August 19, 2005 Vol. 44, No. 18

Spaceport News

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Explore. Discover. Understand.

Discovery, STS-114 crew safely return home

NASA administrator declares 'there's nothing but outstanding success'

The Space Shuttle Discovery is home after a 14-day, 5.8 million-mile journey in space, gliding to a pre-dawn landing at NASA's Dryden Flight Research Center at Edwards Air Force Base in California Aug. 9 at 8:11 a.m. EDT.

The mission included breath-taking in-orbit maneuvers, tests of new equipment and procedures, a first-of-its-kind space-walking repair and virtual visits with two heads of state.

Commander Eileen Collins and the crew of the STS-114 mission, Jim Kelly, Charlie Camarda, Wendy Lawrence, Steve Robinson, Andy Thomas and Soichi Noguchi of Japan, landed at Edwards Air Force Base, marking the 50th time overall that a Space Shuttle concluded its mission in the California desert.

Collins and Pilot Kelly, assisted by Mission Specialist Robinson, began Discovery's return to Earth by firing the spacecraft's orbital maneuvering system engines to slow its speed and begin its descent.

Discovery's ground track took it from the firing of the 2 minute, 42-second deorbit burn at 6:06 a.m. over the western Indian Ocean, traveling in a loop around Australia, then northeast across the Pacific, across the California coast north of Los Angeles and then to Edwards.

Thunderstorms at Kennedy Space Center, the primary landing site, resulted in a wave-off of two opportunities to return to the launch site.

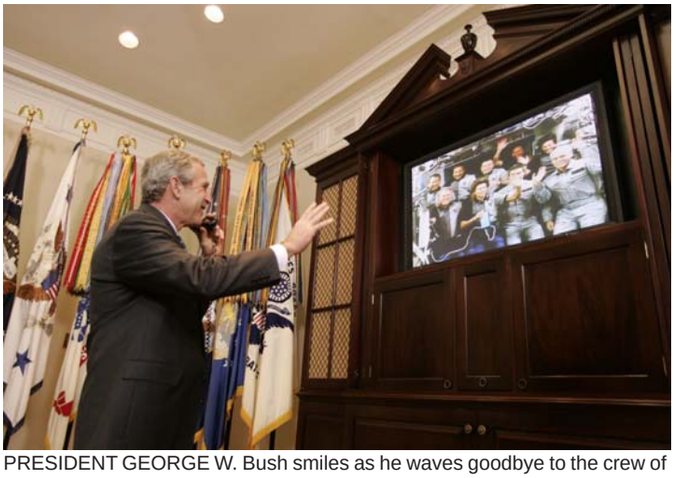
"We have had a fantastic mission," Collins said shortly after exiting the orbiter at Edwards Air Force Base. "We are so glad to be able to come back and say it was successful. The crew was really anxious to walk around and see what the outside looked like. We brought Discovery back in great shape, as you can see behind us. This is a wonderful moment for all of us to experience."

After an on-time liftoff from

(See DISCOVERY, Page 4)

SPACE SHUTTLE Discovery lands safely at NASA's Dryden Flight Research Center at Edwards Air Force Base in California at 8:11 a.m. EDT Aug. 9 following the successful 14-day STS-114 Return to Flight mission.

LIGHTNING STREAKS across the sky above satellite trucks at Kennedy Space Center's Shuttle Landing Facility. The trucks were waiting for the early morning landing of Space Shuttle Discovery, which was eventually deferred to Edwards Air Force Base in California due to weather concerns.



PRESIDENT GEORGE W. Bush smiles as he waves goodbye to the crew of the Space Shuttle Discovery during a phone call from the Roosevelt Room of the White House. Before bidding the crew members Godspeed, the president thanked them for being "risk-takers for the sake of exploration."

Jim Kennedy
Center Director

The Kennedy Update

Hi, everyone! My fingers are literally dancing off the keyboard as I write this reflecting on the absolutely tremendous success stories of STS-114 and the MRO and GOES-N launches. And they all took place since my last column.

How lucky we are to be part of an organization that does so much great work for the WORLD on a daily basis! I feel honored and privileged to drive through our gate and come to work at KSC every day.

First, as the world watched, the STS-114 crew and Discovery performed beyond perfect, culminating in Commander Eileen Collins' exquisite landing at Edwards Air Force Base, Calif., on Aug. 9. I know it was a little disappointing not to see Discovery land here, but a safe landing anywhere is a great landing for NASA in my book. Discovery is set to come home this week, ending its ferry flight, and if not, probably over the weekend. It'll be great to have the orbiter home again.

I can't thank this team enough for all you did here, from processing the orbiter to the launch and landing. For those who don't know, KSC sent approximately 250 people to Edwards to prepare the ship for the return home. So while not taking place here, KSC still was the primary recovery team on scene for the landing. In the days ahead, the crew will return to KSC, and we'll have a nice celebration to honor the whole mission from beginning to end. Be listening for the details; you won't want to miss it!

