

Johnson Sp...



1
00:00:04,950 --> 00:00:03,110
good afternoon and welcome back to the

2
00:00:06,789 --> 00:00:04,960
johnson space center for today's mission

3
00:00:09,030 --> 00:00:06,799
status briefing on atlantis flight to

4
00:00:11,350 --> 00:00:09,040
the international space station another

5
00:00:13,589 --> 00:00:11,360
day another eva and with us today to

6
00:00:15,350 --> 00:00:13,599
discuss the day's activities are emily

7
00:00:18,230 --> 00:00:15,360
nelson the lead international space

8
00:00:20,150 --> 00:00:18,240
station flight director for sts-132

9
00:00:21,830 --> 00:00:20,160
and lisa shore the lead spacewalk

10
00:00:24,470 --> 00:00:21,840
officer for the mission and we'll start

11
00:00:27,830 --> 00:00:24,480
off with emily thanks rob

12
00:00:29,189 --> 00:00:27,840
well today was obviously eva 2 we headed

13
00:00:30,710 --> 00:00:29,199

out the door a little more than 30

14

00:00:32,630 --> 00:00:30,720

minutes ahead of the timeline and that's

15

00:00:35,030 --> 00:00:32,640

after we shifted the entire timeline 30

16

00:00:36,709 --> 00:00:35,040

minutes early to try to get a jump start

17

00:00:38,709 --> 00:00:36,719

on the overall sleep shift we have to do

18

00:00:41,830 --> 00:00:38,719

for the mission in order to have the

19

00:00:43,910 --> 00:00:41,840

crew awake at the right time for landing

20

00:00:45,990 --> 00:00:43,920

we ran a little long with the eva so we

21

00:00:48,389 --> 00:00:46,000

ended up coming inside right on time so

22

00:00:49,430 --> 00:00:48,399

we're back on our our timeline at this

23

00:00:52,310 --> 00:00:49,440

point

24

00:00:53,350 --> 00:00:52,320

the tasks that we were doing

25

00:01:00,470 --> 00:00:53,360

the

26

00:01:02,389 --> 00:01:00,480

truss

27

00:01:04,149 --> 00:01:02,399

these were really hard ahead of time

28

00:01:06,390 --> 00:01:04,159

pre-flight for us to judge exactly how

29

00:01:08,190 --> 00:01:06,400

long they were going to take based on

30

00:01:10,310 --> 00:01:08,200

a lot of the lessons learned we had with

31

00:01:12,390 --> 00:01:10,320

sts-127s experience

32

00:01:13,750 --> 00:01:12,400

and what we learned from that what we

33

00:01:15,910 --> 00:01:13,760

learned from our training on the ground

34

00:01:18,070 --> 00:01:15,920

it was difficult to tell how how well

35

00:01:21,190 --> 00:01:18,080

these were going to go so we had book

36

00:01:23,429 --> 00:01:21,200

kept three battery installations today

37

00:01:25,270 --> 00:01:23,439

we managed to get far enough ahead that

38

00:01:27,030 --> 00:01:25,280

we went for a fourth battery so we're

39

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

ahead for tomorrow for

40

00:01:31,350 --> 00:01:29,840

the last eva of this mission

41

00:01:33,749 --> 00:01:31,360

before we even got to the batteries

42

00:01:36,230 --> 00:01:33,759

though we had the cable issue with the

43

00:01:38,550 --> 00:01:36,240

camera on the orbiter boom we

44

00:01:40,630 --> 00:01:38,560

started the eva with this task steve

45

00:01:42,870 --> 00:01:40,640

stopped off at about the midpoint of the

46

00:01:44,950 --> 00:01:42,880

truss jumped in a foot restraint we

47

00:01:46,389 --> 00:01:44,960

brought the camera over to him tony did

48

00:01:49,510 --> 00:01:46,399

and

49

00:01:51,429 --> 00:01:49,520

he plucked the cable out of the

50

00:01:54,789 --> 00:01:51,439

location where it was stuck near a hard

51
00:01:55,910 --> 00:01:54,799
stop tie wrapped it to itself and a

52
00:01:57,590 --> 00:01:55,920
quick check out of the camera

53
00:01:59,030 --> 00:01:57,600
demonstrated that that was sufficient to

54
00:02:00,630 --> 00:01:59,040
give us full functionality of that

55
00:02:03,030 --> 00:02:00,640
camera back so

56
00:02:05,670 --> 00:02:03,040
the orbiter boom is back in a good

57
00:02:08,790 --> 00:02:07,350
then we went into the batteries we

58
00:02:11,990 --> 00:02:08,800
finished up the batteries and cleaned up

59
00:02:14,150 --> 00:02:12,000
the work site quickly enough that

60
00:02:15,750 --> 00:02:14,160
we were able to give a go for them to go

61
00:02:18,070 --> 00:02:15,760
back to the antenna that we were trying

62
00:02:19,589 --> 00:02:18,080
to work on on eva one and they managed

63
00:02:22,710 --> 00:02:19,599

to fix that as well

64

00:02:24,869 --> 00:02:22,720

so we had a really successful eva today

65

00:02:26,710 --> 00:02:24,879

we're all incredibly excited i don't

66

00:02:27,830 --> 00:02:26,720

think mission control could be any more

67

00:02:28,710 --> 00:02:27,840

proud

68

00:02:30,309 --> 00:02:28,720

and

69

00:02:32,070 --> 00:02:30,319

inside the station tj was working on

70

00:02:34,470 --> 00:02:32,080

some maintenance of our oxygen

71

00:02:36,470 --> 00:02:34,480

generation system soichi was working on

72

00:02:39,190 --> 00:02:36,480

a lot of of water samples and science

73

00:02:40,390 --> 00:02:39,200

and and tc was uh tracy was working on

74

00:02:42,710 --> 00:02:40,400

getting the crew out the door and back

75

00:02:44,869 --> 00:02:42,720

in again so the whole crew was was was

76
00:02:46,550 --> 00:02:44,879
real busy today and and it was a really

77
00:02:48,390 --> 00:02:46,560
successful day

78
00:02:50,710 --> 00:02:48,400
tomorrow the

79
00:02:53,830 --> 00:02:50,720
both crews have fairly light days the

80
00:02:55,110 --> 00:02:53,840
shuttle crew will be working on

81
00:02:56,710 --> 00:02:55,120
transfer mostly in the morning and then

82
00:02:59,110 --> 00:02:56,720
they'll have the afternoon off and the

83
00:03:00,550 --> 00:02:59,120
station crew will be working on some

84
00:03:02,470 --> 00:03:00,560
science some transfer and some

85
00:03:04,710 --> 00:03:02,480
maintenance activities as well

86
00:03:07,110 --> 00:03:04,720
and that will set us up in preparation

87
00:03:07,990 --> 00:03:07,120
for a very busy day on eba 3 flight day

88
00:03:10,710 --> 00:03:08,000

8.

