

Spaceport News

John F. Kennedy Space Center - America's gateway to the universe

www.nasa.gov/centers/kennedy/news/snews/spnews_toc.html



2011 Spaceport News Summary

The 2011 Spaceport News used the above banner for the year.

Inside this issue . . .

This feature is included on page 1 of the 2011 Spaceport News issues.

Introduction

The first issue of the Spaceport News was December 13, 1962. The 1963, 1964 and 1965 Spaceport News were issued weekly. The Spaceport News was issued every two weeks, starting July 7, 1966, until the last issue on February 24, 2014. Spaceport Magazine, a monthly issue, superseded the Spaceport News in April 2014, until the final issue, Jan./Feb. 2020. The two 1962 Spaceport News issues and the issues from 1996 until the final Spaceport Magazine issue, are available for viewing at [this website](#). The Spaceport News issues from 1963 through 1995 are currently not available online.

In this Summary, black font is original Spaceport News text, blue font is something I added or someone else/some other source provided, and purple font is a hot link.

All links were working at the time I completed this Spaceport News Summary. The Spaceport News writer is acknowledged, if noted in the Spaceport News article.

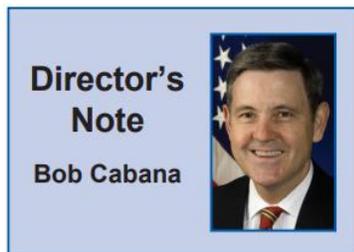
From The January 8, 2011, Spaceport News

On pages 1 and 3, "**Discovery closes in on mission**", by Steven Sicheloff, Spaceport News. Part of the article states "Space shuttle Discovery remains in the Vehicle Assembly Building (VAB) as modifications and repairs are made to the external fuel tank's support

beams known as “stringers.”... Discovery will not launch on the STS-133 mission before Feb. 24, but shuttle managers have not yet chosen a target date for the mission...

The shuttle’s intertank region, the ribbed portion that connects the liquid oxygen and liquid hydrogen tanks, were surveyed with two types of powerful X-ray devices at the launch pad. The launch team also performed a fueling test Dec. 17, with 89 temperature and motion sensors on parts of the tank’s aluminum skin. Discovery was rolled back to the VAB on Dec. 22 for more inspections and scans of areas that were not accessible at the pad...”.

On page 2, “**2010 great for Kennedy, but 2011 promises to be better**”.



“The future holds great things for Kennedy Space Center, and along the way, there will be some tough challenges and exciting opportunities. The KSC team will be key to making 2011 one of the most notable years in the space exploration history books.

This year, we have three main priorities. First, we must safely launch and land the final space shuttle missions... Next, we need to provide the Launch Services Program with the same diligence we have in the past to ensure the success of NASA’s science missions. And, finally, we will continue the hard work and innovation required to transition from the Constellation Program to our new space exploration efforts...

This is going to be a great year, and it’s a privilege to be a part of this outstanding KSC team that will continue to do what is necessary to ensure the success of our Nation’s human spaceflight and exploration programs.”

Keep Charging!
Bob Cabana

On page 6, “**Kennedy celebrates 2010 holidays**”.



“Kennedy’s Child Development Center hosted its annual holiday celebration Dec. 17. Activities included a gift exchange and a party. Infants, toddlers and preschool classes had the opportunity to meet Santa Claus and share their holiday wish list. The children also put on a special program for parents that drew cheers and laughs.”

From The January 28, 2011, Spaceport News

On pages 4 and 5, **“Scenes Around Kennedy Space Center”**.



On the left, “A worker monitors space shuttle Endeavour’s external fuel tank, ET-122, for the STS-134 mission as it is lifted from its test cell in the Vehicle Assembly Building on Jan. 19. When lowered in place, the tank will be attached to the solid rocket boosters on the mobile launcher platform. Targeted to launch April 19, STS-134 will deliver the Alpha Magnetic Spectrometer-2 (AMS) to the International Space Station.” On the right, “Mechanisms/Orbiter Handling Engineer Rob Lantz, left, and United Space Alliance Remote Manipulator System Engineer Paul Hofmeister, rehearse procedures for the liftoff of space shuttle Discovery’s final mission with other STS-133 launch team members in Firing Room 4 of the Launch Control Center on Jan 7.”

From The February 11, 2011, Spaceport News

On pages 1 and 2, **“Tank fixed, Discovery rolls out for STS-133 launch”**, by Frank Ochoa-Gonzales, Spaceport News. Part of the feature says “...On the final night of January 2011, in front of Kennedy workers, their friends and family, space shuttle Discovery trekked its way from the Vehicle Assembly Building to Launch Pad 39A. It was the second time Discovery rolled out for its STS-133 mission to the International Space Station, which now is targeted to launch Feb. 24 at 4:50 p.m. EST... “Anytime we have a long flow of challenges, which we’ve had for STS-133, that makes the final outcome even sweeter,” said Stephanie Stilson, Discovery’s NASA flow director for the past 11 missions... The first rollout came last year in late September when Discovery was supposed to make its last flight to the space station in November....

On launch day Nov. 5, two problems surfaced: A problem with the ground umbilical carrier plate (GUCP) and a crack in the orange foam near the top of the external fuel tank's midsection. Under the foam, small cracks on the top of two stringers were found... After an instrumented tanking test Dec. 17, the orbiter was rolled back into the Vehicle Assembly Building on Dec. 21... To fix the tank, technicians worked around the clock to bolster the stringers with small metal strips, called radius blocks, to strengthen and fasten their tips... Five cracked stringers were fixed with double-thick stringer tips and radius blocks; 94 more stringers were reinforced with radius blocks...”.



“Xenon lights illuminate space shuttle Discovery as it makes its nighttime trek, known as “rollout,” from the Vehicle Assembly Building to Launch Pad 39A at Kennedy Space Center on Jan. 31.”

On page 2, “**Ceremony pays homage to Challenger crew**”, by Linda Herridge, Spaceport News. Part of the feature says “On the eve of the 25th anniversary of the space shuttle Challenger accident, Kennedy Space Center observed NASA’s Day of Remembrance, Jan. 27, with a wreath-laying ceremony at the KSC Visitor Complex Space Mirror Memorial. The Day of Remembrance honors members of the NASA family who lost their lives while furthering the cause of exploration and discovery, including the astronaut crews of Apollo 1 and shuttles Challenger and Columbia. Kennedy’s Center Director Bob Cabana, Deputy Center Director Janet Petro, and United Space Alliance’s Associate Program Manager for Solid Rocket Boosters Roger Elliott placed the wreath, inscribed with the words, “Remembering our Fallen Heroes,” at the memorial, and observed a moment of silence...”

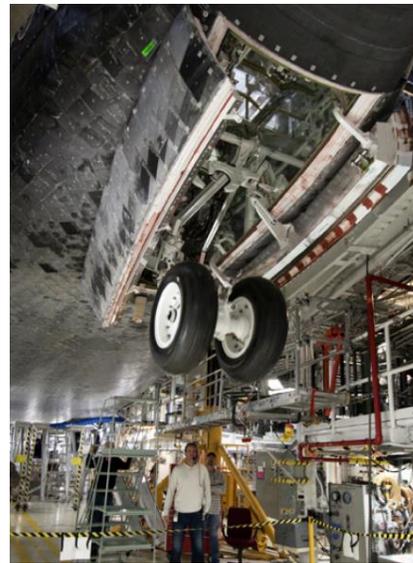
On Jan. 28, The Astronauts Memorial Foundation’s remembrance service at the Space Mirror Memorial was attended by NASA officials, dignitaries, families of the fallen, Kennedy workers and the general public... The guest speakers included NASA Associate Administrator for Space Operations William Gerstenmaier; Dr. June Scobee Rodgers, widow of STS-51L Commander Dick Scobee and founding chair of the Challenger Center for Space Science Education; Cabana; chairman of The Astronauts Memorial Foundation and former astronaut Mike McCulley...

Scobee Rodgers said, “We’re not a nation of naysayers, were a nation of believers. We’re innovators and problem solvers. We’re risk-takers with a pioneering spirit. We as a nation are indebted to the space pioneers who blazed a trail of exploration and discovery.”... It’s not easy to look back and reflect,” Gerstenmaier said. “We learned that little things that seem harmless can become catastrophic events. The human spaceflight team has learned tremendous lessons from these events... At the conclusion of the memorial, Scobee Rodgers and Gerstenmaier placed a wreath below the names of the Challenger crew. “



“Dr. June Scobee Rodgers, the founding chair of the Challenger Center for Space Science Education, honors her late-husband, space shuttle Challenger’s STS-51L Commander Dick Scobee, on Jan. 28. Challenger broke apart over the Atlantic Ocean 73 seconds into flight 25 years ago.”

On pages 4 and 5, “**Scenes Around Kennedy Space Center**”.



On the left, “Apollo 14 Capcom Bruce McCandless, left, and Apollo 14 Lunar Module Pilot Edgar Mitchell take part in the Apollo 14 Anniversary Soirée at the Kennedy Space Center Visitor Complex’s Saturn V Center on Jan. 29. The celebration was hosted by the Astronaut Scholarship Foundation. Apollo 14 landed on the lunar surface 40 years ago on Feb. 5, 1971.” On the right, “Space shuttle Atlantis goes through a routine landing gear test in Kennedy’s Orbiter Processing Facility-1 on Jan. 25. Technicians are checking to make sure the shuttle’s wheels, brakes, elevons and body flap function properly. Atlantis is being prepared for the STS-135 mission... STS-135 is targeted to launch June 28, and will be the last mission for the Space Shuttle Program.”

From The February 25, 2011, Spaceport News

On page 1.



“...space shuttle Discovery lifts off on its final scheduled mission, STS-133, from Launch Pad 39A at Kennedy Space Center at 4:53 p.m. EST on Feb. 24.”