As if that wasn't enough for one week, last Friday our Launch Services Program launched the next in the series of Mars missions as the Mars Reconnaissance Orbiter roared into space from Launch Complex 41. This was the first Atlas V launch for the government and required a significant effort to get the vehicle certified and ready for flight. Congratulations to the entire LSP/Atlas/MRO team, as what we learn from this mission will eventually pave the way for human missions to Mars, fulfilling our Vision for Space Exploration.

Think about it: We saw the first step in the Vision take place with the return to flight of Discovery, and at the same time, we launched a mission that will enable us to complete the incredible feat of putting humans on Mars decades from now. And it all took place in one month's time. It's just remarkable, the work our government and contractor work force does for our nation.

Your success builds on the rich legacy of our past and now begins a new journey that will take U.S. astronauts back to the Moon and then on to Mars and beyond. Everyone should be very proud of themselves. I am, and I know the entire KSC leadership team is, as well.

Last, but not least, we saw GOES-N successfully launched this week as it begins to study the Earth's weather for years to come. Congratulations to the entire GOES-N team!

Finally, I know many people lost summer vacations and have spent a great deal of time away from their families. Please take the time to take care of yourself and your family. Remember, all great work is fruitless if you don't have loved ones to share it with in some way.

GREAT JOB everyone!

Kennedy Space Center Annual Awards

2004 Presidential Rank Awards
Distinguished Executive
James Kennedy, Director
Meritorious Executive - Stephen Francois, Manager, Launch Services Program; Scott Kerr, Director, Spaceport Services
Meritorious Senior Professional
Michael Leinbach, Launch Director

NASA Outstanding Leadership Medal
James Dumoulin, William Dowdell, Patrick Hanan, Ramon Lugo, Amanda Mitskevich

NASA Public Service Medal
Dr. James Brown, Greg Crews, Kay Jernigan, Timothy Kotnour, Leon McGovern, Jeffrey Moist, James Nelson, Thomas Niemeyer, Robin Roitz, Neal Van Scyoc, John Weaver

NASA Equal Employment Opportunity Medal
Susan Kroskey

NASA Exceptional Engineering Achievement Medal
James Wood

NASA Exceptional Achievement Medal
Ricky Blackwelder, Steven Brisbin, William Franklin, Randall Heald, Wayne Kee, John Madura, Curtis Martin, Constance Milton, Ronnie Rodriguez, Gerald Schumann, Michael Stevens

STEPHANIE STILSON receives the Director's Award from Center Director Jim Kennedy (right) and astronaut Leroy Chiao at the KSC Annual Awards.

NASA Exceptional Service Medal
Karon Buchner, Gregg Buckingham, Kennetta Campbell, Gloria Johnson, David Kelley, Jennifer Lyons, Conrad Nagel, William Roy, Gary Thompson, Charles Tucker

NASA Group Achievement Awards

Active Multi-Purpose Logistics Module Risk Mitigation Team
Alenia Spazio, Giuseppe Mancuso, Letterio Gemilli, Luca Ferrero, Cesare Capararo, Gianvittorio Falletti, Anna Maria Giaguzzo, Francesco Santoro, Michele Trichilo, Frances Kuehn, Beth Lasater, Ed Shumilak, Tomas Hernandez, Jean Chegancas, Frederic Olivier, Christine Taddei, Giorgio Crippa, Lina DeParolis, Monica Hughes, James Dean, Judy Gedies, Robert Holman, Randall Adams, David Adcock, Kim Ballard, Alex Bengoa, Kenneth Bollweg, Bobby Brown, Ted Buras, David Bush, Glenn Chin, Dallas Clark, John Cornwell, Emmett Crooks, James DeBruin, Phil Dempsey, James England, Ralph Fritsche, Mark Galeano, Michael Gardner, Michael Generale, Linda Gladnick, Shawn Glasgow, Kimberly Goodrich, Robert Hill, Jon Holladay, Mike Horkachuck, Monica Hughes, Kathy Jones, Robert Kaczajda, Michelle Lewis, Johnny Mathis, Randy McClendon, Jordan Metcalf, Rick Miller, Eulalio Nandin, Duyen Thi Nguyen, Adam Niev, David Olsen, Donald Pallesen, Eric Perritt, Chau Pham, James Pope, Tamara Pope, Keith Presson, Shawn Reagan, Jessica Rodriquez, Renee Sawyer, Ben Sellari, Roland Schlierf, Allen Shariett, Morgan Simpson, Theresa Schroeder, Howard Smith, Curtis Stephenson, Vanessa Stroh, Brian Warkentine, John Weeks, Janella Youmans; Ryoji Kobayashi, Tai Nakamura; Rick Acosta, Tiffaney Alexander, Julie Anderson, Brian Balzer, Harold Baker, Mark Brave, Ellen Brown, Cliff Burkette, Kirt Chapman, Mike Dahm, Shirla Day, Claudia Dorn, Carl Gaul, David Geers, Dwaine Griffin, Eric Hanson, Masood Haque, Lon Harper, Randall Hitchcock, Henry Hoang, Bryan Holda, Danny Irvin, Bud Jackson, Kenneth Koby, Mark Lang, Jeffrey Levitt, Steve Lewis, Philip Lintereur, Nancy Lowery, Yvonne Luchuk, Scott McIntyre, Gary Meier, Jonathan Mesenbourg, Jody Miravete, Mohammed Nasrullah, Elizabeth Neumane, Randolph O'Dell, Kimberly Page, Kent Pearson, Mike Peacock, Michael Perry, Elizabeth Peterson, Hung Pham, Hibah Rahmani, Richard Rudolph, Lorenzo Sanchez, Eve Stavros, Jefferson Traylor, Alan VanHeiningen, Billie Willis; Kenneth Hartensteiner, Eric Hendrickson, Kirk Teige, Jennifer Whitworth; Kevin Berry, Mark Davis, Brad Harris, Brenda Johnson, Robert Parsons, Kerry Ramirez, Robert Rodriquez, Jim Ruhnke, Richard Smith, Kim Weston

