



1
00:00:52,630 --> 00:00:08,710
howdy i'm bob bankins spacewalker on

2
00:00:52,640 --> 00:01:21,830
you can't take the sky from me

3
00:01:21,840 --> 00:01:26,870
good morning endeavor

4
00:01:33,190 --> 00:01:28,469
and a special good morning to you today

5
00:01:37,830 --> 00:01:35,590
well thank you shannon um and a special

6
00:01:40,630 --> 00:01:37,840
good morning back to you guys uh down in

7
00:01:44,149 --> 00:01:40,640
houston for helping us out so much

8
00:01:45,990 --> 00:01:44,159
yesterday for a successful eva one

9
00:01:47,990 --> 00:01:46,000
and uh i'd also

10
00:01:51,190 --> 00:01:48,000
just like to say that

11
00:01:53,910 --> 00:01:51,200
both on endeavor and on the iss uh there

12
00:01:55,990 --> 00:01:53,920
is a little piece of serenity

13
00:01:59,429 --> 00:01:56,000

for each of us who are fans of the

14

00:02:02,789 --> 00:02:00,950

this is mission control houston with a

15

00:02:03,990 --> 00:02:02,799

view back inside the international space

16

00:02:07,510 --> 00:02:04,000

station

17

00:02:09,589 --> 00:02:07,520

crews are working through the

18

00:02:16,550 --> 00:02:09,599

first tasks of the day

19

00:02:20,869 --> 00:02:19,110

the crew members will be focusing on

20

00:02:38,550 --> 00:02:20,879

the

21

00:02:41,270 --> 00:02:38,560

and he will be joined by astronaut

22

00:02:43,350 --> 00:02:41,280

nicholas patrick to work on that those

23

00:02:44,550 --> 00:02:43,360

preparation activities for their second

24

00:02:46,390 --> 00:02:44,560

spacewalk

25

00:02:49,190 --> 00:02:46,400

that will be taking place saturday

26

00:02:55,030 --> 00:02:52,229

as canadarm2 was used to retrieve

27

00:02:57,509 --> 00:02:55,040

tranquility from endeavors cargo bay and

28

00:03:01,589 --> 00:02:57,519

bring it up to install on the port side

29

00:03:05,830 --> 00:03:03,750

for this operation today the arm was

30

00:03:09,670 --> 00:03:05,840

commanded to release tranquility now

31

00:03:12,390 --> 00:03:09,680

that it is installed on the station

32

00:03:14,790 --> 00:03:12,400

and this free arm is going to rotate

33

00:03:43,830 --> 00:03:14,800

around and down to latch onto the

34

00:03:48,149 --> 00:03:45,910

this is a view from a camera on the end

35

00:03:50,390 --> 00:03:48,159

of canadarm2 looking down at the grapple

36

00:03:52,949 --> 00:03:50,400

fixture that it will be attached to

37

00:03:54,789 --> 00:03:52,959

shortly on the destiny lab

38

00:03:57,750 --> 00:03:54,799

it's a view providing

39

00:04:00,070 --> 00:03:57,760

an alignment guide for astronauts terry

40

00:04:16,229 --> 00:04:00,080

verts and kay heyer who are operating

41

00:04:20,069 --> 00:04:18,069

suit experienced an issue with one of

42

00:04:22,390 --> 00:04:20,079

the fans operating at a lower speed than

43

00:04:24,629 --> 00:04:22,400

expected which was fine for the first

44

00:04:28,950 --> 00:04:24,639

spacewalk but engineers prefer that a

45

00:04:33,030 --> 00:04:28,960

different spacesuit being used as that

46

00:04:35,749 --> 00:04:33,909

suit

47

00:04:37,430 --> 00:04:35,759

originally for banking now has the new

48

00:04:39,590 --> 00:04:37,440

power harness and

49

00:04:40,870 --> 00:04:39,600

patrick indicated it checked out okay

50

00:04:43,990 --> 00:04:40,880

and

51
00:04:47,830 --> 00:04:46,310
be resized basically taking the lower

52
00:04:49,350 --> 00:04:47,840
torque

53
00:04:52,070 --> 00:04:49,360
on the outside of the international

54
00:04:54,150 --> 00:04:52,080
space station the canadarm2 continues to

55
00:04:57,110 --> 00:04:54,160
move into a new position

56
00:04:59,350 --> 00:04:57,120
it will be parked until it is needed for

57
00:05:02,150 --> 00:04:59,360
the relocation of the cupola

58
00:05:03,909 --> 00:05:02,160
cupola is seen covered by

59
00:05:04,870 --> 00:05:03,919
some thermal blankets in the lower right

60
00:05:06,469 --> 00:05:04,880
corner

61
00:05:09,110 --> 00:05:06,479
of this view

62
00:05:11,990 --> 00:05:09,120
it will be relocated to the earth-facing

63
00:05:13,510 --> 00:05:12,000

port on tranquility

64

00:05:16,150 --> 00:05:13,520

this is a live view inside the

65

00:05:18,230 --> 00:05:16,160

international space station

66

00:05:24,870 --> 00:05:18,240

with a camera set up in the unity node

67

00:05:29,350 --> 00:05:26,950

crew members are doing the initial setup

68

00:05:32,629 --> 00:05:29,360

work to provide some airflow into the

69

00:05:32,639 --> 00:05:36,870

with a temporary ducting

70

00:05:42,310 --> 00:05:39,430

noguchi and kotov worked on removing

71

00:05:45,029 --> 00:05:42,320

that exercise device from its location

72

00:05:46,790 --> 00:05:45,039

in unity earlier because it is in the

73

00:05:48,150 --> 00:05:46,800

area where these crew members are

74

00:05:49,830 --> 00:05:48,160

working now

75

00:05:51,749 --> 00:05:49,840

so that is why that is the piece of

76

00:05:53,270 --> 00:05:51,759

equipment to be moved first into

77

00:05:55,110 --> 00:05:53,280

tranquility

78

00:06:05,670 --> 00:05:55,120

the actual installation of the exercise

79

00:06:10,309 --> 00:06:08,070

the initial setup of that duct work

80

00:06:11,029 --> 00:06:10,319

indicated some airflow readings that

81

00:06:13,029 --> 00:06:11,039

aren't

82

00:06:17,350 --> 00:06:13,039

as

83

00:06:20,390 --> 00:06:17,360

the team had expected

84

00:06:21,270 --> 00:06:20,400

but calculations indicate that it will

85

00:06:24,629 --> 00:06:21,280

work

86

00:06:28,790 --> 00:06:26,390

time being for the

87

00:06:32,550 --> 00:06:28,800

about for four crew members to work

88

00:06:34,150 --> 00:06:32,560

inside the module at a time

89

00:06:35,670 --> 00:06:34,160

this is mission control houston with the

90

00:06:37,909 --> 00:06:35,680

view inside the international space

91

00:06:39,510 --> 00:06:37,919

station station commander jeff williams

92

00:06:42,230 --> 00:06:39,520

is taking the video camera to show

93

00:06:45,909 --> 00:06:42,240

mission control the setup inside the

94

00:06:47,510 --> 00:06:45,919

cupola hatch is open there still for the

95

00:06:51,749 --> 00:06:47,520

crew members to work on the procedures

96

00:06:53,990 --> 00:06:51,759

to get the cupola ready for relocation

97

00:06:56,629 --> 00:06:54,000

he's working on the procedure

98

00:06:59,270 --> 00:06:56,639

to install a cover

99

00:07:13,350 --> 00:06:59,280

on that hatchway before closing the

100

00:07:20,070 --> 00:07:15,029

debra houston you guys ready for the

101

00:07:27,029 --> 00:07:22,469

mike yes good uh i guess it's good

102

00:07:32,309 --> 00:07:28,830

uh first thing is

103

00:07:35,589 --> 00:07:32,319

uh first question is about the sounds

104

00:07:37,589 --> 00:07:35,599

and smells in space can you describe how

105

00:07:40,230 --> 00:07:37,599

the various parts of the shuttle or the

106

00:07:42,710 --> 00:07:40,240

iss how they smell and some of the

107

00:07:44,790 --> 00:07:42,720

sounds that you hear that might might

108

00:07:46,309 --> 00:07:44,800

describe the environment for their or

109

00:07:47,589 --> 00:07:46,319

your followers

110

00:07:49,110 --> 00:07:47,599

well that's a good question mike

111

00:07:51,589 --> 00:07:49,120

obviously launch is really noisy but

112

00:07:52,950 --> 00:07:51,599

once you're in space um space itself is

113

00:07:54,230 --> 00:07:52,960

really quiet but the inside of the

114

00:07:56,869 --> 00:07:54,240

spacecraft

115

00:07:57,909 --> 00:07:56,879

um is never quite this it's full of fan

116

00:07:59,830 --> 00:07:57,919

noise

117

00:08:02,790 --> 00:07:59,840

everywhere you go there's a fan

118

00:08:05,110 --> 00:08:02,800

circulating air because there's no

119

00:08:06,469 --> 00:08:05,120

no convection that on earth is caused by

120

00:08:08,230 --> 00:08:06,479

gravity and temperature differences

121

00:08:09,670 --> 00:08:08,240

there's no convection up here to

122

00:08:11,749 --> 00:08:09,680

circulate the air for you so that's the

123

00:08:13,270 --> 00:08:11,759

biggest noise we notice

124

00:08:15,510 --> 00:08:13,280

how about smells bob what do you notice

125

00:08:17,350 --> 00:08:15,520

up here

126

00:08:19,510 --> 00:08:17,360

well i think one of the most

127

00:08:21,350 --> 00:08:19,520

remarkable smells that you notice in

128

00:08:22,309 --> 00:08:21,360

space everything smells relatively

129

00:08:23,909 --> 00:08:22,319

similar

130

00:08:25,670 --> 00:08:23,919

except for food

131

00:08:27,830 --> 00:08:25,680

and then one other thing and that's uh

132

00:08:29,670 --> 00:08:27,840

that second thing is the smell that uh

133

00:08:32,310 --> 00:08:29,680

you smell when you actually go into a

134

00:08:35,430 --> 00:08:32,320

place that was recently at vacuum um

135

00:08:36,630 --> 00:08:35,440

i've heard it described as ozone-ish um

136

00:08:38,630 --> 00:08:36,640

also

137

00:08:41,269 --> 00:08:38,640

being attributed to the oxidation of

138

00:08:43,750 --> 00:08:41,279

aluminum but the smell of coming into an

139

