



1
00:00:25,109 --> 00:00:02,629
hi i'm steve lindsay commander of

2
00:00:25,119 --> 00:00:59,990
i love coffee i love tea

3
00:01:04,710 --> 00:01:01,830
good morning discovery and a special

4
00:01:07,109 --> 00:01:04,720
good morning to you steve lindsey

5
00:01:09,670 --> 00:01:07,119
good morning mike and uh thanks to my

6
00:01:11,109 --> 00:01:09,680
family for that song and uh great to be

7
00:01:14,070 --> 00:01:11,119
back with you looking forward to another

8
00:01:17,429 --> 00:01:15,990
excuse me

9
00:01:18,710 --> 00:01:17,439
good morning there to ground to go for a

10
00:01:22,230 --> 00:01:18,720
humps up

11
00:01:24,469 --> 00:01:22,240
morning ray a hump set scribes a bone

12
00:01:26,230 --> 00:01:24,479
hey that's great steve and uh good

13
00:01:28,550 --> 00:01:26,240

morning to you after a pretty exciting

14

00:01:30,870 --> 00:01:28,560

day yesterday

15

00:01:33,270 --> 00:01:30,880

great news for you uh no focused

16

00:01:37,590 --> 00:01:33,280

inspection for flight day six that means

17

00:01:41,109 --> 00:01:37,600

we will replan flight day six per the uh

18

00:01:43,190 --> 00:01:41,119

way we had intended pre-flight which is

19

00:01:46,149 --> 00:01:43,200

further outfit of the pmm and maybe a

20

00:01:52,230 --> 00:01:46,159

little transferring too

21

00:01:55,670 --> 00:01:54,389

in this view from the

22

00:01:57,670 --> 00:01:55,680

station's

23

00:01:59,350 --> 00:01:57,680

external cameras there's quite a bit of

24

00:02:00,870 --> 00:01:59,360

robotics represented in that view you

25

00:02:03,270 --> 00:02:00,880

can see a part of the dexter robot on

26
00:02:05,270 --> 00:02:03,280
the left-hand side uh you can also see

27
00:02:07,109 --> 00:02:05,280
the station's robotic arm you can see

28
00:02:08,710 --> 00:02:07,119
the obs-s there

29
00:02:09,830 --> 00:02:08,720
which is toward the right of center

30
00:02:11,430 --> 00:02:09,840
screen

31
00:02:14,070 --> 00:02:11,440
and then of course discovery's robotic

32
00:02:16,229 --> 00:02:14,080
arm there on the far right

33
00:02:18,309 --> 00:02:16,239
a robotics officer here inside mission

34
00:02:19,270 --> 00:02:18,319
control here in both the shuttle room

35
00:02:20,710 --> 00:02:19,280
and

36
00:02:21,990 --> 00:02:20,720
his counterpart down the hall in the

37
00:02:23,750 --> 00:02:22,000
station room have confirmed that the

38
00:02:26,229 --> 00:02:23,760

brakes have been released on the

39

00:02:28,229 --> 00:02:26,239

station's arm

40

00:02:30,229 --> 00:02:28,239

and this begins our robotics operations

41

00:02:32,869 --> 00:02:30,239

today as the station's arm will be used

42

00:02:34,309 --> 00:02:32,879

to reach over grab on to the obss

43

00:02:36,869 --> 00:02:34,319

lift it out of the payload bay and hand

44

00:02:38,949 --> 00:02:36,879

it off to discovery's robotic arm

45

00:02:43,670 --> 00:02:38,959

houston discovery from the station for

46

00:02:48,790 --> 00:02:45,350

still recovery

47

00:02:52,150 --> 00:02:50,309

a good shot there of the end of the

48

00:02:54,390 --> 00:02:52,160

station's robotic arm as it gets ready

49

00:02:56,630 --> 00:02:54,400

to grapple on to the obss sitting in

50

00:02:58,390 --> 00:02:56,640

discovery's payload bay

51
00:03:00,149 --> 00:02:58,400
you can see that a small probe there

52
00:03:11,990 --> 00:03:00,159
that is what the arm is going to grab

53
00:03:21,430 --> 00:03:13,910
houston discovery station for robo

54
00:03:21,440 --> 00:03:25,830
houston copy coverage

55
00:03:29,910 --> 00:03:27,990
discovery's orbiter boom sensor system

56
00:03:34,869 --> 00:03:29,920
being lifted out of its payload bay by

57
00:03:39,670 --> 00:03:37,430
station arm will continue to clear the

58
00:03:40,710 --> 00:03:39,680
obss of discovery's payload bay and move

59
00:03:42,710 --> 00:03:40,720
it over

60
00:03:44,949 --> 00:03:42,720
and soon it will be handed over to

61
00:03:46,949 --> 00:03:44,959
discovery's robotic arm this is being

62
00:03:48,070 --> 00:03:46,959
done to get it out of the way of all the

63
00:03:49,670 --> 00:03:48,080

different uh

64

00:03:52,470 --> 00:03:49,680

operations that have to be done over the

65

00:03:55,190 --> 00:03:52,480

coming uh day or so to get the pmm

66

00:04:00,149 --> 00:03:57,429

there's a quite a bit of work uh through

67

00:04:01,750 --> 00:04:00,159

the remainder of this docked mission

68

00:04:03,509 --> 00:04:01,760

that is going to be focused on the

69

00:04:04,710 --> 00:04:03,519

permanent multi-purpose module that is

70

00:04:07,030 --> 00:04:04,720

still sitting down in discovery's

71

00:04:08,869 --> 00:04:07,040

payload bay but they need to get the obs

72

00:04:10,470 --> 00:04:08,879

clear for all of that and due to the

73

00:04:12,869 --> 00:04:10,480

fact that discovery is docked with the

74

00:04:15,910 --> 00:04:12,879

station now in that forward docking

75

00:04:17,509 --> 00:04:15,920

area create some clearance issues

76
00:04:19,830 --> 00:04:17,519
to where discoveries robotic arm can't

77
00:04:21,990 --> 00:04:19,840
reach over and grab on to its obss they

78
00:04:35,110 --> 00:04:22,000
are using the station arm to transfer it

79
00:04:39,590 --> 00:04:37,749
this the eastern edge of south america

80
00:04:41,749 --> 00:04:39,600
specifically brazil as well as the

81
00:04:43,189 --> 00:04:41,759
atlantic ocean coming into view

82
00:04:45,430 --> 00:04:43,199
underneath shuttle discovery you see

83
00:04:46,870 --> 00:04:45,440
that it's obss the orbiter boom sensor

84
00:04:48,310 --> 00:04:46,880
system has been lifted up out of its

85
00:04:49,909 --> 00:04:48,320
payload bay

86
00:04:51,270 --> 00:04:49,919
by the station's robotic arm it's going

87
00:04:53,510 --> 00:04:51,280
to be handed over here in a little bit

88
00:05:06,469 --> 00:04:53,520

to discovery's robotic arm and then

89

00:05:11,350 --> 00:05:08,950

yes sir we see ourselves in the handoff

90

00:05:14,230 --> 00:05:11,360

position just want to confirm

91

00:05:17,909 --> 00:05:14,240

the uh inhibits are still in place and

92

00:05:21,670 --> 00:05:17,919

that we are go for srms obvious grapple

93

00:05:24,629 --> 00:05:21,680

your go for srms obss grapple and no

94

00:05:27,749 --> 00:05:24,639

