



1
00:00:03,909 --> 00:00:01,829
structural integrity

2
00:00:05,590 --> 00:00:03,919
they will then route cables to provide

3
00:00:07,990 --> 00:00:05,600
ethernet capabilities for two

4
00:00:19,910 --> 00:00:08,000
high-definition cameras on the station's

5
00:00:24,230 --> 00:00:21,910
also inside the quest airlock at the

6
00:00:25,269 --> 00:00:24,240
moment you see nasa astronaut kate

7
00:00:27,349 --> 00:00:25,279
rubins

8
00:00:32,709 --> 00:00:27,359
there are seven people currently living

9
00:00:37,270 --> 00:00:34,790
that's michael hopkins victor glover

10
00:00:39,670 --> 00:00:37,280
shannon walker and kate rubins of nasa

11
00:00:44,150 --> 00:00:39,680
soichinoguchi of jaxa and sergey

12
00:00:56,389 --> 00:00:44,160
rizhikov and sergey kuzkov of roscosmos

13
00:01:03,349 --> 00:01:00,229

so eric we are looking to swap out this

14

00:01:04,710 --> 00:01:03,359
comb cap but we are hoping to be able to

15

00:01:08,070 --> 00:01:04,720
do it in

16

00:01:10,149 --> 00:01:08,080
10 minutes to avoid uh depressing having

17

00:01:11,750 --> 00:01:10,159
to depress the airlock again

18

00:01:14,070 --> 00:01:11,760
we definitely don't want to rush through

19

00:01:16,469 --> 00:01:14,080
it or make mistakes but that will be the

20

00:01:30,149 --> 00:01:16,479
goal and with you guys having already

21

00:01:34,950 --> 00:01:31,990
and that's ten minutes from the time

22

00:01:37,270 --> 00:01:34,960
that we uh pop the glove on the suit uh

23

00:01:39,749 --> 00:01:37,280
to opening the helmet remove the old or

24

00:01:41,910 --> 00:01:39,759
remove the um we take heka off before

25

00:01:44,069 --> 00:01:41,920
that 10 minutes starts

26
00:01:46,950 --> 00:01:44,079
can you give us a very specific certain

27
00:01:51,190 --> 00:01:47,670
so

28
00:01:53,749 --> 00:01:51,200
kate in step 9 decimal 2 of that break

29
00:01:56,950 --> 00:01:53,759
in pre-breathed procedure two decimal

30
00:01:59,109 --> 00:01:56,960
one zero seven there's a warning

31
00:02:01,510 --> 00:01:59,119
that they'll give you more words it's

32
00:02:03,670 --> 00:02:01,520
step nine decimal three through step

33
00:02:08,129 --> 00:02:03,680
thirteen that must be performed in ten

34
00:02:08,139 --> 00:02:16,949
[Music]

35
00:02:16,959 --> 00:02:32,309
exercise

36
00:02:36,150 --> 00:02:33,750
as you hear teams on the ground are

37
00:02:38,229 --> 00:02:36,160
communicating with the crew in the quest

38
00:02:44,470 --> 00:02:38,239

airlock discussing the communications

39

00:02:48,790 --> 00:02:46,470

there are multiple spares on board and

40

00:02:51,030 --> 00:02:48,800

he is having trouble hearing in his calm

41

00:02:53,270 --> 00:02:51,040

cap and so they will be swapping out

42

00:03:04,630 --> 00:02:53,280

that cap as we continue preparations for

43

00:03:09,030 --> 00:03:06,949

floating into frame is jaxa japanese

44

00:03:11,509 --> 00:03:09,040

aerospace exploration agency astronaut

45

00:03:19,830 --> 00:03:11,519

soichinoguchi helping the crew members

46

00:03:26,070 --> 00:03:22,949

we see in step seven uh that we will be

47

00:03:28,710 --> 00:03:26,080

taking care of the hd emu camera before

48

00:03:30,949 --> 00:03:28,720

the critical time so that sounds good

49

00:03:33,110 --> 00:03:30,959

and we're looking at nine decimal two or

50

00:03:36,070 --> 00:03:33,120

93 through 13

51
00:03:38,149 --> 00:03:36,080
to be accomplished in 10 minutes

52
00:03:40,070 --> 00:03:38,159
and let's discuss up here and we'll get

53
00:03:54,229 --> 00:03:40,080
back to you

54
00:03:57,509 --> 00:03:55,750
as you heard rubens mentioned they'll

55
00:04:00,070 --> 00:03:57,519
have a 10-minute time frame to complete

56
00:04:08,630 --> 00:04:00,080
the work of removing and replacing the

57
00:04:13,270 --> 00:04:10,149
meanwhile the astronauts are currently

58
00:04:22,629 --> 00:04:13,280
in the pre-breathe portion of today's

59
00:04:26,629 --> 00:04:24,710
pre-breathing consists of two phases in

60
00:04:28,950 --> 00:04:26,639
the first the crew breathes 100 percent

61
00:04:30,870 --> 00:04:28,960
oxygen through a mask to begin purging

62
00:04:32,550 --> 00:04:30,880
the nitrogen from their bodies

63
00:04:34,870 --> 00:04:32,560

and in the second phase which is where

64

00:04:36,310 --> 00:04:34,880

we see the crew members now they are in

65

00:04:38,310 --> 00:04:36,320

their spacesuits and conducting

66

00:04:40,710 --> 00:04:38,320

something called the in-suit light

67

00:04:42,710 --> 00:04:40,720

exercise or aisle where they move their

68

00:04:45,350 --> 00:04:42,720

arms and legs and raise their metabolic

69

00:05:05,900 --> 00:04:45,360

rate just ever so slightly to help speed

70

00:05:16,790 --> 00:05:08,870

[Music]

