1
00:00:15,509 --> 00:00:13,669
it has been quite a busy week on board

2
00:00:16,950 --> 00:00:15,519
the international space station this

3
00:00:20,070 --> 00:00:16,960
weekend will be busy as well for the

4
00:00:22,550 --> 00:00:20,080
crew of expedition 36 chris cassidy luca

5
00:00:24,550 --> 00:00:22,560
parmitano and karen nyberg half of

6
00:00:27,029 --> 00:00:24,560
expedition 36 will be working on

7
00:00:29,029 --> 00:00:27,039
saturday to take a look at this faulty

8
00:00:32,549 --> 00:00:29,039
spacesuit that luca parmitano had worn

9
00:00:33,910 --> 00:00:32,559
back on september excuse me on july 16th

10
00:00:36,229 --> 00:00:33,920
as you can see luca they're making a

11
00:00:38,069 --> 00:00:36,239
face as the crew checked out

12
00:00:39,910 --> 00:00:38,079
this spacesuit earlier this week they

13
00:00:42,229 --> 00:00:39,920

basically turned it back on

14
00:00:43,350 --> 00:00:42,239
and recreated the water leak which you

15
00:00:45,910 --> 00:00:43,360
see some of the droplets they're

16
00:00:47,270 --> 00:00:45,920
gathering in the helmet but what they're

17
00:00:49,830 --> 00:00:47,280
going to be doing on saturday is

18
00:00:52,229 --> 00:00:49,840
replacing a water relief valve

19
00:00:53,750 --> 00:00:52,239
as well as a gas trap and in between

20
00:00:54,950 --> 00:00:53,760
those two steps they will recreate what

21
00:00:56,470 --> 00:00:54,960
they did this week which is basically

22
00:00:59,270 --> 00:00:56,480
just turn the suit back on and check it

23
00:01:00,709 --> 00:00:59,280
out to see how the work has progressed

24
00:01:01,750 --> 00:01:00,719
the goal of this is to find the root

25
00:01:03,349 --> 00:01:01,760
cause

26
00:01:05,350 --> 00:01:03,359
for this spacesuit water leak that

27
00:01:07,270 --> 00:01:05,360
happened to luca while he and chris were

28
00:01:08,789 --> 00:01:07,280
outside and then the ground teams here

29
00:01:10,310 --> 00:01:08,799
in houston will be watching along this

30
00:01:12,630 --> 00:01:10,320
weekend and we'll have a full report for

31
00:01:14,950 --> 00:01:12,640
you on tuesday morning of how all of

32
00:01:16,789 --> 00:01:14,960
that work went

33
00:01:18,710 --> 00:01:16,799
there's also reboost this weekend coming

34
00:01:21,109 --> 00:01:18,720
up for the international space station

35
00:01:23,270 --> 00:01:21,119
the atv4 that's at the back end of the

36
00:01:25,190 --> 00:01:23,280
russian segment we'll fire its thrusters

37
00:01:27,030 --> 00:01:25,200
this will be setting up for chris

38
00:01:29,830 --> 00:01:27,040

cassidy and alexander misurkin and pablo

39
00:01:31,830 --> 00:01:29,840
vinogradov's departure and landing

40
00:01:33,670 --> 00:01:31,840
coming up on september the 10th

41
00:01:36,149 --> 00:01:33,680
but that reboost will take place for

42
00:01:42,310 --> 00:01:36,159
about three minutes and 25 seconds on

43
00:01:46,230 --> 00:01:44,469
another cargo vehicle the htv that is

44
00:01:47,990 --> 00:01:46,240
the japanese cargo craft onboard the

45
00:01:49,990 --> 00:01:48,000
international space station its

46
00:01:52,230 --> 00:01:50,000
operations also complete there you see

47
00:01:54,710 --> 00:01:52,240
it on the bottom side of the u.s segment

48
00:01:56,469 --> 00:01:54,720
the crew worked very uh diligently after

49
00:01:57,910 --> 00:01:56,479
htv arrived at the space station to

50
00:02:00,230 --> 00:01:57,920
unload all the cargo that was on the

51
00:02:01,830 --> 00:02:00,240
inside there's also some external cargo

52
00:02:02,870 --> 00:02:01,840
that was released

53
00:02:04,630 --> 00:02:02,880
and

54
00:02:07,350 --> 00:02:04,640
the external pallet that was in the

55
00:02:10,150 --> 00:02:07,360
middle of htv was put back in earlier

56
00:02:12,869 --> 00:02:10,160
today the release of the actual entire

57
00:02:15,110 --> 00:02:12,879
htv-4 is coming up at 11 a.m central

58
00:02:17,190 --> 00:02:15,120
time on wednesday september 4th we'll

59
00:02:19,589 --> 00:02:17,200
have live coverage of that here on nasa

60
00:02:22,070 --> 00:02:19,599
television as htv's mission comes to a

61
00:02:24,470 --> 00:02:22,080
close

62
00:02:26,150 --> 00:02:24,480
checks also taking place on friday with

63
00:02:28,070 --> 00:02:26,160

chris cassidy paul vinogradov and

64
00:02:29,670 --> 00:02:28,080
alexander misurkin checking out their

65
00:02:31,430 --> 00:02:29,680
so-called suits these are the suits they

66
00:02:32,550 --> 00:02:31,440
wore during launch and will wear during

67
00:02:33,910 --> 00:02:32,560
landing

68
