1
00:00:01,600 --> 00:00:04,280
>> Good morning from Mission
Control Houston and welcome

2
00:00:04,280 --> 00:00:05,470
to this Friday edition

3
00:00:05,470 --> 00:00:08,160
of "International
Space Station Update."

4
00:00:08,160 --> 00:00:12,190
The crew of Expedition
32, in their final week

5
00:00:12,190 --> 00:00:16,760
as a six-person crew on board
the orbiting laboratory.

6
00:00:16,760 --> 00:00:20,010
Three of the astronauts,
there on the right,

7
00:00:20,010 --> 00:00:22,450
will be departing the
International Space Station this

8
00:00:22,450 --> 00:00:23,860
upcoming Sunday.

9
00:00:23,860 --> 00:00:26,290
We'll start all the way
over on the right there,

10
00:00:26,290 --> 00:00:30,020
with Russian cosmonaut Sergi
Revin, on his first space flight

11
00:00:30,020 --> 00:00:33,790

and then to the left is
Expedition 32 commander,

12
00:00:33,790 --> 00:00:36,490
and another Russian
cosmonaut Gennady Padalka,

13
00:00:36,490 --> 00:00:38,760
and then NASA astronaut
Joe Acaba.

14
00:00:38,760 --> 00:00:43,260
And moving across the back row
we have NASA astronaut Suni

15
00:00:43,260 --> 00:00:45,450
Williams, who will be
taking over command

16
00:00:45,450 --> 00:00:48,740
of the International
Space Station on Saturday

17
00:00:48,740 --> 00:00:51,440
and then Russian
cosmonaut Yuri Malenchenko,

18
00:00:51,440 --> 00:00:54,650
and Japanese astronaut Aki
Hoshide will remain on board

19
00:00:54,650 --> 00:00:58,200
with her, as they
transition from Expedition 32

20
00:00:58,200 --> 00:01:00,360
over to Expedition 33.

21
00:01:00,360 --> 00:01:03,580
It's been a very busy

week for these astronauts

22
00:01:03,580 --> 00:01:06,710
on board the International
Space Station with a slew

23
00:01:06,710 --> 00:01:08,470
of vehicle activity
with the departure

24
00:01:08,470 --> 00:01:11,840
of an unmanned cargo craft
and the imminent departure

25
00:01:11,840 --> 00:01:13,920
of that Soyuz craft
carrying three

26
00:01:13,920 --> 00:01:16,220
of our astronauts back
down to the ground.

27
00:01:16,220 --> 00:01:19,020
In addition to all that,
the regular maintenance

28
00:01:19,020 --> 00:01:20,800
and experiment work
that consumes much

29
00:01:20,800 --> 00:01:22,660
of these astronauts' time.

30
00:01:22,660 --> 00:01:24,230
So we'll start off on Monday

31
00:01:24,230 --> 00:01:27,750
where NASA astronaut Joe
Acaba was doing a fit check

32
00:01:27,750 --> 00:01:29,560
on the entry suit
that he'll be wearing

33
00:01:29,560 --> 00:01:32,060
when he departs the
International Space Station

34
00:01:32,060 --> 00:01:35,010
in his Soyuz TMA-04M vehicle.

35
00:01:35,010 --> 00:01:37,120
You can see that entry
suit in this photo.

36
00:01:37,120 --> 00:01:40,750
It's a Russian Sokol suit

37
00:01:40,750 --> 00:01:43,750
that protects the astronauts
during all the dynamic

38
00:01:43,750 --> 00:01:44,710
vehicle activity.

39
00:01:44,710 --> 00:01:48,790
So he was doing some fit checks
and leak checks on that suit,

40
00:01:48,790 --> 00:01:50,680
and also packing
a few items inside

41
00:01:50,680 --> 00:01:52,810
of the Soyuz craft for return.

42
00:01:52,810 --> 00:01:53,970
In addition to that,

43
00:01:53,970 --> 00:01:56,850
he was reviewing all
the robotic procedures

44
00:01:56,850 --> 00:02:01,620
for the upcoming release of
the Japanese HCB3 vehicle,

45
00:02:01,620 --> 00:02:04,060
which took place on Wednesday.

46
00:02:04,060 --> 00:02:07,270
Moving on, Suni Williams
woke up in the morning

47
00:02:07,270 --> 00:02:11,310
and immediately went into some
biological research activities.