89

00:03:12,550 --> 00:03:10,720

and that about sums it up

90

00:03:13,910 --> 00:03:12,560

lisa

91

00:03:15,830 --> 00:03:13,920

thank you

92

00:03:17,589 --> 00:03:15,840

as emily said i mean today was just an

93

00:03:19,750 --> 00:03:17,599

incredible incredible

94

00:03:21,430 --> 00:03:19,760

we accomplished more than we ever hoped

95

00:03:23,270 --> 00:03:21,440

going out the door

96

00:03:26,390 --> 00:03:23,280

it's also a tribute to

97

00:03:28,149 --> 00:03:26,400

just how hard our crews train and how

98

00:03:31,030 --> 00:03:28,159

well the ground and the

99

00:03:33,509 --> 00:03:31,040

on-orbit teams work together

100

00:03:35,110 --> 00:03:33,519

going out the doors emily said

101

00:03:38,229 --> 00:03:35,120

we had altered our timeline to have

102

00:03:40,869 --> 00:03:38,239

steve uh go out and pluck the cable and

103

00:03:43,110 --> 00:03:40,879

wire tie it back to itself on the boom

104

00:03:44,710 --> 00:03:43,120

in order for that to happen and keep the

105

00:03:46,470 --> 00:03:44,720

eva moving

106

00:03:49,270 --> 00:03:46,480

we still wanted to

107

00:03:51,750 --> 00:03:49,280

get a jump on our p6 battery prep so

108

00:03:53,190 --> 00:03:51,760

bueno went ahead and headed out to the

109

00:03:55,110 --> 00:03:53,200

p6 truss

110

00:03:57,190 --> 00:03:55,120

and performed tasks that nominally would

111

00:03:58,550 --> 00:03:57,200

have been steve's so

112

00:04:01,190 --> 00:03:58,560

the cross training that we did through

113

00:04:03,110 --> 00:04:01,200

our training flow just paid off there

114

00:04:04,869 --> 00:04:03,120

bueno was able to get a jump on moving

115

00:04:07,149 --> 00:04:04,879

the foot restraints from the other side

116

00:04:09,350 --> 00:04:07,159

of the truss where 2ja

117

00:04:11,830 --> 00:04:09,360

sts-127 had done

118

00:04:14,229 --> 00:04:11,840

the battery rnr work

119

00:04:15,910 --> 00:04:14,239

and then by the time steve had finished

120

00:04:18,069 --> 00:04:15,920

the cable repair

121

00:04:20,870 --> 00:04:18,079

and was able to head out

122

00:04:21,749 --> 00:04:20,880

we were well over probably about halfway

123

00:04:23,350 --> 00:04:21,759

through

124

00:04:25,189 --> 00:04:23,360

that task

125

00:04:28,310 --> 00:04:25,199

and were able to pick up almost on our

126
00:04:30,070 --> 00:04:28,320
nominal timeline by that point the crew

127
00:04:31,749 --> 00:04:30,080
then went into

128
00:04:33,270 --> 00:04:31,759
temp stowing the battery

129
00:04:35,590 --> 00:04:33,280
as we had planned pulled the first

130
00:04:37,830 --> 00:04:35,600
battery out of the truss

131
00:04:41,110 --> 00:04:37,840
temp stowed it down there on the

132
00:04:44,550 --> 00:04:41,120
bottom or nader side of the truss and

133
00:04:46,550 --> 00:04:44,560
is actually still there right now

134
00:04:48,710 --> 00:04:46,560
and we will plan to put that battery

135
00:04:51,030 --> 00:04:48,720
back into our carrier

136
00:04:52,469 --> 00:04:51,040
on eva3

137
00:04:54,790 --> 00:04:52,479
and then what can i say about the

138
00:04:57,110 --> 00:04:54,800

battery rnr's the crew just worked

139

00:04:58,710 --> 00:04:57,120

together flawlessly they showed great

140

00:05:01,029 --> 00:04:58,720

teamwork

141

00:05:03,590 --> 00:05:01,039

all of their calls were crisp and clean

142

00:05:05,350 --> 00:05:03,600

and they helped each other when one guy

143

00:05:06,950 --> 00:05:05,360

had a you know

144

00:05:08,230 --> 00:05:06,960

nothing but battery in his face the

145

00:05:10,310 --> 00:05:08,240

other guy was

146

00:05:12,070 --> 00:05:10,320

helping him you know guide the battery

147

00:05:13,110 --> 00:05:12,080

either into the truss or back into the

148

00:05:15,830 --> 00:05:13,120

pallet

149

00:05:17,830 --> 00:05:15,840

um just just flawless execution of the

150

00:05:19,350 --> 00:05:17,840

