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Ares I-X soars!

Launch of flight test brings tears to spectators

Six seconds after Ares I-X's reusable solid rocket motors ignited at 11:30 a.m. EDT Oct. 28 and rumbled Florida's East Coast, the 327-foot tall rocket cleared the launch tower and blasted through the crystal-clear blue sky over NASA's Kennedy Space Center.

"I can't tell you how proud I am of all of you," Kennedy Director Bob Cabana said. "That was just unbelieveable . . . it was just spectacular. I've got tears in my eyes."

Right on cue, the rocket's first stage separated from the simulated upper stage, and then slowly splashed down in the Atlantic Ocean for recovery.

While the flight went smoothly, two days worth of countdown procedures definitely put the launch team through its paces.

Tuesday's launch attempt was described as a rollercoaster ride, with issues that included a stubborn five-hole probe cover on the rocket's tip, a cargo ship that strayed into the launch danger zone, and then with less than three minutes left in the count, the triboelectrification weather rule went "red."

Triboelectrification is static around aircraft or space vehicles flying through high-level clouds. It interferes with radio signals sent by or to the rocket.

Wednesday's attempt was a little less dramatic. The team did have to run tests on critical flight systems following overnight lightning strikes in tandem with regular countdown milestones. Once again, dynamic weather took the team to the end of the four-hour launch window.

This first flight of an Ares-I-modeled vehicle put facilities, procedures and Kennedy's launch team to the test.

Next, it's up to the more than 700 sensors on board to relay ascent data for future flights.

"Just think about what we just did . . . our first flight test and the only thing we were waiting on was weather," said Ares I-X Launch Director Ed Mango. "That says you all did freaking fantastic."

More inside...

Learn more about the assembly of Ares I-X on pages 4-5. Find out what Kennedy workers thought about the new rocket rolling to Launch Pad 39B in Word on the Street on Page 8.

Photo by Jim Grossmann/NASA

Tour de KSC kicks off CFC with inspirational ride

By Steven Siceloff
Spaceport News

Spacecraft and bicycles are more alike than you might think.

For example, many of today's top-flight bikes are made from carbon materials, just like the space shuttle's heat shield tiles. And just as with aerospace engineers, bicycle builders obsess over trimming the slightest gram from a design. Every ounce taken off a spacecraft means extra payload or speed into orbit. For bike riders, it means saving just a little extra pain in the leg during a steep climb or going a bit faster in a sprint.

On Oct. 17, cyclists even shared the same real estate as NASA's shuttle fleet in the name of charity during the Tour de KSC.

As an employee, I was allowed to bring three guests. My friend Mike Sheffield, Team-in-Training coach Jay Burke and team mentor Doug Oxendine joined me for the event.

Yeah, riding a bike is fun and cool when you're 12 and heading to a neighbor's house, but most people grow out of it in the amount of time it takes for a set of car keys to drop from a parent's hand into their palm. But it's still cool to us.

Along with sharing the common bond of endurance road riding, all of us are connected by cancer. Oxendine and I survived different forms of leukemia, and Burke's son is a two-time childhood leukemia survivor. Sheffield also is a cancer survivor.

We're some of the ones for whom legs are the best engines and tight-and-bright clothing is cool. (We know the spandex is more comfortable for us to wear than it is for you look at. That's part of the fun.)

That morning, there were about 500 of us and organizers say there could've been a lot more. Some of us were kids riding by the Vehicle Assembly Building under the wings of parents. Some were adults going by the launch pads on bikes that hadn't been out of the garage since John Young and Robert Crippen strapped into space shuttle Columbia for the first time.

There were riders from local teams with established uniforms, others wearing a couple of T-shirts to brace from the sudden chill and a group from Constellation Ground Operations who made their own pro-caliber jerseys.

Five dollars of each entry was donated to the United Way -- $2,500 total. The United Way will divide that among different charities.

"I'm glad to see it go to something like that rather than just something internal," Burke said.

The event was the brainchild of Dicksy Hansen who was inspired to take up cycling after she met seven-time Tour de France champ Lance Armstrong a couple years ago.

"We were trying to come up with a fundraiser for the Combined Federal Campaign," Hansen said. "So I just thought of something I would enjoy . . . something we hadn't done before."

Working since February, organizers presented their plans to various center departments and got the clearances to hold the event. They drew up several courses and speed schedules. The only limit was the number of slots available.