71

00:05:21,270 --> 00:05:19,670

we are ready to copy

72

00:05:23,110 --> 00:05:21,280

all right so we will be in the same

73

00:05:26,629 --> 00:05:23,120

procedure that we were in earlier today

74

00:05:28,710 --> 00:05:26,639

two decimal one zero seven break in emu

75

00:05:31,830 --> 00:05:28,720

in suit pre-breeze

76
00:05:34,790 --> 00:05:31,840
you'll do steps six through ten decimal

77
00:05:41,350 --> 00:05:37,270
and then in ten decimal four

78
00:05:43,990 --> 00:05:41,360
you will switch commode to off off

79
00:05:48,950 --> 00:05:44,000
swap the comcaps

80
00:05:52,469 --> 00:05:51,510
then we'll have you do steps 10 decimal

81
00:05:55,909 --> 00:05:52,479
6

82
00:05:58,629 --> 00:05:55,919
through 17 decimal 2

83
00:06:00,550 --> 00:05:58,639
and then finish with 17 decimal 4

84
00:06:06,629 --> 00:06:00,560
through the end of the procedure how

85
00:06:11,189 --> 00:06:09,749
uh starting step six through ten decimal

86
00:06:14,390 --> 00:06:11,199
four then

87
00:06:23,830 --> 00:06:14,400
mode off slot from cap combo the back to

88
00:06:27,990 --> 00:06:25,990

we're in a brief satellite handover and

89

00:06:30,309 --> 00:06:28,000

you've got a live look inside mission

90

00:06:33,990 --> 00:06:30,319

control houston the orbit 2 team

91

00:06:37,830 --> 00:06:35,909

leading today's team is chris edelman

92

00:06:40,309 --> 00:06:37,840

the flight director

93

00:06:42,230 --> 00:06:40,319

and uh capcom for the astronauts inside

94

00:06:44,469 --> 00:06:42,240

the international space station is kathy

95

00:06:46,710 --> 00:06:44,479

bolt

96

00:06:48,870 --> 00:06:46,720

however relaying the tasks to the

97

00:06:51,909 --> 00:06:48,880

astronauts once outside the space

98

00:06:54,150 --> 00:06:51,919

station is andy mogensen an esa european

99

00:06:57,029 --> 00:06:54,160

space agency astronaut

100

00:06:59,110 --> 00:06:57,039

after switching the

101
00:07:00,950 --> 00:06:59,120
comm mode to pry and we actually will

102
00:07:05,189 --> 00:07:00,960
have you do the comm check after the 10

103
00:07:09,510 --> 00:07:07,189
okay i understand so we will not do the

104
00:07:13,990 --> 00:07:09,520
comm check after comp price so we go to

105
00:07:16,629 --> 00:07:14,000
the 10.6 through 17 decimal 2 then 17

106
00:07:20,950 --> 00:07:16,639
decimal fold through the end

107
00:07:20,960 --> 00:07:28,629
and and you three two one end exercise

108
00:07:31,670 --> 00:07:30,150
and the only thing that i'm going to add

109
00:07:33,270 --> 00:07:31,680
to that that we noticed the last time is

110
00:07:35,270 --> 00:07:33,280
when we're switching the comm caps we're

111
00:07:37,350 --> 00:07:35,280
going to put three twists um in the

112
00:07:38,950 --> 00:07:37,360
comcap we cut that for ike's um but

113
00:07:41,749 --> 00:07:38,960

that's important because that's not our

114

00:07:41,759 --> 00:07:48,309

copy good catch procedure

115

00:07:54,790 --> 00:07:50,150

are the critical ones where the 10

116

00:07:54,800 --> 00:08:00,230

those are good words kate

117

00:08:00,240 --> 00:08:22,950

three two one start exercise

118

00:08:27,510 --> 00:08:25,749

as you heard the call to start exercise

119

00:08:29,430 --> 00:08:27,520

we were discussing that is the in-suit

120

00:08:31,189 --> 00:08:29,440

light exercise protocol

121

00:08:33,909 --> 00:08:31,199

and it's a loose term for exercise it's

122

00:08:34,870 --> 00:08:33,919

really just moving the legs on the space

123

00:08:36,550 --> 00:08:34,880

suit

124

00:08:47,030 --> 00:08:36,560

help purge that nitrogen out of the

125

00:08:52,150 --> 00:08:47,910

and

126

00:08:54,630 --> 00:08:52,160

rubens are preparing to swap out the

127

00:08:57,269 --> 00:08:54,640

clown cap for nasa astronaut michael

128

00:08:59,190 --> 00:08:57,279

hopkins he is ev2 today

129

00:09:23,910 --> 00:08:59,200

having some trouble transmitting through

130

00:09:29,269 --> 00:09:26,070

airlock houston on one no response

131

00:09:35,030 --> 00:09:29,279

required but both crew will be hot miked

132

00:09:35,040 --> 00:09:52,230

cop your thumbs up

133

00:09:52,240 --> 00:10:14,949

zen a little

134

00:10:19,990 --> 00:10:17,030

airlock houston on one just one

135

00:10:21,990 --> 00:10:20,000

clarification we are on the ninth cycle

136

00:10:23,670 --> 00:10:22,000

out of ten for exercise and then once

137

00:10:25,990 --> 00:10:23,680

we're complete with the exercises when

138

00:10:29,430 --> 00:10:26,000

we'll start into those steps in uh two

139

00:10:30,949 --> 00:10:30,829

totally

140

00:10:33,509 --> 00:10:30,959

sense completes

141

00:10:33,519 --> 00:10:49,430

copy

142

00:10:49,440 --> 00:11:09,829

nice

143

00:11:14,550 --> 00:11:12,150

today's space walk is the fifth of the

144

00:11:22,949 --> 00:11:14,560

year and the third for hawkins and

145

00:11:26,470 --> 00:11:24,550

earlier this year the astronauts have

146

00:11:27,829 --> 00:11:26,480

continued station upgrades as well as

147

00:11:39,590 --> 00:11:27,839

preparing the international space

148

00:11:44,230 --> 00:11:42,389

solar arrays will launch later this year

149

00:11:46,230 --> 00:11:44,240

the agency is using this technology on

150

00:11:47,990 --> 00:11:46,240

both the updated power system for the

151
00:11:50,069 --> 00:11:48,000
station as well as the power and

152
00:12:00,470 --> 00:11:50,079
propulsion element for nasa's gateway

153
00:12:02,389 --> 00:12:01,350
three

154
00:12:15,190 --> 00:12:02,399
two

155
00:12:15,200 --> 00:12:59,910
okay

156
00:13:01,990 --> 00:13:01,030
three

157
00:13:04,629 --> 00:13:02,000
two

158
00:13:10,310 --> 00:13:04,639
one start exercise this will be the last

159
00:13:10,320 --> 00:13:26,550
go faster

160
00:13:26,560 --> 00:13:52,150
it was choppy

161
00:13:56,069 --> 00:13:53,829
nasa astronauts victor glover and

162
00:13:57,030 --> 00:13:56,079
michael hopkins continue the pre-breathe

163
00:14:03,269 --> 00:13:57,040

portion

164

00:14:06,310 --> 00:14:04,870

all four astronauts you see in the

165

00:14:08,069 --> 00:14:06,320

screen right now are currently in the

166

00:14:10,470 --> 00:14:08,079

equipment lock portion of the quest

167

00:14:11,990 --> 00:14:10,480

airlock where the crew dons their suits

168

00:14:14,230 --> 00:14:12,000

conducts this pre-breathe and will

169

00:14:17,030 --> 00:14:14,240

attach the safer or the simplified aid

170

00:14:21,670 --> 00:14:17,040

for eva rescue sort of like a jetpack

171

00:14:24,949 --> 00:14:23,189

once all those steps are complete the

172

00:14:26,870 --> 00:14:24,959

crew will move into the crew lock

173

00:14:29,269 --> 00:14:26,880

portion the outermost part of the quest

174

00:14:30,949 --> 00:14:29,279

airlock where final communications and

175

00:14:33,189 --> 00:14:30,959

suit systems checks will be conducted

176

00:14:34,790 --> 00:14:33,199

with the ground

177

00:14:37,269 --> 00:14:34,800

the space walk itself will officially

178

00:15:46,310 --> 00:14:37,279

begin when suits are changed to internal

179

00:15:46,320 --> 00:17:18,870

okay

180

00:17:23,909 --> 00:17:21,429

the in-suit light exercise or aisle

181

00:17:26,390 --> 00:17:23,919

pre-breathe protocol is now complete

182

00:17:29,110 --> 00:17:26,400

end exercise

183

00:17:30,390 --> 00:17:29,120

and our in-suit light exercise is now

184

00:17:33,430 --> 00:17:30,400

complete

185

00:17:43,430 --> 00:17:33,440

you are go to start into two decimal one

186

00:17:48,789 --> 00:17:46,310

two decimal one zero seven starting step

187

00:17:48,799 --> 00:18:53,830

good birds

188

00:19:31,830 --> 00:18:55,669

electrical connection just electrical

189

00:19:36,789 --> 00:19:34,470

nasa astronaut kate rubins and japanese

190

00:19:40,310 --> 00:19:36,799

aerospace exploration seat exploration

191

00:19:42,470 --> 00:19:40,320

agency astronaut soichinoguchi

192

00:19:45,510 --> 00:19:42,480

preparing to assist

193

00:19:47,190 --> 00:19:45,520

nasa's mike hopkins in doffing and

194

00:19:49,190 --> 00:19:47,200

donning a new

195

00:19:50,830 --> 00:19:49,200

comcap so he can communicate with his

196

00:19:55,110 --> 00:19:50,840

crew members in the

197

00:19:55,120 --> 00:20:39,029

copy 1121

198

00:20:39,039 --> 00:21:16,710

hmm

199

00:21:21,909 --> 00:21:19,430

kate rubins and suici making a quick

200

00:21:23,990 --> 00:21:21,919

switch of that calm cap you see

201
00:21:25,830 --> 00:21:24,000
mike hawkins now donning that will be

202
00:21:28,070 --> 00:21:25,840
underneath his helmet and allows him to

203
00:21:30,310 --> 00:21:28,080
hear and communicate with teams on the

204
00:21:56,230 --> 00:21:30,320
ground as well as his comrade victor

205
00:21:56,240 --> 00:22:22,470
what's this

206
00:22:22,480 --> 00:22:33,830
go ahead and move the commode to pry

207
00:22:40,870 --> 00:22:35,590
and we have you loud and clear hopper as

208
00:22:48,070 --> 00:22:43,190
and with that quick switch comes a great

209
00:23:03,510 --> 00:22:49,990
reuben's indiguchi now replacing his

210
00:23:03,520 --> 00:23:12,230
um

211
00:23:12,240 --> 00:23:14,950
nicely done

212
00:23:14,960 --> 00:23:39,510
did you hear me

213
00:23:44,149 --> 00:23:41,830

as we prepare for today's space walk the

214

00:23:47,310 --> 00:23:44,159

international space station is flying

215

00:23:50,070 --> 00:23:47,320

about 17 500 miles an hour

216

00:24:08,710 --> 00:23:50,080

260 statute miles over the philippine

217

00:24:08,720 --> 00:25:05,350

hmm

218

00:25:08,870 --> 00:25:07,190

as the astronauts continue walking

219

00:25:13,590 --> 00:25:08,880

through their procedures preparing to

220

00:25:18,630 --> 00:25:15,190

another look at what they will be

221

00:25:23,750 --> 00:25:20,710

first both astronauts will go to the

222

00:25:25,830 --> 00:25:23,760

early ammonia system and vent two

223

00:25:30,710 --> 00:25:25,840

jumpers glover will relocate one of

224

00:25:33,750 --> 00:25:31,510

break

225

00:25:36,710 --> 00:25:33,760

time was 11

226

00:25:41,269 --> 00:25:36,720

27 which means only six minute break and

227

00:25:41,279 --> 00:25:53,990

coffee also is the excellent work

228

00:25:59,590 --> 00:25:57,669

soichinoguchi reporting only six minutes

229

00:26:01,990 --> 00:25:59,600

for the time that it took to remove and

230

00:26:03,510 --> 00:26:02,000

replace mike hopkins

231

00:26:05,590 --> 00:26:03,520

calm cap

232

00:27:08,549 --> 00:26:05,600

the crew was given a 10 minute time

233

00:27:08,559 --> 00:27:12,710

yep i can feel it

234

00:27:12,720 --> 00:27:48,789

all right

235

00:27:53,110 --> 00:27:51,029

we are in a quick satellite handover of

236

00:27:56,470 --> 00:27:53,120

the satellites on the tracking data and

237

00:28:00,549 --> 00:27:59,029

these handovers of audio and video are

238

00:28:27,029 --> 00:28:00,559

tracked and we expect to regain

239

00:28:32,230 --> 00:28:29,830

back inside the quest airlock and back

240

00:28:35,909 --> 00:28:32,240

to our look ahead at what will take

241

00:28:39,990 --> 00:28:37,510

victor glover will also remove and

242

00:28:46,230 --> 00:28:40,000

replace a wireless video system external

243

00:28:51,669 --> 00:28:49,269

there are three wetas that receive video

244

00:28:54,389 --> 00:28:51,679

