
enter
Johns

1
00:00:04,630 --> 00:00:02,710
good morning and welcome back to nasa's

2
00:00:06,710 --> 00:00:04,640
johnson space center for today's mission

3
00:00:09,270 --> 00:00:06,720
status briefing this is the flight day 7

4
00:00:11,270 --> 00:00:09,280
of the sts-134 space shuttle mission to

5
00:00:12,709 --> 00:00:11,280
the international space station and the

6
00:00:14,390 --> 00:00:12,719
crew members just completed the second

7
00:00:16,150 --> 00:00:14,400
spacewalk of the flight so we have an

8
00:00:17,990 --> 00:00:16,160
update from the lead space station

9
00:00:20,230 --> 00:00:18,000
flight director for the mission derek

10
00:00:22,710 --> 00:00:20,240
hossman and the lead spacewalk officer

11
00:00:24,550 --> 00:00:22,720
for the flight as well allison bollinger

12
00:00:26,950 --> 00:00:24,560
so we'll start out with the opening

13
00:00:29,349 --> 00:00:26,960

comments and then take questions

14
00:00:32,229 --> 00:00:29,359
hey thanks kylie good morning everybody

15
00:00:34,790 --> 00:00:32,239
it's great to be here this morning after

16
00:00:36,310 --> 00:00:34,800
what was a very long but very successful

17
00:00:37,350 --> 00:00:36,320
and very rewarding day in mission

18
00:00:39,750 --> 00:00:37,360
control

19
00:00:42,389 --> 00:00:39,760
it's great to have our second spacewalk

20
00:00:44,549 --> 00:00:42,399
eva 2 behind us and i'm going to leave

21
00:00:46,069 --> 00:00:44,559
the details to allison to talk about but

22
00:00:47,910 --> 00:00:46,079
i will say that

23
00:00:50,950 --> 00:00:47,920
all of the planned tasks for the eva

24
00:00:52,630 --> 00:00:50,960
were completed successfully and i was

25
00:00:54,869 --> 00:00:52,640
very happy with the way both the

26
00:00:57,430 --> 00:00:54,879
on-orbit crew as well as the the ground

27
00:00:59,029 --> 00:00:57,440
teams performed today

28
00:01:01,510 --> 00:00:59,039
we talked yesterday and during the

29
00:01:03,430 --> 00:01:01,520
pre-flight briefings about eva2 being

30
00:01:06,070 --> 00:01:03,440
the most challenging spacewalk that we

31
00:01:08,070 --> 00:01:06,080
were going to execute on this mission

32
00:01:09,670 --> 00:01:08,080
and in particular i talked about the

33
00:01:11,670 --> 00:01:09,680
ammonia quick disconnects that we were

34
00:01:13,030 --> 00:01:11,680
going to have to touch on this eba in

35
00:01:15,270 --> 00:01:13,040
order to do the refill of the

36
00:01:17,910 --> 00:01:15,280
photovoltaic tcs

37
00:01:19,990 --> 00:01:17,920
thermal control system and ironically

38
00:01:22,710 --> 00:01:20,000

enough that that part of the spacewalk

39
00:01:25,109 --> 00:01:22,720
was absolutely flawless the the qd's

40
00:01:27,190 --> 00:01:25,119
performed exactly as they expected

41
00:01:29,350 --> 00:01:27,200
as they were supposed to not as we

42
00:01:31,670 --> 00:01:29,360
expected them to

43
00:01:33,510 --> 00:01:31,680
the the actual amount of ammonia that we

44
00:01:35,270 --> 00:01:33,520
moved from the permanent external

45
00:01:37,350 --> 00:01:35,280
thermal control system to the

46
00:01:39,109 --> 00:01:37,360
photovoltaic thermal cooling loop was

47
00:01:41,910 --> 00:01:39,119
was spot on in terms of pre-flight

48
00:01:44,149 --> 00:01:41,920
analysis uh the choreography between uh

49
00:01:45,749 --> 00:01:44,159
the ground teams and the the thor

50
00:01:48,710 --> 00:01:45,759
console in particular and the crew on

51
00:01:51,030 --> 00:01:48,720
orbit was just as we planned so so that

52
00:01:52,630 --> 00:01:51,040
part of the space walk uh really you

53
00:01:53,910 --> 00:01:52,640
could not have expected it to go on any

54
00:01:56,389 --> 00:01:53,920
better

55
00:01:58,149 --> 00:01:56,399
what surprised us today in which allison

56
00:02:00,230 --> 00:01:58,159
will talk about more detail was

57
00:02:01,830 --> 00:02:00,240
some issues we had with the the bolt

58
00:02:04,230 --> 00:02:01,840
associated with

59
00:02:07,670 --> 00:02:04,240
the solar alpha rotary joint covers that

60
00:02:09,109 --> 00:02:07,680
we had to remove to do the lubrication

61
00:02:11,510 --> 00:02:09,119
but we were able to pretty quickly in

62
00:02:13,430 --> 00:02:11,520
real time work around those problems

63
00:02:15,830 --> 00:02:13,440

it did slow us down a little bit but we

64
00:02:17,830 --> 00:02:15,840
were able to perform all the lubrication

65
00:02:19,910 --> 00:02:17,840
tasks on the sarge

66
00:02:23,190 --> 00:02:19,920
and it just it was an indication and a

67
00:02:25,510 --> 00:02:23,200
demonstration of all the training that

68
00:02:27,190 --> 00:02:25,520
goes into these missions and all the

69
00:02:28,710 --> 00:02:27,200
preparations that allowed us to respond

70
00:02:30,390 --> 00:02:28,720
very effectively in real time to those

71
00:02:32,390 --> 00:02:30,400
surprises

72
00:02:33,190 --> 00:02:32,400
the eva did run long

73