eva like i said better than we could

151
00:05:21,909 --> 00:05:19,360
have hoped for

152
00:05:23,590 --> 00:05:21,919
um towards the end of the eva then we

153
00:05:26,070 --> 00:05:23,600
cleaned up

154
00:05:28,310 --> 00:05:26,080
that all went really well

155
00:05:31,670 --> 00:05:28,320
or we left our tool bags out there for

156
00:05:34,790 --> 00:05:31,680
use again on eva3 as we continue the

157
00:05:37,029 --> 00:05:34,800
r the last two batteries to go into the

158
00:05:39,430 --> 00:05:37,039
truss from the pallet

159
00:05:40,710 --> 00:05:39,440
when we came back in uh since we did

160
00:05:42,310 --> 00:05:40,720
have a little bit of time and our

161
00:05:43,749 --> 00:05:42,320
consumables were still looking good on

162
00:05:45,270 --> 00:05:43,759
the spacesuits

163
00:05:47,749 --> 00:05:45,280

uh we had given the crew a heads up

164

00:05:49,189 --> 00:05:47,759

before we went out the door that we

165

00:05:51,830 --> 00:05:49,199

would probably

166

00:05:54,790 --> 00:05:51,840

um or not probably that we would like to

167

00:05:56,150 --> 00:05:54,800

take a look at the escant given time and

168

00:05:57,990 --> 00:05:56,160

crews attitude was great they were

169

00:06:00,870 --> 00:05:58,000

feeling good so

170

00:06:03,590 --> 00:06:00,880

we sent them to the airlock to retrieve

171

00:06:06,070 --> 00:06:03,600

the tools necessary in a bag

172

00:06:08,629 --> 00:06:06,080

to take a look at the escant and

173

00:06:10,390 --> 00:06:08,639

they went up there again bueno doing a

174

00:06:12,950 --> 00:06:10,400

task that he had not nominally trained

175

00:06:14,550 --> 00:06:12,960

for but we had done some cross training

176
00:06:16,070 --> 00:06:14,560
because you just never know how things

177
00:06:18,950 --> 00:06:16,080
are going to go

178
00:06:21,110 --> 00:06:18,960
up in space and and you know again they

179
00:06:22,629 --> 00:06:21,120
just work together really well

180
00:06:25,029 --> 00:06:22,639
we're able to

181
00:06:28,230 --> 00:06:25,039
get those bolts torqued back down we

182
00:06:30,550 --> 00:06:28,240
didn't see any motion uh in the dish uh

183
00:06:32,390 --> 00:06:30,560
when we did our wiggle test

184
00:06:35,270 --> 00:06:32,400
and we're given the go to remove the

185
00:06:38,309 --> 00:06:35,280
gimbal locks so as far as i know now

186
00:06:39,670 --> 00:06:38,319
that piece of hardware our new 14-foot

187
00:06:40,790 --> 00:06:39,680
structure up the center of the truss

188
00:06:42,629 --> 00:06:40,800

there

189

00:06:46,230 --> 00:06:42,639

should be good to

190

00:06:48,790 --> 00:06:46,240

go for checkouts later in the stage

191

00:06:51,589 --> 00:06:48,800

and then crew came back inside uh talked

192

00:06:54,629 --> 00:06:51,599

to him afterwards they're feeling good

193

00:06:57,350 --> 00:06:54,639

and we're ready to go perform eva3

194

00:07:00,870 --> 00:06:57,360

i did bring a little prop with me

195

00:07:02,870 --> 00:07:00,880

and everybody thinks oh you know you

196

00:07:05,670 --> 00:07:02,880

you know you fix the cable on that boom

197

00:07:06,710 --> 00:07:05,680

and it seems like a little thing but the

198

00:07:10,390 --> 00:07:06,720

the

199

00:07:11,749 --> 00:07:10,400

putting a wire tie

200

00:07:12,950 --> 00:07:11,759

on

201

00:07:35,830 --> 00:07:12,960

a

202

00:07:38,309 --> 00:07:35,840

uh

203

00:07:40,390 --> 00:07:38,319

tape kept on tape here and then another

204

00:07:41,990 --> 00:07:40,400

wire tie that created that loop so those

205

00:07:45,270 --> 00:07:42,000

pieces are actually still outside now in

206

00:07:47,830 --> 00:07:45,280

one of our trash bags

207

00:07:49,189 --> 00:07:47,840

zoom back out there you go

208

00:07:50,710 --> 00:07:49,199

and uh

209

00:07:53,029 --> 00:07:50,720

we'll retrieve those when we bring our

210

00:07:55,430 --> 00:07:53,039

our bags back inside on eba 3.

