

# NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT

## BIOGRAPHICAL DATA SHEET

**NAME:** Charles D. "Charlie" Walker

**ORAL HISTORY:** 19 November 2004, 17 March 2005, 14 April 2005, 7 November 2006

### **EDUCATIONAL BACKGROUND:**

B.S. in Aeronautical and Astronautical Engineering, Purdue University, West Lafayette, IN, 1971

### **EXPERIENCE:**

U.S. Forest Service (1967-1970 part-time, 1971-1972 full-time)

- Civil Engineering Technician
- Land Acquisition Specialist
- Forest Firefighter

Bendix Aerospace Company (1972-1973)

- Design Engineer

Naval Sea Systems Command Ammunition Production Engineering Center, Crane, IN (1973-1977)

- Project Engineer

McDonnell Douglas Astronautics Company, St. Louis, MO (1977-1986)

- Test Engineer (1977)
- CFES Chief Test Engineer (1977-1979)
- Chief Test Engineer and Payload Specialist (1979-1986)
- Astronaut trainer for CFES payload (1982-1983)

McDonnell Douglas Space Systems Company, Washington, D.C. (1986-1997)

- Special Assistant to the President (1986-1997)

McDonnell Douglas Aerospace, Washington, D.C. (1988-1997)

- Senior Specialist for Advanced Space Programs Business Development (1988-1997)

The Boeing Company, Washington, D.C. (1997-2005)

- Senior Manager of Space Programs Business Development and Marketing (1997-2000)
- Director, Washington, DC Government Relations (2000-2005)

Consultant, Lecturer, Writer (2005-Present)

### **NASA STUDY GROUPS, TASK FORCES, AND PROGRAMS**

NASA Microgravity Material Science Assessment Task Force

NASA Space Station Office Quick-Is-Beautiful/Rapid Response Research Study Group

NASA Space Station Operations Task Force

AIAA Steering Committee for NASA's Office of Commercial Programs

NASA/Industry Manned Flight Awareness Program, national panel member

NASA/Industry Education Initiative  
NASA/Purdue University space life support center, advisor  
NASA/Penn State space commercial development center, advisor  
International Space Station Strategic Roadmap Committee

## MISSIONS:

### STS 41-D (*Discovery*)

- Crew: Commander Henry W. "Hank" Hartsfield, Pilot Michael L. "Mike" Coats, Mission Specialist 1 Judith "Judy" Resnik, Mission Specialist 2 Steven A. Hawley, Mission Specialist 3 Richard M. "Mike" Mullane, Payload Specialist 1 Charles D. "Charlie" Walker
- Launched: 30 August 1984 at 8:41 A.M. EDT from Cape Canaveral, FL
- Duration: 6 days, 0 hours, 56 minutes, 4 seconds
- Landed: 5 September 1984 at 8:37:54 A.M. PDT at Edwards AFB, CA
- Mission Highlights: Maiden flight of orbiter *Discovery*. This mission had four major payloads, three of which were satellites: Satellite Business System-D (SBS-D), SYNCOM IV-2 (LEASAT2), and TELSTAR. This was the first time the crew deployed three satellites on the same flight. Additionally, the OAST-1 experiment, when fully extended out of the payload bay, was the largest structure ever extended from a manned spacecraft. Other payload experiments included: Continuous Flow Electrophoresis System (CFES) III; Radiation Monitoring Equipment (RME); Shuttle Student Involvement Program (SSIP); IMAX Camera; Air Force Experiment; and Cloud Logic to Optimize Use of Defense Systems (CLOUDS). This mission is also notable for inconveniences caused by an icicle that formed around the wastewater vent on the port side of the orbiter.

### STS 51-D (*Discovery*)

- Crew: Commander Karol J. Bobko, Pilot Donald E. Williams, Mission Specialist 1 M. Rhea Seddon, Mission Specialist 2 Jeffrey A. Hoffman, Mission Specialist 3 S. David Griggs, Payload Specialist 1 Charles D. "Charlie" Walker, Payload Specialist 2 Sen. Edwin J. "Jake" Garn
- Launched: 12 April 1985 at 8:59:05 A.M. EST from Cape Canaveral, FL
- Duration: 6 days, 23 hours, 55 minutes, 23 seconds
- Landed: 19 April 1985 at 8:54:28 A.M. EST at Kennedy Space Center, FL
- Mission Highlights: This mission had two major payloads, the Hughes SYNCOM IV-3 satellite, also known as LEASAT 3, and the Canadian communications spacecraft Anik C-1. The Anik C-1 spacecraft was successfully deployed shortly into the mission, however, the LEASAT 3 did not correctly activate. The orbiter returned and the crew, in the first unscheduled EVA in the Shuttle program, used a flyswatter device to "snag and tug" at a faulty sequence start lever. This was to no avail, and LEASAT 3 would have to wait for a later mission for repairs. Utah Senator Jake Garn was the first elected official to fly aboard the Space Shuttle. Senator Garn was onboard as a Congressional observer acting in his capacity as chairman of NASA's budget oversight committee. Experiments onboard included the second flight of the Continuous Flow Electrophoresis Experiment, successfully operated by Walker; an