Hansen said she thought maybe 300 people would show up, on the high side. Instead, the 500 available tour tickets sold out and organizers spent the last two weeks turning people away.

The good news is that the event went quite smoothly, so the team already is looking at ways to open it up to more folks next year.

"I thought it was going to be pretty overwhelming," said Jane Mosconi, one of the organizers. "We had all the security measures with unbadged people and 500 people doing all different routes. We wanted it to be fun, but it had to be safe."

NASA/Jack Pfaller

Dicksy Hansen organizes riders before the inaugural Tour de KSC. Hansen pitched the event as a fun way to raise money for charity.

Our group was scheduled to ride a 20 mph pace over the 37-mile course. Again, we found something in common with the shuttles -- fighting the wind.

After a ride through the Industrial Area, the course threw our band of energetic riders against the harsh morning winds of Kennedy's Shuttle Landing Facility.

Our stroll at a fast clip became a 3-mile grind. It felt like a treadmill -- our legs were moving, but we weren't going anywhere.

Our 22-mph pace became 15, then 13. It was worth it for the chance to snap a picture at the top of the runway. Plus, we barely had to pedal on the southbound leg.

After crossing the tow-way, we headed for the Vehicle Assembly Building and the first stop. Cameras came out almost before our bikes stopped. Oxendine posed in front of the building, a landmark his grandfather helped design as part of the Army Corps of Engineers.

Back on the bikes and into the wind again, this time out to a camera mound between Launch Pads 39A and 39B. Shuttle Atlantis was a popular backdrop as it stood on its mobile launcher platform prepared for liftoff.

We got back on the bikes and headed again into what seemed like a wind determined to meet us in the face.

We crossed by the Vehicle Assembly Building and stopped for more shots before heading back to the Kennedy Space Center Visitor Complex.

There was no shortage of smiles as the riders helped themselves to pizzas, and no compliment was spared in congratulating the organizers.

"The people coming back, they were saying, 'That was great! That was great!' which makes us feel good because we put a lot of work into it," said Ben Bryant, another organizer.

A lot of riders are eager to come back.

"It was great getting out there and seeing the sites as close as you can," Burke said. "It's a lot different than seeing them on TV."

NASA/Jack Pfaller

About 500 cyclists rode past the Vehicle Assembly Building during the Tour de KSC on Oct. 17. The event was held in conjunction with the Kennedy Space Center Combined Federal Campaign, which kicked off a day earlier.

Research platform passes ISS test with flying colors

By Steven Siceloff
Spaceport News

NASA

Astronauts John "Danny" Olivas, left, and Nicole Stott remove the EuTEF science platform from the outside of the Columbus laboratory on the International Space Station during the first spacewalk of the STS-128 mission. The astronauts moved EuTEF into space shuttle Discovery's cargo bay so the experiments could be returned to Earth for evaluation.

When Fabio Tominetti and Marco Grilli last saw the EuTEF research platform in early 2008, it was carefully packed inside the payload bay of space shuttle Atlantis. It had been built and handled with the utmost care, and its white and thermal insulation and golden reflective sheets and experiments were pristine.

EuTEF didn't look much different as it hung upside down in a work stand a few days after coming back to Earth aboard Discovery after being attached to the orbiting International Space Station for about a year and a half.

"It's almost brand new," said Tominetti, the EuTEF program manager for the Milan-based Carlo Gavazzi Space. "It could probably fly again tomorrow. I expected to see something to tell you that it had been exposed to 18 months in space."

EuTEF is short for European Technology Exposure Facility, a remote-controlled base complete with power and communications networks built to host nine experiments from Europe's scientific community, including prestigious universities and foundations. The research largely focused on the effects of space on materials, including window materials that could be used on future spacecraft.

Tominetti and Grilli, a systems engineer with Carlo Gavazzi, recently traveled to Kennedy Space Center to pack the research platform and its experiments for their return to Europe.

The EuTEF went into space with the European Space Agency's Columbus laboratory module as part of the STS-122 mission in February 2008. After Columbus was connected to the space station, spacewalking astronauts attached EuTEF to one of its platforms on the outside.

From there, the experiments would be exposed to the harshness of a constant vacuum, a round-the-clock dose of radiation, and heat and cold extremes that vary 200 degrees during each 90-minute orbit of the planet.

