

The Shuttle Program

A Tribute in Pictures
Mission By Mission



Pictured Below: The launch of Discovery on STS-33, on Nov. 22, 1989 at 7:23 p.m. EST. Crewed by Frederick Gregory, Commander; John E. Blaha, Pilot; and Mission Specialists F. Story Musgrave, Manley (Sonny) L. Carter and Kathryn C. Thornton. STS-33 was the fifth mission for the U.S. Department of Defense and carried a classified payload.

On the Cover: Moving at a stately one mile per hour, the Crawler-Transporter carries Atlantis perched atop its mobile launch platform on its journey to Launch Pad 39A, visible on the horizon on Jan. 26, 2001. STS-98 launched on Feb. 7, 2001 and carried the Destiny Laboratory Module to the International Space Station.

“If this capsule history of our progress teaches us anything, it is that man, in his quest for knowledge and progress, is determined and cannot be deterred, the exploration of space will go ahead, whether we join in it or not, and it is one of the great adventures of all time, and no nation which expects to be the leader of other nations can expect to stay behind in the race for space.”

— President John F. Kennedy, 1962





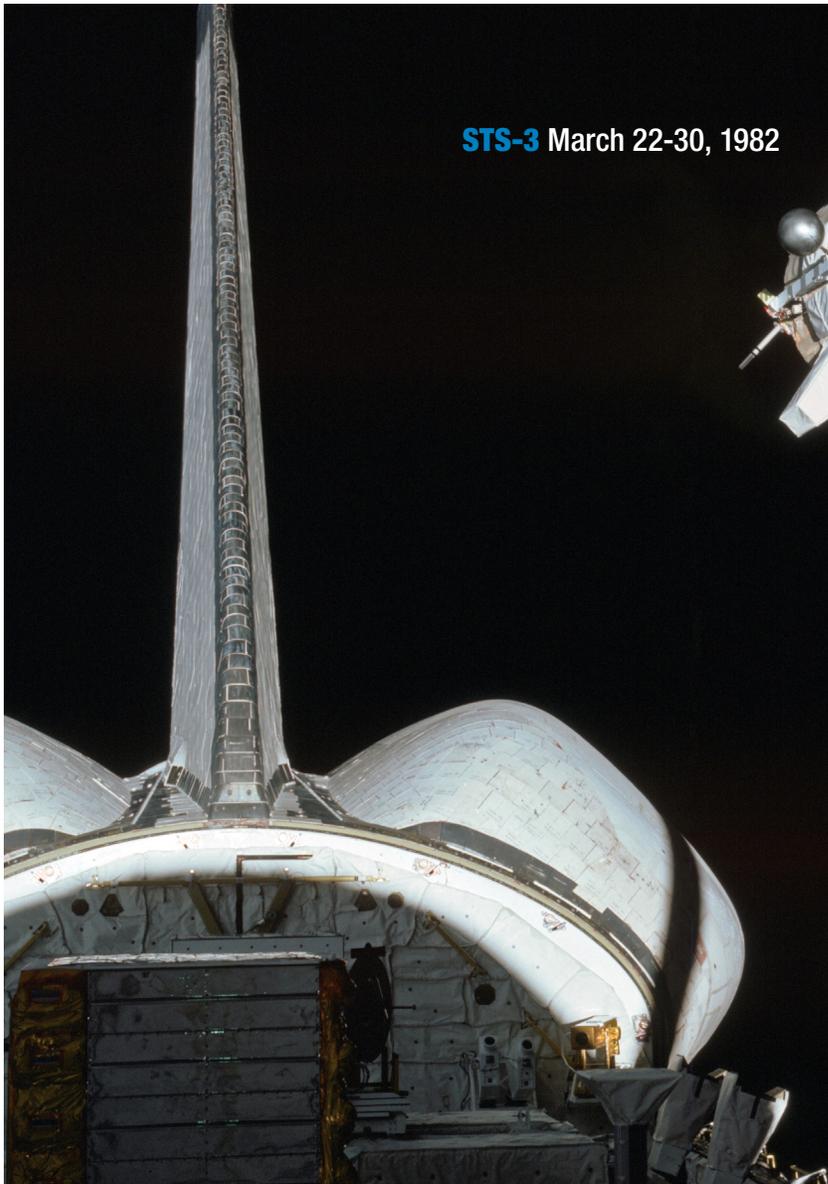
STS-1 April 12-14, 1981

1981



1982

1983



STS-3 March 22-30, 1982



STS-2 Nov. 12-14, 1981



STS-4 June 27-July 4, 1982



STS-5 Nov. 11-16, 1982

1981



1982



1983



STS-6 April 4-9, 1983



STS-7 June 18-24, 1983

1983



1984

1985

STS-8 Aug. 30-Sept. 5, 1983

**“Astronomy compels the soul
to look upward and leads us
from this world to another.”**

— Plato, 342 BC

1983



1984

1985

STS-41B Feb. 3-11, 1984



STS-9 (STS-41A) Nov. 28-Dec. 8, 1983



STS-41D Aug. 30-Sept. 5, 1984



STS-41C April 6-13, 1984



1983



1984



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STS-41G Oct. 5-13, 1984



STS-51A Nov. 8-16, 1984

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1985



1984

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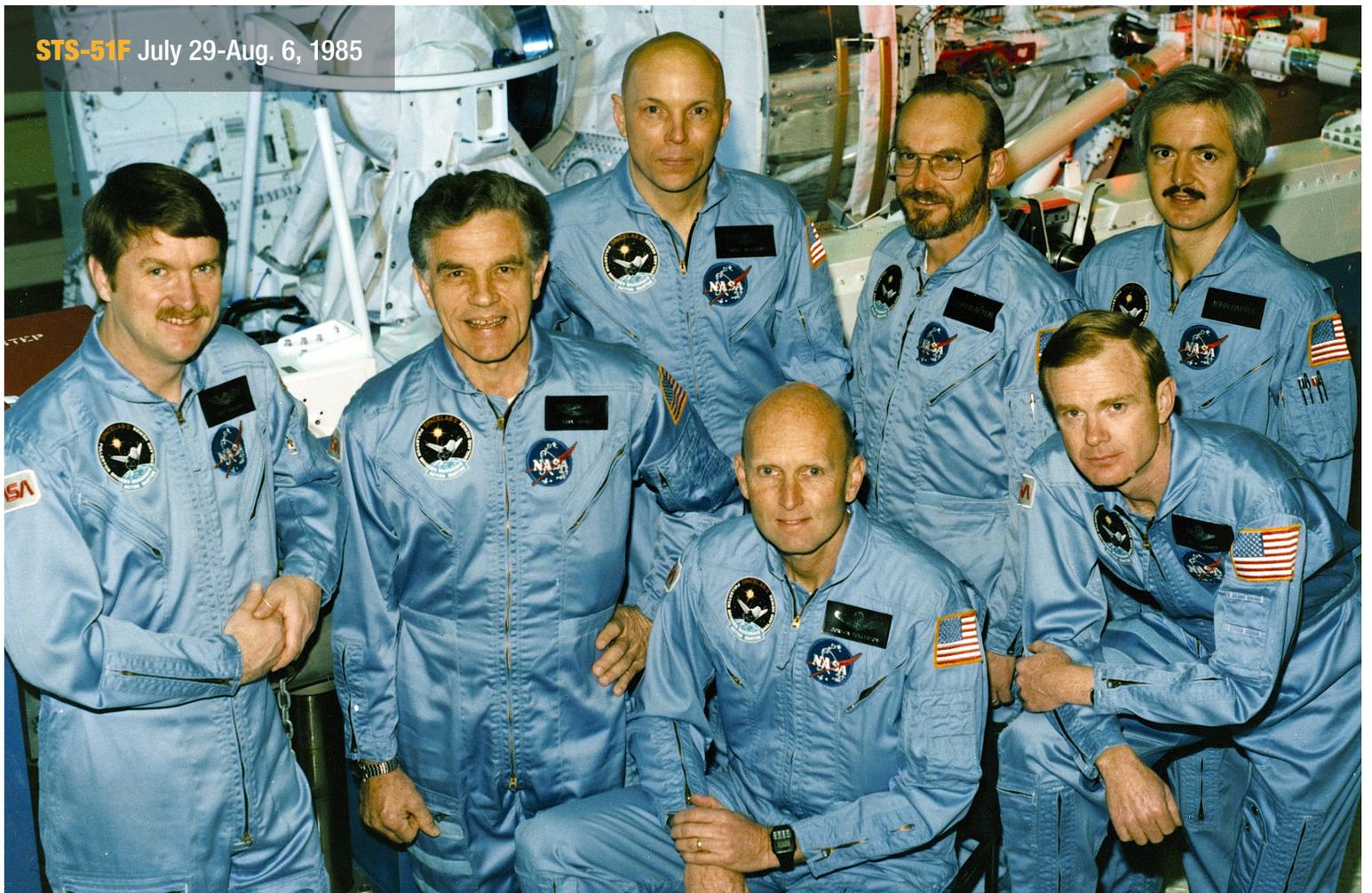
1986



STS-51G June 17-24, 1985



STS-51I Aug. 27-Sept. 3, 1985



STS-51F July 29-Aug. 6, 1985

1984

1985



1986



STS-61B Nov. 26-Dec. 3, 1985



STS-51J Oct. 3-7, 1985



STS-61A Oct. 30-Nov. 6, 1985

STS-61C Jan. 12-18, 1986



STS-51L Jan. 28, 1986

"Our nation is indeed fortunate that we can still draw on an immense reservoir of courage, character and fortitude, that we are still blessed with heroes like those of the Space Shuttle Challenger. Man will continue his conquest of space. To reach out for new goals and ever-greater achievements, that is the way we shall commemorate our seven Challenger heroes."
— President Ronald Reagan



1985

1986 ● ●

1987

“Earth is the cradle of
humanity, but one cannot
live in the cradle forever.”

