

Johnson Space

Johnso



STS-130 / ZOA

1
00:00:06,230 --> 00:00:04,950
good afternoon thank you for joining us

2
00:00:08,150 --> 00:00:06,240
for today's news conference with the

3
00:00:09,830 --> 00:00:08,160
sts-130 crew we'll start with

4
00:00:11,830 --> 00:00:09,840
introductions and then questions from

5
00:00:14,310 --> 00:00:11,840
the media at various nasa centers i'd

6
00:00:15,829 --> 00:00:14,320
like to introduce commander george zamka

7
00:00:17,670 --> 00:00:15,839
george was born in jersey city new

8
00:00:19,189 --> 00:00:17,680
jersey and raised in new york city

9
00:00:21,269 --> 00:00:19,199
irvington new york

10
00:00:23,189 --> 00:00:21,279
medellin columbia and rochester hills

11
00:00:24,950 --> 00:00:23,199
michigan he holds degrees from the

12
00:00:26,630 --> 00:00:24,960
united states naval academy and florida

13
00:00:27,990 --> 00:00:26,640

institute of technology he was

14

00:00:29,589 --> 00:00:28,000

commissioned as a second lieutenant in

15

00:00:31,029 --> 00:00:29,599

the united states marine corps after

16

00:00:32,790 --> 00:00:31,039

graduating from the united states naval

17

00:00:34,950 --> 00:00:32,800

academy and is currently a colonel in

18

00:00:37,030 --> 00:00:34,960

the u.s marine corps george was selected

19

00:00:40,470 --> 00:00:37,040

as a nasa astronaut candidate in june

20

00:00:43,030 --> 00:00:40,480

1998. his first space flight was sts-120

21

00:00:44,869 --> 00:00:43,040

in october of 2007 where he served as a

22

00:00:46,790 --> 00:00:44,879

pilot for the 15 day long mission to

23

00:00:50,150 --> 00:00:46,800

deliver the no two harmony module to the

24

00:00:51,590 --> 00:00:50,160

international space station george

25

00:00:54,950 --> 00:00:51,600

thank you nicole

26

00:00:56,709 --> 00:00:54,960

welcome to the sts-130 crew press

27

00:00:58,150 --> 00:00:56,719

conference we've got a great mission in

28

00:00:59,430 --> 00:00:58,160

front of us and we're very anxious to

29

00:01:01,189 --> 00:00:59,440

get started

30

00:01:03,110 --> 00:01:01,199

one thing that i want to get out of the

31

00:01:04,549 --> 00:01:03,120

way is that we have heard in vague terms

32

00:01:06,070 --> 00:01:04,559

about the activity in washington

33

00:01:08,390 --> 00:01:06,080

regarding the budget

34

00:01:10,310 --> 00:01:08,400

we have been focused on our mission

35

00:01:12,070 --> 00:01:10,320

and any questions

36

00:01:13,190 --> 00:01:12,080

regarding that matter will be answered

37

00:01:14,469 --> 00:01:13,200

in that way

38

00:01:15,910 --> 00:01:14,479

there's a space shuttle with four

39

00:01:17,990 --> 00:01:15,920
million pounds of propellant and

40

00:01:19,910 --> 00:01:18,000
international payload strapped to it and

41

00:01:22,950 --> 00:01:19,920
thousands of bits of hardware to handle

42

00:01:24,950 --> 00:01:22,960
all with our names on it at pad 39a at

43

00:01:26,789 --> 00:01:24,960
the cape we've been preparing ourselves

44

00:01:28,789 --> 00:01:26,799
for this mission for a year and arguably

45

00:01:30,230 --> 00:01:28,799
we've been preparing for it for most of

46

00:01:33,190 --> 00:01:30,240
our lives and we get one chance to get

47

00:01:35,030 --> 00:01:33,200
it right so if you can't understand that

48

00:01:35,749 --> 00:01:35,040
that has our total focus and attention

49

00:01:37,350 --> 00:01:35,759
then

50

00:01:39,670 --> 00:01:37,360
we've not explained our situation as

51
00:01:41,670 --> 00:01:39,680
astronauts well to

52
00:01:43,270 --> 00:01:41,680
we are extremely

53
00:01:45,670 --> 00:01:43,280
fortunate to have been assigned to this

54
00:01:47,990 --> 00:01:45,680
mission flying in space is a dream for

55
00:01:50,069 --> 00:01:48,000
all of us and the mission of bringing up

56
00:01:52,069 --> 00:01:50,079
tranquility and the cupola up to the

57
00:01:54,950 --> 00:01:52,079
space station is a extra special prize

58
00:01:56,469 --> 00:01:54,960
that we are particularly humbled and

59
00:01:58,310 --> 00:01:56,479
grateful for

60
00:02:00,069 --> 00:01:58,320
thanks to all of the designers planners

61
00:02:01,670 --> 00:02:00,079
technicians flight controllers and

62
00:02:03,670 --> 00:02:01,680
trainers

63
00:02:04,630 --> 00:02:03,680

that have gotten the hardware in us this

64

00:02:06,310 --> 00:02:04,640

far

65

00:02:08,150 --> 00:02:06,320

and it's near time for us to take the

66

00:02:10,150 --> 00:02:08,160

baton and achieve the moment that we

67

00:02:11,670 --> 00:02:10,160

have all been working for

68

00:02:12,550 --> 00:02:11,680

we've got a few large themes for our

69

00:02:14,790 --> 00:02:12,560

mission

70

00:02:16,390 --> 00:02:14,800

the attachment of tranquility and the

71

00:02:18,790 --> 00:02:16,400

cupola which will change the way

72

00:02:20,229 --> 00:02:18,800

astronauts live and work on the space

73

00:02:21,830 --> 00:02:20,239

station

74

00:02:24,229 --> 00:02:21,840

we've got the supporting evas which

75

00:02:25,910 --> 00:02:24,239

include the highly choreographed laying

76

00:02:28,150 --> 00:02:25,920

out and installing of the external

77

00:02:29,990 --> 00:02:28,160

ammonia lines and the moving of the

78

00:02:32,550 --> 00:02:30,000

regen eclipse racks from spaces

79

00:02:34,309 --> 00:02:32,560

throughout the station into node three

80

00:02:35,990 --> 00:02:34,319

each of these themes has its challenges

81

00:02:37,910 --> 00:02:36,000

and disciplines with which this crew

82

00:02:39,509 --> 00:02:37,920

have become familiar with and trained

83

00:02:40,949 --> 00:02:39,519

for in the last year

84

00:02:42,790 --> 00:02:40,959

we're looking forward to seeing how our

85

00:02:45,350 --> 00:02:42,800

planning and preparation meets with the

86

00:02:46,710 --> 00:02:45,360

reality of the situation on orbit

87

00:02:48,309 --> 00:02:46,720

i'd like to take one moment and thank

88

00:02:50,790 --> 00:02:48,319

the ammonia host team for doing an

89

00:02:52,710 --> 00:02:50,800

especially great job in generating and

90

00:02:55,030 --> 00:02:52,720

testing some critical hoses for us in a

91

00:02:57,110 --> 00:02:55,040

very short amount of time those hoses

92

00:02:59,670 --> 00:02:57,120

are arguably the heart of this assembly

93

00:03:01,270 --> 00:02:59,680

mission and without them we'd be having

94

00:03:02,550 --> 00:03:01,280

a very different discussion today about

95

00:03:04,550 --> 00:03:02,560

what we were going to do and probably

96

00:03:05,990 --> 00:03:04,560

not even meeting with you today

97

00:03:07,430 --> 00:03:06,000

that team went out of their way to allow

98

00:03:09,030 --> 00:03:07,440

us to verify the fidelity of our

99

00:03:11,270 --> 00:03:09,040

simulations in the neutral buoyancy

100

00:03:13,190 --> 00:03:11,280

laboratory so that we knew that when we

101
00:03:15,270 --> 00:03:13,200
were in space those hoses would attach

102
00:03:17,110 --> 00:03:15,280
the way we expected them to

103
00:03:18,710 --> 00:03:17,120
i'd like to introduce the the crew to

104
00:03:20,550 --> 00:03:18,720
you starting with our pilot colonel

105
00:03:21,589 --> 00:03:20,560
terry verts of the united states air

106
00:03:23,670 --> 00:03:21,599
force

107
00:03:26,149 --> 00:03:23,680
terry was born in baltimore maryland and

108
00:03:27,910 --> 00:03:26,159
grew up in nearby columbia where on cold

109
00:03:29,990 --> 00:03:27,920
clear days he may have heard the ringing

110
00:03:32,390 --> 00:03:30,000
of the chapel bell from the u.s naval

111
00:03:34,070 --> 00:03:32,400
academy just down the road

112
00:03:35,589 --> 00:03:34,080
so upon graduation from high school he

113
00:03:38,229 --> 00:03:35,599

went across country to the air force

114

00:03:40,550 --> 00:03:38,239

academy and graduated in 1989 with a

115

00:03:42,390 --> 00:03:40,560

degree in mathematics he went on to fly

116

00:03:44,470 --> 00:03:42,400

f-16s for the air force all over the

117

00:03:46,550 --> 00:03:44,480

world terry is an extremely capable

118

00:03:48,309 --> 00:03:46,560

pilot very smart and proactive

119

00:03:50,630 --> 00:03:48,319

knows all the ins and outs of his side

120

00:03:52,789 --> 00:03:50,640

of the cockpit and his own tendencies he

121

00:03:54,869 --> 00:03:52,799

also provides a little levity at almost

122

00:03:56,630 --> 00:03:54,879

all appropriate times

123

00:03:58,949 --> 00:03:56,640

which helps us all get along the way get

124

00:04:00,869 --> 00:03:58,959

along on the way

125

00:04:03,190 --> 00:04:00,879

on our flight he'll be the lead space

126

00:04:04,789 --> 00:04:03,200

station arm operator responsible for

127

00:04:07,030 --> 00:04:04,799

moving tranquility and the cupola to

128

00:04:09,429 --> 00:04:07,040

their final homes

129

00:04:10,630 --> 00:04:09,439

next is our mission specialist one kay

130

00:04:12,390 --> 00:04:10,640

heyer

131

00:04:14,309 --> 00:04:12,400

kaye was born and raised in mobile

132

00:04:16,710 --> 00:04:14,319

alabama near the naval air station in

133

00:04:17,830 --> 00:04:16,720

pensacola where all naval aviators get

134

00:04:19,509 --> 00:04:17,840

their start

135

00:04:20,870 --> 00:04:19,519

kate was one of the early women to enter

136

00:04:22,629 --> 00:04:20,880

the naval academy and although she

137

00:04:25,030 --> 00:04:22,639

doesn't care to wear the mantle she has

138

00:04:26,390 --> 00:04:25,040

quietly and successfully set a pattern

139

00:04:27,749 --> 00:04:26,400

for other young women to follow that

140

00:04:29,270 --> 00:04:27,759

want to serve their country in the navy

141

00:04:31,189 --> 00:04:29,280

and want to fly

142

00:04:33,189 --> 00:04:31,199

she is a captain in the naval reserves

143

00:04:35,030 --> 00:04:33,199

and has formidable organizational and

144

00:04:37,189 --> 00:04:35,040

recall skills

145

00:04:38,950 --> 00:04:37,199

she's somewhat of a walking rolodex able

146

00:04:40,710 --> 00:04:38,960

to remember facts and details that most

147

00:04:42,950 --> 00:04:40,720

of us would just punt on

148

00:04:44,469 --> 00:04:42,960

but that she has used to get us through

149

00:04:45,590 --> 00:04:44,479

many simulations and meetings in the

150

00:04:47,590 --> 00:04:45,600

last year

151
00:04:49,430 --> 00:04:47,600
