1
00:00:05,190 --> 00:00:02,310
station this is houston are you ready

2
00:00:05,200 --> 00:00:09,669
houston station i'm ready for the event

3
00:00:14,230 --> 00:00:12,150
motherboard this is mission control

4
00:00:16,150 --> 00:00:14,240
houston please call station for a voice

5
00:00:17,910 --> 00:00:16,160
check

6
00:00:20,870 --> 00:00:17,920
station this is motherboard how do you

7
00:00:25,589 --> 00:00:22,230
i've got you loud and clear and i'm

8
00:00:28,870 --> 00:00:27,429
great thank you so much for taking my

9
00:00:31,349 --> 00:00:28,880
call

10
00:00:33,510 --> 00:00:31,359
um so i wanted to talk to you a little

11
00:00:35,990 --> 00:00:33,520
bit about beam today and i was wondering

12
00:00:41,110 --> 00:00:36,000
if you can describe what it was like

13
00:00:46,470 --> 00:00:44,310

well beam is one example of

14
00:00:48,069 --> 00:00:46,480
new technology of course

15
00:00:50,310 --> 00:00:48,079
being brought to the international space

16
00:00:52,549 --> 00:00:50,320
station to prove out that new technology

17
00:00:54,310 --> 00:00:52,559
and of course it so it was a first it

18
00:00:57,029 --> 00:00:54,320
was a major first

19
00:00:58,630 --> 00:00:57,039
uh first in terms of uh its design

20
00:01:00,229 --> 00:00:58,640
concept

21
00:01:02,150 --> 00:01:00,239
and of course certainly on board the

22
00:01:04,149 --> 00:01:02,160
international space station so

23
00:01:06,149 --> 00:01:04,159
like like many first many milestones

24
00:01:08,390 --> 00:01:06,159
it's exciting to be

25
00:01:09,270 --> 00:01:08,400
to be part of it and and i was honored

26
00:01:14,950 --> 00:01:09,280
to

27
00:01:17,270 --> 00:01:14,960
get it up and running for its time here

28
00:01:18,550 --> 00:01:17,280
on station

29
00:01:25,030 --> 00:01:18,560
great can you

30
00:01:25,040 --> 00:01:28,710
well the um

31
00:01:32,550 --> 00:01:31,190
inflation process

32
00:01:34,230 --> 00:01:32,560
was um

33
00:01:36,310 --> 00:01:34,240
we used a small amount of air to get a

34
00:01:38,469 --> 00:01:36,320
small amount of pressure to inflate it

35
00:01:41,109 --> 00:01:38,479
and it had some

36
00:01:43,910 --> 00:01:41,119
rip stop or rip stitching inside and a

37
00:01:45,030 --> 00:01:43,920
mechanical device that would control the

38
00:01:47,350 --> 00:01:45,040

inflation

39
00:01:50,149 --> 00:01:47,360
uh so we inflated it just a little bit

40
00:01:53,510 --> 00:01:50,159
at a time uh to try to get it fully

41
00:01:54,630 --> 00:01:53,520
deployed before we really pressurized it

42
00:01:56,630 --> 00:01:54,640
the

43
00:01:59,429 --> 00:01:56,640
it took a little bit longer as you know

44
00:02:01,670 --> 00:01:59,439
it took we we

45
00:02:03,830 --> 00:02:01,680
did not get it inflated the first day

46
00:02:05,749 --> 00:02:03,840
and we came back another day after the

47
00:02:07,350 --> 00:02:05,759
ground team spent some time looking at

48
00:02:09,749 --> 00:02:07,360
it it took a little bit more force than

49
00:02:12,949 --> 00:02:09,759
we expected to get it deployed but it

50
00:02:15,350 --> 00:02:12,959
deployed eventually and it's

51
00:02:17,910 --> 00:02:15,360
in a nominal configuration

52
00:02:18,790 --> 00:02:17,920
and again it went very well after that

53
00:02:22,790 --> 00:02:18,800
first

54
00:02:27,910 --> 00:02:25,190
now is the air inside the beam any

55
00:02:31,910 --> 00:02:27,920
different from the rest of the station

56
00:02:35,190 --> 00:02:33,670
when i first went in it was a little bit

57
00:02:37,350 --> 00:02:35,200
cooler and that just because we didn't

58
00:02:39,110 --> 00:02:37,360
have climate control going on in there

59
00:02:40,710 --> 00:02:39,120
and that was predicted and it wasn't

60
00:02:42,790 --> 00:02:40,720
over it wasn't uncomfortable or anything

61
