Mission update

Mission: Delta II-XTE

Launch date, time: 8:48 a.m., Dec. 30, 1995, from Launch Complex 17, Pad A, Cape Canaveral Air Station.

Mission synopsis: The XTE spacecraft is outfitted with three scientific instruments that will study X-rays, including their origin and emission mechanisms, and the physical conditions and evolution of X-ray sources within the Milky Way galaxy and beyond. The Delta II 7920 expendable launch vehicle is provided by McDonnell Douglas.

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Spaceport News

America's gateway to the universe. Leading the world in preparing and launching missions to planet Earth and beyond.

John F. Kennedy Space Center

1996 Spaceport News Summary

There was one banner used in 1996; see above, with Mission updates on the left. And a little color is introduced into the Spaceport News! **NOTE**: There is an update from the 1995 Spaceport News Summary at the end of this Summary.

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 Spaceport Magazine, a monthly issue, superseded the Spaceport News in April 2014, until the final issue, Jan./Feb. 2020.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 19, 1996, Spaceport News Summary

On page 1, in addtion to the Delta II-XTE Mision udpate shown on the previous page, there is an update for STS-75, as follows. And the mission patch is in color, in the Spaceport News!

“Mission: STS-75 on Columbia.

Launch date, time: Feb. 22, 3:08 p.m. from Launch Pad 39B.

Synopsis: The sevenmember international STS-75 crew will conduct scientific investigations with both the Tethered Satellite System-1R (TSS-1R) and United States Microgravity Payload-3 (USMP-3) primary payloads during the 75th Space Shuttle mission.

Landing date, time: March 7, 7:38 a.m. at Kennedy Space Center's Shuttle Landing Facility.”

From Wikipedia, “The STS-75 crew patch depicts the Space Shuttle Columbia and the Tethered Satellite connected by a 21 km electrically conduction tether. The Orbiter/satellite system is passing through the Earth's magnetic field which, like an electric generator, will produce thousands of volts of electricity. Columbia is carrying the United States Microgravity Pallet to conduct microgravity research in material science and thermodynamics. The tether is crossing the Earth's terminator signifying the dawn of a new era for space tether applications and in mankind's knowledge of the Earth's ionosphere, material science, and thermodynamics. The patch was designed for the STS-75 crew by Space Artist Mike Sanni.”

On pages 1 and 6, **“STS-72 provides bright start to new year”.** In part, the article reads “KSC officials expressed pride in the commitment shown by the work force that resulted in the flawless launch of STS-72 Jan. 11. "The professionalism of the KSC

team is highlighted by a continuing commitment to excellence," said Center Director Jay Honeycutt. Despite unresolved budget issues, "our team does not compromise when it comes to getting the job done." The 4:41 a.m. launch was delayed 23 minutes due to communications problems; however, the liftoff from Pad 39B was without any serious technical glitches…

"THE SPACE SHUTTLE Endeavour lights up the night as it thunders aloft from Launch Pad 39B at 4:41 a.m. Jan. 11, kicking off the 1996 Shuttle launch schedule. During their nine-day mission crew members will retrieve the Japanese Space Flyer Unit and deploy and later retrieve the Office of Aeronautics and Space Technology Flyer (OASTFlyer). At press time landing was scheduled for Jan. 20 at 3:17 a.m. at KSC."

On page 2, **"One small step . . .".** The caption for the photo on the next page is "THE SATURN V launch vehicle currently on display in front of the Vehicle Assembly Building (VAB) is being prepared for its move this spring to the new Apollo/Saturn V facility under construction near the Banana Creek viewing site. The first stage of the vehicle was moved back 12 feet last week in order to make room for a temporary tent to be erected over the other stages. Once the tent is in place, the vehicle will be powerwashed in preparation for its final move which is scheduled to take place in April."

On page 5, **“Space Flight Awareness closes out 1995 with flurry of activity”.**

Part of the article states “The Space Flight Awareness office closed out 1995 with a variety of activities recognizing the Kennedy Space Center team for contributions to successful missions. Among the activities:…

November 1: Three members of the STS-69 crew returned to KSC to visit employees as part of their post-flight activities. Crew members showed mission film to audiences at the Training Auditorium and Orbiter Processing Facility Bay 1. The crew also visited with members of the STS-69 Payload Test Team.

November 10-12: KSC hosted the STS-74 Space Flight Awareness event. Approximately 250 NASA-wide honorees, including 50 from KSC, along with their spouses/guests participated in the activities. Highlights included attending a reception at Port Canaveral Cruise Terminal #10 along with astronauts and top NASA and industry officials, viewing the IMAX movie “The Dream is Alive,” and a VIP tour of Kennedy Space Center. Guests were treated to a social at KARS Park I and viewed the launch of STS-74 from the Banana Creek viewing site the next morning…

December 5: The STS-73 crew visited KSC. The crew made a presentation and showed the mission film in the Training Auditorium. Crew members also visited the STS-74 Payload Test Team and employees in the Orbiter Processing Facility Bay 2."

On the left, "STS-74 SPACE FLIGHT AWARENESS honorees enjoy a reception at the Canaveral Port Authority. On the right, Nora Ross of the Shuttle Operations Directorate poses with astronaut Ken Cockrell. On the left is Ross's daughter, Susan Coumes". On the right, "USBI employee Dan Denaburg is presented with the prestigious Space Flight Awareness Flight Safety Award."

From The February 2, 1996, Spaceport News

On page 1, **"Mission update"** for STS-72.

"Mission: STS-72 on Endeavour

Landing date, time: 2:41 a.m., Jan. 20, 1996, at Kennedy Space Center's Shuttle Landing Facility."

Also on page 1, **“51-L crew remembered”.** The article reads KENNEDY SPACE CENTER commemorated the 10th anniversary of the Challenger accident Jan. 29 with 73 seconds of silence followed by a flyover of T-38 jets by members of the astronaut corps and the dropping of a wreath at sea by Launch Director Jim Harrington. A similar observance was held simultaneously at the NASA Johnson Space Center in Houston, TX. The actual anniversary date of Jan. 28 was marked by observances planned by The Astronauts Memorial Foundation and the City of Titusville. In the photo at left the T-38 jets fly over Spaceport USA during the Jan. 28 ceremony.“

On pages 1 and 6, **"Saturn V preservationists dust off clues to rocket's past", by Barb Compton.** A portion of the article reads "Beneath the seven layers of paint and years of corrosion that have accumulated on the Saturn V rocket located just south of the Vehicle Assembly Building, historians hope to uncover evidence about where each piece originated and how they came to rest at Kennedy Space Center. Four representatives from the Smithsonian Institution's National Air and Space Museum (NASM) recently spent several days at KSC overseeing the first phase of the cleaning, preservation and stabilization of the rocket. When it is completed this spring, the Saturn V will be relocated to the new multimillion dollar Apollo/Saturn V Center located near the Banana Creek Viewing Site…

"There is extensive damage to almost every stage," said Al Bachmeier, NASM's deputy assistant director for Collections Management… Although the Smithsonian representatives have been able to piece together details on the origins of the KSC vehicle, they are eager to receive any additional information to better document where the pieces came from. They have been able to provide this accounting of each of the stages and its known history:

Stage 1 -- The S-IC-T first stage booster is a ground-test vehicle. It is believed to have come from the Marshall Space Flight Center. NASM is interested in finding out what happened to this stage between the time the testing program was completed and its arrival at KSC in the mid-70s.

Stage 2 -- NASM believes the second stage (S-II) was from the vehicle intended to launch Apollo 18, which was cancelled…

Stage 3 -- The third stage (SIV-B-500F) was originally manufactured as the third stage for the Saturn 1B vehicle and was used in facilities tests in the Vehicle Assembly Building and at the pad…

Command Module -- NASM believes the module was originally part of boilerplate series 18, created for swing arm and umbilical tests at KSC. That boilerplate was taken apart and used as part of boilerplate series 30 which was created as a backup for Apollo 6...

The first step in the preservation is a pressure cleaning with a disinfectant and a general cleaning solution to remove mold and mildew. The next step is to spray the rocket with a baking soda mixture — a method known as Armex… Most of the damage appears to be corrosion of the aluminum skin from salty air and humidity. But paintings every three years with oil-based enamel have provided some protection from the elements…

Once the pressure cleaning and the Armex process are complete, the vehicle will be cleaned with deionized water to remove chlorides and contaminants… an industrial quality polyurethane paint to match the Apollo 11 color scheme which was selected for the project by NASA and NASM. The Saturn V will be transported to the new facility sometime this spring and final touch-ups will be completed in the new building…".

“THE SATURN V located near the Vehicle Assembly Building is under wraps for protection from the elements as preservation efforts are underway.”

On page 3, **“STS-73 crew takes to air waves”.**

“THE CREW of STS-73 take on a more down-to-Earth mission as they appear on the television series "Home Improvement" Tuesday, Feb. 13 at 9 p.m. on ABC-TV (Channel 9). Mission Commander Ken Bowersox is pictured above with the show's star Tim Allen. The episode, titled "Fear of Flying," will feature footage shot while the crew was on orbit. Other crew members who will be featured are Catherine "Cady" Coleman, Kathryn Thorton, Fred Leslie and Al Sacco.”

On page 4**, “Era ends with closing of Hangar AO”, by George Diller.** Part of the article states “An era ended on Jan. 29 when 35 veteran spacecraft and expendable vehicle launch team members of KSC and the Jet Propulsion Laboratory gathered at NASA Spacecraft Hangar AO to recognize and remember NASA’s accomplishments in that facility. “We are faced with budget cuts, downsizing and streamlining and this is one of the victims of that process,” said John Conway, director of KSC Payload Operations.