she is the primary shuttle arm operator

152
00:04:51,430 --> 00:04:49,440
on our flight and is our cupola

153
00:04:54,790 --> 00:04:51,440
specialist

154
00:04:56,870 --> 00:04:54,800
next decay is steve robinson our ms2

155
00:04:58,550 --> 00:04:56,880
steve was born in sacramento california

156
00:05:00,469 --> 00:04:58,560
and was blessed with a curiosity and a

157
00:05:03,110 --> 00:05:00,479
willingness to learn that shows in the

158
00:05:04,790 --> 00:05:03,120
many adventures experiences and areas of

159
00:05:06,870 --> 00:05:04,800
expertise that he has

160
00:05:09,189 --> 00:05:06,880
name any town and steve has either pump

161
00:05:10,790 --> 00:05:09,199
gas fixed an airplane run a software

162
00:05:12,950 --> 00:05:10,800
company or raised a bear cub from

163
00:05:15,830 --> 00:05:12,960

infancy there

164

00:05:17,590 --> 00:05:15,840

the the cub part i made up

165

00:05:19,990 --> 00:05:17,600

he has degrees from uc davis and

166

00:05:21,990 --> 00:05:20,000

sacramento this will be his fourth space

167

00:05:23,430 --> 00:05:22,000

flight and he has no apparent limit to

168

00:05:24,710 --> 00:05:23,440

the amount of detail that he can absorb

169

00:05:27,749 --> 00:05:24,720

about our mission

170

00:05:29,590 --> 00:05:27,759

he makes a lot of spreadsheets

171

00:05:32,070 --> 00:05:29,600

to offset this seeming seemingly

172

00:05:33,830 --> 00:05:32,080

outsized left brain lobe he is also a

173

00:05:35,990 --> 00:05:33,840

rock musician and plays a mean lead

174

00:05:37,749 --> 00:05:36,000

guitar in the astronaut band on our

175

00:05:39,510 --> 00:05:37,759

flight we are using steve's spacewalking

176
00:05:41,590 --> 00:05:39,520
experience by having him dispatch our

177
00:05:44,310 --> 00:05:41,600
spacewalks from the endeavour flight

178
00:05:46,150 --> 00:05:44,320
deck as the intravehicular coordinator

179
00:05:48,230 --> 00:05:46,160
steve is also our expert on bringing

180
00:05:50,550 --> 00:05:48,240
tranquility to life after she's birthed

181
00:05:52,710 --> 00:05:50,560
to the space station

182
00:05:54,550 --> 00:05:52,720
next to steve is ms3

183
00:05:56,950 --> 00:05:54,560
that's nick patrick

184
00:05:59,029 --> 00:05:56,960
nick was born in north yorkshire

185
00:06:00,469 --> 00:05:59,039
near london and was raised there and in

186
00:06:02,230 --> 00:06:00,479
rye new york

187
00:06:03,749 --> 00:06:02,240
nick has made multiple trips across the

188
00:06:07,029 --> 00:06:03,759

atlantic while growing up and holds

189

00:06:08,710 --> 00:06:07,039

degrees both from cambridge and mit

190

00:06:10,550 --> 00:06:08,720

we try to get nick to say words like

191

00:06:12,390 --> 00:06:10,560

issue just because he makes them sound

192

00:06:14,070 --> 00:06:12,400

better but often he'll just snicker at

193

00:06:16,309 --> 00:06:14,080

us which i now realize is his way of

194

00:06:18,230 --> 00:06:16,319

keeping us in our place

195

00:06:20,390 --> 00:06:18,240

nick worked on boeing airplanes and has

196

00:06:21,909 --> 00:06:20,400

a keen sense of the human interaction

197

00:06:23,350 --> 00:06:21,919

with vehicles as well as a slightly

198

00:06:25,350 --> 00:06:23,360

different perspective on just about

199

00:06:26,950 --> 00:06:25,360

everything which is great for a crew

200

00:06:27,830 --> 00:06:26,960

like ours that is worried about missing

201
00:06:29,990 --> 00:06:27,840
something

202
00:06:32,070 --> 00:06:30,000
nick is our ev2 and will be attaching

203
00:06:34,230 --> 00:06:32,080
the ammonia lines to the lab

204
00:06:36,550 --> 00:06:34,240
he will also be moving pma3 out to the

205
00:06:39,590 --> 00:06:36,560
end of tranquility and is our shuttle

206
00:06:41,510 --> 00:06:39,600
space deployment and retrograde expert

207
00:06:44,469 --> 00:06:41,520
next to nick is our ms4 lieutenant

208
00:06:46,710 --> 00:06:44,479
colonel bob becken who is also our ev1

209
00:06:48,870 --> 00:06:46,720
bob was born in crib corps outside st

210
00:06:51,830 --> 00:06:48,880
louis missouri and has degrees from

211
00:06:53,749 --> 00:06:51,840
washington university and cal tech

212
00:06:55,350 --> 00:06:53,759
bob was an air force f-22 engineer

213
00:06:57,589 --> 00:06:55,360

before coming to nasa

214

00:06:59,110 --> 00:06:57,599

bob is our lead space walker and i rely

215

00:07:01,189 --> 00:06:59,120

on him very heavily for just about

216

00:07:02,870 --> 00:07:01,199

everything that goes on in that area

217

00:07:04,629 --> 00:07:02,880

it's a very serious and complex

218

00:07:06,469 --> 00:07:04,639

discipline requiring forethought but

219

00:07:09,270 --> 00:07:06,479

it's also very physically demanding and

220

00:07:10,870 --> 00:07:09,280

bob is always way ahead of events

221

00:07:12,550 --> 00:07:10,880

he's a great communicator having built

222

00:07:14,230 --> 00:07:12,560

good team relationships among space

223

00:07:15,110 --> 00:07:14,240

walkers controllers and trainers for the

224

00:07:16,870 --> 00:07:15,120

mission

225

00:07:18,550 --> 00:07:16,880

he's also good for telling jokes that go

226

00:07:19,990 --> 00:07:18,560

way over my head that i get about five

227

00:07:21,350 --> 00:07:20,000

minutes later

228

00:07:22,230 --> 00:07:21,360

he hasn't had to explain one to me yet

229

00:07:23,830 --> 00:07:22,240

though

230

00:07:25,990 --> 00:07:23,840

bob will be attaching the ammonia lines

231

00:07:27,189 --> 00:07:26,000

to the tranquility module

232

00:07:28,150 --> 00:07:27,199

uh we're looking forward to your

233

00:07:29,510 --> 00:07:28,160

questions

234

00:07:31,029 --> 00:07:29,520

thank you so much george for those

235

00:07:32,550 --> 00:07:31,039

introductions we'll start at this side

236

00:07:34,390 --> 00:07:32,560

of the room if you can uh please state

237

00:07:36,550 --> 00:07:34,400

your name and affiliation uh phil

238

00:07:39,430 --> 00:07:36,560

harwood cbs well uh commander about the

239

00:07:40,230 --> 00:07:39,440

budget no i'm just kidding

240

00:07:43,189 --> 00:07:40,240

uh

241

00:07:44,710 --> 00:07:43,199

for anyone i've you know i don't really

242

00:07:45,909 --> 00:07:44,720

it doesn't matter who i this looks like

243

00:07:47,430 --> 00:07:45,919

a pretty challenging flight it's a

244

00:07:49,110 --> 00:07:47,440

critical module to get up on board it

245

00:07:51,189 --> 00:07:49,120

really finishes out the u.s assembly of

246

00:07:52,629 --> 00:07:51,199

the station not counting the plm i guess

247

00:07:54,869 --> 00:07:52,639

that will be added later but in terms of

248

00:07:56,230 --> 00:07:54,879

a complex module ammonia hookups

249

00:07:58,309 --> 00:07:56,240

electrical data all that stuff and then

250

00:07:59,350 --> 00:07:58,319

the cupola which strikes me as a really

251

00:08:01,510 --> 00:07:59,360

interesting piece of hardware if you

252

00:08:02,790 --> 00:08:01,520

could just describe maybe the overall

253

00:08:05,749 --> 00:08:02,800

challenge of the mission for us i

254

00:08:09,909 --> 00:08:08,230

i'll take that one

255

00:08:11,430 --> 00:08:09,919

yeah the mission is

256

00:08:13,589 --> 00:08:11,440

is challenging and it's unique in the

257

00:08:17,110 --> 00:08:13,599

sense that we are bringing up

258

00:08:19,110 --> 00:08:17,120

a node and also outfitting it so uh

259

00:08:22,390 --> 00:08:19,120

whereas before my previous flight on

260

00:08:24,790 --> 00:08:22,400

sts-120 we brought up node 2 attached it

261

00:08:26,629 --> 00:08:24,800

in a temporary location and then did

262

00:08:28,869 --> 00:08:26,639

some other tasks on this one we're

263

00:08:30,790 --> 00:08:28,879

attaching it we're doing a transplant of

264

00:08:33,190 --> 00:08:30,800

all the uh

265

00:08:35,029 --> 00:08:33,200

eclipse racks into note 3 which will

266

00:08:36,310 --> 00:08:35,039

change the way that the station is laid

267

00:08:37,029 --> 00:08:36,320

out

268

00:08:38,790 --> 00:08:37,039

and

269

00:08:40,550 --> 00:08:38,800

what is also different about it is that

270

00:08:42,790 --> 00:08:40,560

it's shuttle crew that'll be doing that

271

00:08:44,230 --> 00:08:42,800

uh as opposed to uh

272

00:08:46,150 --> 00:08:44,240

purely station crew we're gonna have to

273

00:08:47,670 --> 00:08:46,160

go up there and find out how to uh

274

00:08:49,750 --> 00:08:47,680

interact with our station crew members

275

00:08:50,949 --> 00:08:49,760

which have their operating methods well

276

00:08:52,710 --> 00:08:50,959

established they've been up there they

277

00:08:54,550 --> 00:08:52,720

know that station very well we're going

278

00:08:55,910 --> 00:08:54,560

up there we have currency on the

279

00:08:58,310 --> 00:08:55,920

procedures

280

00:08:59,910 --> 00:08:58,320

that we'll be using to move those racks

281

00:09:02,310 --> 00:08:59,920

but we haven't worked with the racks the

282

00:09:03,670 --> 00:09:02,320

way they have so in a sense we're going

283

00:09:05,990 --> 00:09:03,680

up there we'll have to build a team very

284

00:09:07,350 --> 00:09:06,000

quickly and learn how to work together

285

00:09:09,110 --> 00:09:07,360

to establish

286

00:09:11,269 --> 00:09:09,120

node three in its uh permanent

287

00:09:13,590 --> 00:09:11,279

configuration

288

00:09:15,430 --> 00:09:13,600

but is the baseland plan going in not to

289

00:09:16,550 --> 00:09:15,440

move any racks and then is it is it

290

00:09:18,070 --> 00:09:16,560

looking like you got to have a mission

291

00:09:19,430 --> 00:09:18,080

extension day to get the racks in there

292

00:09:21,670 --> 00:09:19,440

are you thinking you can do it during

293

00:09:23,670 --> 00:09:21,680

the the nominal yeah well the baseline

294

00:09:26,389 --> 00:09:23,680

up up until a week ago was for us to to

295

00:09:27,670 --> 00:09:26,399

move those on flight day eight and uh

296

00:09:29,990 --> 00:09:27,680

what we're going to do now is we're

297

00:09:32,070 --> 00:09:30,000

going to try to get some uh

298

00:09:33,990 --> 00:09:32,080

processing out of the the upa and get

299

00:09:35,829 --> 00:09:34,000

that done and we're hoping to get those

300

00:09:37,350 --> 00:09:35,839

racks moved in on to what would be a new

301
00:09:39,190 --> 00:09:37,360
flight day 11.