00:02:45,430 --> 00:02:42,800
it was just a little bit cooler

62
00:02:46,949 --> 00:02:45,440
it also had a new car smell as you might

63
00:02:49,190 --> 00:02:46,959

expect with the new materials that

64
00:02:51,270 --> 00:02:49,200
hadn't been exposed to the wear and tear

65
00:02:52,869 --> 00:02:51,280
of of life on board the international

66
00:02:54,949 --> 00:02:52,879
space station

67
00:02:56,229 --> 00:02:54,959
and one of the first things that i did

68
00:02:57,990 --> 00:02:56,239
is i got

69
00:02:59,830 --> 00:02:58,000
ventilation up and running so we were

70
00:03:01,990 --> 00:02:59,840
exchanging air

71
00:03:04,710 --> 00:03:02,000
between the international space station

72
00:03:06,630 --> 00:03:04,720
and the beam module so it quickly

73
00:03:08,390 --> 00:03:06,640
the the new car smell

74
00:03:10,470 --> 00:03:08,400
quickly went away

75
00:03:12,630 --> 00:03:10,480
so other than that there was no no

76
00:03:15,750 --> 00:03:12,640
significant difference

77
00:03:18,470 --> 00:03:15,760
great now is a habitat module like the

78
00:03:25,030 --> 00:03:18,480
beam anymore or less sensitive to things

79
00:03:28,789 --> 00:03:26,710
well i'm not

80
00:03:29,750 --> 00:03:28,799
totally familiar with the technology

81
00:03:30,830 --> 00:03:29,760
that's in

82
00:03:34,309 --> 00:03:30,840
the beam

83
00:03:36,309 --> 00:03:34,319
design but i'm certain it includes

84
00:03:40,070 --> 00:03:36,319
design concepts which would be a

85
00:03:41,990 --> 00:03:40,080
protection against micrometeorite hits

86
00:03:44,149 --> 00:03:42,000
as you probably know we're not leaving

87
00:03:45,990 --> 00:03:44,159
the hatch open it's closed although we

88
00:03:47,670 --> 00:03:46,000

do have ventilation going back and forth

89
00:03:50,550 --> 00:03:47,680
through

90
00:03:53,509 --> 00:03:50,560
hoses between the station and beam

91
00:03:55,830 --> 00:03:53,519
but we're keeping the hatch closed

92
00:03:57,270 --> 00:03:55,840
it its design concept is much different

93
00:04:00,149 --> 00:03:57,280
than station

94
00:04:01,910 --> 00:04:00,159
i trust it has protection but how that

95
00:04:04,869 --> 00:04:01,920
protection compares to the international

96
00:04:06,470 --> 00:04:04,879
space station i really can't speak to

97
00:04:09,750 --> 00:04:06,480
okay thank you

98
00:04:11,509 --> 00:04:09,760
how do you think a module like beam will

99
00:04:15,429 --> 00:04:11,519
affect the future of living and working

100
00:04:18,789 --> 00:04:16,390
well

101
00:04:21,110 --> 00:04:18,799
as you might know it took almost 40

102
00:04:22,710 --> 00:04:21,120
space shuttle flights i think 37 or 38

103
00:04:24,870 --> 00:04:22,720
space shuttle flights to support the

104
00:04:27,189 --> 00:04:24,880
space station assembly over many years

105
00:04:29,510 --> 00:04:27,199
and it took an equal amount of russian

106
00:04:30,629 --> 00:04:29,520
rocket launches to get the russian part

107
00:04:32,629 --> 00:04:30,639
up here

108
00:04:34,950 --> 00:04:32,639
and then to put it together

109
00:04:36,390 --> 00:04:34,960
that's a lot of rocket launches and when

110
00:04:38,390 --> 00:04:36,400
you launch something on a rocket you

111
00:04:39,670 --> 00:04:38,400
want the volume that you're launching

112
00:04:41,510 --> 00:04:39,680
the spacecraft that you're launching you

113
00:04:43,270 --> 00:04:41,520

want it to be volumetrically efficient

114
00:04:45,990 --> 00:04:43,280
so you want it packed just as full of

115
00:04:48,070 --> 00:04:46,000
things as you can however

116
00:04:50,390 --> 00:04:48,080
for a spacecraft that is going to have

117
00:04:52,790 --> 00:04:50,400
people a crew living on board you need

118
00:04:53,990 --> 00:04:52,800
open volume like you see here

119
00:04:56,629 --> 00:04:54,000
right now

120