Payload processing has ended at Hangar AO, one of the most historical processing facilities at Cape Canaveral and KSC…

Pioneer 10 and 11, Surveyor, Lunar Orbiter, Mariner, Pioneer Venus, Ulysses, Viking and Voyager are some of the most notable payloads to pass through the hangar's doors… The first payload to be processed there was Mariner 4, a mission to orbit Mars launched on an Atlas Agena rocket in November 1964. The last was the X-ray Timing Explorer launched aboard a Delta II rocket in December 1995.

"A TRUCK brings NASA's X-ray Timing Explorer (XTE) to Hangar AO for approximately two months of checkout, testing and launch preparations in May 1995. The payload was the last processed in the facility."

SpaceX currently uses Hangar AO. Below are a couple of photos I took a few years ago at Hangar AO. The first photo is neat, as in the foreground, is the yellow Orbiter Transportation System (OTS), originally designed for ground transport of the Orbiter at Vandenberg Air Force Base, then used at KSC for Orbiter ground transport, and now adopted by SpaceX to transport Falcon 9 rockets.

From The February 16, 1996, Spaceport News

On pages 1 and 6, **"Tethered satellite, USMP payloads to fly again on the STS-75 mission", by Chuck Weirauch.** In part, the article reads "Experiments that could lead to a new way to generate electrical power in space, provide new insights into physical science and possibly lead to improved manufacturing processes and products on Earth will be the highlights of the STS-75 mission. At press time the mission was scheduled to lift off from Launch Pad 39B between 3:18 p.m. and 5:48 p.m. EST on Feb. 22.

During the 13-day, 16-hour space flight, the seven-member international crew will conduct scientific investigations with both Tethered Satellite System 1R (TSS-1R) and United States Microgravity Payload-3 (USMP3) experiment equipment on board the Space Shuttle Orbiter Columbia. The STS-75 mission is scheduled to land at the KSC Shuttle Landing Facility on March 7 at 7:32 a.m…".

"THE STS-75 flight crew poses at the 195-foot level of Launch Pad 39B during Terminal Countdown Demonstration Test (TCDT) activities. They are, front from left, Payload Commander Franklin Chang-Diaz, Mission Specialists Claude Nicollier and Maurizio Cheli and Payload Specialist Umberto Guidoni. In back from left are Mission Commander Andrew Allen, Mission Specialist Jeffrey Hoffman, and Pilot Scott "Doc" Horowitz."

On pages 1 and 4, **"NASA/KSC prepare for new approach to doing business".** Part of the article reads "One of the most sweeping changes ever to impact Kennedy Space Center will be the transition of daily Shuttle processing functions to a single prime contractor, United Space Alliance, under the Space Flight Operations Contract (SFOC). "This transition will be a slow and methodical process. This isn't a sprint, it's a marathon. The start line is Oct. 1, 1996 and the finish line is the year 2000," explained Roy Tharpe… Tharpe helped generate the statement of work defining NASA's

requirements for a single source contractor as a member of the source evaluation board at Marshall Space Flight Center. He is now a member of the NASA Contract Acquisition Team…

Tharpe said that as a result of the new contract, NASA employees at KSC will get out of the day-to-day operations involved in preparing Shuttles for launch, gradually handing those functions over to the contractor. The government job will be to monitor and evaluate the contractor performance. NASA Administrator Dan Goldin said he wanted USA to do the job of processing and launching the Space Shuttle system…".

From The March 1, 1996, Spaceport News

On page 1, the **"Mission update"** for STS-76.

"Mission: STS-76 on Atlantis.

Launch date, time: March 21, 3:35 a.m. from Launch Pad 39B.

Synopsis: The third docking between the U.S. Space Shuttle Atlantis and the Russian Space Station Mir will be highlighted by several activities: a crew transfer, an extravehicular activity (EVA), logistics operations and scientific research.

Landing date, time: March 30, 8:05 a.m. at Kennedy Space Center's Shuttle Landing Facility."

The color version of the STS-76 crew patch above is from Wikipedia. And also from Wikipedia, "The STS-76 crew patch depicts the Space Shuttle Atlantis and Russia's Mir Space Station as the space ships prepare for a rendezvous and docking. The Spirit of 76, an era of new beginnings, is represented by the Space Shuttle rising through the

circle of 13 stars in the Betsy Ross flag… Frontiers for future exploration are represented by stars and the planets. The three gold trails and the ring of stars in union form the astronaut logo. Two suited extravehicular activity (EVA) crew members in the outer ring represent the first EVA during Shuttle-Mir docked operations. The EVA objectives were to install science experiments on the Mir exterior and to develop procedures for future EVA's on the International Space Station. The surnames of the crew members encircle the patch: Kevin P. Chilton, mission commander; Richard A. Searfoss, pilot; Ronald M. Sega, Michael R. (Rich) Clifford, Linda M. Godwin and Lucid, all mission specialists. This patch was designed by Brandon Clifford, age 12, and the crew members of STS-76."

On pages 1 and 4, **"'Beautiful' launch draws big crowd".** Part of the article reads "The STS-75 launch drew a near-capacity crowd of spectators, featured a new viewing site, and increased the number of astronauts and cosmonauts working in space to a dozen… The Space Shuttle Columbia lifted off on time from Kennedy Space Center's Launch Pad 39B at 3:18 p.m.

Although the primary payload on the mission, the Tethered Satellite System (TSS-1R) unexpectedly separated just as the satellite was nearing the full extent of its deployment from the Shuttle at about 8:30 p.m. on Feb. 25, science activities on the mission resulted in the collection of about five hours of extensive data on the performance of the satellite and tether dynamics and electrodynamics. NASA is forming an independent panel to review the loss of the satellite, said Wil Trafton, acting associate administrator for the Office of Space Flight…".

"A SMOOTH COUNTDOWN culminates in an on-time liftoff as the Space Shuttle Columbia climbs skyward after its launch at 3:18 p.m. Feb. 22. Aboard for Mission STS-75 is an

international crew headed by Mission Commander Andrew Allen; Pilot Scott "Doc" Horowitz; Payload Commander Franklin Chang-Diaz; and Mission Specialists Jeffrey Hoffman, Maurizio Cheli and Claude Nicollier. Cheli, from Italy, and Nicollier, from Switzerland, both represent the European Space Agency. Assigned as payload specialist is Italian Umberto Guidoni, who represents the Italian Space Agency."

On page 3, **"STS-72 crew return".**

"KOICHI WAKATA from the Japanese Space Agency signs autographs for Kennedy Space Center employees during a crew return ceremony for members of that mission Feb. 12 in the Training Auditorium. The mission featured the retrieval of the Japanese Space Flyer Unit."

From The March 15 1996, Spaceport News

From page 1, the **"Mission update"** for STS-76.

"Landing date, time: March 9, 8:58 a.m. at Kennedy Space Center's Shuttle Landing Facility.

Mission synopsis: Columbia landed on orbit 252 after traveling 6.5 million miles in orbit on mission STS-75. This was the 29th KSC landing in the history of the Shuttle program. The mission, at 15 days, 17 hours and 40 minutes, was the third longest in the Shuttle program. Ken Szalai, director of the Dryden Flight Research Center and chairman of the panel investigating the loss of the Tethered Satellite, said members of that committee will be meeting at KSC over the next several weeks to study the tether which returned in Columbia's payload bay."

Also on page 1.

"CREW MEMBERS for STS-76, posing during Terminal Countdown Test Demonstration (TCDT) activities at Launch Pad 39B, are, from the left, Mission Specialists Linda Godwin and Shannon Lucid, Commander Kevin Chilton, Mission Specialists Michael "Rich" Clifford and Ronald Sega and Pilot Richard Searfoss."

On pages 4 and 5, **"National Engineers' Week".** In part, the article reads "National Engineers' Week activities went on-line this year, enabling engineers, teachers and students to have immediate access to information on planned activities. During the month of February, 250 engineers and 5,000 Brevard County students took part in engineering-related events designed to increase awareness and appreciation of the engineering profession… All 76 Brevard County schools were contacted by KSC organizations and offered career speakers… Some examples of experiences of KSC employees include…:

Four scientists from the Biomedical Operations Office shared their expertise at Golfview Elementary School as they judged the school's elementary science fair…

Lockheed Martin Astronautics Launch Operations-Cape Canaveral Air Station arranged for Gen. Forrest McCartney, vice president launch operations; Curt Bigalow, information systems chief; and M.J. Blanchard, special assignments; to speak to the first through

sixth graders at Mila Elementary School. Gen. McCartney received the following letter from one of the fifth graders:

Dear Gen. McCartney: I'm thanking you for coming in and teaching me about: Learning, Respect and Health. My most favorite speech was when you were talking about Respect. Because I really think you got into our heads about how to respect others. I especially enjoyed it when you told us about that when you treat others with respect you'll get respect back…

Rocketdyne reached 402 students at Ronald McNair Magnet, Kennedy Middle and Astronaut High Schools. Presentations included group discussions, lectures, NASA videos, demonstrations, team activities and a tour of KSC…

On the left, "LAUNCH DIRECTOR Jim Harrington and Safety and Quality Assurance Director JoAnn Morgan judge artwork submitted by students from Andrew Jackson Middle School and Thomas Jefferson Junior High School. On the right, "…ALTHOUGH focused on Brevard County, KSC's input into National Education Week extended throughout the region… THIS MISSION PATCH, drawn by a student at Mountain Ridge Elementary in Atlanta, features an astronaut exploring "The Unlimited" universe."

From The March 29, 1996, Spaceport News

On page 1, the **"Mission update"** for STS-75.

"Mission: STS-75 on Columbia.

Status: Members of the STS-75 Tethered Satellite System Reflight Mission Failure Investigation Board made their initial first-hand inspection of the severed tether March

19 at Kennedy Space Center after it was removed from Columbia and safed. After extensive photo documentation, the tether was sent to Marshall Space Flight Center March 23, where it underwent further examination… The tethered satellite reentered the Earth's atmosphere at about 6:12 p.m. EST on March 19, according to calculations by the United States Space Command's Space Control Center in Cheyenne Mountain, CO. The satellite re-entered the atmosphere over an area which includes Northeast Africa and Southwest Asia. The satellite was not designed to survive re-entry."