from wireless video systems this one

245

00:28:57,430 --> 00:28:54,399

failed in december 2020 so he will

246

00:29:00,789 --> 00:28:57,440

remove the current unit and replace with

247

00:29:04,710 --> 00:29:02,870

michael hawkins will be completing a

248

00:29:05,750 --> 00:29:04,720

multitude of tasks at the columbus

249

00:29:07,909 --> 00:29:05,760

module

250

00:29:10,950 --> 00:29:07,919

one being working with the jumpers and

251
00:29:13,830 --> 00:29:10,960
plugs on the bartlemayo science

252
00:29:17,430 --> 00:29:13,840
platform

253
00:29:19,830 --> 00:29:17,440
during eva 69 us eva 69 astronauts

254
00:29:22,789 --> 00:29:19,840
reported the jack socket tines might be

255
00:29:24,310 --> 00:29:22,799
more closed in than was expected so he

256
00:29:28,789 --> 00:29:24,320
will be troubleshooting some of the work

257
00:29:33,909 --> 00:29:30,870
while at the columbus module

258
00:29:37,430 --> 00:29:33,919
hopkins will also reconfigure a ham

259
00:29:40,630 --> 00:29:38,630
and he'll continue work on the

260
00:29:42,630 --> 00:29:40,640
bartolomeo science platform by fully

261
00:29:45,029 --> 00:29:42,640
closing 11 cable clamps that were

262
00:29:48,870 --> 00:29:45,039
originally used to hold down the cables

263
00:29:53,269 --> 00:29:51,029

back at the airlock both astronauts will

264

00:29:55,430 --> 00:29:53,279

work together on installing a stiffener

265

00:29:57,110 --> 00:29:55,440

for the airlock's thermal cover

266

00:29:59,990 --> 00:29:57,120

this will help keep the

267

00:30:01,990 --> 00:30:00,000

thermal cover from blowing open

268

00:30:03,830 --> 00:30:02,000

it continues work from a previous

269

00:30:05,430 --> 00:30:03,840

spacewalk this year where a magnetic

270

00:30:10,310 --> 00:30:05,440

plate was installed

271

00:30:14,389 --> 00:30:11,909

the astronauts will then move on to

272

00:30:17,029 --> 00:30:14,399

routing some cables which will

273

00:30:21,590 --> 00:30:17,039

eventually create a wi-fi hotspot when

274

00:30:25,269 --> 00:30:23,029

all in all we're looking at about six

275

00:30:27,430 --> 00:30:25,279

and a half hours of work today outside

276
00:31:41,830 --> 00:30:27,440
the hatch for our two astronauts michael

277
00:31:41,840 --> 00:31:47,750
just in case you want to check out

278
00:31:47,760 --> 00:31:57,990
and we copy suici

279
00:31:58,000 --> 00:32:11,750
i'm sorry

280
00:32:20,950 --> 00:32:13,830
you can go ahead and turn that off so

281
00:32:20,960 --> 00:32:29,669
and the green led or

282
00:32:33,830 --> 00:32:31,990
and uh yeah buddy now it's only seven

283
00:32:34,710 --> 00:32:33,840
minutes into the first i believe we have

284
00:32:37,990 --> 00:32:34,720
to go

285
00:32:44,470 --> 00:32:38,000
through 12 minutes for the first right

286
00:32:49,909 --> 00:32:46,310
you heard the astronaut discussing the

287
00:32:51,430 --> 00:32:49,919
heka on mike hawkins helmet

288
00:32:55,990 --> 00:32:51,440

that's the high definition extra

289

00:32:57,350 --> 00:32:56,000

vehicular activity camera assembly

290

00:33:00,389 --> 00:32:57,360

so hawkins will be wearing a high

291

00:33:02,149 --> 00:33:00,399

definition camera this morning

292

00:33:03,669 --> 00:33:02,159

hopefully we get some great views from

293

00:33:06,070 --> 00:33:03,679

that camera and the ground team is

294

00:33:08,389 --> 00:33:06,080

looking for clear reviews

295

00:33:11,750 --> 00:33:08,399

coming from the camera of the bartolomeo

296

00:33:17,430 --> 00:33:11,760

science platform

297

00:33:24,549 --> 00:33:20,070

and tell chris justice and i passed the

298

00:33:36,950 --> 00:33:24,559

uh backroom in your box certified

299

00:33:36,960 --> 00:34:00,870

i feel shocking

300

00:34:00,880 --> 00:34:18,310

uh

301

00:34:18,320 --> 00:34:24,230

station one for the universities

302

00:34:24,240 --> 00:34:29,510

go ahead on one

303

00:34:33,510 --> 00:34:31,270

yeah we still have like three minutes

304

00:34:35,750 --> 00:34:33,520

before after being complete so we'll

305

00:34:37,990 --> 00:34:35,760

continue through the end

306

00:34:39,669 --> 00:34:38,000

and then after that we go back to the

307

00:34:44,310 --> 00:34:39,679

emu brewery

308

00:34:49,750 --> 00:34:47,030

that's affirmative fuji we have a go in

309

00:34:56,550 --> 00:34:49,760

step 15 to proceed with the medox

310

00:34:56,560 --> 00:35:01,270

after this

311

00:35:01,280 --> 00:35:05,990

good words

312

00:35:11,829 --> 00:35:07,990

another video handover

313

00:35:17,349 --> 00:35:14,550

crew discussing pre-breathe

314

00:35:19,190 --> 00:35:17,359

this is to purge the nitrogen from the

315

00:35:25,109 --> 00:35:19,200

astronauts bodies and maintain a hundred

316

00:35:29,109 --> 00:35:26,950

sensation one for watty just checking

317

00:35:31,589 --> 00:35:29,119

out the old calm cap here i do not see

318

00:35:33,109 --> 00:35:31,599

any evidence of moisture in the embeds

319

00:35:35,829 --> 00:35:33,119

and i'll give you a close-up some of the

320

00:35:37,430 --> 00:35:35,839

ear cups and the mic boom this is the

321

00:35:40,870 --> 00:35:37,440

failed tomcat that we took out of hopper

322

00:35:51,670 --> 00:35:42,310

copy all kate and could we get the

323

00:36:05,190 --> 00:35:53,430

copy 12.97

324

00:36:08,390 --> 00:36:06,950

excellent

325

00:36:10,069 --> 00:36:08,400

thanks kate

326

00:36:29,670 --> 00:36:10,079

and can we see the mic booms as well

327

00:36:33,670 --> 00:36:31,829

a close-up look of the communications

328

00:36:35,430 --> 00:36:33,680

cap that mike hawkins was previously

329

00:36:48,310 --> 00:36:35,440

wearing and having trouble communicating

330

00:36:48,320 --> 00:36:52,150

copy we see it

331

00:37:01,910 --> 00:36:55,270

thanks kate and kate did you see any

332

00:37:05,589 --> 00:37:03,829

i know but after we guys get these guys

333

00:37:08,310 --> 00:37:05,599

out the door i'll get the macro camera

334

00:37:12,230 --> 00:37:08,320

and get some close-in documentation for

335

00:37:12,240 --> 00:38:17,670

much appreciated thanks kate

336

00:38:17,680 --> 00:38:26,870

and houston station step 18 is complete

337

00:38:26,880 --> 00:38:47,510

copy purge complete

338

00:38:51,990 --> 00:38:49,349

noguchi reporting that that purge of

339

00:38:53,670 --> 00:38:52,000

nitrogen from the spacesuit is complete

340

00:38:54,710 --> 00:38:53,680

the spacesuits are kept at a lower

341

00:38:58,230 --> 00:38:54,720

pressure

342

00:38:59,750 --> 00:38:58,240

to help allow for more flexibility the

343

00:39:00,790 --> 00:38:59,760

gloves inside the spacesuit are

344

00:39:02,710 --> 00:39:00,800

extremely

345

00:39:05,510 --> 00:39:02,720

rigid and with a six and a half hour

346

00:39:06,870 --> 00:39:05,520

spacewalk and using hands the entire

347

00:39:07,910 --> 00:39:06,880

time

348

00:39:09,510 --> 00:39:07,920

helps to have a little bit more

349

00:39:11,270 --> 00:39:09,520

flexibility so

350

00:39:12,829 --> 00:39:11,280

inside the spacesuit the pressure is

351
00:39:15,670 --> 00:39:12,839
about 4.3

352
00:39:17,510 --> 00:39:15,680
psi and to mimic that on earth you'd

353
00:39:22,950 --> 00:39:17,520
need to be at about 30 000 feet

354
00:39:26,510 --> 00:39:24,550
the average atmospheric pressure we're

355
00:39:29,829 --> 00:39:26,520
used to on earth at sea level is about

356
00:39:31,349 --> 00:39:29,839
14.7 psi so that's similar to the

357
00:39:33,270 --> 00:39:31,359
pressure of the inside of the

358
00:39:35,670 --> 00:39:33,280
international space station with a mixed

359
00:39:50,310 --> 00:39:35,680
oxygen and nitrogen environment again

360
00:39:50,320 --> 00:39:59,589
more school station space to ground too

361
00:39:59,599 --> 00:40:11,349
go ahead on space to ground too

362
00:40:14,150 --> 00:40:12,640
i did perform an

363
00:40:17,430 --> 00:40:14,160

[Music]

364

00:40:21,670 --> 00:40:17,440

inspection of the unit and

365

00:40:45,030 --> 00:40:41,670

and

366

00:40:47,349 --> 00:40:45,040

watching this morning's spacewalk in

367

00:40:49,270 --> 00:40:47,359

less than 10 minutes you can go outside

368

00:40:51,109 --> 00:40:49,280

and see the international space station

369

00:40:55,109 --> 00:40:51,119

fly overhead

370

00:40:57,430 --> 00:40:55,119

it'll be about a six minute pass 0.1 and

371

00:40:59,589 --> 00:40:57,440

i believe that's end of this procedure

372

00:41:00,710 --> 00:40:59,599

go back to step 15

373

00:41:01,990 --> 00:41:00,720

um

374

00:41:06,150 --> 00:41:02,000

to this

375

00:41:09,670 --> 00:41:08,309

all sushi those are good words and a

376

00:41:12,470 --> 00:41:09,680

good leak check

377

00:41:15,430 --> 00:41:12,480

and uh just a reminder that the intent

378

00:41:17,990 --> 00:41:15,440

is to uh keep both crew members in hot

379

00:42:12,309 --> 00:41:18,000

mic for now uh but if you need private

380

00:42:17,270 --> 00:42:14,470

here's a station on one that double

381

00:42:19,270 --> 00:42:17,280

check we are allowed to stop the

382

00:42:23,750 --> 00:42:19,280

net exchange out at this time medical

383

00:42:23,760 --> 00:42:28,829

that's a furniture sushi you are

384

00:42:28,839 --> 00:43:57,260

go yes

385

00:45:04,360 --> 00:44:20,330

[Applause]

386

00:45:29,829 --> 00:45:16,530

[Music]

387

00:45:35,349 --> 00:45:32,710

suicina gucci and kate hopkins working

388

00:45:37,589 --> 00:45:35,359

to remove victor glover from his place

389

00:45:39,750 --> 00:45:37,599

in the crew lock portion of or the

390

00:45:41,589 --> 00:45:39,760

equipment log portion of the quest

391

00:45:43,190 --> 00:45:41,599

airlock and will eventually move him

392

00:45:45,349 --> 00:45:43,200

into the

393

00:45:49,829 --> 00:45:45,359

crew lock portion the outermost part of

394

00:45:52,630 --> 00:45:51,109

working through another satellite

395

00:45:53,670 --> 00:45:52,640

handover but in the meantime here's

396

00:45:56,069 --> 00:45:53,680

another look

397

00:45:58,230 --> 00:45:56,079

at the team working today spacewalk in

398

00:46:04,309 --> 00:45:58,240

the flight control room here

399

00:46:08,309 --> 00:46:06,150

here's your team for today victor glover

400

00:46:10,470 --> 00:46:08,319

and mike hopkins our spacewalkers

401
00:46:13,430 --> 00:46:10,480
suicinaguchi and kate rubins working

402
00:46:15,750 --> 00:46:13,440
inside the equipment lock portion to

403
00:46:17,270 --> 00:46:15,760
prepare the crew for the day your flight

404
00:46:18,870 --> 00:46:17,280
director leading all the teams on the

405
00:46:21,750 --> 00:46:18,880
ground who are monitoring the station

406
00:46:24,550 --> 00:46:21,760
systems chris edelen and andy mogensen

407
00:46:27,030 --> 00:46:24,560
the ground iv who will be relaying tasks

408
00:46:32,790 --> 00:46:27,040
to the astronauts once they begin the

409
00:46:36,230 --> 00:46:34,950
at the very top of your screen is capcom

410
00:46:38,069 --> 00:46:36,240
kathy bolt

411
00:46:40,630 --> 00:46:38,079
she is communicating with the astronauts

412
00:46:42,470 --> 00:46:40,640
while in the station as well as with the

413
00:47:44,670 --> 00:46:42,480

astronauts who remain in the station

414

00:47:52,890 --> 00:47:50,390

[Music]

415

00:47:53,610 --> 00:47:52,900

ah

416

00:48:52,069 --> 00:47:53,620

[Music]