00:04:58,469 --> 00:04:56,639
for the crew to live and work in so we

121
00:04:59,909 --> 00:04:58,479
launched a lot of open volume on the

122
00:05:02,390 --> 00:04:59,919
international space station just by

123
00:05:04,070 --> 00:05:02,400
virtue of the requirement

124
00:05:06,150 --> 00:05:04,080
to be able to live and work on board

125
00:05:08,790 --> 00:05:06,160
this orbital complex

126
00:05:10,870 --> 00:05:08,800
the beam concept gives us the the

127
00:05:12,390 --> 00:05:10,880
opportunity perhaps in the future to

128
00:05:15,749 --> 00:05:12,400
launch

129
00:05:16,710 --> 00:05:15,759
components of spacecraft or habitats or

130
00:05:18,390 --> 00:05:16,720
or

131
00:05:19,590 --> 00:05:18,400
whatever

132
00:05:21,590 --> 00:05:19,600
you you

133
00:05:23,350 --> 00:05:21,600
might imagine

134
00:05:26,550 --> 00:05:23,360
for a

135
00:05:31,590 --> 00:05:28,950
destination in space to be able to

136
00:05:33,510 --> 00:05:31,600
launch it volumetrically more efficient

137
00:05:35,590 --> 00:05:33,520
and then to inflate it later to get the

138
00:05:40,310 --> 00:05:35,600

volume you need the open volume inside

139
00:05:42,230 --> 00:05:40,320
for the crew to to live and work

140
00:05:43,430 --> 00:05:42,240
great thank you

141
00:05:45,430 --> 00:05:43,440
now i

142
00:05:48,310 --> 00:05:45,440
know that you shared a really nice

143
00:05:50,390 --> 00:05:48,320
picture of the strawberry moon the other

144
00:05:52,150 --> 00:05:50,400
day taken from the space station

145
00:05:53,510 --> 00:05:52,160
how do you feel that social media has

146
00:05:58,710 --> 00:05:53,520
changed the business of being an

147
00:06:04,390 --> 00:06:02,070
well uh you know what we do up here is

148
00:06:06,790 --> 00:06:04,400
uh we think is of value to the public to

149
00:06:09,510 --> 00:06:06,800
the people of the united states and the

150
00:06:10,790 --> 00:06:09,520
partnership and entire world

151
00:06:13,110 --> 00:06:10,800
and one of the things we've struggled

152
00:06:15,670 --> 00:06:13,120
with in the past is is getting the word

153
00:06:18,629 --> 00:06:15,680
out uh that uh

154
00:06:20,070 --> 00:06:18,639
we're flying and the what we're doing on

155
00:06:22,950 --> 00:06:20,080
board the space station after the space

156
00:06:24,629 --> 00:06:22,960
shuttle retired or since it retired i

157
00:06:26,469 --> 00:06:24,639
often get questions out in public

158
00:06:28,790 --> 00:06:26,479
settings that well i didn't know we were

159
00:06:31,110 --> 00:06:28,800
flying we're still flying and i say yeah

160
00:06:33,830 --> 00:06:31,120
we've had continuous human presence for

161
00:06:35,430 --> 00:06:33,840
over 15 years 15 and a half years now on

162
00:06:38,230 --> 00:06:35,440
board the international space stations

163
00:06:41,029 --> 00:06:38,240

and the public was largely unaware of it

164
00:06:45,189 --> 00:06:41,039
so social media is a great means to keep

165
00:06:47,270 --> 00:06:45,199
people aware of what we're doing up here

166
00:06:50,230 --> 00:06:47,280
so has it changed

167
00:06:53,270 --> 00:06:50,240
the life of an astronaut certainly it

168
00:06:58,390 --> 00:06:56,150
certainly more in touch with the public

169
00:07:00,629 --> 00:06:58,400
we're largely unknown

170
00:07:02,790 --> 00:07:00,639
nowadays unlike the

171
00:07:05,110 --> 00:07:02,800
1960s

172
00:07:06,550 --> 00:07:05,120
because of the the coverage the coverage

173
00:07:08,230 --> 00:07:06,560
is different right and the public

174
00:07:10,469 --> 00:07:08,240
attention is different

175
00:07:13,029 --> 00:07:10,479
and not known as okay

176
00:07:15,029 --> 00:07:13,039
but social media is obviously making uh

177
00:07:16,390 --> 00:07:15,039
making the crews known as well as the

178
00:07:17,589 --> 00:07:16,400
what we're doing up here

