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1
00:00:14,709 --> 00:00:12,390
greetings from mission control houston

2
00:00:17,670 --> 00:00:14,719
and welcome to space station live it's

3
00:00:18,950 --> 00:00:17,680
tuesday october 22nd 2013. you're

4
00:00:20,310 --> 00:00:18,960
joining us here inside of the

5
00:00:22,310 --> 00:00:20,320
international space station flight

6
00:00:25,349 --> 00:00:22,320
control room located at the johnson

7
00:00:27,109 --> 00:00:25,359
space center in houston texas

8
00:00:29,269 --> 00:00:27,119
leading the team today inside the room

9
00:00:30,630 --> 00:00:29,279
is flight director mike lammers and

10
00:00:32,470 --> 00:00:30,640
right next to him there at the cap

11
00:00:34,790 --> 00:00:32,480
composition serving as our communication

12
00:00:36,549 --> 00:00:34,800
length with the astronauts in space is

13
00:00:40,389 --> 00:00:36,559

canadian astronaut jeremy hanson an

14
00:00:42,150 --> 00:00:40,399
astronaut selected back in 2009

15
00:00:44,630 --> 00:00:42,160
and the crew that he'll be talking to

16
00:00:45,830 --> 00:00:44,640
expedition 37 on board the international

17
00:00:48,069 --> 00:00:45,840
space station

18
00:00:49,830 --> 00:00:48,079
right now the six-person international

19
00:00:52,310 --> 00:00:49,840
crew being led by russian cosmonaut

20
00:00:53,990 --> 00:00:52,320
fjord yurchikhin veteran space liar on

21
00:00:56,310 --> 00:00:54,000
his fourth flight there in the front row

22
00:00:58,549 --> 00:00:56,320
on the left behind him nasa astronaut

23
00:01:00,630 --> 00:00:58,559
karen nyberg and european astronaut luca

24
00:01:02,150 --> 00:01:00,640
parmitano those three have been on board

25
00:01:04,710 --> 00:01:02,160
the international space station since

26
00:01:07,590 --> 00:01:04,720
may 28th over on the right side three

27
00:01:09,670 --> 00:01:07,600
newer crew members on board two russian

28
00:01:12,310 --> 00:01:09,680
cosmonauts oleg kotov and sergey

29
00:01:14,789 --> 00:01:12,320
ryazanskiy and also nasa astronaut mike

30
00:01:17,270 --> 00:01:14,799
hopkins

31
00:01:20,550 --> 00:01:17,280
major task for the crew today uh saw

32
00:01:21,749 --> 00:01:20,560
them say farewell to a visiting vehicle

33
00:01:23,749 --> 00:01:21,759
the first of

34
00:01:26,390 --> 00:01:23,759
uh the first visiting vehicle from

35
00:01:28,310 --> 00:01:26,400
orbital sciences the cygnus craft

36
00:01:30,789 --> 00:01:28,320
was loaded with trash and then released

37
00:01:33,670 --> 00:01:30,799
from the earth-facing port of the

38
00:01:35,590 --> 00:01:33,680

harmony module earlier this morning with

39
00:01:37,990 --> 00:01:35,600
that canada robotic arm being controlled

40
00:01:38,830 --> 00:01:38,000
by flight engineers luca parmitano and

41
00:01:41,510 --> 00:01:38,840
karen

42
00:01:44,389 --> 00:01:41,520
nyberg the craft was unbirthed from

43
00:01:46,310 --> 00:01:44,399
harmony at about 505 a.m central time

44
00:01:48,630 --> 00:01:46,320
and then released from the arm a little

45
00:01:50,069 --> 00:01:48,640
over an hour and a half later at 6 31

46
00:01:51,630 --> 00:01:50,079
a.m central time

47
00:01:54,630 --> 00:01:51,640
while the station was flying just about

48
00:01:58,550 --> 00:01:54,640
262 miles over the southern atlantic

49
00:02:03,510 --> 00:02:01,350