00:02:36,070 --> 00:02:33,200
but

74
00:02:38,790 --> 00:02:36,080
consumables were never an issue today

75
00:02:40,790 --> 00:02:38,800
drew and and spanky's metabolic rates

76
00:02:42,309 --> 00:02:40,800
were both very low so we had plenty of

77
00:02:44,630 --> 00:02:42,319
margin both on

78
00:02:46,470 --> 00:02:44,640
oxygen as well as the carbon dioxide

79
00:02:48,070 --> 00:02:46,480
scrubbing consumables

80
00:02:49,589 --> 00:02:48,080
really it was just a matter of the crew

81
00:02:51,750 --> 00:02:49,599
day running long

82
00:02:53,830 --> 00:02:51,760
and we did we did decide to press and

83
00:02:55,830 --> 00:02:53,840
and in the end completed all the tasks

84
00:02:57,190 --> 00:02:55,840
very successfully and one of the things

85
00:02:59,030 --> 00:02:57,200
that kind of happened in the background

86
00:03:02,070 --> 00:02:59,040
but uh nonetheless was a key piece of

87
00:03:04,630 --> 00:03:02,080
this was uh the robotic support uh that

88
00:03:06,790 --> 00:03:04,640

that the crew provided specifically for

89
00:03:08,550 --> 00:03:06,800
the uh the dexter latching in effect or

90
00:03:11,190 --> 00:03:08,560
lubrication task you know with

91
00:03:12,470 --> 00:03:11,200
everything else going on um

92
00:03:14,309 --> 00:03:12,480
it it seemed like that was in the

93
00:03:17,110 --> 00:03:14,319
background but that was a relatively

94
00:03:19,030 --> 00:03:17,120
compact complex choreography between

95
00:03:21,990 --> 00:03:19,040
greg johnson on the controls of the

96
00:03:24,229 --> 00:03:22,000
station robotic arm and drew feustel

97
00:03:25,670 --> 00:03:24,239
in order to to finish that lubrication

98
00:03:27,670 --> 00:03:25,680
so

99
00:03:29,670 --> 00:03:27,680
overall a very very successful day i'm

100
00:03:32,149 --> 00:03:29,680
very proud of the the teams on the

101
00:03:34,309 --> 00:03:32,159
ground as well as the crew on orbit and

102
00:03:36,309 --> 00:03:34,319
with that i'll hand over to allison

103
00:03:37,910 --> 00:03:36,319
all right thanks a lot derek

104
00:03:40,710 --> 00:03:37,920
as derek mentioned it was a long one

105
00:03:42,390 --> 00:03:40,720
today a pet of 807 but i couldn't be

106
00:03:43,670 --> 00:03:42,400
more proud of of the way things turned

107
00:03:45,589 --> 00:03:43,680
out in the end

108
00:03:47,990 --> 00:03:45,599
so we started out the eva with heading

109
00:03:50,470 --> 00:03:48,000
back outboard to the to the port sarge

110
00:03:51,990 --> 00:03:50,480
where we rerouted the p3 p4 jumper to

111
00:03:55,190 --> 00:03:52,000
help set up the pipeline the one that we

112
00:03:56,630 --> 00:03:55,200
had temp stowed at the end of eva 1. uh

113
00:04:00,070 --> 00:03:56,640

once we were complete with that task

114
00:04:00,869 --> 00:04:00,080
mike headed inboard to the to the p1 ata

115
00:04:05,110 --> 00:04:00,879
uh

116
00:04:06,869 --> 00:04:05,120
relocating a jumper that's currently in

117
00:04:09,110 --> 00:04:06,879
the vent location from the ammonia tank

118
00:04:11,910 --> 00:04:09,120
out to the fill location once he got

119
00:04:13,190 --> 00:04:11,920
that uh complete we we coordinated with

120
00:04:14,949 --> 00:04:13,200
folks on the ground to go ahead and

121
00:04:16,710 --> 00:04:14,959
start an initial leak check which

122
00:04:19,670 --> 00:04:16,720
verified that we had good ammonia

123
00:04:21,509 --> 00:04:19,680
flowing from the ammonia tank assembly

124
00:04:22,710 --> 00:04:21,519
all the way out to the double etcs

125
00:04:24,070 --> 00:04:22,720
system

126
00:04:25,830 --> 00:04:24,080
at that point in time once we verified

127
00:04:27,430 --> 00:04:25,840
we had a good leak check and that was a

128
00:04:29,350 --> 00:04:27,440
very fairly quick leak check to realize

129
00:04:31,350 --> 00:04:29,360
we had a rock solid system which was a

130
00:04:33,830 --> 00:04:31,360
definite relief in the front room for

131
00:04:36,150 --> 00:04:33,840
all of us we gave drew a go to start

132
00:04:37,830 --> 00:04:36,160
picking up on his step so he then

133
00:04:39,749 --> 00:04:37,840
manipulated a quick disconnect that

134
00:04:41,670 --> 00:04:39,759
allowed the ammonia to flow from the

135
00:04:43,670 --> 00:04:41,680
from the ammonia tank through part of

136
00:04:45,749 --> 00:04:43,680
the pipeline out to the double etcs

137
00:04:47,430 --> 00:04:45,759
system we sat there for a few minutes

138
00:04:49,270 --> 00:04:47,440

and let it stabilize to verify that

139
00:04:50,629 --> 00:04:49,280
pressures were indeed still good and

140
00:04:52,870 --> 00:04:50,639
once we were complete with that we gave

141
00:04:54,150 --> 00:04:52,880
drew the final go to throw the final few

142
00:04:56,550 --> 00:04:54,160
qd's at the

143
00:04:58,390 --> 00:04:56,560
out on the end of p6 um once he threw

144
00:05:00,150 --> 00:04:58,400
those qd's it took about 10 minutes to

145