179
00:07:20,070 --> 00:07:17,599
and then

180
00:07:21,670 --> 00:07:20,080
and by virtue of that making the entire

181
00:07:23,670 --> 00:07:21,680
international partnership known to the

182
00:07:25,430 --> 00:07:23,680
public at large

183
00:07:27,430 --> 00:07:25,440
great thank you

184
00:07:28,710 --> 00:07:27,440
could you talk about something briefly

185
00:07:29,990 --> 00:07:28,720
about a couple of the science

186
00:07:33,589 --> 00:07:30,000
experiments that you're working on right

187
00:07:37,990 --> 00:07:35,510
well i just outfitted

188
00:07:40,070 --> 00:07:38,000

an experiment in the japanese module

189
00:07:42,790 --> 00:07:40,080
this morning to go in the airlock to go

190
00:07:45,350 --> 00:07:42,800
outside and spend a fair amount of time

191
00:07:47,510 --> 00:07:45,360
outside it's an exposed it's got

192
00:07:49,110 --> 00:07:47,520
different kinds of materials and whatnot

193
00:07:50,790 --> 00:07:49,120
that is going to be exposed to the

194
00:07:52,309 --> 00:07:50,800
environment of space outside for a

195
00:07:54,469 --> 00:07:52,319
period of time and then brought back in

196
00:07:56,950 --> 00:07:54,479
in the future and then scientists on the

197
00:07:59,189 --> 00:07:56,960
ground will study those things

198
00:08:01,350 --> 00:07:59,199
that's one example

199
00:08:03,510 --> 00:08:01,360
we do a variety of experiments up here

200
00:08:05,189 --> 00:08:03,520
as you know across the whole spectrum of

201
00:08:07,270 --> 00:08:05,199
science disciplines from material

202
00:08:08,869 --> 00:08:07,280
science to biological science plants

203
00:08:11,189 --> 00:08:08,879
animals

204
00:08:13,830 --> 00:08:11,199
bugs microbes

205
00:08:16,869 --> 00:08:13,840
probably the most interesting in the the

206
00:08:18,469 --> 00:08:16,879
the broadest uh study area that we have

207
00:08:20,790 --> 00:08:18,479
up here on board the international space

208
00:08:23,510 --> 00:08:20,800
station though is the study of the human

209
00:08:25,350 --> 00:08:23,520
body and the effects of the weightless

210
00:08:27,589 --> 00:08:25,360
environment in the space environment on

211
00:08:29,350 --> 00:08:27,599
the human body which is very important

212
00:08:31,990 --> 00:08:29,360
so that we can understand those effects

213
00:08:33,029 --> 00:08:32,000

developing develop mitigation for those

214
00:08:35,829 --> 00:08:33,039
effects

215
00:08:39,509 --> 00:08:35,839
to support future exploration wherever

216
00:08:40,469 --> 00:08:39,519
we go beyond low earth orbit

217
00:08:44,710 --> 00:08:40,479
great

218
00:08:51,190 --> 00:08:46,310
you're very welcome amy good talking to

219
00:08:55,590 --> 00:08:53,670
station this is houston acr

220
00:08:58,070 --> 00:08:55,600
that concludes the motherboard portion

221
00:09:03,750 --> 00:08:58,080
of the event please stand by for a voice

222
00:09:07,110 --> 00:09:05,910
so you and alexia and oleg are going to

223
00:09:08,470 --> 00:09:07,120
have the station to yourselves for

224
00:09:10,310 --> 00:09:08,480
another week or so

225
00:09:12,389 --> 00:09:10,320
between now and the arrival of your next

226
00:09:14,710 --> 00:09:12,399
crewmates uh your russian colleagues are

227
00:09:16,230 --> 00:09:14,720
going to test the toru navigation system

228
00:09:18,310 --> 00:09:16,240
or the rendezvous system on the progress

229
00:09:19,670 --> 00:09:18,320
62 vehicle i wonder if you can tell me a

230
00:09:23,190 --> 00:09:19,680
little about that test and why that's

231
00:09:25,110 --> 00:09:23,200
important to you guys

232
00:09:26,790 --> 00:09:25,120
well as you know the on the russian side

233
00:09:28,070 --> 00:09:26,800
they've been upgrading the soyuz and

234
00:09:30,630 --> 00:09:28,080
progress

235
00:09:33,590 --> 00:09:30,640