shortly after that release the thrusters

50
00:02:05,990 --> 00:02:03,520
on board the cygnus fire to enable the

51
00:02:08,070 --> 00:02:06,000
craft to depart the vicinity of the

52
00:02:10,070 --> 00:02:08,080
international space station where it

53
00:02:11,510 --> 00:02:10,080
will then reach a safe distance and then

54
00:02:13,030 --> 00:02:11,520
be commanded by orbital flight

55
00:02:16,390 --> 00:02:13,040
controllers do a

56
00:02:17,830 --> 00:02:16,400
deorbit engine firing tomorrow at around

57
00:02:20,550 --> 00:02:17,840
12 41

58
00:02:22,390 --> 00:02:20,560
pm central time this will then send the

59
00:02:25,430 --> 00:02:22,400
craft through its destructive re-entry

60
00:02:27,030 --> 00:02:25,440
through the earth's atmosphere

61
00:02:29,589 --> 00:02:27,040
the craft which

62
00:02:31,750 --> 00:02:29,599
docked back on september 29th delivered

63
00:02:34,790 --> 00:02:31,760

about 1300 pounds of supplies to the

64
00:02:36,869 --> 00:02:34,800
international space station crew

65
00:02:38,790 --> 00:02:36,879
so aside from that cygnus activity quite

66
00:02:40,229 --> 00:02:38,800
a bit of experiment work taking place on

67
00:02:42,470 --> 00:02:40,239
board the international space station

68
00:02:44,630 --> 00:02:42,480
today starting off with nasa astronaut

69
00:02:46,710 --> 00:02:44,640
mike hopkins who earlier this morning

70
00:02:49,190 --> 00:02:46,720
was assisting in all those cygnus

71
00:02:52,390 --> 00:02:49,200
operations checking out the vestibule

72
00:02:53,430 --> 00:02:52,400
pressure between the craft and node 2 or

73
00:02:56,790 --> 00:02:53,440
harmony

74
00:02:59,350 --> 00:02:56,800
as that was installed and activated

75
00:03:01,750 --> 00:02:59,360
earlier on last night

76
00:03:03,750 --> 00:03:01,760
aside from that mike hopkins gathering

77
00:03:06,070 --> 00:03:03,760
up some of the tools for the station's

78
00:03:08,149 --> 00:03:06,080
emu's or the extra vehicular mobility

79
00:03:09,350 --> 00:03:08,159
units used by uh

80
00:03:11,509 --> 00:03:09,360
us and

81
00:03:14,949 --> 00:03:11,519
international partner astronauts uh out

82
00:03:16,550 --> 00:03:14,959
of uh us-based uh spacewalks

83
00:03:19,030 --> 00:03:16,560
and also working today with the

84
00:03:20,869 --> 00:03:19,040
capillary flow experiment you can see a

85
00:03:23,190 --> 00:03:20,879
live view of that here

86
00:03:25,430 --> 00:03:23,200
the capillary flow fluid physics

87
00:03:26,949 --> 00:03:25,440
experiment quite a few

88
00:03:29,110 --> 00:03:26,959

iterations of this on board the

89
00:03:31,190 --> 00:03:29,120
international space station ongoing

90
00:03:32,869 --> 00:03:31,200
investigation into a various fluid

91
00:03:34,309 --> 00:03:32,879
delivery systems that are used in

92
00:03:36,390 --> 00:03:34,319
microgravity

93
00:03:39,830 --> 00:03:36,400
so we will be able to check in on that

94
00:03:41,910 --> 00:03:39,840
progress throughout the hour today

95
00:03:43,589 --> 00:03:41,920
moving on european astronaut luca

96
00:03:45,110 --> 00:03:43,599
parmitano

97
00:03:46,869 --> 00:03:45,120
first thing this morning was busy

98
00:03:48,630 --> 00:03:46,879
setting up the earth cam

99
00:03:51,270 --> 00:03:48,640
the earth knowledge acquired by middle

100
00:03:53,509 --> 00:03:51,280
school students camera it's a camera