00:02:35,670 --> 00:02:33,920
and their departure preparations are

69
00:02:37,110 --> 00:02:35,680
continuing onboard the space station as

70
00:02:39,110 --> 00:02:37,120
these three crew members get ready to

71
00:02:41,270 --> 00:02:39,120
come home they've been packing up all of

72
00:02:42,949 --> 00:02:41,280
their what amounts to their luggage that

73
00:02:44,390 --> 00:02:42,959
will come home aboard the soyuz coming

74
00:02:46,390 --> 00:02:44,400
up on september the 10th there you see

75
00:02:48,470 --> 00:02:46,400
all of our landing coverage we'll have

76
00:02:50,390 --> 00:02:48,480
hatch closure coverage beginning at 3 pm

77
00:02:53,110 --> 00:02:50,400
central time undocking coverage

78
00:02:55,750 --> 00:02:53,120
beginning at 6 15 pm central time and

79
00:02:58,309 --> 00:02:55,760
landing coverage coming up at 8 45 pm

80
00:03:01,270 --> 00:02:58,319
central time all of this on september

81
00:03:05,190 --> 00:03:02,630
the crew also getting ready for the

82
00:03:07,670 --> 00:03:05,200
arrival of the orbital sciences cygnus

83
00:03:09,670 --> 00:03:07,680
vehicle that launch scheduled for

84
00:03:11,670 --> 00:03:09,680
september the 17th from the wallops

85
00:03:13,350 --> 00:03:11,680
flight facility up in virginia if all

86
00:03:15,190 --> 00:03:13,360
goes according to plan orbital should

87
00:03:16,550 --> 00:03:15,200
arrive up at the station on september

88
00:03:18,390 --> 00:03:16,560

the 22nd

89
00:03:19,509 --> 00:03:18,400
for a rendezvous and docking as this

90
00:03:22,149 --> 00:03:19,519
orbital

91
00:03:24,070 --> 00:03:22,159
cygnus vehicle performs a test

92
00:03:26,789 --> 00:03:24,080
uh demonstration mission to check out

93
00:03:28,470 --> 00:03:26,799
its systems and if all goes well orbital

94
00:03:30,309 --> 00:03:28,480
should be flying some routine cargo

95
00:03:32,550 --> 00:03:30,319
flights just like spacex technologies

96
00:03:33,910 --> 00:03:32,560
did beginning last year we'll have a

97
00:03:36,630 --> 00:03:33,920
briefing coming up on wednesday

98
00:03:39,110 --> 00:03:36,640
september the 4th at 3 p.m central time

99
00:03:40,470 --> 00:03:39,120
4 pm eastern time to take a look at his

100
00:03:42,390 --> 00:03:40,480
entire mission

101
00:03:44,630 --> 00:03:42,400
and also the conclusion of nasa's cots

102
00:03:46,869 --> 00:03:44,640
program conscious what both spacex and

103
00:03:49,030 --> 00:03:46,879
orbital sciences have participated in to

104
00:03:50,710 --> 00:03:49,040
build these two cargo vehicles and that

105
00:03:52,550 --> 00:03:50,720
briefing will be mike safranini the head

106
00:03:54,309 --> 00:03:52,560
of the space station program alan

107
00:03:56,309 --> 00:03:54,319
lindemoyer the head of the nasa cots

108
00:03:58,149 --> 00:03:56,319
program as well as frank culbertson

109
00:04:00,630 --> 00:03:58,159
former astronaut who is now executive

110
00:04:02,630 --> 00:04:00,640
vice president of orbital sciences

111
00:04:04,869 --> 00:04:02,640
as well as courtney mcmillan who will be

112
00:04:06,149 --> 00:04:04,879
the nasa lead flight director for that

113
00:04:08,390 --> 00:04:06,159

mission again that will take place on

114
00:04:10,869 --> 00:04:08,400
wednesday at 3 pm central time here on

115
00:04:12,470 --> 00:04:10,879
nasa television

116
00:04:14,309 --> 00:04:12,480
this week has also had a ton of science

117
00:04:16,710 --> 00:04:14,319
going on onboard the space station karen

118
00:04:18,870 --> 00:04:16,720
nyberg worked with the spheres rings

119
00:04:20,789 --> 00:04:18,880
experiment if you've watched nasa tv and

120
00:04:24,150 --> 00:04:20,799
seen the spheres experiment you'll

121
00:04:25,670 --> 00:04:24,160
notice this looks a little bit different

122
00:04:28,390 --> 00:04:25,680
this experiment which is out of the

123
00:04:29,990 --> 00:04:28,400
university of maryland and darpa takes a

124
00:04:32,230 --> 00:04:30,000
look at uh

125
00:04:34,070 --> 00:04:32,240
formation flying of many satellites and

126
00:04:35,909 --> 00:04:34,080
also some power transfer the thought is

127
00:04:37,590 --> 00:04:35,919
that these two satellites could transfer

128
00:04:39,430 --> 00:04:37,600
power between each other

129
00:04:41,270 --> 00:04:39,440
from very small distances without

130
00:04:42,870 --> 00:04:41,280
actually touching

131
00:04:45,510 --> 00:04:42,880
so karen nyberg and luca parmitano

132
00:04:47,670 --> 00:04:45,520
worked on that this week parmitano also

133
00:04:49,749 --> 00:04:47,680
worked on something called in space 3.