00:05:01,430 --> 00:05:00,160
perform the fill and as derek mentioned

146
00:05:03,670 --> 00:05:01,440
we couldn't be more pleased with how it

147
00:05:06,230 --> 00:05:03,680
turned out we were able to get right on

148
00:05:08,310 --> 00:05:06,240
the pre-flight numbers for that fill

149
00:05:10,230 --> 00:05:08,320
so while that phil was ongoing drew

150
00:05:12,469 --> 00:05:10,240
worked on setting up the vent tools that

151
00:05:14,629 --> 00:05:12,479
he would use to to perform those ammonia

152
00:05:16,870 --> 00:05:14,639
events meanwhile mike was quietly

153
00:05:18,790 --> 00:05:16,880
working along on getting set up to uh

154
00:05:21,189 --> 00:05:18,800
release those sarge covers to perform

155
00:05:25,990 --> 00:05:21,199
the sarge lubrication our plan was to

156
00:05:28,230 --> 00:05:26,000
release six covers three pairs of covers

157
00:05:30,629 --> 00:05:28,240
we've had some issues some history of

158
00:05:32,469 --> 00:05:30,639
issues with these bolts in the past

159
00:05:33,990 --> 00:05:32,479
but we thought we had worked through it

160
00:05:35,430 --> 00:05:34,000
and we discussed all the different

161
00:05:37,350 --> 00:05:35,440
training options in order to release

162
00:05:39,670 --> 00:05:37,360
these bolts successfully but mike

163
00:05:41,270 --> 00:05:39,680

started working on covers 16 and 17 and

164
00:05:43,350 --> 00:05:41,280
before we knew it knew it we started

165
00:05:45,909 --> 00:05:43,360
having issues with bolts

166
00:05:47,590 --> 00:05:45,919
and so in the end we ended up with cover

167
00:05:49,590 --> 00:05:47,600
17 um

168
00:05:51,270 --> 00:05:49,600
three of its four bolts that are captive

169
00:05:54,310 --> 00:05:51,280
should be captive to the cover we ended

170
00:05:56,390 --> 00:05:54,320
up those those bolts came came uncaptive

171
00:05:57,909 --> 00:05:56,400
and and mike was able to stow those in

172
00:06:00,230 --> 00:05:57,919
his trash bag which all crew members

173
00:06:02,070 --> 00:06:00,240
carry with them and then on cover 16 we

174
00:06:03,749 --> 00:06:02,080
lost one of those four bolts and that

175
00:06:06,550 --> 00:06:03,759
one was actually we lost that that

176
00:06:09,110 --> 00:06:06,560
overboard so i do have a

177
00:06:10,950 --> 00:06:09,120
sarge cover here

178
00:06:12,469 --> 00:06:10,960
to show so i'm looking at this area

179
00:06:15,110 --> 00:06:12,479
right here to see when we're talking

180
00:06:17,270 --> 00:06:15,120
about these bolts

181
00:06:19,110 --> 00:06:17,280
so we've got a this is an example of a

182
00:06:21,350 --> 00:06:19,120
double cover we have single covers and

183
00:06:23,830 --> 00:06:21,360
double covers so this is a double cover

184
00:06:25,990 --> 00:06:23,840
that has a total of six bolts so the

185
00:06:29,430 --> 00:06:26,000
bolt you can see has a has a spring

186
00:06:31,749 --> 00:06:29,440
fastener on it and then on the back side

187
00:06:33,990 --> 00:06:31,759
on the back side it has just a little

188
00:06:35,990 --> 00:06:34,000

washer and that's what helps keep the

189
00:06:37,749 --> 00:06:36,000
keep the bolt captive so we believe it

190
00:06:39,029 --> 00:06:37,759
was damaged to these washers so when

191
00:06:40,790 --> 00:06:39,039
mike was releasing these if these

192
00:06:42,790 --> 00:06:40,800
washers aren't engaged the bolt is

193
00:06:45,189 --> 00:06:42,800
essentially spring loaded to uh to pop

194
00:06:47,029 --> 00:06:45,199
off the cover so luckily mike was able

195
00:06:51,270 --> 00:06:47,039
to

196
00:06:52,390 --> 00:06:51,280
four released bolts so that so that was

197
00:06:53,749 --> 00:06:52,400
good

198
00:06:55,189 --> 00:06:53,759
um so

199
00:06:57,189 --> 00:06:55,199
so that then caused a lot of discussion

200
00:06:58,550 --> 00:06:57,199
on the ground about how do we proceed uh

201
00:07:00,870 --> 00:06:58,560
with releasing these covers do we

202
00:07:02,469 --> 00:07:00,880
attempt to release the remaining four

203
00:07:05,029 --> 00:07:02,479
covers that we still had to release and

204
00:07:06,870 --> 00:07:05,039
we ended up deciding that out of the two

205
00:07:09,110 --> 00:07:06,880
the four covers we had remaining we

206
00:07:11,430 --> 00:07:09,120
would release just one um from each of

207
00:07:14,469 --> 00:07:11,440
those pairs and press with doing the

208
00:07:16,070 --> 00:07:14,479
lubrication just under those covers and

209
00:07:18,070 --> 00:07:16,080
mike did report as he was releasing

210
00:07:19,510 --> 00:07:18,080
those the other the two remaining covers

211
00:07:22,469 --> 00:07:19,520
that we gave him a go to release that he

212
00:07:23,830 --> 00:07:22,479
had no issue the bolts felt uh

213
00:07:25,350 --> 00:07:23,840

felt nice and then he didn't have any

214
00:07:27,029 --> 00:07:25,360
problem with uh releasing those covers

215
00:07:28,950 --> 00:07:27,039