Alternate External Tank Offload Working Group
Sylvia Segura, Barbara White, Doug Powell; Lesley Carroll, John Creech, Steve Czaban, Tom Friers, Kristin Kelley, Clete Leagan, Tom Overton, Bill Potteiger, Bob Speece, Ken Tenbusch, Becky Thompson, John Key; Nicolae Andreescu, Richard Keesey, Diane LaRose, Brad Missimer, Stuart Warren; Walt Adams, Gary Crawford, Ahmad Ekhlassi, Manuel DeLeon, Tom Garvey, John Fischbeck, Greg Henry, Dick Jones,

(See AWARDS, Page 6)

Landing 101: How the Space Shuttle makes its safe return to Earth

By Anna Heiney
Staff Writer

Whether the Space Shuttle lands at the prime landing site at Kennedy Space Center or its backup landing site at Edwards Air Force Base in California, there is a precise sequence of events before the orbiter safety returns its crew to Earth.

When it is time to return to Earth, the orbiter is rotated tail-first into the direction of travel to prepare for another firing of the Orbital Maneuvering System engines. This firing is called the deorbit burn. Time of ignition (TIG) is usually about an hour before landing.

The burn lasts three to four minutes and slows the Shuttle enough to begin its descent. The following are some of the key events that take place at each milestone prior to touchdown. Times, distances and speeds can vary according to a variety of factors such as mission inclination, trajectory and glide slope.

TIG-4 hours: Crew members begin preparations for landing. The orbiter's onboard computers are configured for entry, as is the hydraulic system that powers the orbiter's aerosurfaces - its rudder speed brake and wing elevons.

TIG-3 hours: The payload bay doors are closed. Mission Control gives the commander the "go" for Ops 3, the portion of the orbiter's flight control software that manages entry and landing.

TIG-2 hours: Starting with the commander and pilot, the flight crew members don their orange launch and entry suits and strap into their seats.

TIG-1 hour: Mission Control gives the "go" for deorbit burn.

Deorbit Burn: The orbiter and crew are officially on their way home. During reentry and landing, the orbiter is not powered by engines. Instead, it flies like a high-tech glider, relying first on its steering jets and then its aerosurfaces to control the airflow around it.

Landing-30 minutes: Roughly half an hour after the deorbit burn, the orbiter will begin to encounter the effects of the atmosphere. Called Entry Interface, this point usually takes place at an altitude of about 80 miles, and more than 5,000 statute miles from the landing site.

Early in reentry, the orbiter's orientation is controlled by the aft steering jets, part of the Reaction Control System. But during descent, the vehicle flies less like a spacecraft and more like an aircraft.

Its aerosurfaces - the wing flaps and rudder - gradually become active as air pressure builds. As those surfaces become usable, the steering jets turn off automatically.

To use up excess energy, the orbiter performs a series of four steep banks, rolling over as much as 80 degrees to one side or the other, to slow down. The series of banks gives the Shuttle's track toward landing an appearance similar to an elongated letter "S."

As the orbiter slices through the atmosphere faster than the speed of sound, the sonic boom - really, two distinct claps less than a second apart - can be heard across parts of Florida or California, depending on the flight path.

Landing-5 minutes: The orbiter's velocity eases below the speed of sound about 25 statute miles from the runway. As the orbiter nears the Shuttle Landing Facility, the commander takes manual control, piloting the vehicle to touchdown on one of two ends of the SLF or at Edwards. As it aligns with the runway, the orbiter begins a steep descent with the nose angled as much as 19 degrees down from horizontal.

This glide slope is seven times steeper than the average commercial airliner landing. During the final approach, the vehicle drops toward the runway 20 times faster than a commercial airliner as its rate of descent and airspeed increase.

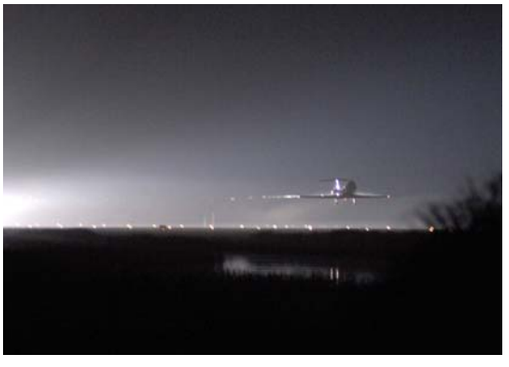
At less than 2,000 feet above the ground, the commander raises the nose and slows the rate of descent in preparation for touchdown.

