1
00:00:07,349 --> 00:00:05,829
and a dragon being slowly removed from

2
00:00:09,509 --> 00:00:07,359
the international space station now

3
00:00:17,430 --> 00:00:09,519
official unbirthing time is 3 10 a.m

4
00:00:21,189 --> 00:00:19,429
this vehicle launched back on march 1st

5
00:00:22,470 --> 00:00:21,199
and arrived at the orbiting complex on

6
00:00:24,310 --> 00:00:22,480
march 3rd

7
00:00:27,269 --> 00:00:24,320
the science that is being delivered to

8
00:00:28,870 --> 00:00:27,279
the space station and was moved over to

9
00:00:29,910 --> 00:00:28,880
the international space station complex

10
00:00:31,349 --> 00:00:29,920
at the beginning of the mission that

11
00:00:33,910 --> 00:00:31,359
will stay on board

12
00:00:35,910 --> 00:00:33,920
there is a micro flow one technology

13
00:00:39,270 --> 00:00:35,920

demonstration

14
00:00:41,670 --> 00:00:39,280
it comes from the canadian space agency

15
00:00:43,350 --> 00:00:41,680
it takes a look at a miniaturized flow

16
00:00:45,750 --> 00:00:43,360
cytometer

17
00:00:48,310 --> 00:00:45,760
and how that behaves up in space flow

18
00:00:49,590 --> 00:00:48,320
cytometry is a technique that focuses

19
00:00:51,189 --> 00:00:49,600
fluids

20
00:00:53,350 --> 00:00:51,199
into a controlled stream that enables

21
00:00:55,029 --> 00:00:53,360
researchers to quantify the components

22
00:00:58,150 --> 00:00:55,039
and monitor physiological and cellular

23
00:01:01,029 --> 00:00:59,510
it has uh

24
00:01:03,270 --> 00:01:01,039
implications for medical care up in

25
00:01:05,030 --> 00:01:03,280
space and also monitoring because

26
00:01:07,429 --> 00:01:05,040
it could lead to smaller devices and

27
00:01:09,429 --> 00:01:07,439
smaller instruments which of course

28
00:01:10,710 --> 00:01:09,439
up in space size and weight is

29
00:01:12,390 --> 00:01:10,720
everything so things that could be a

30
00:01:15,830 --> 00:01:12,400
little bit lighter a little bit smaller

31
00:01:17,510 --> 00:01:15,840
will help us on future journeys

32
00:01:19,109 --> 00:01:17,520
also quite a bit of nanoracks

33
00:01:20,630 --> 00:01:19,119
experiments that were delivered

34
00:01:21,749 --> 00:01:20,640
a lot of these are

35
00:01:23,429 --> 00:01:21,759
student

36
00:01:25,350 --> 00:01:23,439
experiments were designed by high school

37
00:01:26,710 --> 00:01:25,360
and college students and we'll live on

38
00:01:29,830 --> 00:01:26,720

board the international space station

39
00:01:33,190 --> 00:01:31,109
there is one that came out of the

40
00:01:34,469 --> 00:01:33,200
methodist hospital research institute

41
00:01:36,069 --> 00:01:34,479
here in houston

42
00:01:37,670 --> 00:01:36,079
it is a protein crystal growth

43
00:01:39,429 --> 00:01:37,680
experiment that

44
00:01:42,710 --> 00:01:39,439
takes a look at how different crystals

45
00:01:44,630 --> 00:01:42,720
behave and form in space

46
00:01:47,109 --> 00:01:44,640
there's also one out of the riverside

47
00:01:49,749 --> 00:01:47,119
christian school in riverside california

48
00:01:53,429 --> 00:01:49,759
that looks at how bacteria grows up in

49
00:01:55,510 --> 00:01:53,439
space specifically e coli

50
00:01:57,030 --> 00:01:55,520
riverside also had another experiment

51
00:01:58,870 --> 00:01:57,040
that takes a look at battery performance

52
00:02:00,230 --> 00:01:58,880
which is uh interesting considering that

53
00:02:04,550 --> 00:02:00,240
the space station

54
00:02:06,469 --> 00:02:04,560
operates on huge batteries right now

55
00:02:07,749 --> 00:02:06,479
but the students want to take a look at

56
00:02:10,550 --> 00:02:07,759
does

57
00:02:12,229 --> 00:02:10,560
space flight and the zero gravity

58
00:02:13,990 --> 00:02:12,239
environment have an effect on batteries

59
00:02:15,190 --> 00:02:14,000
how they charge how they

60
00:02:16,710 --> 00:02:15,200
discharge

61
00:02:22,150 --> 00:02:16,720
and whether they last longer up in space

62
00:02:26,150 --> 00:02:24,550
tom marshburn now has his hand on the

63
00:02:35,110 --> 00:02:26,160

trigger that will release dragon coming

64
00:02:40,470 --> 00:02:37,110
station we show the pin and clear and

65
00:02:40,480 --> 00:02:53,509
copy and concur

66
00:02:53,519 --> 00:03:08,149
coming up on the first departure burn

67
00:03:11,750 --> 00:03:09,910
burn has been conducted there goes

68
00:03:13,270 --> 00:03:11,760
dragon away from the arm

69
00:03:15,270 --> 00:03:13,280
this is the first of the three departure

70
00:03:16,949 --> 00:03:15,280
burns that will be conducted