exercise while we're dual grappled

95

00:05:31,510 --> 00:05:27,759

okay copy that houston and discovery you

96

00:05:35,270 --> 00:05:31,520

are go for srms obsess grapple

97

00:05:39,749 --> 00:05:37,189

as we talked about this is being done to

98

00:05:42,150 --> 00:05:39,759

clear the obss

99

00:05:43,990 --> 00:05:42,160

off of discovery's right hand

100

00:05:44,870 --> 00:05:44,000

uh side of the payload bay the starboard

101
00:05:46,629 --> 00:05:44,880
sign

102
00:05:48,870 --> 00:05:46,639
for all of the pmm operations that will

103
00:05:50,790 --> 00:05:48,880
take place as that particular piece of

104
00:05:53,430 --> 00:05:50,800
cargo gets lifted out of discovery's

105
00:05:54,710 --> 00:05:53,440
payload bay and installed permanently on

106
00:05:57,189 --> 00:05:54,720
the bottom of the station it's going to

107
00:05:59,029 --> 00:05:57,199
go on the unity node on the earth-facing

108
00:06:01,029 --> 00:05:59,039
portion of it

109
00:06:07,590 --> 00:06:01,039
all of those activities are scheduled

110
00:06:12,150 --> 00:06:10,309
houston station for robo uh we see

111
00:06:17,110 --> 00:06:12,160
ourselves complete here in the cupola

112
00:06:20,629 --> 00:06:17,120
with the sfrms obss unbirth and handoff

113
00:06:22,469 --> 00:06:20,639

houston on the big loop we concur nicole

114

00:06:24,790 --> 00:06:22,479

thanks hal that was

115

00:06:26,390 --> 00:06:24,800

really fun

116

00:06:28,710 --> 00:06:26,400

i'm sure the view was a lot better for

117

00:06:31,029 --> 00:06:28,720

you up there

118

00:06:32,469 --> 00:06:31,039

well it was uh really very nice and

119

00:06:39,590 --> 00:06:32,479

hopefully you guys had some nice camera

120

00:06:42,309 --> 00:06:40,710

um

121

00:06:45,110 --> 00:06:42,319

how does it feel overall to be on such a

122

00:06:50,390 --> 00:06:47,510

well i i actually mike barrett here i i

123

00:06:53,189 --> 00:06:50,400

spent six and a half months here in 2009

124

00:06:55,670 --> 00:06:53,199

and i loved it up here i didn't want to

125

00:06:57,909 --> 00:06:55,680

leave so for me the mission has a lot of

126
00:06:59,830 --> 00:06:57,919
meaning it's a return and just getting

127
00:07:01,430 --> 00:06:59,840
back to this magnificent stack has been

128
00:07:02,629 --> 00:07:01,440
incredible it's a little bit bigger than

129
00:07:04,150 --> 00:07:02,639
i left it

130
00:07:06,230 --> 00:07:04,160
but as steve said that we're bringing

131
00:07:08,309 --> 00:07:06,240
the assembly of the station to a close

132
00:07:09,110 --> 00:07:08,319
we're delivering the last u.s module up

133
00:07:11,350 --> 00:07:09,120
here

134
00:07:13,589 --> 00:07:11,360
and uh then it's pretty much built uh

135
00:07:15,350 --> 00:07:13,599
more or less and uh this this mission

136
00:07:17,830 --> 00:07:15,360
kind of marks a turning point where from

137
00:07:19,670 --> 00:07:17,840
now on we're mostly using the station to

138
00:07:21,510 --> 00:07:19,680

get science to get a lot of engineering

139

00:07:23,909 --> 00:07:21,520

know-how to hopefully enable us to go

140

00:07:25,670 --> 00:07:23,919

further one day so there's a lot that

141

00:07:27,749 --> 00:07:25,680

we're learning up here and it's just a

142

00:07:30,870 --> 00:07:27,759

magnificent place so i think that that's

143

00:07:32,790 --> 00:07:30,880

really the meaning of this mission to me

144

00:07:34,469 --> 00:07:32,800

it's now day four of your scheduled

145

00:07:36,469 --> 00:07:34,479

12-day shuttle mission you've brought

146

00:07:38,390 --> 00:07:36,479

with you this time not only a logistics

147

00:07:40,390 --> 00:07:38,400

module for doing more experiments on

148

00:07:43,749 --> 00:07:40,400

board the space station but also a

149

00:07:45,670 --> 00:07:43,759

human-like robot robonaut 2. what is r2

150

00:07:48,390 --> 00:07:45,680

and how will it be used

151

00:07:49,990 --> 00:07:48,400

uh robonaut 2 is a uh is essentially

152

00:07:51,909 --> 00:07:50,000

it's in cooperation with nasa and

153

00:07:53,749 --> 00:07:51,919

general motors but it's a

154

00:07:56,710 --> 00:07:53,759

it's a technology demonstrator it's a

155

00:07:59,189 --> 00:07:56,720

it's a human-like uh robot from at least

156

00:08:00,550 --> 00:07:59,199

from the waist up and the intent by

157

00:08:02,550 --> 00:08:00,560

bringing it up here is uh they're going

158

00:08:05,830 --> 00:08:02,560

to install it and they're going to start

159

00:08:08,230 --> 00:08:05,840

pre doing some basic tasks with it

160

00:08:10,469 --> 00:08:08,240

to see how it works in in space and also

161

00:08:13,189 --> 00:08:10,479

to look at it operationally and decide

162

00:08:16,070 --> 00:08:13,199

you know how would you best use a an and

163

00:08:17,909 --> 00:08:16,080

or a human-like robot in space what sort

164

00:08:19,909 --> 00:08:17,919

of task to use it for so it's a

165

00:08:22,150 --> 00:08:19,919

technology demonstrator uh doing a

166

00:08:23,990 --> 00:08:22,160

little bit of science with it and

167

00:08:26,230 --> 00:08:24,000

and then a lot of operations with it to

168

00:08:28,950 --> 00:08:26,240

determine in the future is there a place

169

00:08:32,230 --> 00:08:28,960

for a human-like robot in space to help

170

00:08:34,469 --> 00:08:32,240

us and if so then how would we use that

171

00:08:36,389 --> 00:08:34,479

a follow-up for commander lindsay this

172

00:08:38,709 --> 00:08:36,399

is your fifth shuttle mission the third

173

00:08:40,230 --> 00:08:38,719

aboard discovery as you lift it off last

174

00:08:42,469 --> 00:08:40,240

thursday what were your thoughts his

175

00:08:47,750 --> 00:08:42,479

discovery began its final mission after

176

00:08:51,350 --> 00:08:50,070

well i think all of the crew has had a

177

00:08:53,269 --> 00:08:51,360

lot of thoughts about this being the

178

00:08:55,110 --> 00:08:53,279

last flight of the discovery as well as

179

00:08:56,630 --> 00:08:55,120

the tremendous focus on the ground that

180

00:08:58,870 --> 00:08:56,640

have been helped out thousands and

181

00:09:01,829 --> 00:08:58,880

thousands of work workers have really

182

00:09:03,910 --> 00:09:01,839

worked on the vehicle since about 1984.