Despite the conditions, EuTEF returned exciting early results, Tominetti said. For example, a study of atomic oxygen around the space station revealed that two computer models of the chemical's distribution were not as accurate as they should be, but a third model was correct. Knowing where corrosive atomic oxygen molecules are and how they behave in orbit helps future spacecraft designers.

Although EuTEF delivered some results while still in space, researchers will get the chance to look at the materials samples and other experiment results firsthand once EuTEF is taken back to Europe and shipped to their sponsors.

"There are a lot of small samples to see the exposure to atomic oxygen and to radiation, so they will be quite busy analyzing the chemical reactions of the samples," Tominetti said.

The mission also proved that the design for the research facility was sound.

"Starting with nothing in your hands but some scrap paper and then building it up was the first big achievement," Tominetti said.

"What was a little bit scary to me was the amount of paperwork you have to do before you have the real hardware working, to be tested, designed and flown," Grilli said.

The team had worked for years to design and build the research station, including extensive discussions and review sessions with agencies such as ESA and NASA, plus many conversations about the experiments that designers planned for orbit.

That doesn't mean there weren't a couple glitches along the way, though.

"We fixed a couple problems by remote," Grilli said.

High radiation in orbit is suspected of causing trouble for the electronics on EuTEF, but the issue was quickly fixed with a simple reboot, Tominetti said.

Another glitch developed because of the success of an experiment studying static electricity on the station. The device on EuTEF designed to discharge static electricity from the station did what it was supposed to, but that caused some concern when controllers on Earth saw an electric discharge around the station. Once the experiment was tracked down as the cause -- and then proven to be working correctly -- the research was turned back on.

Tominetti and Grilli watched over the experiments package from the European Space Agency's Erasmus Command and Control Center in the Netherlands.

"Having switched it on was great," Tominetti said. "We see it alive, like a little mechanical baby. So we followed this growth for one year and half, but it was sad to arrive at the end, even though it was a successful mission."

As Discovery headed into space in August to equip the station and recover EuTEF, the Earth-bound controllers switched off the experiments and set up the platform so astronauts could safely detach it from the Columbus lab and bring it back aboard the shuttle without damaging the valuable results.

The return trip called for a whole new set of procedures for the spacewalkers because the platform Discovery carried to retrieve the experiment set was different from the kind EuTEF was bolted to when it rode into space.

"It was like designing a whole new mission," Grilli explained.

The return capped seven years of work on the project by the two engineers -- work they would happily repeat if called on for another EuTEF mission.

"It was very exciting, but also a little bit sad, because the mission being over, the story ends," Tominetti said.

ARES I-X: Putting the pieces together

By Anna Heiney
Spaceport News

'We've got a rocket'

The fast-paced assembly sequence of Ares I-X kicked off in late 2008, when flight hardware began arriving at the Florida spaceport from NASA field centers and contractors across the country.

In order to handle the influx of Ares I-X components, the processing team needed more room than the Vehicle Assembly Building's, or VAB's, High Bay 3 and booster facilities could provide. So elements were stored, inspected, fitted or joined together in additional facilities across the space center, and even at the Astrotech Space Operations facility in nearby Titusville, Fla.

The simulated upper stage arrived in November 2008 aboard the Delta Mariner barge after a journey from NASA's Glenn Research Center in Ohio. In January 2009, a plane carried the full-scale crew module simulator and launch abort system from NASA's Langley Research Center in Virginia to Kennedy Space Center's Shuttle Landing Facility.

As assembly began, NASA Vehicle Processing Engineer Trent Smith was tasked with ensuring the work was done in the right order and that all necessary parts and personnel were available.

"When the hardware started showing up, I thought, 'Oh wow, it's here,' " Smith said. "We've got a rocket!"

NASA/Jack Pfaller

Ares I-X segments are are positioned on the floor of the Vehicle Assembly Building on Dec. 8, 2008.

Along with the crew module and abort tower, the upper stage's seven tuna can-shaped pieces, service module, spacecraft adapter and two interstage connectors were staged in the VAB's High Bay 4 prior to stacking.

The funnel-like frustum, forward skirt with its extension, and simulated fifth booster segment arrived from Indiana, where they were manufactured by Major Tool and Machine. First-stage prime contractor ATK Space Systems built the four solid-fueled booster segments, which reached Kennedy in March 2009 after a seven-day, cross-country train ride from Utah.

