



1
00:00:05,990 --> 00:00:03,189
station this is houston are you ready

2
00:00:06,000 --> 00:00:09,350
we're ready for the event

3
00:00:15,509 --> 00:00:12,310
cbs news this is mission control houston

4
00:00:17,029 --> 00:00:15,519
please call station for a voice check

5
00:00:20,950 --> 00:00:17,039
this is bill harwood cbs news at the

6
00:00:24,790 --> 00:00:22,710
hello bill we have you loud and clear

7
00:00:26,230 --> 00:00:24,800
it's great to talk to you today

8
00:00:28,150 --> 00:00:26,240
hey it's great to talk to you you guys

9
00:00:30,310 --> 00:00:28,160
look great in the airlock

10
00:00:31,589 --> 00:00:30,320
before i get around to uh some spacewalk

11
00:00:33,510 --> 00:00:31,599
questions let me ask kate a quick one

12
00:00:34,950 --> 00:00:33,520
and spoken to her since she launched

13
00:00:36,709 --> 00:00:34,960

just wondering how the science is going

14

00:00:42,470 --> 00:00:36,719

how the how the research is treating you

15

00:00:46,630 --> 00:00:44,790

yeah actually it's going great uh the

16

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

amount of research that we brought up on

17

00:00:50,630 --> 00:00:49,120

spacex nine is incredible here and so

18

00:00:52,709 --> 00:00:50,640

we've been having some pack days it's

19

00:00:55,670 --> 00:00:52,719

really busy but it's fantastic to see

20

00:00:58,389 --> 00:00:55,680

jeff remarks the other day how busy the

21

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

the usos was we had all crew members

22

00:01:01,270 --> 00:00:59,600

here doing some kind of science

23

00:01:03,189 --> 00:01:01,280

experiment or another and just this

24

00:01:05,270 --> 00:01:03,199

morning we were growing some heart cells

25

00:01:07,270 --> 00:01:05,280

in space we're looking at cardiomyocyte

26

00:01:08,550 --> 00:01:07,280

function so it's really fantastic to see

27

00:01:10,230 --> 00:01:08,560

all this

28

00:01:12,310 --> 00:01:10,240

you know talk to you before launch i got

29

00:01:14,870 --> 00:01:12,320

the impression that that work was your

30

00:01:16,310 --> 00:01:14,880

idea of fun i was one of one of my

31

00:01:18,149 --> 00:01:16,320

standard questions they asked people who

32

00:01:19,990 --> 00:01:18,159

are up there for the first time is what

33

00:01:21,830 --> 00:01:20,000

is the most fun up there or maybe what's

34

00:01:24,550 --> 00:01:21,840

the biggest surprise you know in the in

35

00:01:28,390 --> 00:01:24,560

the reality versus versus expectations

36

00:01:33,270 --> 00:01:30,390

well i have to say my expectations were

37

00:01:35,190 --> 00:01:33,280

not very well calibrated for how amazing

38

00:01:37,190 --> 00:01:35,200

our planet is um

39

00:01:39,510 --> 00:01:37,200

you know you work in mission control you

40

00:01:42,389 --> 00:01:39,520

see this on the big screen all the time

41

00:01:44,469 --> 00:01:42,399

and it is still nothing compared to the

42

00:01:47,109 --> 00:01:44,479

actual breathtaking view of the planet

43

00:01:48,789 --> 00:01:47,119

so i was set a little bit low on that uh

44

00:01:50,870 --> 00:01:48,799

it's about a thousand times more amazing

45

00:01:53,350 --> 00:01:50,880

than i expected

46

00:01:54,710 --> 00:01:53,360

fantastic well jeff you guys are facing

47

00:01:56,870 --> 00:01:54,720

a pretty busy schedule the next few

48

00:01:58,709 --> 00:01:56,880

weeks uh heard today that uh the cygnus

49

00:02:00,149 --> 00:01:58,719

launches slip into late september the

50

00:02:02,709 --> 00:02:00,159

htv-6

51
00:02:04,069 --> 00:02:02,719
uh is now on hold pending repairs and

52
00:02:06,230 --> 00:02:04,079
that's the one of course bringing up the

53
