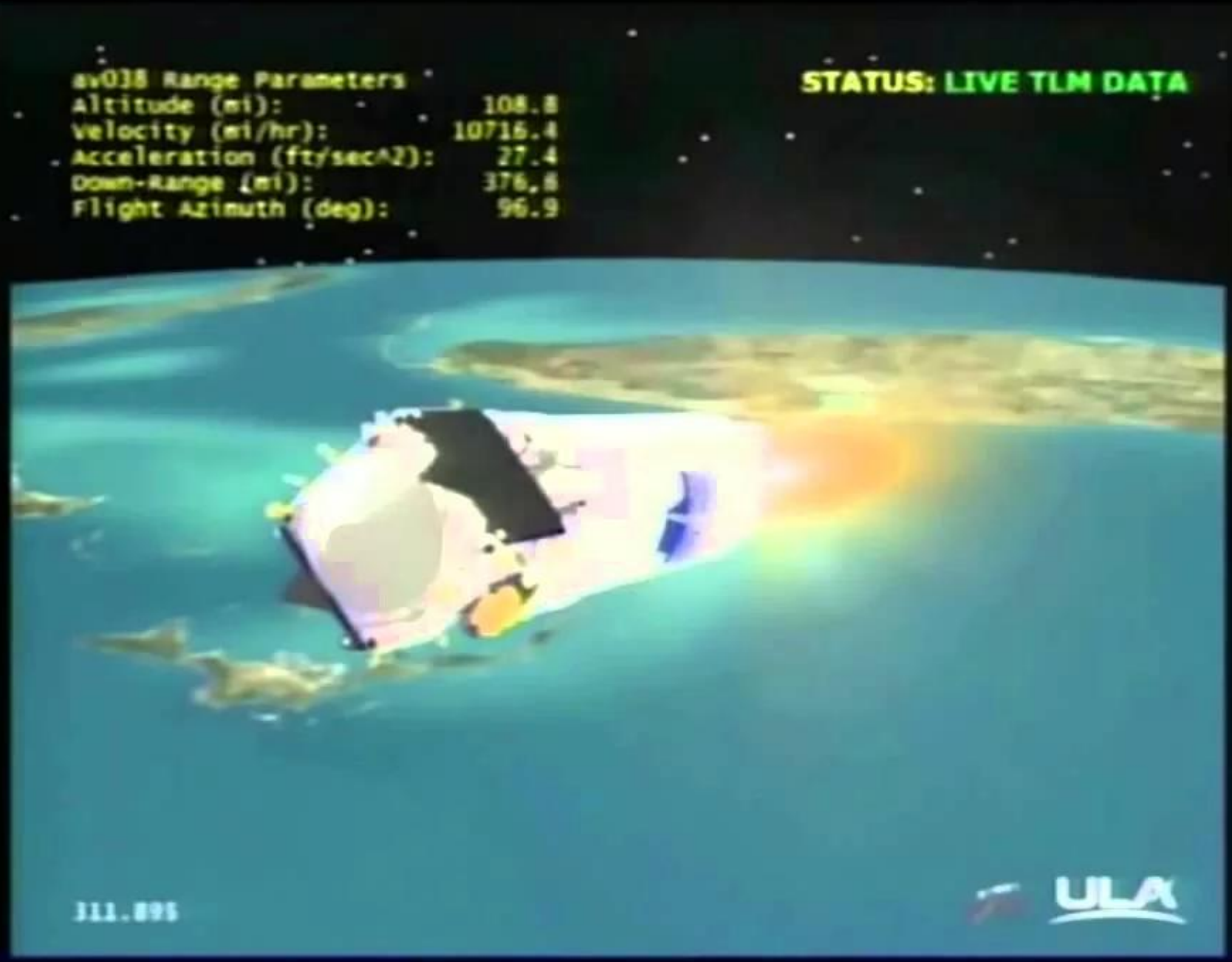
av038 Range Parameters
Altitude (mi): 108.8
Velocity (mi/hr): 10716.4
Acceleration (ft/sec^2): 27.4
Down-Range (mi): 376.8
Flight Azimuth (deg): 96.9
STATUS: LIVE TLM DATA
111.895
ULA