48
00:02:11,310 --> 00:02:14,540
She was working with the human
research facility taking some

49
00:02:14,540 --> 00:02:18,120
blood and urine samples and
then storing them inside

50
00:02:18,120 --> 00:02:21,650
of the MELFI, which is the Minus
Eighty degree Laboratory Freezer

51
00:02:21,650 --> 00:02:22,100
for ISS.

52
00:02:22,100 --> 00:02:25,640
It's one of the cryogenic
freezers on board the station

53
00:02:25,640 --> 00:02:30,170

that is used to store
and keep the integrity

54
00:02:30,170 --> 00:02:33,570
of biological samples intact
before they can be transferred

55
00:02:33,570 --> 00:02:35,750
down to researchers
on the ground.

56
00:02:35,750 --> 00:02:37,200
In addition to that,
she was working

57
00:02:37,200 --> 00:02:41,580
on the VO2 max experiment which
looks to document any changes

58
00:02:41,580 --> 00:02:43,400
in the maximum oxygen outtake

59
00:02:43,400 --> 00:02:47,780
for these crew members during
their long duration missions.

60
00:02:47,780 --> 00:02:51,190
Meanwhile, Aki Hoshide was
reviewing all the robotics

61
00:02:51,190 --> 00:02:55,440
operations alongside Joe
Acaba on Monday as the two

62
00:02:55,440 --> 00:02:57,860
of them would be at the
robotic controls inside

63
00:02:57,860 --> 00:03:00,580
of the station's cupola for

all of those activities.

64
00:03:00,580 --> 00:03:04,250
He was also packing and stowing
some final items on board of HTV

65
00:03:04,250 --> 00:03:06,820
as it was filled with trash

66
00:03:06,820 --> 00:03:09,580
and other disposable
items before the release

67
00:03:09,580 --> 00:03:10,650
from the station.

68
00:03:10,650 --> 00:03:13,240
He was also helping Joe
get a few items over to

69
00:03:13,240 --> 00:03:16,150
that Soyuz craft as well.

70
00:03:16,150 --> 00:03:18,660
And the commander of that
Soyuz craft, and commander

71
00:03:18,660 --> 00:03:22,010
of the space station Gennady
Padalka on Monday was running

72
00:03:22,010 --> 00:03:25,030
through a descent simulation
and consulting with teams

73
00:03:25,030 --> 00:03:28,130
on the ground over the
entire equipment list and all

74

00:03:28,130 --> 00:03:30,150
of the stowage and the
items that will be going

75
00:03:30,150 --> 00:03:32,400
into the space craft
when it comes back,

76
00:03:32,400 --> 00:03:34,790
also taking some time
out to do some work

77
00:03:34,790 --> 00:03:36,470
on a Russian experiment known

78
00:03:36,470 --> 00:03:38,450
as the Kolenovsky
[phonetic] crystal,

79
00:03:38,450 --> 00:03:41,980
which looks to determine
methods to control the dynamics

80
00:03:41,980 --> 00:03:45,610
of specialized crystal
structures using magnetic fields

81
00:03:45,610 --> 00:03:47,070
under microgravity conditions.

82
00:03:47,070 --> 00:03:49,880
So utilizing that
unique environment

83
00:03:49,880 --> 00:03:51,370
of the international
space station

84
00:03:51,370 --> 00:03:54,810
to do some pretty

groundbreaking physics work.

85
00:03:54,810 --> 00:03:57,840
Meanwhile Sergi Revin, one of
our other Russian cosmonauts,

86
00:03:57,840 --> 00:03:58,660
who will be returning

87
00:03:58,660 --> 00:04:01,330
with Gennady Padalka was
taking some photographs

88
00:04:01,330 --> 00:04:03,360
for a microorganism experiment

89
00:04:03,360 --> 00:04:05,590
on board the International
Space Station.

90
00:04:05,590 --> 00:04:09,820
A lot of the work going on this
week has been wrapping up some

91
00:04:09,820 --> 00:04:13,800
of these microorganism and
biological experiment studies

92
00:04:13,800 --> 00:04:17,240
as many of those samples
can be fit into Soyuz

93
00:04:17,240 --> 00:04:19,410
as possible will
be returned home.