417

00:49:46,309 --> 00:48:55,030

and kate we copy number 10 and we saw 9

418

00:49:49,990 --> 00:49:47,910

you just got to look at the crew members

419

00:49:51,990 --> 00:49:50,000

replacing the oxygen in the suits

420

00:49:56,790 --> 00:49:52,000

preparing our spacewalkers today for a

421

00:49:56,800 --> 00:50:01,109

we copy 1151

422

00:50:05,270 --> 00:50:02,790

the international space station now

423

00:50:07,270 --> 00:50:05,280

flying over houston home of mission

424

00:50:16,549 --> 00:50:07,280

control houston at nasa's johnson space

425

00:50:16,559 --> 00:50:41,030

um

426

00:50:43,670 --> 00:50:41,990

if you'd like to know when the

427

00:50:45,990 --> 00:50:43,680

international space station is flying

428

00:50:49,150 --> 00:50:46,000

over your area you can go outside and

429

00:50:51,349 --> 00:50:49,160

see it yourself you can go to spot the

430

00:51:24,630 --> 00:50:51,359

station.nasa.gov put in your location

431

00:51:29,430 --> 00:51:27,270

and eric houston on one for kate or

432

00:51:31,829 --> 00:51:29,440

suici can you confirm

433

00:51:41,349 --> 00:51:31,839

the medox number serial numbers for what

434

00:51:48,309 --> 00:51:45,589

that was 10 31 for ike ev1 and 1032 for

435

00:51:49,829 --> 00:51:48,319

hopper ev2

436

00:51:57,109 --> 00:51:49,839

we copy those are good numbers and we

437

00:51:57,119 --> 00:52:21,670

good coffee

438

00:52:25,430 --> 00:52:23,829

as the astronauts continue preparations

439

00:52:27,990 --> 00:52:25,440

to head outside the hatch for today's

440

00:52:30,150 --> 00:52:28,000

spacewalk we are taking your questions

441

00:52:31,910 --> 00:52:30,160

if you're on twitter use the hashtag ask

442

00:52:34,230 --> 00:52:31,920

nasa and let us know what you want to

443

00:52:35,030 --> 00:52:34,240

answer we will try our best to get that

444

00:52:37,589 --> 00:52:35,040

done

445

00:52:40,230 --> 00:52:37,599

this one asking will these activities on

446

00:52:42,630 --> 00:52:40,240

mike hawkins emu impact the start time

447

00:52:45,349 --> 00:52:42,640

an emu is an extra vehicular mobility

448

00:52:47,510 --> 00:52:45,359

unit also known as a spacesuit

449

00:52:50,309 --> 00:52:47,520

these activities of replacing the

450

00:52:51,910 --> 00:52:50,319

communications cap that we saw earlier

451
00:52:53,510 --> 00:52:51,920
do impact the start time we wanted to

452
00:52:55,270 --> 00:52:53,520
make sure hopkins had proper

453
00:52:57,589 --> 00:52:55,280
communication with his crew member

454
00:52:59,670 --> 00:52:57,599
victor glover as well as with the ground

455
00:53:01,829 --> 00:52:59,680
and earlier today we saw victor glover

456
00:53:05,829 --> 00:53:01,839
having to have his communications cap

457
00:53:09,430 --> 00:53:07,270
so the astronauts were originally

458
00:53:11,670 --> 00:53:09,440
scheduled to head out of the hatch at 7

459
00:53:13,670 --> 00:53:11,680
30 a.m eastern time but we will see that

460
00:53:16,309 --> 00:53:13,680
happen a little bit behind schedule this

461
00:53:16,319 --> 00:53:46,470
copy eleven five four

462
00:53:50,950 --> 00:53:48,150
an airlock on one just for your

463
00:54:05,510 --> 00:53:50,960

awareness the new no earlier than go for

464

00:54:10,230 --> 00:54:07,750

capcom kathy bolt relaying to the crew

465

00:54:13,670 --> 00:54:10,240

that depressurization can begin as early

466

00:54:16,309 --> 00:54:13,680

as 45 minutes from now that's 6 41

467

00:54:18,630 --> 00:54:16,319

central time 12 41 greenwich mean time

468

00:54:20,069 --> 00:54:18,640

gmt that's the time that the astronauts

469

00:55:52,470 --> 00:54:20,079

use aboard the international space

470

00:55:58,950 --> 00:55:54,950

then i'll go back to step 16

471

00:55:58,960 --> 00:58:07,430

we copy and concur

472

00:58:11,670 --> 00:58:09,349

a couple more ask nasa questions coming

473

00:58:14,789 --> 00:58:11,680

in as our astronauts prepare for their

474

00:58:17,349 --> 00:58:14,799

space space walk today you can see

475

00:58:22,470 --> 00:58:17,359

nasa's victor glover he's our ev1 or

476
00:58:38,150 --> 00:58:24,470
they are preparing to don the safer or

477
00:58:42,069 --> 00:58:40,950
the safer is essentially like a jetpack

478
00:58:44,069 --> 00:58:42,079
backpack

479
00:58:46,069 --> 00:58:44,079
only for use if a crew member were to

480
00:58:48,069 --> 00:58:46,079
become detached from the international

481
00:58:49,990 --> 00:58:48,079
space station however that's a very

482
00:59:11,270 --> 00:58:50,000
unlikely event as they remain tethered

483
00:59:15,109 --> 00:59:13,190
back to those ask nasa questions this

484
00:59:16,549 --> 00:59:15,119
one from melissa you can see that red

485
00:59:19,589 --> 00:59:16,559
tube at the bottom of your screen she

486
00:59:21,510 --> 00:59:19,599
wants to know what exactly that red tube

487
00:59:23,510 --> 00:59:21,520
is there for

488
00:59:26,069 --> 00:59:23,520

the red tube provides air circulation to

489

00:59:27,670 --> 00:59:26,079

the equipment lock portion of the quest

490

00:59:34,309 --> 00:59:27,680

airlock where you see our crew members

491

00:59:38,309 --> 00:59:35,670

and another question this one from

492

00:59:40,150 --> 00:59:38,319

joseph asking how the microphones are

493

00:59:43,109 --> 00:59:40,160

attached to the wall is it a velcro or

494

00:59:45,349 --> 00:59:43,119

magnet you've probably seen kate rubins

495

00:59:47,270 --> 00:59:45,359

and suicina gucci taking the microphones

496

00:59:49,030 --> 00:59:47,280

off of the wall to speak with the crews

497

00:59:51,910 --> 00:59:49,040

on the ground and within the suits this

498

00:59:53,349 --> 00:59:51,920

morning those are attached with a velcro

499

00:59:56,150 --> 00:59:53,359

a hook and loop

500

00:59:56,160 --> 01:00:00,069

piece of fabric

501
01:00:04,230 --> 01:00:02,309
also notice that sometimes on astronauts

502
01:00:05,270 --> 01:00:04,240
pants and other clothing items that way

503
01:00:07,190 --> 01:00:05,280
they can

504
01:00:09,990 --> 01:00:07,200
properly attach things and keep them

505
01:00:11,670 --> 01:00:10,000
from floating away as you see the tablet

506
01:03:47,589 --> 01:00:11,680
currently on

507
01:03:51,990 --> 01:03:50,069
kate rubens and suicina gucci now moving

508
01:03:53,990 --> 01:03:52,000
victor glover toward the crewlock

509
01:03:56,309 --> 01:03:54,000
portion of the quest airlock the

510
01:03:58,309 --> 01:03:56,319
outermost portion

511
01:03:59,750 --> 01:03:58,319
you see those red stripes on the legs of

512
01:04:01,670 --> 01:03:59,760
his spacesuit that will help you

513
01:04:05,029 --> 01:04:01,680

identify him once he's outside of the

514

01:04:07,510 --> 01:04:05,039

hatch today he is ev1 or extra vehicular

515

01:04:09,510 --> 01:04:07,520

crew member one

516

01:04:11,270 --> 01:04:09,520

meanwhile mike hawkins who is still

517

01:04:13,349 --> 01:04:11,280

attached inside the equipment lock

518

01:05:45,430 --> 01:04:13,359

portion of the quest airlock has an

519

01:05:49,829 --> 01:05:47,829

nasa astronaut victor glover now in the

520

01:05:51,990 --> 01:05:49,839

crew lock portion of the quest airlock

521

01:05:54,470 --> 01:05:52,000

and preparations being made for mike

522

01:05:56,150 --> 01:05:54,480

hopkins to join him there as well in the

523

01:05:58,230 --> 01:05:56,160

meantime just a look back at what we

524

01:06:00,710 --> 01:05:58,240

expect to see the crew members

525

01:06:03,029 --> 01:06:00,720

work on today during the spacewalk they

526

01:06:04,630 --> 01:06:03,039

will be venting the early ammonia system

527

01:06:06,309 --> 01:06:04,640

jumper cables and one will be

528

01:06:10,470 --> 01:06:06,319

re-relocated

529

01:06:15,990 --> 01:06:12,309

my hopkins will connect cables for the

530

01:06:18,309 --> 01:06:16,000

columbus bartolomeo payload as well as

531

01:06:21,829 --> 01:06:18,319

clamp down 11 clamps to secure some

532

01:06:30,150 --> 01:06:25,029

he'll also work on the ham radio in the

533

01:06:33,910 --> 01:06:31,829

additionally the astronauts will replace

534

01:06:36,870 --> 01:06:33,920

a wireless antenna assembly on the unity

535

01:06:38,710 --> 01:06:36,880

module and then work together to install

536

01:06:40,710 --> 01:06:38,720

the stiffener on the airlock's thermal

537

01:06:44,789 --> 01:06:40,720

cover this will keep the thermal cover

538

01:06:48,390 --> 01:06:46,470

the last task of the day is currently

539

01:06:50,150 --> 01:06:48,400

scheduled to be routing some cables

540

01:06:52,150 --> 01:06:50,160

which will provide ethernet ethernet

541

01:06:54,549 --> 01:06:52,160

capabilities for two of the high

542

01:09:45,749 --> 01:06:54,559

definition cameras on the station's port

543

01:09:51,430 --> 01:09:48,309

okay rubens and suici attaching the

544

01:09:53,669 --> 01:09:51,440

safer simplified aid for eva rescue

545

01:09:55,990 --> 01:09:53,679

to mike hopkins and we are answering a

546

01:09:57,590 --> 01:09:56,000

few more of your ask nasa questions

547

01:09:59,189 --> 01:09:57,600

this one from jeremy asking can the

548

01:10:01,590 --> 01:09:59,199

astronauts control the temperature in

549

01:10:04,310 --> 01:10:01,600

their spacesuit during the spacewalk the

550

01:10:06,630 --> 01:10:04,320

answer is yes whether the astronauts are

551
01:10:08,390 --> 01:10:06,640
in the sunshine outside the station or

552
01:10:10,070 --> 01:10:08,400
in the darkness

553
01:10:12,790 --> 01:10:10,080
they can experience

554
01:10:15,750 --> 01:10:12,800
up to 250 degrees fahrenheit or negative

555
01:10:17,830 --> 01:10:15,760
250 degrees

556
01:10:20,310 --> 01:10:17,840
however their spacesuits keep them cool

557
01:10:22,310 --> 01:10:20,320
by being white a reflective color as

558
01:10:24,070 --> 01:10:22,320
well as they are wearing a cooling and

559
01:10:37,830 --> 01:10:24,080
thermal garment underneath that allows

560
01:10:41,830 --> 01:10:40,070
next question comes from ruben five

561
01:10:43,350 --> 01:10:41,840
years old thanks for watching and we

562
01:10:45,030 --> 01:10:43,360
love your question how did the

563
01:10:46,310 --> 01:10:45,040

astronauts have a drink while on the

564

01:10:47,830 --> 01:10:46,320

space walk

565

01:10:49,669 --> 01:10:47,840

of course you can expect the astronauts

566

01:10:52,470 --> 01:10:49,679

might get thirsty in six and a half

567

01:10:54,229 --> 01:10:52,480

hours or more of the tedious work while

568

01:10:56,550 --> 01:10:54,239

outside the space station

569

01:10:58,550 --> 01:10:56,560

astronauts do have a drink pouch inside

570

01:11:00,950 --> 01:10:58,560

their suits and near their mouth is a

571

01:11:03,590 --> 01:11:00,960

bite valve whenever the crew members

572

01:11:05,270 --> 01:11:03,600

crew members bite down on the valve

573

01:11:13,990 --> 01:11:05,280

they are able to drink water and when

574

01:11:19,110 --> 01:11:16,470

and a question from denny about the

575

01:11:21,910 --> 01:11:19,120

safer the simplified aid for eva rescue

576

01:11:24,470 --> 01:11:21,920

i mentioned it's sort of like a jet pack

577

01:11:26,709 --> 01:11:24,480

it uses uh he asked what fuel it uses

578

01:11:28,870 --> 01:11:26,719

and it's a compressed nitrogen-powered

579

01:11:31,270 --> 01:11:28,880

backpack

580

01:11:33,350 --> 01:11:31,280

as we said this is primarily intended in

581

01:11:35,669 --> 01:11:33,360

case a spacewalker became detached from

582

01:11:37,270 --> 01:11:35,679

the station and needed to maneuver back

583

01:11:39,510 --> 01:11:37,280

however the astronauts are always

584

01:11:40,709 --> 01:11:39,520

tethered to the space station so we

585

01:14:36,070 --> 01:11:40,719

never

586

01:14:40,310 --> 01:14:38,310

both victor glover and mike hawkins now

587

01:15:09,590 --> 01:14:40,320

inside the crew lock portion of the

588

01:15:13,189 --> 01:15:11,510

after everything is situated inside the

589

01:15:15,270 --> 01:15:13,199

crew lock portion of the quest airlock

590

01:15:19,510 --> 01:15:15,280

the hatch between the crew lock and the

591

01:15:23,350 --> 01:15:21,189

the astronauts will conduct some final

592

01:15:25,750 --> 01:15:23,360

communications and suit systems checks

593

01:15:27,510 --> 01:15:25,760

with the ground depressurization will

594

01:15:29,510 --> 01:15:27,520

begin and the spacewalk itself will

595

01:17:43,270 --> 01:15:29,520

officially begin once the suits are

596

01:17:47,350 --> 01:17:45,669

both astronauts now in the crew lock

597

01:17:49,830 --> 01:17:47,360

portion of the quest airlock and we've

598

01:17:52,149 --> 01:17:49,840

got a few more ask nasa questions this

599

01:17:53,430 --> 01:17:52,159

one from brianna thank you for watching

600

01:17:55,270 --> 01:17:53,440

and she wants to know how long the

601
01:17:56,229 --> 01:17:55,280
astronauts can be outside the space

602
01:17:58,149 --> 01:17:56,239
station

603
01:18:00,149 --> 01:17:58,159
we plan for about six and a half hours

604
01:18:02,630 --> 01:18:00,159
of work for our crew members in today's

605
01:18:05,669 --> 01:18:02,640
spacewalk however that can be modified

606
01:18:07,350 --> 01:18:05,679
to be longer or shorter based on the

607
01:18:09,270 --> 01:18:07,360
consumables that they are using that

608
01:18:16,070 --> 01:18:09,280
includes their oxygen in their

609
01:18:19,990 --> 01:18:18,310
nathan wants to know the website that

610
01:18:22,390 --> 01:18:20,000
gives notifications when the space

611
01:18:25,990 --> 01:18:22,400
station is flying over your local area

612
01:18:28,390 --> 01:18:26,000
you can visit spot the station.nasa.gov

613
01:18:30,790 --> 01:18:28,400

type in your location and sign up for

614

01:18:32,550 --> 01:18:30,800

email or text message alerts when you'll

615

01:18:44,229 --> 01:18:32,560

be able to see the international space

616

01:18:48,390 --> 01:18:45,830

as you can see those spacesuits are

617

01:18:50,470 --> 01:18:48,400

pretty large and this next question

618

01:18:51,990 --> 01:18:50,480

wanting to know what is the rough mass

619

01:18:54,149 --> 01:18:52,000

of that equipment

620

01:18:57,510 --> 01:18:54,159

on earth the spacesuits themselves weigh

621

01:19:00,070 --> 01:18:57,520

about 315 pounds but of course that

622

01:24:10,790 --> 01:19:00,080

number is reduced to nearly nothing when

623

01:24:15,910 --> 01:24:13,350

nasa astronaut kate rubin's now closing

624

01:24:19,110 --> 01:24:15,920

the hatch between the crew and equipment

625

01:24:21,110 --> 01:24:19,120

log portions of the quest airlock

626

01:24:23,270 --> 01:24:21,120

she and suicina gucci will remain on the

627

01:24:32,310 --> 01:24:23,280

equipment lock side where the astronauts

628

01:24:36,550 --> 01:24:34,229

meanwhile hawkins and glover are now

629

01:24:38,310 --> 01:24:36,560

inside the crew log portion

630

01:25:57,669 --> 01:24:38,320

fully suited and ready for today's

631

01:25:57,679 --> 01:26:03,189

you guys can do the step 74

632

01:26:03,199 --> 01:26:39,510

we copy we'll put that in work

633

01:26:46,550 --> 01:26:41,750

using station 2 i believe you guys also

634

01:26:53,030 --> 01:26:50,390

we are standing by for 77.