183

00:09:06,230 --> 00:09:03,920

um so we all think about that but the

184

00:09:07,590 --> 00:09:06,240

truth is once we get close to launch

185

00:09:09,670 --> 00:09:07,600

countdown we're not really thinking

186

00:09:11,269 --> 00:09:09,680

about uh discovery's last flight we're

187

00:09:14,230 --> 00:09:11,279

thinking about doing our jobs so uh

188

00:09:16,870 --> 00:09:14,240

honestly from uh you know from uh prior

189

00:09:18,550 --> 00:09:16,880

to liftoff on through liftoff and ascent

190

00:09:19,670 --> 00:09:18,560

we're primarily focusing our jobs having

191

00:09:21,509 --> 00:09:19,680

said that

192

00:09:23,750 --> 00:09:21,519

it's a real privilege to be on this last

193

00:09:25,990 --> 00:09:23,760

flight of discovery and and uh i have

194

00:09:28,310 --> 00:09:26,000

flown flown her three times now and

195

00:09:29,990 --> 00:09:28,320

she's just a great vehicle still

196

00:09:31,750 --> 00:09:30,000

here in boston we're quite interested in

197

00:09:33,910 --> 00:09:31,760

our two local astronauts mission

198

00:09:35,430 --> 00:09:33,920

specialist stephen bowen of cohasset and

199

00:09:38,070 --> 00:09:35,440

flight engineer katie coleman of

200

00:09:39,509 --> 00:09:38,080

shelburne falls first katie i saw in one

201
00:09:42,150 --> 00:09:39,519
interview that you did that you play the

202
00:09:43,670 --> 00:09:42,160
flute in space continuing to keep up

203
00:09:45,590 --> 00:09:43,680
hobbies from home describe the

204
00:09:47,750 --> 00:09:45,600
camaraderie if you will aboard the space

205
00:09:49,509 --> 00:09:47,760
station especially when you have a new

206
00:09:54,470 --> 00:09:49,519
guest it must be a red letter day when a

207
00:09:59,670 --> 00:09:56,389
well there are six of us aboard here uh

208
00:10:01,910 --> 00:09:59,680
before sts-133 showed up two americans

209
00:10:03,670 --> 00:10:01,920
one italian three russians and you know

210
00:10:05,990 --> 00:10:03,680
we're all different kinds of people but

211
00:10:08,230 --> 00:10:06,000
we have a common goal and that is to

212
00:10:10,230 --> 00:10:08,240
live and work in space and and see what

213
00:10:13,509 --> 00:10:10,240

uh you know see what great things that

214

00:10:15,590 --> 00:10:13,519

uh we can we can do from here um

215

00:10:17,910 --> 00:10:15,600

to me it's just a it's a marvelous place

216

00:10:19,350 --> 00:10:17,920

to live and work and when these folks

217

00:10:20,870 --> 00:10:19,360

showed up i'll tell you i didn't realize

218

00:10:22,710 --> 00:10:20,880

maybe that i'd been a little lonely

219

00:10:25,269 --> 00:10:22,720

until you got here and it's just so nice

220

00:10:27,190 --> 00:10:25,279

to see other people and and talk about

221

00:10:29,430 --> 00:10:27,200

different things and also just bring

222

00:10:31,590 --> 00:10:29,440

some new perspective and new excitement

223

00:10:33,350 --> 00:10:31,600

you know even on a place as marvelous as

224

00:10:36,230 --> 00:10:33,360

the space station sometimes you wake up

225

00:10:38,069 --> 00:10:36,240

going okay it's another day in space and

226

00:10:39,750 --> 00:10:38,079

i think new folks bring a perspective

227

00:10:41,750 --> 00:10:39,760

that we're really pretty lucky to be up

228

00:10:43,350 --> 00:10:41,760

here in such a special place

229

00:10:45,269 --> 00:10:43,360

this question is for mission specialist

230

00:10:46,949 --> 00:10:45,279

stephen bowen you have two spacewalks

231

00:10:52,230 --> 00:10:46,959

scheduled outline what you are your

232

00:10:55,590 --> 00:10:53,350

well tomorrow we'll have our first

233

00:10:57,350 --> 00:10:55,600

spacewalk and our our objective tomorrow

234

00:10:58,790 --> 00:10:57,360

is really to set up so they can install

235

00:11:01,110 --> 00:10:58,800

the pmm

236

00:11:03,430 --> 00:11:01,120

the following day after that we're going

237

00:11:04,630 --> 00:11:03,440

to reposition the pump module which

238

00:11:05,430 --> 00:11:04,640

failed this summer we're going to put it

239

00:11:07,030 --> 00:11:05,440

back

240

00:11:09,030 --> 00:11:07,040

uh to its

241

00:11:11,350 --> 00:11:09,040

carrier basically where it'll be taken

242

00:11:13,030 --> 00:11:11,360

down on a later flight

243

00:11:15,829 --> 00:11:13,040

and then after that we'll be moving on

244

00:11:16,710 --> 00:11:15,839

to a lot of cleanup tasks if we have the

245

00:11:18,069 --> 00:11:16,720

time

246

00:11:19,430 --> 00:11:18,079

those are the two primary objectives for

247

00:11:20,710 --> 00:11:19,440

tomorrow the next

248

00:11:23,269 --> 00:11:20,720

eva

249

00:11:25,190 --> 00:11:23,279

we're kind of all over station al's on

250

00:11:26,870 --> 00:11:25,200

one side i'm on the other

251
00:11:28,389 --> 00:11:26,880
we have a carrier that's coming off the

252
00:11:29,190 --> 00:11:28,399
columbus is going back to the payload

253
00:11:31,269 --> 00:11:29,200
bay

254
00:11:33,590 --> 00:11:31,279
al's got a lot of work to do on the back

255
00:11:35,590 --> 00:11:33,600
side of the truss trying to

256
00:11:37,030 --> 00:11:35,600
repair some radiator beams that hadn't

257
00:11:38,470 --> 00:11:37,040
didn't quite fit the last time somebody

258
00:11:39,829 --> 00:11:38,480
tried to fix them so alex got that on

259
00:11:41,910 --> 00:11:39,839
his plate

260
00:11:43,030 --> 00:11:41,920
so really it's a lot of tasks all over

261
00:11:44,710 --> 00:11:43,040
the station

262
00:11:46,550 --> 00:11:44,720
