



1990 Spaceport News 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 Spaceport Magazine, a monthly issue, superseded the Spaceport News in April 2014, until the final issue, Jan./Feb. 2020.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 or someone else provided and purple font is a hot link.

All links were working at the time I completed this Spaceport News Summary.

From The January 12, 1990, Spaceport News

On page 1, "**New year off to great start**". A portion of the article reads "Columbia rose on a pillar of clouds at 7:35 a.m. Jan. 9 on the first mission of the new year... The launch, originally set for Dec. 18, was postponed to Jan. 8 in order to complete upgrading of Pad 39A and accommodate holiday schedules. Cloud cover forced another delay on Jan. 8. On the 10-day mission, the astronauts are to deploy the Hughes SYNCOM-IV communications satellite for the Navy and retrieve the Long Duration Exposure Facility (LDEF)...".



"COLUMBIA begins its race to catch the long Duration Exposure Facility Jan. 9 on mission STS-32."

Also on page 1, "**KSC directors fill key roles in space agency**". In part, the article reads "Two Kennedy Space Center managers were recently selected to fill key NASA position. On Jan. 5, NASA Administrator Richard H. Truly named Thomas E. Utsman as Deputy Associate Administrator for Space Flight (Management) and James A. "Gene" Thomas as Deputy Director of Kennedy Space Center.

In his new position, Utsman will have overall responsibility for assisting William B. Lenoir, Associate Administrator for Space Flight, in the day-to-day oversight of Space Flight programs... Thomas, who will serve as deputy director under Center Director Forrest S. McCartney, has been the Director of Safety, Reliability and Quality Assurance at KSC since January 1987....".



THOMAS E. UTSMAN



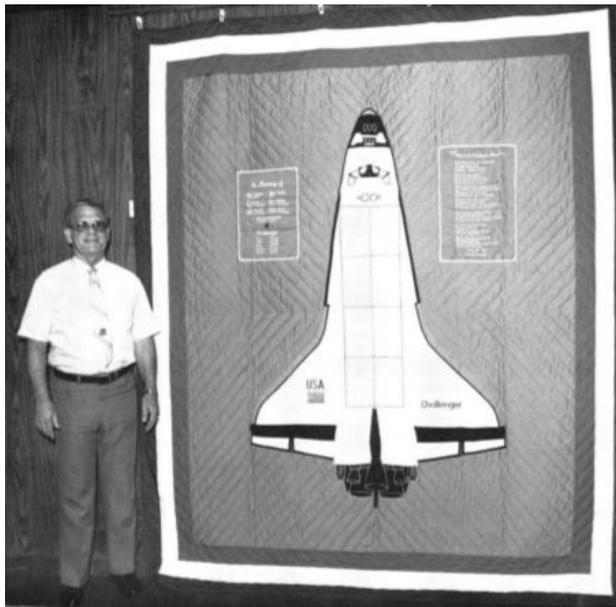
JAMES A. THOMAS

On page 3, "**KSC engineer captures space program memories**". Part of the article reads "A quilt made in honor of the STS-51L crew by a Kennedy Space Center engineer has been selected for a major statewide exhibition. The quilt, made by Robert Hamilton, a mechanical engineer with Grumman Space Station Program Support Division, will be

displayed at the Museum of Florida History in Tallahassee from November 1990 through March 1991. It may then be loaned to other museums around the state...

Hamilton designed and made three quilts in tribute to the Challenger crew since the 1986 accident. He also made a quilt featuring the Space Shuttle Discovery for STS-26, the return-to-flight mission in September 1988. He presented that quilt to STS-26 Commander Rick Hauck... At the time of the accident, Hamilton's 13-year-old son, Marty, was very excited about the space program. Hamilton decided to design a quilt for his son after the accident...

The quilt that will go on display depicts the Challenger, and includes the crew names, information about the launch and the Shuttle, and a poem written by Hamilton. Three sewing machines were used. Hamilton used a modern machine and an old treadle model. The fine detail work was done by a local store using a computer-controlled machine... "I had watched my mother and my grandmother make quilts and it didn't look so hard ... I found out it's not as easy as it looks," he commented..."



"ROBERT HAMILTON of Grumman displays a quilt he made."

On page 6, **"Cited for bravery"**. The caption for the photo on the following page is "CENTER DIRECTOR Forrest McCartney presents certificates of commendation to EG&G Fire Services employees Billy Jenkins, left, and Warren Shepard for their heroic efforts to save a woman's life. The two firefighters answered a call about a car that had run off NASA Causeway near the Indian River Bridge into six feet of water. Jenkins and Shepard put on emergency air packs, dived into the water and broke the windshield to remove the woman from her car."



On page 8, “**STS-36 crew insignia combines patriotism and space exploration**”. In part, the article states “The bald eagle is the dominant theme of the STS-36 crew patch. The five crew members who designed the patch said the eagle symbolizes “. . . the essential role that space plays in preserving the blessings of freedom and liberty for America.”... The Shuttle, majestically beginning its journey into orbit, demonstrates how man and machine work together for the security of our nation.” A crew spokesman said the flag represents the patriotism and love for America possessed by each member of the STS-36 crew and signifies the honor accorded them through participation in national defense...”.

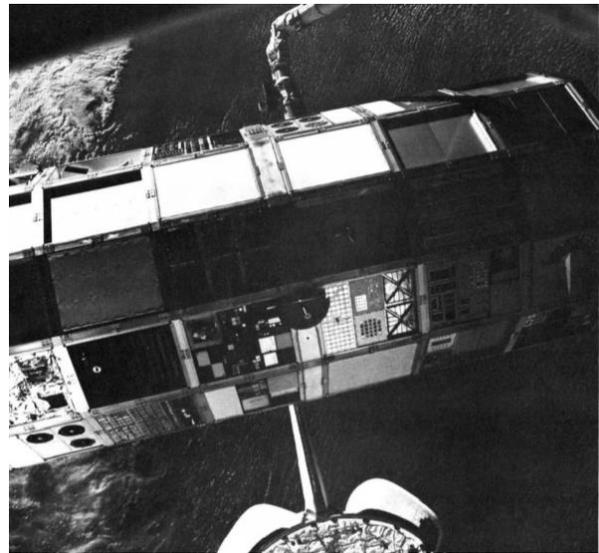
Below, the Spaceport News version patch is on the left and a color version from Wikipedia is on the right.



From The January 26, 1990, Spaceport News

On page 1, "**Columbia returns, KSC prepares for next mission**". Part of the article reads "While Columbia was returning to Kennedy Space Center atop the Shuttle Carrier Aircraft, Atlantis was being prepared for its dedicated Department of Defense mission in February. Atlantis was transported from the Orbiter Processing Facility to the Vehicle Assembly Building on Jan. 19 and was set to roll to Launch Pad 39A this week. The STS-36 crew is scheduled to arrive at KSC on Feb. 1 for emergency training and a practice countdown.

Columbia's record-setting 11-day mission ended with a landing at Edwards Air Force Base in Calif. at 4:35 a.m. EST on Jan. 20. It lifted off Pad 39A on Jan. 9 at 7:35 a.m. The previous Space Shuttle record of 10 days in space was also set by Columbia during the STS-9 mission in 1983..."



On the left, "ABOARD COLUMBIA'S MID DECK, the STS-32 crew poses for a portrait. From left, Commander Daniel C. Brandenstein; Mission Specialists Bonnie J. Dunbar, Marsha S. Ivins, G. David Low; and Pilot James D. Wetherbee." On the right, "LDEF is held and rotated by Columbia's remote manipulator arm so that each experiment can be photographed after spending nearly six years in space."



"ATLANTIS LEAVES the Orbiter Processing Facility on its way to the VAB on Jan. 19."

Also on page 1, **“Key personnel moves announced at space center”**. In part, the article reads “Center Director Forrest S. McCartney recently announced five managerial changes at KSC. He named Alan J. Parrish as director of the Safety, Reliability and Quality Assurance Directorate, Joseph N. Barfus, as director of Ground Engineering, Marvin L. Jones as deputy director of the Center Support Operations Directorate, John R. Lang as director of Vehicle Engineering and Jackie E. Smith as director of Safety and Reliability. Parrish replaces James A. "Gene" Thomas who was recently selected as KSC Deputy Director...

Parrish joined NASA at KSC in 1964 as a television systems engineer... Barfus has worked for NASA at KSC for 25 years, beginning as a systems engineer for high pressure gas equipment and as a test controller... Prior to joining NASA, Jones served as Commander of the Eastern Space and Missile Center, Patrick Air Force Base. In his 28 years with the U.S. Air Force, he attained the rank of colonel. During his military career, Jones was a command pilot with more than 6,000 flying hours, including 738 combat missions in Vietnam... Lang joined NASA at KSC in 1967 as a systems engineer on the Apollo spacecraft... Smith joined NASA in 1966 as lead systems test engineer on the Apollo program...”.



ALAN J. PARRISH



JOSEPH N. BARFUS



MARVIN L. JONES



JOHN R. LANG



JACKIE E. SMITH

From The February 9, 1990, Spaceport News

On page 1, "**Kennedy Space Center assesses launch readiness for STS-36**". In part, the article reads "Preparations for the STS-36 launch moved into high gear at KSC. A two-day practice countdown ended successfully Feb. 3. The dress rehearsal set the stage for this week's meetings to discuss launching the dedicated Department of Defense mission currently targeted for Feb. 22. KSC managers were to meet earlier this week to discuss the center's readiness. A firm launch date is expected after NASA and contractor Shuttle program managers meet for the Flight Readiness Review on Feb. 9 and 10.

At Launch Pad 39A, technicians removed the high pressure fuel turbopump on main engine number 3 of Atlantis to examine it for any welding defects. A recent test on a fuel pump at the manufacturer's plant in Calif. revealed minute imperfections in a titanium inlet..."

