



1
00:00:04,309 --> 00:00:02,629
and good day once again and uh welcome

2
00:00:05,749 --> 00:00:04,319
back into the international space

3
00:00:07,349 --> 00:00:05,759
station flight control room here at the

4
00:00:09,430 --> 00:00:07,359
johnson space center in houston we've

5
00:00:11,910 --> 00:00:09,440
extended our space station live

6
00:00:14,150 --> 00:00:11,920
broadcast for the day a few minutes a

7
00:00:16,150 --> 00:00:14,160
busy man has joined us today he is the

8
00:00:18,230 --> 00:00:16,160
lead flight director for expedition 38

9
00:00:20,310 --> 00:00:18,240
judd freeling thanks for

10
00:00:22,070 --> 00:00:20,320
being with us today you just literally

11
00:00:24,070 --> 00:00:22,080
walked out of the international space

12
00:00:26,390 --> 00:00:24,080
station mission management team meeting

13
00:00:28,150 --> 00:00:26,400

how did all of that discussion go and

14

00:00:30,470 --> 00:00:28,160

how were we looking for the start of the

15

00:00:32,150 --> 00:00:30,480

spacewalk on tuesday morning yes the

16

00:00:34,709 --> 00:00:32,160

discussion went great uh we're looking

17

00:00:37,110 --> 00:00:34,719

uh we give a go for the uh the next eva

18

00:00:39,110 --> 00:00:37,120

that's tomorrow morning uh so that's uh

19

00:00:41,670 --> 00:00:39,120

we're all ready to go

20

00:00:43,990 --> 00:00:41,680

okay so let's uh take a look at the last

21

00:00:46,950 --> 00:00:44,000

48 hours here the first spacewalk the

22

00:00:48,229 --> 00:00:46,960

crew worked extremely efficiently

23

00:00:50,310 --> 00:00:48,239

basically

24

00:00:52,389 --> 00:00:50,320

knocked off the first two hours of what

25

00:00:54,389 --> 00:00:52,399

had been planned for the second

26

00:00:56,709 --> 00:00:54,399

spacewalk and

27

00:00:58,549 --> 00:00:56,719

they're back in the airlock and

28

00:01:00,310 --> 00:00:58,559

take us walk us through what happened

29

00:01:02,709 --> 00:01:00,320

back in the quest airlock at the end of

30

00:01:04,310 --> 00:01:02,719

saturday's spacewalk and uh the

31

00:01:05,590 --> 00:01:04,320

resulting activities over the past

32

00:01:07,109 --> 00:01:05,600

couple of days

33

00:01:08,469 --> 00:01:07,119

yeah so uh

34

00:01:10,950 --> 00:01:08,479

we uh

35

00:01:13,429 --> 00:01:10,960

we we intend for at the end of the eva

36

00:01:15,270 --> 00:01:13,439

to kind of clean up the eva

37

00:01:16,870 --> 00:01:15,280

and uh

38

00:01:21,109 --> 00:01:16,880

at the end of that

39

00:01:23,429 --> 00:01:21,119

we we pressurized the the airlock

40

00:01:25,590 --> 00:01:23,439

and uh once we did that we had an

41

00:01:29,030 --> 00:01:25,600

inadvertent switch throw that turned

42

00:01:32,789 --> 00:01:29,040

some water on to go to one of the suits

43

00:01:34,390 --> 00:01:32,799

and uh that intervention switch throw

44

00:01:37,190 --> 00:01:34,400

made us question whether or not we got

45

00:01:39,830 --> 00:01:37,200

some water in the sublimator module of

46

00:01:41,910 --> 00:01:39,840

one of those suits so while it was uh at

47

00:01:44,630 --> 00:01:41,920

uh at pressure

48

00:01:46,870 --> 00:01:44,640

uh so the reason that's uh not such a

49

00:01:49,109 --> 00:01:46,880

good thing is that uh we expect water to

50

00:01:51,830 --> 00:01:49,119

go in the sublimator uh

51
00:01:53,030 --> 00:01:51,840
when when we're at vacuum of the uh the

52
00:01:55,590 --> 00:01:53,040
airlock

53
00:01:57,830 --> 00:01:55,600
uh and that that the act of the water

54
00:02:00,389 --> 00:01:57,840
going in the sublimator actually is what

55
00:02:01,990 --> 00:02:00,399
creates a an ice brick on the submariner

56
00:02:04,709 --> 00:02:02,000
and allows us to

57
00:02:07,270 --> 00:02:04,719
reject heat on the suits once they go

58
00:02:09,589 --> 00:02:07,280
out eva

59
00:02:11,670 --> 00:02:09,599
when when water gets in that sublimator

60
00:02:14,229 --> 00:02:11,680
at uh at pressure

61
00:02:17,430 --> 00:02:14,239
uh there's a there's a chance that uh

62
00:02:19,589 --> 00:02:17,440
