



1  
00:00:05,190 --> 00:00:02,629  
hi my name is greg shamitoff and i'm on

2  
00:00:28,470 --> 00:00:05,200  
the sts-134 crew and you're watching

3  
00:00:28,480 --> 00:00:53,590  
of our

4  
00:00:53,600 --> 00:00:58,549  
as you know we

5  
00:00:58,559 --> 00:01:37,830  
foreign

6  
00:01:45,510 --> 00:01:39,670  
good morning endeavor and a special good

7  
00:01:48,870 --> 00:01:47,030  
good morning shannon it's great to hear

8  
00:01:51,670 --> 00:01:48,880  
your voice and uh thank you so much for

9  
00:01:53,109 --> 00:01:51,680  
that song that's a beautiful song named

10  
00:01:54,710 --> 00:01:53,119  
luna

11  
00:01:57,830 --> 00:01:54,720  
that's written and

12  
00:02:00,389 --> 00:01:57,840  
performed by my good friend jose serrano

13  
00:02:03,350 --> 00:02:00,399

and uh that song was amazing especially

14

00:02:05,590 --> 00:02:03,360

for our flight for sts-134

15

00:02:07,030 --> 00:02:05,600

we're all up we're ready to go we had

16

00:02:09,669 --> 00:02:07,040

such a great day yesterday with a

17

00:02:11,830 --> 00:02:09,679

spectacular rendezvous and uh successful

18

00:02:12,949 --> 00:02:11,840

installation of vlc3

19

00:02:15,190 --> 00:02:12,959

and today

20

00:02:17,589 --> 00:02:15,200

uh we had to we got the uh

21

00:02:19,430 --> 00:02:17,599

the prime job for our entire mission

22

00:02:21,510 --> 00:02:19,440

we're installing ams today that'll be

23

00:02:23,430 --> 00:02:21,520

really exciting and we're uh we're also

24

00:02:25,350 --> 00:02:23,440

going to be getting ready to camp out

25

00:02:28,390 --> 00:02:25,360

overnight for eva once we had a lot of

26

00:02:29,589 --> 00:02:28,400

work to do today we're all ready to go

27

00:02:32,949 --> 00:02:29,599

and good morning to everyone there

28

00:02:35,910 --> 00:02:34,630

this is mission control houston we are

29

00:02:37,589 --> 00:02:35,920

continuing to receive downlink

30

00:02:40,110 --> 00:02:37,599

television pictures from the shuttle

31

00:02:43,509 --> 00:02:40,120

station complex as it orbits

32

00:02:45,270 --> 00:02:43,519

214 statute miles over the pacific ocean

33

00:02:47,509 --> 00:02:45,280

on a southeasterly track that's soon

34

00:02:49,190 --> 00:02:47,519

going to take it over the equator and

35

00:02:51,830 --> 00:02:49,200

then eventually over the southern tip of

36

00:02:54,229 --> 00:02:51,840

south america again the oncoming team of

37

00:02:56,070 --> 00:02:54,239

flight controllers uh the orbit one team

38

00:02:57,830 --> 00:02:56,080

has completed its handovers about to

39

00:02:59,750 --> 00:02:57,840

take over the duties

40

00:03:01,110 --> 00:02:59,760

as the off going over three planning

41

00:03:02,550 --> 00:03:01,120

shift team

42

00:03:03,830 --> 00:03:02,560

departs

43

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

gary horlocker will be the flight

44

00:03:07,430 --> 00:03:05,360

director in charge of this team uh

45

00:03:09,990 --> 00:03:07,440

taking over for offgoing flight director

46

00:03:12,470 --> 00:03:10,000

quatzia alabarujo

47

00:03:15,750 --> 00:03:12,480

who is working his final shift of the

48

00:03:22,390 --> 00:03:19,509

the ams will find its permanent home

49

00:03:25,030 --> 00:03:22,400

today after the crew finishes up its

50

00:03:26,229 --> 00:03:25,040

post sleep activities they'll head into

51

00:03:29,430 --> 00:03:26,239

the

52

00:03:30,789 --> 00:03:29,440

ams activities shortly after two o'clock

53

00:03:31,750 --> 00:03:30,799

central time

54

00:03:35,589 --> 00:03:31,760

the

55

00:03:41,110 --> 00:03:35,599

earth

56

00:03:42,470 --> 00:03:41,120

truss segment the zenith side if you

57

00:03:47,750 --> 00:03:42,480

will

58

00:03:52,070 --> 00:03:49,589

the split screen

59

00:03:55,270 --> 00:03:52,080

showing both sides of the payload bay

60

00:03:58,070 --> 00:03:55,280

the right and left side with the

61

00:04:07,509 --> 00:03:58,080

the guide pins for the alpha magnetic

62

00:04:12,550 --> 00:04:09,830

first step will be now that it is free

63

00:04:16,390 --> 00:04:12,560

of endeavors payload bay to

64

00:04:21,030 --> 00:04:16,400

raise the ams up to a low hover position

65

00:04:24,790 --> 00:04:22,870

once that is established after a couple

66

00:04:27,510 --> 00:04:24,800

of minutes the crew will be given a go

67

00:04:29,270 --> 00:04:27,520

to proceed on with

68

00:04:31,909 --> 00:04:29,280

maneuvering it over

69

00:04:33,830 --> 00:04:31,919

the side of endeavour's payload bay up

70

00:04:36,629 --> 00:04:33,840

toward the international space station

71

00:04:40,629 --> 00:04:36,639

for a handoff to the station's robotic

72

00:04:43,749 --> 00:04:41,670

thank

73

00:04:46,310 --> 00:04:43,759

hey i just wanted to let you know that

74

00:04:47,909 --> 00:04:46,320

uh we're putting emu

75

00:04:50,230 --> 00:04:47,919

lyo uh

76

00:04:53,110 --> 00:04:50,240

our new battery by uh lithium-ion

77

00:04:54,310 --> 00:04:53,120

battery 3004. that's going to go into

78

00:04:59,110 --> 00:04:54,320

drew's

79

00:05:37,510 --> 00:05:01,510

it's uh zero zero two one that's going

80

00:05:37,520 --> 00:05:40,790

