1
00:02:45,910 --> 00:02:43,830
good afternoon and welcome to nasa's

2
00:02:47,670 --> 00:02:45,920
johnson space center for today's mission

3
00:02:50,070 --> 00:02:47,680
status briefing this is flight day of

4
00:02:51,990 --> 00:02:50,080
the sts-132 space shuttle mission to the

5
00:02:53,830 --> 00:02:52,000
international space station and the crew

6
00:02:55,670 --> 00:02:53,840
on board the space shuttle and space

7
00:02:57,430 --> 00:02:55,680
station complex just completed the third

8
00:02:59,589 --> 00:02:57,440
spacewalk of the mission so we'll

9
00:03:01,270 --> 00:02:59,599
outline those activities and to do that

10
00:03:03,990 --> 00:03:01,280
we have the lead space station flight

11
00:03:05,750 --> 00:03:04,000
director for this flight emily nelson as

12
00:03:07,750 --> 00:03:05,760
well as the lead spacewalk officer for

13
00:03:09,509 --> 00:03:07,760

the flight lisa shore

14
00:03:11,110 --> 00:03:09,519
and kirk shireman is joining us from the

15
00:03:13,589 --> 00:03:11,120
international space station program he's

16
00:03:15,270 --> 00:03:13,599
the deputy manager to give a look ahead

17
00:03:16,390 --> 00:03:15,280
for the program activities following

18
00:03:17,830 --> 00:03:16,400
this flight

19
00:03:19,110 --> 00:03:17,840
and i'll turn it over to emily for

20
00:03:20,550 --> 00:03:19,120
opening comments and then we'll take

21
00:03:22,149 --> 00:03:20,560
questions

22
00:03:24,470 --> 00:03:22,159
thanks

23
00:03:26,390 --> 00:03:24,480
well today was another great day to be

24
00:03:28,869 --> 00:03:26,400
involved in the mann space flight

25
00:03:32,710 --> 00:03:31,270
another fabulously successful eva we

26
00:03:34,309 --> 00:03:32,720
headed out the door about 30 minutes

27
00:03:36,630 --> 00:03:34,319
early completed all of our scheduled

28
00:03:38,949 --> 00:03:36,640
tasks and some additional tasks that we

29
00:03:40,630 --> 00:03:38,959
added in

30
00:03:43,750 --> 00:03:40,640
just before the flight

31
00:03:45,830 --> 00:03:43,760
started out with a jumper installation

32
00:03:48,149 --> 00:03:45,840
out on the truss that finishes up some

33
00:03:49,190 --> 00:03:48,159
connections for our ammonia systems

34
00:03:51,990 --> 00:03:49,200
outboard

35
00:03:53,830 --> 00:03:52,000
then finish the final two battery swaps

36
00:03:56,470 --> 00:03:53,840
for the the six batteries that we

37
00:03:57,910 --> 00:03:56,480
brought up on the icc vld

38
00:03:59,350 --> 00:03:57,920

then

39
00:04:01,429 --> 00:03:59,360
tucked in some thermal blankets that we

40
00:04:02,789 --> 00:04:01,439
had neglected to tuck in on eva 1 went

41
00:04:04,789 --> 00:04:02,799
ahead and took care of that real quick

42
00:04:06,070 --> 00:04:04,799
on our way back towards the payload bay

43
00:04:08,229 --> 00:04:06,080
where we grabbed a

44
00:04:10,710 --> 00:04:08,239
grapple fixture that we brought inside

45
00:04:13,270 --> 00:04:10,720
to reconfigure for use later

46
00:04:16,789 --> 00:04:13,280
meanwhile inside suichi has fixed the

47
00:04:19,590 --> 00:04:16,799
potable water dispenser so the iss crew

48
00:04:21,110 --> 00:04:19,600
has hot water at their disposal again

49
00:04:23,670 --> 00:04:21,120
and

50
00:04:26,070 --> 00:04:23,680
in mrm1 in terms of a status for that

51
00:04:27,670 --> 00:04:26,080
module yesterday the russian crew

52
00:04:29,510 --> 00:04:27,680
ingressed the module they've put in an

53
00:04:31,030 --> 00:04:29,520
air filter they they did find some metal

54
00:04:33,030 --> 00:04:31,040
shavings inside

55
00:04:34,950 --> 00:04:33,040
so after having filtered the air and

56
00:04:35,830 --> 00:04:34,960
taken initial air samples

57
00:04:37,670 --> 00:04:35,840
they

58
00:04:39,430 --> 00:04:37,680
also installed some clamps getting the

59
00:04:41,350 --> 00:04:39,440
physical mate between the module and the

60
00:04:43,670 --> 00:04:41,360
station finalized

61
00:04:45,110 --> 00:04:43,680
they

62
00:04:48,230 --> 00:04:45,120
closed the module overnight to let the

63
00:04:49,749 --> 00:04:48,240

filters do their thing and try to

64
00:04:51,510 --> 00:04:49,759
capture those metal shavings they took

65
00:04:52,950 --> 00:04:51,520
another look at it this morning it was

66
00:04:54,710 --> 00:04:52,960
looking much better fewer shavings

67
00:04:56,310 --> 00:04:54,720
although there were still some there so

68
00:04:58,150 --> 00:04:56,320
they opened up a couple of panels that

69
00:05:00,550 --> 00:04:58,160
increased the ventilation and the access

70
00:05:01,590 --> 00:05:00,560
basically of the cabin air to those

71
00:05:02,790 --> 00:05:01,600
filters

72
00:05:04,390 --> 00:05:02,800
and

73
00:05:05,909 --> 00:05:04,400
they'll be taking another look at it in

74
00:05:08,550 --> 00:05:05,919
the morning and we hope by then it'll be

75
00:05:10,550 --> 00:05:08,560
all cleaned up and we can integrate the

76
00:05:11,909 --> 00:05:10,560
air in that module with the air and the

77
00:05:13,830 --> 00:05:11,919
rest of the station

78
00:05:15,350 --> 00:05:13,840
so we're making progress there as well

79
00:05:17,189 --> 00:05:15,360
meanwhile the crew has been organizing

80
00:05:19,029 --> 00:05:17,199
the cargo inside the module so we can

81
00:05:20,150 --> 00:05:19,039
unload it quickly after the after the

82
00:05:21,430 --> 00:05:20,160
mission

83
00:05:23,029 --> 00:05:21,440
tomorrow

84
00:05:25,430 --> 00:05:23,039
piers and garrett will be using the

85
00:05:28,230 --> 00:05:25,440
station robotic arm to put the icc back

86
00:05:29,749 --> 00:05:28,240
in the payload bay and then the crew

87
00:05:31,670 --> 00:05:29,759
will be working mostly on science and

88
00:05:33,270 --> 00:05:31,680

transfer and then the shuttle crew will

89
00:05:34,870 --> 00:05:33,280
have a little bit of time off in the

90
00:05:36,469 --> 00:05:34,880
afternoon

91
00:05:38,390 --> 00:05:36,479
and

92
00:05:40,230 --> 00:05:38,400
the mission management team yesterday

93
00:05:41,749 --> 00:05:40,240
decided that we do not require any

94
00:05:43,990 --> 00:05:41,759
further inspections during the docked

95
00:05:45,990 --> 00:05:44,000
mission so those will not be added to

96
00:05:47,909 --> 00:05:46,000
tomorrow's mission we'll just keep our

97
00:05:49,430 --> 00:05:47,919
late inspection in the timeline as we

98
00:05:50,950 --> 00:05:49,440
had it pre-mission

99
00:05:53,590 --> 00:05:50,960
and that's pretty much our summary at

100
00:05:55,590 --> 00:05:53,600
this point

101
00:05:57,510 --> 00:05:55,600
you want to go over

102
00:05:59,189 --> 00:05:57,520
sure i'd love to before i jump into the

103
00:06:00,550 --> 00:05:59,199
evas i'd like to say happy birthday to

104
00:06:01,270 --> 00:06:00,560
my dad i wish i could have been there

105
00:06:03,990 --> 00:06:01,280
but

106
00:06:06,469 --> 00:06:04,000
i was a little busy today

107
00:06:08,550 --> 00:06:06,479
watching over our wildly successful 30

108
00:06:10,309 --> 00:06:08,560
va of this mission

109
00:06:12,070 --> 00:06:10,319
um i'll just start by saying i just

110
00:06:13,350 --> 00:06:12,080
couldn't be happier by how this crew has

111
00:06:16,550 --> 00:06:13,360
performed

112
00:06:19,990 --> 00:06:16,560
we had our third team go out today with

113
00:06:21,990 --> 00:06:20,000

mike good bueno as our lead for this eva

114
00:06:23,990 --> 00:06:22,000
with garrett riesman

115
00:06:26,950 --> 00:06:24,000
like i said just performed flawlessly

116
00:06:28,150 --> 00:06:26,960
great teamwork throughout the entire eva

117
00:06:30,469 --> 00:06:28,160
as emily

118
00:06:32,950 --> 00:06:30,479
stated we started out the eva by doing

119
00:06:35,270 --> 00:06:32,960
the uh a get ahead task

120
00:06:36,950 --> 00:06:35,280
short get ahead that was the ammonia

121
00:06:39,029 --> 00:06:36,960
jumper we decided to have the crew do it

122
00:06:40,070 --> 00:06:39,039
up front while they were unburdened with

123
00:06:41,909 --> 00:06:40,080
their

124
00:06:44,070 --> 00:06:41,919
tool bags that we had stowed out on the

125
00:06:45,990 --> 00:06:44,080
truss between the evas

126
00:06:49,110 --> 00:06:46,000
once we completed that we proceeded on

127
00:06:51,749 --> 00:06:49,120
out to the p6 truss and the crew jumped

128
00:06:52,870 --> 00:06:51,759
right into the battery rnr's started out

129
00:06:54,790 --> 00:06:52,880
by

130
00:06:55,830 --> 00:06:54,800
releasing that temporary stove battery

131
00:06:58,309 --> 00:06:55,840
that we had

132
00:07:00,629 --> 00:06:58,319
put into a safe tethered position

133
00:07:02,070 --> 00:07:00,639
between the evas released that tether

134
00:07:03,350 --> 00:07:02,080
locked it back down out of the truss

135
00:07:05,110 --> 00:07:03,360
where it would be out of the way of the

136
00:07:07,430 --> 00:07:05,120
robotics operations

137
00:07:08,790 --> 00:07:07,440
and then proceeded to have garrett jump

138
00:07:10,309 --> 00:07:08,800

into the foot restraint and start

139
00:07:11,270 --> 00:07:10,319