On pages 4 and 5, “**Days of Discovery**”, by Kay Grinter and Steven Sicheloff, Spaceport News. Part of the feature states “With only seconds remaining, space shuttle Discovery roared off Launch Pad 39A on Feb. 24, 2011, to begin the last of its historic missions...”

A problem with an Eastern Range computer cropped up late in the countdown but was remedied just before the launch would have been scrubbed. The four seconds remaining in the window made the launch one of the closest in the Space Shuttle Program’s 30 years. “This was one for the record books,” said Mike Leinbach, shuttle launch director. “It may have seemed a little rushed to people on the outside. It’s a testament to the team that we have practiced for this.” Mike Moses, chairman of the Mission Management Team and Space Shuttle Program integration manager, said the last-minute nature highlighted how quickly the launch team can adapt to a changing situation. Still, he joked, “I could use a little fewer heart palpitations.”...

Michael Coats, now director of the Johnson Space Center, traveled to Kennedy to see Discovery lift off for the last time. He summed up the feelings of many of the astronauts who flew on Discovery: “I have mixed emotions about Discovery’s last mission. I’m sad that she will soon be sitting in a museum. At the same time, I’m proud that she has been such a workhorse for us...”

Discovery's service to NASA spans 27 years and 39 missions, more than any other shuttle in the fleet...".



"Space shuttle Discovery during its final "rollover" from Orbiter Processing Facility-3 to the Vehicle Assembly Building on Sept. 9, 2010."

[The following video](#) takes the STS-133 launch countdown from T-9 min thru ascent, including resolution of the range safety problem, during a hold at T-5 min.

On page 8.

WORD ON THE STREET

What is your favorite part about launch day?

"The atmosphere is just incredible. It's such an amazing team effort that comes together."

Dr. Marc O Griofa,
with Innovative Health Applications

"The butterflies in my stomach. It's all the work we've done together coming to fruition."

Sabrena Yedo,
with NASA

From The March 18, 2011, Spaceport News

On pages 1 and 4, "**Endeavour shines, rolls out final time under xenon lights**", by Frank Ochoa-Gonzales, Spaceport News. [A portion of the article states](#) "Under a

beautifully bright March 10 crescent moon, space shuttle Endeavour emerged from the Vehicle Assembly Building to the cheers of hundreds of workers, thousands of onlookers and a member of its final flight crew.

But the biggest smile may have belonged to Dana Hutcherson, NASA's Endeavour Flow Director within the Launch Vehicle Processing Directorate. Hutcherson's third mission as Endeavour's flow director is a bittersweet one, because it is the final time the shuttle will roll over the Alabama river rock to Launch Pad 39A. "It being the final launch, this is not an easy time for us," Hutcherson said. "But nonetheless, we are enjoying it." ... STS-134 Pilot Greg H. Johnson will fly aboard Endeavour to the International Space Station and was on hand to watch the shuttle make the 3.4-mile trek to the seaside launch pad...

Endeavour moved to the Vehicle Assembly Building on Feb. 28, where it was lifted and connected to the rest of the stack..."



"Employees hold up a banner to commemorate shuttle Endeavour's STS-134 mission as it is transported from Kennedy Space Center's Orbiter Processing Facility-2 to the Vehicle Assembly Building on Feb. 28."



"Bathed in xenon lights, space shuttle Endeavour makes its nighttime journey from the Vehicle Assembly Building to Launch Pad 39A at Kennedy Space Center on March 10. Riding atop a crawler-transporter attached to its external fuel tank and solid rocket boosters, Endeavour's 3.4-mile trek, known as "rollout," began at 7:56 p.m. EST. This is the final scheduled rollout for Endeavour."

On page 2, **“Legendary firefighter retires after 30 years”**, By Steven Sicheloff, Spaceport News. [In part, the feature reads](#) “George Hoggard had an extraordinary career by most standards, so it wasn’t easy for him to say goodbye to the fire department at Kennedy Space Center...As the chief of fire training, Hoggard and his crew worked closely with astronauts to teach them how to handle emergencies on the launch pad or on the ground following a problem... He showed them where to go once they left the shuttle cockpit, such as when to take the elevator and when to go straight to the slidewire basket. He and then astronaut Charlie Bolden took a ride in one of the baskets in the late 1980s to prove they were safe.

Hoggard’s skill and dedication came across to the astronauts very easily and made the firefighter a true legend at Kennedy, Shuttle Launch Director Mike Leinbach said. “The astronauts know they can trust him with their lives, and that says an enormous amount about his experience, heart and wisdom,” Leinbach said...

Hoggard and his team taught the astronauts before each launch how to drive the yellow M113 armored personnel carriers... “I tell the astronauts the shuttle cockpit’s got over 2,000 switches, this one’s only got two, on and off, and it’s easy as it can be,” Hoggard said. Hoggard still has a rule, though: “They said, ‘Is there a pass/fail to this driving test,’ and I said, ‘Yeah, if you hurt the old guy, you’re going to fail the test, that’s the bottom line, don’t hurt the old guy.’ ”...



“Outgoing Kennedy Space Center Chief of Fire Training George Hoggard received a commemorative medallion during his retirement party from NASA Administrator Charlie Bolden on March 9...”

[The following is an interview with George.](#)

On page 3, **“Discovery transitions to retirement”**, by Steven Sicheloff, Spaceport News. [In part, the article states](#) “A long list of inspections await space shuttle Discovery as technicians at NASA’s Kennedy Space Center in Florida take the first steps to prepare the agency’s oldest active orbiter for retirement. Discovery touched down Wednesday, March 9, just before noon to complete the 13-day STS-133 mission to the International Space Station...

Standing on the runway at Kennedy, STS-133 Commander Steve Lindsey described bittersweet feelings of bringing home NASA’s most veteran orbiter for its 39th and final time. “As the minutes pass, I’m actually getting sadder and sadder about this being the

last flight and I know all the folks involved with the shuttle program feel the same way,” Lindsey said...

A few hours after landing at Kennedy’s Shuttle Landing Facility, Discovery was back inside an orbiter processing facility going through standard post-landing procedures. As the standard work is completed, Transition and Retirement Flow Director Stephanie Stilson said technicians will make a series of inspections to find out whether there are any lurking issues that could pose concerns to shuttles Endeavour and Atlantis as they make their own final flights...”.



“Space shuttle Discovery’s drag chute is fully deployed on Runway 15 at Kennedy Space Center’s Shuttle Landing Facility as it returns from its 13-day, 5.3-million-mile STS-133 mission. Main gear touchdown was at 11:57:17 a.m., followed by nose gear touchdown at 11:57:28 a.m., and wheelstop at 11:58:14 a.m...”.

From The April 1, 2011 Spaceport News

On pages 1 and 2, **“Armored M113s ready for any emergency role”**, by Steven Siceloff, Spaceport News. [Part of the article states](#) “Rumbling, cramped, heavy and lacking a big field of view, the M113 wouldn’t seem to be a good candidate for an ambulance. It doesn’t even have a steering wheel. But it has something essential for a NASA rescue mission at the launch pad: armor. Basically a bunker on tracks, the M113 is a Vietnam-era armored personnel carrier that offers the astronauts a safe vehicle to get out of danger. It also offers firefighters heavy protection in case they have to go into danger to retrieve the flight crew and launch pad personnel...”

NASA began using surplus Army M113s during the Apollo Program in case an emergency developed with the spacecraft or the gigantic Saturn V rocket. They serve the same role for the shuttle... Three are on hand on launch day. Two stand by less than a mile from the launch pad. A few minutes before liftoff, the firefighters get inside wearing all their gear, including silver protection suits, an airpack and an air mask. They close all the hatches and raise the back ramp... The other M113 sits empty with its back ramp open facing the door of an emergency bunker near the pad. If the astronauts have to take the

slidewire baskets to get away from the pad, they would get out of the baskets and into the bunker. Then they can get inside the M113, close the ramp and drive to safety.

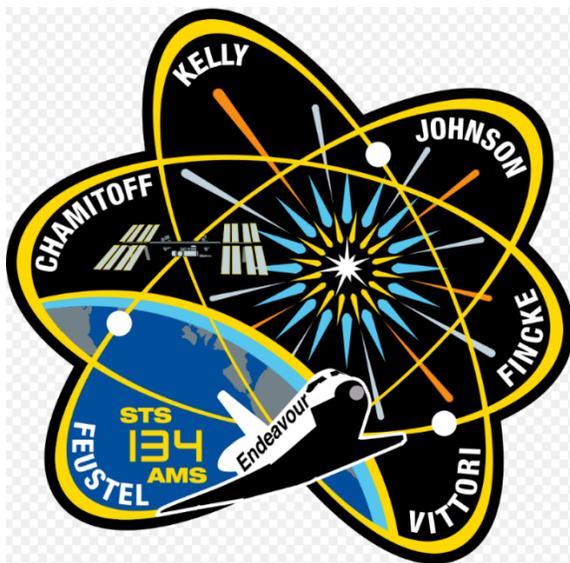
That's the routine all crews practice during the Terminal Countdown Demonstration Test, or TCDT... Everybody has to drive the M113, so everybody kind of has to find their feel for maneuvering it..."



"Battalion Chief David Seymour provides supervision while space shuttle Endeavour's STS-134 crew members participate in M113 armored personnel carrier training at Kennedy Space Center. An M113 is kept at the foot of the launch pad in case an emergency exit from the pad is needed and every shuttle crew is trained on driving the vehicle before launch. Space shuttle Endeavour's six crew members are at Kennedy for the

launch countdown dress rehearsal called the Terminal Countdown Demonstration Test (TCDT) and related training..."

The following STS-134 mission patch and description are from Wikipedia.