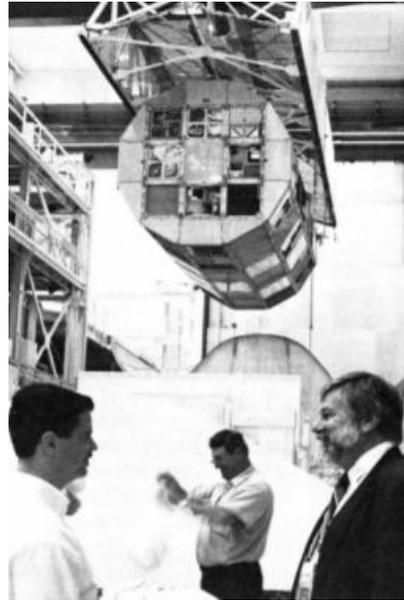
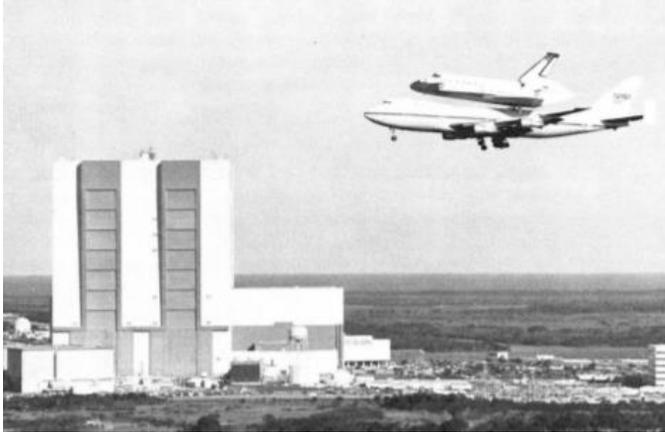


"THE STS-36 CREW ARRIVES at the Shuttle Landing Facility in their T-38 jets on Feb. 1 to rehearse their upcoming launch. From left, David C. Hilmers, John O. Creighton, Richard M. "Mike" Mullane, John H. Casper, Pierre J. Thuot."



"ATLANTIS ROLLS to Launch Pad 39A on Jan. 25 for the dedicated Department of Defense mission targeted for Feb. 22."

On page 4, “LDEF is home again”.



On the left, “COLUMBIA flies by the Vehicle Assembly Building atop the Shuttle Carrier Aircraft as it arrives at Kennedy Space Center Jan. 26. It landed at Edwards Air Force Base in Calif. on Jan. 20.” On the right, “LDEF PROJECT MANAGER Burt Lightner (right) of Langley Research Center supervises the removal of LDEF from its canister in the Operations and Checkout Building on Feb. 1. It was later placed in a special transporter for transfer to the Spacecraft and Encapsulation Facility II where it is currently undergoing postflight analysis.”

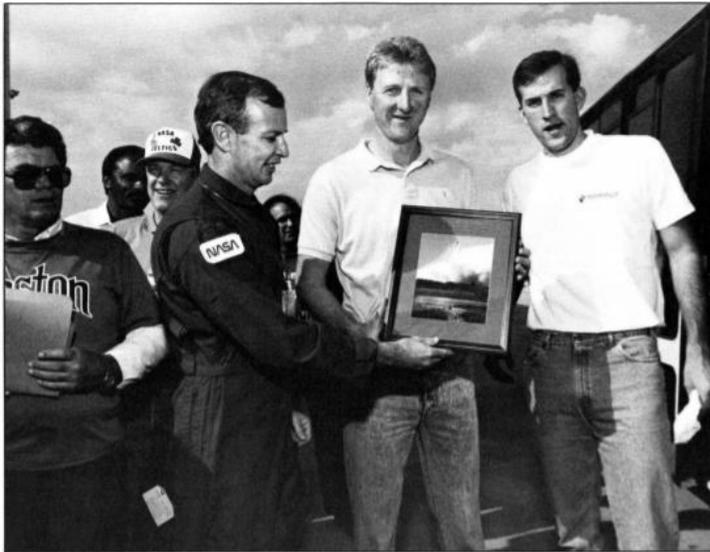
On page 6, “Award named after first KSC director”. A portion of the article reads “The National Space Club's Florida Committee has named an award after Kennedy Space Center's first director. The Kurt H. Debus Award will be presented annually to an individual who has contributed to the advancement, awareness and improvement of the aerospace industry in Florida.

Debus helped establish launch facilities at Cape Canaveral and KSC and later became KSC'S first director. He was responsible for NASA's first manned space programs, from Mercury through Gemini and the Apollo moon landing. He retired from NASA in 1974 and died in 1983. The first Debus award will be presented Feb. 23 at the Howard Johnson Plaza-Hotel in Cocoa Beach. NASA Administrator Richard H. Truly will be the guest speaker...”.



Kurt H. Debus

On page 8, "**Boston Celtics visit space center**".



"EMPLOYEES, from left, Rod Phillips of the Johnson Space Center resident office, Larry Murray of Vehicle Engineering and Roy Tharpe of STS Management and Operations watch as astronaut Tom Duffy presents a photo of the STS-32 launch to Larry Bird and Mike Smith of the Boston Celtics basketball team. Bird later recorded a wake up call to the STS-32 crew."

From The February 23, 1990, Spaceport News

From page 1, "**Atlantis, crew ready for launch**". The article reads "Work was on schedule earlier this week for the STS-36 mission that was set to lift off Feb. 22. The Department of Defense dedicated mission was to launch during a four-hour period from midnight to 4 a.m. The five-member crew for STS-36 arrived at Kennedy Space Center at 11 p.m. Feb. 18. After their arrival, they participated in standard prelaunch activities, including practice flights in T-38 training jets and the Shuttle Training Aircraft. The crew consists of Commander John O. Creighton, Pilot John H. Casper and Mission Specialists David C. Hilmers, Richard M. "Mike" Mullane and Pierre J. Thuot. This will be the first Shuttle flight for Casper and Thuot.

The next Space Shuttle mission, STS-31, is scheduled for launch in mid-April. While work continued on Discovery this week in the Orbiter Processing Facility (OPF), technicians prepared to mate the external tank and solid rocket boosters in the Vehicle Assembly Building (VAB). Discovery will be transported from the OPF to the VAB in early March. The STS-31 crew - Commander Loren J. Shriver, Pilot Charles F. Bolden, and Mission Specialists Steven A. Hawley, Bruce McCandless II and Kathryn D. Sullivan- will deploy the Hubble Space Telescope."

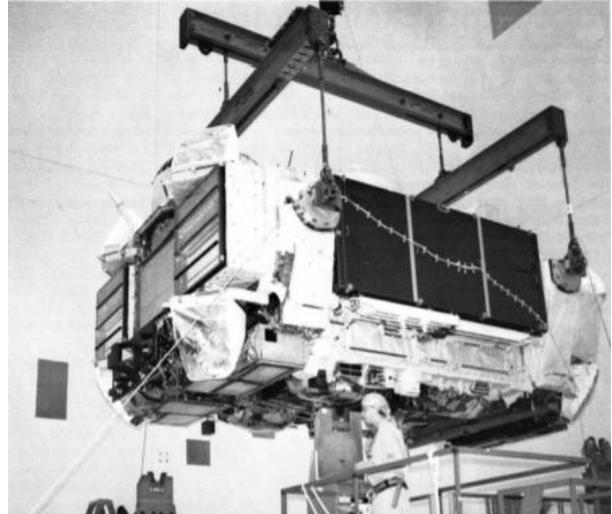


“THE STS-36 ASTRONAUTS leave the Operations and Checkout Building during a dress rehearsal earlier this month. From left, Pierre J. Thuot, David C. Hilmers, John O . Creighton, Richard M. "Mike" Mullane and John H. Casper. Tom DeMars of EG&G Florida Security Services is their escort.”

On page 6, **“Second great observatory now at KSC”**. A portion of the article reads “The second in a series of four NASA great observatories is at Kennedy Space Center undergoing final assembly and prelaunch checkouts. The Gamma Ray Observatory (GRO) arrived at KSC on Feb. 6 aboard a C-5A Air Force transport plane from the manufacturer's plant in Redondo Beach, Calif. The Hubble Space Telescope, the first great observatory to arrive at KSC, is being processed for an April launch. The other two observatories, the Advanced X-Ray Astrophysics Facility and the Space Infrared Telescope Facility, are set to lift off in the last half of the decade.

Shortly after GRO's arrival, TRW and Goddard Space Flight Center employees began a six-week checkout of the spacecraft in the Payload Hazardous Servicing Facility at Cape Canaveral Air Force Station. GRO is the first NASA payload to occupy the new servicing facility that was completed last year. GRO is scheduled to be taken to the Vertical Processing Facility in September. There, it will be tested for compatibility with the Space Shuttle and prepared for transport to Launch Pad 39A in October where it will be placed in Atlantis' payload bay.

It will be launched into a near-circular orbit 279 miles from Earth, where it will gather gamma ray emissions to help scientists learn more about the beginning of the universe. GRO, weighing 35,000 pounds, will be the heaviest spacecraft without an upper stage ever deployed from the Shuttle...”.



On the left, “THE GAMMA RAY OBSERVATORY arrives at the Shuttle Landing Facility aboard a C-5A Air Force transport plane on Feb. 6 from the TRW plant in Redondo Beach, Calif.” On the right, “TECHNICIANS LIFT the Gamma Ray Observatory onto a test stand in the Payload Hazardous Servicing Facility on Feb. 8.”.

On page 4, “**Another Orbiter Processing Facility planned at KSC**”. Part of the article states “Contract negotiations are under way to convert Kennedy Space Center's Orbiter Modification and Refurbishment Facility (OMRF) into an Orbiter Processing Facility (OPF) by late 1991... High bay work stands from the former Space Shuttle launch complex at Vandenberg Air Force Base, Calif., will be incorporated into the new facility...”

The new OPF will supplement the one that is already in operation at KSC. The present facility can process two orbiters at the same time. However, NASA felt that this one structure was not sufficient to handle the orbiter processing flow with an expanded launch schedule and a fourth orbiter. Endeavour will join the orbiter fleet at KSC in 1991. The existing OPF has two high bays that are joined together by a low bay...”.



“HIGH BAY WORK STANDS from the former Space Shuttle launch complex at Vandenberg Air Force Base, Calif., arrived at KSC on Nov. 13, 1989. They will be used in the new Orbiter Processing Facility.”

From The March 10, 1990, Spaceport News

The headline is **"Whether' or not, STS-36 mission succeeds"**. Part of the article reads "Despite the illness of a crew member, bad weather and a last minute technical snafu, Atlantis finally prevailed, streaking through the early morning sky on Feb. 28 with fiery determination to begin its classified mission for the Department of Defense.