yeah go ahead

81

00:05:45,749 --> 00:05:43,189

another location to try to find that the

82

00:05:48,629 --> 00:05:45,759

wire canister would be the eva systems

83

00:05:49,749 --> 00:05:48,639

transfer bag and it is another mesh bag

84

00:05:52,710 --> 00:05:49,759

okay

85

00:05:56,230 --> 00:05:52,720

got that and we'll uh we'll work on that

86

00:05:58,070 --> 00:05:56,240

and we'll find it in the meantime uh

87

00:05:59,270 --> 00:05:58,080

it's been suggested that we go to a

88

00:06:00,710 --> 00:05:59,280

different loop

89

00:06:05,590 --> 00:06:00,720

would you like us to call you on either

90

00:06:09,189 --> 00:06:06,550

the

91

00:06:11,350 --> 00:06:09,199

shuttle's robotic arm now uh in motion

92

00:06:13,029 --> 00:06:11,360

once again

93

00:06:15,990 --> 00:06:13,039

the next maneuver

94

00:06:18,390 --> 00:06:16,000

will be to the handoff position

95

00:06:21,590 --> 00:06:18,400

relocating the

96

00:06:23,990 --> 00:06:21,600

ams now from the low hover position

97

00:06:27,029 --> 00:06:24,000

above endeavour's payload bay cwc

98

00:06:29,990 --> 00:06:27,039

terminate to the position

99

00:06:31,909 --> 00:06:30,000

that will be easiest for the station's

100

00:06:33,510 --> 00:06:31,919

grapple

101  
00:06:36,469 --> 00:06:33,520  
the end effector on the station's

102  
00:06:39,110 --> 00:06:36,479  
robotic arm to position itself

103  
00:08:38,469 --> 00:06:39,120  
on the alternate grapple fixture

104  
00:08:44,870 --> 00:08:41,589  
in houston cupola on the big loop um

105  
00:08:50,870 --> 00:08:44,880  
we're working some of the camera views

106  
00:08:50,880 --> 00:09:01,190  
houston copies

107  
00:09:05,990 --> 00:09:03,509  
the shuttle's robotic arm now has the

108  
00:09:09,430 --> 00:09:06,000  
brakes on it's in the position now for

109  
00:09:14,550 --> 00:09:09,440  
the handoff next up will be for the

110  
00:09:19,590 --> 00:09:17,110  
operated by greg shamatoff and

111  
00:09:20,790 --> 00:09:19,600  
greg johnson

112  
00:09:22,949 --> 00:09:20,800  
in the

113  
00:09:25,110 --> 00:09:22,959

at the robotic workstation inside the

114

00:09:28,230 --> 00:09:25,120

space station in particular in the

115

00:09:33,269 --> 00:09:31,430

repositioning the camera views uh

116

00:09:39,910 --> 00:09:33,279

to

117

00:09:46,550 --> 00:09:42,949

the ams says the station's robotic arm

118

00:09:47,910 --> 00:09:46,560

gets ready to maneuver over to the

119

00:09:57,990 --> 00:09:47,920

ams

120

00:10:02,630 --> 00:10:00,550

and houston from cupola we are ready to

121

00:10:15,430 --> 00:10:02,640

proceed now we like our camera views

122

00:10:20,389 --> 00:10:18,710

at canadarm2 now being maneuvered

123

00:10:22,389 --> 00:10:20,399

from a

124

00:10:27,910 --> 00:10:22,399

robotic

125

00:10:30,470 --> 00:10:27,920

on the international space station being

126  
00:10:33,829 --> 00:10:30,480  
maneuvered into position to

127  
00:10:35,590 --> 00:10:33,839  
capture the alpha magnetic spectrometer

128  
00:10:39,590 --> 00:10:35,600  
currently in the firm grasp of the

129  
00:10:47,030 --> 00:10:43,670  
canadarm2 58 foot long

130  
00:10:48,790 --> 00:10:47,040  
robot arm delivered to the international

131  
00:11:00,069 --> 00:10:48,800  
space station back in april of two

132  
00:11:03,509 --> 00:11:01,269  
one of the

133  
00:11:05,670 --> 00:11:03,519  
major contributions of the canadian

134  
00:11:59,750 --> 00:11:05,680  
space agency to the international space

135  
00:11:59,760 --> 00:12:02,790  
in a very uh

136  
00:12:07,670 --> 00:12:05,350  
clear view of the grapple pin

137  
00:12:12,870 --> 00:12:07,680  
on the grapple fixture of the

138  
00:12:17,509 --> 00:12:15,269

the top of the view the end effector of

139

00:12:19,750 --> 00:12:17,519

the station's

140

00:12:22,150 --> 00:12:19,760

robotic arm canadarm2

141

00:12:23,430 --> 00:12:22,160

the arm is being positioned there are

142

00:12:25,350 --> 00:12:23,440

cameras

143

00:12:26,310 --> 00:12:25,360

that look straight down the length of

144

00:12:31,269 --> 00:12:26,320

the

145

00:12:33,590 --> 00:12:31,279

allow for a proper alignment

146

00:12:35,670 --> 00:12:33,600

the arm is being operated from the

147

00:12:36,790 --> 00:12:35,680

cupola on the international space

148

00:12:39,190 --> 00:12:36,800

station

149

00:12:41,670 --> 00:12:39,200

inside is a

150

00:12:43,430 --> 00:12:41,680

dedicated robotics workstation with its

151  
00:12:47,350 --> 00:12:43,440  
own screens

152  
00:12:50,949 --> 00:12:49,829  
see the the same view that you're seeing

153  
00:12:53,030 --> 00:12:50,959  
here

154  
00:12:56,470 --> 00:12:53,040  
so that they can align properly before

155  
00:12:59,590 --> 00:12:56,480  
moving in for grapple and in fact the

156  
00:13:01,430 --> 00:12:59,600  
the go has been given the arm is now in

157  
00:13:23,030 --> 00:13:01,440  
the process of being maneuvered in for

158  
00:13:27,910 --> 00:13:25,590  
houston endeavor air to ground two the

159  
00:13:29,269 --> 00:13:27,920  
second cwc

160  
00:13:30,949 --> 00:13:29,279  
is 10

161  
00:13:35,670 --> 00:13:30,959  
64.