"The design of the STS-134 crew patch highlights research on the International Space Station (ISS) focusing on the fundamental physics of the universe. On this mission, the crew of Space Shuttle Endeavour will install the Alpha Magnetic Spectrometer (AMS) experiment... The shape of the patch is inspired by the international atomic symbol, and represents the atom with orbiting electrons around the nucleus. The burst near the center refers to the big-bang theory and the origin of the universe. The Space Shuttle Endeavour and ISS fly together into the sunrise over the limb of Earth, representing the dawn of a new age, understanding the nature of the universe."

On page 3, "**AMS to give invisible universe different look**", By Steven Sicheloff, Spaceport News. Part of the feature states "The Alpha Magnetic Spectrometer will revolutionize what we know about invisible cosmic rays the same way NASA's Hubble Space Telescope rewrote what we know about the visible universe says the intellectual force behind the instrument. The AMS will launch aboard space shuttle Endeavour's STS-134 mission, targeted for April 19..."

The AMS is a 2-ton ring of powerful magnets and ultrasensitive detectors built to track, but not capture, cosmic rays. The 15,251-pound instrument will be connected to the outside of the International Space Station, braced on the orbiting laboratory's righthand truss and tilted a bit so it will not interfere with any of the station's mechanisms and storage platforms. It will be operated remotely from Earth and should not require any attention from astronauts in orbit...

The AMS going up on Endeavour is the second one built in the program. The first one was a prototype instrument that flew on shuttle Discovery during STS-91. It spent about two weeks in orbit proving the merits of the design... The second AMS, the one flying on Endeavour, is designed to operate as long as the space station itself is operational..."



"The Alpha Magnetic Spectrometer-2 (AMS) is moved March 15 from the weight and center of gravity stand, where final measurements were taken before launch, to a payload canister in the Space Station Processing Facility at Kennedy Space Center. The canister will protect the space-bound payload on its journey to Launch Pad 39A, where it will later be installed into space shuttle Endeavour's payload bay..."

[The following is Wikipedia's writeup on AMS, including on-orbit repairs via spacewalks in 2019 and 2020.](#)

On page 4, "**Scenes Around Kennedy Space Center**".



"About 385 people, including some 60 volunteers, participated in the 2011 KSC Annual Walk/Run at the Shuttle Landing Facility on March 22. Sponsored by Kennedy's fitness center, the goal of the event was to motivate center employees to get moving. Center Director Bob Cabana stressed the importance of fitness in our everyday life before the event. Participants chose to walk or run 2 miles down the runway, rollerblade, or run a 5 or 10K..."



“About 2,100 of Kennedy Space Center employees stand side-by-side to form a full-scale outline of a space shuttle orbiter outside the Vehicle Assembly Building on March 18. The unique photo opportunity was designed to honor the Space Shuttle Program’s 30-year legacy and the people who contribute to safely processing, launching and landing the vehicle...”

[This is a time-lapse video of the event.](#)

On page 6, **“Unique quilt tells story of NASA’s space shuttle missions”**, by Linda Herridge, Spaceport News. In part, the article reads “United Space Alliance (USA) employee Vicky Turner has witnessed every space shuttle launch since STS-1 in April 1981, and she has the memories and a unique mission patch quilt to prove it. Turner, who has been at Kennedy Space Center for 32 years, works in USA’s engineering group in technical operations. After witnessing every shuttle launch and collecting each mission patch, she decided to incorporate them into a quilt design... “I wanted to make something that represented the Space Shuttle Program and my years here at Kennedy.”...



“United Space Alliance employee Vicky Turner, lower right, displays her space shuttle mission patch quilt with help from co-workers, clockwise from lower left, Angie Buffaloe, Perry Njuguna and John Young...:.

Turner came up with a design that includes all of the space shuttle mission patches and NASA's five orbiter vehicles... She has added STS-134 to the quilt, and is waiting for the STS-135 patch. She also plans to add the launch and landing patch and the end-of-shuttle patch to the design... "I'm looking forward to completing it," Turner said. "I may take it to quilt shows or maybe allow it to be on display somewhere."... For now, she takes the quilt with her so she can photograph it in various processing areas as allowed... "Each time I take it out for a photograph the quilt draws a crowd," said Turner. "I hear some nice comments about how beautiful it is."...

Turner came to Kennedy in 1979 to work as a tile inspector..."



The following words and a photo of the completed quilt, are from an August 2019 article on the Engineering Research and Consulting, Inc. website, quoting Vicky: "...My quilt was completed near the end of the Shuttle Program. I shared it with the workforce and enjoyed everyone sharing special memories of their favorite missions. This was exciting, special and very emotional. This quilt is never out of my sight and whenever someone requests it for display, I always deliver it personally.

I recently had the pleasure of displaying my quilt at the kickoff of **Columbia: the Mission Continues National Tour**. It was an honor to have my quilt on display greeting employees when they came in for the presentation. My bucket list included a picture of my quilt with one of the astronauts, Shane Kimbrough. I have checked that box!"

From The April 15, 2011, Spaceport News

On pages 1 and 4, "**Atlantis to call Kennedy home**", by Rebecca Regan, Spaceport News Part of the article reads "With the help of shuttle Atlantis, the Kennedy Space Center Visitor Complex will share NASA's remarkable feat of voyaging out beyond the reaches of Earth's gravity in the world's first reusable spacecraft... After hearing the news, Kennedy Center Director Bob Cabana said to Bolden, "Thank you so much for trusting us with the care of Atlantis. I promise you, we'll take good care of her."...

On the day that NASA celebrated the 30th anniversary of the first space shuttle launch - - Columbia's STS-1 mission on April 12, 1981 -- the space agency and its design partners received the "go" they've been hoping for with the announcement that a shuttle will join rockets, capsules and artifacts from the Mercury, Gemini and Apollo eras... Atlantis is planned to round out the shuttle program this year with its last flight -- STS-135. After its return from space, technicians and engineers will spend a few months prepping the vehicle for public display -- paving the way for a grand opening as early as the summer of 2013...".



"NASA Administrator Charlie Bolden announces April 12 that shuttle Atlantis will remain at Kennedy Space Center on permanent exhibition at the visitor complex. Seated on stage, from left, are Kennedy Center Director Bob Cabana, astronaut Janet Kavandi, United Space Alliance's Endeavour Flow Manager Mike Parrish and STS-1 Pilot and former Kennedy Center Director Bob Crippen...".

On page 2.



"Cake Boss" Buddy Valastro shows off his space shuttle tribute cake to the Kennedy Space Center work force and guests at the Space Shuttle Program's 30th anniversary celebration at the Kennedy Space Center Visitor Complex on April 12."

On page 5, “**KSC All-American Picnic**”. The feature reads “About 5,000 people attended the 32nd annual Kennedy Space Center All-American Picnic on April 2. This year’s picnic celebrated 47 years of success at Kennedy with food and fun, classic children’s games, train rides, a singing competition called KSC Idol, exhibits, a chili cook-off, dessert contest, and car and motorcycle show.”



“NASA astronauts, from right, Kay Hire, Terry Virts and Mark Vande Hei greeted workers and their families, signed autographs and posed for photographs at the picnic.”



From The April 29, 2011, Spaceport News

On pages 1 and 2, “**Emotions galvanize Firing Room 4**”, by Steven Sicheloff, Spaceport News. Part of the story reads “The realities of exacting, hard work required to launch a space shuttle and the sensation of anticipation meet in the firing rooms on launch day. “It’s electric,” said Charlie Blackwell Thompson, chief of the NASA Test Director’s Office. “You see all kinds of emotions when you’re in the room.” With Endeavour’s STS-134 mission about to get under way, the launch team assembled in Firing Room 4 at the Launch Control Center on April 26 and began with the countdown...

However, on launch morning, engineers detected a failure in one of two heater circuits associated with Auxiliary Power Unit 1. The engineers at Kennedy set out on an exhaustive process to try to find the problem and fix it during the countdown.... Shuttle Launch Director Mike Leinbach called off the April 29 attempt at 12:16 p.m., a few minutes

before the astronauts would start strapping into Endeavour's flight deck... The system that failed is important because heaters are required to keep the APUs' hydrazine from freezing on orbit. The problem might be associated with a Load Control Assembly, which is a switchbox, located in the aft end of Endeavour... Liftoff is planned for no earlier than May 2 at 2:33 p.m...

The firing rooms are the control center for the launch team from the time a shuttle lands through its processing for flight and into its next countdown and launch... "You're not going to find this anywhere else in the world," said Roberta Wyrick, an orbiter test conductor for United Space Alliance whose first mission in that role came in 1981 on STS-2, the second shuttle flight...

Controllers say they never get complacent about a launch or countdown or just work to get through them. That may be why so many of them have worked in the firing rooms for decades. Blackwell Thompson said, "For many of us, this is our life's work."

[The following video](#) goes into some inner workings of the Firing Room, [as well as this video](#), which includes commentary by Bob Sieck and Mike Leinbach.

On page 2, "**STS-133 crew reflects on mission, unique shuttle program**", by Rebecca Regan, Spaceport News. [In part, the article states](#) "appreciating space shuttle Discovery and its many accomplishments was a common theme during the vehicle's final spaceflight, the STS-133 crew members said during a crew return event at Kennedy Space Center on April 18.

"Think about how miraculous it is that you can bring a vehicle back on its 39th mission after nearly 30 years of operation, land it on the runway, and there be absolutely nothing wrong with it," STS-133 Commander Steve Lindsey said to Kennedy workers gathered in the Training Auditorium. "I can't thank you enough from the bottom of my heart for Discovery and all you've done for us . . . when we launch off that launch pad, we launch with no worries because we know you've poured everything you have into it," Lindsey added..."



"The STS-133 crew members sign autographs and talk to workers April 18 in the Training Auditorium at Kennedy Space Center. From left, are Mission Specialists Nicole Stott, Alvin Drew, Steve Bowen and Michael Barratt, Pilot Eric Boe and Commander Steve Lindsey."