— Konstantin Tsiolkovsky, 1895



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STS-30 May 4-8, 1989



STS-28 Aug. 8-13, 1989



STS-34 Oct. 18-23, 1989



1988

1989



1990

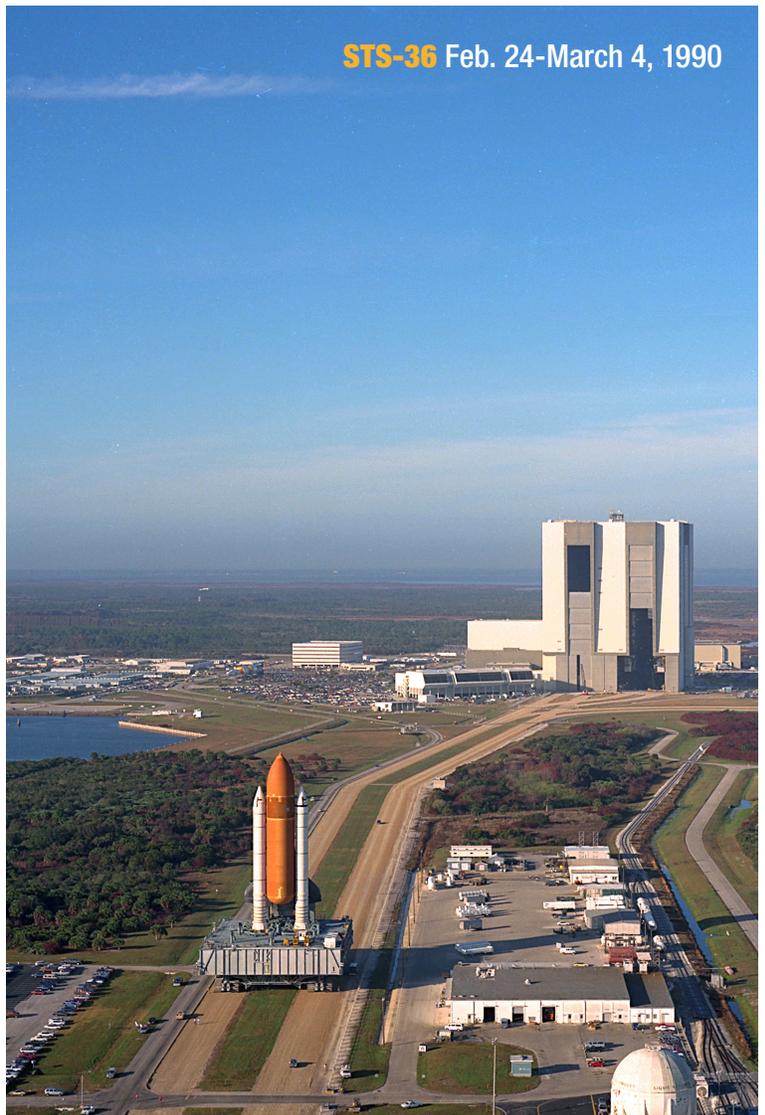
STS-33 Nov. 23-28, 1989



STS-32 Jan. 9-20, 1990



STS-36 Feb. 24-March 4, 1990



1989



1990



1991





STS-35 Dec. 2-10, 1990



STS-37 April 5-11, 1991



STS-39 April 28-May 6, 1991

1990

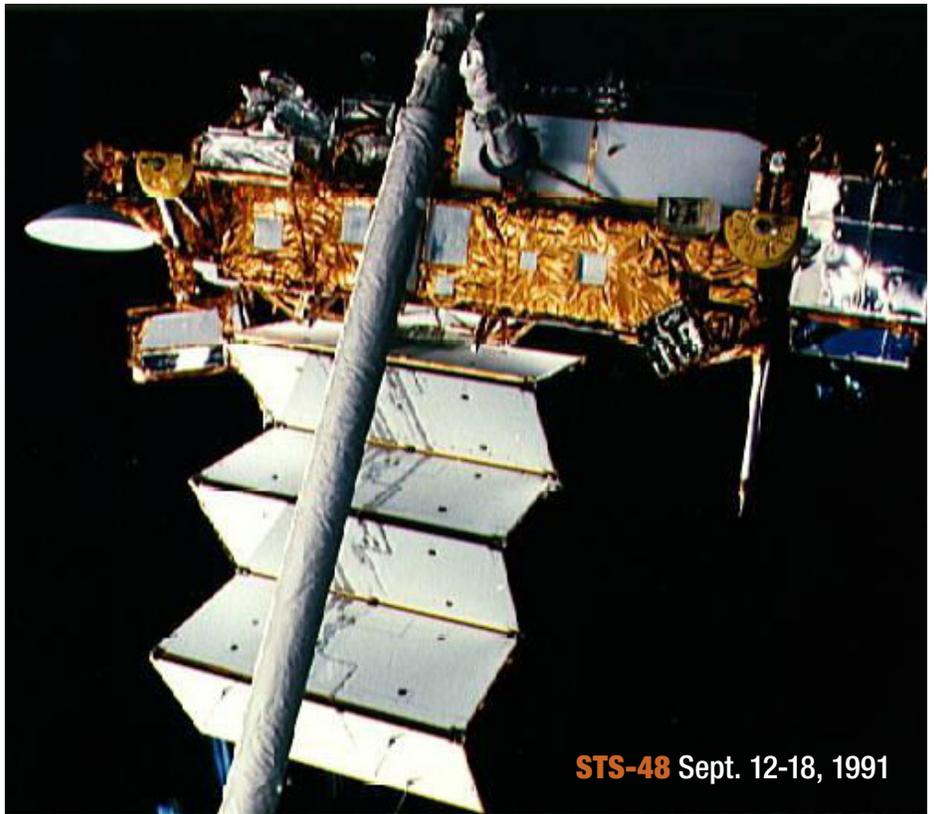
● 1991

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1992



STS-43 Aug. 2-11, 1991



STS-48 Sept. 12-18, 1991



STS-40 June 5-14, 1991



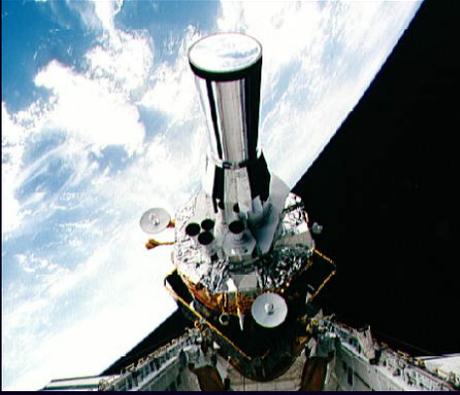
1990

1991



1992

STS-49 May 7-16, 1992



STS-44 Nov. 24-Dec. 1, 1991



STS-42 Jan. 22-30, 1992



STS-45 March 24-April 2, 1992



1991



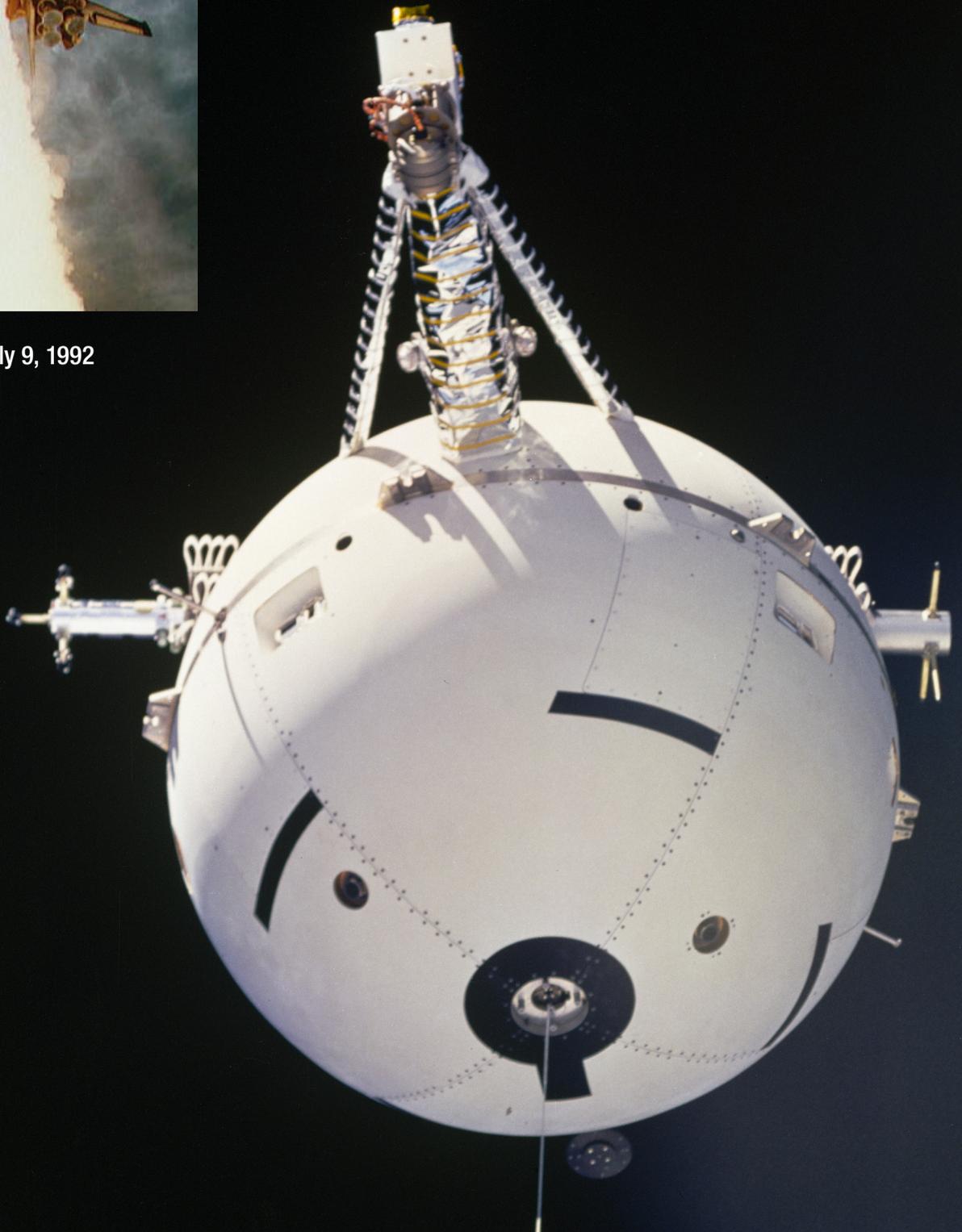
1992



1993



STS-50 June 25-July 9, 1992



1991

1992



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STS-47 Sept. 12-20, 1992



STS-52 Oct. 22-Nov. 1, 1992



STS-53 Dec. 2-9, 1992

1991

1992



1993



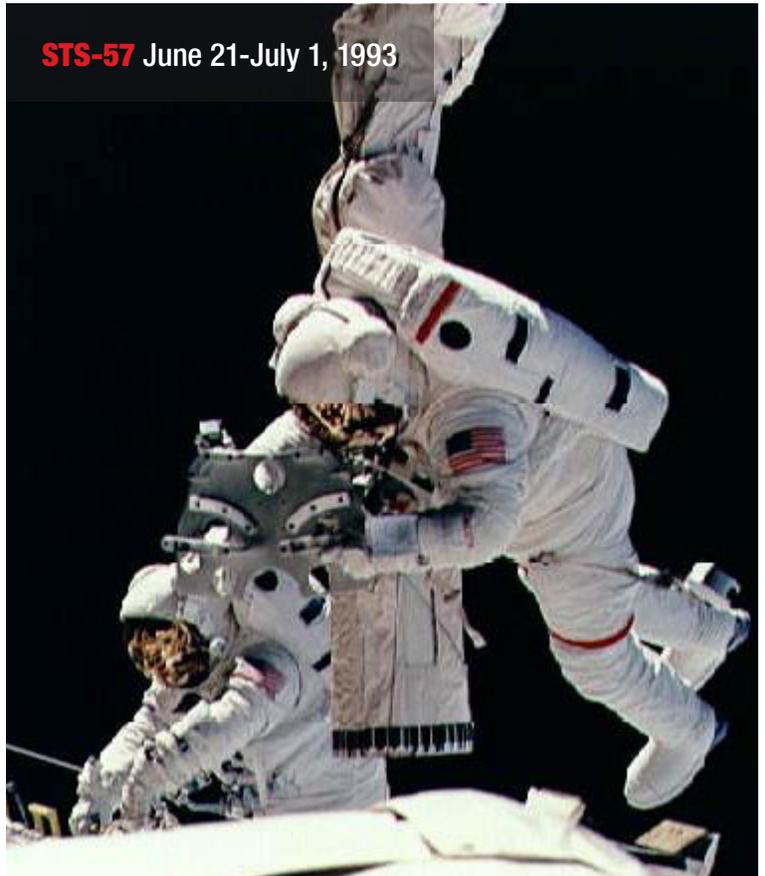
STS-54 Jan. 13-19, 1993



STS-55 April 26-May 6, 1993



STS-56 April 8-17, 1993



STS-57 June 21-July 1, 1993

1993



1994

1995

STS-58 Oct. 18-Nov. 1, 1993



STS-60 Feb. 3-11, 1994

STS-61 Dec. 2-13,



1993



1994

1995



STS-62 March 4-18, 1994



STS-59 April 9-20, 1994



STS-65 July 8-23, 1994

1993

1994



1995

“It is human nature to stretch,
to go, to see, to understand.
Exploration is not a choice,
really; it’s an imperative.”

— Michael Collins (Gemini 10, Apollo 11)