635

01:26:54,390 --> 01:26:53,040

we copy we've got 75 in work and we're

636

01:26:57,510 --> 01:26:54,400

going to wait just a few more minutes

637

01:27:16,950 --> 01:26:57,520

for 76 we are still 12 minutes to our go

638

01:27:20,790 --> 01:27:18,390

things moving smoothly for the

639

01:27:23,510 --> 01:27:20,800

astronauts now as they prepare to exit

640

01:27:25,910 --> 01:27:23,520

the international space station however

641

01:27:27,990 --> 01:27:25,920

we still have less than 12 minutes until

642

01:27:30,310 --> 01:27:28,000

depressurization of the crew lock

643

01:27:32,390 --> 01:27:30,320

portion of the quest airlock begins

644

01:27:35,030 --> 01:27:32,400

be bringing that down from the pressure

645

01:27:36,629 --> 01:27:35,040

about 14.7 psi

646

01:27:38,070 --> 01:27:36,639

and that's what we're used to here on

647

01:27:39,270 --> 01:27:38,080

earth that's typically what the space

648

01:27:41,910 --> 01:27:39,280

station is

649

01:27:41,920 --> 01:27:46,870

happy to help

650

01:27:51,669 --> 01:27:49,750

i'll be bringing down that

651
01:27:54,229 --> 01:27:51,679
pressure inside the crew lock portion

652
01:27:56,149 --> 01:27:54,239
tour near a vacuum

653
01:30:34,149 --> 01:27:56,159
like the astronauts will experience in

654
01:30:38,790 --> 01:30:36,950
we're good okay

655
01:30:59,430 --> 01:30:38,800
let's settle back in here stop moving

656
01:31:05,430 --> 01:31:03,110
and airlock houston on one ev crew are

657
01:31:07,590 --> 01:31:05,440
now hot mike on space to ground one and

658
01:31:12,070 --> 01:31:07,600
so we see you are go for step seventy

659
01:31:14,709 --> 01:31:13,270
you'll be walked out being sprayed this

660
01:31:24,390 --> 01:31:14,719
year for me kevin

661
01:31:41,350 --> 01:31:26,950
you guys have fun out there and be safe

662
01:31:45,110 --> 01:31:43,030
we're in a quick satellite handover of

663
01:31:47,750 --> 01:31:45,120

the tracking and data relay satellite

664

01:31:51,990 --> 01:31:50,629

that was capcom kathy bolt talking with

665

01:31:54,390 --> 01:31:52,000

the crew

666

01:31:56,870 --> 01:31:54,400

she will be handing over her duties

667

01:31:59,270 --> 01:31:56,880

of speaking with the spacewalkers to

668

01:32:00,709 --> 01:31:59,280

andy mogensen a european space agency

669

01:32:03,030 --> 01:32:00,719

astronaut you see there in the center of

670

01:32:05,030 --> 01:32:03,040

your screen he will be relaying all the

671

01:32:06,870 --> 01:32:05,040

tasks to the crew while they're outside

672

01:32:09,110 --> 01:32:06,880

the hatch

673

01:32:10,790 --> 01:32:09,120

meanwhile kathy bolt will stay on

674

01:32:12,550 --> 01:32:10,800

console and be speaking with the crew

675

01:32:27,830 --> 01:32:12,560

members inside the international space

676

01:32:27,840 --> 01:33:18,229

hmm

677

01:33:22,390 --> 01:33:20,470

while we wait for depressurization of

678

01:33:24,229 --> 01:33:22,400

the crew lock portion of the quest

679

01:33:27,110 --> 01:33:24,239

airlock to begin we are still taking

680

01:33:28,709 --> 01:33:27,120

your ask nasa questions

681

01:33:30,229 --> 01:33:28,719

dan wants to know where the crew members

682

01:33:32,870 --> 01:33:30,239

are from and if there are language

683

01:33:34,870 --> 01:33:32,880

barriers on the space station it truly

684

01:33:36,870 --> 01:33:34,880

is an international space station and in

685

01:33:39,189 --> 01:33:36,880

your screen here you see jaxa or

686

01:33:42,550 --> 01:33:39,199

japanese aerospace exploration agency

687

01:33:45,270 --> 01:33:42,560

astronaut soichi naguchi

688

01:33:47,189 --> 01:33:45,280

four of the crew members are from nasa

689

01:33:49,669 --> 01:33:47,199

and are american

690

01:33:53,590 --> 01:33:49,679

and two of the crew members are from

691

01:33:55,270 --> 01:33:53,600

russia of the space agency risk cosmos

692

01:33:56,390 --> 01:33:55,280

crew members learn to speak english and

693

01:33:57,990 --> 01:33:56,400

russian that way they can all

694

01:34:12,870 --> 01:33:58,000

communicate with one another aboard the

695

01:34:16,310 --> 01:34:14,709

then cat wants to know

696

01:34:18,790 --> 01:34:16,320

well thanks for the live feed we are

697

01:34:20,390 --> 01:34:18,800

happy to provide it uh once michael and

698

01:34:22,709 --> 01:34:20,400

victor are outside of the space station

699

01:34:24,870 --> 01:34:22,719

is there any visual and identification

700

01:34:26,470 --> 01:34:24,880

of them yes you will be able to tell

701
01:34:28,629 --> 01:34:26,480
them apart once outside the space

702
01:34:30,550 --> 01:34:28,639
station if you're looking for nasa

703
01:34:32,390 --> 01:34:30,560
astronaut victor glover you can look for

704
01:34:35,830 --> 01:34:32,400
red stripes around the legs of his

705
01:34:38,229 --> 01:34:35,840
spacesuit that identifies him as ev1 or

706
01:34:40,149 --> 01:34:38,239
extravehicular crew member one

707
01:34:42,629 --> 01:34:40,159
meanwhile if you see an astronaut with

708
01:35:02,950 --> 01:34:42,639
no stripes or an unmarked suit i should

709
01:35:06,950 --> 01:35:04,790
teams on the ground conducting their go

710
01:35:11,109 --> 01:35:06,960
no go pull for depressurization today

711
01:35:15,189 --> 01:35:13,189
this next question is from nathan age

712
01:35:17,109 --> 01:35:15,199
six hi nathan and thanks for your

713
01:35:18,950 --> 01:35:17,119

question he would like to know how fast

714

01:35:21,350 --> 01:35:18,960

the space station travels and how many

715

01:35:24,229 --> 01:35:21,360

minutes it takes to go around the earth

716

01:35:26,709 --> 01:35:24,239

the space station travels at about 17

717

01:35:29,669 --> 01:35:26,719

500 miles per hour

718

01:35:31,990 --> 01:35:29,679

and it sees 16 sunrises and sunsets a

719

01:35:34,229 --> 01:35:32,000

day so it takes about 90 minutes for the

720

01:35:36,070 --> 01:35:34,239

space station to go around the earth and

721

01:36:26,470 --> 01:35:36,080

every 45 minutes they see either a

722

01:36:32,070 --> 01:36:29,270

our next ask nasa question is what is

723

01:36:34,229 --> 01:36:32,080

the standard time zone in space

724

01:36:35,030 --> 01:36:34,239

well we are in houston and in central

725

01:36:37,189 --> 01:36:35,040

time

726

01:36:39,270 --> 01:36:37,199

and those in roscosmos are about 12

727

01:36:41,830 --> 01:36:39,280

hours ahead of us so the time zone that

728

01:36:43,270 --> 01:36:41,840

the space station uses is a gmt or

729

01:36:47,350 --> 01:36:43,280

greenwich mean time

730

01:37:06,390 --> 01:36:47,360

that's about halfway between both of the

731

01:37:11,430 --> 01:37:08,149

just a couple of minutes until we'll be

732

01:37:13,590 --> 01:37:11,440

looking for that go for depress call

733

01:37:17,189 --> 01:37:13,600

and this next question from arya wanting

734

01:37:19,030 --> 01:37:17,199

to know how old the space station is

735

01:37:21,590 --> 01:37:19,040

the first element of the international

736

01:37:23,189 --> 01:37:21,600

space station was zarya a russian

737

01:37:27,109 --> 01:37:23,199

element

738

01:37:29,590 --> 01:37:27,119

zarya launched on november 20th 1998

739

01:37:32,070 --> 01:37:29,600

and just last november we celebrated 20

740

01:37:34,310 --> 01:37:32,080

years of continuous human presence on

741

01:37:36,950 --> 01:37:34,320

the international space station meaning

742

01:37:38,870 --> 01:37:36,960

that for 20 years since last november

743

01:37:57,189 --> 01:37:38,880

there has been a human in space at all

744

01:38:00,950 --> 01:37:58,709

another question

745

01:38:02,550 --> 01:38:00,960

this one from ashwin wanting to know if

746

01:38:04,149 --> 01:38:02,560

the replacement items are hooked up to

747

01:38:07,830 --> 01:38:04,159

the suit during the space walk so they

748

01:38:09,669 --> 01:38:07,840

don't fly free that is correct

749

01:38:11,430 --> 01:38:09,679

you'll probably hear a lot of talk about

750

01:38:13,590 --> 01:38:11,440

tethers today once the astronauts are

751

01:38:15,030 --> 01:38:13,600

outside the station of course the crew

752

01:38:16,950 --> 01:38:15,040

members themselves remain tethered to

753

01:38:18,149 --> 01:38:16,960

the station at all times but they also

754

01:38:19,830 --> 01:38:18,159

keep their

755

01:38:21,750 --> 01:38:19,840

workstations and any tools or

756

01:38:36,440 --> 01:38:21,760

replacement items they need tethered to

757

01:38:36,450 --> 01:39:16,149

[Music]

758

01:39:19,990 --> 01:39:18,629

an airlock houston on one we are ready

759

01:39:23,109 --> 01:39:20,000

for depress

760

01:39:34,629 --> 01:39:23,119

you can pick up in step 80 crew lock

761

01:39:42,390 --> 01:39:35,910

some copies

762

01:39:45,510 --> 01:39:44,470

are you ready for the

763

01:39:48,390 --> 01:39:45,520

card

764

01:39:50,229 --> 01:39:48,400

v1 already sounded a little bit broken

765

01:39:54,310 --> 01:39:50,239

yeah i'm serious ready

766

01:39:57,109 --> 01:39:54,320

all right db2 uia switch superstructure

767

01:39:58,149 --> 01:39:57,119

power to on wait 10 seconds for complete

768

01:40:00,229 --> 01:39:58,159

startup

769

01:40:11,270 --> 01:40:00,239

he crashed pumped power

770

01:40:18,070 --> 01:40:14,550

all right uh eb2 depressed pump manual

771

01:40:19,270 --> 01:40:18,080

iso open expect our town

772

01:40:28,910 --> 01:40:19,280

open

773

01:40:46,310 --> 01:40:30,390

[Applause]

774

01:40:51,669 --> 01:40:48,629

depressurization has begun in the crew

775

01:40:53,669 --> 01:40:51,679

lock portion of the quest airlock

776

01:40:56,149 --> 01:40:53,679

this is a very slow process bringing

777

01:41:00,550 --> 01:40:56,159

that pressure in the in the crew lock

778

01:41:02,790 --> 01:41:00,560

portion down to as near zero as possible

779

01:41:04,550 --> 01:41:02,800

equating it to almost a vacuum which is

780

01:41:44,310 --> 01:41:04,560

what the astronauts will experience once

781

01:41:44,320 --> 01:42:07,669

hmm

782

01:42:07,679 --> 01:42:35,870

um

783

01:43:05,030 --> 01:42:50,990

[Music]