211

00:07:57,350 --> 00:07:55,440

anyway i'm just as happy as can be

212

00:08:01,990 --> 00:07:57,360

like i said the guys perform flawlessly

213

00:08:04,070 --> 00:08:02,000

and and we're ready to go for eva3

214

00:08:05,749 --> 00:08:04,080

okay we'll take questions uh here in

215

00:08:07,589 --> 00:08:05,759

houston we also have reporters on the

216

00:08:08,469 --> 00:08:07,599

phone bridge uh

217

00:08:12,469 --> 00:08:08,479

mark

218

00:08:14,390 --> 00:08:12,479

i'm just wondering during the third

219

00:08:17,189 --> 00:08:14,400

spacewalk if if there are other

220

00:08:19,909 --> 00:08:17,199

activities you can add to it if if the

221

00:08:24,869 --> 00:08:19,919

first two battery changes go as well as

222

00:08:31,589 --> 00:08:29,350

um we actually where we are now for eva3

223

00:08:34,230 --> 00:08:31,599

remarkably enough is back to our

224

00:08:36,550 --> 00:08:34,240

original plan

225

00:08:39,509 --> 00:08:36,560

originally we had planned to r r two

226

00:08:41,350 --> 00:08:39,519

batteries in the third eva do a full

227

00:08:43,829 --> 00:08:41,360

cleanup of the p6 truss which we will

228

00:08:46,230 --> 00:08:43,839

now do and then retrieve the

229

00:08:47,590 --> 00:08:46,240

grapple fixture from the payload bay so

230

00:08:51,030 --> 00:08:47,600

all of those items will be in the

231

00:08:53,110 --> 00:08:51,040

timeline for eva 3 and then we also have

232

00:08:55,030 --> 00:08:53,120

a couple of get ahead tasks

233

00:08:56,630 --> 00:08:55,040

reconfiguring

234

00:08:58,790 --> 00:08:56,640

an ammonia jumper doesn't have any

235

00:08:59,509 --> 00:08:58,800

ammonia in it right now just nitrogen

236

00:09:02,710 --> 00:08:59,519

and

237

00:09:05,990 --> 00:09:02,720

stowing some of our eva tools as we

238

00:09:07,509 --> 00:09:06,000

perform evas things tend to come inside

239

00:09:12,389 --> 00:09:07,519

so we need to take some of our tools and

240

00:09:17,030 --> 00:09:14,310

uh bill harwin cbs this may be a

241

00:09:19,350 --> 00:09:17,040

question for rob is there an update from

242

00:09:21,590 --> 00:09:19,360

mmt on inspections and any thinking

243

00:09:22,710 --> 00:09:21,600

along those lines i'll leave emily to

244

00:09:24,870 --> 00:09:22,720

talk to them

245

00:09:26,310 --> 00:09:24,880

that's fine too yeah i checked in uh

246

00:09:29,670 --> 00:09:26,320

before coming over here from the control

247

00:09:31,350 --> 00:09:29,680

center and this morning they didn't

248

00:09:32,470 --> 00:09:31,360

officially make or this afternoon i

249

00:09:33,430 --> 00:09:32,480

guess they didn't officially make a

250

00:09:35,269 --> 00:09:33,440

decision

251
00:09:37,430 --> 00:09:35,279
as i understand it the challenge that

252
00:09:39,670 --> 00:09:37,440
that folks are having is that

253
00:09:41,350 --> 00:09:39,680
we've been gathering imagery from a

254
00:09:44,230 --> 00:09:41,360
variety of sources we're not used to

255
00:09:46,630 --> 00:09:44,240
using for clearing the vehicle for

256
00:09:48,230 --> 00:09:46,640
for entry for example garrett took some

257
00:09:49,590 --> 00:09:48,240
fabulous photos while he was stuck on

258
00:09:51,190 --> 00:09:49,600
the arm the other day and they're using

259
00:09:53,030 --> 00:09:51,200
those

260
00:09:55,990 --> 00:09:53,040
as part of the data set that they're

261
00:09:57,590 --> 00:09:56,000
using to confirm that the vehicle is in

262
00:09:59,430 --> 00:09:57,600
tip-top shape

263
00:10:01,430 --> 00:09:59,440

as i understand it the

264

00:10:04,710 --> 00:10:01,440

vehicle is looking great but because

265

00:10:07,509 --> 00:10:04,720

it's an unusual set of data in terms of

266

00:10:09,590 --> 00:10:07,519

it's not from the usual sources not from

267

00:10:10,870 --> 00:10:09,600

the usual procedures folks are wanting

268

00:10:12,389 --> 00:10:10,880

to take their time to make sure that

269

00:10:14,150 --> 00:10:12,399

they're getting all of the information

270

00:10:14,870 --> 00:10:14,160

that they need to make those decisions

271

00:10:17,269 --> 00:10:14,880

with

272

00:10:18,389 --> 00:10:17,279

so meanwhile we do have folks still

273

00:10:19,910 --> 00:10:18,399

looking at

274

00:10:22,389 --> 00:10:19,920

um

275

00:10:25,350 --> 00:10:22,399

whether we could fit and what kind what

276

00:10:28,069 --> 00:10:25,360

amount of inspection would fit into to

277

00:10:29,910 --> 00:10:28,079

the flight day 9 timeline without

278

00:10:31,350 --> 00:10:29,920

making having any violations of our

279

00:10:33,509 --> 00:10:31,360

rules in terms of keeping the crew up

280

00:10:35,750 --> 00:10:33,519

too long or having too many work hours

281

00:10:37,910 --> 00:10:35,760

in the day

282

00:10:40,630 --> 00:10:37,920

but i expect a decision tomorrow

283

00:10:42,150 --> 00:10:40,640

formally to determine whether we'll do

284

00:10:43,990 --> 00:10:42,160

any further expression

285

00:10:46,069 --> 00:10:44,000

inspection during the docked mission or

286

00:10:47,990 --> 00:10:46,079

now that the boom camera is fully

287

00:10:51,509 --> 00:10:48,000

functional and you expect to get a fully

288

00:10:52,630 --> 00:10:51,519

nominal post undock late inspection

289

00:10:54,310 --> 00:10:52,640

it's

290

00:10:55,750 --> 00:10:54,320

possible that they'll decide to forego

291

00:10:57,990 --> 00:10:55,760

any further imagery during the flight

292

00:11:01,030 --> 00:10:58,000

and just rely on that late inspection

293

00:11:03,509 --> 00:11:01,040

okay thanks and uh and for for lisa

294

00:11:04,790 --> 00:11:03,519

maybe or for you i'm not sure which um