removing the first battery from the

140
00:07:13,749 --> 00:07:11,280
truss

141
00:07:16,550 --> 00:07:13,759
and uh went just as smooth the crew

142
00:07:20,150 --> 00:07:16,560
obviously passed on the information that

143
00:07:22,070 --> 00:07:20,160
mike and bueno had learned from eva2

144
00:07:25,110 --> 00:07:22,080
and the battery removals and the

145
00:07:26,950 --> 00:07:25,120
installation into the pallet every time

146
00:07:28,390 --> 00:07:26,960
went really really well we're very happy

147
00:07:30,309 --> 00:07:28,400
with that

148
00:07:32,390 --> 00:07:30,319
we then performed all of our cleanup

149
00:07:34,629 --> 00:07:32,400
that we had hoped to get done so we

150
00:07:36,070 --> 00:07:34,639
brought in our tool bags

151
00:07:38,230 --> 00:07:36,080
one of the foot restraints that had been

152
00:07:41,589 --> 00:07:38,240
out on the p6 truss

153
00:07:43,670 --> 00:07:41,599
since the sts-127 mission and then also

154
00:07:45,830 --> 00:07:43,680
the gap spanners which are the

155
00:07:47,670 --> 00:07:45,840
tethers that run the length of the front

156
00:07:48,950 --> 00:07:47,680
of the the truss there

157
00:07:50,390 --> 00:07:48,960
we brought

158
00:07:51,589 --> 00:07:50,400
four of those gap spanners and two

159
00:07:53,990 --> 00:07:51,599
chains

160
00:07:55,189 --> 00:07:54,000
back inside

161
00:07:56,710 --> 00:07:55,199
once we got

162
00:07:59,510 --> 00:07:56,720
inside of the

163
00:08:01,350 --> 00:07:59,520

solar array rotary joints we stowed one

164
00:08:05,510 --> 00:08:01,360
of those foot restraints

165
00:08:07,749 --> 00:08:05,520
we also took care of a flap on the eotp

166
00:08:09,350 --> 00:08:07,759
thermal protection that was on the side

167
00:08:12,230 --> 00:08:09,360
there the

168
00:08:13,670 --> 00:08:12,240
payload owners noticed a little piece of

169
00:08:15,430 --> 00:08:13,680
material that hadn't been velcroed down

170
00:08:17,350 --> 00:08:15,440
so we took care of that

171
00:08:19,830 --> 00:08:17,360
we also troubleshot

172
00:08:24,629 --> 00:08:19,840
the foot restraint that we use for the

173
00:08:26,550 --> 00:08:24,639
cable repair of the laser system on eva2

174
00:08:27,510 --> 00:08:26,560
steve had reported that the pitch joint

175
00:08:28,469 --> 00:08:27,520
on that

176
00:08:30,550 --> 00:08:28,479
uh

177
00:08:33,350 --> 00:08:30,560
swing arm on the the cedar cart that we

178
00:08:34,550 --> 00:08:33,360
have there was uh frozen and indeed we

179
00:08:36,790 --> 00:08:34,560
went back there to see if we could get

180
00:08:38,469 --> 00:08:36,800
it to move and it is indeed still frozen

181
00:08:40,949 --> 00:08:38,479
so we will deal with that

182
00:08:43,190 --> 00:08:40,959
uh issue at a later time

183
00:08:45,190 --> 00:08:43,200
we proceeded in board at that point uh

184
00:08:46,870 --> 00:08:45,200
the crew dropped off the bags they were

185
00:08:48,310 --> 00:08:46,880
carrying so they

186
00:08:50,230 --> 00:08:48,320
would have their hands free when we got

187
00:08:52,710 --> 00:08:50,240
down into the payload bay

188
00:08:54,630 --> 00:08:52,720

and uh garrett and mike worked together

189
00:08:57,509 --> 00:08:54,640
to release the

190
00:09:00,949 --> 00:08:57,519
grapple fixture from the side of the

191
00:09:03,910 --> 00:09:00,959
payload bay that we had brought up

192
00:09:06,230 --> 00:09:03,920
that entailed installing a

193
00:09:09,030 --> 00:09:06,240
fixture on there that let them

194
00:09:10,630 --> 00:09:09,040
mount the grapple fixture onto their

195
00:09:12,710 --> 00:09:10,640
body restraint tether

196
00:09:15,269 --> 00:09:12,720
when they left the work site

197
00:09:17,030 --> 00:09:15,279
went just like we trained it in the pool

198
00:09:18,630 --> 00:09:17,040
handed off their tools back and forth to

199
00:09:19,670 --> 00:09:18,640
accomplish the release

200
00:09:22,389 --> 00:09:19,680
and then

201
00:09:24,870 --> 00:09:22,399
garrett did an excellent job kind of

202
00:09:28,389 --> 00:09:24,880
shepherding

203
00:09:30,949 --> 00:09:28,399
the grapple fixture from behind as bueno

204
00:09:32,550 --> 00:09:30,959
carried that back towards the airlock

205
00:09:33,829 --> 00:09:32,560
once they had the grapple fixture stowed

206
00:09:35,670 --> 00:09:33,839
in the airlock which took a little bit

207
00:09:37,190 --> 00:09:35,680
of doing because it is quite large about

208
00:09:39,030 --> 00:09:37,200
a foot and a half

209
00:09:40,870 --> 00:09:39,040
in diameter

210
00:09:42,790 --> 00:09:40,880
we had a little bit of time left in our

211
00:09:43,829 --> 00:09:42,800
planned dva so we gave him the go-ahead

212
00:09:48,790 --> 00:09:43,839
to

213
00:09:51,110 --> 00:09:48,800

there

214
00:09:53,350 --> 00:09:51,120
and were able to stow

215
00:09:55,509 --> 00:09:53,360
i believe around four tools back into

216
00:09:57,190 --> 00:09:55,519
that toolbox and we also retrieved a

217
00:09:58,870 --> 00:09:57,200
toolboard that we needed to change out

218
00:10:00,870 --> 00:09:58,880
some sockets in our

219
00:10:02,870 --> 00:10:00,880
torque multiplier tool

220
00:10:04,870 --> 00:10:02,880
for use inside

221
00:10:07,110 --> 00:10:04,880
once that was complete it was time to

222
00:10:08,949 --> 00:10:07,120
come back inside and

223
00:10:11,269 --> 00:10:08,959
guys climb back in

224
00:10:13,430 --> 00:10:11,279
no difficulty and it was just the end of

225
00:10:15,350 --> 00:10:13,440
a great eva and like i said the end of

226
00:10:16,870 --> 00:10:15,360
just a great great mission we

227
00:10:18,310 --> 00:10:16,880
accomplished more

228
00:10:20,230 --> 00:10:18,320
in our abas than we ever could have

229
00:10:21,829 --> 00:10:20,240
hoped for and really proud of how the

230
00:10:23,590 --> 00:10:21,839
guys did

231
00:10:25,509 --> 00:10:23,600
and that's all i have and

232
00:10:27,030 --> 00:10:25,519
hand it over to curt

233
00:10:28,389 --> 00:10:27,040
all right good afternoon it's a pleasure

234
00:10:31,030 --> 00:10:28,399
to be here and talk to you about the

235
00:10:32,389 --> 00:10:31,040
international space station

236
00:10:35,750 --> 00:10:32,399
with a new module

237
00:10:38,630 --> 00:10:35,760
uh new batteries a new com antenna

238
00:10:41,030 --> 00:10:38,640

uh a new platform for uh dexter

239
00:10:43,269 --> 00:10:41,040
uh we've had a great mission so far and

240
00:10:44,470 --> 00:10:43,279
uh and we're really excited i know that

241
00:10:46,389 --> 00:10:44,480
sounds a little redundant but that's

242
00:10:49,110 --> 00:10:46,399
very true we're all very happy about how

243
00:10:51,350 --> 00:10:49,120
things are going the shuttle uh crew and

244
00:10:52,230 --> 00:10:51,360
the iss crew performed uh exceptionally

245
00:10:54,069 --> 00:10:52,240
well

246
00:10:56,550 --> 00:10:54,079
as have both the shuttle and the iss

247
00:10:59,190 --> 00:10:56,560
vehicle so we're very very pleased with

248
00:11:00,150 --> 00:10:59,200
how things are going

249
00:11:02,470 --> 00:11:00,160
of course we have to finish the

250
00:11:04,710 --> 00:11:02,480
transfers and and then and then undock

251
00:11:06,389 --> 00:11:04,720
and and get the shuttle home safely but

252
00:11:08,710 --> 00:11:06,399
but we're well on our way and and again

253
00:11:10,310 --> 00:11:08,720
it's uh it's been a great mission

254
00:11:13,509 --> 00:11:10,320
uh i just want to talk to you a few a

255
00:11:15,750 --> 00:11:13,519
few minutes about upcoming events on iss

256
00:11:16,550 --> 00:11:15,760
so while we're getting the iss great

257
00:11:18,710 --> 00:11:16,560
shape

258
00:11:20,630 --> 00:11:18,720
here the last part of the mission we

259
00:11:23,110 --> 00:11:20,640
still have some activities coming up

260
00:11:26,710 --> 00:11:23,120
very quickly first

261
00:11:29,269 --> 00:11:26,720
the 21st soyuz will be undocking on the

262
00:11:32,069 --> 00:11:29,279
june 2nd and bringing

263
00:11:33,829 --> 00:11:32,079

kotov noguchi and kramer home to

264
00:11:35,590 --> 00:11:33,839
kazakhstan to the southern landing site

265
00:11:37,590 --> 00:11:35,600
so we're very much looking forward to

266
00:11:39,750 --> 00:11:37,600
having that crew back on the ground

267
00:11:41,829 --> 00:11:39,760
and then followed quickly by the 23

268
00:11:44,710 --> 00:11:41,839
soyuz launch and that will happen on the

269
00:11:45,590 --> 00:11:44,720
14th of june and docking on the 16th of

270
00:11:47,990 --> 00:11:45,600
june

271
00:11:50,949 --> 00:11:49,269
early next week we'll be having our

272
00:11:52,710 --> 00:11:50,959
flight readiness review for that for

273
00:11:55,190 --> 00:11:52,720
those uh the for the landing and for the

274
00:11:57,829 --> 00:11:55,200
launch of the soyuz

275
00:12:00,389 --> 00:11:57,839
um shortly after the ma after the soyuz

276
00:12:02,790 --> 00:12:00,399
arrives on orbit on the 16th um we'll

277
00:12:05,190 --> 00:12:02,800
actually go and relocate that soyuz from

278
00:12:07,190 --> 00:12:05,200