The stacking begins

Smaller sections called "super stacks" were assembled first. The two interstage pieces, frustum, forward skirt and extension were mated to the simulated fifth booster segment in early July, completing Super Stack 1.

A day later, the aft, or bottom, segment of the first-stage solid booster rolled into the Vehicle Assemble Building and was secured to the mobile launcher platform in High Bay 3, marking the official start of final assembly.

"When we started stacking, it was a very big deal for us," Cowart said of the Ares I-X team. "We stacked all four of the boosters, then we were ready to bring over Super Stack 1."

NASA/Jack Pfaller

Segments of the first stage and the fifth simulator segment make up Super Stack 1 on July 7, 2009.

The first "tuna can" segment, comprising upper stage segment 1, was labeled Super Stack 2. Upper stage segments 2 through 5 made up Super Stack 3, and Super Stack 4 comprised upper stage segments 6 and 7. Segments 1 and 7 contain steel ballasts weighing a combined 160,000 pounds to mimic the weight of the Ares I liquid propellant tanks.

"I remember going up to Level 34 and looking down, and going on the E roof -- which is right about where the fifth segment simulator is -- and looking up, then down," Smith said. "That's when it really dawned on us that this is a tremendously tall rocket."

Barely five weeks after stacking began, Ares I-X was crowned with Super Stack 5, consisting of the launch abort system, crew module, service module and spacecraft adapter. The completed rocket towered above the surface of the mobile launcher platform, leaving only 10 feet of clearance for the heavy-lift crane to remove the birdcage-shaped framework that lowered the final pieces into place.

NASA/Jack Pfaller

The Ares I-X aft booster segment with the aft skirt is lowered into High Bay 3 on July 8, 2009.

Assembly of the one-of-a-kind launch vehicle finally was complete. But plenty of work remained. The rocket was put through its paces: a power-up test, or "smoke test," to validate the electronics boxes and wiring; a "sway test" to check the vehicle's response to vibrations it could face during rollout; instrumentation tests; and a simulated countdown and liftoff.

Positioned for launch

Ares I-X emerged from the VAB at 1:39 a.m. EDT Oct. 20, beginning a 7.5-hour trek through the predawn darkness to Launch Pad 39B.

Ares I-X is the first new vehicle to occupy that pad in more than 25 years.

"For those of us who've lived with the shuttle and grew up looking at the Saturn Vs, it's obviously a little different than what we're used to seeing," Cowart said as the tracked crawler-transporter carried Ares I-X to the top of the pad.

NASA/Jack Pfaller

Super Stack 3 hovers over Super Stack 2 in High Bay 4 of the Vehicle Assembly Building on Aug. 7, 2009.

The rocket's upper stage loomed high above the top of the pad's fixed service structure, surpassed only by the pad's three lightning masts.

Once Ares I-X arrived, remaining milestones included a hot-fire of the rocket's auxiliary power units and checkout of the communications, instrumentation and telemetry.

A successful liftoff capped a demanding development and assembly process that Cowart believes illustrated NASA's entrepreneurial capability, as well as the dedication of the relatively small team that brought this flight from paper to reality.

NASA/Jack Pfaller

A crane lowers Super Stack 4, which is ready for integration, onto Super Stack 3 on Aug. 12, 2009.

Smith emphasized that the Ares I-X effort involved design centers, research centers, and multiple contractors -- all of which intersected at Kennedy.

"There was some education on all sides. Integrating and communicating were key to our success," he said. "What made it so rewarding was working through all the challenges and frustrations."

NASA/Dimitri Gerondidakis

The "birdcage" lifts Super Stack 5 atop Super Stack 4, completing the rocket on Aug. 13, 2009.

The Ares I-X flight test vehicle was still a concept about four years ago, Cowart pointed out.

"This is unprecedented in NASA history, for a rocket of this size," he said. "It's incredible."

NASA/Kim Shiflett

Ares I-X began rolling out of the Vehicle Assembly Building at 1:39 a.m. EDT Oct. 20.

NASA/Kim Shiflett

The Ares I-X rocket was secured to Launch Pad 39B at 9:17 a.m. EDT Oct. 20.

STS-128 crew shares stories of mixing science with fun

All work and no play . . . the thought is nearly impossible for a place without gravity. For the crew of STS-128, the International Space Station was their playground . . . that is when they weren't working to prepare the orbiting laboratory for new science experiments.