1
00:00:03,909 --> 00:00:02,070
t minus 10

2
00:00:04,870 --> 00:00:03,919
9 8

3
00:00:05,749 --> 00:00:04,880
7

4
00:00:06,630 --> 00:00:05,759
6

5
00:00:07,510 --> 00:00:06,640
5

6
00:00:08,549 --> 00:00:07,520
4

7
00:00:09,430 --> 00:00:08,559
3

8
00:00:13,990 --> 00:00:09,440
2

9
00:00:16,470 --> 00:00:14,000
1 main engine start ignition and liftoff

10
00:00:18,710 --> 00:00:16,480
of the atlas v with maven

11
00:00:28,790 --> 00:00:18,720
looking for clues about the evolution of

12
00:00:33,590 --> 00:00:30,870
everything looking good still at 100

13
00:00:36,069 --> 00:00:33,600

rated thrust on the rd-180

14
00:00:38,630 --> 00:00:36,079
vehicle rates are looking good

15
00:00:41,110 --> 00:00:38,640
we do have roll program in

16
00:00:42,830 --> 00:00:41,120
right as expected

17
00:00:46,150 --> 00:00:42,840
we are actively controlling mixture

18
00:00:47,750 --> 00:00:46,160
ratios valve position looks good

19
00:00:50,389 --> 00:00:47,760
across regulator valve position looks

20
00:00:54,869 --> 00:00:50,399
good speeds are good

21
00:00:58,549 --> 00:00:56,790
continue down the center of the range

22
00:01:02,549 --> 00:00:58,559
track

23
00:01:09,910 --> 00:01:07,190
we are now 1.6 not a miles of altitude

24
00:01:16,390 --> 00:01:09,920
1.1 miles downrange traveling at a

25
00:01:23,670 --> 00:01:19,190
and when we have ended our

26
00:01:30,789 --> 00:01:25,270
everything is looking good continuing in

27
00:01:35,590 --> 00:01:32,469
and we are now passing through the sound

28
00:01:38,069 --> 00:01:35,600
barrier maven is now supersonic

29
00:01:40,870 --> 00:01:38,079
rd180 continues to operate at 100 rated

30
00:01:44,630 --> 00:01:40,880
thrust

31
00:01:46,310 --> 00:01:44,640
we're about to pass through max q

32
00:01:49,190 --> 00:01:46,320
and be able to pass it through max q

33
00:01:54,149 --> 00:01:51,270
engine can operate at

34
00:01:59,030 --> 00:01:54,159
100 and we have funneled down to 95

35
00:02:04,310 --> 00:02:00,950
and we're now 10 nautical miles in

36
00:02:08,869 --> 00:02:04,320
altitudes 7.4 miles downrange traveling

37
00:02:10,869 --> 00:02:08,879
at 2200 miles per hour

38
00:02:20,470 --> 00:02:10,879

and everything is looking good continue

39
00:02:25,830 --> 00:02:23,190
coming up on

40
00:02:27,750 --> 00:02:25,840
our next mark event

41
00:02:33,430 --> 00:02:27,760
i expect to enable

42
00:02:37,350 --> 00:02:35,030
and strings enabled

43
00:02:38,630 --> 00:02:37,360
body rates look as expected for bringing

44
00:02:40,630 --> 00:02:38,640
and steering

45
00:02:42,949 --> 00:02:40,640
vehicle is now 50 percent of its lift

46
00:02:45,190 --> 00:02:42,959
off weight

47
00:02:47,190 --> 00:02:45,200
and we're about to fire the pyro valves

48
00:02:49,430 --> 00:02:47,200
to activate the second stage reaction

49
00:02:51,350 --> 00:02:49,440
control system power valves that fired

50
00:02:53,509 --> 00:02:51,360
system has pressurized

51
00:02:54,869 --> 00:02:53,519
and the rd180 continues to operate as

52
00:02:57,509 --> 00:02:54,879
expected

53
00:02:59,990 --> 00:02:57,519
at 100 percent rated thrust or 95 rated

54
00:03:01,509 --> 00:03:00,000
thrust correction

55
00:03:05,589 --> 00:03:01,519
rates are looking good continue to

56
00:03:08,229 --> 00:03:05,599
accelerate passing through three g's

57
00:03:10,390 --> 00:03:08,239
pu control looks good

58
00:03:13,110 --> 00:03:10,400
and can you flight continue to fly right