On page 3, “**Kennedy showcases current, future work**”, by Linda Herridge, Spaceport News. A portion of the article reads “While Kennedy Space Center continues its work to complete NASA’s final two space shuttle launches it also is gearing up for the future. As space shuttle Endeavour sat perched on Launch Pad 39A for its final mission, more than 100 media representatives were shuttled to various locations around the center for a “Now and Future” showcase tour April 27.

Inside Orbiter Processing Facility-2, NASA Transition and Retirement Flow Director Stephanie Stilson briefed the media on the work being done to prepare the vehicle for display with the Smithsonian. Standing beneath the orbiter, Stilson said Discovery is being safed of all hazardous materials, including removal of all pyrotechnics, hypergolics, ammonia, freon and water... Stilson said that the vehicle should be ready for the Smithsonian in the February 2012 timeframe...



“Discovery’s NASA Flow Director Stephanie Stilson briefs the media April 27 on the work being done to prepare the vehicle for display at the Smithsonian National Air and Space Museum’s Udvar-Hazy Center in Chantilly, Va.”

At Launch Pad 39B, Pad Senior Project Manager Jose Perez-Morales provided an update on the demolition and upgrade work that began in June 2010... “Demolition of the pad structures are about 55 percent complete,” PerezMorales said. “And we have made repairs to the infrastructure, including removal and upgrade of cables and electronic equipment.”...”.

[This video](#) includes a time lapse of demolition work at LC39B, starting at about 9 minutes into the video.

On page 8, “**Favorite space shuttle memories**”.



“After 30 plus years of shuttle support I finally got to hold Atlantis myself.”

– Robert Koenn, NASA



“First time I was an engineer supporting the vertical orbiter stack in the Vehicle Assembly Building.”

– Susan Danley, NASA



“Walking into the Vehicle Assembly Building and seeing the shuttle just hanging there.”
-- Holly Carreras,
United Space Alliance



“That majestic moment when the shuttle begins its ascent.”
-- Linda Mohr,
United Space Alliance



“Most rewarding part of my job . . . office views like this and so many more extraordinary opportunities.”
-- Katrine Stelges,
United Space Alliance

From The May 13, 2011, Spaceport News

On pages 1 and 3, “**Cape Crusaders support, strap in shuttle crew**”, by Steven Siceloff, Spaceport News. A portion of the article says “The crew of space shuttle Endeavour will climb into the crew compartment shortly before sunrise on Monday ahead of the scheduled liftoff at 8:56 a.m. Heading up the launch tower and getting to the hatch, they will be greeted by the Closeout Crew and once they get inside the shuttle, other astronauts will help them into their seats as the shuttle stands on its tail pointed to the stars... Those astronauts are known formally as Astronaut Support Personnel, but they go by several names, including ASPs, Cape Crusaders because they are assigned to NASA’s Kennedy Space Center in Florida, or just C-squareds...”



“NASA astronaut Shane Kimbrough is in the White Room at Launch Pad 39A helping the STS-134 crew strap into space shuttle Endeavour during the Terminal Countdown Demonstration Test (TCDT) on April 1, just as he will on launch day.”

Chris Hadfield, a Canadian astronaut who flew on STS-74 and STS-100, worked as an ASP before his first flight. He credits the experience with teaching him the details of launch day. "Working at the Cape as a Cape Crusader, C-squared, whatever you want to call it," Hadfield said, "I learned so much about how the vehicles get ready, about the attitude at KSC, and about what it is to be one of the crew members getting in and out of the vehicle."... The ASPs work closely with the Closeout Crew -- a team of technicians who work through the choreography to get six or seven astronauts in place quickly and precisely... "Having worked here as an astronaut support crew, if anything, it gives you more confidence, more understanding," Hadfield said. "It therefore makes your readier for the time when the engines light."

On page 3, "**NASA, space community remember 'Freedom 7'**", by Anna Heiney, Spaceport News. [Part of the feature states](#) "On the morning of May 5, 1961, astronaut Alan Shepard crawled into the cramped Mercury capsule, "Freedom 7," at Launch Complex 5 at Florida's Cape Canaveral Air Force Station. The slender, 82-foot-tall Mercury-Redstone rocket rose from the launch pad at 9:34 a.m. EST, sending Shepard on a remarkably successful, 15-minute suborbital flight..."

On the 50th anniversary of Shepard's pioneering flight, his three daughters, Laura Churchley, Julie Jenkins and Alice Wackermann, joined former space workers and their families, community leaders and others on the same launch pad to celebrate the flight and its legacy... "In the audience today, we have more than 100 workers from the Mercury era who devoted their lives to flying humans safely in space," said Kennedy Center Director Bob Cabana...

At the anniversary event, the entire flight was replayed in a video that began five minutes before launch time, with liftoff and landing at the precise moment when Shepard began and ended his mission 50 years ago. "It was an intense countdown. Everybody had their job. There was no joking around," said former Chief Test Conductor Bob Moser. "But we enjoyed it, and it worked. Congratulations to all of us. We were a great team."... "It's an honor to share this day with so many people who helped NASA pioneer human spaceflight and enable the agency's many accomplishments throughout our existence," NASA Administrator Charles Bolden said. "I salute all of you."



"Invited guests tour the blockhouse at Complex 5/6 on May 5 during a celebration of Alan Shepard's historic flight 50 years ago. From left are Robert Sieck, former shuttle launch director; Andy Anderson, former manager for communications in the Mercury Mission Control Center; Bob Moser, former chief test conductor for the Mercury-Redstone launches; and John Twigg, former backup chief test conductor for the Mercury-Redstone launches."

[This is a video of the 50th anniversary celebration at Cape Canaveral Space Force Station Launch Complex 5.](#)

On page 5, **“Bobko, Helms join U.S. Astronaut Hall of Fame”**, by Steven Sicheloff, Spaceport News. In part, the article states “One of the Space Shuttle Program’s earliest commanders and the first woman to live on the International Space Station took their places alongside the nation’s space heroes May 7 as they were welcomed into the U.S. Astronaut Hall of Fame. Karol “Bo” Bobko and Susan Helms joined the Hall of Fame during a ceremony at the Kennedy Space Center Visitor Complex...”

Bobko flew as the pilot on STS-6, the first flight of space shuttle Challenger, in April 1983. Two years later, he commanded Discovery on STS-51D and landed the shuttle safely despite a blown main gear tire. Six months later, Bobko commanded Atlantis on its maiden flight, STS-51J...

Helms, an Air Force veteran like Bobko, flew five times on the shuttle beginning with STS-54 in January 1993. Her spaceflight career included flights on Endeavour, Discovery, Columbia, Atlantis and the International Space Station. She spent more than 5,000 hours in space, with 163 days of that on the station..”



“Karol “Bo” Bobko and Susan Helms shake hands during their induction into the U.S. Astronaut Hall of Fame at the Kennedy Space Center Visitor Complex on May 7. To learn more about the U.S. Astronaut Hall of Fame, click on the photo.”

[This is a video of the 2011 U.S. Astronaut Hall of Fame Induction Ceremony.](#)

From The May 27, 2011, Spaceport News

On pages 1 and 2, **“Atlantis leaves OPF for final time”**, by Rebecca Regan, Spaceport News. A portion of the story reads “...On May 17, ...technicians said farewell as shuttle Atlantis ventured out of its home in Orbiter Processing Facility-1 for its last rollover move

to the Vehicle Assembly Building. Most agreed it felt like sending their son or daughter off to college. Hundreds of other space center workers and even the crew that will fly the shuttle to the International Space Station this summer stopped by to witness the short, yet historic, journey...

On May 18, Atlantis was attached to its tank and solid rocket boosters atop a mobile launcher platform. On May 31 at 8 p.m., Atlantis is scheduled to roll out to Launch Pad 39A. Launch teams also are targeting a tanking test for June 15..."



"Shuttle Atlantis makes its final planned move from Orbiter Processing Facility-1 to the Vehicle Assembly Building at Kennedy Space Center. Atlantis will roll out next week..."

On pages 1 and 3, "**T-38s integral part of successful shuttle landing**", by Steven Sicheloff, Spaceport News. [A portion of the story reads](#) "Years before the space shuttle would glide home to a safe touchdown on runways in California and Florida, astronauts pitched the noses of T-38 jet trainers toward the same runways to find out what it would look like to land a shuttle in such a way... The T-38 remains a fixture for astronaut training because the sleek, white jets make pilots and mission specialists think quickly in changing situations, mental experiences the astronauts say are critical to practicing for the rigors of spaceflight..."

Terry Virts, who flew as the pilot of STS-130 aboard shuttle Endeavour [said](#) "It's the one place where we're not in a simulator. It's real flying and if you make a mistake, you can get hurt or break something... Powered by two afterburning General Electric J85 engines, a T-38 can reach Mach 2 and soar above 40,000 feet... Basic astronaut training includes T-38 courses, and mission specialists, who do not sit at the controls of a space shuttle, have to record four hours a month at the stick of a T-38. Commanders and pilots are required to fly the T-38 for 15 hours a month... The T-38 is hailed by the astronauts for its simplicity, safety and reliability..."

[The following are a couple of videos about the NASA T-38s, one with astronauts Tom Marshburn and Josh Cassada, and another with Mike Massimino.](#)

On page 6, "**F-104 Starfighters fleet grows while 'breaking mold'**", by Steven Sicheloff, Spaceport News. [Part of the article says Starfighters](#) "...is expanding its fleet of jets with plans to conduct more research flights, launch very small satellites into space and even

take paying passengers into the stratosphere. The developments come four years after the company made its first flight from Kennedy's Shuttle Landing Facility, or SLF, in April 2007. Starfighters pilot and owner Rick Svetkoff is one of the new generation of entrepreneurs working to open different aspects of the aerospace world to a broader group of developers, researchers and people...

There are four planes in the hangar now, three operational and one used mostly for parts... But parts are hard to find, which is why Svetkoff bought five of the latest model Starfighters from Italy... The company is the only civilian operator in the world of the F-104 Starfighter, a fighter jet able to soar to about 100,000 feet...