00:08:45,509 --> 00:08:43,760

area that had just been a vacuum just

140

00:08:48,150 --> 00:08:45,519

been at space

141

00:08:50,230 --> 00:08:48,160

is really unique and i haven't smelled

142

00:08:53,430 --> 00:08:50,240

it to any place on the ground

143

00:08:55,509 --> 00:08:53,440

just coming through the hatch or

144

00:08:57,350 --> 00:08:55,519

actually coming back in from an eva you

145

00:08:58,790 --> 00:08:57,360

can smell the eva crew members or

146

00:09:01,030 --> 00:08:58,800

spacewalkers when they come in they

147

00:09:03,110 --> 00:09:01,040

really have a strong smell the smell of

148

00:09:04,870 --> 00:09:03,120

space

149

00:09:06,710 --> 00:09:04,880

i just can't help to follow up on that

150

00:09:08,310 --> 00:09:06,720

question what do you think causes that

151
00:09:10,070 --> 00:09:08,320
that smell of space what do you what do

152
00:09:15,190 --> 00:09:10,080
you think it is you think it's actually

153
00:09:19,190 --> 00:09:17,190
i think the the smell that you get is

154
00:09:21,110 --> 00:09:19,200
actually all the hard work of uh the

155
00:09:22,949 --> 00:09:21,120
space walkers who are outside you know

156
00:09:24,790 --> 00:09:22,959
they spend uh

157
00:09:26,790 --> 00:09:24,800
six or eight hours

158
00:09:29,030 --> 00:09:26,800
like yourself mike eight hours on a

159
00:09:31,190 --> 00:09:29,040
spacewalk on the last couple that you

160
00:09:32,949 --> 00:09:31,200
had on hubble they spend a lot of time

161
00:09:37,590 --> 00:09:32,959
outside working and you can generate

162
00:09:41,670 --> 00:09:39,509
okay i have a way i like to describe

163
00:09:44,790 --> 00:09:41,680

that smell to people mike

164

00:09:47,190 --> 00:09:44,800

that that smell to me is to metal uh

165

00:09:48,829 --> 00:09:47,200

what the smell of toast is to bread if

166

00:09:50,710 --> 00:09:48,839

that makes any

167

00:09:52,949 --> 00:09:50,720

sense yeah that's why we thought it

168

00:09:54,230 --> 00:09:52,959

might be some outgassing going on there

169

00:09:56,470 --> 00:09:54,240

all right thanks very much that's

170

00:09:58,150 --> 00:09:56,480

question number one question number two

171

00:10:00,230 --> 00:09:58,160

we're looking for funny moments were

172

00:10:02,389 --> 00:10:00,240

there any funny moments particularly

173

00:10:04,470 --> 00:10:02,399

after you first get to space you know

174

00:10:07,110 --> 00:10:04,480

anything anything unusual anything funny

175

00:10:09,190 --> 00:10:07,120

when you unbuckle zero g for the first

176

00:10:10,630 --> 00:10:09,200

time what was that like

177

00:10:12,710 --> 00:10:10,640

i think we were both smiling when we

178

00:10:14,630 --> 00:10:12,720

unbuckled um

179

00:10:16,949 --> 00:10:14,640

the the funny the funny things are when

180

00:10:19,509 --> 00:10:16,959

when things that you think you had just

181

00:10:21,110 --> 00:10:19,519

10 seconds ago are gone and there's one

182

00:10:23,350 --> 00:10:21,120

thing i lost i still haven't found it

183

00:10:25,910 --> 00:10:23,360

five days later

184

00:10:27,590 --> 00:10:25,920

so we're too busy to really

185

00:10:30,230 --> 00:10:27,600

really have uh

186

00:10:32,470 --> 00:10:30,240

our humors up at full speed but it is

187

00:10:34,470 --> 00:10:32,480

amusing to watch uh things and people

188

00:10:35,910 --> 00:10:34,480

fly around as though

189

00:10:37,670 --> 00:10:35,920

their first time in a new environment

190

00:10:41,910 --> 00:10:37,680

and for many of us it is the first time

191

00:10:45,030 --> 00:10:43,190

yeah i think one of the things i

192

00:10:47,190 --> 00:10:45,040

wouldn't describe as a you know kind of

193

00:10:49,590 --> 00:10:47,200

funny in the joking sort of a sense but

194

00:10:51,670 --> 00:10:49,600

uh what was really fun for me uh on this

195

00:10:53,590 --> 00:10:51,680

flight was to see uh folks get to do

196

00:10:54,389 --> 00:10:53,600

things for the first time and so to see

197

00:10:58,630 --> 00:10:54,399

uh

198

00:11:00,389 --> 00:10:58,640

floating around and try to work his way

199

00:11:02,790 --> 00:11:00,399

out of his suit and

200

00:11:05,110 --> 00:11:02,800

deal with the challenges of weakness

201
00:11:06,870 --> 00:11:05,120
weightlessness was a was fun to watch

202
00:11:08,949 --> 00:11:06,880
for me and it was also fun for me to

203
00:11:10,710 --> 00:11:08,959
share that experience with him as he uh

204
00:11:13,269 --> 00:11:10,720
went through it for the first time and

205
00:11:15,269 --> 00:11:13,279
for nick going out the hatch it was fun

206
00:11:16,949 --> 00:11:15,279
for me to watch him go out on his first

207
00:11:19,350 --> 00:11:16,959
spacewalk and

208
00:11:20,870 --> 00:11:19,360
experience that for the first time so

209
00:11:21,829 --> 00:11:20,880
it's not really funny in the comical

210
00:11:23,829 --> 00:11:21,839
sense

211
00:11:25,509 --> 00:11:23,839
nick didn't do anything comical during

212
00:11:27,350 --> 00:11:25,519
the eva but

213
00:11:28,870 --> 00:11:27,360

it was fun for me to be there for the

214

00:11:30,470 --> 00:11:28,880

first time a couple of folks got to do

215

00:11:32,550 --> 00:11:30,480

those things

216

00:11:34,389 --> 00:11:32,560

for both of you can you describe what

217

00:11:35,829 --> 00:11:34,399

the earth looks like i mean either

218

00:11:37,430 --> 00:11:35,839

through the through the windows of the

219

00:11:39,030 --> 00:11:37,440

spaceship is one thing but what did it

220

00:11:44,389 --> 00:11:39,040

what was your impressions of seeing it

221

00:11:48,310 --> 00:11:46,150

well well mike i think there's uh two

222

00:11:50,870 --> 00:11:48,320

things that are really impressive during

223

00:11:53,350 --> 00:11:50,880

the spacewalk the first one is just the

224

00:11:54,949 --> 00:11:53,360

depth of the atmosphere and so you can

225

00:11:56,710 --> 00:11:54,959

see the clouds

226

00:11:58,470 --> 00:11:56,720

and the shadow that they cast i don't

227

00:12:00,230 --> 00:11:58,480

know if if you've ever had the

228

00:12:02,870 --> 00:12:00,240

experience of being on the ground and

229

00:12:05,350 --> 00:12:02,880

then had an airplane fly over you or or

230

00:12:07,509 --> 00:12:05,360

had a dense cloud go over you but that

231

00:12:09,030 --> 00:12:07,519

shadow that it cast on the ground and

232

00:12:10,949 --> 00:12:09,040

then that's something that you can

233

00:12:12,949 --> 00:12:10,959

really see the depth of the atmosphere

234

00:12:15,190 --> 00:12:12,959

and notice how high the clouds actually

235

00:12:17,030 --> 00:12:15,200

are you can also see lightning you can

236

00:12:18,949 --> 00:12:17,040

see cities at night

237

00:12:20,470 --> 00:12:18,959

all that remarkableness that you can

238

00:12:22,870 --> 00:12:20,480

look out the window and kind of see

239

00:12:24,870 --> 00:12:22,880

through just a little small portal you

240

00:12:27,190 --> 00:12:24,880

kind of have the whole horizon out in

241

00:12:28,949 --> 00:12:27,200

front of you through your space helmet

242

00:12:30,550 --> 00:12:28,959

and it's it's really remarkable to just

243

00:12:33,030 --> 00:12:30,560

to take that all in you have to take

244

00:12:35,030 --> 00:12:33,040

mental pictures because uh uh the even

245

00:12:36,150 --> 00:12:35,040

the cameras that we have don't have a

246

00:12:39,350 --> 00:12:36,160

wide enough

247

00:12:42,389 --> 00:12:39,360

field of view to take uh all of that in

248

00:12:44,629 --> 00:12:42,399

and and the other remarkable part of uh

249

00:12:46,629 --> 00:12:44,639

going out for the uh the spacewalks is

250

00:12:48,470 --> 00:12:46,639

is again just uh thinking about all the

251
00:12:50,470 --> 00:12:48,480
people who come together to make make it

252
00:12:53,110 --> 00:12:50,480
all possible and so it took takes a

253
00:12:54,710 --> 00:12:53,120
giant team on the ground to get us into

254
00:12:56,230 --> 00:12:54,720
space and to make it all happen i know

255
00:12:58,310 --> 00:12:56,240
you had a great support team on your

256
00:13:00,470 --> 00:12:58,320
previous flights and we've had a huge

257
00:13:03,269 --> 00:13:00,480
support team and just to to know all

258
00:13:04,470 --> 00:13:03,279
those people are rewarded and excited by

259
00:13:09,590 --> 00:13:04,480
how things are going during the

260
00:13:14,310 --> 00:13:11,509
it's it's really hard to describe mike

261
00:13:16,310 --> 00:13:14,320
i'll try we went out of the hatch in the

262
00:13:18,150 --> 00:13:16,320
dark so i couldn't see anything at first

263
00:13:19,990 --> 00:13:18,160

except the underside of space station

264

00:13:21,190 --> 00:13:20,000
and endeavour which were lit in

265

00:13:23,509 --> 00:13:21,200
floodlights

266

00:13:26,230 --> 00:13:23,519
and that was beautiful enough and we got

267

00:13:27,910 --> 00:13:26,240
working and at some point in that i

268

00:13:29,430 --> 00:13:27,920
think steve warned us that our first

269

00:13:30,710 --> 00:13:29,440
sunrise was coming up and i looked

270