162  
00:13:37,990 --> 00:13:35,680  
and i transferred uh 1069 to jpm

163  
00:13:40,150 --> 00:13:38,000

a5 it just seems like an odd place to

164

00:13:41,670 --> 00:13:40,160

put it inside a soft stowage rack that

165

00:13:43,910 --> 00:13:41,680

doesn't have a lot of room i just want

166

00:13:49,430 --> 00:13:43,920

you to double check and make sure that's

167

00:13:53,030 --> 00:13:51,750

mark we copy your work in 1064 now and

168

00:14:34,790 --> 00:13:53,040

we will double check that stowage

169

00:14:39,509 --> 00:14:37,030

and a good capture is confirmed the

170

00:14:41,110 --> 00:14:39,519

station robotic arm now is locked onto

171

00:14:42,230 --> 00:14:41,120

the grapple pin

172

00:14:44,550 --> 00:14:42,240

of the

173

00:14:46,230 --> 00:14:44,560

alpha magnetic spectrometer

174

00:14:48,310 --> 00:14:46,240

occurring as endeavor in the

175

00:14:53,350 --> 00:14:48,320

international space station track to the

176

00:14:58,550 --> 00:14:56,150

on the big loop the ssrms grapple is

177

00:15:02,710 --> 00:14:58,560

complete the brakes on and you guys are

178

00:15:02,720 --> 00:15:10,829

endeavour copies other big

179

00:15:18,870 --> 00:15:14,389

loops and with the ams now firmly in the

180

00:15:21,189 --> 00:15:18,880

grasp of the station's a robotic arm the

181

00:15:23,110 --> 00:15:21,199

crew over on space shuttle endeavour

182

00:15:25,750 --> 00:15:23,120

ready to release the

183

00:15:27,030 --> 00:15:25,760

shuttle's robotic arm from its grasp of

184

00:15:39,030 --> 00:15:27,040

the other

185

00:15:51,030 --> 00:15:42,230

standing by to to see the indications

186

00:15:58,629 --> 00:15:53,350

deborah iss this is miles o'brien with

187

00:16:03,829 --> 00:16:00,550

miles we have you loud and clear how do

188

00:16:07,670 --> 00:16:06,069

five by five commander bar kelly good to

189

00:16:09,509 --> 00:16:07,680

see you guys you look kale and hardy

190

00:16:12,629 --> 00:16:09,519

congratulations on installing the alpha

191

00:16:14,310 --> 00:16:12,639

magnetic spectrometer that's great news

192

00:16:15,749 --> 00:16:14,320

i wanted to before we get to the

193

00:16:17,910 --> 00:16:15,759

questions from folks there wasn't a lot

194

00:16:21,590 --> 00:16:17,920

of time for folks on google moderator to

195

00:16:23,110 --> 00:16:21,600

weigh in on the tile damage i'm curious

196

00:16:25,269 --> 00:16:23,120

what your thoughts are on what you've

197

00:16:27,829 --> 00:16:25,279

seen how concerned are you about these

198

00:16:32,389 --> 00:16:27,839

uh ding tiles on the belly of the

199

00:16:35,990 --> 00:16:34,310

yeah so uh we took a look this morning

200

00:16:38,949 --> 00:16:36,000

at some of the photos and the message

201  
00:16:41,269 --> 00:16:38,959  
traffic that came up there's three areas

202  
00:16:42,310 --> 00:16:41,279  
that you know are a little bit of

203  
00:16:44,710 --> 00:16:42,320  
concern

204  
00:16:46,230 --> 00:16:44,720  
the team on the ground will decide over

205  
00:16:48,230 --> 00:16:46,240  
the next couple days if we have to take

206  
00:16:49,990 --> 00:16:48,240  
a closer look at it but

207  
00:16:51,829 --> 00:16:50,000  
the current damage doesn't seem i mean

208  
00:16:56,470 --> 00:16:51,839  
we've seen this kind of stuff before and

209  
00:17:00,389 --> 00:16:58,710  
hi commander kelly i'm spencer kelly but

210  
00:17:02,470 --> 00:17:00,399  
i don't think we're related

211  
00:17:05,270 --> 00:17:02,480  
i live in manbushy canada i was

212  
00:17:07,110 --> 00:17:05,280  
wondering after four times going space

213  
00:17:15,590 --> 00:17:07,120

what do you look forward to most and go

214

00:17:18,309 --> 00:17:16,949

hi spencer

215

00:17:20,630 --> 00:17:18,319

i don't know could you hear it we have

216

00:17:21,909 --> 00:17:20,640

an honorary canadian on board next to me

217

00:17:25,590 --> 00:17:21,919

yeah we heard we heard the question

218

00:17:27,990 --> 00:17:25,600

miles uh after four times in flight okay

219

00:17:30,150 --> 00:17:28,000

what do i look forward to the most

220

00:17:31,830 --> 00:17:30,160

well you know these missions are very

221

00:17:33,830 --> 00:17:31,840

very challenging and very rewarding

222

00:17:35,990 --> 00:17:33,840

there's a lot to do

223

00:17:37,669 --> 00:17:36,000

