



1  
00:00:07,670 --> 00:00:05,510  
t-minus 50 seconds

2  
00:00:09,430 --> 00:00:07,680  
now transferring the shuttles

3  
00:00:11,350 --> 00:00:09,440  
internal electricity endeavor is now

4  
00:00:16,710 --> 00:00:11,360  
being powered by its three on-board fuel

5  
00:00:16,720 --> 00:00:21,510  
we're coming up on auto sequence start

6  
00:00:26,070 --> 00:00:24,390  
t-minus 31 seconds and counting

7  
00:00:27,670 --> 00:00:26,080  
endeavors five main on-board computers

8  
00:00:29,109 --> 00:00:27,680  
now have primary control of all the

9  
00:00:30,550 --> 00:00:29,119  
spacecraft's critical functions

10  
00:00:37,510 --> 00:00:30,560  
including control with a countdown from

11  
00:00:43,350 --> 00:00:39,670  
t-minus 16 seconds the sound suppression

12  
00:00:45,910 --> 00:00:45,029  
where t-minus ten

13  
00:00:46,790 --> 00:00:45,920

nine

14

00:00:47,910 --> 00:00:46,800

eight

15

00:00:48,950 --> 00:00:47,920

seven

16

00:00:51,910 --> 00:00:48,960

six

17

00:00:53,910 --> 00:00:51,920

five we have to go for many to start two

18

00:00:56,470 --> 00:00:53,920

one

19

00:00:58,229 --> 00:00:56,480

booster ignition and liftoff of shuttle

20

00:01:00,069 --> 00:00:58,239

endeavour with nasa's final space

21

00:01:01,670 --> 00:01:00,079

station crew compartment that brings a

22

00:01:13,270 --> 00:01:01,680

bay window view to our celestial

23

00:01:16,630 --> 00:01:14,630

this is mission control houston

24

00:01:18,710 --> 00:01:16,640

endeavors role maneuver is complete it's

25

00:01:20,310 --> 00:01:18,720

now in a heads down position on track

26

00:01:23,670 --> 00:01:20,320

for its flight to the international

27

00:01:28,710 --> 00:01:25,429

28 seconds into the flight endeavour

28

00:01:31,109 --> 00:01:28,720

flying at 100 miles per hour 1.3 miles

29

00:01:32,550 --> 00:01:31,119

in altitude and seven miles downrange

30

00:01:38,469 --> 00:01:32,560

from the kennedy space center according

31

00:01:42,389 --> 00:01:40,630

endeavors engines are throttling down at

32

00:01:54,630 --> 00:01:42,399

the as the orbiter passes through the

33

00:02:02,149 --> 00:01:58,469

endeavor go at throttle up

34

00:02:03,510 --> 00:02:02,159

and never copies go at throttle up

35

00:02:05,510 --> 00:02:03,520

the three main engines on board are

36

00:02:08,309 --> 00:02:05,520

throttling back up now one minute 10

37

00:02:10,869 --> 00:02:08,319

seconds in the flight

38

00:02:13,510 --> 00:02:10,879

endeavour flying at 1800 miles per hour

39

00:02:17,190 --> 00:02:13,520

10 miles in altitude 11.5 miles down

40

00:02:20,710 --> 00:02:18,949

at liftoff the fully fueled shuttle

41

00:02:22,550 --> 00:02:20,720

boosters and external tank weighed four

42

00:02:24,309 --> 00:02:22,560

and a half million pounds the total

43

00:02:29,270 --> 00:02:24,319

thrust at launch was six million four

44

00:02:33,190 --> 00:02:31,350

all systems continue to function well

45

00:02:35,270 --> 00:02:33,200

three good main engines

46

00:02:37,110 --> 00:02:35,280

three good power generating fuel cells

47

00:02:41,670 --> 00:02:37,120

and three good auxiliary power units for

48

00:02:48,550 --> 00:02:44,150

the next step will be the burnout and

49

00:02:52,470 --> 00:02:50,949

combine the twin boosters provide 5.3

50

00:03:08,309 --> 00:02:52,480

million pounds of thrust to propel the

51

00:03:13,750 --> 00:03:10,149

endeavor performance is

52

00:03:18,550 --> 00:03:15,670

two minutes 19 seconds into the flight

53

00:03:20,790 --> 00:03:18,560

endeavour flying at 3 700 miles per hour

54

00:03:25,430 --> 00:03:20,800

35 miles in altitude and 49 miles

55

00:03:28,869 --> 00:03:27,190

the propulsion officer confirms that the

56

00:03:30,869 --> 00:03:28,879

orbital maneuvering system engines are

57

00:03:39,509 --> 00:03:30,879

firing providing endeavor with its extra

58

00:03:39,519 --> 00:03:43,990

endeavor two engine zaragoza

59

00:03:57,990 --> 00:03:45,270

copy two

60

00:04:01,910 --> 00:03:59,750

now three minutes and four seconds into

61

00:04:03,670 --> 00:04:01,920

the flight that call indicating an

62

00:04:05,429 --> 00:04:03,680

endeavor could reach zaragoza in the

63

00:04:07,110 --> 00:04:05,439

event of a single engine failure however

64

00:04:09,990 --> 00:04:07,120