59
00:03:16,869 --> 00:03:13,120
down the center of the range track

60
00:03:19,430 --> 00:03:16,879
we are now 35 miles in altitude 70 miles

61
00:03:23,350 --> 00:03:19,440
downrange at 6 000

62
00:03:31,030 --> 00:03:24,869
reaction control system is now fully

63
00:03:37,190 --> 00:03:35,030

and continue to operate at 95 percent

64
00:03:39,190 --> 00:03:37,200
good pu control

65
00:03:42,470 --> 00:03:39,200
smooth body rates

66
00:03:45,030 --> 00:03:42,480
continue to have nominal acceleration

67
00:03:46,390 --> 00:03:45,040
vehicles now 25 of his liftoff weight we

68
00:03:47,509 --> 00:03:46,400
are now throttling the engine to

69
00:03:50,550 --> 00:03:47,519
actively

70
00:03:52,309 --> 00:03:50,560
control at five g's

71
00:03:54,630 --> 00:03:52,319
we have started

72
00:03:57,910 --> 00:03:54,640
two space chill down housing temps are

73
00:04:00,070 --> 00:03:57,920
reacting as expected

74
00:04:03,990 --> 00:04:00,080
continue to operate the rd180 as

75
00:04:08,710 --> 00:04:06,949
we are now flying a 4.6 g

76
00:04:13,589 --> 00:04:08,720
throttle profile engine is throttling

77
00:04:20,069 --> 00:04:17,270
we do have we have pico

78
00:04:23,510 --> 00:04:20,079
coming up on staging

79
00:04:24,870 --> 00:04:23,520
we have stage separation

80
00:04:30,469 --> 00:04:24,880
everything is looking good we have

81
00:04:35,350 --> 00:04:32,870
look at ignition full thrust

82
00:04:36,950 --> 00:04:35,360
center main engine is up at 100 percent

83
00:04:39,990 --> 00:04:36,960
rated thrust coming up on fairing

84
00:04:45,510 --> 00:04:43,590
we have fairing set

85
00:04:48,070 --> 00:04:45,520
and rates look good for fairing

86
00:04:51,270 --> 00:04:48,080
separation

87
00:04:58,150 --> 00:04:51,280
should be cutting back in

88
00:05:02,070 --> 00:04:59,670

and we've done purge firings in the

89
00:05:04,310 --> 00:05:02,080
reaction control system as expected

90
00:05:06,390 --> 00:05:04,320
we do have closure control reestablished

91
00:05:08,390 --> 00:05:06,400
after fairing jettison

92
00:05:10,469 --> 00:05:08,400
the rl10 continues to operate as

93
00:05:15,590 --> 00:05:10,479
expected nice and smooth pu is an open

94
00:05:15,600 --> 00:05:21,189
axial acceleration is steady

95
00:05:29,110 --> 00:05:24,830
we are now 93 or 107 miles in altitude

96
00:05:34,070 --> 00:05:29,120
426 miles downrange traveling at 11

97
00:05:37,350 --> 00:05:35,430
vehicles continuing right down the

98
00:05:39,670 --> 00:05:37,360
center of the range track

99
00:05:41,830 --> 00:05:39,680
everything looking good

100
00:05:43,029 --> 00:05:41,840
we're seeing our expected

101
00:05:48,550 --> 00:05:43,039
thruster

102
00:05:48,560 --> 00:05:56,950
body rates are nice and smooth

103
00:06:08,150 --> 00:05:59,189
everything is continuing to look good

104
00:06:13,350 --> 00:06:11,189
we are now in the process of executing

105
00:06:17,430 --> 00:06:13,360
a nine minute thirty second first burn

106
00:06:17,440 --> 00:06:25,430
everything is looking good

107
00:06:28,469 --> 00:06:27,270
we have closed loop control on the pu

108
00:06:31,909 --> 00:06:28,479
system

109
00:06:35,029 --> 00:06:31,919
about a little over 20 seconds ago

110
00:06:36,950 --> 00:06:35,039
that transition looks as expected

111
00:06:38,870 --> 00:06:36,960
continue to operate at lox

112
00:06:43,510 --> 00:06:38,880
rich mixture ratio

113
00:06:48,230 --> 00:06:45,590

attitude

114