134
00:04:51,270 --> 00:04:49,759
this takes a look at what are known as

135
00:04:53,030 --> 00:04:51,280
colloids

136
00:04:54,469 --> 00:04:53,040
these are small particles that reside

137
00:04:56,469 --> 00:04:54,479
inside liquids

138
00:04:58,469 --> 00:04:56,479

and the important thing about running

139
00:05:00,710 --> 00:04:58,479
these experiments up in space is that

140
00:05:02,230 --> 00:05:00,720
the sediment doesn't fall out like it

141
00:05:03,350 --> 00:05:02,240
would here on earth so you can imagine

142
00:05:05,350 --> 00:05:03,360
something that's got a bunch of

143
00:05:07,270 --> 00:05:05,360
particles inside a liquid those things

144
00:05:09,990 --> 00:05:07,280
would settle at the bottom because of

145
00:05:11,670 --> 00:05:10,000
gravity so for scientists to study them

146
00:05:13,830 --> 00:05:11,680
and their natural state they fly them up

147
00:05:15,830 --> 00:05:13,840
in space where there is no gravity uh

148
00:05:17,430 --> 00:05:15,840
now what these colloids can do

149
00:05:19,670 --> 00:05:17,440
is actually change the property of the

150
00:05:20,950 --> 00:05:19,680
liquid whenever a magnetic field is

151
00:05:23,029 --> 00:05:20,960
applied to it so that liquid all of a

152
00:05:25,350 --> 00:05:23,039
sudden becomes a solid this has direct

153
00:05:27,749 --> 00:05:25,360
impacts to life here on earth because it

154
00:05:29,510 --> 00:05:27,759
could lead to better braking systems and

155
00:05:31,350 --> 00:05:29,520
also better buildings and bridges

156
00:05:32,310 --> 00:05:31,360
because you could use these things to

157
00:05:34,150 --> 00:05:32,320
help

158
00:05:36,150 --> 00:05:34,160
buildings and bridges weather an

159
00:05:37,909 --> 00:05:36,160
earthquake so that is what that

160
00:05:40,550 --> 00:05:37,919
experiment means for life here on earth

161
00:05:42,710 --> 00:05:40,560
and also life in space

162
00:05:45,909 --> 00:05:42,720
luca parmitano also working on some bio

163
00:05:47,670 --> 00:05:45,919

lab troubleshooting biolab is

164
00:05:49,510 --> 00:05:47,680
a biological rack that is inside the

165
00:05:51,749 --> 00:05:49,520
columbus laboratory one of the

166
00:05:54,230 --> 00:05:51,759
microscopes inside that rack was having

167
00:05:55,749 --> 00:05:54,240
some issues so he performed some work on

168
00:05:57,830 --> 00:05:55,759
that to get that rack up and running

169
00:05:59,510 --> 00:05:57,840
again chris cassidy worked this week

170
00:06:00,710 --> 00:05:59,520
with robonaut that is the robot that's

171
00:06:02,150 --> 00:06:00,720
on board the space station they

172
00:06:03,029 --> 00:06:02,160
performed some checkout maneuvers of

173
00:06:04,790 --> 00:06:03,039
that

174
00:06:07,510 --> 00:06:04,800
chris cassidy also put on some virtual

175
00:06:09,110 --> 00:06:07,520