its location to the new

279
00:12:09,670 --> 00:12:07,200
docking port on the mrm module and that

280
00:12:12,870 --> 00:12:09,680
will happen on the 27th of june so

281
00:12:14,389 --> 00:12:12,880
again lots of activities here in june

282
00:12:16,389 --> 00:12:14,399
and then to close out the month we have

283
00:12:17,990 --> 00:12:16,399
a progress that will launch on the 28th

284
00:12:18,949 --> 00:12:18,000
so

285
00:12:21,190 --> 00:12:18,959
even though

286
00:12:23,269 --> 00:12:21,200
these uh the last month has been very

287
00:12:24,389 --> 00:12:23,279
busy for the iss crew with with two

288
00:12:26,150 --> 00:12:24,399

shuttle flights

289
00:12:28,389 --> 00:12:26,160
we still have one more month of

290
00:12:29,750 --> 00:12:28,399
vehicles coming and going and things

291
00:12:32,550 --> 00:12:29,760
should then settle down for a good

292
00:12:35,350 --> 00:12:32,560
summer of research

293
00:12:38,710 --> 00:12:35,360
we also have a russian stage eva and a

294
00:12:40,870 --> 00:12:38,720
uh in a nasa a u.s stage eva planned

295
00:12:44,710 --> 00:12:40,880
sometime this summer so

296
00:12:47,110 --> 00:12:44,720
but we'll be focusing mostly on research

297
00:12:48,629 --> 00:12:47,120
september will bring the flight of ul5

298
00:12:50,230 --> 00:12:48,639
it's currently scheduled for for

299
00:12:51,509 --> 00:12:50,240
september and we'll be bringing up on

300
00:12:53,190 --> 00:12:51,519
that the flight will bring up another

301
00:12:56,629 --> 00:12:53,200
permanent module a permanent

302
00:12:59,190 --> 00:12:56,639
multi-purpose module we call it pmm

303
00:13:01,590 --> 00:12:59,200
manufactured in in italy

304
00:13:04,310 --> 00:13:01,600
it's actually a multi-purpose an mplm

305
00:13:06,230 --> 00:13:04,320
that has been modified to stay on orbit

306
00:13:07,750 --> 00:13:06,240
long duration and we'll also be bringing

307
00:13:10,470 --> 00:13:07,760
up one of our large

308
00:13:12,629 --> 00:13:10,480
radiators a spare unit that'll fly on a

309
00:13:14,470 --> 00:13:12,639
external pallet

310
00:13:16,230 --> 00:13:14,480
and then lastly

311
00:13:18,069 --> 00:13:16,240
here later this month we're looking

312
00:13:21,110 --> 00:13:18,079
forward to the launch of the first

313
00:13:22,710 --> 00:13:21,120

spacex dragon vehicle um i'm told it's

314
00:13:24,389 --> 00:13:22,720
that they announced i think today that

315
00:13:26,550 --> 00:13:24,399
would be the 27th no earlier than the

316
00:13:28,470 --> 00:13:26,560
27th of may so we're looking forward to

317
00:13:30,790 --> 00:13:28,480
that while that vehicle itself is not

318
00:13:32,389 --> 00:13:30,800
going to iss it is one of the flights

319
00:13:35,350 --> 00:13:32,399
that are leading up to

320
00:13:36,470 --> 00:13:35,360
to delivering cargo to the iss next year

321
00:13:38,470 --> 00:13:36,480
so

322
00:13:40,550 --> 00:13:38,480
we're looking forward to a successful

323
00:13:42,389 --> 00:13:40,560
flight for our spacex friends and with

324
00:13:43,670 --> 00:13:42,399
that i'll hand it back to kylie

325
00:13:46,790 --> 00:13:43,680
okay we'll start with questions here at

326
00:13:49,509 --> 00:13:46,800
the johnson space center

327
00:13:51,990 --> 00:13:49,519
thank you mark caro for aviation week i

328
00:13:54,550 --> 00:13:52,000
wondered about the batteries that you

329
00:13:56,790 --> 00:13:54,560
installed this week have they been

330
00:13:59,350 --> 00:13:56,800
tested are they charged and recharged

331
00:14:00,790 --> 00:13:59,360
and do you know if you actually got the

332
00:14:02,310 --> 00:14:00,800
performance or

333
00:14:03,750 --> 00:14:02,320
can you explain how you'll determine

334
00:14:04,949 --> 00:14:03,760
whether you have the performance you

335
00:14:06,150 --> 00:14:04,959
were hoping for

336
00:14:07,350 --> 00:14:06,160
certainly

337
00:14:08,710 --> 00:14:07,360
we

338
00:14:10,710 --> 00:14:08,720

began charging the first pair of

339
00:14:12,790 --> 00:14:10,720
batteries after the second eba once the

340
00:14:15,350 --> 00:14:12,800
first pair was completed

341
00:14:17,350 --> 00:14:15,360
and those are fully charged and back in

342
00:14:19,350 --> 00:14:17,360
the system and operating exactly as we

343
00:14:21,590 --> 00:14:19,360
expected

344
00:14:23,509 --> 00:14:21,600
tonight actually before we even finished

345
00:14:25,990 --> 00:14:23,519
the eva our power officers began

346
00:14:28,629 --> 00:14:26,000
charging the other the new the other two

347
00:14:30,310 --> 00:14:28,639
sets of batteries and so by tomorrow

348
00:14:32,069 --> 00:14:30,320
morning i expect those will be fully

349
00:14:34,069 --> 00:14:32,079
charged and ready to go

350
00:14:36,150 --> 00:14:34,079
in terms of whether they're performing

351
00:14:38,230 --> 00:14:36,160
at the capacity that we expect that'll

352
00:14:39,990 --> 00:14:38,240
require some charge discharge cycles so

353
00:14:42,310 --> 00:14:40,000
it'll be a little while before we fully

354
00:14:45,350 --> 00:14:42,320
characterize their performance

355
00:14:46,790 --> 00:14:45,360
but so far they're looking great

356
00:14:48,470 --> 00:14:46,800
and mark if i could add something to the

357
00:14:50,629 --> 00:14:48,480
batteries the original batteries were

358
00:14:53,269 --> 00:14:50,639
launched in november of 2000

359
00:14:54,949 --> 00:14:53,279
and they had a design life of six years

360
00:14:56,949 --> 00:14:54,959
and so here we are

361
00:14:59,430 --> 00:14:56,959
nine and a half years later

362
00:15:00,870 --> 00:14:59,440
and uh and uh those that battery the

363
00:15:03,269 --> 00:15:00,880

batteries that were on board were still

364
00:15:04,790 --> 00:15:03,279
performing uh within their specification

365
00:15:06,550 --> 00:15:04,800
obviously there's been degradation over

366
00:15:08,310 --> 00:15:06,560
the years and the way whether

367
00:15:09,670 --> 00:15:08,320
performance it hits a hits basically

368
00:15:11,189 --> 00:15:09,680
knee in the curve and it really drops

369
00:15:12,790 --> 00:15:11,199
off so it was definitely time to replace

370
00:15:14,069 --> 00:15:12,800
the replace the old batteries with these

371
00:15:15,750 --> 00:15:14,079
new batteries and these are very new

372
00:15:16,949 --> 00:15:15,760
batteries so

373
00:15:18,069 --> 00:15:16,959
while we're happy to have the new ones

374
00:15:19,670 --> 00:15:18,079
up there

375
00:15:23,269 --> 00:15:19,680
same design as the original ones we

376
00:15:24,550 --> 00:15:23,279
expect those batteries to perform

377
00:15:27,590 --> 00:15:24,560
equally as well as the original

378
00:15:29,189 --> 00:15:27,600
batteries in that that truss element

379
00:15:32,069 --> 00:15:29,199
and just to follow then

380
00:15:34,389 --> 00:15:32,079
so the design life might be for the for

381
00:15:36,470 --> 00:15:34,399
the new ones the same five and a half

382
00:15:38,949 --> 00:15:36,480
years i think it's been mentioned but

383
00:15:40,790 --> 00:15:38,959
the actual experience is closer to 10

384
00:15:43,030 --> 00:15:40,800
and that's kind of what you're expecting

385
00:15:44,710 --> 00:15:43,040
sure and a lot of factors play into that

386
00:15:45,910 --> 00:15:44,720
of course there's uh how the battery we

387
00:15:48,230 --> 00:15:45,920
call it because how the batteries are

388
00:15:49,990 --> 00:15:48,240

treated um but really has to do with

389
00:15:51,430 --> 00:15:50,000
with the stowage conditions on the

390
00:15:53,110 --> 00:15:51,440
batteries before they're launched so

391
00:15:54,710 --> 00:15:53,120
they're charged basically these are

392
00:15:56,310 --> 00:15:54,720
nickel hydrogen batteries but they're

393
00:15:57,910 --> 00:15:56,320
the cells individual cells are actually

394
00:15:59,509 --> 00:15:57,920
charged and then how the batteries are

395
00:16:02,389 --> 00:15:59,519
maintained on the ground typically we

396
00:16:05,189 --> 00:16:02,399
keep them in a freezer frozen it keeps

397
00:16:07,590 --> 00:16:05,199
parasitic chemical reactions from from

398
00:16:08,790 --> 00:16:07,600
taking away a life from the batteries

399
00:16:11,030 --> 00:16:08,800
and then it has to do with the depth of

400
00:16:12,949 --> 00:16:11,040
discharge so the batteries are charged

401
00:16:15,189 --> 00:16:12,959
every every pass when the when the solar

402
00:16:16,310 --> 00:16:15,199
rays are collecting light in the sun

403
00:16:17,749 --> 00:16:16,320
they're charged up and then when we go

404
00:16:19,030 --> 00:16:17,759
into the eclipse period they'll they'll

405
00:16:21,110 --> 00:16:19,040
discharge and certainly when we have to

406
00:16:23,590 --> 00:16:21,120
be in attitudes like for dockings or

407
00:16:25,749 --> 00:16:23,600
undockings the batteries may drain down

408
00:16:27,829 --> 00:16:25,759
to a lower level as long as we operate

409
00:16:29,990 --> 00:16:27,839
in the higher or i'll say low depths of

410
00:16:32,629 --> 00:16:30,000
discharge we operate from 100 say down