Landing-15 seconds: The main and nose landing gear are deployed and locked in place.

Touchdown!: The orbiter's main landing gear touches down on the runway at 214 to 226 miles per hour, followed by the nose gear. The drag chute is deployed, and the orbiter coasts to a stop.

DISCOVERY TOUCHES down at KSC's Shuttle Landing Facility, completing the 11-day STS-105 mission in August 2001.

SPACE SHUTTLE Discovery, accompanied by recovery vehicles, is towed up the taxiway at NASA's Dryden Flight Research Center following its Aug. 9 landing.



BEFORE A Space Shuttle lands, a Shuttle Training Aircraft (STA) observes flying conditions for the pending landing. This STA approaches the runway at KSC's Shuttle Landing Facility for Return to Flight mission STS-114.

Discovery crew accomplishes mission

DISCOVERY . . .

(Continued from Page 1)

KSC on July 26, the crew tested new capabilities and techniques developed over the past two and a half years to inspect and possibly repair the Space Shuttle in orbit.

Collins guided Discovery through an unprecedented backflip maneuver as it approached the International Space Station. The maneuver allowed the Station crew to snap high-resolution photos that added to the wealth of new data mission managers used to ensure Discovery was in good shape to come home.

"It's going to be hard to top this mission," NASA Administrator Michael Griffin said. "Everywhere you look, there's nothing but outstanding success."

Discovery spent two weeks in space, where the crew demonstrated new methods to inspect and repair the Shuttle in orbit. The crew also delivered supplies and performed maintenance on the International Space Station. A number of these tasks were conducted during three spacewalks.

In an unprecedented event, spacewalkers were called upon to remove protruding gap fillers from the heat shield on Discovery's underbelly. In other spacewalk activities, astronauts installed an external platform onto the Station's Quest Airlock and replaced one of the orbital outpost's Control Moment Gyroscopes.

Inside the Station, the STS-114 crew conducted joint operations with the Expedition 11 crew. They unloaded fresh supplies from the Shuttle and the Raffaello Multi-Purpose Logistics Module. Before Discovery undocked, the crews filled Raffaello with unneeded items and returned to the Shuttle payload bay.

The crew received phone calls from two world leaders. President George W. Bush and Japanese Prime Minister Junichiro Koizumi offered congratulations and appreciation for all the astronauts' hard work.

Collins and the crew also paid tribute to the fallen astronauts of Columbia, as well as others who gave their lives for space exploration.

Over the next several weeks, engineers will process data from STS-114, the first of two test missions for the Space Shuttle. Teams are already at work looking into why a large piece of foam fell off the External Tank during ascent.

NASA managers have committed to understanding why the foam came off the tank, and remedying it if necessary, before clearing the next Space Shuttle Return to Flight test mission, STS-121, for flight.

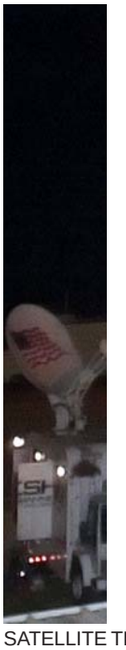
Five of the seven Return to Flight crew members later spoke to reporters during a press conference. Collins opened the briefing speaking of the team's excitement to come home. "It's absolutely fantastic being back here on planet Earth," said Collins.

Later, Collins elaborated on the spectacular view from space. "We saw some of the most beautiful parts of the Earth," said Collins. "At night we saw Southern Lights - in fact, we flew through the aurora!"

Kelly remarked on the confidence he had in the entire Space Shuttle team. "In this job, we are the tip of a pyramid of thousands and thousands of people and you can't sit at the top without trusting them."

THE CREW of Space Shuttle mission STS-114 gathers i Force Base, including, from left, Steve Robinson, Eileen Camarda and Jim Kelly.