00:02:07,990 --> 00:02:06,240
the new batteries for the solar rays any

54
00:02:11,670 --> 00:02:08,000
major impacts from those delays on

55
00:02:16,229 --> 00:02:14,150
uh well no direct impacts to us i mean

56
00:02:18,710 --> 00:02:16,239
there the ground uh team is going to

57
00:02:21,270 --> 00:02:18,720
fill our time to do work based on the

58
00:02:23,750 --> 00:02:21,280
priority of the program i think probably

59
00:02:26,229 --> 00:02:23,760
what the major change uh for us will be

60
00:02:29,110 --> 00:02:26,239
with cygnus slipping out of expedition

61
00:02:31,910 --> 00:02:29,120
48 uh the program is planning on adding

62
00:02:34,150 --> 00:02:31,920
a second eva so our second spacewalk so

63
00:02:36,150 --> 00:02:34,160

we'll go out the first time uh a week

64

00:02:37,190 --> 00:02:36,160

from saturday

65

00:02:39,110 --> 00:02:37,200

and then

66

00:02:40,550 --> 00:02:39,120

probably i think it's about a week and a

67

00:02:43,030 --> 00:02:40,560

half after that go out a second time

68

00:02:44,710 --> 00:02:43,040

around the first of september

69

00:02:46,869 --> 00:02:44,720

so tell me about that first spacewalk

70

00:02:47,990 --> 00:02:46,879

the uh the ida installation a little bit

71

00:02:51,589 --> 00:02:48,000

about what each one of you guys will be

72

00:02:56,390 --> 00:02:53,589

well the international docking adapter

73

00:02:57,910 --> 00:02:56,400

came up on this dragon and the the

74

00:02:59,670 --> 00:02:57,920

ground team will will pluck it out of

75

00:03:01,190 --> 00:02:59,680

the dragon with the robotic arm and move

76

00:03:04,470 --> 00:03:01,200

it on the very front end of the space

77

00:03:06,630 --> 00:03:04,480

station on what we call pma2 where the

78

00:03:08,390 --> 00:03:06,640

shuttle used to dock and uh and then

79

00:03:09,750 --> 00:03:08,400

we're going to go outside and uh we're

80

00:03:12,790 --> 00:03:09,760

going to outfit it we're going to attach

81

00:03:14,470 --> 00:03:12,800

it to a station uh along with uh some

82

00:03:16,710 --> 00:03:14,480

coordinated ground commanding to to

83

00:03:18,949 --> 00:03:16,720

drive the hooks uh to put it in its

84

00:03:21,030 --> 00:03:18,959

permanent position and that will enable

85

00:03:23,030 --> 00:03:21,040

future vehicles to

86

00:03:24,710 --> 00:03:23,040

dock to the space station and the the

87

00:03:27,110 --> 00:03:24,720

nearest term ones will be the commercial

88

00:03:29,509 --> 00:03:27,120

crew vehicles being developed right now

89

00:03:31,190 --> 00:03:29,519

by boeing and spacex but it is an

90

00:03:33,190 --> 00:03:31,200

international docking adapter so it

91

00:03:35,589 --> 00:03:33,200

incorporates a new standard that i'm

92

00:03:38,149 --> 00:03:35,599

sure will be used in other applications

93

00:03:41,509 --> 00:03:38,159

in the future in

94

00:03:43,190 --> 00:03:41,519

both by nasa as well as potentially by

95

00:03:45,270 --> 00:03:43,200

any international partnerships that come

96

00:03:46,869 --> 00:03:45,280

about in the future

97

00:03:48,470 --> 00:03:46,879

you know i remember covering the evas

98

00:03:50,710 --> 00:03:48,480

where those cables were run out for

99

00:03:52,550 --> 00:03:50,720

those for those idas uh which was very

100

00:03:54,869 --> 00:03:52,560

very tedious work how how do you

101
00:03:56,710 --> 00:03:54,879
characterize this one to attach the idea

102
00:03:58,149 --> 00:03:56,720
is it is it as tedious as those earlier

103
00:04:00,229 --> 00:03:58,159
runs i saw you still have an awful lot

104
00:04:03,429 --> 00:04:00,239
of connections to make etc once the

105
00:04:08,470 --> 00:04:06,229
yeah we uh the cables that we need for

106