411
00:16:34,550 --> 00:16:32,639
to 80 percent uh of charge of the

412
00:16:36,949 --> 00:16:34,560
batteries their life tends to last very

413
00:16:38,389 --> 00:16:36,959

long and so our expectation is these

414
00:16:40,069 --> 00:16:38,399
batteries will last

415
00:16:42,470 --> 00:16:40,079
last at least as long as the original

416
00:16:45,670 --> 00:16:44,230
bill hardwood cbs and apologized i

417
00:16:47,110 --> 00:16:45,680
missed this because i was typing

418
00:16:48,389 --> 00:16:47,120
something but

419
00:16:52,470 --> 00:16:48,399
what is the next set that has to be

420
00:16:55,350 --> 00:16:53,990
well that's a good question uh i can

421
00:16:57,269 --> 00:16:55,360
tell you our next set of batteries we're

422
00:16:58,949 --> 00:16:57,279
bringing up on an htv

423
00:17:01,590 --> 00:16:58,959
and i believe it's

424
00:17:03,430 --> 00:17:01,600
i want to say htv4 so i really let me

425
00:17:05,029 --> 00:17:03,440
get back to you on the specific answer

426
00:17:07,189 --> 00:17:05,039
but uh it's on it that we're going to

427
00:17:09,510 --> 00:17:07,199
launch them on an htv after after the

428
00:17:12,230 --> 00:17:09,520
shuttle has retired um

429
00:17:13,669 --> 00:17:12,240
and it would be i think the next set is

430
00:17:20,309 --> 00:17:13,679
on the

431
00:17:21,909 --> 00:17:20,319
um but i'll get back to you and answer

432
00:17:24,949 --> 00:17:21,919
specifically it's been a while since i

433
00:17:29,830 --> 00:17:27,909
hi robert perlin with clickspace.com

434
00:17:31,590 --> 00:17:29,840
what was it about the power

435
00:17:33,270 --> 00:17:31,600
about the grapple fixture that it needed

436
00:17:35,510 --> 00:17:33,280
to come back inside first and not be

437
00:17:39,029 --> 00:17:35,520
transferred directly to

438
00:17:41,110 --> 00:17:39,039

zarya and and when is that installation

439
00:17:43,190 --> 00:17:41,120
now targeted to occur

440
00:17:46,150 --> 00:17:43,200
it needs an adapter in order to be

441
00:17:48,630 --> 00:17:46,160
installed on the external

442
00:17:50,390 --> 00:17:48,640
interfaces there on zarya and it's

443
00:17:55,510 --> 00:17:50,400
tentatively planned for one of the u.s

444
00:17:59,350 --> 00:17:57,510
phillips losses with nasaspaceflight.com

445
00:18:01,909 --> 00:17:59,360
for mr sharman

446
00:18:04,150 --> 00:18:01,919
regarding the ulf 5 mission um

447
00:18:07,029 --> 00:18:04,160
understand that the the content and the

448
00:18:09,590 --> 00:18:07,039
payload are under in some flux um when

449
00:18:12,470 --> 00:18:09,600
do you expect to make a decision on for

450
00:18:14,549 --> 00:18:12,480
instance evas perhaps being added and

451
00:18:17,350 --> 00:18:14,559
any payload changes

452
00:18:19,510 --> 00:18:17,360
well let's see uh the major payloads are

453
00:18:21,029 --> 00:18:19,520
fixed we have a carrier with uh with

454
00:18:24,310 --> 00:18:21,039
orus the biggest of which is this

455
00:18:26,630 --> 00:18:24,320
radiator and we have the pmm the

456
00:18:29,190 --> 00:18:26,640
permanent multi-purpose module

457
00:18:31,669 --> 00:18:29,200
which is that modified mplm

458
00:18:34,470 --> 00:18:31,679
so that the major elements are fixed the

459
00:18:36,310 --> 00:18:34,480
specific cargo elements in the pmm is

460
00:18:38,070 --> 00:18:36,320
somewhat in flux and that's very normal

461
00:18:40,150 --> 00:18:38,080
for us in these and he's uh you know

462
00:18:43,350 --> 00:18:40,160
we'll bring six thousand pounds of cargo

463
00:18:44,870 --> 00:18:43,360

items up in an mplm and so it's normal

464
00:18:46,789 --> 00:18:44,880
that that will uh

465
00:18:49,190 --> 00:18:46,799
we'll will maximize the amount of cargo

466
00:18:51,270 --> 00:18:49,200
we bring up inside and and maybe change

467
00:18:52,630 --> 00:18:51,280
out you know a set of towels for

468
00:18:54,950 --> 00:18:52,640
something you know something else or

469
00:18:56,710 --> 00:18:54,960
maybe it's a one payload for another

470
00:18:58,390 --> 00:18:56,720
that's just normal business as we go on

471
00:18:59,830 --> 00:18:58,400
and see how the hardware is being

472
00:19:00,950 --> 00:18:59,840
developed most of the hardware that's

473
00:19:03,350 --> 00:19:00,960
going to fly

474
00:19:04,950 --> 00:19:03,360
in the pmm inside the pmm is currently

475
00:19:06,950 --> 00:19:04,960
still being developed it's not it's in

476
00:19:09,750 --> 00:19:06,960
its manufacturing cycle so we have to

477
00:19:11,830 --> 00:19:09,760
watch how all that all that plays out so

478
00:19:13,909 --> 00:19:11,840
uh i i what i tell you is the major

479
00:19:16,230 --> 00:19:13,919
elements of that mission or cargo from

480
00:19:19,190 --> 00:19:16,240
cargo standpoint are defined it's just

481
00:19:20,470 --> 00:19:19,200
uh i'll say small trades um one of the

482
00:19:22,710 --> 00:19:20,480
things we're launching on that by the

483
00:19:24,549 --> 00:19:22,720
way is robonaut 2. i think you've you've

484
00:19:26,310 --> 00:19:24,559
probably heard about that that'll be

485
00:19:29,029 --> 00:19:26,320
that item will be launched and they were

486
00:19:31,990 --> 00:19:29,039
also launching a

487
00:19:34,710 --> 00:19:32,000
an experiment it's called cameras uh but

488
00:19:37,750 --> 00:19:34,720

it's really a a device to take carbon

489
00:19:39,270 --> 00:19:37,760
dioxide out of the out of the atmosphere

490
00:19:40,870 --> 00:19:39,280
and it's a device that was really being

491
00:19:42,070 --> 00:19:40,880
developed for the uh

492
00:19:43,430 --> 00:19:42,080
um

493
00:19:45,830 --> 00:19:43,440
for a

494
00:19:48,150 --> 00:19:45,840
long duration space flight to the moon

495
00:19:49,750 --> 00:19:48,160
or mars and so our plan is to launch a

496
00:19:51,190 --> 00:19:49,760
device like a

497
00:19:53,430 --> 00:19:51,200
development unit for that and test it

498
00:19:55,669 --> 00:19:53,440
out on board iss

499
00:19:57,190 --> 00:19:55,679
you asked about evas

500
00:19:58,870 --> 00:19:57,200
we have talked about it in the space

501
00:20:00,870 --> 00:19:58,880
station control board actually this week

502
00:20:03,270 --> 00:20:00,880
with the intent to add

503
00:20:05,430 --> 00:20:03,280
up to two evas on that flight it hasn't

504
00:20:07,909 --> 00:20:05,440
been approved all the way through and we

505
00:20:09,909 --> 00:20:07,919
haven't finished the definition of the

506
00:20:11,190 --> 00:20:09,919
content for those so i think you can

507
00:20:12,789 --> 00:20:11,200
expect to hear

508
00:20:14,950 --> 00:20:12,799
officially that we'll we'll do one or

509
00:20:17,029 --> 00:20:14,960
two evas on that flight and we just have

510
00:20:19,510 --> 00:20:17,039
to work out the details

511
00:20:22,950 --> 00:20:19,520
and if i could i'd like to explain why

512
00:20:24,390 --> 00:20:22,960
previously ulf-5 was the last flight

513
00:20:26,149 --> 00:20:24,400

and we were flying it with a minimal

514
00:20:27,590 --> 00:20:26,159
crew because

515
00:20:30,070 --> 00:20:27,600
we wanted to maximize the amount of

516
00:20:32,149 --> 00:20:30,080
cargo we could get on that flight

517
00:20:35,029 --> 00:20:32,159
and we want to leave

518
00:20:35,669 --> 00:20:35,039
we want to leave the iss

519
00:20:38,390 --> 00:20:35,679
in

520
00:20:39,669 --> 00:20:38,400
with our external high-pressure gas

521
00:20:40,870 --> 00:20:39,679
tanks to the mac

522
00:20:42,310 --> 00:20:40,880
max full

523
00:20:44,710 --> 00:20:42,320
and so uh

524
00:20:46,549 --> 00:20:44,720
in the process but between when we

525
00:20:48,390 --> 00:20:46,559
initially made defined that flight and

526
00:20:50,070 --> 00:20:48,400
and today we've added a crew member

527
00:20:52,390 --> 00:20:50,080
which added more capability for that

528
00:20:53,750 --> 00:20:52,400
flight and now we swapped the order of

529
00:20:56,070 --> 00:20:53,760
flights

530
00:20:57,190 --> 00:20:56,080
we have an a whole host of eva tasks

531
00:20:59,510 --> 00:20:57,200
that need to be accomplished that

532
00:21:01,110 --> 00:20:59,520
weren't assigned to a specific eva and

533
00:21:03,590 --> 00:21:01,120
so now it's our opportunity to go

534
00:21:05,510 --> 00:21:03,600
capture those tasks because after the

535
00:21:08,070 --> 00:21:05,520
shuttle stops flying we go for a period

536
00:21:11,110 --> 00:21:08,080
of of two plus years where we are unable

537
00:21:14,789 --> 00:21:11,120
to re-pressurize our external gas tanks

538
00:21:16,549 --> 00:21:14,799

which means every eeva is

539
00:21:18,870 --> 00:21:16,559
taking away that pressure and we and we

540
00:21:20,950 --> 00:21:18,880
uh we're basically uh can't do another

541
00:21:22,870 --> 00:21:20,960
eva or can't can't replenish that source

542
00:21:24,149 --> 00:21:22,880
until we get a new a new device that

543
00:21:25,750 --> 00:21:24,159
we're manufacturing up there to

544
00:21:27,990 --> 00:21:25,760
replenish those tanks so we want to take

545
00:21:30,549 --> 00:21:28,000
