



1  
00:00:00,580 --> 00:00:07,570

\h Music

2  
00:00:07,570 --> 00:00:11,610

\h Space shuttle Atlantis pierced a bright-blue Florida sky over

3  
00:00:11,610 --> 00:00:17,680

\h NASA's Kennedy Space Center for an on-time launch on Nov. 16, 2009,

4  
00:00:17,680 --> 00:00:22,170

\h beginning the fifth and final shuttle mission of the year.

5  
00:00:22,170 --> 00:00:25,640

\h The liftoff also was the 31st shuttle mission to the

6  
00:00:25,640 --> 00:00:31,210

\h International Space Station and Atlantis' 31st flight overall.

7  
00:00:31,210 --> 00:00:34,850

\h Atlantis, with six crew members aboard, played catch-up

8  
00:00:34,850 --> 00:00:38,630

\h with the orbiting laboratory during the first two flight days

9  
00:00:38,630 --> 00:00:43,090

\h as the crew conducted the shuttle's exterior inspection.

10  
00:00:43,090 --> 00:00:48,130

\h On Nov. 18, Commander Charlie Hobaugh carefully guided the shuttle

11  
00:00:48,130 --> 00:00:52,700

\h toward a successful docking to the space station's Harmony module

12  
00:00:52,700 --> 00:00:57,890

\h as the two orbited 225 miles above Earth.

13  
00:00:57,890 --> 00:01:02,110

\h The arrival brought together a combined crew of 12 as the hatches

14

00:01:02,110 --> 00:01:05,410

\h between the two spacecraft were opened.

15

00:01:05,410 --> 00:01:08,880

\h The shuttle carried 14 tons of supplies and spare parts

16

00:01:08,880 --> 00:01:13,540

\h for the station's electrical, plumbing, air conditioning, communications

17

00:01:13,540 --> 00:01:15,980

\h and robotics systems.

18

00:01:15,980 --> 00:01:21,320

\h In addition, station Flight Engineer Nicole Stott would catch a ride back

19

00:01:21,320 --> 00:01:26,430

\h to Earth after 91 days in space becoming the last station crew member

20

00:01:26,430 --> 00:01:28,460

\h to ride aboard a shuttle.

21

00:01:28,460 --> 00:01:32,430

\h The heart of the mission's work was accomplished in three spacewalks

22

00:01:32,430 --> 00:01:35,610

\h during the seven days of docked operations.

23

00:01:35,610 --> 00:01:39,630

\h First up were spacewalkers Mike Foreman and Bobby Satcher,

24

00:01:39,630 --> 00:01:43,000

\h with Barry Wilmore and Leland Melvin supporting them

25

00:01:43,000 --> 00:01:45,400

\h with the station's robotic arm.

26

00:01:45,400 --> 00:01:50,390

\h During their six-hour, 37-minute spacewalk, the duo completed

27

00:01:50,390 --> 00:01:55,180

\h a number of tasks, including antenna installation and lubrication

28

00:01:55,180 --> 00:01:57,600

\h of the Japanese robotic arm.

29

00:01:57,600 --> 00:02:01,090

\h The second spacewalk of the mission teamed Foreman with

30

00:02:01,090 --> 00:02:02,940

\h Randy Bresnik.

31

00:02:02,940 --> 00:02:07,390

\h The six-hour, eight-minute outing included not only scheduled tasks

32

00:02:07,390 --> 00:02:11,060

\h such as deployment of a spare parts payload attachment system

33

00:02:11,060 --> 00:02:15,590

\h on the upper part of the Starboard 3 Truss but some additional get-ahead

34

00:02:15,590 --> 00:02:17,480

\h work as well.

35

00:02:17,480 --> 00:02:21,320

\h Bresnik and Satcher conducted the third and final spacewalk

36

00:02:21,320 --> 00:02:24,770

\h in five hours and 42 minutes.

37

00:02:24,770 --> 00:02:30,740

\h The spacewalk's most lengthy task was the installation of a 6.2-foot-long,

38

00:02:30,740 --> 00:02:36,670

\h 1,240-pound high-pressure oxygen tank that Melvin and Wilmore

39

00:02:36,670 --> 00:02:39,980

\h maneuvered using the station's robotic arm.

40

00:02:39,980 --> 00:02:45,270

\h After a final day of docked operations, the two spacecraft parted ways,

41

00:02:45,270 --> 00:02:49,490

\h and the Atlantis crew conducted a final inspection in preparation

42

00:02:49,490 --> 00:02:52,220

\h for the homecoming trip back to Earth.

43

00:02:52,220 --> 00:02:56,070

\h Once again, the Florida sun shined on the Atlantis astronauts

44

00:02:56,070 --> 00:03:00,900

\h as they bookended their mission with an on-time landing at Kennedy.