



1
00:00:06,309 --> 00:00:03,669
this is aries launch control at t-minus

2
00:00:08,310 --> 00:00:06,319
two hours 27 minutes 40 seconds and

3
00:00:10,310 --> 00:00:08,320
counting

4
00:00:12,310 --> 00:00:10,320
and here in the mission directors center

5
00:00:15,110 --> 00:00:12,320
we're being joined by

6
00:00:17,830 --> 00:00:15,120
terry mcgugan who is the manager of

7
00:00:19,349 --> 00:00:17,840
parachute operations for united space

8
00:00:20,790 --> 00:00:19,359
alliance

9
00:00:22,550 --> 00:00:20,800
and he

10
00:00:24,390 --> 00:00:22,560
has been

11
00:00:26,630 --> 00:00:24,400
responsible for a lot of the activity

12
00:00:29,189 --> 00:00:26,640
that we have seen in that video

13
00:00:30,870 --> 00:00:29,199

just uh that we've just played that is

14

00:00:33,510 --> 00:00:30,880

involved with getting these shoots ready

15

00:00:35,030 --> 00:00:33,520

for the ares 1x booster to

16

00:00:36,150 --> 00:00:35,040

fly today

17

00:00:38,069 --> 00:00:36,160

and

18

00:00:39,510 --> 00:00:38,079

terry i wonder first of all can you tell

19

00:00:42,310 --> 00:00:39,520

us

20

00:00:44,790 --> 00:00:42,320

how many how many shoots are actually on

21

00:00:46,470 --> 00:00:44,800

it and how does it differ from the the

22

00:00:48,470 --> 00:00:46,480

shoots that are on the shuttle sure

23

00:00:51,270 --> 00:00:48,480

george i i'm glad to talk about that a

24

00:00:52,950 --> 00:00:51,280

little bit uh same components uh same

25

00:00:55,590 --> 00:00:52,960

number of components is on a shuttle

26
00:00:58,310 --> 00:00:55,600
mission there's three main parachutes

27
00:00:59,670 --> 00:00:58,320
one drogue and one pilot parachute for

28
00:01:01,990 --> 00:00:59,680
the aries

29
00:01:04,070 --> 00:01:02,000
they're different in construction and

30
00:01:06,390 --> 00:01:04,080
materials but they're they're running

31
00:01:08,310 --> 00:01:06,400
the same purpose and the process

32
00:01:09,990 --> 00:01:08,320
once it comes in aerodynamically and we

33
00:01:11,510 --> 00:01:10,000
start throwing the parachutes it's very

34
00:01:12,469 --> 00:01:11,520
similar to what we do on the shuttle

35
00:01:14,469 --> 00:01:12,479
missions

36
00:01:17,429 --> 00:01:14,479
is there any kind of a shoot at all on

37
00:01:20,550 --> 00:01:17,439
the second stage the upper stage or not

38
00:01:22,710 --> 00:01:20,560

uh no not for this mission there are

39

00:01:25,910 --> 00:01:22,720

parachutes that will be there on the

40

00:01:27,030 --> 00:01:25,920

orion capsule eventually but those are

41

00:01:29,510 --> 00:01:27,040

different parachutes than what we're

42

00:01:31,910 --> 00:01:29,520

doing in my shop

43

00:01:33,510 --> 00:01:31,920

what's the very first shoot that we're

44

00:01:35,590 --> 00:01:33,520

going to see if we have a chance to see

45

00:01:36,710 --> 00:01:35,600

this visually that's going to come out

46

00:01:38,390 --> 00:01:36,720

sure

47

00:01:40,950 --> 00:01:38,400

the first parachute is called the pilot

48

00:01:42,550 --> 00:01:40,960

parachute it comes out first and its job

49

00:01:44,630 --> 00:01:42,560

is basically to pull out the drogue

50

00:01:46,870 --> 00:01:44,640

parachute so it immediately pulls out

51
00:01:49,350 --> 00:01:46,880
the drug parachute out of its deployment

52
00:01:52,630 --> 00:01:49,360
bag the drug parachute

53
00:01:54,149 --> 00:01:52,640
orients the vehicle more or less in line

54
00:01:56,069 --> 00:01:54,159
and gets it to where it's not tilted

55
00:01:57,990 --> 00:01:56,079
over too far and then the main

56
00:02:01,190 --> 00:01:58,000
parachutes deployed and those are

57
00:02:02,870 --> 00:02:01,200
deployed on altitude switch sensors that

58
00:02:04,069 --> 00:02:02,880