periodically over the years and this is

236
00:09:35,110 --> 00:09:33,600
part of a test of that of that

237
00:09:37,110 --> 00:09:35,120
latest upgrade

238
00:09:39,590 --> 00:09:37,120

very important the last couple of

239
00:09:41,990 --> 00:09:39,600
progresses have been the

240
00:09:43,910 --> 00:09:42,000
the modified version of the progress

241
00:09:46,470 --> 00:09:43,920
which

242
00:09:48,470 --> 00:09:46,480
is in terms of its navigation capability

243
00:09:51,829 --> 00:09:48,480
and its guidance to rendezvous with the

244
00:09:54,150 --> 00:09:51,839
space station is a big step forward in

245
00:09:55,910 --> 00:09:54,160
from what they had previously and the

246
00:09:57,670 --> 00:09:55,920
progress

247
00:09:59,509 --> 00:09:57,680
sort of runs

248
00:10:02,230 --> 00:09:59,519
pilot flights if you will ahead of the

249
00:10:05,430 --> 00:10:02,240
soyuz and this next soyuz is going to

250
00:10:07,590 --> 00:10:05,440
use that upgraded system so this test is

251
00:10:09,670 --> 00:10:07,600
supporting the the

252
00:10:12,230 --> 00:10:09,680
operational development if you will of

253
00:10:14,310 --> 00:10:12,240
that upgrade of the of the new guidance

254
00:10:16,230 --> 00:10:14,320
and navigation control system of the

255
00:10:17,829 --> 00:10:16,240
progress and soyuz families of vehicles

256
00:10:19,269 --> 00:10:17,839
so very important

257
00:10:20,790 --> 00:10:19,279
to get it right

258
00:10:23,110 --> 00:10:20,800
obviously when we're doing new things

259
00:10:24,389 --> 00:10:23,120
like that sometimes we we miss something

260
00:10:26,069 --> 00:10:24,399
now and then

261
00:10:27,750 --> 00:10:26,079
and that's why we do those testing just

262
00:10:30,550 --> 00:10:27,760
to catch those misses and to get them

263
00:10:32,710 --> 00:10:30,560

corrected as efficiently as possible

264
00:10:35,030 --> 00:10:32,720
so i guess it'll be a manual docking of

265
00:10:37,269 --> 00:10:35,040
the progress and then if that goes well

266
00:10:39,750 --> 00:10:37,279
uh you'll welcome three new crewmates on

267
00:10:41,430 --> 00:10:39,760
july 9th with that new soyuz ms vehicle

268
00:10:43,190 --> 00:10:41,440
you were talking about other than the

269
00:10:44,949 --> 00:10:43,200
the rendezvous and nav sort of upgrades

270
00:10:46,790 --> 00:10:44,959
what other safety improvements or maybe

271
00:10:48,550 --> 00:10:46,800
they're not safety related but what

272
00:10:50,710 --> 00:10:48,560
other improvements are you uh looking

273
00:10:53,829 --> 00:10:50,720
forward to in the new ms series of the

274
00:10:58,150 --> 00:10:55,750
well it's it like i said it's got a

275
00:11:00,069 --> 00:10:58,160
modified control system and

276
00:11:03,269 --> 00:11:00,079
guidance and navigation it will get its

277
00:11:05,590 --> 00:11:03,279
state vector from the equivalent of gps

278
00:11:07,590 --> 00:11:05,600
the russian equivalent to gps so it

279
00:11:10,949 --> 00:11:07,600
doesn't require ground passes over

280
00:11:13,269 --> 00:11:10,959
ground sites in the greater russian area

281
00:11:15,509 --> 00:11:13,279
like previous vehicles so that makes the

282
00:11:17,590 --> 00:11:15,519
vehicle a little bit more robust uh in

283
00:11:19,269 --> 00:11:17,600
that sense and it's just a it's a big

284
00:11:21,590 --> 00:11:19,279
step forward it's got more digital

285
00:11:23,509 --> 00:11:21,600
capability and of course as we know as

286
00:11:25,430 --> 00:11:23,519
we've been adding computers to all sorts

287
00:11:28,150 --> 00:11:25,440
of things that everybody works with in

288
00:11:30,310 --> 00:11:28,160

life that gives greater capability so

289
00:11:32,710 --> 00:11:30,320
it's it's just a normal progression

290
00:11:34,470 --> 00:11:32,720
step-by-step advancement of technology

291
