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John F. Kennedy Space Center

Atlantis gets a nose job



Nose cap sent off to vendor; OMS pod also installed at Orbiter Processing Facility

Kennedy Space Center workers continue to prepare the Space Shuttle Atlantis for STS-114, including removing its nose cap made of Reinforced Carbon-Carbon (RCC) and work on the two Orbiter Maneuvering System (OMS) pods. The nose cap was removed from the orbiter for inspection and refurbishment, then returned to the vendor, Vought Aircraft Industries, Fort Worth, Texas, for structural inspections, according to Scott Thurston, Atlantis vehicle manager.

"Once the nose cap is disassembled, the structural hardware will be sent back to KSC for the actual inspection and the RCC parts of the nose cap will be inspected similar to the Wing Leading Edge (WLE) RCC."

After Vought takes the bulkhead off the nose cap and



THE NOSE cap for Space Shuttle Atlantis (above) is packed for shipment back to its vendor, Vought Aircraft Industries in Fort Worth, Texas. It will be inspected similar to the Wing Leading Edge Reinforced Carbon-Carbon. Inside the OPF, one of two Atlantis Orbiter Maneuvering System (OMS) pods (left) is installed. Each pod houses the Reaction Control System propulsion components used for inflight maneuvering.

(See ATLANTIS, Page 2)



Dr. Woodrow Whitlow
Deputy Center Director

The Kennedy Update

Good day, everyone. Center Director Jim Kennedy is on a much deserved vacation and begins his first full week back to work on Nov. 17. In his absence, he asked me to fill in as his guest columnist, and I appreciate the opportunity to communicate with everyone.

I can't believe it's been two months since I've come on board. The time has flown by, and I'm sure things will only get busier with the holidays approaching.

First, let me thank the entire workforce for the kindness and warmth you've extended to me and my family as new members of the KSC team. During my career at NASA, I have made several trips to KSC, but I'm thrilled to be here as your Deputy Center Director. It's easy to see why this Center has such a great reputation throughout the Agency.

It's been everything I hoped and so much more. To put it simply, "I'm now NASA-KSC and proud to be!"

If there is one thing I've learned in my two months, it's that a great deal of fantastic work takes place here everyday. I've had several orientations with different directorates and contractors, and I always come away amazed at the fascinating work you accomplish.

As a researcher by trade, I'm curious to learn something new, and KSC is a hotbed of interesting activities and programs. I've enjoyed my time working my way around the Center, and if I haven't come your way yet, don't worry, I'll be there shortly.

Moving on to some specific business, next week is an important week for our Agency. By now you should have received a copy of the Columbia Accident Investigation Board's

report. Administrator Sean O'Keefe is asking all of you to take some time to read the report, discuss it and send input through your directorate or contractor to Jeanne Hawkins.

The inputs should be recommendations on how items in the CAIB report can be translated into other programs or areas within NASA to make us a stronger, safer and smarter Agency. Jeanne will assemble a report that we'll send to Headquarters to be briefed to Mr. O'Keefe.

Jim and I are asking everyone to take some time to give this your best effort so our input is well thought out and of value. Thanks for your attention to this matter!

The inputs should be recommendations on how items in the CAIB report can be translated into other programs or areas within NASA to make us a stronger, safer and smarter Agency. î

I want to thank everyone who had a hand in escorting our nearly 600 NATO parliamentary guests and their families here Nov. 10. This is a very influential group, and they were impressed with KSC, especially our people. I especially want to thank the army of volunteers that stepped up and put KSC's best foot forward.

On Nov. 19, we'll have the official ribbon cutting for the

Space Life Sciences Laboratory that you may have formerly known as SERPL. Our cooperative effort with the state of Florida on this \$30 million facility unleashes an unlimited potential in the research area.

The preparation work for countless International Space Station experiments will be conducted at the SLS Lab for years to come. This keeps NASA, in concert with the state, on the leading edge of research and technology that will directly help push human space exploration beyond low-earth orbit in the future.

The next issue of *Spaceport News* doesn't hit the streets until after the Thanksgiving holiday. On behalf of Jim Kennedy,

Jim Hattaway and myself, I'd like to wish everyone a Happy Thanksgiving. I know many people will be traveling, so please be safe.