00:13:31,829 --> 00:13:30,720
towards the horizon and there was this

271

00:13:34,550 --> 00:13:31,839
beautiful

272

00:13:36,710 --> 00:13:34,560
blue glow coming towards us and there

273

00:13:38,310 --> 00:13:36,720
isn't much time to watch it but

274

00:13:40,470 --> 00:13:38,320
once or twice i could watch it during

275

00:13:41,829 --> 00:13:40,480
the space walk yesterday

276

00:13:43,509 --> 00:13:41,839

it was just amazing the view is

277

00:13:45,670 --> 00:13:43,519

panoramic as bob said you can in the

278

00:13:47,189 --> 00:13:45,680

helmet you can see so much more than you

279

00:13:49,990 --> 00:13:47,199

can through shuttle windows because you

280

00:13:51,509 --> 00:13:50,000

can see almost 180 degrees uh field of

281

00:13:54,069 --> 00:13:51,519

view

282

00:13:56,550 --> 00:13:54,079

but the the blue spreads across the

283

00:13:58,150 --> 00:13:56,560

horizon and towards you and then turns

284

00:14:00,150 --> 00:13:58,160

orange and red and the sun pokes up and

285

00:14:01,750 --> 00:14:00,160

the space station is bathed in a

286

00:14:03,430 --> 00:14:01,760

brilliant light

287

00:14:05,110 --> 00:14:03,440

it all happens extremely quickly and of

288

00:14:06,710 --> 00:14:05,120

course it happens 16 times a day and

289

00:14:08,949 --> 00:14:06,720

it's a really stunning sight from

290

00:14:13,590 --> 00:14:08,959

anywhere up here but especially from the

291

00:14:18,150 --> 00:14:15,430

nice job it's hard to describe it but

292

00:14:19,670 --> 00:14:18,160

you guys did really well and uh

293

00:14:21,189 --> 00:14:19,680

following up we have another question

294

00:14:23,269 --> 00:14:21,199

related to what you see during a

295

00:14:29,990 --> 00:14:23,279

spacewalk did you notice any stars while

296

00:14:35,590 --> 00:14:32,790

i did uh see some stars uh mica but they

297

00:14:37,430 --> 00:14:35,600

are are so small compared to actually

298

00:14:39,110 --> 00:14:37,440

being able to look at the earth and see

299

00:14:41,910 --> 00:14:39,120

the lightning or to see the cities at

300

00:14:44,069 --> 00:14:41,920

night that the stars are are actually

301

00:14:46,790 --> 00:14:44,079

very dim compared to the lit up space

302

00:14:49,590 --> 00:14:46,800

station or the space shuttle we did see

303

00:14:50,949 --> 00:14:49,600

a very good view of the moon and like i

304

00:14:52,710 --> 00:14:50,959

said the cities at night and the

305

00:14:55,430 --> 00:14:52,720

lightning show that you get through the

306

00:14:57,590 --> 00:14:55,440

atmosphere is just really remarkable the

307

00:14:59,509 --> 00:14:57,600

stars are a little bit tougher to see

308

00:15:01,430 --> 00:14:59,519

you can break out the colors on

309

00:15:04,150 --> 00:15:01,440

individual stars

310

00:15:05,910 --> 00:15:04,160

but they're they're they're hard to

311

00:15:09,269 --> 00:15:05,920

compare to just all you can see on the

312

00:15:14,550 --> 00:15:12,790

as bob mentioned the moon i did watch

313

00:15:16,150 --> 00:15:14,560

the moon rise

314

00:15:18,790 --> 00:15:16,160

behind bob

315

00:15:20,069 --> 00:15:18,800

yesterday once it came up through the

316

00:15:21,750 --> 00:15:20,079

atmosphere i wasn't sure what i was

317

00:15:23,829 --> 00:15:21,760

seeing but literally rose through the

318

00:15:27,189 --> 00:15:23,839

atmosphere so it was a white moon behind

319

00:15:29,030 --> 00:15:27,199

a blue haze and then

320

00:15:30,949 --> 00:15:29,040

all of a sudden it was up in the clear

321

00:15:32,310 --> 00:15:30,959

black of space and i could tell that it

322

00:15:33,829 --> 00:15:32,320

really was the moon i'd been looking at

323

00:15:35,509 --> 00:15:33,839

that was really a remarkable thing to

324

00:15:39,350 --> 00:15:35,519

see but i didn't see any stars yesterday

325

00:15:42,629 --> 00:15:41,030

well that

326

00:15:44,389 --> 00:15:42,639

those great descriptions of what you

327

00:15:45,910 --> 00:15:44,399

guys saw out there you know it's just an

328

00:15:47,269 --> 00:15:45,920

incredible experience and appreciate you

329

00:15:48,790 --> 00:15:47,279

sharing that with us and like you said

330

00:15:51,110 --> 00:15:48,800

you got a couple more opportunities to

331

00:15:52,949 --> 00:15:51,120

make some more memories so uh great job

332

00:15:54,949 --> 00:15:52,959

on your first dva and good luck on the

333

00:15:57,990 --> 00:15:54,959

next couple we'll be watching

334

00:15:59,910 --> 00:15:58,000

um onto a slightly different topic now

335

00:16:02,310 --> 00:15:59,920

uh how are you sleeping how are your

336

00:16:11,030 --> 00:16:02,320

sleep patterns up there and how are your

337

00:16:16,230 --> 00:16:13,910

well uh sleep patterns aren't affected

338

00:16:18,069 --> 00:16:16,240

too much with a couple of exceptions the

339

00:16:20,230 --> 00:16:18,079

first is we have a huge what we call a

340

00:16:22,470 --> 00:16:20,240

sleep shift to get here we needed to

341

00:16:23,430 --> 00:16:22,480

launch at 4 30 in the morning eastern

342

00:16:25,110 --> 00:16:23,440

time

343

00:16:27,269 --> 00:16:25,120

and because of the amount of work you

344

00:16:28,710 --> 00:16:27,279

have to do when you get to

345

00:16:30,150 --> 00:16:28,720

to space

346

00:16:31,829 --> 00:16:30,160

it takes about a whole afternoon's worth

347

00:16:33,509 --> 00:16:31,839

of work to convert the shuttle into

348

00:16:35,189 --> 00:16:33,519

something that's appropriate for living

349

00:16:37,430 --> 00:16:35,199

in once you've launched

350

00:16:39,829 --> 00:16:37,440

we needed to make that um just after our

351
00:16:42,230 --> 00:16:39,839
lunch time so we were sleep shifted by

352
00:16:44,870 --> 00:16:42,240
about nine or ten hours to achieve that

353
00:16:46,470 --> 00:16:44,880
um and that took us a week or two really

354
00:16:47,829 --> 00:16:46,480
to get comfortable with that huge sleep

355
00:16:49,670 --> 00:16:47,839
shift and we're still roughly on that

356
00:16:52,310 --> 00:16:49,680
sleep cycle sleeping when people in

357
00:16:53,749 --> 00:16:52,320
north america are awake and we're awake

358
00:16:56,790 --> 00:16:53,759
when they're asleep

359
00:16:58,629 --> 00:16:56,800
um but up here on on on station now that

360
00:16:59,910 --> 00:16:58,639
we've adapted to that sleep schedule

361
00:17:01,590 --> 00:16:59,920
we're more or less sleeping normally

362
00:17:04,949 --> 00:17:01,600
there just isn't as much time for it as

363
00:17:08,390 --> 00:17:07,270

for us mike it was like making a trip to

364

00:17:10,710 --> 00:17:08,400

tokyo

365

00:17:12,230 --> 00:17:10,720

right before we launched and uh we did a

366

00:17:13,909 --> 00:17:12,240

about three days

367

00:17:17,189 --> 00:17:13,919

before the launch we did the equivalent

368

00:17:20,309 --> 00:17:17,199

of transferring to uh almost uh tokyo

369

00:17:21,829 --> 00:17:20,319

time tokyo japan and and uh going

370

00:17:23,590 --> 00:17:21,839

through that is gonna happen on the

371

00:17:25,590 --> 00:17:23,600

other end when we come back so i'm sure

372

00:17:27,909 --> 00:17:25,600

we'll not only be tired from the mission

373

00:17:29,990 --> 00:17:27,919

but we'll be tired from those two big

374

00:17:34,070 --> 00:17:30,000

sleep shifts as nick described when we

375

00:17:38,630 --> 00:17:35,510

well you have plenty of time to catch up

376

00:17:42,230 --> 00:17:40,549

another question now

377

00:17:44,150 --> 00:17:42,240

comes from

378

00:17:47,270 --> 00:17:44,160

the las framosos and i'm probably

379

00:17:49,350 --> 00:17:47,280

mispronouncing that sixth graders at the

380

00:17:50,950 --> 00:17:49,360

sherman middle school in madison

381

00:17:53,430 --> 00:17:50,960

wisconsin so this comes from a bunch of

382

00:17:55,669 --> 00:17:53,440

sixth graders so be prepared

383

00:18:02,789 --> 00:17:55,679

they want to know what do you weigh in

384

00:18:06,789 --> 00:18:04,710

well for uh a bunch of sixth graders

385

00:18:08,789 --> 00:18:06,799

they asked some pretty tough questions

386

00:18:11,430 --> 00:18:08,799

for us uh you know i think nick and i

387

00:18:14,230 --> 00:18:11,440

probably have well over 30 years of

388

00:18:15,830 --> 00:18:14,240

education between the two of us and uh

389

00:18:18,150 --> 00:18:15,840

getting questions from sixth graders is

390

00:18:20,150 --> 00:18:18,160

always the most challenging uh of them

391

00:18:21,750 --> 00:18:20,160

all but i think nick just demonstrated

392

00:18:25,190 --> 00:18:21,760

and i think that we both

393

00:18:28,950 --> 00:18:27,430

that we

394

00:18:36,789 --> 00:18:28,960

we don't weigh much of anything while

395

00:18:39,990 --> 00:18:38,870

very nice demonstration but you know the

396

00:18:41,110 --> 00:18:40,000

sixth graders will probably be

397

00:18:44,870 --> 00:18:41,120

interested

398

00:18:46,630 --> 00:18:44,880

although you don't weigh anything

399

00:18:48,630 --> 00:18:46,640

you still have mass you still have

400

00:18:49,990 --> 00:18:48,640