you were assigned to this mission after

263
00:11:48,389 --> 00:11:46,560

a fellow astronaut tim copper was

264

00:11:50,550 --> 00:11:48,399

scratched following a bicycle accident

265

00:11:56,230 --> 00:11:50,560

in mid-january did the relatively short

266

00:11:59,190 --> 00:11:57,990

well yeah uh

267

00:12:01,030 --> 00:11:59,200

obviously there's a lot of things i

268

00:12:03,110 --> 00:12:01,040

don't know uh that i'm trying to catch

269

00:12:04,150 --> 00:12:03,120

up that are specific to this mission uh

270

00:12:05,430 --> 00:12:04,160

but these guys have been training

271

00:12:07,990 --> 00:12:05,440

together for so long and they know this

272

00:12:09,990 --> 00:12:08,000

mission so well uh they've been able to

273

00:12:11,350 --> 00:12:10,000

to pick up the slack that i kind of

274

00:12:13,990 --> 00:12:11,360

brought on board

275

00:12:15,269 --> 00:12:14,000

and they've got me covered pretty well

276

00:12:17,190 --> 00:12:15,279

my last question is for shuttle

277

00:12:18,949 --> 00:12:17,200

commander stephen lindsey discovery is

278

00:12:20,790 --> 00:12:18,959

going to be housed at the smithsonian

279

00:12:22,470 --> 00:12:20,800

you have such extensive knowledge of the

280

00:12:24,230 --> 00:12:22,480

shuttle if you were going to play tour

281

00:12:25,750 --> 00:12:24,240

guide what would you most want to show

282

00:12:27,990 --> 00:12:25,760

visitors

283

00:12:29,829 --> 00:12:28,000

that's a good question um

284

00:12:31,670 --> 00:12:29,839

i guess i guess what i would really want

285

00:12:33,590 --> 00:12:31,680

is i would want visitors to get a

286

00:12:34,550 --> 00:12:33,600

perspective of the shuttle like we have

287

00:12:35,670 --> 00:12:34,560

um

288

00:12:37,590 --> 00:12:35,680

the uh

289

00:12:39,430 --> 00:12:37,600

to me it's if you're gonna display one

290

00:12:40,949 --> 00:12:39,440

of these ideally what i like is i like

291

00:12:43,110 --> 00:12:40,959

an opportunity for people to be able to

292

00:12:45,590 --> 00:12:43,120

not only get up close and personal look

293

00:12:47,030 --> 00:12:45,600

around the outside of the vehicle but

294

00:12:48,710 --> 00:12:47,040

but maybe take a walk through the

295

00:12:50,949 --> 00:12:48,720

payload bay and see what's out in the

296

00:12:52,870 --> 00:12:50,959

payload bay where all the cargo that we

297

00:12:55,030 --> 00:12:52,880

carry because there's there's not a

298

00:12:57,190 --> 00:12:55,040

vehicle uh that's ever been able to lift

299

00:12:58,389 --> 00:12:57,200

as much as we can into low earth orbit

300

00:13:00,870 --> 00:12:58,399

and i don't think there will be for

301
00:13:02,310 --> 00:13:00,880
quite some time in the future um but i

302
00:13:04,069 --> 00:13:02,320
also like them to be able to get on

303
00:13:06,069 --> 00:13:04,079
board in the mid deck and the flight

304
00:13:08,230 --> 00:13:06,079
deck and experience what it's like to uh

305
00:13:09,829 --> 00:13:08,240
to fly the vehicle as well as what it's

306
00:13:12,069 --> 00:13:09,839
like to uh to live in the vehicle

307
00:13:14,069 --> 00:13:12,079
because we not only obviously fly it and

308
00:13:15,670 --> 00:13:14,079
take it up to space but we live in it uh

309
00:13:18,230 --> 00:13:15,680
for days on end

310
00:13:19,670 --> 00:13:18,240
so i guess what i'd really like is for

311
00:13:21,509 --> 00:13:19,680
the way to be displayed display in such

312
00:13:23,750 --> 00:13:21,519
a way and i'm not sure how to do this

313
00:13:26,389 --> 00:13:23,760

such that everybody can walk through and

314

00:13:28,790 --> 00:13:26,399

get a sense of what it was like to fly

315

00:13:31,670 --> 00:13:28,800

and what it's like to uh to to live in

316

00:13:34,069 --> 00:13:31,680

this spacecraft in space

317

00:13:36,629 --> 00:13:34,079

colonel beau this is discovery's last

318

00:13:38,310 --> 00:13:36,639

flight so what's next for you along with

319

00:13:39,990 --> 00:13:38,320

all the other crew members and for the

320

00:13:41,509 --> 00:13:40,000

shuttle mission itself

321

00:13:42,710 --> 00:13:41,519

that's a great question you know there's

322

00:13:43,990 --> 00:13:42,720

there's uh

323

00:13:45,189 --> 00:13:44,000

you know for the future after the

324

00:13:46,629 --> 00:13:45,199

shuttle that those things are being

325

00:13:49,110 --> 00:13:46,639

worked out right now decisions are being

326

00:13:50,790 --> 00:13:49,120

made on high for future vehicles we're

327

00:13:52,069 --> 00:13:50,800

looking at commercial vehicles to carry

328

00:13:54,069 --> 00:13:52,079

astronauts up to the space station

329

00:13:57,189 --> 00:13:54,079

obviously we'll continue coming up to

330

00:13:59,110 --> 00:13:57,199

the space station on board soyuz's

331

00:14:00,470 --> 00:13:59,120

as far as me personally that's one of

332

00:14:03,269 --> 00:14:00,480

the things yeah i would love to have the

333

00:14:05,030 --> 00:14:03,279

chance to fly on up to space station and

334

00:14:07,269 --> 00:14:05,040

get the chance to live up here

335

00:14:08,870 --> 00:14:07,279

like katie and scott for

336

00:14:10,389 --> 00:14:08,880

up to six months that would be a great

337

00:14:11,829 --> 00:14:10,399

opportunity but obviously there's a lot

338

00:14:13,670 --> 00:14:11,839

of other people who'd like to do that as

339

00:14:14,550 --> 00:14:13,680

well so have to see how those things

340

00:14:16,069 --> 00:14:14,560