We want to have everyone back safe and sound for an exciting December that starts out with the launch of Gravity Probe B from Vandenberg Air Force Base, Calif., Dec. 6. I can't wait!

Have a great week!

NATO group tours KSC during annual meetings in Orlando

ATLANTIS . . .

(Continued from Page 1)

sends it back to KSC for more tests this month, the company will proceed with Nondestructive Evaluation.

Also in the Orbiter Processing Facility, the two Orbiter Maneuvering System (OMS) pods are being installed on Atlantis. The OMS pods are attached to the upper aft fuselage left and right sides.

Fabricated primarily of graphite epoxy composite and aluminum, each pod is 21.8 feet long and 11.37 feet wide at its aft end and 8.41 feet wide at its forward end. Each pod houses the Reaction Control System propulsion components used for inflight maneuvering and is attached to the aft fuselage with 11 bolts.

Atlantis processing is going very well for a late July rollout at the Orbiter Processing Facility in preparation for a possible launch date of Sept. 2004, according to Thurston.



During their tour of KSC, members of the North American Treaty Organization (NATO) Parliamentary Assembly and their families look at wheels used on an orbiter. More than 500 members of the group chose to visit KSC during their one-day excursion break from meetings. The NATO assembly held a five-day session in Orlando to discuss international issues.

NASA Safety and Mission Assurance Week - Nov. 17-21

KSC work force to discuss recommendations of CAIB Report

During Safety and Mission Success (SMS) Week, Nov. 17-21, NASA is encouraging civil servants and contractors to engage in an Agency wide dialogue on the Columbia Accident Investigation Board (CAIB) Report. NASA Administrator Sean O'Keefe will kick off SMS Week, followed by a KSC all hands meeting Nov.17.

"We are providing an opportunity for individuals and organizations to reflect on the relevance of the CAIB recommendations and provide feedback on the implementation strategies," said Kennedy.

After reviewing previously distributed copies of the CAIB Report, the entire NASA work force will discuss the Report's implications on their respective work and the entire Agency. The work force should consider SMS Week part of a continuous process to reflect on ways to better NASA.

For further details, contact Jeanne Hawkins, 861-7996, or Maynette Smith, 867-5834.

Romanella selected for NASA management program

Russell Romanella, ISS/Payload Processing deputy director, takes a proactive approach to solving problems. That approach, and the ability to tackle executive responsibilities, recently earned Romanella the Senior Executive Service (SES) designation from NASA.

NASA's SES Candidate Development Program offers employees who are given executive responsibilities structured courses and seminars

to meet the Agency's projected needs and management values.

"The ISS/Payload Processing directorate has an outstanding reputation as a superior customer service organization," said Romanella. "The most important thing I can do is help maintain that outstanding reputation, provide challenging opportunities for all employees and ensure the development of future leaders."

(See **RUSSELL**, Page 7)



RICHARD ALONZO, a mail messenger for InDyne, Inc., prepares a stack of Columbia Accident Investigation Board Final Reports for delivery to the civil servant and contractor work force at KSC as part of Safety and Mission Success Week, Nov. 17-21.

November Employees of the Month



THE NASA November Employees of the Month, pictured left to right, are Tim Williamson, Spaceport Services; Jim Thomson, Space Shuttle Launch Integration; Phil Bennardo, Spaceport Engineering and Technology; Mike Milbert, ISS/Payload Processing; Jorge Rivera, Shuttle Processing. Not shown are George Dutt, Information Technology and Communication Services; Lorenzo Chance, Procurement Office; Dawn Trout, ELV and Payload Carriers Programs; Kandy Warren, External Relations and Business Development.



RUSSELL ROMANELLA, ISS/Payload Processing deputy director, has earned the Senior Executive Service (SES) designation from NASA.

NASA scientists farm fall harvest at brand new Space Life Sciences Lab

The radishes are bright red-pink in color, their leaves a brilliant green, and the room is filled with a pungent, earthy smell as researchers in the Space Life Sciences (SLS) Lab prepare to harvest young plants and record the data.