94
00:04:19,410 --> 00:04:22,610
Our third Russian cosmonaut
Yuri Malenchenko was doing some

95
00:04:22,610 --> 00:04:25,100
television checkouts with
Russian ground sites,

96
00:04:25,100 --> 00:04:27,780
also installing some
video gear before moving

97
00:04:27,780 --> 00:04:30,200
on to do some routine
replacements inside

98
00:04:30,200 --> 00:04:33,130
of the Russian toilet system.

99
00:04:33,130 --> 00:04:36,500
Moving on to Tuesday,
Joe Acaba removing some

100
00:04:36,500 --> 00:04:40,470
of the lighting assemblies from
inside of the Japanese HCB craft

101
00:04:40,470 --> 00:04:42,400
and also closing the hatch.

102
00:04:42,400 --> 00:04:43,200
Aside from that,

103
00:04:43,200 --> 00:04:46,570
he was installing the controller
panel assembly on the node 2

104
00:04:46,570 --> 00:04:50,020
or the Harmony nodes
common berthing mechanism

105
00:04:50,020 --> 00:04:53,430
as they were preparing

for the final unberthing

106
00:04:53,430 --> 00:04:57,030
of HTV the following
day on Wednesday.

107
00:04:57,030 --> 00:04:58,990
Meanwhile, Suni Williams
again working

108
00:04:58,990 --> 00:05:05,250
with that VO2 Max experiment on
Tuesday, looking to still track

109
00:05:05,250 --> 00:05:09,070
on any changes in her maximum
oxygen uptake during the long

110
00:05:09,070 --> 00:05:10,620
duration mission.

111
00:05:10,620 --> 00:05:14,710
She was also working on the
vestibule between Harmony

112
00:05:14,710 --> 00:05:18,230
and HTV, disconnecting
some of the power jumpers

113
00:05:18,230 --> 00:05:21,030
that had been supplying
power from the station

114
00:05:21,030 --> 00:05:24,310
to the vehicle while it was
docked and also installing some

115
00:05:24,310 --> 00:05:27,170
of the thermal blankets
on the hatch

116
00:05:27,170 --> 00:05:29,710
that will protect
the station's hatch

117
00:05:29,710 --> 00:05:33,220
from any thermal loads during
the undocking activity.

118
00:05:33,220 --> 00:05:37,420
And then meanwhile, she was
assisted in that by Aki Hoshide

119
00:05:37,420 --> 00:05:40,570
on Tuesday who was
also closing out all

120
00:05:40,570 --> 00:05:44,390
of the interior prep work for
the HTV by taking some video

121
00:05:44,390 --> 00:05:46,080
of the entire interior setup

122
00:05:46,080 --> 00:05:49,520
and also activating the
re-entry breakup recorder,

123
00:05:49,520 --> 00:05:52,370
which records different
data points as well

124
00:05:52,370 --> 00:05:55,770
as taking video throughout
the HTV's descent

125
00:05:55,770 --> 00:05:57,340
through the atmosphere
as it breaks up

126
00:05:57,340 --> 00:06:01,090
and eventually disintegrates
harmlessly

127
00:06:01,090 --> 00:06:03,730
over the Pacific Ocean.

128
00:06:03,730 --> 00:06:06,940
Meanwhile on Tuesday, Gennady
Padalka was continuing his crew

129
00:06:06,940 --> 00:06:11,620
departure prep for that Soyuz
landing and moving a few items

130
00:06:11,620 --> 00:06:14,710
into the craft and also
setting up some equipment

131
00:06:14,710 --> 00:06:19,620
for a Russian immuno experiment
that he would be participating

132
00:06:19,620 --> 00:06:23,080
in the following day which
looks to track any changes

133
00:06:23,080 --> 00:06:24,960
in the immune system response

134
00:06:24,960 --> 00:06:28,690
which past studies have
shown can actually decrease

135
00:06:28,690 --> 00:06:32,090
or weaken during long
duration space flights.

136
00:06:32,090 --> 00:06:35,740

So he was setting up
some equipment for that.

137
00:06:35,740 --> 00:06:39,430
And also on Tuesday, Sergi Revin
was actually doing his own blood

138
00:06:39,430 --> 00:06:44,450
draws for that immuno experiment
and then stowing them inside

139
00:06:44,450 --> 00:06:47,560
of some of the cryogenic
freezers on board as well

140
00:06:47,560 --> 00:06:49,570
as gathering some more
equipment for stowage

141
00:06:49,570 --> 00:06:51,670
in that Soyuz vehicle.