784

01:43:28,149 --> 01:43:07,500

hmm

785

01:43:28,159 --> 01:43:34,070

2.0

786

01:43:41,590 --> 01:43:35,669

crew lock

787

01:44:27,590 --> 01:43:43,669

depressurization will continue until a

788

01:44:27,600 --> 01:44:57,510

hmm

789

01:45:01,510 --> 01:44:59,830

and ev2 the next step will be when the

790

01:45:05,510 --> 01:45:01,520

crew got

791

01:45:39,910 --> 01:45:05,520

hit a laptop and at 5.0 psi you close

792

01:45:39,920 --> 01:45:47,430

um

793

01:45:47,440 --> 01:46:12,709

3.00

794

01:47:14,550 --> 01:46:57,830

um

795

01:47:14,560 --> 01:47:24,550

hmm

796

01:47:24,560 --> 01:47:54,149

um

797

01:47:58,470 --> 01:47:56,070

depressurization continues in the crew

798

01:48:00,310 --> 01:47:58,480

lock portion of the quest airlock and in

799

01:48:02,550 --> 01:48:00,320

your frame right now you see japanese

800

01:48:05,189 --> 01:48:02,560

aerospace exploration agency astronaut

801
01:48:10,149 --> 01:48:05,199
suicina gucci peeking in on the crew

802
01:48:14,790 --> 01:48:12,149
we have another ask nasa question this

803
01:48:16,550 --> 01:48:14,800
one from pippa hi peppa she wants to

804
01:48:17,510 --> 01:48:16,560
know the temperature on the space

805
01:48:38,390 --> 01:48:17,520
station

806
01:48:38,400 --> 01:48:48,629
um

807
01:48:48,639 --> 01:49:30,070
foreign

808
01:49:30,080 --> 01:49:48,149
um

809
01:49:52,310 --> 01:49:50,229
remove my feet mater hopper

810
01:50:22,470 --> 01:49:52,320
yeah sorry

811
01:50:22,480 --> 01:50:44,720
uh

812
01:50:44,730 --> 01:50:48,149
[Music]

813
01:50:52,790 --> 01:50:50,390

dcm switch display the status of the

814

01:50:54,470 --> 01:50:52,800

leak check question mark display

815

01:50:56,790 --> 01:50:54,480

hold yes for two seconds to follow

816

01:52:15,189 --> 01:50:56,800

display the instructions

817

01:52:23,270 --> 01:52:17,350

preparation for today's spacewalks

818

01:52:26,950 --> 01:52:24,790

the crew lock portion of the quest

819

01:52:29,510 --> 01:52:26,960

airlock is currently being depressurized

820

01:52:33,990 --> 01:52:29,520

bringing it down to near vacuum just

821

01:52:38,229 --> 01:52:35,990

once they eat grass or exit the hatch

822

01:52:42,790 --> 01:52:38,239

today the crew members have a variety of

823

01:52:46,870 --> 01:52:44,709

both will work on the early ammonia

824

01:52:49,750 --> 01:52:46,880

system to vent some jumpers too

825

01:52:50,629 --> 01:52:49,760

specifically and one will be moved to

826

01:52:55,270 --> 01:52:50,639

the

827

01:52:59,510 --> 01:52:57,270

a wireless video system external

828

01:53:02,229 --> 01:52:59,520

transceiver assembly will be removed and

829

01:53:03,990 --> 01:53:02,239

replaced by victor glover

830

01:53:06,950 --> 01:53:04,000

meanwhile mike hawkins will be working

831

01:53:10,470 --> 01:53:06,960

on several tasks at the columbus module

832

01:53:12,390 --> 01:53:10,480

including at the bartolomeo platform

833

01:53:14,229 --> 01:53:12,400

where he will be working to connect

834

01:53:33,589 --> 01:53:14,239

cables from a previous spacewalk this

835

01:53:41,030 --> 01:53:36,070

and the emergency impaired is now open

836

01:53:42,229 --> 01:53:41,040

eb1 eb2 monitor 50 gauge less than 5.5

837

01:53:43,430 --> 01:53:42,239

if you want

838

01:53:46,550 --> 01:53:43,440

to

839

01:53:50,550 --> 01:53:46,560

and eb2 your next action is when the

840

01:53:52,870 --> 01:53:50,560

cool lock is at 2.0 psi

841

01:54:35,430 --> 01:53:52,880

you will close the manual iso valve and

842

01:54:39,990 --> 01:54:37,430

this handheld camera view coming from

843

01:54:42,669 --> 01:54:40,000

soichi naguchi inside the equipment lock

844

01:54:45,109 --> 01:54:42,679

portion of the quest airlock monitoring

845

01:54:46,870 --> 01:54:45,119

depressurization of the crew lock

846

01:54:49,030 --> 01:54:46,880

where michael hopkins and victor glover

847

01:55:31,270 --> 01:54:49,040

are now preparing for today's spacewalk

848

01:56:13,750 --> 01:55:33,310

we're in a quick satellite handover as

849

01:56:13,760 --> 01:56:40,950

huh

850

01:56:40,960 --> 01:57:03,650

yes

851
01:57:03,660 --> 01:57:30,709

[Applause]