During the harvest, Dynamac researchers Sharon Edney and Nate Cranston separate the leaves and stems from the radishes, measure the total leaf area and the size of each radish. Then the radishes are placed inside a drying oven to remove all the water and the remaining carbon content is measured and compared to previous research.

According to Neil Yorio, Dynamac plant physiologist, the radishes are part of a Mixed Crop Salad Evaluation Experiment that also includes onions and lettuce growing side by side in a plant growth chamber.

The edible and inedible parts of each plant are harvested every 21 days to evaluate their response to environmental parameters.

"We're testing the results of a mixed versus a monoculture crop that can be used for crew dietary augmentation on the International Space Station," said Yorio. "The physical results are all very important factors for growing fresh food crops in space."



INSIDE THE Space Life Sciences Lab, Kevin Burtness, electrical/software engineer with Bionetics, Senior Research scientist Dr. Howard Levine and research scientist Jessica Prenger, both with Dynamac, check wheat plants in the Water Offset Nutrient Delivery Experiment (WONDER).

Many other experiments are in the works at the SLS Lab. Since scientists and researchers from NASA, Dynamac Corp., Bionetics and the University of Florida moved in just two months ago, the 100,000-square-foot facility, built by the state of Florida in partnership with NASA, has been a hub of research activity.

KSC and state officials will host a dedication ceremony for the Space Life Sciences Lab and Space Commerce Way, Nov. 19,

during a ribbon-cutting ceremony at the new laboratory.

In addition to plant growth experiments, there are labs for NASA's ongoing research efforts, resource recovery, microbiology/microbial ecology studies, analytical chemistry labs and facilities for spaceflight experiment development and flight hardware development, according to Dr. Ray Wheeler, NASA plant physiologist.

The facility also contains an Orbiter Environment Simulator (OES) that will be used to conduct ground control experiments in simulated flight conditions for Space Flight Experiments.

"Our first opportunity for growing plants in space will be small systems in small containers," said Wheeler. "We'll focus on perishable crops that can supplement supplies on the Station."

Other work includes RNA and DNA sequencing; using certain microbial systems to degrade waste materials; studying potato plants; and looking at plant watering systems for weightlessness.

What else is going on at the SLS?

In a microbiology lab, Dynamac molecular biologist Dr. Michael Roberts and his team are involved in RNA and DNA sequencing. Included in the study are tracking human-associated organisms in the bacteria, with future applications to microbial studies on the Station.

In the resource recovery lab, Tony Rector, Dynamac biological engineer, tests the use of certain microbial systems to purify waste water and degrade solid waste. The results will help determine how to recycle water and treat waste on future missions to the ISS and deep space.

Down the hall, a 42-day study of potato plants is in process - a follow-up to an experiment done with a mixed crop while researchers were still in Hangar L. In another plant growth chamber, Bionetics and Dynamac engineers inspect wheat plants in the Water Offset Nutrient Delivery Experiment (WONDER).



NEIL YORIO, a Dynamac plant physiologist, inspects a tray of radishes inside a plant growth chamber in the Space Life Sciences Lab prior to harvesting.

Combined Federal Campaign sets all-time record

Kennedy Space Center employees set another all-time giving record during the recently concluded Combined Federal Campaign (CFC).

During this year's CFC, federal employees generously contributed more than \$354,000, far exceeding the campaign goal of \$280,000. Of that amount, approximately \$121,000 will be distributed to various Brevard County charities.

"Absolutely fantastic campaign," said Susan Kroskey, executive director of the Cape Canaveral Spaceport Management Office, who chaired the campaign. "KSC can be very proud of their very strong commitment to demonstrate that 'Donations DO Make A Difference.' I also want to give a special thanks to the CFC cabinet, unit coordinators and key solicitors for a really terrific job in running the campaign."

All KSC employees will celebrate the highly successful campaign as part of next month's

holiday celebration. KSC employees also participated in the Days of Caring event Oct. 24 and worked up to four hours at a charity of their choice.

