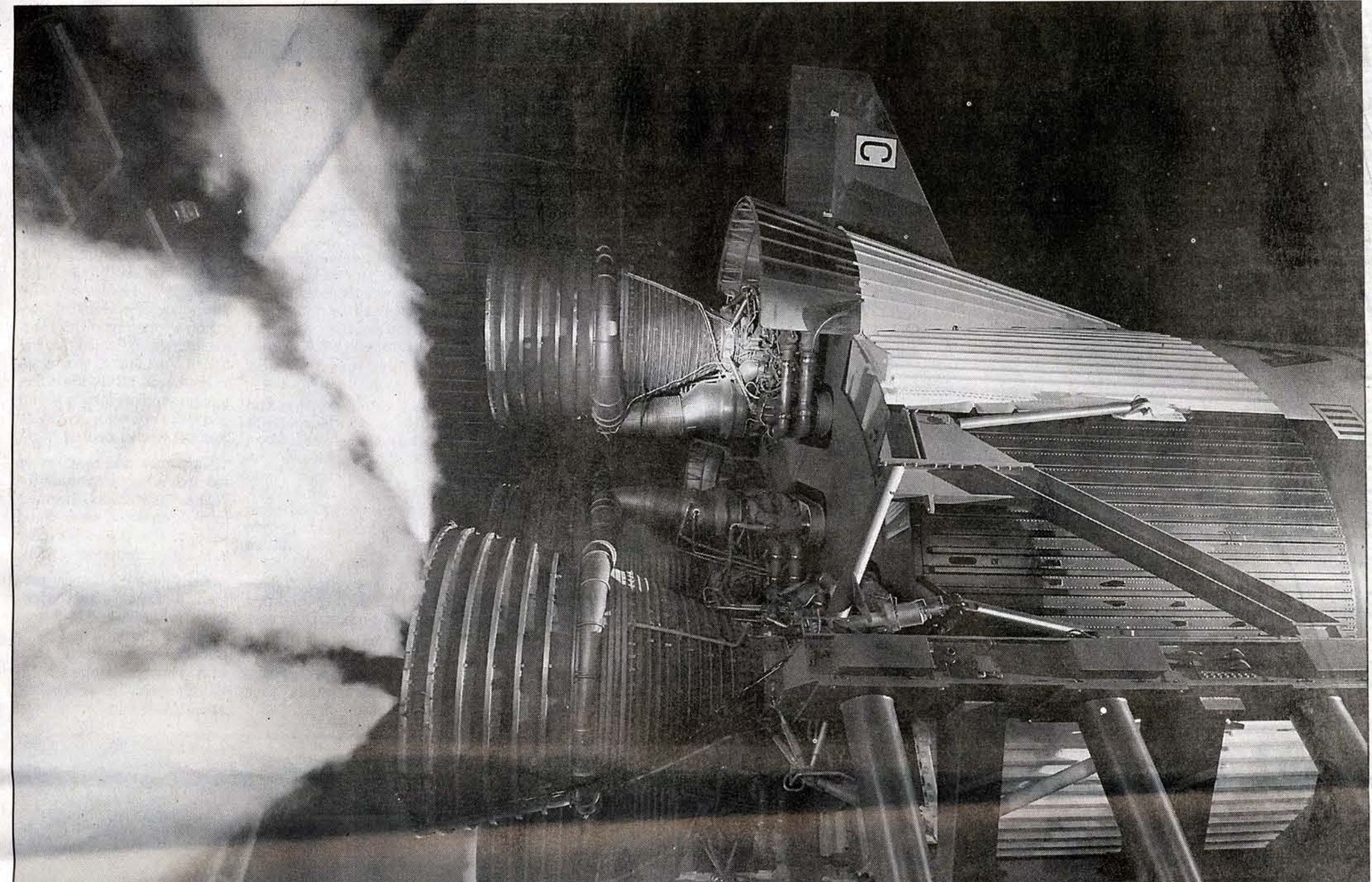
They also helped save from the elements a real piece of American history. If water towers and old mills are worth saving, so is an actual test version of the missile that carried humans to the moon.

There are literally only three of those left, and we have one now forever.

Reach Lee Roop at 532-4423, lee.roop@htimes.com or text at 509-9644. Visit Roop's room blog at al.com.

THE 50TH ANNIVERSARY OF AMERICA IN SPACE

The main event



Bob Gathany/Huntsville Times

Special effects depicting the launch of the Saturn V provide a finale for the 50th Anniversary of Space gala at the Davidson Center for Space Exploration.

'Great gathering of eagles' celebrates Saturn V

By SHELBY G. SPIRES
Times Aerospace Writer
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Civilizations rise and fall on ability, historians say. Thursday night, Huntsville and international VIPs celebrated America's technical ability to leap into the space race to land a man on the moon by marking the 50th anniversary of the Explorer I launch.

Retired astronauts Buzz Aldrin, Scott Carpenter, Charles Duke and Jim Lovell along with Redstone Arsenal dignitaries, including Army Space & Missile Defense Command head Army Lt. Gen. James Campbell and Arsenal commander U.S. Army Maj. Gen. Jim Myles, came to the black-tie gala affair to celebrate the anniversary of America's entry into space and rub shoulders with retired rocket team engineers who helped put America in space and later on the surface of the moon.

The event marks the unveiling of the \$22 million Davidson Center for Space Exploration, which now houses the Saturn V test article Marshall Space Flight Center engineers used to pave the way for Saturn flights to the moon.

U.S. Space & Rocket Center CEO Larry Capps said the gala event had been described in advance "as a great gathering of eagles, and I agree," he told a crowd of more than 1,400 people sitting at tables placed beneath the massive test rocket.

"Joining the space pioneering eagles are some of the more down-to-earth types who recognized the importance of saving the Saturn V 500 D/F - Alabama's moon rocket," Capps said. "These individuals rolled up their sleeves and, over a four-year period, raised more than \$9.5 million to save and house our rocket."

For years, the Saturn V was on its side, paint peeling and bristling with bird nests. In 2003, a restoration process began that refurbished damaged parts and added a new coat of paint to the rocket. Then it was moved in the summer of 2007 to what is now the Davidson Center.

Capps then presented commemorative Saturn V scale-model rockets to those who spearheaded the rocket restoration including Aldrin, Discovery Channel founder John Hendricks, SAIC Senior Vice President Bill Gurley and Dorothy

Walter Cronkite shows up in spirit, anyway

When Apollo 13 Commander Jim Lovell accepted the Lifetime Achievement Award for an ailing Walter Cronkite, he read a letter from the legendary CBS journalist.

"I am devastated that I cannot be with you," Cronkite wrote. "I am indeed with you in spirit tonight."

He closed by saying Huntsville is and "always will be, the Rocket City. And that's the way it is, Thursday, January 31, 2008. Fifty years to the hour" that America entered space.

"This is Walter Cronkite. Good night."

Ken Kesner

and Julian Davidson, who donated more than \$2 million to build the facility that houses the test rocket.

Gurley helped spearhead collection of corporate donations and planning for the restoration.

"We have come here tonight to celebrate our past accomplishments, recognize those who dedicated themselves to achieving lofty ambitions of mankind's earliest successes in space and to get a feeling for the magnitude of complexity of these undertakings and the excellence with which they were achieved at a time during the Cold War, when the price of failure would have been too grim to bear," Gurley told the crowd.

The Jan. 31, 1958, Explorer I launch paved the way for NASA to be not only created, but also for the space agency to place Neil Armstrong and Aldrin on the moon more than 11 years later, Gurley said, and "led ultimately to a \$46 billion investment in the space race to the moon that would involve over 400,000 employees of over 20,000 companies across the nation."

The stages of the mighty Saturn V rocket thundered once more with a special pyrotechnic show, with simulated smoke belching out of the five first-stage F-1 engines, five second-



Michael Mercier/Huntsville Times

About 500 VIPs attend a private party in the atrium of the museum.



Michael Mercier/Huntsville Times
"Rocket Boys" author Homer Hickam and his wife, Linda Hickam, sit at the Northrop Grumman table with Al Jones, right, whose wife works with Northrop Grumman.

stage J-2 engines and the J-2 engine that powered the third Saturn V stage - the one that put men on course for the moon.

For engineers like Al Reisz, who worked on rockets at the arsenal for the Army and NASA, the dedication of the test arti-

cle Saturn V means the work of thousands of space workers around the nation will be preserved for space enthusiasts young and old.

"This was what it was about. This was what got us to the moon in less than a decade,"

On the Net

www.jpl.nasa.gov/explorer/

Reisz said as he gazed up at the Saturn's five engines. "Us old-timers here were all young and had our hair when we built and

tested the Saturns. Von Braun had a saying, he told us to be smart in what we did but not to be afraid to fail in testing.

"You won't learn if you don't make mistakes. We were safe allways with the crews, but we learned from the testing."

The symposium

Astronauts recall Gemini glitch and Lunar Rover

By **SHELBY G. SPIRES**
Times Aerospace Writer
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The top of a 103-foot tall Titan II rocket is no place to have to eject from a space capsule, retired NASA astronaut Tom Stafford recalled Thursday.

Crammed inside a small Gemini spacecraft on Dec. 12, 1965, Stafford and NASA astronaut Wally Schirra were waiting for liftoff of a mission to fly-by, or rendezvous, with Gemini VII's two-man crew of Frank Borman and Jim Lovell.

Then something went wrong. "It was a unique experience. The Titan failed to launch and we were sitting there," Stafford said during "Conversations with the Real Space Cowboys" discussion Thursday in the Von Braun Center Concert Hall.

A fuel plug and computer glitch made the spacecraft computers "think" it was moving, when in reality the Titan was just sitting on the pad. Mission rules dictated if there was motion detected, the crew had to manually eject - and Gemini capsules used fighter aircraft-like ejection seats.

Astronauts were wary of ejection



Four former astronauts and Ed Buckbee, right, of NASA public affairs, talk about old times. From left, Jim Lovell of Apollo 13, Scott Carpenter of Mercury Aurora 7, Thomas Stafford of Gemini 6 and 9, Charlie Duke of Apollo 16.

because of the explosive force and parachuting involved. Previous Gemini ejection tests with dummies in place of astronauts showed that the doors sometimes did not blow off properly and the dummies heads ended up being crushed.

