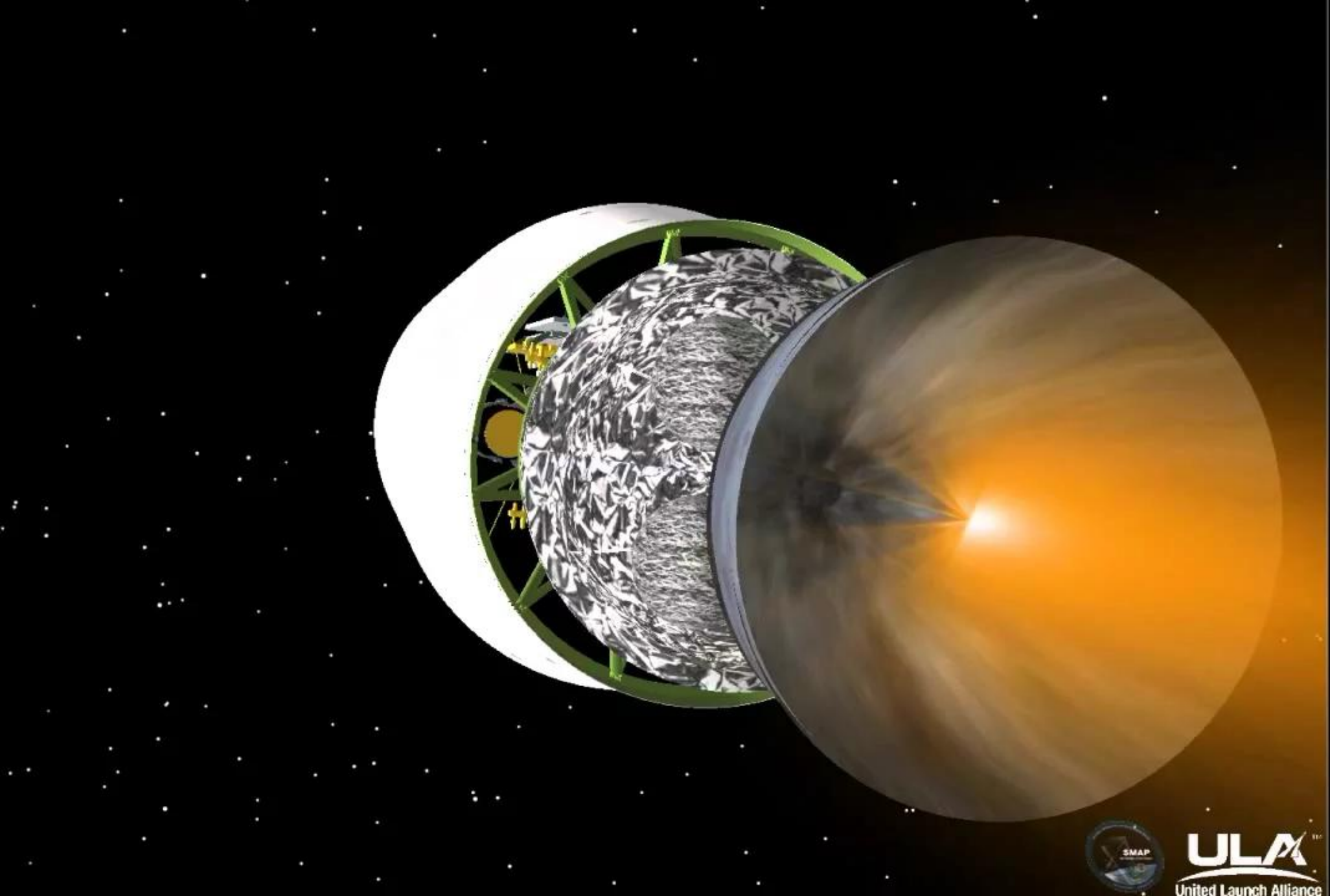

Delta Orbital Elements
Perigee Altitude (nm): -2620.935
Apogee Altitude (nm): 87.689
Inclination (deg): 96.830