852
01:57:30,719 --> 01:57:36,709

so i know the first top man is closed

853
01:57:43,350 --> 01:57:38,470

happy and you can

854
01:57:45,910 --> 01:57:43,360

send uh pump power to all ss 31 power is

855
01:57:48,070 --> 01:57:45,920

off whatever

856
01:57:50,629 --> 01:57:48,080

okay i see it's off it's been a pleasure

857
01:57:52,790 --> 01:57:50,639

serving you and now the space

858
01:57:54,870 --> 01:57:52,800

unless that denmark's gonna take over

859
01:58:01,030 --> 01:57:54,880

andy

860
01:58:08,149 --> 01:58:04,070

good afternoon ike and hopper i'm ready

861
01:58:11,270 --> 01:58:09,750

all right andy it's great to see you

862
01:58:12,229 --> 01:58:11,280

boys

863
01:58:13,750 --> 01:58:12,239

all right

864

01:58:16,950 --> 01:58:13,760

so ev1

865

01:58:19,350 --> 01:58:16,960

starting at the airlock st-ring extender

866

01:58:22,310 --> 01:58:19,360

has a waist tethered small hook

867

01:58:23,910 --> 01:58:22,320

which is closed locked black on black

868

01:58:25,589 --> 01:58:23,920

good full test

869

01:58:26,870 --> 01:58:25,599

then my waist tether is connected to

870

01:58:28,629 --> 01:58:26,880

that

871

01:58:30,629 --> 01:58:28,639

cartridge to large hook good pull test

872

01:58:32,550 --> 01:58:30,639

both are locked black on black

873

01:58:35,030 --> 01:58:32,560

i wasted a small hook is to my right

874

01:58:36,149 --> 01:58:35,040

earring cinder lock gate closed black on

875

01:58:38,070 --> 01:58:36,159

flat

876
01:58:40,470 --> 01:58:38,080
in my safety tether anchor load

877
01:58:42,629 --> 01:58:40,480
alleviating strap hook the red up is

878
01:58:43,990 --> 01:58:42,639
locked lock on black to the right near

879
01:58:46,870 --> 01:58:44,000
the extender

880
01:58:50,790 --> 01:58:46,880
at reel the red reel is unlocked

881
01:58:53,270 --> 01:58:50,800
that reel has a green hook locked to it

882
01:58:54,870 --> 01:58:53,280
yellow hook from that reel is locked to

883
01:58:56,870 --> 01:58:54,880
my green reel

884
01:58:58,149 --> 01:58:56,880
it's closed fighters lock black on black

885
01:59:00,550 --> 01:58:58,159
pistol set

886
01:59:09,589 --> 01:59:00,560
and that anchor is locked

887
01:59:09,599 --> 01:59:14,550
and that reel is unlocked

888
01:59:14,560 --> 01:59:19,109

copy all for you like that sounds good

889

01:59:24,310 --> 01:59:21,830

okay i'm going to start 3v2

890

01:59:25,910 --> 01:59:24,320

with my right theory extender for my

891

01:59:27,750 --> 01:59:25,920

waste tether

892

01:59:29,669 --> 01:59:27,760

it is uh

893

01:59:31,669 --> 01:59:29,679

small hook is on that

894

01:59:33,189 --> 01:59:31,679

so close by the lock lock on block good

895

01:59:36,390 --> 01:59:33,199

full test

896

01:59:38,550 --> 01:59:36,400

and the hook is to my t-bar

897

01:59:41,669 --> 01:59:38,560

also on the

898

01:59:43,350 --> 01:59:41,679

right p-ring extender is my red small

899

01:59:45,669 --> 01:59:43,360

hook

900

01:59:49,510 --> 01:59:45,679

so lock lock on black

901
01:59:49,520 --> 01:59:55,589
and

902
01:59:55,599 --> 01:59:58,709
the

903
02:00:03,589 --> 02:00:02,229
yellow hook from my red reel which is

904
02:00:05,910 --> 02:00:03,599
unlocked

905
02:00:07,669 --> 02:00:05,920
it is attached to the green reel bell

906
02:00:09,270 --> 02:00:07,679
closed center lodge black on black with

907
02:00:12,870 --> 02:00:09,280
pull cut

908
02:00:17,030 --> 02:00:12,880
green rail is on hook for run locks

909
02:00:19,030 --> 02:00:17,040
the small green hook is attached to

910
02:00:23,030 --> 02:00:19,040
my red reel

911
02:00:26,310 --> 02:00:23,040
and that is unlocked and my anchor hook

912
02:00:27,589 --> 02:00:26,320
is to my t-bar also attached to my red

913
02:00:30,790 --> 02:00:27,599

reel

914

02:00:32,470 --> 02:00:30,800

is the ev1 already reported is his

915

02:00:33,669 --> 02:00:32,480

anchor hook fail close shutter lock

916

02:00:38,790 --> 02:00:33,679

block on block

917

02:00:54,550 --> 02:00:40,390

excellent that's a good config for both

918

02:00:58,229 --> 02:00:56,390

mike hawkins and victor glover reporting

919

02:00:59,750 --> 02:00:58,239

their tether configurations ahead of

920

02:01:02,149 --> 02:00:59,760

today's spacewalk

921

02:01:04,709 --> 02:01:02,159

this view you can see through the

922

02:01:12,790 --> 02:01:04,719

window of the hatch that separates the

923

02:01:18,550 --> 02:01:15,270

just a heads up you can expect an alert

924

02:01:29,830 --> 02:01:18,560

turn when the crewlock dpdt is about

925

02:01:34,830 --> 02:01:32,550

and we have about 10 minutes until we're

926

02:01:34,840 --> 02:03:44,229

vacuum one two

927

02:03:44,239 --> 02:05:45,629

um

928

02:05:51,430 --> 02:05:49,510

depressurization of the crew lock slowly

929

02:05:53,589 --> 02:05:51,440

continues bringing that

930

02:05:56,390 --> 02:05:53,599

down to a vacuum before the astronauts

931

02:06:04,950 --> 02:05:56,400

open the hatch and egress or exit into

932

02:06:08,310 --> 02:06:06,629

the spacewalk will officially begin when

933

02:06:10,629 --> 02:06:08,320

mike hopkins and victor glover our

934

02:08:43,189 --> 02:06:10,639

spacewalking astronauts today switch

935

02:08:47,669 --> 02:08:46,310

as we await depressurization's

936

02:08:49,030 --> 02:08:47,679

completion

937

02:08:51,350 --> 02:08:49,040

another look at what we can expect to

938

02:08:53,030 --> 02:08:51,360

see the astronauts work on today we

939

02:08:54,629 --> 02:08:53,040

mentioned that early ammonia system

940

02:08:56,550 --> 02:08:54,639

they'll be venting two of the jumpers

941

02:08:59,430 --> 02:08:56,560

there and one will be relocated to the

942

02:09:01,270 --> 02:08:59,440

outside of the airlock

943

02:09:03,109 --> 02:09:01,280

victor glover will remove and replace a

944

02:09:04,790 --> 02:09:03,119

wireless video system external

945

02:09:06,629 --> 02:09:04,800

transceiver assembly

946

02:09:09,030 --> 02:09:06,639

meanwhile mike hawkins will be working

947

02:09:11,990 --> 02:09:09,040

several tasks at the columbus module

948

02:09:14,790 --> 02:09:12,000

including working on some

949

02:09:20,149 --> 02:09:14,800

jumpers and plugs for the bartolomeo

950

02:09:24,390 --> 02:09:22,069

additionally he will be reconfiguring a

951
02:09:27,109 --> 02:09:24,400
ham radio

952
02:09:31,990 --> 02:09:27,119
and closing 11 cable clamps used on

953
02:09:38,550 --> 02:09:35,589
copy 0.6 so when it reaches less than

954
02:09:41,510 --> 02:09:38,560
0.5 then you can open and stow the eevee

955
02:09:45,109 --> 02:09:43,510
and if you see that before i do which is

956
02:09:48,149 --> 02:09:45,119
likely going to be the case let me know

957
02:09:52,709 --> 02:09:50,790
coffee will do

958
02:09:54,709 --> 02:09:52,719
andy mogensen today's ground iv

959
02:09:59,350 --> 02:09:54,719
reporting to the crew that they are

960
02:10:03,669 --> 02:10:01,669
but back to the tasks we can expect to

961
02:10:05,750 --> 02:10:03,679
see we'll also see the crew members

962
02:10:07,030 --> 02:10:05,760
install a stiffener on the thermal

963
02:10:09,109 --> 02:10:07,040

airlock

964

02:10:10,470 --> 02:10:09,119

cover this will help keep the cover from

965

02:10:12,550 --> 02:10:10,480

blowing open

966

02:10:15,350 --> 02:10:12,560

and the last scheduled task is to route

967

02:10:17,510 --> 02:10:15,360

cables to camera ports eight and nine

968

02:11:00,390 --> 02:10:17,520

these will create a wi-fi hotspot once

969

02:11:05,430 --> 02:11:02,709

all right ike we see a

970

02:11:08,870 --> 02:11:05,440

delta p of less than 0.5 psi you are go

971

02:11:11,189 --> 02:11:08,880

to open and stow the eb hatch

972

02:11:13,830 --> 02:11:11,199

copy and work and i see zero decimal

973

02:11:15,910 --> 02:11:13,840

five on the gauge just for your info

974

02:11:17,669 --> 02:11:15,920

wow all right offer

975

02:11:30,629 --> 02:11:17,679

yeah i scrunched down your way a little

976
02:11:49,030 --> 02:11:33,109
all right

977
02:11:49,040 --> 02:12:08,790
that's just unwatched

978
02:12:13,189 --> 02:12:11,189
next week on ike

979
02:12:14,870 --> 02:12:13,199
if that little four arm trick worked

980
02:12:19,669 --> 02:12:14,880
yeah what do you know

981
02:12:28,870 --> 02:12:22,550
copy and switchy in the airlock you are

982
02:12:33,270 --> 02:12:30,790
anything for you randy

983
02:12:35,430 --> 02:12:33,280
emperor is closed

984
02:12:38,950 --> 02:12:35,440
copy

985
02:12:40,950 --> 02:12:38,960
now ike and hopper on your dcm you can

986
02:12:42,870 --> 02:12:40,960
switch power to bat please stagger your

987
02:12:44,870 --> 02:12:42,880
switch throws and expect a warning tone

988
02:12:49,030 --> 02:12:44,880

and then check your display switch is

989

02:12:49,040 --> 02:12:54,709

one power to that

990

02:12:58,310 --> 02:12:56,550

we're in another satellite handover of

991

02:13:00,470 --> 02:12:58,320

the tracking data and relay satellite

992

02:13:03,109 --> 02:13:00,480

systems but just before

993

02:13:05,589 --> 02:13:03,119

you saw nasa astronauts mike hopkins and

994

02:13:07,189 --> 02:13:05,599

victor glover open the thermal cover of

995

02:13:08,709 --> 02:13:07,199

the hatch

996

02:13:11,030 --> 02:13:08,719

that's the exact thermal cover they'll

997

02:13:13,510 --> 02:13:11,040

be working on later today switch power

998

02:13:15,589 --> 02:13:13,520

to ev1 and 2 to off

999

02:13:18,550 --> 02:13:15,599

and check that the four power leds are

1000

02:13:22,629 --> 02:13:20,870

power ev1

1001
02:13:29,669 --> 02:13:22,639
off

1002
02:13:35,270 --> 02:13:32,629
copy now you can disconnect the scu from

1003
02:13:39,669 --> 02:13:35,280
your dcm install the dcm cover and stow

1004
02:13:39,679 --> 02:14:33,189
tv2

1005
02:14:37,990 --> 02:14:35,830
and since the spacesuits have switched

1006
02:14:41,510 --> 02:14:38,000
to internal battery power the spacewalk

1007
02:14:45,270 --> 02:14:41,520
has officially begun at 7 14 a.m central

1008
02:14:58,709 --> 02:14:47,030
copy hopper you can now check that the

1009
02:15:02,229 --> 02:15:00,470
all right both of you on your dcm please

1010
02:15:19,100 --> 02:15:02,239
take your temperature control valve to

1011
02:15:28,390 --> 02:15:20,830
[Music]

1012
02:15:33,270 --> 02:15:30,390
db1 water on

1013
02:15:38,629 --> 02:15:33,280

q2 on

1014

02:15:38,639 --> 02:15:43,990

d1 blank right off bd2

1015

02:15:50,629 --> 02:15:45,510

now you can set your temperature control

1016

02:15:55,189 --> 02:15:52,550

give me one

1017

02:16:01,109 --> 02:15:57,350

and uh check your suit p gauge and

1018

02:16:05,109 --> 02:16:02,149

tv

1019

02:16:08,790 --> 02:16:05,119

one the suit pressure gauge is 4.2

1020

02:16:12,629 --> 02:16:11,350

all right you'll be exiting in tonight

1021

02:16:28,470 --> 02:16:12,639

but there's only about five minutes left

1022

02:16:34,870 --> 02:16:30,310

all right ike you can go ahead and open

1023

02:16:38,230 --> 02:16:36,950

on your way out

1024

02:16:39,990 --> 02:16:38,240

copy

1025

02:16:42,150 --> 02:16:40,000

on your way out please check that the

1026

02:16:45,190 --> 02:16:42,160

pip pin is in place and please give us a

1027

02:16:48,629 --> 02:16:46,629

i'll gauge

1028

02:16:53,349 --> 02:16:48,639

and there are several fifth pins in e1

1029

02:17:00,070 --> 02:16:55,830

and the hashtag is zero decimal two

1030

02:17:05,030 --> 02:17:00,080

alright hopper i am heading out

1031

02:17:14,150 --> 02:17:08,629

come your way a little bit first do that

1032

02:17:14,160 --> 02:17:35,780

here you go

1033

02:17:40,070 --> 02:17:38,150

[Applause]