"Wally didn't want to eject - and we didn't," Stafford said. "He

just radioed back 'We're still sitting here breathing.' "I think I said something like 'Oh, shucks,' " Stafford told a laughing crowd of about 1,000 people. "You just don't want to eject."

Stafford was joined by Mercury astronaut Scott Carpenter and Apollo astronaut Charlie

Duke for the forum sponsored by the Omega SA watch company.

Duke, who worked closely with Dr. Wernher von Braun's Marshall Space Flight Center rocket team on the Saturn boosters, recalled fondly his and John Young's Apollo 16 trip to the moon in April 1972.

Apollo 16 was the second mission to use the Marshall-managed Lunar Rover "and that rover really extended our ability to explore the moon," Duke said.

Previous missions were constricted to jaunts about 200 yards from the lunar lander. "With the rover we could go more than four miles," Duke said. "You really could go farther than that, but if the thing broke down you were on your own and had to walk back.

"There aren't any tow trucks on the moon."

Young drove the rover and guarded that privilege with glee, Duke said. "He told me not to touch the rover. He was driving, and I was navigating and picture-taking," he said. "I didn't mind though. I had the best job because John looked straight ahead and I got to look at all that beautiful scenery."

But there was danger associated with driving the lunar rover on the moon, Duke said.

"If you were to roll it down into a crater, then you would've had it," Duke said. "There were no lifelines if you couldn't walk back up."

On the Net

See video from the event at <http://blog.al.com/breaking/video/>

Also in this section

For more stories on the NASA astronauts, see pages **A14, A15**

Mercury astronaut Carpenter was the second man, after John Glenn, to orbit the Earth in May 1962. He also holds the distinction of working and living on a submerged U.S. Navy habitat, which earned him the title of aquanaut as well as astronaut, said Ed Buckbee, former press officer for von Braun and former director of the U.S. Space & Rocket Center.

Carpenter said underwater research is very important for NASA astronauts because learning to live in an enclosed habitat under the sea is similar to living on the moon or Mars.

Early in the Mercury program "we made a number of visits to Huntsville and Redstone Arsenal," Carpenter said. "I came away from those visits with an immense respect for Dr. Wernher von Braun and the Army efforts here."

Next race: Making more engineers than China

By **KENNETH KESNER**
Times Staff Writer
kenneth.kesner@htimes.com

It's not certain that people will be able to apply for a mining job on the moon in the next 50 years, or that they will be able to buy a commercial ticket for a ride around another planet. But one thing is for sure about the future of space exploration:

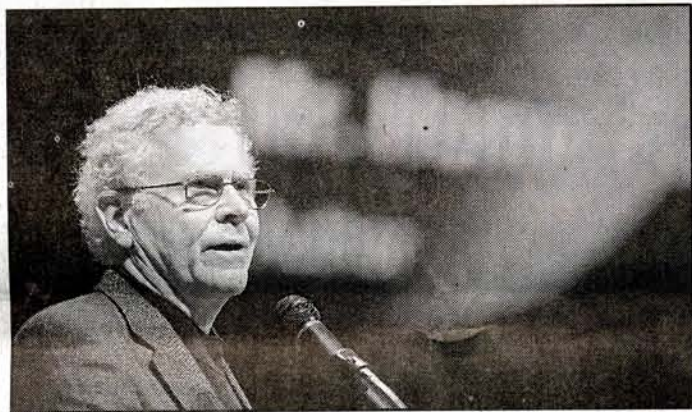
Mars needs engineers.

After more than a week of events celebrating our past, a panel Thursday afternoon at the Von Braun Center looked toward "The Next 50 Years in Space - Visions of the Future."

The four men had two things in common: They all loved and built rockets as kids, and they all challenged the many students in their audience to get excited about their future and become the next generation of engineers, scientists and visionaries to make it reality.

"This is a very special time in history," said Tim Pickens, founder and CEO of Madison-based Orion Propulsion. Not only because it's the 50th Anniversary of America in Space, he said, but because the country has embarked on a new mission of exploration and is building new launch vehicles - Ares I and V - to carry it out.

"We really need to support that if we're going to stay ahead in space," he said.



Huntsvillian Homer Hickam is the author of "Rocket Boys."

And that means we'll need a lot more engineers, Pickens said. The U.S. is graduating about 60,000 a year, far fewer than India or China.

That may be the heart of our next space race, said Leonard David, author and senior space writer for SPACE.com.

In the late 1980s, he was Director of Research for the National Commission on Space, which was to advise Congress and the White House on the next 50 to 100 years of space exploration.

The shuttle Challenger exploded before the panel's report was released, and that particular vision of the future died with those seven astronauts. He said it was a tragic reminder that any attempt to look at the future is shaped by present times and events.

He had a short list of what the next 50 years could hold, in addition to a possible new space race for resources and technology.

"We must take better care of our launch pad, planet Earth," David said, and should look at using space technologies to find solutions to environment issues such as global warming.

Also, there could be fights over space resources and how to defend our satellites, and we could confirm the existence of life on one of the many new planets being discovered. Instead of asking "Is anyone out there?" he said, the question may be "Just how crowded is it?"

And can I buy a ticket to visit them? The evolution of commercial space travel is another idea for the near future. Pickens worked with Burt Rutan on



Steven Cook is manager of the Ares Projects Office at NASA's Marshall Space Flight Center.

Space Ship One, the first private craft to be piloted into space, and said his own goals are to keep reducing the costs of space flight, to make it more accessible to everyone.

Orion Propulsion's projects include work with NASA on small rockets that could be used to steer or stabilize the Ares I launch vehicle, and the future will see many more government partnerships with private companies and other governments, said Steve Cook, manager of NASA's Ares Project Office at Marshall Space Flight Center.

Partnerships, and using the lessons learned from the earli-

er space programs to build the future, helps keep both risks and costs lower, he said, but regardless of cost we will continue moving out into space.

Exploration is in our genes, Cook said, adding that he thinks American genes got an extra dose. "It is something that great nations do," he said.

And, besides, it's all so much fun, said Homer Hickam, former Marshall Space Flight Center engineer and author of "Rocket Boys: A Memoir," about growing up in a coal town in Virginia. His latest novel is "Red Helmet," about modern coal miners and their families.



Tim Pickens, the CEO of Orion Propulsion, stands in front of a photo of him on a rocket bike.

"When I worked for NASA, I just had the best time of my life," he said. He helped train astronauts and counts Skylab, the Hubble Space Telescope and the International Space Station among his projects.

He said the space program can be an economic engine for the country and funding isn't really the issue holding things back, "it's the blame foolishness" about the cost.

"Our future is out there or we have no future at all," Hickam said. "Space is just awash with energy resources" that we need to tap. "This is not a pipe dream."

THE 50TH ANNIVERSARY OF AMERICA IN SPACE

The symposium

'It's a good feeling' to reminisce about Explorer I

By MIKE MARSHALL

Times Staff Writer
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Before the black-and-white newsreels were shown, before the re-enactment of perhaps the most famous photograph from the night Explorer I was launched, two retired engineers settled into their seats at the Von Braun Center Concert hall.

They were here to hear a scientist, an author, a historian and a Smithsonian curator, among others, participate in a symposium known as "Remembering Explorer I."

It was the first of three symposiums Thursday, and the kickoff of the city's 50th anniversary of America in Space celebration.

Some spectators brought cameras and videocameras. Another man sitting near the stage took notes on a legal pad.

"Are you doing a lot of reminiscing?" a retired engineer asked a friend.

"I really am," said the man sitting next to him.

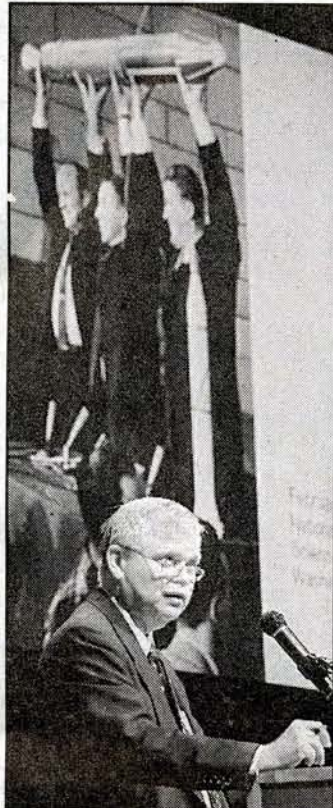
"It's a good feeling, isn't it?"

They were in the right place. Buzz Aldrin, the second man to walk on the moon, was sitting in the third row.

Konrad Dannenberg, believed to be the eldest of the surviving members of the von Braun rocket team at 95, was among the panelists.

When the symposium started, the heavy-duty reminiscing began. The narrator of "The Big Picture," a black-and-white newsreel from the '50s, spoke of a "dramatic and suspenseful story that stirred the hearts and emotions" of scientists.

There was von Braun sitting at a desk, cigarette smoke streaming from his ashtray, talking about the struggle to win



Dave Dieter/Huntsville Times

Steven Dick, chief historian for NASA, talks about the iconic photo behind him that shows William Pickering, James van Allen and Wernher von Braun hoisting an Explorer I model in the early hours of Feb. 1, 1958.

the race to space.

No time to waste, von Braun said in the newsreel.

There was also a clip of Ernst Stuhlinger, an original member of the von Braun team and one of von Braun's chief aides, recalling the reaction to Sputnik, the first satellite in space.

"It was like a bombshell exploding," Stuhlinger said.

When the news arrived on Oct. 4, 1957, von Braun had been in a meeting with Neil McElroy, the secretary of defense designate. Gordon Harris,



Dave Dieter/Huntsville Times

Reenacting the 1958 photo are Frederick I. Ordway III, Konrad Dannenberg and George T. Whitesides. At left are Ralph Petroff and Natalia Koroleva, the daughter of Sergei P. Korolev, who invented Sputnik – a model of which rests on the table.

later NASA's director of public affairs, interrupted the meeting to deliver the news that the Russian had been first to enter space.