00:11:36,630 --> 00:11:34,480
and and performance

292
00:11:38,150 --> 00:11:36,640
for that vehicle

293
00:11:39,269 --> 00:11:38,160
well shift gears a little bit here i

294
00:11:41,350 --> 00:11:39,279
know you're probably getting tired of

295
00:11:43,269 --> 00:11:41,360
questions about the bigelow expandable

296
00:11:45,269 --> 00:11:43,279
activity module or beam as it's known

297
00:11:47,030 --> 00:11:45,279
but let me throw one or two at you i'm

298
00:11:48,470 --> 00:11:47,040
just curious what your impressions were

299
00:11:49,910 --> 00:11:48,480
when you went inside and what your

300
00:11:52,629 --> 00:11:49,920
thoughts are about

301
00:11:55,030 --> 00:11:52,639
that technology in general for perhaps

302
00:11:57,030 --> 00:11:55,040
making station modules more affordable

303
00:11:57,990 --> 00:11:57,040
or habitat modules for deep space

304
00:11:59,670 --> 00:11:58,000
missions

305
00:12:00,790 --> 00:11:59,680
uh you know more of a reasonable

306
00:12:03,990 --> 00:12:00,800
proposition i mean just what your

307
00:12:07,910 --> 00:12:06,230
well i was honored to be part of

308
00:12:10,550 --> 00:12:07,920
that operation to be able to go into

309
00:12:13,670 --> 00:12:10,560
beam and to get it outfitted

310
00:12:15,670 --> 00:12:13,680
for its time on the space station

311
00:12:18,470 --> 00:12:15,680
going in of course it was like entering

312
00:12:20,310 --> 00:12:18,480
a new car it had that new car smell

313
00:12:22,790 --> 00:12:20,320

it was the air was a little bit cooler

314
00:12:24,310 --> 00:12:22,800
than on board the space station

315
00:12:26,550 --> 00:12:24,320
but that's because it it wasn't

316
00:12:28,949 --> 00:12:26,560
environmentally controlled and it was as

317
00:12:30,629 --> 00:12:28,959
predicted and not uh uncomfortably cool

318
00:12:33,750 --> 00:12:30,639
just noticeably cool

319
00:12:34,710 --> 00:12:33,760
uh i think it uh it is a concept a

320
00:12:36,870 --> 00:12:34,720
design

321
00:12:39,430 --> 00:12:36,880
concept that holds great promise

322
00:12:43,110 --> 00:12:39,440
to be able to more efficiently launch

323
00:12:45,350 --> 00:12:43,120
elements of spacecraft or habitats going

324
00:12:47,190 --> 00:12:45,360
to a surface of another body

325
00:12:50,949 --> 00:12:47,200
for example

326
00:12:52,949 --> 00:12:50,959
on fewer using fewer rocket launches

327
00:12:55,269 --> 00:12:52,959
volumetrically efficient that is you

328
00:12:56,949 --> 00:12:55,279
know what like when i'm floating in here

329
00:12:59,430 --> 00:12:56,959
inside the laboratory module when this

330
00:13:01,110 --> 00:12:59,440
thing launched it's big and it launched

331
00:13:03,110 --> 00:13:01,120
on the space shuttle which of course is

332
00:13:05,910 --> 00:13:03,120
very big and it took many space shuttle

333
00:13:06,870 --> 00:13:05,920
launches to uh to get the space station

334
00:13:09,910 --> 00:13:06,880
up here

335
00:13:13,110 --> 00:13:09,920
uh and we want to volumetrically use

336
00:13:15,350 --> 00:13:13,120
everything we can uh on a rocket launch

337
00:13:16,870 --> 00:13:15,360
uh so but this wasn't filled this was

338
00:13:18,069 --> 00:13:16,880

empty space so we were launching empty

339
00:13:20,629 --> 00:13:18,079
space so

340
00:13:22,949 --> 00:13:20,639
the concept that the beam uses

341
00:13:25,269 --> 00:13:22,959
inflatable means that you can launch

342
00:13:26,629 --> 00:13:25,279
more volumetrically efficient and then

343
00:13:29,190 --> 00:13:26,639
inflate

344
00:13:32,629 --> 00:13:29,200
components to get that habitable volume

345
00:13:34,150 --> 00:13:32,639
that you need for crews to live and work

346
00:13:35,670 --> 00:13:34,160
and again changing the subject just a

347
00:13:37,030 --> 00:13:35,680
little bit looking ahead to the next

348