i you know i particularly like looking

224

00:17:39,590 --> 00:17:37,679

at the earth and the small amount of

225

00:17:42,150 --> 00:17:39,600

chance we get but also

226

00:17:44,070 --> 00:17:42,160

flying through the space station is an

227

00:17:49,190 --> 00:17:44,080

awful lot of fun so the you know those

228

00:17:54,150 --> 00:17:51,350

all right let's go to question number

229

00:17:55,750 --> 00:17:54,160

two this one is a text question actually

230

00:17:57,750 --> 00:17:55,760

a couple of questions

231

00:17:59,350 --> 00:17:57,760

for you mark

232

00:18:01,750 --> 00:17:59,360

one of them comes from watertown new

233

00:18:03,990 --> 00:18:01,760

york the first one an observation from

234

00:18:06,070 --> 00:18:04,000

an old marine to an old sailor i don't

235

00:18:08,470 --> 00:18:06,080

know if you like the old part but he's a

236

00:18:10,470 --> 00:18:08,480

sailor for sure come back safely what's

237

00:18:11,590 --> 00:18:10,480

in store for our space program remains

238

00:18:13,830 --> 00:18:11,600

to be seen

239

00:18:15,669 --> 00:18:13,840

it will be exciting but not as exciting

240

00:18:17,830 --> 00:18:15,679

as seeing gabby back on her feet at full

241

00:18:19,430 --> 00:18:17,840

throttle and then this one from st

242

00:18:22,150 --> 00:18:19,440

mary's ohio

243

00:18:25,029 --> 00:18:22,160

uh this one is

244

00:18:26,870 --> 00:18:25,039

he says mr gifford it is difficult is it

245

00:18:29,029 --> 00:18:26,880

difficult leaving your wife even though

246

00:18:31,590 --> 00:18:29,039

she's doing well i think she would want

247

00:18:33,190 --> 00:18:31,600

to be where you are now god bless you

248

00:18:35,350 --> 00:18:33,200

and your wife and the whole crew and

249

00:18:38,070 --> 00:18:35,360

mark i'll just button it up with i know

250

00:18:39,830 --> 00:18:38,080

gabby had surgery yesterday i assume

251

00:18:44,789 --> 00:18:39,840

you've had some updates uh how are

252

00:18:48,549 --> 00:18:46,310

well i had the chance at the end of the

253

00:18:50,549 --> 00:18:48,559

day to call her mom

254

00:18:52,870 --> 00:18:50,559

and her chief of staff and my brother

255

00:18:54,549 --> 00:18:52,880

periodically through the

256

00:18:56,390 --> 00:18:54,559

as the surgery was going on and she's

257

00:18:58,549 --> 00:18:56,400

doing really well everything went as

258

00:19:01,029 --> 00:18:58,559

planned her neurosurgeons

259

00:19:02,310 --> 00:19:01,039

are are very happy she's recuperating

260

00:19:05,110 --> 00:19:02,320

and she's actually getting back to

261

00:19:07,750 --> 00:19:05,120

therapy today so it went went really

262

00:19:10,549 --> 00:19:09,270

yeah i think it was about about 20

263

00:19:12,549 --> 00:19:10,559

seconds after launch you guys

264

00:19:15,430 --> 00:19:12,559

disappeared uh i tell you what pass the

265

00:19:17,750 --> 00:19:15,440

mic over to ron garan ron uh who is a

266

00:19:19,110 --> 00:19:17,760

space station keeper and uh

267

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

spent a little bit of time up there you

268

00:19:24,150 --> 00:19:22,400

tweeted um a photo

269

00:19:26,549 --> 00:19:24,160

of the mississippi river the other day

270

00:19:28,870 --> 00:19:26,559

and nasa has been sending images as well

271

00:19:34,230 --> 00:19:28,880

what's it like to see uh the devastation

272

00:19:37,830 --> 00:19:35,669

well miles that's an interesting

273

00:19:39,990 --> 00:19:37,840

question because you know we do have

274

00:19:41,830 --> 00:19:40,000

this sense of isolation being up here

275

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

you know you know living off the planet

276

00:19:45,590 --> 00:19:43,919

but at the same time you know even

277

00:19:47,590 --> 00:19:45,600

though we have this sense of isolation

278

00:19:49,190 --> 00:19:47,600

we have we have the ability to be more

279

00:19:51,430 --> 00:19:49,200

connected with things on the ground

280

00:19:53,350 --> 00:19:51,440

because we fly over it all the time so

281

00:19:55,190 --> 00:19:53,360

you know watching you know

282

00:19:57,669 --> 00:19:55,200

the mississippi river flooding on the

283

00:19:59,110 --> 00:19:57,679

news and then flying over it are two

284

00:20:01,669 --> 00:19:59,120

different things and seeing with their

285