inertia so if you start something moving

401
00:18:51,430 --> 00:18:50,000
like if i take bob and i move him

402
00:18:53,590 --> 00:18:51,440
towards the camera it takes me a second

403
00:18:55,990 --> 00:18:53,600
to speed him up i have to take that same

404
00:18:58,390 --> 00:18:56,000
second to slow him down because he is

405
00:19:00,230 --> 00:18:58,400
massive and just as we all are he'll

406
00:19:01,669 --> 00:19:00,240
keep moving in one direction as long as

407
00:19:03,110 --> 00:19:01,679
there's no force acting on him so

408
00:19:04,549 --> 00:19:03,120
there's really some interesting physics

409
00:19:06,710 --> 00:19:04,559
to observe up here not just the weight

410
00:19:09,270 --> 00:19:06,720
but also the mass

411
00:19:10,789 --> 00:19:09,280
thanks bob

412
00:19:13,990 --> 00:19:10,799
well done boys

413
00:19:16,870 --> 00:19:14,000

uh moving on to a different topic

414

00:19:17,750 --> 00:19:16,880

uh your meals we have this this comes

415

00:19:20,390 --> 00:19:17,760

from

416

00:19:21,590 --> 00:19:20,400

uh chef casey wilson

417

00:19:24,470 --> 00:19:21,600

and uh

418

00:19:27,110 --> 00:19:24,480

he or she asks the chef asks what your

419

00:19:29,270 --> 00:19:27,120

meals consist of and is there anything

420

00:19:30,950 --> 00:19:29,280

specific that you asked to bring up that

421

00:19:37,270 --> 00:19:30,960

you're reading that's maybe a little bit

422

00:19:41,830 --> 00:19:39,590

well mike uh i think there's always a

423

00:19:43,909 --> 00:19:41,840

lot of interest in what type of food we

424

00:19:46,630 --> 00:19:43,919

actually eat on orbit and it's a mixture

425

00:19:49,110 --> 00:19:46,640

of of kind of camping food and military

426
00:19:50,710 --> 00:19:49,120
rations and kind of dehydrated things

427
00:19:52,230 --> 00:19:50,720
and so we've kind of got

428
00:19:54,070 --> 00:19:52,240
just about everything that you have on

429
00:19:56,630 --> 00:19:54,080
the ground just in a slightly different

430
00:19:58,789 --> 00:19:56,640
format that we either warm up or add

431
00:20:00,310 --> 00:19:58,799
water to and then warm up so those are

432
00:20:02,789 --> 00:20:00,320
kind of the two things that we have so

433
00:20:04,070 --> 00:20:02,799
nothing nothing too fancy as far as

434
00:20:06,630 --> 00:20:04,080
chefs go

435
00:20:08,710 --> 00:20:06,640
because we don't get to use all the the

436
00:20:11,430 --> 00:20:08,720
the fancy techniques we just get to add

437
00:20:12,870 --> 00:20:11,440
water or add heat and that's just about

438
00:20:15,029 --> 00:20:12,880

it for me

439

00:20:16,789 --> 00:20:15,039

i brought up some some chocolates that i

440

00:20:18,630 --> 00:20:16,799

like and i also brought up some

441

00:20:20,149 --> 00:20:18,640

breakfast rolls and some fresh fruit

442

00:20:22,310 --> 00:20:20,159

because one of the things that you don't

443

00:20:24,789 --> 00:20:22,320

have very much of up here like i said

444

00:20:26,549 --> 00:20:24,799

with all rehydrated or or food that you

445

00:20:29,029 --> 00:20:26,559

just warm up you don't get a lot of

446

00:20:31,909 --> 00:20:29,039

vegetables so it's a it is nice to to

447

00:20:33,990 --> 00:20:31,919

taste citrus and taste fresh fresh

448

00:20:35,750 --> 00:20:34,000

vegetables during the the week or two

449

00:20:37,510 --> 00:20:35,760

that you're actually on orbit and when

450

00:20:39,590 --> 00:20:37,520

we arrived with the uh for the station

451
00:20:41,510 --> 00:20:39,600
crew we actually brought them quite a

452
00:20:42,549 --> 00:20:41,520
bit of fresh food

453
00:20:44,149 --> 00:20:42,559
i don't think

454
00:20:45,990 --> 00:20:44,159
you can see any more of it here actually

455
00:20:46,789 --> 00:20:46,000
you can there's some of it stowed right

456
00:20:48,549 --> 00:20:46,799
above

457
00:20:50,789 --> 00:20:48,559
nick's head up here there's some oranges

458
00:20:53,190 --> 00:20:50,799
and some apples and some avocados and

459
00:20:55,510 --> 00:20:53,200
some limits so a lot of fresh fruits

460
00:20:57,510 --> 00:20:55,520
that only get delivered when there's a

461
00:20:59,029 --> 00:20:57,520
progress vehicle arriving or a space

462
00:21:01,029 --> 00:20:59,039
shuttle arrives to drop some of these

463
00:21:03,909 --> 00:21:01,039

things off

464

00:21:07,430 --> 00:21:03,919

okay next question comes from uh

465

00:21:11,029 --> 00:21:08,950

and they want to know how long do you

466

00:21:12,230 --> 00:21:11,039

prepare for a for your flight how long

467

00:21:13,430 --> 00:21:12,240

did you guys prepare for your space

468

00:21:15,029 --> 00:21:13,440

flight

469

00:21:17,830 --> 00:21:15,039

well we've been training for about a

470

00:21:19,270 --> 00:21:17,840

year mike um we got assigned to this

471

00:21:20,510 --> 00:21:19,280

mission i think in

472

00:21:22,149 --> 00:21:20,520

december of

473

00:21:23,750 --> 00:21:22,159

2008

474

00:21:25,430 --> 00:21:23,760

um so we trained for just over a year

475

00:21:26,549 --> 00:21:25,440

before we launched but in a way we've

476

00:21:29,590 --> 00:21:26,559

been training for this for all of our

477

00:21:31,350 --> 00:21:29,600

lives bob and i are both engineers

478

00:21:33,750 --> 00:21:31,360

bob's an air force flight test engineer

479

00:21:35,350 --> 00:21:33,760

and i'm a civilian

480

00:21:37,430 --> 00:21:35,360

mechanical engineer as you know because

481

00:21:38,950 --> 00:21:37,440

we were at school together

482

00:21:41,750 --> 00:21:38,960

but we have literally been training to

483

00:21:44,630 --> 00:21:41,760

be astronauts for the last

484

00:21:45,830 --> 00:21:44,640

30 or 40 years through our education

485

00:21:47,669 --> 00:21:45,840

one of the things i was struck by

486

00:21:49,510 --> 00:21:47,679

yesterday when i was doing my space walk

487

00:21:51,590 --> 00:21:49,520

is that i think

488

00:21:53,669 --> 00:21:51,600

you probably can't feel really

489

00:21:55,669 --> 00:21:53,679

comfortable hanging from

490

00:21:57,430 --> 00:21:55,679

hanging from a space station 200 miles

491

00:21:58,630 --> 00:21:57,440

above the planet going about 18 000

492

00:22:00,070 --> 00:21:58,640

miles an hour

493

00:22:01,510 --> 00:22:00,080

unless you're really confident in the

494

00:22:03,350 --> 00:22:01,520

physics that you'll just keep going

495

00:22:05,110 --> 00:22:03,360

around the planet and won't fall so in a

496

00:22:06,470 --> 00:22:05,120

way i think we've been training a long

497

00:22:07,430 --> 00:22:06,480

long time

498

00:22:08,950 --> 00:22:07,440

um

499

00:22:11,590 --> 00:22:08,960

next question

500

00:22:13,990 --> 00:22:11,600

is from taiwan mida

501

00:22:15,990 --> 00:22:14,000

and the question is what times what

502

00:22:17,270 --> 00:22:16,000

types of experiments do you have on

503

00:22:18,470 --> 00:22:17,280

board what experiments are you guys

504

00:22:19,590 --> 00:22:18,480

doing i know you're busy with lots of

505

00:22:26,230 --> 00:22:19,600

stuff but if you have any time for

506

00:22:30,310 --> 00:22:28,230

well mike we do have a couple of

507

00:22:32,549 --> 00:22:30,320

experiment experiments with us and most

508

00:22:34,390 --> 00:22:32,559

of them are biological in nature really

509

00:22:36,549 --> 00:22:34,400

uh as far as our flight goes the space

510

00:22:39,110 --> 00:22:36,559

station is doing uh quite a bit of

511

00:22:40,630 --> 00:22:39,120

additional work uh this is an assembly

512

00:22:43,270 --> 00:22:40,640

mission to the space station and so

513

00:22:45,190 --> 00:22:43,280

we're primarily focused on that but the

514

00:22:48,390 --> 00:22:45,200

the experiments that we do have we have

515

00:22:50,950 --> 00:22:48,400

one which is a a experiment to actually

516

00:22:54,070 --> 00:22:50,960

control viruses and so we have a

517

00:22:56,149 --> 00:22:54,080

they're in a contained vessel and we

518

00:22:58,310 --> 00:22:56,159

cycle them through their process trying

519

00:23:00,870 --> 00:22:58,320

to activate them and then deactivate

520

00:23:03,350 --> 00:23:00,880

them inside their canister to understand

521

00:23:06,830 --> 00:23:03,360

what the effects gravity have gravity

522

00:23:10,310 --> 00:23:06,840

has on those viruses we also fly a a big

523

00:23:12,950 --> 00:23:10,320

freezer it's called a glacier and it

524

00:23:15,350 --> 00:23:12,960

keeps biological samples really cold and

525

00:23:18,070 --> 00:23:15,360

also allows us to transfer new science

526

00:23:20,549 --> 00:23:18,080

materials either to the station or back

527

00:23:22,710 --> 00:23:20,559

down from the station and so just uh the

528

00:23:25,190 --> 00:23:22,720

day that we arrived i opened up that

529

00:23:27,110 --> 00:23:25,200

freezer and exchanged some samples that

530

00:23:29,510 --> 00:23:27,120

uh jeff williams the commander of the

531

00:23:31,029 --> 00:23:29,520

space station right now had on board and

532

00:23:33,990 --> 00:23:31,039

uh swapped those out and i know there'll

533