Designed by the legendary Kelly Johnson, the man behind the SR-71, the Starfighter was the first U.S. jet fighter to fly twice the speed of sound, a record it set in 1954. Because of its huge 11,000-pound thrust engine and stubby, seven-foot-long wings, the aircraft was known as the "missile with a man in it."...



"Starfighters is expected to add five more aircraft to its fleet of four F-104s that fly from the Shuttle Landing Facility at Kennedy Space Center. Starfighters have been used to test high-performance equipment used on the space shuttle, telemetry equipment and a new digital camera..."

[This Starfighter video](http://starfighterstore.com/fly-the-starfighter) is posted on the starfighterstore.com/fly-the-starfighter website.

On page 5, "**Scenes Around Kennedy Space Center**".



"An overhead crane lowers the Lightweight Multi-Purpose Experiment Support Structure Carrier, or LMC, into a payload canister in the Space Station Processing Facility on May 23. The canister then will be installed into Atlantis' payload bay for the STS-135 mission to the International Space Station. STS-135, the final mission of the Space Shuttle Program, is targeted to launch July 8..."



“The first stage for an Atlas V rocket arrives May 24 in the Atlas Spaceflight Operations Center at Cape Canaveral Air Force Station. The United Launch Alliance rocket is slated to launch NASA’s Juno spacecraft to Jupiter from Cape Canaveral, Fla., on Aug. 5. The solar-powered spacecraft will orbit Jupiter’s poles 33 times to find out more about the gas giant’s origins, structure, atmosphere and magnetosphere...”

From The June 10, 2011, Spaceport News

On page 1, “**Endeavour ends STS-134, final mission**”.



“Xenon lights help lead space shuttle Endeavour home on June 1. Endeavour landed for the final time on the Shuttle Landing Facility’s Runway 15, marking the 25th night landing of NASA’s Space Shuttle Program. Main gear touchdown was at 2:34:51 a.m. EDT, followed by nose gear touchdown at 2:35:04 a.m., and wheelstop at 2:35:36 a.m. STS-134 was the 25th and final flight for Endeavour, which has spent 299 days in space, orbited Earth 4,671 times and traveled 122,883,151 miles.”

The following video is the final portion of the STS-134 launch countdown, including launch and ascent. This video includes the STS-134 Launch Director's poll and "Go For Launch", during the T-9 minute hold.

On page 3, "**STS-135 mission to carry more payload than ever before**", by Linda Herridge, Spaceport News. In part, the article says "When Atlantis and its four veteran astronauts launch on the STS-135 mission to the International Space Station (ISS) in July, the shuttle's payload bay will be filled with more hardware, supplies, logistics, and spare parts by volume than previous space shuttle missions... Joe Delai, Kennedy's payloads mission manager for STS-135, said it will be bittersweet to watch the payloads for the last mission installed in Atlantis' payload bay June 16..."

On pages 4 and 5, "**Scenes Around Kennedy Space Center**".



"Space shuttle Atlantis' STS-135 crew participates in a crew equipment interface test, or CEIT, in the Space Station Processing Facility on June 6. Standing inside the Raffaello multi-purpose logistics module, which will be packed with supplies, logistics and spare parts for their mission to the International Space Station, are Mission Specialist Sandy Magnus, left, Commander Chris Ferguson, Mission Specialist Rex Walheim and Pilot Doug Hurley. The purpose of

CEIT is for flight crew members to become familiar with the payload they will be working with and delivering to the station. STS-135 also will return a failed ammonia pump module on the Lightweight Multi-Purpose Experiment Support Structure Carrier, or LMC, to help NASA better understand the failure mechanism and improve pump designs for future systems. STS-135, targeted to launch July 8, will be the 33rd flight of Atlantis, the 37th shuttle mission to the space station, and the 135th and final mission of NASA's Space Shuttle Program..."

On page 6, "**Atlantis provides majestic final rollout**". "We asked several people attending space shuttle Atlantis's move to Kennedy's Launch Pad 39A for its STS-135 mission what was going through their minds during the Space Shuttle..."

"I was fortunate to see the first rollout and now I've seen the last one. It sure has been great to be part of history."

Sean Slater
of Cocoa Beach, Fla.



"It's awesome. Not only is it beautiful, but it really makes me wonder how we were able to put all these parts together in one piece."

Bonni Heffelfinger
of Cocoa, Fla.



Also on page 6.



“Bright xenon lights greet space shuttle Atlantis as the spacecraft makes its final move from Kennedy’s Vehicle Assembly Building. “Rollout,” as it’s called, to Launch Pad 39A at Kennedy Space Center began at 8:42 p.m. EDT on May 31. It took the crawler-transporter about seven hours to carry the shuttle, attached to its external fuel tank and solid rocket boosters atop a mobile launcher platform, to its seaside launch pad. The milestone move paves the way for the launch of the STS-135 mission to the International Space Station, targeted for July 8. STS-135 will be the 33rd flight of Atlantis, the 37th shuttle mission to the space station, and the 135th and final mission of NASA’s Space Shuttle Program...”

From The June 24, 2011, Spaceport News

On page 1, “**STS-135 crew participates in final TCDT training**”, by Linda Herridge, Spaceport News. A portion of the article reads “...On Monday, the crew members for NASA’s final space shuttle flight, Atlantis’ STS-135 mission, arrived at Kennedy’s Shuttle Landing Facility in two T-38 jets to participate in the last Terminal Countdown Demonstration Test (TCDT) for a shuttle launch...”

During a media opportunity at the pad Wednesday, [Commander Chris Ferguson](#) said the crew is honored to be flying the final shuttle mission. “We consider ourselves fortunate, lucky,” Ferguson said. “I think each of us feels a little perhaps extra burden to make sure that we put on the best possible face forward for the last go-around of this...”



“Space shuttle Atlantis’ STS-135 crew members are instructed on the slidewire basket emergency exit system at Launch Pad 39A during part of the Terminal Countdown Demonstration Test, or TCDT, on June 23.”

In the photo, [Chris Ferguson](#) is on the front left, with [Doug Hurley](#) on the right. In the rear, [Sandy Magnus](#) is on the left and [Rex Walheim](#) is on the right.

The following STS-135 mission patch and description are from Wikipedia.



“The STS-135 patch represents the space shuttle Atlantis embarking on its mission to resupply the International Space Station. Atlantis is centered over elements of the NASA emblem depicting how the space shuttle has been at the heart of NASA for the last 30 years. It also pays tribute to the entire NASA and contractor team that made possible all the incredible accomplishments of the space shuttle. Omega, the last letter in the Greek alphabet, recognizes this mission as the last flight of the Space Shuttle Program.”

On page 6, **“Modified Ford GT sets speed record at SLF”**, by Steven Sicheloff, Spaceport News. A portion of the article states “A modified Ford GT set a world record during testing June 16 and 17 when Johnny Bohmer reached 223 mph on the runway of Kennedy Space Center’s Shuttle Landing Facility. A Guinness World Records judge authenticated the accomplishment, confirming Bohmer’s place in automotive history, along with Kennedy’s role in the achievement... The record is the first in the new Guinness category of standing mile for a street-legal car...”.



The following is a video with a 2017 date, when Johnny Bohmer reached 292.9 mph on the Shuttle Landing Facility.

From The July 8, 2011 Spaceport News

On page 1.

Atlantis launches on final shuttle mission



[The following is video](#) of the STS-135 launch countdown, starting at the T-9 minute hold, and goes thru ascent, including a hold at T-31 seconds. The hold at T-31 seconds is the only time a Shuttle launch countdown was held because of a swing arm problem, in this case, the GOX vent arm. [This video](#) is from inside Firing Room 4 in the Launch Control Center before and after the launch of Atlantis. Launch was on July 8, 2011.

On pages 4 and 5, **“Atlantis ready for final space shuttle flight”**.



“The STS-135 crew members wave an American flag to commemorate Independence Day on the Shuttle Landing Facility at Kennedy Space Center. From left, are Commander Chris Ferguson, Pilot Doug Hurley and Mission Specialists Sandy Magnus and Rex Walheim...”.

From The July 22, 2011, Spaceport News

This is a special edition of the Spaceport News, featuring articles about each of the Orbiters as well as short features on the external tank, solid rocket boosters and space shuttle main engines. Some personal impressions of the space shuttle are also included, a few of which are highlighted in this Summary.

On page 1, "**Missions Accomplished**".



In part, the article states "...Every employee who has worked at Kennedy Space Center during the past 30 years has followed his or her own unique career path, but one thing they all have in common is the lasting impression the space shuttle fleet has made on their lives. As NASA's Space Shuttle Program came to a close, a few of them shared their thoughts..."

Mark Nappi, vice president of Launch and Recovery Systems, United Space Alliance (USA): "The Space Shuttle Program has been a mark of American ingenuity and technical superiority. As equally important, it's also been an opportunity to showcase an American work force with extreme passion, dedication and innovation. This American treasure may never be replicated again."...

Roger McCormick, former aerospace technician, USA: "Growing up in West Virginia I read and studied all I could dealing with every facet of space exploration, knowing that one day I would move to Florida and work at the place where rockets are launched. The Space Shuttle Program allowed me to fulfill my dream for nearly 23 years, working hands on with the orbiters every day."...

Peter Chitko, mechanical systems technical integration manager, NASA: "The space shuttle has afforded me the opportunity to fulfill a childhood dream to be a member of the world's greatest launch team with the honored privilege of overseeing these priceless national assets."...

Alyssa Garcia, mission and payload operations engineer, NASA: "I'm always filled with awe every time I lay eyes on our space shuttle. It is a most marvelous vessel in our quest for adventure and knowledge."...

Mike Parrish, Endeavour vehicle operations chief, USA: “We love the shuttle program. And we’re all very proud of what we’ve done for the shuttle program.”...