informal science study of the behavior of simple mechanical toys in microgravity; two Shuttle Student Involvement Project (SSIP) experiments, of which one was successful and one not; a Phase Partitioning Experiment; and echocardiograph and image intensifier experiments.

#### STS 61-B (*Atlantis*)

- Crew: Commander Brewster H. Shaw, Jr., Pilot Bryan D. O'Connor, Mission Specialist 1 Mary L. Cleave, Mission Specialist 2 Sherwood C. Spring, Mission Specialist 3 Jerry L. Ross, Payload Specialist 1 Rodolfo Neri Vela, Payload Specialist 2 Charles D. "Charlie" Walker
- Launched: 26 November 1985 at 7:29:00 P.M. EST from Cape Canaveral, FL
- Duration: 6 days, 21 hours, 4 minutes, 49 seconds
- Landed: 3 December 1985 at 1:33:49 P.M. PST at Edwards AFB, CA
- Mission Highlights: This flight was the second night launch of the Shuttle Program. The primary payload of this mission consisted of three communications satellites: MORELOS-B for Mexico; AUSSAT-2 for Australia; and RCA SATCOM KU-2, a satellite deployed using a PAM-D2 motor designed for heavy payloads. Coupled with the primary payloads, the crew conducted two main experiments: the Experimental Assembly of Structures in Extravehicular Activity (EASE) and Assembly Concept for Construction of Erectable Space Structure (ACCESS). These two experiments required two spacewalks by Spring and Ross, lasting a total of over twelve hours. Additional payloads included: the Continuous Flow Electrophoresis System (CFES); Diffusive Mixing of Organic Solutions (DMOS); Morelos Payload Specialist Experiments (MPSE); and Orbiter Experiments. Lastly, a student experiment from Canada, Getaway Special Experiment, and the IMAX Camera were onboard the Space Shuttle in the payload bay.

#### AWARDS & CITATIONS:

- U.S. Patent No. 4,394,246, Electrophoresis Apparatus with Flow Control, 19 July 1983
- Sagamore of the Wabash, Appointment, Governor of Indiana, 1984
- NASA Space Flight Medal, 1984, 1985 (2)
- Aerospace Laurels Award, *Aviation Week & Space Technology*, 1985
- Doctor of Science, honoris causa, St. Louis College of Pharmacy, 1985
- Lindbergh Award, AIAA, 1986
- NASA Group Achievement Award, 1988
- Engineering Astronaut Alumnus Award, Purdue University, 1989
- Kentucky Colonel, Appointment, Governor of Kentucky, 1990
- Fellow, American Astronautical Society, 2004
- Professional Engineer, California

#### SELECT PUBLICATIONS & PATENTS:

Charles D. Walker, et al., "Investigation of the free flow electrophoretic process" Executive summary, Final Report, vol. 1 (St. Louis, MO: McDonnell Douglas Astronautics Co., 1979).

4,394,246, Electrophoresis Apparatus with Flow Control, 19 July 1983.

Charles D. Walker, "Thirty Years of Space with McDonnell and Douglas," in Proceedings of the 38<sup>th</sup> Congress of the International Astronautical Federation in Brighton, United Kingdom, October 10-17, 1987 by the AIAA (New York: AIAA Press, 1985), 17.

---, "Perspectives," in The Home Planet, ed. Kevin W. Kelley, (Reading, MA: Addison-Wesley Publishing Company, 1988).

---, "Pharmaceutical R&D in space – An industry perspective," *Journal of Clinical Pharmacology* 31, no. 10 (1991): 988-992.

---, "Spaceflight and the Public Mind," with Edward O. Buckbee in Blueprint for Space: Science Fiction to Science Fact, eds. Frederick I. Ordway III and Randy Liebermann (Washington, DC: Smithsonian Institution Press, 1992).