Commander Rick Sturckow, Pilot Kevin Ford, Mission Specialists Jose Hernandez, Danny Olivas, Patrick Forrester and Christer Fuglesang returned to Kennedy Space Center on Oct. 22 to share their experiences with the team that prepared their launch vehicle.

After one scrubbed attempt for finicky Florida weather and another for an issue with space shuttle Discovery's liquid hydrogen fill-and-drain valve, the crew lifted off just before midnight Aug. 28.

NASA/Kim Shiflett

Mision Specialist Christer Fuglesang and the rest of the STS-128 crew returned to Kennedy Space Center on Oct. 22 to share their mission stories, spend time with workers and sign autographs.

"There is no experience on the planet like leaving the planet," said Ford, a first-time space flier.

During the 14-day mission, the crew delivered the Multi-Purpose Logistics Module Leonardo containing life support and science racks, a new treadmill named after Comedy Central's Stephen Colbert, as well as Expedition 20 Flight Engineer Nicole Stott.

In their spare time, they enjoyed their newfound weightlessness.

Stott took time to propel herself into Leonardo and bounced off like a ball, Hernandez enjoyed doing summersaults, and the entire crew liked to play with their food . . .
just don't tell their parents.

"Just take a water ball, throw a lifesaver on top of it, and then viola, you've got an eyeball in space," said Olivas. "Course, you've got to get rid of it, so down the hatch it goes."

Center Director Bob Cabana and Sturckow go way back. As commander and pilot, respectively, of STS-88 -- the first shuttle mission to the station -- the two astronauts helped connect the first U.S. module called Unity with the Russian-built Zarya module.

"I really envy Rick, because Rick got to see the space station at its very beginning and he's seen it now essentially complete. I think it's pretty neat to be able to bookend it like that," said Cabana. "I would've done anything to stow away with you. I would've cleaned windows, cooked food, cleaned the toilet, whatever you wanted."

Since the duo's first boundary-pushing mission in December 1998, the station's size and diversity has grown dramatically. While in space, STS-128 marked the first time 13 crew members representing five countries have ever been aboard a single, orbiting spacecraft.

"We've had the good fortune to watch it grow from just a little-bitty space station when Col. Cabana was up there to a huge station with as much internal volume as a 747," said Sturckow. "It's really impressive. It's a credit to all the great work done here by hard working people at the Kennedy Space Center."

Turbo team leader reaches new heights from hot seat

By Linda Herridge
Spaceport News

Interest in high-performance engines is usually associated with men. But for Jessica Tandy, a turbo machinery engineer with Pratt & Whitney Rocketdyne since 2005, helping to process the space shuttle main engines occupies most of her work day at Kennedy Space Center.

"It's very exciting to work on space shuttle main engines," Tandy said. "They are very complex and the learning opportunities are endless."

After Endeavour's STS-127 mission ended in July, Tandy served as the move director-in-training during the main engine removal process in Orbiter Processing Facility-2. She sat in the hot seat on the Hyster forklift and focused on operating the rail table, which is used to install or remove engines, while communicating with technicians who were in the aft compartment of the orbiter.

A critical element of engine removal is aligning the "duck bills" inside the main combustion chamber after which the weight of the engine is transferred from the orbiter to the engine installer. Tandy said engine removal takes about three hours and engine installation takes about four hours per engine, depending on circumstances.

The engines were then transported to the Space Shuttle Main Engine Processing Facility where they were checked for leaks. They underwent two-hour and then eight-hour drying purges to remove moisture and were lifted into vertical stands this week.

Technicians removed inspection port hardware so the blades and bearings on the high pressure pumps could be inspected. Tandy said static inspections also were conducted to inspect for anomalies, such as cracks, contamination and erosion.

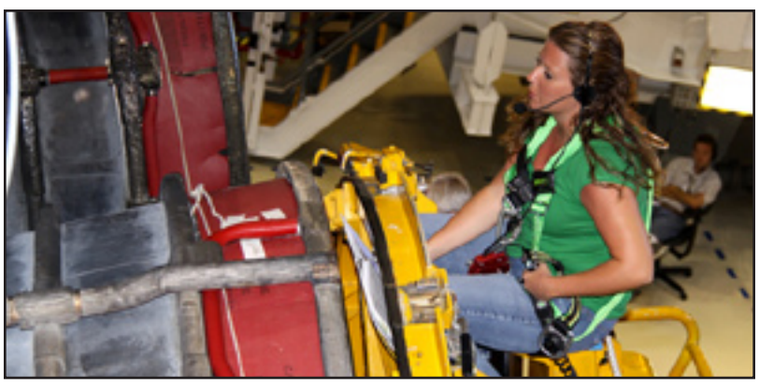
"Every component of the engine is inspected to some degree and many requirements must be satisfied prior to engine installation," Tandy said.