And true to form, it beat old man weather to the punch four days and ten hours later by gliding to a graceful landing at Edwards Air Force Base in California one step ahead of high winds that could have extended its stay in orbit. The spectacular launch from Pad 39A, visible to viewers along the East Coast as far north as Delaware, came six days late. The mission initially was postponed on Feb. 22 because of unfavorable weather and the illness of STS-36 Commander John O. Creighton. Weather constraints and a recalcitrant range safety computer accounted for the additional delays...".



"SPACE SHUTTLE ATLANTIS lights up the sky as it lifts off Launch Pad 39A at 2:50 a.m. on Feb. 28 for STS-36."

On page 2, **"Former deputy director honored by space clubs"**. In part, the article states "George F. Page, former Kennedy Space Center deputy director and launch director for the first three Space Shuttle missions, is the recipient of the first Kurt H. Debus award presented by the National Space Club, Florida Committee. The local space club honored Page for his contributions to the U.S. space program during a banquet held at the Howard Johnson Plaza-Hotel in Cocoa Beach on Feb. 23.

The Debus award will be presented annually to an individual who has contributed to the advancement, awareness and improvement of the aerospace industry in Florida. The

award was named after KSC's first director who served in this position from 1962 to 1974. Debus died in 1983. Page joined NASA in 1963 as chief spacecraft test conductor for Gemini and Apollo launch operations. He held several positions, including launch director, before being appointed deputy director of KSC in 1982. He retired from NASA in 1985, and is now president of Analex Space Systems Inc. of Titusville....”.



PAGE

Also on page 2, **“Royal visit”**.



“PRINCE CHARLES of Great Britain is briefed on Firing Room 1 operations by Center Director Forrest S. McCartney, left, during a tour of Kennedy Space Center on Feb. 19. The Prince of Wales was at KSC to participate in an environmental documentary being filmed by the British Broadcasting Corp. The film focuses on wildlife coexisting with high technology. Prince Charles also viewed orbiters Columbia and Discovery in the Orbiter Processing Facility and toured the Merritt Island National Wildlife Refuge.”

On page 5, **“Astronaut-designed STS-31 crew patch features telescope”**. In part, the article reads “The STS-31 crew designed their insignia with the Hubble Space Telescope prominently displayed against the background of the universe. In the insignia, HST is placed in its observing configuration to examine the size and origin of the universe... The stylistic depiction of galaxies in the insignia recognizes the contribution made by Edwin P. Hubble...”

The Space Shuttle in the crew patch trails a spectrum symbolic of both the red shift observations that were so important to Hubble's work and new information which will be obtained with the HST. Encircling the artwork are the names of the STS-31 crew: Loren J. Shriver, mission commander; Charles F. Bolden, pilot; and Steven A. Hawley, Bruce McCandless II and Katheryn D. Sullivan, mission specialists.”

In the below, the Spaceport News rendition is on the left and a color version from Wikipedia is on the right.



On page 6, **“Discovery rolls to VAB”**. The article states “Space Shuttle Discovery is another step closer to its targeted April 12 liftoff from Launch Pad 39B. It was moved from the Orbiter Processing Facility on March 5 to the Vehicle Assembly Building (VAB) atop the orbiter transporter. In the VAB, workers prepared to mate Discovery to the external tank and solid rocket boosters. The next move for Discovery will be to the launch pad in mid-March. When Discovery lifts off, it will carry the five STS-31 astronauts and the Hubble Space Telescope into space.”



“KENNEDY SPACE CENTER WORKERS watch as Discovery rolls to the Vehicle Assembly Building at 10 a.m. on March 5.”

From The March 23, 1990, Spaceport News

On page 1, **"New Operations Support Building dedicated"**. In part, the article reads "About 1,700 people at Kennedy Space Center are anxiously waiting for the finishing touches to be made on their offices at the Launch Complex 39 Operations Support Building (OSB). NASA and contractor personnel in Space Shuttle engineering support divisions will be moving into their new offices in the 300,000-squarefoot building around April 1. Many of these people are now located in modified railroad boxcars, portable trailers, prefabricated modules and the Vehicle Assembly Building..."

"These people perform in an outstanding manner and they deserve a building adequate to their needs," said Center Director Forrest S. McCartney during a dedication ceremony on March 8. "When I came here in the fall of 1986, I was absolutely astounded by the amount of temporary housing," said McCartney. "I will continue my efforts to get rid of the temporary facilities because the space program at KSC is not a temporary effort..."

"It provides comfortable, efficient working conditions for the employees," said Jay F. Honeycutt, STS Management and Operations director... Construction on the OSB broke ground in September 1988 and was completed about 2 1/2 months ahead of schedule and within budget..."



"DEDICATION- The ribbon is cut for the new Launch Complex 39 Operations Support Building during a dedication ceremony on March 8. From left, James Towles, Facilities Engineering director; Forrest McCartney, KSC director; Jay Honeycutt, STS Management & Operations director; Billie McGarvey, NASA Headquarters Facilities management assistant associate administrator; Ed Wike, W&J Construction owner; and Jim Phillips, Engineering Development director."

On page 6, **"KSC's Aircraft Operations 'among the best'"**. Part of the article states "The 15 people who run Kennedy Space Center's Aircraft Operations are known to be more than a little picky. They're fussy about safety and quality, and they take a miser's delight in saving money. But what they share most of all is a love for flying machines..."

"Everybody loves to fly or they wouldn't be here," said Stan Nelson, chief of the Aircraft Operations Office located at Patrick Air Force Base. "I'd rather fly than just about anything," commented Chief Pilot Jerry Jackson, a KSC pilot since 1963. "It's the love of my life. It never gets old." ... An often-hectic schedule frequently keeps airborne the 12-passenger Gulfstream turboprop plane and two of the three seven-passenger Bell Huey helicopters. The third helicopter is undergoing an engine overhaul...

Launch-related events provide only part of the missions for the white-and-blue helicopters. The helicopters are used to take aerial photographs and video, fight fires, train personnel for medical emergencies, calibrate Shuttle Landing Facility equipment and survey buildings and wildlife at KSC. They also help outside agencies such as local police with rescues and the National Transportation Safety Board with crash investigation support..."



On the left, "FIREFIGHTERS use helicopters while practicing emergency egress procedures for an off-the-runway contingency landing at KSC." On the right, "AIRCRAFT OPERATIONS team includes, from left on platform, Stan Nelson, chief of the Aircraft Operations Office; Jamie Lister, aircraft scheduling clerk; Ed Taft, pilot; Norbert Violette, pilot; Don McMahon, mechanic; and Bob Conneely, chief of maintenance. Standing on pavement, Ron Harmuth, mechanic; Fred Kohler, mechanic; and Wayne Cason, aircraft inspector. Not shown are Jerry Jackson, chief pilot; Jim Neff, pilot; Dennis Moore, mechanic; Denny Bahm, pilot; Klaus Staefe, lead mechanic; and Bernie Keating, logistics technician."

On page 7, **"KSC drug testing begins"**. Part of the article reads "Random drug testing for NASA employees began this month at Kennedy Space Center. Approximately 75 civil service employees in sensitive positions will be tested annually at KSC under the

national Drug-Free Workplace Program. These employees will be randomly chosen from a list of about 750 people in Testing Designated Positions (TDPs)...” Examples of these positions include quality assurance specialists; and people who perform certain launch and in-flight operations work, such as test directors...”.

From The April 6, 1990, Spaceport News

On page 1, “**STS-31 launch date set, Hubble telescope ready**”. A portion of the article reads “A space program first was achieved on March 31 when Shuttle program managers chose April 10 as the launch date for STS-31. It was the first time the date set at a Flight Readiness Review was earlier than the date shown on previous planning schedules.

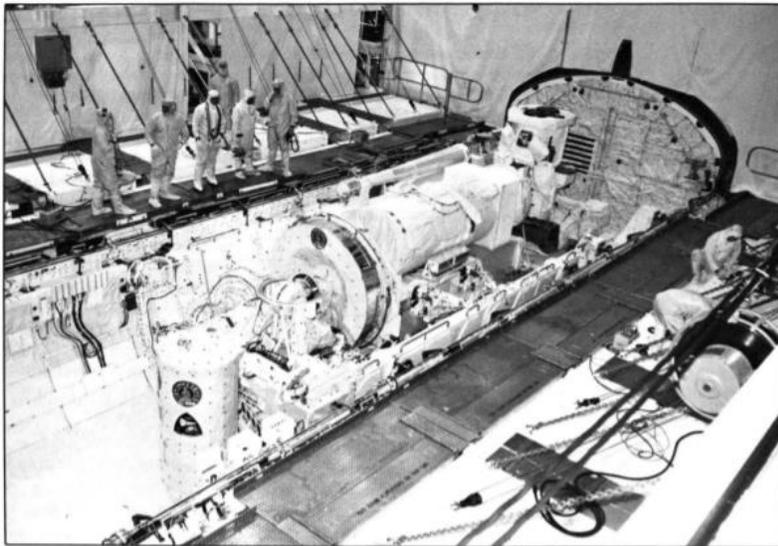
Processing on STS-31 had proceeded smoothly, although Kennedy Space Center workers have had a challenge living in harmony with nature lately. Small mosquito-like insects, called midges, were found in the Payload Changeout Room at Launch Pad 39B. For a couple of days, technicians set up high-tech bug traps to eradicate the midges before the Hubble Space Telescope (HST) could be loaded aboard Shuttle Discovery... The crew... is expected to arrive at Kennedy Space Center this weekend for the historic mission.”



“PRACTICE WALKOUT - The STS-31 crew leaves the Operations and Checkout Building during a dress rehearsal for the upcoming launch. From left, Mission Specialists Bruce McCandless II, Steven A. Hawley and Kathryn D. Sullivan, Pilot Charles F. Bolden Jr. and Commander Loren J. Shriver.”