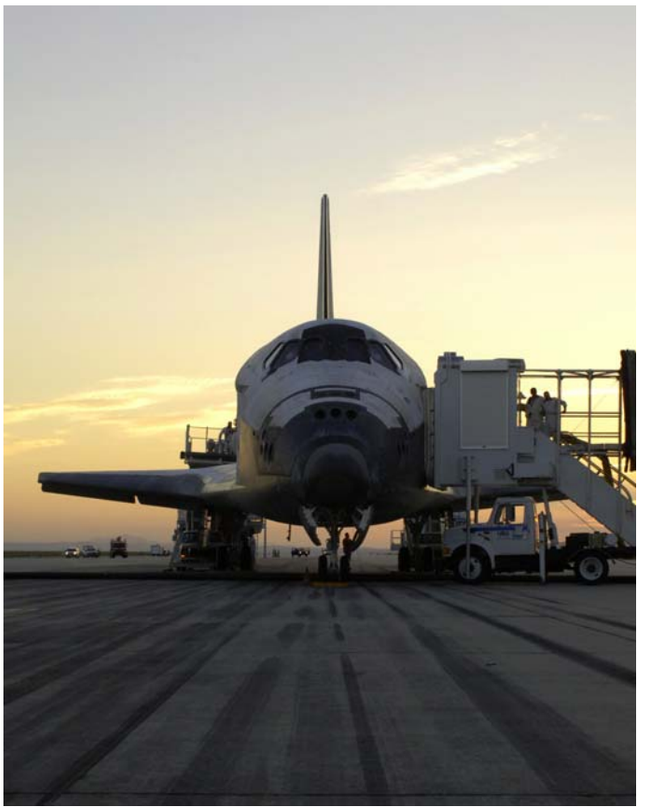
AT A post-landing briefing, mission management can't help smiling over the good news that Discovery safely landed at Edwards Air Force Base in California. From left are NASA Administrator Mike Griffin, Space Shuttle Program Manager Bill Parsons, Shuttle Launch Director Mike Leinbach and Associate Administrator of NASA's Space Operations Mission Directorate Bill Readdy.



SATELLITE TRUCK landing of Space Sh

on STS-114 gathers in front of the Space Shuttle Discovery following landing at Edwards Air
ve Robinson, Eileen Collins, Andy Thomas, Wendy Lawrence, Soichi Noguchi, Charles

SATELLITE TRUCKS are lined up at the Shuttle Landing Facility for the anticipated early morning landing of Space Shuttle Discovery.



DRYDEN FLIGHT Research Center Deputy Director Steven Schmidt (right) and Dryden Shuttle Program Manager Joe D'Agostino greet Commander Eileen Collins and the STS-114 crew.

UNABLE TO photograph or video a KSC Shuttle landing, members of the media interview NASA News Chief Bruce Buckingham at the NASA News Center.

AWARDS . . .

(Continued from Page 2)

William Richards, Tom Schaefer, John Shea, Paul Sierpinski, Jeff Skaja, Dennis Sziarto

Contract Change Streamlining
Karon Buchner, Laura Govan, Melodie Jackson, Roger Macleod, Philip Meade, Jose Nunez, Robert Yaskovic; Gregory Burns, Jon Gleman, Douglas Gray, Kira Juranek, Robert Kurrus, Mark Larson, Cheryl Long, Robert Rueter, Mickey Roberts, Linda Skinner, Neal Van Scyoc, John Walter, Archie Williams

Cupola Acceptance and Transportation Readiness Team
Melanie Gurnavage; Rodney Berwanger, Gennaro Caleindo, Harold Heimmer, Thomas Howard, Douglas Kverek, Ronald Morris, Ross Nordeen, Paul Paulick, Glenn Perez, George Smith; John Balzer, Kair Capatosto, Roy Fisher, Kenneth Flemming, Bret McAfee, John McFarland, Joseph Pellegrino, Joe Serafini, Dave Thomas, Michael Waugh

Exploration Task Team #5
David Stuart; Barry Bowen, Jeff Campbell, Randy Eastman, Raymond Evans, Cristina Guidi, John Guidi, Mark Matis, Robert Mueller, Charles Spern, Steven Stover, Mark Woloshin; David Sias, David Wentworth

Government Mandatory Inspection Point Accept/Reject Data Collection Team
Gary Armey, Bill Becker, Todd Brandenburg, Russ DeLoach, Doug Lesho, Greg Lohning, Vera Murphy, Rick Parker, Robert Nagy, Bob Saulnier, Ken Strite, Don Wall

Gravity Probe B Mission Team
Peggy Cairns, Thomas Woodard, Ben Wolfe, Tracey Post, Christopher Rawlins, Angie Lawhead, Daniel Dvorak, Ted Jones, John Isella, Steve Jefferson, Dave Hendricks, Mark Hametz, Noel Sargent; Dawn Ackerman, Diana Alicea-Torres, Carlos Alvarado, Jon Bauschlicher, Omar Baez, Brian Beaver, John Bossart, Christopher Brecht, Jackie Brooks, Ezequiel Cadena, Steve Clarke, Dan Coon, John Demko, Tuan Doan, Chuck Dovale, Leonard Duncil, Tim Dunn, Kristie Durham, Tricia Fertig, Linda Foster, Tom Frattin, Steve Garcia, Armando Gonzalas, Rex Gray, George Haddad, Michael Hale, Wanda Harding, Derek Harris, Ed Henry, Jim Herndon, Richard Jenkins, Don Johnson, Dwayne Johnson, James Joyner, Anibal Karban, Charlene Laferriere, Mark Levesque, Lee Lorencz, Cheryl Malloy, Amanda Mitskevich, Tiffany Nail, Claire Neptune, Ed New, Gina O'Shaughnessy, Tom Palo, Bruce Reid, Tom Reinarts, Paul Rioux, Maryann Sarajian, Julie Schneringer, Adalberto Sierrra, Melissa Smith, Christopher Still, Denise Travers, Tina Treviranus, Martha Vreeland, Shelly Whittaker, James Wood, Nathan Wood, Bob Wyckoff, Isam Yunis