00:04:09,990 --> 00:04:08,480
this idea are already in place so

107
00:04:12,070 --> 00:04:10,000
they're coiled up near the front end of

108
00:04:13,830 --> 00:04:12,080
the space station on the pma so we'll

109
00:04:16,390 --> 00:04:13,840
get out there and as you mentioned will

110
00:04:18,390 --> 00:04:16,400
uh primarily uh a primary task is to

111
00:04:19,670 --> 00:04:18,400
make up the connections uh but we've got

112
00:04:21,590 --> 00:04:19,680
to do some other things too we're going

113
00:04:24,390 --> 00:04:21,600

to outfit the the

114

00:04:25,990 --> 00:04:24,400

docking adapter with reflectors we're

115

00:04:27,990 --> 00:04:26,000

going to cover up some old reflectors

116

00:04:29,749 --> 00:04:28,000

that were used for the shuttle and then

117

00:04:31,430 --> 00:04:29,759

we got some other tasks too to include

118

00:04:33,590 --> 00:04:31,440

the tedious task of

119

00:04:35,590 --> 00:04:33,600

stretching out some cables for the the

120

00:04:36,390 --> 00:04:35,600

next idea that will come up as well as

121

00:04:39,909 --> 00:04:36,400

some

122

00:04:42,550 --> 00:04:39,919

cables that are required for the russian

123

00:04:44,469 --> 00:04:42,560

logistics module uh the mlm which will

124

00:04:46,150 --> 00:04:44,479

come in the next couple of years and

125

00:04:48,950 --> 00:04:46,160

then we got a couple of other tests just

126

00:04:50,469 --> 00:04:48,960

to uh to fill out the time the plan time

127

00:04:52,230 --> 00:04:50,479

outside

128

00:04:53,749 --> 00:04:52,240

so kate how excited are you about uh

129

00:04:56,310 --> 00:04:53,759

going out the hatch i mean that's a

130

00:04:58,230 --> 00:04:56,320

that's a spacewalking's a far cry from a

131

00:04:59,590 --> 00:04:58,240

a research laboratory i would think

132

00:05:03,189 --> 00:04:59,600

what's uh what's your excitement level

133

00:05:06,870 --> 00:05:05,029

it's pretty high it's uh it's been a

134

00:05:08,629 --> 00:05:06,880

long time that we've been in training

135

00:05:10,390 --> 00:05:08,639

for this particular spacewalk and ground

136

00:05:11,590 --> 00:05:10,400

teams have been working for years to put

137

00:05:13,670 --> 00:05:11,600

this together

138

00:05:14,550 --> 00:05:13,680

they also do all of the training for us

139

00:05:16,150 --> 00:05:14,560

so

140

00:05:17,590 --> 00:05:16,160

my excitement i think is mirrored with

141

00:05:19,590 --> 00:05:17,600

the folks that we're talking to on the

142

00:05:21,430 --> 00:05:19,600

ground that have helped us out helped us

143

00:05:23,510 --> 00:05:21,440

get ready they've watched me

144

00:05:25,350 --> 00:05:23,520

from a very baby junior astronaut get

145

00:05:27,909 --> 00:05:25,360

ready all the way to getting out the

146

00:05:29,990 --> 00:05:27,919

hatch and so it's just been really a joy

147

00:05:31,749 --> 00:05:30,000

to work with everybody to see this

148

00:05:33,270 --> 00:05:31,759

capability develop and we're adding

149

00:05:34,790 --> 00:05:33,280

actual structure to the space station

150

00:05:36,230 --> 00:05:34,800

we're putting a front porch on if you

151

00:05:38,230 --> 00:05:36,240

will

152

00:05:39,510 --> 00:05:38,240

yeah it's pretty cool um and while you

153

00:05:41,749 --> 00:05:39,520

got to mike tell me a little bit about

154

00:05:44,469 --> 00:05:41,759

the second eva on september 1st i guess

155

00:05:45,670 --> 00:05:44,479

that's to retract that radiator you guys

156

00:05:47,590 --> 00:05:45,680

call the ticker i forget what the

157

00:05:49,029 --> 00:05:47,600

acronym is i've got it somewhere but

158

00:05:50,310 --> 00:05:49,039

tell me a little bit about the the works

159