142
00:06:51,670 --> 00:06:54,210
And the third Russian
cosmonaut, Yuri Malenchenko

143
00:06:54,210 --> 00:06:55,380
on Tuesday was setting

144
00:06:55,380 --> 00:06:59,700
up testing some proximity
communications equipment gear

145
00:06:59,700 --> 00:07:03,380
which consisted of an antenna
switch box and a control panel

146
00:07:03,380 --> 00:07:07,440
for the European ATV
vehicle, which remains docked

147
00:07:07,440 --> 00:07:10,450
to the aft portion of the
Zvezda service module,

148
00:07:10,450 --> 00:07:13,290
one of three unmanned cargo
craft currently docked

149
00:07:13,290 --> 00:07:14,710
to the International
Space Station.

150
00:07:14,710 --> 00:07:19,400
You can see the full
station make up here.

151
00:07:19,400 --> 00:07:21,920
Only two unmanned cargo
crafts currently docked,

152
00:07:21,920 --> 00:07:25,060
as the Japanese HTV was all
the way on the left there,

153
00:07:25,060 --> 00:07:28,290
previously docked to Harmony,
but ATV-3 you can see,

154
00:07:28,290 --> 00:07:32,310
all the way in the back
there, so Malenchenko sending

155
00:07:32,310 --> 00:07:35,360
up some communications
and control panel gear

156
00:07:35,360 --> 00:07:38,130
for that vehicle on Tuesday.

157
00:07:38,130 --> 00:07:41,740
Moving on to Wednesday,
which was HTV release day.

158
00:07:41,740 --> 00:07:44,620
Joe Acaba was setting up the
robotic work station inside

159
00:07:44,620 --> 00:07:49,180
of the cupola and performing
the actual demate which occurred

160
00:07:49,180 --> 00:07:51,090
with the commands being given

161
00:07:51,090 --> 00:07:54,370
at about 6:50 AM Central
Time on Wednesday.

162
00:07:54,370 --> 00:07:59,050
And then eventually performing
that HTV release as it prepared

163
00:07:59,050 --> 00:08:01,760
to depart the International
Space Station.

164
00:08:01,760 --> 00:08:04,610
While all this was going on,
Suni Williams was closing

165
00:08:04,610 --> 00:08:05,890
out the vestibule for HTV

166
00:08:05,890 --> 00:08:08,560
and installing the
final thermal covers,

167
00:08:08,560 --> 00:08:12,520

also taking over the final
depress of the vehicle.

168
00:08:12,520 --> 00:08:15,170
This is what HTV looked
like after it was demated

169
00:08:15,170 --> 00:08:18,030
from the Harmony module
and was being released

170
00:08:18,030 --> 00:08:20,550
by the space station's
robotic arm.

171
00:08:20,550 --> 00:08:26,600
The HTV vehicle, which
carried 4.6 tons of cargo

172
00:08:26,600 --> 00:08:29,920
to the International
Space Station was released

173
00:08:29,920 --> 00:08:34,790
by this robotic arm, but then
after, within a few minutes

174
00:08:34,790 --> 00:08:37,540
of this release, an
internal abort was triggered

175
00:08:37,540 --> 00:08:41,520
on board the HTV, after
it had slowly started

176
00:08:41,520 --> 00:08:44,960
to drift back towards the arm.

177
00:08:44,960 --> 00:08:47,930
Japanese flight controllers

later acknowledged the most

178
00:08:47,930 --> 00:08:49,920
probable cause was
what's called a

179
00:08:49,920 --> 00:08:52,130
"safety net software violation."

180
00:08:52,130 --> 00:08:53,650
So one of the limits

181
00:08:53,650 --> 00:08:56,580
on the cargo ship's
thrusters was reached,

182
00:08:56,580 --> 00:09:00,270
possibly being induced
by a push off rate

183
00:09:00,270 --> 00:09:04,660
from that robotic
arm's end, but,

184
00:09:04,660 --> 00:09:07,480
the vehicle did exactly
what it was supposed to do

185
00:09:07,480 --> 00:09:10,420
and you can see it departing
the International Space Station

186
00:09:10,420 --> 00:09:12,240
right here, moving
a little bit faster

187
00:09:12,240 --> 00:09:15,710
than the traditional one-tenth
of a meter per second,

188
00:09:15,710 --> 00:09:20,470
so sending it into a passive
abort, but again, doing exactly

189
00:09:20,470 --> 00:09:23,080
as it was supposed to do

190
00:09:23,080 --> 00:09:25,410
as it was departing the
International Space Station

191
00:09:25,410 --> 00:09:27,790
for the final time.