---, "Going Commercial," in Looking Backward, Looking Forward: Forty Years of Human Spaceflight Symposium in Washington D.C., May 8, 2001, by the Space Policy Institute, (Washington, DC: NASA, 2002).

--, "Outsider," in the Space Shuttle: The First 20 Years, ed. Tony Reichardt (New York: D.K. Publishing Inc., 2002), 37.

#### REFERENCES:

Charles D. Walker, "Going Commercial," in Looking Backward, Looking Forward: Forty Years of Human Spaceflight Symposium in Washington D.C., May 8, 2001, by the Space Policy Institute, (Washington, DC: NASA, 2002), 109-111.

David M. Harland, The Space Shuttle: Roles, Missions and Accomplishments (New York: John Wiley and Sons Ltd in association with Praxis Publishing, 1998), 6-8; 31.

Douglas B. Hawthorne, Men and Women of Space (San Diego: Univelt, 1992), 777.

"51-D (16)" NASA Historical Archive for Manned Missions, Online, <http://science.ksc.nasa.gov/shuttle/missions/51-d/mission-51-d.html>. (Last updated 29 June 2002; Accessed 14 September 2004).

Henry W. "Hank" Hartsfield, Jr., interview by Carol L. Butler, 15 June 2001, CD, transcript, JSC Oral History Project, JSC History Collection, University of Houston-Clear Lake, University Archives, Houston, TX.

Michael Cassutt, Who's Who in Space, The International Space Year Edition (New York: Macmillan Publishing Company, 1993), 162-163.

"Mission Summary: STS 41-D," NASA Spacelink, Online, <http://spacelink.nasa.gov/NASA.Projects.Human.Exploration.and.Development.of.Space/Human.Space.Flight/Shuttle/Shuttle.Missions/Flight.012.STS-41-D/Mission.Summary> (Last Updated n.d.; Accessed 9 September 2004).

"Mission Summary: STS 51-D," NASA Spacelink, Online, <http://spacelink.nasa.gov/NASA.Projects.Human.Exploration.and.Development.of.Space/Human.Space.Flight/Shuttle/Shuttle.Missions/Flight.012.STS-41-D/Mission.Summary> (Last Updated n.d.; Accessed 9 September 2004).

"NASA Biographical Data Sheet: Charles D. Walker," Public Affairs Office, Lyndon B. Johnson Space Center Media Resources, Online, <http://www.jsc.nasa.gov/Bios/PS/walker.html> (Last Updated February 1999; Accessed 3 September 2004).

"Press Kit: STS 51-D," NASA Spacelink, Online, <http://spacelink.nasa.gov/NASA.Projects.Human.Exploration.and.Development.of.Space/Human.Space.Flight/Shuttle/Shuttle.Missions/Flight.016.STS-51-D/Press.Kit> (Last Updated 17 July 1991; Accessed 5 November 1991).

"Press Kit: STS 61-B," NASA Spacelink, Online, <http://spacelink.nasa.gov/NASA.Projects.Human.Exploration.and.Development.of.Space/Human.Space.Flight/Shuttle/Shuttle.Missions/Flight.023.STS-61-D/Press.Kit> (Last Updated 17 July 1991; Accessed 28 November 2001).

"Shuttle Mission Archive: STS 41-D (12)," Kennedy Space Center Public Affairs Office Homepage, Online, <http://www.ksc.nasa.gov/shuttle/missions/41-d/mission-41-d.html> (Last Updated 29 June 2001; Accessed 10 September 2004).

"Space Shuttle Mission Chronology: STS 41-D," John F. Kennedy Space Center Media Resources, Online, <http://www-pao.ksc.nasa.gov/kscpao/chron/sts41-d.htm> (Last Updated 12 August 2003; Accessed 9 September 2004).

"Space Shuttle Mission Chronology: STS 51-D," John F. Kennedy Space Center Media Resources, Online, <http://www-pao.ksc.nasa.gov/kscpao/chron/sts51-d.htm> (Last Updated 12 August 2003; Accessed 9 September 2004).

"Space Shuttle Mission Chronology: STS 61-B," John F. Kennedy Space Center Media Resources, Online, <http://www-pao.ksc.nasa.gov/kscpao/chron/sts61-b.htm> (Last Updated 12 August 2003; Accessed 9 September 2004).

Tony Reichhardt, ed., Space Shuttle: The First 20 Years (New York: D.K. Publishing, Inc., 2002), 37.

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