00:05:52,870 --> 00:05:50,320

required on that one and what else

160

00:05:56,390 --> 00:05:52,880

you'll be doing besides the ticker

161

00:06:01,430 --> 00:05:58,469

yeah and that's actually a radiator that

162

00:06:04,070 --> 00:06:01,440

sunni williams and aki deployed back on

163

00:06:06,309 --> 00:06:04,080

eva 20 and so our goal is to bring that

164

00:06:08,309 --> 00:06:06,319

back in it's not being used right now

165

00:06:10,070 --> 00:06:08,319

and there's a bunch of other tasks that

166

00:06:12,950 --> 00:06:10,080

are under consideration some of them

167

00:06:14,629 --> 00:06:12,960

might include installing some hd cameras

168

00:06:17,029 --> 00:06:14,639

on the space station

169

00:06:19,189 --> 00:06:17,039

and they'll let us know once we get past

170

00:06:20,870 --> 00:06:19,199

this first eva what all the additional

171

00:06:23,270 --> 00:06:20,880

tasks will include

172

00:06:25,350 --> 00:06:23,280

but it's part of the job that we do

173

00:06:27,510 --> 00:06:25,360

outside the space station to maintain it

174

00:06:29,270 --> 00:06:27,520

to keep it healthy to make sure that

175

00:06:32,070 --> 00:06:29,280

it's running it's a it's a really

176
00:06:33,909 --> 00:06:32,080
fantastic machine and you said tedious

177
00:06:35,430 --> 00:06:33,919
but i don't think it's tedious at all to

178
00:06:37,990 --> 00:06:35,440
be able to get the chance to actually

179
00:06:39,510 --> 00:06:38,000
climb around on a vehicle traveling 17

180
00:06:40,790 --> 00:06:39,520
000 miles an hour

181
00:06:42,790 --> 00:06:40,800
no i guess you're right you gotta have

182
00:06:44,230 --> 00:06:42,800
to recalibrate the the

183
00:06:46,469 --> 00:06:44,240
the adjectives you use for something

184
00:06:48,870 --> 00:06:46,479
like that um

185
00:06:50,390 --> 00:06:48,880
besides the the the radiator

186
00:06:51,589 --> 00:06:50,400
somebody said something to me about uh

187
00:06:53,270 --> 00:06:51,599
doing some work on some struts

188
00:06:55,110 --> 00:06:53,280

associated with the

189

00:06:59,350 --> 00:06:55,120

solar alpha rotary joint what's that

190

00:07:03,510 --> 00:07:01,350

yeah so that's actually just going to be

191

00:07:05,430 --> 00:07:03,520

inspecting the struts and doing a little

192

00:07:07,909 --> 00:07:05,440

move-in on the struts if we have time at

193

00:07:09,029 --> 00:07:07,919

the end of the ticker eva

194

00:07:10,550 --> 00:07:09,039

okay

195

00:07:12,309 --> 00:07:10,560

jeff uh the spacesuits have been a bit

196

00:07:13,430 --> 00:07:12,319

of a question mark in recent years

197

00:07:14,629 --> 00:07:13,440

question mark's probably the wrong word

198

00:07:16,309 --> 00:07:14,639

but there have been some issues you guys

199

00:07:17,830 --> 00:07:16,319

have had to work through i know a new

200

00:07:19,830 --> 00:07:17,840

suit came up recently how's all that

201
00:07:21,029 --> 00:07:19,840
stacking up what's your confidence level

202
00:07:23,189 --> 00:07:21,039
i think the suits behind you what's your

203
00:07:26,550 --> 00:07:23,199
confidence level that uh those guys are

204
00:07:30,469 --> 00:07:28,230
well my confidence level is pretty high

205
00:07:31,270 --> 00:07:30,479
that you're right we had some issues in

206
00:07:50,390 --> 00:07:31,280
a

207
00:07:52,550 --> 00:07:50,400
run the ground

208
00:07:54,790 --> 00:07:52,560
to put to put to bed if you will the

209
00:07:57,029 --> 00:07:54,800
risks associated with those issues that

210
00:07:58,469 --> 00:07:57,039
we had these suits have been checked out

211
00:07:59,510 --> 00:07:58,479
thoroughly we checked them out the other

212
00:08:02,309 --> 00:07:59,520
day

213
00:08:03,990 --> 00:08:02,319

check