work out you know that's one of the

341

00:14:17,590 --> 00:14:16,079

mysteries of life so an astronaut is how

342

00:14:21,430 --> 00:14:17,600

you get assigned to a mission so if i'm

343

00:14:23,030 --> 00:14:21,440

lucky enough i'd like to do it again

344

00:14:25,829 --> 00:14:23,040

i remember the first shuttle flight back

345

00:14:28,550 --> 00:14:25,839

in 1981 my three daughters don't they

346

00:14:31,590 --> 00:14:28,560

have no idea do you think space travel

347

00:14:33,670 --> 00:14:31,600

is getting to be old news what's next

348

00:14:34,790 --> 00:14:33,680

for nasa after the shuttle program is

349

00:14:36,470 --> 00:14:34,800

retired

350

00:14:38,550 --> 00:14:36,480

well i think the objective that nasa set

351
00:14:40,470 --> 00:14:38,560
out back in 58

352
00:14:41,829 --> 00:14:40,480
was that that space travel shouldn't

353
00:14:43,829 --> 00:14:41,839
really be news after a while it should

354
00:14:45,590 --> 00:14:43,839
be part of our routine existence so to

355
00:14:47,269 --> 00:14:45,600
think that we've had the space station

356
00:14:48,949 --> 00:14:47,279
continually inhabited for the last 10

357
00:14:50,550 --> 00:14:48,959
years so there are fifth graders who've

358
00:14:52,310 --> 00:14:50,560
never known the space station not to be

359
00:14:54,150 --> 00:14:52,320
in space with astronauts on board i

360
00:14:55,189 --> 00:14:54,160
think is a major success a milestone for

361
00:14:57,110 --> 00:14:55,199
nasa

362
00:14:59,509 --> 00:14:57,120
so what i look forward to in the future

363
00:15:01,189 --> 00:14:59,519

is when space travel becomes routine

364

00:15:02,870 --> 00:15:01,199

just as back in the 1930s only

365

00:15:04,389 --> 00:15:02,880

daredevils and barnstormers took to the

366

00:15:06,629 --> 00:15:04,399

skies and now we have everybody flying

367

00:15:08,310 --> 00:15:06,639

around in airlines at some point and

368

00:15:09,110 --> 00:15:08,320

before these children become

369

00:15:10,870 --> 00:15:09,120

old

370

00:15:12,470 --> 00:15:10,880

we should have routine travel people

371

00:15:14,470 --> 00:15:12,480

above the planet here and above earth

372

00:15:16,230 --> 00:15:14,480

here and maybe traveling out to the moon

373

00:15:17,910 --> 00:15:16,240

for nasa i think the push out into the

374

00:15:18,949 --> 00:15:17,920

solar system is what's next for us to go

375

00:15:21,189 --> 00:15:18,959

to the moon

376

00:15:22,870 --> 00:15:21,199

go to mars the asteroid belt to go and

377

00:15:26,870 --> 00:15:22,880

explore to push out the frontiers which

378

00:15:31,189 --> 00:15:28,790

what is it like knowing this is the very

379

00:15:33,269 --> 00:15:31,199

last mission for discovery

380

00:15:35,430 --> 00:15:33,279

well discovery is a really historic

381

00:15:37,430 --> 00:15:35,440

vehicle a lot of ways it took its name

382

00:15:39,030 --> 00:15:37,440

from a lot of ships of exploration over

383

00:15:40,629 --> 00:15:39,040

many centuries and it comes with a

384

00:15:41,990 --> 00:15:40,639

pretty rich heritage and it's really

385

00:15:43,990 --> 00:15:42,000

lived up to that

386

00:15:45,910 --> 00:15:44,000

and when you think about when you retire

387

00:15:47,829 --> 00:15:45,920

a vehicle usually it's when it's old and

388

00:15:48,949 --> 00:15:47,839

dilapidated but discovery is at the top

389

00:15:50,629 --> 00:15:48,959

of her game

390

00:15:52,629 --> 00:15:50,639

she just performed magnificently getting

391

00:15:54,710 --> 00:15:52,639

us up here and that's pretty much what

392

00:15:56,470 --> 00:15:54,720

you need for space flight it's a it's uh

393

00:15:58,550 --> 00:15:56,480

where technology has to work at it's

394

00:15:59,990 --> 00:15:58,560

cutting edge and discovery's still doing

395

00:16:02,470 --> 00:16:00,000

that so i think we're all going to be

396

00:16:04,150 --> 00:16:02,480

kind of sad to see it go

397

00:16:05,829 --> 00:16:04,160

but i think it

398

00:16:08,550 --> 00:16:05,839

needs to be replaced by something that

399

00:16:10,069 --> 00:16:08,560

can do more things different things

400

00:16:11,749 --> 00:16:10,079

and we're going to remember discovery

401

00:16:13,590 --> 00:16:11,759

and all the shuttle fleet i think is the

402

00:16:16,150 --> 00:16:13,600

most capable vehicles that have ever

403

00:16:17,990 --> 00:16:16,160

flown in space

404

00:16:19,670 --> 00:16:18,000

very nice and one more question do you

405

00:16:20,949 --> 00:16:19,680

uh do you guys have the ability to watch

406

00:16:22,310 --> 00:16:20,959

the oscars tonight or are you even

407

00:16:24,629 --> 00:16:22,320

interested will you be watching if you

408

00:16:25,910 --> 00:16:24,639

can or is it mostly just get updates or

409

00:16:30,310 --> 00:16:25,920

how do you guys get information like

410

00:16:34,389 --> 00:16:32,629

yeah we could actually watch it

411

00:16:35,990 --> 00:16:34,399

while we have the

412

00:16:38,389 --> 00:16:36,000

satellite coverage which is probably

413

00:16:40,069 --> 00:16:38,399

about 45 minutes an hour so if we if we

414

00:16:41,350 --> 00:16:40,079

chose to we could have the ground send

415

00:16:44,710 --> 00:16:41,360

it up over a

416

00:16:46,710 --> 00:16:44,720

computer software program and uh i

417

00:16:49,269 --> 00:16:46,720

really didn't wasn't aware that it was

418

00:16:51,590 --> 00:16:49,279

tonight but potentially

419

00:16:53,509 --> 00:16:51,600