STS-64 Sept. 9-20, 1994

1993

1994



1995

STS-68 Sept. 30-Oct. 11, 1994



STS-66 Nov. 3-14, 1994

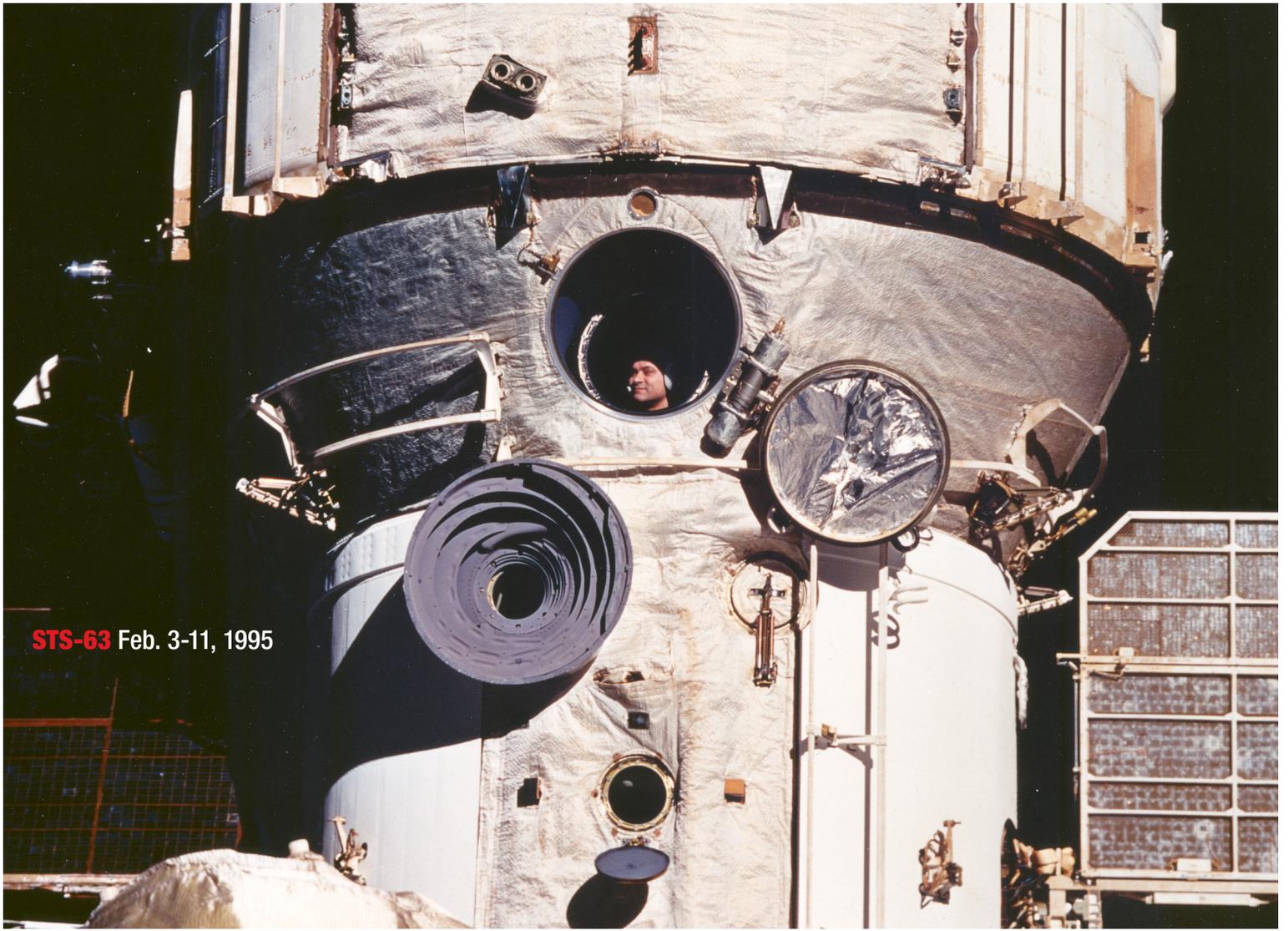


1993

1994



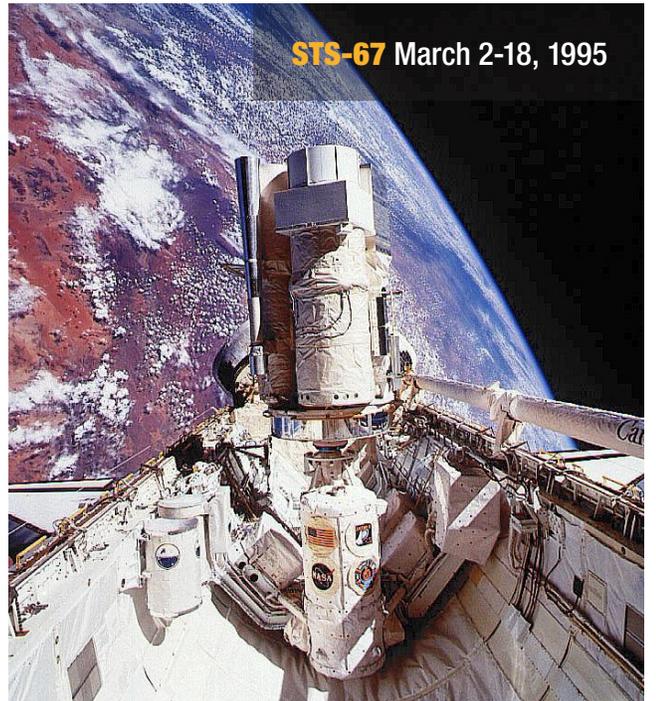
1995



STS-63 Feb. 3-11, 1995



STS-71 June 27-July 7, 1995



STS-67 March 2-18, 1995

1994

1995



1996

STS-69 Sept. 7-18, 1995



STS-70 July 13-22, 1995



1994

1995



1996

STS-73 Oct. 20-Nov. 5, 1995



1994

1995

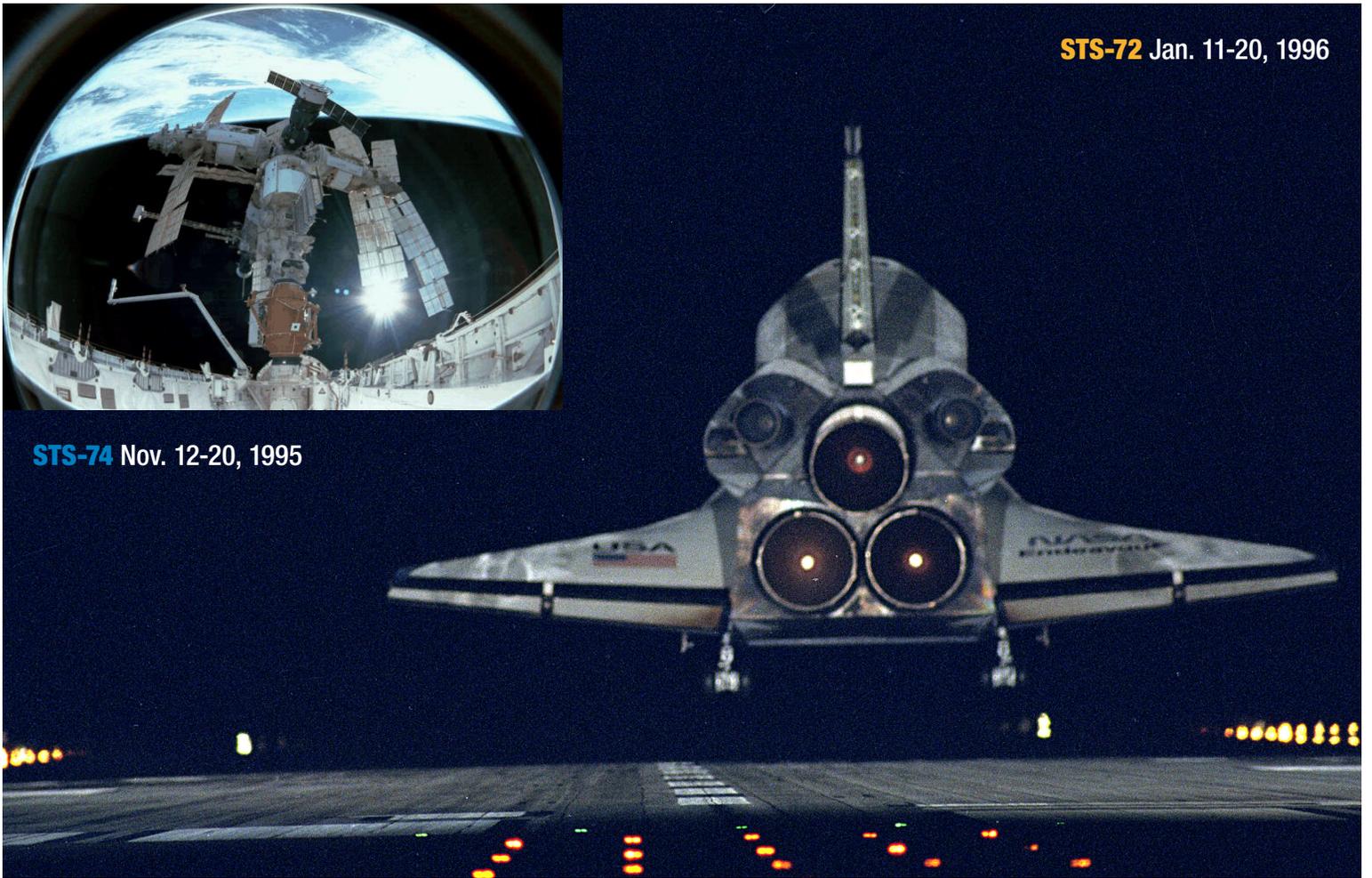


1996



STS-74 Nov. 12-20, 1995

STS-72 Jan. 11-20, 1996



STS-75 Feb. 22-March 9, 1996

1995

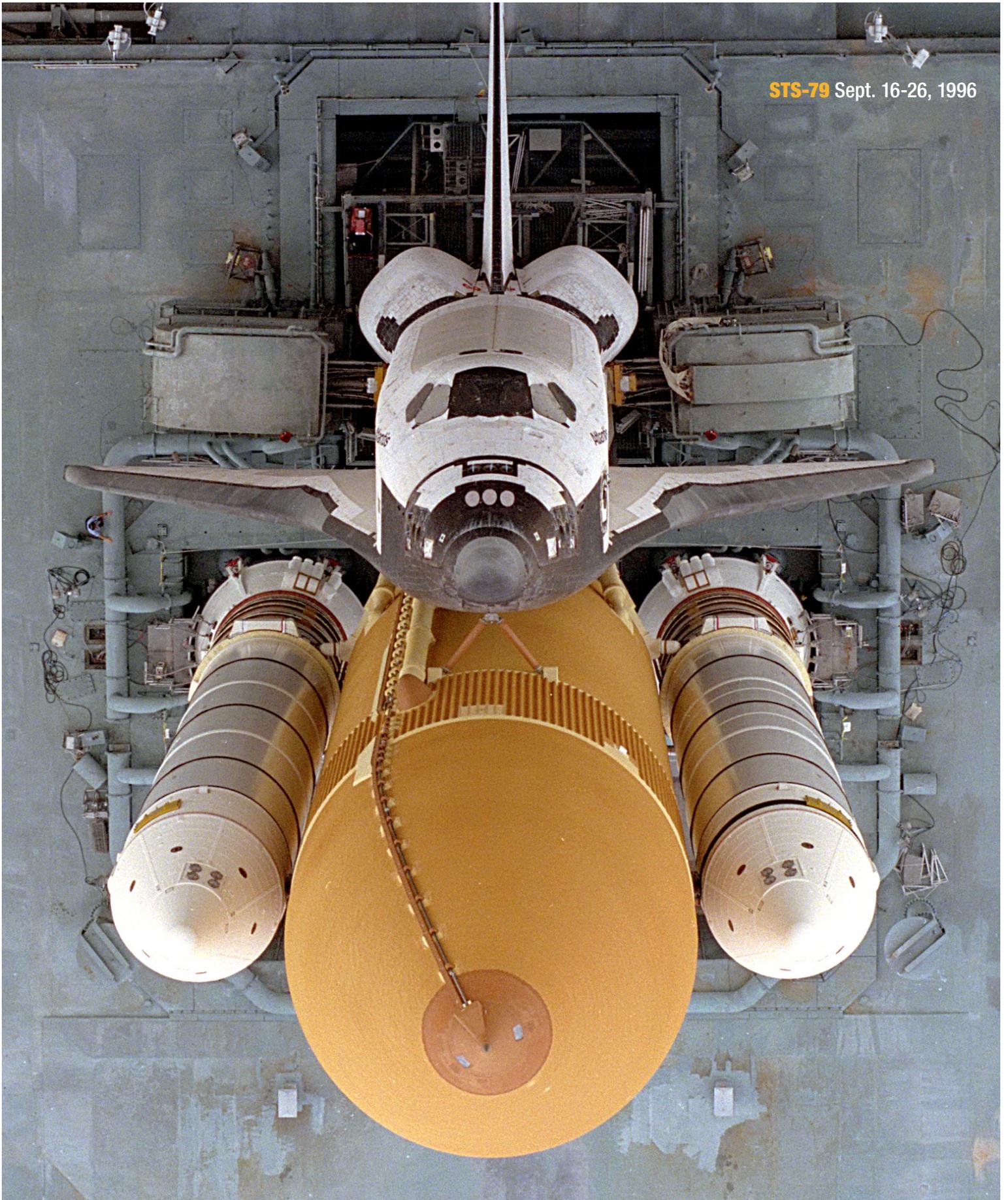


1996



1997

STS-79 Sept. 16-26, 1996



1995

1996



1997



STS-82 Feb. 11-21, 1997



STS-83 April 4-8, 1997

STS-84 May 15-24, 1997



STS-85 Aug. 7-19, 1997



STS-94 July 1-17, 1997

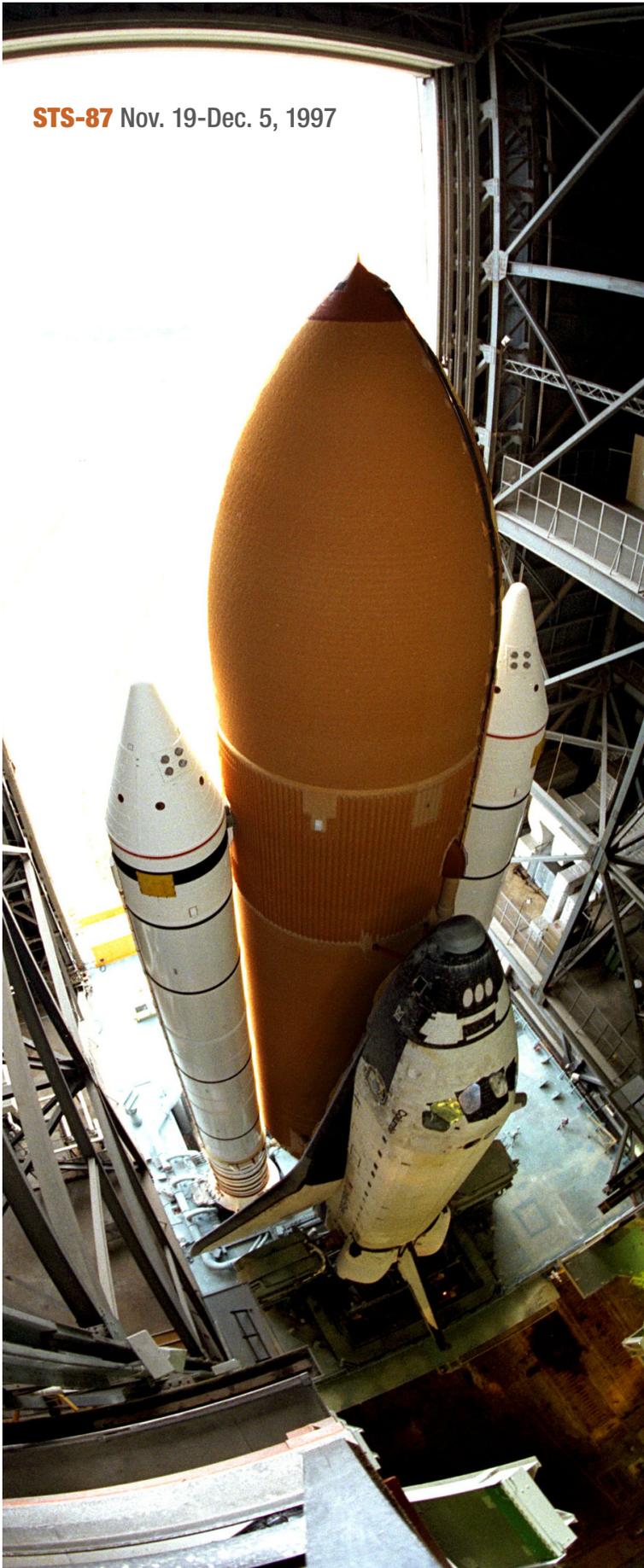
1996

1997



1998

STS-87 Nov. 19-Dec. 5, 1997



STS-89 Jan. 22-31, 1998



STS-86 Sept. 25-Oct. 6, 1997



STS-90 April 17-May 3, 1998

1997



1998

1999

STS-91 June 2-12, 1998



STS-88 Dec. 4-15, 1998



STS-95 Oct. 29-Nov. 7, 1998



1997

1998



1999

STS-93 July 23-27, 1999



STS-96 May 27-June 6, 1999



1998

1999



2000

STS-103 Dec. 19-27, 1999



1998

1999

● 2000

STS-99 Feb. 11-22, 2000



STS-101 May 19-29, 2000



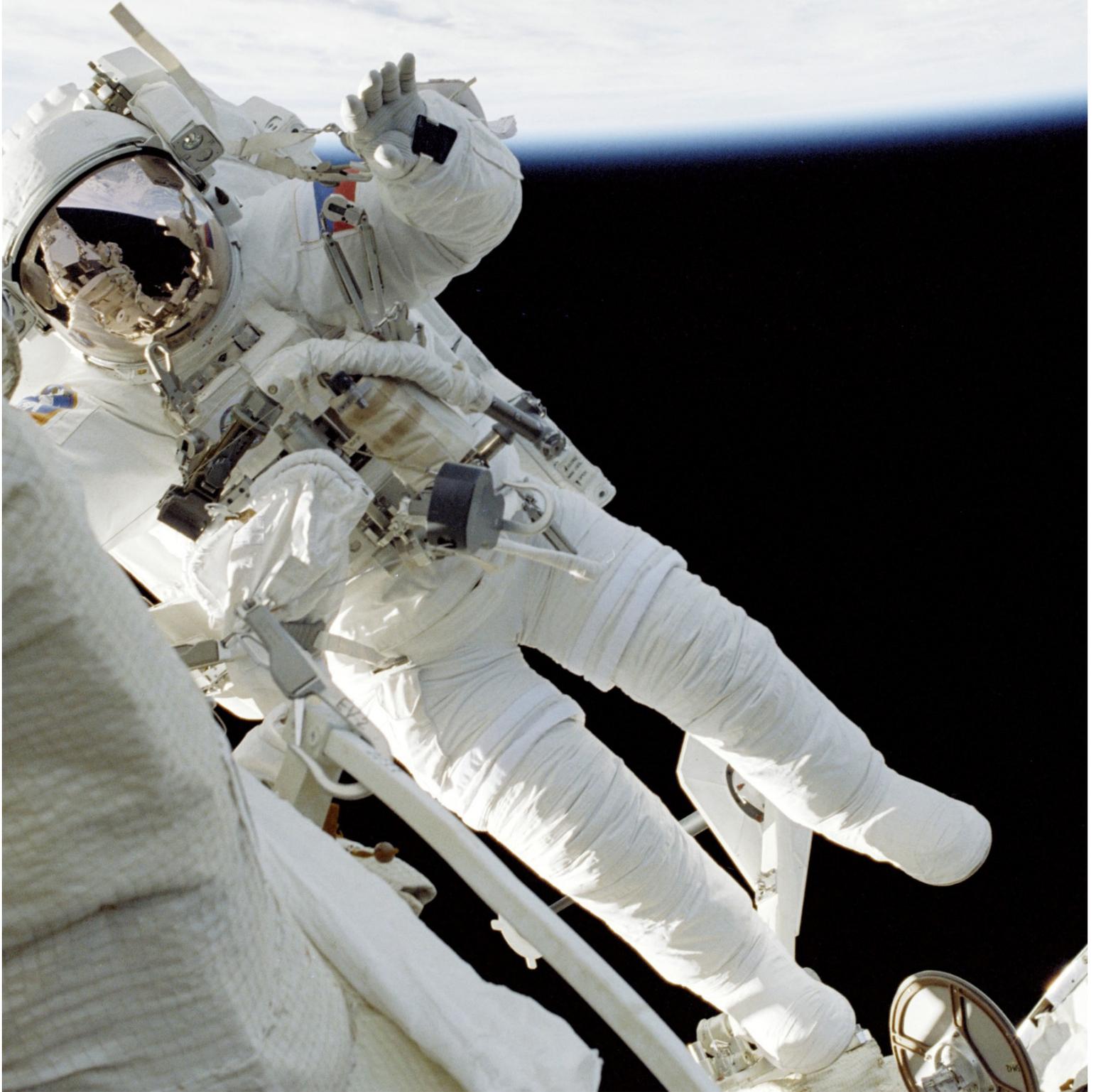
1999

2000



2001

STS-106 Sept. 8-19, 2000



1999

2000



2001



1999

2000



2001

STS-98 Feb. 7-20, 2001



STS-97 Nov. 30-Dec. 11, 2000

2000

● 2001 ●

2002



STS-100 April 19-May 1, 2001



STS-102 March 8-21, 2001



STS-104 July 12-24, 2001

2000

2001

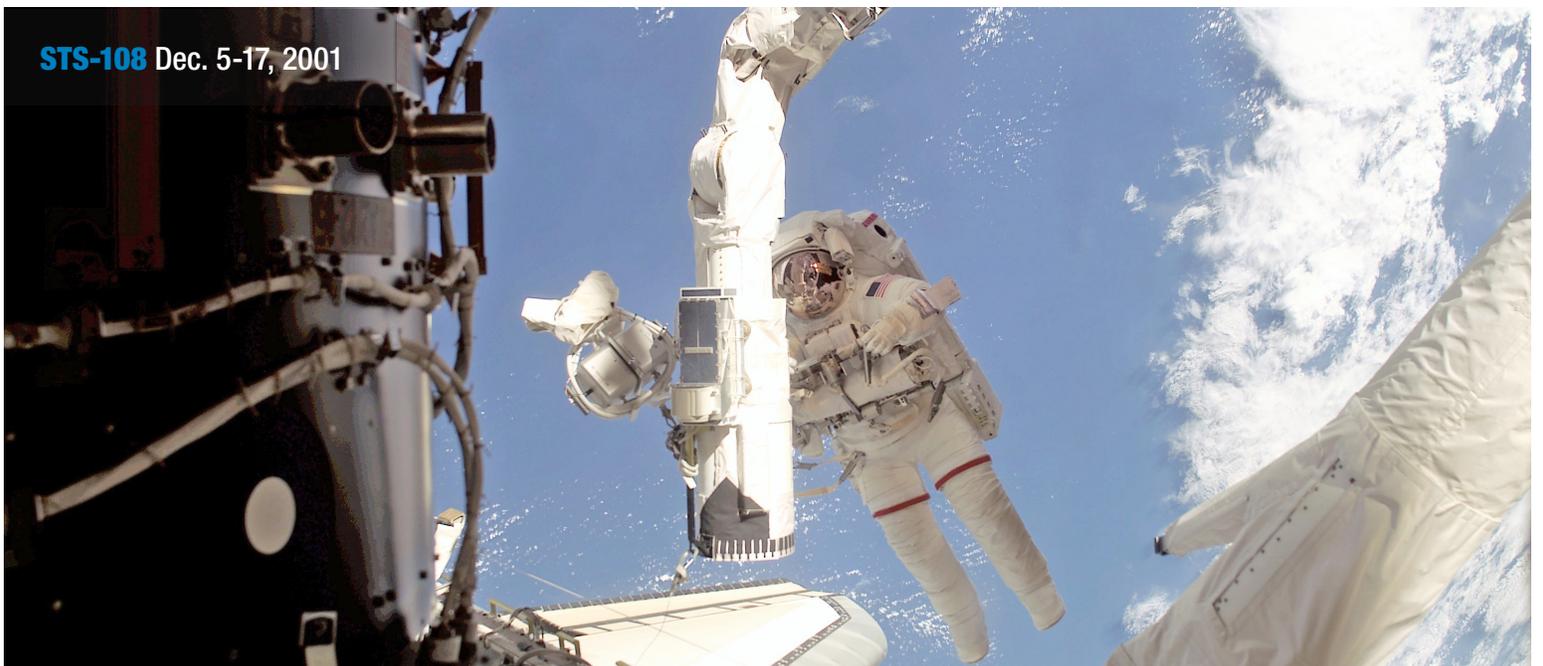


2002

STS-105 Aug. 10-22, 2001



STS-108 Dec. 5-17, 2001



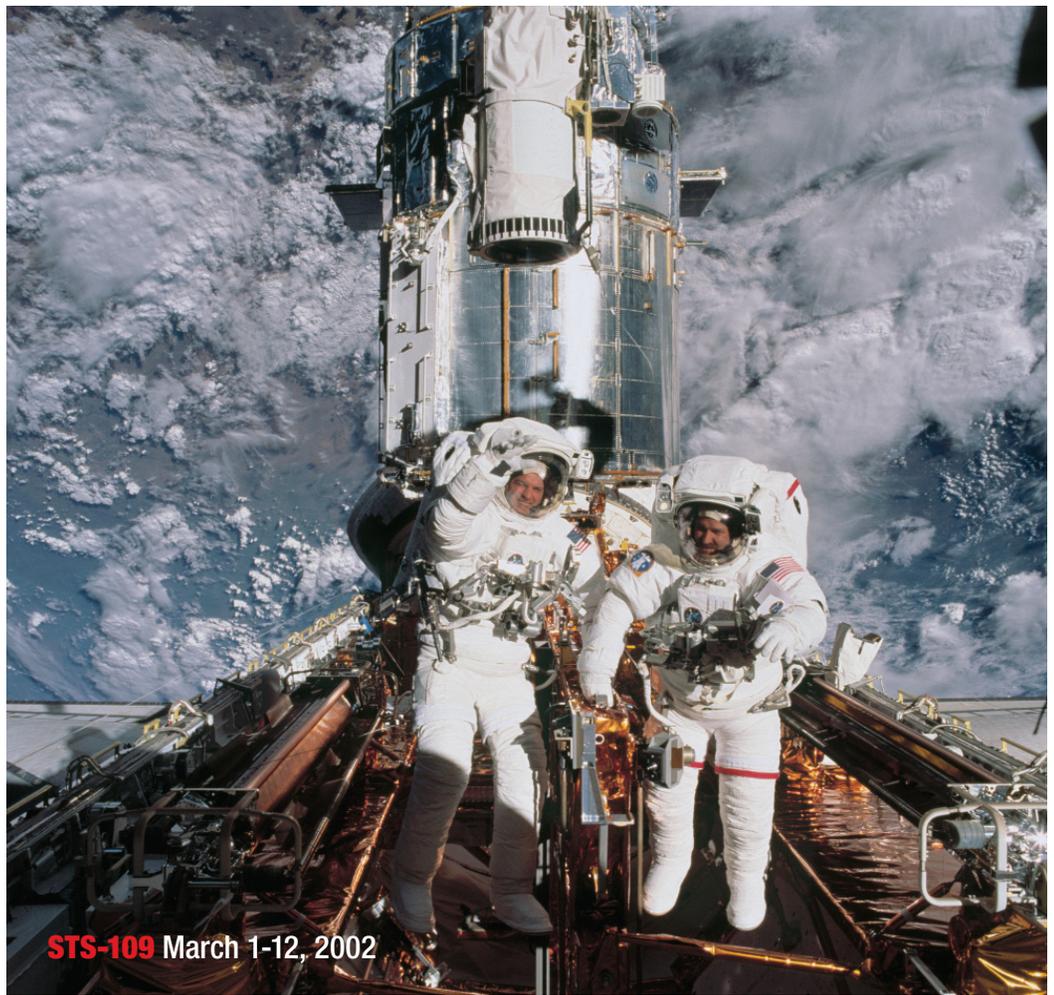
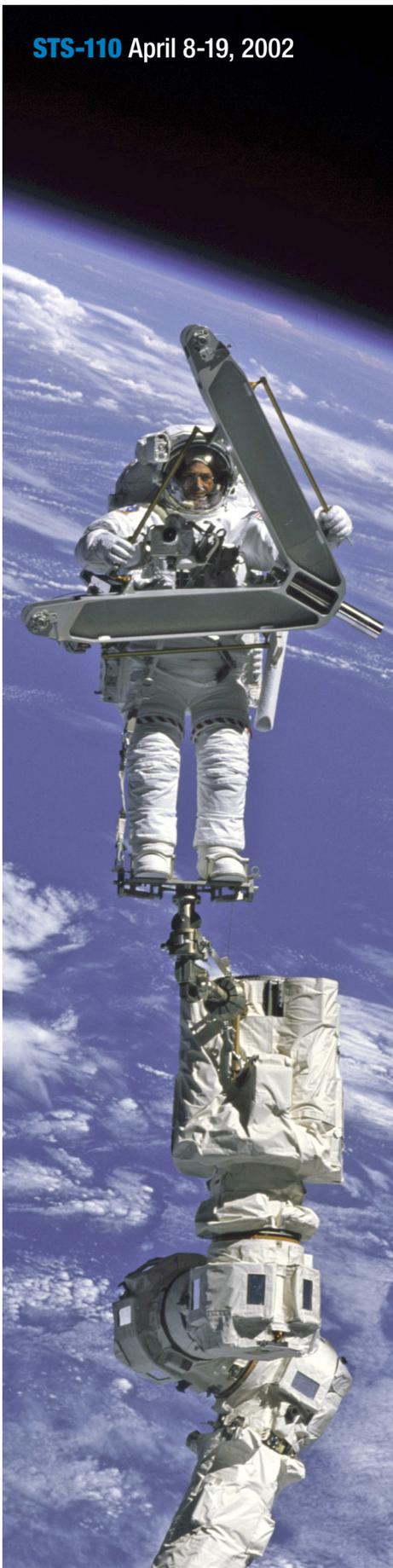
2000

2001



2002

STS-110 April 8-19, 2002



STS-109 March 1-12, 2002



STS-111 June 5-19, 2002

2001

2002



2003

STS-112 Oct. 7-18, 2002



STS-113 Nov. 24-Dec. 7, 2002



2001

2002



2003

STS-107 Jan. 16-Feb. 1, 2003

“Mankind is led into the darkness beyond our world by the inspiration of discovery and the longing to understand. Our journey into space will go on.”