214

00:08:06,150 --> 00:08:04,000

and everything is uh is a hundred

215

00:08:08,790 --> 00:08:06,160

percent

216

00:08:10,869 --> 00:08:08,800

very good uh jeff uh one more for you

217

00:08:12,790 --> 00:08:10,879

real quick i know that on

218

00:08:14,390 --> 00:08:12,800

august 24 yield eclipse scott kelly's

219

00:08:16,469 --> 00:08:14,400

cumulative time in space we've talked

220

00:08:17,510 --> 00:08:16,479

about this before i guess that's the 520

221

00:08:19,110 --> 00:08:17,520

day mark

222

00:08:21,270 --> 00:08:19,120

and then if you come home on september 6

223

00:08:23,350 --> 00:08:21,280

as scheduled you'll have the u.s record

224

00:08:24,950 --> 00:08:23,360

of 534 days i know you've said before

225

00:08:26,550 --> 00:08:24,960

that setting records like that doesn't

226

00:08:28,550 --> 00:08:26,560

mean a lot in the big scheme of things

227

00:08:30,390 --> 00:08:28,560

but but that's a lot of time i mean you

228

00:08:34,630 --> 00:08:30,400

ever reflect on that that's that's a

229

00:08:38,389 --> 00:08:36,469

yeah well i reflect on the experience a

230

00:08:40,469 --> 00:08:38,399

lot

231

00:08:42,550 --> 00:08:40,479

you know and i think we've talked before

232

00:08:45,030 --> 00:08:42,560

what comes to mind is just the honor of

233

00:08:46,870 --> 00:08:45,040

of being part of the international space

234

00:08:48,870 --> 00:08:46,880

station from the beginning all the way

235

00:08:51,350 --> 00:08:48,880

uh through the assembly to now and

236

00:08:52,870 --> 00:08:51,360

working with this great team and uh

237

00:08:54,790 --> 00:08:52,880

the the team

238

00:08:55,829 --> 00:08:54,800

uh has never been stronger than it is

239

00:08:57,670 --> 00:08:55,839

today

240

00:08:59,190 --> 00:08:57,680

and that's with each of the agencies and

241

00:09:01,430 --> 00:08:59,200

i would say the partnership has never

242

00:09:03,430 --> 00:09:01,440

been stronger than it is today in the

243

00:09:05,829 --> 00:09:03,440

space station the operation kate alluded

244

00:09:08,070 --> 00:09:05,839

to some of the the things going on here

245

00:09:11,430 --> 00:09:08,080

you alluded to the to the busyness that

246

00:09:14,710 --> 00:09:11,440

we've seen um here recently uh the

247

00:09:17,350 --> 00:09:14,720

station utilization is really coming to

248

00:09:19,350 --> 00:09:17,360

to blossom out to be very impressive it

249

00:09:20,949 --> 00:09:19,360

occurred to me yesterday kate talked

250

00:09:22,630 --> 00:09:20,959

about how busy it was it occurred to me

251
00:09:25,910 --> 00:09:22,640
yesterday i haven't seen it this

252
00:09:29,269 --> 00:09:25,920
productive uh with doing uh

253
00:09:30,790 --> 00:09:29,279
very significant work uh since

254
00:09:33,269 --> 00:09:30,800
we were assembling this thing with a

255
00:09:34,550 --> 00:09:33,279
visiting shuttle crew

256
00:09:36,310 --> 00:09:34,560
you know it's interesting you know you

257
00:09:37,509 --> 00:09:36,320
know thinking about the idea you guys

258
00:09:39,509 --> 00:09:37,519
are putting on that's of course going to

259
00:09:41,829 --> 00:09:39,519
eventually let you guys upgrade crew

260
00:09:43,750 --> 00:09:41,839
size to seven which adds an extra person

261
00:09:45,110 --> 00:09:43,760
uh to do science kate how important is

262
00:09:47,269 --> 00:09:45,120
that to get an extra set of hands and

263
00:09:49,190 --> 00:09:47,279

eyes up there to uh to to do the

264

00:09:53,990 --> 00:09:49,200

research and as jeff's just said to to

265

00:09:58,790 --> 00:09:56,310

absolutely every extra hour that we get

266

00:10:01,509 --> 00:09:58,800

up here we can add additional

267

00:10:03,750 --> 00:10:01,519