On page 6, **"NASA alumni to meet"**. In part, the article states "The Kennedy Space Center Chapter of the NASA Alumni League will hold its first general meeting at 6:30 p.m. on April 13 at the Patrick Air Force Base Officers Club. "The purpose of the league is to keep in touch with each other and assist NASA management when requested," said John Fike, chapter secretary. The KSC chapter, formed last fall, was the first to be organized outside the Washington, D.C. area. There are now chapters at the Marshall Space Flight Center in Huntsville, Ala.; Johnson Space Center in Houston, Texas; and various other NASA centers throughout the country..."

On page 8, **"Columbia receives payload"**. The article states "ASTRO-1, an astronomy payload for STS-35, was installed in Columbia's payload bay on March 20 in the Orbiter Processing Facility. A full schedule of testing and verification work still lies ahead before the Shuttle can be launched in May. Columbia, with ASTRO-1 aboard, will be moved to the Vehicle Assembly Building for mating with the external tank and solid rocket boosters in early April. After about a week in the VAB, it will be transported to Launch Pad 39A."



From the April 20, 1990, Spaceport News

On page 1, **"Discovery to try again, launch set for April 25"**. In part, the article reads "The STS-31 crew was scheduled to arrive this weekend to begin the countdown for a second launch attempt at 8:30 a.m. on April 25, following the April 10 scrub. During the first attempt, the countdown was halted four minutes before launch because of a faulty valve in an auxiliary power unit (APU)... APU-1 was removed at the launch pad – a first for the Shuttle crew – and sent back to the manufacturer for examination. Another unit, installed last week, was scheduled for a "hot fire" test earlier this week... In parallel with

work on the APU, technicians also removed the Hubble Space Telescope (HST) batteries for recharging...”.



“DEPARTING - STS-31 Mission Commander Loren Shriver, left, and Pilot Charles Bolden leave KSC on April 11 following the launch scrub a day earlier.”

Also on page 1, “**Columbia readied for trip to pad**”. Part of the article reads “When Columbia rolls to Launch Pad 39A, it will be the first time in more than four years that two Shuttles will be sitting on launch pads at Kennedy Space Center. Columbia was being mated in the VAB earlier this week with its external tank and solid rocket boosters in preparation for its trip to the pad this weekend. It will join Discovery, now being prepared for the STS-31 mission at Pad B...”

STS-35 is set to lift off in May, carrying an astronomical observatory into space on a nine-day mission. While in orbit, the observatory, called ASTRO-1, will examine the invisible universe of ultraviolet and X-ray astronomy...”.



“ROLLOVER- KSC workers watch as the orbiter transporter carries Columbia to the Vehicle Assembly Building on April 16.”

From The May 4, 1990, Spaceport News

From page 1, “**STS-31 has exciting script**”. A portion of the article reads “After a series of shuffling launch dates, including a two week postponement to replace a faulty auxiliary power unit, Discovery vaulted from Launch Pad B at 8:34 a.m. on April 24, carrying the Hubble Space Telescope - NASA's most expensive satellite ever - into a 380-mile-high orbit. But not before another nail biting experience at the T-31 second mark - when an automatic hold stopped the count for several minutes until console operators in the firing room could manually command a liquid oxygen valve aboard Discovery into its proper position.

Suspense lingered the following morning after the STS-31 crew successfully deployed the telescope. Only one of two solar arrays unfurled as planned. While ground controllers at the Space Telescope Operations Center at Greenbelt, Md. wrestled with the problem, two of Discovery's astronauts were prepared for a space walk to fix the stubborn satellite if necessary. At the last moment, however, the telescope responded to computer commands from the ground and the balking solar array unfolded...

Discovery, its primary objective completed, moved out of its station-keeping orbit near the Hubble Space Telescope to complete the remainder of its mission. Landing occurred at Edwards Air Force Base, Calif. shortly after sunrise on April 29. The orbiter is scheduled to return to KSC next weekend.”



On the left, “SPACE SHUTTLE DISCOVERY heads for the skies at 8:34 a.m. on April 24 as sister ship Columbia waits her turn. This was the first time in more than four years that Shuttles occupied both pads. Discovery lifted off Launch Pad 39B, just 1.6 miles north of Pad A where Columbia is slated for launch later this month.” On the right, “FLYING HIGH - The view of the Vehicle Assembly Building from a T-38 trainer is unforgettable. Mission Specialist Kathryn D. Sullivan took this photo as she and fellow STS-31 crew members flew into Kennedy Space Center before the April 24 launch. Accompanying Sullivan and STS-31 Pilot Charles F. Bolden Jr. were Mission Commander Loren J. Shriver, Mission Specialists Steven A. Hawley and Bruce McCandless II and NASA Pilot Mario Runco.”

Also on page 1, **“Shuttle Columbia sets milestones”**. In part, the article reads “Columbia was transferred to Launch Pad 39A on April 22 in preparation for its planned mid-May launch. The roll to the launch pad was an eventful one which set two milestones. Crawler Transporter No. 2 passed its first 1,000 mile mark during the roll. The second milestone happened when Columbia reached the pad. This was the first time in more than four years that two Space Shuttles occupied launch pads at the same time... A firm date for the launch will be set during the Flight Readiness Review, May 7-8.



“MEMBERS OF THE STS-35 CREW take a break from training activities and pose for a photo on the 195-foot level of Launch Pad 39A. From left, Commander Vance Brand, Payload Specialist Ron Parise, Mission Specialist Mike Lounge, Pilot Guy Gardner, Mission Specialist Jeffrey Hoffman, Payload Specialist Kenneth Nordsieck, and Mission Specialist Robert Parker. Nordsieck practiced with the crew to substitute for Payload Specialist Sam Durrance, if necessary.”

On page 3, **“Crawler transporter passes 1,000 miles during STS-35 rollout”**. Part of the article states “...The 3,000-ton vehicle passed its first 1,000-mile landmark carrying Columbia to Launch Pad 39A on April 22... When the crawler first began transporting launch vehicles in the early 1960s, “no one dreamed something that moved so slow would ever reach 1,000 miles,” said Donald D. Buchanan, then chief of the Launcher Systems and Umbilical Tower Design Section...

Crawler Transporter No.2 has supported Apollo, Skylab and Space Shuttle missions from the 1960s to the 1990s. Crawler Transporter No. 1 is not far behind in accumulated mileage - lacking only 25 miles to reach the 1,000 mark... One of the heaviest loads that transporter 2 has carried was the Saturn 1B/Skylab. The combined weight of the mobile launcher platform, launch vehicle and payload totaled 13.2 million pounds - more than twice the weight of the transporter itself. Each transporter weighs six million pounds...

Over the years, extensive modifications were made to the transporters, including a new central control room and programmable controller. Most recently, a high-tech laser

docking system was added... The crawlers are expected to continue their tradition of service well into the next century.”



“CELEBRATING A MILESTONE - People who have worked on Crawler Transporter No. 2 watched the vehicle pass the 1,000 mile mark as it carried Columbia to Launch Pad 39A. Holding the Saturn photo is NASA lead engineer Bill Clemens, left, and Charlie Harrington of Lockheed Space Operations Co.”

From page 3, “**Astronaut honors PCR team with flag**”. In part, the article states “Astronaut Michael McCulley recently honored the Payload Changeout Room team with a flag that flew on Mission STS-34. The PCR team received the flag for their work on Atlantis and the Galileo spacecraft before the Oct. 18 launch from Pad 39B... McCulley, the STS-34 pilot, presented the flag to both A and B crews because the crews often work together. The flag will be hung in the Pad B Payload Changeout Room...”.



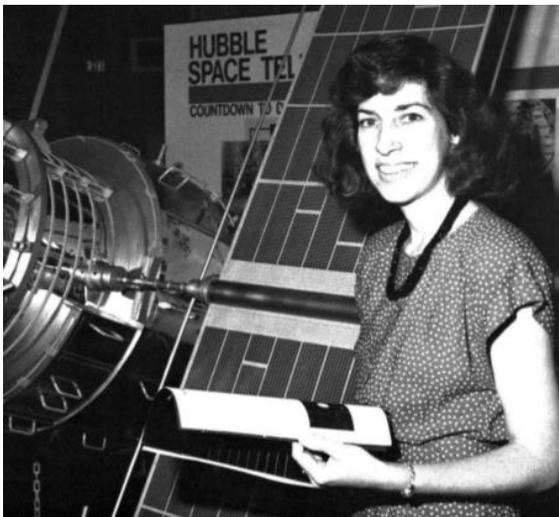
“AT LAUNCH PAD 39B, the Payload Changeout Room (PCR) team receives a flag that flew aboard Atlantis from STS-34 Pilot Michael McCulley, center. Kneeling from left, Tom Gainer, Bill Degel and Hank Schwager, Lockheed Space Operations Co.; NASA Pad B PCR lead Pat Ashburn; LSOC PCR Manager C.K. Rose; and Dave White, Bill Nanak (in front), John Phipps and Lee Withington, LSOC. Back row, Todd Baker, Larry Plowe, John Bledsoe, John Gaudio,

Robert Stitt, Dan Groves and John Jackson, LSOC; McCulley; Dale Bardsley and Kyle Woolsey, LSOC; Scott Johnson, NASA Payload Operations; and Bob Lee, LSOC. In the background, Discovery waits for its April 24 launch.”

From page 6, **“Astronaut candidate views launch at space center for the first time”**. A portion of the article reads “Ellen Ochoa, just selected as an astronaut candidate, wanted to get a better idea of what a Space Shuttle launch feels like, so she jumped at the opportunity to travel to Kennedy Space Center to watch Discovery lift off on April 24. “It’s certainly not the same thing as watching it on TV,” Ochoa said…”

Ochoa is the first Hispanic woman selected as an astronaut candidate… She submitted her application in 1985, but didn’t make the first cut, so she tried again. Her application was among the 1,945 applications JSC received for the 1990 selection. Only 23 were selected this year… Upon graduating from Stanford in 1985, Ochoa went to work for Sandia National Labs in Livermore, Calif., as a research engineer. She joined NASA at Ames Research Center, Moffett Field, Calif., in 1988 and is currently chief of the Intelligent Systems Technology Branch…

“I’m excited - I can’t wait to fly in the Shuttle,” said Ochoa, who is a private pilot… Ochoa estimates she’ll have to get through about three years of specialized training before she can be qualified to fly in the Space Shuttle… Even after watching a launch in person, the reality of being an astronaut candidate hasn’t quite sunk in. “I’m excited, but sometimes it still doesn’t seem real,” Ochoa said.”