— President George W. Bush



STS-114 July 26-Aug. 9, 2005

2003



2004

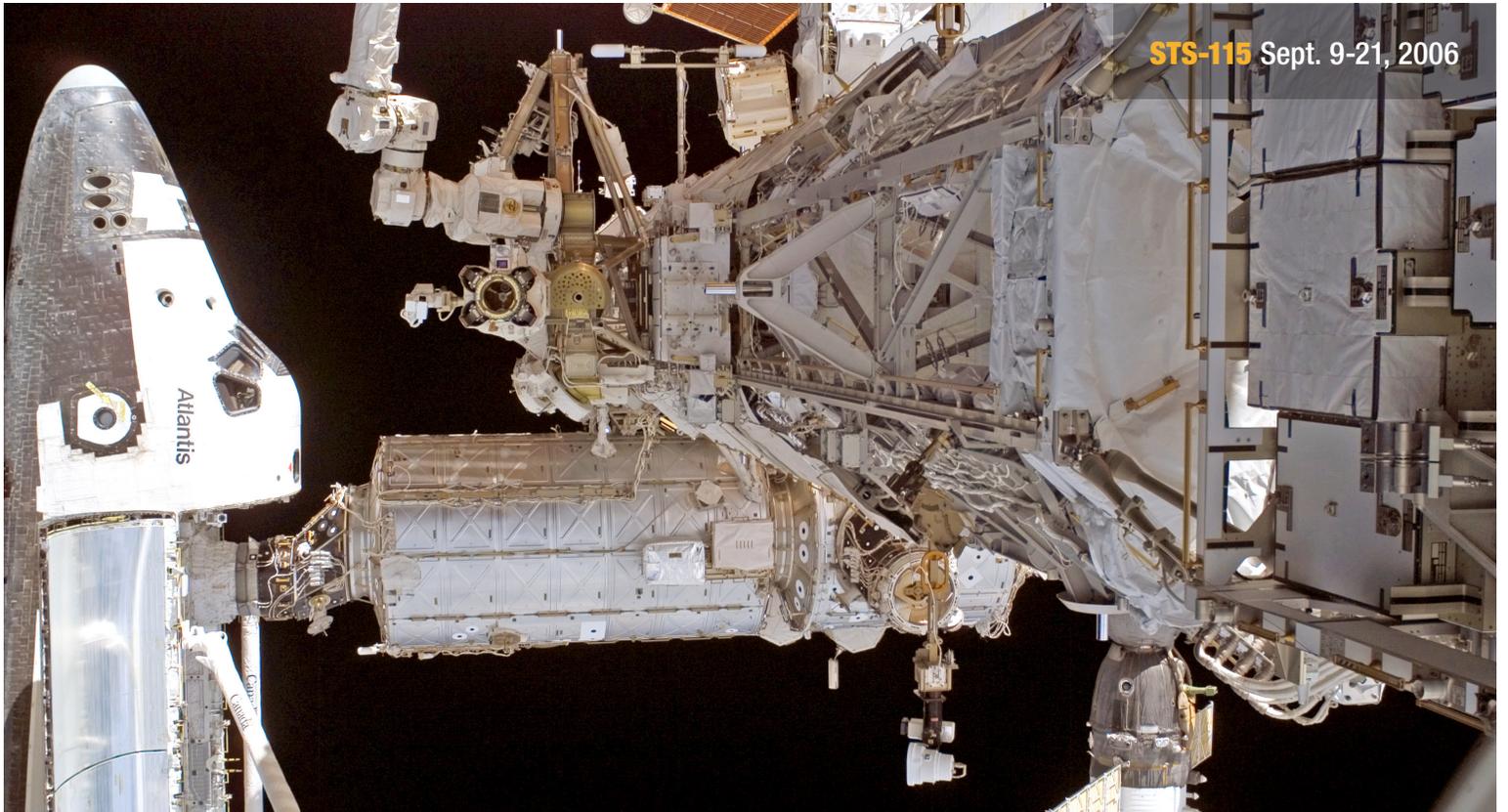
2005



STS-121 July 4-17, 2006



STS-115 Sept. 9-21, 2006



2005

2006



2007

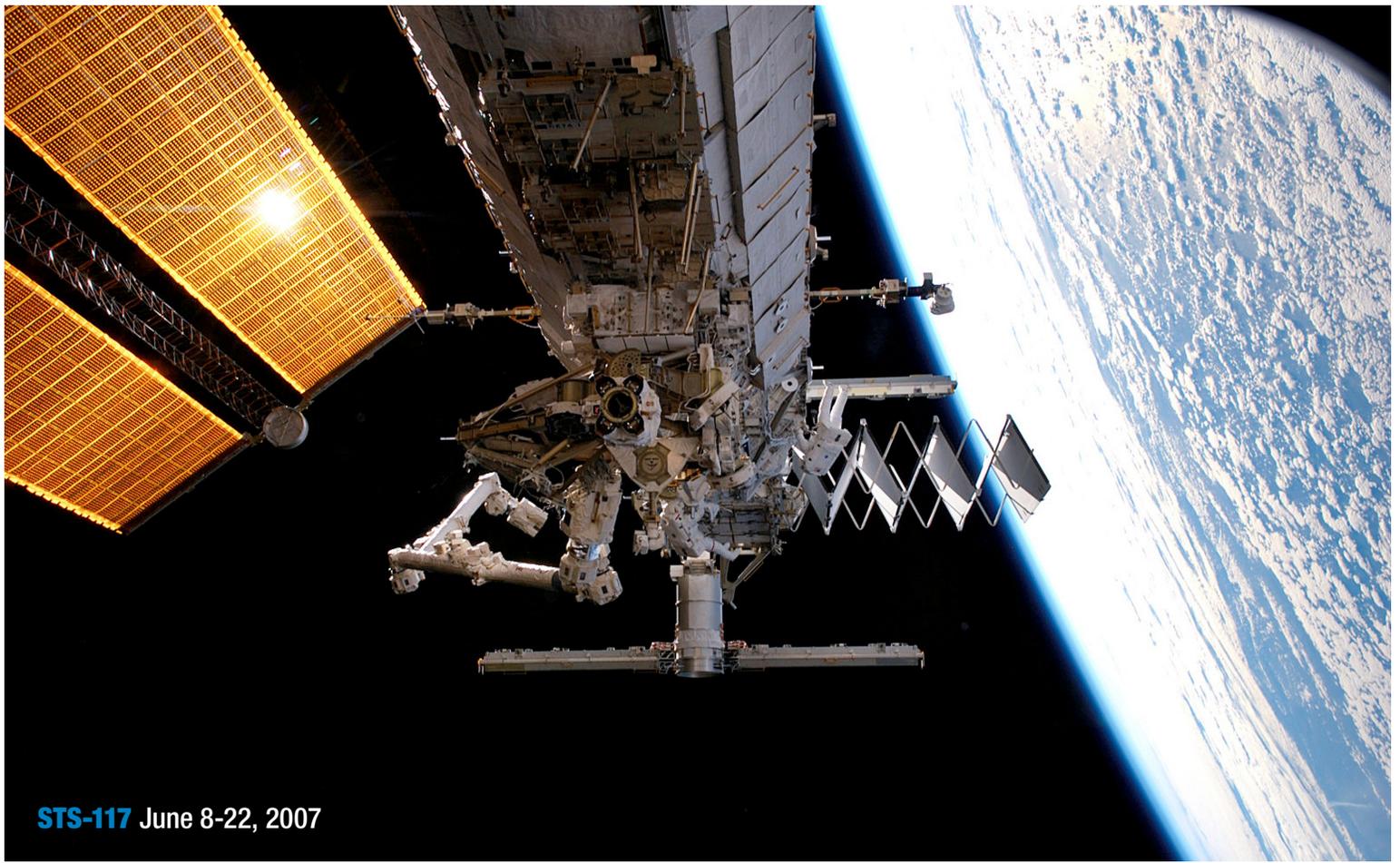


STS-116 Dec. 9-22, 2006

2005

2006

● 2007



STS-117 June 8-22, 2007



STS-118 Aug. 8-21, 2007

2006

2007



2008

STS-120 Oct. 23-Nov. 7, 2007



“Do not go where the path
may lead, go instead
where there is no path
and leave a trail.”

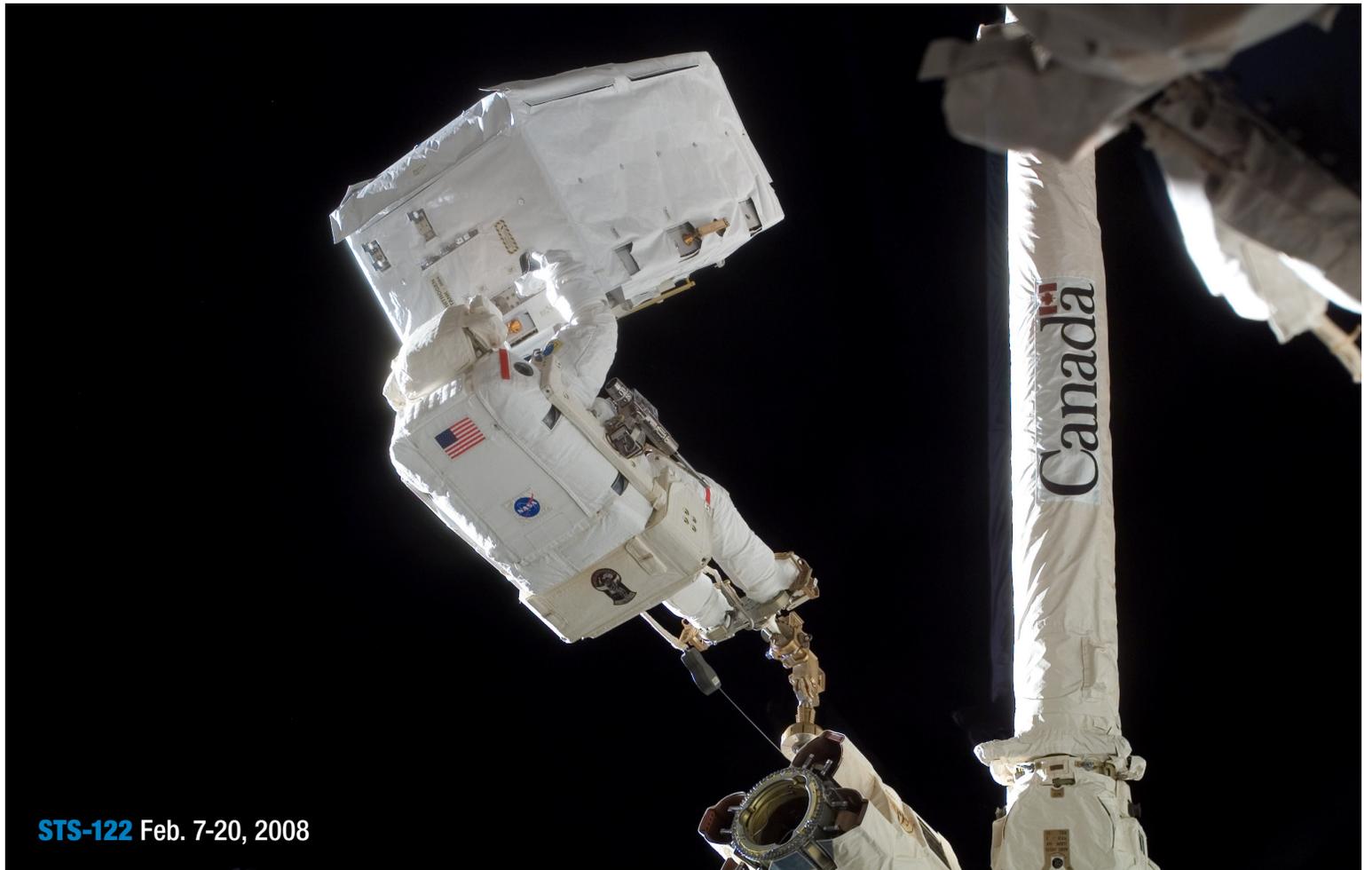
— Ralph Waldo Emerson

2006

2007



2008



STS-122 Feb. 7-20, 2008



STS-123 March 11-26, 2008

2007

2008



2009



STS-124 May 31-June 14, 2008

2007

2008



2009

STS-119 March 15-28, 2009



STS-126 Nov. 14-30, 2008

2008



2009

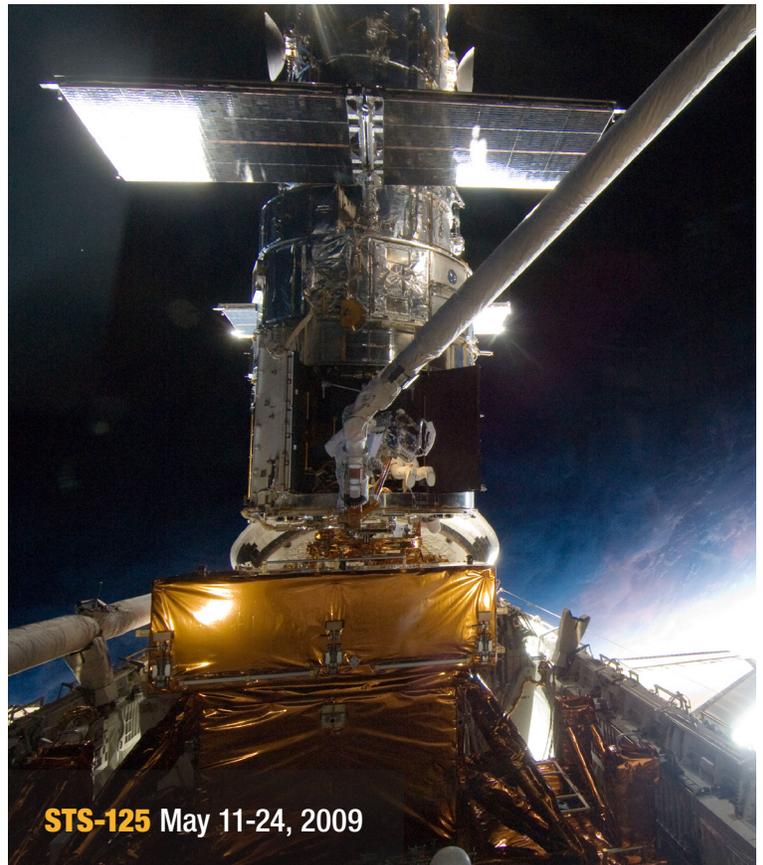
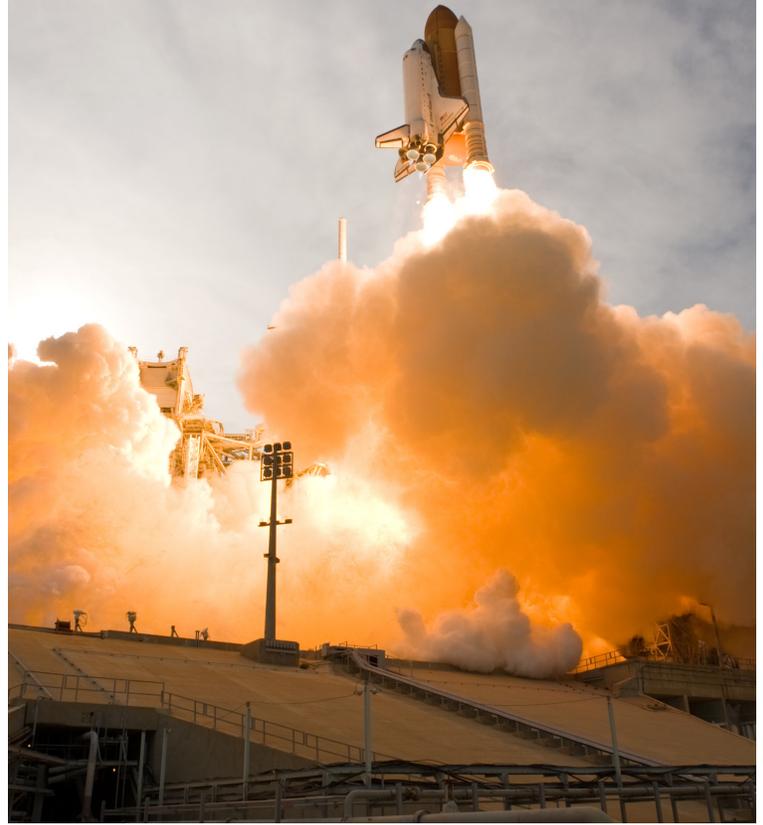


2010

STS-128 Aug. 28-Sept. 11, 2009



STS-127 July 15-31, 2009



STS-125 May 11-24, 2009

2008

2009

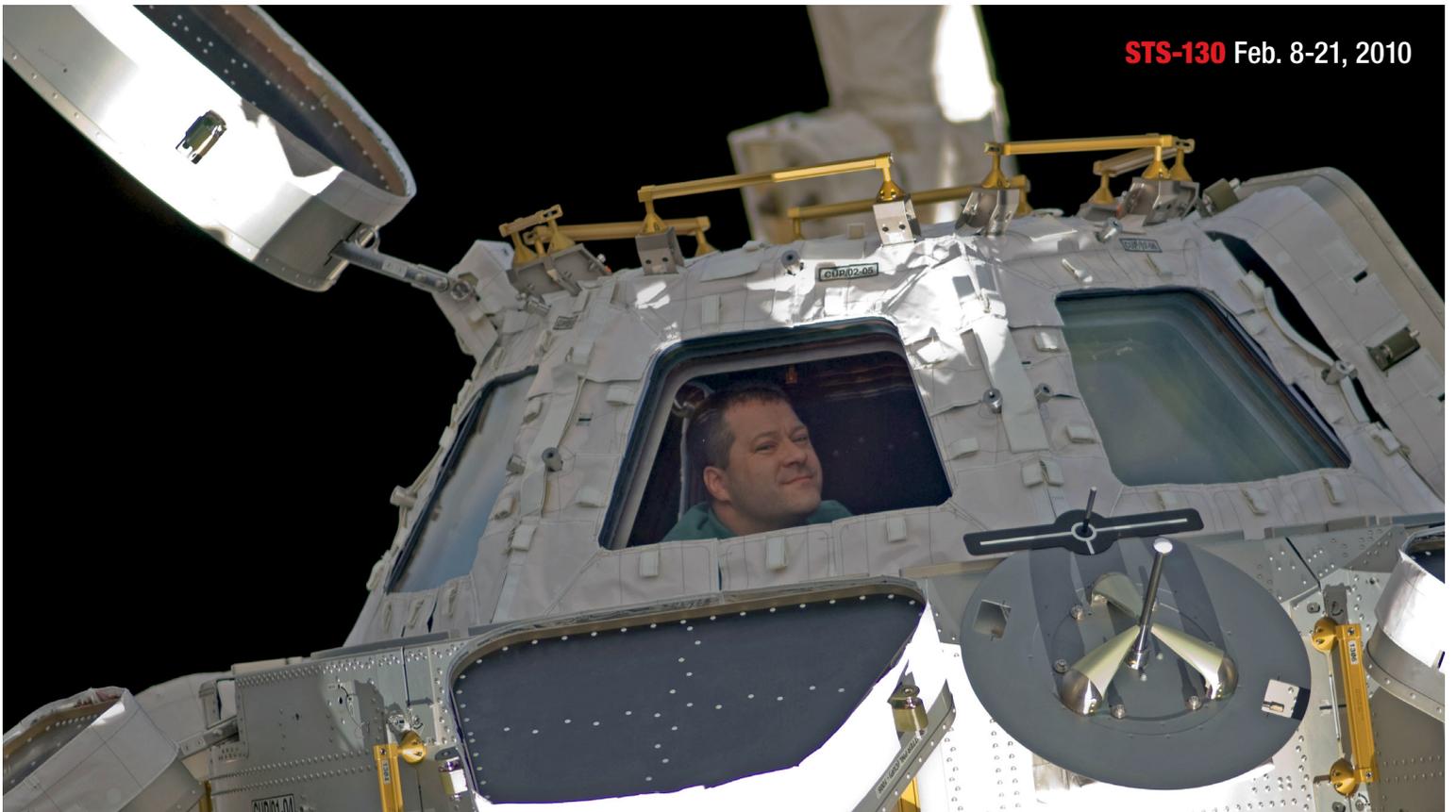


2010

STS-129 Nov. 16-27, 2009



STS-130 Feb. 8-21, 2010



2009



2010



2011



STS-131 April 5-20, 2010



STS-132 May 14-26, 2010

2009

2010



2011

STS-133 Feb. 24- March 9, 2011



STS-134 May 16-June 1, 2011



STS-135 July 8-21, 2011



2010

2011



2012

Mission Summaries

1981

STS-1 • April 12-14, 1981

Pictured: Astronauts John W. Young (left), commander, and Robert L. Crippen, pilot, log time in the orbiter Columbia in the Orbiter Processing Facility at the Kennedy Space Center. The inaugural shuttle mission launched on April 12. It was the first U.S. manned space flight since the Apollo-Soyuz Test Project in July 15, 1975, and the beginning of a 30-year program. Columbia landed on April 14 at Edwards Air Force Base in California.

STS-2 • Nov. 12-14, 1981

Pictured: Marking the first time a manned reusable orbital spacecraft returned to space, Columbia's second mission launched on Nov. 12. Commanded by Joe H. Engle and piloted by Richard H. Truly, it was also the last time NASA flew a rookie crew and the external fuel tank was painted white. Columbia landed on Nov. 14 at Edwards Air Force Base.