so we did not lose any other bolts for

216
00:07:30,309 --> 00:07:28,960
the remainder of the eva

217
00:07:31,909 --> 00:07:30,319
so while mike was working along with

218
00:07:33,909 --> 00:07:31,919
removing those covers and performing the

219
00:07:35,270 --> 00:07:33,919
lubrication once we were complete with

220
00:07:36,870 --> 00:07:35,280
the fill

221
00:07:39,029 --> 00:07:36,880
the per the procedure we were supposed

222
00:07:41,029 --> 00:07:39,039
to initially do our long 17-minute

223
00:07:42,950 --> 00:07:41,039
ammonia vent which does not have an

224
00:07:45,110 --> 00:07:42,960
eclipse constraint but our shorter vent

225
00:07:47,510 --> 00:07:45,120
the vent of the smaller eas jumpers

226
00:07:49,029 --> 00:07:47,520
which run out on p6 that does have an

227
00:07:51,110 --> 00:07:49,039
eclipse constraint so we were looking at

228
00:07:52,309 --> 00:07:51,120
the day night cycles and and calculating

229
00:07:53,909 --> 00:07:52,319
that on the ground and we realized it

230
00:07:55,350 --> 00:07:53,919
would be best to go ahead and flip the

231
00:07:57,029 --> 00:07:55,360
order of those vents and do the short

232
00:07:59,189 --> 00:07:57,039
vent first to put ourselves in a better

233
00:08:00,309 --> 00:07:59,199
posture the crew had trained this and

234
00:08:01,749 --> 00:08:00,319
we've trained this in neutral buoyancy

235
00:08:03,110 --> 00:08:01,759
lab and we've discussed this before so

236
00:08:04,550 --> 00:08:03,120
this was the right choice we were able

237
00:08:06,390 --> 00:08:04,560
to voice the words up to the crew to go

238
00:08:08,309 --> 00:08:06,400

ahead and swap the order of the vents

239
00:08:10,150 --> 00:08:08,319
and it was no issue so drew headed out

240
00:08:11,749 --> 00:08:10,160
board with the vent tools and set up for

241
00:08:13,749 --> 00:08:11,759
the three and a half minute ammonia

242
00:08:16,309 --> 00:08:13,759
event once he was complete with that he

243
00:08:19,110 --> 00:08:16,319
rerouted the vent tool line inboard and

244
00:08:21,029 --> 00:08:19,120
then set up for the longer 17-minute

245
00:08:23,430 --> 00:08:21,039
vent which involved some coordination

246
00:08:24,869 --> 00:08:23,440
with uh greg chambertov who was the task

247
00:08:27,350 --> 00:08:24,879
iv for today

248
00:08:28,790 --> 00:08:27,360
it was during that 17-minute vent

249
00:08:30,550 --> 00:08:28,800
we were able to see some downlink

250
00:08:32,149 --> 00:08:30,560
footage that there was quite a bit of

251
00:08:33,430 --> 00:08:32,159
ammonia as expected ammonia crystals

252
00:08:35,509 --> 00:08:33,440
coming out of the nozzle of the vent

253
00:08:38,949 --> 00:08:35,519
tool and drew was a good

254
00:08:40,709 --> 00:08:38,959
10 to 15 feet away from this area and he

255
00:08:42,949 --> 00:08:40,719
reported that you know a couple crystals

256
00:08:44,710 --> 00:08:42,959
kind of came in his general direction he

257
00:08:46,389 --> 00:08:44,720
was making his way inboard to get away

258
00:08:47,990 --> 00:08:46,399
from that nozzle and it was at that

259
00:08:50,389 --> 00:08:48,000
point in time that uh we declared that

260
00:08:51,990 --> 00:08:50,399
he had suspected contamination which per

261
00:08:53,030 --> 00:08:52,000
our flight rules which dictate how we

262
00:08:54,389 --> 00:08:53,040
run things

263
00:08:56,230 --> 00:08:54,399

just said that

264
00:08:58,070 --> 00:08:56,240
when he's in the vicinity of ammonia we

265
00:08:59,670 --> 00:08:58,080
have to protect consumables to go ahead

266
00:09:01,509 --> 00:08:59,680
and do a contamination test at the end

267
00:09:03,350 --> 00:09:01,519
of the eva

268
00:09:05,350 --> 00:09:03,360
so with that call the crew members uh

269
00:09:07,350 --> 00:09:05,360
proceeded on to they continued on with

270
00:09:09,670 --> 00:09:07,360
the sarge lube

271
00:09:11,750 --> 00:09:09,680
and once we were complete with the the

272
00:09:14,070 --> 00:09:11,760
longer vent drew worked on stowing the

273
00:09:16,310 --> 00:09:14,080
vent tool extender back in the uh back

274
00:09:17,590 --> 00:09:16,320
in its bag that it came out and uh mike

275
00:09:19,990 --> 00:09:17,600
worked on

276
00:09:21,509 --> 00:09:20,000
stowing the p3p4 jumper back in its

277
00:09:23,990 --> 00:09:21,519
location on the bulkhead where we found

278
00:09:26,070 --> 00:09:24,000
it at the beginning of eva 1. we cleaned

279
00:09:27,590 --> 00:09:26,080
up the work site verified that the sarge

280
00:09:29,269 --> 00:09:27,600
was ready for rotation and both crew

281
00:09:30,630 --> 00:09:29,279
members headed inboard it was at that

282
00:09:32,230 --> 00:09:30,640
time we started working on the ground

283
00:09:34,870 --> 00:09:32,240
with the falcon flight controller to go

284
00:09:36,949 --> 00:09:34,880
ahead and start rotating the sarge

285
00:09:39,350 --> 00:09:36,959
let's see drew headed off to reconfigure