00:13:38,790 --> 00:13:37,040
spacex launch of course you've got a

349
00:13:41,189 --> 00:13:38,800
docking adapter on board and i guess you

350
00:13:42,870 --> 00:13:41,199
and kate rubins will be installing that

351
00:13:44,949 --> 00:13:42,880
somewhere toward the end of august in a

352
00:13:45,750 --> 00:13:44,959
spacewalk how are your spacesuits doing

353
00:13:47,030 --> 00:13:45,760
uh

354
00:13:48,870 --> 00:13:47,040
are they not ready to go given these

355
00:13:53,030 --> 00:13:48,880
recent issues you guys had with some

356
00:13:57,269 --> 00:13:54,790
well as far as i know we're on track for

357
00:13:59,430 --> 00:13:57,279
the spacesuits to to be

358
00:14:01,910 --> 00:13:59,440
operationally ready to support those

359
00:14:04,790 --> 00:14:01,920
spacewalks that we plan on doing in in

360
00:14:06,870 --> 00:14:04,800
the august about the august time frame

361
00:14:08,470 --> 00:14:06,880
i just completed routine maintenance on

362
00:14:11,030 --> 00:14:08,480
all four spacesuits that we have on

363
00:14:11,750 --> 00:14:11,040

board and and that went well

364
00:14:13,910 --> 00:14:11,760
and

365
00:14:15,590 --> 00:14:13,920
so so far they're holding up that as you

366
00:14:17,350 --> 00:14:15,600
know we've had some issues over the last

367
00:14:19,750 --> 00:14:17,360
couple years and that the teams on the

368
00:14:21,590 --> 00:14:19,760
ground have have done stellar work to

369
00:14:23,110 --> 00:14:21,600
work through those issues to make sure

370
00:14:24,790 --> 00:14:23,120
that we have that capability it's a

371
00:14:27,269 --> 00:14:24,800
capability that's very critical of

372
00:14:29,430 --> 00:14:27,279
course to supporting the ongoing life of

373
00:14:30,710 --> 00:14:29,440
the space station

374
00:14:32,230 --> 00:14:30,720
you know we're getting ready for the

375
00:14:33,829 --> 00:14:32,240
july 4 holiday down here and since

376
00:14:35,750 --> 00:14:33,839
you're the only american on board right

377
00:14:37,189 --> 00:14:35,760
now i don't suppose there's there's much

378
00:14:42,629 --> 00:14:37,199
you're going to do to mark the event in

379
00:14:45,910 --> 00:14:44,230
uh yeah we'll get a little bit of time

380
00:14:47,750 --> 00:14:45,920
off there's never a day here that's

381
00:14:49,110 --> 00:14:47,760
truly completely off there's always

382
00:14:51,350 --> 00:14:49,120
things to do

383
00:14:53,990 --> 00:14:51,360
but it's nice to have a day that's

384
00:14:55,189 --> 00:14:54,000
mostly unscheduled so you can spend the

385
00:14:56,629 --> 00:14:55,199
time

386
00:14:58,230 --> 00:14:56,639
doing the things that you want to do and

387
00:15:00,790 --> 00:14:58,240
also do a little bit of personal time

388
00:15:02,790 --> 00:15:00,800

and of course so i'll be doing that on

389
00:15:05,030 --> 00:15:02,800
july 4th i'll be communicating with

390
00:15:07,189 --> 00:15:05,040
friends and family on the ground

391
00:15:09,350 --> 00:15:07,199
to participate with them and celebrating

392
00:15:11,509 --> 00:15:09,360
the holiday and also even though this is

393
00:15:13,990 --> 00:15:11,519
i'm the only american on board in this

394
00:15:17,189 --> 00:15:14,000
international partnership we tend to

395
00:15:19,030 --> 00:15:17,199
celebrate each other's holidays together

396
00:15:20,870 --> 00:15:19,040
and to support each other in that effect

397
00:15:23,910 --> 00:15:20,880
so i expect good support out of my

398
00:15:25,350 --> 00:15:23,920
russian colleagues on the fourth of july

399
00:15:26,949 --> 00:15:25,360
hey thanks you know one of my radio

400
00:15:29,030 --> 00:15:26,959
colleagues was wondering if astronauts

401
00:15:30,949 --> 00:15:29,040
can ever see fireworks from up in space

402
00:15:32,389 --> 00:15:30,959
and i realized that you know the timing

403