00:20:02,870 --> 00:20:01,679

own eyes the uh you know the devastation

286

00:20:04,870 --> 00:20:02,880

and and the uh

287

00:20:07,190 --> 00:20:04,880

and the tragedy that's going on in that

288

00:20:08,549 --> 00:20:07,200

area of the of the country

289

00:20:10,149 --> 00:20:08,559

you know is really something and we feel

290

00:20:12,549 --> 00:20:10,159

a responsibility to try and document

291

00:20:14,149 --> 00:20:12,559

that as best we can as as time allows

292

00:20:18,789 --> 00:20:14,159

and take as many pictures of that area

293

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

the hardest thing about being in space

294

00:20:25,350 --> 00:20:22,720

hello from uh the international space

295

00:20:27,270 --> 00:20:25,360

station got your question and uh cali

296

00:20:29,350 --> 00:20:27,280

and anderson my favorite thing about

297

00:20:30,870 --> 00:20:29,360

being in space is flying and yesterday

298

00:20:32,390 --> 00:20:30,880

we opened up the hatch the international

299

00:20:34,549 --> 00:20:32,400

space station and i could really stretch

300

00:20:36,630 --> 00:20:34,559

my legs and fly from one end to the

301  
00:20:38,470 --> 00:20:36,640  
other we have a beautiful space station

302  
00:20:40,149 --> 00:20:38,480  
i also really like looking at our

303  
00:20:41,510 --> 00:20:40,159  
beautiful planet uh it's the most

304  
00:20:43,029 --> 00:20:41,520  
beautiful planet in the whole solar

305  
00:20:44,950 --> 00:20:43,039  
system

306  
00:20:46,149 --> 00:20:44,960  
uh drew feustel

307  
00:20:49,029 --> 00:20:46,159  
this one

308  
00:20:51,430 --> 00:20:49,039  
from the the grinning man from youtube

309  
00:20:55,029 --> 00:20:51,440  
the question is how realistic is obama's

310  
00:20:56,870 --> 00:20:55,039  
promise to visit the planet mars by 2030

311  
00:21:06,149 --> 00:20:56,880  
do you believe it is possible to do it

312  
00:21:11,029 --> 00:21:07,909  
hey hi miles how you doing thanks for

313  
00:21:12,789 --> 00:21:11,039

the thanks for the question and um

314

00:21:14,149 --> 00:21:12,799

it's sort of a bigger question i think

315

00:21:15,510 --> 00:21:14,159

to answer is

316

00:21:17,350 --> 00:21:15,520

you know what direction we're going and

317

00:21:19,029 --> 00:21:17,360

i think we're all as space explorers

318

00:21:20,149 --> 00:21:19,039

interested in uh eventually getting on

319

00:21:22,310 --> 00:21:20,159

to mars

320

00:21:24,149 --> 00:21:22,320

and uh also visiting the moon since

321

00:21:26,149 --> 00:21:24,159

that's our nearest neighbor

322

00:21:28,070 --> 00:21:26,159

in my vision can we do it sooner i think

323

00:21:30,149 --> 00:21:28,080

we can and hopefully with the progress

324

00:21:32,149 --> 00:21:30,159

we're making with the commercial launch

325

00:21:34,149 --> 00:21:32,159

vehicles and what nasa is doing for

326

00:21:35,830 --> 00:21:34,159

heavy lift and with the intent as long

327

00:21:38,950 --> 00:21:35,840

as you know we have the intent to make

328

00:21:40,470 --> 00:21:38,960

it on to uh to mars eventually uh you

329

00:21:42,789 --> 00:21:40,480

know we will get there as humans i don't

330

00:21:44,390 --> 00:21:42,799

think we'll ever stop exploring and

331

00:21:46,149 --> 00:21:44,400

we're all excited to be a part of the uh

332

00:21:47,510 --> 00:21:46,159

the great adventure really all starting

333

00:21:48,710 --> 00:21:47,520

right here on the international space

334

00:21:50,710 --> 00:21:48,720

station

335

00:21:53,190 --> 00:21:50,720

uh at what point during the mission does

336

00:21:55,830 --> 00:21:53,200

it sink in that you are one of only the

337

00:21:57,830 --> 00:21:55,840

few one of the only few people on earth

338

00:21:59,430 --> 00:21:57,840

to have been able to see earth from

339

00:22:00,230 --> 00:21:59,440

space

340

00:22:03,029 --> 00:22:00,240

yeah

341

00:22:04,549 --> 00:22:03,039

as a point of order order both taz and i

342

00:22:07,909 --> 00:22:04,559

were not uh

343

00:22:09,590 --> 00:22:07,919

uh we were not a wall we were actually

344

00:22:12,549 --> 00:22:09,600

uh just finishing up with the ams

345

00:22:15,270 --> 00:22:12,559

install but to answer your question um i

346

00:22:17,990 --> 00:22:15,280

think that uh any mode of transportation

347

00:22:19,830 --> 00:22:18,000