302
00:09:40,070 --> 00:09:39,200
so it's still out there we're trained

303
00:09:42,070 --> 00:09:40,080
for it

304
00:09:43,670 --> 00:09:42,080
we consider ourselves on standby ready

305
00:09:44,710 --> 00:09:43,680
to execute that plan

306
00:09:48,470 --> 00:09:44,720
and we think we're going to get there

307
00:09:52,710 --> 00:09:50,230
genius and sarah abc news for nick

308
00:09:53,670 --> 00:09:52,720
patrick and bob banken which spacewalks

309
00:09:56,870 --> 00:09:53,680
do you think will be the most

310
00:10:00,550 --> 00:09:58,949
well i guess um i guess for for nick

311
00:10:01,990 --> 00:10:00,560
maybe the i don't want to speak for him

312
00:10:03,190 --> 00:10:02,000
but maybe the first one would be the

313
00:10:04,949 --> 00:10:03,200

most challenging because this will be

314

00:10:06,949 --> 00:10:04,959

his first opportunity to go out of the

315

00:10:08,870 --> 00:10:06,959

hatch and perform a spacewalk so i would

316

00:10:10,150 --> 00:10:08,880

imagine there'll be a lot of new things

317

00:10:11,829 --> 00:10:10,160

to see

318

00:10:13,350 --> 00:10:11,839

and to be distracted by maybe during

319

00:10:15,430 --> 00:10:13,360

that first spacewalk so that's probably

320

00:10:17,430 --> 00:10:15,440

the one he's looking the most forward to

321

00:10:19,350 --> 00:10:17,440

and might consider the most challenging

322

00:10:20,790 --> 00:10:19,360

physically i think the second spacewalk

323

00:10:23,190 --> 00:10:20,800

where we actually route the ammonia

324

00:10:25,030 --> 00:10:23,200

lines and the associated mli that

325

00:10:26,870 --> 00:10:25,040

protects those ammonia lines to keep

326

00:10:28,310 --> 00:10:26,880

them warm if we ever did have to shut

327

00:10:30,389 --> 00:10:28,320

down one of the loops will be very

328

00:10:31,910 --> 00:10:30,399

physically challenging and it's a very

329

00:10:33,509 --> 00:10:31,920

complex and we're really counting on

330

00:10:35,350 --> 00:10:33,519

steve robinson to walk us through all

331

00:10:37,509 --> 00:10:35,360

the steps and keep us from missing

332

00:10:39,509 --> 00:10:37,519

anything as we execute that one i think

333

00:10:41,030 --> 00:10:39,519

that's probably the the most challenging

334

00:10:44,470 --> 00:10:41,040

one

335

00:10:47,030 --> 00:10:44,480

more challenge for us which is the third

336

00:10:49,910 --> 00:10:47,040

eva it's also a very full eva and it

337

00:10:51,269 --> 00:10:49,920

will be our third one we'll be the most

338

00:10:52,949 --> 00:10:51,279

tired for that one so i think we'll have

339

00:10:56,710 --> 00:10:52,959

to keep our vigilance up to make sure

340

00:11:01,269 --> 00:10:58,550

other follow-ups go ahead

341

00:11:03,350 --> 00:11:01,279

hi robert perlman with collectspace.com

342

00:11:04,630 --> 00:11:03,360

uh a question for all of you since uh

343

00:11:07,190 --> 00:11:04,640

weather permitting you'll be launching

344

00:11:09,509 --> 00:11:07,200

on super bowl sunday uh where do you all

345

00:11:10,230 --> 00:11:09,519

fall in terms of uh rooting for teams

346

00:11:11,990 --> 00:11:10,240

and

347

00:11:15,990 --> 00:11:12,000

um are you all unanimous for the saints

348

00:11:21,030 --> 00:11:18,470

i can answer part of that i grew up from

349

00:11:23,190 --> 00:11:21,040

in baltimore so i grew up with colts

350

00:11:25,990 --> 00:11:23,200

banners and stuff in my bedroom so i've

351
00:11:27,910 --> 00:11:26,000
been a colts fan and uh but my son is a

352
00:11:31,030 --> 00:11:27,920
big saints fan ever since reggie bush

353
00:11:32,949 --> 00:11:31,040
went there so we kind of have both fans

354
00:11:40,550 --> 00:11:32,959
both sides of the super bowl covered in

355
00:11:47,990 --> 00:11:42,310
i'm hoping my family will be glued to

356
00:11:52,150 --> 00:11:49,590
uh eric berger with the houston

357
00:11:55,190 --> 00:11:52,160
chronicle it seems unlikely but in case

358
00:11:57,269 --> 00:11:55,200
there is uh a repair to a heat shield

359
00:11:59,990 --> 00:11:57,279
warranted outside the vehicle would

360
00:12:03,990 --> 00:12:00,000
steve go out and do that repair or what

361
00:12:04,000 --> 00:12:07,910
no

362
00:12:11,990 --> 00:12:10,389
we're built uh

363
00:12:13,829 --> 00:12:12,000

on this mission to have uh two

364

00:12:17,190 --> 00:12:13,839

spacewalkers and that's nick and bob and

365

00:12:19,190 --> 00:12:17,200

and uh steve is is our iv and he's uh

366

00:12:20,310 --> 00:12:19,200

uh he's very very important in that role

367

00:12:22,389 --> 00:12:20,320

and uh

368

00:12:23,990 --> 00:12:22,399

so where something uh like that to

369

00:12:25,110 --> 00:12:24,000

happen we'd have to do a repair outside

370

00:12:26,870 --> 00:12:25,120

we'd use

371

00:12:28,389 --> 00:12:26,880

steve's experience inside to make sure

372

00:12:30,550 --> 00:12:28,399

that bob and nick

373

00:12:37,190 --> 00:12:30,560

affected great techniques and a good

374

00:12:37,200 --> 00:12:42,069

all right center

375

00:12:47,110 --> 00:12:44,870

hi greg dobbs with hd net television uh

376

00:12:49,670 --> 00:12:47,120

commander you said that the installation

377

00:12:51,509 --> 00:12:49,680

of tranquility and the cupola will

378

00:12:53,430 --> 00:12:51,519

change your words change the way

379

00:12:56,389 --> 00:12:53,440

astronauts on the station live and work

380

00:12:58,069 --> 00:12:56,399

would you expand on that oh sure uh well

381

00:12:59,590 --> 00:12:58,079

it'll it'll make it easier for them for

382

00:13:00,389 --> 00:12:59,600

one thing currently we have a lot of

383

00:13:02,790 --> 00:13:00,399

those

384

00:13:04,710 --> 00:13:02,800

uh life support racks uh spread

385

00:13:07,670 --> 00:13:04,720

throughout the station and uh they're in

386

00:13:10,230 --> 00:13:07,680

the locations where uh crew members are

387

00:13:13,030 --> 00:13:10,240

either doing scientific experiments or

388

00:13:14,389 --> 00:13:13,040

exercising or eating or or other things

389

00:13:17,590 --> 00:13:14,399

and then the volume in which they're

390

00:13:19,430 --> 00:13:17,600

doing all that is is very small

391

00:13:21,190 --> 00:13:19,440

once those racks have been moved into

392

00:13:22,629 --> 00:13:21,200

tranquility

393

00:13:25,990 --> 00:13:22,639

they will be out of the laboratory

394

00:13:27,269 --> 00:13:26,000

spaces so the labs can be for science

395

00:13:29,590 --> 00:13:27,279

and

396

00:13:32,150 --> 00:13:29,600

tranquility will become the home for the

397

00:13:34,710 --> 00:13:32,160

the water regeneration system and

398

00:13:37,110 --> 00:13:34,720

the atmospheric revitalization and in

399

00:13:39,590 --> 00:13:37,120

the in those sites and also exercise the

400

00:13:43,430 --> 00:13:39,600

uh in its final configuration the uh the

401
00:13:45,350 --> 00:13:43,440
a red and and t2 will be in there so uh

402
00:13:46,790 --> 00:13:45,360
from that end uh that'll be a big change

403
00:13:49,110 --> 00:13:46,800
for the astronauts the other one is just

404
00:13:51,910 --> 00:13:49,120
having the cupola on the underside of

405
00:13:54,870 --> 00:13:51,920
tranquility uh to have direct views for

406
00:13:57,269 --> 00:13:54,880
their uh robotic operations

407
00:13:58,710 --> 00:13:57,279
and uh also just a great window on the

408
00:14:00,829 --> 00:13:58,720
world to be able to look outside it'll

409
00:14:03,670 --> 00:14:00,839
be kind of a hemispheric

410
00:14:08,949 --> 00:14:03,680
uh place where they can look out and see

411
00:14:13,829 --> 00:14:11,750
up here on the front row

412
00:14:16,629 --> 00:14:13,839
this is jill tulk i'm representing two

413
00:14:18,629 --> 00:14:16,639

different entities from the bay area bay

414

00:14:20,629 --> 00:14:18,639

area houston magazine and also the la

415

00:14:23,750 --> 00:14:20,639

mirinda sun in the east bay area of san

416

00:14:24,949 --> 00:14:23,760

francisco a dual question for both nick

417

00:14:27,750 --> 00:14:24,959

and steve

418

00:14:30,710 --> 00:14:27,760

from a human interest perspective how is

419

00:14:33,829 --> 00:14:30,720

130 different or similar than your

420

00:14:35,590 --> 00:14:33,839

adventures on 114 and 116 respectively

421

00:14:38,870 --> 00:14:35,600

especially considering the the timeline

422

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

they're very different missions

423

00:14:47,030 --> 00:14:45,360

116 uh was among other things a crew

424

00:14:48,710 --> 00:14:47,040

rotation mission we took sunny williams

425

00:14:50,069 --> 00:14:48,720

up and uh

426
00:14:51,269 --> 00:14:50,079
that consumed some of our time i wasn't

427
00:14:53,430 --> 00:14:51,279
doing any of the spacewalks on that

428
00:14:54,870 --> 00:14:53,440
mission so for me personally this is a a

429
00:14:56,470 --> 00:14:54,880
very different experience both in

430
00:14:59,030 --> 00:14:56,480
training and in

431
00:15:01,269 --> 00:14:59,040
and in execution but i think overall

432
00:15:04,069 --> 00:15:01,279
they'll be uh fairly similar in that

433
00:15:05,670 --> 00:15:04,079
there'll be a a lot of drama in space

434
00:15:07,829 --> 00:15:05,680
we're doing exciting things on both

435
00:15:09,590 --> 00:15:07,839
missions um

436
00:15:12,310 --> 00:15:09,600
the cupola and node three are probably a

437
00:15:13,670 --> 00:15:12,320
little bit more exciting than p5 was so

438
00:15:15,509 --> 00:15:13,680

that should be more fun to watch but i

439

00:15:16,870 --> 00:15:15,519

would say the the i hope the experience

440

00:15:19,670 --> 00:15:16,880

will be just as good on this mission i

441

00:15:25,509 --> 00:15:21,350

i'm not letting nick speak before me

442

00:15:30,310 --> 00:15:27,269

my last mission was the return to flight

443

00:15:32,150 --> 00:15:30,320

mission um and uh today's a great day to

444

00:15:34,150 --> 00:15:32,160

remember uh

445

00:15:35,590 --> 00:15:34,160

how we how we got to that state and it

446

00:15:38,069 --> 00:15:35,600

was a very successful mission but there

447

00:15:40,389 --> 00:15:38,079

was a lot unknown we did an awful lot of

448

00:15:42,069 --> 00:15:40,399

things that were brand new you know we

449

00:15:44,069 --> 00:15:42,079

came up to the station for the first

450

00:15:45,670 --> 00:15:44,079

time did that big flip over so that we

451
00:15:47,189 --> 00:15:45,680
could inspect it but you know the first

452
00:15:49,430 --> 00:15:47,199
time we had the boom and inspected

453
00:15:52,470 --> 00:15:49,440
ourselves and first time we did any kind

454
00:15:54,470 --> 00:15:52,480
of repair on the heat

455
00:15:56,150 --> 00:15:54,480
heat shield and there are many new

456
00:15:58,230 --> 00:15:56,160
things that we had a lot of questions

457
00:16:00,310 --> 00:15:58,240
about um

458
00:16:01,430 --> 00:16:00,320
and uh it was a big resupply mission

459
00:16:03,189 --> 00:16:01,440
because nobody'd been to the space

460
00:16:04,470 --> 00:16:03,199
station for a long time this one's very

461
00:16:06,389 --> 00:16:04,480
different this is a this is a big

462
00:16:08,949 --> 00:16:06,399
construction mission we're gonna go and