00:23:35,510 --> 00:23:34,000

be a a large number of uh blood samples

534

00:23:37,270 --> 00:23:35,520

and other samples from the crews that

535

00:23:39,190 --> 00:23:37,280

have been on orbit to make sure that

536

00:23:41,909 --> 00:23:39,200

they've been healthy and understand the

537

00:23:43,669 --> 00:23:41,919

effects of gravity on their health

538

00:23:45,510 --> 00:23:43,679

during their six-month stay on the space

539

00:23:47,350 --> 00:23:45,520

station

540

00:23:48,789 --> 00:23:47,360

boys i think we have time for one more

541

00:23:50,789 --> 00:23:48,799

question and

542

00:23:52,789 --> 00:23:50,799

this one is uh pertinent to our

543

00:23:54,630 --> 00:23:52,799

twittering in space

544

00:23:56,390 --> 00:23:54,640

uh this comes from rich v miller he

545

00:23:57,590 --> 00:23:56,400

wants to know what kind of computer do

546

00:23:59,110 --> 00:23:57,600

you use

547

00:24:05,350 --> 00:23:59,120

to send your tweets and nick are you

548

00:24:09,430 --> 00:24:07,669

as you know mike i was tweeting uh every

549

00:24:11,190 --> 00:24:09,440

day before we launched and uh

550

00:24:13,430 --> 00:24:11,200

unfortunately i haven't had enough time

551
00:24:14,789 --> 00:24:13,440
to do uh do much tweeting from up here

552
00:24:15,669 --> 00:24:14,799
although i will send another one out

553
00:24:17,510 --> 00:24:15,679
today

554
00:24:18,630 --> 00:24:17,520
um when i send a tweet i have to email

555
00:24:20,950 --> 00:24:18,640
it to a colleague on the ground who's

556
00:24:23,110 --> 00:24:20,960
agreed to post it for me um

557
00:24:25,110 --> 00:24:23,120
but when the folks on the space station

558
00:24:28,230 --> 00:24:25,120
here send a tweet they're able to do it

559
00:24:30,230 --> 00:24:28,240
directly via a live computer link with a

560
00:24:32,230 --> 00:24:30,240
machine down in mission control

561
00:24:34,470 --> 00:24:32,240
um so they're actually able to uh

562
00:24:36,310 --> 00:24:34,480
directly if somewhat slowly post their

563
00:24:38,789 --> 00:24:36,320

own tweets and that's uh

564

00:24:42,149 --> 00:24:38,799

something that uh tj creamer the iss

565

00:24:44,390 --> 00:24:42,159

flight engineer up here now um has just

566

00:24:45,990 --> 00:24:44,400

uh set up with help from colleagues on

567

00:24:50,789 --> 00:24:46,000

the ground so that's a very exciting

568

00:24:53,830 --> 00:24:52,470

well you know you're busy nick and

569

00:24:55,750 --> 00:24:53,840

anything you can send down i know the

570

00:24:58,230 --> 00:24:55,760

folks would be interested in uh in

571

00:25:01,110 --> 00:24:58,240

reading eventually and uh

572

00:25:02,470 --> 00:25:01,120

we're out of time actually uh and i know

573

00:25:04,630 --> 00:25:02,480

you guys are busy and have something

574

00:25:06,710 --> 00:25:04,640

else to do it's been a real honor for me

575

00:25:09,590 --> 00:25:06,720

to work as your capcom and to talk to

576

00:25:11,269 --> 00:25:09,600

you uh this evening it's uh it's been a

577

00:25:13,029 --> 00:25:11,279

real blast and you guys look great and

578

00:25:14,870 --> 00:25:13,039

you're doing a great job and we're all

579

00:25:16,470 --> 00:25:14,880

proud of everything you guys are doing

580

00:25:19,350 --> 00:25:16,480

anything you want to say to wrap up you

581

00:25:21,350 --> 00:25:19,360

want to say hi to anybody or uh

582

00:25:26,230 --> 00:25:21,360

thank anyone or what do you got closing

583

00:25:29,430 --> 00:25:27,669

cost the foot we're going to thank

584

00:25:30,789 --> 00:25:29,440

everybody uh but we won't thank

585

00:25:32,950 --> 00:25:30,799

everybody it's a bit like an oscar

586

00:25:34,230 --> 00:25:32,960

speech if you do that um

587

00:25:36,230 --> 00:25:34,240

i guess we'd like to thank the people

588

00:25:38,390 --> 00:25:36,240

who got us here our trainers in houston

589

00:25:40,870 --> 00:25:38,400

um and uh

590

00:25:43,190 --> 00:25:40,880

the people at neutral buoyancy lab who

591

00:25:45,750 --> 00:25:43,200

make the underwater training possible

592

00:25:47,750 --> 00:25:45,760

and uh flight control team on the ground

593

00:25:50,230 --> 00:25:47,760

um those are the really important groups

594

00:25:51,430 --> 00:25:50,240

to thank um i'd like to thank my family

595

00:25:53,029 --> 00:25:51,440

too for

596

00:25:54,789 --> 00:25:53,039

putting up with my uh what should we

597

00:25:59,029 --> 00:25:54,799

call it business travel which can be

598

00:26:04,230 --> 00:26:01,830

and nick covered uh the folks that

599

00:26:05,909 --> 00:26:04,240

that have got us to this point and also

600

00:26:07,909 --> 00:26:05,919

been supporting us while we're here on

601
00:26:11,269 --> 00:26:07,919
orbit i'd also like to thank

602
00:26:13,750 --> 00:26:11,279
my family and my wife megan who's also a

603
00:26:15,430 --> 00:26:13,760
capcom for some other other missions and

604
00:26:17,430 --> 00:26:15,440
flew with you mike

605
00:26:18,310 --> 00:26:17,440
back to the the space telescope a little

606
00:26:20,230 --> 00:26:18,320
bit

607
00:26:26,390 --> 00:26:20,240
a little while back so i'd like to thank

608
00:26:29,590 --> 00:26:28,149
this is mission control houston a good

609
00:26:31,190 --> 00:26:29,600
view of the

610
00:26:32,870 --> 00:26:31,200
international space station with its new

611
00:26:38,149 --> 00:26:32,880
module here from the cameras in the

612
00:26:41,430 --> 00:26:39,590
this is mission control houston you can

613
00:26:43,830 --> 00:26:41,440

see the crew assembling here in the

614

00:26:46,230 --> 00:26:43,840

harmony node to begin their eva2 or

615

00:26:48,070 --> 00:26:46,240

spacewalk 2 procedures review

616

00:26:50,070 --> 00:26:48,080

going over the plan for tomorrow's

617

00:26:52,149 --> 00:26:50,080

spacewalk or the spacewalk that begins

618

00:26:53,430 --> 00:26:52,159

later today rather and goes until

619

00:26:54,149 --> 00:26:53,440

tomorrow

620

00:26:55,830 --> 00:26:54,159

and

621

00:26:57,510 --> 00:26:55,840

what everybody's different jobs for that

622

00:26:58,630 --> 00:26:57,520

spacewalk will be of course mission

623

00:27:00,310 --> 00:26:58,640

specialist

624

00:27:02,310 --> 00:27:00,320

bob bank and nicholas patrick will be

625

00:27:04,870 --> 00:27:02,320

going outside

626
00:27:09,190 --> 00:27:04,880
endeavor station this is the associated

627
00:27:14,470 --> 00:27:11,669
got you loud and clear hello marcia

628
00:27:16,789 --> 00:27:14,480
good morning uh colonel verse captain

629
00:27:19,430 --> 00:27:16,799
heyer um talking to you this morning

630
00:27:21,510 --> 00:27:19,440
from the launching site both of you tell

631
00:27:23,590 --> 00:27:21,520
me about your new room tranquility

632
00:27:30,310 --> 00:27:23,600
what's the first impressions when you

633
00:27:34,470 --> 00:27:32,630
it's so great to see it up here in space

634
00:27:35,990 --> 00:27:34,480
of course we saw it when it was still at

635
00:27:38,149 --> 00:27:36,000
the kennedy space center before it

636
00:27:39,669 --> 00:27:38,159
launched it looks a lot different here

637
00:27:41,750 --> 00:27:39,679
especially now that we can float all

638
00:27:44,070 --> 00:27:41,760

over and use the entire volume instead

639

00:27:47,029 --> 00:27:44,080

of just in one g you're pretty much

640

00:27:49,029 --> 00:27:47,039

restricted to just a floor being a floor

641

00:27:50,389 --> 00:27:49,039

but i will tell you we're filling it up

642

00:27:53,029 --> 00:27:50,399

very quickly

643

00:27:55,190 --> 00:27:53,039

we're loading all kinds of equipment in

644

00:27:56,870 --> 00:27:55,200

there and starting to bring it to life

645

00:27:59,430 --> 00:27:56,880

so it's going to look very different in

646

00:28:01,350 --> 00:27:59,440

just a short number of hours

647

00:28:03,750 --> 00:28:01,360

does it have that new room or new car

648

00:28:06,230 --> 00:28:03,760

smell and feel to it and

649

00:28:08,149 --> 00:28:06,240

at least at first was it stuffy hot coal

650

00:28:10,149 --> 00:28:08,159

comfortable in there just a little bit

651
00:28:14,389 --> 00:28:10,159
of description of the

652
00:28:18,149 --> 00:28:16,710
it it definitely has the new spaceship

653
00:28:19,830 --> 00:28:18,159
smell um

654
00:28:21,350 --> 00:28:19,840
it had a uh

655
00:28:23,669 --> 00:28:21,360
when we first opened it up it had the

656
00:28:25,029 --> 00:28:23,679
same temperature as the station and then

657
00:28:26,630 --> 00:28:25,039
probably for the first couple hours that

658
00:28:28,149 --> 00:28:26,640
we were in there it started to get warm

659
00:28:29,669 --> 00:28:28,159
as we were all working doing a lot of

660
00:28:31,269 --> 00:28:29,679
physical work in there

661
00:28:33,190 --> 00:28:31,279
and we didn't have all the ventilation

662
00:28:34,950 --> 00:28:33,200
hooked up yet and now it's starting to

663
00:28:37,909 --> 00:28:34,960

feel more like the rest of the station

664

00:28:40,549 --> 00:28:37,919

but it had a unique smell

665

00:28:42,870 --> 00:28:40,559