295

00:11:06,150 --> 00:11:04,800

looking down the road you know we were

296

00:11:07,750 --> 00:11:06,160

trying to get ahead items before this

297

00:11:10,150 --> 00:11:07,760

thing started if you get what you've got

298

00:11:12,230 --> 00:11:10,160

planned on eva 3 done

299

00:11:14,150 --> 00:11:12,240

um can you give me a sense of what's

300

00:11:16,150 --> 00:11:14,160

left out there i mean i remember lots of

301
00:11:17,430 --> 00:11:16,160
evas where things have fallen off and

302
00:11:19,590 --> 00:11:17,440
you know things that you might add to

303
00:11:21,030 --> 00:11:19,600
133 for example which

304
00:11:22,230 --> 00:11:21,040
i know there aren't if spacewalks

305
00:11:24,150 --> 00:11:22,240
officially plan for that mission but

306
00:11:25,509 --> 00:11:24,160
they may add some i guess what what sort

307
00:11:30,470 --> 00:11:25,519
of things will still remain after this

308
00:11:33,829 --> 00:11:31,990
not a good feel for what's on the list

309
00:11:35,509 --> 00:11:33,839
right now

310
00:11:40,150 --> 00:11:35,519
i i would characterize the list of

311
00:11:41,910 --> 00:11:40,160
what's remaining there's not a lot of

312
00:11:43,829 --> 00:11:41,920
the same kinds of tasks you've been

313
00:11:46,310 --> 00:11:43,839

seeing that are normally associated with

314

00:11:48,230 --> 00:11:46,320

joint missions the the big installation

315

00:11:51,829 --> 00:11:48,240

tasks or the big

316

00:11:53,590 --> 00:11:51,839

fix tasks we've got an eva currently on

317

00:11:55,750 --> 00:11:53,600

the books for this summer

318

00:11:57,269 --> 00:11:55,760

that's supposed to take the pdgf that

319

00:11:59,509 --> 00:11:57,279

we're the grapple fixture we're bringing

320

00:12:00,949 --> 00:11:59,519

in from the payload bay on flight day

321

00:12:02,069 --> 00:12:00,959

eight and

322

00:12:03,910 --> 00:12:02,079

after

323

00:12:05,509 --> 00:12:03,920

making some modifications to it inside

324

00:12:08,870 --> 00:12:05,519

the space station it'll go back outside

325

00:12:11,590 --> 00:12:08,880

to get installed on the zarya module

326

00:12:14,470 --> 00:12:11,600

so it's kind of smaller tasks like that

327

00:12:16,550 --> 00:12:14,480

that are left on the list so beyond the

328

00:12:31,269 --> 00:12:16,560

the

329

00:12:33,190 --> 00:12:31,279

none that are real urgent that i'm aware

330

00:12:34,949 --> 00:12:33,200

of

331

00:12:39,990 --> 00:12:34,959

robert

332

00:12:42,150 --> 00:12:40,000

collectspace.com um for lisa i think uh

333

00:12:44,069 --> 00:12:42,160

given how simple the tie

334

00:12:45,509 --> 00:12:44,079

wraps look can you give just a sense of

335

00:12:46,949 --> 00:12:45,519

how many people were involved in

336

00:12:52,870 --> 00:12:46,959

developing that were their competing

337

00:12:56,629 --> 00:12:54,069

i wouldn't say there was competing

338

00:12:58,310 --> 00:12:56,639

designs uh there was if i can't give you

339

00:13:01,030 --> 00:12:58,320

an exact number but there was a large

340

00:13:03,910 --> 00:13:01,040

number of people involved uh in the

341

00:13:07,269 --> 00:13:03,920

design of the thai wrap um we actually

342

00:13:08,949 --> 00:13:07,279

uh had people out in the ksc area that

343

00:13:10,550 --> 00:13:08,959

had been out there to watch the launch

344

00:13:12,389 --> 00:13:10,560

and we were able to call

345

00:13:13,910 --> 00:13:12,399

on some of those folks it turned out

346

00:13:16,389 --> 00:13:13,920

that the

347

00:13:18,150 --> 00:13:16,399

pan tilt unit flight hardware was

348

00:13:20,230 --> 00:13:18,160

already out at ksc

349

00:13:22,790 --> 00:13:20,240

so we were able to utilize some of those

350

00:13:25,350 --> 00:13:22,800

folks out there um immediately i think

351

00:13:26,629 --> 00:13:25,360

on sunday we were able to get them in

352

00:13:28,310 --> 00:13:26,639

or saturday i can't remember which day

353

00:13:29,430 --> 00:13:28,320

it was at this point i think it was

354

00:13:31,030 --> 00:13:29,440

saturday

355

00:13:33,110 --> 00:13:31,040

and get them over there to start looking

356

00:13:35,190 --> 00:13:33,120

at the hardware

357

00:13:36,949 --> 00:13:35,200

and uh start working a fix right there

358

00:13:38,550 --> 00:13:36,959

with the actual um

359

00:13:41,350 --> 00:13:38,560

flight hardware and then we had a full

360

00:13:42,310 --> 00:13:41,360

team of people eva people anyway

361

00:13:43,990 --> 00:13:42,320

um

362

00:13:45,990 --> 00:13:44,000

starting to work packages and put it

363

00:13:48,870 --> 00:13:46,000

together with us and

364

00:13:50,470 --> 00:13:48,880

we have one team working the uh outside

365

00:13:52,150 --> 00:13:50,480

fix you know actually actually how to

366

00:13:53,670 --> 00:13:52,160

install the tie wrap there's another

367

00:13:55,189 --> 00:13:53,680

team working

368

00:13:57,110 --> 00:13:55,199

to develop

369

00:14:00,389 --> 00:13:57,120

you know what the crew needs to do

370

00:14:02,790 --> 00:14:00,399

inside what tools need to be gathered

371

00:14:04,870 --> 00:14:02,800

since we wouldn't typically interface

372

00:14:07,030 --> 00:14:04,880

with the boom or that laser there was a

373

00:14:09,829 --> 00:14:07,040

whole host of inhibits and safety

374

00:14:11,189 --> 00:14:09,839

precautions that had to be considered so

375

00:14:13,030 --> 00:14:11,199

there's quite a fair number of people

376

00:14:16,230 --> 00:14:13,040

involved in even something that seems to

377

00:14:17,910 --> 00:14:16,240

be a very simple task

378

00:14:21,990 --> 00:14:17,920

okay let's go to the phone bridge now

379