463
00:16:11,590 --> 00:16:08,959

add not just a new room on the house

464

00:16:13,670 --> 00:16:11,600

um but probably the most complex room on

465

00:16:15,829 --> 00:16:13,680

the house that you know as you've heard

466

00:16:17,590 --> 00:16:15,839

us talk it's going to be a real

467

00:16:19,350 --> 00:16:17,600

challenging mission space

468

00:16:21,269 --> 00:16:19,360

shuttle crews don't normally do this we

469

00:16:22,389 --> 00:16:21,279

normally add on the room that gets sort

470

00:16:25,030 --> 00:16:22,399

of outfitted

471

00:16:27,189 --> 00:16:25,040

um later so these two guys are going

472

00:16:29,350 --> 00:16:27,199

outside to hook it up the rest of the

473

00:16:31,350 --> 00:16:29,360

four of us are inside hooking it up and

474

00:16:33,590 --> 00:16:31,360

uh so that that makes it a very unusual

475

00:16:35,670 --> 00:16:33,600

mission in the whole not just our own

476
00:16:38,069 --> 00:16:35,680
but in the whole string of nasal shuttle

477
00:16:42,069 --> 00:16:40,310
thanks for that i have a

478
00:16:43,269 --> 00:16:42,079
kind of a little bit of a follow-up for

479
00:16:45,430 --> 00:16:43,279
you steve

480
00:16:47,910 --> 00:16:45,440
earlier this month there was a

481
00:16:50,150 --> 00:16:47,920
presentation about the apollo 11 rocks

482
00:16:51,430 --> 00:16:50,160
and the everest rock that was retrieved

483
00:16:55,269 --> 00:16:51,440
by your

484
00:16:57,269 --> 00:16:55,279
crewmate on sts-95 so here it is that

485
00:16:59,509 --> 00:16:57,279
particular

486
00:17:02,150 --> 00:16:59,519
payload you might say is going up to be

487
00:17:03,829 --> 00:17:02,160
installed into cupola so what are your

488
00:17:05,350 --> 00:17:03,839

thoughts and feelings about that where

489

00:17:07,029 --> 00:17:05,360

it kind of follows along with what you

490

00:17:09,829 --> 00:17:07,039

just said about

491

00:17:11,350 --> 00:17:09,839

things progressing

492

00:17:13,429 --> 00:17:11,360

imagine

493

00:17:14,150 --> 00:17:13,439

being in the cupola

494

00:17:17,110 --> 00:17:14,160

and

495

00:17:19,270 --> 00:17:17,120

looking out this huge series of windows

496

00:17:21,270 --> 00:17:19,280

and looking at the moon and having a

497

00:17:22,630 --> 00:17:21,280

piece of the moon right next to you

498

00:17:23,750 --> 00:17:22,640

what's that going to be like i have no

499

00:17:28,549 --> 00:17:23,760

idea i'll come back and tell you it

500

00:17:35,190 --> 00:17:30,230

hi

501
00:17:36,870 --> 00:17:35,200
and i have a question for um nick and

502
00:17:38,470 --> 00:17:36,880
bob for the spacewalks

503
00:17:39,990 --> 00:17:38,480
you guys are the only spacewalkers on

504
00:17:41,750 --> 00:17:40,000
this flight you're doing all three

505
00:17:43,590 --> 00:17:41,760
spacewalks and you've done all kinds of

506
00:17:45,350 --> 00:17:43,600
training knowing what technical steps

507
00:17:47,270 --> 00:17:45,360
you have to do what kind of endurance

508
00:17:49,190 --> 00:17:47,280
training do you do so that you don't by

509
00:17:50,870 --> 00:17:49,200
the end of that third spacewalk

510
00:17:53,270 --> 00:17:50,880
feel completely wiped out what kind of

511
00:17:56,470 --> 00:17:53,280
things do you do to keep yourself

512
00:18:00,390 --> 00:17:57,990
both of us spend a fair amount of time

513
00:18:01,909 --> 00:18:00,400

at the gym in preparation for this but

514

00:18:04,310 --> 00:18:01,919

the the best way to prepare for

515

00:18:06,390 --> 00:18:04,320

spacewalks is to do spacewalks and we

516

00:18:08,390 --> 00:18:06,400

have the neutral buoyancy laboratory

517

00:18:10,630 --> 00:18:08,400

that facility provides us an excellent

518

00:18:12,070 --> 00:18:10,640

opportunity to understand the level of

519

00:18:13,990 --> 00:18:12,080

fatigue that your body is going to see

520

00:18:15,990 --> 00:18:14,000

as you go through the walks and one of

521

00:18:18,150 --> 00:18:16,000

the things we've been very careful about

522

00:18:20,390 --> 00:18:18,160

as we've uh designed the training for

523

00:18:22,230 --> 00:18:20,400

this mission is to make sure that we had

524

00:18:23,350 --> 00:18:22,240

those spacewalks close enough together

525

00:18:25,270 --> 00:18:23,360

when we did them in the training

526

00:18:28,150 --> 00:18:25,280

laboratory that we would get that same

527

00:18:30,470 --> 00:18:28,160

level of fatigue by the time the third

528

00:18:31,909 --> 00:18:30,480

run ran around we'd have that same level

529

00:18:33,830 --> 00:18:31,919

of fatigue that we should expect on

530

00:18:36,310 --> 00:18:33,840

orbit and we would learn how our bodies

531

00:18:37,990 --> 00:18:36,320

responded to it and also the way that we

532

00:18:39,830 --> 00:18:38,000

needed to react whether it was to slow

533

00:18:41,430 --> 00:18:39,840

down a little bit or to back each other

534

00:18:42,950 --> 00:18:41,440

up a little bit more those sorts of

535

00:18:44,390 --> 00:18:42,960

things so we we tried to build the

536

00:18:46,310 --> 00:18:44,400

training template to give us two or

537

00:18:48,070 --> 00:18:46,320

three opportunities like that with uh

538

00:18:49,909 --> 00:18:48,080

runs really close together to simulate

539

00:18:51,830 --> 00:18:49,919

the on-orbit experience

540

00:18:53,510 --> 00:18:51,840

my experience from my last flight having

541

00:18:55,669 --> 00:18:53,520

done three ebas

542

00:18:57,909 --> 00:18:55,679

on the previous mission was that uh

543

00:18:59,830 --> 00:18:57,919

being able to see that in the nbl really

544

00:19:02,310 --> 00:18:59,840

did prepare me well for the the time on

545

00:19:04,230 --> 00:19:02,320

orbit and i'll uh i'll leave it to nick

546

00:19:06,549 --> 00:19:04,240

to see what he's expecting i guess here

547

00:19:07,669 --> 00:19:06,559

i i'm imagining from my experience in

548

00:19:10,549 --> 00:19:07,679

the nbl

549

00:19:12,310 --> 00:19:10,559

that three evas almost back to back with

550

00:19:14,390 --> 00:19:12,320

just a day or two between each of them

551
00:19:16,470 --> 00:19:14,400
is a bit like going to the gym

552
00:19:18,150 --> 00:19:16,480
three days in a row or three days a week

553
00:19:19,830 --> 00:19:18,160
and exercising exactly the same muscle

554
00:19:21,029 --> 00:19:19,840
groups and maybe exercising them quite a

555
00:19:23,110 --> 00:19:21,039
lot

556
00:19:24,310 --> 00:19:23,120
you start out with some eggs and

557
00:19:26,789 --> 00:19:24,320
and hopefully those don't grow to the

558
00:19:29,110 --> 00:19:26,799
point at which your your uh capability

559
00:19:30,630 --> 00:19:29,120
is limited and my experience

560
00:19:32,230 --> 00:19:30,640
and i think it was bob's too and from

561
00:19:33,430 --> 00:19:32,240
our practice doing this in the nbl is

562
00:19:35,190 --> 00:19:33,440
that

563
00:19:37,190 --> 00:19:35,200

these evas really are going to be

564

00:19:38,950 --> 00:19:37,200

manageable space the way they are i need

565

00:19:40,470 --> 00:19:38,960

to say thanks to steve because when we

566

00:19:41,190 --> 00:19:40,480

were first assigned to this mission and

567

00:19:42,870 --> 00:19:41,200

uh

568

00:19:45,590 --> 00:19:42,880

we found out i would i was doing some of

569

00:19:48,549 --> 00:19:45,600

these evas with bob steve gave me his uh

570

00:19:50,549 --> 00:19:48,559

hand exerciser from sts-114 and i'd been

571

00:19:52,070 --> 00:19:50,559

carrying that with me in my car so

572

00:19:54,070 --> 00:19:52,080

hopefully we're well prepared i think we

573

00:19:55,750 --> 00:19:54,080

are and that's just happening i can

574

00:19:57,830 --> 00:19:55,760

speak for these guys these are even even

575

00:20:03,190 --> 00:19:57,840

though they went to you know mit and

576

00:20:07,510 --> 00:20:05,270

uh but uh you know it is it's kind of

577

00:20:09,590 --> 00:20:07,520

like going to the gym all day uh while

578

00:20:10,870 --> 00:20:09,600

you're currently at the same time in a

579

00:20:13,350 --> 00:20:10,880

chess tournament

580

00:20:15,510 --> 00:20:13,360

it's a very very uh um

581

00:20:17,430 --> 00:20:15,520

challenging mental exercise and to plan

582

00:20:19,110 --> 00:20:17,440

ahead every second and these guys are

583

00:20:21,830 --> 00:20:19,120

the best you're gonna see they're really

584

00:20:23,029 --> 00:20:21,840

awesome at that and so that's a good

585

00:20:24,710 --> 00:20:23,039

point when i get out of the pool i know

586

00:20:27,110 --> 00:20:24,720

my brain is generally more tired than my

587

00:20:29,590 --> 00:20:27,120

arms so

588

00:20:32,149 --> 00:20:29,600

okay next question

589

00:20:35,270 --> 00:20:32,159

i'm cece varela with univision national

590

00:20:37,990 --> 00:20:35,280

news this is for commander samkha

591

00:20:41,190 --> 00:20:38,000

you are the only one who has latino

592

00:20:43,669 --> 00:20:41,200

blood in you and i'm sure all latinos

593

00:20:46,149 --> 00:20:43,679

have great expectations especially when

594

00:20:49,350 --> 00:20:46,159

they see somebody going

595

00:20:51,190 --> 00:20:49,360

into space what can you tell them what

596

00:20:53,430 --> 00:20:51,200

are you bringing with you

597

00:20:54,549 --> 00:20:53,440

in this mission uh what part of our

598

00:20:55,909 --> 00:20:54,559

latino

599

00:20:58,149 --> 00:20:55,919

traditions

600

00:21:01,590 --> 00:20:58,159

education background

601
00:21:04,230 --> 00:21:01,600
are you bringing or taking with you

602
00:21:06,390 --> 00:21:04,240
sure i guess uh

603
00:21:07,669 --> 00:21:06,400
the the part of my latino background

604
00:21:10,549 --> 00:21:07,679
that i bring up with me comes from my

605
00:21:13,110 --> 00:21:10,559
mother who was born in bogota colombia

606
00:21:14,390 --> 00:21:13,120
uh she was she came to the united states

607
00:21:16,470 --> 00:21:14,400
and her profession was as a

608
00:21:18,390 --> 00:21:16,480
cytopathologist so she was involved in

609
00:21:20,630 --> 00:21:18,400
sciences and got me interested in

610
00:21:22,710 --> 00:21:20,640
sciences when i was young and

611
00:21:24,470 --> 00:21:22,720
she also gave me the the discipline to

612
00:21:26,789 --> 00:21:24,480
study hard and persevere when when

613
00:21:27,669 --> 00:21:26,799

things weren't going my way so

614

00:21:32,549 --> 00:21:27,679

from

615

00:21:34,710 --> 00:21:32,559

what got me through school and

616

00:21:37,270 --> 00:21:34,720

got me working hard enough where i could

617

00:21:40,070 --> 00:21:37,280

do something like this someday

618

00:21:41,510 --> 00:21:40,080

i've got a lot of cousins

619

00:21:43,350 --> 00:21:41,520

that are

620

00:21:45,190 --> 00:21:43,360

watching and i'm hoping i don't let them

621

00:21:46,870 --> 00:21:45,200

down i don't think i will and

622

00:21:49,669 --> 00:21:46,880

uh

623

00:21:52,630 --> 00:21:49,679

and we we're bringing some special items

624

00:21:55,270 --> 00:21:52,640

up uh uh some personal mementos and and

625

00:21:59,029 --> 00:21:55,280

also some other items uh that will come

626
00:22:00,149 --> 00:21:59,039
