



1
00:00:01,920 --> 00:00:06,950
t minus one minute and counting

2
00:00:10,310 --> 00:00:08,710
the ground launch sequencer will verify

3
00:00:12,629 --> 00:00:10,320
that the three main engines are ready to

4
00:00:17,349 --> 00:00:14,070
the booster joint heaters are being

5
00:00:19,510 --> 00:00:17,359
deactivated at this time

6
00:00:21,189 --> 00:00:19,520
t-minus 50 seconds we're transferring to

7
00:00:22,950 --> 00:00:21,199
orbital internal power

8
00:00:25,750 --> 00:00:22,960
endeavor is now running off of its three

9
00:00:27,589 --> 00:00:25,760
on-board fuel cells

10
00:00:33,030 --> 00:00:27,599
coming up on a go for auto sequence

11
00:00:40,069 --> 00:00:36,549
tls is go for auto sequence start

12
00:00:41,990 --> 00:00:40,079
t-minus 27 seconds and counting

13
00:00:43,590 --> 00:00:42,000

endeavors onboard computers have primary

14

00:00:45,350 --> 00:00:43,600

control of all the vehicles critical

15

00:00:49,750 --> 00:00:45,360

functions

16

00:00:53,350 --> 00:00:51,430

the sound suppression water system has

17

00:00:55,830 --> 00:00:53,360

been activated protecting endeavor and

18

00:00:58,389 --> 00:00:55,840

the launch pad from acoustical energy

19

00:01:00,150 --> 00:00:58,399

we're go for main engine start we have

20

00:01:01,750 --> 00:01:00,160

main engine start

21

00:01:02,709 --> 00:01:01,760

four three

22

00:01:04,390 --> 00:01:02,719

two

23

00:01:06,710 --> 00:01:04,400

one

24

00:01:09,910 --> 00:01:06,720

booster ignition and liftoff of

25

00:01:12,710 --> 00:01:09,920

endeavour completing kibo and fulfilling

26

00:01:17,830 --> 00:01:12,720

japan's hope for an out of this world

27

00:01:23,749 --> 00:01:20,789

houston endeavor roll program

28

00:01:25,830 --> 00:01:23,759

roger roll endeavor

29

00:01:27,350 --> 00:01:25,840

this is mission control houston

30

00:01:29,429 --> 00:01:27,360

endeavour's role maneuver is being

31

00:01:31,109 --> 00:01:29,439

completed it's now going into a

32

00:01:32,630 --> 00:01:31,119

heads-down position on track for its

33

00:01:34,069 --> 00:01:32,640

flight to the international space

34

00:01:36,630 --> 00:01:34,079

station

35

00:01:38,149 --> 00:01:36,640

flying at 400 miles per hour one mile in

36

00:01:40,010 --> 00:01:38,159

altitude and seven miles downrange

37

00:01:48,389 --> 00:01:40,020

already from the kennedy space center

38

00:01:51,670 --> 00:01:49,990

endeavors engines were

39

00:01:53,190 --> 00:01:51,680

throttling down as the orbiter passes

40

00:01:54,789 --> 00:01:53,200

through the area of maximum pressure on

41

00:01:55,260 --> 00:01:54,799

the vehicle now 50 seconds into the

42

00:02:02,210 --> 00:01:55,270

flight

43

00:02:15,190 --> 00:02:13,990

[Music]