Also on page 1.

"THE SPACE SHUTTLE Atlantis hurtles skyward from Launch Pad 39B at 3:13 a.m. EST March 22. Loren Shriver, Space Shuttle Program Launch Integration manager, and Launch Director Jim Harrington commended the KSC launch team for the smooth countdown and the launch which occurred right on time. Flight controllers detected a small leak of hydraulic fluid from one of three hydraulic systems aboard the Shuttle shortly after liftoff. When all three hydraulic systems were shut down after reaching orbit, as is normal, no further indications of a leak were observed. Atlantis successfully docked with the Mir space station at 9:34 p.m. EST March 23. Mission Specialist Shannon Lucid officially joined the Mir crew where she will remain for four and a half months."

On page 2, **"Rockwell manager named 1996 Debus award recipient".** In part, the article reads "The National Space Club - Florida Committee has selected Lee Solid as its 1996 recipient of the Debus Award, a prestigious honor bestowed each year to a Floridian who has made significant contributions to the nation's space program. Solid has been with Rockwell since 1959, first with Rocketdyne, progressing to the current

position of vice president and general manager of Rockwell's Florida Operations in Cape Canaveral…

"Lee Solid is an outstanding choice to receive the Debus Award," said Space Club Chairman Jim Drake. "His tireless dedication to aerospace is awesome and his strong desire to make a difference in our community is inspiring." The award is named in honor of Dr. Kurt Debus, the first director of the Kennedy Space Center…".

SOLID

On page 5, "**Tether investigation begins at KSC**". The article reads "MEMBERS OF KENNEDY Space Center's STS-75 payload test team assisted the Tethered Satellite System Reflight Mission Failure Investigation Board last week by safely removing the tether which unexpectedly separated during that mission and preparing it for analysis at the KSC malfunction lab."

On the left, "…payload test team members examine the severed end of the tether under a stereo microscope at the Operations and Checkout Building. The tether was photographed extensively with special attention to high magnification (70 to 520 times) of the tether core"… On the right, "workers cut 27 meters of tether off the spool along with the tether's severed end. The broken end of the tether was sent to the KSC malfunction lab on March 21. On March 22 the tether and lower tether control mechanism were sent to the Marshall Space Flight Center for further analysis."

From The April 12, 1996, Spaceport News

On pages 1 and 3, **“April 12, 1981 - April 12, 1996 15 years of Shuttle exploration”.**

A portion of the article reads “The Space Shuttle Columbia breaks free from Launch Pad 39A for the first time on April 12, 1981, carrying Commander John Young and future Kennedy Space Center Director Robert L. Crippen. KSC Director Jay Honeycutt was technical assistant to John Yardley, the associate administrator for the Space Transportation Systems in 1981. He recalls: "Hundreds of us had invested years of effort in the Shuttle program development. When Columbia cleared the pad on its maiden voyage I felt a sense of triumph and relief that what we had labored over so long worked so well. It was, and continues to be, a tribute to the able men and women of KSC who care for and launch the Shuttle."

Following launch Richard G. Smith, KSC center director at the time, expressed a sentiment that still applies today: "We have come down a long and sometimes bumpy road, but the results of our patience and effort can be seen today in every face in the NASA/industry team. The resounding success of the first flight is a legitimate source of pride for all of us…

Following the flight, Young told a crowded press conference that the orbiter was an incomparable flying machine, and surprisingly easy to control. He said the mission was "what NASA calls nominal, although I think you're going to have to call it phenomenal." "The Shuttle was built to ferry people and supplies to a space station so I am very pleased to see it visiting Mir on a regular basis and with the U.S. having a permanent presence in space," Crippen added. "I'm looking forward to the construction of the International Space Station and continuing Shuttle missions well into the next century."

On page 1, the **“Mission udpate”** for STS-76**.**

“Mission: STS-76 on Atlantis.

Status: Space Shuttle Atlantis returned to Earth March 31 with an 8:29 a.m. EST landing at Edwards Air Force Base, Calif. NASA's 747 Shuttle Carrier Aircraft (SCA) which was returning Atlantis to KSC made a precautionary landing at Edwards at 1:10 p.m. PST April 5 when a fire warning light came on for engine No. 3, the right inboard engine. The crew shut down the engine as a precaution and returned to Edwards. At press time the return flight was tentatively scheduled to depart Edwards on April 11.”

Also on page 1, a **“Mission update”** for STS-77.

“Mission: STS-77 on Endeavour.

Launch date, time: May 16, 6:32 a.m. from Launch Pad 39B.

Primary payloads: SPACEHAB04 which will carry experiments ranging from the growth of crystals to the separation of organic materials using aqueous techniques. The Spartan/207/ Inflatable Antenna Experiment will test inflatable antenna technology.”

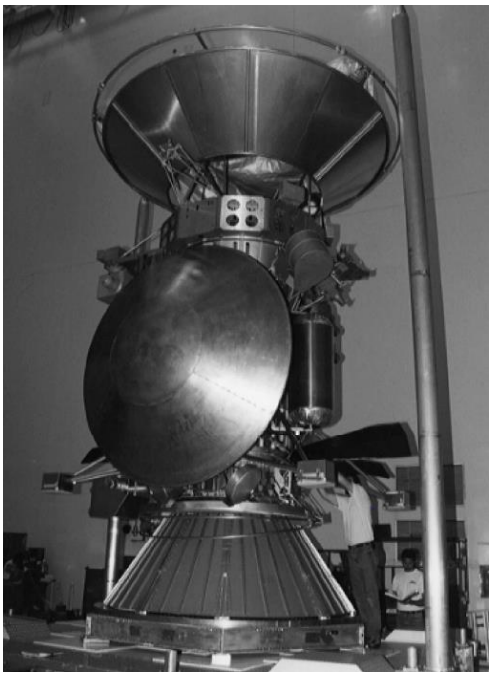
The color version of the STS-74 mission patch is from Wikipedia and the following is from Wikipedia: “The STS-77 crew patch displays the Shuttle Endeavour in the lower

left and its reflection within the tripod and concave parabolic mirror of the SPARTAN Inflatable Antenna Experiment (IAE). The center leg of the tripod also delineates the top of the Spacehab's shape, the rest of which is outlined in gold just inside the red perimeter. The Spacehab was carried in the payload bay and housed the Commercial Float Zone Furnace (CFZF).

Also depicted within the confines of the IAE mirror are the mission's rendezvous operations with the Passive Aerodynamically-Stabilized Magnetically-Damped satellite (PAM/STU) appears as a bright six-pointed star-like reflection of the sun on the edge of the mirror with Endeavour in position to track it. The sunlight on the mirror's edge, which also appears as an orbital sunset, is located over Goddard Space Flight Center, the development facility for the SPARTAN/IAE and Technology Experiments Advancing Missions in Space (TEAMS) experiments.

The reflection of the Earth is oriented to show the individual countries of the crew as well as the ocean which Captain Cook explored in the original Endeavour. The mission number 77 is featured as twin stylized chevrons and an orbiting satellite as adapted from NASA's logo. The stars at the top are arranged as seen in the northern sky in the vicinity of the constellation Ursa Minor. The field of 11 stars represents both the TEAMS cluster of experiments (the four antennae of GPS Attitude and Navigation Experiment (GANE), the single canister of Liquid Metal Thermal Experiment (LMTE), the three canisters of Vented Tank Resupply Experiment (VTRE), and the three canisters of PAM/STU) and the 11th flight of Endeavour. The constellation at the right shows the fourth flight of Spacehab Experiments. “

On page 2.



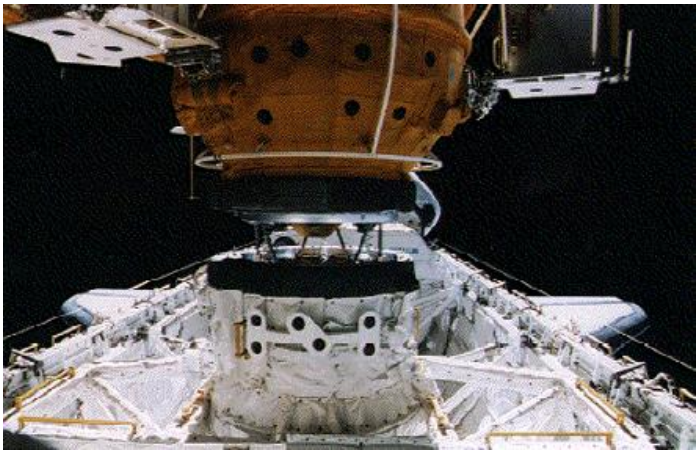
“THE CASSINI TRAILBLAZER, a model of the NASA/Jet Propulsion Laboratory Cassini

spacecraft to be launched to Saturn, was transported from Kennedy Space Center's Payload Hazardous Servicing Facility (PHSF) to Launch Complex 40 on Cape Canaveral Air Station on April 3. Cassini will be launched aboard an Air Force Titan IV rocket in October 1997. The purpose of the exercise is to fitcheck the model with launch vehicle and pad interfaces, check access to the spacecraft for personnel and equipment, and validate timelines and procedures to be used once the actual Cassini spacecraft arrives at the pad for launch next year.

Doing a little digging, from 1996 Cassini Program Status Reports, I found that Cassini Trailblazer was shipped back to JPL, and from the August 1, 1996, Report, "…The "Trailblazer" mockup of Cassini is serving as a mannequin to size the spacecraft for blanketing…". What happened to Trailblazer after that, I do not know.