“ASTRONAUT CANDIDATE Ellen Ochoa saw Discovery lift off with the Hubble Space Telescope on April 24. She is standing in front of model of the telescope at the Kennedy Space Center Press Site.”

Ellen became an astronaut candidate in January 1990. She flew on STS-56, STS-66, STS-96 and STS-110. Subsequent to her Shuttle flights, she served as Director of Flight Crew Operations, JSC Deputy Center Director and JSC Center Director. From Britannica “...Ochoa retired from the Johnson Space Center in 2018 and became vice chair of the National Science Board, which runs the National Science Foundation.”

From The May 18, 1990, Spaceport News

From page 1, **“Work continues on Columbia”**. In part, the article reads “Workers successfully removed a freon coolant loop valve in orbiter Columbia and planned to replace it with a new one this week. Shuttle managers were prepared to discuss setting another flight date for STS-35 after the new valve was installed and tests were performed... The faulty valve was discovered during normal tests on the orbiter's coolant loops a couple of days before the two-day Flight Readiness Review, May 8-9...”.



“INSIDE COLUMBIA’S payload bay Lockheed technicians gain access to remove and replace a faulty freon coolant loop valve. Technicians work on a temporary access platform above the ASTRO-1 payload.”

From page 6, **“KSC managers honored during Space Congress”**. The article states “KSC’s Associate Deputy Director, Andrew J. Pickett, recently received the 1990 Space Congress Achievement Award from the Canaveral Council of Technical Societies.

Pickett received this honor for dedicating 38 years to America's space program. He was cited for "a lifetime dedication to Kennedy Space Center Launch Operations." During this time, he had a prominent role in development of the Space Transportation System operations at KSC.

Judith A Kersey, Systems Assurance Office chief, was runner-up for the award. She was cited for helping revitalize the space center's safety and quality disciplines that are

essential to all Space Shuttle and payload activities. For the past 27 years, the Canaveral Council of Technical Societies has sponsored Space Congress.”



On page 8, “**Demating Discovery**”.



“DISCOVERY IS HOME AGAIN! Northrop Worldwide employees steer Discovery into the Mate Demate Device after its return to KSC atop the Boeing 747 from Edwards Air Force Base, Calif. John Goleno drives the towing vehicle as Peter Seidel, in front, directs. Both employees are from Dryden Flight Research Facility, Edwards, Calif. Discovery returned to KSC on May 7 and is now being processed for its next mission scheduled for Oct. 5.”

From The June 1, 1990, Spaceport News

On page 1, "**STS-35 delayed...**". In part, the article reads "The launch of Shuttle Columbia on Mission STS-35 was postponed late Tuesday when hydrogen leaks were discovered during external tank fueling operations... Columbia's external tank was only 5 percent full of liquid hydrogen when the leaks were discovered around 5:30 p.m. May 29... Managers will set another launch date for Columbia after the leaks are pinpointed and a timeline for repairs is established..."

On page 3, "**KSC ALL AMERICAN Picnic deemed a success**". A part of the article states "After months of planning by the KSC Picnic Committee, the annual picnic on May 12 went off like clockwork, according to coordinator Pam Bookman... About 2,500 people attended the picnic in KARS Park and were treated to more events and ethnic food than ever before... During the opening ceremony, Rockledge High School Junior ROTC color guards presented the American flag and McCartney introduced two visiting astronauts, Curtis L. Brown Jr. and James S. Voss. The astronauts stayed around to sign autographs, visit with employees and volunteer as victims in the dunking booth - a new event this year..."



In the upper left photo, Curtis Brown is on the left. He flew on Shuttle missions STS-47, STS-66, STS-77, STS-85, STS-95 and STS-103. James Voss, on the right, flew on Shuttle missions STS-44, STS-53, STS-69, STS-101, STS-102, STS-105 and Space Station Expedition 2.

On page 7, **“Mission STS-35 crew insignia symbolizes astronomy mission”**. A portion of the article reads “The STS-35 crew insignia symbolizes the Space Shuttle flying above the Earth's atmosphere to better study celestial objects in the universe. The stars in the background represent the universe and make up the Orion constellation.

In the below, the mission patch from Spaceport News is on the left and the color version is from Wikipedia.



On page 8, **“Ulysses spacecraft arrives at Cape for upcoming launch”**. Part of the article reads “Ulysses, a spacecraft that will explore the sun, arrived at Cape Canaveral Air Force Station (CCAFS) on May 17 in preparation for an October launch aboard Space Shuttle Discovery. The Ulysses mission is a NASA-European Space Agency (ESA) cooperative project to study the sun, solar wind and interstellar space...

Ulysses will arrive at Jupiter in February 1992 and use the planet's gravity to leave the ecliptic plane and achieve a flight trajectory toward the southern pole of the sun.



“THE ULYSSES SPACECRAFT arrives at Cape Canaveral Air Force Station aboard an Air France 747 cargo plane on May 17.”

From The June 15, 1990, Spaceport News

On page 1, "**Columbia moved back to VAB**". Part of the article states "Columbia's return to the Vehicle Assembly Building from Launch Pad 39A last Tuesday marked only the fourth rollback in the history of the Shuttle program. Previous rollbacks were Columbia/STS-9 in October 1983; Discovery/41-D in July 1984; and Challenger/51-E in March 1985. Columbia's STS-35/ ASTRO-1 mission was scrubbed during tanking operations the evening before its scheduled May 30 launch when higher than normal concentrations of gaseous hydrogen were detected in the orbiter's aft compartment and near the 17-inch orbiter/external tank quick disconnect..."

Following a June 6 mini-tanking test using liquid hydrogen, the decision was made to roll back the vehicle for repairs which could not be made at the pad... To make room for Columbia in the Vehicle Assembly Building, the mobile launcher containing the partially stacked solid rocket boosters for Columbia's STS-40/Space Life Sciences mission (now reassigned to Discovery's STS-41/Ulysses mission) was moved last Monday from high bay 3 to Pad 39B..."

On page 4, "**NASA releases patches for upcoming missions**". In the below, the Spaceport News image is on the left and the Wikipedia color version is on the right. In part, the article reads:

MISSION ST8-38: The STS-38 crew patch was designed to represent and pay tribute to all the men and women who contribute to the Space Shuttle program. The top orbiter with the stylistic orbital maneuvering system burn, symbolizes the continuing dynamic nature of the Space Shuttle program. Below the orbiter is a black and white mirror image. This image acknowledges the thousands of unheralded individuals who work behind the scenes in support of America's Space Shuttle program and symbolizes the importance of their contributions...

Crew members are Commander Richard O. Covey, Pilot Frank L. Culbertson and Mission Specialist Robert C. Springer, Carl J. Meade and Charles D. "Sam" Gemar."



“MISSION STS-41: The insignia for STS-41 depicts the Space Shuttle orbiting Earth after deployment of its primary payload-the Ulysses satellite. The orbiter is shown passing over the southeastern United States, representative of its 28-degree inclination orbit A streaking silver tear- drop passing over the sun represents Ulysses. The solar exploration satellite will be the fastest manmade object in the universe, traveling at 30 miles per second or more than 100,000 miles per hour.

Ulysses’ path is depicted by the bright red spiral originating from the Shuttle cargo bay. The path will extend around Jupiter where Ulysses will receive a gravitational direction change placing it in a polar trajectory around the sun The three-legged trajectory, extending out the payload bay, is symbolic of the astronaut logo and is in honor of those who have given their lives in the conquest of space.

The five stars, four gold and one silver, represent STS-41 and each of its crew members: Commander Richard N. Richards, Pilot Robert D. Cabana and Mission Specialists William M. Shepherd, Bruce E. Melnick and Thomas D. Akers...”.



“MISSION STS-37: The principal theme of the STS-37 emblem is the Gamma Ray Observatory (GRO) and its relationship to the Space Shuttle. The Shuttle and GRO, its primary payload, are both depicted on the patch and are connected by a large gamma. The gamma symbolizes both the quest for gamma rays by GRO, as well as the relationship between the manned and unmanned elements of the United States space program. In the background, Earth is shown with the southern portion under partial cloud cover. The two fields of three and seven stars refer to the STS-37 mission designation...

The flight crew consists of Commander Steven R. Nagel, Pilot Kenneth D. Cameron and mission Specialists Jerry L. Ross, Jay Apt and Linda M. Godwin.”



From the June 29, 1990, Spaceport News

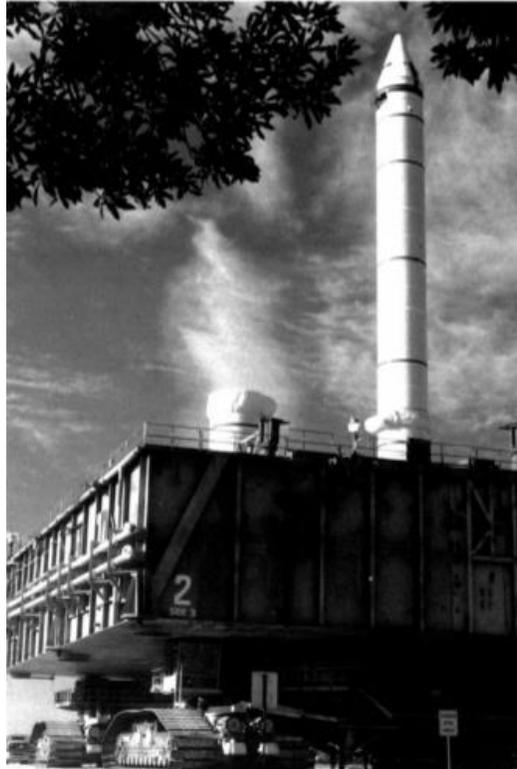
On page 1, "**ST5-38 undergoes leak tests**". A portion of the article reads "As engineers ran tests to check STS-38 for possible leaks, managers were planning to set a launch date for the mission. A Flight Readiness Review was set for June 28 - 29.

During this time, engineers planned to run a mini-tanking test to make sure Atlantis was free of the type of leak that resulted in Columbia's return to the Vehicle Assembly Building (VAB). Liquid hydrogen was to be loaded into the STS-38 external tank on Launch Pad 39A, while engineers in the firing room were to monitor sensors for leaks. Earlier this week, no problems cropped up during leak tests on Atlantis' main propulsion system and three main engines.