TRS-35 Angles
Azimuth (deg): -164.381
Elevation (deg): 12.499

VTS Angles
Azimuth (deg): -165.178
Elevation (deg): 11.570

SNI Angles
Azimuth (deg): -142.840
Elevation (deg): 16.474

HBK_LSX Angles
Azimuth (deg): -73.472
Elevation (deg): -76.295

TTS Angles
Azimuth (deg): -119.001
Elevation (deg): -24.877

HTS Angles
Azimuth (deg): 66.804
Elevation (deg): -15.190

1
00:00:08,310 --> 00:00:06,150
minus one minute and counting

2
00:00:11,749 --> 00:00:08,320
range is green

3
00:00:17,269 --> 00:00:11,759
lc t minus 60 second limits on on water

4
00:00:21,670 --> 00:00:19,429
ranges go weather go

5
00:00:27,910 --> 00:00:21,680
lc launch enable a flight

6
00:00:27,920 --> 00:00:32,709
35 hydraulics are go

7
00:00:32,719 --> 00:00:42,950
30 minus 30 seconds go delta ghost map

8
00:00:42,960 --> 00:00:48,389
20

9
00:00:48,399 --> 00:00:52,069
t minus 15 seconds

10
00:00:54,389 --> 00:00:53,510
green board

11
00:00:55,270 --> 00:00:54,399
10

12
00:00:56,150 --> 00:00:55,280
9

13
00:00:57,110 --> 00:00:56,160

8

14
00:00:58,709 --> 00:00:57,120
7

15
00:00:59,990 --> 00:00:58,719
six

16
00:01:01,029 --> 00:01:00,000
five

17
00:01:01,990 --> 00:01:01,039
four

18
00:01:08,550 --> 00:01:02,000
three

19
00:01:10,550 --> 00:01:08,560
off of the delta ii rocket with smack

20
00:01:21,030 --> 00:01:10,560
making global observations of soil

21
00:01:26,149 --> 00:01:24,149
good chamber pressure on the main engine

22
00:01:28,390 --> 00:01:26,159
good chamber pressure on both vernier

23
00:01:30,789 --> 00:01:28,400
engines

24
00:01:50,230 --> 00:01:30,799
the chamber pressure on all three solids

25
00:01:50,240 --> 00:01:55,270
coming up 46 seconds still looking good

26
00:01:59,990 --> 00:01:58,230
50 seconds in max cube vehicle now

27
00:02:00,950 --> 00:02:00,000
having maximum dynamic pressure in the

28
00:02:02,950 --> 00:02:00,960
vehicle

29
00:02:04,389 --> 00:02:02,960
57 seconds

30
00:02:06,789 --> 00:02:04,399
chamber pressure beginning to decline on

31
00:02:08,869 --> 00:02:06,799
the solids

32
00:02:10,550 --> 00:02:08,879
as expected

33
00:02:12,070 --> 00:02:10,560
and we have burnout of the solids we'll

34
00:02:14,710 --> 00:02:12,080
be holding on to those solids for about

35
00:02:15,990 --> 00:02:14,720
30 more seconds to assure a safe water

36
00:02:19,589 --> 00:02:16,000
impact point

37
00:02:27,990 --> 00:02:19,599
one minute 12 seconds into the flight

38
00:02:31,670 --> 00:02:29,990

one minute 25 seconds chamber pressure

39
00:02:34,229 --> 00:02:31,680
holding in the main engine

40
00:02:36,150 --> 00:02:34,239
and in both verniers one minute 30

41
00:02:46,150 --> 00:02:36,160
seconds

42
00:02:50,229 --> 00:02:48,070
and we have separation

43
00:02:51,830 --> 00:02:50,239
of the solid rocket motors the delta ii

44
00:02:53,670 --> 00:02:51,840
vehicle now only weighs one half of what

45
00:02:58,149 --> 00:02:53,680
it did at launch expelling propellant at

46
00:03:07,589 --> 00:02:58,159
the rate of 799 pounds per second

47
00:03:11,190 --> 00:03:09,670
two minutes five seconds in chamber

48
00:03:20,390 --> 00:03:11,200
pressure continuing the hole on the main

49
00:03:25,350 --> 00:03:21,430
two minutes