From The April 26, 1996, Spaceport News

On pages 4 and 5, **"STS-76 delivers dream docking with Mir".**



On the left, "THE ORBITER DOCKING SYSTEM (ODS) and the Docking Module (DM) on Russia's Mir space station appear near the center of this frame, as the Space Shuttle Atlantis and Mir link in Earth orbit on March 23, at about 240 statute miles altitude." On the right, "CONTINUING an on-orbit tradition, astronaut Kevin Chilton, right, STS76 mission commander, shakes hands with cosmonaut Yuri Onufrienko, Mir 21 commander, in the tunnel connecting Atlantis with Mir."

On page 6, **"Community leaders".** The caption for the photo on the next page is "CENTER DIRECTOR Jay Honeycutt, right, and Kent Black, chief executive officer of United Space Alliance, find a moment to talk during the annual community leaders breakfast held April 19 at the Kennedy Space Center Visitor Center. More than 400

community leaders from Brevard County and the state of Florida attended the breakfast and heard briefings from Honeycutt and Black on 1995 space center milestones, the short and long-term future projections of the space program and the impact those plans might have on the local community. Following the briefings, attendees were invited to participate in a bus tour of KSC."

From the May 10 1996, Spaceport News

On pages 1 and 8, **"Two KSC employees named astronaut candidates".** In part, the article states "Two NASA/Kennedy Space Center employees have been named astronaut candidates, making a total of three candidates chosen from KSC in the last 16 months. Fernando 'Frank' Caldeiro, a lead engineer in the systems assurance office, and Joan Higginbotham, a lead orbiter project engineer, received the news April 29 in phone calls from the astronaut office at NASA's Johnson Space Center in Houston…

His first job after receiving a mechanical engineering degree from the University of Arizona was with Rockwell International as a test engineer for the B-1B bomber in Palmdale, CA… After the 100th bomber was delivered in 1988, he transferred to KSC as a systems specialist with Shuttle main propulsion systems. In 1991 he was hired by NASA and began working in the KSC systems assurance office… After completing his master's degree at the University of Central Florida he was encouraged by Safety and Mission Assurance Director JoAnn Morgan and co-workers to apply for the astronaut corps…

Higginbotham began working for NASA in 1987 as a payload electrical engineer. Within six months she became the lead for orbiter experiments on the Space Shuttle Columbia. In August, she will add a master's degree in space systems to her bachelor's degree in electrical engineering and her master's in management. Higginbotham was recently promoted to the lead orbiter project engineer position for the Shuttle Columbia after two years as an orbiter project engineer for the Shuttle Atlantis…".

CALDEIRO

HIGGINBOGHAM

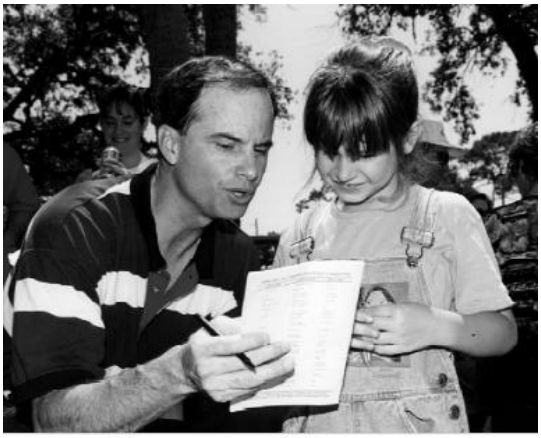
Getting ahead of things, Joan flew on STS-116 and left NASA in 2007 to pursue a career in the private field. Frank did not fly on a space mission and passed from a brain tumor in 2009.

On pages 1 and 8, **"STS-77 to develop commercial edge".** A portion of the article reads "Developing the commercial potential of space will be the focus of Mission STS-77, the fourth Space Shuttle flight of 1996. At press time, the 77th Shuttle mission and 11th flight of Endeavour was scheduled to begin with a May 16 liftoff from Pad 39B during a two-and-a-half-hour launch window which opens at 6:32 a.m. EDT… The planned 10-day flight is targeted for a landing at KSC's Shuttle Landing Facility on May 26 at 7:09 a.m. EDT…

The six-member crew will oversee the operation of the three primary payloads — the SPACEHAB-4, a commercially owned and operated laboratory module with 12 experiments, mostly in commercial space product development; the Spartan 207/Inflatable Antenna Experiment (IAE), a free-flying carrier with an antenna that will be inflated and later jettisoned after operations; and the Technology Experiments for Advancing Missions in Space (TEAMS), a set of four space technology experiments…".

"THE STS-77 astronauts, posing during the Terminal Countdown Demonstration Test, are, from the left, Mission Specialist Mario Runco Jr.; Pilot Curtis Brown Jr.; Mission Specialist Marc Garneau (representing the Canadian Space Agency); Commander John Casper; and Mission Specialists Andrew Thomas and Daniel Bursch."

On pages 4 and 5, **"All-American picnic draws all-out crowd".** Part of the article reads "Kennedy Space Center's 1996 version of the All-American picnic was so popular, organizers resorted to handing out makeshift tickets at the gate… One of the biggest successes was the restructured children's activities area which featured games designed for groups of employees, centered around KSC and space-related themes…".



On the left, "ASTRONAUT Kevin Chilton, who performed in the MAX Q band, signs an autograph for Trish Zion, 5, daughter of Howard Zion of Precision Fabricating and Cleaning." On the right, "OSMAN IFTIKHAR, husband of Karen Iftikhar of the Equal Opportunity Office, helps kick off the opening festivities for the picnic with a jump onto the KARS park picnic grounds. Iftikhar and three other members of Astra's skydiving team from Titusville dropped in during the ceremonies. Together the four parachutists have a total of 60 years experience and 11,000 jumps, having performed at air shows throughout Florida."

On the left, "GROUND SYSTEMS team members won over the judges as their Roadkill chili received top prize in the chili cookoff. From left are Mark Nurge of Ground Systems, Mike McCully, director of Launch Site Operations for Lockheed Martin Space Operations Company and chili judge extraordinaire, Shawn Quinn of Ground Systems and Center Director and Chief Chili Honcho Jay Honeycutt." On the right, "MEMBERS OF the MAX Q astronaut band get picnic goers, including Nora Ross of Shuttle Operations, on their feet with their rousing renditions of classic rock-n-roll favorites."

CollectSPACE has a good read on Max Q, the astronaut band, including video from their first performance in 1987, when the band members were Robert "Hoot" Gibson on guitar, George "Pinky" Nelson on vocals, Jim Wetherbee on drums, and Brewster Shaw on rhythm guitar. The collectSPACE site also has a link to an Air & Space Magazine article about the history of the Max Q band.

From The May 24, 1996, Spaceport News

On page 1, **"Rising with the sun".**

"A FLAWLESS countdown culminates with an on-time liftoff as the Space Shuttle Endeavour lights up the morning sky May 19. Endeavour was launched on Mission STS-77 from Pad 39B at 6:30 a.m. EDT. The fourth Shuttle mission of 1996 is devoted to help open the commercial space frontier. During a post-launch press conference, Launch Integration Manager Loren Shriver commented on the "beautiful ascent" highlighted by the early morning lighting effects. STS-77 is scheduled to land at Kennedy Space Center's Shuttle Landing Facility on May 29 a little after 7 a.m. EDT."

Also on page 1, the **"Mission update"** for STS-78.

"Mission: STS-78 on Columbia.

Launch date, time: June 20, 10:49 a.m. from Launch Pad 39B

Primary Payload: Life and Microgravity Spacelab (LMS). Mission Synopsis: During the nearly 16-day-long mission, the seven-member crew will conduct microgravity research experiments in the Life and Microgravity Spacelab module mounted in the payload bay. The majority of the life sciences experiments will be devoted to the study of the effects of microgravity on human physiology.

Landing date, time: July 6, 8:46 a.m. at the Shuttle Landing Facility."

From Wikipedia, "The STS-78 patch links past with present to tell the story of its mission and science through a design imbued with the strength and vitality of the 2-dimensional art of North America's northwest coast Indians. Central to the design is the space Shuttle whose bold lines and curves evoke the Indian image for the eagle, a native American symbol of power and prestige as well as the national symbol of the United States. The wings of the Shuttle suggest the wings of the eagle whose feathers, indicative of peace and friendship in Indian tradition, are captured by the U forms, a characteristic feature of Northwest coast Indian art. The nose of the Shuttle is the strong downward curve of the eagle's beak, and the Shuttle's forward windows, the eagle's eyes, represented through the tapered S forms again typical of this Indian art form.

The basic black and red atoms orbiting the mission number recall the original NASA emblem while beneath, utilizing Indian ovoid forms, the major mission scientific experiment package LMS (Life and Materials Sciences) housed in the Shuttle's cargo bay is depicted in a manner reminiscent of totem-pole art. This image of a bird poised for flight, so common to Indian art, is counterpointed by an equally familiar Tsimshian Indian symbol, a pulsating sun with long hyperbolic rays, the symbol of life. Within each of these rays are now encased crystals, the products of this mission's 3 major, high-temperature materials processing furnaces. And as the sky in Indian lore is a lovely open country, home of the Sun Chief and accessible to travelers through a hole in the western horizon, so too, space is a vast and beckoning landscape for explorers launched beyond the horizon.

Beneath the Tsimshian sun, the colors of the earth limb are appropriately enclosed by a red border representing life to the Northwest coast Indians. The Indian colors of red, navy blue, white, and black pervade the STS-78 path. To the right of the Shuttle-eagle, the constellation Delphinus recalls the dolphin, friend of ancient sailors and, now perhaps too, of the 9 space voyagers suggested by this constellation's blaze of 9 stars. The patch simultaneously celebrates international unity fostered by the Olympic spirit of sports competition at the 1996 Olympic Games in Atlanta, Georgia, U.S.A. Deliberately poised over the city of Atlanta, the Space Shuttle glows at its base with the 5 official Olympic rings in the 5 Olympic colors which can also be found throughout the patch, rings and colors which signify the 5 continents of the earth.

