
LANDING RECOVERY DIRECTOR
CHIEF NASA TEST DIRECTOR

1
00:00:01,060 --> 00:00:01,380
\h

2
00:00:01,740 --> 00:00:02,616
Commander: OTC, CDR, heater reconfig complete.

3
00:00:03,930 --> 00:00:04,653
Orbiter test conductor: Copy.

4
00:00:05,140 --> 00:00:05,510
Pilot: OTC, PLT, APU start is complete.

5
00:00:07,370 --> 00:00:10,436
Controller: GLS is go for auto sequence start.

6
00:00:10,610 --> 00:00:12,380
NARRATOR: It's launch day at NASA's Kennedy Space Center in Florida. The space shuttle is on the

7
00:00:15,240 --> 00:00:21,040
launch pad, the astronauts are aboard and the countdown is clicking steadily backwards.

8
00:00:21,620 --> 00:00:23,126
More than 200 miles above Earth, the International Space Station is moving quickly through its

9
00:00:26,380 --> 00:00:32,246
91-minute-long orbit, leaving the shuttle a scant five minute window to lift off or risk

10
00:00:32,370 --> 00:00:34,503
missing the orbiting laboratory.

11
00:00:35,520 --> 00:00:35,676
Inside the Launch Control Center, a cadre of some 200 launch controllers,

12
00:00:40,230 --> 00:00:41,033
all of them specialists in the shuttle and its myriad systems, methodically move their

13
00:00:45,160 --> 00:00:46,400

own checklists to make sure that everything is ready. They've worked for days to bring the

14
00:00:49,920 --> 00:00:50,363
countdown this far, to a point nine minutes before launch when it is

15
00:00:54,010 --> 00:00:58,076
time to decide whether the shuttle is indeed ready to launch.

16
00:00:58,590 --> 00:00:58,966
The person making that decision is the launch director.

17
00:01:01,880 --> 00:01:01,926
LEINBACH: 22,000 parameters, roughly, have to be exactly right in order to launch the shuttle.

18
00:01:08,100 --> 00:01:09,693
NARRATOR: If conditions aren’t right, the launch director can scrub the launch attempt.

19
00:01:12,440 --> 00:01:13,080
Launch director, Endeavour. Go ahead, sir. Okay, Zambo. Well, you heard all that.

20
00:01:17,200 --> 00:01:17,986
You know we tried really, really hard to work the weather.

21
00:01:20,280 --> 00:01:20,450
It's just too dynamic. We got feeling good there at one point, and then it filled back in.

22
00:01:26,110 --> 00:01:27,830
And we're just not comfortable with launching the space shuttle tonight.

23
00:01:29,190 --> 00:01:31,086
So we're going to go into a 24-hour scrub. But thank you all for the efforts you all put in tonight.

24
00:01:33,960 --> 00:01:34,430
We'll see you back again tomorrow night, and we'll hope the weather's a little bit better.

25
00:01:39,490 --> 00:01:41,600
NARRATOR: Sometimes a problem isn't seen until the last seconds of a countdown and the computerized

26
00:01:43,980 --> 00:01:44,000
ground launch sequencer aborts the launch.

27
00:01:46,760 --> 00:01:51,626
Commentator: Running, three, two, one, and... we have main engine cutoff.

28
00:01:52,860 --> 00:01:54,083
Controller: GLS safing is in progress.

29
00:01:54,170 --> 00:01:59,436
Commentator: GLS safing is in progress. (Controllers discussing shuttle safing)

30
00:02:00,520 --> 00:02:06,986
NARRATOR: Ten people have served as launch director during the space shuttle's 30 years of flying

31
00:02:11,050 --> 00:02:17,316
into space. For each, launch day became the ultimate test of their skills and decision-making.

32
00:02:18,250 --> 00:02:24,116
BOB SIECK: The essence of the job is actually to say no when everybody else wants to go.

33
00:02:28,760 --> 00:02:31,106
NARRATOR: On launch day, the launch director and his team can be found in one of the firing rooms

34
00:02:32,880 --> 00:02:33,526
inside the Launch Control Center at Kennedy. He sits in the back row, facing a few monitors and with

35
00:02:38,900 --> 00:02:45,566
the giant windows looking out to the pad at his back. Because his console is on a riser, he can look

36
00:02:45,910 --> 00:02:46,826
out on the other controllers in the room, many of them at specialized consoles behind

37
00:02:50,660 --> 00:02:52,393
horseshoe-shaped cabinets.

38
00:02:52,970 --> 00:02:54,823

LEINBACH: We have to be convinced as a team, I have to be convinced as a person that everything is

39
00:02:57,650 --> 00:03:04,250
ready to go and so until that point, until I have the feeling in my gut that we're ready to launch,

40
00:03:04,470 --> 00:03:09,536
we can meet every requirement we have on the books, but we also have to meet

41
00:03:10,480 --> 00:03:10,643
that gut check that says we're ready to fly that day.