192
00:09:31,150 --> 00:09:35,450
So that robotics and HTV
activity taking up much

193
00:09:35,450 --> 00:09:38,260
of the day on Wednesday
as Joe Acaba

194
00:09:38,260 --> 00:09:41,660
and Aki Hoshide were standing
by inside of the cupola.

195
00:09:41,660 --> 00:09:46,750
That HTV craft, which again
carried up about 4.6 tons

196
00:09:46,750 --> 00:09:50,340
of cargo to the International
Space Station released

197
00:09:50,340 --> 00:09:52,660
and demated on Wednesday.

198
00:09:52,660 --> 00:09:56,610
So in addition to standing

by the robotics controls

199
00:09:56,610 --> 00:10:00,370
on Wednesday, Aki Hoshide
was responsible for closing

200
00:10:00,370 --> 00:10:02,360
out the vestibule
alongside of Williams

201
00:10:02,360 --> 00:10:05,590
and installing a thermal cover
and also the command panel

202
00:10:05,590 --> 00:10:10,310
that they used for any
command necessities,

203
00:10:10,310 --> 00:10:13,190
also taking some time out of
his day on Wednesday to speak

204
00:10:13,190 --> 00:10:15,800
with the Office of the
Prime Minister of Japan.

205
00:10:15,800 --> 00:10:19,660
And then meanwhile, Gennady
Padalka continuing work

206
00:10:19,660 --> 00:10:24,750
with that immuno experiment and
also doing some final data takes

207
00:10:24,750 --> 00:10:26,650
for the Russian pneumo card,

208
00:10:26,650 --> 00:10:28,560
which looks to study
the adaptation

209
00:10:28,560 --> 00:10:29,990
of the cardiovascular system

210
00:10:29,990 --> 00:10:33,380
of these astronauts during
long durations of space flight.

211
00:10:33,380 --> 00:10:37,080
He was also working with the
Russian Matryoshka experiment

212
00:10:37,080 --> 00:10:39,820
which uses a number

213
00:10:39,820 --> 00:10:43,680
of dosimeters arrayed throughout
a mannequin sized object

214
00:10:43,680 --> 00:10:46,470
to study the radiation levels

215
00:10:46,470 --> 00:10:47,880
that these astronauts
are subjected

216
00:10:47,880 --> 00:10:49,400
to throughout different
points inside

217
00:10:49,400 --> 00:10:51,630
of the International
Space Station.

218
00:10:51,630 --> 00:10:54,840
All that was going on, Sergi
Revin was removing a few lights

219
00:10:54,840 --> 00:10:59,340

from inside of the mini-research
module 2, also known as "Poisk"

220
00:10:59,340 --> 00:11:01,440
where the Soyuz craft
is currently docked to.

221
00:11:01,440 --> 00:11:03,130
He was also doing some
of that work inside

222
00:11:03,130 --> 00:11:05,300
of the Zvezda service module

223
00:11:05,300 --> 00:11:08,940
and Yuri Malenchenko was
assisting Gennady Padalka

224
00:11:08,940 --> 00:11:11,950
in deploying some of those
dosimeters inside of Matryoshka

225
00:11:11,950 --> 00:11:14,390
and also doing some
routine maintenance

226
00:11:14,390 --> 00:11:18,770
on the Russian electron system
which lets you generate oxygen

227
00:11:18,770 --> 00:11:23,710
for the astronauts' breathing
atmosphere on board the station.

228
00:11:23,710 --> 00:11:26,780
Moving onto Thursday,
Joe Acaba getting

229
00:11:26,780 --> 00:11:29,060
in some descent training

alongside of Padalka

230
00:11:29,060 --> 00:11:32,340
and Revin inside of their
Soyuz craft and also gathering

231
00:11:32,340 --> 00:11:37,430
up some hardware for an activity
he'll be doing today to remove

232
00:11:37,430 --> 00:11:40,900
and replace a fluid
control pump assembly.