286
00:09:41,350 --> 00:09:39,360
the home plate back by the ammonia tank

287
00:09:43,910 --> 00:09:41,360
assembly to allow it back into its vent

288
00:09:46,310 --> 00:09:43,920

location for a contingency operations

289
00:09:49,190 --> 00:09:46,320
and then drew worked with box who was

290
00:09:51,590 --> 00:09:49,200
flying the ssrms with dexter on the end

291
00:09:53,829 --> 00:09:51,600
of it to install a lens cover on the cla

292
00:09:56,230 --> 00:09:53,839
camera on the end effector and also to

293
00:09:58,070 --> 00:09:56,240
use the the straight nozzle grease gun

294
00:09:59,110 --> 00:09:58,080
to apply a coat of grease to the snares

295
00:10:00,389 --> 00:09:59,120
on the inside of the latching end

296
00:10:02,550 --> 00:10:00,399
effector

297
00:10:04,710 --> 00:10:02,560
that was going on spanky was able to

298
00:10:06,470 --> 00:10:04,720
successfully install the two grapple bar

299
00:10:08,710 --> 00:10:06,480
stowage beams out on the starboard side

300
00:10:10,310 --> 00:10:08,720
of the truss

301
00:10:12,310 --> 00:10:10,320
when we were complete with that task and

302
00:10:14,310 --> 00:10:12,320
the sarge was complete with its rotation

303
00:10:15,670 --> 00:10:14,320
both crew members headed out board and

304
00:10:17,030 --> 00:10:15,680
we had quite a bit of discussions on the

305
00:10:18,870 --> 00:10:17,040
ground but we felt it was you know the

306
00:10:20,310 --> 00:10:18,880
best course of action to continue on

307
00:10:21,829 --> 00:10:20,320
with the way we had things written in

308
00:10:23,990 --> 00:10:21,839
the timeline so both crew members worked

309
00:10:26,310 --> 00:10:24,000
together to perform the lubrication

310
00:10:27,670 --> 00:10:26,320
under those uh the the four covers that

311
00:10:29,829 --> 00:10:27,680
we had removed and then they worked

312
00:10:32,069 --> 00:10:29,839
together to reinstall three of the four

313
00:10:32,870 --> 00:10:32,079

covers and we opted since cover 17 only

314
00:10:34,870 --> 00:10:32,880
had

315
00:10:36,710 --> 00:10:34,880
one of its four bolts we require at

316
00:10:38,389 --> 00:10:36,720
least two bolts to be installed we opted

317
00:10:39,910 --> 00:10:38,399
to bring that cover inside so that we

318
00:10:41,110 --> 00:10:39,920
can look at it iva and see if there's a

319
00:10:43,190 --> 00:10:41,120
way that we can

320
00:10:44,550 --> 00:10:43,200
we can rig up the uh the bolts that were

321
00:10:46,470 --> 00:10:44,560
brought inside in the trash bag to

322
00:10:49,430 --> 00:10:46,480
possibly install this cover either

323
00:10:51,430 --> 00:10:49,440
possibly in our evas or in a future eva

324
00:10:53,590 --> 00:10:51,440
as this was as all these tasks were

325
00:10:55,750 --> 00:10:53,600
ongoing we are continuing to run what we

326
00:10:58,150 --> 00:10:55,760
call ammonia bake out calculators in the

327
00:11:00,389 --> 00:10:58,160
background which basically tell us

328
00:11:01,829 --> 00:11:00,399
we need to protect 15 minutes to have

329
00:11:03,829 --> 00:11:01,839
the crew members isolated inside the

330
00:11:05,910 --> 00:11:03,839
airlock at the end of the eva once we

331
00:11:07,430 --> 00:11:05,920
have an ammonia contamination incident

332
00:11:09,509 --> 00:11:07,440
to ensure that all the ammonia has

333
00:11:11,030 --> 00:11:09,519
sublimated off the crew members so we

334
00:11:12,949 --> 00:11:11,040
performed the visual inspection to

335
00:11:15,269 --> 00:11:12,959
verify there was no ammonia present on

336
00:11:17,190 --> 00:11:15,279
drew and then we continued to run that

337
00:11:19,030 --> 00:11:17,200
calculator in the background and like i

338
00:11:21,269 --> 00:11:19,040

said 15 minutes is a requirement and we

339
00:11:23,670 --> 00:11:21,279
had about an hour and a half equivalent

340
00:11:25,509 --> 00:11:23,680
time of that airlock bake out so we

341
00:11:27,430 --> 00:11:25,519
decided after much discussion on the

342
00:11:29,509 --> 00:11:27,440
ground between the flight director and

343
00:11:32,230 --> 00:11:29,519
the surgeon that the the right course of

344
00:11:33,910 --> 00:11:32,240
action was to uh to opt not to do the

345
00:11:35,670 --> 00:11:33,920
decontamination test at the end of the

346
00:11:37,509 --> 00:11:35,680
eva and we're all confident that that

347
00:11:38,870 --> 00:11:37,519
was the right answer so when we we

348
00:11:40,550 --> 00:11:38,880
voiced those words up to the crew that

349
00:11:42,230 --> 00:11:40,560
they could stand down from performing

350
00:11:43,750 --> 00:11:42,240
that contamination test at the end of

351
00:11:45,910 --> 00:11:43,760
the eva

352
00:11:47,509 --> 00:11:45,920
so once the crew was complete with the

353
00:11:49,509 --> 00:11:47,519
sarge cover installed they packed up the

354
00:11:51,190 --> 00:11:49,519
bags and they headed back to the work to

355
