



1
00:00:20,000 --> 00:00:42,630
are you ready

2
00:00:45,910 --> 00:00:44,389
space shuttle atlantis now in view of

3
00:00:48,150 --> 00:00:45,920
the cameras there at the kennedy space

4
00:00:50,150 --> 00:00:48,160
center

5
00:00:52,229 --> 00:00:50,160
it's speed 2 900 miles per hour its

6
00:00:54,229 --> 00:00:52,239
altitude

7
00:00:57,189 --> 00:00:54,239
20 statute miles

8
00:01:02,069 --> 00:00:57,199
it's ranged there from ksc 127 miles our

9
00:01:02,079 --> 00:01:12,870
choppy

10
00:01:12,880 --> 00:01:41,910
didn't work

11
00:01:41,920 --> 00:01:50,950
atlantis you can take air data

12
00:01:55,030 --> 00:01:53,350
and call confirming that the two

13
00:01:57,190 --> 00:01:55,040

air data probes on the left and right of

14

00:01:59,109 --> 00:01:57,200

atlantis's nose have been deployed and

15

00:02:01,830 --> 00:01:59,119

receiving good data on the shuttle's

16

00:02:03,190 --> 00:02:01,840

position and speed

17

00:02:04,469 --> 00:02:03,200

and data now being updated in the

18

00:02:08,150 --> 00:02:04,479

shuttle's guidance and navigation

19

00:02:12,949 --> 00:02:11,029

atlantis's current speed mach 2.8

20

00:02:54,550 --> 00:02:12,959

its altitude 16 miles ranged to the

21

00:02:58,070 --> 00:02:56,470

sonic boom is now audible over florida

22

00:03:01,110 --> 00:02:58,080

as atlantis continues to head toward the

23

00:03:06,630 --> 00:03:03,509

its current speed 300 miles per hour its

24

00:03:08,710 --> 00:03:06,640

altitude 14 miles

25

00:03:12,710 --> 00:03:08,720

range to the kennedy space center now 68

26

00:03:17,990 --> 00:03:14,550

space shuttle atlantis now in its final

27

00:03:22,790 --> 00:03:20,630

and a half minutes to go till touchdown

28

00:03:25,430 --> 00:03:22,800

atlantis you are on energy approaching

29

00:03:27,350 --> 00:03:25,440

the hack no changes to winds or weather

30

00:03:29,830 --> 00:03:27,360

you'll be nominal shoot deploy

31

00:03:33,910 --> 00:03:29,840

[Music]

32

00:03:40,390 --> 00:03:33,920

copy no changes nominal shoots

33

00:03:46,550 --> 00:03:44,309

atlantis current speed mach 1.6

34

00:03:49,270 --> 00:03:46,560

its altitude 12 miles range to the

35

00:03:52,869 --> 00:03:49,280

kennedy space center 41 miles continuing

36

00:03:54,390 --> 00:03:52,879

to bear down on runway 3-3

37

00:03:56,149 --> 00:03:54,400

atlanta is now just five minutes away

38

00:03:57,509 --> 00:03:56,159

from touchdown

39

00:03:59,190 --> 00:03:57,519

it is approaching what is known as the

40

00:04:01,589 --> 00:03:59,200

heading alignment cylinder this is an

41

00:04:03,270 --> 00:04:01,599

imaginary circle that is created by the

42

00:04:05,429 --> 00:04:03,280

microwave landing system there at the

43

00:04:07,270 --> 00:04:05,439

kennedy space center it sits off the end

44

00:04:08,949 --> 00:04:07,280

of the runway and is about seven miles

45

00:04:10,550 --> 00:04:08,959

wide

46

00:04:11,910 --> 00:04:10,560

commander ken ham will take control of

47

00:04:13,509 --> 00:04:11,920

the flight at that point in time and

48

00:04:15,110 --> 00:04:13,519

will

49

00:04:17,430 --> 00:04:15,120

steer the shuttle around that imaginary

50

00:04:18,949 --> 00:04:17,440

circle this will allow the proper energy

51
00:04:27,270 --> 00:04:18,959
and the ground track and set up for the

52
00:04:30,150 --> 00:04:28,629
this review from the heads-up display

53
00:04:37,189 --> 00:04:30,160
this is exactly what the crew is seeing

54
00:04:40,710 --> 00:04:39,830
atlantis's current speed 653 miles per

55
00:04:43,110 --> 00:04:40,720
hour

56
00:04:44,550 --> 00:04:43,120
is altitude nine miles

57
00:04:48,790 --> 00:04:44,560
it's range to the kennedy space center

58
00:04:48,800 --> 00:05:05,189
touchdown now just four minutes away

59
00:05:33,990 --> 00:05:16,950
so

60
00:05:38,070 --> 00:05:35,830
pilot tony antonelli now taking control

61
00:05:39,590 --> 00:05:38,080
of the stick for a few minutes steering

62
00:05:41,510 --> 00:05:39,600
atlantis around this heading alignment

63
00:05:44,150 --> 00:05:41,520

circle this is a right overhead turn of

64

00:05:45,830 --> 00:05:44,160

320 degrees this will set up the shuttle

65

00:05:48,790 --> 00:05:45,840

for its final approach and landing there

66

00:05:50,550 --> 00:05:48,800

on runway 3-3

67

00:05:53,189 --> 00:05:50,560

now just three minutes to go the shuttle

68

00:05:56,950 --> 00:05:53,199

is traveling 547 miles per hour its

69

00:05:56,960 --> 00:06:01,670

and houston atlanta

70

00:06:01,680 --> 00:06:11,830

yeah good luck with that one

71

00:06:16,350 --> 00:06:13,830

now the commander ken ham now taking

72

00:06:19,350 --> 00:06:16,360

control of the

73

00:06:21,830 --> 00:06:19,360

[Music]