almost a space smell to it

666

00:28:44,789 --> 00:28:42,880

are you still limited to four

667

00:28:46,389 --> 00:28:44,799

people in there at a time

668

00:28:48,230 --> 00:28:46,399

i know at first it seemed like there was

669

00:28:49,830 --> 00:28:48,240

some sluggish airflow going on has that

670

00:28:56,870 --> 00:28:49,840

been resolved and do you still have to

671

00:29:01,190 --> 00:28:58,470

well that's correct when we first went

672

00:29:04,070 --> 00:29:01,200

in uh because there was no power or

673

00:29:06,870 --> 00:29:04,080

ventilation setup inside node three it

674

00:29:08,630 --> 00:29:06,880

was dark and a bit stuffy so we had to

675

00:29:10,630 --> 00:29:08,640

be careful and sample the environment

676

00:29:12,870 --> 00:29:10,640

make sure it was safe make sure there

677

00:29:14,389 --> 00:29:12,880

was uh no particles floating around that

678

00:29:17,350 --> 00:29:14,399

might get into our eyes or cause

679

00:29:18,710 --> 00:29:17,360

problems so we did have goggles and and

680

00:29:20,549 --> 00:29:18,720

dust masks

681

00:29:22,230 --> 00:29:20,559

as we went in until we can get the

682

00:29:24,710 --> 00:29:22,240

ventilation full up and working and

683

00:29:26,710 --> 00:29:24,720

that's that's uh on our schedule of

684

00:29:29,430 --> 00:29:26,720

things to do and we'll we'll get that

685

00:29:30,710 --> 00:29:29,440

all resolved soon and get it up and

686

00:29:32,070 --> 00:29:30,720

operating

687

00:29:34,549 --> 00:29:32,080

well for each of you you're both

688

00:29:35,750 --> 00:29:34,559

visiting the space station for the first

689

00:29:37,110 --> 00:29:35,760

time

690

00:29:44,470 --> 00:29:37,120

what's been the biggest surprise for

691

00:29:47,990 --> 00:29:46,389

well there's uh

692

00:29:49,269 --> 00:29:48,000

several differences between the shuttle

693

00:29:51,190 --> 00:29:49,279

and the station

694

00:29:53,190 --> 00:29:51,200

the first one you notice is just how big

695

00:29:55,750 --> 00:29:53,200

it is one of the things that you can do

696

00:29:57,750 --> 00:29:55,760

is start at one end and push off

697

00:29:59,350 --> 00:29:57,760

and try and float you know as far as you

698

00:30:01,750 --> 00:29:59,360

can and as a rookie especially as the

699

00:30:03,590 --> 00:30:01,760

first time visitor to the station

700

00:30:05,430 --> 00:30:03,600

we're not very good and we tend to float

701
00:30:07,669 --> 00:30:05,440
up or hit the walls but if you watch the

702
00:30:09,750 --> 00:30:07,679
station crew these guys are real pros

703
00:30:12,070 --> 00:30:09,760
and they can push off and

704
00:30:14,230 --> 00:30:12,080
go for 50 or 100 feet without touching

705
00:30:16,470 --> 00:30:14,240
anything so that that requires some

706
00:30:18,950 --> 00:30:16,480
adaptation with your body to learn how

707
00:30:22,070 --> 00:30:18,960
to fly and float in space

708
00:30:26,950 --> 00:30:22,080
so that's been a lot of fun

709
00:30:30,149 --> 00:30:28,630
you know we've seen so many beautiful

710
00:30:32,950 --> 00:30:30,159
pictures of the international space

711
00:30:35,510 --> 00:30:32,960
station every crew sends down just

712
00:30:37,110 --> 00:30:35,520
phenomenal images but to see it for real

713
00:30:38,230 --> 00:30:37,120

especially as we approached our

714

00:30:39,350 --> 00:30:38,240

rendezvous

715

00:30:42,070 --> 00:30:39,360

it just

716

00:30:43,590 --> 00:30:42,080

beyond description it's just so

717

00:30:44,470 --> 00:30:43,600

sharp

718

00:30:45,750 --> 00:30:44,480

very

719

00:30:48,549 --> 00:30:45,760

high def it's kind of like the

720

00:30:50,950 --> 00:30:48,559

difference between seeing a very old

721

00:30:53,029 --> 00:30:50,960

analog type of a picture and the first

722

00:30:56,070 --> 00:30:53,039

time you ever see really super high

723

00:30:58,470 --> 00:30:56,080

definition and here it is it's it's just

724

00:31:00,870 --> 00:30:58,480

such a large station and there's just so

725

00:31:02,149 --> 00:31:00,880

many capabilities on board

726

00:31:04,630 --> 00:31:02,159

i think that was the the biggest

727

00:31:06,710 --> 00:31:04,640

surprise was just how phenomenal it

728

00:31:08,870 --> 00:31:06,720

looked as we approached

729

00:31:10,549 --> 00:31:08,880

well that leads me into my next question

730

00:31:13,269 --> 00:31:10,559

with the shuttle

731

00:31:15,590 --> 00:31:13,279

era winding down the space station is

732

00:31:18,470 --> 00:31:15,600

going to be its legacy and

733

00:31:20,070 --> 00:31:18,480

now that you've actually been there

734

00:31:21,669 --> 00:31:20,080

are there

735

00:31:26,149 --> 00:31:21,679

have your do you have different a

736

00:31:26,159 --> 00:31:31,110

as being part of history

737

00:31:35,190 --> 00:31:33,590

you know marsha when we um attached node

738

00:31:37,269 --> 00:31:35,200

three in cupola the thing that that

739

00:31:39,350 --> 00:31:37,279

reminds me of is finishing the

740

00:31:41,750 --> 00:31:39,360

transcontinental railroad

741

00:31:43,350 --> 00:31:41,760

that was a huge project that america

742

00:31:44,789 --> 00:31:43,360

really got behind it was an

743

00:31:46,710 --> 00:31:44,799

international project we had workers

744

00:31:49,269 --> 00:31:46,720

from around the world and when it was

745

00:31:50,870 --> 00:31:49,279

done it opened up the west

746

00:31:52,149 --> 00:31:50,880

to let our country become the nation

747

00:31:54,310 --> 00:31:52,159

that we are today

748

00:31:56,950 --> 00:31:54,320

and in some ways putting note 3 and

749

00:31:59,029 --> 00:31:56,960

tranquility on and cupola

750

00:32:00,630 --> 00:31:59,039

are

751

00:32:02,149 --> 00:32:00,640

the end of one phase of the space

752

00:32:04,630 --> 00:32:02,159

station but it really i think it's the

753

00:32:06,230 --> 00:32:04,640

beginning of a future space exploration

754

00:32:09,909 --> 00:32:06,240

that a long time from now we'll look

755

00:32:11,830 --> 00:32:09,919

back on and and see in a similar vein

756

00:32:13,669 --> 00:32:11,840

well i'm just wondering is my last

757

00:32:15,430 --> 00:32:13,679

question will the astronauts will the

758

00:32:18,070 --> 00:32:15,440

two crews be doing anything special for

759

00:32:22,710 --> 00:32:18,080

valentine's day tomorrow maybe sharing a

760

00:32:22,720 --> 00:32:27,990

thanks for reminding me

761

00:32:31,909 --> 00:32:29,669

that's pretty funny because i was saying

762

00:32:33,669 --> 00:32:31,919

earlier uh today that i didn't even

763

00:32:35,509 --> 00:32:33,679

really remember what day of the week it

764

00:32:37,590 --> 00:32:35,519

was or what day of the month because

765

00:32:39,830 --> 00:32:37,600

everything up here is all about either

766

00:32:42,310 --> 00:32:39,840

uh greenwich mean time or mission

767

00:32:44,710 --> 00:32:42,320

elapsed time so that's that's how our

768

00:32:46,389 --> 00:32:44,720

days are built and uh we have to

769

00:32:48,470 --> 00:32:46,399

actually remind ourselves every now and

770

00:32:50,389 --> 00:32:48,480

then of uh what day it is so yes thanks

771

00:32:52,470 --> 00:32:50,399

for the reminder

772

00:32:54,710 --> 00:32:52,480

well happy valentine's day too it's easy

773

00:32:57,430 --> 00:32:54,720

for me to remember

774

00:32:59,029 --> 00:32:57,440

valentine's day because my wife's

775

00:33:00,630 --> 00:32:59,039

birthday is tomorrow so i have a

776

00:33:03,029 --> 00:33:00,640

birthday and a valentine's day and it's

777

00:33:05,190 --> 00:33:03,039

hard for me to forget both of those

778

00:33:07,110 --> 00:33:05,200

well that's great well i'm told i need

779

00:33:09,590 --> 00:33:07,120

to wind up so

780

00:33:16,950 --> 00:33:09,600

good luck to all of you and godspeed on

781

00:33:22,870 --> 00:33:19,990

loud and clear hello bill hey terry hi

782

00:33:24,710 --> 00:33:22,880

kay it's great to see you guys up there

783

00:33:26,950 --> 00:33:24,720

obviously i'm going to start with node 3

784

00:33:28,710 --> 00:33:26,960

today they tell us that when the station

785

00:33:30,149 --> 00:33:28,720

when the shuttle departs the station is

786

00:33:31,269 --> 00:33:30,159

going to be 98

787

00:33:32,870 --> 00:33:31,279

complete

788

00:33:34,789 --> 00:33:32,880

how do you guys characterize that

789

00:33:36,070 --> 00:33:34,799

accomplishment uh you know i remember a

790

00:33:37,750 --> 00:33:36,080

few years ago the space station

791

00:33:39,750 --> 00:33:37,760

processing facility was just packed with

792

00:33:41,590 --> 00:33:39,760

equipment and and now it's empty pretty

793

00:33:46,950 --> 00:33:41,600

much what do you what do you think about

794

00:33:49,590 --> 00:33:48,389

like i said

795

00:33:51,110 --> 00:33:49,600

i made the analogy with the

796

00:33:52,950 --> 00:33:51,120

transcontinental railroad and i think

797

00:33:54,789 --> 00:33:52,960

it's an accomplishment that um all

798

00:33:56,870 --> 00:33:54,799

americans should be really proud of for