1982

STS-3 • March 22-30, 1982

Columbia's third mission launched on March 22. Crewed by Jack R. Lousma, commander, and Charles G. Fullerton, pilot, the flight objectives included testing the Remote Manipulator System or Canadarm (pictured) with the grappling of the Plasma Diagnostics Package. This mission also debuted the shuttle's unpainted tank (orange) and a test canister for the Small Self-Contained Payload program known as the Getaway Special or GAS can. STS-3 was the only shuttle mission to land at Northrup Strip, later renamed White Sands Space Harbor in New Mexico, on March 30.

STS-4 • June 27-July 4, 1982

Pictured: Gene Kranz, flight director, at his console in the Mission Operations Control Room at Johnson Space Center during STS-4. The fourth mission for Columbia was the last research and development flight in the program. Launched on June 27, its cargo included nine scientific experiments from the University of Utah and a classified payload for the U.S. Air Force. The crew, Commander T. Kenneth Mattingly Jr. and Pilot Henry W. Hartsfield, was met by President and Mrs. Reagan at Edwards Air Force Base, on July 4.

STS-5 • Nov. 11-16, 1982

Launched on Nov. 11, STS-5 was the program's first operational mission and carried its largest crew, four astronauts, up to that time — Vance D. Brand, commander; Robert F. Overmyer, pilot; and Mission Specialists Joseph P. Allen and William B. Lenoir. The mission objectives included the deployment of two communication satellites. Columbia landed at Edwards Air Force Base, on Nov. 16.

1983

STS-6 • April 4-9, 1983

Pictured: The flight controllers pay rapt attention as Mission Specialists F. Story Musgrave and Donald H. Peterson conduct the program's first spacewalk (4 hours, 17 minutes). STS-6 launched on April 4 and was commanded by Paul J. Wietz and piloted by Karol J. Bobko. It was the first flight for Challenger. The mission concluded on April 9 when it landed at Edwards Air Force Base.

STS-7 • June 18-24, 1983

Launched on June 18, Challenger carried five astronauts and marked the first space flight of an American woman. Crewed by Robert L. Crippen, commander; Frederick H. Hauck, pilot; and Mission Specialists Sally K. Ride, John M. Fabian and Norman E. Thagard, the mission's objectives included the deployment of two communications satellites and the Shuttle Pallet Satellite (SPAS-1). Pictured: Sally Ride monitors control panels from the pilot's chair on the Challenger flight deck during STS-7. Challenger landed at Edwards Air Force Base on June 24.

STS-8 • Aug. 30-Sept. 5, 1983

Pictured: An electrical storm and driving rain preceded the first night launch of a shuttle mission on Aug. 30 and the first spaceflight of a black astronaut. Challenger's five man crew included Richard H. Truly, commander; Daniel C. Brandenstein, pilot; and Mission Specialists Dale A. Gardner, Guion S. Bluford Jr. and William E. Thornton. During the mission the INSAT-1B satellite was deployed and 54 planned mission test objectives were completed. Challenger made the first night landing in space shuttle history at Edwards Airforce Base on Sept. 5.

STS-9 (STS-41A) • Nov. 28-Dec. 8, 1983

Also known as Spacelab 1, STS-9 was Columbia's sixth mission. The Spacelab 1 mission's objectives included 72 scientific experiments and required a crew of six: John W. Young, commander; Brewster H. Shaw Jr., pilot; Mission Specialists Owen K. Garriott and Robert A. Parker, and Payload Specialists Ulf Merbold of the European Space Agency and Byron K. Lichtenberg. Launched on Nov. 28, the mission was so successful it was extended one day and landed on Dec. 8 at Edwards Air Force Base.

1984

STS-41B • Feb 3-11, 1984

Launched on Feb. 3, 1984, Challenger's fourth flight was commanded by Vance D. Brand, piloted by Robert L. Gibson and crewed by Mission Specialists Bruce McCandless II, Ronald E. McNair and Robert L. Stewart. McCandless and Stewart performed the program's first untethered spacewalk with the Manned Maneuvering Unit, a nitrogen jet-propelled backpack. McCandless free-flew to a distance of 320 feet from the

orbiter. The mission concluded on Feb 11, with the shuttle programs first landing at Kennedy Space Center.

STS-41C • April 6-13, 1984

Challenger's fifth flight, the first direct ascent trajectory for a shuttle mission, launched on April 6, 1984. Crewed by Robert L. Crippen, commander; Francis R. Scobee, pilot; and Mission Specialists George D. Nelson, James D.A. van Hoften and Terry J. Hart, the shuttle reached the 288 nautical mile-high orbit required to deploy the Long Duration Exposure Facility (a 21,300-pound payload). Challenger's orbit was raised to approximately 300 nautical miles for the capture, repair and redeployment of the Solar Maximum Satellite. Highlights of the mission were filmed using an IMAX movie camera, which later appeared in the IMAX movie "The Dream is Alive." Challenger landed on April 13 at Edwards Air Force Base.

STS-41D • Aug. 30-Sept. 5, 1984

The 12th mission of the Space Shuttle Program marked the debut of Discovery. Its initial launch attempt in June resulted in an abort at T-4 seconds, the first time since Gemini 6A that a manned spacecraft experienced a shutdown of its main engines immediately prior to launch. Crewed by Henry Hartsfield Jr., commander; Michael Coats, pilot; Mission Specialists Richard M. Mullane, Steven A. Hawley and Judy A. Resnik; and Payload Specialist Charles Walker, the first commercially sponsored astronaut, Discovery launched on Aug. 30 and landed on Sept. 5 at Edwards Air Force Base.

STS-41G • Oct. 5-13, 1984

Astronaut Kathryn Sullivan gazes at the Earth through Challenger's forward windows. The first shuttle mission to carry a crew of seven, STS-41G launched on Oct. 5. Crewed by Robert L. Crippen, commander; Jon A. McBride, pilot; Mission Specialists Kathryn D. Sullivan, Sally K. Ride and David C. Leestma, and Payload Specialists Marc Garneau of the Canadian Space Agency and Paul D. Scully-Power, the mission's objectives included the deployment of Earth Radiation Budget Satellite and the demonstration of the Orbital Refueling System by Sullivan and Leestma during a spacewalk. Sullivan's spacewalk was also a first for an American woman. A malfunction caused by a Soviet Terra-3 low-power laser tracking system led to a U.S. diplomatic protest. Challenger landed on Oct. 13 at Kennedy Space Center.

STS-51A • Nov. 8-16, 1984

During Discovery's second flight, launched on Nov. 8, another "first" was achieved — the deployment of two communications satellites and the retrieval of two others through the use of manned maneuvering units. Pictured: Astronaut Gardner holds up a "For Sale" sign after capturing the satellites. Crewed by Frederick H. Hauck, commander; David M. Walker, pilot; and Mission Specialists Anna L. Fisher, Dale A. Gardner and Joseph P. Allen, the mission's landing at Kennedy Space Center was also filmed for the IMAX documentary "The Dream is Alive." Discovery landed at Kennedy Space Center on Nov. 16.

1985

STS-51C • Jan. 24-27, 1985

Launched on Jan. 24, 1985, STS-51C was the 15th flight of a space shuttle and the third flight for Discovery. It was commanded by T. Kenneth Mattingly Jr., piloted by Loren J. Shriver and its crew included Mission Specialists Ellison S. Onizuka and James F. Buchli, and Payload Specialists Gary Payton of the Manned Spaceflight Engineer Program. It was also the first mission dedicated to the U.S. Department of Defense, and marked the 100th human spaceflight to achieve orbit. Discovery landed at Kennedy Space Center on Jan. 27.

STS-51D • April 12-19, 1985

The fourth flight of Discovery, STS-51D, was launched on April 12. Commanded by Karol J. Bobko and piloted by Donald E. Williams, its primary objective was to deploy the Telesat-I (Anik C-1) and the SYNCOM IV (LEASAT). Pictured: The antenna for the SYNCOM IV can be seen near the center of the frame. Discovery was crewed by Mission Specialists M. Rhea Seddon, Jeffrey A. Hoffman and S. David Griggs; and Payload Specialists Charles D. Walker and U.S. Senator Jake Garn. The mission concluded on April 19, when Discovery touched down at Kennedy Space Center.

STS-51B • April 29-May 6, 1985

The crew assigned to the STS-51B mission included (seated left to right) Robert F. Overmyer, commander; and Frederick D. Gregory, pilot. Standing left to right, are Don L. Lind, mission specialist; Taylor G. Wang, payload specialist; Norman E. Thagard, mission specialist; William E. Thornton, mission specialist; and Lodewijk van den Berg, payload specialist. STS-51B was launched aboard Challenger on April 29, 1985. Its primary payload was Spacelab-3. Challenger landed on May 6 at Edwards Air Force Base.

STS-51G • June 17-24, 1985

The crew assigned to STS-51G included Commander Daniel C. Brandenstein, Pilot John O. Creighton, Mission Specialists Shannon W. Lucid, John M. Fabian, Steven R. Nagel and Payload Specialists Patrick Baudry and Sultan Salman Al-Saud. Pictured: The Arabsat communications satellite is deployed from Discovery's payload bay. Discovery lifted off on June 17 and accomplished its primary objective of deploying three communications satellites before landing at Edwards Air Force Base on June 24.

STS-51F • July 29-Aug. 6, 1985

STS-51F was launched aboard Challenger on July 29. The crew assigned to the mission included (kneeling left to right) Gordon Fullerton, commander; and Roy D. Bridges, pilot. Standing, left to right, are Mission Specialists Anthony W. England, Karl G. Henize and F. Story Musgrave; and Payload Specialists Loren W. Acton and John-David F. Bartoe. Its primary objective was to verify performance of Spacelab systems, determine the interface capability of the orbiter and measure the environment created by the spacecraft. The mission was

accomplished despite the program's first abort-to-orbit engine failure. Challenger landed at Edwards Air Force Base on Aug. 6.

STS-51I • Aug. 27- Sept. 3, 1985

Discovery's 20th mission was launched on Aug. 27. The five-man STS-51I crew included Joe H. Engle, commander; Richard O. Covey, pilot; and Mission Specialists James van Hoften, John M. Lounge and William F. Fisher. The primary objective was to deploy three commercial communications satellites and retrieve and repair SYNCOM IV-3, which was deployed during the STS 51D mission. Pictured: Astronaut van Hoften standing on a foot restraint/extension to the remote manipulator arm, gives a shove to the repaired Syncom IV-3. Discovery landed on Sept. 3 at Edwards Air Force Base.

STS-51J • Oct. 3-7, 1985

STS-51J was the first mission to use the space shuttle Atlantis. It was launched on Oct. 3 with a crew that included Commander Karol J. Bobko, Pilot Ronald G. Grabe, Mission Specialists David C. Hilmers and Robert L. Stewart and Payload Specialist William A. Pailles. STS-51J was the second mission totally dedicated to the U.S. Department of Defense and landed on Oct. 7 at Edwards Air Force Base.

STS-61A • Oct. 30-Nov. 6, 1985

The 22nd space shuttle mission was launched aboard Challenger on Oct. 30. It was the first mission to be largely financed by another nation (West Germany) and was also the only flight to launch with a crew of eight. The mission was commanded by Henry W. Hartsfield and piloted by Steven R. Nagel. Its crew included Mission Specialists Bonnie J. Dunbar, James F. Buchli and Guion S. Bluford; and Payload Specialists Reinhard Furrer and Ernst Messerschmid of the German Aerospace Center and Wubbo Ockels of the European Space Agency. Its primary objective was to complete a series of experiments, almost all of which were related to functions in microgravity. Challenger landed on Nov. 6 at Edwards Air Force Base.

STS-61B • Nov. 26-Dec. 3, 1985

Pictured: Anchored to the foot restraint on the Remote Manipulator System (RMS), astronaut Jerry L. Ross approaches the tower-like Assembly Concept for Construction of Erectable Space Structures (ACCESS) device. The second mission for Atlantis was launched on Nov. 26 with a primary objective of deploying three communications satellites and demonstrating construction techniques to build structures in orbit. Commanded by Brewster H. Shaw Jr. and piloted by Bryan D. O'Connor, the mission was crewed by Mission Specialists Mary L. Cleave, Jerry L. Ross and Sherwood C. Spring; and Payload Specialists Rodolfo Neri Vela (Mexico) and Charles D. Walker. Atlantis landed on Dec. 3 at Edwards Air Force Base.

1986

STS-61C • Jan. 12-18, 1986

Pictured: Columbia launches in the early morning from Launch Pad 39-A to start the STS-61C mission on Jan. 12, 1986. It was the first

time Columbia had flown since STS-9, after having undergone major modifications. Commanded by Robert L. Gibson and piloted by Charles F. Bolden Jr., STS-61C's primary objective was to deploy the KU-1 Satellite. Columbia's crew included Mission Specialists Franklin R. Chang-Diaz, Steven A. Hawley and George D. Nelson; and Payload Specialists Robert Cenker and U.S. Representative Bill Nelson of Florida, the second congressman to fly in space. The mission concluded on Jan. 18 with Columbia's landing at Edwards Air Force Base.

STS-51L • Jan. 28, 1986

The crew of Challenger in their official crew portrait. Top left to right: Mission Specialist Ellison S. Onizuka, Payload Specialist Sharon Christa McAuliffe of the Teacher in Space Project, Payload Specialist Greg Jarvis and Mission Specialist Judy A. Resnik. Bottom left to right: Pilot Michael J. Smith, Commander Francis "Dick" Scobee and Mission Specialist Ron McNair. All were lost when the mission ended in tragedy on Jan. 28 with the destruction of Challenger 73 seconds after lift-off.

1988

STS-26 • Sept. 29-Oct. 3, 1988

The Return to Flight mission launched on Sept. 29, 975 days after the Challenger disaster, and was the first mission to revert back to the original Space Transportation System numbering system since STS-9. Also, STS-26 was the first all-veteran mission since Apollo 11, where the entire crew had flown at least one prior mission. The mission's primary payload was a tracking and data relay satellite, which was successfully deployed. Discovery's crew consisted of Commander Frederick H. Hauck, Pilot Richard O. Covey and Mission Specialists John M. Lounge, George D. Nelson and David C. Hilmers. Discovery landed at Edwards Air Force Base on Oct. 3.

STS-27 • Dec. 2-6, 1988

Space shuttle Atlantis, the youngest shuttle in NASA's fleet at the time, is welcomed by a flock of seagulls as it arrives at launch pad 39B. This mission, launched on Dec. 2, was Atlantis' third and it carried a classified payload for the U.S. Department of Defense. The crew that helped complete the mission was Commander Robert L. Gibson, Pilot Guy S. Gardner and Mission Specialists Richard M. Mullane, Jerry L. Ross and William M. Shepherd. Atlantis landed at Edwards Air Force Base on Dec. 6.

1989

STS-29 • March 13-18, 1989

The Tracking and Data Relay Satellite (TDRS) was deployed into Earth's orbit from space shuttle Discovery during the STS-29 mission, launched on March 13. Commanding the mission was Michael L. Coats. His crew was Pilot John E. Blaha and Mission Specialists James P. Bagian, James F. Buchli and Robert C. Springer. Discovery landed at Edwards Air Force Base on March 18.

STS-30 • May 4-8, 1989

Space Shuttle Atlantis deploys its landing gear before touching down at Edwards Air Force Base on May 8, ending its four-day mission. Launched May 4, the mission's objective was to deploy the Magellan probe on a 15-month-long journey to the planet Venus for radar mapping of the planet's surface features. The crew members of STS-30 were Commander David M. Walker, Pilot Ronald J. Grabe and Mission Specialists Norman E. Thagard, Mary L. Cleave and Mark C. Lee.

STS-28 • Aug. 8-13, 1989

Space shuttle Columbia arrives at Launch Pad 39B after the rollout from the Vehicle Assembly Building the night before. STS-28 was the fourth mission dedicated to U.S. Department of Defense purposes, the 30th Space Shuttle mission overall and the first flight of the refurbished Columbia since STS-61C on Jan. 12, 1986. Launched on Aug. 8, Columbia deployed two satellites during its 5-day mission, USA-40 and USA-41. The crew involved was Commander Brewster H. Shaw Jr., Pilot Richard N. Richards and Mission Specialists James C. Adamson, David C. Leestma and Mark N. Brown. Columbia landed at Edwards Air Force Base on Aug. 13.

STS-34 • Oct. 18-23, 1989

The Jupiter-bound Galileo spacecraft attached to the Inertial Upper Stage booster are deployed from space shuttle Atlantis' payload bay six hours after the Oct. 18 launch that began the STS-34 mission. The 31st shuttle mission lasted just under five days and orbited the Earth 79 times. The crew members of STS-34 are Commander Donald E. Williams, Pilot Michael J. McCulley and Mission Specialists Franklin R. Chang-Diaz, Shannon W. Lucid and Ellen S. Baker. Atlantis landed on Oct. 23 at Edwards Air Force Base.

STS-33 • Nov. 23-28, 1989

Space shuttle Discovery lifts off Launch Pad 39-B just after midnight on Nov. 23 to commence STS-33, the fifth space shuttle mission for the U.S. Department of Defense. STS-33 was the first night launch since shuttle flights resumed in 1988 and the third night launch of the program. The classified mission lasted just over five days, and the crew members were Commander Frederick D. Gregory, Pilot John E. Blaha and Mission Specialists F. Story Musgrave, Manley L. Carter Jr. and Kathryn C. Thornton. Discovery landed on Nov. 28 at Edwards Air Force Base.

1990

STS-32 • Jan. 9-20, 1990

Space shuttle Columbia sits atop the Shuttle Carrier Aircraft as they fly by the Vehicle Assembly Building at Kennedy Space Center (KSC). Space shuttle Columbia returned to KSC after a successful mission that involved deploying the SYNCOM IV-F5 defense communications satellite and retrieving NASA's Long Duration Exposure Facility (LDEF). STS-32 launched on Jan. 9 and was one of the longest shuttle missions at the time at 10 days. The crew members were Commander Daniel

C. Brandenstein, Pilot James D. Wetherbee and Mission Specialists Bonnie J. Dunbar, G. David Low and Marsha S. Ivins. Columbia landed on Jan. 20 at Edwards Air Force Base.

STS-36 • Feb. 28-March 4, 1990

Space shuttle Atlantis during its rollout from the Vehicle Assembly Building in late Jan. 1990. Atlantis took its sixth flight on STS-36 a month later when it launched from Launch Pad 39A on Feb. 28. The 34th mission in the program lasted four days and carried a payload for the U.S. Department of Defense. The crew consisted of Commander John O. Creighton, Pilot John H. Casper and Mission Specialists Pierre J. Thuot, David C. Hilmers and Richard M. Mullane. Atlantis landed on March 4 at Edwards Air Force Base.

STS-31 • April 24-29, 1990

The Hubble Space Telescope is released from Discovery's cargo bay into Earth's orbit during mission STS-31. Space shuttle Discovery launched on April 24, and the deployment of Hubble was the main objective of the five-day mission. Leading the mission was Commander Loren J. Shriver, along with Pilot Charles F. Bolden Jr. and Mission Specialists Steven A. Hawley, Bruce McCandless II and Kathryn D. Sullivan. Discovery landed on April 29 at Edwards Air Force Base.

