



BURNING AND SUPPRESSION OF SOLIDS (BASS)

1
00:00:14,549 --> 00:00:12,629
it is tuesday april 23rd and science has

2
00:00:17,109 --> 00:00:14,559
been at the top of the agenda today for

3
00:00:19,189 --> 00:00:17,119
the expedition 35 crew on board the

4
00:00:21,510 --> 00:00:19,199
international space station commander

5
00:00:24,150 --> 00:00:21,520
chris hadfield started his day with a

6
00:00:26,390 --> 00:00:24,160
blood draw for the experiment called

7
00:00:28,470 --> 00:00:26,400
vascular that is a canadian

8
00:00:31,189 --> 00:00:28,480
investigation that's looking into the

9
00:00:33,510 --> 00:00:31,199
long-term effect of zero gravity on the

10
00:00:36,069 --> 00:00:33,520
blood vessels

11
00:00:38,310 --> 00:00:36,079
hadfield was been tested before flight

12
00:00:40,549 --> 00:00:38,320
now being tested during flight and will

13
00:00:43,670 --> 00:00:40,559

be tested after the flight as well

14

00:00:46,389 --> 00:00:43,680

the current samples being stowed in the

15

00:00:48,709 --> 00:00:46,399

minus 80 degrees laboratory freezer

16

00:00:50,869 --> 00:00:48,719

that's in the kibo module for later

17

00:00:53,830 --> 00:00:50,879

return to earth and the study by the

18

00:00:55,510 --> 00:00:53,840

vascular investigators hadfield then

19

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

moved on to work in the columbus

20

00:01:01,189 --> 00:00:57,920

laboratory module this morning he

21

00:01:04,229 --> 00:01:01,199

rotated the express rack 3 out of the

22

00:01:06,550 --> 00:01:04,239

aft wall of columbus and went to work to

23

00:01:10,070 --> 00:01:06,560

replace a water valve in the cooling

24

00:01:12,630 --> 00:01:10,080

system that was a lengthy task that took

25

00:01:14,630 --> 00:01:12,640

him took up all of his morning and

26

00:01:19,350 --> 00:01:14,640

pushed both of his daily exercise

27

00:01:21,510 --> 00:01:19,360

sessions as in off into his afternoon

28

00:01:23,749 --> 00:01:21,520

for his uh crewmates pavel vinogradov

29

00:01:26,950 --> 00:01:23,759

and roman romanenko they started their

30

00:01:29,749 --> 00:01:26,960

day with a drill at the toru system they

31

00:01:31,990 --> 00:01:29,759

practice the potential use of a remote

32

00:01:34,950 --> 00:01:32,000

control docking system to bring a

33

00:01:37,670 --> 00:01:34,960

progress ship in to dock at the zvezda

34

00:01:39,590 --> 00:01:37,680

modules aft docking port just in case

35

00:01:42,389 --> 00:01:39,600

the automated docking system doesn't

36

00:01:44,550 --> 00:01:42,399

work properly the next progress vehicle

37

00:01:48,149 --> 00:01:44,560

is scheduled to launch from the baikonur

38

00:01:50,550 --> 00:01:48,159

cosmodrome in kazakhstan at 5 12 houston

39

00:01:52,789 --> 00:01:50,560

time on wednesday morning and dock to

40

00:01:55,030 --> 00:01:52,799

the station on friday morning you'll

41

00:01:57,190 --> 00:01:55,040

have live coverage of the launch and of

42

00:01:58,789 --> 00:01:57,200

the docking on nasa television and

43

00:02:01,350 --> 00:01:58,799

nasa.gov

44

00:02:03,429 --> 00:02:01,360

both vinogradov and romanenko had most

45

00:02:05,429 --> 00:02:03,439

of the rest of the day off duty than to

46

00:02:07,990 --> 00:02:05,439

make up for their

47

00:02:10,550 --> 00:02:08,000

working this past weekend to clean up

48

00:02:12,309 --> 00:02:10,560

from last friday's spacewalk

49

00:02:14,470 --> 00:02:12,319

flight engineer chris cassidy

50

00:02:17,270 --> 00:02:14,480

concentrated his work at the multi

51
00:02:19,670 --> 00:02:17,280
