



1
00:00:45,100 --> 00:00:48,250
No

2
00:00:48,260 --> 00:00:58,610
what

3
00:00:58,620 --> 00:01:12,740
god I could see

4
00:01:12,750 --> 00:01:36,730
it

5
00:01:54,780 --> 00:01:39,500
good morning Columbia what a ride and

6
00:02:00,630 --> 00:01:59,220
the crew is planning to work with a

7
00:02:03,450 --> 00:02:00,640
number of experiments that are

8
00:02:06,060 --> 00:02:03,460
associated with the United States

9
00:02:07,639 --> 00:02:06,070
microgravity payload which is a platform

10
00:02:09,900 --> 00:02:07,649
of experiments in the payload Bay

11
00:02:11,420 --> 00:02:09,910
overseen by a NASA's Marshall Space

12
00:02:14,130 --> 00:02:11,430
Flight Center in Huntsville Alabama

13
00:02:15,900 --> 00:02:14,140

those experiments are mounted on a

14

00:02:18,780 --> 00:02:15,910

support structure in the back end of

15

00:02:20,610 --> 00:02:18,790

Columbia's payload bay which is also

16

00:02:22,980 --> 00:02:20,620

filled with that Spartan satellite and

17

00:02:26,670 --> 00:02:22,990

also the extended duration orbiter

18

00:02:29,010 --> 00:02:26,680

pallet of cryogenics there's a series of

19

00:02:31,650 --> 00:02:29,020

experiments the the one on the

20

00:02:35,040 --> 00:02:31,660

television now in the downlink from the

21

00:02:38,760 --> 00:02:35,050

orbiter is the isothermal dendritic

22

00:02:41,550 --> 00:02:38,770

growth experiment which is an experiment

23

00:02:43,800 --> 00:02:41,560

that hopefully may improve manufacturing

24

00:02:46,830 --> 00:02:43,810

processes involved in the production of

25

00:02:49,320 --> 00:02:46,840

steel aluminum and various super alloys

26

00:02:52,020 --> 00:02:49,330

that are used in the production of

27

00:02:56,460 --> 00:02:52,030

automobiles and airplanes the

28

00:02:59,220 --> 00:02:56,470

investigation is designed to unlock

29

00:03:01,800 --> 00:02:59,230

advanced processes that will create some

30

00:03:03,479 --> 00:03:01,810

new alloys that may be stronger and may

31

00:03:05,850 --> 00:03:03,489

even have better control and more

32

00:03:19,290 --> 00:03:05,860

reliable properties than are currently

33

00:03:27,270 --> 00:03:23,580

i use in columbia for a filthy and go

34

00:03:30,000 --> 00:03:27,280

ahead for so c-come on just to be sure

35

00:03:34,980 --> 00:03:30,010

all synced up here I hold myself about

36

00:03:38,310 --> 00:03:34,990

to begin DTV startup or about the two

37

00:03:43,410 --> 00:03:38,320

minutes and we all set up here to record

38

00:03:45,240 --> 00:03:43,420

the door opening and we copy and you can

39

00:03:53,430 --> 00:03:45,250

start any time and we have it on the

40

00:03:55,320 --> 00:03:53,440

downlink cut out really great this is

41

00:03:57,560 --> 00:03:55,330

Mission Control Houston this television

42

00:04:01,740 --> 00:03:57,570

from Columbia's cargo bay showing the

43

00:04:04,320 --> 00:04:01,750

shuttle ozone limb experiment as the

44

00:04:06,150 --> 00:04:04,330

door opens the instrument will begin its

45

00:04:08,760 --> 00:04:06,160

first observations of the mission it

46

00:04:11,250 --> 00:04:08,770

observes the Earth's horizon from orbit

47

00:04:13,970 --> 00:04:11,260

end up from ultraviolet light to reflect

48

00:04:18,090 --> 00:04:13,980

it off of the earth's limb or horizon

49

00:04:30,050 --> 00:04:18,100

gauges the amounts of ozone present in

50

00:04:34,370 --> 00:04:32,810

also under way is a an experiment on the

51
00:04:36,260 --> 00:04:34,380
lower deck of Columbia in a glove box

52
00:04:37,520 --> 00:04:36,270
unit that will be the focus of us

53
00:04:40,450 --> 00:04:37,530
several different experiments during the

54
00:04:41,900 --> 00:04:40,460
flight in that glove box at present is a

55
00:04:44,210 --> 00:04:41,910
experiment called the wedding

56
00:04:48,680 --> 00:04:44,220
characteristics of immiscible this video

57
00:04:50,150 --> 00:04:48,690
is from that glove box experiment this

58
00:04:51,710 --> 00:04:50,160
experiment again being done in a glove

59
00:04:55,400 --> 00:04:51,720
box on the lower deck of Columbia

60
00:04:58,010 --> 00:04:55,410
studies metal alloys and mixing of those

61
00:05:00,080 --> 00:04:58,020
metal alloys and wedding effects that