Von Braun's reaction, as Stuhlinger recalled: "He said, 'Mr. Secretary, if I had been given the word, we could have done it a year ago.'"

Instead, the Navy had been allowed to develop the first satellite. But when Sputnik was launched, the von Braun team in Huntsville was given control. In less than 90 days, Explorer

I, America's first satellite, entered space.

"I personally am of the opinion that if the Russians hadn't launched Sputnik first, we wouldn't have had the chance to continue with the Redstone vehicle," Dannenberg said. "President Eisenhower would not have established NASA. In hindsight, (Sputnik) is an important day of the von Braun team."

The symposium ended with a speech from Natalia Koroleva, the daughter of Sergei Ko-

rolev, the Sputnik designer and considered the Russian version of von Braun.

Then Dannenberg and two other panelists lifted a model of Explorer I – a re-enactment of a famous photograph from the early morning hours of Feb. 1, 1958, when von Braun and two other scientists, James Van Allen and William Pickering, raised a similar model at the National Academy of Science in Washington, D.C.

Dannenberg was the only original member of the von

Braun team at the symposium. Stuhlinger had also been scheduled to attend, but he had been forced to cancel because of a recent illness.

On Wednesday, Koroleva met Stuhlinger in his room at the Huntsville Hospital Rehabilitation Center. There, he gave her a gift and some instructions.

Said Jesco von Puttkamer, a NASA official who attended the meeting: "He told her when she goes back to Russia to use the money to put flowers on her father's grave on Red Square."

THE 50TH ANNIVERSARY OF AMERICA IN SPACE

The people

Glimpses from inside the 50th anniversary gala

Big bucks for astronauts

Astronaut Charlie Duke cleared up the rumor that astronauts get paid the big bucks, while sitting on the Real Space Cowboys panel Thursday.

Astronauts were paid according to their military rank, Duke said.

After the government took money out for the "free food and travel" he received, Duke got a paycheck of \$13.75 for his mission to the moon in 1972.

Stellar menu at gala

If gala guests at the Davidson Center for Space Exploration took their eyes off the restored Saturn V rocket suspended in the space above them long enough to look at their plate, they saw a stellar menu.

Each of the 1,400 or so diners enjoyed a petite filet of beef tenderloin with Madeira sauce, sea bass with chili lime sauce, organic baby baked potatoes, and could select from a variety of wines and artisanal breads, according to Claudia Jones, director of food and beverage for the U.S. Space & Rocket Center.

She said Ellen's Creative Cakes presented a selection of "homemade" desserts.

The centerpiece of each table featured a model Saturn V atop an acrylic shaft, with blinking colored lights beneath cotton billows of launch smoke.



From left, Maj. Gen. James Myles, commander of the U.S. Army Aviation and Missile Life Cycle Management Command, with astronauts Richard Gordon, Tom Stafford, James Lovell, Buzz Aldrin, Scott Carpenter, Russell Schweickart, Charlie Duke and Walter Cunningham.

Dannenberg honored

Among the highlights of the evening was the presentation of a plaque from Maj. Gen. Jim Myles to Konrad Dannenberg, one of the last surviving members of the von Braun rocket team.

The plaque expressed the Army's appreciation of the German team.

Said Dannenberg: "I accept this on behalf of the entire team. Most of us are referred to as scientists. But we are workers. We are specialists. We all fulfilled our work and our obligations, and we did that to the utmost. The answer to the question of how things worked so well was that we did our best in all these things."



Bob Gathary/Huntsville Times

Original rocket team member Konrad Dannenberg at Wednesday's reception at the Huntsville Museum of Art.

Carpenter gives advice ...

Astronaut Scott Carpenter, who was a part of Thursday's symposium festivities, offered advice for today's youth.

"If you think you can't do something, you're right. If you think you can do something, you're right," Carpenter said. "Persevere, because you can do anything you can imagine."

Carpenter added that if people hadn't imagined "the impossible," humans would not have entered space.

... and thanks

One of only two surviving members of the original Mercury 7 astronaut corps, Carpenter was very popular at the gala. He graciously signed whatever was put in front of him.

"Sir, thank you for your service to our country," one star-struck fan said to Carpenter.

"Thank you for paying for it," Carpenter fired back with a wide grin.

Peenemünde mayor

The new mayor of Peenemünde, Germany, where Dr. Wernher von Braun worked with many of the engineers who would join him in Huntsville after World War II, said he has been struck by the friendliness of the people he has met in the Rocket City.

"At first, just by the people who invited us," said Rainer Barthelmes, with a small assist from an interpreter. Those people included Huntsville Mayor Loretta Spencer, Madison County Commission Chairman Mike Gillespie, Space Center CEO Larry Capps, Judy Ryals of the Convention and Visitors Bureau and more.

But then he became impressed by all the people he met as he toured the city and the Space Center on his mission to strengthen ties between the historic cities.

TV producer amazed

"This is amazing," said Duncan Copp, looking around the Davidson Center for Space Exploration and at the giant Saturn V rocket suspended inside.

Copp is producer of the documentary "In the Shadow of the Moon," which features interviews with the Apollo astronauts who made lunar journeys. He last saw the Davidson Center in November when he was taping a new documentary.

"I just think it's fantastic that people are taking the trouble to preserve the most epic piece of hardware in history," he said, referring to the restored Saturn V. He's working on a movie for Discovery Science focusing on the engineers behind the Apollo missions to the moon. It is called "Moon Machines" and should be televised in June.

It's not over yet

If you want more space activities, don't forget the America in Space Technical Symposium today and Saturday at the Space & Rocket Center.



Dave Dieter/Huntsville Times

Scott Carpenter of Mercury Aurora 7 signs an autograph.

Members of Wernher von Braun's original rocket team, Russian engineers who developed Sputnik and American engineers from the Jupiter, Redstone, Apollo, space shuttle and Ares 1 programs will share experiences and insights.

Sessions each day are from 9 a.m. to 5 p.m. Admission is \$75 for one day and \$100 for both days. There are additional charges for lunch (\$20) and dinner (\$50) each day. Today's dinner program is a presentation of "Oral Histories of U.S. Rocketry," and Saturday's program is "Peenemünde Old Timers - Early German Rocket Development" with original German rocket team engineers. Dinners begin at 6:30 p.m.

For more details, visit www.uspace50.com or call 256-544-8523

Germans subject of study

Among the visitors for this week's America in Space celebration was Monique Laney, a Ph.D. candidate at the University of Kansas.

"I'm here as a researcher for the celebration," she said. "I'm researching the integration of the Germans into the local community."

Here's what she has discovered.

"The impression I've gotten is that the Germans blended in very quickly, at least in the white community," she said. "They were super-appreciated, and that's been evident this week."

Starry-eyed Butler alum

He's a certified media mogul now, but Buzz Aldrin Communications founder and chief ex-

ecutive John Hendricks is also a member of the Butler High School Class of 1970.

Hendricks, flashing the wide grin his old friends remember, embraced classmates and shared stories with obvious delight. Chatting with one friend, Hendricks marveled at what was accomplished here while the two were busy growing up.

"I told my kids today when

they saw this," he said, gesturing at the Saturn V model overhead, "that it's just amazing."

After accepting an invitation to Thursday night's ceremony, he asked some of his old friends from his childhood in the Terry Heights neighborhood in northwest Huntsville to sit at his table.

Among those at his table Thursday night was Paul Parvin, principal of Lee High School.



Dave Dieter/Huntsville Times

Buzz Aldrin, the second man to walk on the moon, talks with symposium attendees Thursday afternoon.

Gala to be 'On Demand'

Comcast cable officials said the program at the Davidson Center for Space Exploration should be available "On Demand" in a couple of days for subscribers with that service. Go to Channel 1 and click "Get Local" on the menu.

From staff reports

"The Church Organized and Built by the Rocket Scientists"

St. Mark's
EVANGELICAL LUTHERAN CHURCH
200 Longwood Drive SE., Huntsville, AL 35801
539-4361 • www.St.MarksHSV.org

THE 50TH ANNIVERSARY OF AMERICA IN SPACE

THE 50TH ANNIVERSARY OF AMERICA IN SPACE

The grand launch of the Davidson Center



Robin Conry/Huntsville Times
A boot print of astronaut Scott Carpenter, which was cast for NASA's "Footprints to the Future."



Bob Gathary/Huntsville Times
Dr. Julian Davidson receives a Space & Missile Defense Award from Lt. Gen. Kevin Campbell.

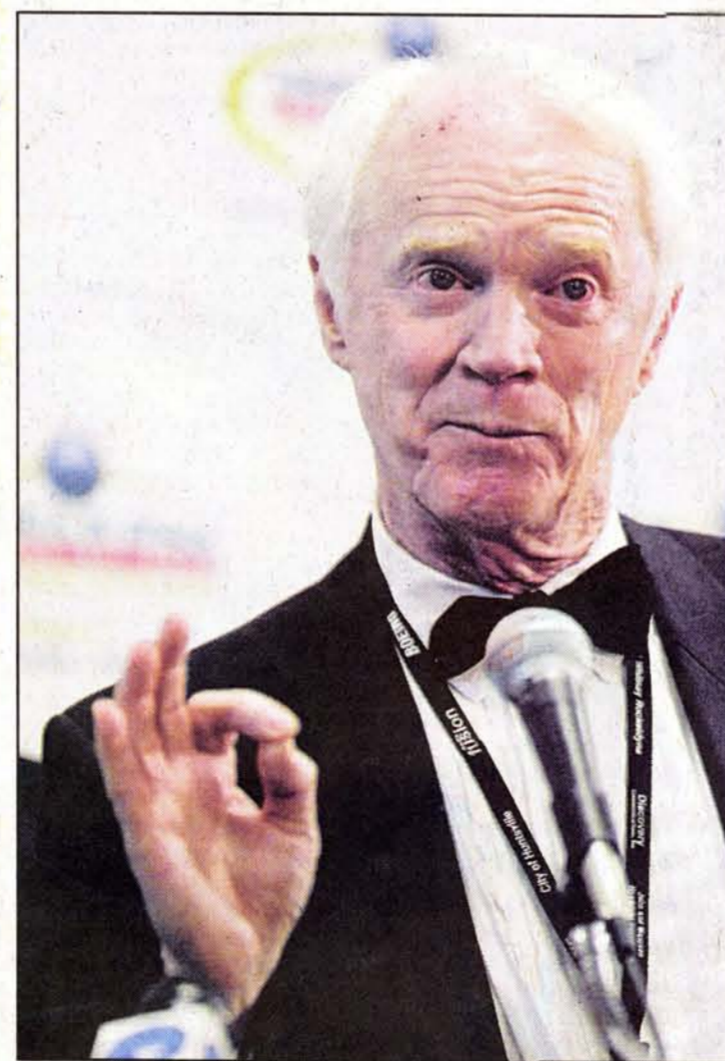


Bob Gathary/Huntsville Times
A laser show and other special effects end the program Thursday night at the U.S. Space & Rocket Center's Davidson Center for Space Exploration.