microgravity sciences glovebox

52
00:02:22,790 --> 00:02:19,680
he was setting up for and then has been

53
00:02:25,589 --> 00:02:22,800
executing test burns for the experiment

54
00:02:26,630 --> 00:02:25,599
bass that's burning and suppression of

55
00:02:29,350 --> 00:02:26,640
solids

56
00:02:32,150 --> 00:02:29,360
bass is examining the characteristics of

57
00:02:34,550 --> 00:02:32,160
ignition and extinction of a range of

58
00:02:37,030 --> 00:02:34,560
different fuel samples the intent there

59
00:02:39,910 --> 00:02:37,040
is to contribute to the computational

60
00:02:41,589 --> 00:02:39,920
models for brand new fire detection and

61
00:02:43,830 --> 00:02:41,599
suppression systems

62
00:02:46,229 --> 00:02:43,840
and therefore to guide the development

63
00:02:48,550 --> 00:02:46,239

of strategies for putting out accidental

64

00:02:50,550 --> 00:02:48,560

fires in a spacecraft

65

00:02:53,030 --> 00:02:50,560

flight engineer tom marshburn spent most

66

00:02:55,830 --> 00:02:53,040

of tuesday working at the capillary flow

67

00:02:58,070 --> 00:02:55,840

experiment that's actually a suite of

68

00:03:00,309 --> 00:02:58,080

experiments that are investigating the

69

00:03:03,190 --> 00:03:00,319

flow of fluids in the microgravity

70

00:03:07,110 --> 00:03:03,200

environment especially inside containers

71

00:03:09,190 --> 00:03:07,120

that have unusual or complex geometries

72

00:03:11,350 --> 00:03:09,200

the results those experiments will be

73

00:03:14,869 --> 00:03:11,360

providing data to the people who are

74

00:03:16,790 --> 00:03:14,879

designing programs that model fluid flow

75

00:03:19,750 --> 00:03:16,800

those models are going to be used by the

76

00:03:21,990 --> 00:03:19,760

designers of low gravity fluid transfer

77

00:03:25,030 --> 00:03:22,000

systems we're going to try to improve

78

00:03:26,229 --> 00:03:25,040

the fluid flow on board spacecraft of

79

00:03:27,990 --> 00:03:26,239

the future

80

00:03:30,229 --> 00:03:28,000

flight engineer alexander misurkin

81

00:03:32,470 --> 00:03:30,239

started tuesday with some computer

82

00:03:34,550 --> 00:03:32,480

software maintenance work and has spent

83

00:03:37,190 --> 00:03:34,560

most of the rest of the day with pump

84

00:03:39,350 --> 00:03:37,200

panel maintenance in the rasvieth module

85

00:03:41,430 --> 00:03:39,360

as well as russian systems maintenance

86

00:03:44,070 --> 00:03:41,440

inside zvezda

87

00:03:46,470 --> 00:03:44,080

all six crew members also had the daily

88

00:03:49,270 --> 00:03:46,480

exercise sessions that are designed to

89

00:03:51,670 --> 00:03:49,280

maintain their overall physical fitness

90

00:03:54,309 --> 00:03:51,680

as well as combat the loss of bone and

91

00:03:57,589 --> 00:03:54,319

muscle mass that occurs to people who

92

00:03:59,670 --> 00:03:57,599

spend extended periods of time in space

93

00:04:02,229 --> 00:03:59,680

in an environment where there is not

94

00:04:03,670 --> 00:04:02,239

even gravity for their bones or muscles

95

00:04:05,110 --> 00:04:03,680

to work against

96

00:04:06,949 --> 00:04:05,120

that's going to become

97

00:04:09,750 --> 00:04:06,959

important for all of the crew members

98

00:04:11,990 --> 00:04:09,760

especially more important now for chris

99

00:04:14,710 --> 00:04:12,000

hadfield roman romanenko and tom

100

00:04:17,110 --> 00:04:14,720

marshburn as they prepare to return to

101

00:04:18,870 --> 00:04:17,120

earth in a few weeks their mission

102

00:04:21,349 --> 00:04:18,880

onboard the international space station