On page 2.



“The shuttle program brought our nation many firsts and many proud moments. I was proud to be part of the shuttle program and will carry those experiences with me for the rest of my life.”

Charlie Bolden
NASA Administrator



“The space shuttle has provided unbelievable benefit and return on the investment of the American taxpayer. This is not the end, but the start of the next chapter.”

Lori Garver
NASA Deputy Administrator

From The August 5, 2011, Spaceport News

On page 1, “**Juno eyes Jupiter’s makeup**”, by Steven Siceloff, Spaceport News. [Part of the feature reads](#) “NASA’s Juno spacecraft is on its way to Jupiter on a mission to look deep beneath the planet’s swirling curtain of clouds to find out what lies beneath...”.



“An Atlas V rocket launches with the Juno spacecraft from Space Launch Complex 41 at Cape Canaveral Air Force Station in Florida on Aug. 5 at 12:25 p.m. EDT.”

[The following is Wikipedia’s read about Juno](#) and [this a video about Juno](#).

On page 2, **“Teams practice lifting space shuttles at airports”**, by Steven Siceloff, Spaceport News. In part, the story reads “It will take two large cranes, a specially built sling, four masts and about 45 people to perform the complex maneuvers to safely lift a space shuttle off the back of a modified 747. Because it hasn’t been done in more than 20 years, teams rehearsed the lift on the Shuttle Landing Facility’s ramp at Kennedy Space Center in Florida. It is a scene coming soon to Washington, D.C., Los Angeles and New York as NASA’s shuttles are handed over to museums for public display...

During the more than 30 years the space shuttles were in development and launching, they have been lifted onto and off of 747s numerous times, most often when the shuttle landed at Edwards Air Force Base in California. Those moves were performed by specially designed structures at Kennedy and in California called “mate-demate devices... The mobile lift system was used in 1985 when Enterprise moved to Washington, D.C....



On the left, “Landing support workers rehearsed the careful processes that will be needed to lift the space shuttles off Shuttle Carrier Aircraft when they are taken to new homes at museums across America. The process was practiced at the Shuttle Landing Facility on the ramp near the permanent Mate-Demate Device on June 16...”. On the right, “On Nov. 18, 1985, shuttle Enterprise was the last to be lifted off a 747 carrier aircraft using a mobile crane when it was taken to Dulles International Airport near Washington, D.C., ahead of its display at the Smithsonian Institution. It’s been more than 20 years since some of the machinery was used to lift a shuttle.”

On page 6, **“STS-134 crew members return to thank Kennedy workers”**, by Linda Herridge Spaceport News. A portion of the feature says “During a crew return event in Kennedy Space Center’s Operations and Support Building II, July 12, STS-134 Mission Specialist Michael Fincke said that the International Space Station was a lot bigger than the last time he was there. Fincke and Pilot Greg H. Johnson returned to the center to share their experiences and thoughts about the mission with workers...

The STS-134 mission, which launched May 16, was Endeavour’s last flight and NASA’s last station assembly flight. Endeavour also flew the first space station assembly mission,

STS-88, in December 1998, and delivered the U.S. Unity module to connect with the Russian Zarya control module... The STS-134 crew members delivered the Alpha Magnetic Spectrometer-2 and critical supplies, including two communications antennas, a high-pressure gas tank and parts for the Dextre robotic arm, to the space station...”.



“Walter “Buddy” McKenzie shakes hands with STS-134 Pilot Gregory H. Johnson as Mission Specialist Michael Fincke, right, looks on following the STS-134 Crew Return event. The astronauts visited with employees inside Kennedy’s Orbiter Processing Facility-1 on July 12, where space shuttle Endeavour is being prepared for public display...”.

On page 5, “**Scenes Around Kennedy Space Center**”.



“Apollo 15 Commander Dave Scott and Command Module Pilot Al Worden, along with an elite gathering of Apollo-era astronauts celebrate the 40th anniversary of NASA’s Apollo 15 mission at Kennedy Space Center’s Apollo/Saturn V Center on July 25. Seen here are Apollo 15 astronaut backup support crew members, Jack Schmitt (left), Vance Brand and Dick Gordon; Worden and Scott. Worden circled the moon while Scott and the late Jim Irwin, the mission’s lunar module commander, made history when they became the first humans to drive a vehicle on the surface of the moon.”

From The August 19, 2011, Spaceport News

On pages 4 and 5, **“We Made History! Shuttle Program Celebration”**.



“Five shuttle flags hang above the main stage at the “We Made History! Shuttle Program Celebration” on Aug. 13 at the Kennedy Space Center Visitor Complex. The event was held to honor current and former shuttle workers’ dedication to NASA’s Space Shuttle Program and to celebrate 30 years of space shuttle achievements.”



“NASA Administrator Charlie Bolden, left, NASA’s Space Shuttle Program Launch Integration Manager Mike Moses and Kennedy Space Center’s Launch Vehicle Processing Director Rita Willcoxon speak to current and former space shuttle workers and their families during the “We Made History! Shuttle Program Celebration” on Aug. 13.”



“Attending the “We Made History! Shuttle Program Celebration” on Aug. 13 at the Kennedy Space Center Visitor Complex are, from left, NASA astronauts Nicole Stott, Michael Fincke, Greg H. Johnson, Sandy Magnus, Rex Walheim and Chris Ferguson, and Kennedy Deputy Director Janet Petro.”

On pages 4 and 5, “**Scenes Around Kennedy Space Center**”.



“Space shuttles Discovery, at right, and Endeavour are parked “nose-to-nose” outside Orbiter Processing Facility-3 (OPF-3) during a unique photo opportunity at Kennedy Space Center on Aug. 11. Discovery, which temporarily was being stored in the Vehicle Assembly Building (VAB), is switching places with Endeavour, which has been undergoing decommissioning in OPF-1. Discovery then will be rolled into OPF-1 and

Endeavour into the VAB. In OPF-1, Discovery will undergo further preparations for public display at the Smithsonian’s National Air and Space Museum Steven F. Udvar-Hazy Center in Virginia. Endeavour will be stored in the VAB until October when it will be moved into OPF-2 for further work to get it ready for public display at the California Science Center in Los Angeles.”

On page 6.

Remembering Our Heritage

“**Apollo Program’s lessons provide excellent reference**”, by Steven Sicheloff, Spaceport News. [A portion of the article says](#) “One of the men who made Apollo a legendary success said recently there are plenty of lessons from the 1960s-era moon program that can be applied to spacecraft design in the 21st century... NASA needs to avoid engineering arrogance as it develops new spacecraft or helps others develop designs of their own, said John P. Healey, a retired vice president of North American Aviation who made his reputation repairing the Apollo command module program after the fatal fire of Apollo 1...”



“John P. Healey, a retired vice president of North American Aviation, is best known for his role in the redesign and manufacture of the command modules for NASA’s Apollo Program after the fatal fire of Apollo 1.”

The key to reducing the chances of arrogance, he said, is to have solid communications and clear areas of responsibility for the people designing the spacecraft, the ones building it and those who test its components. Also, design and build the spacecraft to work right

rather than to a schedule. But after the design is correct, stop designing... And, he said, don't leave out the astronauts who will fly in it while designing and building it. "The guys who were flying it, in my mind, they are the real customer," Healey said. "We had astronauts 100 percent of the time from the time we started on Apollo 7... There were key decisions throughout the process, Healey said, but the main aspect was to change attitudes at the company and at NASA.

Suddenly, even the highest-ranking officials were not allowed inside the spacecraft as it was being built, only the five workers who were supposed to be there. By allowing a very limited number of people to work inside the spacecraft, which is cramped to begin with, the chances to make mistakes or do unintentional damage also are limited, Healey said..."

From The September 2, 2011, Spaceport News

On page 2, "**Helicopter exercise tests emergency response**", by Melanie Carlson, Spaceport News. Part of the story says "On Aug. 31, the same day the Space Shuttle Program officially came to an end, the Shuttle Landing Facility (SLF) at NASA's Kennedy Space Center, Fla., was the focus of an emergency exercise looking toward future operations at the runway. After all, the SLF is still a functioning airport -- one that continues to serve exotic aircraft and act as the arrival point for cutting edge NASA satellites and spacecraft..."

"We are looking to see and evaluate procedures and test communications among all the exercise participants at KSC," Kennedy's Aviation Safety Inspector Sam Rogers said... NASA mandates that an airfield emergency plan exercise be conducted every two years..."



"NASA Fire Rescue personnel assist volunteers portraying injured Huey II helicopter crew members participating in the aviation safety exercise during Emergency Response Safety Training at the Shuttle Landing Facility, Runway 33, at Kennedy Space Center on Aug. 31."

On page 8.

Space Shuttle Program ends

Spaceport News thanks all the workers who supported NASA's Space Shuttle Program, which officially ended Aug. 31.

The agency's Space Shuttle Transition and Retirement Office now will lead all space shuttle work, including overseeing the preparation of the four shuttles for public display at national museums.

The office will also make sure unneeded facilities and property are closed down, sold or made available to new users.



“Technicians transport Engine No. 1, the final engine removed from space shuttle Atlantis, to the Engine Shop for possible future use Aug. 22...”.

From The September 16, 2011, Spaceport News

On pages 1, “**NASA unveils plans for new rocket**”, by Steven Sicheloff, Spaceport News. A portion of the article reads “NASA will build a rocket larger and more powerful than even the massive Saturn V moon rockets under a plan unveiled Sept. 14 to take astronauts farther into space than ever before. The Space Launch System, or SLS, will take astronauts into deep space on missions to asteroids, the moon or Mars... Just like its Saturn V predecessor, the SLS heavy-lift rocket will launch from NASA’s Kennedy Space Center...”.