like cars and airplanes progress along

348

00:22:21,110 --> 00:22:19,840

and in space there's been almost 500

349

00:22:22,710 --> 00:22:21,120

people that have looked at the earth

350

00:22:25,510 --> 00:22:22,720

from space

351

00:22:26,390 --> 00:22:25,520

and i think uh in a few decades there

352

00:22:28,789 --> 00:22:26,400

will be

353

00:22:31,270 --> 00:22:28,799

many many uh multitudes of more people

354

00:22:33,750 --> 00:22:31,280

that get to see the earth from space but

355

00:22:36,230 --> 00:22:33,760

i can tell you it's a great honor and uh

356

00:22:39,029 --> 00:22:36,240

i cherish every moment

357

00:22:40,870 --> 00:22:39,039

yeah i just want to say a few words to

358

00:22:42,710 --> 00:22:40,880

you and to your crew

359

00:22:43,909 --> 00:22:42,720

and thank you very much for the great

360

00:22:47,909 --> 00:22:43,919

ride

361

00:22:51,029 --> 00:22:47,919

and safe delivery of ams to the station

362

00:22:53,590 --> 00:22:51,039

your support and fantastic work

363

00:22:54,950 --> 00:22:53,600

has taken us one step closer to

364

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

realizing

365

00:22:59,830 --> 00:22:58,000

the signs potential of ms

366

00:23:01,669 --> 00:22:59,840

well thank you sam i was just looking

367

00:23:05,430 --> 00:23:01,679

out the window of the orbiter and ams

368

00:23:07,430 --> 00:23:05,440

looks absolutely fantastic on the truss

369

00:23:09,510 --> 00:23:07,440

i know you you guys are really excited

370

00:23:11,270 --> 00:23:09,520

and you're probably getting data and

371

00:23:12,630 --> 00:23:11,280

looking at it already i'm going to turn

372

00:23:13,510 --> 00:23:12,640

the mic over

373

00:23:16,230 --> 00:23:13,520

to

374

00:23:19,830 --> 00:23:16,240

the box and pass and let them make a

375

00:23:21,750 --> 00:23:19,840

couple comments about how that all went

376

00:23:24,070 --> 00:23:21,760

we have been waiting for

377

00:23:25,110 --> 00:23:24,080

this play a long time and

378

00:23:26,630 --> 00:23:25,120

me and

379

00:23:28,950 --> 00:23:26,640

drew feistel

380

00:23:31,750 --> 00:23:28,960

this morning

381

00:23:33,990 --> 00:23:31,760

very early start to prepare

382

00:23:36,390 --> 00:23:34,000

everything went very smoothly their

383

00:23:37,909 --> 00:23:36,400

bodyguard performed perfectly

384

00:23:39,750 --> 00:23:37,919

and

385

00:23:41,750 --> 00:23:39,760

within the time that we were given we

386

00:23:44,549 --> 00:23:41,760

were ready to end it off to

387

00:23:46,230 --> 00:23:44,559

box and pass

388

00:23:47,750 --> 00:23:46,240

that would be great you know and ever

389

00:23:49,350 --> 00:23:47,760

since the first time that we met you

390

00:23:50,710 --> 00:23:49,360

with cern and your team

391

00:23:52,870 --> 00:23:50,720

it's really been an honor for all of us

392

00:23:54,789 --> 00:23:52,880

to be part of this project uh you know

393

00:23:55,830 --> 00:23:54,799

ours is a very very small part you know

394

00:23:59,990 --> 00:23:55,840

but uh

395

00:24:01,909 --> 00:24:00,000

see this this day come true you know now

396

00:24:03,830 --> 00:24:01,919

ams is installed it's on the station

397

00:24:05,830 --> 00:24:03,840

it's gonna stay here for the life of the

398

00:24:07,990 --> 00:24:05,840

station and we're really excited to see

399

00:24:09,350 --> 00:24:08,000

what what kind of results uh you know

400

00:24:11,590 --> 00:24:09,360

what we can learn what you guys can

401  
00:24:13,669 --> 00:24:11,600  
learn and teach us from having ams up

402  
00:24:15,190 --> 00:24:13,679  
here you know and you know and the two

403  
00:24:16,630 --> 00:24:15,200  
are not talking but you know there's so

404  
00:24:18,789 --> 00:24:16,640  
many people who've been involved in

405  
00:24:20,549 --> 00:24:18,799  
planning the operation specifically as

406  
00:24:22,390 --> 00:24:20,559  
we did today the robotics and the

407  
00:24:24,230 --> 00:24:22,400  
installation the mechanisms and then

408  
00:24:26,789 --> 00:24:24,240  
your whole team who's been working

409  
00:24:28,950 --> 00:24:26,799  
working uh tirelessly for so many years

410  
00:24:32,470 --> 00:24:28,960  
to get ams ready to go so we're really

411  
00:24:33,990 --> 00:24:32,480  
happy to be at this point and and thanks

412  