Bob Gathary/Huntsville Times
The theme for the evening's ceremonies in the Davidson Center was "They Opened the Gates of Heaven." Guests dined on beef tenderloin and sea bass.

Eric Schultz/Huntsville Times
Konrad Dannenberg holds up a model of Explorer 1 during Thursday's symposium, helping recreate a famous news photo from 1958 that featured Dr. Werner von Braun.



Bob Gathary/Huntsville Times
Astronaut Russell Schweickart gives an OK sign at the 50th Anniversary of Space gala Thursday.



Bob Gathary/Huntsville Times
Larry Capps, CEO of the U.S. Space & Rocket Center, reads a proclamation from Gov. Bob Riley on Thursday night.



Michael Mercier/Huntsville Times
German Rocket team member Konrad Dannenberg accepts the Chief of the Staff of the Army's Award on behalf of the whole rocket team from Maj. Gen. James Myles.



Michael Mercier/Huntsville Times
Video screens placed around the Davidson Center show the head table, placed beneath the Saturn V rocket.



Michael Mercier/Huntsville Times
Apollo 13 Commander Jim Lovell accepts the lifetime achievement award on behalf of Walter Cronkite from John Hendricks, CEO of the Discovery Channel.

THE 50TH ANNIVERSARY OF AMERICA IN SPACE

The agony

'Day of Remembrance' recalls safety, sacrifice

Apollo 1 capsule

Date: Jan. 27, 1967

Accident: A fire caused by frayed wires in the Apollo spacecraft during a crew test atop a Saturn IB rocket at Kennedy Space Center Launch Pad 34-A claimed the lives of three astronauts. A NASA investigation determined a fault in the wiring of the capsule caused a spark that started a fire in the capsule's oxygen-rich atmosphere.

Crew: Virgil "Gus" Ivan Grissom, Edward Higgins White II and Roger Bruce Chaffee.

On the Net: www.hq.nasa.gov/office/pao/History/Apollo204

Challenger space shuttle

Date: Jan. 28, 1986

Accident: A failed seal in the right solid rocket booster joint caused hot gases and flame to start a chain reaction that within seconds punctured the external fuel tank. The resulting explosion 73 seconds after launch from Kennedy Space Center Launch Pad 39-B killed Challenger's seven-member crew. An independent investigation laid blame on launching in freezing temperatures that caused the O-ring seal in the solid rocket booster to contract and fail.

Crew: Commander Francis R. Scobee, Pilot Michael J. Smith, Mission Specialists Sharon Christa McAuliffe, Ronald E. McNair, Gregory B. Jarvis, Ellison S. Onizuka and Judith A. Resnik.

On the Net: www.pao.ksc.nasa.gov/kscpao/chron/sts51-l.htm

Columbia space shuttle

Date: Feb. 1, 2003

Accident: A piece of ice-encrusted foam fell away from the external fuel tank and struck the Columbia orbiter about 82 seconds after its Jan. 16, 2003, launch, piercing Columbia's left wing. When the shuttle orbiter re-entered the Earth's atmosphere, hot gases flooded through the damaged wing and caused the orbiter to burn up, killing the seven-member crew.

Crew: Commander Rick Husband, Pilot Willie McCool, Mission Specialists Michael Anderson, Dave Brown, Laurel Clark and Kalpana Chawla, and Payload Specialist Ilan Ramon of Israel.

On the Net: www.spaceflight.nasa.gov/shuttle/archives/sts-107/index.html

Source: NASA

By **SHELBY G. SPIRES**

*Times Aerospace Writer
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Every year, NASA's John Chapman makes a trip to view the remains of Launch Complex 34 and reflect about the hazards of spaceflight.

Today, the Apollo-era launch pad is nothing more than a few bleak, gray concrete columns on Cape Canaveral Air Station near the Kennedy Space Center in Florida.

The massive, fire engine red launch tower is long gone, but a brass plaque marks the sacrifices made by Apollo 1 astronauts Gus Grissom, Ed White and Roger Chaffee, who were killed Jan. 27, 1967, when fire broke out during a spacecraft ground test.

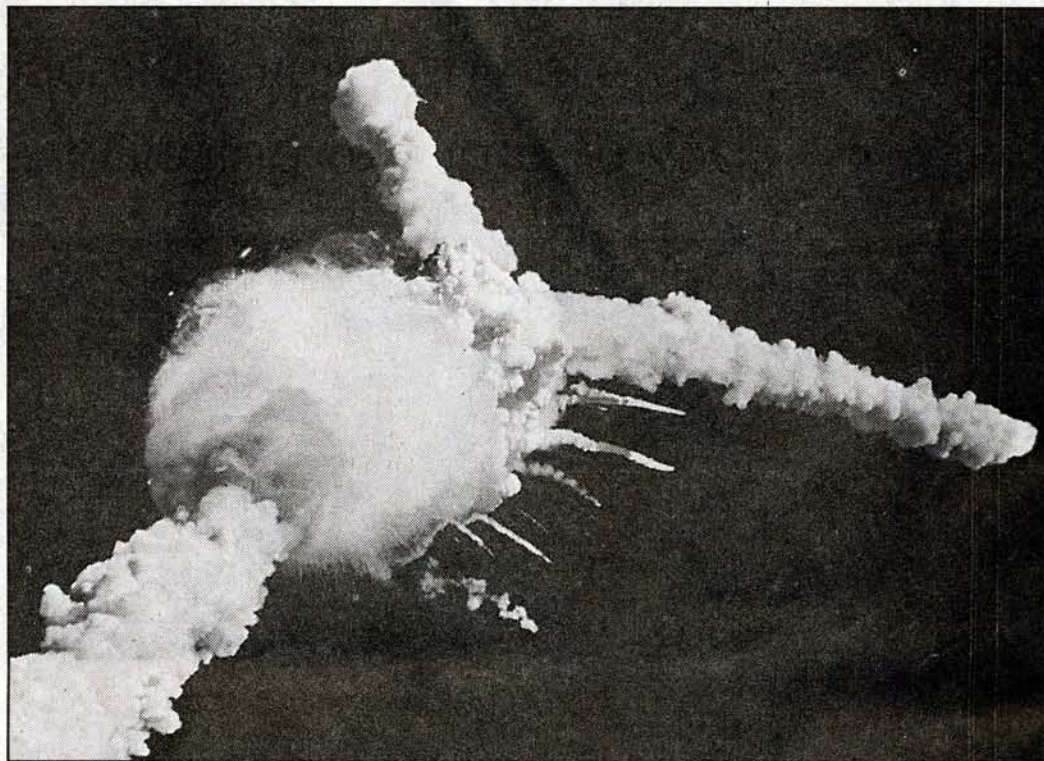
As head of Marshall Space Flight Center's External Tank Project Office, Chapman views a trip to the dismantled launch complex as a pilgrimage to remind him about safety.

"It's important enough to me to go there several times a year when I am at the cape for a launch and see the stark reminder of the dangers our people face," Chapman said. "I'm not the only one. Many of us at NASA go out to the pad and see it as a reminder of what happened not only to Apollo I but also to the Challenger and Columbia crews."

Today is the fifth anniversary of the Columbia tragedy that claimed the lives of seven space shuttle astronauts when it broke up on re-entry over Texas and Louisiana.

Monday marked 22 years since the space shuttle Challenger exploded some 73 seconds after liftoff from Kennedy Space Center.

NASA employees pay tribute



The Associated Press

The space shuttle Challenger explodes shortly after lifting off from Kennedy Space Center on Jan. 28, 1986. All seven crew members died in the explosion.

every Jan. 31 to the memory of the 17 astronauts claimed by the trio of disasters. The day is known to the space agency as the "Day of Remembrance."

"We went through Challenger. We learned what was wrong and we fixed that problem," said Steve Cash, head of Marshall's shuttle office. "Then we went through Columbia, and we learned from that and are still learning."

"The fact is that we learn from every shuttle launch. Every time we launch we make the vehicle safer."

A failure in a rubber O-ring on a solid rocket booster caused hot gas and fire to puncture Challenger's 15-story external fuel tank causing the destruction of the shuttle and killing its

seven-member crew. NASA and Marshall engineers spent almost three years changing the booster design and improving the shuttle's safety.

A piece of ice-encrusted foam struck Columbia's left wing during its Jan. 16, 2003, launch.

After two weeks in space, Columbia's crew began its fiery re-entry from space, but the heat tore away the a damaged wing and the vehicle broke up, killing its crew.

"Before Columbia, we didn't know enough about the foam, but today we do," Cash said. "Our understanding has greatly improved, and we've taken steps to eliminate foam from areas on the external tank."

After more than two years, NASA returned the shuttle to

flight in July 2005, and Marshall engineers continue to improve the external tank's insulating foam, which is needed to keep super cold rocket fuel from evaporating on the launch pad and to protect the fuel tank from the heat of launch.

Years pass, rockets are launched and NASA programs come and go, but to many like Cash and Chapman the remembrance of fallen astronauts is as important as honoring deceased family members.