STS-41 • Oct. 6-10, 1990

The official crew portrait of the five-member STS-41 crew includes Commander Richard N. Richards, Pilot Robert D. Cabana and Mission Specialists William M. Shepherd, Bruce E. Melnick and Thomas D. Akers. Space shuttle Discovery launched on Oct. 6, beginning the four-day mission with the primary objective to launch the Ulysses probe as part of the "International Solar Polar Mission." Discovery landed on Oct. 10 at Edwards Air Force Base.

STS-38 • Nov. 15-20, 1990

Space shuttle Atlantis waits its turn outside the Vehicle Assembly Building as Columbia passes by. STS-38 was Atlantis' seventh flight, as well as the seventh mission dedicated to the Department of Defense. The four-day mission began on Nov. 15 and its crew members included Commander Richard O. Covey, Pilot Frank L. Culbertson Jr. and Mission Specialists Robert C. Springer, Carl J. Meade and Charles D. Gemar. Atlantis landed at Kennedy Space Center (the first Florida landing since April 1985) on Nov. 20.

STS-35 • Dec. 2-10, 1990

STS-35 crew members pose in OV-102's middeck for their onboard crew portrait. The crew consists of Commander Vance D. Brand, Pilot Guy S. Gardner, Mission Specialists Jeffrey A. Hoffman, John M. Lounge and Robert A. Parker, and Payload Specialists Samuel T. Durrance and Ronald A. Parise. STS-35 was Columbia's 10th flight, and the mission's objective was the deployment of ASTRO-1, an observatory consisting of four telescopes. The mission began on Dec. 2 and lasted eight days before landing at Edwards Air Force Base in California on Dec. 10.

1991

STS-37 • April 5-11, 1991

Astronaut Jerry Ross smiles for a quick photo during the first spacewalk of mission STS-37. The six-day mission's primary objective was to launch the Compton Gamma Ray Observatory (GRO), the second of the Great Observatories program. The mission began on April 5 when space shuttle Atlantis lifted off from Launch Pad 39B at Kennedy Space Center, and concluded on April 11 upon landing at Edwards Air Force Base. The crew members were Commander Steven R. Nagel, Pilot Kenneth D. Cameron and Mission Specialists Jerry L. Ross, Jay Apt and Linda M. Godwin.

STS-39 • April 28-May 6, 1991

The Aurora Australis as seen from space shuttle Discovery during the eight day STS-39 mission. The mission launched on April 28 and the crew members were Commander Michael L. Coats, Pilot L. Blaine Hammond Jr., Mission Specialists Guion S. Bluford Jr. and Gregory J. Harbaugh, Richard J. Hieb, Donald R. McMonagle and Charles L. Veach. The mission's primary purpose was to conduct payload experiments for the Department of Defense. Discovery landed at Kennedy Space Center on May 6.

STS-40 • June 5-14, 1991

The official STS-40 crew portrait includes seven astronauts, Commander Bryan D. O'Connor, Pilot Sidney M. Gutierrez and Mission Specialists James P. Bagian, Tamara E. Jernigan, M. Rhea Seddon, F. Drew Gaffney and Millie Hughes-Fulford. It was the first mission that included three women crew members, as well as the first mission dedicated solely to biology. STS-40 was a nine-day mission that began on June 5 and landed on June 14 at Edwards Air Force Base. Columbia carried the Spacelab module for Spacelab Life Sciences 1 (SLS-1).

STS-43 • Aug. 2-11, 1991

Pictured: The STS-43 mission launched on Aug. 2 and took eight days to complete. The primary goal of the mission was to deploy the fourth Tracking and Data Relay Satellite, TDRS-E. The crew involved was Commander John E. Blaha, Pilot Michael A. Baker and Mission Specialists Shannon W. Lucid, James C. Adamson and G. David Low. Atlantis landed on Aug. 11 at Kennedy Space Center.

STS-48 • Sept. 12-18, 1991

The STS-48 mission launched on Sept. 12. Discovery's crew included Commander John O. Creighton, Pilot Kenneth S. Reightler Jr. and Mission Specialists James F. Buchli, Charles D. Gemar and Mark N. Brown. The mission's primary objective was the deployment (pictured) of the Upper Atmosphere Research Satellite.

STS-44 • Nov. 24-Dec. 1, 1991

The Defense Support Program (DSP) satellite is deployed during the Department of Defense-dedicated mission. Space shuttle Atlantis launched on Nov. 24, and took six days to complete the mission. The crew members involved were Commander Frederick D. Gregory, Pilot

Terence T. Henricks, Mission Specialists F. Story Musgrave, Mario Runco Jr., James S. Voss and Payload Specialist Thomas J. Hennen. Discovery landed at Edwards Air Force Base on Dec. 1.

1992

STS-42 • Jan. 22-30, 1992

Pictured: The official STS-42 crew portrait. Space shuttle Discovery lifted off with the Spacelab module on Jan. 22, beginning a mission that took eight days to complete. STS-42 included West Germany's first astronaut, Ulf Merbold, as well as Canada's first female astronaut, Roberta Bondar, who were both payload specialists for the mission. The other crew consisted of Commander Ronald J. Grabe, Pilot Stephen S. Oswald and Mission Specialists Norman E. Thagard, David C. Hilmers and William F. Readdy. Discovery landed on Jan. 30 at Edwards Air Force Base.

STS-45 • March 24-April 2, 1992

Space shuttle Atlantis launched on March 24 and carried the first Atmospheric Laboratory for Applications and Science (ATLAS-1) in its cargo bay. Charles F. Bolden Jr. commanded the eight-day mission, and his crew consisted of Pilot Brian Duffy, Mission Specialist and Payload Commander Kathryn D. Sullivan, Mission Specialists David C. Leestma and C. Michael Foale, and Payload Specialists Byron K. Lichtenberg and Dirk D. Frimout of the European Space Agency. Atlantis landed at Kennedy Space Center on April 2.

STS-49 • May 7-16, 1992

Pictured: Mission Specialists Richard J. Hieb, Thomas D. Akers and Pierre J. Thuot hold onto the 4.5-ton International Organization Satellite (INTELSAT) VI outside Endeavour's cargo bay. This extra-vehicular activity marked the first time and only time that three people from the same spacecraft walked in space at the same time. It is also the longest spacewalk undertaken until STS-102. Daniel C. Brandenstein commanded this maiden flight of space shuttle Endeavour. His crew consisted of Pilot Kevin P. Chilton and Mission Specialists Kathryn C. Thornton, Bruce E. Melnick, as well as the mission specialists listed above. The mission began on May 7 and concluded on May 16 at Edwards Air Force Base.

STS-50 • June 25-July 9, 1992

Pictured: Space shuttle Columbia blasts off Launch Pad 39A at Kennedy Space Center on June 2, beginning the 13-day STS-50 mission. It was the first flight of a shuttle with the Extended Duration Orbiter hardware allowing longer flight durations. STS-50 was a spacelab mission with experiments in material science, fluid physics and biotechnology. The crew was Commander Richard N. Richards, Pilot Kenneth D. Bowersox, Mission Specialists Bonnie J. Dunbar, Ellen S. Baker and Carl J. Meade, and Payload Specialists Lawrence J. DeLucas and Eugene H. Trinh. Columbia landed on July 9 at Kennedy Space Center.

STS-46 • July 31-Aug. 8, 1992

Pictured: A close-up view of the Tethered Satellite System (TSS-1) in orbit above the shuttle. STS-46 began on July 31, when space shuttle Atlantis lifted off from Launch Pad 39A at Kennedy Space Center. The seven-day STS-46 mission marked the 150th human spaceflight to achieve orbit. The crew involved was Commander Loren J. Shriver, Pilot Andrew M. Allen and Mission Specialists Jeffrey A. Hoffman, Franklin R. Chang-Diaz, Claude Nicollier of the European Space Agency and Marsha S. Ivins, and Payload Specialist Franco Malerba of the Italian Space Agency. Atlantis landed on Aug. 8 at Kennedy Space Center.

STS-47 • Sept. 12-20, 1992

Endeavour's second mission launched on Sept. 12 with a crew of seven. Commanded by Robert L. Gibson and piloted by Curtis L. Brown Jr., the crew included Mark C. Lee as payload commander, Mission Specialists N. Jan Davis, Jay Apt and Mae C. Jemison and Payload Specialist Mamoru Mohri of the National Space Development Agency of Japan. The crew included the first married couple (Davis and Lee) in space together. Pictured: Endeavour travels over Unimak Island, the largest island in the Aleutian chain. Endeavour landed on Sept. 20 at Kennedy Space Center.

STS-52 • Oct. 22-Nov. 1, 1992

Launched on Oct. 22, Columbia and its crew of six embarked on a mission with science at its core. Over the course of 159 orbits, James D. Wetherbee, commander; Michael A. Baker, pilot; Mission Specialists Charles L. Veach, William M. Shepherd and Tamara E. Jernigan; and Payload Specialist Steven G. MacLean of the Canadian Space Agency, deployed the Laser Geodynamic Satellite II and activated the U.S. Microgravity Payload-1. Columbia landed on Nov. 1 at Kennedy Space Center.

STS-53 • Dec. 2-9, 1992

Commanded by David M. Walker and piloted by Robert D. Cabana, Discovery launched on Dec. 2, carrying a classified payload for the U.S. Department of Defense, several unclassified payloads and nine middeck experiments. Mission specialists included Guion S. Bluford Jr., James S. Voss and Michael R. Clifford. Discovery landed on Dec. 9 at Edwards Air Force Base.

1993

STS-54 • Jan. 13-19, 1993

Endeavour's third flight launched on Jan. 13 on a mission to deploy the fifth Tracking and Data Relay Satellite, conduct a series of life sciences experiments and perform a series of spacewalking tasks. The mission was crewed by John H. Casper, commander; Donald R. McMonagle, pilot; and Mission Specialists Mario Runco Jr., Gregory J. Harbaugh and Susan J. Helms. Endeavour landed on Jan. 19 at Kennedy Space Center.

STS-56 • April 8-17, 1993

Launched April 8, Discovery's mission included a number of scientific

experiments including the deployment and retrieval of the Shuttle Point Autonomous Research Tool for Astronomy-201 (pictured). The mission was crewed by Kenneth D. Cameron, commander; Stephen S. Oswald, pilot; and Mission Specialists C. Michael Foale, Kenneth D. Cockrell and Ellen Ochoa. Discovery landed on April 17 at Kennedy Space Center.

STS-55 • April 26-May 6, 1993

Launched on April 26, Columbia's 14th flight was a multinational Spacelab flight featuring 88 experiments from 11 different nations. The busy mission was crewed by Steven R. Nagel, commander; Terence T. Henricks, pilot; Mission Specialists Jerry L. Ross, Charles J. Precourt and Bernard A. Harris; and Payload Specialists Ulrich Walter and Hans Schlegel, both of the German Research & Development Institute for Air & Space Travel. Columbia landed on May 6 at Edwards Air Force Base.

STS-57 • June 21-July 1, 1993

Endeavour's fourth flight was a Shuttle-Spacehab mission that launched on June 21. The flight was crewed by Ronald J. Grabe, commander; Brian Duffy, pilot; and Mission Specialists, G. David Low, Nancy J. Sherlock, Peter J. Wisoff and Janice E. Voss. Endeavour landed on July 1 at Kennedy Space Center.

STS-51 • Sept. 12-22, 1993

After three scrubbed attempts, Discovery finally launched on Sept. 12 on its mission to deploy the Advanced Communications Technology Satellite, among many other tasks. The five-man crew included Frank L. Culbertson, commander; William F. Readdy, pilot; and Mission Specialists James H. Newman, Daniel W. Bursch and Carl E. Walz. Discovery landed on Sept. 22 at Kennedy Space Center.

STS-58 • Oct. 18-Nov. 1, 1993

The fourth longest mission in U.S. manned spaceflight history launched on Oct. 18, carrying a crew of seven. The 14-day mission, commanded by John E. Blaha and piloted by Richard A. Searfoss, was dedicated to science. The experiments were carried out by Mission Specialists William S. McArthur, David A. Wolf and Shannon W. Lucid; Payload Commander M. Rhea Seddon and Payload Specialist Martin Fettman. Columbia landed on Nov. 1 at Edwards Air Force Base.

STS-61 • Dec. 2-13, 1993

Endeavour's fifth flight was the first Hubble servicing mission. Launched on Dec. 2, the crew of seven successfully installed the Corrective Optics Space Telescope Axial Replacement system to correct the Hubble's main mirror and bring the cosmos into focus. The crew included Richard O. Covey, commander; Kenneth D. Bowersox, pilot; and five mission specialists, F. Story Musgrave, Kathryn C. Thornton, Claude Nicollier of the European Space Agency, Jeffrey A. Hoffman and Thomas D. Akers. Endeavour landed on Dec. 13 at Kennedy Space Center.

1994

STS-60 • Feb 3-11, 1994

Discovery launched on Feb. 3, on the first of the U.S./Russian Shuttle-

Mir Program and carried the first cosmonaut to fly aboard a space shuttle. The mission's crew shown above in the tunnel that connects Discovery and the SPACEHAB module are, clockwise from upper right: Commander Charles F. Bolden Jr.; Mission Specialists Ronald M. Sega and N. Jan Davis; Payload Commander Franklin R. Chang-Diaz; Mission Specialist Sergei K. Krikalev of the Russian Federal Space Agency and Pilot Kenneth S. Reightler Jr. (photo taken with an IMAX camera).

STS-62 • March 4-18, 1994

Columbia launched on March 4 on a marathon mission of 14 days devoted to science experiments and engineering and technology testing. The mission's veteran crew included John H. Casper, commander; Andrew M. Allen, pilot; and Mission Specialists Pierre J. Thuot, Charles D. Gemar and Marsha S. Ivins. Columbia landed on March 18 at Kennedy Space Center.

STS-59 • April 9-20, 1994

Endeavour launched on its sixth mission on April 9. The nine-day mission featured activation of the Space Radar Laboratory and was crewed by Sidney M. Gutierrez, commander; Kevin P. Chilton, pilot; and Mission Specialists Linda M. Godwin, Jay Apt, Michael R. Clifford and Thomas D. Jones. Endeavour landed on April 20 at Edwards Air Force Base.

STS-65 • July 8-23, 1994

Columbia launched on a life sciences research mission carrying the International Microgravity Lab, a crew of seven, four Japanese red-bellied newts, moon jellyfish and daylily cells on July 8. The human crew included Robert D. Cabana, commander; James D. Halsell, pilot; Mission Specialists Richard J. Hieb, Carl E. Walz, Leroy Chiao and Donald A. Thomas; and Payload Specialist Chiaki Naito-Mukai of the National Space Development Agency of Japan. Columbia landed on July 23 at Kennedy Space Center.

STS-64 • Sept. 9-20, 1994

Launched on Sept. 9, Discovery's mission included a number of experiments and featured the first untethered spacewalk in 10 years. The mission was commanded by Richard N. Richards and piloted by L. Blaine Hammond. The mission specialists onboard included Jerry M. Linenger, Susan J. Helms, Carl J. Meade and Mark C. Lee. Discovery landed on Sept. 20 at Edwards Air Force Base.

STS-68 • Sept. 30-Oct. 11, 1994

After an aborted launch and a rollback to the Vehicle Assembly Building for main engine inspection, Endeavour launched on Sept. 30. Crewed by Michael A. Baker, commander; Terrence W. Wilcutt, pilot; and Mission Specialists Thomas D. Jones, Steven L. Smith, Daniel W. Bursch and Peter J.K. Wisoff, the mission was devoted to experiment operations. The orbiter's primary payload was the Space Radar Laboratory. Endeavour landed on Oct. 11 at Edwards Air Force Base.

STS-66 • Nov. 3-14, 1994

Launched on Nov. 3, Atlantis' primary payload was the Atmospheric

Laboratory for Applications and Sciences-3 that continued the series of Spacelab flights to study the sun. The mission was commanded by Donald R. McMonagle and piloted by Curtis L. Brown Jr. and included Mission Specialists Ellen Ochoa (pictured working the RMS controls with McMonagle), Joseph R. Tanner, Jean-Francois Clervoy and Scott E. Parazynski. Atlantis landed on Nov. 14 at Edwards Air Force Base.

1995

STS-63 • Feb. 3-11, 1995

Discovery launched on Feb. 3 on its second mission of the U.S./Russian Shuttle-Mir Program featuring the first rendezvous and fly-around of the shuttle with the Mir space station. It was known as the "Near-Mir Mission" and was also the first time a shuttle was piloted by a woman, Eileen M. Collins. Joining Collins on the mission were James D. Wetherbee, commander, and Mission Specialists C. Michael Foale, Bernard A. Harris Jr., Janice E. Voss and Vladimir G. Titov. Pictured: Cosmonaut Valery V. Polyakov looks out Mir's window during rendezvous operations. Discovery landed on Feb. 11 at Kennedy Space Center.

STS-67 • March 2-18, 1995

Endeavour launched on March 2 on a 16-day dedicated Spacelab mission, known as Astro-2. Its crew of seven included Stephen S. Oswald, commander; William G. Gregory, pilot; Mission Specialists, John M. Grunsfeld, Wendy B. Lawrence and Tamara E. Jernigan; and Payload Specialists Samuel T. Durrance and Ronald A. Parise. Endeavour landed on March 18 at Edwards Air Force Base.

STS-71 • June 27-July 7, 1995

Atlantis launched on June 27 on the third mission of the U.S./Russian Shuttle-Mir Program. The five-day docking created the largest spacecraft ever placed in orbit up to that time. Atlantis was crewed by Robert L. Gibson, commander; Charles J. Precourt, pilot; and three mission specialists, Gregory J. Harbaugh, Ellen S. Baker and Bonnie J. Dunbar. Atlantis landed on July 7 at Kennedy Space Center.

STS-70 • July 13-22, 1995

Pictured: Discovery during mating to its external fuel tank and solid rocket boosters. Discovery launched on July 13 on a mission to deploy the seventh Tracking and Data Relay Satellite. The mission was commanded by Terence T. Henricks, piloted by Kevin R. Kregel and crewed by Mission Specialists Nancy J. Currie, Donald A. Thomas and Mary Ellen Weber. Discovery landed on July 22 at Kennedy Space Center.

STS-69 • Sept. 7-18, 1995

Launched on Sept. 7, Endeavour carried a crew of five and the Wake Shield Facility on its second flight. Commanded by David M. Walker and piloted by Kenneth D. Cockrell, the mission included Mission Specialists James S. Voss, James H. Newman and Michael L. Gernhardt (pictured attached to Endeavour's robotic arm). Endeavour landed on Sept. 18 at Kennedy Space Center.

STS-73 • Oct. 20-Nov. 5, 1995

Columbia launched on the second U.S. Microgravity Laboratory mission on Oct. 20. Its crew of seven were split into two teams to carry out the mission's ambitious manifest and included: Kenneth D. Bowersox, commander; Kent V. Rominger, pilot; Kathryn C. Thornton, payload commander; Mission Specialists Catherine G. Coleman and Michael Lopez-Alegria; and Payload Specialists Fred W. Leslie and Albert Sacco Jr. STS-73 shares the distinction with STS-61C of having the most scrubbed launches (six). Columbia landed on Nov. 5 at Kennedy Space Center.

