SYNCHRONIZED POSITION HOLD, ENGAGE, REORIENT, EXPERIMENTAL SATELLITES (SPHERES)

1
00:00:16,550 --> 00:00:14,950
this is mission control houston we want

2
00:00:19,670 --> 00:00:16,560
to welcome you to space station live it

3
00:00:21,910 --> 00:00:19,680
is monday august 26 2013. this is a live

4
00:00:23,670 --> 00:00:21,920
view inside the flight control room here

5
00:00:25,429 --> 00:00:23,680
at the johnson space center this team

6
00:00:27,349 --> 00:00:25,439
today is being led by flight director

7
00:00:28,870 --> 00:00:27,359
ron spencer he is sitting there in the

8
00:00:29,830 --> 00:00:28,880
center console on the right hand side of

9
00:00:31,669 --> 00:00:29,840
the screen

10
00:00:34,150 --> 00:00:31,679
sitting beside him is today's capcom

11
00:00:35,670 --> 00:00:34,160
david st jonk from the canadian space

12
00:00:38,470 --> 00:00:35,680
agency he'll be the one talking with the

13
00:00:41,510 --> 00:00:38,480

crew on board the orbiting complex the

14
00:00:44,069 --> 00:00:41,520
expedition 36 crew includes commander

15
00:00:45,990 --> 00:00:44,079
pavel vinogradov who is uh sitting there

16
00:00:47,990 --> 00:00:46,000
second from the left on the far left is

17
00:00:50,310 --> 00:00:48,000
alexander misurkin uh there in the

18
00:00:51,670 --> 00:00:50,320
center screen is chris cassidy nasa

19
00:00:54,709 --> 00:00:51,680
astronaut right beside him is look

20
00:00:57,189 --> 00:00:54,719
apartmentado from the uh italian space

21
00:00:59,270 --> 00:00:57,199
agency also fyodor yortikin

22
00:01:01,590 --> 00:00:59,280
second from the right and nasa astronaut

23
00:01:03,189 --> 00:01:01,600
karen nyberg there on the far right hand

24
00:01:04,789 --> 00:01:03,199
side

25
00:01:07,030 --> 00:01:04,799
the crew today is working throughout the

26
00:01:08,710 --> 00:01:07,040
entire space station on a variety of

27
00:01:10,630 --> 00:01:08,720
different maintenance and science tasks

28
00:01:12,710 --> 00:01:10,640
pablo vinogradov has been transferring

29
00:01:14,870 --> 00:01:12,720
some water from the european space

30
00:01:17,510 --> 00:01:14,880
agency's automated transfer vehicle into

31
00:01:18,390 --> 00:01:17,520
the russian segment of the iss this is

32
00:01:20,550 --> 00:01:18,400
done

33
00:01:23,270 --> 00:01:20,560
always the atv brings up quite a bit of

34
00:01:24,550 --> 00:01:23,280
cargo and supplies and also some water

35
00:01:26,710 --> 00:01:24,560
for the crew so they're transferring

36
00:01:29,350 --> 00:01:26,720
that over into the tanks and doing some

37
00:01:31,510 --> 00:01:29,360
leak checks on the atv once that has

38
00:01:33,429 --> 00:01:31,520

been completed later today

39
00:01:35,749 --> 00:01:33,439
alexander mazurkin is working on some

40
00:01:37,830 --> 00:01:35,759
routine maintenance inside the russian

41
00:01:39,429 --> 00:01:37,840
segment that is taking up basically his

42
00:01:41,429 --> 00:01:39,439
morning and his afternoon he'll have

43
00:01:43,270 --> 00:01:41,439
some exercise later on today

44
00:01:45,910 --> 00:01:43,280
but he has a fairly light day if you

45
00:01:48,069 --> 00:01:45,920
order your chicken has got a ham radio

46
00:01:51,109 --> 00:01:48,079
session with a school in the ukraine

47
00:01:53,590 --> 00:01:51,119
both yurchikhin and mazurkin coming off

48
00:01:56,149 --> 00:01:53,600
a spacewalk last thursday that lasted

49
00:01:57,670 --> 00:01:56,159
five hours and 58 minutes that was the

50
00:01:59,109 --> 00:01:57,680
second spacewalk for these two in as

51
00:02:01,190 --> 00:01:59,119
many weeks

52
00:02:03,830 --> 00:02:01,200
they took care of a number of tasks

53
00:02:05,350 --> 00:02:03,840
outside the station they removed a space

54
00:02:07,590 --> 00:02:05,360
laser communication system from the

55
00:02:09,109 --> 00:02:07,600
whole of the zvezda service module they