101
00:03:55,350 --> 00:03:53,519
used by middle middle school students

102
00:03:57,670 --> 00:03:55,360
around the world to request images of

103
00:03:59,670 --> 00:03:57,680
specific locations on earth they're

104
00:04:00,789 --> 00:03:59,680
completing a mission this week and you

105
00:04:02,550 --> 00:04:00,799
can

106
00:04:04,630 --> 00:04:02,560
check out that website that we just

107
00:04:06,789 --> 00:04:04,640
flashed up on the screen if you want to

108
00:04:12,149 --> 00:04:06,799
learn more about it and get involved

109
00:04:16,550 --> 00:04:13,750
that mission taking place this week

110
00:04:19,590 --> 00:04:16,560
starting today october 22nd and going

111
00:04:21,909 --> 00:04:19,600
through the end of the week october 25th

112
00:04:24,390 --> 00:04:21,919
aside from that parmitano

113
00:04:25,909 --> 00:04:24,400

uninstalling that cygnus craft and at

114
00:04:28,629 --> 00:04:25,919
the controls of the space station

115
00:04:30,870 --> 00:04:28,639
robotic arm alongside with karen nyberg

116
00:04:32,710 --> 00:04:30,880
today parmitano and nyberg were

117
00:04:35,510 --> 00:04:32,720
responsible for installing the craft

118
00:04:37,590 --> 00:04:35,520
once it arrived to the station

119
00:04:41,030 --> 00:04:37,600
completing their mission with it today

120
00:04:43,590 --> 00:04:41,040
saying farewell one last time

121
00:04:45,430 --> 00:04:43,600
parmitano also getting into some

122
00:04:47,749 --> 00:04:45,440
experiment work himself setting up the

123
00:04:49,510 --> 00:04:47,759
binary colloidal alloy test

124
00:04:51,749 --> 00:04:49,520
uh the one that they'll be working on

125
00:04:54,150 --> 00:04:51,759
this week uh studying nanoscale

126
00:04:58,150 --> 00:04:54,160
particles dispersed in liquid

127
00:04:59,830 --> 00:04:58,160
these uh fairly complex particles

128
00:05:01,990 --> 00:04:59,840
commonly found in a lot of commercial

129
00:05:04,150 --> 00:05:02,000
commodities down here on earth

130
00:05:05,909 --> 00:05:04,160
just a few to be named paint electric

131
00:05:08,230 --> 00:05:05,919
polishing compounds and also various

132
00:05:11,110 --> 00:05:08,240
food products

133
00:05:12,790 --> 00:05:11,120
moving on nasa astronaut karen nyberg

134
00:05:15,350 --> 00:05:12,800
was responsible for a lot of the setup

135
00:05:17,830 --> 00:05:15,360
work getting ready to detach that cygnus

136
00:05:19,670 --> 00:05:17,840
vehicle configuring both the destiny

137
00:05:21,670 --> 00:05:19,680
laboratory and the cupola's robotic

138
00:05:23,189 --> 00:05:21,680

workstations where they control the

139
00:05:24,710 --> 00:05:23,199
canada arm tour the space station

140
00:05:26,710 --> 00:05:24,720
robotic arm

141
00:05:28,150 --> 00:05:26,720
for that de-birthing and release of the

142
00:05:30,310 --> 00:05:28,160
cygnus craft

143
00:05:32,150 --> 00:05:30,320
she was also in charge of setting up the

144
00:05:34,150 --> 00:05:32,160
hardware command panel

145
00:05:35,590 --> 00:05:34,160
for the cygnus vehicle enabling the crew

146
00:05:37,670 --> 00:05:35,600
to send any

147
00:05:41,270 --> 00:05:37,680
commands necessary to the cygnus vehicle

148
00:05:43,110 --> 00:05:41,280
during its de-birthing operations

149
00:05:45,430 --> 00:05:43,120
he's also

150
00:05:47,670 --> 00:05:45,440
demating the common berthing mechanism