we could we could watch if we weren't

420

00:16:55,509 --> 00:16:53,519

working

421

00:16:56,870 --> 00:16:55,519

sure i'm sure it's not the the most

422

00:16:58,389 --> 00:16:56,880

pressing thing on your mind right now

423

00:16:59,590 --> 00:16:58,399

but uh we thank you for your time we

424

00:17:01,030 --> 00:16:59,600

hope you guys have a successful mission

425

00:17:04,549 --> 00:17:01,040

thank you for taking the time out to be

426

00:17:04,559 --> 00:17:16,549

you're very welcome

427

00:17:21,590 --> 00:17:19,350

this view in the equipment lock shows

428

00:17:23,590 --> 00:17:21,600

steve bowen in the foreground and al

429

00:17:25,829 --> 00:17:23,600

drew behind him

430

00:17:28,069 --> 00:17:25,839

working to prepare their spacesuits for

431

00:17:30,230 --> 00:17:28,079

tomorrow's spacewalk

432

00:17:33,510 --> 00:17:30,240

bowen and drew are

433

00:17:36,470 --> 00:17:33,520

now on a 45-minute block of time that is

434

00:17:39,430 --> 00:17:36,480

uh set aside to allow them to continue

435

00:17:41,510 --> 00:17:39,440

to get everything set up in this area

436

00:17:44,230 --> 00:17:41,520

and when they finish with that they then

437

00:17:46,230 --> 00:17:44,240

have a couple of hours to get all the

438

00:17:48,070 --> 00:17:46,240

tools set up

439

00:17:50,870 --> 00:17:48,080

with at each of the

440

00:17:52,390 --> 00:17:50,880

emu's each of the spacesuits so that

441

00:17:55,590 --> 00:17:52,400

tomorrow morning they'll be able to get

442

00:17:58,950 --> 00:17:55,600

out to the relative speed

443

00:18:00,390 --> 00:17:58,960

and to help orient you behind al drew

444

00:18:03,190 --> 00:18:00,400

through that hatch

445

00:18:06,630 --> 00:18:03,200

is the other compartment of the quest

446

00:18:09,909 --> 00:18:06,640

air lock that's known as the crew lock

447

00:18:11,750 --> 00:18:09,919

and that is the area of the module

448

00:18:13,350 --> 00:18:11,760

in which the two of them will be placed

449

00:18:15,270 --> 00:18:13,360

after they get suited up and are ready

450

00:18:17,750 --> 00:18:15,280

to go out tomorrow

451

00:18:21,029 --> 00:18:17,760

the hatch to that compartment can be

452

00:18:23,430 --> 00:18:21,039

closed and then just that portion of the

453

00:18:25,990 --> 00:18:23,440

airlock is depressurized

454

00:18:27,430 --> 00:18:26,000

and a hatch is located there for them to

455

00:18:29,350 --> 00:18:27,440

exit the vehicle

456

00:18:31,110 --> 00:18:29,360

that way the

457

00:18:33,430 --> 00:18:31,120

equipment lock portion does not have to

458

00:18:36,150 --> 00:18:33,440

be depressurized and

459

00:18:37,190 --> 00:18:36,160

have the air vented to space it helps it

460

00:18:41,510 --> 00:18:37,200

preserve

461

00:18:46,150 --> 00:18:43,750

this is uh paolo nespoli

462

00:18:47,909 --> 00:18:46,160

who is in the columbus module

463

00:18:50,870 --> 00:18:47,919

if you look beyond him through the

464

00:18:53,190 --> 00:18:50,880

hatchway that's the harmony module and

465

00:18:56,710 --> 00:18:53,200

through the other hatchway

466

00:18:58,630 --> 00:18:56,720

into the kibo laboratory module

467

00:19:00,230 --> 00:18:58,640

the live look inside the destiny

468

00:19:01,190 --> 00:19:00,240

laboratory the international space

469

00:19:03,669 --> 00:19:01,200

station

470

00:19:06,070 --> 00:19:03,679

where flight engineer katie coleman and

471

00:19:08,630 --> 00:19:06,080

mission specialist mike barrett are

472

00:19:12,230 --> 00:19:08,640

working packing up samples that have

473

00:19:13,350 --> 00:19:12,240

been in the minus 80 degrees laboratory

474

00:19:14,230 --> 00:19:13,360

freezer

475

00:19:17,190 --> 00:19:14,240

and

476

00:19:19,110 --> 00:19:17,200

putting them into double cold bags to

477

00:19:21,190 --> 00:19:19,120

preserve those experiment samples for

478

00:19:24,549 --> 00:19:21,200

return to earth when

479

00:19:26,150 --> 00:19:24,559

shuttle discovery undocks and heads home

480

00:19:29,350 --> 00:19:26,160

beyond these two crew members through

481

00:19:32,070 --> 00:19:29,360

the hatch is the unity module you see

482

00:19:34,390 --> 00:19:32,080

crew members floating through over there

483

00:19:36,070 --> 00:19:34,400

uh if you went into unity and turned

484

00:19:39,669 --> 00:19:36,080

left you would get to the station

485

00:19:42,549 --> 00:19:39,679

airlock where spacewalkers al drew and

486

00:19:44,710 --> 00:19:42,559

steve bowen are at work continuing their

487

00:19:47,510 --> 00:19:44,720

configuration of their tools for

488

00:19:51,270 --> 00:19:47,520

tomorrow's spacewalk that eva gets

489

00:19:54,310 --> 00:19:51,280

started at 10 18 tomorrow morning

490

00:19:56,630 --> 00:19:54,320

a moment ago we also saw flight engineer

491

00:19:59,110 --> 00:19:56,640

paolo nespoli he's in the columbus

492

00:20:00,950 --> 00:19:59,120

laboratory where he's been working on a

493

00:20:02,230 --> 00:20:00,960

variety of maintenance tasks throughout

494

00:20:05,190 --> 00:20:02,240

the afternoon

495

00:20:07,029 --> 00:20:05,200

now a look at the nespoli who is packing

496

00:20:09,750 --> 00:20:07,039

up some trash

497

00:20:12,789 --> 00:20:09,760

he's been working in the columbus module

498

00:20:15,350 --> 00:20:12,799

for a few hours now and we heard him in

499

00:20:17,909 --> 00:20:15,360

contact with the mission control center

500

00:20:19,669 --> 00:20:17,919