researchers experiments so the station

268

00:10:05,829 --> 00:10:03,760

program has been working really hard

269

00:10:07,750 --> 00:10:05,839

there's been a lot of efforts to improve

270

00:10:09,670 --> 00:10:07,760

efficiency up here and that's been

271

00:10:11,670 --> 00:10:09,680

really wonderful and we're seeing that

272

00:10:13,829 --> 00:10:11,680

right now in terms of the fact that we

273

00:10:15,509 --> 00:10:13,839

can juggle several hundred experiments

274

00:10:19,269 --> 00:10:15,519

on a mission and some of these are

275

00:10:21,430 --> 00:10:19,279

incredibly uh intense you know in detail

276

00:10:23,670 --> 00:10:21,440

in-depth experiments we're starting to

277

00:10:26,069 --> 00:10:23,680

completely explore the systems biology

278

00:10:28,069 --> 00:10:26,079

the space station so we're using all of

279

00:10:29,829 --> 00:10:28,079

these modern techniques the cell culture

280

00:10:32,069 --> 00:10:29,839

sequencing

281

00:10:32,870 --> 00:10:32,079

microbiome analysis all these things

282

00:10:39,590 --> 00:10:32,880

that

283

00:10:41,750 --> 00:10:39,600

interesting fascinating tech demos up on

284

00:10:44,230 --> 00:10:41,760

orbit and this is an incredibly

285

00:10:45,509 --> 00:10:44,240

productive lab at this point

286

00:10:46,870 --> 00:10:45,519

very good and jeff i think i've only got

287

00:10:48,389 --> 00:10:46,880

time for one more question so i'll

288

00:10:50,790 --> 00:10:48,399

squeeze in one about your landing you

289

00:10:52,150 --> 00:10:50,800

come home around september 6 you've been

290

00:10:53,430 --> 00:10:52,160

there done that before but is there

291

00:10:54,630 --> 00:10:53,440

anything you're looking forward to this

292

00:10:55,990 --> 00:10:54,640

time around from

293

00:10:58,069 --> 00:10:56,000

i don't know i know you miss your family

294

00:10:59,190 --> 00:10:58,079

but food drink experiences what are you

295

00:11:03,670 --> 00:10:59,200

what are you looking forward to when you

296

00:11:07,829 --> 00:11:05,430

i look for obviously families first

297

00:11:09,190 --> 00:11:07,839

thing my wife uh she's uh you asked

298

00:11:10,870 --> 00:11:09,200

about the days

299

00:11:12,710 --> 00:11:10,880

of the number of days up here she's the

300

00:11:15,110 --> 00:11:12,720

real hero and all this uh putting up

301
00:11:17,190 --> 00:11:15,120
with me being up here that many days

302
00:11:19,990 --> 00:11:17,200
over the years but i look forward to

303
00:11:22,310 --> 00:11:20,000
that i look forward to to quiet

304
00:11:23,910 --> 00:11:22,320
just uh relaxing someplace enjoying the

305
00:11:25,750 --> 00:11:23,920
view enjoying the smells of earth all

306
00:11:27,509 --> 00:11:25,760
those things that we we normally take

307
00:11:29,670 --> 00:11:27,519
for granted you miss that when you're up

308
00:11:31,430 --> 00:11:29,680
here we have continuous noise up here

309
00:11:33,829 --> 00:11:31,440
from fans and pumps it's not loud but

310
00:11:35,910 --> 00:11:33,839
it's continuous so just those things the

311
00:11:37,509 --> 00:11:35,920
simple things in life good food anything

312
00:11:38,710 --> 00:11:37,519
my wife wants to cook me i look forward

313
00:11:41,430 --> 00:11:38,720

to that

314

00:11:43,030 --> 00:11:41,440

those kinds of things friends

315

00:11:44,310 --> 00:11:43,040

hey guys thanks a lot i'm out of time

316

00:11:47,509 --> 00:11:44,320

have a great flight and look forward to

317

00:11:53,350 --> 00:11:50,389

thank you bill great talking to you

318

00:11:58,150 --> 00:11:53,360

station this is houston acr thank you

319

00:12:03,910 --> 00:12:01,110

thank you cbs news station please stand