Since the flight readiness tests are complete, the mechanical, electrical, avionics, turbo pumps and combustion engine groups are performing final walk downs and will start the process over with engine installation for the next mission.

"Engine installation is one of my favorite things to do," Tandy said. "Seeing the engines interface with the orbiter after weeks of preparation is very rewarding."

Though she is not the first woman in the engine shop, Tandy is the only woman currently training to be an engine move director.

In addition to her current position, Tandy also is a task team leader on turbo pump removal and installation.



NASA/Jack Pfaller

Jessica Tandy, a turbo machinery engineer with Pratt & Whitney Rocketdyne, maneuvers a Hyster forklift into a main engine on space shuttle Endeavour.

Remembering Our Heritage

NASA retires Tracking and Data Relay Satellite

By Kay Grinter
Reference Librarian

After a rocky start and then a stellar 26-year performance, NASA's Tracking and Data Relay Satellite-1, or TDRS-1, was decommissioned Oct. 28.

Communications equipment that links TDRS-1 to the ground has failed, and without this capability, it can no longer relay science data and spacecraft telemetry to ground stations on Guam and to the White Sands Complex in Las Cruces, N.M.

The satellite was deployed from space shuttle Challenger in 1983 during the STS-6 mission, and was the first and original TDRS-East.

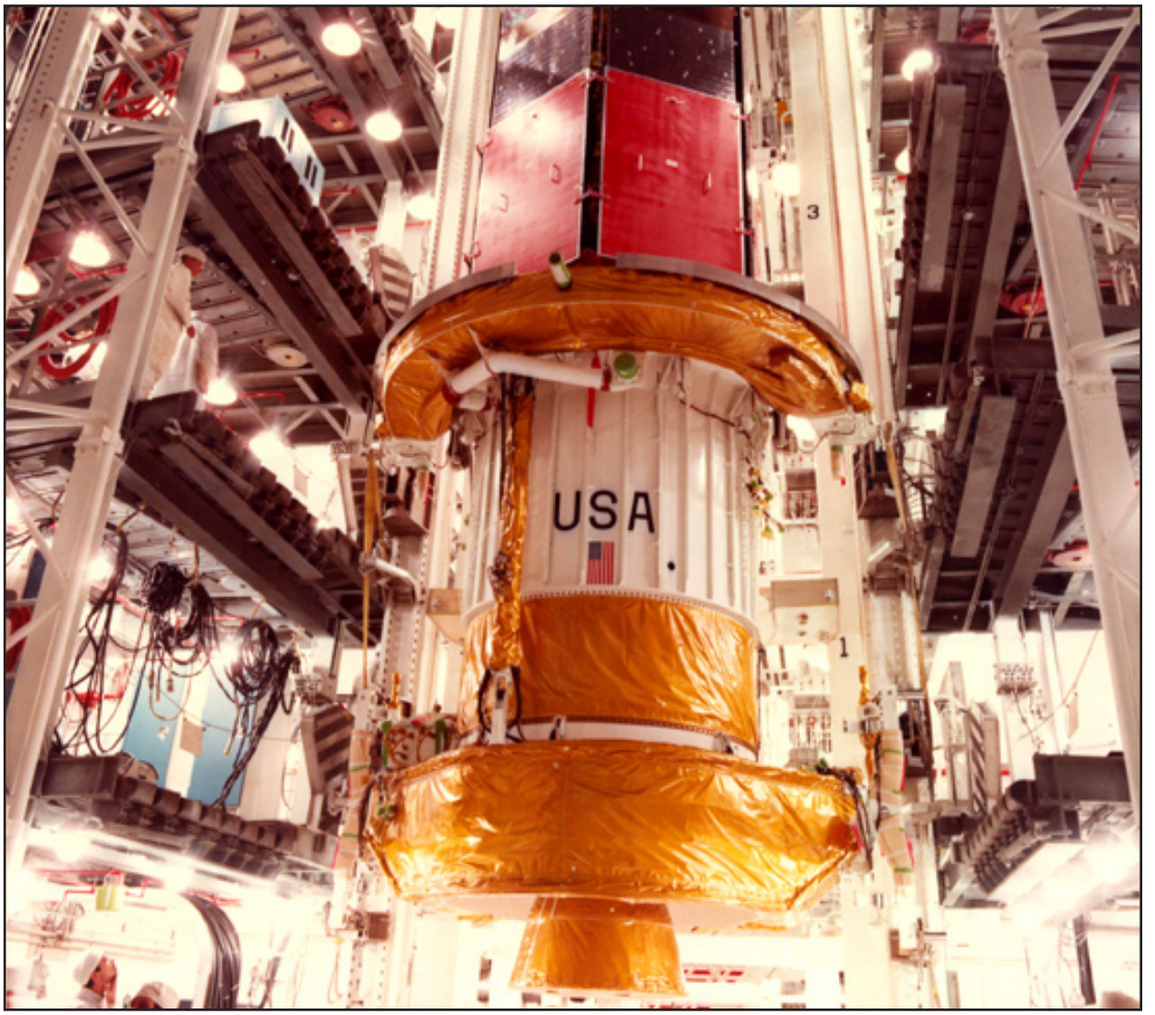
In 1980, tentative timetables called for the placement of the first of six spacecraft in the Tracking and Data Relay Satellite System, or TDRSS, in geosynchronous orbit on the fifth space shuttle mission, the first operational flight of the shuttle, and to have four of the satellites in orbit by the end of 1982.