This is an international mission and for the first time in NASA patch history, astronauts have dispensed with identifying country flags beneath their names to celebrate the spirit of international unity so characteristic of this flight."

On page 4, **"Apollo/Saturn V Center puts national treasure on global stage".**

"EFFORTS began last month to relocate the freshly painted Saturn V launch vehicle and Apollo spacecraft to their new home near Banana Creek. The 363-foot (111-meter) tall rocket has been on display south of the Vehicle Assembly Building since the 1976 U.S. Bicentennial Exposition… THE LAST element of the Apollo/Saturn V launch vehicle -- the huge first stage -- is moved May 11. Contractor Thomarios Painting Co., Norton, Ohio, carried out the refurbishment and repainting of the launch vehicle prior to the transfer…".

"ALL ELEMENTS of the launch vehicle have completed their journey in this photo taken May 13. In addition to the Apollo/Saturn V launch vehicle and spacecraft, the center will house a Lunar lander, elements of an Apollo pad launch umbilical tower and an authentic representation of a firing room."

On page 8, **“Taking daughters to work”.** The article reads “MORE THAN 1,500 daughters of Kennedy Space Center employees got an inside look at how their parents make the center run during Take Our Daughters to Work Day April 18. The purpose of the event was to give the girls a realistic view of day-to-day work, said Barbara Powell, the event's organizer.”

“Diane Alvarado, a Bionetics employee, shows her daughter Meghan, 11, an Audobon Elementary School fourth grader, the process of placing photo captions on prints in the Bionetics photo lab.”

“…one of the event's featured speakers, Vicki Van Meter, poses in front of the Explorer orbiter at the KSC Visitor Center. In 1993 Vicki became the youngest person to pilot a single engine airplane from east to west across the United States. A year later she became the youngest person to perform a solo transatlantic flight. Vicki and Libby Massey, who worked in KSC's Equal Opportunity and Public Affairs Offices before transferring to NASA Headquarters and ultimately retiring, spoke to the girls about setting and achieving their goals.”

Wikipedia has a read on Vicki Van Meter.

From The June 7, 1996, Spaceport News

On page 1, **“Coordinated effort”.**

“SHUTTLE LANDING FACILITY (SLF) Coordinator Larry Parker keeps close watch during the landing of the orbiter Endeavour on Runway 33. Endeavour touched down at 7:09 a.m. EDT, May 29, bringing to a successful close Space Shuttle Mission STS-77. As SLF coordinator, Parker oversees all aircraft landings at KSC from the NASA tower, located near the midpoint of the three-mile-long Shuttle runway. During an orbiter end-of-mission landing, he monitors all traffic in the immediate airspace to ensure that all is in readiness for the orbiter's return. Parker is an employee of KSC Base Operations Contractor EG&G Florida, Inc. This photo appears courtesy of Chris O'Meara of the Associated Press in cooperation with NASA.”

On page 2, **“Oklahoma City children visit center, receive astronaut's personal touch”.**

“A GROUP of 22 children who were affected by the bombing of the federal building in Oklahoma City on April 19, 1995, received some personal attention from Astronaut Jim Halsell when they

visited Kennedy Space Center May 23. The children, pictured at right, toured the Launch Status Center at the KSC Visitor Center, viewed the film The Dream is Alive in the IMAX theater, made ice cream sundaes at the Lunch Pad, and walked through the Explorer Shuttle mockup. A highlight of the tour was the viewing of the launch of a Hughes Communications, Inc. satellite on a Delta-II rocket that evening from Cape Canaveral Air Station. In the photo above, Halsell gives a student a handson demonstration of the effects of a liftoff. The trip was arranged through a "recovery camp" sponsored by the Seventh Day Adventist Church. After the visit some of the participants were quoted in The Press, an Oklahoma City newspaper. Karen Jones, whose husband was killed in the bombing, accompanied her son and daughter on the trip. "Kennedy Space Center was fantastic," Jones said. "They were wonderful to us and made the kids smile. They don't smile much."

From The June 21, 1996, Spaceport News

On pages 1 and 6, **"STS-78 could provide world with new view", by Chuck Weirauch.** In part, the article reads "When the Space Shuttle Columbia lifts off from Launch Pad 39B with the Life and Microgravity Spacelab (LMS) mounted in its payload bay to begin the STS-78 mission (scheduled at press time for 10:49 a.m. June 20), it could be the start of the longest Shuttle flight to date. Although the flight plan is for a 15-day, 22-hour mission, careful management of electrical power consumption on board the orbiter could allow an extra day for science work…

Another first for this mission is the first use of cameras on the flight deck to provide a nearreal-time television video of the crew entering the crew cabin and getting ready for flight, a recorded view of astronauts seated on the flight deck during ascent, and views of the re-entry and landing of Columbia through the crew cabin windows… The goal of the STS-78 mission is to help set the stage for the International Space Station by studying the effects of longduration space flight on human physiology…".

"THE STS-78 flight crew poses for a group portrait next to the Space Shuttle Columbia at Launch Pad 39B. From the left are Mission Specialist Charles Brady, Pilot Kevin Kregel,

Payload Specialist Jean-Jacques Favier, Payload Commander Susan Helms, Mission Commander Terrence "Tom" Henricks, Payload Specialist Robert "Bob" Brent Thirsk, and Mission Specialist Richard Linnehan."

On page 1, the **"Mission update"** for STS-79 is featured.

"**Mission:** STS-79 on Atlantis.

Launch date, time: July 31, approximately 11:42 p.m. from Launch Pad 39A.

Mission Synopsis: STS-79 is the fourth in a series of NASA docking missions to the Russian Mir Space Station, leading to the construction and operation of the International Space Station. As the first flight of the Spacehab Double Module, STS-79 encompasses research, test and evaluation of ISS as well as logistics resupply for the Mir Space Station. STS-79 is also the first NASA/Mir American crew member exchange, with astronaut John Blaha replacing Shannon Lucid aboard the Mir.

Landing date, time: August 9 at approximately 8:17 p.m. at KSC."

From Wikipedia, about the mission patch, "The lettering of their names either up or down denotes transport up to the Mir Space Station or return to Earth on STS-79. The patch is in the shape of the Space Shuttle's airlock hatch, symbolizing the gateway to international cooperation in space. The patch illustrates the historic cooperation between the United States and Russia in space. With the flags of Russia and the United States as a backdrop, the handshake of Extravehicular Mobility Unit (EMU) which are suited crew members symbolizes mission teamwork, not only of the crew members but also the teamwork between both countries space personnel in science, engineering, medicine and logistics."

On page 4, “**Lockheed Martin, Rockwell employees begin transition to United Space Alliance**”.

Part of the article reads “More than 3,800 Shuttle Processing Contract employees at Kennedy Space Center this month began the process of transitioning badges from Lockheed Martin Space Operations to the new Lockheed Martin- Rockwell International joint venture United Space Alliance… USA signed novation agreements with NASA April 12 allowing the company to assume responsibility for the SPC and the Space Operations Contract (SOC). Lockheed Martin and Rockwell formed USA in August 1995 in response to NASA’s intention to consolidate the SOC.”

From The July 5, 1996, Spaceport News

On page 1, the **“Mission update”** for STS-78”

“Mission: STS-78 on Columbia.

Launch date, time: June 20, 10:49 a.m. from Launch Pad 39B.

Primary payload: Life and Microgravity Spacelab (LMS).

Landing date, time: At press time the mission was scheduled to land at the Shuttle Landing Facility at 8:38 a.m. July 7."

Also on page 1.

"STS-78 PAYLOAD specialists Robert Thirsk of the Canadian Space Agency and Jean-Jacques Favier of the French Space Agency hold an Olympic torch which the crew is carrying on board the Space Shuttle Columbia. If the mission ends at KSC July 7 as planned, Commander Tom Henricks, Pilot Kevin Kregel and Mission Specialist Susan Helms will travel to the KSC Visitors Center to cheer for KSC's Olympic torch bearers and present the torch and an Olympics banner to representatives of the Atlanta Committe for the Olympic Games."

On page 3, "**Spacewalk to commemorate contributions to space program**". In part, the article states "Anyone who has contributed to the success of the space program now has the opportunity to make a lasting impression of that effort while contributing toward future space endeavors…

"A BRICK pathway is taking shape near the Center for Space Education at the KSC Visitors Center."

The Astronauts Memorial Foundation and the NASA Alumni League, Florida chapter, are jointly sponsoring the Spacewalk of Honor at the KSC Visitors Center. The walkway, which will encircle the west pond located between the Center for Space Education and the Space Mirror Memorial at the Visitors Center, will be paved with 22,000 bricks, each inscribed with the name of an individual who has played an active role in the space program. Anyone interested in purchasing a brick will be asked to submit a statement of up to 50 words describing his or her relationship to the space program. The statement, along with the person's name and the location of their brick, will be available at a computerized information kiosk located near the Spacewalk…".

On page 2, **"Mission home page, KSC newsroom online".** The article states "NASA and the Kennedy Space Center newsroom have expanded their boundaries into the electronic realm of the Internet. With the start of the countdown for STS-71, NASA unveiled a permanent home on the Internet for Shuttle mission information.

"On Board STS-71," focusing on the Atlantis-Mir docking flight, is the debut of the official NASA source for World Wide Web information about all Space Shuttle missions. The page also features five spectacular new images of Russia's Mir space station…".