Thirteen volunteers from the Cape Canaveral Spaceport Management Office (CCSMO) converged on the Salvation Army's Domestic Violence Center in Cocoa to take on various cleaning projects, including raking leaves and cleaning windows, screens and toys, while another artistic group managed to create a castle on an unpainted door in the children's room.

Employees from the XA directorate, including Denise Coleman, Tiffany Lindsley and Pat Christian, participated in activities at the Cuyler Senior Center in Mims involving 30 senior citizens.

Activities included games, singing and a lunch. The group "had an incredible time and were graciously welcomed back," according to Christian.



SMILE EVERYONE!

Jim Kennedy, KSC Director, shows the Head Start class at the Space Coast Early Intervention Center in Melbourne the finer points of operating a video camera. Kennedy, along with hundreds of KSC employees, volunteered their time Oct. 24 at several United Way agencies as part of the month-long Combined Federal Campaign. Employees contributed more than \$354,000.



VOLUNTEERS FROM the Cape Canaveral Spaceport Management Office (above) converged on the Salvation Army's Domestic Violence Center to take on various cleaning projects. Denise Coleman (below), an employee from KSC's External Relations and Business Development directorate, coordinates a card game at the Cuyler Senior Center in Mims as part of Days of Caring. Tiffany Lindsley and Pat Christian also helped out at the center.



USA group helps Brevard Humane Society



THIS USA HVAC group installed an air conditioning system in the new Merritt Island Humane Society Thrift Store. The group includes (from left) Dennis Lohaus, Scott Treder, Randy Roberson, Bill Gunter, Brian Donahue and Mike May.

United Space Alliance Heating, Ventilating and Air Conditioning (HVAC) group members at KSC came to the rescue of the Brevard County Humane Society when Dennis Lohaus, a senior engineer who has an air conditioning contractor's license, and other USA members helped Theresa Clifton with her effort to renovate an old convenience store into a new thrift shop. The store is located at 2525 N. Courtenay Parkway in Merritt Island. This effort saved the humane society \$5,000.

Burning the midnight oil - CFO transitions into new 'unique year'

While workers at Kennedy Space Center look forward to return to flight, another team of workers in the Chief Financial Office worked diligently to complete the Fiscal Year 2003 budget and accounting closeout by midnight, Sept. 30.

This huge undertaking was completed by 46 accountants and more than 50 resource project managers across Center directorates, along with assistance from KSC procurement and contractor All Points Logistics.

"This was a unique year at KSC in that we are now operating under full cost accounting, managing and budgeting, which ties all the costs back to the projects," said N.A. Carroll, KSC chief financial officer. "It is one fund that is divided into direct and indirect costs. In the past, we've only been directly



KSC Chief Financial Officer Napoleon Carroll (standing center) reviews fiscal year 2003 close out procedures with staff members, including (sitting from left) Lydia Del Rio, Richard Cota Sam Lenck, Genger Thorn (standing) Bridgett Mack, Kathy Bryant and Sheldon Lauderdale.

involved in full cost budgeting."

The fiscal year 2003 closeout included implementing several new system improvements that NASA Administrator Sean O'Keefe had mandated, includ-

ing meeting an earlier deadline for implementation of NASA's new Core Financial Module.

During the closeout, the team reviewed all program accounts to ensure that all of the funds were

allocated and used, before the Centerwide system was shut down. "We actually had two closeouts," according to Sam Lenck, KSC deputy chief financial officer for finance. "One was on Sept. 30, and the second closeout was Oct. 16, to allow time to resolve any open issues and transactions that could not be processed because of system problems."

The team accomplished the task by working long hours in the weeks before the deadline, using teleconferences and meetings in order to resolve last-minute problems.

"During the last couple of days there was a mad dash to get all fiscal year 2003 dollars obligated," said Lenck. "It required a lot of teamwork and late nights from the procurement, finance and resources people in order to achieve a successful closeout."

Kennedy shares One NASA message at JPL

Agency representatives connected at the Jet Propulsion Laboratory (JPL) Oct. 17 supporting One NASA - a commitment to efficient and effective teamwork.

Kennedy Space Center Director Jim Kennedy accompanied Dr. Ghassem Asrar, NASA's Earth Science manager; Johnny Stephenson, the One NASA lead; and JPL Director Dr. Charles Elachi for the town hall meeting.