the once we go back to vacuum again

63
00:02:21,589 --> 00:02:19,599

that that water will freeze

64

00:02:23,110 --> 00:02:21,599

in kind of an incorrect place in the

65

00:02:24,949 --> 00:02:23,120

subtle manner and kind of

66

00:02:28,949 --> 00:02:24,959

let it expand

67

00:02:29,670 --> 00:02:28,959

out and and bowed the sublimator so

68

00:02:30,790 --> 00:02:29,680

so

69

00:02:32,309 --> 00:02:30,800

because

70

00:02:35,350 --> 00:02:32,319

there's a there was a question about

71

00:02:38,070 --> 00:02:35,360

whether we had uh liquid water in that

72

00:02:40,630 --> 00:02:38,080

sublimator that suit 3010

73

00:02:43,830 --> 00:02:40,640

which was rick suit

74

00:02:47,350 --> 00:02:43,840

we we had to call that suit no go

75

00:02:50,309 --> 00:02:47,360

okay now in calling it no go that uh

76

00:02:52,390 --> 00:02:50,319

necessitated a discussion about uh how

77

00:02:55,030 --> 00:02:52,400

much time it would take to get another

78

00:02:57,990 --> 00:02:55,040

suit ready to go and that's what led us

79

00:03:00,229 --> 00:02:58,000

from a monday spacewalk today through to

80

00:03:02,630 --> 00:03:00,239

a tuesday spacewalk so what has the crew

81

00:03:04,390 --> 00:03:02,640

been doing now to prepare for that and

82

00:03:06,869 --> 00:03:04,400

what did they do back uh i guess

83

00:03:07,990 --> 00:03:06,879

yesterday on sunday in order to get the

84

00:03:09,190 --> 00:03:08,000

ball rolling

85

00:03:11,270 --> 00:03:09,200

right so

86

00:03:13,830 --> 00:03:11,280

we had already planned for them on

87

00:03:17,270 --> 00:03:13,840

sunday to to have a jam-packed day

88

00:03:18,949 --> 00:03:17,280

of activities scrubbing their suits

89

00:03:21,589 --> 00:03:18,959

scrubbing the water within their suits

90

00:03:23,589 --> 00:03:21,599

and and various other cleanup activities

91

00:03:26,390 --> 00:03:23,599

to get them ready for an eva that would

92

00:03:28,710 --> 00:03:26,400

have been on monday uh so because uh we

93

00:03:30,789 --> 00:03:28,720

had to call this suit uh the 3010 rick

94

00:03:32,550 --> 00:03:30,799

suit no go

95

00:03:35,430 --> 00:03:32,560

that means we we kind of have to do a

96

00:03:38,550 --> 00:03:35,440

suit shuffle and we we we shuffled the

97

00:03:42,470 --> 00:03:38,560

suits around such that uh we can get uh

98

00:03:45,750 --> 00:03:42,480

our backup suit which is a 3005 resized

99

00:03:52,309 --> 00:03:49,030

the way it works out is that uh 3005 uh

100

00:03:54,630 --> 00:03:52,319

has a an upper torso unit on it

101
00:03:56,630 --> 00:03:54,640
uh that would only fit uh mike

102
00:03:58,229 --> 00:03:56,640
and so we have to give that one to mike

103
00:04:00,789 --> 00:03:58,239
and we have to take the the one that

104
00:04:03,030 --> 00:04:00,799
mike was using uh in this this previous

105
00:04:04,789 --> 00:04:03,040
eva and give that to rick so so we

106
00:04:06,309 --> 00:04:04,799
basically have to to resize both of

107
00:04:07,910 --> 00:04:06,319
those suits

108
00:04:10,070 --> 00:04:07,920
sort of a tailoring nightmare if you

109
00:04:13,110 --> 00:04:10,080
went into a department store to get the

110
00:04:14,789 --> 00:04:13,120
right fit right now the suit that rick

111
00:04:17,189 --> 00:04:14,799
wore on saturday that's been in the

112
00:04:19,749 --> 00:04:17,199
process of drying out uh there is a full

113
00:04:21,749 --> 00:04:19,759

expectation that uh it will be back in

114

00:04:24,230 --> 00:04:21,759

service in the not too distant future

115

00:04:25,990 --> 00:04:24,240

right absolutely uh the the concern

116

00:04:27,270 --> 00:04:26,000

would only be if if there was water in

117

00:04:29,430 --> 00:04:27,280

this sublimator

118

00:04:30,550 --> 00:04:29,440

when we returned it to vacuum and so so

119

00:04:32,950 --> 00:04:30,560

obviously we're going to we're going to

120

00:04:34,550 --> 00:04:32,960

dry that that out properly and it'll

121

00:04:35,350 --> 00:04:34,560

probably take on the order of a week or