00:06:50,950 --> 00:06:48,240
our delta p e for boost phase or

115
00:06:52,390 --> 00:06:50,960
preliminary look gives us 78 pounds of

116
00:06:54,870 --> 00:06:52,400
dell p e

117
00:06:59,510 --> 00:06:54,880
that's one sigma high to our nominal

118
00:06:59,520 --> 00:07:06,309
and continuing to get clean data

119
00:07:06,319 --> 00:07:15,029
engines continue to operate as expected

120
00:07:21,589 --> 00:07:16,790
time we see our expected activity in the

121
00:07:28,629 --> 00:07:25,670
152 miles in altitude 826 miles

122
00:07:31,990 --> 00:07:28,639
downrange traveling at 12 500 miles per

123
00:07:35,029 --> 00:07:33,589
if you continue to operate on the lock

124
00:07:37,270 --> 00:07:35,039
stop

125
00:07:38,629 --> 00:07:37,280
that's as expected for this time in

126
00:07:40,230 --> 00:07:38,639
flight

127
00:07:42,390 --> 00:07:40,240
we are seeing some noise and telemetry

128
00:07:43,670 --> 00:07:42,400
at this time but enough data is coming

129
00:07:45,830 --> 00:07:43,680
through we're seeing

130
00:07:54,070 --> 00:07:45,840
steady operating pressure levels on the

131
00:07:54,080 --> 00:07:59,830
everything is looking good

132
00:08:04,869 --> 00:08:03,110
and continue to see the

133
00:08:06,950 --> 00:08:04,879
mass air signal

134
00:08:10,950 --> 00:08:06,960
correct itself

135
00:08:15,110 --> 00:08:13,589
engine pressures are nice and smooth

136
00:08:18,230 --> 00:08:15,120
accelerating smoothly a little over half

137
00:08:21,430 --> 00:08:18,240
a g at this time

138
00:08:24,309 --> 00:08:21,440

and we're seeing all of our

139
00:08:30,230 --> 00:08:24,319
reaction control system temperatures

140
00:08:30,240 --> 00:08:44,470
everything looking good

141
00:08:44,480 --> 00:08:59,670
and pu's continuing lockstop

142
00:09:04,070 --> 00:09:02,550
everything looking good

143
00:09:05,750 --> 00:09:04,080
can you see our expected thruster

144
00:09:16,790 --> 00:09:05,760
firings very little roll control has

145
00:09:21,190 --> 00:09:17,990
passing through nine minutes into the

146
00:09:25,829 --> 00:09:21,200
mission everything looking good

147
00:09:31,990 --> 00:09:29,110
seeing smooth body rates

148
00:09:34,790 --> 00:09:32,000
have uh loss of contact here at the cape

149
00:09:43,190 --> 00:09:34,800
in uh communications antigua is now

150
00:09:47,030 --> 00:09:45,269
engine operating normally everything

151
00:09:53,829 --> 00:09:47,040
looking good

152
00:09:53,839 --> 00:09:57,630
right down the center of the range track

153
00:10:01,269 --> 00:09:59,350
168

154
00:10:04,389 --> 00:10:01,279
miles in altitude

155
00:10:12,230 --> 00:10:04,399
1400 miles downrange traveling at

156
00:10:17,430 --> 00:10:15,350
everything is looking good

157
00:10:19,829 --> 00:10:17,440
operating parameters on the engine

158
00:10:22,630 --> 00:10:19,839
very steady

159
00:10:25,910 --> 00:10:22,640
nice and smooth we are

160
00:10:28,069 --> 00:10:25,920
getting oxidizer error in the pu system

161
00:10:32,389 --> 00:10:28,079
control coming towards nominal the valve

162
00:10:40,630 --> 00:10:34,630
seeing active control of the pu valve

163
00:10:40,640 --> 00:10:46,069

vehicle continues to burn normally

164
00:10:49,269 --> 00:10:47,509
and since we have launched at the

165
00:10:51,590 --> 00:10:49,279
beginning of the window we are expecting

166
00:10:52,870 --> 00:10:51,600
our spacecraft separation time right at

167
00:11:00,470 --> 00:10:52,880
52

168