62
00:05:02,510 --> 00:05:00,090
are caused as those alloys are melted

63
00:05:05,240 --> 00:05:02,520

and mixed and they can sometimes cause

64

00:05:07,430 --> 00:05:05,250

layering as those alloys are created

65

00:05:20,220 --> 00:05:07,440

looking at ways that that wedding could

66

00:05:25,300 --> 00:05:22,180

here's the Columbia we're going to break

67

00:05:32,170 --> 00:05:25,310

it to them into the flight deck and

68

00:05:39,980 --> 00:05:32,180

we're ready and Kevin were up there with

69

00:05:39,990 --> 00:05:43,129

coming

70

00:05:46,939 --> 00:05:45,679

commander Kevin kregel peddling his way

71

00:05:49,429 --> 00:05:46,949

around the world on the bicycle

72

00:05:52,279 --> 00:05:49,439

ergometer down in the shuttles crowded

73

00:05:54,619 --> 00:05:52,289

mid deck area this is kregel third

74

00:05:57,019 --> 00:05:54,629

flight into space after two stints as a

75

00:06:04,429 --> 00:05:57,029

pilot aboard the shuttle discovery on

76

00:06:08,300 --> 00:06:04,439

sts 70 in 1995 and again in 1996 on the

77

00:06:10,129 --> 00:06:08,310

STS 78 mission which was a two-week

78

00:06:13,219 --> 00:06:10,139

microgravity Sciences mission aboard

79

00:06:14,929 --> 00:06:13,229

Columbia Columbia Houston we know you're

80

00:06:16,820 --> 00:06:14,939

busy Kevin but if someone else is

81

00:06:19,670 --> 00:06:16,830

available we'd like to maneuver to that

82

00:06:27,379 --> 00:06:19,680

biased pitch attitude and we've got the

83

00:06:29,450 --> 00:06:27,389

numbers if you need them both that's a

84

00:06:38,329 --> 00:06:29,460

target to which you already have in and

85

00:06:54,410 --> 00:06:38,339

then body vector 5 the pitch is 95 jaw

86

00:06:54,420 --> 00:07:25,610

as a complete concur

87

00:07:29,629 --> 00:07:27,890

standing behind Kregel down in the mid

88

00:07:32,659 --> 00:07:29,639

deck is ukrainian payload specialist

89

00:07:36,110 --> 00:07:32,669

leonid Kadeem yuck japanese astronaut to

90

00:07:38,030 --> 00:07:36,120

cowboy poked his head up through the

91

00:07:39,890 --> 00:07:38,040

mid-deck area actually the bicycle

92

00:07:43,310 --> 00:07:39,900

ergometer is set up on the aft flight

93

00:07:45,320 --> 00:07:43,320

deck of Columbia Kadena is standing near

94

00:07:46,939 --> 00:07:45,330

the passageway from the flight deck down

95

00:07:52,550 --> 00:07:46,949

to the mid-deck where doy is currently

96

00:07:55,189 --> 00:07:52,560

located at the aft flight deck mission

97

00:07:57,110 --> 00:07:55,199

specialists or mission specialists cult

98

00:07:59,480 --> 00:07:57,120

niche Avila will be joined by a pilot

99

00:08:01,370 --> 00:07:59,490

Steve Lindsey tomorrow for the operation

100

00:08:02,629 --> 00:08:01,380

of the shuttles 50-foot long robot arm

101
00:08:06,260 --> 00:08:02,639
in the deployment of the Spartan

102
00:08:11,420 --> 00:08:06,270
satellite which is scheduled at 303 p.m.

103
00:08:13,070 --> 00:08:11,430
central time tomorrow afternoon again

104
00:08:14,659 --> 00:08:13,080
kriegel is peddling the bicycle

105
00:08:17,629 --> 00:08:14,669
ergometer on the aft flight deck of

106
00:08:20,900 --> 00:08:17,639
Columbia being watched by leonid kadena

107
00:08:23,000 --> 00:08:20,910
who has been operating the q experiment

108
00:08:25,430 --> 00:08:23,010
today the collaborative ukrainian

109
00:08:27,379 --> 00:08:25,440
ukrainian experiment which investigates

110
00:10:13,430 --> 00:08:27,389
the progress of plant growth in the

111
00:10:22,660 --> 00:10:17,690
Columbia Houston for pgdf deactivation

112
00:10:22,670 --> 00:10:47,400
start it up right now copy Steve

113
00:10:54,150 --> 00:10:50,369

lumbia Houston the orbit for shift is

114

00:10:55,800 --> 00:10:54,160

now trading places with orbit too it's

115

00:10:57,749 --> 00:10:55,810

been a great first day for us we've

116

00:11:02,610 --> 00:10:57,759

really enjoyed it you're off to a great

117

00:11:05,100 --> 00:11:02,620

start and Jeff vandal is here with his

118

00:11:07,139 --> 00:11:05,110

team and ellen ochoa will be talking to

119

00:11:13,679 --> 00:11:07,149

and look forward to tomorrow working

120

00:11:15,809 --> 00:11:13,689

with you on the Spartan deploy Thanks