233
00:11:40,900 --> 00:11:46,660
Suni Williams was working to
do a removal and replacement

234
00:11:46,660 --> 00:11:49,750
of the oxygen generation
system, similar to electron,

235
00:11:49,750 --> 00:11:52,350
but over on the US segment

236
00:11:52,350 --> 00:11:55,450
and she was replacing
its hydrogen sensor

237
00:11:55,450 --> 00:11:59,220
and she also participated
in a YouTube space lab event

238
00:11:59,220 --> 00:12:02,390
which we'll bring you a little
bit later in today's show,

239
00:12:02,390 --> 00:12:06,210
answering questions from
Bill Nye the Science Guy

240
00:12:06,210 --> 00:12:09,800
and giving a pretty cool, inside
look in doing a few experiments

241
00:12:09,800 --> 00:12:13,610
that were selected for on board
the International Space Station.

242
00:12:13,610 --> 00:12:16,450
Meanwhile, Aki Hoshide taking
some sound measurements

243
00:12:16,450 --> 00:12:19,370
on board the station
using acoustic dosimeters

244
00:12:19,370 --> 00:12:22,820
which were placed throughout the
station's structure and are used

245
00:12:22,820 --> 00:12:27,390
to track sound loads
throughout different portions.

246
00:12:27,390 --> 00:12:29,500
He was also performing
some medical scans

247
00:12:29,500 --> 00:12:32,500
for the Sprint experiment
which looks to study

248
00:12:32,500 --> 00:12:39,340
if high intensity, low duration
workouts have any improved

249
00:12:39,340 --> 00:12:43,790
effect on combating a
loss of pulmonary function

250
00:12:43,790 --> 00:12:48,650
and also muscle atrophy and
bone density loss inside

251
00:12:48,650 --> 00:12:51,200
of these astronauts.

252
00:12:51,200 --> 00:12:53,890
Yesterday, Padalka was
involved in descent drills

253
00:12:53,890 --> 00:12:57,090
and crew departure preps
for most of his day.

254
00:12:57,090 --> 00:13:01,190
Sergi Revin servicing
the Cascan experiment.

255
00:13:01,190 --> 00:13:04,290
He was removing the bio-reactor
from the incubator and loading

256
00:13:04,290 --> 00:13:07,360
that on board of
his Soyuz craft.

257
00:13:07,360 --> 00:13:12,570
That Soyuz TMA04M space
craft for eventual return.

258
00:13:12,570 --> 00:13:15,860
Also Yuri Malenchenko was
conducting the periodic

259
00:13:15,860 --> 00:13:19,290
maintenance of the Russian
harmful impurities removal

260
00:13:19,290 --> 00:13:25,060
system, one of the
many hardware systems

261
00:13:25,060 --> 00:13:26,890
on board the International
Space Station,

262
00:13:26,890 --> 00:13:30,520
responsible for removing
any impurities

263
00:13:30,520 --> 00:13:33,630
or potentially hazardous items

264
00:13:33,630 --> 00:13:37,080
from the astronauts'
breathing air.

265
00:13:37,080 --> 00:13:40,100
All that brings us to
today's activities, Friday,

266
00:13:40,100 --> 00:13:43,770
where Joe Acaba is
performing that fluid control

267
00:13:43,770 --> 00:13:47,230
and pump assembly removal
and replacement work,

268
00:13:47,230 --> 00:13:49,810
that inside the water
recovery system.

269
00:13:49,810 --> 00:13:51,910
He'll also be reviewing
the status

270

00:13:51,910 --> 00:13:54,750
of the contingency
water containers used

271
00:13:54,750 --> 00:14:00,760
for any emergency or
any unplanned refills

272
00:14:00,760 --> 00:14:05,430
of the water recovery
systems' supplies.

273
00:14:05,430 --> 00:14:09,090
Meanwhile, Suni Williams
is also working on some

274
00:14:09,090 --> 00:14:11,200
of the water systems
on board the station,

275
00:14:11,200 --> 00:14:11,990
doing some maintenance

276
00:14:11,990 --> 00:14:15,120
on the potable water
dispenser's beverage adapter

277
00:14:15,120 --> 00:14:17,660
and then she'll be doing
some Sprint ultrasound scans

278
00:14:17,660 --> 00:14:20,450
of her own which Hoshide
was doing yesterday.

279
00:14:20,450 --> 00:14:24,930
Again, doing some scans of her
legs as they continue to track

280
00:14:24,930 --> 00:14:26,890

if this high intensity,

281
00:14:26,890 --> 00:14:30,410
low duration workout regimen
has any different effects

282
00:14:30,410 --> 00:14:34,050
than the normally scheduled
two hours a day of exercise

283
00:14:34,050 --> 00:14:37,300
that these astronauts
generally take.