to space and come back with me okay

627
00:22:01,190 --> 00:22:00,159
next question i believe here on the

628
00:22:03,190 --> 00:22:01,200
right

629
00:22:04,230 --> 00:22:03,200
jim albert with nbc news and good to see

630
00:22:06,870 --> 00:22:04,240
you all here

631
00:22:08,549 --> 00:22:06,880
for kay as the cupola specialist you're

632
00:22:09,830 --> 00:22:08,559
going to be the first one there to get

633
00:22:12,070 --> 00:22:09,840
the views probably the first one to put

634
00:22:13,270 --> 00:22:12,080
your nose on the glass but but you're

635
00:22:15,110 --> 00:22:13,280
going to enjoy it but how are you going

636
00:22:16,950 --> 00:22:15,120
to share those views with us on the

637
00:22:18,549 --> 00:22:16,960
ground what kind of tv views do you plan

638
00:22:20,470 --> 00:22:18,559

how much are you going to bring us along

639

00:22:21,750 --> 00:22:20,480

vicariously with the views that you

640

00:22:24,070 --> 00:22:21,760

expect to get

641

00:22:25,909 --> 00:22:24,080

right well when we very first go in

642

00:22:27,350 --> 00:22:25,919

there obviously the shutters will be

643

00:22:29,510 --> 00:22:27,360

closed on the windows so we won't

644

00:22:32,149 --> 00:22:29,520

actually be able to see out and we have

645

00:22:33,750 --> 00:22:32,159

a lot of equipment we have to rearrange

646

00:22:35,830 --> 00:22:33,760

inside the cupola

647

00:22:38,149 --> 00:22:35,840

actually we very first install node

648

00:22:39,990 --> 00:22:38,159

three the cupola is on the port end and

649

00:22:42,710 --> 00:22:40,000

we'll be moving it a couple of days

650

00:22:44,310 --> 00:22:42,720

later to the uh nader or the bottom if

651

00:22:46,789 --> 00:22:44,320

you will of the space station so that

652

00:22:49,110 --> 00:22:46,799

the the largest window the cupola will

653

00:22:51,029 --> 00:22:49,120

face down towards the earth that's the

654

00:22:52,789 --> 00:22:51,039

axial window number seven and then we'll

655

00:22:54,950 --> 00:22:52,799

have six windows that are around the

656

00:22:57,990 --> 00:22:54,960

radius of the cupola to be able to look

657

00:22:59,750 --> 00:22:58,000

out in those other angle views so it's

658

00:23:01,270 --> 00:22:59,760

actually later in the mission that we'll

659

00:23:03,830 --> 00:23:01,280

eventually get to the point where we can

660

00:23:05,350 --> 00:23:03,840

open the shutters uh the our space

661

00:23:07,830 --> 00:23:05,360

walkers will be

662

00:23:10,310 --> 00:23:07,840

releasing some launch restraint bolts

663

00:23:11,909 --> 00:23:10,320

that are on holding the shutters closed

664

00:23:13,190 --> 00:23:11,919

because of the vibrations that we see

665

00:23:14,870 --> 00:23:13,200

during launch

666

00:23:17,590 --> 00:23:14,880

and we're done with those by the time

667

00:23:20,070 --> 00:23:17,600

we've got it installed on spacewalk eva

668

00:23:21,990 --> 00:23:20,080

number three they'll be removing those

669

00:23:23,669 --> 00:23:22,000

bolts and we'll be able to test and

670

00:23:25,750 --> 00:23:23,679

operate the shutters and see our first

671

00:23:28,470 --> 00:23:25,760

views we will definitely be bringing

672

00:23:30,710 --> 00:23:28,480

along some still cameras as well as

673

00:23:32,950 --> 00:23:30,720

video cameras to try to

674

00:23:35,430 --> 00:23:32,960

capture those views as best we can to

675

00:23:36,390 --> 00:23:35,440

share with you but i can guarantee you

676

00:23:38,789 --> 00:23:36,400

it's

677

00:23:41,190 --> 00:23:38,799

we can provide high definition pictures

678

00:23:43,029 --> 00:23:41,200

but it's still never like the real thing

679

00:23:44,390 --> 00:23:43,039

of actually being there and having the

680

00:23:46,390 --> 00:23:44,400

full expanse

681

00:23:49,590 --> 00:23:46,400

spread out in front of us so we'll try

682

00:23:52,149 --> 00:23:49,600

to share it as best we can and

683

00:23:54,630 --> 00:23:52,159

let you see the views uh

684

00:23:56,870 --> 00:23:54,640

as soon as we can

685

00:23:58,870 --> 00:23:56,880

as the rookie on the flight you'll be

686

00:24:01,110 --> 00:23:58,880

using that window too sure and to look

687

00:24:03,269 --> 00:24:01,120

for things what kind of advice have all

688

00:24:04,870 --> 00:24:03,279

the veteran crew members been giving you

689

00:24:06,470 --> 00:24:04,880

and how much of that advice do you think

690

00:24:09,350 --> 00:24:06,480

was is useful to you what do you how

691

00:24:13,190 --> 00:24:11,830

right that's that's the challenge is uh

692

00:24:15,190 --> 00:24:13,200

finding out what they were telling me

693

00:24:16,549 --> 00:24:15,200

was true and what wasn't true but uh

694

00:24:18,630 --> 00:24:16,559

they've been great i've gotten a lot of

695

00:24:21,510 --> 00:24:18,640

good words i think steve probably gave

696

00:24:23,430 --> 00:24:21,520

me the best advice and and uh he said in

697

00:24:25,350 --> 00:24:23,440

your first day in space

698

00:24:27,269 --> 00:24:25,360

you learn more than it's like learning

699

00:24:30,390 --> 00:24:27,279

your entire lifetime of experiences at

700

00:24:31,990 --> 00:24:30,400

learning how to walk and move and and

701
00:24:34,149 --> 00:24:32,000
just really daily things that you take

702
00:24:35,669 --> 00:24:34,159
for granted here on earth you can take a

703
00:24:37,510 --> 00:24:35,679
bottle of water and you set it there and

704
00:24:39,029 --> 00:24:37,520
you don't think about it but in space

705
00:24:40,230 --> 00:24:39,039
you have to think about

706
00:24:41,190 --> 00:24:40,240
are you going to use velcro are you

707
00:24:42,310 --> 00:24:41,200
going to have a tether are you just

708
00:24:44,310 --> 00:24:42,320
going to let it float for a second

709
00:24:45,990 --> 00:24:44,320
before you have to grab it again and

710
00:24:47,190 --> 00:24:46,000
and when you push off the wall you don't

711
00:24:48,470 --> 00:24:47,200
want to push too hard because then

712
00:24:49,510 --> 00:24:48,480
you'll go flying and you'll bonk your

713
00:24:50,470 --> 00:24:49,520

head so

714

00:24:52,230 --> 00:24:50,480

um

715

00:24:53,750 --> 00:24:52,240

really little basic things that we all

716

00:24:54,950 --> 00:24:53,760

learned when we were one year old you

717

00:24:56,789 --> 00:24:54,960

have to learn

718

00:24:58,230 --> 00:24:56,799

and everybody says that you learn it

719

00:25:00,789 --> 00:24:58,240

very quickly in the in the first few

720

00:25:02,789 --> 00:25:00,799

days so i think that's that's going to

721

00:25:04,789 --> 00:25:02,799

be a lot of fun learning how to exist in

722

00:25:06,149 --> 00:25:04,799

outer space is going to be very cool

723

00:25:07,669 --> 00:25:06,159

one last question

724

00:25:09,590 --> 00:25:07,679

some of you may say yes but i don't

725

00:25:11,110 --> 00:25:09,600

think most of you will

726

00:25:12,310 --> 00:25:11,120

you're trading on this flight you're

727

00:25:14,470 --> 00:25:12,320

training on this flight you're focused

728

00:25:16,230 --> 00:25:14,480

on it and and without any questions

729

00:25:18,070 --> 00:25:16,240

about budget or futures

730

00:25:28,149 --> 00:25:18,080

how many of you expect this to be your

731

00:25:36,149 --> 00:25:30,630

i'm glad to see no hands

732

00:25:41,029 --> 00:25:38,789

um i'm just for k i'm marianne dyson

733

00:25:42,789 --> 00:25:41,039

with national space society you're a

734

00:25:44,870 --> 00:25:42,799

role model for young women and i wonder

735

00:25:46,549 --> 00:25:44,880

if you have some advice for those women

736

00:25:48,789 --> 00:25:46,559

who would like to become shuttle arm

737

00:25:51,669 --> 00:25:48,799

operators or are well stationed arm

738

00:25:54,310 --> 00:25:51,679

operators someday um if are there some

739

00:25:56,390 --> 00:25:54,320

computer games they might want to play

740

00:25:57,909 --> 00:25:56,400

does uh

741

00:26:00,630 --> 00:25:57,919

you know um

742

00:26:02,549 --> 00:26:00,640

i've had so many opportunities i i feel

743

00:26:04,789 --> 00:26:02,559

very fortunate first of all to be a part

744

00:26:06,230 --> 00:26:04,799

of this mission it's just fantastic with

745

00:26:08,230 --> 00:26:06,240

not only the great crew that you see

746

00:26:09,990 --> 00:26:08,240

sitting up here but all the people that

747

00:26:13,269 --> 00:26:10,000

are supporting us

748

00:26:15,350 --> 00:26:13,279

as nasa and as our contractors all

749

00:26:16,630 --> 00:26:15,360

across the country not only here at the

750

00:26:19,750 --> 00:26:16,640

johnson space center at the kennedy

751
00:26:22,149 --> 00:26:19,760
space center marshall space center it's

752
00:26:24,390 --> 00:26:22,159
just such a tremendous team and to be

753
00:26:26,710 --> 00:26:24,400
able to be a part of this working

754
00:26:29,590 --> 00:26:26,720
towards this challenging mission

755
00:26:32,149 --> 00:26:29,600
it's it's very exciting and this

756
00:26:34,549 --> 00:26:32,159
opportunity i could not have predicted

757
00:26:37,110 --> 00:26:34,559
years ago so the advice that i might

758
00:26:39,190 --> 00:26:37,120
give is be ready for opportunities that

759
00:26:41,110 --> 00:26:39,200
you can't even forecast and the way to

760
00:26:42,870 --> 00:26:41,120
be ready is to

761
00:26:45,110 --> 00:26:42,880
start early studying the math and

762
00:26:47,029 --> 00:26:45,120
science making sure that you get a good

763
00:26:48,950 --> 00:26:47,039

educational background that can take you

764

00:26:52,470 --> 00:26:48,960

in whatever direction

765

00:26:53,669 --> 00:26:52,480

may come available to you later on

766

00:26:55,110 --> 00:26:53,679

okay with that we're going to switch

767

00:26:59,190 --> 00:26:55,120

over to kennedy space center and take

768

00:27:02,390 --> 00:27:00,710

hello this is marcia dunham the

769

00:27:04,149 --> 00:27:02,400

associated press

770

00:27:06,390 --> 00:27:04,159

this is the last big construction

771

00:27:08,630 --> 00:27:06,400

mission the last major piece to be

772

00:27:11,190 --> 00:27:08,640

assembled and i'm wondering as you're

773

00:27:13,269 --> 00:27:11,200

leaving once your work is completed you

774

00:27:15,190 --> 00:27:13,279

anticipate a sense of sadness about this

775

00:27:17,669 --> 00:27:15,200

all that the you know the shuttle

776

00:27:25,590 --> 00:27:17,679

program is winding down and its job is

777

00:27:28,310 --> 00:27:26,950

we're all looking at each other marcia

778

00:27:30,630 --> 00:27:28,320

trying to decide now how are we going to

779

00:27:32,710 --> 00:27:30,640

answer this

780

00:27:34,149 --> 00:27:32,720

you know what

781

00:27:36,070 --> 00:27:34,159

i've been with nasa for a long time i

782

00:27:38,549 --> 00:27:36,080

started working for nasa when we were

783

00:27:39,909 --> 00:27:38,559

still designing the space shuttle

784

00:27:42,310 --> 00:27:39,919

and

785

00:27:44,230 --> 00:27:42,320

i think when we pull away from the space

786

00:27:46,070 --> 00:27:44,240

station and look at that

787

00:27:48,789 --> 00:27:46,080

amazing structure that human beings have

788

