
CATO

1
00:00:19,990 --> 00:00:18,070
this is mission control houston the

2
00:00:23,269 --> 00:00:20,000
international space station's expedition

3
00:00:25,509 --> 00:00:23,279
to 36 crew is wrapping up a busy week on

4
00:00:27,589 --> 00:00:25,519
orbit one in which they have split most

5
00:00:30,630 --> 00:00:27,599
of their attention between things coming

6
00:00:32,630 --> 00:00:30,640
in and things going out the station

7
00:00:35,590 --> 00:00:32,640
received more than seven tons of

8
00:00:38,470 --> 00:00:35,600
supplies when automated transfer vehicle

9
00:00:40,150 --> 00:00:38,480
number four docked to the zvezda module

10
00:00:42,549 --> 00:00:40,160
on june 15th

11
00:00:44,549 --> 00:00:42,559
station commander pavel vinogradov and

12
00:00:47,110 --> 00:00:44,559
european space agency

13
00:00:50,229 --> 00:00:47,120

astronaut flight engineer luca parmitano

14
00:00:52,950 --> 00:00:50,239
opened the hatch to the albert einstein

15
00:00:55,110 --> 00:00:52,960
on june 18th and the crew members

16
00:00:57,750 --> 00:00:55,120
started unloading the cargo which

17
00:01:00,470 --> 00:00:57,760
included materials ranging from new

18
00:01:02,869 --> 00:01:00,480
hardware like a new water pump assembly

19
00:01:05,509 --> 00:01:02,879
for the columbus laboratory module

20
00:01:07,990 --> 00:01:05,519
to science experiment material

21
00:01:10,070 --> 00:01:08,000
like the phases investigation which

22
00:01:12,710 --> 00:01:10,080
looks into how emulsions maintain their

23
00:01:14,789 --> 00:01:12,720
structures in microgravity as well as

24
00:01:17,270 --> 00:01:14,799
clothes and other supplies for the crew

25
00:01:19,990 --> 00:01:17,280
members themselves along with air and

26
00:01:22,390 --> 00:01:20,000
water and propellant the unloading

27
00:01:24,870 --> 00:01:22,400
operations on the european space agency

28
00:01:26,870 --> 00:01:24,880
provided cargo vehicle continued

29
00:01:28,950 --> 00:01:26,880
throughout the week

30
00:01:32,550 --> 00:01:28,960
so did preparation for two crew members

31
00:01:34,789 --> 00:01:32,560
to exit the station on monday june 24th

32
00:01:37,270 --> 00:01:34,799
flight engineers alexander misurkin and

33
00:01:39,749 --> 00:01:37,280
fyodor yurchikhin will be going outside

34
00:01:42,550 --> 00:01:39,759
next week to replace a fluid flow

35
00:01:44,230 --> 00:01:42,560
control valve panel on the exterior of

36
00:01:47,429 --> 00:01:44,240
the zarya module

37
00:01:49,590 --> 00:01:47,439
to install clamps there for later cables

38
00:01:51,749 --> 00:01:49,600

that will route power from the u.s

39
00:01:53,749 --> 00:01:51,759
segment of the station to a new russian

40
00:01:55,910 --> 00:01:53,759
laboratory module which is expected to

41
00:01:57,910 --> 00:01:55,920
arrive on orbit late this year

42
00:02:00,069 --> 00:01:57,920
they're also going to remove and install

43
00:02:02,789 --> 00:02:00,079
experiments on the exterior of the

44
00:02:05,030 --> 00:02:02,799
zvezda module and inspect and take

45
00:02:07,190 --> 00:02:05,040
samples of thermal insulation on the

46
00:02:09,109 --> 00:02:07,200
outside of the russian modules

47
00:02:10,229 --> 00:02:09,119
all week long they and their crewmates

48
00:02:11,670 --> 00:02:10,239
have been getting ready for that

49
00:02:13,670 --> 00:02:11,680
spacewalk

50
00:02:15,750 --> 00:02:13,680
yurchikhin and misurkin studied the

51
00:02:17,110 --> 00:02:15,760
timeline they've gotten familiar with

52
00:02:18,710 --> 00:02:17,120
the work sites

53
00:02:20,790 --> 00:02:18,720
through the use of graphics in a

54
00:02:22,790 --> 00:02:20,800
computer training program they've

55
00:02:24,710 --> 00:02:22,800
checked out the integrity of the orlando

56
00:02:26,390 --> 00:02:24,720
space suits that they'll wear and

57
00:02:28,630 --> 00:02:26,400
outfitted those suits with all the

58
00:02:31,030 --> 00:02:28,640
necessary equipment including helmet

59
00:02:33,670 --> 00:02:31,040
lights and cameras that have borrowed

60
00:02:36,070 --> 00:02:33,680
from the us space suits

61
00:02:38,470 --> 00:02:36,080
on friday they got in their orland suits

62
00:02:40,150 --> 00:02:38,480
and completed a training exercise as one

63
00:02:42,630 --> 00:02:40,160

of their final preparations for the

64
00:02:47,750 --> 00:02:42,640
spacewalk which is scheduled to begin on

65
00:02:49,350 --> 00:02:47,760
monday the 24th at 8 30 a.m houston time

66
00:02:51,670 --> 00:02:49,360