284
00:14:37,300 --> 00:14:40,180
Meanwhile, Aki Hoshide is
working inside the small payload

285
00:14:40,180 --> 00:14:43,470
rack and focusing on the
aquatic habit which was brought

286
00:14:43,470 --> 00:14:45,640
up to the International
Space Station on board

287
00:14:45,640 --> 00:14:49,500
that HTV-3 vehicle which
departed back on Wednesday.

288
00:14:49,500 --> 00:14:51,200
You can see the aquatic
habitat here,

289
00:14:51,200 --> 00:14:54,760
giving a very unique test bed

290
00:14:54,760 --> 00:15:00,570
for tracking any
biological experiments

291
00:15:00,570 --> 00:15:03,930
on different aquatic life
in microgravity environments

292
00:15:03,930 --> 00:15:07,990
which can have some
very insightful results

293
00:15:07,990 --> 00:15:10,300
for life down here on earth.

294
00:15:10,300 --> 00:15:13,560
Aside from that, he'll be
removing and transferring some

295
00:15:13,560 --> 00:15:18,440
of those acoustic dosimeters
over to the Soyuz 30-S craft

296
00:15:18,440 --> 00:15:21,610
for return down to earth.

297
00:15:21,610 --> 00:15:26,270
And Commander Padalka will be
packing up some gear inside

298
00:15:26,270 --> 00:15:29,340
of Soyuz and transferring
some sensors

299
00:15:29,340 --> 00:15:32,260
from that Russian Matryoshka
radiation experiment

300
00:15:32,260 --> 00:15:34,650
over to the Soyuz for return,

301
00:15:34,650 --> 00:15:39,870

which his Soyuz crewmate Sergi
Revin will be doing some house

302
00:15:39,870 --> 00:15:42,160
cleaning work, cleaning up
some of the dust collectors

303
00:15:42,160 --> 00:15:44,330
and fan screens which help

304
00:15:44,330 --> 00:15:47,040
to constantly revitalize
the astronauts'

305
00:15:47,040 --> 00:15:48,380
breathing atmosphere.

306
00:15:48,380 --> 00:15:52,000
And he'll also be gathering
up some microbial samples

307
00:15:52,000 --> 00:15:53,660
from a few of the
Russian experiments

308
00:15:53,660 --> 00:15:55,490
for return down to earth.

309
00:15:55,490 --> 00:15:59,570
And our final Expedition 32 crew
member, Yuri Malenchenko today,

310
00:15:59,570 --> 00:16:02,220
immediately upon
waking up, participated

311
00:16:02,220 --> 00:16:06,520
in the Sprint experiment, which
looks to track something known

312
00:16:06,520 --> 00:16:10,590
as orthostatic tolerance
or much simpler terms,

313
00:16:10,590 --> 00:16:14,140
these astronauts'
ability to stand upright

314
00:16:14,140 --> 00:16:17,170
and maintain proper balance
upon their return to earth.

315
00:16:17,170 --> 00:16:19,650
And aside from that
he was working

316
00:16:19,650 --> 00:16:24,030
on the biodegradation experiment
on board the Russian segment

317
00:16:24,030 --> 00:16:27,100
which is a pretty fascinating
experiment that looks

318
00:16:27,100 --> 00:16:33,560
to investigate the initial
stages of any bio deterioration

319
00:16:33,560 --> 00:16:34,610
of different surfaces

320
00:16:34,610 --> 00:16:37,720
and structural materials
inside the station.

321
00:16:37,720 --> 00:16:40,050
And that will help scientists

322
00:16:40,050 --> 00:16:43,500

and engineers understand what
microorganisms are present

323
00:16:43,500 --> 00:16:46,690
on board the station and help
develop effective methods

324
00:16:46,690 --> 00:16:51,200
of protecting future space craft
surfaces, inventing new coatings

325
00:16:51,200 --> 00:16:54,140
and different anti-microbials.

326
00:16:54,140 --> 00:16:57,520
And with all these activities
going on, as mentioned,

327
00:16:57,520 --> 00:17:00,970
three of our astronauts,
Padalka, Revin and Acaba,

328
00:17:00,970 --> 00:17:04,150
scheduled to depart from the
International Space Station

329
00:17:04,150 --> 00:17:07,410
and land, bringing an
end to Expedition 32,