00:27:50,630 --> 00:27:48,799

put together you think about the

789

00:27:51,590 --> 00:27:50,640

audacity and the confidence that it

790

00:27:54,070 --> 00:27:51,600

takes

791

00:27:55,750 --> 00:27:54,080

to do something that crazy and

792

00:27:58,149 --> 00:27:55,760

successfully have put it together i

793

00:28:00,389 --> 00:27:58,159

think our feeling is going to be of of

794

00:28:03,029 --> 00:28:00,399

pride

795

00:28:05,029 --> 00:28:03,039

a feeling of generations of of engineers

796

00:28:07,669 --> 00:28:05,039

and hard-working people um having done a

797

00:28:09,190 --> 00:28:07,679

job very very well

798

00:28:11,190 --> 00:28:09,200

and most importantly opened up a

799

00:28:13,510 --> 00:28:11,200

laboratory to discover things we just

800

00:28:15,430 --> 00:28:13,520

don't yet know

801
00:28:18,149 --> 00:28:15,440
how could you feel anything but but

802
00:28:19,830 --> 00:28:18,159
thrilled and very proud

803
00:28:21,110 --> 00:28:19,840
to have done something like that so i

804
00:28:24,710 --> 00:28:21,120
think that's probably more like how

805
00:28:29,590 --> 00:28:26,470
thank you and and i wonder what the

806
00:28:31,430 --> 00:28:29,600
protocol is for who and how many can be

807
00:28:33,350 --> 00:28:31,440
inside the cupola when the shutters are

808
00:28:35,269 --> 00:28:33,360
open do you all plan to squish in as

809
00:28:37,510 --> 00:28:35,279
many as possible or

810
00:28:41,190 --> 00:28:37,520
um how do you think that all play out

811
00:28:42,789 --> 00:28:41,200
who gets to have ringside seats

812
00:28:45,190 --> 00:28:42,799
there's not actually a rule on how many

813
00:28:46,630 --> 00:28:45,200

people we can have in there once node 3

814

00:28:48,549 --> 00:28:46,640

is up and working it's going to take a

815

00:28:51,430 --> 00:28:48,559

few days to get the module activated to

816

00:28:52,470 --> 00:28:51,440

have the air fans and filters working

817

00:28:54,630 --> 00:28:52,480

until that time we will have

818

00:28:56,070 --> 00:28:54,640

restrictions but one after

819

00:28:57,590 --> 00:28:56,080

two or three days when it's all hooked

820

00:28:59,029 --> 00:28:57,600

up and running

821

00:29:00,710 --> 00:28:59,039

i think it's going to be up to us to

822

00:29:02,789 --> 00:29:00,720

make sure that that we're safe and that

823

00:29:04,950 --> 00:29:02,799

we have a reasonable number of people

824

00:29:05,830 --> 00:29:04,960

in there and i know that a lot of folks

825

00:29:11,430 --> 00:29:05,840

are going to want to go down there and

826

00:29:16,789 --> 00:29:14,470

todd halverson of florida today um i

827

00:29:19,669 --> 00:29:16,799

think a couple of you are uh graduates

828

00:29:22,470 --> 00:29:19,679

of florida institute of technology and

829

00:29:25,269 --> 00:29:22,480

i'm wondering if uh whom ever

830

00:29:26,549 --> 00:29:25,279

uh has a degree from f.i.t could talk

831

00:29:28,070 --> 00:29:26,559

about

832

00:29:30,070 --> 00:29:28,080

when and

833

00:29:33,190 --> 00:29:30,080

why they went there and what the

834

00:29:38,149 --> 00:29:35,669

i can start with that one i actually

835

00:29:40,310 --> 00:29:38,159

started at florida institut institute of

836

00:29:42,230 --> 00:29:40,320

technology right after i left full-time

837

00:29:44,630 --> 00:29:42,240

active duty with the navy i started

838

00:29:46,070 --> 00:29:44,640

working on my master's degree before i

839

00:29:48,389 --> 00:29:46,080

actually started working at the kennedy

840

00:29:50,470 --> 00:29:48,399

space center and somewhere in the middle

841

00:29:52,789 --> 00:29:50,480

of my first quarter

842

00:29:54,710 --> 00:29:52,799

working or studying at florida institute

843

00:29:58,630 --> 00:29:54,720

of technology i got hired on at the

844

00:30:00,549 --> 00:29:58,640

kennedy space center and was able to

845

00:30:02,470 --> 00:30:00,559

accomplish both at the same time i was

846

00:30:04,549 --> 00:30:02,480

going to school at night and working at

847

00:30:07,110 --> 00:30:04,559

kennedy space around the space shuttle

848

00:30:09,510 --> 00:30:07,120

as a as an engineer and

849

00:30:10,630 --> 00:30:09,520

i went there because they had a great

850

00:30:14,149 --> 00:30:10,640

program

851
00:30:15,909 --> 00:30:14,159
in focusing on space technology and at

852
00:30:18,310 --> 00:30:15,919
that time it was hard to find that type

853
00:30:23,269 --> 00:30:18,320
of degree so it worked out very well for

854
00:30:27,029 --> 00:30:25,269
for me it was uh

855
00:30:28,950 --> 00:30:27,039
going to the the satellite campus that

856
00:30:31,269 --> 00:30:28,960
was at the patuxent river

857
00:30:32,630 --> 00:30:31,279
naval air station and uh i a lot of my

858
00:30:34,389 --> 00:30:32,640
professors were some of the engineers

859
00:30:36,549 --> 00:30:34,399
that i saw around the facility there and

860
00:30:38,710 --> 00:30:36,559
so that made learning uh particularly

861
00:30:40,470 --> 00:30:38,720
enjoyable having uh some of the

862
00:30:42,789 --> 00:30:40,480
harder concepts explained by people that

863
00:30:46,950 --> 00:30:42,799

i knew so well so it was a great place

864

00:30:53,590 --> 00:30:50,789

uh thanks and um kay of course is uh the

865

00:30:55,830 --> 00:30:53,600

first former kennedy space center worker

866

00:30:58,630 --> 00:30:55,840

to be uh selected as an astronaut in

867

00:31:01,750 --> 00:30:58,640

flying space and i and i'm wondering if

868

00:31:04,870 --> 00:31:01,760

uh uh zambo or

869

00:31:07,029 --> 00:31:04,880

others could uh tell me uh describe her

870

00:31:09,750 --> 00:31:07,039

personality for me and what she's like

871

00:31:15,269 --> 00:31:10,630

i

872

00:31:19,669 --> 00:31:17,509

actually you know as as part of the eva

873

00:31:21,430 --> 00:31:19,679

crew um our training is actually quite a

874

00:31:22,950 --> 00:31:21,440

bit different than the folks who are

875

00:31:24,789 --> 00:31:22,960

focusing more on the flight deck and i

876

00:31:26,470 --> 00:31:24,799

know that uh uh steve has been the

877

00:31:28,789 --> 00:31:26,480

person who's kind of cross pollinated

878

00:31:30,950 --> 00:31:28,799

between those uh those two sides of uh

879

00:31:32,549 --> 00:31:30,960

our activities so we don't we don't

880

00:31:34,070 --> 00:31:32,559

spend a lot of time with that with kay

881

00:31:36,070 --> 00:31:34,080

throughout the inter the training flow

882

00:31:38,630 --> 00:31:36,080

for this mission but i think both uh

883

00:31:40,549 --> 00:31:38,640

nick and i you know look to kay as that

884

00:31:42,549 --> 00:31:40,559

person who always has that extra bit of

885

00:31:44,149 --> 00:31:42,559

information someplace either buried in

886

00:31:45,909 --> 00:31:44,159

her head or buried in a piece of paper

887

00:31:47,990 --> 00:31:45,919

that she's got in her crew notebook just

888

00:31:50,310 --> 00:31:48,000

ready to pull it out and give us that

889

00:31:52,070 --> 00:31:50,320

that little extra bit of a bit of

890

00:31:53,990 --> 00:31:52,080

information so that we'll be ready to do

891

00:31:56,230 --> 00:31:54,000

our jobs even better and so we've had

892

00:31:57,669 --> 00:31:56,240

her out at the nbl a couple of times and

893

00:31:59,430 --> 00:31:57,679

she's uh she's

894

00:32:01,110 --> 00:31:59,440

taken an active interest in the

895

00:32:03,190 --> 00:32:01,120

activities that we've done out there

896

00:32:05,430 --> 00:32:03,200

even even though that isn't her primary

897

00:32:07,029 --> 00:32:05,440

responsibility on the mission and we

898

00:32:09,669 --> 00:32:07,039

appreciate that as well so those two

899

00:32:11,830 --> 00:32:09,679

things i think are probably the the the

900

00:32:13,590 --> 00:32:11,840

characteristics of k that i think are

901
00:32:15,669 --> 00:32:13,600
most shining and and make her a great

902
00:32:17,750 --> 00:32:15,679
crew member for us to work with

903
00:32:19,830 --> 00:32:17,760
do you notice that there's only six

904
00:32:21,190 --> 00:32:19,840
people on this crew not the normal seven

905
00:32:23,590 --> 00:32:21,200
that's because k zone we didn't need

906
00:32:28,149 --> 00:32:23,600
something

907
00:32:32,470 --> 00:32:30,870
that's great and and kay um i'm just

908
00:32:33,830 --> 00:32:32,480
going to put you on the spot and you're

909
00:32:35,190 --> 00:32:33,840
going to probably hate me for it but

910
00:32:38,149 --> 00:32:35,200
let's go ahead

911
00:32:41,190 --> 00:32:38,159
why don't you uh tell me your

912
00:32:42,950 --> 00:32:41,200
favorite kennedy space center anecdote

913
00:32:45,350 --> 00:32:42,960

uh your favorite funny story about

914

00:32:46,950 --> 00:32:45,360

working at kennedy space center

915

00:32:48,789 --> 00:32:46,960

wow okay i'm gonna have to get back to

916

00:32:50,470 --> 00:32:48,799

you on that one uh

917

00:32:51,669 --> 00:32:50,480

i don't have one that just pops into my

918

00:32:53,430 --> 00:32:51,679

head um

919

00:32:56,149 --> 00:32:53,440

i will share though when i very first

920

00:32:58,630 --> 00:32:56,159

hired on at the kennedy space center the

921

00:33:02,070 --> 00:32:58,640

first launch i was able to watch in the

922

00:33:03,669 --> 00:33:02,080

spring of 1989

923

00:33:05,430 --> 00:33:03,679

i remember we had we were actually

924

00:33:08,310 --> 00:33:05,440

working that day so we walked outside of

925

00:33:10,230 --> 00:33:08,320

our office building to watch the final

926
00:33:11,029 --> 00:33:10,240
part of the launch countdown and watch

927
00:33:16,950 --> 00:33:11,039
the

928
00:33:18,389 --> 00:33:16,960
cheering and i

929
00:33:20,630 --> 00:33:18,399
looked around and i was the only

930
00:33:22,789 --> 00:33:20,640
employee that was actually cheering

931
00:33:24,470 --> 00:33:22,799
because every other employee out there

932
00:33:27,190 --> 00:33:24,480
holds their breath

933
00:33:28,870 --> 00:33:27,200
and not just until the solids come off

934
00:33:30,710 --> 00:33:28,880
actually they wait until the solids come

935
00:33:32,470 --> 00:33:30,720
off and then they breathe but they don't

936
00:33:34,789 --> 00:33:32,480
cheer then either they wait all the way

937
00:33:37,350 --> 00:33:34,799
until main engine cutoff or miko and

938
00:33:39,590 --> 00:33:37,360

that's when the actual employees cheer

939

00:33:40,870 --> 00:33:39,600

so i i thought that was kind of unusual

940

00:33:43,029 --> 00:33:40,880

and if you watch folks that are

941

00:33:44,470 --> 00:33:43,039

attending launches their first launch

942

00:33:46,310 --> 00:33:44,480

they most

943

00:33:48,070 --> 00:33:46,320

outside folks that don't work in the

944

00:33:50,870 --> 00:33:48,080

program will do that they'll cheer as

945

00:33:52,630 --> 00:33:50,880

soon as it lifts off so i learned the

946

00:33:55,110 --> 00:33:52,640

protocol if you will from that very

947

00:33:56,870 --> 00:33:55,120

first launch

948

00:33:58,310 --> 00:33:56,880

i have an anecdote about k2 i think we

949

00:34:00,470 --> 00:33:58,320

all do

950

00:34:02,630 --> 00:34:00,480