00:11:53,030 --> 00:11:51,200
back to the airlock and then we

356
00:11:54,710 --> 00:11:53,040
ingressed and closed the hatch like i

357
00:11:56,470 --> 00:11:54,720
said on an eight hour and seven minute

358
00:11:58,230 --> 00:11:56,480
eva

359
00:12:00,150 --> 00:11:58,240
that's all i have

360
00:12:01,350 --> 00:12:00,160
great so with that we'll start taking

361
00:12:03,190 --> 00:12:01,360
questions here at the johnson space

362
00:12:04,710 --> 00:12:03,200
center and we'll try to uh wrap it up in

363
00:12:05,990 --> 00:12:04,720

about 10 minutes so we can send it back

364
00:12:08,230 --> 00:12:06,000
to mission control for the change of

365
00:12:10,069 --> 00:12:08,240
command ceremony and we'll also go to

366
00:12:12,389 --> 00:12:10,079
the phone bridge but go ahead with your

367
00:12:14,710 --> 00:12:12,399
first question

368
00:12:16,629 --> 00:12:14,720
phillips lawson with nasaspaceflight.com

369
00:12:19,350 --> 00:12:16,639
for allison um

370
00:12:21,750 --> 00:12:19,360
what's the what's the plan for cover 17

371
00:12:24,389 --> 00:12:21,760
and is there any issue with leaving it

372
00:12:26,470 --> 00:12:24,399
off indefinitely

373
00:12:28,150 --> 00:12:26,480
so we have a pre-flight analysis that

374
00:12:29,750 --> 00:12:28,160
says we are good to leave actually it

375
00:12:31,829 --> 00:12:29,760
was all six covers we are good to leave

376
00:12:33,990 --> 00:12:31,839
those covers off between evas two and

377
00:12:36,150 --> 00:12:34,000
four and we only did the analysis for

378
00:12:37,990 --> 00:12:36,160
the docked mission so i'm sure they're

379
00:12:39,829 --> 00:12:38,000
looking at the possibility of leaving

380
00:12:41,430 --> 00:12:39,839
that cover off indefinitely and we're

381
00:12:50,069 --> 00:12:41,440
still discussing how how we're going to

382
00:12:55,590 --> 00:12:51,990
mark crowe aviation week i think for

383
00:12:58,389 --> 00:12:55,600
derrick do you do you know how often um

384
00:13:01,110 --> 00:12:58,399
you plan to lubricate the sarge joints

385
00:13:02,470 --> 00:13:01,120
is there a sort of schedule that you

386
00:13:03,750 --> 00:13:02,480
like to follow

387
00:13:04,790 --> 00:13:03,760
you can probably answer that one better

388
00:13:06,230 --> 00:13:04,800

than me

389
00:13:08,470 --> 00:13:06,240
i think uh currently they're

390
00:13:11,829 --> 00:13:08,480
recommending every five years we should

391
00:13:13,509 --> 00:13:11,839
re-lubricate the joint

392
00:13:15,829 --> 00:13:13,519
we were a little early on this one yes

393
00:13:17,430 --> 00:13:15,839
we were only about two and a half almost

394
00:13:19,990 --> 00:13:17,440
three years

395
00:13:21,910 --> 00:13:20,000
on this lube

396
00:13:23,590 --> 00:13:21,920
genus and syria abc news you talked

397
00:13:25,990 --> 00:13:23,600
about their the fact that they kept

398
00:13:28,470 --> 00:13:26,000
their metabolic rates low i mean is that

399
00:13:30,310 --> 00:13:28,480
something you train them to do or i mean

400
00:13:32,310 --> 00:13:30,320
because i would think mike fink was in a

401
00:13:34,790 --> 00:13:32,320
pretty stressful situation he was coping

402
00:13:36,870 --> 00:13:34,800
with it the best way that he could but

403
00:13:38,629 --> 00:13:36,880
his metabolic rate still stayed low so

404
00:13:40,310 --> 00:13:38,639
i'm just curious about that yeah and i

405
00:13:42,629 --> 00:13:40,320
think it's it's all about just your body

406
00:13:45,110 --> 00:13:42,639
and how how your body handles stress we

407
00:13:46,069 --> 00:13:45,120
do train the crew

408
00:13:48,629 --> 00:13:46,079
to

409
00:13:49,750 --> 00:13:48,639
you know not fight the suit and you know

410
00:13:52,069 --> 00:13:49,760
they learn these things in the neutral

411
00:13:53,829 --> 00:13:52,079
buoyancy lab to try to um

412
00:13:55,430 --> 00:13:53,839
you know to try to understand that you

413
00:13:56,310 --> 00:13:55,440

don't need a death grip out in space you

414
00:13:58,069 --> 00:13:56,320
know when you're translating on

415
00:13:59,990 --> 00:13:58,079
handrails you just need fingertip

416
00:14:00,870 --> 00:14:00,000
fingertip touch and so i think

417
00:14:02,470 --> 00:14:00,880
uh

418
00:14:04,230 --> 00:14:02,480
spanky or mike fink you know definitely

419
00:14:05,670 --> 00:14:04,240
knows how to operate in a suit since he

420
00:14:08,069 --> 00:14:05,680
has so much experience in the russian

421
00:14:08,949 --> 00:14:08,079
suit so i think that uh just combined

422
00:14:10,550 --> 00:14:08,959
with

423
00:14:12,550 --> 00:14:10,560
um

424
00:14:14,550 --> 00:14:12,560
just combined with their their

425
00:14:19,670 --> 00:14:14,560
bodies you know allows them both to have

426
00:14:22,949 --> 00:14:21,230
uh robert promo with

427
00:14:25,189 --> 00:14:22,959
collectspace.comandspace.com looking

428
00:14:27,269 --> 00:14:25,199
ahead to eba 3.