this week the crew members worked with a

67
00:02:53,990 --> 00:02:51,680
variety of experiments too

68
00:02:56,710 --> 00:02:54,000
on monday flight engineer chris cassidy

69
00:02:59,270 --> 00:02:56,720
took part in the first ever test of how

70
00:03:02,309 --> 00:02:59,280
well a crew member on orbit can remotely

71
00:03:04,949 --> 00:03:02,319
control a robot on the surface of the

72
00:03:06,149 --> 00:03:04,959
heavenly body about which he or she is

73
00:03:09,030 --> 00:03:06,159
operating

74
00:03:11,190 --> 00:03:09,040
for this test cassidy sent commands to a

75
00:03:13,910 --> 00:03:11,200
rover that was located on the ground at

76
00:03:16,229 --> 00:03:13,920
the ames research center in california

77
00:03:18,630 --> 00:03:16,239
and developers are working out bugs in

78
00:03:21,190 --> 00:03:18,640
the system a system that's intended to

79
00:03:23,509 --> 00:03:21,200
help an astronaut that was flying around

80
00:03:26,550 --> 00:03:23,519
the moon or an asteroid or some other

81
00:03:29,509 --> 00:03:26,560
body use remote control to explore those

82
00:03:33,270 --> 00:03:29,519
worlds or to build structures on them

83
00:03:35,430 --> 00:03:33,280
that will support future human explorers

84
00:03:37,830 --> 00:03:35,440
throughout the week cassidy parmitano

85
00:03:40,710 --> 00:03:37,840
and flight engineer karen nyberg worked

86
00:03:42,710 --> 00:03:40,720
with the spinal ultrasound experiment

87
00:03:45,509 --> 00:03:42,720
investigators want to know more about

88
00:03:47,670 --> 00:03:45,519

how an astronaut's spine is impacted by

89
00:03:50,070 --> 00:03:47,680
being in weightlessness and they use

90
00:03:53,110 --> 00:03:50,080
ultrasound to gather data throughout the

91
00:03:55,110 --> 00:03:53,120
mission it'll be studied along with data

92
00:03:57,509 --> 00:03:55,120
that is gathered pre-flight and

93
00:03:59,990 --> 00:03:57,519
post-flight for comparison's sake it

94
00:04:02,869 --> 00:04:00,000
also the spinal ultrasound experiment

95
00:04:05,110 --> 00:04:02,879
also has the added benefit of developing

96
00:04:08,390 --> 00:04:05,120
the technology and examination

97
00:04:10,789 --> 00:04:08,400
techniques that can be used by people on

98
00:04:13,110 --> 00:04:10,799
the earth in areas of the planet that

99
00:04:15,750 --> 00:04:13,120
don't have access to a large and

100
00:04:17,110 --> 00:04:15,760
expensive mri machine to do the same

101
00:04:18,789 --> 00:04:17,120
thing

102
00:04:21,349 --> 00:04:18,799
crew members had a couple of chances

103
00:04:23,270 --> 00:04:21,359
during the week to talk directly to us

104
00:04:24,150 --> 00:04:23,280
earthlings about what they're doing on

105
00:04:26,230 --> 00:04:24,160
orbit

106
00:04:28,550 --> 00:04:26,240
on tuesday parmitano conducted an

107
00:04:31,110 --> 00:04:28,560
interview with euro news about the

108
00:04:32,950 --> 00:04:31,120
arrival of the european cargo ship and

109
00:04:35,670 --> 00:04:32,960
his early experiences on board the

110
00:04:37,990 --> 00:04:35,680
station and on wednesday cassidy and

111
00:04:40,230 --> 00:04:38,000
nyberg answered questions about life on

112
00:04:42,550 --> 00:04:40,240
orbit from students who are gathered at

113
00:04:44,790 --> 00:04:42,560

the kansas cosmosphere

114
00:04:47,110 --> 00:04:44,800
each day throughout the week

115
00:04:49,590 --> 00:04:47,120
vinogradov and his crew also took care

116
00:04:52,550 --> 00:04:49,600
of themselves and their ship they spent

117
00:04:54,870 --> 00:04:52,560
a couple of hours each day exercising to

118
00:04:56,870 --> 00:04:54,880
maintain their overall physical fitness

119
00:04:59,350 --> 00:04:56,880
and to fight off the harmful effects of

120
00:05:01,590 --> 00:04:59,360
spending a prolonged period of time in

121
00:05:03,830 --> 00:05:01,600
the low earth orbit environment they

122
00:05:06,390 --> 00:05:03,840
also conducted the routine maintenance

123
00:05:08,390 --> 00:05:06,400
on station systems to keep all of them

124
00:05:09,430 --> 00:05:08,400
in good shape to support their science

125
00:05:11,029 --> 00:05:09,440
mission

126
00:05:13,909 --> 00:05:11,039
in the weekend they'll all get a chance

127
00:05:16,150 --> 00:05:13,919
for some off-duty time to rest up to

128
00:05:18,230 --> 00:05:16,160
have conferences with their families on

129
00:05:20,710 --> 00:05:18,240
earth but also to get ready for the

130
00:05:22,870 --> 00:05:20,720
focal point of monday a six-hour