we uh kay and i have probably spent the

951
00:34:04,630 --> 00:34:02,640
most time together on the crew we went

952
00:34:06,710 --> 00:34:04,640
to canada about a year and a half ago

953
00:34:08,550 --> 00:34:06,720
for arm training and and we're doing all

954
00:34:10,310 --> 00:34:08,560
the arm operations together and then

955
00:34:11,990 --> 00:34:10,320
we're doing a lot of the internal

956
00:34:14,310 --> 00:34:12,000
outfitting together so we've done a lot

957
00:34:16,310 --> 00:34:14,320
of training together and um what bob

958
00:34:18,069 --> 00:34:16,320
said is we'll be in a sim and someone

959
00:34:19,909 --> 00:34:18,079
will say hey what what are we doing next

960
00:34:21,510 --> 00:34:19,919
wednesday and then this schedule pops

961
00:34:23,270 --> 00:34:21,520
out and kay's got the schedule for next

962
00:34:24,710 --> 00:34:23,280
wednesday or what happens when this

963
00:34:25,829 --> 00:34:24,720

electrical bus breaks and then kate

964

00:34:26,869 --> 00:34:25,839

brings it out and she has the

965

00:34:28,470 --> 00:34:26,879

information

966

00:34:30,069 --> 00:34:28,480

but the other thing about k and you're

967

00:34:31,589 --> 00:34:30,079

talking about ksc

968

00:34:33,349 --> 00:34:31,599

is the nasa space center there in

969

00:34:35,990 --> 00:34:33,359

florida where we launched from

970

00:34:38,069 --> 00:34:36,000

and we jokingly jokingly call it k space

971

00:34:39,829 --> 00:34:38,079

center because it's every time we go

972

00:34:41,430 --> 00:34:39,839

there and there's tens of thousands of

973

00:34:42,790 --> 00:34:41,440

people who work there everybody knows k

974

00:34:43,669 --> 00:34:42,800

and they all run up and give her a hug

975

00:34:45,349 --> 00:34:43,679

so

976
00:34:48,230 --> 00:34:45,359
that's what i think that's what ksc

977
00:34:49,669 --> 00:34:48,240
stands for

978
00:34:50,950 --> 00:34:49,679
okay with that that wraps up our

979
00:34:52,310 --> 00:34:50,960
questions from kennedy space center

980
00:34:56,550 --> 00:34:52,320
we'll now switch over to headquarters to

981
00:35:00,870 --> 00:34:58,710
thank you this is uh tarik malik with

982
00:35:03,910 --> 00:35:00,880
space.com i've got a few questions my

983
00:35:06,550 --> 00:35:03,920
first actually is also for uh uh for kay

984
00:35:08,470 --> 00:35:06,560
uh okay you have a the unique uh uh i

985
00:35:10,630 --> 00:35:08,480
guess opportunity on this mission you're

986
00:35:12,150 --> 00:35:10,640
a veteran space flier but you're uh

987
00:35:14,230 --> 00:35:12,160
headed for the space station now i'm

988
00:35:16,470 --> 00:35:14,240

just kind of curious what your thoughts

989

00:35:18,150 --> 00:35:16,480

are um i guess having that

990

00:35:19,109 --> 00:35:18,160

that orbiter only

991

00:35:21,349 --> 00:35:19,119

flight

992

00:35:23,030 --> 00:35:21,359

knowing that there's this vast football

993

00:35:25,270 --> 00:35:23,040

field sized uh

994

00:35:26,710 --> 00:35:25,280

vehicle that you're going to now

995

00:35:28,630 --> 00:35:26,720

oh thanks that's a great question

996

00:35:30,790 --> 00:35:28,640

because uh that is something i'm

997

00:35:33,190 --> 00:35:30,800

definitely looking forward to my first

998

00:35:36,150 --> 00:35:33,200

flight was with a space lab neural lab

999

00:35:38,230 --> 00:35:36,160

on sts 90. and that was a fantastic

1000

00:35:40,390 --> 00:35:38,240

mission we had 26 primary experiments

1001
00:35:43,109 --> 00:35:40,400
and we had this lab up and running just

1002
00:35:45,190 --> 00:35:43,119
conducting just incredible science on

1003
00:35:46,710 --> 00:35:45,200
orbit but to go up to the international

1004
00:35:48,630 --> 00:35:46,720
space station where we have this

1005
00:35:50,870 --> 00:35:48,640
tremendous facility that's so much

1006
00:35:53,430 --> 00:35:50,880
larger and has so many greater

1007
00:35:56,230 --> 00:35:53,440
capabilities and ongoing science that's

1008
00:35:58,790 --> 00:35:56,240
going on there and the future science

1009
00:36:00,870 --> 00:35:58,800
that will occur there it's it's just a

1010
00:36:03,030 --> 00:36:00,880
tremendous exciting thing to be able to

1011
00:36:05,030 --> 00:36:03,040
see that and to be a part of that and to

1012
00:36:11,349 --> 00:36:05,040
know that we have that available to the

1013
00:36:16,710 --> 00:36:14,790

thanks and for uh for terry verse um as

1014

00:36:18,630 --> 00:36:16,720

uh the first time space player in the

1015

00:36:20,710 --> 00:36:18,640

crew you mentioned earlier what you're

1016

00:36:22,390 --> 00:36:20,720

looking forward to for experiencing i

1017

00:36:23,910 --> 00:36:22,400

guess life in space but i'm wondering if

1018

00:36:26,870 --> 00:36:23,920

there's one

1019

00:36:28,550 --> 00:36:26,880

task or moment that that you've got

1020

00:36:30,470 --> 00:36:28,560

maybe your name label on that's a terry

1021

00:36:32,630 --> 00:36:30,480

verts moment if it's just getting into

1022

00:36:33,430 --> 00:36:32,640

space the first time or adding a 40 000

1023

00:36:35,670 --> 00:36:33,440

pound

1024

00:36:37,750 --> 00:36:35,680

room to the station with the robotic arm

1025

00:36:40,630 --> 00:36:37,760

um if you can give me an idea of that

1026

00:36:42,950 --> 00:36:40,640

thanks

1027

00:36:44,390 --> 00:36:42,960

my crewmates are all giving me ideas

1028

00:36:45,829 --> 00:36:44,400

things like putting a landing gear down

1029

00:36:47,670 --> 00:36:45,839

at the end of the mission that's going

1030

00:36:49,510 --> 00:36:47,680

to be an important task that i have but

1031

00:36:50,950 --> 00:36:49,520

the uh

1032

00:36:53,270 --> 00:36:50,960

there's going to be so many things on

1033

00:36:54,870 --> 00:36:53,280

this flight i told um my wife when i got

1034

00:36:56,550 --> 00:36:54,880

assigned to the flight that

1035

00:36:58,230 --> 00:36:56,560

if there if i had to pick one flight to

1036

00:36:59,990 --> 00:36:58,240

get assigned to this would be it because

1037

00:37:00,710 --> 00:37:00,000

of the crew that we have and because of

1038

00:37:04,630 --> 00:37:00,720

the

1039

00:37:06,550 --> 00:37:04,640

it's rare to bring up one module and we

1040

00:37:08,150 --> 00:37:06,560

get to bring up two and activate them

1041

00:37:09,829 --> 00:37:08,160

both

1042

00:37:11,829 --> 00:37:09,839

but i think the one thing that i'm

1043

00:37:13,829 --> 00:37:11,839

really looking forward to and i know

1044

00:37:15,190 --> 00:37:13,839

all my crewmates are also is getting a

1045

00:37:16,550 --> 00:37:15,200

chance to look out of the cupola with

1046

00:37:18,150 --> 00:37:16,560

the seven windows and the view that

1047

00:37:19,829 --> 00:37:18,160

we're going to get there

1048

00:37:21,190 --> 00:37:19,839

every view that i get will be my first

1049

00:37:22,790 --> 00:37:21,200

and i'll it'll be great but i think

1050

00:37:26,150 --> 00:37:22,800

that's going to be really special to see

1051
00:37:27,589 --> 00:37:26,160
that view of the earth and of space and

1052
00:37:29,430 --> 00:37:27,599
hopefully get some good pictures of

1053
00:37:30,550 --> 00:37:29,440
maybe sunrises and sunsets that kind of

1054
00:37:35,510 --> 00:37:30,560
thing out of the cupola that's going to

1055
00:37:39,750 --> 00:37:37,349
thanks man uh my last question i think

1056
00:37:42,230 --> 00:37:39,760
is for for you commander zamka uh this

1057
00:37:44,069 --> 00:37:42,240
is the last planned uh night launch of

1058
00:37:46,150 --> 00:37:44,079
the shuttle with just five more uh left

1059
00:37:47,829 --> 00:37:46,160
on the on the docket um and i'm just

1060
00:37:49,990 --> 00:37:47,839
wondering what your uh what you're

1061
00:37:53,349 --> 00:37:50,000
hoping folks that come out to see it

1062
00:37:55,589 --> 00:37:53,359
are going to get a chance to see

1063
00:37:57,910 --> 00:37:55,599

oh well well uh

1064

00:37:59,750 --> 00:37:57,920

tarika for me i i'm kind of happy it's a

1065

00:38:02,550 --> 00:37:59,760

night launch and a night landing i

1066

00:38:06,630 --> 00:38:04,230

flying career in the marines at flying

1067

00:38:08,950 --> 00:38:06,640

a6s which was a a nighttime kind of

1068

00:38:11,270 --> 00:38:08,960

airplane so i've got some friends back

1069

00:38:14,069 --> 00:38:11,280

from from those days that'll uh

1070

00:38:16,310 --> 00:38:14,079

uh watch the launch and uh and share

1071

00:38:18,790 --> 00:38:16,320

that excitement with me uh it should be

1072

00:38:22,069 --> 00:38:18,800

spectacular it'll be

1073

00:38:24,069 --> 00:38:22,079

it'll be dark all around and i think

1074

00:38:25,990 --> 00:38:24,079

from the one

1075

00:38:28,630 --> 00:38:26,000

launch that i've seen

1076

00:38:30,870 --> 00:38:28,640

there'll be a sequence of first very

1077

00:38:32,950 --> 00:38:30,880

bright light from the solids lighting

1078

00:38:34,069 --> 00:38:32,960

and then sometime later they'll be the

1079

00:38:35,589 --> 00:38:34,079

rumble

1080

00:38:38,150 --> 00:38:35,599

as the sound finally reaches uh the

1081

00:38:39,589 --> 00:38:38,160

crowds that are there and uh it's uh

1082

00:38:41,829 --> 00:38:39,599

it's gonna light up the ground around

1083

00:38:43,589 --> 00:38:41,839

him and then it'll climb up into the sky

1084

00:38:45,430 --> 00:38:43,599

should be able to see it i think as far

1085

00:38:47,190 --> 00:38:45,440

as the carolinas if the if the sky

1086

00:38:50,870 --> 00:38:47,200

allows it so

1087

00:38:53,589 --> 00:38:52,230

okay that's our last question from

1088

00:38:56,950 --> 00:38:53,599

headquarters we'll return here to the

1089

00:38:58,870 --> 00:38:56,960

johnson space center for follow-ups

1090

00:39:02,150 --> 00:38:58,880

jill tulk representing bay area houston

1091

00:39:04,790 --> 00:39:02,160

magazine with the question for nick

1092

00:39:07,030 --> 00:39:04,800

you enjoy private flying very much and

1093

00:39:10,550 --> 00:39:07,040

it's been part of your

1094

00:39:12,390 --> 00:39:10,560

work history before you came to nasa

1095

00:39:14,310 --> 00:39:12,400

if you want please describe and wax

1096

00:39:15,990 --> 00:39:14,320

poetically about your experience that

1097

00:39:18,470 --> 00:39:16,000

you're going to have

1098

00:39:20,950 --> 00:39:18,480

out there after you open the hatch just

1099

00:39:24,630 --> 00:39:20,960

your suit and plexiglas

1100

00:39:27,190 --> 00:39:24,640

i'll try and wax and not wait until um

1101

00:39:29,829 --> 00:39:27,200

i think the the the emu that bob and i

1102

00:39:31,270 --> 00:39:29,839

have been training to to fly essentially

1103

00:39:33,109 --> 00:39:31,280

for this mission and that steve has

1104

00:39:35,670 --> 00:39:33,119

experienced flying is is really like a

1105

00:39:37,270 --> 00:39:35,680

little spacecraft it's uh got its own

1106

00:39:40,710 --> 00:39:37,280

life support system its engine if you

1107

00:39:42,790 --> 00:39:40,720

will its engines are really our arms but

1108

00:39:44,550 --> 00:39:42,800

when you're out there you have the

1109

00:39:46,150 --> 00:39:44,560

responsibility of being a

1110

00:39:48,870 --> 00:39:46,160