799

00:33:59,029 --> 00:33:56,880

from what we've done up here and really

800

00:34:01,430 --> 00:33:59,039

all of our international partners um

801
00:34:02,950 --> 00:34:01,440
japan europe russia there's been many

802
00:34:05,110 --> 00:34:02,960
countries involved in building the space

803
00:34:07,909 --> 00:34:05,120
station and uh i think it's something

804
00:34:10,069 --> 00:34:07,919
that a lot of folks should be really

805
00:34:17,109 --> 00:34:10,079
proud of and

806
00:34:20,470 --> 00:34:18,869
you know seeing that module come out of

807
00:34:22,069 --> 00:34:20,480
the shuttle's cargo bay reminded a lot

808
00:34:23,589 --> 00:34:22,079
of folks about how much capability is

809
00:34:24,550 --> 00:34:23,599
going to be lost when the shuttle stops

810
00:34:26,149 --> 00:34:24,560
flying

811
00:34:27,669 --> 00:34:26,159
and you know given the administration's

812
00:34:29,589 --> 00:34:27,679
new budget which obviously happened

813
00:34:31,270 --> 00:34:29,599

right before you guys took off and the

814

00:34:33,190 --> 00:34:31,280

shift in emphasis either if you have any

815

00:34:40,230 --> 00:34:33,200

concerns about nasa's ability to keep

816

00:34:43,270 --> 00:34:41,829

well you know

817

00:34:44,950 --> 00:34:43,280

first of all i'd like to say that i'm

818

00:34:46,550 --> 00:34:44,960

just so honored to be part of this

819

00:34:49,669 --> 00:34:46,560

fantastic team

820

00:34:51,829 --> 00:34:49,679

and it is just unbelievable what this

821

00:34:54,389 --> 00:34:51,839

team this international team has done

822

00:34:56,950 --> 00:34:54,399

together that we have put all these

823

00:34:59,750 --> 00:34:56,960

different high technical

824

00:35:01,430 --> 00:34:59,760

uh pieces and parts all together and

825

00:35:03,990 --> 00:35:01,440

brought them up to space and put them

826
00:35:06,230 --> 00:35:04,000
together up here we see many times

827
00:35:08,870 --> 00:35:06,240
things that are built in

828
00:35:11,030 --> 00:35:08,880
vastly different locations by several

829
00:35:12,390 --> 00:35:11,040
different companies and contractors and

830
00:35:13,990 --> 00:35:12,400
governments

831
00:35:16,230 --> 00:35:14,000
brought to space for the first time

832
00:35:19,510 --> 00:35:16,240
without ever being fit check together

833
00:35:21,670 --> 00:35:19,520
brought together here and

834
00:35:22,790 --> 00:35:21,680
put together and it works great and this

835
00:35:24,790 --> 00:35:22,800
team

836
00:35:26,550 --> 00:35:24,800
just does a fantastic job and i'm sure

837
00:35:28,150 --> 00:35:26,560
they'll continue um you know looking

838
00:35:29,750 --> 00:35:28,160

ahead though guys there's a there's a

839

00:35:31,349 --> 00:35:29,760

fair amount of angst i guess among the

840

00:35:33,430 --> 00:35:31,359

nasa troops about the budget the new

841

00:35:34,710 --> 00:35:33,440

direction for nasa

842

00:35:36,069 --> 00:35:34,720

what do you guys have to say to

843

00:35:40,870 --> 00:35:36,079

everybody about where you think things

844

00:35:44,390 --> 00:35:42,950

well i know it's a tough time and

845

00:35:46,790 --> 00:35:44,400

there's a lot of uncertainty out there

846

00:35:49,430 --> 00:35:46,800

but um from my personal

847

00:35:51,030 --> 00:35:49,440

point of view we've i've been focused on

848

00:35:52,790 --> 00:35:51,040

what's happening this afternoon and this

849

00:35:54,950 --> 00:35:52,800

evening and i really haven't had time to

850

00:35:57,030 --> 00:35:54,960

think about what's going on too much in

851

00:35:59,190 --> 00:35:57,040

the future but i know that we have a

852

00:36:00,950 --> 00:35:59,200

very busy year of space shuttle flights

853

00:36:02,870 --> 00:36:00,960

and flying the space shuttle is a very

854

00:36:04,950 --> 00:36:02,880

difficult thing to do it's a very

855

00:36:06,790 --> 00:36:04,960

complex machine maybe the most complex

856

00:36:08,550 --> 00:36:06,800

machine that we've ever built

857

00:36:10,230 --> 00:36:08,560

and it's just really important right now

858

00:36:11,589 --> 00:36:10,240

for us to focus on flying the shuttle

859

00:36:13,430 --> 00:36:11,599

safely

860

00:36:15,589 --> 00:36:13,440

it's a really hard thing to get into

861

00:36:18,069 --> 00:36:15,599

orbit and a and a hard thing to come

862

00:36:19,750 --> 00:36:18,079

back from orbit and and a hard thing to

863

00:36:21,510 --> 00:36:19,760

operate here in orbit like we're doing

864

00:36:23,349 --> 00:36:21,520

like you mentioned the shuttle has so

865

00:36:24,069 --> 00:36:23,359

much capability and it does so much so i

866

00:36:25,430 --> 00:36:24,079

think

867

00:36:27,670 --> 00:36:25,440

in the near term we just need to keep

868

00:36:30,150 --> 00:36:27,680

our focus on this spacecraft two for the

869

00:36:32,069 --> 00:36:30,160

ars truck well let me ask you just one

870

00:36:33,829 --> 00:36:32,079

more along those lines terry uh you know

871

00:36:35,589 --> 00:36:33,839

obviously this this shift commercial

872

00:36:38,310 --> 00:36:35,599

vehicles is something that

873

00:36:39,829 --> 00:36:38,320

uh is a big change or just because it's

874

00:36:41,910 --> 00:36:39,839

so hard to get into space so you're

875

00:36:43,829 --> 00:36:41,920

confident that private industry can can

876

00:36:48,870 --> 00:36:43,839

do what needs to be done both unmanned

877

00:36:48,880 --> 00:36:52,230

i'm going to pass that one over to kay

878

00:36:55,910 --> 00:36:53,670

yeah i was just wondering just because

879

00:36:57,829 --> 00:36:55,920

it is so difficult to get into space the

880

00:36:59,510 --> 00:36:57,839

sheer challenge of all of this

881

00:37:01,750 --> 00:36:59,520

how confident you guys are that private

882

00:37:03,589 --> 00:37:01,760

industry can step up both with unmanned

883

00:37:04,950 --> 00:37:03,599

cargo craft and the manned craft you'll

884

00:37:12,790 --> 00:37:04,960

eventually need

885

00:37:17,430 --> 00:37:14,790

well you know again

886

00:37:19,430 --> 00:37:17,440

this is a phenomenal team and nasa has

887

00:37:21,430 --> 00:37:19,440

been around for more than 50 years and

888

00:37:24,069 --> 00:37:21,440

we faced a lot of

889

00:37:26,710 --> 00:37:24,079

challenges in the past i remember when

890

00:37:29,190 --> 00:37:26,720

we ended the apollo program and it took

891

00:37:31,190 --> 00:37:29,200

a while for us to to get the shuttle

892

00:37:34,069 --> 00:37:31,200

program launched but people were working

893

00:37:37,750 --> 00:37:34,079

on it so i think that this is really

894

00:37:39,750 --> 00:37:37,760

going to lead to better things just as

895

00:37:42,230 --> 00:37:39,760

we stepped up from apollo to shuttle in

896

00:37:45,589 --> 00:37:42,240

the international space station this is

897

00:37:47,670 --> 00:37:45,599

just a phase that we must go through and

898

00:37:49,190 --> 00:37:47,680

sometimes

899

00:37:51,430 --> 00:37:49,200

it would have been nice to have it maybe

900

00:37:53,750 --> 00:37:51,440

a little smoother but

901
00:37:56,230 --> 00:37:53,760
this is something that we will meet at

902
00:37:58,630 --> 00:37:56,240
this challenge nasa and its entire

903
00:38:01,030 --> 00:37:58,640
international team will make sure that

904
00:38:02,790 --> 00:38:01,040
we fly safely and we're going to come up

905
00:38:05,349 --> 00:38:02,800
with something great i'm sure that the

906
00:38:06,710 --> 00:38:05,359
next program is going to be wonderful

907
00:38:08,550 --> 00:38:06,720
well thanks a lot guys they tell me i

908
00:38:09,670 --> 00:38:08,560
got a wrap so have a safe flight and

909
00:38:13,430 --> 00:38:09,680
we'll look forward to seeing you back on

910
00:38:13,440 --> 00:38:17,190
thanks a lot we'll see you

911
00:38:22,630 --> 00:38:19,270
endeavor iss this is reuters how do you

912
00:38:25,750 --> 00:38:23,910
were you loud and clear how do you read

913
00:38:28,310 --> 00:38:25,760

us

914

00:38:29,910 --> 00:38:28,320

very good thank you colonel verts

915

00:38:31,910 --> 00:38:29,920

captain heyer it's chris baltimore with

916

00:38:34,310 --> 00:38:31,920

reuters in houston uh it's been a while

917

00:38:35,990 --> 00:38:34,320

since both of you have been on orbit how

918

00:38:42,069 --> 00:38:36,000

has the experience been different for

919

00:38:47,030 --> 00:38:45,670

well this is my first time and it's been

920

00:38:49,510 --> 00:38:47,040

amazing it's different than what i

921

00:38:50,470 --> 00:38:49,520

thought it would be um a lot better and

922

00:38:52,950 --> 00:38:50,480

and it really when you hear

923

00:38:54,950 --> 00:38:52,960

indescribable that's really true because

924

00:38:56,550 --> 00:38:54,960

you just can't put words to it

925

00:38:58,069 --> 00:38:56,560

the the earth looks different than what

926
00:38:59,510 --> 00:38:58,079
i thought it would look it has more

927
00:39:02,470 --> 00:38:59,520
colors to it

928
00:39:04,310 --> 00:39:02,480
and more tones and

929
00:39:06,069 --> 00:39:04,320
