



1  
00:00:07,269 --> 00:00:01,990  
minus 10 seconds

2  
00:00:07,279 --> 00:00:10,940  
go antares go cygnus

3  
00:00:14,910 --> 00:00:14,070  
[Music]

4  
00:00:22,550 --> 00:00:14,920  
we have

5  
00:00:24,870 --> 00:00:22,560  
the journey of the g david low cygnus

6  
00:00:39,110 --> 00:00:24,880  
cargo vehicle to the international space

7  
00:00:39,120 --> 00:00:44,150  
silver

8  
00:00:48,549 --> 00:00:46,069  
systems on stage one performing well at

9  
00:00:50,310 --> 00:00:48,559  
this point attitude is nominal

10  
00:00:53,750 --> 00:00:50,320  
very minimal steering commands at this

11  
00:00:58,310 --> 00:00:56,229  
antares is making its second flight

12  
00:01:00,310 --> 00:00:58,320  
on this on this mission we're sending

13  
00:01:02,790 --> 00:01:00,320

cygnus on its first journey of many of

14

00:01:04,630 --> 00:01:02,800

the international space stations

15

00:01:05,750 --> 00:01:04,640

looks like they fixed the rocky camera

16

00:01:12,070 --> 00:01:05,760

it looks like

17

00:01:15,910 --> 00:01:14,390

propulsion avionics uh guidance and

18

00:01:17,429 --> 00:01:15,920

steering systems are all behaving well

19

00:01:19,270 --> 00:01:17,439

at this point we're getting a good

20

00:01:22,390 --> 00:01:19,280

downrange video

21

00:01:24,830 --> 00:01:22,400

very clear day to uh to fly out

22

00:01:27,270 --> 00:01:24,840

one minute 10 seconds since

23

00:01:28,710 --> 00:01:27,280

launch we're getting a nice nice views

24

00:01:30,870 --> 00:01:28,720

of the uh

25

00:01:32,950 --> 00:01:30,880

eastern shore as we depart pads here

26

00:01:35,429 --> 00:01:32,960

away

27

00:01:37,670 --> 00:01:35,439

and these are 100 800 power now they'll

28

00:01:39,190 --> 00:01:37,680

remain at 100 power level until

29

00:01:39,940 --> 00:01:39,200

approximately four minutes into the

30

00:01:42,149 --> 00:01:39,950

mission

31

00:01:44,069 --> 00:01:42,159

[Music]

32

00:01:45,990 --> 00:01:44,079

as mike doris reported there that first

33

00:01:46,950 --> 00:01:46,000

stage will fire for approximately four

34

00:01:48,469 --> 00:01:46,960

minutes

35

00:01:51,190 --> 00:01:48,479

propelling the launch vehicle to an

36

00:01:53,270 --> 00:01:51,200

altitude of approximately 113 kilometers

37

00:01:55,510 --> 00:01:53,280

or 70

38

00:01:57,910 --> 00:01:55,520

three miles valves come on in the core

39

00:02:01,350 --> 00:01:59,350

the engine iii and the fuel tank

40

00:02:02,950 --> 00:02:01,360

pressurization system is now on as well

41

00:02:04,630 --> 00:02:02,960

as expected

42

00:02:06,230 --> 00:02:04,640

attitude power

43

00:02:12,470 --> 00:02:06,240

main engine and steering systems all

44

00:02:16,390 --> 00:02:14,710

two minutes into the flight very very

45

00:02:18,229 --> 00:02:16,400

minimal steering commands at this point

46

00:02:23,589 --> 00:02:18,239

in the mission

47

00:02:28,949 --> 00:02:26,150

power buses look healthy

48

00:02:32,949 --> 00:02:28,959

engines remain uh remain nominal at 100

49

00:02:36,790 --> 00:02:34,710

attitude looks good again very little

50

00:02:39,370 --> 00:02:36,800

steering observed in the thrust effector

51  
00:02:41,110 --> 00:02:39,380  
control system on stage one

52  
00:02:43,110 --> 00:02:41,120  
[Music]

53  
00:02:45,190 --> 00:02:43,120  
poor pressurization systems are

54  
00:02:47,910 --> 00:02:45,200  
performing well at this point

55  
00:02:49,680 --> 00:02:47,920  
as we're past t plus two minutes 30

56  
00:02:50,869 --> 00:02:49,690  
seconds

57  
00:02:53,830 --> 00:02:50,879  
[Music]