122

00:04:37,510 --> 00:04:35,360

so

123

00:04:39,350 --> 00:04:37,520

to get that properly dried out but but

124

00:04:42,629 --> 00:04:39,360

there's there's no expectation that that

125

00:04:44,230 --> 00:04:42,639

suit will be no go indefinitely it

126

00:04:47,189 --> 00:04:44,240

we believe once we get that sublater

127

00:04:47,990 --> 00:04:47,199

dried out it'll be ready to go for eva

128

00:04:49,990 --> 00:04:48,000

and

129

00:04:52,070 --> 00:04:50,000

just to be clear for our viewing

130

00:04:55,110 --> 00:04:52,080

audience and our listening audience

131

00:04:57,590 --> 00:04:55,120

the suits that they wore on saturday

132

00:05:00,390 --> 00:04:57,600

function perfectly bone dry right yeah

133

00:05:02,629 --> 00:05:00,400

they they worked worked as expected as

134

00:05:03,430 --> 00:05:02,639

we expect the suits tomorrow to do as

135

00:05:06,070 --> 00:05:03,440

well

136

00:05:07,830 --> 00:05:06,080

what was the philosophy uh now in

137

00:05:10,070 --> 00:05:07,840

putting hopkins at the end of the robot

138

00:05:11,990 --> 00:05:10,080

arm for the second eva and basically

139

00:05:13,749 --> 00:05:12,000

switching their designations ev one and

140

00:05:16,790 --> 00:05:13,759

two which gets into a little bit of a

141

00:05:19,670 --> 00:05:16,800

confusing procedural and paper trail

142

00:05:23,270 --> 00:05:19,680

right uh so we had originally planned

143

00:05:25,909 --> 00:05:23,280

since since mike is is uh is uh or was

144

00:05:29,749 --> 00:05:25,919

before this this eva uh the other day uh

145

00:05:31,670 --> 00:05:29,759

first time uh uh eva guy um we planned

146

00:05:33,110 --> 00:05:31,680

to give him some experience uh out on

147

00:05:36,310 --> 00:05:33,120

the robotic arm

148

00:05:38,550 --> 00:05:36,320

on eva number three or eva 26 as it

149

00:05:40,550 --> 00:05:38,560

would have been called um

150

00:05:42,790 --> 00:05:40,560

because it's it's apparent now that that

151

00:05:44,790 --> 00:05:42,800

we'll be able to uh to get most of our

152

00:05:46,629 --> 00:05:44,800

uh most all of our critical objectives

153

00:05:48,230 --> 00:05:46,639

done on our next dva which is going to

154

00:05:50,629 --> 00:05:48,240

be tomorrow

155

00:05:52,550 --> 00:05:50,639

um there was some thought from from both

156

00:05:54,390 --> 00:05:52,560

the crew and the ground here that it

157

00:05:56,629 --> 00:05:54,400

would be good to to get mike some some

158

00:05:58,629 --> 00:05:56,639

experience flying in the arm

159

00:05:59,590 --> 00:05:58,639

and so uh so we went ahead and swapped

160

00:06:02,150 --> 00:05:59,600

rolls

161

00:06:03,830 --> 00:06:02,160

uh between the crew members so so mike's

162

00:06:05,990 --> 00:06:03,840

going to be out on the arm on this eva

163

00:06:07,270 --> 00:06:06,000

and and rick's going to be out

164

00:06:08,390 --> 00:06:07,280

free floating

165

00:06:10,230 --> 00:06:08,400

um

166

00:06:11,830 --> 00:06:10,240

we we are still going to retain the

167

00:06:13,749 --> 00:06:11,840

designation rick is still going to be

168

00:06:15,990 --> 00:06:13,759

designated ev1

169

00:06:18,550 --> 00:06:16,000

uh and and mike's going to be designated

170

00:06:20,309 --> 00:06:18,560

ev2 meaning rick is the the lead

171

00:06:21,670 --> 00:06:20,319

spacewalker

172

00:06:23,670 --> 00:06:21,680

but uh

173

00:06:25,670 --> 00:06:23,680

for our kind of ground procedures down

174

00:06:28,469 --> 00:06:25,680

here we we basically kind of have to

175

00:06:31,590 --> 00:06:28,479

scratch out ev1 and 2 and reverse those

176
00:06:33,590 --> 00:06:31,600
as to because fundamentally mike's doing

177
00:06:35,590 --> 00:06:33,600
the role that

178
00:06:36,950 --> 00:06:35,600
would have we we had bookmarked for for

179
00:06:38,309 --> 00:06:36,960
ev1

180
00:06:39,909 --> 00:06:38,319
and for the media out there don't be

181
00:06:42,150 --> 00:06:39,919
confused i'll try to explain this

182
00:06:43,830 --> 00:06:42,160