STS-74 • Nov. 12-20, 1995

Atlantis launched on Nov. 12, for the fourth mission of the U.S./Russian Shuttle-Mir Program, which featured the second docking of a shuttle to Mir. Pictured: Mir and Atlantis are seen connected via the docking module. The mission was commanded by Kenneth D. Cameron, piloted by James D. Halsell, and crewed by Mission Specialists Chris A. Hadfield of the Canadian Space Agency, Jerry L. Ross and William S. MacArthur Jr. Atlantis landed on Nov. 20 at Kennedy Space Center. Photograph taken with an IMAX camera.

1996

STS-72 • Jan 11-20, 1996

Launched on Jan. 11, the mission's primary objective was to capture and return to Earth the Space Flyer Unit, a Japanese microgravity research spacecraft. Endeavour's crew of six included Brian Duffy, commander; Brett W. Jett, pilot; and Mission Specialists Leroy Chiao, Winston E. Scott, Koichi Wakata of the Japanese Aerospace Exploration Agency and Daniel T. Barry. Pictured: Endeavour's night landing on Jan. 20 was the eighth in the history of the program and only the third at Kennedy Space Center.

STS-75 • Feb 22-March 9, 1996

Columbia launched on its 19th mission on Feb. 22. The 15-day mission's primary objectives were to carry and deploy the Tethered Satellite System, as well as the U.S. Microgravity Payload-3. The mission's crew included Andrew M. Allen, commander; Scott J. Horowitz, pilot; Mission Specialists Jeffrey A. Hoffman and Franklin R. Chang-Diaz; as well as Mission Specialists Maurizio Cheli and Claude Nicollier and Payload Specialist Umberto Guidoni, all of the European Space Agency. Columbia landed on March 9 at Kennedy Space Center.

STS-76 • March 22-31, 1996

Atlantis launched on its 16th mission on March 22. The mission's primary objective was to dock with Mir and deliver astronaut Shannon Lucid to the Russian space station. It was crewed by Kevin P. Chilton, commander; Richard A. Searfoss, pilot; and Mission Specialists Ronald M. Sega, Michael R. Clifford and Linda M. Godwin. Clifford and Godwin (shown toting the Mir Environment Effects Payload) performed the first U.S. spacewalk around two docked spacecraft. Atlantis landed on March 31 at Edwards Air Force Base.

STS-77 • May 19-29, 1996

Launched on May 19, Endeavour's mission was devoted to performing microgravity research on the commercially owned and operated SPACEHAB module. The crew included John H. Casper, commander; Curtis L. Brown Jr., pilot; and Mission Specialists Andrew S.W. Thomas, Daniel W. Bursch, Mario Runco Jr. and Marc Garneau of the Canadian Space Agency. Endeavour landed on May 29 at Kennedy Space Center.

STS-78 • June 20-July 7, 1996

The fifth dedicated Life and Microgravity Spacelab mission launched on June 20. Columbia's crew of seven included: Terence T. Hendricks, commander; Kevin R. Kregel, pilot; Mission Specialists Richard M. Linnehan, Susan J. Helms and Charles E. Brady Jr. and Payload Specialists Jean-Jacques Favier of the French National Center of Space Research and Robert Brent Thirsk of the Canadian Space Agency. Columbia landed on July 7 at Kennedy Space Center.

STS-79 • Sept. 16-29, 1996

Pictured: Atlantis, seen here exiting the Vehicle Assembly Building on its way to Launch Pad 39A. It launched on Sept. 16 on a mission to the newly completed Mir space station. The mission marked the first crew exchange and the first flight of the SPACEHAB double module. The crew included William F. Readdy, commander; Terrence W. Wilcutt, pilot; and Mission Specialists Thomas D. Akers, Jay Apt and Carl E. Walz. The Mir-bound launching astronaut was John E. Blaha, and the landing astronaut was Shannon W. Lucid. Atlantis landed on Sept. 29 at Kennedy Space Center.

STS-80 • Nov. 19-Dec. 7, 1996

Pictured: The Orbiting and Retrievable Far and Extreme Ultraviolet Spectrometer Shuttle Pallet-2 (ORFEUS-SPAS-2) is already secure in the payload canister as the Wake Shield Facility-3 (WSF-3) is lowered into the canister beside it in preparation for the STS-80 mission. Launched aboard Columbia on Nov. 19, the primary objective of the mission, the longest shuttle mission to date, was to deploy and retrieve the two satellites. Columbia's crew included Commander Kenneth D. Cockrell, Pilot Kent V. Rominger and Mission Specialists F. Story Musgrave, Thomas David Jones and Tamara E. Jernigan. Columbia landed on Dec. 7 at Kennedy Space Center.

1997

STS-81 • Jan. 12-22, 1997

Pictured: Atlantis launched on Jan. 12. It was the fifth of nine planned missions to Mir and the second involving an exchange of U.S. astronauts. Astronaut John E. Blaha, who had been on Mir since Sept. 19, 1996, was replaced by astronaut Jerry M. Linenger. Atlantis' crew included Commander Michael A. Baker, Pilot Brent W. Jett Jr. and Mission Specialists Peter J.K. Wisoff, John M. Grunsfeld and Marsha S. Ivins. Atlantis landed on Jan. 22 at Kennedy Space Center.

STS-82 • Feb. 11-22, 1997

Pictured: Spacewalker Joseph R. Tanner performs maintenance on the Hubble Space Telescope in a photo taken by fellow astronaut Gregory J. Harbaugh. This second in a series of planned servicing missions to the orbiting telescope was launched on Feb. 11. In addition to Tanner and Harbaugh, Discovery's crew included Commander Kenneth D. Bowersox, Pilot Scott J. Horowitz and Mission Specialists Steven A. Hawley, Mark C. Lee and Steven L. Smith. Discovery landed on Feb. 22 at Kennedy Space Center.

STS-83 • April 4-8, 1997

Pictured: STS-83 Commander James D. Halsell (center) gives a post-landing briefing at Kennedy Space Center's Shuttle Landing Facility with Columbia in the background. The mission was launched on April 4 with a primary objective of conducting microgravity experiments. The mission was cut short by a fuel cell failure and rescheduled a few months later. Columbia landed on April 8 at Kennedy Space Center. Flying with Halsell was Susan L. Still, pilot; Janice E. Voss, payload commander; Michael L. Gernhardt and Donald A. Thomas, mission specialists; and Roger K. Crouch and Gregory T. Linteris, payload specialists.

STS-84 • May 15-24, 1997

Pictured: Atlantis touches down on Runway 33 of the Kennedy Space Center Shuttle Landing Facility, bringing to an end the nine-day STS-84 mission on May 24. The mission was launched on May 15 and was commanded by Charles J. Precourt, piloted by Eileen M. Collins and crewed by Mission Specialists Jean-Francois Clervoy of the European Space Agency, Carlos J. Noriega, Edward T. Lu and Yelena V. Kondakova of the Russian Federal Space Agency. It was the sixth of nine Shuttle/Mir docking missions. C. Michael Foale joined the Mir crew and Jerry M. Linenger returned to Earth.

STS-94 • July 1-17, 1997

Pictured: The STS-94 crew walks out of the Operations and Checkout Building and heads for the Astrovan that will transport them to Launch Pad 39A. Waving to supporters and leading the way are mission Commander James D. Halsell Jr. and Pilot Susan L. Still, followed by Janice E. Voss, payload commander; Michael L. Gernhardt and Donald A. Thomas, mission specialists; and Roger K. Crouch and Gregory T. Linteris, payload specialists. The mission was launched aboard Columbia on July 1 and was a reflight of the STS-83 Microgravity Science Laboratory (MSL) mission. Columbia landed on July 17 at Kennedy Space Center.

STS-85 • Aug. 7-19, 1997

Pictured: Moments after ignition, Discovery heads off on an 11-day mission. Launched on Aug. 7, it was commanded by Curtis L. Brown Jr., piloted by Kent V. Rominger and crewed by N. Jan Davis, payload commander; Stephen K. Robinson and Robert L. Curbeam Jr., mission specialists; and Bjarni Tryggvason of the Canadian Space Agency, payload specialist. The primary objective was to perform multiple science experiments. Discovery landed on Aug. 19 at Kennedy

Space Center.

STS-86 • Sept. 25-Oct. 6, 1997

Launched on Sept. 25 aboard Atlantis, STS-86 was the seventh Mir docking mission and carried a SPACEHAB double module for the docking with Mir, cargo transfer and astronaut exchange (David A. Wolf replaced C. Michael Foale). The mission's crew included Commander James D. Wetherbee, Pilot Michael J. Bloomfield and Mission Specialists Vladimir G. Titov of the Russian Federal Space Agency, Scott E. Parazynski, Jean-Loup Chretien of the French National Center of Space Research and Wendy B. Lawrence. Atlantis landed on Oct. 6 at Kennedy Space Center.

STS-87 • Nov. 19-Dec. 5, 1997

Pictured: The orbiter Columbia, mated to its external fuel tank and two solid rocket boosters, is prepared to roll out of the Vehicle Assembly Building on its way to Launch Pad 39B. The 24th flight of Columbia was launched on Nov. 19 and was commanded by Kevin R. Kregel, piloted by Steven W. Lindsey, and crewed by Mission Specialists Winton E. Scott, Kalpana Chawla, Takao Doi of the Japanese Aerospace Exploration Agency and Leonid Kadenyuk of the State Space Agency of Ukraine. The primary goals were to conduct experiments using the United States Microgravity Payload (USMP-4), perform two spacewalks and to deploy the Shuttle Pointed Autonomous Research Tool for Astronomy-201 experiment. Columbia landed on Dec. 5 at Kennedy Space Center.

1998

STS-89 • Jan 22-31, 1998

Pictured: The orbiter Endeavour closes the day peacefully on Kennedy Space Center's Shuttle Landing Facility Runway 15 on Jan. 31 after completing the eight-day STS-89 mission. It was the eighth of nine planned missions to Mir and the fifth involving an exchange of U.S. astronauts with Andrew S.W. Thomas replacing David A. Wolf. The mission was commanded by Terrence W. Wilcutt, piloted by Joe F. Edwards and crewed by Mission Specialists James F. Reilly II, Michael P. Anderson, Bonnie J. Dunbar and Salizhan Sharipov of the Russian Federal Space Agency. The mission was flown by Endeavour and launched on Jan. 22, 1998.

STS-90 • April 17-May 3, 1998

Spacelab is pictured in the payload bay of Columbia during the STS-90 Neurolab mission. The tunnel connecting the Spacelab with the cabin is visible in the bottom. The mission was launched on April 17 and commanded by Richard A. Searfoss and piloted by Scott D. Altman, with a crew of Richard M. Linnehan, Kathryn P. Hire and Dafydd R. Williams of the Canadian Space Agency, mission specialists; and Jay C. Buckey and James A. Pawelczyk, payload specialists. Its primary objective was to conduct 26 Neurolab experiments. Columbia landed on May 3 at Kennedy Space Center.

STS-91 • June 2-12, 1998

The final Shuttle/Mir docking mission, STS-91, was launched on June

2 aboard Discovery. After docking, astronaut Andrew S.W. Thomas officially became a member of Discovery's crew, completing 130 days of living and working on Mir. The mission was commanded by Charles J. Precourt, piloted by Dominic L. Gorie and crewed by Mission Specialists Wendy B. Lawrence, Franklin R. Chang-Diaz, Janet L. Kavandi and Valery Ryumin of the Russian Federal Space Agency. Discovery landed on June 12 at Kennedy Space Center.

STS-95 • Oct. 29-Nov. 7, 1998

President and Mrs. Clinton attended Discovery's launch on Oct. 29. Joining the crew as payload specialist was former Project Mercury astronaut and U.S. Senator John H. Glenn (pictured), at age 77, the oldest person to date to go into space. The mission's primary objective involved life sciences experiments using SPACEHAB. Joining Senator Glenn on the mission were Curtis L. Brown Jr., commander; Steven W. Lindsey, pilot; Mission Specialists Pedro Duque of the European Space Agency and Scott E. Parazynski; Payload Commander Stephen K. Robinson; and Payload Specialist Chiaki Mukai of the National Space Development Agency of Japan. Discovery landed on Nov. 7 at Kennedy Space Center.

STS-88 • Dec. 4-15, 1998

The first International Space Station construction mission launched on Dec. 4. Endeavour's primary payload was the Unity node, which was mated to the Zarya module, launched into orbit one month prior. The mission was crewed by Robert D. Cabana, commander; Frederick W. Sturckow, pilot; and Mission Specialists Jerry L. Ross, Nancy J. Currie, James H. Newman and Sergei K. Krikalev of the Russian Federal Space Agency. Endeavour landed on Dec. 15 at Kennedy Space Center.

1999

STS-96 • May 27-June 6, 1999

Space shuttle Discovery launched from Kennedy Space Center on May 27, starting the nine-day logistics and supply mission to the International Space Station. The seven-person crew consisted of Commander Kent V. Rominger, Pilot Rick D. Husband and Mission Specialists Tamara E. Jernigan, Ellen Ochoa, Daniel T. Barry, Julie Payette of the Canadian Space Agency and Valery I. Tokarev of the Russian Federal Space Agency. The crew spent a total of 79 hours, 30 minutes inside the station before exiting and closing the final hatch. Discovery landed on June 6 at Kennedy Space Center.

STS-93 • July 23-27, 1999

Pictured: The Chandra X-ray Observatory sits inside the payload bay of space shuttle Columbia for mission STS-93. The launch date for the mission was July 23, and the mission duration was four days. Eileen Collins became the first female shuttle commander on this mission and the crew that accompanied her was Pilot Jeffrey S. Ashby and Mission Specialists Steven A. Hawley, Catherine G. Coleman and Michel Tognini of the French National Center of Space Research. Columbia landed on July 27 at Kennedy Space Center.

STS-103 • Dec. 19-27, 1999

STS-103 was a Hubble Space Telescope servicing mission commanded by Curtis L. Brown Jr. and piloted by Scott J. Kelly. The Mission Specialists were Steven L. Smith, John M. Grunsfeld, C. Michael Foale and Jean-François Clervoy and Claude Nicollier both of the European Space Agency. Space shuttle Discovery flew the seven-day mission, which launched on Dec. 19 and landed on Dec. 27 at Kennedy Space Center.

2000

STS-99 • Feb 11-22, 2000

Pictured: Space shuttle Endeavour rises over the waters as it lifts off from Launch Pad 39A on Feb. 11. The primary mission objective of STS-99 was the Shuttle Radar Topography Mission project, which took 11 days to complete. Crew members included Commander Kevin R. Kregel, Pilot Dominic L. Gorie and Mission Specialists Gerhard P.J. Thiele, Janet L. Kavandi, Janice E. Voss and Mamoru Mohri of the National Space Development Agency of Japan. Endeavour landed on Feb. 22 at Kennedy Space Center.

STS-101 • May 19-29, 2000

Pictured: The lights on Runway 15 at the Shuttle Landing Facility illuminate space shuttle Atlantis as it approaches touchdown to complete its nine-day mission. Launched on May 19, STS-101 was a resupply mission to the International Space Station. Commander on the mission was James D. Halsell Jr. His crew was Pilot Scott J. Horowitz and Mission Specialists Mary E. Weber, Jeffrey N. Williams, James S. Voss, Susan J. Helms and Yuri V. Usachev of the Russian Federal Space Agency. Atlantis landed on May 29 at Kennedy Space Center.

STS-106 • Sept. 8-19, 2000

Pictured: Mission specialist and cosmonaut Yuri I. Malenchenko waves to his spacewalking colleague during a six-hour spacewalk on the exterior of the International Space Station. Space shuttle Atlantis launched on Sept. 8, and the goal of the 11-day mission was to prepare the Zvezda Service Module for the arrival of the expedition crew that would begin a permanent human presence on the new outpost. The crew consisted of Commander Terrence W. Wilcutt, Pilot Scott D. Altman and Mission Specialists Edward T. Lu, Richard A. Mastracchio, Daniel C. Burbank, and Yuri Malenchenko and Boris Morukov, both of the Russian Federal Space Agency. Atlantis landed on Sept. 19 at Kennedy Space Center.

STS- 92 • Oct. 11-24, 2000

Discovery launched on Oct. 11 and marked the 100th mission of the Space Shuttle Program. STS-92 was an International Space Station assembly flight and lasted 12 days. The crew that carried out the mission was Commander Brian Duffy and Pilot Pamela A. Melroy, along with Mission Specialists Leroy Chiao, William S. McArthur, Peter J.K. Wisoff, Michael E. Lopez-Alegria (pictured performing a spacewalk) and Koichi Wakata of the Japanese Aerospace Exploration Agency. Discovery landed on Oct. 24 at Edwards Air Force Base.

STS-97 • Nov. 30-Dec. 11, 2000

Pictured: Astronaut Joseph R. Tanner wraps up extravehicular tasks on the final spacewalk of mission STS-97. Space shuttle Endeavour launched on Nov. 30 to start the 10-day mission and after reaching the station, the crew installed the first set of solar arrays, prepared a docking port for the arrival of the Destiny Laboratory Module and delivered supplies to the station's crew. The crew members for the mission were Commander Brent W. Jett, Pilot Michael J. Bloomfield and Mission Specialists Joseph R. Tanner, Carlos I. Noriega and Marc Garneau of the Canadian Space Agency. Endeavour landed on Dec. 11 at Kennedy Space Center.

2001

STS-98 • Feb. 7-20, 2001

Pictured: Space shuttle Atlantis rolls out to Launch Pad 39A for its upcoming mission to the International Space Station. The crew for the spaceflight was Commander Kenneth D. Cockrell, Pilot Mark L. Polansky and Mission Specialists Robert L. Curbeam, Marsha S. Ivins and Thomas D. Jones. Their mission began on Feb. 7 and concluded on Feb. 20, when Atlantis landed at Edwards Air Force Base. Their primary objective was to deliver the Destiny Laboratory Module to the space station.

STS-102 • March 8-21, 2001

Pictured: Space shuttle Discovery takes off from Launch Pad 39B as the sun rises over the Atlantic Ocean on March 8. The primary objective was resupplying the space station and rotating the Expedition 1 and Expedition 2 crews. The duration of the mission was 12 days and its crew included Commander James D. Wetherbee, Pilot James M. Kelly, Mission Specialists Andrew S.W. Thomas and Paul W. Richards; and the Expedition 2 crew, James S. Voss, Susan J. Helms and Yury V. Usachev of the Russian Federal Space Agency. The returning Expedition 1 crew included William M. Shepherd and Yuri P. Gidzenko and Sergei K. Krikalev, both of the Russian Federal Space Agency. Discovery landed on March 21 at Kennedy Space Center.