operated by the european space agency

501
00:20:22,310 --> 00:20:19,679
known as the columbus control center

502
00:20:37,430 --> 00:20:22,320
that's in oberfaffenhofen germany which

503
00:20:42,230 --> 00:20:39,590
what we're seeing now is a live view on

504
00:20:44,230 --> 00:20:42,240
the station's truss structure as the

505
00:20:46,310 --> 00:20:44,240
mobile transporter

506
00:20:48,710 --> 00:20:46,320
which supports the mobile base system

507
00:20:52,230 --> 00:20:48,720
which in turn is supporting the

508
00:20:54,870 --> 00:20:52,240
station's robotic arm is translating

509
00:20:58,230 --> 00:20:54,880
from work site number three to work site

510
00:21:00,950 --> 00:20:58,240
number two this is a very short trip

511
00:21:03,669 --> 00:21:00,960
but the uh

512
00:21:06,470 --> 00:21:03,679
the mt the mobile transporter is being

513
00:21:09,029 --> 00:21:06,480

moved to get the base into the proper

514

00:21:10,710 --> 00:21:09,039

location to support tomorrow's spacewalk

515

00:21:12,149 --> 00:21:10,720

activities

516

00:21:15,830 --> 00:21:12,159

the

517

00:21:17,750 --> 00:21:15,840

robotics system is designed to run on a

518

00:21:19,350 --> 00:21:17,760

pair of rails that go across the front

519

00:21:21,270 --> 00:21:19,360

of the station's truss

520

00:21:22,950 --> 00:21:21,280

from the port side to the starboard they

521

00:21:25,750 --> 00:21:22,960

run out to

522

00:21:27,590 --> 00:21:25,760

almost to the point where the rotating

523

00:21:29,750 --> 00:21:27,600

solar arrays

524

00:21:31,750 --> 00:21:29,760

exist they don't go out to the very end

525

00:21:34,390 --> 00:21:31,760

of the trust

526
00:21:35,510 --> 00:21:34,400
though in fact one of the tasks

527
00:21:37,909 --> 00:21:35,520
on the

528
00:21:40,789 --> 00:21:37,919
spacewalk plan for tomorrow

529
00:21:44,390 --> 00:21:40,799
calls for steve bowen and al drew to

530
00:21:46,710 --> 00:21:44,400
install some small extensions on the

531
00:21:49,190 --> 00:21:46,720
starboard end of these tracks

532
00:21:51,909 --> 00:21:49,200
that will permit the uh

533
00:21:55,029 --> 00:21:51,919
mobile transporter with the seda cart

534
00:21:57,190 --> 00:21:55,039
attached to move just a little further

535
00:22:00,870 --> 00:21:57,200
out onto the truss to support additional

536
00:22:04,789 --> 00:22:03,350
uh we're filling this bag with what we

537
00:22:06,470 --> 00:22:04,799
call technical water space water that

538
00:22:08,549 --> 00:22:06,480

you're not gonna use to drink we call it

539

00:22:10,390 --> 00:22:08,559

technical water

540

00:22:11,510 --> 00:22:10,400

and i'm gonna go transfer it over to

541

00:22:13,510 --> 00:22:11,520

space station

542

00:22:15,909 --> 00:22:13,520

how many bags do you have to fill today

543

00:22:18,549 --> 00:22:15,919

uh just this one well this one cwc and

544

00:22:20,390 --> 00:22:18,559

then we're actually gonna do a pwr's

545

00:22:23,590 --> 00:22:20,400

which is a bag that we use for filling

546

00:22:24,789 --> 00:22:23,600

for uh ebas for the water reasons seats

547

00:22:27,350 --> 00:22:24,799

okay how many bags you gotta fill the

548

00:22:29,750 --> 00:22:27,360

whole mission uh that's a good question

549

00:22:41,669 --> 00:22:29,760

probably around 20 when it all lines up

550

00:22:44,549 --> 00:22:43,110

this is your flight day highlights what

551

00:22:47,270 --> 00:22:44,559

are you up to today

552

00:22:48,789 --> 00:22:47,280

i am trent i'm a transfer in school

553

00:22:54,630 --> 00:22:48,799

delivering the crew care package

554

00:22:55,990 --> 00:22:54,640

snackage puppy cakes

555

00:23:01,590 --> 00:22:56,000

hey katie

556

00:23:05,669 --> 00:23:03,350

so that's your day today

557

00:23:08,710 --> 00:23:05,679

a little robotics this morning did

558

00:23:10,710 --> 00:23:08,720

obsess handover and uh doing transfer

559

00:23:12,630 --> 00:23:10,720

and uh

560

00:23:16,950 --> 00:23:12,640

learning how much i don't know about

561

00:23:20,630 --> 00:23:19,270

i'm not doing anything yes you are mike

562

00:23:23,430 --> 00:23:20,640

tell us what you've done today well

563

00:23:26,149 --> 00:23:23,440

let's see i uh i got up i flew through

564

00:23:28,950 --> 00:23:26,159

this magnificent station and then uh i

565

00:23:31,110 --> 00:23:28,960

got to remove the obss from the payload

566

00:23:33,270 --> 00:23:31,120

bay twirl it around and hand it off to

567

00:23:35,029 --> 00:23:33,280

the shuttle arm so the shuttle guys can

568

00:23:36,549 --> 00:23:35,039

that's us

569

00:23:38,549 --> 00:23:36,559

use it to look around

570

00:23:40,789 --> 00:23:38,559

and then i did the uh activation

571

00:23:42,390 --> 00:23:40,799

checkout of the new tonometer with our

572

00:23:43,669 --> 00:23:42,400

eye simulators and now i get to go

573

00:23:45,350 --> 00:23:43,679

exercise

574

00:23:48,070 --> 00:23:45,360

mostly i'm just enjoying being back on

575

00:24:12,950 --> 00:23:48,080

this magnificent stack of modules

576

00:24:16,870 --> 00:24:14,870

all right can you see the cupola

577

00:24:19,110 --> 00:24:16,880

yes they can all right so this is a

578

00:24:21,669 --> 00:24:19,120

beautiful place to work from you'll see

579

00:24:23,750 --> 00:24:21,679

we're pointing towards the earth

580

00:24:25,350 --> 00:24:23,760

just beautiful panoramic windows and

581

00:24:27,590 --> 00:24:25,360

very fortunately we have the robotics

582

00:24:30,470 --> 00:24:27,600