"There's a fact that people may not realize, and that is those were our friends on Challenger and Columbia. We worked with them, and we knew them. We know their families, and they are part of our family," Cash said. "I think about that every day."

The allure

Moonwatchers looked to the skies for satellite

By **MIKE MARSHALL**
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Fifty years ago last night, some college kids from Mississippi climbed onto the roof of the Mississippi College gym and looked through their telescopes.

One of these kids was George Pollock, then a 20-year-old from Jackson majoring in physics. Like the other kids on the roof, he was hoping to see Explorer I, America's first satellite.

He saw nothing. Explorer I was too small and too high, about 800 miles into space.

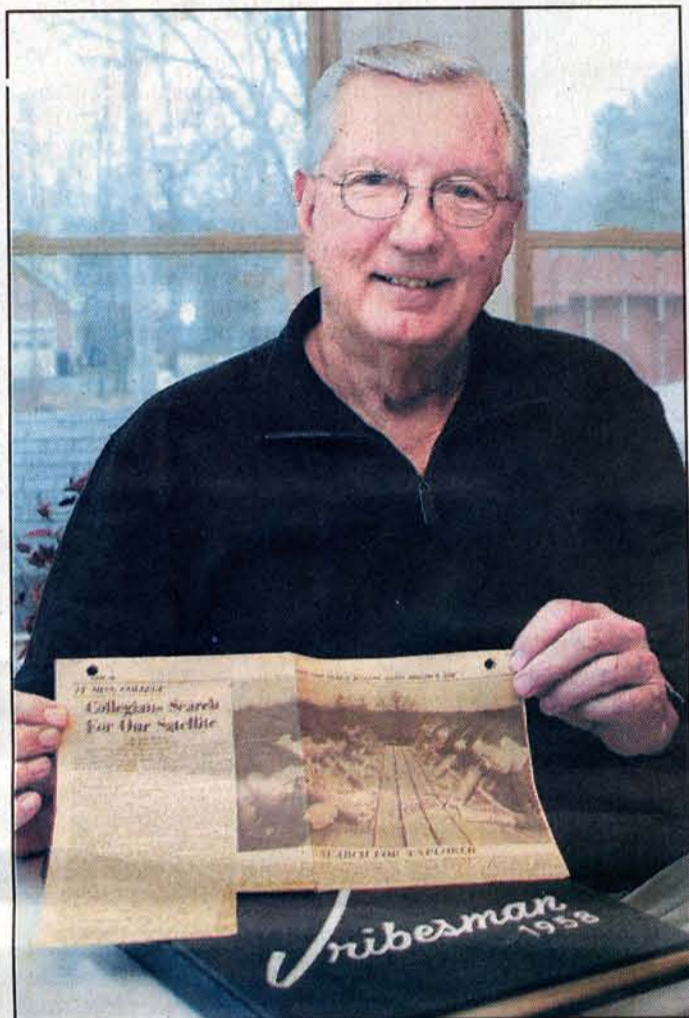
For Pollock and the others on the roof, collectively known as a Moonwatch team, there was disappointment.

But there was also excitement knowing they were one of two such teams in Mississippi and one of 114 in the nation.

"The problem they had in 1958 was that they had no tracking system to track the satellites," Pollock said. "When they got ready to put up Explorer I, they only had one large tracking antenna, and it was in California."

Pollock, Mississippi College Class of 1960, now lives in Arab. He retired in 1996 after 35 years in the space and missile programs.

Among his foremost achievements is working for Boeing on the Saturn V. After that, he worked for the U.S. Army on the Hawk, Stinger and Chaparral missile systems. Before his re-



Dave Dieeter/Huntsville Times

George Pollock of Arab shows a newspaper clipping from State Times of Jackson, Miss., in 1958. It shows him and others using telescopes to scan a section of sky for the Explorer I satellite.

irement, he was a program manager for the Army's Space and Missile Defense Command.

Fifty years ago last night, he got his introduction to space. Immediately, he and the other members of the Moonwatch team were hooked.

"All of us found our way into the space program in some way, form or fashion," he said. "We all thought it was possible to make it to the moon. All of us had read what von Braun had said. I don't think any of us thought it wasn't possible."

On the night Explorer I went into space, Pollock and the others went onto the roof around 9 p.m. Pollock remembers the anticipation of seeing the satellite.

But Henry Carlock, the Mississippi College physics professor who'd been responsible for organizing the Moonwatch team, knew it was unlikely.

"I knew we wouldn't be able to see it from here for quite a while, so I didn't bother to look for it immediately," he told the *Jackson State-Times* more than a week after Explorer I went into space.

The satellite weighed 32 pounds, and it was 800 miles into orbit. Carlock figured the satellite needed to be 200-300 miles high before any of his students were capable of seeing it.

"I saw the two Sputniks," Pollock said. "But I didn't see Explorer I."

The most excitement that night was provided by one of the student's short-wave radios.

"We were listening to a Navy broadcast from a Naval station out of Washington," Pollock said. "For a while, they were afraid it had crashed into the Indian Ocean. We had to wait quite a while before we found out it had been successful."

Around midnight, the students received word that the tracking station in California had received Explorer I's signal.

"That got us excited," Pollock said. "We tried to pick it up on our telescopes, but we were unable to do it."



NASA photo

A Redstone missile (No. 1002) like the one that carried Explorer I earlier in the year sits on the launch pad at Cape Canaveral, Fla., in May 1958.

The von Braun days

Rocket display was example of master at work

By SHELBY G. SPIRES
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German rocket team leader Dr. Wernher von Braun didn't ask for permission to move parts of the giant Saturn V rocket now on display inside the Davidson Center for Space Exploration, and he never needed forgiveness for the act, NASA and Army rocket team associates recalled.

He simply made it happen, said Ed Buckbee, former head of the U.S. Space & Rocket Center who worked as a public affairs officer for von Braun.

Since Huntsville was known around the world as "The Rocket City," its leaders wanted to build a rocket exhibit so tourists could see what the business of Huntsville actually was about.

There was talk of locating it at the corner of Airport Road and Memorial Parkway - where the Hermes rocket now stands - and pairing it up with an Army exhibit there, Buckbee said.

Finally, the current U.S. Space & Rocket Center location was decided over to the state of Alabama by the Army and an act of Congress with the stipulation

it be used to showcase Army and NASA rockets and be used for recreation and tourism, Buckbee said.

Then the race was on to get the exhibits, even while America was working at full throttle to beat the Soviet Union to the moon. "I was in the meeting where they were talking about getting a Saturn V on display in Huntsville," Buckbee said. "This was 1965 or so - years before we landed on the moon or even tested a full Saturn V - and von Braun stood up and said 'We will have a Saturn V at this exhibit.'"

NASA managers started to ponder von Braun's directive, Buckbee said. "They were wondering how this was going to be done. This rocket was a test vehicle. It was scattered all over the nation being tested out various facilities from California to Mississippi to Marshall Space Flight Center," he said.

"Everybody wanted to know how this is going to be done."

There was talk of official memos and requests to NASA headquarters for the hardware, Buckbee said. "Finally von Braun just smiled and said 'Sometimes it is better to ask forgiveness than ask for permission,'" he said.

It was a little more complicated than just hijacking rocket stages though. Von Braun and his Marshall managers developed a plan that would move the massive rocket stages from across America by calling it a "training exercise."

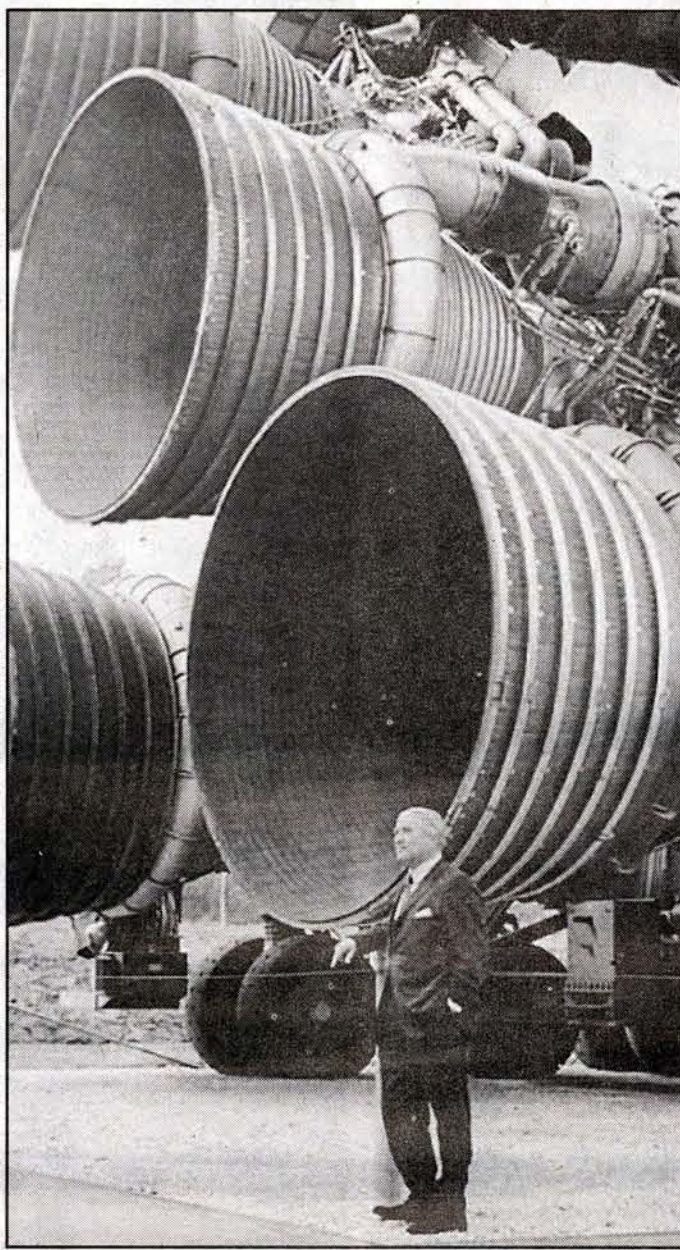
Engineers and rocket handlers across NASA needed to know how to move the big boosters. How better to do that than ship them back to "The Rocket City?"