every opportunity to do space walks and

546
00:21:32,310 --> 00:21:30,559
finish all the tasks that we can before

547
00:21:34,070 --> 00:21:32,320
the shuttle retires and then leave with

548
00:21:37,590 --> 00:21:34,080
the last flight leaves our tanks as full

549
00:21:42,149 --> 00:21:40,149
there's one more question here

550
00:21:44,710 --> 00:21:42,159
peter raywood southern fm in australia a

551
00:21:47,190 --> 00:21:44,720
question for mr shaman is there any

552
00:21:49,510 --> 00:21:47,200
allocation of the crew the iss crew or

553
00:21:51,270 --> 00:21:49,520
the shuttle crews time for observation

554
00:21:53,669 --> 00:21:51,280
of the oil leak in the gulf to be

555
00:21:54,630 --> 00:21:53,679
planned

556
00:21:56,230 --> 00:21:54,640
so

557
00:21:58,950 --> 00:21:56,240
we don't have specific

558
00:22:00,710 --> 00:21:58,960
right now i'm not aware of a specific um

559
00:22:03,590 --> 00:22:00,720
it would be a payload operation or

560
00:22:05,110 --> 00:22:03,600
experiment to go take photography of of

561
00:22:06,870 --> 00:22:05,120
the oil leaks so i'll say it's not a

562
00:22:08,789 --> 00:22:06,880
booked time that says yes

563
00:22:11,430 --> 00:22:08,799

uh to perform research you will take a

564
00:22:13,830 --> 00:22:11,440
photo every time we fly over the

565
00:22:15,830 --> 00:22:13,840
the oil spill now having said that uh

566
00:22:18,470 --> 00:22:15,840
there's there's time available for a

567
00:22:20,950 --> 00:22:18,480
crew member's day to uh to do earth

568
00:22:23,190 --> 00:22:20,960
observation as they choose and i'll tell

569
00:22:24,950 --> 00:22:23,200
you i i typically see

570
00:22:28,630 --> 00:22:24,960
if not every day at least every other

571
00:22:32,230 --> 00:22:28,640
day a new photo of of the oil slick uh

572
00:22:33,190 --> 00:22:32,240
from taken from space so um i i'll just

573
00:22:35,029 --> 00:22:33,200
answer your question it's not an

574
00:22:37,510 --> 00:22:35,039
official task but it's actually being

575
00:22:39,029 --> 00:22:37,520
done and those photographs are are

576
00:22:40,710 --> 00:22:39,039
available here on earth and i believe

577
00:22:41,990 --> 00:22:40,720
they're being passed around to the

578
00:22:43,750 --> 00:22:42,000
various entities that would be

579
00:22:46,549 --> 00:22:43,760
interested in in tracking how that oil

580
00:22:47,909 --> 00:22:46,559
spill is migrating

581
00:22:49,590 --> 00:22:47,919
is that adding anything different to

582
00:22:50,870 --> 00:22:49,600
what other assets like satellites and

583
00:22:52,950 --> 00:22:50,880
things is there anything unique about

584
00:22:53,990 --> 00:22:52,960
what they're doing or just adds to the

585
00:22:55,510 --> 00:22:54,000
understand your question and

586
00:22:57,190 --> 00:22:55,520
unfortunately i'm not in a position to

587
00:22:59,110 --> 00:22:57,200
answer that you know we can supply the

588
00:23:01,270 --> 00:22:59,120

photographs but as far as how that fits

589
00:23:03,669 --> 00:23:01,280
with other assets tracking the oil

590
00:23:05,669 --> 00:23:03,679
that's really maybe a question more for

591
00:23:06,830 --> 00:23:05,679
for the interior department or or

592
00:23:08,390 --> 00:23:06,840
british

593
00:23:10,149 --> 00:23:08,400
petroleum

594
00:23:11,750 --> 00:23:10,159
um i can add to that a little bit we've

595
00:23:13,590 --> 00:23:11,760
discussed those pictures that have been

596
00:23:15,909 --> 00:23:13,600
taken by the station crew and one

597
00:23:18,070 --> 00:23:15,919
description described that

598
00:23:20,470 --> 00:23:18,080
the astronauts can see

599
00:23:22,390 --> 00:23:20,480
the water at a different view than the

600
00:23:24,230 --> 00:23:22,400
satellites take from a direct

601
00:23:26,549 --> 00:23:24,240
view to the water so there are different

602
00:23:29,669 --> 00:23:26,559
glints sun glints and different but how

603
00:23:31,669 --> 00:23:29,679
that affects the analysis i don't know

604
00:23:34,310 --> 00:23:31,679
we'll go ahead and go to questions on

605
00:23:37,350 --> 00:23:34,320
the line first is marcia dunn

606
00:23:39,830 --> 00:23:37,360
yes hi i have a few questions for kirk

607
00:23:42,630 --> 00:23:39,840
i'm wondering um it sounds like the uh

608
00:23:44,630 --> 00:23:42,640
the russian module is now closed and i'm

609
00:23:46,549 --> 00:23:44,640
just wondering have you is that my

610
00:23:48,830 --> 00:23:46,559
understanding correctly and have you

611
00:23:50,710 --> 00:23:48,840
heard from your russian

612
00:23:52,549 --> 00:23:50,720
counterparts what might have happened to

613
00:23:53,510 --> 00:23:52,559

cause all those filings to be floating

614
00:23:55,269 --> 00:23:53,520
around

615
00:23:58,070 --> 00:23:55,279
well let me first say that it's not

616
00:24:00,310 --> 00:23:58,080
unusual at all to have debris inside a

617
00:24:02,870 --> 00:24:00,320
new module in fact

618
00:24:05,029 --> 00:24:02,880
in fact it's not unusual to have

619
00:24:07,269 --> 00:24:05,039
debris in any module that comes up so

620
00:24:08,789 --> 00:24:07,279
for instance we fly an mplm

621
00:24:09,990 --> 00:24:08,799
up to iss

622
00:24:11,830 --> 00:24:10,000
even though it's been there a number of

623
00:24:13,510 --> 00:24:11,840
times we still require the crew to wear

624
00:24:16,310 --> 00:24:13,520
protective equipment they wear goggles

625
00:24:18,149 --> 00:24:16,320
and they wear a mask when they go in

626
00:24:20,390 --> 00:24:18,159
because on earth all that debris sits

627
00:24:21,669 --> 00:24:20,400
down in the bottom on the i'll say in

628
00:24:24,630 --> 00:24:21,679
the floor but it can get nooks and

629
00:24:26,149 --> 00:24:24,640
crannies in in racks and behind cables

630
00:24:27,750 --> 00:24:26,159
and it's all great until you shake

631
00:24:29,430 --> 00:24:27,760
everything when you launch and then you

632
00:24:31,990 --> 00:24:29,440
get into space where it just floats

633
00:24:34,470 --> 00:24:32,000
around so it's it's normal to have some

634
00:24:36,710 --> 00:24:34,480
amount of debris uh in a new module it's

635
00:24:39,269 --> 00:24:36,720
actually normal to have uh to some some

636
00:24:41,110 --> 00:24:39,279
small minor amount of metal debris we've

637
00:24:42,870 --> 00:24:41,120
had it in a number of uh we had it in

638
00:24:44,470 --> 00:24:42,880

node one we had it in uh we had it in

639
00:24:46,630 --> 00:24:44,480
node two we've had it node three we

640
00:24:48,789 --> 00:24:46,640
probably had it in other modules too so

641
00:24:50,390 --> 00:24:48,799
all this is relatively normal

642
00:24:51,990 --> 00:24:50,400
and dealing with it is just what we're

643
00:24:53,669 --> 00:24:52,000
doing now the crew wears protective

644
00:24:55,269 --> 00:24:53,679
equipment uh we actually run the

645
00:24:56,470 --> 00:24:55,279
ventilation for a number of hours and we

646
00:24:57,750 --> 00:24:56,480
have a flight rule emily could probably

647
00:25:00,149 --> 00:24:57,760
tell you what the flight rule says but a

648
00:25:02,470 --> 00:25:00,159
number of hours to go try to have the

649
00:25:03,430 --> 00:25:02,480
debris migrate to the filters just like

650
00:25:05,430 --> 00:25:03,440
we're doing

651
00:25:07,830 --> 00:25:05,440
it turns out the mrm1 is filled with

652
00:25:10,789 --> 00:25:07,840
cargo so that module was filled with 1.4

653
00:25:13,190 --> 00:25:10,799
metric tons of of actually u.s cargo

654
00:25:14,789 --> 00:25:13,200
when it was launched and so the the air

655
00:25:16,310 --> 00:25:14,799
flow is not optimum in fact that's what

656
00:25:17,510 --> 00:25:16,320
this task was that they're doing during

657
00:25:19,669 --> 00:25:17,520
the mission is to go remove some of

658
00:25:21,350 --> 00:25:19,679
those things and improve the airflow

659
00:25:22,789 --> 00:25:21,360
which we have done so

660
00:25:24,549 --> 00:25:22,799
even though you're hearing about it i

661
00:25:26,390 --> 00:25:24,559
would just say it's really not

662
00:25:28,710 --> 00:25:26,400
not that unusual and we've taken

663
00:25:30,789 --> 00:25:28,720

measures to protect the crew and and we

664
00:25:31,669 --> 00:25:30,799
believe as as do our russian colleagues

665
00:25:35,669 --> 00:25:31,679
that

666
00:25:37,029 --> 00:25:35,679
debris will all migrate to the filters

667
00:25:39,029 --> 00:25:37,039
and we'll clean it up with a vacuum

668
00:25:41,430 --> 00:25:39,039
cleaner and and move on with the

669
00:25:42,950 --> 00:25:41,440
module's life

670
00:25:44,870 --> 00:25:42,960
have you heard from them though are they

671
00:25:47,350 --> 00:25:44,880
saying that this is just basic

672
00:25:48,950 --> 00:25:47,360
manufacturing filings that are coming to

673
00:25:51,029 --> 00:25:48,960
light um

674
00:25:52,390 --> 00:25:51,039
yeah i haven't heard them say that uh

675
00:25:54,870 --> 00:25:52,400
they haven't said that directly at least

676
00:25:56,870 --> 00:25:54,880
not not uh when i have been present