429
00:14:29,269 --> 00:14:27,279
do you have a plan for picking up the

430
00:14:31,430 --> 00:14:29,279
work from that was left over from eba

431
00:14:33,189 --> 00:14:31,440
one or how that's going to play out

432
00:14:36,069 --> 00:14:33,199
thanks

433
00:14:38,790 --> 00:14:36,079
i'll take that one too okay uh eva 3 10

434
00:14:40,069 --> 00:14:38,800
until right now we are looking at adding

435
00:14:43,110 --> 00:14:40,079
the task that we weren't able to

436
00:14:45,350 --> 00:14:43,120
complete on eva 1 in into approximately

437
00:14:46,790 --> 00:14:45,360
the middle of eva3 we're still working

438
00:14:48,310 --> 00:14:46,800

out the plans about what tasks are

439
00:14:51,110 --> 00:14:48,320
actually going to fall off

440
00:14:53,350 --> 00:14:51,120
but that we are working that

441
00:14:54,949 --> 00:14:53,360
we have another question here

442
00:14:56,310 --> 00:14:54,959
we'll go to the phone bridge next bill

443
00:14:58,150 --> 00:14:56,320
harwood please

444
00:14:59,990 --> 00:14:58,160
yeah thanks um for allison i was

445
00:15:01,990 --> 00:15:00,000
wondering uh what happened to the

446
00:15:03,750 --> 00:15:02,000
washers associated with those bolts that

447
00:15:06,069 --> 00:15:03,760
came loose it it sounded like they were

448
00:15:07,430 --> 00:15:06,079
captive within the panel but i wasn't

449
00:15:08,870 --> 00:15:07,440
sure and just for the record just making

450
00:15:10,310 --> 00:15:08,880
sure there wasn't any issue of debris

451
00:15:13,269 --> 00:15:10,320
getting inside

452
00:15:15,509 --> 00:15:13,279
the sarge uh at all thanks

453
00:15:17,750 --> 00:15:15,519
yeah i'm not quite sure in order for the

454
00:15:19,269 --> 00:15:17,760
bolt to release the washer would have to

455
00:15:21,189 --> 00:15:19,279
would have to be released from the bolt

456
00:15:23,350 --> 00:15:21,199
in order for in order for the bolt to

457
00:15:25,030 --> 00:15:23,360
come out the front side of the cover uh

458
00:15:27,509 --> 00:15:25,040
mike did report seeing one of those

459
00:15:29,350 --> 00:15:27,519
washers and kind of hovering between the

460
00:15:31,829 --> 00:15:29,360
cover and the sarge area and so we

461
00:15:35,269 --> 00:15:31,839
directed him to try to he ended up using

462
00:15:37,430 --> 00:15:35,279
a tool to kind of scoot that washer out

463
00:15:39,749 --> 00:15:37,440

of the area we didn't report we didn't

464
00:15:41,590 --> 00:15:39,759
hear any reports on the other the other

465
00:15:43,590 --> 00:15:41,600
washers that we lost so i'll be curious

466
00:15:44,550 --> 00:15:43,600
to see when they empty their trash bags

467
00:15:48,710 --> 00:15:44,560
tonight

468
00:15:52,150 --> 00:15:50,949
and marcia done please

469
00:15:53,829 --> 00:15:52,160
yes hi

470
00:15:55,509 --> 00:15:53,839
again for allison

471
00:15:57,350 --> 00:15:55,519
the two covers that you weren't able to

472
00:15:59,189 --> 00:15:57,360
remove um

473
00:16:02,389 --> 00:15:59,199
when are you going to get around to

474
00:16:04,629 --> 00:16:02,399
lubricating under those two areas

475
00:16:07,030 --> 00:16:04,639
i think we're still assessing the the

476
00:16:09,030 --> 00:16:07,040
plan right now i think definitely not

477
00:16:11,189 --> 00:16:09,040
during this mission uh they're going to

478
00:16:12,790 --> 00:16:11,199
evaluate if the lubrication that we

479
00:16:16,389 --> 00:16:12,800
applied under these four covers is

480
00:16:19,670 --> 00:16:16,399
sufficient to count as a as a re-lube so

481
00:16:22,069 --> 00:16:19,680
those discussions are ongoing right now

482
00:16:23,509 --> 00:16:22,079
i just wanted to clarify so did mike uh

483
00:16:25,749 --> 00:16:23,519
think indeed

484
00:16:27,430 --> 00:16:25,759
was he able to scoot that washer out of

485
00:16:29,030 --> 00:16:27,440
the area because i was listening and i

486
00:16:31,269 --> 00:16:29,040
really didn't hear him really follow up

487
00:16:32,470 --> 00:16:31,279
on that

488
00:16:34,470 --> 00:16:32,480

you're right we gave him the

489
00:16:35,910 --> 00:16:34,480
instructions to use a gentle backhand

490
00:16:37,189 --> 00:16:35,920
sweeping motion

491
00:16:39,030 --> 00:16:37,199
to get the washer out of the way and he

492