the pilot of your own spacecraft just

1111

00:39:49,750 --> 00:39:48,880

for a few minutes a few hours um

1112

00:39:51,750 --> 00:39:49,760

and

1113

00:39:53,910 --> 00:39:51,760

i i hope that my private flying

1114

00:39:56,069 --> 00:39:53,920

experience has helped get me to the

1115

00:39:57,589 --> 00:39:56,079

point where i'm ready for that challenge

1116

00:39:59,190 --> 00:39:57,599

um

1117

00:40:02,470 --> 00:39:59,200

the military folks in our crew have a

1118

00:40:04,710 --> 00:40:02,480

really long and great history of uh

1119

00:40:07,109 --> 00:40:04,720

flying um they get here through test

1120

00:40:08,950 --> 00:40:07,119

pilot school and and all sorts of things

1121

00:40:10,790 --> 00:40:08,960

and those of us who are civilians have

1122

00:40:12,550 --> 00:40:10,800

to kind of get that experience on our

1123

00:40:13,589 --> 00:40:12,560

own and it's a very important experience

1124

00:40:15,109 --> 00:40:13,599

if you want to come here and be an

1125

00:40:18,710 --> 00:40:15,119

operator as steve knows because he's

1126

00:40:20,870 --> 00:40:18,720

also a big private pilot

1127

00:40:23,670 --> 00:40:20,880

i think it's invaluable for us it helps

1128

00:40:24,630 --> 00:40:23,680

bridge the gap between being academic or

1129

00:40:27,030 --> 00:40:24,640

even

1130

00:40:28,470 --> 00:40:27,040

working engineers and being operational

1131

00:40:30,230 --> 00:40:28,480

people ready to handle something like

1132

00:40:33,190 --> 00:40:30,240

the flight deck of a space shuttle or an

1133

00:40:37,510 --> 00:40:35,109

okay next question

1134

00:40:39,030 --> 00:40:37,520

uh greg dobbs with hd net television and

1135

00:40:40,950 --> 00:40:39,040

steve already

1136

00:40:43,430 --> 00:40:40,960

preempted the question about a crew of

1137

00:40:45,510 --> 00:40:43,440

six versus seven and your answer for why

1138

00:40:47,910 --> 00:40:45,520

there's a crew of six is k

1139

00:40:51,430 --> 00:40:47,920

but is there any other part of the

1140

00:40:53,190 --> 00:40:51,440

answer to uh six versus seven

1141

00:40:54,630 --> 00:40:53,200

i think there's an official line that i

1142

00:40:57,349 --> 00:40:54,640

mean that was the truth but george will

1143

00:41:01,030 --> 00:40:57,359

give you the official one

1144

00:41:02,790 --> 00:41:01,040

i was i how'd you like that thank you

1145

00:41:05,349 --> 00:41:02,800

did that very well thank you for the

1146

00:41:07,430 --> 00:41:05,359

toss steve

1147

00:41:09,670 --> 00:41:07,440

what it comes down to these days is uh

1148

00:41:11,190 --> 00:41:09,680

is getting uh supplies and equipment up

1149

00:41:13,910 --> 00:41:11,200

to the space station

1150

00:41:15,030 --> 00:41:13,920

uh and we are when we launch on february

1151
00:41:17,270 --> 00:41:15,040
7th we're going to be packed to the

1152
00:41:19,190 --> 00:41:17,280
gills with uh

1153
00:41:20,550 --> 00:41:19,200
with replacement parts that are needed

1154
00:41:23,030 --> 00:41:20,560
up on the space station as well as

1155
00:41:24,870 --> 00:41:23,040
supplies to take care of our our crew

1156
00:41:27,030 --> 00:41:24,880
member friends that are up there

1157
00:41:28,390 --> 00:41:27,040
and uh the mission that we have can be

1158
00:41:29,750 --> 00:41:28,400
can be done with six it's going to be

1159
00:41:31,750 --> 00:41:29,760
very tight we're going to be missing

1160
00:41:34,309 --> 00:41:31,760
some things that we normally do have

1161
00:41:36,069 --> 00:41:34,319
with seven an extra set of hands to help

1162
00:41:38,150 --> 00:41:36,079
uh kind of fill in

1163
00:41:39,349 --> 00:41:38,160

uh in areas where uh we didn't have

1164

00:41:41,670 --> 00:41:39,359

enough

1165

00:41:43,510 --> 00:41:41,680

people to do the tasks uh we lose a

1166

00:41:44,390 --> 00:41:43,520

little bit of flexibility

1167

00:41:46,230 --> 00:41:44,400

and we're gonna be a little bit

1168

00:41:47,750 --> 00:41:46,240

stretched on our timeline but uh but

1169

00:41:49,270 --> 00:41:47,760

we'll be able to do we've we've figured

1170

00:41:51,270 --> 00:41:49,280

all that out and i think we're gonna

1171

00:41:53,109 --> 00:41:51,280

we're gonna do just fine once we get up

1172

00:41:54,390 --> 00:41:53,119

to the space station we join a much

1173

00:41:56,390 --> 00:41:54,400

bigger team

1174

00:41:58,069 --> 00:41:56,400

and uh

1175

00:42:00,550 --> 00:41:58,079

with that bigger team we'll be able to

1176

00:42:03,190 --> 00:42:00,560

uh to adapt to the uh

1177

00:42:04,790 --> 00:42:03,200

in fact we've only got six

1178

00:42:07,670 --> 00:42:04,800

may i ask a follow-up

1179

00:42:10,470 --> 00:42:07,680

is it as simple then as saying that uh

1180

00:42:12,710 --> 00:42:10,480

you you you acquire additional cubic

1181

00:42:13,829 --> 00:42:12,720

volume inside

1182

00:42:15,990 --> 00:42:13,839

uh

1183

00:42:17,910 --> 00:42:16,000

the crew quarters that are not occupied

1184

00:42:20,870 --> 00:42:17,920

by the the gear and the physical

1185

00:42:23,349 --> 00:42:20,880

presence of a seventh uh crew well every

1186

00:42:25,910 --> 00:42:23,359

crew member requires a certain amount of

1187

00:42:27,270 --> 00:42:25,920

supplies

1188

00:42:28,790 --> 00:42:27,280

and a

1189

00:42:31,270 --> 00:42:28,800

certain amount of

1190

00:42:33,270 --> 00:42:31,280

life support and i think the number is

1191

00:42:35,589 --> 00:42:33,280

roughly i will say a thousand pounds i

1192

00:42:36,710 --> 00:42:35,599

have a finer number but i i'd be more

1193

00:42:38,470 --> 00:42:36,720

wrong than

1194

00:42:40,309 --> 00:42:38,480

helping by estimating any further than

1195

00:42:42,069 --> 00:42:40,319

that but

1196

00:42:44,230 --> 00:42:42,079

that thousand pounds

1197

00:42:45,750 --> 00:42:44,240

is very valuable to the space station

1198

00:42:47,270 --> 00:42:45,760

for instance uh

1199

00:42:49,990 --> 00:42:47,280

the sieger bed that we're taking up

1200

00:42:51,430 --> 00:42:50,000

there is probably on the order of of

1201
00:42:53,430 --> 00:42:51,440
about that weight

1202
00:42:55,109 --> 00:42:53,440
and um and some of the other items that

1203
00:42:56,550 --> 00:42:55,119
we're taking up there are crucial to the

1204
00:42:58,069 --> 00:42:56,560
space station that's where things are

1205
00:43:00,390 --> 00:42:58,079
coming down these days as the space

1206
00:43:05,109 --> 00:43:00,400
shuttle program is kind of coming toward

1207
00:43:09,270 --> 00:43:07,190
this is jill tulk with bayer houston

1208
00:43:11,349 --> 00:43:09,280
magazine question for terry and bob i

1209
00:43:13,829 --> 00:43:11,359
believe the two of you were classmates

1210
00:43:15,670 --> 00:43:13,839
at edwards at the test pilot school

1211
00:43:17,589 --> 00:43:15,680
so there's obviously some familiarity

1212
00:43:20,230 --> 00:43:17,599
there do you have any jokes or anecdotes

1213
00:43:22,230 --> 00:43:20,240

that you want to share or could share

1214

00:43:23,990 --> 00:43:22,240

or just want to comment on the

1215

00:43:26,069 --> 00:43:24,000

experience of being able to fly together

1216

00:43:26,790 --> 00:43:26,079

on orbit

1217

00:43:28,710 --> 00:43:26,800

um

1218

00:43:31,430 --> 00:43:28,720

i'll start off i'll let bob finish we we

1219

00:43:33,349 --> 00:43:31,440

were classmates in 1998 we went to

1220

00:43:35,190 --> 00:43:33,359

edwards air force base together

1221

00:43:36,950 --> 00:43:35,200

and i was fortunate enough i got to sit

1222

00:43:37,990 --> 00:43:36,960

next to bob through test pilot school so

1223

00:43:39,670 --> 00:43:38,000

he helped me

1224

00:43:40,790 --> 00:43:39,680

make it through graduate

1225

00:43:42,470 --> 00:43:40,800

and uh

1226

00:43:44,150 --> 00:43:42,480

and it's very cool it's a lot of fun to

1227

00:43:45,510 --> 00:43:44,160

get to fly with him a lot of our

1228

00:43:47,670 --> 00:43:45,520

classmates are going to be there from

1229

00:43:49,270 --> 00:43:47,680

our test pilot school class and and so

1230

00:43:50,550 --> 00:43:49,280

there's been a lot of excitement and

1231

00:43:51,910 --> 00:43:50,560

among the common friends that we have

1232

00:43:54,069 --> 00:43:51,920

from that background

1233

00:43:55,750 --> 00:43:54,079

and i'm sure there's a lot of stories

1234

00:43:57,670 --> 00:43:55,760

i'm not sure that we want to share very

1235

00:43:59,190 --> 00:43:57,680

many of them i'll let bob see if he can

1236

00:44:00,630 --> 00:43:59,200

think of one

1237

00:44:02,309 --> 00:44:00,640

well i do know that uh you know i can

1238

00:44:04,390 --> 00:44:02,319

also confirm that terry burts and i

1239

00:44:06,150 --> 00:44:04,400

attended 98 bravo

1240

00:44:07,910 --> 00:44:06,160

at the air force test pilot school at

1241

00:44:09,589 --> 00:44:07,920

edwards air force base

1242

00:44:11,349 --> 00:44:09,599

we had a great time together and as

1243

00:44:13,109 --> 00:44:11,359

terry mentioned i think we both leaned

1244

00:44:15,030 --> 00:44:13,119

on each other throughout the year we did

1245

00:44:16,470 --> 00:44:15,040

sit next to each other you know i sat

1246

00:44:18,550 --> 00:44:16,480

next to terry

1247

00:44:20,950 --> 00:44:18,560

right after the the birth of his first

1248

00:44:22,790 --> 00:44:20,960

child and i watched him struggle with uh

1249

00:44:24,950 --> 00:44:22,800

sleepless nights i think and uh coming

1250

00:44:26,550 --> 00:44:24,960

into school the next day and we worked

1251
00:44:28,150 --> 00:44:26,560
together to kind of make sure we were

1252
00:44:30,069 --> 00:44:28,160
both ready for any of the events that

1253
00:44:32,390 --> 00:44:30,079
turned up uh while we were out there we

1254
00:44:34,230 --> 00:44:32,400
did do our i can't remember which check

1255
00:44:36,309 --> 00:44:34,240
right it was but we flew a c-130

1256
00:44:37,990 --> 00:44:36,319
together with terry as the pilot and me

1257
00:44:39,910 --> 00:44:38,000
as the test conductor directing him what

1258
00:44:41,349 --> 00:44:39,920
to do and i remember that experience

1259
00:44:43,349 --> 00:44:41,359
that really finally and that's probably

1260
00:44:44,710 --> 00:44:43,359
the first opportunity other than sitting

1261
00:44:46,390 --> 00:44:44,720
next to each other that i actually had a

1262
00:44:48,710 --> 00:44:46,400
chance to work operationally with

1263
00:44:50,230 --> 00:44:48,720

operationally with terry and i haven't

1264

00:44:51,670 --> 00:44:50,240

had much of an opportunity to do that

1265

00:44:53,510 --> 00:44:51,680

here at uh

1266

00:44:55,030 --> 00:44:53,520

in houston until we got assigned

1267

00:44:56,550 --> 00:44:55,040

together on this mission and i'm really

1268

00:44:58,069 --> 00:44:56,560

thankful for the opportunity for it to

1269

00:44:59,990 --> 00:44:58,079

come full circle and have that

1270

00:45:03,430 --> 00:45:00,000

opportunity to do

1271

00:45:07,109 --> 00:45:05,270

okay any remaining follow follow-ups

1272

00:45:08,630 --> 00:45:07,119

here at jsc

1273

00:45:10,470 --> 00:45:08,640

okay with that that will conclude our