677
00:25:59,350 --> 00:25:56,880
but like i said it's that's our

678
00:26:01,190 --> 00:25:59,360
experience and i think ours meaning not

679
00:26:03,110 --> 00:26:01,200
just the united states that's the

680
00:26:05,669 --> 00:26:03,120
experience with the modules that were

681
00:26:07,909 --> 00:26:05,679
manufactured in in europe and in japan

682
00:26:11,830 --> 00:26:07,919
and that's just normal

683
00:26:13,430 --> 00:26:11,840
uh normal manufacturing experience

684
00:26:14,710 --> 00:26:13,440
and two more questions the first of

685
00:26:16,549 --> 00:26:14,720
which is how much did they have to

686
00:26:18,230 --> 00:26:16,559
unload to get to those panels and when

687
00:26:19,830 --> 00:26:18,240
do they really expect to unload the

688
00:26:21,909 --> 00:26:19,840

whole thing

689
00:26:23,110 --> 00:26:21,919
and let's see um emily you can you can

690
00:26:24,710 --> 00:26:23,120
ask maybe the first one you're

691
00:26:28,390 --> 00:26:24,720
absolutely welcome to both of them but

692
00:26:31,990 --> 00:26:30,230
i haven't heard directly how many of the

693
00:26:33,830 --> 00:26:32,000
panels they've removed in order to get

694
00:26:35,510 --> 00:26:33,840
back to the panels i referred to for the

695
00:26:37,430 --> 00:26:35,520
ventilation but

696
00:26:38,870 --> 00:26:37,440
indirectly based on the questions

697
00:26:40,630 --> 00:26:38,880
they've asked about what would we like

698
00:26:41,830 --> 00:26:40,640
them to activate and not activate i can

699
00:26:43,029 --> 00:26:41,840
tell you that i'm pretty sure they've

700
00:26:45,190 --> 00:26:43,039
made it all the way to the bottom of the

701
00:26:47,830 --> 00:26:45,200
module at this point

702
00:26:49,029 --> 00:26:47,840
but the cargo is still inside so they're

703
00:26:51,029 --> 00:26:49,039
really just kind of rearranging

704
00:26:52,310 --> 00:26:51,039
everything and getting the

705
00:26:53,830 --> 00:26:52,320
launch racks that i talked about a

706
00:26:56,710 --> 00:26:53,840
couple of days ago that all of the cargo

707
00:26:59,190 --> 00:26:56,720
was was attached to for the ride into

708
00:27:01,029 --> 00:26:59,200
orbit they've gotten those out and and

709
00:27:02,230 --> 00:27:01,039
kind of pushed the cargo off to the side

710
00:27:03,750 --> 00:27:02,240
so that they could get access to

711
00:27:06,070 --> 00:27:03,760
whatever they need to in order to

712
00:27:07,669 --> 00:27:06,080
improve this ventilation and get the the

713
00:27:10,149 --> 00:27:07,679

air nice and clean

714
00:27:11,830 --> 00:27:10,159
um in terms of when they intend to

715
00:27:14,870 --> 00:27:11,840
unload i can tell you that the crew is

716
00:27:16,950 --> 00:27:14,880
anxious to get the module unloaded and

717
00:27:19,190 --> 00:27:16,960
so if we don't provide them a plan to

718
00:27:21,750 --> 00:27:19,200
get it unloaded the week after undock i

719
00:27:23,110 --> 00:27:21,760
think they'll start without us so i

720
00:27:25,269 --> 00:27:23,120
think we'll be getting that started

721
00:27:26,950 --> 00:27:25,279
shortly after this mission is finished

722
00:27:29,350 --> 00:27:26,960
and our requirement to have it unloaded

723
00:27:33,269 --> 00:27:29,360
is before we relocate the soyuz

724
00:27:35,430 --> 00:27:33,279
on the 22nd 22nd of june so

725
00:27:36,710 --> 00:27:35,440
we expect to to have it

726
00:27:39,190 --> 00:27:36,720
for sure

727
00:27:41,029 --> 00:27:39,200
in shipshape by that time

728
00:27:43,269 --> 00:27:41,039
my final question for you kirk is you

729
00:27:45,830 --> 00:27:43,279
mentioned a new crew member for the

730
00:27:46,950 --> 00:27:45,840
next flight who is that i hadn't heard

731
00:27:48,549 --> 00:27:46,960
well

732
00:27:49,990 --> 00:27:48,559
you know a long time ago so this is when

733
00:27:51,269 --> 00:27:50,000
we were eventually defining the mission

734
00:27:53,750 --> 00:27:51,279
and we were looking about how we do

735
00:27:55,269 --> 00:27:53,760
rescue flights so this is not a recent

736
00:27:57,190 --> 00:27:55,279
thing in fact it's probably before we

737
00:27:59,590 --> 00:27:57,200
even announced the crew so i i'd really

738
00:28:01,190 --> 00:27:59,600

prefer not to to name any specific names

739
00:28:02,950 --> 00:28:01,200
in fact to be honest i don't even know

740
00:28:05,269 --> 00:28:02,960
the name i just know we talked about

741
00:28:07,350 --> 00:28:05,279
having a initially a crew of five i

742
00:28:09,430 --> 00:28:07,360
think initially crew of five and we

743
00:28:10,789 --> 00:28:09,440
decided to go to a crew of six so all

744
00:28:12,070 --> 00:28:10,799
this happened i think even before we

745
00:28:13,590 --> 00:28:12,080
named the crew

746
00:28:15,510 --> 00:28:13,600
oh okay i thought maybe there was yet

747
00:28:17,350 --> 00:28:15,520
another seventh crew member coming on

748
00:28:19,110 --> 00:28:17,360
board no we haven't we haven't done that

749
00:28:20,710 --> 00:28:19,120
and and really don't intend to be

750
00:28:22,630 --> 00:28:20,720
because uh we won't have enough crew

751
00:28:24,789 --> 00:28:22,640
members to do the job that that we have

752
00:28:28,389 --> 00:28:24,799
to do but uh but we also want to

753
00:28:31,510 --> 00:28:28,399
maximize the the up mass and really um

754
00:28:34,630 --> 00:28:31,520
on on ulf5 we'll have the the pmm but it

755
00:28:36,789 --> 00:28:34,640
uh upmass and down mass by the way um

756
00:28:39,669 --> 00:28:36,799
but but for both flights we'll only have

757
00:28:41,590 --> 00:28:39,679
a mig mid deck returning and and we as

758
00:28:42,950 --> 00:28:41,600
you know we try to remove certainly all

759
00:28:45,029 --> 00:28:42,960
the payload and samples that need to

760
00:28:47,110 --> 00:28:45,039
come home to the ground but also

761
00:28:49,590 --> 00:28:47,120
any any items that aren't no longer

762
00:28:51,909 --> 00:28:49,600
required on iss we like to bring home so

763
00:28:53,909 --> 00:28:51,919

we want to maximize the the amount of

764
00:28:55,269 --> 00:28:53,919
cargo we can bring home on those flights

765
00:28:57,669 --> 00:28:55,279
and it would be a trade between

766
00:28:59,750 --> 00:28:57,679
additional crew members and and up and

767
00:29:02,470 --> 00:28:59,760
down mass and we believe at this point

768
00:29:03,990 --> 00:29:02,480
in time we have optimized that trade

769
00:29:04,789 --> 00:29:04,000
with with the crew complement that we

770
00:29:06,230 --> 00:29:04,799
have

771
00:29:07,990 --> 00:29:06,240
thank you

772
00:29:11,750 --> 00:29:08,000
okay next on the line uh targe mouth do

773
00:29:16,470 --> 00:29:13,990
thank you yes it said park alec with uh

774
00:29:18,630 --> 00:29:16,480
space.com i think i have a couple of

775
00:29:21,190 --> 00:29:18,640
questions for for curriculum for emily

776
00:29:23,110 --> 00:29:21,200
um so kurt with um i guess the the major

777
00:29:25,110 --> 00:29:23,120
bulk of the maintenance and construction

778
00:29:26,549 --> 00:29:25,120
uh complete with the spacewalk on the

779
00:29:27,909 --> 00:29:26,559
flight i'm wondering if you can kind of

780
00:29:30,310 --> 00:29:27,919
give us um

781
00:29:32,389 --> 00:29:30,320
uh an idea of uh percentage-wise how

782
00:29:35,350 --> 00:29:32,399
complete the station is now

783
00:29:37,750 --> 00:29:35,360
maybe what's what's remaining and um

784
00:29:40,389 --> 00:29:37,760
and how robust it is uh given the new

785
00:29:42,549 --> 00:29:40,399
module

786
00:29:44,470 --> 00:29:42,559
well let's see i can't quote you the uh

787
00:29:46,149 --> 00:29:44,480
the percentage maybe kylie might have an

788
00:29:48,070 --> 00:29:46,159

idea from some of the materials we put

789
00:29:50,710 --> 00:29:48,080
out but from a pressurized module

790
00:29:52,630 --> 00:29:50,720
standpoint um we have one more module

791
00:29:56,389 --> 00:29:52,640
we're going to launch from iss which is

792
00:29:58,070 --> 00:29:56,399
the pmm on the on ulf f5 the next flight

793
00:30:00,710 --> 00:29:58,080
we have two external carriers we're

794
00:30:03,269 --> 00:30:00,720
going to fly we're going to fly one on

795
00:30:05,830 --> 00:30:03,279
on that flight ulf-5 we have another

796
00:30:07,430 --> 00:30:05,840
carrier that will fly on ulf6 and then a

797
00:30:10,310 --> 00:30:07,440
massive payload

798
00:30:12,389 --> 00:30:10,320
ams will also fly on ulf6 so

799
00:30:15,110 --> 00:30:12,399
from a massive standpoint we're very

800
00:30:17,110 --> 00:30:15,120
very close probably 90 95 and i can get

801
00:30:18,549 --> 00:30:17,120
the exact number i'll i'll try to do

802
00:30:20,230 --> 00:30:18,559
that for you

803
00:30:22,710 --> 00:30:20,240
but in terms of robustness we look at

804
00:30:25,350 --> 00:30:22,720
system overall system robustness and

805
00:30:28,310 --> 00:30:25,360
from a power and a thermal and

806
00:30:30,230 --> 00:30:28,320
avionics and from a life support

807
00:30:32,950 --> 00:30:30,240