Shuttle delays and a problem with the satellite's vulnerability to broadcast frequency jamming prevented the schedule from being met. TDRS-1 was manifested for the shuttle's second operational flight, STS-6.

The late Art Sawyer, Kennedy Space Center's launch site support manager for TDRS, told Spaceport News in 1980, that flying on one of the first operational missions did not add any pressure to his job.

"What does make TDRS satellites particularly challenging to coordinate," said Sawyer, "is the number of different groups involved in the project. Everybody's input must be included."

"Everybody" meant managers from several NASA centers, including Marshall, Johnson and Goddard; the joint U.S. Air Force/Boeing team, suppliers of the upper stage; and representatives from Western Union and their prime contractor, TRW, builders of the system.



NASA file/1982

The first Tracking and Data Relay Satellite and its inertial upper stage, the primary cargo for space shuttle Challenger's STS-6 mission, were installed into the payload changeout room at Launch Pad 39A on Dec. 27, 1982. Before the mission launched, a storm packing 70 mph winds penetrated Challenger's payload bay, contaminating the satellite, and it had to be moved back into the room for inspection and cleaning of its solar array hinges.

As launch of STS-6 approached in 1983, the launch pad was subjected to a storm on Feb. 28, packing 60 to 70 mph winds. TDRS-1, already nestled in Challenger's payload bay, was contaminated. The 5,000-pound satellite, attached to its inertial upper stage, had to be moved back into the pad's payload changeout room for inspection and cleaning of its solar array hinges.

Following launch at long last on April 4, a malfunction of the TDRS-1's inertial upper stage booster placed it into an improper but stable orbit.

Propellant already aboard the satellite was used to fire the spacecraft's tiny, 1-pound thrusters throughout the next several months to nudge it into a properly circularized orbit.

The position of TDRS-1 over the Indian Ocean successfully eliminated the "zone of exclusion" in an area where communications with spacecraft were previously impossible, providing true global coverage for all TDRSS users.

NASA has used the satellite in ways never expected because its orbital inclination has been changing almost one degree per year since deployment.

In 1998, TDRS-1 provided the first medical teleconferencing link, complete with voice, video and imaging data from the South Pole. It was used again in July 2002 to provide continuous, dropout-free data during a two-hour telemedicine event involving a physician at the Amundsen-Scott South Pole Station and physicians at the Massachusetts General Hospital in Boston.

The first step in the decommission of TDRS-1 was to shut down its critical payload systems. Maneuvers were executed to raise its orbit, eliminating the potential dangers of collision with other communications satellites in geosynchronous orbit.

Ten satellites -- TDRS-A through J -- successfully have made it to orbit, although one was lost in the Challenger accident in 1986.