151
00:05:49,270 --> 00:05:47,680
attaching the craft to the international

152
00:05:51,590 --> 00:05:49,280
space station and

153
00:05:54,550 --> 00:05:51,600
operating that station robotic arm

154
00:05:56,950 --> 00:05:54,560
alongside parmitano

155
00:05:58,950 --> 00:05:56,960
one of her other major tasks for the day

156
00:06:00,150 --> 00:05:58,960
working with the resist tubule

157
00:06:02,469 --> 00:06:00,160
experiment

158
00:06:04,469 --> 00:06:02,479
familiarizing herself with the

159
00:06:06,550 --> 00:06:04,479
operations that'll be required for that

160
00:06:09,029 --> 00:06:06,560
it takes place inside of the japanese

161
00:06:11,189 --> 00:06:09,039
experiment module and is a japanese

162
00:06:13,749 --> 00:06:11,199
sponsored experiment on board the

163
00:06:16,230 --> 00:06:13,759

station looking to investigate the

164
00:06:18,870 --> 00:06:16,240
mechanisms of gravity resistance and

165
00:06:20,230 --> 00:06:18,880
plant growth

166
00:06:22,309 --> 00:06:20,240
over on the russian side of the

167
00:06:24,870 --> 00:06:22,319
international space station expedition

168
00:06:27,510 --> 00:06:24,880
37 commander fyodor yurchikhin doing a

169
00:06:30,070 --> 00:06:27,520
lot of maintenance work on russian air

170
00:06:32,230 --> 00:06:30,080
and revitalization systems he's in the

171
00:06:33,590 --> 00:06:32,240
zvezda service module doing some

172
00:06:35,749 --> 00:06:33,600
ventilation system preventative

173
00:06:37,990 --> 00:06:35,759
maintenance some routine work on the

174
00:06:40,230 --> 00:06:38,000
systems there before moving over into

175
00:06:42,309 --> 00:06:40,240
the zarya module

176
00:06:43,909 --> 00:06:42,319
cleaning out a number of the detachable

177
00:06:46,230 --> 00:06:43,919
ventilation screens

178
00:06:47,990 --> 00:06:46,240
as russian colleague oleg kotov is

179
00:06:50,150 --> 00:06:48,000
gathering up some eva equipment and

180
00:06:51,430 --> 00:06:50,160
tools for an upcoming spacewalk that

181
00:06:53,510 --> 00:06:51,440
he'll have

182
00:06:55,029 --> 00:06:53,520
on november 9th with uh

183
00:06:57,110 --> 00:06:55,039
the other russian cosmonaut sergey

184
00:06:59,189 --> 00:06:57,120
ryazanskiy

185
00:07:00,790 --> 00:06:59,199
aside from that he's taking a few uh

186
00:07:02,550 --> 00:07:00,800
readings from the russian matroyska

187
00:07:04,070 --> 00:07:02,560
experiment which an ongoing

188
00:07:06,629 --> 00:07:04,080

investigation into our radiation

189
00:07:08,629 --> 00:07:06,639
monitoring for these astronauts also

190
00:07:11,029 --> 00:07:08,639
participating in the russian moto card

191
00:07:12,790 --> 00:07:11,039
experiment study of nature of locomotion

192
00:07:14,950 --> 00:07:12,800
disturbances for these astronauts and

193
00:07:16,550 --> 00:07:14,960
long-term space flights he'll be on one

194
00:07:18,230 --> 00:07:16,560
of the treadmill systems on board the

195
00:07:20,469 --> 00:07:18,240
station for that

196
00:07:23,110 --> 00:07:20,479
and the final crew member on board

197
00:07:25,189 --> 00:07:23,120
sergey ryazanskiy doing a lot of that

198
00:07:27,990 --> 00:07:25,199
spacewalk preparation alongside oleg

199
00:07:30,629 --> 00:07:28,000
kotov also doing some routine crew

200
00:07:32,309 --> 00:07:30,639
handover activities and assisting kotov