and even from a docking

808
00:30:34,630 --> 00:30:32,960
resupply standpoint we're in excellent

809
00:30:36,630 --> 00:30:34,640
shape

810
00:30:39,510 --> 00:30:36,640
with this new module now we have four

811
00:30:41,029 --> 00:30:39,520
docking ports from the russian side um

812
00:30:43,430 --> 00:30:41,039
we're in we're in outstanding shape

813
00:30:45,430 --> 00:30:43,440

we're in the robust configuration that

814
00:30:47,510 --> 00:30:45,440
that we expect to be in for a long time

815
00:30:50,149 --> 00:30:47,520
so we're very very happy to be in this

816
00:30:51,909 --> 00:30:50,159
uh in this configuration and of course

817
00:30:53,269 --> 00:30:51,919
our goal was to have be in this

818
00:30:54,470 --> 00:30:53,279
configuration and then have the

819
00:30:56,549 --> 00:30:54,480
additional spares that we're going to

820
00:30:58,310 --> 00:30:56,559
launch on these last few flights to put

821
00:31:01,190 --> 00:30:58,320
us in a position after shuttle

822
00:31:04,230 --> 00:31:01,200
retirement to fly through 2020 and we'll

823
00:31:06,230 --> 00:31:04,240
be there

824
00:31:09,110 --> 00:31:06,240
to answer that question i do have for

825
00:31:12,389 --> 00:31:09,120
the volume of the space station 98

826
00:31:14,070 --> 00:31:12,399
complete habitable volume uh 94 complete

827
00:31:17,669 --> 00:31:14,080
in the total pressurized volume i don't

828
00:31:20,310 --> 00:31:17,679
have the percentage for mass though

829
00:31:21,430 --> 00:31:20,320
thank you thank you and uh for emily uh

830
00:31:23,430 --> 00:31:21,440
you mentioned that there's some some

831
00:31:25,029 --> 00:31:23,440
time off coming tomorrow uh for the

832
00:31:27,830 --> 00:31:25,039
shuttle crew and given i guess a busy

833
00:31:28,950 --> 00:31:27,840
week of spacewalks uh i'm wondering if

834
00:31:30,549 --> 00:31:28,960
you're gonna have to give them some

835
00:31:31,590 --> 00:31:30,559
extra encouragement to make sure that

836
00:31:34,710 --> 00:31:31,600
they

837
00:31:36,710 --> 00:31:34,720
rest up before undocking on sunday

838
00:31:38,470 --> 00:31:36,720

and and then just a quick follow-up i'm

839
00:31:40,710 --> 00:31:38,480
just wondering when you might need to

840
00:31:42,870 --> 00:31:40,720
see the cart that seems stuck

841
00:31:44,470 --> 00:31:42,880
in the near future to move that so

842
00:31:47,669 --> 00:31:44,480
that's it thank you

843
00:31:49,269 --> 00:31:47,679
in terms of off-duty day um we talked a

844
00:31:51,909 --> 00:31:49,279
little on console yesterday about the

845
00:31:53,590 --> 00:31:51,919
fact that the ev crew members

846
00:31:55,190 --> 00:31:53,600
garrett and mike were probably not

847
00:31:56,789 --> 00:31:55,200
really taking much of a day off

848
00:31:57,990 --> 00:31:56,799
yesterday when they were supposed to be

849
00:31:59,590 --> 00:31:58,000
because they'd be

850
00:32:01,990 --> 00:31:59,600
wanting to be focused for the spacewalk

851
00:32:03,590 --> 00:32:02,000
today so i expect that the smaller

852
00:32:06,070 --> 00:32:03,600
amount of off-duty time that they'll get

853
00:32:08,230 --> 00:32:06,080
tomorrow are spacewalkers for certain

854
00:32:10,470 --> 00:32:08,240
and peers as well

855
00:32:11,830 --> 00:32:10,480
since his robotic duties will mostly be

856
00:32:12,950 --> 00:32:11,840
over at that point

857
00:32:14,870 --> 00:32:12,960
are

858
00:32:16,789 --> 00:32:14,880
i think we won't have to encourage them

859
00:32:18,950 --> 00:32:16,799
too much to rest up and then

860
00:32:20,310 --> 00:32:18,960
it's about time for ken and tony to

861
00:32:21,990 --> 00:32:20,320
start um

862
00:32:23,430 --> 00:32:22,000
really focusing on everything they're

863
00:32:25,190 --> 00:32:23,440

going to need to do for the undock the

864
00:32:27,350 --> 00:32:25,200
fly around and landing so

865
00:32:28,549 --> 00:32:27,360
i am confident that they will rest and

866
00:32:30,630 --> 00:32:28,559
relax

867
00:32:32,230 --> 00:32:30,640
maybe they take turns some of them got

868
00:32:34,230 --> 00:32:32,240
more relaxation yesterday and some will

869
00:32:36,070 --> 00:32:34,240
get more relaxation tomorrow

870
00:32:38,549 --> 00:32:36,080
in terms of the cedar cart i am unaware

871
00:32:39,990 --> 00:32:38,559
of a specific need for the swing arm

872
00:32:42,310 --> 00:32:40,000
that is currently stuck on that

873
00:32:45,029 --> 00:32:42,320
starboard cedar cart

874
00:32:47,590 --> 00:32:45,039
we were only using it in eva2 in order

875
00:32:50,310 --> 00:32:47,600
to get to that ldri cable

876
00:32:52,789 --> 00:32:50,320
so it wasn't even planned for use for us

877
00:32:53,830 --> 00:32:52,799
and i haven't heard of any specific need

878
00:32:55,590 --> 00:32:53,840
for that

879
00:32:57,750 --> 00:32:55,600
have you heard about this

880
00:32:59,590 --> 00:32:57,760
cedar carts are used uh

881
00:33:00,549 --> 00:32:59,600
or a crew aid that's out there available

882
00:33:02,230 --> 00:33:00,559
for us

883
00:33:04,149 --> 00:33:02,240
and uh and so it'd really be only used

884
00:33:06,789 --> 00:33:04,159
if we had failures that required us to

885
00:33:08,630 --> 00:33:06,799
go translate uh large orus it would be

886
00:33:11,190 --> 00:33:08,640
one of the tools available to us so no

887
00:33:13,110 --> 00:33:11,200
baseline plans but certainly

888
00:33:14,789 --> 00:33:13,120

if we had a

889
00:33:16,630 --> 00:33:14,799
a specific failure

890
00:33:18,549 --> 00:33:16,640
we would have that as our as one of the

891
00:33:20,070 --> 00:33:18,559
options for us

892
00:33:21,909 --> 00:33:20,080
and and that's all on that i mean i

893
00:33:24,950 --> 00:33:21,919
think it's it's important to point out

894
00:33:26,710 --> 00:33:24,960
that's only one of uh five

895
00:33:28,710 --> 00:33:26,720
sockets for the foot restraints on that

896
00:33:32,950 --> 00:33:28,720
cedar cart so it's by no means out of

897
00:33:37,990 --> 00:33:34,710
okay tart did you have another question

898
00:33:42,149 --> 00:33:40,389
okay and last on the line is irene klotz

899
00:33:44,230 --> 00:33:42,159
please

900
00:33:45,669 --> 00:33:44,240
thanks very much um kirk i just wanted

901
00:33:47,990 --> 00:33:45,679
to follow up something that you said

902
00:33:50,470 --> 00:33:48,000
about the um about the station

903
00:33:52,630 --> 00:33:50,480
configuration um with evas after the

904
00:33:55,430 --> 00:33:52,640
shuttle's not flying what are you doing

905
00:33:57,669 --> 00:33:55,440
to manage the spacesuits um can those be

906
00:34:00,149 --> 00:33:57,679
flown back and forth on the um

907
00:34:01,269 --> 00:34:00,159
atv or htv or you need to wait for the

908
00:34:03,990 --> 00:34:01,279
commercial

909
00:34:07,350 --> 00:34:04,000
crew to do those and any other

910
00:34:09,510 --> 00:34:07,360
kind of tasks or activities that are

911
00:34:12,230 --> 00:34:09,520
going to be on hold for a while after

912
00:34:13,909 --> 00:34:12,240
the shuttle retirement thanks

913
00:34:15,589 --> 00:34:13,919

sure uh we went through of course we

914
00:34:17,829 --> 00:34:15,599
when when we decided that shuttle was

915
00:34:19,669 --> 00:34:17,839
retiring um we went through and looked

916
00:34:21,750 --> 00:34:19,679
at this problem and our plan was to

917
00:34:25,589 --> 00:34:21,760
create we call them megapluses but

918
00:34:26,550 --> 00:34:25,599
basically uh extend the life of uh of

919
00:34:28,790 --> 00:34:26,560
the

920
00:34:30,710 --> 00:34:28,800
spacesuits on orbit without having to

921
00:34:32,790 --> 00:34:30,720
bring them home to be refurbished uh

922
00:34:35,030 --> 00:34:32,800
periodically so now we have we have

923
00:34:36,790 --> 00:34:35,040
enough life on those space flight spaces

924
00:34:39,270 --> 00:34:36,800
to take us through 2015

925
00:34:41,109 --> 00:34:39,280
and we're working on plans to uh to

926
00:34:43,629 --> 00:34:41,119
configure some more of those that uh

927
00:34:46,470 --> 00:34:43,639
that could fly up and and take us beyond

928
00:34:48,149 --> 00:34:46,480
2015. um and so that's that's what we're

929
00:34:50,389 --> 00:34:48,159
doing since we just got to go ahead to

930
00:34:51,750 --> 00:34:50,399
extend here recently we're still working

931
00:34:53,270 --> 00:34:51,760
through that but

932
00:34:55,270 --> 00:34:53,280
our plan is not to fly them home of

933
00:34:58,470 --> 00:34:55,280
course as you know

934
00:35:01,349 --> 00:34:58,480
the atv and progress vehicles and htv

935
00:35:03,030 --> 00:35:01,359
all those are non-recoverable

936
00:35:05,430 --> 00:35:03,040
the dragon will have a capability to

937
00:35:07,670 --> 00:35:05,440
bring some mass home

938
00:35:09,349 --> 00:35:07,680

our focus of that is primarily payloads

939
00:35:11,109 --> 00:35:09,359
there may be some additional mass above

940
00:35:12,550 --> 00:35:11,119
the payloads requirement but but we're

941
00:35:14,310 --> 00:35:12,560
not counting on that at this point in

942