00:15:33,590 --> 00:15:32,399
is everything you got to be over the

404
00:15:35,430 --> 00:15:33,600
states or something it's got to be

405
00:15:37,189 --> 00:15:35,440
nighttime you got to be awake et cetera

406
00:15:39,110 --> 00:15:37,199
et cetera but have you ever heard of

407
00:15:40,710 --> 00:15:39,120
anyone ever seeing fireworks

408
00:15:44,629 --> 00:15:40,720
from space or

409
00:15:50,150 --> 00:15:48,470
i do not re recall a case where somebody

410
00:15:51,749 --> 00:15:50,160
has been able to see it i was up here on

411
00:15:54,710 --> 00:15:51,759
a previous fourth of july and i did

412
00:15:57,189 --> 00:15:54,720
spend some time trying to get a sighting

413
00:15:59,749 --> 00:15:57,199

on fireworks and i was uh i was not able

414
00:16:02,069 --> 00:15:59,759
to do that and obviously as you said the

415
00:16:03,430 --> 00:16:02,079
lighting and the or the timing is very

416
00:16:06,230 --> 00:16:03,440
important you got to have clear weather

417
00:16:07,030 --> 00:16:06,240
it's got to be night going over the u.s

418
00:16:10,389 --> 00:16:07,040
and

419
00:16:12,870 --> 00:16:10,399
go over the spot where you can spot the

420
00:16:14,389 --> 00:16:12,880
fireworks uh depending upon our timing

421
00:16:16,550 --> 00:16:14,399
uh this time i'll certainly be looking

422
00:16:19,110 --> 00:16:16,560
out the window if we're over the u.s at

423
00:16:20,389 --> 00:16:19,120
night time to see if i can uh do that

424
00:16:22,230 --> 00:16:20,399
this time

425
00:16:24,470 --> 00:16:22,240
hey one last question jeff uh you know

426
00:16:26,230 --> 00:16:24,480
scott kelly logged 520 days in space on

427
00:16:28,550 --> 00:16:26,240
his four missions and you're going to

428
00:16:30,389 --> 00:16:28,560
exceed his record i think on august 24th

429
00:16:32,470 --> 00:16:30,399
and when you land in september i think

430
00:16:33,829 --> 00:16:32,480
you move up to number 14 in the world or

431
00:16:35,350 --> 00:16:33,839
something like that is there any

432
00:16:37,189 --> 00:16:35,360
significance to records like that in

433
00:16:42,230 --> 00:16:37,199
your mind or is that just something that

434
00:16:47,030 --> 00:16:44,389
for me it mostly comes and goes the

435
00:16:48,710 --> 00:16:47,040
numbers don't really

436
00:16:51,590 --> 00:16:48,720
mean that much to me

437
00:16:55,189 --> 00:16:51,600
the the content of

438
00:16:57,509 --> 00:16:55,199

of what we've done i think matters more

439
00:16:59,990 --> 00:16:57,519
and when people ask me about that in in

440
00:17:01,430 --> 00:17:00,000
my career i immediately think about the

441
00:17:03,749 --> 00:17:01,440
space station itself and i've been

442
00:17:05,189 --> 00:17:03,759
honored to be from end to end

443
00:17:07,590 --> 00:17:05,199
from the very beginning of the space

444
00:17:09,110 --> 00:17:07,600
station involved and then through midway

445
00:17:11,350 --> 00:17:09,120
and the assembly and then assembly

446
00:17:13,110 --> 00:17:11,360
complete and now and the full

447
00:17:15,350 --> 00:17:13,120
utilization of space station i'm more

448
00:17:16,949 --> 00:17:15,360
honored by that than the total time that

449
00:17:19,189 --> 00:17:16,959
i've been up here and it also gives a

450
00:17:22,150 --> 00:17:19,199
testimony to the to the international

451
00:17:22,949 --> 00:17:22,160
team that made this the orbital outpost

452
00:17:26,949 --> 00:17:22,959
uh

453
00:17:28,630 --> 00:17:26,959
so incredible and and possible

454
00:17:29,830 --> 00:17:28,640
thanks jeff appreciate it very much uh

455
00:17:30,950 --> 00:17:29,840
have a great rest of your flight and

456
00:17:33,270 --> 00:17:30,960
look forward to talking to you down the

457
00:17:34,710 --> 00:17:33,280
road

458
00:17:43,590 --> 00:17:34,720
thank you bill great talking to you