56
00:02:10,389 --> 00:02:09,119
installed a pointing platform on which a

57
00:02:12,470 --> 00:02:10,399
small optical telescope will be

58
00:02:14,470 --> 00:02:12,480
installed on a future russian spacewalk

59
00:02:15,830 --> 00:02:14,480
and they also inspected the antennas on

60
00:02:17,750 --> 00:02:15,840
this zvezda to ensure that they are

61
00:02:20,150 --> 00:02:17,760
fastened securely after one of the

62
00:02:21,910 --> 00:02:20,160
covers became dislodged and floated off

63
00:02:23,750 --> 00:02:21,920

into space

64
00:02:25,190 --> 00:02:23,760
here just a few days ago that video is

65
00:02:26,949 --> 00:02:25,200
on the internet that chris cassidy saw

66
00:02:29,190 --> 00:02:26,959
that object floating away

67
00:02:30,229 --> 00:02:29,200
the ground teams did take a look at that

68
00:02:31,910 --> 00:02:30,239
cover

69
00:02:33,830 --> 00:02:31,920
basically it's part of the atv's

70
00:02:35,750 --> 00:02:33,840
rendezvous system that comes up toward

71
00:02:37,910 --> 00:02:35,760
the back end of the russian segment

72
00:02:40,070 --> 00:02:37,920
they deduced that the specific antenna

73
00:02:41,030 --> 00:02:40,080
that that cover came off of is of no

74
00:02:42,229 --> 00:02:41,040
concern

75
00:02:43,430 --> 00:02:42,239
so they're not worried about it but they

76
00:02:46,470 --> 00:02:43,440
wanted to make sure that all the other

77
00:02:47,990 --> 00:02:46,480
antenna covers were securely fastened

78
00:02:49,270 --> 00:02:48,000
and of course they did take a look to

79
00:02:51,350 --> 00:02:49,280
make sure that that one cover that

80
00:02:52,949 --> 00:02:51,360
didn't float away was not going to pose

81
00:02:55,350 --> 00:02:52,959
any sort of threat to the international

82
00:02:56,710 --> 00:02:55,360
space station but they moved away fairly

83
00:03:01,750 --> 00:02:56,720
quickly and got out of the way the space

84
00:03:05,910 --> 00:03:03,350
chris cassidy is working on finishing up

85
00:03:07,750 --> 00:03:05,920
some work in the japanese htv right now

86
00:03:09,270 --> 00:03:07,760
there's uh several different cargo

87
00:03:10,470 --> 00:03:09,280
vehicles docked to the international

88
00:03:13,589 --> 00:03:10,480

space station we just mentioned the

89
00:03:15,830 --> 00:03:13,599
european atv the japanese htv is over on

90
00:03:17,589 --> 00:03:15,840
the u.s segment it brought up several

91
00:03:18,869 --> 00:03:17,599
tons of supplies a couple of weeks ago

92
00:03:20,790 --> 00:03:18,879
there's a layout of the current station

93
00:03:23,509 --> 00:03:20,800
right right now you see htv-4 down there

94
00:03:25,430 --> 00:03:23,519
on the bottom side of the harmony node

95
00:03:27,270 --> 00:03:25,440
you see the soyuz 35 as well as the

96
00:03:28,789 --> 00:03:27,280
progress 52

97
00:03:31,670 --> 00:03:28,799
atv4 is back there at the back of the

98
00:03:34,789 --> 00:03:31,680
russian segment and the soyuz 34

99
00:03:36,070 --> 00:03:34,799
up there on top on the poisk module

100
00:03:37,910 --> 00:03:36,080
but chris is going to be working on

101
00:03:40,550 --> 00:03:37,920
actually scavenging some of the light

102
00:03:41,830 --> 00:03:40,560
bulbs inside htv which sounds sort of

103
00:03:44,070 --> 00:03:41,840
unusual

104
00:03:45,990 --> 00:03:44,080
but obviously there are lights inside

105
00:03:47,990 --> 00:03:46,000
htv htv is going to be de-orbited and

106
00:03:49,750 --> 00:03:48,000
burned up here in a few days so what the

107
00:03:51,830 --> 00:03:49,760
crew typically does anytime one of these

108
00:03:53,429 --> 00:03:51,840
visiting vehicles comes up that's going

109
00:03:55,110 --> 00:03:53,439
to be destroyed at the end of its

110
00:03:56,390 --> 00:03:55,120
mission they take the light bulbs out

111
00:03:59,670 --> 00:03:56,400
