



20:16:40.7

1
00:00:06,630 --> 00:00:04,230
bc and dc verify f9 and dragon aren't

2
00:00:08,870 --> 00:00:06,640
startup f9 is in startup

3
00:00:10,709 --> 00:00:08,880
dragon isn't startup falcon 9 and dragon

4
00:00:12,470 --> 00:00:10,719
in startup mode ready stage 2 tanks

5
00:00:13,669 --> 00:00:12,480
pressing for flight

6
00:00:19,349 --> 00:00:13,679
the flight computer has controlled the

7
00:00:23,830 --> 00:00:22,150
the water deluge system beginning to

8
00:00:28,470 --> 00:00:23,840
operate

9
00:00:33,670 --> 00:00:31,750
d minus 30. at t minus three seconds the

10
00:00:39,190 --> 00:00:33,680
engine controller commands the engine

11
00:00:39,200 --> 00:00:43,830
t minus 20.

12
00:00:43,840 --> 00:00:48,790
minus fifteen

13
00:00:51,189 --> 00:00:50,229

minus ten

14

00:00:52,150 --> 00:00:51,199

nine

15

00:00:53,270 --> 00:00:52,160

eight

16

00:00:54,310 --> 00:00:53,280

seven

17

00:00:55,189 --> 00:00:54,320

six

18

00:00:56,069 --> 00:00:55,199

five

19

00:00:57,189 --> 00:00:56,079

four

20

00:01:00,630 --> 00:00:57,199

three

21

00:01:05,750 --> 00:01:02,630

and liftoff

22

00:01:08,149 --> 00:01:05,760

the falcon soars from its perch toward

23

00:01:09,910 --> 00:01:08,159

the international space station

24

00:01:29,990 --> 00:01:09,920

carrying dragon

25

00:01:49,990 --> 00:01:32,149

30 seconds into flight all systems are

26
00:01:50,000 --> 00:02:00,469
approaching uh the one minute mark

27
00:02:00,479 --> 00:02:06,550
one minute into flight

28
00:02:10,150 --> 00:02:07,990
standing by for the falcon to go

29
00:02:22,229 --> 00:02:10,160
supersonic one minute 10 seconds after

30
00:02:22,239 --> 00:02:30,550
and the falcon 9 is supersonic

31
00:02:37,509 --> 00:02:31,990
falcon has now passed through the

32
00:02:41,910 --> 00:02:39,509
the next major milestone

33
00:02:43,670 --> 00:02:41,920
first stage engine shutdown

34
00:02:59,509 --> 00:02:43,680
about 2 minutes and 38 seconds into

35
00:03:04,550 --> 00:03:01,350
t plus two minutes

36
00:03:05,589 --> 00:03:04,560
altitude 32 kilometers speed

37
00:03:07,350 --> 00:03:05,599
one

38
00:03:09,509 --> 00:03:07,360

kilometer per second downrange distance

39

00:03:11,350 --> 00:03:09,519

13.5 kilometers

40

00:03:32,949 --> 00:03:11,360

30 seconds from first stage engine

41

00:03:32,959 --> 00:03:48,949

standing by for main engine cut off

42

00:03:48,959 --> 00:03:54,710

see the stages separating

43

00:04:00,550 --> 00:03:57,589

and we have the ignition standing by

44

00:04:01,670 --> 00:04:00,560

the single merlin vacuum engine igniting

45

00:04:04,309 --> 00:04:01,680

on the screen

46

00:04:06,309 --> 00:04:04,319

altitude 86 kilometers speed 1.9

47

00:04:12,710 --> 00:04:06,319

kilometers per second downrange distance

48

00:04:17,110 --> 00:04:15,350

standing by in 15 seconds for the

49

00:04:49,749 --> 00:04:17,120

dragon's protective nose cone to

50

00:04:52,870 --> 00:04:51,749

three minutes 50 seconds into the flight

51
00:04:54,629 --> 00:04:52,880
of falcon

52
00:04:56,230 --> 00:04:54,639
carrying the dragon spacecraft toward

53
00:04:59,749 --> 00:04:56,240
rendezvous with the international space

54
00:04:59,759 --> 00:05:10,870
h2 propulsion is still nominal

55
00:05:14,230 --> 00:05:12,390
stage one stage two power buses are

56
00:05:17,670 --> 00:05:14,240
nominal solid telemetry lock on both

57
00:05:17,680 --> 00:05:33,909
acquisition of signal ground station

58
00:05:33,919 --> 00:05:40,710
we have stage one boost back startup

59
00:05:40,720 --> 00:05:45,909
four minutes 40 seconds into flight

60
00:05:52,629 --> 00:05:49,510
the spacex second stage engine

61
00:05:55,189 --> 00:05:52,639
continues to perform normally

62
00:05:56,950 --> 00:05:55,199
taking the falcon 9

63
00:06:00,469 --> 00:05:56,960

and dragon away from the limb of the

64

00:06:06,309 --> 00:06:02,309

b plus 5 minutes

65

00:06:08,150 --> 00:06:06,319

altitude 165 kilometers speed 2.56

66

00:06:10,629 --> 00:06:08,160

kilometers per second downrange distance

67

00:06:11,830 --> 00:06:10,639

221 kilometers vehicles following the

68

00:06:30,230 --> 00:06:11,840

nominal

69

00:06:34,150 --> 00:06:32,230

five minutes 30 seconds mission elapsed

70

00:06:38,950 --> 00:06:34,160

time

71

00:06:41,990 --> 00:06:40,790

about four minutes propulsion is still

72

00:06:44,070 --> 00:06:42,000