The rocket will be built around a core stage the same diameter as a space shuttle external tank and powered by... **four** space shuttle main engines... Five-segment solid rocket boosters will be mounted to the side of the tank for additional power, although liquid-fueled boosters could be incorporated on later flights after an industry competition...”.



“An artist concept of the Space Launch System, or SLS, on a Kennedy Space Center launch pad. The SLS rocket will incorporate technological investments from the Space Shuttle Program and the Constellation Program.”

On pages 4 and 5, “**Scenes Around Kennedy Space Center**”.



On the left, “Flames and smoke from the engines surround the United Launch Alliance Delta II rocket at liftoff carrying NASA’s twin Gravity Recovery and Interior Laboratory (GRAIL) mission off Space Launch Complex 17B on Cape Canaveral Air Force Station in Florida. The spacecraft launched at 9:08:52 a.m. EDT Sept. 10. GRAIL-A will separate from the second stage of the rocket at about one hour, 21 minutes after liftoff, followed by GRAIL-B at 90 minutes after launch. The aim is to map the moon’s gravity field so completely that future moon vehicles can safely navigate anywhere on the moon’s surface. On the right, “Actress Nichelle Nichols (Lt. Uhura on Star Trek) signs autographs for a guest at the Kennedy Space Center Visitor Complex during the agency’s Gravity Recovery and Interior Laboratory (GRAIL) launch countdown activities on Sept. 8. Nichols was on hand to celebrate the 45th anniversary of the first airing of the Star Trek television series...”

From The September 30, 2011, Spaceport News

On page 6, “**Last shuttle crew shares mission experiences with workers**”, by Linda Herridge, Spaceport News. [Part of the story reads](#) “A homecoming in one way or another seemed to be on the minds of the crew members of the STS-135 mission when they returned to Kennedy Space Center to share their experiences and an overview of the final shuttle flight. Commander Chris Ferguson, Pilot Doug Hurley and Mission Specialist Sandy Magnus spoke to a standing room only audience, Sept. 15, in the Headquarters Training Auditorium...

“It’s great to be back here. Kennedy Space Center is kind of my home away from home,” Hurley said. “I spent a lot of time here in the first few years after I was selected (as a NASA astronaut).”

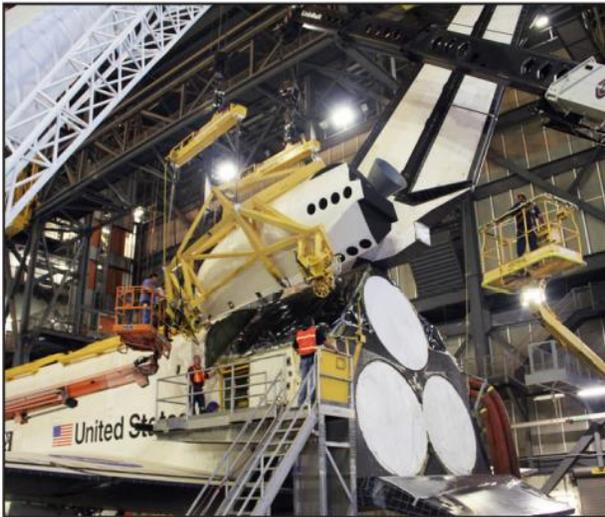
Commander Ferguson said two things struck him after the mission. First, how good the Kennedy work force has become at launching space shuttles, and second, seeing a picture of the number of people on the Titusville Bridge that had gathered to view the launch of Atlantis. Ferguson said they went back and looked at some photographs taken that day from a helicopter and found no less than a dozen places that looked exactly like the crowds on the Titusville Bridge...

Magnus said that the hardest thing for her during the STS-135 mission was leaving the space station. She served as an Expedition crew member from November 2008 through March 2009...”



“Astronauts from space shuttle Atlantis’ STS-135 mission return to the Training Auditorium at NASA’s Kennedy Space Center for the traditional post-flight crew return presentation on Sept. 19. Pilot Doug Hurley shares a personal story about his experiences. With him are (on left) Mission Specialist Sandra Magnus and (on right) Commander Chris Ferguson. STS-135 Mission Specialist Rex Walheim was unable to attend the Kennedy event. STS-135 was the 33rd and final flight for Atlantis and the final mission of the Space Shuttle Program...”

On pages 6 and 8, **“ALTA pods vital in getting Enterprise to New York”**, by Steven Sicheloff, Spaceport News. In part, the article states “Teams at NASA’s Kennedy Space Center in Florida continue practicing rarely performed techniques for moving space shuttles among some of the nation’s premier museums as next year’s shuttle shuffle nears. The latest rehearsal saw shuttle Endeavour fitted with the inoperative orbital maneuvering system pods that the prototype shuttle Enterprise used during its approach and landing tests in 1977...



“Workers lower the cage containing an Approach and Landing Test Assembly (ALTA) pod over the rear of space shuttle Endeavour in the Vehicle Assembly Building at Kennedy Space Center on Sept 22...”.

The mockup pods, known as ALTA pods for Approach and Landing Test Assembly, will be fitted again on Enterprise so it can be taken safely by airplane from its current display at the National Air and Space Museum’s Udvar-Hazy Center outside Washington, D.C., to the Intrepid Air and Space Museum in New York City. The pods currently on Enterprise are wooden replicas that are not strong enough for flight. By testing them on Endeavour first, Kennedy workers learned what to expect when they do it inside the confines of the Smithsonian museum...

Although designed for Enterprise, which never went into orbit, the ALTA pods were used on all the shuttles when they were flown on the back of a modified 747 from Florida to the shuttle’s factory in Palmdale, Calif., for periodic overhaul. They were last used in 2001 when Columbia was brought back from the West Coast to Kennedy... The shuttles that flew into orbit during the 30-year program will be displayed with the operational pods they used, although those pods will have been drained of toxic residue and other potential hazards before they are put on display.

Discovery will take the place of Enterprise at the Smithsonian. Endeavour will go to the California Science Center in Los Angeles and Atlantis will be displayed at the Kennedy Space Center Visitor Complex...”.

On page 7.



“Payload canister No. 1, traveling from the Canister Rotation Facility in the center’s Industrial Area to the Reutilization, Recycling and Marketing Facility on Ransom Road on Sept. 27, is forced to take a circuitous route toward the Vehicle Assembly Building, in the background, to avoid obstacles along the way at Kennedy Space Center. The two payload canisters used to transport space shuttle payloads to the launch pad for installation in the shuttles’ cargo bays are being decommissioned following the end of the Space Shuttle Program.”...

From The October 14, 2011 Spaceport News

On page 1, “**Mobile launcher makes transition to SLS**”, by Steven Siceloff, Spaceport News. In part, the story states “A major part of NASA’s recently announced heavy-lift Space Launch System (SLS) already is here at NASA’s Kennedy Space Center. The mobile launcher, or ML, standing next to Kennedy’s Vehicle Assembly Building will be strengthened and swing arms will be installed during the next five years to support the SLS, a rocket quite a bit larger than the Ares I launch vehicle the tower was originally built for, NASA officials said during a media tour of the ML on Oct. 11...”



“NASA Administrator Charlie Bolden talks to media in front of NASA’s mobile launcher (ML) support structure at Kennedy Space Center on Oct. 11. Center Director Bob Cabana also attended the media event held to detail ML’s use with NASA’s Space Launch System (SLS) heavy-lift rocket, which will send astronauts into deep space...”

Because the SLS will weigh two-and-a-half times more than an Ares I, ...workers will retrofit the platform with stronger, larger support beams. The exhaust cut-out also will be widened from a 22-foot square to a 60-by-30-foot rectangle...”.

On pages 4 and 5, “**Scenes Around Kennedy Space Center**”.



“In the Payload Hazardous Servicing Facility at NASA’s Kennedy Space Center in Florida, technicians guide the backshell as it is lowered over NASA’s Mars Science Laboratory (MSL) rover, Curiosity, for encapsulation on Sept. 23. The backshell, a protective cover, carries the parachute and several components used during later stages of entry, descent and landing...”.

From The October 28, 2011, Spaceport News

On page 3, “**Visit brightens governor’s vision of future space missions**”, by Steven Sicheloff, Spaceport News. [Part of the feature states](#) “Florida Gov. Rick Scott got a firsthand look Oct. 18 at the facilities Kennedy Space Center will use to assemble and process the Orion spacecraft for launch on deep space missions.



“Kennedy Space Center Director Bob Cabana, right, shakes hands with Florida Gov. Rick Scott, (left), following a tour of the Orion Multi-Purpose Crew Vehicle processing facility in the Operations and Checkout Building at Kennedy on Oct. 18. In the center is Florida Lt. Gov. Jennifer Carroll, chairwoman of Space Florida. The governor and other state officials were at Kennedy for a Florida cabinet meeting and a space industry roundtable at the Kennedy Space Center Visitor Complex’s Debus Conference Center.”

This is the future,” Scott said. “We always have to look at all the changes and say, ‘Look, we have a great opportunity.’ We’re going to continue to make things happen here. The governor, along with Lt. Gov. Jennifer Carroll and state Cabinet officers Jeff Atwater, chief financial officer, and Adam Putnam, Agriculture commissioner, toured the Operations and Checkout Building and visited the Vehicle Assembly Building as well...”.

On pages 4 and 5, “**Scenes Around Kennedy Space Center**”.



“Lined up in a row, Pratt Whitney Rocketdyne space shuttle main engines (SSMEs) sit on stands inside the Engine Shop at Kennedy Space Center on Oct. 10. For the first time, all 15 main engines are in the Engine Shop at the same time. They are being prepared for shipment to NASA’s Stennis Space Center in Mississippi for storage following the completion of the Space Shuttle Program. The engines are being repurposed for use on NASA’s Space Launch System heavy lift rocket...”.