reality gear to run robonaut through

176
00:06:10,790 --> 00:06:09,120
them paces himself

177
00:06:13,749 --> 00:06:10,800
but these checkouts of this big robot on

178
00:06:15,110 --> 00:06:13,759
board the space station continue

179
00:06:16,629 --> 00:06:15,120
puffle vinogradov and the rest of the

180
00:06:18,629 --> 00:06:16,639
russian crew also worked on the lower

181
00:06:20,390 --> 00:06:18,639
body negative pressure

182
00:06:22,790 --> 00:06:20,400
experiment what this does is have the

183
00:06:24,150 --> 00:06:22,800
crew put on a pair of trousers that sort

184
00:06:25,110 --> 00:06:24,160
of pulls

185
00:06:41,270 --> 00:06:25,120
the

186
00:06:42,870 --> 00:06:41,280
that phenomenon

187
00:06:43,990 --> 00:06:42,880
and finally chris cassidy and karen

188
00:06:45,830 --> 00:06:44,000

nyberg

189
00:06:47,430 --> 00:06:45,840
working on some eye exams this week this

190
00:06:49,029 --> 00:06:47,440
is part of the ocular health experiment

191
00:06:50,629 --> 00:06:49,039
to take a look at some phenomena that's

192
00:06:52,870 --> 00:06:50,639
been noticed recently

193
00:06:55,029 --> 00:06:52,880
so that the criminal's eyes tend to

194
00:06:57,110 --> 00:06:55,039
change while they're up in space

195
00:06:59,029 --> 00:06:57,120
so to determine exactly what causes that

196
00:07:00,469 --> 00:06:59,039
and in order to predict it

197
00:07:01,749 --> 00:07:00,479
they're being put through the paces in a

198
00:07:03,749 --> 00:07:01,759
number of different experiments to take

199
00:07:05,749 --> 00:07:03,759
a look at that using an ultrasound to

200
00:07:07,350 --> 00:07:05,759
examine their eyes there you see the

201
00:07:08,950 --> 00:07:07,360
ultrasound as karen nyberg worked on

202
00:07:11,029 --> 00:07:08,960
that today

203
00:07:12,550 --> 00:07:11,039
and that activity will continue into

204
00:07:14,469 --> 00:07:12,560
next week

205
00:07:16,309 --> 00:07:14,479
we will be off on monday

206
00:07:17,909 --> 00:07:16,319
due to the federal labor day holiday but

207
00:07:20,550 --> 00:07:17,919
we will be back on tuesday morning at 10

208
00:07:22,070 --> 00:07:20,560
a.m central time 11 a.m eastern time

209
00:07:23,670 --> 00:07:22,080
we'll have an update for you on this

210
00:07:26,309 --> 00:07:23,680
weekend's activities to repair that

211
00:07:27,589 --> 00:07:26,319
spacesuit to see where the crew gets and

212
00:07:29,589 --> 00:07:27,599
of course we'll have live coverage

213
00:07:30,629 --> 00:07:29,599

beginning on wednesday of the nasa

214
00:07:32,629 --> 00:07:30,639
orbital

215
00:07:35,110 --> 00:07:32,639
sciences mission overview briefing that

216
00:07:37,589 --> 00:07:35,120
will occur on wednesday at 3 pm central

217
00:07:39,350 --> 00:07:37,599
time here on nasa television we will see