"It was legitimate training, and it got the test article Saturn V back to Huntsville," Buckbee said. "That's also how this was paid for."

NASA program managers were also put on alert to save test engines and other valuable equipment for display, Buckbee said.

For years afterward, the Saturn V test article, also known as test vehicle 500-F, NASA carried the rocket now so easily seen from I-565 on its books, Buckbee said. "There was some concern from others within NASA, but it didn't matter. The rocket was here."

In 1969, it became a main attraction of what is now the U.S. Space & Rocket Center. "That move in itself was no small ac-



Dr. Wernher von Braun stands beside the static display of the Saturn V test vehicle at the U.S. Space & Rocket Center.

complishment. We had to build a special road off what is now I-565. Power lines had to be turned off and phone lines had to be disconnected. The Army, NASA, TVA and the Bell phone company all had to be involved, along with Alabama State Troopers and just many other people," Buckbee said.

"We got it all moved in a day. That again was von Braun's doing. He would pick up the phone and get TVA to shut down their power lines."

Von Braun's influence stretched beyond just the Saturn V display, noted retired engineer and aerospace consultant Dave Christensen, who worked with the rocket team while it was part of the Army Ballistic Missile Agency.

"Von Braun was a master at getting what he wanted, and what he wanted was pretty much what was needed," Christensen said. "He could get things done with a single memo."

Other notable exhibits made it to the center thanks to von Braun's influence. Miss Baker, one of the first "monkeynauts," came to Huntsville after von Braun sent a letter to her U.S. Navy keepers; the X-15 advanced test aircraft was among the first displays at the center

while the U.S. Air Force built its own museum in Ohio; simulators were sent from North American Aviation after von Braun called the aerospace contractor's president.

"The list could go on for a long time," Christensen said. "It's safe to say there wouldn't be much to Huntsville if it wasn't for a great deal of effort on the part of Dr. Wernher von Braun."



In 1960, President Dwight Eisenhower and Alabama Gov. John Patterson talk at the dedication of the Marshall Space Flight Center. Patterson's support in the Alabama Legislature was crucial to Wernher von Braun's fight to keep a space center in Huntsville.

Governor, friend worked quietly

By MIKE MARSHALL
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He is among the last of the state politicians from the von Braun era, a man known for wearing a carnation on his lapel virtually every day he was governor.

On Sept. 8, 1960, John Patterson, the 44th governor of Alabama, wore another white carnation and a snap-brim hat for the dedication of the Marshall Space Flight Center.

At the Redstone Arsenal airfield, Patterson met Dr. Wernher von Braun and President Dwight Eisenhower, then in his final days as president.

Patterson and von Braun had become friends. They had a mutual love of University of Alabama football.

After the game, Patterson and von Braun would head to University of Alabama President Dr. Frank Rose's home for drinks and small talk, usually in the basement of the president's mansion.

Sometimes, 25 or 30 people attended the post-game socials in Rose's basement. Most were members of the University of Alabama board of trustees and members of Patterson's staff. At one of these gatherings, von Braun discussed space and landing on the moon.

In the euphoria of another Alabama victory in the early 1960s, cocktail glasses raised in tribute to the Crimson Tide, von Braun managed the unthinkable.

Not only did he swing the conversation away from football, he ignited the imagination of his audience, holding them spellbound.

"One of the most amazing things I've ever seen," Patterson

said.

Another amazing scene unfolded in the summer of 1961. Von Braun and Rose went to Montgomery to enlist Patterson's help in building a research facility for scientists in Huntsville.

"They said we had to provide a university setting for advanced degrees," Patterson said. "Von Braun said if we don't do this, then we're going to lose the space center. 'That got my attention.'"

On June 20, 1961, von Braun was invited to address a joint session of the Alabama Legislature. That morning, Patterson introduced von Braun to the Legislature.

"We are privileged to hear today the ace missile man of our time," Patterson told the legislators. "He is more than this. He is really an apostle of the age of space - a man ahead of his time."

Before the speech, said Patterson, von Braun's request had been unpopular.

Officials from Auburn University, among others, were opposed to state funds for a new engineering school.

But, said Patterson, von Braun's speech changed the legislators' attitudes.

"Let's be honest with ourselves about it: It's not water or real estate - or labor, or power, or cheap taxes that brings industry to a state or city," von Braun said. "It's brain power. Nowadays, brain power dumped in a desert will make it rich. Right now, you could run a profitable electronics firm on the moon, if the company liked the climate. Educational climate, that is."

After von Braun's speech, Patterson held a reception for him and the legislators at the governor's mansion. For the reception, Patterson made sure Lancer's Rose was served.

"I found out from Dr. Rose that von Braun's favorite wine was Lancer's," Patterson said. "You couldn't buy Lancer's in Alabama. But we got several cases when we heard that was von Braun's favorite wine. The legislators were bad to drink, and they drank every bit of the Lancer's."

At 2 that afternoon, the Legislature gathered to vote on von Braun's request for a new research facility, the beginning of what is now the University of Alabama in Huntsville.

"They passed it unanimously," Patterson said. "I give von Braun credit, and Dr. Rose. But you've got to give Lancer's Rose a lot of credit, too."

The difference between the Saturn rockets

■ The upright rocket at the U.S. Space & Rocket Center wouldn't be able to send astronauts to the moon. It's a replica built and dedicated in 1999 to honor the 30th anniversary of the July 1969 Apollo 11 lunar mission.

■ The Saturn V rocket on its side now in the new \$22 million Davidson Center for Space Exploration is a test article Marshall Space Flight Center engineers used to verify the Saturn's safety and design.

■ The smaller Saturn rocket that sits behind the U.S. Space & Rocket Center museum is a Saturn I Block II rocket meant to test upper stages and the Apollo command module shape for the Saturn V program.

■ The rocket at the Alabama-Tennessee state line off I-65 is a Saturn IB, and is the first Saturn rocket to be "man rated," meaning it could take humans into space. This type of rocket lofted the Apollo 7 crew into orbit for a shakedown of the Apollo capsule in October 1968.

Source: NASA and the U.S. Space & Rocket Center

Team member's widow is thankful for America

By MIKE MARSHALL
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Most mornings, Margot Neubert pours herself a cup of coffee, walks to the back of her home on Monte Sano, and looks over the southern slope of the mountain.

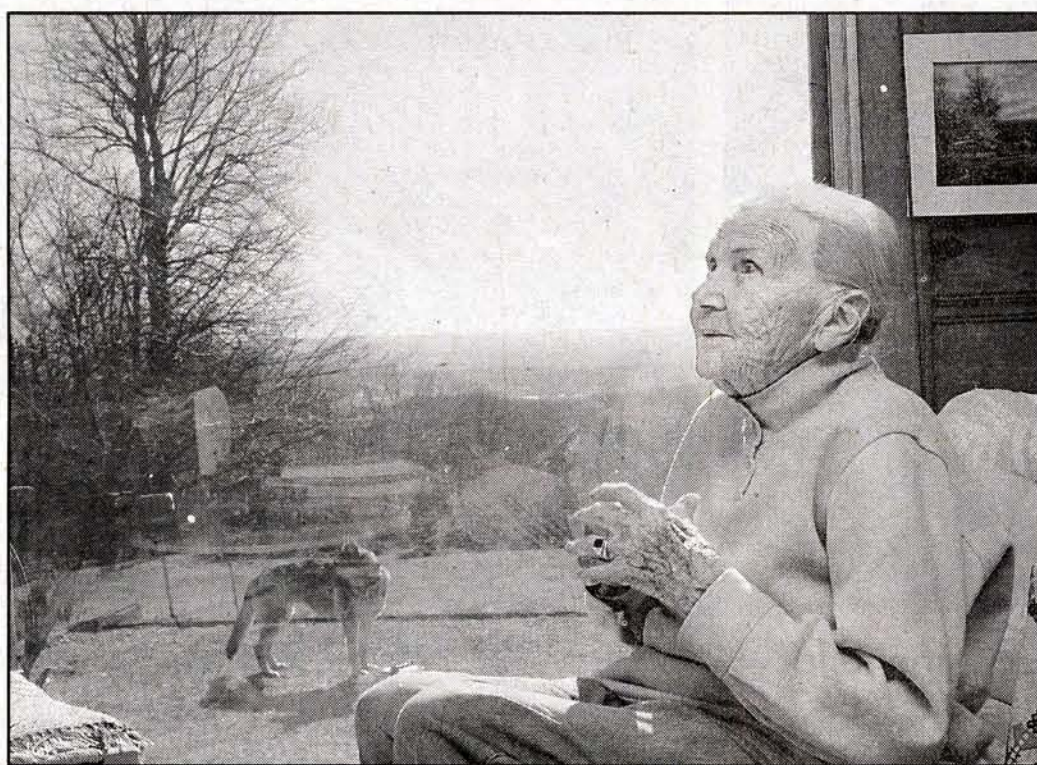
In these moments of reflection, she surveys her view of Jones Valley and thinks of her husband, Erich, the former associate deputy director of Marshall Space Flight Center.

She remembers how her husband discovered in 1945 he was being shuttled to the United States with Dr. Wernher von Braun, the head of the German rocket team.

She did not want to move to America, mainly because she was fearful of breaking up her family. When she gave her mother the news, she remembers her mother slipping a diamond ring off her finger.

"You take this diamond ring," she remembers her mother saying. "When you can't stand it anymore over there, go to a pawn shop and come back over here."

More than 60 years later, she still has that ring. She never



Margot Neubert came to America with her husband, Erich Neubert, who was an associate deputy director for research and development under Dr. Wernher von Braun.

needed to pawn it because of the life she and her husband made for themselves in the United States.

Now, she is 94, still living on the southern slope of Monte

Sano, another place she didn't want to live.