tomorrow during the spacewalk as i said

183
00:06:45,909 --> 00:06:43,840
a little a little bit of a paper trail

184
00:06:47,029 --> 00:06:45,919
to to try to follow along during the

185
00:06:49,670 --> 00:06:47,039
spacewalk

186
00:06:51,510 --> 00:06:49,680
why only two evas now is it because we

187
00:06:53,749 --> 00:06:51,520
got so far ahead of the timeline on

188
00:06:55,670 --> 00:06:53,759

saturday and you this is an eva

189

00:06:57,189 --> 00:06:55,680

smorgasbord week with the russians

190

00:06:59,670 --> 00:06:57,199

looming on the horizon at the end of the

191

00:07:01,830 --> 00:06:59,680

week how is it all going to fit yeah so

192

00:07:04,150 --> 00:07:01,840

um based on our experience from the

193

00:07:05,990 --> 00:07:04,160

previous time we did this pump rnr we

194

00:07:08,309 --> 00:07:06,000

had a lot of problems with the quick

195

00:07:10,710 --> 00:07:08,319

disconnect connectors on the uh the the

196

00:07:14,629 --> 00:07:10,720

pump module itself and so we booked but

197

00:07:16,950 --> 00:07:14,639

kept a lot of time uh on this eva uh on

198

00:07:19,350 --> 00:07:16,960

saturday to uh for the crew to be able

199

00:07:21,029 --> 00:07:19,360

to manipulate those uh quick disconnect

200

00:07:23,589 --> 00:07:21,039

uh qd's

201

00:07:25,990 --> 00:07:23,599

uh that went very well and so it it it

202

00:07:27,749 --> 00:07:26,000

took no time at all for them to to

203

00:07:31,670 --> 00:07:27,759

to be able to manipulate those quick

204

00:07:33,670 --> 00:07:31,680

disconnects and so uh as as we prepared

205

00:07:36,390 --> 00:07:33,680

for we were we were ready for them to do

206

00:07:37,990 --> 00:07:36,400

other tasks which basically were the

207

00:07:39,990 --> 00:07:38,000

first half of the task that we'd

208

00:07:43,830 --> 00:07:40,000

originally planned for for for the

209

00:07:47,029 --> 00:07:43,840

second eva uh so we we basically got uh

210

00:07:48,309 --> 00:07:47,039

eba and a half worth of activities done

211

00:07:50,869 --> 00:07:48,319

on saturday

212

00:07:53,029 --> 00:07:50,879

very good and as all of this activity is

213

00:07:55,270 --> 00:07:53,039

ongoing earlier today uh station

214

00:07:57,270 --> 00:07:55,280

commander alec kotov and sergey

215

00:08:00,230 --> 00:07:57,280

ryazanskiy the flight engineer they were

216

00:08:01,670 --> 00:08:00,240

in their spacesuits the oral on suits in

217

00:08:03,350 --> 00:08:01,680

the piers docking compartment getting

218

00:08:05,270 --> 00:08:03,360

ready for their excursion on friday

219

00:08:06,469 --> 00:08:05,280

coming up right absolutely yeah they

220

00:08:09,189 --> 00:08:06,479

they have a

221

00:08:11,510 --> 00:08:09,199

a spacewalk out of the russian segment

222

00:08:13,029 --> 00:08:11,520

on friday that they

223

00:08:14,629 --> 00:08:13,039

they were getting ready for uh this

224

00:08:16,710 --> 00:08:14,639

morning

225

00:08:18,150 --> 00:08:16,720

christmas what a week what a couple of

226

00:08:20,550 --> 00:08:18,160

weeks this has been

227

00:08:23,189 --> 00:08:20,560

so to set the stage

228

00:08:24,869 --> 00:08:23,199

koichi wakata was involved in robotics

229

00:08:27,189 --> 00:08:24,879

conferences today uh the two space

230

00:08:29,670 --> 00:08:27,199

spacewalkers mastracchio and hopkins did

231

00:08:31,270 --> 00:08:29,680

a procedures review earlier today the

232

00:08:33,670 --> 00:08:31,280

stage is set for the second of these

233

00:08:36,230 --> 00:08:33,680

spacewalks to complete the work uh to

234

00:08:39,029 --> 00:08:36,240

replace this uh pump module and get the

235

00:08:41,269 --> 00:08:39,039

station back to full cooling capability

236

00:08:43,029 --> 00:08:41,279

spacewalk scheduled to begin at 6 10 a.m

237

00:08:45,990 --> 00:08:43,039

central time on tuesday we'll be on the

238

00:08:48,630 --> 00:08:46,000

air with our live coverage at 5 15 a.m

239

00:08:49,829 --> 00:08:48,640

central time on tuesday judd freeling