00:11:03,670 --> 00:11:02,790
active control center pu

169
00:11:05,509 --> 00:11:03,680
engine

170
00:11:08,310 --> 00:11:05,519
pressures are reacting as expected the

171
00:11:11,990 --> 00:11:08,320
change in mixture ratio

172
00:11:17,590 --> 00:11:15,670
nominal performance down the range track

173
00:11:33,110 --> 00:11:17,600
we're inside of three minutes

174
00:11:39,430 --> 00:11:34,550
pu controls

175
00:11:43,110 --> 00:11:41,190
engine continues to operate as expected

176
00:11:45,030 --> 00:11:43,120
seeing the normal small adjustments and

177
00:11:53,590 --> 00:11:45,040
engine pressures as the

178
00:11:58,470 --> 00:11:54,829
rates are

179
00:12:01,030 --> 00:11:58,480
good pressures are good

180
00:12:02,710 --> 00:12:01,040
rcs activity is right as expected very

181
00:12:03,990 --> 00:12:02,720
little roll control

182
00:12:07,110 --> 00:12:04,000
is being required out of the reaction

183
00:12:11,590 --> 00:12:09,430
engine is burning normally you're now

184
00:12:18,069 --> 00:12:11,600
inside of two minutes

185
00:12:18,079 --> 00:12:26,230
maven is continuing to fly normally

186
00:12:30,629 --> 00:12:28,470
once we complete

187
00:12:32,710 --> 00:12:30,639
this burn of centaur first burn of

188
00:12:37,350 --> 00:12:32,720

centaur we will enter

189
00:12:38,710 --> 00:12:37,360
a 27 minute 36 second coast phase

190
00:12:44,310 --> 00:12:38,720
followed by a second burn and then

191
00:12:49,750 --> 00:12:46,470
continuing to look at very good

192
00:12:49,760 --> 00:12:59,350
engine is good rates are good

193
00:13:02,949 --> 00:13:01,509
as noted before seeing normal activity

194
00:13:09,190 --> 00:13:02,959
in the control system with very little

195
00:13:16,949 --> 00:13:11,350
pu is now operating near nominal mixture

196
00:13:28,870 --> 00:13:18,310
everything is looking normal on the

197
00:13:46,310 --> 00:13:30,870
and we're approaching 30 seconds to

198
00:13:50,470 --> 00:13:48,230
coming up on mika one vehicle is looking

199
00:13:53,110 --> 00:13:50,480
good

200
00:14:00,310 --> 00:13:53,120
10 seconds to a

201
00:14:05,350 --> 00:14:03,829
open loop on pu locked and miko we have

202
00:14:07,030 --> 00:14:05,360
cutoff

203
00:14:08,790 --> 00:14:07,040
cut off time right as expected

204
00:14:11,750 --> 00:14:08,800
everything looks good for us settling

205
00:14:13,430 --> 00:14:11,760
thrusters are on

206
00:14:16,470 --> 00:14:13,440
and we are beginning

207
00:14:26,550 --> 00:14:16,480
to reorient to our ptc attitude and

208
00:14:33,030 --> 00:14:30,710
and we are actively controlling

209
00:14:35,350 --> 00:14:33,040
pressure on the tank uh by controlling

210
00:14:37,990 --> 00:14:35,360
our event valve locking

211
00:14:39,509 --> 00:14:38,000
everything looks good there

212
00:14:41,829 --> 00:14:39,519
now

213
00:14:43,750 --> 00:14:41,839

climbing into our ptc roll rate of one

214
00:14:46,710 --> 00:14:43,760
and a half degrees per second and we've

215
00:14:51,590 --> 00:14:46,720
now achieved that rate

216
00:14:57,590 --> 00:14:53,509
and our nominal orbit right now during

217
00:14:59,269 --> 00:14:57,600
the coast phase is 87 nautical miles by

218
00:15:00,629 --> 00:14:59,279
nautical miles

219
00:15:04,069 --> 00:15:00,639
coming up

220
00:15:07,269 --> 00:15:04,079
losing our data through antigua

221
00:15:13,030 --> 00:15:07,279
and acquisition through the tdrs east

222
00:15:13,040 --> 00:15:16,470
good bus voltages