On page 4, **"Children try on KSC for size".**

"MORE THAN 1,500 children took part in Sons' Day events. Andrew Bernardo, pictured at right with his father Phil, a NASA employee, had the opportunity to try on an astronaut suit in the Operations and Checkout Building. After being welcomed by Center Director Jay Honeycutt, NASA participants heard astronaut candidate Frank Caldeiro speak and took part in a presentation by Steve Van Meter of KSC's robotics laboratory. An unexpected bonus was the surprise visit by four crew members from the upcoming Mir docking mission STS79. The event, which included many girls as some contractors held a combined "Take Our Children to Work" activity, was successful because of the cooperation between NASA, contractors, the KSC Visitors Center, and Delaware North Parks Service, said Barbara Powell, event coordinator."

“SEVERAL BOYS visiting Kennedy Space Center on Sons' Day June 14 enjoy the perspective normally seen by presenters at the Press Auditorium. From the left are Billy Browning, Johnny Diamantas, Michael Allbright, Jesse Seelos, Jesse Williams, Kyle Diamantas and Lamar Evans. They are accompanied on their tour by Cindy Oates and David Zorn of United Space Alliance.”

Also on page 4, **“Oh say can you see?**

“NASA ADMINISTRATOR Dan Goldin is among several special guests getting an upclose view of the launch of STS-78 June 20 at the Banana Creek viewing site.”

From The July 19, 1996, Spaceport News

On page 1, the **“Mission update”** for STS-78.

“Mission: STS-78 on Columbia.

Launch date, time: June 20, 10:49 a.m. from Launch Pad 39B.

Primary payload: Life and Microgravity Spacelab (LMS).

Landing date, time: Columbia touched down at Runway 33 of the Shuttle Landing Facility at 8:36 a.m. on July 7, 1996. The nearly 17-day-long flight made STS-78 the longest Shuttle mission to date."

On pages 1 and 8, **"Bertha sends Atlantis to VAB, boosters keep her there".** A portion of the article reads "After the threat from Hurricane Bertha forced the rollback of the Shuttle Atlantis to the Vehicle Assembly Building on July 10, mission managers opted to keep her there to replace her solid rocket boosters… Atlantis' motors are being replaced because technicians disassembling the motors from the previous flight, STS-78, observed that hot gas had seeped into J-joints in the field joints of the motors.

The most probable cause for the seepage is a new adhesive and cleaning fluid that is more environmentally friendly than the original. While the crew of STS-78 was never in danger and the STS-79 boosters are safe to fly, managers want to better understand the J-joint problem and to improve the safety of the joint…".

On page 8, **"ROLLBACKS".** The article reads "Atlantis' return to the VAB July 10 marks the 11th time a shuttle has been rolled back from the pad. Other rollbacks are:

1. STS-9, Columbia, October 1983, due to suspect exhaust nozzle on right solid rocket booster.

2. STS-41-D, Discovery, July 1984, after a pad abort

3. STS 51-E/51-B, Challenger, March 1985, due to a timing problem with primary payload, Tracking and Data Relay Satellite-B.

4. STS-35, Columbia, 1st of 2 rollbacks, June 1990, due to hydrogen leak in the external tank/orbiter 17-inch umbilical.

5. STS-38, Atlantis, August 1990, due to hydrogen leak.

6. STS-35, Columbia, second rollback, October 1990, due to threat from Tropical Storm Klaus.

7. STS-39, Discovery, March 1991, because of cracks on lug hinges of external tank umbilical door drive mechanisms.

8. STS-68, Endeavour, August 1994, after pad abort.

9. STS-70, Discovery, June 1995, due to woodpecker damage on external tank.

10. STS-69, Endeavour, August 1995, due to Hurricane Erin."

CollectSPACE has a good read on Shuttle rollbacks, rollovers and rollarounds.

On pages 1 and 3, **"KSC rolls out welcome for Olympic flame".**

Part of the article reads "Kennedy Space Center welcomed the Olympic flame July 7 in a big way. In addition to the landing of Columbia, which occurred on time at 8:36 a.m., spectators and media were also offered an unforgettable view of the flame passing in front of the Space Shuttle for STS-79. As the flame made its way to the Visitor Center, a throng of spectators heralded its arrival with flag waving and cheers. The Melbourne Municipal Band and Challenger Fife and Drum Corps provided patriotic music…

NASA Administrator Dan Goldin and Center Director Jay Honeycutt were on hand to welcome the torch as were STS-78 Commander Tom Henricks and Pilot Kevin Kregel, who presented a symbolic torch that was flown on that mission to a representative from the Atlanta Committee for the Olympic Games. Hugh Harris, director of Public Affairs, acknowledged each of the 20 runners who carried the torch through Kennedy Space Center before signaling Jane Hodges, a Public Affairs employee, to light her torch from a cauldron holding the flame, and carry it forward on its journey to Atlanta and the Games."

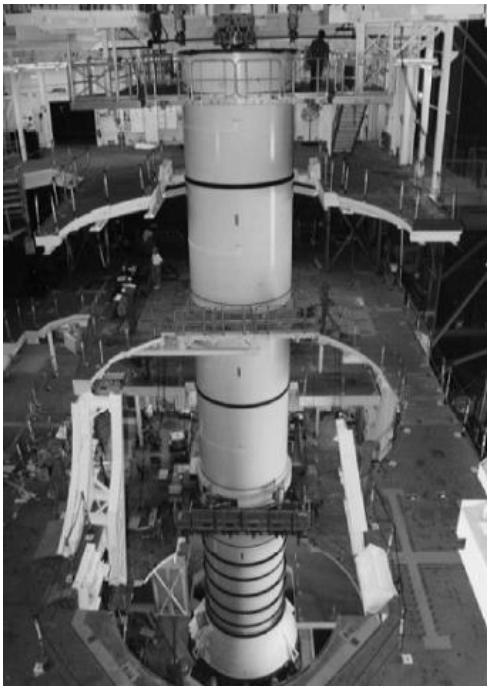
The caption for the photo on the next page is "KSC SHUTTLE Operations Manager Loren Shriver, right, transfers the Olympic flame to KSC runner Joanne Maceo's torch at the top of Launch Pad 39A after he carried the Olympic torch to the top of the pad as his contribution to the torch relay effort. Jon Granston of the Atlanta Committee for the Olympic Games (center) witnesses the exchange. Maceo then carried her lit torch down the concrete hard stand of the pad to pass the flame to another member of the KSC runner team."

“Marty Winkel savors the cheers of the crowd as he delivers the torch to the KSC Vistor Center.”

On the left, “STS-78 Pilot Kevin Kregel, NASA Administrator Dan Goldin, Center Director Jay Honeycutt and STS-78 Commander Tom Henricks stand with the symbolic torch the STS-78 crew carried aboard that mission.” On the right, “Jane Hodges lights her torch from a cauldron where the flame was held during ceremonies at the Visitor Center.”

From the August 2, 1996, Spaceport News

On page 1



“WORK CONTINUES AT KSC to restack and mate the solid rocket boosters originally scheduled for use on STS-80 to the orbiter Atlantis for use on STS-79. At press time the external tank was scheduled to be mated to the boosters no earlier than today and the launch

vehicle moved out to the pad Aug. 20. The switch was made due to concerns about the adhesive used on the original boosters."

On pages 1 and 4, **"Employees, celebrities spread word during space week".** Part of the article reads **"**Space Week was celebrated at the Kennedy Space Center Visitor Center and beyond last month with exhibits, book signings, guest appearances by astronauts and an actress… The Visitor Center kicked off a week of activities July 16 with a talk and book signing by Buzz Aldrin… Astronaut/artist Alan Bean signed posters of his work on July 22 and on July 23 Barbara Eden, star of the television series "I Dream of Jeannie," thrilled hundreds of fans with her appearance at the Visitor Center…

KSC also contributed to the celebration of the nationally recognized week off-center. EPCOT sponsored exhibits and programs in the Future World section of the theme park from July 14-20… But one of the biggest contributions of KSC employees was the commitment of a team of engineers who worked with 59 University High School students to develop for EPCOT six 14-foot model rockets and two prototypes. A rocket was launched twice daily every day of the celebration…

"You've got to love working with the students and the hardware," said Dave Sollberger, the NASA engineer who coordinated the project… In addition to Sollberger, engineers assisting in the project are Mike Haddad of NASA, James VanGaasbeck, Interface and Control Systems; Steve Pollak, ComputerSciences Raytheon; Lee Riley, CSR; and Marc Lavigne, McDonnell Douglas Astronautics."

"ACTRESS BARBARA EDEN attracts fans of all ages as she signs autographs at the Space Shop at the KSC Visitor Center."

The captions for the photos on the following page read, on the left, "THE LAUNCH CREW performs final positioning of the 20-foot gantry tower. The launch pad, built on an automobile transporter, is equipped with red rotating hazard lights and a water deluge system. Personnel from KSC's Education Branch and EG&G Florida, Inc. assisted with the construction of the launcher." In the middle, "THE EXPLORER lifts off with 93 pounds of thrust provided by its ammonium perchlorate rocket motor. The motor burns for 3.1 seconds, accelerating the vehicle to more than 150 mph and a maximum altitude of 875 feet." On the right, "THE WATER

recovery team, positioned in a pontoon boat with one of EPCOT's international pavilions in the background, pulls the 24-pound Explorer rocket from the Showcase Lagoon after splashdown."

On page 5, "**Australian pilot stops at KSC on second trip around globe**". In part, the article reads "Jon Johanson, an Australian midwife who built his own plane and is in the process of flying it around the world for the second time, can't help but feel an affinity with the Space Shuttle program. So he made a point of visiting Kennedy Space Center last week as he worked his way from Adelaide, Australia to Oshkosh, WI, for the world's largest airshow…

Johanson said he decided to build the plane because he had discovered his passion for flying and couldn't afford to buy one ready-made. The RV-4 single engine craft arrived in a kit and Johanson modified it to meet the needs his journey would place on it. He spent nearly 2,000 hours over two and a half years working on the plane during the day and serving duty as a midwife by night to pay for his expensive hobby. Once the plane was complete Johanson tested it out by becoming the first person to fly a single-engine aircraft nonstop from Adelaide to Auckland, Australia.