it was just surprising i've been

930
00:39:08,310 --> 00:39:06,079
looking at pictures of the earth for my

931
00:39:10,230 --> 00:39:08,320
whole life and and it was really

932
00:39:12,470 --> 00:39:10,240
surprising to see it especially the

933
00:39:14,950 --> 00:39:12,480
first few days in orbit there was a

934
00:39:16,710 --> 00:39:14,960
thin moon out and um

935
00:39:19,190 --> 00:39:16,720
i just saw some amazing things the east

936
00:39:20,790 --> 00:39:19,200
coast of the us at night flew over

937
00:39:22,390 --> 00:39:20,800
israel and jerusalem one night with the

938
00:39:24,310 --> 00:39:22,400

moon setting right above it and so those

939

00:39:26,150 --> 00:39:24,320

images are are going to stick with me

940

00:39:27,190 --> 00:39:26,160

forever the other thing that's different

941

00:39:30,230 --> 00:39:27,200

and

942

00:39:33,109 --> 00:39:30,240

a lot of fun to get used to is just

943

00:39:35,190 --> 00:39:33,119

floating and learning to not there's a

944

00:39:37,670 --> 00:39:35,200

natural reaction that your body wants to

945

00:39:39,349 --> 00:39:37,680

push and touch and grab things and

946

00:39:40,870 --> 00:39:39,359

whenever you do that you end up doing

947

00:39:42,630 --> 00:39:40,880

you know doing that and floating up just

948

00:39:43,910 --> 00:39:42,640

with a really small push

949

00:39:45,910 --> 00:39:43,920

so you really have to learn it's like

950

00:39:48,310 --> 00:39:45,920

learning how to walk again only you have

951
00:39:51,510 --> 00:39:48,320
to learn in a few hours or a few days

952
00:39:55,750 --> 00:39:54,150
thank you a question for captain heyer

953
00:39:57,589 --> 00:39:55,760
the the shuttle program is is nearing

954
00:39:59,670 --> 00:39:57,599
its retirement with the four remaining

955
00:40:01,589 --> 00:39:59,680
missions after this one for you and your

956
00:40:07,109 --> 00:40:01,599
team members is this a feeling more

957
00:40:11,750 --> 00:40:09,109
well i'll tell you i think it's going to

958
00:40:14,630 --> 00:40:11,760
hit me a little bit more after we land

959
00:40:16,710 --> 00:40:14,640
we have been so focused on sts-130 and

960
00:40:19,190 --> 00:40:16,720
this flight and the tasks that we have

961
00:40:20,550 --> 00:40:19,200
to accomplish on this flight that we

962
00:40:23,190 --> 00:40:20,560
haven't really had a lot of time to

963
00:40:25,270 --> 00:40:23,200

reflect about it but i'm sure that uh

964

00:40:27,109 --> 00:40:25,280

when i get back and the reality of only

965

00:40:29,190 --> 00:40:27,119

four more flights sets in it's it's

966

00:40:31,190 --> 00:40:29,200

going to feel a little strange but it's

967

00:40:33,349 --> 00:40:31,200

also an exciting time because it means

968

00:40:35,589 --> 00:40:33,359

that we're moving on to something else

969

00:40:38,870 --> 00:40:35,599

so i'm pretty excited to see what's

970

00:40:41,349 --> 00:40:38,880

going to come next

971

00:40:43,510 --> 00:40:41,359

thank you a question for colonel verts

972

00:40:45,750 --> 00:40:43,520

after uh the shuttle is retired current

973

00:40:48,150 --> 00:40:45,760

plans call for u.s astronauts to reach

974

00:40:49,750 --> 00:40:48,160

the space station via privately run

975

00:40:51,829 --> 00:40:49,760

space taxis

976

00:40:53,670 --> 00:40:51,839

is this a viable plan to you and you

977

00:40:55,829 --> 00:40:53,680

think that private industry can uphold

978

00:41:01,030 --> 00:40:55,839

the same standards of quality and safety

979

00:41:04,950 --> 00:41:03,109

um you know my focus for last year has

980

00:41:06,550 --> 00:41:04,960

been on training for this flight so i

981

00:41:08,710 --> 00:41:06,560

haven't i'm not familiar at all with

982

00:41:10,790 --> 00:41:08,720

what plans uh the commercial companies

983

00:41:13,030 --> 00:41:10,800

may have for building it i was aware of

984

00:41:14,630 --> 00:41:13,040

orion and i worked on that some

985

00:41:17,109 --> 00:41:14,640

but i'm sure that nasa is going to hold

986

00:41:17,829 --> 00:41:17,119

them to a very high standard uh that

987

00:41:20,390 --> 00:41:17,839

they're

988

00:41:22,230 --> 00:41:20,400

it'll be safe it'll it'll

989

00:41:24,390 --> 00:41:22,240

work to the best of our abilities to

990

00:41:25,670 --> 00:41:24,400

make it work so i'm confident that nasa

991

00:41:27,750 --> 00:41:25,680

will make sure that there's high safety

992

00:41:29,430 --> 00:41:27,760

standards but i haven't had a chance to

993

00:41:30,950 --> 00:41:29,440

i'm not familiar with what types of

994

00:41:33,990 --> 00:41:30,960

designs or plans that they have right

995

00:41:38,390 --> 00:41:35,750

you uh and maybe a question for both of

996

00:41:40,630 --> 00:41:38,400

both of you uh uh the current uh nasa

997

00:41:42,550 --> 00:41:40,640

budget does away uh with the the

998

00:41:44,630 --> 00:41:42,560

constellation program to put an american

999

00:41:48,230 --> 00:41:44,640

uh vehicle on the moon uh what's your

1000

00:41:54,950 --> 00:41:48,240

take on this uh this priority shift uh

1001
00:41:59,349 --> 00:41:57,510
well i have to echo what terry verts

1002
00:42:02,069 --> 00:41:59,359
just told you and that's that we have

1003
00:42:02,870 --> 00:42:02,079
been so focused on sts-130

1004
00:42:04,069 --> 00:42:02,880
that

1005
00:42:06,309 --> 00:42:04,079
personally

1006
00:42:08,630 --> 00:42:06,319
for me and i'm sure for the rest of our

1007
00:42:10,390 --> 00:42:08,640
crew that we really haven't even been

1008
00:42:12,870 --> 00:42:10,400
reading the news or looking at the

1009
00:42:14,950 --> 00:42:12,880
details of all of that i know there's a

1010
00:42:16,790 --> 00:42:14,960
lot of

1011
00:42:18,790 --> 00:42:16,800
discussion going on about that right now

1012
00:42:20,710 --> 00:42:18,800
but i'm really just not up to speed on

1013
00:42:22,550 --> 00:42:20,720

that but we can sure talk about this

1014

00:42:24,150 --> 00:42:22,560

mission sts-130 and what we're going to

1015

00:42:27,829 --> 00:42:24,160

accomplish while we're here at the

1016

00:42:31,270 --> 00:42:29,589

uh you bet maybe you could give me a few

1017

00:42:33,829 --> 00:42:31,280

impressions about the new uh tranquility

1018

00:42:35,829 --> 00:42:33,839

mode and uh node and uh what what it's

1019

00:42:37,910 --> 00:42:35,839

looking like and how it's shaping up

1020

00:42:40,950 --> 00:42:37,920

we were able to open the hatch and go in

1021

00:42:42,230 --> 00:42:40,960

today and starting off it was dark and

1022

00:42:44,790 --> 00:42:42,240

just a little bit

1023

00:42:47,109 --> 00:42:44,800

stuffy if you will because there was no

1024

00:42:49,750 --> 00:42:47,119

uh air circulation going on and we're in

1025

00:42:51,829 --> 00:42:49,760

the process of setting all that up so as

1026
00:42:54,069 --> 00:42:51,839
we are going in there now and bringing

1027
00:42:55,829 --> 00:42:54,079
new equipment inside we are wearing

1028
00:42:58,870 --> 00:42:55,839
little headlamps and carrying

1029
00:43:00,710 --> 00:42:58,880
flashlights and and little portable fans

1030
00:43:02,950 --> 00:43:00,720
and until we get everything all up and

1031
00:43:06,150 --> 00:43:02,960
running but that's going to be soon and

1032
00:43:07,750 --> 00:43:06,160
it's just going to be a fantastic uh

1033
00:43:09,430 --> 00:43:07,760
module for

1034
00:43:13,430 --> 00:43:09,440
the folks on the international space

1035
00:43:17,910 --> 00:43:15,349
very good i know that uh your crew is

1036
00:43:20,950 --> 00:43:17,920
working some issues with uh uh getting

1037
00:43:23,030 --> 00:43:20,960
the uh the proper um equipment for uh

1038
00:43:26,550 --> 00:43:23,040

sealing the the cupola onto the

1039

00:43:28,790 --> 00:43:26,560

tranquility node do you envision that

1040

00:43:29,990 --> 00:43:28,800

creating any problems for uh

1041

00:43:36,150 --> 00:43:30,000

completing that that part of the

1042

00:43:40,550 --> 00:43:38,470

yes we just noticed there's a cover that

1043

00:43:43,430 --> 00:43:40,560

we were going to put on the outside

1044

00:43:44,309 --> 00:43:43,440

hatch of mode 3 and we cover that hatch

1045

00:43:47,510 --> 00:43:44,319

up

1046

00:43:50,309 --> 00:43:47,520

we're going to move another module

1047

00:43:52,390 --> 00:43:50,319

called pma3 onto that location and the

1048

00:43:53,750 --> 00:43:52,400

ground is deciding right now how they

1049

00:43:55,990 --> 00:43:53,760

want to proceed in fact that just

1050

00:43:57,829 --> 00:43:56,000

happened as you know a few hours ago

1051

00:43:59,750 --> 00:43:57,839

while kay and i were installing it uh we

1052

00:44:01,990 --> 00:43:59,760

found out that it didn't fit there's no

1053

00:44:03,349 --> 00:44:02,000

immediate the both modules are in great

1054

00:44:04,630 --> 00:44:03,359

shape and so it's just a matter of

1055

00:44:07,589 --> 00:44:04,640

deciding how we're going to proceed at

1056

00:44:10,710 --> 00:44:09,430

well colonel verts captain hire it's

1057

00:44:14,950 --> 00:44:10,720

been a pleasure thank you so much for