58  
00:03:01,750 --> 00:02:53,840  
pvc is uh evc is nominal again with very

59  
00:03:05,190 --> 00:03:03,110  
approaching three minutes into the

60  
00:03:07,110 --> 00:03:05,200  
flight the stage one uh

61  
00:03:11,750 --> 00:03:07,120  
throttling should begin about three

62  
00:03:17,990 --> 00:03:13,910  
it's clear day a great shot of antares

63  
00:03:22,229 --> 00:03:19,830

engines remain at 100 percent mixture

64

00:03:25,509 --> 00:03:22,239

ratio targets are very close to nominal

65

00:03:29,990 --> 00:03:28,390

uh valves vno four five and six and the

66

00:03:32,309 --> 00:03:30,000

locks tank pressurization system have

67

00:03:35,670 --> 00:03:32,319

come on core pressures remain healthy at

68

00:03:35,680 --> 00:03:40,390

altitude passing 250 000 feet

69

00:03:48,869 --> 00:03:43,030

50 miles in altitude now traveling about

70

00:03:53,509 --> 00:03:50,789

stage one engine shutdown should occur

71

00:03:54,949 --> 00:03:53,519

at three minutes 53 seconds

72

00:03:56,869 --> 00:03:54,959

in preparation for the main engine

73

00:03:58,830 --> 00:03:56,879

cutoff event

74

00:04:01,750 --> 00:03:58,840

that'll happen close

75

00:04:06,229 --> 00:04:01,760

to t-plus four minutes

76  
00:04:11,110 --> 00:04:08,869  
at miko the vehicle be traveling 10 000

77  
00:04:13,990 --> 00:04:11,120  
miles per hour at an altitude of 66

78  
00:04:15,350 --> 00:04:14,000  
statute miles

79  
00:04:17,909 --> 00:04:15,360  
there we see what appears to be a very

80  
00:04:20,390 --> 00:04:17,919  
nominal separation of the first stage

81  
00:04:22,550 --> 00:04:20,400  
beautiful separation there it's a very

82  
00:04:23,909 --> 00:04:22,560  
clean separation between the upper stack

83  
00:04:26,230 --> 00:04:23,919  
and stage one

84  
00:04:27,990 --> 00:04:26,240  
stage one is uh drifting uh

85  
00:04:30,629 --> 00:04:28,000  
drifting nicely away from the vehicle at

86  
00:04:34,310 --> 00:04:32,710  
bob's got good track

87  
00:04:36,469 --> 00:04:34,320  
the uh the first of the upper stack

88  
00:04:38,310 --> 00:04:36,479

attitude control systems uh has been

89

00:04:40,070 --> 00:04:38,320

enabled we're now uh

90

00:04:41,909 --> 00:04:40,080

coasting on a ballistic phase of the

91

00:04:43,909 --> 00:04:41,919

mission until we've reached the proper

92

00:04:45,830 --> 00:04:43,919

conditions for a fairing separation and

93

00:04:48,790 --> 00:04:45,840

then stage two ignition

94

00:04:51,189 --> 00:04:48,800

four minutes 35 seconds into the flight

95

00:04:53,510 --> 00:04:51,199

interstage separation should occur about

96

00:04:56,070 --> 00:04:53,520

five and a half minutes into the mission

97

00:04:58,629 --> 00:04:56,080

stage two ignition at roughly 330

98

00:05:00,950 --> 00:04:58,639

seconds into the mission

99

00:05:02,469 --> 00:05:00,960

that's about about t plus 5 minutes and

100

00:05:04,469 --> 00:05:02,479

30 seconds

101  
00:05:06,469 --> 00:05:04,479  
kyle there we see a graphical animation

102  
00:05:08,070 --> 00:05:06,479  
but the telemetry is coming directly

103  
00:05:09,510 --> 00:05:08,080  
from the vehicle

104  
00:05:11,830 --> 00:05:09,520  
it shows

105  
00:05:13,749 --> 00:05:11,840  
the attitude control thrusters uh

106  
00:05:14,629 --> 00:05:13,759  
guiding the vehicle at this phase in

107  
00:05:16,950 --> 00:05:14,639  
flight

108  
00:05:18,950 --> 00:05:16,960  
as mike doris reported the next major

109  
00:05:21,909 --> 00:05:18,960  
milestone will be fairing separation so

110  
00:05:23,430 --> 00:05:21,919  
just about 19 600 feet per second of

111  
00:05:24,629 --> 00:05:23,440  
velocity was like a very strong

112  
00:05:26,550 --> 00:05:24,639  
performance from the stage one

113  
00:05:28,790 --> 00:05:26,560

propulsion system and we're standing by

114

00:05:33,350 --> 00:05:28,800

for that fairing separation upcoming

115

00:05:37,990 --> 00:05:35,990

again we are we are waiting for uh

116

00:05:39,189 --> 00:05:38,000

antares to reach the proper conditions

117

00:05:40,710 --> 00:05:39,199

for uh

118

00:05:43,430 --> 00:05:40,720

fairing separation we have fairing

119

00:05:43,440 --> 00:05:47,990

attitude remains nominal

120

00:05:54,310 --> 00:05:51,990

station stage 2 tvc batteries initiated

121

00:05:57,510 --> 00:05:54,320

interstage is separated