00:35:15,589 --> 00:35:14,320
time for spacesuits so it's really

943
00:35:17,349 --> 00:35:15,599
extending the life of the ones that we

944
00:35:20,550 --> 00:35:17,359
have on orbit and we brought them home

945
00:35:22,950 --> 00:35:20,560
and and basically we uh reassembled them

946
00:35:24,870 --> 00:35:22,960
with brand new parts before we launched

947
00:35:26,310 --> 00:35:24,880
them to iss and we'll have

948
00:35:27,750 --> 00:35:26,320
we'll have a number of those on orbit to

949
00:35:29,510 --> 00:35:27,760
support us through

950
00:35:32,310 --> 00:35:29,520
through the life after shuttle has

951
00:35:36,950 --> 00:35:34,630
um thank you i know the spacesuits are

952
00:35:39,349 --> 00:35:36,960
put together in uh bits and pieces but

953
00:35:40,870 --> 00:35:39,359
do you have uh some sort of cumulative

954
00:35:42,710 --> 00:35:40,880
number of um

955
00:35:45,589 --> 00:35:42,720
spacesuits that are aboard

956
00:35:47,990 --> 00:35:45,599
i know there may be like extra

957
00:35:49,910 --> 00:35:48,000
arm parts or hand glove parts for

958
00:35:52,390 --> 00:35:49,920
interchanging but we're just in rough

959
00:35:54,069 --> 00:35:52,400
numbers i i understand your question do

960
00:35:56,150 --> 00:35:54,079
you know typically we have three on

961
00:35:58,069 --> 00:35:56,160
board iss long term but i i wouldn't

962
00:35:58,910 --> 00:35:58,079
swear to that now maybe you know yeah

963
00:36:01,910 --> 00:35:58,920

actually

964
00:36:04,790 --> 00:36:01,920
sts-132 brought up the fourth

965
00:36:06,630 --> 00:36:04,800
megaplus the long-duration um

966
00:36:08,550 --> 00:36:06,640
place that or spacesuit that was going

967
00:36:10,630 --> 00:36:08,560
up so right now that's the quantity i

968
00:36:12,790 --> 00:36:10,640
believe that we're planning to maintain

969
00:36:15,750 --> 00:36:12,800
as far as the life support pack and then

970
00:36:18,150 --> 00:36:15,760
we do have a number of boots arms legs

971
00:36:20,950 --> 00:36:18,160
of different sizes so there's an entire

972
00:36:22,470 --> 00:36:20,960
inventory of spacesuit parts up there

973
00:36:26,550 --> 00:36:22,480
now so we can accommodate quite the

974
00:36:33,430 --> 00:36:28,550
thank you very much

975
00:36:37,829 --> 00:36:35,589
uh mark crowe aviation week four and i

976
00:36:40,790 --> 00:36:37,839
had a look ahead question

977
00:36:43,109 --> 00:36:40,800
when you uh place the grapple fixture on

978
00:36:45,349 --> 00:36:43,119
the russian segment

979
00:36:47,589 --> 00:36:45,359
what access is that going to give you

980
00:36:51,589 --> 00:36:47,599
with the arm that you've not had before

981
00:36:55,750 --> 00:36:53,829
having the grapple fixture on the on the

982
00:36:58,230 --> 00:36:55,760
on the fgb on zarya

983
00:37:00,150 --> 00:36:58,240
gives us the capability to not only base

984
00:37:01,829 --> 00:37:00,160
the arm there but it also gives the

985
00:37:05,829 --> 00:37:01,839
capability uh to

986
00:37:07,430 --> 00:37:05,839
to i'll say park dexter on on that so

987
00:37:08,550 --> 00:37:07,440
we'd have capability further back into

988
00:37:11,510 --> 00:37:08,560

the russian segment this will be the

989
00:37:12,950 --> 00:37:11,520
farthest aft grapple fixture we have um

990
00:37:15,030 --> 00:37:12,960
but like i said it gives us another

991
00:37:18,310 --> 00:37:15,040
opportunity to uh to park dexter today

992
00:37:19,510 --> 00:37:18,320
we parked dexter on uh typically on the

993
00:37:25,430 --> 00:37:19,520
the lab

994
00:37:27,670 --> 00:37:25,440
is in view of one of our windows so

995
00:37:28,790 --> 00:37:27,680
that that's problematic for us long term

996
00:37:31,190 --> 00:37:28,800
which is one of the reasons we were

997
00:37:33,990 --> 00:37:31,200
driving to this or we put dexter up on

998
00:37:35,990 --> 00:37:34,000
the mbs which again if you're doing

999
00:37:37,430 --> 00:37:36,000
operations like during a shuttle flight

1000
00:37:38,870 --> 00:37:37,440
typically we don't have it there i think

1001
00:37:41,109 --> 00:37:38,880
in this flight we had dexter up there

1002
00:37:43,030 --> 00:37:41,119
because we were adding the eotp but

1003
00:37:44,310 --> 00:37:43,040
other flights typically we moved extra

1004
00:37:45,910 --> 00:37:44,320
down to the

1005
00:37:47,670 --> 00:37:45,920
lab so it just gives us additional

1006
00:37:49,349 --> 00:37:47,680
flexibility there's no driving

1007
00:37:50,630 --> 00:37:49,359
requirement for reach aft in the russian

1008
00:37:52,069 --> 00:37:50,640
segment at this point in time but

1009
00:37:55,190 --> 00:37:52,079
certainly we would have that available

1010
00:37:55,200 --> 00:38:00,310
there's another question down here

1011
00:38:04,390 --> 00:38:02,069
peter ray with southern fm from

1012
00:38:06,230 --> 00:38:04,400
australia mr shaman again um could you

1013
00:38:09,670 --> 00:38:06,240

explain the reason that the

1014
00:38:12,150 --> 00:38:09,680
soyuz 23 is launching and docking uh on

1015
00:38:14,470 --> 00:38:12,160
the russian segment then after docking

1016
00:38:15,589 --> 00:38:14,480
it's translating around to the mrm1 is

1017
00:38:18,550 --> 00:38:15,599
there a particular reason why it's not

1018
00:38:20,870 --> 00:38:18,560
going directly there

1019
00:38:21,910 --> 00:38:20,880
sure we talked a lot uh with respect to

1020
00:38:23,910 --> 00:38:21,920
our we've talked to our russian

1021
00:38:26,550 --> 00:38:23,920
colleagues about that the mrn1 is not

1022
00:38:29,990 --> 00:38:26,560
fully outfitted uh for approaching

1023
00:38:31,109 --> 00:38:30,000
vehicle um in its normal uh autonomous

1024
00:38:32,870 --> 00:38:31,119
mode

1025
00:38:34,950 --> 00:38:32,880
in other words it's uh and the reason

1026
00:38:37,510 --> 00:38:34,960
for that is it takes a space walk to go

1027
00:38:40,310 --> 00:38:37,520
out and deploy targets and and hook up

1028
00:38:42,069 --> 00:38:40,320
cables uh so that the all the antennas

1029
00:38:44,390 --> 00:38:42,079
are uh are functioning that we require

1030
00:38:46,069 --> 00:38:44,400
for that autonomous mode of the soyuz

1031
00:38:47,510 --> 00:38:46,079
and so what you have to be is flown

1032
00:38:49,349 --> 00:38:47,520
manually and so the russians would

1033
00:38:50,870 --> 00:38:49,359
prefer to uh

1034
00:38:53,510 --> 00:38:50,880
and in fact that's what we're doing to

1035
00:38:55,349 --> 00:38:53,520
fly up to the

1036
00:38:57,910 --> 00:38:55,359
let's see i'll make sure i get the right

1037
00:39:00,630 --> 00:38:57,920
port here we are flying up to the

1038
00:39:02,230 --> 00:39:00,640

service module aft port and and then

1039
00:39:04,710 --> 00:39:02,240
it'll relocate to the

1040
00:39:07,030 --> 00:39:04,720
mrm port which is on the on the nader

1041
00:39:08,790 --> 00:39:07,040
side of zarya and it'll that that

1042
00:39:10,230 --> 00:39:08,800
relocation is all flowing manually they

1043
00:39:12,390 --> 00:39:10,240
back off

1044
00:39:14,230 --> 00:39:12,400
rotate around the iss and dock so

1045
00:39:16,230 --> 00:39:14,240
that'll all be done manually we'll do a

1046
00:39:17,910 --> 00:39:16,240
russian eva this summer and at that

1047
00:39:20,150 --> 00:39:17,920
point in time it'll be ready for fully

1048
00:39:22,630 --> 00:39:20,160
automated dockings to to that port in

1049
00:39:26,870 --> 00:39:24,710
any other questions here

1050
00:39:28,790 --> 00:39:26,880
okay to add to again one of the answers

1051
00:39:32,390 --> 00:39:28,800
from before the space station is

1052
00:39:33,270 --> 00:39:32,400
complete by 93 percent of the mass that

1053
00:39:34,390 --> 00:39:33,280
for

1054
00:39:36,790 --> 00:39:34,400
assembly

1055
00:39:37,829 --> 00:39:36,800
and also there was a question maybe

1056
00:39:40,069 --> 00:39:37,839
about

1057
00:39:41,190 --> 00:39:40,079
the soyuz launch and docking if those

1058
00:39:44,870 --> 00:39:41,200
were

1059
00:39:47,670 --> 00:39:44,880
gmt times it may be the 15th and 17th

1060
00:39:50,630 --> 00:39:47,680
central time locally

1061
00:39:52,790 --> 00:39:50,640
do you think okay and coming up on nasa

1062
00:39:54,310 --> 00:39:52,800
television we'll be airing the videos

1063
00:39:55,910 --> 00:39:54,320

that were retrieved from the solid

1064
00:39:58,550 --> 00:39:55,920
rocket boosters for the first time that

1065
00:40:00,310 --> 00:39:58,560
will come up at the top of the hour and

1066
00:40:02,310 --> 00:40:00,320
the flight day highlights for today's

1067
00:40:04,150 --> 00:40:02,320
activities will begin airing at 5 pm

1068
00:40:05,589 --> 00:40:04,160
central time as the crews onboard the

1069
00:40:07,829 --> 00:40:05,599
shutdown station are now in their sleep

1070
00:40:19,030 --> 00:40:07,839
shift and with that we'll head back to

1071
00:40:24,550 --> 00:40:22,150
this is mission control houston

1072
00:40:25,829 --> 00:40:24,560
welcome back to live coverage of sts-132

1073
00:40:27,349 --> 00:40:25,839
from here in the space shuttle flight