44

00:02:17,190 --> 00:02:15,200

the three engines on board are

45

00:02:19,830 --> 00:02:17,200

throttling back up endeavour flying at

46

00:02:24,790 --> 00:02:19,840

1100 miles per hour 10 miles in altitude

47

00:02:28,309 --> 00:02:26,550

that lift off the fully fueled shuttle

48

00:02:29,990 --> 00:02:28,319

boosters and external tank weighed four

49

00:02:31,830 --> 00:02:30,000

and a half million pounds the total

50

00:02:35,990 --> 00:02:31,840

thrust at launch was six million four

51
00:02:37,830 --> 00:02:36,000
hundred and twenty five thousand pounds

52
00:02:40,229 --> 00:02:37,840
one minute 33 seconds into the flight

53
00:02:42,390 --> 00:02:40,239
endeavor flying at 1900 miles per hour

54
00:02:44,630 --> 00:02:42,400
17 miles in altitude and 16 miles

55
00:02:46,470 --> 00:02:44,640
downrange all systems continue to

56
00:02:48,790 --> 00:02:46,480
function well endeavour has three good

57
00:02:50,710 --> 00:02:48,800
main engines three good power generating

58
00:02:54,550 --> 00:02:50,720
fuel cells and three good auxiliary

59
00:02:56,070 --> 00:02:54,560
power units for the hydraulic system

60
00:02:58,309 --> 00:02:56,080
we'll be standing by for burnout and

61
00:03:01,030 --> 00:02:58,319
separation of the solid rocket boosters

62
00:03:02,550 --> 00:03:01,040
combined the twin boosters provide 5.3

63
00:03:19,110 --> 00:03:02,560

million pounds of thrust to propel the

64

00:03:23,670 --> 00:03:21,350

booster officer confirms the srbs or

65

00:03:25,270 --> 00:03:23,680

solid rocket boosters have separated

66

00:03:32,229 --> 00:03:25,280

two minutes and 20 seconds into the

67

00:03:39,990 --> 00:03:35,430

flying at 3 100 miles per hour 37 miles

68

00:03:40,000 --> 00:03:46,550

endeavor two engine maroon

69

00:03:55,990 --> 00:03:49,990

roman on I1 we'd like high load duct

70

00:04:02,869 --> 00:03:57,990

complete

71

00:04:06,550 --> 00:04:04,550

commander mark polanski adjusting a

72

00:04:08,630 --> 00:04:06,560

heater on the environmental control

73

00:04:10,309 --> 00:04:08,640

knife support system endeavour can reach

74

00:04:12,309 --> 00:04:10,319

marone in the event of a single engine

75

00:04:24,469 --> 00:04:12,319

failure however all three main engines

76

00:04:28,629 --> 00:04:26,070

now three minutes 20 seconds in the

77

00:04:35,909 --> 00:04:28,639

flight endeavors flying at four thousand

78

00:04:41,990 --> 00:04:37,990

booster officer confirms that all three

79

00:04:46,230 --> 00:04:44,070

endeavor at an altitude of 56 statute

80

00:05:01,990 --> 00:04:46,240

miles and 120 miles downrange from the

81

00:05:07,749 --> 00:05:05,510

endeavor negative return

82

00:05:09,830 --> 00:05:07,759

negative return

83

00:05:11,270 --> 00:05:09,840

roman the extra duct heaters were

84

00:05:20,629 --> 00:05:11,280

because we saw a little cooling in the

85

00:05:24,310 --> 00:05:22,629

now four minutes and 18 seconds into the

86

00:05:25,990 --> 00:05:24,320

flight endeavour is now flying too high

87

00:05:27,430 --> 00:05:26,000

and too fast to return to the kennedy

88

00:05:28,950 --> 00:05:27,440

space center and the space shuttle

89

00:05:30,870 --> 00:05:28,960

landing facility in the event of an

90

00:05:34,629 --> 00:05:30,880

engine failure all three space shuttle

91

00:05:36,310 --> 00:05:34,639

main engines continue to function well

92

00:05:37,990 --> 00:05:36,320

the environmental systems officer also

93

00:05:39,749 --> 00:05:38,000

confirmed that the flash evaporator

94

00:05:41,670 --> 00:05:39,759

system has been activated to provide

95

00:06:15,029 --> 00:05:41,680

cooling before the payload bay doors are

96

00:06:15,039 --> 00:06:25,189

endeavor press to ato select zaragoza

97

00:06:29,110 --> 00:06:27,350

now five minutes and 22 seconds

98

00:06:31,430 --> 00:06:29,120

into the flight endeavor could now reach

99

00:06:33,670 --> 00:06:31,440

a lower than planned orbit but a safe

100

00:06:41,749 --> 00:06:33,680

orbit on two engines should one fail all

101
00:06:49,670 --> 00:06:45,270
endeavor single engine ops three

102
00:06:53,189 --> 00:06:51,430
endeavour could conduct a transatlantic

103
00:06:54,950 --> 00:06:53,199
abort landing on one engine should two

104
00:06:57,189 --> 00:06:54,960
fell at this point all three continuing

105
00:06:59,430 --> 00:06:57,199
to perform well

106
00:07:02,870 --> 00:06:59,440
endeavour is flying at 8 300 miles per

107
00:07:05,589 --> 00:07:02,880
hour 67 miles in altitude 350 miles

108
00:07:09,029 --> 00:07:07,270
endeavors engines have been commanded to

109
00:07:11,589 --> 00:07:09,039
swivel to put the orbiter in the proper

110
00:07:12,950 --> 00:07:11,599
heads-up position

111
00:07:19,270 --> 00:07:12,960
that for communications with the

112
00:07:19,280 --> 00:07:22,870
endeavor press tomiko

113
00:07:28,150 --> 00:07:24,469

press tamiko

114

00:07:33,670 --> 00:07:28,160
and single engine zero goes 104

115

00:07:38,150 --> 00:07:36,070
six minutes 30 seconds into the flight

116

00:07:41,589 --> 00:07:38,160
that call about prestamiko nominal

117

00:07:49,270 --> 00:07:41,599
shutdown plan go for the plus x go for

118

00:07:52,950 --> 00:07:50,950
endeavour can reach the planned orbit on

119

00:07:56,469 --> 00:07:52,960
two engines overall three continuing to

120

00:08:00,469 --> 00:07:58,150
and the shutdown plan of those engines

121

00:08:06,150 --> 00:08:00,479
is nominal as capcom allen poindexter

122

00:08:16,070 --> 00:08:10,230
endeavor single-engine press 104

123

00:08:19,350 --> 00:08:17,830
seven minutes and 12 seconds into the

124

00:08:21,670 --> 00:08:19,360
flight endeavour can reach its planned

125

00:08:23,510 --> 00:08:21,680
orbit on one engine should two fill

126
00:08:25,749 --> 00:08:23,520
and all three are continuing to perform

127
00:08:29,110 --> 00:08:25,759
well

128
00:08:31,830 --> 00:08:29,120
never is flying at 12 700 miles per hour

129
00:08:38,870 --> 00:08:31,840
65 miles in altitude and 613 miles

130
00:08:43,350 --> 00:08:41,110
seven minutes 35 seconds into the flight

131
00:08:44,790 --> 00:08:43,360
and the engines are throttling down to

132
00:08:46,630 --> 00:08:44,800
maintain structural limits on the

133
00:08:48,630 --> 00:08:46,640
orbiter as it passes

134
00:09:35,110 --> 00:08:48,640
or approaches loads near three times

135
00:09:39,030 --> 00:09:37,030
8 minutes 31 seconds into the flight

136
00:09:55,910 --> 00:09:39,040
booster officer confirms the main engine

137
00:10:06,550 --> 00:09:57,590
and external tank separation is

138
00:10:06,560 --> 00:10:11,829

endeavor in its sts-127 crew in orbit

139

00:10:15,430 --> 00:10:13,670

continuing on the mission to the