Johanson first flew around the world last year, heading west from Australia. This trip he started at the same point but is headed east. He said although there are places he would think twice about landing again, in general he has found people around the world are supportive of his venture…".

“PILOT JON JOHANSON, wearing his flight suit adorned with the names of his sponsors, downplayed his accomplishments during his recent stop at KSC but reveled in the success of the space program.”

I think the record mentioned above is from Adelaide, Australia to Auckland, New Zealand, some 2000 miles. The following is from Wikipedia: “In 1995, Johanson flew easterly around the world and made a stop over flight at Oshkosh, Wisconsin at the EAA. In 1996 he made another stop over flight to Oshkosh, Wisconsin for the EAA, then Johanson flew his second around the world flight going westerly. On his third around the world flight in 2000, Johanson set four aviation world records. As he was flying over the North Pole the cold air cracked his windscreen.

In 2003, he made the first solo flight in a single-engine home-built aircraft over the South Pole. After landing at the McMurdo-Scott base he became stranded when the base, not wishing to encourage future private flights, refused to sell him fuel. After a fuel donation by fellow adventurer Polly Vacher, he was able to fly on to Australia, via New Zealand.”

From The August 16, 1996, Spaceport News

On page 1, **“Endeavour undergoing modifications**”. The caption for the photo on the following page reads ““THE ORBITER ENDEAVOUR departs KSC atop the Shuttle Carrier Aircraft on its way to California for its first Orbiter Maintenance Down Period on July 30. Endeavour will spend about eight months at orbiter manufacturer Rockwell's Orbiter Assembly Facility, undergoing routine inspections and checkout and a series of modifications to prepare Endeavour for its role in the International Space Station program. The first space station flight is scheduled for late 1997.”

On page 2, "**Incubation center opens doors**". The caption for the next photo is "THE DOORS of the Florida/NASA Business Incubation Center (FNBIC) opened with a ribbon-cutting ceremony Aug. 6. The cooperative venture is sponsored by NASA, the state of Florida's Technological Research and Development Authority (TRDA) and Brevard Community College. Located on BCC's Titusville campus, the facility is designed to nurture fledgling businesses. From the left are, Frank Kinney, executive director, TRDA; Sen. Charlie Bronson; Dr. Maxwell King, president, BCC; Maria Clark, executive director, FNBIC; U.S. Rep. Dave Weldon; Lt. Gov. Buddy MacKay; Sen. Patsy Kurth; Rep. Randy Ball; KSC Associate Director Al Parrish; and Dr. Robert Norwood from NASA Headquarters."

I found the following about the Incubation Center at this website: "Florida/NASA Business Incubation Center, Titusville. Established in 1996, FNBIC is managed through a joint partnership of Florida's Technological Research and Development Authority, NASA Kennedy Space Center and Brevard Community College (BCC). The center

nurtures and helps accelerate the success of technology-based, small businesses in Brevard County. Tenants must be technology product oriented or be commercializing a NASA technology."

On pages 4 and 5, **"KSC PLAYS STARRIN".** A portion of the article reads "Kennedy Space Center, the nation's gateway to the stars, will soon have a starring role of its own in the Mary Tyler Moore television production "The Cape." The pilot movie, to be followed by a 20-episode television series is scheduled to air this fall… Executive Producer Kary Antholis, who recently won an Academy Award for his work on a documentary about the Holocaust, said he was intrigued by the concept because of the potential for telling a fantastic story about people doing heroic things in awe-inspiring surroundings… KSC employees served as extras, some in roles they work in every day…".

"SERIES STARS Adam Baldwin, Cameron Bancroft, Bobbi Phillips and Bobby Hosea are filmed during a running scene near the Astronaut's Beach House at Kennedy Space Center.

"LAUNCH DIRECTOR Jim Harrington is made up by makeup artist Diane Maurno. Harrington portrays himself in the movie pilot."

Wikipedia has a write-up about the 1996-1997 TV series. The pilot movie is available at this YouTube site. Just after 59 min and 50 sec in the movie, there is footage of Jim playing himself in the movie, along with Greg Katnik, acting as PTC (Payload Test Conductor), and Roberta Wyrick, playing herself, OTC, Orbiter Test Conductor. There is even a scene from the roof of the VAB, starting at about 41 min 45 sec, the only scene from a movie or TV show that was shot there that I know of. John Guidi and Al Sofge are also in the footage.

From The September 13, 1996, Spaceport News

On page 1, the "**Mission update**" for STS-79.

"Mission: STS-79 on Atlantis.

Launch date, time: Target date of Sept. 16, 4:54 a.m. from Launch Pad 39A.

Status: Atlantis was returned to Launch Pad 39A on Sept. 5 after being sent back to the Vehicle Assembly Building Sept. 4 as a precautionary move due to the approach of Hurricane Fran. Mission Synopsis: STS-79 is the fourth in a series of NASA docking missions to the Russian Mir Space Station, leading to the construction and operation of the International Space Station. A launch on the 16th will set Atlantis up for a rendezvous and docking on the fourth day of flight. Astronaut John Blaha will be replacing Shannon Lucid aboard the Mir.

Landing date, time: Sept. 26, 8:49 a.m. at KSC's Shuttle Landing Facility."

Also on page 1, **"Mars Rover undergoes checks".** The caption for the photo on the following page states "THE MARS Pathfinder small rover undergoes a final functional check by Jet Propulsion Laboratory technicians in KSC's Spacecraft Assembly and Encapsulation Facility-2 (SAEF-2) before being attached to the Pathfinder lander. The six-wheeled robotic vehicle will become the first autonomous rover to explore the

surface of another planet when it begins crawling over the Martian terrain next year. The rover will be attached to one of three petals of the Mars Pathfinder lander. After the petals are closed, a protective aeroshell will be installed around the lander and parachutes attached to it. This assembled entry vehicle will then be mated to the cruise stage that will carry the spacecraft on its interplanetary trajectory. The completed spacecraft will be mated with an upper stage booster before going to the launch pad. Liftoff on a Delta II expendable launch vehicle currently is set for Dec. 2, the beginning of a 24-day launch period."

On page 5, **"KSC employees lend helping hands during Day of Caring".** The article reads "KSC EMPLOYEES participated in the fourth annual Day of Caring sponsored by the United Way of Brevard County, Inc. on Sept. 6. Employees formed teams of two to ten people and participated in activities ranging from serving lunch to the homeless in Brevard County soup kitchens; painting and landscaping community centers; assisting with chores for elderly, frail and disabled adults; and providing enrichment activities for preschool and elementary classes among other activities."

On the left, "Terry Willingham and Laura Rochester help paint the Salvation Army building in Titusville." On the right, "DELIVERING MEALS on Wheels in Titusville are, from the left, Marina

Harris, Joanna Johnson, Jay Diggs, Marlene Squires, Tina Adams, Jacqueline Morales, Cathy DiBiase, and Joni Richards."

From The October 11, 1996, Spaceport News

On page 1, the **"Mission update"** for STS-79.

"Mission: STS-79 on Atlantis.

Landing date, time: Sept. 26, 8:13 a.m. at KSC's Shuttle Landing Facility."

Also on page 1.

"At the Skid Strip on Cape Canaveral Air Station, U.S. astronaut Shannon Lucid gets a personal escort from KSC Director Jay Honeycutt, left, and STS-79 Pilot Terrence Wilcutt as she

prepares to return to Johnson Space Center in Houston. Lucid embarked to Mir on March 22 and returned to Earth Sept. 26. Her 188 days on-orbit represent a U.S. human spaceflight record as well as the longest stay in space by a woman."

Also on page 1, the **"Mission update"** for STS-80.

"Mission: STS-80 on Columbia.

Launch date, time: No earlier than Nov. 8, 2:47 p.m. from Launch Pad 39B.

Primary payloads: Orbiting Retrievable Far and Extreme Ultraviolet Spectrograph-Shuttle Pallet Satellite (ORFEUS-SPAS-2)… and the Wake Shield Facility- 3…

Landing date, time: Nov. 24, 7:31 a.m., at the Shuttle Landing Facility."

For the mission patch on the next page, the Wikipedia summary reads "This mission patch for mission STS-80 depicts the Space Shuttle Columbia and the two research satellites its crew deployed into the blue field of space. The uppermost satellite is the Orbiting Retrievable Far and Extreme Ultraviolet Spectrograph-Shuttle Pallet Satellite (ORFEUS-SPAS), a telescope aimed at unraveling the life cycles of stars and understanding the gases that drift between them. The lower satellite is the Wake Shield Facility (WSF), flying for the third time. It will use the vacuum of space to create advanced semiconductors for the nation's electronics industry. ORFEUS and WSF are joined by the symbol of the Astronaut Corps, representing the human contribution to scientific progress in space.

The two bright blue stars represent the mission's Extravehicular Activities (EVA), final rehearsals for techniques and tools to be used in assembly of the International Space Station (ISS). Surrounding Columbia is a constellation of 16 stars, one for each day of the mission, representing the stellar talents of the ground and flight teams that share the goal of expanding knowledge through a permanent human presence in space."

On pages 1 and 8, **"NASA, USA begin new era with SFOC".** In part, the article reads "NASA has begun a new era in the Space Shuttle program this month by consolidating much of the ground processing and in-flight operations of the Shuttle under a simplified contract signed with a single company, United Space Alliance. The six-year, $7 billion base contract includes two, 2-year extension options that could bring the total estimated contract value to about $12 billion over ten years.