Columbia was rolled back to the VAB on June 12 where it was removed from its external tank... Subsequent tests exonerated the Columbia's aft compartment and focused attention on the 17-inch orbiter/ external tank disconnect. A decision was made earlier this week to replace Columbia's 17- inch disconnect assembly with one from Shuttle Endeavor... The external tank 17- inch disconnect used on STS-35 has already been removed and replaced. Tests conducted on the external tank assembly at the Rockwell plant in Downey, Calif. didn't reveal any leaks.

Meanwhile, the STS-38 flight crew continues training in Houston, Texas and waits for word of a launch date..."

On pages 1 and 6.



On the left, “A VIEW FROM ABOVE- After STS-38 was transported to Launch Pad 39A on June 18, photographer Klaus Wilckens caught this shot of the external tank and orbiter. Below, Rotating Service Structure tracks span the flame trench...”. On the right, “A PARTIAL STACK of the STS-41 solid rocket boosters rides atop a Mobile Launcher Platform to Launch Pad 39B on June 11 to make room for STS-35 in the Vehicle Assembly Building (VAB). STS-35 was rolled back to the VAB from Pad 39A after a hydrogen leak was detected. The STS-41 booster stack returned to the VAB on June 20, following the STS-38 rollout to Pad 39A.”

Also on page 1, “**Funds approved to widen busy KSC highway**”. A part of the article reads “Funding to widen Kennedy Parkway South, one of KSC' s busiest highways, was given final Congressional approval recently, paving the way for long-awaited relief from severe traffic congestion during rush hours. The two-lane stretch of Kennedy Parkway South to Gate 2 where it meets with State Road 3 will be widened to four lanes. Construction on the 2.5-mile section is scheduled to begin by the end of the year and should be completed by late summer 1991.

The road work will complement Brevard County's plans to double the width of an eight-mile, two lane stretch of Route 3 between the Merritt Island Barge Canal bridge and Gate 2 on the south end of KSC. The county's construction work should be completed by midsummer next year....”.

From The July 13, 1990, Spaceport News

On page 1, "**Leak tests continue**". In part, this article reads "Launch of STS-35 and STS- 38 remains on hold as engineers wrestle with an elusive hydrogen leak in the spaceships' orbiter-external tank umbilicals. The leak was first detected during tanking the night before Columbia's scheduled STS-35 launch on May 30 resulting in rollback and destacking of the vehicle. A leak in the same area surfaced during a precautionary mini-tanking test of the Atlantis vehicle two weeks ago.

Atlantis' rollback has been delayed to keep the configuration intact for more testing, including a second mini-tanking test scheduled for late this week. For this second tanking test, special baggies have been installed around Atlantis' 17 and 4 - inch disconnects in an effort to contain the hydrogen during the test. Leak detectors have been placed in the vicinity of the leak. Engineers are hopeful the extra measures being taken will enable them to pinpoint its location..."



"ATLANTIS continues to sit at Launch Pad 39A while it is prepared for a second tanking test to pinpoint a hydrogen leak that delayed the STS-38 launch."

On page 7, "**ST5-40 crew patch focuses on humans in space**". Part of the article reads "The STS-40 mission insignia focuses on human beings living and working in space. Against a background of the universe, seven silver stars, interspersed about the orbital path of Columbia, represent the seven crew members. The orbiter's flight path forms a double helix designed to represent the DNA molecule common to all living creatures..."

Above the orbiter is the phrase “Spacelab Life Sciences 1”, defining both the Shuttle mission and its payload... In the upper left center portion of the patch, Leonardo Da Vinci’s Vitruvian man is silhouetted against the blue darkness of the heavens... A brilliant red and yellow arc stretching across the center of the patch, links Earth to space as it radiates from a native American symbol for the sun... Beneath the orbiting Shuttle, the darkness of night rests peacefully over the United States.

The patch, drawn by Artist Sean Collins, was designed by the STS-40 crew members: Commander Bryan O'Connor, Pilot Sid Gutierrez, Mission Specialists Tamara Jernigan, Rhea Seddon and James Bagian, and Payload Specialists Drew Gaffney and Millie Hughes-Fulford.”



The story behind the mission patches, similar to the Spaceport News summary above, is available in [Wikipedia](#), if you click on the respective mission patch.

From The July 27, 1990, Spaceport News

From page 1, “**Technicians troubleshoot... Space Shuttle!**”. In part, the article states “...Kennedy Space Center was running another tanking test on the Space Shuttle. This third tanking test will show whether Atlantis is free of leaks and ready for its own launch. Technicians inspected welds and tightened 48 bolts around the external tank liquid hydrogen flange. The bolts were torqued to 110 percent in an effort to stop the hydrogen leak that was pinpointed during the second tanking test on July 13...”.



“ROCKWELL technician Ron Black torques bolts around the external tank liquid hydrogen flange on the ST&38 vehicle in preparation for a third tanking test.”

On page 3, **“Work continues on Ulysses”**. The article reads “The Ulysses spacecraft was moved to the Vertical Processing Facility at Kennedy Space Center on July 23 and is undergoing more preparations for its October launch aboard Discovery. This week, Ulysses was to be mated with its dual upper stage - a Payload Assist Module (PAM) coupled to an Inertial Upper Stage (IUS). Meanwhile, Discovery is being prepared for the STS-41 mission in the Orbiter Processing Facility.”



“ULYSSES' Payload Assist Module is mated with its Inertial Upper Stage in the Vertical Processing Facility at KSC on July 13.”

From The August 10, 1990, Spaceport News

On page 1, "**Passing in the night**". In part, the article reads "They will pass in the night, with one going and one coming, but it will all add up to a major step toward resumption of Space Shuttle launches curtailed since late May by a series of fuel leaks.

The shuffle was scheduled to begin yesterday with Atlantis' trek back from Launch Pad A, followed by this morning's planned rollout of Columbia to Pad A. Columbia, equipped with a new 17-inch umbilical system borrowed from its sister spaceship Endeavour, is targeted for an early September launch on the STS-35/Astro1 mission, which will use ultraviolet and X-ray astronomy instruments to study the celestial sphere.

Atlantis, originally scheduled for the STS-38 mission in July, will remain parked outside the Vehicle Assembly Building until it can be moved into the high bay vacated by Columbia. Once inside, Atlantis will demate so the fuel leak in its 17-inch umbilical can be repaired. If repairs go as expected, Atlantis should be able to support its dedicated STS-38 mission for the Department of Defense in November...".

On page 6, "**15-year reunion**".



"AMERICAN and Soviet crew members of the first joint international manned space mission toured KSC on July 26 to commemorate the 15th anniversary of the Apollo Soyuz Test Project. From left, Valery Kubasov, Soyuz flight engineer; Tom Stafford, Apollo commander; and Aleksey Leonov, commander of the Soviet Soyuz spacecraft. Vance Brand, Apollo command module pilot, and Deke Slayton, Apollo docking module pilot, were unable to attend the reunion. The tour included a stop at Pad 39B, site of the Apollo Saturn 1B launch that carried the three-man American crew into space on July 15, 1975. The Soyuz spacecraft was launched from the Soviet Cosmodrome at Baikonur the same day. The two spacecraft rendezvoused and docked two days later. The former Saturn V/1B launch pad has since been reconfigured for the Space Shuttle."

Also on page 6, “**Magellan enters Venus orbit today**”. In part, the article reads “After a 15-month, 950-million-mile journey, Magellan enters Venus' orbit at 12:32 p.m. EDT on Aug. 10. Magellan will use an imaging radar to explore beneath Venus' thick cloud cover to map approximately 70 to 90 percent of Venus. Magellan's orbit with Venus will last until April 1991... Magellan was deployed from Space Shuttle Atlantis on May 4, 1989.”

From The September 8, 1990, Spaceport News

The headline is “**Launch date set for mission STS-35**”. Part, the article states “During the Flight Readiness Review held earlier this week, managers set a Sept. 1 launch date for mission STS-35. Starting at 1:17 a.m., Columbia has a window of two hours and 14 minutes to lift off Pad 39A with the Astro-1 observatory.

The primary objective of the 10-day mission is to examine the invisible universe of ultraviolet and X-ray astronomy. The observatory will stay in the Shuttle's payload bay while astronauts operate the three ultraviolet telescopes from the orbiter cabin. This will be the first Shuttle mission to be controlled by three NASA installations. In addition to Goddard, Marshall Space Flight Center, Huntsville, Ala., will direct the ultraviolet telescopes and, as usual, Johnson Space Center in Houston, Texas, will direct the Shuttle...

Countdown for the mission is set to begin at midnight Tuesday... The next launch, mission STS-41, is targeted for Oct. 5. Discovery will carry Ulysses into space to study phenomena near the sun's north and south polar regions...”.



“SPACE SHUTILE Columbia, left, rolls past Space Shuttle Atlantis on its way to Pad 39A on Aug. 9 . Atlantis was parked outside the Vehicle Assembly Building (VAB) following its rollback from Pad 39A for repairs to the liquid hydrogen fuel umbilical system...”.

The following color version of the previous photo, and caption, are from AmericaSpace.



“In one of the most historic shuttle-era photographs ever taken, this image shows the STS-38/Atlantis stack (at right) returning to the Vehicle Assembly Building (VAB) for repairs on 9 August 1990. In doing so, it passed the STS-35/Columbia stack (at left), which was returning to the launch pad after several weeks of extensive repair work on its hydrogen disconnect hardware.”

On page 3, **“Atlantis Flow Director cited for moving Shuttle wrong way”**. A portion of the article states “Traffic violations are issued at KSC for the darnedest things. Just ask Atlantis Flow Director Conrad Nagel. On Aug. 9, he was baby-sitting the STS-38/Atlantis stack outside the Vehicle Assembly Building when a KSC patrol officer cited him for moving a vehicle the wrong way on a one-way road. Atlantis, of course, was on its way back from the pad for repairs to its 17-inch umbilical system and had to be double-parked temporarily to make room for Columbia's roll to the pad...”.