workstation set up in here so that we

583

00:24:33,430 --> 00:24:30,480

can work with both the

584

00:24:35,430 --> 00:24:33,440

station arm and then in partnership with

585

00:24:37,269 --> 00:24:35,440

uh the guys over on the shuttle who have

586

00:24:40,390 --> 00:24:37,279

the shuttle robotic arm

587

00:24:42,310 --> 00:24:40,400

and today um mike and i did some work uh

588

00:24:44,710 --> 00:24:42,320

moving the big shuttle boom

589

00:24:49,750 --> 00:24:44,720

out and around and handing it off to the

590

00:24:53,750 --> 00:24:52,149

later katie and i got to do a task that

591

00:24:55,510 --> 00:24:53,760

we call a walk-off which is where we

592

00:24:57,269 --> 00:24:55,520

take one end of the arm

593

00:24:59,510 --> 00:24:57,279

put it on a place on the station take

594

00:25:02,390 --> 00:24:59,520

the other end off and now the base and

595

00:25:04,149 --> 00:25:02,400

the tip are exchanged so basically this

596

00:25:05,590 --> 00:25:04,159

arm is very cool because you can move it

597

00:25:07,430 --> 00:25:05,600

all over the space station to different

598

00:25:08,549 --> 00:25:07,440

spots and it gives you different access

599

00:25:10,070 --> 00:25:08,559

to

600

00:25:11,590 --> 00:25:10,080

do all kinds of work across the space

601
00:25:12,830 --> 00:25:11,600
station

602
00:25:16,470 --> 00:25:12,840
great

603
00:25:18,710 --> 00:25:16,480
thanks okay so this is lunchtime

604
00:25:22,070 --> 00:25:18,720
flight day for the best time and we're

605
00:25:24,870 --> 00:25:22,080
eating space station food so uh

606
00:25:32,710 --> 00:25:24,880
commander lindsay is going through the

607
00:25:35,430 --> 00:25:33,750
yes

608
00:25:37,990 --> 00:25:35,440
everybody else is over here rifling

609
00:25:39,510 --> 00:25:38,000
through food

610
00:26:00,789 --> 00:25:39,520
and then brown rice will just clear the

611
00:26:04,789 --> 00:26:02,710
all right now tell us about your morning

612
00:26:07,110 --> 00:26:04,799
this morning i got to go and transfer

613
00:26:08,950 --> 00:26:07,120

one of the pcs laptops out of the

614

00:26:10,390 --> 00:26:08,960

japanese module

615

00:26:12,630 --> 00:26:10,400

installing the flight deck so we can see

616

00:26:13,990 --> 00:26:12,640

data from the space station

617

00:26:15,430 --> 00:26:14,000

all that went okay until it's time to

618

00:26:17,110 --> 00:26:15,440

plug in the data

619

00:26:18,950 --> 00:26:17,120

so it all worked good except for the

620

00:26:20,230 --> 00:26:18,960

actually

621

00:26:21,990 --> 00:26:20,240

well first off had to find the right

622

00:26:24,390 --> 00:26:22,000

data card

623

00:26:26,310 --> 00:26:24,400

that was a bit of a treasure hunt then

624

00:26:27,909 --> 00:26:26,320

once i had the the card located and put

625

00:26:29,269 --> 00:26:27,919

in the right spot the data still

626

00:26:30,950 --> 00:26:29,279

wouldn't flow

627

00:26:33,669 --> 00:26:30,960

this will be a little bit of a wiring no

628

00:26:35,590 --> 00:26:33,679

spark chasing and found out that it was

629

00:26:38,789 --> 00:26:35,600

come to the wrong plug up on the shuttle

630

00:26:40,390 --> 00:26:38,799

panel so on the right plug wrong panel

631

00:26:41,830 --> 00:26:40,400

so once we got that going the right card

632

00:26:43,350 --> 00:26:41,840

in the right plug everything closed just

633

00:26:44,710 --> 00:26:43,360

fine

634

00:26:46,630 --> 00:26:44,720

now we have data

635

00:26:48,789 --> 00:26:46,640

good

636

00:26:50,350 --> 00:26:48,799

so here we have b alvin drew and steve

637

00:26:52,630 --> 00:26:50,360

bowen

638

00:26:54,310 --> 00:26:52,640

uncharacteristically speechless actually

639

00:26:56,230 --> 00:26:54,320

they can't talk because they're wearing

640

00:27:00,230 --> 00:26:56,240

masks

641

00:27:02,789 --> 00:27:00,240

because they're terribly comfortable

642

00:27:04,549 --> 00:27:02,799

and they're starting to uh pre-breathe

643

00:27:06,230 --> 00:27:04,559

oxygen to wash the nitrogen out of their

644

00:27:07,350 --> 00:27:06,240

bodies getting ready for their spacewalk

645

00:27:08,950 --> 00:27:07,360

tomorrow

646

00:27:10,230 --> 00:27:08,960

in about a half hour we're going to shut

647

00:27:12,310 --> 00:27:10,240

the door here and they're going to

648

00:27:15,750 --> 00:27:12,320

depress down to uh

649

00:27:17,350 --> 00:27:15,760

about 10.2 psi roughly about 10 000 feet

650

00:27:19,830 --> 00:27:17,360

in altitude

651
00:27:21,430 --> 00:27:19,840
they'll spend the night there and uh

652
00:27:22,870 --> 00:27:21,440
we'll let them out for a short time in

653
00:27:24,470 --> 00:27:22,880
the morning

654
00:27:25,909 --> 00:27:24,480
to hit the bathroom and clean up a

655
00:27:28,149 --> 00:27:25,919
little bit and then we'll go back in

656
00:27:30,149 --> 00:27:28,159
here and they'll be on masks for that

657
00:27:31,750 --> 00:27:30,159
and once they get back in here we'll get

658
00:27:33,669 --> 00:27:31,760
them all dressed up in their spacesuits

659
00:27:35,350 --> 00:27:33,679
and ready to go out the door

660
00:27:37,590 --> 00:27:35,360
and our commander has given them all

661
00:27:39,190 --> 00:27:37,600
sorts of words of encouragement and also

662
00:27:40,549 --> 00:27:39,200
told that if they do a bad job he won't

663
00:27:42,549 --> 00:27:40,559

let him back in

664

00:27:45,029 --> 00:27:42,559

so with that i think we are ready for

665

00:27:47,750 --> 00:27:45,039

spacewalk ops tomorrow