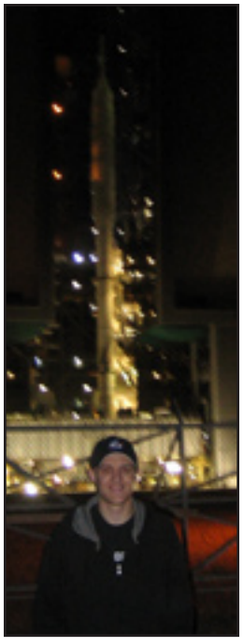
A contract for two additional satellites for the TDRSS network was awarded to Boeing in December 2007. TDRS-K and L are scheduled for launch in 2012.

More online

For more information about the TDRSS Program, visit: **scp.gsfc.nasa.gov/sn/index.htm**

WORD ON THE STREET

Ares I-X rolled out of the Vehicle Assembly Building on Oct. 20 at 1:39 a.m. EDT. How did you feel watching this significant milestone?



"As a brand new co-op to KSC, this Ares I-X rollout was a phenomenal experience, even if it was at 1:39 a.m." -- *Andrew Davis, NASA co-op*

"Seeing the Ares I-X rocket on the mobile launcher was a fantastic sight. It's a monument that represents the new era in human spaceflight." -- *Bob Diehm, ASRC Aerospace Corp.*

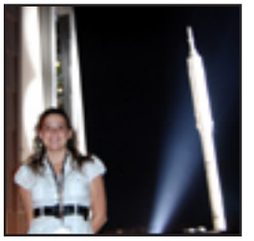
"I participated in building the ground control system for Ares I-X. During the rollout, I was just proud to be part of the project." -- *Doug Hammond, NASA*

"I am very lucky and proud to stand in the shadow of the future." -- *Ennis Shelton, Innovative Health Applications LLC*

"Ares I-X represents the beginning of a new path in NASA's efforts to explore other worlds as well as a new era in U.S. space history." -- *Tristan Clouse, ManTech*

"The mobile launcher platform-1 crew is very excited to be part of this historic launch." -- *From left, Kerry Raffety, Michele Leonhard, Bruce Johnson, Carla Rekucki and Steve Cisewski, United Space Alliance*

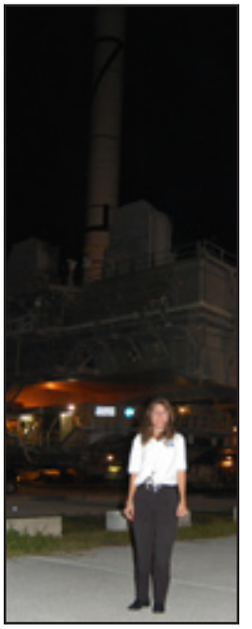
"I was awestruck by the height of the rocket. It's amazing what we can do when we all work together." -- *Brian Hills, SGS*



"I couldn't believe my eyes at the spectacular sight of the Ares I-X rocket when it began rolling out of the VAB . . . a truly once-in-a-lifetime experience." -- Melissa Clevenger, NASA

"History in the making!" -- *Erik Murray, Innovative Health Applications LLC*

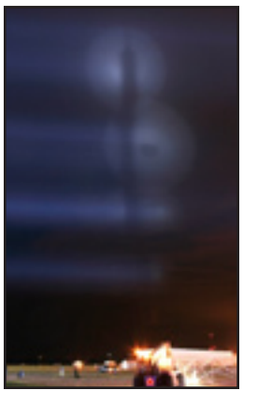
"Goose bumps. Wow, we have finally got to this point. Go safety . . . go Ares I-X." -- *Eduardo "Ski" Jezierski, NASA*



"What a thrill to be able to witness the tallest rocket in the world roll out and be a part of history." -- *Cathy Rauback, Sierra Lobo Inc.*

"I was lucky to be going to a job at pad A and was able to swing by to see the rollout of the Ares I-X, the new generation vehicle." -- *Lee Leland, NASA*

"Truly surreal seeing a vehicle other than shuttle rolling toward the pad. It really is the dawn of a new era." -- *Chad Carl, NASA*



" 'Ares I-X Bat Signal' appeared to show the future of spaceflight at KSC, an amazing sight." -- *Tim Van Nes, SAIC*

"We're moving forward . . . which is good, really good." -- Roland Benoit, SGS

"The last moon mission was the year before I was born, so witnessing this rollout and realizing that we are heading back during my lifetime was an indescribable feeling." -- *Doug Grandey, Boeing Co.*

John F. Kennedy Space Center

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