International Space Station Fiber Optic Inspection and Repair Team
Craig Baker, Mark Biesack, Gennaro Caliendo, Roger Cartier, David Crawford, David Fowler, Terri Holbert, Paul Kirkpatrick, Patricia Langwost, Carlos Marin, Luis Moctezuma, Kimberly Mrozek, Antonio Pego, Glenn Perez, Phillip Tang, Francis Villapando, David Beverly, Porter Clark; Tiffaney Alexander, William Bahr, Meredith Bell, Marty Hall, David Haysbrook, Michael Jandreau, Jeffrey Levitt, Carmen Moore, Bryan Onate, Hibah Rahmani, Amin Rezapour, Ernest Rodriguez, Gregory Smilek, George Smith, Theadius Toney, Jason Wornick, Willaim Weisenberger, Clinton Wylie

WANDA HARDING receives a NASA Certificate of Commendation from Astronaut Leroy Chiao (left) and Center Director Jim Kennedy.

International Space Station P4 and S4 Truss Fastener Team
Hector Borrero, Robert Breakfield, Roger Cartier, Joseph Dieu, Christopher Hill, Rachel Kamenetzky, Marc Latorre, Gregory Melton, Gerard Moscoso, Ricardo Rodriguez, Philip Stroda

J-BOSC and Cape Canaveral Spaceport Management Office Polychlorotrifluoroethylene Alert
Ramon Mejias, Juan Riquelme, William Roy; Joseph Babb, William Brennan, Henry Brown, William Deneute, Theodore Johnson, Tamela Kimmell-Hammond, James Lucas, Robert Sellers. Hemant Solanky, Winfred Verreen; James Cochran, James Morgan, Curtis Williams; Richard Campbell, Dennis Dudzinski, Weldon Dupriest, George Hauer, Thomas LaForge

Kennedy Space Center e-Payroll Implementation Team
Sheila Banister, Cheryl Shamp; Pamela Earls; Winnie Ross; Chris Parsons; Bryan Bookhart, Laurette Brown, Kathy Bryant, Robert Cannon, James Davis, Joe Detrano, Sandy Eastman, Beth Eldred, Kathleen Ellis, Becky Fasulo, Ed Gawronski, Sheree Gillard, Betty Godfrey, Julie Hallum, Jeanie Hoyle, Bill Hughes, Cindy Kirkpatrick, Margaret Miller, Mike Paraway, Debbie Preston, Patrick Smith, Maret Tennison, Laura Thayer; Earnestine Aaron, Judith Barnard, Katherine Bussey, Larry Church, Patricia Davis, Walter Harrington, Ann Heimlich, Roger MacMichael, Joseph Mitchell, Jesus Ortiz, Albert Owens, Daniel Parrell, Patricia Robinson, Debbie Stiggons, Lai Tran, Iris Zimmerman; Pete Clements; Rocky Grider, Richard Sartore; Susan Brown

Kennedy Space Center Logistics and Operations Storage Area Consolidation Team
Vic Cassela, Jr., Terry Doty, Calvin Dunn, Terrance Flanagan, Bruce Frenton, Jonathan Freire, Charlie Gould, Douglas Gray, Daryl Hicks, Barry Higdon, William McCune, Robert Miller, Donna Seward, Richard Skinner, David Thomas, Johnnie Witherington, Dale Young; Greg Bowman