50
00:03:25,360 --> 00:03:29,030
engine control on the first stage

51
00:03:34,949 --> 00:03:30,869
little engine corrections are needed in

52
00:03:53,350 --> 00:03:37,190
passing two minutes 30 seconds

53
00:03:57,270 --> 00:03:55,110
passing a mach 5

54
00:03:59,509 --> 00:03:57,280
vehicle going in excess of five times

55
00:04:02,390 --> 00:03:59,519
the speed of sound at two minutes 55

56
00:04:05,830 --> 00:04:04,390
up on the three minute mark mark three

57
00:04:07,509 --> 00:04:05,840
minutes into the flight chamber pressure

58
00:04:09,429 --> 00:04:07,519
continues to hold very well on the first

59
00:04:12,789 --> 00:04:09,439
stage on the main engine and on both

60
00:04:23,350 --> 00:04:15,350
one minute and 10 seconds left in

61
00:04:29,030 --> 00:04:25,510
three minutes 20 seconds in

62
00:04:30,710 --> 00:04:29,040
still looking good

63
00:04:32,150 --> 00:04:30,720

engine and

64
00:04:41,030 --> 00:04:32,160
chamber pressure and burning chamber

65
00:04:45,270 --> 00:04:43,030
passing uh three minutes 38 seconds into

66
00:04:46,950 --> 00:04:45,280
the flight

67
00:04:49,110 --> 00:04:46,960
engine control continues to look good in

68
00:04:52,629 --> 00:04:49,120
the first stage

69
00:04:54,950 --> 00:04:52,639
a little engine movement necessary

70
00:05:00,469 --> 00:04:54,960
very good ride passing three minutes 50

71
00:05:04,230 --> 00:05:02,629
three minutes 58 seconds into the flight

72
00:05:06,550 --> 00:05:04,240
this is the area where we reach a

73
00:05:08,710 --> 00:05:06,560
maximum skin temperature and we have

74
00:05:18,790 --> 00:05:08,720
about 20 seconds remaining until main

75
00:05:24,629 --> 00:05:20,790
four minutes 15 seconds in still looking

76
00:05:30,469 --> 00:05:27,189
standing by for cutoff

77
00:05:32,870 --> 00:05:30,479
and we have main engine cut off

78
00:05:38,469 --> 00:05:32,880
standing by for vernier cut off

79
00:05:41,350 --> 00:05:40,150
by first stage set we have stage

80
00:05:42,790 --> 00:05:41,360
separation

81
00:05:46,629 --> 00:05:42,800
and standing by for ignition of the

82
00:05:49,510 --> 00:05:48,230
and second stage chamber pressure is

83
00:05:50,870 --> 00:05:49,520
increasing

84
00:05:53,749 --> 00:05:50,880
good chamber pressure on the second

85
00:05:55,590 --> 00:05:53,759
stage a good steady burn

86
00:06:03,909 --> 00:05:55,600
standing by for the fairing jettison

87
00:06:07,749 --> 00:06:06,390
and we have faring jettison flight

88
00:06:10,070 --> 00:06:07,759

events occurring close to their

89
00:06:11,749 --> 00:06:10,080
anticipated time

90
00:06:17,590 --> 00:06:11,759
we're passing five minutes and seven

91
00:06:21,670 --> 00:06:19,510
second stage burn continues to look good

92
00:06:24,390 --> 00:06:21,680
chamber pressure holding rock solid good

93
00:06:27,029 --> 00:06:24,400
engine control on the second stage

94
00:06:29,110 --> 00:06:27,039
this first burn of the second stage is

95
00:06:48,469 --> 00:06:29,120
expected to last about six minutes and

96
00:06:52,629 --> 00:06:50,309
five minutes 44 seconds into the flight

97
00:07:11,589 --> 00:06:52,639
about 4 minutes 57 seconds remaining in

98