While maintaining safety as the top priority and keeping the current annual flight rate intact, the new contract is expected to reduce the cost of flying the Space Shuttle. The contract assigns greater responsibility to the contractor, reducing the government's role in overseeing day-to-day, routine shuttle operations… The new single prime contract, called the Space Flight Operations Contract (SFOC), replaces 12 previous individual contracts, the largest two of which had covered shuttle ground processing work at Kennedy Space Center, performed by Lockheed-Martin Space Operations and shuttle operations work performed by Rockwell Space Operations Co. at the Johnson Space Center, Houston. USA is a joint venture announced last year by Rockwell and Lockheed-Martin…

To ensure safety is maintained, the transition of responsibilities from NASA to USA for day-to-day shuttle operations will be performed on a highly structured, job-by-job basis…".

"CUTTING THE CAKE during an Oct. 4 picnic for USA employees at KARS I are, from the left, Mike McCulley, USA's vice president and associate program manager for Ground Operations at KSC; Kent Black, USA's chief executive officer; Dan Goldin, NASA administrator; Bob Sieck, director of Shuttle Operations, and George Abbey, director of the Johnson Space Center."

On page 4, **"Shuttle insulation in race cars gets seal of approval".** A portion of the article reads "Space Shuttle insulation will soon be commercially available to protect race car drivers from the searing heat they endure during competition through an

agreement between NASA, Rockwell Space Systems, the insulation's developer, and BSR/TPS Products Inc., Mooresville, NC. Kennedy Space Center Director Jay Honeycutt placed a special space certification seal on the first kit to be made from Space Shuttle orbiter Thermal Protection System (TPS) materials Oct. 8 at BSR's Lakeside Park facility…

"This is a breakthrough," Wallace said at a press briefing after the Daytona test earlier this year. "I am totally impressed with this material. I feel that the TPS material helps the whole car run cooler, and the cooler the car is the better the performance." … "This is a win-win situation, both for NASCAR and the space agency," Wallace said. "I want to give a huge endorsement to the racing community about what NASA has done to help us." …

Honeycutt, a racing fan, first recommended TPS insulation to NASCAR race team manager Bobby Allison. Allison then passed the concept along to Roger Penske. KSC employees worked with Penske's team to develop and perfect the final insulation kit design…".

"VETERAN NASCAR driver Rusty Wallace, left, checks out a piece of Space Shuttle insulation that was installed on his Ford Thunderbird race car after a fully instrumented test was conducted at Daytona International Speedway to determine how well the heat reduction system would work under race track conditions. To his left are Rockwell International project engineer Suzanne Hodge and NASA/KSC Thermal Protection System Facility (TPSF) manager Bruce Lockley."

From The December 6, 1996, Spaceport News

On page 1, the **"Mission update**" for STS-80.

"**Mission:** STS-80 on Columbia.

Launch date, time: November 19 at 2:56 p.m.

Target KSC landing date, time: December 6 at about 7:57 a.m."

Also on page 1, **"Forging a path".**

"THE MCDONNELL DOUGLAS Delta II rocket holding the Mars Pathfinder stands poised on Pad B at Launch Complex 17 on Cape Canaveral Air Station awaiting its next launch opportunity. At press time that launch was scheduled for Dec. 4 at 1:58 a.m. after the previous day's attempt was postponed due to a computer synchronization problem."

And lastly, on page 1, the **"Mission update"** for STS-81.

"**Mission:** STS-81 on Atlantis.

Launch date, time: Jan. 12, 1997 at about 4:17 a.m.

Mission: 5th Mir docking

Target KSC landing date/time: Jan. 21, 1997 at about 8:40 a.m."

From Wikipedia, "The crew patch for STS-81, the fifth Shuttle-Mir docking mission, is shaped to represent the Roman numeral V. The Shuttle Atlantis is launching toward a rendezvous with Russia's Mir Space Station, silhouetted in the background. Atlantis and the STS-81 crew spent several days docked to Mir during which time Jerry M. Lineger (NASA-Mir-4) replaced astronaut John Blaha (NASA-Mir-3) as the U.S. crew member onboard Mir. The U.S. and Russian flags are depicted along with the names of the shuttle crew."

On page 4, **"Ground broken for Shuttle processing building".** In part, the article reads "The Space Shuttle main engines will be processed in a new facility scheduled to be opened in the summer of 1998. Groundbreaking was held Nov. 20 for the 34,600-squarefoot Space Shuttle Main Engine Processing Facility located next to the Orbiter Processing Facility (OPF) 3 in the Launch Complex 39 area… The SSMEPF… will provide space to increase the capacity and efficiency of engine processing operations currently performed by Rocketdyne. The area is moving out of the Vehicle Assembly Building due to safety concerns related to the number of personnel and activities in the VAB…".

“DIGGING IN to help get the new SSMEPF underway are, from the left, Alfredo Tehran, president of AJT and Associates, Inc.; Wade Ivey, president of Ivey Construction, Inc.; Bob Sieck, director of Shuttle “Processing; Walt Stampley, associate director of facilities, Design Engineering; Gene Thomas, KSC deputy director, John Plowden, deputy program manager Space Shuttle Main Engine and Rocketdyne site director at KSC; and Marvin Jones, director of Installation Operations.”

On page 6, “**Employees honored with awards recognizing Space Flight Awareness**”. Part of the article states “…In November the STS-79 crew returned to KSC to thank employees for their contributions to that mission. The astronauts made a presentation and showed their mission video and slides to a standing-room-only crowd in the Training Auditorium. The astronauts also visited the STS-79 Payload Test Team members in the Operations & Checkout Building and the employees in the Orbiter Processing Facility Bay 3. Later that afternoon, astronaut Shannon Lucid was presented with a quilt by students and teachers from Roosevelt Elementary School in Cocoa Beach…”.

“Astronaut Shannon Lucid is presented with a quilt by students and teachers from Roosevelt Elementary School in Cocoa Beach.”

From The December 20, 1996, Spaceport News

On page 1, **"HAPPY HOLIDAYS".** In part, the article states:

"Two years ago the Christmas edition of Spaceport News carried a story about my appointment as center director. This Christmas, as I, along with 200 dedicated space center employees, prepare to move on to the next stages of our lives and careers, I would like to reflect not just on past accomplishments but on the new era of space exploration that lies ahead… NASA has endured some difficult months in recent years, striving to meet and exceed flight objectives while limited by federal budget and ceiling constraints…

During the past year we have successfully launched seven Shuttle and three expendable vehicle missions that have brought us unparalleled new knowledge about the space around us and our role in it; given new life and a new home to the Saturn V launch vehicle; sent Shannon Lucid to the Mir space station to begin her record-setting odyssey of a lifetime and returned her safely home; and celebrated the 15-year anniversary of Shuttle exploration and the 35th of human space flight…

We are also well underway in our plans for the future. The Global Surveyor and Pathfinder vehicles currently making their way toward Mars are expected to yield invaluable information about the planet believed to be most like our own; space station processing work is progressing toward the first planned launch of hardware…

None of these things would have been possible without a skilled and dedicated team committed to seeing them through. Thank you for your good efforts. Enjoy the holiday season and take a moment to appreciate all we have been blessed with."

Jay Honeycutt
Center director

On pages 6 and 7, **"SENIOR EXECUTIVES LEAVE HISTORIC LEGACY".** The article includes personal summaries of senior executives announcing their retirement. The individuals are Gene Thomas, Al Parrish, John Conway, Walt Murphy, Frank Durso, Jackie Smith, and Dick Lyon.

On page 8, **"Down the hatch".** The caption for the photo on the following page is "IN ORBITER PROCESSING Facility Bay 1, United Space Alliance (USA) technicians Dave Lawrence, at left, and James Cullop troubleshoot the orbiter Columbia's outer hatch of the airlock, which failed to open during the recent STS-80 Space Shuttle mission. Mission Specialists Tamara Jernigan and Thomas Jones did not perform the mission's planned two extravehicular activities (EVAs) or spacewalks because the hatch would not open on orbit. After workers gained access to the hatch they removed and closely

examined the actuator (a gearbox mechanism that is used to operate the linkages that secure the hatch) and discovered a small lodged in the gearbox. All six airlock actuators on Atlantis are being removed and recycled before its scheduled launch on STS-81 Jan. 12 “

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Also on page 8, **“New center director?”**

“ACTOR CORBIN BERNSEN of the television series "The Cape" tries Center Director Jay Honeycutt's chair on for size. In October Honeycutt announced his plans to retire. "The Cape" has filmed at KSC for much of the year”

Followup From the 1995 Spaceport News Summary

Regarding the article in the September 22, 1995, Spaceport News, **"VAB houses balloon leak check"**, Al Sofge sent me the following: "After the balloon inflation test we supported one weekend in the VAB for Henk Brink and the balloon crew, I didn't hear anything about his around the world attempt for a long period. The balloon manufacturer was Cameron Balloons in the UK; they brought a team over for the leak test. They were/are a major manufacturer of hot air balloons for sport and other uses. Brink's design was a combination helium and hot air separated into different sections, as I remember. After some time of hearing nothing about the attempt, I called and spoke with Mr. Cameron. He had heard nothing about the attempt and had no news about the status. Several years ago I was reminded about the test by the HQ person that worked the NASA agreement to use the VAB. I attempted to find the status and could find nothing…".

I did some more looking and responded to Al with: "…The only thing I could find, for sure, on the Web, was the 1986 Atlantic crossing by Henk and his wife.

Al, I guess I did not look hard enough as I just found the following, "…In the wings, but unable to finish their balloon projects for lack of money, were Julian Nott, a champion British balloonist, and Henk Brink, a Dutch balloonist and helicopter pilot…". I found the aforementioned in a March 21, 1999, New York Times article, titled "Balloon History, and in Only 20 Days", about the first nonstop balloon trip around the world.

There is some more news about the actual balloon, circa 2013, at this website. And there is a neat photo of the balloon in the VAB at this site; see photo on the next page.

Thanks a bunch Al!!!!!


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