“ATLANTIS FLOW DIRECTOR Conrad Nagel, left, is issued a traffic ticket from Patrol Officer Richard Kern, center, while Jay Honeycutt, STS Management and Operations director,

witnesses the event. The one-way sign indicates Atlantis and its crawler-transporter were moving in the wrong direction: into the Vehicle Assembly Building instead of out to the launch pad.”

Also on page 3, **“STS-41 crew members”**.



“POSING for their STS-41 crew portrait at Ellington Field near Johnson Space Center before an early morning flight in NASA T-38s are, kneeling from left, Pilot Robert D. Cabana and Mission Commander Richard N. Richards; and, standing from left, Mission Specialists Bruce E. Melnick, Thomas D. Akers and William M. Shepherd.”

On page 6, **“NASA tests drag chute for Shuttle landing”**.



“A TEST PARACHUTE successfully unfurls behind NASA's B-52 research aircraft during the first test of a Space Shuttle orbiter drag chute system at NASA's Ames-Dryden Flight Research Facility, Edwards, Calif. Eight tests are planned with the B-52 to validate the system for installation on the orbiters. The drag chutes will permit the Shuttles to land safely in a shorter distance and help reduce tire and brake wear.”

From The September 7, 1990, Spaceport News

On page 1, "**Columbia ... delayed again**". A portion of the article states "Columbia's attempt to end a summer-long hiatus in launch activities was put on hold Wednesday when a hydrogen leak was detected in the orbiter's aft compartment during tanking operations. At press time, troubleshooting was under way to locate and repair the leak... Meanwhile, Discovery was rolled out to Pad 39B on Sept 4 in preparation for its October STS-41/Ulysses mission...".

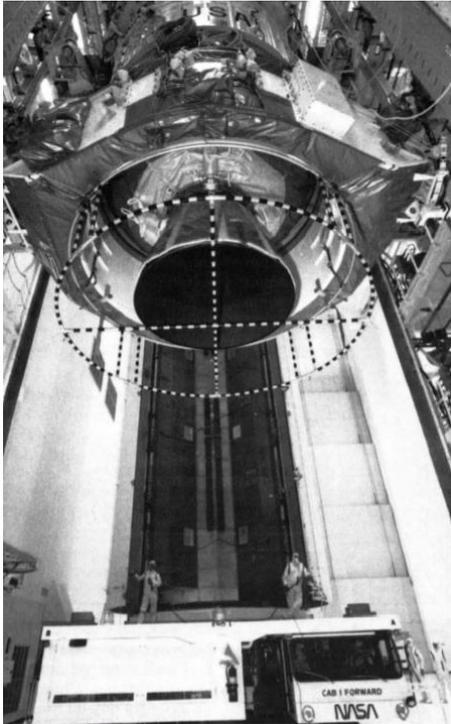


"THIS RARE VIEW shows two orbiters on adjacent launch pads with the Rotating Service Structures retracted Columbia (Pad A foreground) was being readied for its Thursday morning launch while its sister spaceship, Discovery was set to begin launch preparations for its October mission."

The following is a color version of the above from AmericaSpace.



On page 7, "Getting ready for a ride".



"INSIDE the Vertical Processing Facility, McDonnell Douglas Space Systems employees prepare to load the Ulysses spacecraft into its payload canister on Aug. 24. The payload canister transporter moved the payload canister up to the Ulysses spacecraft, then the canister doors were closed around it. Tucked safely inside its canister, Ulysses rode to Launch Pad 398 atop the payload transporter on Aug. 27. Ulysses will be launched aboard Space Shuttle Discovery on Mission STS-41, targeted for Oct. 5."

From The September 21, 1990, Spaceport News

From page 1, "Columbia takes a back seat to Discovery". A portion of the article reads "Discovery moves to the top of the launch order following Columbia's unsuccessful attempt to get off the ground earlier this week. The STS-35 launch was put on hold after a hydrogen leak was detected in Columbia's aft compartment during tanking operations on Sept. 17. The Space Shuttle was to lift off Launch Pad 39A at 1:28 a.m. on Sept. 18 with the ASTRO-1 astronomical observatory. A newly assembled committee is currently sifting through data to try to determine the source of the leak.

Discovery will lift off Launch Pad 39B during an 18-day window beginning Oct. 5. During its four-day mission, the crew will deploy the Ulysses solar probe and conduct a number of secondary experiments... Discovery's five-man crew is getting ready for the STS-41 flight. They completed a practice countdown demonstration at Kennedy Space Center

earlier this month in preparation for the upcoming mission... A launch date for the STS-41 mission will be set during a flight readiness review, Sept. 24-25.”



“STS-41 CREW MEMBERS stand near Launch Pad 39 B during a dress rehearsal for their October mission to deploy the Ulysses spacecraft. From left, Bruce E. Melnick, William M. Shepherd, Richard N. Richards, Thomas D. Akers and Robert D. Cabana.”

From The October 5, 1990, Spaceport News

From page 1, **“Ulysses set to begin long trip to the sun”**. A portion of the article states “Earlier this week, Discovery was being prepared to lift off on Oct. 6 with the Ulysses spacecraft on a mission to the solar regions of the sun...”

After the STS-41 astronauts release Ulysses from the payload bay, the upper stage rockets (IUS and PAM-S) will send Ulysses to Jupiter. At Jupiter, Ulysses' trajectory will be bent by the planet's immense gravity on a course nearly perpendicular to the ecliptic plane in which Earth and the other planets orbit the sun...

Ulysses' out-of-ecliptic orbit will take it from a maximum distance of about 500 million miles to a closest approach of 120 million miles from the sun. This orbit will allow the spacecraft to travel around the solar poles of the sun... Ten secondary payloads will also be flown aboard Discovery on Mission STS-41.”



“STS-41 ASTRONAUTS leave the Operations and Checkout Building during a practice countdown for the upcoming launch.”

From The October 19, 1990, Spaceport News

On page 1, “**Ulysses travels to Jupiter, sun: Shuttle returns**”. A portion of the article reads “The Space Shuttle Discovery returned to Earth at Edwards Air Force Base, Calif. Oct. 10, while Ulysses continued on its journey to Jupiter... The STS-41 astronauts deployed the Ulysses solar probe at 1:48 p.m. on Oct. 6, only six hours after Shuttle Discovery lifted off Launch Pad 39B...”

After Discovery's launch, Shuttle Columbia was rolled from Launch Pad 39A to 39B on Oct. 8 to make room for Atlantis. The next day, Columbia was rolled back into the protection of the Vehicle Assembly Building due to forecasted high winds from Tropical Storm Klaus. Atlantis was transported from the Vehicle Assembly Building to Launch Pad 39A Oct.13. The next day, Columbia was once again rolled to Pad 39B. Atlantis' Department of Defense dedicated mission, STS-38, is currently set for early November. Columbia may fly later this year with the ASTRO-1 payload on Mission STS-35.”



On the left, DISCOVERY SHOOTS off Launch Pad 39B at 7:47 a.m. Oct. 6 carrying the Ulysses solar probe. Shuttle Columbia, left, was later moved to Pad B to make room for Shuttle Atlantis on Pad A." On the right, "LAUNCH EXCITEMENT- Launch Director Bob Sieck signals a jubilant thumbs up from the Firing Room after Discovery's liftoff on Mission STS-41 at 7:47 a.m. Oct. 6. Jay Honeycutt, STS Management and Operations director, also watched the launch from the Firing Room, Honeycutt is temporarily working in Huntsville, Alabama as acting deputy director for Marshall Space Flight Center."

The summer of 1990 for the Shuttle Program is sometimes referred to as Hydrogen Summer, with the hydrogen leaks previously described. The following article from AmericaSpace, [Part 1](#) and [Part 2](#), describes in some detail the "Summer of Hydrogen Leaks".

On page 7, "**KSC Has Ball After Perfect Launch**". NASA Ball tops "perfect day" marked by successful Discovery launch, Ulysses deployment!



From the November 2, 1990, Spaceport News

From page 1, "**STS-38 launch date set.**" The article reads "Launch of the STS-38 Department of Defense mission aboard the orbiter Atlantis was set for Nov. 9, following conclusion of the Flight Readiness Review held earlier this week. The four-hour launch period for the classified flight begins at 6:30 p.m. On Oct. 24, Atlantis successfully completed a mini-tanking test to verify that its liquid hydrogen and liquid oxygen propellant systems were free of excessive leakage. Atlantis last flew in February on the STS-36 mission, also a classified DOD flight.

Commander of the five-member STS-38 crew is Richard O. Covey. The pilot is Frank L. Culbertson Jr. Mission Specialists are Carl J. Meade, Robert C. Springer and Charles D. "Sam" Gerns. Covey and Springer have flown previously aboard the Shuttle.

A mini-tanking test conducted last Tuesday also has confirmed that repairs to the orbiter Columbia's leaking hydrogen system were successful. A launch date for Columbia's STS-35/ASTRO-1 mission will be set by NASA managers at the STS-35 Flight Readiness Review to be held in late November."

On page 8, "**Demating Space Shuttle Discovery**".



"DISCOVERY hangs in the Mate Demate Device after it was removed from the Shuttle Carrier Aircraft (SCA) at the Shuttle Landing Facility. The Space Shuttle returned to KSC on Oct. 16 atop the Boeing 747 SCA from Edwards Air Force Base, Calif. The SCA is in the foreground. Discovery completed its successful STS-41 mission in which the Ulysses solar probe was deployed. The Shuttle is now in the Orbiter Processing Facility undergoing postflight inspections and tests."

From the November 16, 1990, Spaceport News

On pages 1 and 6, **“Dedicated employees find leak”**. In part, the article states “Accomplishing a two-year project in eight weeks may sound impossible - but not for a team of dedicated Kennedy Space Center employees. Between 500-700 NASA and contractor workers from all disciplines pulled together to outfit the Shuttle's aft compartment in such a way that a hydrogen leak would be visible during a tanking test. Launches of both Atlantis and Columbia were postponed this past summer because of hydrogen leaks.

After Columbia's last launch attempt on Sept. 17, Shuttle Director Robert Crippen formed a special team of experts headed by Bob Schwinghamer of Marshall Space Flight Center, Huntsville, Ala., to find the leak in the main propulsion system. Another group, co-chaired by Harry Silipo, chief of KSC's Shuttle Project Engineering Office, and Jimmy Rudolph, acting director of the Lockheed Space Operations Safety Office, was tasked with providing visibility into the aft during tanking operations. Silipo and Rudolph's group met daily starting Sept. 7, with the challenging task of determining the best way possible to make a normally invisible hydrogen leak visible.