00:14:25,189 --> 00:14:22,000

for questions clara moskowitz space.com

380

00:14:27,670 --> 00:14:25,199

yeah hi this is a question for emily um

381

00:14:30,710 --> 00:14:27,680

can you talk a little bit about what the

382

00:14:32,310 --> 00:14:30,720

crew will be doing with the mrm1 module

383

00:14:34,550 --> 00:14:32,320

tomorrow i understand they'll be

384

00:14:36,150 --> 00:14:34,560

installing an air duct but if you could

385

00:14:37,430 --> 00:14:36,160

offer a few more details about that

386

00:14:39,189 --> 00:14:37,440

that'd be great

387

00:14:42,069 --> 00:14:39,199

certainly we'll start out with a leak

388

00:14:45,350 --> 00:14:42,079

check of the interface between mrm1 and

389

00:14:48,150 --> 00:14:45,360

the zarya module once we've

390

00:14:51,509 --> 00:14:48,160

confirmed that that interface is solid

391

00:14:54,150 --> 00:14:51,519

we'll open up the hatches and then

392

00:14:56,389 --> 00:14:54,160

all egg is going to sample the air and

393

00:14:58,710 --> 00:14:56,399

then put in an air filter and

394

00:15:00,790 --> 00:14:58,720

close the hatch back up or maybe not

395

00:15:02,310 --> 00:15:00,800

solidly closed but just close the volume

396

00:15:04,470 --> 00:15:02,320

so that the air filter can do its thing

397

00:15:06,389 --> 00:15:04,480

for a number of hours

398

00:15:07,990 --> 00:15:06,399

then

399

00:15:10,470 --> 00:15:08,000

they'll install

400

00:15:12,389 --> 00:15:10,480

as you said the

401
00:15:15,350 --> 00:15:12,399
the ductwork that allows for ventilation

402
00:15:17,829 --> 00:15:15,360
to flow from the zarya module into mrm1

403
00:15:19,430 --> 00:15:17,839
and back out again and that's the i

404
00:15:21,030 --> 00:15:19,440
think that most of what they're going to

405
00:15:22,470 --> 00:15:21,040
be doing tomorrow and then later in the

406
00:15:25,670 --> 00:15:22,480
mission they'll install

407
00:15:28,150 --> 00:15:25,680
some clamps one last set of

408
00:15:30,629 --> 00:15:28,160
structure to ensure a good physical mate

409
00:15:31,990 --> 00:15:30,639
between the module and the station then

410
00:15:33,189 --> 00:15:32,000
at the very end of the mission we'll

411
00:15:35,189 --> 00:15:33,199
start

412
00:15:37,189 --> 00:15:35,199
getting out the cargo carriers from

413
00:15:39,910 --> 00:15:37,199

inside the moduling and

414

00:15:40,949 --> 00:15:39,920

and begin unpacking the module at least

415

00:15:43,350 --> 00:15:40,959

a little bit we don't have a lot of

416

00:15:45,430 --> 00:15:43,360

space inside the iss right now with six

417

00:15:47,430 --> 00:15:45,440

extra people in all of their luggage

418

00:15:49,189 --> 00:15:47,440

so we won't actually unload the module

419

00:15:51,030 --> 00:15:49,199

yet and it's full of us cargo so it's

420

00:15:52,550 --> 00:15:51,040

destined for the space it's very busy

421

00:15:53,829 --> 00:15:52,560

right now but

422

00:15:55,350 --> 00:15:53,839

they're going to get started on

423

00:16:00,069 --> 00:15:55,360

organizing what's inside of it so that

424

00:16:03,990 --> 00:16:02,150

thanks also you mentioned that the crew

425

00:16:05,509 --> 00:16:04,000

will be working on transfer activities

426
00:16:06,710 --> 00:16:05,519
in the morning i was just wondering sort

427
00:16:08,710 --> 00:16:06,720
of what kind of cargo they'll be

428
00:16:10,949 --> 00:16:08,720
transferring over

429
00:16:12,389 --> 00:16:10,959
um let's see we've got

430
00:16:32,629 --> 00:16:12,399
a

431
00:16:33,509 --> 00:16:32,639
things

432
00:16:38,069 --> 00:16:33,519
some

433
00:16:40,389 --> 00:16:38,079
spare parts we've got

434
00:16:44,949 --> 00:16:40,399
some pieces of our regenerative life

435
00:16:48,949 --> 00:16:46,470
trying to think what other big items

436
00:16:50,710 --> 00:16:48,959
it's it's a lot of bags full of a lot of

437
00:16:54,550 --> 00:16:50,720
kind of the cats and dogs you need for

438
00:16:56,389 --> 00:16:54,560

six people living in space to be honest

439

00:16:58,310 --> 00:16:56,399

great thanks becca for me

440

00:17:01,269 --> 00:16:58,320

okay marcia dunn of the ap is next

441

00:17:03,189 --> 00:17:01,279

marcia yes hello um i'm wondering if

442

00:17:07,110 --> 00:17:03,199

either of you were surprised to learn

443

00:17:08,870 --> 00:17:07,120

that that little green tie wire tie was

444

00:17:10,630 --> 00:17:08,880

was the culprit for all the hanging up

445

00:17:12,949 --> 00:17:10,640

of the um

446

00:17:15,750 --> 00:17:12,959

of the boom equipment on the end and was

447

00:17:17,590 --> 00:17:15,760

that wire tie meant to be there

448

00:17:19,909 --> 00:17:17,600

i wouldn't say that the wire tie that we

449

00:17:21,029 --> 00:17:19,919

saw moving around was the cause of the

450

00:17:24,309 --> 00:17:21,039

problem

451
00:17:27,750 --> 00:17:26,069
once steve pulled the cable out and then

452
00:17:29,430 --> 00:17:27,760
they started moving the unit around we

453
00:17:31,830 --> 00:17:29,440
found that

454
00:17:33,909 --> 00:17:31,840
that cable that was already installed

455
00:17:38,310 --> 00:17:33,919
and the cable that we in the tie that we

456
00:17:43,029 --> 00:17:39,990
not in locations that you would design

457
00:17:44,310 --> 00:17:43,039
the system to be in but i i wouldn't say

458
00:17:47,029 --> 00:17:44,320
that that tie

459
00:17:49,430 --> 00:17:47,039
caused the problem no i i think it's it

460
00:17:51,590 --> 00:17:49,440
was definitely clear at least just from

461
00:17:52,950 --> 00:17:51,600
looking at it that that tie didn't cause

462
00:17:54,630 --> 00:17:52,960
the problem

463
00:17:56,310 --> 00:17:54,640

um because if you looked at the way