From The November 11, 2011, Spaceport News

On page 1, “**NASA helps get OPF-3 a new commercial user**”, by Steven Sicheloff, Spaceport News. A portion of the article states “The Boeing Co. will set up Orbiter Processing Facility-3 at Kennedy Space Center to manufacture and assemble its CST-100 spacecraft for launches to the International Space Station under a newly signed agreement with NASA and Space Florida. “It’s a clear sign that NASA will continue to be an engine for growth,” said Lori Garver, the agency’s deputy administrator, in announcing the deal during a ceremony Oct. 31 at OPF-3. “Together we’re going to win the future right here.”...



“Frank DiBello, president of Space Florida, speaks to the audience after announcing the signing of an innovative agreement between NASA and Space Florida in Orbiter Processing Facility-3 (OPF-3) at Kennedy Space Center on Oct. 31... . The 15-year use permit deal is the latest step Kennedy is making as the center transitions from a historically government-only launch complex to a multi-user spaceport...”.

On page 3, “**Mars Science Laboratory uses ‘fancy power supply’ to do its job**”, by Steven Sicheloff, Spaceport News. Part of the feature states “About the size of a small SUV and weighing as much as some cars, the Mars Science Laboratory “Curiosity” is being asked to conduct the most intensive examination of the surface of the red planet ever attempted. It carries cameras, a robotic arm, drill and even a laser to vaporize bits of rock at a distance.

That’s too much work for solar panels to power, so NASA is fueling the rover with a plutonium-powered battery of sorts called a multi-mission radioisotope thermal generator, or MMRTG. Loaded with 10 pounds of the material, the power source is expected to generate electricity for a mission lasting at least two Earth years...

NASA has used the power units in the past many times, including the Apollo moon landings and on the Viking landers. Also, the Pioneer, Voyager and Galileo spacecraft used the power units. More recently, NASA also used the generator for the New Horizons mission to Pluto in 2006...”.



“The Mars Science Laboratory Curiosity, shown here on Oct. 31, is the largest rover to be sent to the red planet and it needs a more powerful source of energy than solar panels. That’s why NASA approved a radioisotope thermal generator, or RTG, to power the spacecraft as it moves across Mars and conducts experiments with its 10 instruments...”.

On pages 4 and 5, “**Scenes Around Kennedy Space Center**”.



“About 200 cyclists, including disabled American veterans and their supporters, rode through portions of Kennedy Space Center and Cape Canaveral Air Force Station (CCAFS), Oct. 27, as participants in Ride 2 Recovery (R2R), an organization that assists wounded veterans overcome mental and physical obstacles. The six day Florida Challenge originated in Jacksonville. The riders’ route on the Space Coast included entry at State Road 402 to Playalinda Beach, then south on Phillips Parkway, past Kennedy’s Launch Complex 39 and on to CCAFS... “The 45th Space Wing and Cape Canaveral Air Force Station are both proud and humbled to be able to play a small part in this Ride 2 Recovery effort,” said Col. Rory D. Welch, 45th Space Wing vice commander...”.

On page 8.

WORD ON THE STREET

With all the recent announcements at Kennedy Space Center, such as the Space Launch System, mobile launcher, use of Orbiter Processing Facility-3, where do you foresee Kennedy in the future?



"We're going to have a lot of private industry out here and it's good. We have plenty of space. I'm looking forward to a lot more collaboration"

Kari Heminger,
with NASA

"I think Kennedy will become a commercial spaceport and I see deep space exploration becoming the focal point for the agency in the future."

Greg Lee,
with Abacus Technology Corp.



From The November 26, 2011, Spaceport News

On pages 1 and 2, "**Curiosity heads for Mars**", by Steven Sicheloff, Spaceport News. A portion of the story reads "NASA's Mars Science Laboratory (MSL) is taking a toolbox to Mars that any researcher would be proud of. A drill, metallic brush and even a laser are part of the gear set the MSL rover, called Curiosity is taking to the Red Planet... The spacecraft launched Nov. 26 atop an Atlas V rocket at 10:02 a.m... Landing is expected in early August 2012..."



"NASA's Mars Science Laboratory (MSL) spacecraft, sealed inside its payload fairing atop an Atlas V rocket, clears the tower at Space Launch Complex 41 on Cape Canaveral Air Force Station in Florida. MSL lifted off from at 10:02 a.m. EST Nov. 26, beginning a 9-month interplanetary cruise to Mars..."

On page 2, “**Cabana, NASA leaders testify before Senate Subcommittee**”, by Melanie Carlson, Spaceport News. Part of the feature states “Kennedy Space Center Director Robert Cabana, along with NASA Administrator Charles Bolden, Johnson Space Center Director Michael Coats and Marshall Space Flight Center Director Robert Lightfoot, testified in a hearing before the U.S. Senate Subcommittee on Science and Space on Nov. 17. Chaired by Sen. Bill Nelson of Florida, the subcommittee hearing on “NASA’s Human Space Exploration: Direction, Strategy and Progress” was held to discuss NASA’s plans for human exploration...

During the hearing, Cabana spoke about future plans at Kennedy. He told subcommittee members, “As we transition to the future, we have focused on providing a strong institutional core that is more efficient, cost effective and capable of supporting multiple programs... Cabana next outlined for members the various programs and projects at the center and their accomplishments...”.



“Kennedy Space Center Director Bob Cabana testifies in a hearing before the U.S. Senate Subcommittee on Science and Space on Nov. 17.”

On page 5, “**Scenes Around Kennedy Space Center**”.



“STS-135 Mission Specialist Rex Walheim paid a visit to Kennedy Space Center on Nov. 15 and signed items for workers in the Headquarters lobby.”

From The December 9, 2011, Spaceport News

On pages 4 and 5, “**Scenes Around Kennedy Space Center**”.



“Space shuttle Discovery sports three replica shuttle main engines (RSMEs) in Orbiter Processing Facility-1 at Kennedy Space Center on Dec. 12. The RSMEs were installed on Discovery during Space Shuttle Program transition and retirement activities. The replicas are built in the Pratt & Whitney Rocketdyne engine shop at Kennedy to replace the shuttle engines which will be placed in storage to support NASA’s Space Launch System, under development. Discovery is being prepared for display at the Smithsonian’s National Air and Space Museum Steven F. Udvar-Hazy Center in Chantilly, Va...”.

On page 8.



“From left, Lars Perkins, chair of the Education and Public Outreach Committee of the NASA Advisory Council; Will.i.am, entertainer and member of the The Black Eyed Peas; NASA Deputy Administrator Lori Garver; former astronaut Leland Melvin, NASA associate administrator for Education; and television personality Bill Nye the Science Guy share a light moment with the participants of a NASA Tweetup in a tent set up at Kennedy Space Center’s Press Site during prelaunch activities for the agency’s launch of Mars Science Laboratory with the Curiosity rover on Nov. 26...”.

From The December 22, 2011, Spaceport News

On page 6, “**Good plan makes ease of high-fidelity model move**”, by Steven Sicheloff, Spaceport News. In part, the article states “It takes a lot to move a space shuttle, even if it’s a full-sized model. Moving the high-fidelity shuttle model from the Kennedy Space Center Visitor Complex on Dec. 11 called for an array of planning, a specialized trailer

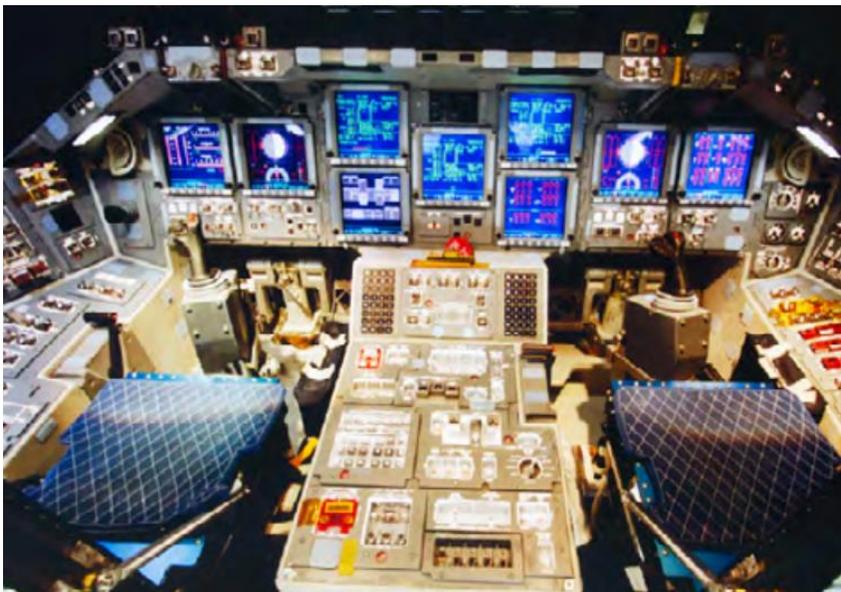
and about 100 people. It also called for the temporary removal of 18 light poles, four traffic signals and some street signs... It took the team about five hours to make the six-mile trip from the visitor complex to the turn basin across the street from NASA Kennedy Space Center's Vehicle Assembly Building...

The model, which weighs some 130,000 pounds, almost the same as a real shuttle, is outfitted with doors, and people toured inside it for years at the visitor complex... The model is expected to remain at the turn basin until February, when it will be taken on an open barge to Texas for display at Space Center Houston, the visitor center for NASA's Johnson Space Center...".



"The high-fidelity space shuttle model, which was on display at the NASA Kennedy Space Center Visitor Complex, rolls through the parking lot leading to Kennedy's Launch Complex 39 turn basin on Dec. 11..."

On page 7, "**Discovery powers down one final time**".



"The flight deck of space shuttle Discovery is brightly illuminated for the last time Dec. 16 in Orbiter Processing Facility-1."

On pages 4 and 5, “**2011 KSC Holiday Coffees**”.



“NASA civil service and contractor employees enjoy refreshments and other goodies at the 32nd annual KSC Holiday Coffees on Dec. 13...”.