Node 2 Traveled Work Systems Test Team
Ted Eckert, Vincent Lacourt; Donna Kornegay; Pablo Aguayo, Laura Bales, Steven Barry, Jeffrey Beyer, Timothy Bianchi, Mark Biesack, Mark Bonde, David Brink, David Bush, Juan Calero, Peter Chuley, Stephen Clanton, Daniel Clark, Porter Clark, Barry Connock, David Crawford, James Culver, Joseph DeLai, Thomas Eichenlaub, Allen England, Robert Franco, Polly Gardiner, Michael Gardner, Tracy Gill, Randall Gordon, David Guibeau, Michael Haddock, Terri Holbert, Gary Holt, Timothy Honeycutt, Joseph Hyppolite, Joanna Johnson, Dean Kunz, Patricia Langwost, Marc Latorre, Carlos Marin, Johnny Mathis, Donald McMahon, Ronald Morris, Adam Niev, Ross Nordeen, Dean Orr, Christine Pacariem, Lisa Pantano, Robert Parks, Antonio Pego, Glenn Perez, Richard Phillips, Gary Powers, Gerardo Rivera, Robert Ruiz, Renee Sawyer, William Scheafer, Jon Shoup, James Sledd, Michele Smith, Courtney Stern, David Stewart, Vanessa Stroh, Philip Tang, Walner Thervil, Myphi Tran, Jennifer Wahlberg, David Ward, Robert Wark, John Weeks, Thomas Yensco; Timothy Kennedy; Donny Lewis, Lawrence Martin; Rami Al-ayoubi, Ryan Alexander, Tiffaney Alexander, James Alter, Rusy Backer, William Bahr, Mitchell Baker, Brian Balzer, Steve Battle, Robert Bickley, Lisa Blue, Thomas Bonifacio, Ilario Boscolo, Carl Boyette, Clifton Burkett, Edward Burrill, Terrence Camarata, Leonard Caton, Michael Cisco, Terry Dewalt, Calvin Dunn, Tim Finkel, Michael Fletcher, Joseph Frakes, David Geers, Joseph Giaquinta, Richard Gillman, Cesar Gimenez, Truman Glasscock, Thomas Grant, David Griner, Martin Hall, Robert Hand, Erick Hanson, David Haysbrook, Dana Helvy, Jeff Howard, Diane Hufault, Luster Ingram, Kevin Jackson, Maria Jimenez, Gregory Kight, Alan Kinney, Frank Lafuente, Mark Lang, Dale Levey, Steve Lewis, Donald Lisi, Michael Lambardo, Nancy Lowry, Kevin Macquinn, G. Malucchi, I. Martin, William McDaniel, Roger McGehee, Robert Miller, Joseph Mounts, Harry Munch, Lindsay Nute, Eric Obleman, Charlene Ormsby, Lucy Orozco, Michael Panopoulos, Michael Peacock, Gary Pease, Louis Petcovic, Elizabeth Petersen, Andrew Petro, A. Piras, Jerrett Quasny, Hibah Rahmani, Jim Randolph, Emery Rebresh, Amin Rezapour, Bruce Riley, Ed Rivera, David Run, Jennifer Rutt, J. Ruttnike, Jorge Salazar, Robert Setterberg, Donald Stieler, Terrence Streich, Sean Thompson, Barry Tobias, Theadius Toney, Bradley Vaughn, Raf Vayda, Jeffrey Winluan, Dave Volkert, Elizabeth Yorkmike Steele; Christie Bertels, Roger Gomez, Mark Gray, Richard Justin, Blakely McCracken, Anthony Quandt

Operations and Checkout Building Consolidation Team
Jay Solomon; Lisa Biddle, Mikie Morgan; David Board, Lisa Brawn, Nancy Bray, Matthew Carroll, John Knight, Marian Poulin, Glenn Snyder; Patricia Bauer, Kelly Gjermo, Johnny Hovis, Jean McNair, Leslie Shinault, Curtis Wood; Terry Anderson, Kent Beringer, Gregory Bowman, Kathleen Brothers, Roger Carroll, Terry Doty, Calvin Dunn, Bruce Frenton, Johnathan Freire, Charles Gould, Douglas Gray, Daryl Hicks, Barry Higdon, Cassandra Holder, John Ippolito, David Kolb, David Kornegay, Robert Miller, Jackie Nichols, Donna Seward, Richard Skinner, Roy Tharpe, David Thomas, Dale Young, Johnnie Witherington,

OV-104 Main Propulsion System Tape Contamination Removal Team
Tamara Alexander, Adam Dokos, Bruce Hardman, James Niehoff, Doug Robertson, Michael Vinje; Marvin Banks, Alan Bunting; Tony Glass, Gerald Kathka

Payload Carriers Program Closeout Team
Julius Brown, Roger Carroll, Juan Delgado, Heather Dulude, Nate Jones, John Kelly, Tara Miller, Sam Loftin, Annette Miele, Joshua Panter, Cari Pyles, Alani Star, Becky Wilhelm; Terry Anderson, Kurt Bauer, Paula Black, Rachael Brackett, Rob Childers, Doug Cooley, Gerald Day, Debbie Gast, Wayne Hawk, Johnny Heberer, Jeff Herndon, Gary Inscho, Jim Kerrigan, Ron Kidd, Chuck King, David Kornegay, Alex Lukianov, Billy McMillan, Jerry Mergell, Denise Mullings, Craig Robinson, Jim Sanker, Jim Stephenson, Joe VanRiper, Marshall Wade, Steve Walden, John Yohn; Kevin Gill, Melanie Gurnavage; Jim Boland, Jerry Garrett, John Kerr, Johnny Hovis, Jeff Norgren, Glenn Richter, Dean Rothacher, Kelly Sorey, Mike Stites; Steven Bigos, Steven Cain, Matthew Carroll, Charles Davis, Ellen Dozier, Laura Govan, Andrew Haugevik, Maurice

(See AWARDS, Page 7)

AWARDS . . .