"One NASA is not an end. It's a means to an end," said Stephenson. "Sometimes the minority opinion has the best idea. Hopefully, we don't get on a bandwagon and do something without hearing everyone."

The workshop was one outlet for the encouraged idea-sharing. During various activities, including tours, JPL assured that local and visiting employees had sufficient means to communicate their visions.

"We have to know each other to trust each other, and we have



COMMUNICATING THE One NASA idea at the Jet Propulsion Laboratory were (from left) Johnny Stephenson, the One NASA lead; Dr. Ghassem Asrar, NASA's Earth Science manager; JPL Director Dr. Charles Elachi; and

to trust each other to be a team," said Kennedy, who believes these meetings spotlight sister center activities. "If you want to know what's important to

someone, look in their check-book. The same thing's true for their calendar. See where they've spent their time. Spending two days at JPL helped us."

Asrar, who discussed Earth Science applications, also commented that One NASA will "assure we all pull together."

Melton's diverse engineering background leads to invention

You could say NASA engineer Greg Melton's mind is always on the go.

"I like to design and build things that move," said Melton, a mechanical design engineer. The 2003 Employee of the Year Award recipient from the Spaceport Engineering and Technology (SE&T) directorate added, "I don't want to just watch it being done - I like the hands-on design work."

Melton has worked in SE&T since his arrival at KSC as a NASA co-op student in 1984. From 1984 to 1996, he worked in the Material Sciences Laboratory in the Operations and Checkout Building. In 1996, he transferred to the umbilicals design engineering group to work on the X-33 umbilical design in concert with United Space Alliance and Lockheed Martin Technical Operations.

Melton, who has a B.S. in mechanical engineering from the University of Central Florida, returned to the design engineering team to work on several



GREG MELTON, a NASA mechanical engineer, demonstrates the mid-Ball Strut Tie Rod Assembly (BSTRA) ball rotation tool on a replica of an orbiter vehicle's BSTRA, inside the Development Integration Laboratory. Melton designed the tool and several others for use in BSTRA inspections.

projects, including the Ball Strut Tie Rod Assembly (BSTRA) tools project.

It was his BSTRA tools project work that earned him his directorate's Employee of the Year Award. Melton was the lead engineer and instrumental in the design and development of this and one other BSTRA tool used

during inspection work on the fuel lines of the Space Shuttle's main propulsion system. The BSTRA Ball Rotation Tool turns the ball held inside the BSTRA while a camera inspects for cracks and irregularities.

Another tool, the BSTRA clamping tool, frees up the BSTRA inside the struts so that it

rotates freely for inspection.

When he's not working on a KSC design project, Melton is water-skiing, dirt biking or scuba diving with his family. He also participates in the Society of Automotive Engineers' (SAE) off-road race car design competition for college students, called the Mini-Baja.

F.I.T. honors Columbia



FLORIDA INSTITUTE OF TECHNOLOGY in Melbourne honored the Space Shuttle Columbia and its crew with a ceremony Oct. 28 by christening Columbia Village and its seven residence halls. Lani McCool (back row, left), wife of STS-107 Pilot Willie McCool, accompanied by her children and other family members, stand in front of the hall named for her late husband. Rick Husband, Laurel Clark, Michael Anderson, David Brown, Kalpana Chawla and Ilan Ramon also have residences named in their honor.

RUSSELL . . .

(Continued from Page 3)

Aside from his recent designation, he possesses numerous group achievement and performance awards, including NASA's Exceptional Service Medal for leading Payload Data Management System work.

As a co-op student, Romanella's relationship with NASA began in 1981. Since officially joining the Agency in 1984, his professional roles have included division chief and project manager. Since 1996, he's held key ISS positions.

In his current role, the Cocoa Beach resident helps manage the team that safely prepares Space Shuttle payloads for flight, assuring the directorate functions safely, efficiently and effectively.

"Payloads come to KSC in various stages of readiness from all over the country and the world," Romanella said. "We work with these domestic and international customers to get their payloads ready for launch and on-orbit operation."