determine when these parachutes get

59
00:02:06,469 --> 00:02:04,079
deployed

60
00:02:08,229 --> 00:02:06,479
so can you give us an idea then after

61
00:02:11,029 --> 00:02:08,239
the separation occurs from the upper

62
00:02:13,190 --> 00:02:11,039
stage and the first stage how soon after

63
00:02:15,030 --> 00:02:13,200

that do we see the first shoot come out

64

00:02:16,390 --> 00:02:15,040

or does it fall for a while first

65

00:02:18,309 --> 00:02:16,400

actually it falls quite a while you

66

00:02:19,510 --> 00:02:18,319

don't see the parachutes until way late

67

00:02:21,990 --> 00:02:19,520

in the game

68

00:02:24,470 --> 00:02:22,000

the the booster separates from the upper

69

00:02:25,510 --> 00:02:24,480

stage and it goes through a tumble

70

00:02:28,070 --> 00:02:25,520

maneuver

71

00:02:29,589 --> 00:02:28,080

and then an aerodynamic reentry and it

72

00:02:31,750 --> 00:02:29,599

comes quite a ways down into the

73

00:02:35,110 --> 00:02:31,760

atmosphere i believe that these are set

74

00:02:37,830 --> 00:02:35,120

to go off at about 15 000 feet is where

75

00:02:39,270 --> 00:02:37,840

we start uh arming up the the pilot

76

00:02:42,710 --> 00:02:39,280

parachute

77

00:02:44,070 --> 00:02:42,720

now how is the retrieval by the uh ships

78

00:02:45,910 --> 00:02:44,080

different i think it's actually the the

79

00:02:48,949 --> 00:02:45,920

liberty star that's is liberty gonna

80

00:02:50,790 --> 00:02:48,959

pick up the the booster uh it'll be

81

00:02:53,430 --> 00:02:50,800

a lot of ways it's going to be

82

00:02:55,270 --> 00:02:53,440

similar to an srb mission but we've got

83

00:02:57,110 --> 00:02:55,280

a different orientation

84

00:02:59,270 --> 00:02:57,120

it's a longer vehicle it's actually a

85

00:03:01,430 --> 00:02:59,280

five segment booster of course for this

86

00:03:03,030 --> 00:03:01,440

mission the fifth segment is uh

87

00:03:04,470 --> 00:03:03,040

non-functional it's not not really a

88

00:03:06,550 --> 00:03:04,480

motorist it's a simulator but it's a

89

00:03:08,309 --> 00:03:06,560

longer booster and so we have some

90

00:03:10,149 --> 00:03:08,319

different dynamics about how it lays in

91

00:03:12,470 --> 00:03:10,159

the water and stuff but they're just

92

00:03:13,509 --> 00:03:12,480

going to go up and get a hold of the

93

00:03:15,589 --> 00:03:13,519

booster

94

00:03:17,509 --> 00:03:15,599

retrieve the parachutes get them reeled

95

00:03:19,509 --> 00:03:17,519

on board of course on this mission we're

96

00:03:21,750 --> 00:03:19,519

only going to get back to three mains

97

00:03:23,430 --> 00:03:21,760

the drug parachute stays attached to the

98

00:03:25,430 --> 00:03:23,440

forward skirt extension

99

00:03:27,190 --> 00:03:25,440

and that does not have flotation for

100

00:03:30,390 --> 00:03:27,200

this test flight and so we won't

101
00:03:32,070 --> 00:03:30,400
retrieve that whereas on an srv mission

102
00:03:33,830 --> 00:03:32,080
for the shuttle system we retrieve all

103
00:03:35,589 --> 00:03:33,840
the parachutes

104
00:03:37,910 --> 00:03:35,599
well terry thank you very much we

105
00:03:40,070 --> 00:03:37,920
appreciate that uh further explanation

106
00:03:41,990 --> 00:03:40,080
and of course the uh tape showing some

107
00:03:43,589 --> 00:03:42,000
of your team and action they're getting

108
00:03:45,430 --> 00:03:43,599
the shoots for this mission ready to go

109
00:03:47,030 --> 00:03:45,440
so it's it's a great team george i have

110
00:03:49,509 --> 00:03:47,040
some awesome people working with me so

111
00:03:52,309 --> 00:03:49,519
thank you very much thank you

112
00:03:54,550 --> 00:03:52,319
and we're now at t-minus two hours 23