nominal

73

00:06:50,230 --> 00:06:44,080

about four minutes from the second stage

74

00:06:55,909 --> 00:06:53,589

new hampshire acquisition a signal

75

00:07:00,150 --> 00:06:55,919

now processing the signal through a new

76

00:07:00,160 --> 00:07:05,589

six minutes into the flight

77

00:07:15,589 --> 00:07:07,189

stage one and stage two pi buses are

78

00:07:15,599 --> 00:07:35,350

new hampshire acquisition a signal

79

00:07:43,189 --> 00:07:38,390

six minutes 35 seconds after launch

80

00:07:43,199 --> 00:07:58,869

stage one entry burn has started

81

00:08:13,990 --> 00:08:01,510

stage two propulsion still nominal

82

00:08:14,000 --> 00:08:29,589

stage 1 fts has been saved

83

00:08:35,190 --> 00:08:32,149

seven minutes 30 seconds altitude 205

84

00:08:42,709 --> 00:08:35,200

kilometers speed 4.4 kilometers per

85

00:08:49,030 --> 00:08:46,710

seven minutes 43 seconds into flight

86

00:08:50,550 --> 00:08:49,040

team of flight controllers at

87

00:08:52,070 --> 00:08:50,560

spacex mission control center in

88

00:08:54,389 --> 00:08:52,080

hawthorne california following the

89

00:08:56,150 --> 00:08:54,399

flight

90

00:09:01,590 --> 00:08:56,160

a little under two minutes away from

91

00:09:01,600 --> 00:09:06,389

stage two propulsion is still nominal

92

00:09:06,399 --> 00:09:20,550

stage one landing burn has started

93

00:09:20,560 --> 00:09:49,269

8 minutes 20 seconds into flight

94

00:09:57,910 --> 00:09:51,430

just under a minute away from second

95

00:10:02,470 --> 00:10:00,550

second stage is in terminal guidance

96

00:10:05,750 --> 00:10:02,480

plus nine minutes altitude 208

97

00:10:09,350 --> 00:10:05,760

kilometers speed 6.5 kilometers per

98

00:10:11,590 --> 00:10:09,360

second downrange distance 830 kilometers

99

00:10:24,470 --> 00:10:11,600

about 30 seconds away from second second

100

00:10:29,750 --> 00:10:26,870

everything performing as planned on the

101
00:10:32,630 --> 00:10:29,760
second stage burn from the falcon 9

102
00:10:37,990 --> 00:10:32,640
delivering dragon into space

103
00:10:48,949 --> 00:10:42,069
and we have second stage engine cut off

104
00:10:48,959 --> 00:10:56,870
os

105
00:11:00,230 --> 00:10:58,389
acquisition signal in newfoundland

106
00:11:02,870 --> 00:11:00,240
canada

107
00:11:09,430 --> 00:11:02,880
standing by for dragon separation in 10

108
00:11:13,750 --> 00:11:12,150
dragon deploy confirmed

109
00:11:16,630 --> 00:11:13,760
and a great view of the dragon

110
00:11:17,750 --> 00:11:16,640
spacecraft departing the falcon 9 second

111
00:11:19,350 --> 00:11:17,760
stage

112
00:11:21,670 --> 00:11:19,360
on its way to the international space

113
00:11:24,470 --> 00:11:21,680

station

114

00:12:28,949 --> 00:11:24,480

with the solar array deploy

115

00:12:32,389 --> 00:12:30,629

live view from mission control center in

116

00:12:33,829 --> 00:12:32,399

houston texas where flight controllers

117

00:12:35,350 --> 00:12:33,839

in the international space station

118

00:12:37,350 --> 00:12:35,360

flight control room

119

00:12:38,870 --> 00:12:37,360

watching the progress of dragon flying

120

00:12:40,790 --> 00:12:38,880

on its own

121

00:12:43,110 --> 00:12:40,800

beginning its rendezvous profile to the

122

00:12:44,790 --> 00:12:43,120

international space station

123

00:12:48,629 --> 00:12:44,800

with a grapple

124

00:12:51,509 --> 00:12:48,639

planned for friday morning at 7 am

125

00:12:57,590 --> 00:12:51,519

we're standing by for solar array deploy

126
00:13:01,829 --> 00:13:00,310
once the solar arrays have deployed the

127
00:13:03,910 --> 00:13:01,839
dragon will begin a carefully

128
00:13:06,069 --> 00:13:03,920
choreographed series of draco thruster

129
00:13:08,230 --> 00:13:06,079
firings to reach the space station

130
00:13:45,189 --> 00:13:08,240
friday

131
00:13:45,199 --> 00:14:06,150
and the solar arrays are being deployed

132
00:14:09,829 --> 00:14:08,230
after a picture-perfect lift-off from

133
00:14:11,590 --> 00:14:09,839
cape canaveral air force station in

134
00:14:14,069 --> 00:14:11,600
florida

135
00:14:20,710 --> 00:14:14,079
the falcon 9 rocket delivers its

136
00:14:26,470 --> 00:14:23,189
and the twin solar arrays unfurling as

137
00:14:31,350 --> 00:14:28,710
helping to provide power to the dragon

138
00:14:40,150 --> 00:14:31,360

spacecraft