all three main engines continue to

65

00:04:14,869 --> 00:04:12,390

jeffers computers showing it flying at 4

66

00:04:50,150 --> 00:04:14,879

600 miles per hour 50 miles in altitude

67

00:04:50,160 --> 00:04:54,310

endeavor negative return

68

00:04:59,189 --> 00:04:57,670

happy negative return

69

00:05:00,870 --> 00:04:59,199

four minutes and three seconds in the

70

00:05:02,550 --> 00:05:00,880

flight endeavor is now flying too high

71

00:05:03,830 --> 00:05:02,560

and too fast to return to the kennedy

72

00:05:05,189 --> 00:05:03,840

space center in the shuttle landing

73

00:05:12,629 --> 00:05:05,199

facility in the event of an engine

74

00:05:17,590 --> 00:05:14,469

endeavor is flying at 6000 miles per

75

00:06:00,950 --> 00:05:17,600

hour 63 miles in altitude and 180 miles

76  
00:06:12,390 --> 00:06:03,749  
endeavor continuing on track endeavor

77  
00:06:16,230 --> 00:06:14,150  
five minutes and 18 seconds in the

78  
00:06:17,830 --> 00:06:16,240  
flight that call indicating endeavor can

79  
00:06:19,670 --> 00:06:17,840  
now reach a lower than planned but a

80  
00:06:21,350 --> 00:06:19,680  
safe orbit on two engines should one

81  
00:06:23,590 --> 00:06:21,360  
fail but all three engines are still

82  
00:06:36,469 --> 00:06:23,600  
performing well as are the auxiliary

83  
00:06:36,479 --> 00:06:42,629  
endeavor single engine ops 3.

84  
00:06:47,830 --> 00:06:45,909  
single engine ops 3.

85  
00:06:49,589 --> 00:06:47,840  
5 minutes 50 seconds into the flight

86  
00:06:51,350 --> 00:06:49,599  
endeavour could conduct a transatlantic

87  
00:06:56,950 --> 00:06:51,360  
abort landing on one engine should two

88  
00:06:56,960 --> 00:07:05,749

endeavor single engine zaragoza

89

00:07:09,670 --> 00:07:07,670

endeavor could reach zaragoza on one

90

00:07:13,990 --> 00:07:09,680

engine should two fell at this point you

91

00:07:14,000 --> 00:07:17,909

press tamiko

92

00:07:21,589 --> 00:07:19,749

22 seconds in the flight endeavor can

93

00:07:23,270 --> 00:07:21,599

reach the planned orbit on two engines

94

00:07:34,870 --> 00:07:23,280

all three engines continue to operate

95

00:07:40,230 --> 00:07:37,510

endeavor houston your shutdown plan is

96

00:07:45,830 --> 00:07:40,240

nominal go for the plus x go for the

97

00:07:45,840 --> 00:07:52,150

go for the pitch

98

00:07:55,749 --> 00:07:53,909

endeavour flying at 12 000 miles per

99

00:07:59,749 --> 00:07:55,759

hour now

100

00:08:03,029 --> 00:07:59,759

endeavor single engine press

101  
00:08:04,469 --> 00:08:03,039  
copy single engine press

102  
00:08:06,070 --> 00:08:04,479  
seven minutes eight seconds in the

103  
00:08:07,909 --> 00:08:06,080  
flight endeavor can reach its planned

104  
00:08:13,589 --> 00:08:07,919  
orbit on one engine should two fell

105  
00:08:17,350 --> 00:08:15,990  
never is now at an altitude of 64

106  
00:08:21,909 --> 00:08:17,360  
statute miles

107  
00:08:24,950 --> 00:08:23,110  
the three main engines are now

108  
00:08:26,950 --> 00:08:24,960  
throttling down to maintain structural

109  
00:08:28,869 --> 00:08:26,960  
limits on the orbiter as it passes or

110  
00:08:34,790 --> 00:08:28,879  
approaches loads near three times

111  
00:09:04,949 --> 00:08:36,469  
seven minutes forty seconds into the

112  
00:09:08,710 --> 00:09:06,630  
eight minutes ten seconds in the flight

113  
00:09:22,710 --> 00:09:08,720

endeavor continuing on track all systems

114

00:09:35,030 --> 00:09:24,630

booster officer confirms main engine

115

00:09:41,509 --> 00:09:37,990

endeavor houston nominal miko ohm's one

116

00:09:41,519 --> 00:09:48,790

properly nominal makeover not required

117

00:09:48,800 --> 00:09:54,790

and the external tank has separated now

118

00:09:58,310 --> 00:09:56,070

nine minutes into the flight of the

119

00:10:00,070 --> 00:09:58,320

space shuttle endeavor on sts-130 the

120

00:10:02,710 --> 00:10:00,080

crew will be preparing for hand-held

121

00:10:04,550 --> 00:10:02,720

photography of that external tank with a

122

00:10:06,230 --> 00:10:04,560

plex x maneuver

123

00:10:08,630 --> 00:10:06,240

of the orbiter to position endeavor

124

00:10:10,470 --> 00:10:08,640

correctly

125

00:10:12,230 --> 00:10:10,480

mission specialist bob bankin and kay