Nothing like it had ever been attempted before at KSC. It would involve setting up cameras in the aft, taking special measurements, installing leak detectors, embellishing the hazardous gas detection systems, injecting carbon dioxide into the aft and exploring the possibility of putting a man in the aft compartment during tanking operations. "The response was tremendous. The can-do cooperation and attitude of each person involved was phenomenal," Silipo said. Silipo formed three groups to brainstorm various options and named Charlie Stevenson, Jose Garcia and Warren Lackie, all of the Vehicle Engineering Directorate, to head them...

"Work crews were going above and beyond the normal scope of their jobs for this effort," said Frank Travassos, a lead LSOC engineer for the orbiter's main propulsion system. Travassos, designated as one of two to be "man-in-the-aft," directed the installation and positioning of instrumentation and cameras in the aft. "There were times when things were frustrating and the pressure was on to meet the tanking date. But looking back on what we accomplished I think we proved something"...

Center Director Forrest McCartney congratulated these individuals for an outstanding team effort and a job well done at a special gathering in the Launch Control Center Tuesday of this week. "This whole thing didn't just work. It worked very well," Stevenson summed up."



On the left, “WORKING in close quarters in Columbia's aft compartment, Jeff Ewald, a Lockheed quality assurance inspector tapes a sensor in place over one of the main engine prevalves. About 21 sense lines were installed for the tanking test conducted Oct. 30.” On the right, “INSIDE the mobile launcher platform, workers set up the hazardous gas detection system for Columbia's tanking test. Standing from left are: Doug Lindhorst, NASA instrumentation engineer; Pat Coyne, Lockheed engineer; Doug Kennedy, Lockheed technician; and kneeling is Jim Stout, Lockheed pad technician.”

On page 3, “**Memorial patch flew aboard Discovery**”. A portion of the article reads “A mission patch, designed by a NASA art team artist for The Astronauts Memorial Foundation, was flown aboard Space Shuttle Discovery last month. The patch was created for the Astronauts Memorial dedication ceremony which is expected to occur this spring at Kennedy Space Center. The Astronauts Memorial is a 42.5- foot-high-by-50- foot-wide monument currently under construction at Spaceport USA.

"The patch features a sunrise against the deep blue of space with the moon rising above the Earth in the foreground," said designer and artist Bob McCall. "Fourteen gold stars are scattered across the space background, representing the 14 U.S. astronauts who have died in the line of duty. A laurel wreath, symbolizing honor and glory, frames the design with the names of the 14 astronauts encircling the emblem.

NASA recently returned the mission patch to The Astronauts Memorial Foundation with a letter certifying that it was aboard Discovery on the STS-41 mission. The patch will be displayed in the Center for Space Education, to be built adjacent to the memorial...”.

The Astronaut Memorial Foundation (AMF) website is at <https://www.amfcse.org/>. The “ABOUT” tab at the top of the page includes history and more, about the AMF.

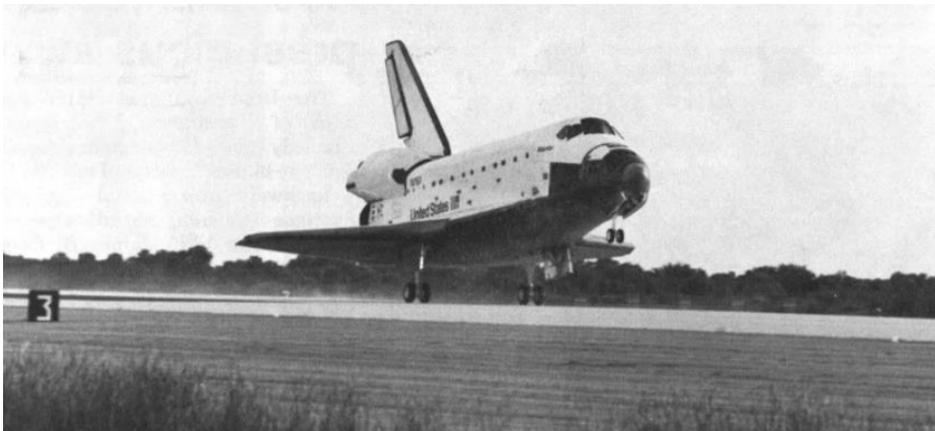


[collectSPACE](https://www.collectSPACE.com) has some information about the above patch. Speaking of patches and art, Tim Gagnon has a neat story and information on his website, at <https://www.kscartist.com/tim/>.

From the November 30, 1990, Spaceport News

On pages 1 and 8, **“Atlantis lands at KSC, Columbia's launch date set”**. In part, the article states “For the first time in more than five years, a Space Shuttle landed at Kennedy Space Center-its point of origin. Atlantis landed on Runway 33 at KSC's Shuttle Landing Facility at 4:43 p.m. on Nov. 20... The Department of Defense mission lifted off Launch Pad 39A at 6:48 p.m. on Nov. 15...”

This was the sixth landing at KSC for the Shuttle program. It was also the first KSC landing since return to flight in September 1988 and the first for Atlantis. Discovery, which landed at KSC in April 1985, had been the last orbiter to accomplish this feat...”.



“ORBITER ATLANTIS touches down on Runway 33 at Kennedy Space Center's Shuttle Landing Facility at 4:43 p.m. on Nov. 20...”.



"THE STS-38 CREW POSES in front of Space Shuttle Atlantis after landing at Kennedy Space Center's Shuttle Landing Facility. From left, Mission Commander Richard O . Covey, Mission Specialists Robert C. Springer and Charles " Sam " Gemar, Pilot Frank L. Culbertson Jr. and Mission Specialist Carl J. Meade. Atlantis touched down at 4:43 p.m. Nov. 20...

The drama and cheering are all history now. Kennedy Space Center workers didn't have much time to savor the moment before preparing for the next launch, now set for 1:28 a.m. on Dec. 2. Columbia's launch on Mission STS-35 was set at the conclusion of the Flight Readiness Review, Nov. 27. The Space Shuttle will lift off Launch Pad 39B with the astronomical observatory, ASTRO-1..."

On page 2, "**Orbiter mockup to be displayed**". Part of the article states "Holiday visitors to Spaceport USA have a special treat in store- an opportunity to explore the inside of a Space Shuttle orbiter. The Ambassador, a full-scale, steel and fiberglass replica of NASA's manned space plane - measuring 56 feet high, 122 feet long and with a wingspan of 78 feet - will be ready to awe and entertain visitors by the Christmas holidays.

Guests entering Ambassador will have an astronaut's view of the cargo bay, the crew quarters and the flight deck. A video display of Space Shuttle operations also will be available. Built by an Apopka, Fla. firm for Irvin and Kenneth Feld Productions Inc. of Vienna, Va., the Space Shuttle replica will be displayed at Spaceport USA under a mutual agreement between the latter and TW Recreational Services Inc...

Originally constructed for showing at the Expo '92 World's Fair in Seville, Spain, the owners first wanted to premiere Ambassador to the public at Spaceport USA. Its name is derived from the fact that it is destined for extensive international showing... It will be

on display four months, beginning in mid-December, with an option to extend through mid-September of 1991...”.

I can't find much information about this Orbiter mockup, other than the above. [A Field Guide to AMERICAN SPACECRAFT](#) has a little information about Ambassador, as well as [collectSPACE](#), mentioning the current whereabouts of Ambassador could be Peru or Chile????? The following photo of Ambassador, from Bing, is circa 1991, at the KSC Visitor Complex, in the vicinity of the Rocket Garden.



From the December 14, 1990, Spaceport News

On page 1, **“Columbia returns”**. In part, the article reads “Columbia landed at 12:54 a.m. EST on Dec. 11 at Edwards Air Force Base, Calif. The seven-member crew landed a day earlier than planned to avoid bad weather that was forecast to move into the area. Weather also had a hand in the launch. Columbia lifted off Launch Pad 39B at 1:49 a.m. on Dec. 2 after a 21-minute delay due to cloud cover over the Shuttle Landing Facility... Columbia is expected to return to KSC on Dec. 17 atop the Shuttle Carrier Aircraft.”

Also on page 1, **“Day care center to open Jan. 2”**. The article states “Children will soon fill the new day care center that was dedicated earlier this week at KSC. It opens Jan. 2 and 120 children are already signed up. “A dream that began nearly six years ago has come to fruition,” said Wes Dean, procurement director. The one-story, 6,600-square-foot Kennedy Children's Center was the result of an employee's suggestion and

teamwork of various organizations. It is located just outside the security perimeter at the south end of the KSC Industrial Area...”.



“WES DEAN, procurement director, welcomes a crowd that gathered to dedicate and tour the Kennedy Children’s Center on Dec. 10. The day care center will open Jan. 2.”

On page 4, “**Engineering director retires**”. In part, the article states “James D. Phillips, director of Engineering Development, retired Nov. 30, capping a KSC career that spanned nearly three decades. As director of Engineering Development since 1986, he was responsible for the planning, development, design, modification, rehabilitation and acquisition of KSC facilities, systems and equipment.

Phillips joined NASA at KSC in 1962, and became involved in the design of Saturn IB/V holddown support systems and flame deflectors. He later held a number of engineering management and design positions in the Engineering Development Directorate and its predecessor organizations...”.



“ENGINEERING DEVELOPMENT DIRECTOR James D. Phillips, center, retired Nov. 30. Friends and co-workers held a party for him in the Headquarters Building before he left.”

On page 16 of this Summary, there is an article about KSC aircraft operations. KSC recently received new Airbus helicopters to replace the iconic Hueys, in use with the KSC fleet since 1980. [Florida Today](#) has an article about the new helicopters. There is a [neat article in Vertical magazine](#) about NASA helicopter heritage and history. KSC aircraft operations are currently located at the Shuttle Landing Facility. [The following](#) is a longer version of the video linked in the Florida Today article, showing arrival of the Airbus helicopters at KSC. Below is a photo of the new Airbus helicopters and a photo of the vintage Hueys, from the Florida Today article.