00:24:40,149 --> 00:24:34,000  
for sharing the

413  
00:24:53,029 --> 00:24:41,909

excellent we're happy to hear both of

414

00:24:57,590 --> 00:24:55,350

space walkers for tomorrow inside the

415

00:25:01,830 --> 00:24:57,600

quest airlock uh greg shimatov here in

416

00:25:06,789 --> 00:25:05,190

water holder that the crew uses to allow

417

00:25:08,710 --> 00:25:06,799

them to have something to drink during

418

00:25:12,149 --> 00:25:08,720

the six and a half hour long space walks

419

00:25:15,590 --> 00:25:13,669

and in the red

420

00:25:17,269 --> 00:25:15,600

at the bottom of the screen drew feustel

421

00:25:18,549 --> 00:25:17,279

the other space walker

422

00:25:19,750 --> 00:25:18,559

feustel is actually the lead space

423

00:25:23,350 --> 00:25:19,760

walker for the mission is going to be

424

00:25:25,830 --> 00:25:23,360

wearing the uh spacesuit that has a

425

00:25:36,950 --> 00:25:25,840

solid red stripe on it while shamitoff

426

00:25:36,960 --> 00:25:43,430

katie coleman scott simon how are you

427

00:25:47,669 --> 00:25:45,269

i am uh great it's nice to hear your

428

00:25:49,909 --> 00:25:47,679

voice uh in this way i listen to npr up

429

00:25:51,590 --> 00:25:49,919

here they send it up every day to me oh

430

00:25:53,750 --> 00:25:51,600

thank you tell us about the mission

431

00:25:56,789 --> 00:25:53,760

you've got some awfully expensive

432

00:25:59,510 --> 00:25:56,799

equipment on board well yes scott we

433

00:26:00,950 --> 00:25:59,520

just installed uh the alpha magnetic

434

00:26:03,110 --> 00:26:00,960

spectrometer

435

00:26:04,710 --> 00:26:03,120

it's a two billion dollar cosmic

436

00:26:07,430 --> 00:26:04,720

particle detector

437

00:26:09,510 --> 00:26:07,440

really a premier uh physics experiment

438

00:26:12,070 --> 00:26:09,520

that's supported by 16 different

439

00:26:13,750 --> 00:26:12,080

countries 600 physicists

440

00:26:15,990 --> 00:26:13,760

i mean it's big pretty big projects

441

00:26:17,590 --> 00:26:16,000

managed out in cern switzerland

442

00:26:20,149 --> 00:26:17,600

uh they've been working on this thing a

443

00:26:22,710 --> 00:26:20,159

lot of people for a long time and today

444

00:26:24,630 --> 00:26:22,720

uh with the help of roberto vittori drew

445

00:26:26,789 --> 00:26:24,640

feustel

446

00:26:28,470 --> 00:26:26,799

greg chamotop and greg johnson we got it

447

00:26:31,269 --> 00:26:28,480

successfully installed on the space

448

00:26:32,630 --> 00:26:31,279

station it's a great day for science

449

00:26:34,549 --> 00:26:32,640

well i don't know where the time goes

450

00:26:36,789 --> 00:26:34,559

but i'll tell you it's a very busy place

451  
00:26:37,830 --> 00:26:36,799  
we've got like 130 different experiments

452  
00:26:39,990 --> 00:26:37,840  
running

453  
00:26:41,909 --> 00:26:40,000  
almost at the same time some of them

454  
00:26:43,590 --> 00:26:41,919  
up here on the space station and then

455  
00:26:45,990 --> 00:26:43,600  
maintaining the space station and also

456  
00:26:47,190 --> 00:26:46,000  
maintaining ourselves and doing some

457  
00:26:48,310 --> 00:26:47,200  
some medical work some medical

458  
00:26:49,909 --> 00:26:48,320  
experiments

459  
00:26:51,750 --> 00:26:49,919  
just to maintain your bone mass you need

460  
00:26:54,230 --> 00:26:51,760  
to exercise about two hours a day up

461  
00:26:57,430 --> 00:26:54,240  
here so i would say every day is a busy

462  
00:26:58,630 --> 00:26:57,440  
day and a great day up here

463  
00:27:00,390 --> 00:26:58,640

this um

464

00:27:02,870 --> 00:27:00,400

this might well be your last ride in

465

00:27:09,029 --> 00:27:02,880

space i wonder what your thoughts are

466

00:27:13,269 --> 00:27:11,029

you know the earth's an incredibly

467

00:27:15,350 --> 00:27:13,279

beautiful planet it's uh you know it's

468

00:27:17,029 --> 00:27:15,360

hard to understand sometimes all the all

469

00:27:19,750 --> 00:27:17,039

the conflict

470

00:27:21,350 --> 00:27:19,760

in such a in such a beautiful place

471

00:27:22,950 --> 00:27:21,360

you know it is uh

472

00:27:24,549 --> 00:27:22,960

it's possible that this is my last

473

00:27:25,830 --> 00:27:24,559

flight you know this is a really hard

474

00:27:28,789 --> 00:27:25,840

thing to give up

475

00:27:31,110 --> 00:27:28,799