464

00:17:59,270 --> 00:17:56,320

those wires came out of that connector

465

00:18:01,270 --> 00:17:59,280

that where that one tie was coming from

466

00:18:03,590 --> 00:18:01,280

it it may have constrained the motion

467

00:18:05,590 --> 00:18:03,600

somewhat but what caused the initial

468

00:18:07,590 --> 00:18:05,600

problem was the wire that or the cable

469

00:18:08,710 --> 00:18:07,600

that we wire tied was actually wedged

470

00:18:11,270 --> 00:18:08,720

into

471

00:18:12,830 --> 00:18:11,280

a couple of stops hard stops on the

472

00:18:15,350 --> 00:18:12,840

rotation

473

00:18:17,750 --> 00:18:15,360

mechanism do you have any idea yet how

474

00:18:20,390 --> 00:18:17,760

that all happened to be what was the

475

00:18:22,870 --> 00:18:20,400

root cause of all this

476

00:18:24,950 --> 00:18:22,880

i haven't seen the results of any even

477

00:18:26,310 --> 00:18:24,960

preliminary investigations into that i

478

00:18:27,990 --> 00:18:26,320

know that folks are going back and

479

00:18:30,630 --> 00:18:28,000

looking at photos of the unit while it

480

00:18:32,390 --> 00:18:30,640

was still at the cape and they'll be

481

00:18:35,110 --> 00:18:32,400

looking to determine

482

00:18:37,029 --> 00:18:35,120

at what point in time

483

00:18:38,710 --> 00:18:37,039

the cable was in that configuration and

484

00:18:41,110 --> 00:18:38,720

then they can try to work backwards from

485

00:18:43,590 --> 00:18:41,120

there to determine how it got that way

486

00:18:46,390 --> 00:18:43,600

thanks a lot that's all

487

00:18:48,950 --> 00:18:46,400

okay mark kirkman up next

488

00:18:50,870 --> 00:18:48,960

hi mark kirkman interspace um i think

489

00:18:52,470 --> 00:18:50,880

i've got three questions all for emily

490

00:18:55,029 --> 00:18:52,480

uh first i'd like to follow up on

491

00:18:57,350 --> 00:18:55,039

clara's question about mrm ingress i saw

492

00:18:59,190 --> 00:18:57,360

a note earlier that oleg was preparing

493

00:19:00,870 --> 00:18:59,200

some protective gear or garments i was

494

00:19:03,430 --> 00:19:00,880

just wondering if you can explain uh

495

00:19:04,870 --> 00:19:03,440

what that entails absolutely anytime we

496

00:19:07,430 --> 00:19:04,880

ingress a new module whether it's a

497

00:19:08,230 --> 00:19:07,440

russian module us module or from any of

498

00:19:11,029 --> 00:19:08,240

our

499

00:19:11,830 --> 00:19:11,039

international partners in case there

500

00:19:13,750 --> 00:19:11,840

were

501
00:19:15,510 --> 00:19:13,760
bits and pieces of what we call fod

502
00:19:17,909 --> 00:19:15,520
foreign object debris that were in the

503
00:19:19,830 --> 00:19:17,919
module in the 1g environment and you

504
00:19:21,430 --> 00:19:19,840
didn't happen to catch them once of

505
00:19:23,430 --> 00:19:21,440
course you get to zero g then they're

506
00:19:25,110 --> 00:19:23,440
bouncing around all over the place so we

507
00:19:27,510 --> 00:19:25,120
take standard precautions every time we

508
00:19:29,430 --> 00:19:27,520
do an ingress to put on eye protection

509
00:19:32,549 --> 00:19:29,440
in some cases we'll put on a mask and

510
00:19:35,270 --> 00:19:32,559
it's really just to protect

511
00:19:37,190 --> 00:19:35,280
to protect the crew members from any

512
00:19:39,590 --> 00:19:37,200
flakes or

513
00:19:42,070 --> 00:19:39,600

even something as small as a screw or

514

00:19:44,470 --> 00:19:42,080

flakes of paint or or tape or any of the

515

00:19:46,150 --> 00:19:44,480

kind of things that you work with

516

00:19:47,190 --> 00:19:46,160

when you're building something

517

00:19:48,630 --> 00:19:47,200

and

518

00:19:50,470 --> 00:19:48,640

to prevent that kind of thing from

519

00:19:53,909 --> 00:19:50,480

getting in your eyes or

520

00:19:58,390 --> 00:19:56,150

um my next question is about the cold

521

00:19:59,669 --> 00:19:58,400

spare status of the antenna

522

00:20:00,870 --> 00:19:59,679

during the pre-flight early things i

523

00:20:03,430 --> 00:20:00,880

think you actually went into this but

524

00:20:05,190 --> 00:20:03,440

somehow i must have tuned you out

525

00:20:07,990 --> 00:20:05,200

what exactly do you mean by cold spare

526
00:20:09,510 --> 00:20:08,000
how cold is it in terms of how long does

527
00:20:11,270 --> 00:20:09,520
it take to get that antenna up and

528
00:20:13,430 --> 00:20:11,280
running if you need to and are you able

529
00:20:16,070 --> 00:20:13,440
to do any kind of functional checks of

530
00:20:17,750 --> 00:20:16,080
it before you put it in the spare status

531
00:20:20,149 --> 00:20:17,760
we will uh

532
00:20:23,190 --> 00:20:20,159
right now the configuration on the space

533
00:20:26,149 --> 00:20:23,200
station is such that the cabling inside

534
00:20:28,230 --> 00:20:26,159
the vehicle is not yet set up to allow

535
00:20:29,990 --> 00:20:28,240
the system to work fully those cables

536
00:20:31,990 --> 00:20:30,000
will be installed here in the next

537
00:20:33,909 --> 00:20:32,000
several weeks after undock

538
00:20:36,230 --> 00:20:33,919

they're on a long list of activities

539

00:20:37,909 --> 00:20:36,240

that the expedition crews have to

540

00:20:40,230 --> 00:20:37,919

execute

541

00:20:43,029 --> 00:20:40,240

so what we mean by a cold backup is that

542

00:20:45,830 --> 00:20:43,039

you don't have a software functionality

543

00:20:47,590 --> 00:20:45,840

or in this case even connectivity to

544

00:20:49,270 --> 00:20:47,600

automatically fail over from one system

545

00:20:51,350 --> 00:20:49,280

to the next

546

00:20:53,270 --> 00:20:51,360

in this case what we have to do is if we