In the spring of 1950, after the Neuberts had moved to Huntsville, her husband drove her to the mountain. Climbing

out of the car, her husband grabbed a machete from the trunk to remove the thick underbrush.

"He came here to show me this," she says. "All that was here

were rocks and stones. I was dressed up, and I asked him, 'What are you doing?' I could not believe it."

With the machete, he cleared a path for her to walk. He showed the view down the side of the mountain.

All she saw was one light in the area, a speck of electricity on Jones Farm.

"Here you want to build?" she asked him.

Yes, he told her.

"I'm from Berlin," she recalls.

"I told him no."

Her husband was adamant. We're building here or not at all, she remembers him saying.

"I was speechless," she said. "Now, I'm thankful every day that for once he was stubborn."

Every now and then, she walks to the room with an expansive view of Jones Valley and reminds to those difficult days after the war.

On Sept. 11, 1945, the day her husband left for the United States, she was in the hospital, giving birth to her daughter, Antje.

"An American truck was taking him to the airport, and they allowed him to come by the hospital," she remembers. "He was able to stay for 5-8 minutes be-

cause his wife had just given birth. They made an exception. He has his fingers on his little daughter, and she grabbed his fingers."

And then he was gone.

"I can still see him standing in the doorway, waving at me," she says. "Then the door closed."

When it closed, she wondered if she would ever see him again.

She was unsure if a man with a wife and two children would be allowed to bring his family to America.

But 10 months later, she joined him in Texas as one of the first five German wives to be sent to America. In 1950, they moved to Huntsville and built the house on Monte Sano, the house she cherishes when she has her coffee in the mornings.

Erich has been dead since 1990. But when she looks down the mountain in the mornings, she remembers him and his refusal to leave here.

"How thankful I am to my husband for the whole project, for a life like this," she says. "But we worked hard for it. He has to be proud of me. I want him to be proud of me. Everything you see here is because of the job."

The astronauts

Duke went to the moon with faith in Huntsville

By SHELBY G. SPIRES
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Apollo astronauts were reunited with an old friend Thursday – the Saturn V rocket that helped propel them to the moon.

Former NASA astronaut and retired U.S. Air Force Brig. Gen. Charles Duke considers the Saturn V one of the greatest of mankind's achievements, but also a tribute to the dedication from not only Marshall Space Flight Center but also all of NASA and its contractor partners, he said.

"That vehicle was probably the best, safest rocket ever built. We as astronauts wouldn't have gotten on that rocket if we hadn't had faith in what von Braun and Marshall and Huntsville had done," Duke said. "We had a lot of confidence in that Saturn rocket. It shook us up a bit, but it got us where we were going."

"It got us to the moon." Duke was the lunar module pilot on the April 1972 Apollo 16 mission to the moon.

Duke, along with Apollo astronaut Stu Roosa, represented the astronauts and were liaisons for work on the Saturn IB and the Saturn V, including the massive first stage S-IC booster.

The 5 million pound boost-



NASA photo
Charles M. Duke Jr. was the lunar module pilot on Apollo 16.

er generated 7 million pounds of thrust from its five F-1 engines. The S-IC stage ran for more than two minutes before burning out, lofting the upper stages of the Saturn V and the Apollo command and service modules to an altitude of 41 miles and a speed of 6,000 miles per hour.

"Stu Roosa and I were the

booster guys, and as such we would have to fly into Huntsville quite often to meet with von Braun and his team," said Duke, now 72.

Duke's Apollo 16 mission, along with mission commander John Young and command module pilot Tom Mattingly, was the first scientific expedition to inspect, survey, and sample materials and surface features in the Descartes region of the lunar highlands.

Duke and Young set a record for a lunar surface stay of 71 hours and 14 minutes by maneuvering the lunar module "Orion" to a landing on the rough Cayley Plains. They each logged 20 hours and 15 minutes over three moon walks that involved placing and activating scientific equipment and experiments and collecting nearly 213 pounds of rock and soil samples.

The team also used the Marshall-designed and managed second lunar rover to extend trips across the moon's surface.

Duke noted Marshall's engineering talents for the lunar rover program.

"That's just another example of von Braun's forward thinking. He planned out that rover and Marshall got it built," Duke said. "We couldn't have done as much on the moon without that vehicle."



Bob Gathany/Huntsville Times

At Wednesday's reception at the Huntsville Museum of Art, Omega USA President Gregory Swift (in the suit) poses with, from left, astronauts Tom Stafford, Scott Carpenter and Charlie Duke, and Ed Buckbee of NASA public affairs.

Schweickart still thinks space can unite nations

By KENNETH KESNER
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Air Force 2nd Lt. Russell L. "Rusty" Schweickart was training in Arizona in 1957 when the Russians put Sputnik, the world's first satellite, into orbit.

The success of Sputnik struck him as more of a human achievement than a Russian one, but still he knew the "space race" was on.

"It was clear that it would light a fire under the United States, and it certainly did," he said.

Schweickart had a strong interest in the new space program, but no inkling then that he would become an astronaut and, during Apollo 9, would be the first man to fly the lunar module.

He was in Huntsville for the 50th Anniversary of America in Space gala Thursday night, but pointed out in an earlier interview that as an astronaut he was a regular visitor to the Rocket City.

"I spent most of my time in Huntsville under water," Schweickart said, referring to training for weightlessness in the neutral buoyancy tank then at Marshall Space Flight Center and now part of Space Camp.

He said it was good experience for the Apollo 9 mission, his only space flight, during which the astronauts stayed in Earth orbit, putting the equipment to be used on later missions through its paces.

In addition to being first to fly the lunar module – piloting a first flight is always a bit of a plum assignment, Schweickart said – he also took a 46-minute spacewalk to test the portable life support backpack astronauts would use walking on the moon's surface.

"The EVA was without ques-



NASA photo

Rusty Schweickart was first to fly the lunar module.

tion the high point of the mission for me," he said.

During the extravehicular activity Schweickart was floating above the Earth, a simple tether tying him to the spacecraft. The experience only cemented his belief that the exploration of space can bring nations together, working toward common goals.

"It's something that I've always felt strongly about," he said. "You don't fly in space without becoming viscerally aware that we all live on planet Earth."

Schweickart said he was disappointed about not getting a chance to go to the moon, but added he didn't know of an astronaut at that time who didn't want to make that trip.

"Everybody can't be the quarterback or the wide receiver," he said. "There are other people that are necessary."

Later he was backup commander for the first Skylab mission in 1973. It lost a thermal shield during launch, and from the ground he was in charge of developing an emergency solar shade and getting a jammed solar array to deploy.

"It was pretty intensive," Schweickart said.

He also worked with NASA

On the Net

The B612 Foundation:
www.b612foundation.org
Schweickart home page:
www.well.com/~rs

in Washington, D.C., helping transfer space technology to the private sector. After leaving the space agency, he worked in the private satellite industry, founded the international Association of Space Explorers and was chairman of the U.S. Antarctic Program Safety Review Panel.

Today, he is keeping a watchful eye on space as chairman of the nonprofit B612 Foundation, which is working toward development of spaceflight technology to protect Earth from an asteroid impact.

Schweickart pointed out that 2008 marks the 50th Anniversary of America in Space, but also the 100th anniversary of the Tunguska asteroid explosion in a then-uninhabited part of Siberia, which flattened about 800 miles of forest with the force of a huge nuclear blast.

Everyone is equally threatened by a future impact, he said, and the work of the B612 Foundation is another opportunity for nations to work together.

"I'm more hopeful," Schweickart said. "Personally, my own feeling is that the asteroid issue is one of the strongest drivers toward international cooperation that I've seen."

On this 50th anniversary of the launch of America's first satellite, he is glad to see a renewed emphasis on space exploration as well as continuing support for the International Space Station.

"It would be nice if we were a bit farther along," Schweickart said. "What's important is that we continue moving ahead. That's more important than the rate at which we're moving ahead."

Marshall adding to its collection of footprints

By KENNETH KESNER
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A number of visiting astronauts are leaving their footprints in Huntsville this week. Five former space travelers were to step into "simulated moon dust" – also known as a kind of concrete, said John Dumoulin, exhibits manager for Marshall Space Flight Center – during afternoon ceremonies Thursday at Marshall's Educator Training Facility at the U.S. Space & Rocket Center.

Their space-suit bootprints, signatures and biographical and mission information will be made into paving stones and become part of the new "Apollo Courtyard" around the base of the Space Center's Saturn V rocket replica.

The astronauts won't be wearing the actual footwear they used on their missions, Dumoulin said, as those are often part of museum displays in the Smithsonian Institution and elsewhere. But efforts are made to find similar boots or other gear.

The impressions are part of Marshall's "Footprints to the Future" program, Dumoulin said. Marshall already had boot or shoe prints from 16 astronauts or other space program luminaries, and hoped to add astronauts James Lovell, Bill Anders, Rusty Schweickart, Tom Stafford and Scott Carpenter this week.

All were here for 50th Anniversary of America in Space events, giving Marshall a rare opportunity to add to the collection. Dumoulin said the astronaut-inductees also receive a special Plexiglas obelisk as an award to add to their own collections.



Robin Conry/Huntsville Times

Astronaut Thomas P. Stafford gets help from Laura Wong to cast a footprint in simulated moon dust for NASA "Footprints to the Future."

The footprints of earlier inductees were on display at Marshall, but those have since been taken up. The original casts were used to make new stones of the original inductees to be used in the exhibit at the Space Center, he said.

Stafford remembers how much von Braun did

By SHELBY G. SPIRES
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Say "Huntsville" or "Rocket Team" to a NASA veteran or space aficionado and almost always the Saturn V moon rocket becomes a topic of conversation.

To former astronaut and retired Air Force Lt. Gen. Tom Stafford, Marshall Space Flight Center's efforts went way beyond designing rockets.

"The Saturn rockets were no small accomplishment, but Dr. Wernher von Braun and his Marshall team in Huntsville did a lot more," said Stafford, now 77. "People don't realize that the Vertical Assembly Building at (Kennedy Space Center in Florida), the special facilities, the massive crawler and the launch pads themselves were outstanding feats of engineering that resulted mainly from Marshall work."