it's uh very exciting to

476

00:27:32,950 --> 00:27:31,120

and it's a pr be frank it's a big

477

00:27:34,470 --> 00:27:32,960

privilege for all of us to have the

478

00:27:36,870 --> 00:27:34,480

opportunity to

479

00:27:39,750 --> 00:27:36,880

serve our countries in this in this way

480

00:27:41,350 --> 00:27:39,760

so it's a tough thing uh

481

00:27:44,070 --> 00:27:41,360

you know but to to answer your question

482

00:27:46,630 --> 00:27:44,080

scott you know just looking down it's

483

00:27:48,230 --> 00:27:46,640

we've got a very fragile and beautiful

484

00:27:49,909 --> 00:27:48,240

place to live and we we need to take

485

00:27:52,070 --> 00:27:49,919

care of it

486

00:27:53,990 --> 00:27:52,080

good thank you um how hard is it going

487

00:27:56,230 --> 00:27:54,000

to be for the remaining station crew

488

00:27:58,070 --> 00:27:56,240

members to keep the outpost going

489

00:28:02,549 --> 00:27:58,080

particularly with the shuttle crew

490

00:28:06,070 --> 00:28:04,549

well you know this uh this shuttle crew

491

00:28:07,909 --> 00:28:06,080

it's like you know there's guests that

492

00:28:09,830 --> 00:28:07,919

are just not guests um two of them have

493

00:28:12,230 --> 00:28:09,840

flown before on station

494

00:28:14,549 --> 00:28:12,240

and all of them just have a really great

495

00:28:16,230 --> 00:28:14,559

attitude about working together and i

496

00:28:18,710 --> 00:28:16,240

think that makes it a lot easier for the

497

00:28:21,990 --> 00:28:18,720

four uh the three folks that will remain

498

00:28:23,510 --> 00:28:22,000

uh ron and sasha and andre and so you

499

00:28:25,269 --> 00:28:23,520

know it's it is more work and actually

500

00:28:27,269 --> 00:28:25,279

paulo and i if you took our vote we

501  
00:28:29,909 --> 00:28:27,279  
would stay and make sure that we saw

502  
00:28:31,590 --> 00:28:29,919  
them often and then go back home but uh

503  
00:28:33,590 --> 00:28:31,600  
this is just the way the vehicles line

504  
00:28:35,669 --> 00:28:33,600  
up and ron's been here for a while and

505  
00:28:37,110 --> 00:28:35,679  
he knows the ropes and um it's you know

506  
00:28:38,470 --> 00:28:37,120  
i think it just turns into a bunch of

507  
00:28:40,549 --> 00:28:38,480  
people working together making the best

508  
00:28:43,110 --> 00:28:40,559  
of it and it'll be fine

509  
00:28:45,669 --> 00:28:43,120  
thanks um how important are these last

510  
00:28:55,430 --> 00:28:45,679  
evas by shuttle crew members for iss

511  
00:28:58,630 --> 00:28:56,950  
well we've got a

512  
00:29:01,110 --> 00:28:58,640  
you know a number of tasks over four

513  
00:29:03,669 --> 00:29:01,120

evas uh we've got

514

00:29:05,269 --> 00:29:03,679

in on each eva as you probably know

515

00:29:06,310 --> 00:29:05,279

we've got two spacewalking crew members

516

00:29:08,710 --> 00:29:06,320

outside

517

00:29:10,389 --> 00:29:08,720

for about six to six and a half hours

518

00:29:13,190 --> 00:29:10,399

getting getting the space station in a

519

00:29:14,950 --> 00:29:13,200

good configuration to um to proceed

520

00:29:17,750 --> 00:29:14,960

without the availability of the space

521

00:29:20,870 --> 00:29:17,760

shuttle we're gonna fly sts-135 in june

522

00:29:22,149 --> 00:29:20,880

hopefully uh that's the current or july

523

00:29:23,669 --> 00:29:22,159

rather and

524

00:29:25,110 --> 00:29:23,679

and then after that there won't be any

525

00:29:26,549 --> 00:29:25,120

shuttle-based evas but we have an

526

00:29:28,789 --> 00:29:26,559

airlock we'll be going out the station

527

00:29:29,750 --> 00:29:28,799

airlock here tomorrow space station crew

528

00:29:31,830 --> 00:29:29,760

members

529

00:29:34,149 --> 00:29:31,840

are all trained to do eva

530

00:29:35,909 --> 00:29:34,159

and uh we'll probably see some station

531

00:29:37,669 --> 00:29:35,919

evas in the future but we're just with

532

00:29:39,669 --> 00:29:37,679

our four evas this

533

00:29:40,870 --> 00:29:39,679

this week and and next week we're trying

534

00:29:42,230 --> 00:29:40,880

to get the station in a really good

535

00:29:43,830 --> 00:29:42,240

config

536

00:29:45,190 --> 00:29:43,840

thanks i'm told we're out of time good

537

00:29:50,789 --> 00:29:45,200

luck with the rest of the mission and