00:16:40,629 --> 00:16:39,040
said he would try to use a pit pin

493
00:16:42,310 --> 00:16:40,639
on the end of his tether but yeah we did

494
00:16:43,670 --> 00:16:42,320
not hear we did we didn't have a video

495
00:16:45,350 --> 00:16:43,680
at the time and we also didn't hear if

496
00:16:47,350 --> 00:16:45,360
he completed it but i would trust that

497
00:16:49,590 --> 00:16:47,360
he understands how sensitive that sarge

498
00:16:51,430 --> 00:16:49,600
hardware is so he would do everything in

499
00:16:53,110 --> 00:16:51,440
his power in order to to ensure that the

500
00:16:54,389 --> 00:16:53,120
washer would would not get tangled in

501
00:16:55,910 --> 00:16:54,399
the sarge

502
00:16:59,269 --> 00:16:55,920
thank you

503
00:17:00,790 --> 00:16:59,279
and next on the line is james dean

504
00:17:01,990 --> 00:17:00,800
hi thank you james dean with florida

505
00:17:02,870 --> 00:17:02,000
today i just had a couple questions

506
00:17:05,429 --> 00:17:02,880
first

507
00:17:08,470 --> 00:17:05,439
i just wondered if i guess that bolt was

508
00:17:10,230 --> 00:17:08,480
seen by the the crew pretty um pretty

509
00:17:11,270 --> 00:17:10,240
easily and just wondered is that

510
00:17:13,270 --> 00:17:11,280
something that

511
00:17:15,990 --> 00:17:13,280
can be actually tracked or is it too

512
00:17:17,510 --> 00:17:16,000
small or is it kind of where that is and

513
00:17:19,270 --> 00:17:17,520

where it's going

514
00:17:20,789 --> 00:17:19,280
and then secondly i just want to ask you

515
00:17:22,549 --> 00:17:20,799
i i just want to confirm i guess it was

516
00:17:23,350 --> 00:17:22,559
four bolts that

517
00:17:24,870 --> 00:17:23,360
mike

518
00:17:27,110 --> 00:17:24,880
caught and i just wondered if you could

519
00:17:28,870 --> 00:17:27,120
speak to as you mentioned about working

520
00:17:30,470 --> 00:17:28,880
in a suit how

521
00:17:31,590 --> 00:17:30,480
i would imagine very difficult it would

522
00:17:34,230 --> 00:17:31,600
be to

523
00:17:36,150 --> 00:17:34,240
catch a small screw with a bulky

524
00:17:37,669 --> 00:17:36,160
spaceship glove

525
00:17:39,590 --> 00:17:37,679
and in terms of tracking the bolt it's

526
00:17:41,430 --> 00:17:39,600
likely that it it's small enough that it

527
00:17:43,029 --> 00:17:41,440
won't be tracked but based on the report

528
00:17:44,630 --> 00:17:43,039
from the crew on the trajectory and the

529
00:17:46,870 --> 00:17:44,640
velocity we don't expect it to be a

530
00:17:49,029 --> 00:17:46,880
problem

531
00:17:51,669 --> 00:17:49,039
and we did end up losing yeah we lost a

532
00:17:54,470 --> 00:17:51,679
total of released a total of four bolts

533
00:17:56,230 --> 00:17:54,480
from the sarge cover and and spanky was

534
00:17:57,830 --> 00:17:56,240
able to catch three of those

535
00:17:59,510 --> 00:17:57,840
and yeah that's probably about the

536
00:18:01,430 --> 00:17:59,520
extent of what you can catch an emu

537
00:18:06,230 --> 00:18:01,440
glove would be a be about a one inch

538
00:18:12,230 --> 00:18:08,630

okay thank you okay are there any

539
00:18:16,150 --> 00:18:14,230
seeing them then we will go back to

540
00:18:17,750 --> 00:18:16,160
mission control shortly here the change

541
00:18:20,549 --> 00:18:17,760
of command ceremony is scheduled to take

542
00:18:23,029 --> 00:18:20,559
place at 10 31 a.m central time uh with

543
00:18:24,870 --> 00:18:23,039
the station commanders and then the crew

544
00:18:26,789 --> 00:18:24,880
members will wrap up their day flight

545
00:18:29,590 --> 00:18:26,799
day highlights for a flight day 7 will

546
00:18:31,270 --> 00:18:29,600
begin airing at 1 pm central time

547
00:18:34,710 --> 00:18:31,280
the international space station flight

548
00:18:36,630 --> 00:18:34,720
director update is at 5 45 pm and also

549
00:18:38,789 --> 00:18:36,640
there's an educational event following

550
00:18:41,029 --> 00:18:38,799
the next crew wake up

551
00:18:42,710 --> 00:18:41,039
the crew wake up visit 7 56 p.m and then

552
00:18:44,950 --> 00:18:42,720
the educational event with the mesa

553
00:18:47,590 --> 00:18:44,960
verde elementary school in tucson is at

554
00:18:48,630 --> 00:18:47,600
9 45 pm this evening so with that we'll