547

00:20:54,149 --> 00:20:53,280

have a failure of our existing ku band

548

00:20:57,270 --> 00:20:54,159

system

549

00:20:59,270 --> 00:20:57,280

we would instruct the crew to disconnect

550

00:21:01,510 --> 00:20:59,280

some connectors inside the laboratory

551
00:21:03,110 --> 00:21:01,520
module move those over to some different

552
00:21:04,710 --> 00:21:03,120
points and and plug them into a

553
00:21:07,510 --> 00:21:04,720
different place and at that point we'd

554
00:21:10,070 --> 00:21:07,520
be able to activate the system so right

555
00:21:12,310 --> 00:21:10,080
now there is power and and data

556
00:21:14,950 --> 00:21:12,320
connectivity to the module or to the

557
00:21:17,750 --> 00:21:14,960
unit that we have confirmed we'd

558
00:21:19,350 --> 00:21:17,760
confirmed that after the first eva

559
00:21:21,669 --> 00:21:19,360
we do still have a couple of steps left

560
00:21:23,350 --> 00:21:21,679
to verify that the gimbals that you were

561
00:21:25,270 --> 00:21:23,360
able to gamble the dish and direct the

562
00:21:27,029 --> 00:21:25,280
dish as we

563
00:21:29,110 --> 00:21:27,039

as we desire we can do that in its

564

00:21:31,190 --> 00:21:29,120

current configuration then we'll do a

565

00:21:32,789 --> 00:21:31,200

full functional check out of the system

566

00:21:36,630 --> 00:21:32,799

this summer after we get those cables

567

00:21:40,390 --> 00:21:38,789

uh my next question uh just uh

568

00:21:43,669 --> 00:21:40,400

want to know if you've learned anything

569

00:21:45,110 --> 00:21:43,679

more about the cnc dropout on monday

570

00:21:46,870 --> 00:21:45,120

do you still believe it was the cap

571

00:21:47,990 --> 00:21:46,880

removal or do you have another view of

572

00:21:50,630 --> 00:21:48,000

that now

573

00:21:53,430 --> 00:21:50,640

yes i think we're zeroing in that the

574

00:21:55,750 --> 00:21:53,440

cap was the issue

575

00:21:58,630 --> 00:21:55,760

i haven't actually myself seen the

576

00:22:01,029 --> 00:21:58,640

details of which bus exactly it was and

577

00:22:03,590 --> 00:22:01,039

how the computer software is designed to

578

00:22:06,070 --> 00:22:03,600

respond to that one or multiple buses

579

00:22:07,190 --> 00:22:06,080

that are flowing through the one cable

580

00:22:09,350 --> 00:22:07,200

um

581

00:22:11,510 --> 00:22:09,360

how the the loss of those buses would

582

00:22:14,630 --> 00:22:11,520

have caused it although in general if

583

00:22:16,149 --> 00:22:14,640

the command and control computer loses

584

00:22:18,149 --> 00:22:16,159

several buses and

585

00:22:20,630 --> 00:22:18,159

on a given bus you'll have several

586

00:22:23,190 --> 00:22:20,640

remote terminals several entities that

587

00:22:24,070 --> 00:22:23,200

it's communicating with on a on a data

588

00:22:25,750 --> 00:22:24,080

bus

589

00:22:27,590 --> 00:22:25,760

if it loses all everything off of a

590

00:22:29,750 --> 00:22:27,600

given bus then it knows that that bus

591

00:22:30,710 --> 00:22:29,760

has a problem if it loses multiple buses

592

00:22:32,390 --> 00:22:30,720

then it

593

00:22:34,149 --> 00:22:32,400

suspects that it has a problem and so

594

00:22:36,470 --> 00:22:34,159

then it will fail over so i think at

595

00:22:39,430 --> 00:22:36,480

this point we're we're thinking that

596

00:22:41,350 --> 00:22:39,440

there were several buses that got

597

00:22:44,789 --> 00:22:41,360

too many errors on them and that's what

598

00:22:45,909 --> 00:22:44,799

caused the mdm to fail

599

00:22:47,430 --> 00:22:45,919

all right that's all i have thank you

600

00:22:49,990 --> 00:22:47,440

very much for your time today all right

601
00:22:51,190 --> 00:22:50,000
thanks mark any questions back here i

602
00:22:52,390 --> 00:22:51,200
don't think we have any more questions

603
00:22:54,470 --> 00:22:52,400
so we'll close with a couple of

604
00:22:55,909 --> 00:22:54,480
programming notes atlantis crew begins

605
00:22:58,549 --> 00:22:55,919
its sleep period

606
00:23:00,310 --> 00:22:58,559
a short time from now at 4 50 pm central

607
00:23:02,390 --> 00:23:00,320
time right after that we'll go into our

608
00:23:05,190 --> 00:23:02,400
flight day highlights to highlight all

609
00:23:06,470 --> 00:23:05,200
of the activities on eva 2 today at 5 pm

610
00:23:08,070 --> 00:23:06,480
central time

611
00:23:09,750 --> 00:23:08,080
those highlights will be replayed every

612
00:23:11,909 --> 00:23:09,760
hour on the hour throughout the cruise

613
00:23:13,830 --> 00:23:11,919

sleep period the high definition

614

00:23:16,390 --> 00:23:13,840

highlights of the day's activities will

615

00:23:19,029 --> 00:23:16,400

be on the nasa hd tv channel beginning

616

00:23:21,590 --> 00:23:19,039

at 9 00 pm central time tonight

617

00:23:23,590 --> 00:23:21,600

the iss orbit 3 flight director scott

618

00:23:25,750 --> 00:23:23,600

stover who's on console at this hour

619

00:23:27,830 --> 00:23:25,760

will offer his view of upcoming

620

00:23:30,470 --> 00:23:27,840

activities on the iss flight director

621

00:23:33,110 --> 00:23:30,480

update interview from console at 11 pm

622

00:23:35,990 --> 00:23:33,120

central time this evening and wake up

623

00:23:38,710 --> 00:23:36,000

call for atlantis crew for flight day 7

624

00:23:41,510 --> 00:23:38,720

comes early thursday morning at 12 50

625

00:23:43,110 --> 00:23:41,520

a.m central time you can follow all the

626

00:23:45,110 --> 00:23:43,120

activities of the shuttle and station

627

00:23:48,149 --> 00:23:45,120

crew members on our website at

628

00:23:51,630 --> 00:23:49,430

with that we'll go back to mission