"Von Braun and his team were just unbelievable in their

accomplishments."

The Saturn rockets had to be stacked "and were really three or four rockets combined into one. That whole big stack, and the equipment to make it, were just an engineering marvel. It had never been done before," he said.

Stafford commanded the May 1969 Apollo 10 mission to the moon. Basically a lunar shakedown flight, Stafford and Gene Cernan took the two-man lunar module to within 50,000 feet of the lunar surface, paving the way for Neil Armstrong and Buzz Aldrin's July 20, 1969, lunar landing.

He also was part of the July 1975 Apollo-Soyuz Test Project. A joint effort between America and the former Soviet Union, this mission is considered by many to have laid the groundwork for America and Russia's partnership on the International Space Station.

Stafford is taking part in an Omega Watch forum and at-



Bob Gathany/Huntsville Times

Alabama Lt. Gov. Jim Folsom greets astronaut Tom Stafford at Wednesday's reception at the Huntsville Museum of Art.

tending a gala event at the new \$22 million Davidson Center for Space Exploration celebrating the 50th anniversary of the launch of America's first satellite - Explorer I.

"America really depended on that Huntsville team to get that satellite launched," Stafford said.

An astronaut for the Gemini and Apollo projects in Sep-

tember 1962, Stafford first flew into space on Gemini VI in December 1965. On that mission, he was the first to pilot an American spacecraft to rendezvous with another two-man Gemini capsule.

Stafford said the Gemini missions, which are sometimes overlooked in history books, were more than just a bridge to the three-man Apollo lunar trips.

They were needed to develop confidence and plans for the ultimate goal of placing a man on the moon.

In June 1966, he commanded Gemini IX and performed a demonstration of an early rendezvous that would be used in Apollo, the first optical rendezvous and a lunar orbit abort rendezvous.

From August 1966 to October 1968, he headed the mission planning analysis and software development responsibilities for the astronaut group for Apollo.



NASA photo

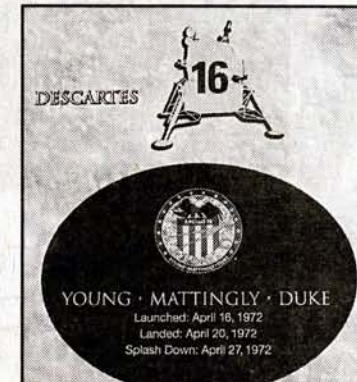
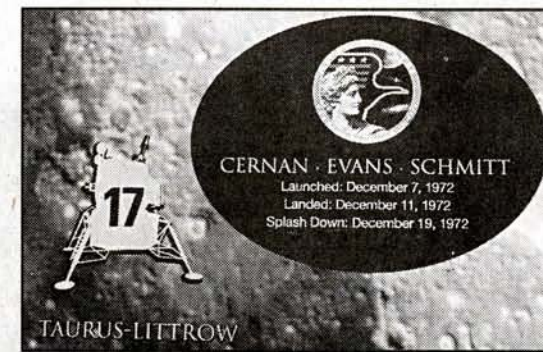
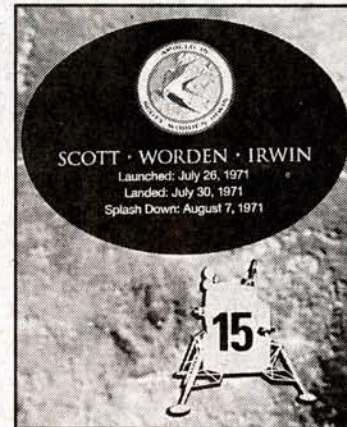
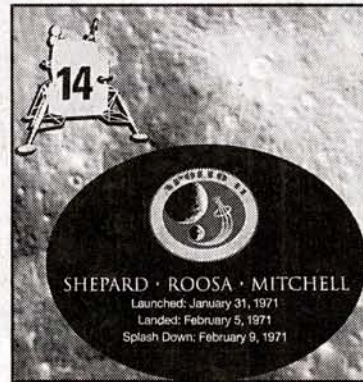
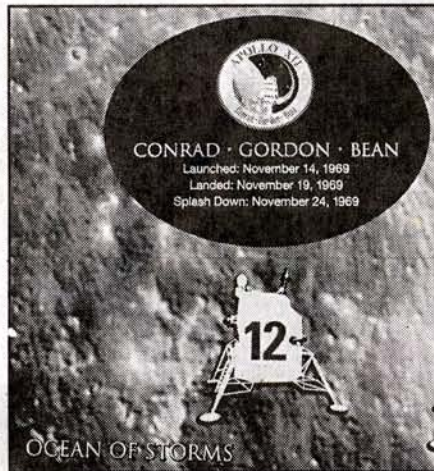
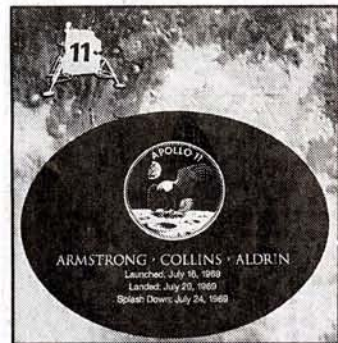
Tom Stafford commanded the Apollo 10 moon flight.

Stafford said by phone last week that he looked forward to coming back to Huntsville.

"I try to go to Huntsville and Marshall as much as possible, during my time with NASA and now," Stafford said.

THE 50TH ANNIVERSARY OF AMERICA IN SPACE

The astronauts



Displayed in the center of the floor of the Davidson Center for Space Exploration is a tribute to each of the Apollo missions that reached the moon. The backdrop is a giant photograph of the surface of the moon, encircled by astronaut Neil Armstrong's famous words: "One small step for man, one giant leap for mankind."

Lovell says Apollo 8 lifted eyes above the violence

By **KENNETH KESNER**
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Thanks to Hollywood, Tom Hanks and the caprice of history, former astronaut James Lovell Jr. will forever be identified first with the spectacularly "successful failure" that was Apollo 13.

He is proud of that mission, even though he didn't get to walk on the moon; proud of the men and women on the ground in NASA who worked with him, Fred Haise and John Swigert, to get them back home safely after an oxygen system exploded en route to the moon; how as the world watched, American mettle was tested and triumphed.

He is proud of what they were able to do on Apollo 13, but said Apollo 8 is probably his favorite mission, and not only because that one didn't nearly kill him.

Apollo 8 came in late December 1968, at the end of a year that had seen the assassinations

of Dr. Martin Luther King Jr. and Robert Kennedy, rising protests against the war in Vietnam and violence in the streets.

It had been a rough year but, as it ended, the spirits of many were uplifted by watching as men from planet Earth made the very first trip to the moon, Lovell said, "which a lot of people thought we could not do."

Lovell is among the astronauts revisiting Huntsville this week for the 50th Anniversary of America in Space celebration. He stood in for an ailing Walter Cronkite and accepted a Lifetime Achievement Award on behalf of the legendary CBS news anchor during Thursday night's gala.

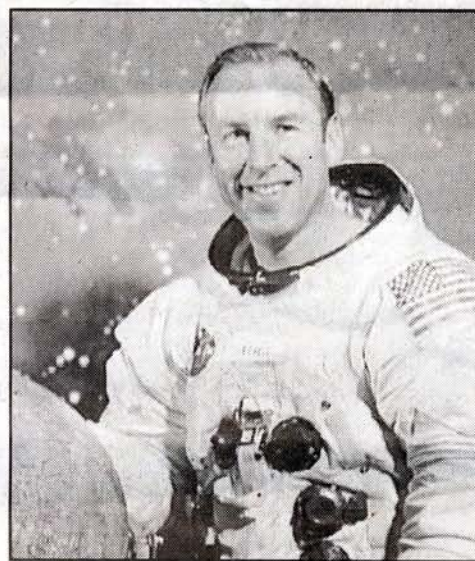
In an interview beforehand, Lovell talked about Apollo 8, which was a mission of milestones: He, Frank Borman and William Anders were the first astronauts to leave Earth's orbit and gravitational influence - "I could see the Earth actually

shrink as we left," he said. They were the first to travel to the moon and orbit in its gravity and the first men in history to set eyes on its dark side as they traveled just 60 miles above.

On Christmas Eve, as they were in lunar orbit, they made a live television broadcast, reading from the Bible's Book of Genesis and sharing their view of our home planet, small against the backdrop of space above the moon's horizon - an "Earthrise" that became one of the most enduring photographs in history.

The mission was also the first manned flight of the Saturn V rocket, which Lovell said had revealed a problem or two in previous tests.

Was the former Navy test pilot nervous sitting in the cap-



NASA photo

Even though it may be remembered as a "failure," astronaut Jim Lovell says he is proud of what Apollo 13 accomplished.

sule during the countdown?

"Not any more than when I was testing brand-new airplanes," Lovell said. One of two

things was going to happen, he said. Either it would launch OK, or he would hit the escape button and the crew would be picked up out in the ocean.

He liked the Saturn, which was designed and developed in Huntsville to take him and other astronauts to the moon.

"The Saturn V is really what we call an 'old man's rocket,'" Lovell said. As the first stage fired to get the giant lumbering off the launch pad, astronauts were only pushed back in their seats by 4Gs - four times the force of gravity, but far less than felt with some other launch vehicles or by fighter pilots.

He's been to Huntsville many times over the years, has sent grandchildren here for Space Camp and is pleased to be part

of the 50th Anniversary of America in Space celebration.

"This should have been the 52nd anniversary," said Lovell, referring to the notion that Dr. Wernher von Braun and his engineers with the Army's missile program could have put up a satellite years before they did - could have beaten the Russians and Sputnik - if not for U.S. officials pinning hopes on the Navy's Vanguard rocket, which he called a "disaster."

Lovell said he is disappointed that the U.S. had built a great space organization by the peak of the Apollo program and had it running pretty fast, then stalled it.

But he's pleased to see attention has again turned toward the moon and space exploration as this 50-year anniversary is observed.

"I hope the fallout from these events ... will put some emphasis on the need for the space program," Lovell said.