00:07:15,270 --> 00:07:13,270
passing uh six minutes eight seconds

99
00:07:20,950 --> 00:07:15,280
into the flight

100
00:07:24,629 --> 00:07:23,029
four minutes uh 25 seconds remaining in

101
00:07:26,950 --> 00:07:24,639
this first burn

102
00:07:29,830 --> 00:07:26,960
we will have four second stage engine

103
00:07:32,150 --> 00:07:29,840
burns two prior to the deployment of our

104
00:07:35,029 --> 00:07:32,160
first spacecraft smap the major payload

105
00:07:37,990 --> 00:07:35,039
for the mission and one short burn prior

106
00:07:43,270 --> 00:07:38,000
to deployment of our two our correction

107
00:07:43,280 --> 00:08:02,469
six minutes 40 seconds in

108
00:08:06,230 --> 00:08:04,390
coming up on the seven minute mark mark

109
00:08:08,790 --> 00:08:06,240
seven minutes into the flight

110
00:08:10,950 --> 00:08:08,800
still looking good

111
00:08:12,629 --> 00:08:10,960
upper stage engine control is excellent

112
00:08:21,830 --> 00:08:12,639
good chamber pressure very stable in the

113
00:08:31,029 --> 00:08:23,510

very shortly we'll be commanding the

114
00:08:34,230 --> 00:08:32,230
we're about three and a half minutes

115
00:08:37,350 --> 00:08:34,240
away from going into our

116
00:08:38,829 --> 00:08:37,360
coast phase after the second stage

117
00:08:42,310 --> 00:08:38,839
shuts

118
00:08:56,870 --> 00:08:42,320
off over three minutes remaining

119
00:09:03,829 --> 00:08:58,470
and we have acquisition of signal

120
00:09:09,590 --> 00:09:05,670
eight minutes into the flight now all

121
00:09:13,269 --> 00:09:11,269
chamber pressure continuing to hold very

122
00:09:15,190 --> 00:09:13,279
good in the second stage

123
00:09:29,030 --> 00:09:15,200
second stage engine control also good at

124
00:09:33,030 --> 00:09:31,590
8 minutes 25 seconds into the flight

125
00:09:34,870 --> 00:09:33,040
still looking good

126
00:09:47,750 --> 00:09:34,880
2 minutes 15 seconds remaining in the

127
00:09:51,750 --> 00:09:49,910
now 8 minutes 44 seconds in under two

128
00:09:53,990 --> 00:09:51,760
minutes remaining in this first burn

129
00:09:57,670 --> 00:09:54,000
trajectory seems seems to be going

130
00:10:01,110 --> 00:09:59,269
one minute fifty seconds remaining in

131
00:10:17,750 --> 00:10:01,120
the burn burn continues to look stable

132
00:10:20,870 --> 00:10:19,430
one minute 30 seconds remaining on the

133
00:10:23,030 --> 00:10:20,880
burn

134
00:10:33,269 --> 00:10:23,040
as we're approaching 9 minutes and 20

135
00:10:39,750 --> 00:10:35,590
second stage will cut off 10 minutes 43

136
00:10:45,750 --> 00:10:42,949
for a coast phase 40 minutes 54 seconds

137
00:10:49,990 --> 00:10:47,829
to duration commentary now at 9 minutes

138
00:10:58,310 --> 00:10:50,000

44 seconds one minute remaining in the

139
00:11:04,310 --> 00:11:00,230
mission events occurring fairly close to

140
00:11:04,320 --> 00:11:18,389
44 seconds remaining in the burn

141
00:11:27,110 --> 00:11:20,470
30 seconds remaining in this first burn

142
00:11:32,069 --> 00:11:29,030
chamber pressure expected to decline

143
00:11:41,030 --> 00:11:32,079
very slightly as is is doing

144
00:11:56,310 --> 00:11:43,269
we're standing by now for seco one the