42
00:03:13,850 --> 00:03:14,746
NARRATOR: Nine minutes before liftoff, the flight control team in Houston, NASA and contractor

43
00:03:19,220 --> 00:03:24,753
management and the other members of the launch team radio a simple "go" or "no-go."

44
00:03:24,760 --> 00:03:30,693
Controllers: MILA. MILA is go. STM. STM is go. Safety console. Safety console is go. SPE.

45
00:03:31,500 --> 00:03:34,500
SPE is go. LRD. LRD is go. SRO. SRO is no-go.

46
00:03:37,180 --> 00:03:38,450
NARRATOR: Then the launch director gets the last word in a tradition that goes back to the first

47
00:03:42,310 --> 00:03:42,766
launch of a space shuttle in 1981, when Launch Director George Page radioed to Columbia commander

48
00:03:48,320 --> 00:03:50,520
John Young and pilot Bob Crippen.

49
00:03:50,990 --> 00:03:57,656
George Page: John, we can't, uh, do more from the launch team than say uh, we sure wish you an awful

50
00:03:59,010 --> 00:04:00,593
lot of luck, we're with you a thousand percent and we're awful proud to have been a part of it.

51
00:04:03,760 --> 00:04:05,160
Good luck, gentlemen.

52
00:04:05,700 --> 00:04:07,103
Voice of John Young: Crip and I are mighty proud to work with you fellows.

53
00:04:09,230 --> 00:04:12,563
You're absolutely professional, the best there is.

54
00:04:12,810 --> 00:04:18,810
LEINBACH: It becomes very personal and I look out to the pad and I think about the crew on

55
00:04:19,400 --> 00:04:19,756
board and I have a little moment of reflection and then the countdown clock picks up at T-9 minutes.

56
00:04:25,710 --> 00:04:27,600
NARRATOR: There were two space shuttle missions that took the launch directors into untested areas.

57
00:04:30,420 --> 00:04:34,153
The first, STS-51L in 1986, was the Challenger accident.

58
00:04:35,750 --> 00:04:35,776
James Thomas was the launch director and Seick was on-hand on that cold January morning.

59
00:04:41,590 --> 00:04:48,256
SIECK: It was one of those days in hindsight when even though everything was within specification as

60
00:04:50,880 --> 00:04:57,480
far as the launch commit criteria, the requirements, a lot of people had this gut feeling that this

61
00:04:57,750 --> 00:04:59,350
just doesn't feel right.

62
00:04:59,880 --> 00:05:01,296
NARRATOR: NASA rebounded from the Challenger accident with determination and the agency sought to

63
00:05:04,930 --> 00:05:05,930

fix its errors.

64
00:05:06,810 --> 00:05:08,416
SIECK: Our resolve was, we're going to safely fly again, it's going to be a lot of work but we're

65
00:05:11,670 --> 00:05:13,670
going to get there and we did.

66
00:05:14,460 --> 00:05:14,733
NARRATOR: Discovery returned astronauts to space in September 1988, a mission Sieck said gave a

67
00:05:20,520 --> 00:05:22,520
huge boost to the launch team.

68
00:05:22,860 --> 00:05:24,110
SIECK: Kind of like the start or in this case the rebirth of the shuttle program.

69
00:05:27,010 --> 00:05:33,410
And because the mission, the flight, its performance proved that we had fixed all of those items

70
00:05:35,390 --> 00:05:38,323
that we should have fixed in the Challenger.

71
00:05:39,580 --> 00:05:45,913
NARRATOR: In 2003, Leinbach was called into recovery service after shuttle Columbia broke apart

72
00:05:45,990 --> 00:05:48,656
during reentry over Texas and Louisiana.

73
00:05:49,230 --> 00:05:50,513
LEINBACH: My job as the rapid response team chairman, it's another assignment of the launch director,

74
00:05:54,680 --> 00:05:54,746
is to take that first team from KSC to wherever the contingency is.

75
00:05:59,080 --> 00:06:05,680
Commentator: Three engines up and burning! Three, two, one, and liftoff of space shuttle Discovery,

76
00:06:05,900 --> 00:06:12,566
beginning America's new journey to the moon, Mars and beyond. And the vehicle has cleared the tower.

77
00:06:14,440 --> 00:06:15,696
NARRATOR: The shuttle returned to space again in 2005, with Discovery launching to the International

78
00:06:19,850 --> 00:06:20,850
Space Station.

79
00:06:22,660 --> 00:06:24,900
NARRATOR: Launch days throughout the shuttle's illustrious program have always been special for the

80
00:06:27,020 --> 00:06:29,886
men and women in the Launch Control Center.