74

00:06:21,840 --> 00:06:24,790

absolutely

75

00:06:28,309 --> 00:06:26,309

two and a half more minutes to go in

76

00:06:29,749 --> 00:06:28,319

atlanta's flight

77

00:06:32,230 --> 00:06:29,759

there you see the florida coast coming

78

00:06:34,390 --> 00:06:32,240

into view the shuttle continuing to turn

79

00:06:48,550 --> 00:06:34,400

to the right and line up with runway 3-3

80

00:06:52,790 --> 00:06:50,230

commander ken ham continuing to finish

81

00:07:02,950 --> 00:06:52,800

up this heading alignment circle turn

82

00:07:05,990 --> 00:07:04,710

in just a few seconds the shuttle's crew

83

00:07:13,990 --> 00:07:06,000

will get their first view at the kennedy

84

00:07:17,110 --> 00:07:15,909

atlanta is now traveling 400 miles per

85

00:07:18,629 --> 00:07:17,120

hour

86

00:07:20,950 --> 00:07:18,639

and houston now the left side of the

87

00:07:24,950 --> 00:07:20,960

cockpit has a runway inside

88

00:07:28,309 --> 00:07:26,790

once again this is the heads-up display

89

00:07:31,350 --> 00:07:28,319

that commander ken ham is taking a look

90

00:07:44,390 --> 00:07:31,360

at as he pilots atlantis down toward

91

00:07:48,309 --> 00:07:46,710

space shuttle atlantis now traveling 389

92

00:07:52,390 --> 00:07:48,319

miles per hour it is now on final

93

00:07:55,430 --> 00:07:53,510

during this point in the flight the

94

00:07:58,150 --> 00:07:55,440

shuttle's descent rate is 20 times

95

00:07:59,909 --> 00:07:58,160

steeper than a commercial airliner

96

00:08:04,070 --> 00:07:59,919

its angle of attack more than seven

97

00:08:18,710 --> 00:08:05,749

now under one minute to go in atlantis's

98

00:08:18,720 --> 00:08:28,070

so

99

00:08:30,629 --> 00:08:29,589

atlantis now beginning what is known as

100

00:08:36,790 --> 00:08:30,639

the

101
00:08:36,800 --> 00:08:44,870
its speed now 320 miles per hour

102
00:08:44,880 --> 00:08:53,790
figures down and locked

103
00:08:57,430 --> 00:08:55,350
[Music]

104
00:08:59,670 --> 00:08:57,440
main gear touchdown

105
00:09:01,670 --> 00:08:59,680
atlantis nose being now rotated down

106
00:09:06,790 --> 00:09:01,680
toward the runway the chute being

107
00:09:11,030 --> 00:09:09,190
and nose gear touchdown

108
00:09:12,550 --> 00:09:11,040
space shuttle atlantis now comes home to

109
00:09:13,750 --> 00:09:12,560
the kennedy space center for the final

110
00:09:17,350 --> 00:09:13,760
time

111
00:09:19,509 --> 00:09:17,360
25 years 32 flights and more than 120

112
00:09:20,870 --> 00:09:19,519
million miles traveled

113
00:10:16,550 --> 00:09:20,880

the legacy of atlanta is now in the

114

00:10:20,870 --> 00:10:19,030

copy will stop atlanta stock that uh

115

00:10:22,550 --> 00:10:20,880

landing was something that your air

116

00:10:24,550 --> 00:10:22,560

force crewmate should have really been

117

00:10:27,990 --> 00:10:24,560

proud of that looked pretty sweet

118

00:10:30,470 --> 00:10:28,000

uh for you and your crew uh that was uh

119

00:10:32,310 --> 00:10:30,480

suited into a incredible mission

120

00:10:33,750 --> 00:10:32,320

i'm sure the station crew members hated

121

00:10:34,870 --> 00:10:33,760

to see you leave but we're glad to have

122

00:10:37,829 --> 00:10:34,880

you back

123

00:10:39,509 --> 00:10:37,839

and you guys executed flawlessly and not

124

00:10:41,590 --> 00:10:39,519

only that you had a great time doing it

125

00:10:43,269 --> 00:10:41,600

that was very evident from the ground

126
00:10:45,110 --> 00:10:43,279
and everybody down here really enjoyed

127
00:10:46,550 --> 00:10:45,120
working with you but that will get you

128
00:10:51,110 --> 00:10:46,560
back to work we'll meet you in the post

129
00:10:55,509 --> 00:10:52,870
okay scorch thanks and uh thanks all you

130
00:10:57,670 --> 00:10:55,519
guys too we'll go over to 5-3

131
00:10:59,430 --> 00:10:57,680
and uh we'll finish up post landing and

132
00:11:01,030 --> 00:10:59,440
turn this incredible machine back over

133
00:11:03,110 --> 00:11:01,040
to the ground team to put her back in

134
00:11:07,590 --> 00:11:03,120
the barn for a little bit

135
00:11:10,949 --> 00:11:09,509
and with those words from sts-132

136
00:11:13,030 --> 00:11:10,959
commander ken ham talking with the

137
00:11:14,710 --> 00:11:13,040
capcom charlie hobah here inside mission

138
00:11:19,430 --> 00:11:14,720

control houston

139

00:11:23,269 --> 00:11:19,440

atlantis has wrapped up a 32-year career

140

00:11:26,590 --> 00:11:23,279

32 missions as well as this 132 flight