(Continued from Page 6)

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Personal Computer Ground Operations Port to Windows Team
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Public Service Group Achievement Awards

Electronic Signature System Team
John Combs, Keith Frisbee, Don Hedman, Tai Nguyen, Vashaun Prabhudial

Graphics Department
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J-BOSC Facilities Safety Committee Union Leadership Team
Alan Markham; Geroge Harrell, Ralph McKinney; William Dona, Kenneth Mitchell

J-BOSC Customer Service Continuous Improvement E-Log Team
James Capley, Kari Howe, Barbara Keeney, Richard Kowalchik, John O'Brien, Bret Sorensen, Leon Tucker, Barbara White, Christopher Zachar

J-BOSC Payroll Team
Joyce Duncan, Elizabeth Jackson, Kathleen Wydra

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KSC Service Awards
40 Years of Service
James Bean, Nancy Gunter, Gary Huber, James Jones, John Madura, Vincent Mandese, Enoch Moser, James Powers, Richard Sweet, Sidney Taylor, Gary Wistrand

Center Director's Gold Dollar ACE Award
Stanley Starr, James Fesmire

KSC Strategic Leadership Award
Jennifer Kunz

KSC Equal Opportunity Awards
Supervisory - Gregory Clements
Non-Supervisory - Dr. Felix Soto Toro

KSC Director's Award
Stephanie Stilson

VINCENT MANDESE (center) was recogized for 40 years of service to NASA by Center Director Jim Kennedy (right) and Astronaut Leroy Chiao.

NASA's multipurpose Mars mission successfully launches

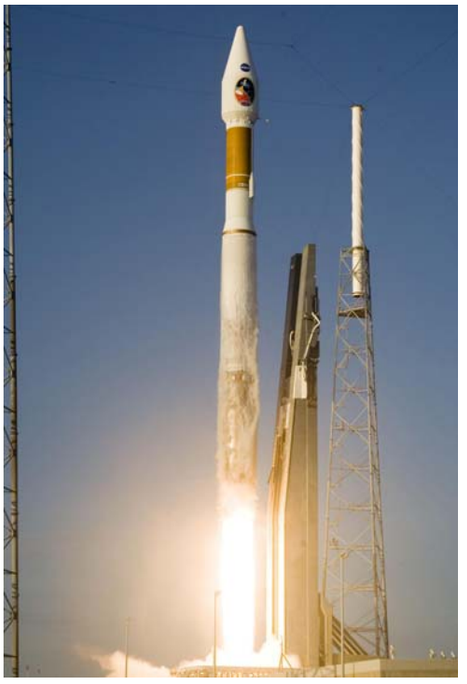
The seven-month flight to Mars began Aug. 12 for NASA's Mars Reconnaissance Orbiter (MRO), which will inspect the red planet in fine detail and assist future landers.

An Atlas V launch vehicle, 19 stories tall with the two-ton spacecraft on top, roared away from Launch Complex 41 at Cape Canaveral Air Force Station. Its powerful first stage consumed about 200 tons of fuel and oxygen in just over four minutes, then dropped away to let the upper stage finish the job of putting the spacecraft on a path toward Mars.

This was the first launch of an interplanetary mission on an Atlas V.

"We have a healthy spacecraft on its way to Mars and a lot of happy people who made this possible," said James Graf, project manager for MRO at NASA's Jet Propulsion Laboratory in Pasadena, Calif.

The Launch Services Program at the Kennedy Space Center is responsible for government engineering oversight of the Atlas V, spacecraft and launch vehicle integration, and launch day countdown management.



AN ATLAS V launch vehicle with the Mars Reconnaissance Orbiter on top, roars away from Launch Complex 41 at Cape Canaveral Air Force Station at 7:43 a.m. Aug. 12. The spacecraft will intercept the red planet on March 10, 2006.

The MRO established radio contact with controllers 61 minutes after launch and within four minutes of separation from the upper stage. Health and status information about the orbiter's subsystems were received through Uchinoura and the Goldstone, Calif., antenna station of NASA's Deep Space Network. The mission's main science phase is scheduled to begin in November 2006.

The mission is managed by JPL, a division of the California Institute of Technology, for the NASA Science Mission Directorate. For more information about MRO on the Web, visit: **http://www.nasa.gov/mro**.

GOES-N will upgrade weather forcasting

At press time, the GOES-N was scheduled to launch Aug. 16 from the Cape Canaveral Air Force Station. The Geostationary Operational Environmental Satellites (GOES) provide the kind of weather monitoring necessary for future data analysis.

Geostationary describes an orbit in which a satellite is always in the same position with respect to the rotating Earth. This allows GOES to hover continuously over one position on the Earth's surface. As a result, GOES, a cooperative program between NASA and the National Oceanic and Atmospheric Administration, provide a constant vigil for the atmospheric "triggers" for severe weather conditions such as tornadoes, hail storms, and hurricanes.

THE GOES-N satellite is encapsulated at Astrotech Space Operations in Titusville.

Fuel cell vehicles showcase space technology

Two Honda FCX hydrogen fuel cell powered automobiles help support the Center's pre-launch transportation needs. Many employees, including crew members of STS-114 and STS-121, drove the vehicles which performed flawlessly during the 21 days and 1,039 miles of use.

CENTER OPERATIONS Director Scott Kerr fills a fuel cell-powered Honda with hydrogen.

John F. Kennedy Space Center

Spaceport News

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

Contributions are welcome and should be submitted two weeks before publication to the Media Services Branch, IDI-011. E-mail submissions can be sent to Jeffery.Stuckey@ksc.nasa.gov

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Editorial support provided by InDyne, Inc. Writers Group.
NASA at KSC is located on the Internet at http://www.nasa.gov/centers/kennedy
USGPO: 733-049/60088