because they can actually use those

112
00:04:01,190 --> 00:03:59,680
inside the space station itself

113
00:04:03,830 --> 00:04:01,200

he's also working on an experiment

114
00:04:05,830 --> 00:04:03,840
called the spheres rings today

115
00:04:07,270 --> 00:04:05,840
uh everybody who has ever watched space

116
00:04:09,910 --> 00:04:07,280
station live knows about the spheres

117
00:04:10,789 --> 00:04:09,920
experiment they ran this experiment last

118
00:04:12,550 --> 00:04:10,799
week

119
00:04:14,949 --> 00:04:12,560
and he's going to continue powering up

120
00:04:16,629 --> 00:04:14,959
and doing some training on this a fairly

121
00:04:17,830 --> 00:04:16,639
cool experiment that takes a look at how

122
00:04:20,229 --> 00:04:17,840
satellites

123
00:04:22,550 --> 00:04:20,239
free-float and fly in formation

124
00:04:24,390 --> 00:04:22,560
up in space the specific spheres rings

125
00:04:26,830 --> 00:04:24,400
experiment also looks at formation

126
00:04:29,030 --> 00:04:26,840
flying and also some wireless power

127
00:04:30,950 --> 00:04:29,040
transfer to where two satellites could

128
00:04:32,950 --> 00:04:30,960
actually swap power with each other

129
00:04:35,110 --> 00:04:32,960
without actually touching

130
00:04:37,350 --> 00:04:35,120
this particular experiment the spheres

131
00:04:39,990 --> 00:04:37,360
rings is run out of darpa

132
00:04:41,990 --> 00:04:40,000
as well as the university of maryland

133
00:04:43,510 --> 00:04:42,000
luca parmitano working on setting up the

134
00:04:45,270 --> 00:04:43,520
combustion integrated rack that

135
00:04:47,990 --> 00:04:45,280
experiment continues right now as we go

136
00:04:50,310 --> 00:04:48,000
on the air uh he set that up so that the

137
00:04:52,629 --> 00:04:50,320
ground teams both here in texas and in

138
00:04:54,150 --> 00:04:52,639

alabama can run that experiment uh the

139
00:04:55,909 --> 00:04:54,160
ground teams are taking a look at the

140
00:04:57,909 --> 00:04:55,919
inside of that particular combustion

141
00:04:59,510 --> 00:04:57,919
integrated rack which you see the full

142
00:05:01,350 --> 00:04:59,520
size of it there

143
00:05:03,590 --> 00:05:01,360
as we speak

144
00:05:04,950 --> 00:05:03,600
he's also taking some water samples

145
00:05:06,230 --> 00:05:04,960
throughout the u.s segment today they

146
00:05:07,909 --> 00:05:06,240
always do that to take a look and make

147
00:05:10,390 --> 00:05:07,919
sure that the water is acceptable and

148
00:05:12,390 --> 00:05:10,400
that there's nothing growing in it

149
00:05:14,629 --> 00:05:12,400
karen nyberg finally working on in space

150
00:05:16,550 --> 00:05:14,639
three this takes a look at fluids that

151
00:05:18,790 --> 00:05:16,560
change properties based on magnetic

152
00:05:20,230 --> 00:05:18,800
fields these fluids have certain things

153
00:05:21,749 --> 00:05:20,240
called coiloids inside them which is

154
00:05:23,670 --> 00:05:21,759
basically some

155
00:05:25,830 --> 00:05:23,680
particles that whenever you add a magnet

156
00:05:27,749 --> 00:05:25,840
to it that actual fluid can become solid

157
00:05:29,430 --> 00:05:27,759
it can change characteristics

158
00:05:31,510 --> 00:05:29,440
this has important

159
00:05:33,189 --> 00:05:31,520
implications on possibly brake systems

160
00:05:35,909 --> 00:05:33,199
here on earth in your car and trucks

161
00:05:37,270 --> 00:05:35,919
something like that also robotics

162
00:05:40,070 --> 00:05:37,280
these kind of colloids could also be

163
00:05:42,870 --> 00:05:40,080

used in bridges and buildings

164
00:05:44,950 --> 00:05:42,880
to help them weather through earthquakes

165
00:05:48,550 --> 00:05:44,960
or items of that nature she's also

166
00:05:50,629 --> 00:05:48,560
transferring some items from the htv

167
00:05:53,350 --> 00:05:50,639
that'll take up later on this afternoon