STS-100 • April 19-May 1, 2001

The crew of STS-100 included Commander Kent V. Rominger, Pilot Jeffrey S. Ashby and Mission Specialists Chris A. Hadfield of the Canadian Space Agency, John L. Phillips, Scott E. Parazynski, Umberto Guidoni of the European Space Agency and Yuri Lonchakov of the Russian Federal Space Agency. STS-100 was flown by space shuttle Endeavour, and the crew's objective was the installation of the space station's Canadarm2 robotic arm. Pictured: Hadfield stands on one robotic arm to work with another one. The mission began on April 19 and landed on May 1 at Edwards Air Force Base.

STS-104 • July 12-24, 2001

Pictured: Atlantis docked to the Destiny laboratory on the International Space Station. The primary objective of STS-104 was to install the Quest joint airlock and perform maintenance on the space station. The mission began on July 12 and lasted 12 days. The crew members involved were Commander Steven W. Lindsey, Pilot Charles O. Hobaugh

and Mission Specialists Michael L. Gernhardt, Janet L. Kavandi and James F. Reilly. Atlantis landed on July 24 at Kennedy Space Center.

STS-105 • Aug. 10-22, 2001

After STS-105, Discovery was grounded for a refit and did not fly again until the STS-114 mission in 2005. Launched on Aug. 10, the mission's primary objective was the rotation of the crew of the International Space Station. The Expedition 3 crew members sent aloft were Frank L. Culbertson Jr., Mikhail Turin of the Russian Federal Space Agency and Vladimir N. Dextrurov. The returning Expedition 2 crew were Yury V. Usachev, James S. Voss and Susan J. Helms. Discovery's crew included Scott J. Horowitz, commander; Frederick W. Sturckow, pilot; and Mission Specialists Daniel T. Barry and Patrick G. Forrester. Discovery landed on Aug. 22 at Kennedy Space Center.

STS-108 • Dec. 5-17, 2001

Launched on Dec. 5, Endeavour's mission to the International Space Station was the first following the installation of the Pirs airlock. The mission's primary objectives were crew rotation, delivery of critical supplies and station maintenance operations. Endeavour's crew included Dominic L. Gorie, commander; Mark E. Kelly, pilot; and Mission Specialists Linda M. Godwin and Daniel M. Tani. Expedition 4 crew members delivered to station were Yuri I. Onufrienko of the Russian Federal Space Agency, Carl E. Walz and Daniel W. Bursch. Endeavour landed on Dec. 17 at Kennedy Space Center.

2002

STS-109 • March 1-12, 2002

Columbia launched on March 1 for the STS-109 mission. This 27th flight of Columbia was the fourth Hubble Space Telescope servicing mission (SM3B) and the orbiter's first flight after an extensive modification period. Columbia was commanded by Scott D. Altman and piloted by Duane G. Grey. Mission specialists included John M. Grunsfeld, Nancy J. Currie, Richard M. Linnehan, James H. Newman and Michael J. Massimino. Grunsfeld and Linnehan (pictured during the fifth spacewalk) performed three spacewalks and Newman and Massimino performed two spacewalks. Columbia landed on March 12 at Kennedy Space Center.

STS-110 • April 8-19, 2002

Launched on April 8, Atlantis' primary objective was the delivery and installation of the International Space Station's S0 Truss segment and the mobile transporter, part of the station's robotic system. The mission's crew included Michael J. Bloomfield, commander; Stephen N. Frick, pilot; and Mission Specialists Jerry L. Ross, Steven L. Smith, Ellen Ochoa, Lee M.E. Morin (pictured anchored to the station's Canadarm2 during the second spacewalk) and Rex J. Walheim. Atlantis landed on April 19 at Kennedy Space Center.

STS-111 • June 5-19, 2002

Launched on June 5, crew rotation and delivery of supplies were the

primary objectives of the STS-111 mission to the International Space Station. Crewed by Kenneth D. Cockrell, commander; Paul S. Lockhart, pilot; and Mission Specialists, Franklin R. Chang-Diaz and Phillippe Perrin of the French National Center of Space Research, Endeavour delivered the Expedition 5 crew (Valery Korzun and Sergei Y. Treschev, both of the Russian Federal Space Agency, and Peggy A. Whitson) to station, and returned the Expedition 4 crew members Carl E. Walz, Daniel W. Bursch and Yuri I. Onufrienko of the Russian Federal Space Agency to Earth. Endeavour landed at Edwards Air Force Base on June 19.

STS-112 • Oct. 7-18, 2002

Also known as International Space Station Assembly flight 9A, the STS-112 mission delivered the S1 truss segment and crew equipment translation aid (CETA) cart to the space station. Launched on Oct. 7, Atlantis' crew consisted of Jeffrey S. Ashby, commander; Pamela A. Melroy, pilot; and Mission Specialists David A. Wolf, Sandra H. Magnus, Piers Sellers and Fyodor N. Yurchikhin of the Russian Federal Space Agency. Atlantis landed on Oct. 18 at Kennedy Space Center.

STS-113 • Nov. 24-Dec. 7, 2002

Another International Space Station assembly and equipment delivery mission, STS-113 also delivered the Expedition 6 crew (Kenneth D. Bowersox, Nikolai M. Budarin of the Russian Federal Space Agency and Donald R. Pettit) to station and brought back Expedition 5's (Peggy A. Whitson and Valery G. Korzun and Sergei Y. Treschev, both of the Russian Federal Space Agency). Launched on Nov. 24, Endeavour's payload carried the P1 truss segment to extend the station's backbone. The orbiter's crew included James D. Wetherbee, commander; Paul S. Lockhart, pilot; and Mission Specialists Michael Lopez-Alegria and John B. Herrington. Endeavour landed on Dec. 7 at Kennedy Space Center.

2003

STS-107 • Jan. 16-Feb.1, 2003

The crew of Columbia poses for their official crew portrait. From top left are: Mission Specialist David M. Brown, Mission Specialist Laurel B. Clark, Payload Commander Michael P. Anderson and Payload Specialist Ilan Ramon of the Israel Space Agency. From bottom left are: Commander Rick D. Husband, Mission Specialist Kalpana Chawla and Pilot William C. McCool. Launched on Jan. 16, all were lost when Columbia broke up above East Texas during re-entry on Feb. 1, 2003.

2005

STS-114 • July 26-Aug. 9, 2005

Discovery launched on July 26 on the Return to Flight mission following the Columbia accident. The STS-114 mission delivered critical supplies and crew to the International Space Station, however its main objective was to test and evaluate new space shuttle safety techniques, processes and equipment including the Orbiter Boom Sensor System (pictured) and the Laser Dynamic Range Imager. Discovery was crewed by Eileen M. Collins, commander; James M. Kelly, pilot; and Mission Specialists

Soichi Noguchi of the Japanese Aerospace Exploration Agency, Stephen K. Robinson, Andrew S.W. Thomas, Wendy B. Lawrence and Charles J. Camarda. Discovery landed on Aug. 9 at Edwards Air Force Base.

2006

STS-121 • July 4-17, 2006

The STS-121 mission launched on July 4 and was designated an International Space Station assembly mission. Throughout the mission, Discovery's crew continued to test new equipment and procedures for the inspection and repair of the thermal protection system. The mission was commanded by Stephen W. Lindsey, piloted by Mark E. Kelly, and crewed by Mission Specialists Michael E. Fossum, Lisa M. Nowak, Stephanie D. Wilson and Piers Sellers (pictured). Thomas Reiter of the European Space Agency was also ferried to the station. Discovery landed on July 17 at Kennedy Space Center.

STS-115 • Sept. 9-21, 2006

With the launch of Atlantis on Sept. 9, NASA got back to the business of constructing the International Space Station. The STS-115 mission's primary objective was to deliver the P3 and P4 truss segments and batteries. The mission was crewed by Brent W. Jett Jr., commander; Christopher J. Ferguson, pilot; and Mission Specialists Steve G. MacLean of the Canadian Space Agency, Daniel C. Burbank, Heidmarie Stefanyshyn-Piper and Joe Tanner. Atlantis landed on Sept. 21 at Kennedy Space Center.

STS-116 • Dec. 9-22, 2006

Also referred to as the International Space Station 12A mission, Discovery launched Dec. 9 on a mission to deliver and attach the P5 truss segment, complete a rewiring of the station's power system and rotate crew. The mission was crewed by Mark L. Polansky, commander; William A. Oefelein, pilot; and Mission Specialists Nicholas J. M. Patrick, Robert L. Curbeam Jr., Christer Fuglesang of the European Space Agency and Joan E. Higginbotham. Sunita L. Williams was ferried to the station to replace Thomas Reiter, who was brought home. Pictured: Curbeam and Fuglesang perform the mission's first spacewalk. Discovery landed on Dec. 22 at Kennedy Space Center.

2007

STS-117 • June 8-22, 2007

Atlantis' launch on June 8 marked the 250th orbital human spaceflight. The mission's objective was to deliver the S3 and S4 truss segments, and rotate crew on station. Clayton C. Anderson joined Expedition 15 and Sunita L. Williams returned to Earth. The mission was crewed by Frederick W. Sturckow, commander; Lee J. Archambault, pilot; and Mission Specialists Patrick G. Forrester, Steven R. Swanson, John D. Olivas and James F. Reilly (the latter two of whom are pictured). Atlantis landed on June 22 at Edwards Air Force Base.

STS-118 • Aug. 8-21, 2007

Endeavour flew for the first time since 2002 when it launched on Aug. 8 on a mission to deliver the S5 truss segment, an external stowage platform (pictured) and a control moment gyroscope. The mission was crewed by Scott J. Kelly, commander; Charles O. Hobaugh, pilot; and Mission Specialists Tracy E. Caldwell, Richard Mastracchio, Dafydd R. Williams of the Canadian Space Agency, B. Alvin Drew and Barbara R. Morgan, the first astronaut from the Educator Astronaut Program to go into space. Endeavour landed on Aug. 21 at Kennedy Space Center.

STS-120 • Oct. 23-Nov. 7, 2007

Discovery launched Oct. 23 on an assembly mission to the International Space Station. The mission to deliver the Harmony module and help prepare the station for upcoming assembly missions turned into a repair mission when a small tear appeared in the 4B solar array. Pictured: Mission Specialist Scott E. Parazynski rides the orbiter boom, attached to the Canadarm2 out to repair the solar array with tools improvised from materials available on the station. The mission was crewed by Pamela A. Melroy, commander; George D. Zamka, pilot; and Mission Specialists Douglas H. Wheelock, Stephanie D. Wilson, Paolo A. Nespoli of the European Space Agency and Parazynski. Discovery landed on Nov. 7 at Kennedy Space Center.

2008

STS-122 • Feb 7-20, 2008

The 24th mission to the International Space Station lifted off on Feb. 7 to deliver the European Space Agency's Columbus laboratory and rotate station crew. Atlantis was crewed by Stephen N. Frick, commander; Alan G. Poindexter, pilot; and Mission Specialists Leland D. Melvin, Rex J. Walheim (pictured), Hans Schlegel of the European Space Agency and Stanley G. Love. Leopold Eyharts also of the European Space Agency joined Expedition 16 aboard station and Daniel M. Tani returned to Earth. Atlantis landed on Feb. 7 at Kennedy Space Center.

STS-123 • March 11-26, 2008

Endeavour launched on March 11 to deliver the first module of the Japanese complex, the Japanese Experiment Logistics Module, Pressurized Section and the Canadian Dextre robotics system to the station. The mission set a record for the longest stay at the station. The mission was crewed by Dominic L. Gorie, commander; Gregory H. Johnson, pilot; and Mission Specialists Robert L. Behnken, Michael J. Foreman (pictured securing the Orbiter Boom Sensor System), Richard M. Linnehan and Takao Doi of the Japanese Aerospace Exploration Agency. Endeavour landed on March 26 at Kennedy Space Center.

STS-124 • May 31-June 14, 2008

Discovery launched on May 31 on its mission to deliver Kibo, the laboratory of the Japanese Aerospace Exploration Agency's complex aboard the station, along with its robotic arm, and rotate International Space Station crew. The crew included Mark E. Kelly, commander; Kenneth T. Ham, pilot; and Mission Specialists Karen L. Nyberg

(pictured), Ronald J. Garan Jr., Michael E. Fossum and Akihiko Hoshide of the Japanese Aerospace Exploration Agency. Gregory E. Chamitoff was ferried up to join Expedition 17 and Garrett E. Reisman was brought back. Discovery landed on June 14 at Kennedy Space Center.

STS-126 • Nov. 14-30, 2008

Endeavour launched on Nov. 14 on a logistics mission to deliver equipment and supplies to the International Space Station and service the starboard solar alpha rotary joint. Pictured are both the crew of STS-126: Christopher J. Ferguson, commander; Eric A. Boe, pilot; and Mission Specialists Heidemarie Stefanyshyn-Piper, Stephen G. Bowen, Donald S. Pettit and Robert S. Kimbrough; along with the Expedition 18 crew: Michael Fincke, commander; and Flight Engineers Yuri Lonchakov of the Russian Federal Space Agency, Gregory E. Chamitoff and Sandra H. Magnus. Endeavour landed on Nov. 30 at Edwards Air Force Base.

2009

STS-119 • March 15-28, 2009

Launched on March 15, Discovery flew to the International Space Station on a mission to deliver the S6 truss segment with its solar arrays. The mission was commanded by Lee Archambault and piloted by Dominic A. Antonelli. Mission specialists included Joseph M. Acaba, Steven R. Swanson, Richard R. Arnold and John L. Phillips. Koichi Wakata of the Japanese Aerospace Exploration Agency was ferried up to join Expedition 18 and Sandra H. Magnus rode back. Discovery landed on March 25 at Kennedy Space Center.

STS-125 • May 11-24, 2009

The fifth and final Hubble Space Telescope servicing mission launched on May 11. Atlantis carried two new instruments to the Hubble – the cosmic origins spectrograph and the wide field camera 3. The crew performed maintenance tasks intended to keep the telescope functioning through 2014. The mission was crewed by Scott D. Altman, commander; Gregory C. Johnson, pilot; and Mission Specialists Michael T. Good (pictured on the remote manipulator system), K. Megan McArthur, John M. Grunsfeld, Michael J. Massimino and Andrew J. Feustel. Atlantis landed on May 24 at Edwards Air Force Base.

STS-127 • July 15-31, 2009

Endeavour launched on July 15 to the International Space Station to deliver a new crew member and install the final two components of the Japanese complex on the station: an exposed porch for the Kibo laboratory and an exposed logistics module. Crew included Mark L. Polansky, commander; Douglas G. Hurley, pilot; and Mission Specialists Christopher J. Cassidy, Julie Payette of the Canadian Space Agency, Thomas H. Marshburn and David A. Wolf. Timothy L. Kopra joined Expedition 20 and Koichi Wakata of the Japanese Aerospace Exploration Agency returned. Endeavour landed on July 31 at Kennedy Space Center.

STS-128 • Aug. 28-Sept. 11, 2009

Discovery launched on Aug. 28 with the Leonardo multi-purpose logistics module loaded with microgravity experiments, the COLBERT treadmill, an Air Revitalization System and extra supplies and equipment to establish a six-man crew capacity aboard station. The mission's crew included: Frederick W. Sturckow, commander; Kevin A. Ford, pilot; and Mission Specialists Patrick G. Forrester, José M. Hernandez, Christer Fuglesang of the European Space Agency and John D. Olivas. Nicole P. Stott was ferried up to join Expedition 20 and Timothy L. Kopra returned. Discovery landed on Sept. 11 at Edwards Air Force Base.

STS-129 • Nov. 16-27, 2009

Atlantis launched Nov. 16 on a mission to deliver and stage spare parts at the International Space Station. The crew included Charles O. Hobaugh, commander; Barry E. Wilmore, pilot; and Mission Specialists Leland D. Melvin, Randolph J. Bresnik, Michael J. Foreman and Robert L. Satcher. Expedition 20's Nicole P. Stott rode back to Earth. Atlantis landed on Nov. 27 at Kennedy Space Center.

2010

STS-130 • Feb. 8-21, 2010

Endeavour launched on Feb. 8 to deliver the Tranquility module and its cupola to the International Space Station. The mission's crew included George D. Zamka, commander; Terry Virts, pilot; and Mission Specialists Kathryn P. Hire, Stephen K. Robinson, Nicholas J.M. Patrick (pictured looking out of the cupola) and Robert L. Behnken. Endeavour landed on Feb. 21 at Kennedy Space Center.

STS-131 • April 5-20, 2010

The mission launched on April 5 with the Leonardo multi-purpose logistics module filled with supplies and equipment for the International Space Station. Discovery's crew included Alan G. Poindexter, commander; James P. Dutton, pilot; and Mission Specialists Richard Mastracchio, Dorothy M. Metcalf-Lindenburger, Stephanie D. Wilson, Naoko Yamazaki of the Japanese Aerospace Exploration Agency and Clayton C. Anderson (pictured). Discovery landed on April 20 at Kennedy Space Center.

STS-132 • May 14-26, 2010

Launched on May 14, Atlantis delivered the Russian Rassvet Mini-Research Module and a pallet of space parts and equipment. The crew included Kenneth T. Ham, commander; Dominic A. Antonelli, pilot; and Mission Specialists Garrett E. Reisman, Michael T. Good, Stephen G. Bowen and Piers Sellers. Atlantis landed on May 26 at Kennedy Space Center.

2011

STS-133 • Feb. 24-Mar. 9, 2011

Space shuttle Discovery rolls down Runway 15 at the Shuttle Landing Facility at NASA's Kennedy Space Center in Florida. On Discovery's final flight, the Permanent Multipurpose Module Leonardo was delivered.

Leonardo had visited the station seven times before as a cargo carrier before being refurbished to serve as a permanent 2,472-cubic-foot addition to the orbiting laboratory. Also delivered was Robonaut 2, a human upper torso-like robot to help during space walks. The crew included Steve Lindsey, commander; Eric Boe, pilot; and Mission Specialists Alvin Drew, Steve Bowen, Michael Barratt and Nicole Stott.

STS-134 • May 16-June 1, 2011

This image of the International Space Station and the docked space shuttle Endeavour, flying at an altitude of approximately 220 miles, was taken by Expedition 27 crew member Paolo Nespoli from the Soyuz TMA-20 following its undocking on May 23, 2011 (USA time). The STS-134 crew included Mark Kelly, commander; Greg Johnson, pilot; and Mission Specialists Michael Fincke, Greg Chamitoff, Andrew Feustel and European Space Agency astronaut Roberto Vittori.

STS-135 • July 8-21, 2011

An American flag waves in the wind in front of space shuttle Atlantis on the Shuttle Landing Facility's Runway 15 at NASA's Kennedy Space Center in Florida. Atlantis' final return from space at 5:57 a.m. (EDT) on July 21, 2011, completed the 13-day, 5.2-million-mile STS-135 mission. Securing the space shuttle fleet's place in history, Atlantis brought a close to the nation's Space Shuttle Program. STS-135 delivered spare parts, equipment and supplies to the International Space Station. STS-135 was the 33rd and final flight for Atlantis, which has spent 307 days in space, orbited Earth 4,848 times and traveled 125,935,769 miles.





Pictured: Endeavour atop the Shuttle Carrier Aircraft at Dryden Flight Research Center, ready for its ferry flight back to Kennedy Space Center (1992).