71
00:03:18,630 --> 00:03:16,959
it will happen in rapid succession

72
00:03:20,470 --> 00:03:18,640
taking dragon away from the vicinity of

73
00:03:24,149 --> 00:03:20,480
the international space station but

74
00:03:28,470 --> 00:03:26,149
the team at spacex reporting that the

75
00:03:31,910 --> 00:03:28,480
burn was conducted as expected

76
00:03:34,229 --> 00:03:31,920
everything on dragon on board is looking

77
00:03:37,190 --> 00:03:34,239
good the dragon depart was commanded and

78
00:03:41,910 --> 00:03:37,200
the p timer was started and uh go to

79
00:03:48,149 --> 00:03:43,350
roger looks

80
00:03:52,070 --> 00:03:50,149
good words thank you

81
00:03:53,750 --> 00:03:52,080
this view from dragon looking up at the

82
00:03:56,149 --> 00:03:53,760
international space station you see both

83
00:03:57,750 --> 00:03:56,159
the kibo laboratory and the columbus

84
00:03:59,509 --> 00:03:57,760
laboratory as well as the harmony node

85
00:04:00,390 --> 00:03:59,519
which used to be the former home of

86
00:04:02,229 --> 00:04:00,400
dragon

87
00:04:04,229 --> 00:04:02,239
for these past 23 days there at the

88
00:04:06,949 --> 00:04:04,239

bottom is the pressurized mating adapter

89
00:04:08,390 --> 00:04:06,959
number two that used to be home the home

90
00:04:10,630 --> 00:04:08,400
of the space shuttles back whenever they

91
00:04:12,550 --> 00:04:10,640
visited the international space station

92
00:04:14,470 --> 00:04:12,560
but dragon continuing to open up the

93
00:04:16,710 --> 00:04:14,480
distance between itself and the orbiting

94
00:04:21,110 --> 00:04:16,720
complex

95
00:04:21,120 --> 00:04:24,629
and it has finished up

96
00:04:27,909 --> 00:04:26,230
there will be a yaw maneuver coming up

97
00:04:32,230 --> 00:04:27,919
next where the spacecraft will spin

98
00:04:36,310 --> 00:04:34,230
station houston is facing ground two for

99
00:04:38,469 --> 00:04:36,320
robotics no response required departure

100
00:04:39,909 --> 00:04:38,479
burn two is complete and departure burn

101
00:04:47,430 --> 00:04:39,919
three will be in approximately seven and

102
00:04:47,440 --> 00:05:01,670
okay looks good

103
00:05:05,990 --> 00:05:04,230
as these two spacecrafts fly together in

104
00:05:07,430 --> 00:05:06,000
the darkness a little bit hard to see

105
00:05:08,790 --> 00:05:07,440
the dragon spacecraft but you can

106
00:05:09,909 --> 00:05:08,800
definitely see the strobe light there

107
00:05:11,590 --> 00:05:09,919
blinking

108
00:05:12,870 --> 00:05:11,600
giving an indication of how fast this

109
00:05:14,790 --> 00:05:12,880
vehicle is starting to open up the

110
00:05:17,110 --> 00:05:14,800
distance between itself and the space

111
00:05:20,710 --> 00:05:17,120
station there on the left hand side

112
00:05:24,230 --> 00:05:22,469
the team here in houston getting the

113
00:05:26,390 --> 00:05:24,240

space station back into the proper

114
00:05:32,230 --> 00:05:26,400
configuration with its handling and

115
00:05:36,150 --> 00:05:34,550
the spacex mission director reporting to

116
00:05:38,310 --> 00:05:36,160
flight director scott stover here inside

117
00:05:39,830 --> 00:05:38,320
mission control that both burns did look

118
00:05:41,110 --> 00:05:39,840
good they're standing by for the third

119
00:05:43,430 --> 00:05:41,120
and final

120
00:05:45,110 --> 00:05:43,440
departure burn as we take a look at

121
00:05:51,110 --> 00:05:45,120
the camera onboard dragon looking up at

122
00:05:54,310 --> 00:05:52,550
the third and final burn coming up here

123
00:05:56,309 --> 00:05:54,320
momentarily but you get a sense of

124
00:06:00,230 --> 00:05:56,319
exactly how big this orbiting complex is

125
00:06:03,510 --> 00:06:01,830
here on the left hand side is the kibo

126
00:06:04,870 --> 00:06:03,520
laboratory with its front porch there

127
00:06:07,510 --> 00:06:04,880
full of science experiments on the right

128
00:06:08,390 --> 00:06:07,520
hand side is the columbus laboratory

129
00:06:10,790 --> 00:06:08,400
they're in the middle of both the

130
00:06:12,790 --> 00:06:10,800
harmony and destiny modules as well as

131
00:06:14,150 --> 00:06:12,800
the tranquility module

132
00:06:16,070 --> 00:06:14,160
you get a sense of the quest airlock

133
00:06:17,670 --> 00:06:16,080
there on the right hand side right in

134
00:06:20,070 --> 00:06:17,680
between the sort of

135
00:06:21,749 --> 00:06:20,080
l-shaped truss with the russian segment

136
00:06:24,230 --> 00:06:21,759
you see the radiators there in the