He's supported acceptance of critical Station elements in both Italy and Canada, and managed their KSC processing activities. Under Romanella's guidance, critical ISS elements were successfully assembled at KSC, tested, launched and now support the permanent Station crew.

Romanella, born in Miami, has determined expectations for the directorate.

"I look forward to a future where the ISS's research potential is fully realized, and a time when multiple U.S. launch vehicles supply crew and research to the ISS - a time when the directorate is challenged to keep up with all the work," he said. "And I anticipate a time when the country and NASA take the next step, and we'll be asked to help get there."

Remembering Our Heritage

Five years ago: American legend John Glenn exemplified the right stuff

"3...2...1...and liftoff of Discovery with a crew of six astronaut heroes and one American legend." And with these words by NASA countdown commentator Lisa Malone on Oct. 29, 1998, America and the world watched in awe as Space Shuttle mission STS-95 began nine days of microgravity research.

Who were these six astronaut heroes? They were Commander Curtis Brown Jr., Pilot Steven Lindsey, Payload Commander Stephen Robinson, Mission Specialist Scott Parazynski, Japanese Payload Specialist Chiaki Mukai and European Mission Specialist Pedro Duque, who just returned Oct. 27 from a visit to the International Space Station.

The American legend, though, was known to everyone and had been drawing media attention since NASA announced his assignment to the STS-95 crew in January 1998. He was John Herschel Glenn Jr., a senator from Ohio and one of the original seven Project Mercury astronauts.

Glenn had long been an advocate of applying the lessons



JOHN GLENN JR. circled Earth three times in his Mercury capsule at the age of 40 (above). At right, Glenn, at the age of 77, became the oldest NASA astronaut to fly in space. "I may be a guinea pig, but I'm a participating and willing guinea pig on this flight, too," said Glenn in orbit.

learned from space flight for the benefit of healthy and productive aging, and so, was a natural choice to conduct additional research on the body's responses to the microgravity environment.

The physiological responses common to space flight and aging targeted included bone and muscle loss, balance disorders and sleep disturbances.

Glenn had set his first NASA record on Feb. 20, 1962, at the



age of 40. He was the first NASA astronaut to orbit the Earth, circling the planet three times in his Mercury capsule, Friendship 7.

This second NASA record was set 36 years, 8 months and nine days after the first. He defied all of humanity's preconceptions about the capabilities of seniors to become, at 77, the oldest NASA astronaut to fly in

space.

The record was held previously by Story Musgrave, who was 61 when he made his last Shuttle flight.

How did his second flight compare to his first? From orbit, Glenn remarked, "This is a flying laboratory up here, and I guess I may be a guinea pig, but I'm a participating and willing guinea pig on this flight, too."

Space Club recognizes three pioneers for achievements

The National Space Club Florida Committee recently recognized three people with the Lifetime Achievement Award for contributions to the U.S. space program. The first recipient, John Neilon, had experience in launch vehicle, spacecraft and range operations at both the Eastern and Western Space and Missile Centers. He retired from KSC after a federal career of almost 39 years. Orion Reed, also honored, retired from General Dynamics in 1978 as base manager of Cape Canaveral Operations after a 40-year career. He started work for North American Aviation on the Mustang prior to WW II, and then, for Northrup on the Black Widow and 'Flying Wing' in the 1940s. The last honoree, James Schofield, retired in 2001 following a 42-year career with McDonnell Douglas and Boeing. His career started in North Carolina where he worked on the NIKE missile.



John F. Kennedy Space Center

Spaceport News

Spaceport News is an official publication of the Kennedy Space Center and is published on alternate Fridays by External Relations and Business Development in the interest of KSC civil service and contractor employees.

Contributions are welcome and should be submitted two weeks before publication to the Media Services Branch, XA-E1. E-mail submissions can be sent to Jeffery.Stuckey-1@ksc.nasa.gov

Managing editor..... Bruce Buckingham
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Editorial support provided by InDyne, Inc. Writers Group.
NASA at KSC is located on the Internet at <http://www.ksc.nasa.gov>

USGPO: 733-133/600044



National Aeronautics and
Space Administration

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