168
00:05:54,710 --> 00:05:53,360
the ground team is also working today to

169
00:05:56,309 --> 00:05:54,720
work on some robotics we're going to

170
00:05:57,990 --> 00:05:56,319
stow the special purpose dextrous

171
00:05:59,990 --> 00:05:58,000
manipulator or dexter

172
00:06:01,590 --> 00:06:00,000
as we call them later on today and then

173
00:06:03,830 --> 00:06:01,600
they're going to take the cat arm to the

174
00:06:09,510 --> 00:06:03,840
station's robotic arm and walk off to a

175
00:06:13,510 --> 00:06:12,150
the exposed pallet that came up on htv

176
00:06:15,510 --> 00:06:13,520
which is sort of the center section of

177
00:06:17,909 --> 00:06:15,520
that cargo vehicle that brought up

178
00:06:19,510 --> 00:06:17,919
unpressurized cargo is currently

179
00:06:21,590 --> 00:06:19,520
attached to the forward end of the kibo

180
00:06:23,990 --> 00:06:21,600
module on the exposed facility that's

181
00:06:25,510 --> 00:06:24,000
sort of the front porch of kibo

182
00:06:27,029 --> 00:06:25,520
it's going to be returned and that tray

183
00:06:28,629 --> 00:06:27,039
is going to be slid back into the htv

184
00:06:29,990 --> 00:06:28,639
coming up on friday

185
00:06:31,749 --> 00:06:30,000
and then htv is actually going to be

186
00:06:34,070 --> 00:06:31,759
unbirthed and released on september the

187
00:06:36,790 --> 00:06:34,080
4th it'll hang out in space for a few

188
00:06:38,629 --> 00:06:36,800

days and it'll be deorbited coming up on

189
00:06:40,550 --> 00:06:38,639
september the 7th

190
00:06:42,550 --> 00:06:40,560
another important note departure preps

191
00:06:44,230 --> 00:06:42,560
continue for chris cassidy and his

192
00:06:45,909 --> 00:06:44,240
fellow crew members alexander misurkin

193
00:06:47,510 --> 00:06:45,919
and pablo vinogradov of their time and

194
00:06:51,029 --> 00:06:47,520
space coming up

195
00:06:52,870 --> 00:06:51,039
to an end here in just a few weeks

196
00:06:54,550 --> 00:06:52,880
they launched back in march and headed

197
00:06:56,230 --> 00:06:54,560
up to the international space station

198
00:06:57,909 --> 00:06:56,240
they're actually going to be

199
00:07:00,390 --> 00:06:57,919
coming home coming up on september the

200
00:07:02,710 --> 00:07:00,400
10th u.s time of course we'll have live

201
00:07:04,790 --> 00:07:02,720
coverage of that here on nasa till the

202
00:07:06,469 --> 00:07:04,800
television has this crew lands

203
00:07:08,230 --> 00:07:06,479
down in kazakhstan the same country in

204
00:07:10,070 --> 00:07:08,240
which they launched from

205
00:07:12,150 --> 00:07:10,080
but they've got about an hour of

206
00:07:14,710 --> 00:07:12,160
departure preparations on board the

207
00:07:16,550 --> 00:07:14,720
space station today

208
00:07:18,790 --> 00:07:16,560
of course as one crew goes home another

209
00:07:21,270 --> 00:07:18,800
one gets ready to come up mike hopkins

210
00:07:23,589 --> 00:07:21,280
and his fellow crew members uh oleg

211
00:07:25,110 --> 00:07:23,599
kotov and sergey ryazanskiy are

212
00:07:26,710 --> 00:07:25,120
reviewing procedures today at the

213
00:07:29,350 --> 00:07:26,720

gagarin cosmonaut training center in

214
00:07:31,029 --> 00:07:29,360
star city russia for next week's final

215
00:07:33,029 --> 00:07:31,039
qualification simulations they basically

216
00:07:34,390 --> 00:07:33,039
have some tests they have to go through

217
00:07:37,189 --> 00:07:34,400
uh and they're getting ready to launch

218
00:07:38,710 --> 00:07:37,199
coming up at the end of september

219
00:07:40,150 --> 00:07:38,720
and also with that in mind we want to

220
00:07:42,790 --> 00:07:40,160
remind you that we've got a crew news

221
00:07:46,150 --> 00:07:42,800
conference coming up with expedition 38

222
00:07:48,950 --> 00:07:46,160
and 39 coming up at 1 pm central time 2