1034

02:17:41,669 --> 02:17:40,080

we're just looking for the um the

1035

02:17:43,349 --> 02:17:41,679

forward hinge

1036

02:17:45,349 --> 02:17:43,359

the aft pin

1037

02:17:48,790 --> 02:17:45,359

so if you're saying both inboard ones

1038

02:17:52,389 --> 02:17:50,230

okay

1039

02:17:59,910 --> 02:17:52,399

in place

1040

02:18:03,270 --> 02:18:01,509

yeah all right and i'll be out of your

1041

02:18:11,509 --> 02:18:03,280

way soon

1042

02:18:11,519 --> 02:18:25,990

thank you

1043

02:18:26,000 --> 02:18:29,589

all right gt1

1044

02:18:29,599 --> 02:18:35,509

the outside

1045

02:18:38,790 --> 02:18:36,469

and

1046

02:18:39,830 --> 02:18:38,800

upper arm

1047

02:18:45,270 --> 02:18:39,840

and

1048

02:18:52,629 --> 02:18:47,030

the hopper for you you can transfer crew

1049

02:18:57,110 --> 02:18:54,870

all right i see it

1050

02:18:59,830 --> 02:18:57,120

get a red on it sure enough that those

1051

02:19:02,790 --> 02:19:01,349

thanks for having me

1052

02:19:04,469 --> 02:19:02,800

actually let me present you the other

1053

02:19:06,549 --> 02:19:04,479

side

1054

02:19:23,830 --> 02:19:06,559

a little better

1055

02:19:28,150 --> 02:19:26,389

i've got a red on it okay let me take

1056

02:19:35,669 --> 02:19:28,160

the i've got controls you can take the

1057

02:19:40,150 --> 02:19:37,750

thank you

1058

02:19:42,709 --> 02:19:40,160

and it's too

1059

02:19:45,110 --> 02:19:42,719

i just wanted the rings on the airlock

1060

02:19:47,429 --> 02:19:45,120

here perfect

1061

02:19:49,190 --> 02:19:47,439

and you ready for me to come out

1062

02:19:51,670 --> 02:19:49,200

the safety tethers are kind of hanging

1063

02:20:08,790 --> 02:19:51,680

out in the hatchway rather and the

1064

02:20:14,150 --> 02:20:11,750

this view of my hopkins egressing

1065

02:20:16,309 --> 02:20:14,160

the quest airlock coming from

1066

02:20:18,150 --> 02:20:16,319

the inside of the equipment lock portion

1067

02:20:20,469 --> 02:20:18,160

and the camera we saw soichinoguchi

1068

02:20:22,630 --> 02:20:20,479

setting up earlier

1069

02:20:24,870 --> 02:20:22,640

already outside the hatch he is joining

1070

02:20:26,950 --> 02:20:24,880

nasa's victor glover you'll be able to

1071

02:20:28,389 --> 02:20:26,960

tell them apart today by the stripes on

1072

02:20:30,230 --> 02:20:28,399

their spacesuits

1073

02:20:32,070 --> 02:20:30,240

hopkins is wearing an unmarked suit

1074

02:20:43,030 --> 02:20:32,080

meanwhile victor glover will have red

1075

02:20:47,030 --> 02:20:45,429

uh with the green led light up let's see

1076

02:20:48,710 --> 02:20:47,040

one two three

1077

02:20:49,910 --> 02:20:48,720

actually your vr key tab looks a little

1078

02:20:54,230 --> 02:20:49,920

different than the other two coming this

1079

02:20:57,510 --> 02:20:56,230

okay yep it's a

1080

02:20:58,790 --> 02:20:57,520

little bit of play but it's like you got

1081

02:21:00,550 --> 02:20:58,800

three tabs up

1082

02:21:03,750 --> 02:21:00,560

uh give me a yaw each direction i'll

1083

02:21:06,710 --> 02:21:05,110

all right all right you're right safer

1084

02:21:10,230 --> 02:21:06,720

handles down hand control module door

1085

02:21:13,830 --> 02:21:12,550

left safer handle

1086

02:21:16,710 --> 02:21:13,840

looks like you might be able to tap it

1087

02:21:20,389 --> 02:21:16,720

like a half a centimeter down

1088

02:21:20,399 --> 02:21:23,670

it's down

1089

02:21:30,070 --> 02:21:27,349

and safety tethers unlock unlocked your

1090

02:21:37,910 --> 02:21:30,080

hooks are locked

1091

02:21:41,190 --> 02:21:39,349

that are locked

1092

02:21:43,990 --> 02:21:41,200

all right now you got to local down here

1093

02:21:48,550 --> 02:21:44,000

you look good okay

1094

02:21:56,150 --> 02:21:50,630

or your green light

1095

02:22:02,230 --> 02:21:59,190

but now i gotta

1096

02:22:06,150 --> 02:22:02,240

okay let me look at the tabs i see one

1097

02:22:13,030 --> 02:22:09,429

and there's the third there it is

1098

02:22:19,429 --> 02:22:13,040

perhaps your left safer handle is up

1099

02:22:19,439 --> 02:22:24,469

thank you and now let's closed

1100

02:22:30,710 --> 02:22:27,670

down your left safer handle is

1101
02:22:33,510 --> 02:22:30,720
the right safer handle is down and door

1102
02:22:39,190 --> 02:22:34,389
and

1103
02:22:43,349 --> 02:22:41,030
you see two on your

1104
02:22:46,150 --> 02:22:43,359
right d-ring they're locked

1105
02:22:52,550 --> 02:22:49,750
unlocked and i've got your anchor hook

1106
02:22:52,560 --> 02:22:57,190
i show you in a good config

1107
02:22:59,910 --> 02:22:58,550
i'm going to lock that green hook as

1108
02:23:06,150 --> 02:22:59,920
well

1109
02:23:09,750 --> 02:23:07,830
sounds like uh

1110
02:23:13,750 --> 02:23:09,760
good buddy checks for both of you uh

1111
02:23:31,429 --> 02:23:13,760
we'll take a baseline hab check and a

1112
02:23:35,429 --> 02:23:32,950
all right

1113
02:23:36,870 --> 02:23:35,439

thermal cover is uh mostly closed and

1114

02:23:39,030 --> 02:23:36,880

we've got the waste center going in

1115

02:23:39,910 --> 02:23:39,040

there so

1116

02:23:41,990 --> 02:23:39,920

yeah

1117

02:23:43,590 --> 02:23:42,000

we copy that

1118

02:23:45,110 --> 02:23:43,600

so whenever you're a ready hopper you

1119

02:23:46,790 --> 02:23:45,120

can retrieve the

1120

02:24:04,230 --> 02:23:46,800

vent tool extender bag from the top of

1121

02:24:08,389 --> 02:24:06,550

a quick satellite handover but uh just

1122

02:24:10,070 --> 02:24:08,399

before that you saw the sun come up on

1123

02:24:12,630 --> 02:24:10,080

the international space station as we

1124

02:24:14,870 --> 02:24:12,640

mentioned the sun rises every 45 minutes

1125

02:24:16,630 --> 02:24:14,880

or sets every 45 minutes

1126
02:24:19,590 --> 02:24:16,640
the space station traveling around the

1127
02:24:20,710 --> 02:24:19,600
earth at 17 500 miles an hour and

1128
02:24:25,030 --> 02:24:20,720
currently

1129
02:24:27,510 --> 02:24:25,040
260 statute miles over the pacific ocean

1130
02:24:31,030 --> 02:24:27,520
in with 11 that's the apfr without an

1131
02:24:31,040 --> 02:24:59,590
okay

1132
02:25:04,070 --> 02:25:01,510
the tasks have already begun with mike

1133
02:25:07,670 --> 02:25:04,080
hopkins preparing to grab the event tool

1134
02:25:11,349 --> 02:25:10,389
remember crew members will need this for

1135
02:25:26,469 --> 02:25:11,359
the

1136
02:25:29,910 --> 02:25:28,309
copy hopper you can put on your brt and

1137
02:25:45,750 --> 02:25:29,920
then make your way out

1138
02:25:45,760 --> 02:25:56,070

hey

1139

02:26:04,150 --> 02:25:57,590

just confirm i am taking the whip

1140

02:26:09,110 --> 02:26:06,790

no just the apfr you can leave the with

1141

02:26:10,790 --> 02:26:09,120

extender

1142

02:26:41,110 --> 02:26:10,800

okay thanks for clarifying

1143

02:26:41,120 --> 02:26:54,309

that bag look hopper

1144

02:26:54,319 --> 02:26:59,510

okay let's do my vrt

1145

02:27:03,590 --> 02:27:01,590

this view from victor glover's helmet

1146

02:27:05,510 --> 02:27:03,600

camera we'll be seeing astronaut eye

1147

02:27:07,349 --> 02:27:05,520

views throughout the day today and

1148

02:27:09,030 --> 02:27:07,359

you'll be able to distinguish who is

1149

02:27:10,950 --> 02:27:09,040

whose by that number in the bottom right

1150

02:27:13,110 --> 02:27:10,960

hand corner

1151
02:27:14,550 --> 02:27:13,120
victor glover's camera is marked with

1152
02:27:36,710 --> 02:27:14,560
the number 20

1153
02:27:40,630 --> 02:27:38,710
all right they come to see the

1154
02:27:43,510 --> 02:27:40,640
awesome i've got the

1155
02:27:55,349 --> 02:27:43,520
apfr only on the vrt

1156
02:27:58,469 --> 02:27:56,950
we're in a quick handover of the

1157
02:28:00,150 --> 02:27:58,479
tracking data and relay satellite

1158
02:28:02,150 --> 02:28:00,160
systems

1159
02:28:03,750 --> 02:28:02,160
just beforehand we heard victor glover

1160
02:28:05,910 --> 02:28:03,760
discussing with the ground team that he

1161
02:28:09,110 --> 02:28:05,920
was using the apfr that's the

1162
02:28:11,670 --> 02:28:09,120
articulating portable foot restraint

1163
02:28:13,750 --> 02:28:11,680

he'll be taking that with him today that

1164

02:28:15,750 --> 02:28:13,760

gives the astronauts a place to secure

1165

02:28:17,190 --> 02:28:15,760

themselves secure their footing and get

1166

02:28:18,950 --> 02:28:17,200

a little leverage while working on the

1167

02:28:20,950 --> 02:28:18,960

space station

1168

02:28:33,990 --> 02:28:20,960

handover so if you

1169

02:28:38,630 --> 02:28:37,270

all right hopper you're looking for the

1170

02:28:40,389 --> 02:28:38,640

bait 12

1171

02:28:51,429 --> 02:28:40,399

where you'll jump drop your anchor hooks

1172

02:28:54,870 --> 02:28:53,110

and just a quick reminder about a

1173

02:28:57,270 --> 02:28:54,880

caution to avoid inadvertent contact

1174

02:29:36,870 --> 02:28:57,280

with the deployed tusk cable along the

1175

02:29:36,880 --> 02:29:55,349

okay going under the empty

1176

02:30:25,750 --> 02:30:20,790

okay

1177

02:30:49,349 --> 02:30:25,760

continuing outbound

1178

02:30:54,389 --> 02:30:51,590

and hopper you're dropping your anchor

1179

02:31:04,870 --> 02:30:54,399

hook on handrail 3651 that's the long

1180

02:31:08,870 --> 02:31:07,510

okay you choose anchor hook three six

1181

02:31:12,070 --> 02:31:08,880

five one

1182

02:31:15,349 --> 02:31:12,080

yellow coil so i will lock back on black

1183

02:31:19,190 --> 02:31:15,359

with the good pulses

1184

02:31:19,200 --> 02:31:23,590

and the reel is unlocked

1185

02:31:36,870 --> 02:31:25,990

copy you can now attach hikes anchor

1186

02:31:41,270 --> 02:31:38,550

this view from the high definition

1187

02:31:45,429 --> 02:31:41,280

camera on mike hopkins on mike hopkins

1188

02:31:49,670 --> 02:31:47,270

this high definition view will provide

1189

02:31:51,270 --> 02:31:49,680

for even better views during

1190

02:31:52,870 --> 02:31:51,280

the columbus

1191

02:31:55,349 --> 02:31:52,880

work that he'll be performing today

1192

02:32:14,150 --> 02:31:55,359

specifically at the bartolomeo science

1193

02:32:16,790 --> 02:32:15,110

all right

1194

02:32:18,469 --> 02:32:16,800

your anchor hook is attached to three

1195

02:32:20,630 --> 02:32:18,479

six five two bell close quarter lock

1196

02:32:22,469 --> 02:32:20,640

lock on black good pull test

1197

02:32:24,389 --> 02:32:22,479

have a go to release your waste center

1198

02:32:25,670 --> 02:32:24,399

all right my waist feather is back to my

1199

02:32:27,590 --> 02:32:25,680

workstation

1200

02:32:29,590 --> 02:32:27,600

and the airlock wait center is going

1201
02:32:35,030 --> 02:32:29,600
inside

1202
02:32:42,790 --> 02:32:36,389
all right hopper you can make your way

1203
02:32:42,800 --> 02:32:45,349
copy

1204
02:32:45,359 --> 02:32:49,750
andy the thermal cover is closed

1205
02:33:08,870 --> 02:32:51,349
excellent thank you then you can head

1206
02:33:13,670 --> 02:33:10,790
and as you're both translating

1207
02:33:16,230 --> 02:33:13,680
i'll read you a couple warnings um just

1208
02:33:18,550 --> 02:33:16,240
a reminder that p4 bgas are rotating

1209
02:33:21,270 --> 02:33:18,560
please avoid avoid contact with any of

1210
02:33:23,349 --> 02:33:21,280
the rotating structure also please avoid

1211
02:33:25,990 --> 02:33:23,359
contact with the radiator

1212
02:33:28,230 --> 02:33:26,000
and finally just a reminder about the

1213
02:33:30,469 --> 02:33:28,240

sharp edge hazards out of the p6

1214

02:33:32,309 --> 02:33:30,479

worksite the pip pins on the ttr and

1215

02:33:34,469 --> 02:33:32,319

stcr

1216

02:33:36,389 --> 02:33:34,479

do not meet the eva kick load and so

1217

02:33:39,030 --> 02:33:36,399

there would be a present a sharp edge of

1218

02:33:40,550 --> 02:33:39,040

broken and also there's the outboard mt

1219

02:33:46,630 --> 02:33:40,560

rail attachment lug that has a sharp

1220

02:34:05,429 --> 02:33:48,389

all right probably on phase one coming

1221

02:34:08,790 --> 02:34:07,429

and also just a reminder to you i to

1222

02:34:17,270 --> 02:34:08,800

check your gauntlets are in place before

1223

02:34:21,750 --> 02:34:19,190

and let me know if you need the

1224

02:34:24,309 --> 02:34:21,760

guidance to get to the work site if not

1225

02:34:31,510 --> 02:34:24,319

hopper you're looking for p5 handrail

1226

02:34:52,469 --> 02:34:33,030

all right offer i'm going under the ent

1227

02:34:55,830 --> 02:34:54,230

this view from mike hopkins high

1228

02:34:57,510 --> 02:34:55,840

definition camera you can see some of

1229

02:34:58,710 --> 02:34:57,520

those batteries that were removed and

1230

02:35:00,710 --> 02:34:58,720

replaced

1231

02:35:02,870 --> 02:35:00,720

earlier this year as well as over the

1232

02:35:18,790 --> 02:35:02,880

last few years upgrading the space

1233

02:35:21,510 --> 02:35:20,630

all right now i'm passing our secretary

1234

02:35:32,790 --> 02:35:21,520

anchors

1235

02:35:37,429 --> 02:35:34,790

throughout the day you will hear

1236

02:35:39,910 --> 02:35:37,439

calls made to the crew members you may

1237

02:35:42,710 --> 02:35:39,920

hear ike and hopper those are the call

1238

02:36:03,270 --> 02:35:42,720

signs given to ike victor glover and

1239

02:36:09,590 --> 02:36:05,510

clever now making his way to the first

1240

02:36:12,230 --> 02:36:09,600

work site to vent those early ammonia

1241

02:36:25,670 --> 02:36:12,240

system jumpers alongside

1242

02:36:28,950 --> 02:36:26,469

all right

1243

02:36:36,630 --> 02:36:28,960

across the starch

1244

02:36:36,640 --> 02:36:44,630

okay greenhouse is down

1245

02:36:50,150 --> 02:36:47,349

poppy green hook down you can go ahead

1246

02:36:53,190 --> 02:36:50,160

and go to the workshop and stow the bag

1247

02:36:53,200 --> 02:37:07,110

all right

1248

02:37:13,110 --> 02:37:09,270

and like you're looking for handrail

1249

02:37:40,150 --> 02:37:14,429

the

1250

02:37:43,950 --> 02:37:40,160

those uh jumpers between handrails five

1251
02:37:47,270 --> 02:37:43,960
three three nine and five three four two

1252
02:37:48,230 --> 02:37:47,280
two five three three nine

1253
02:37:51,110 --> 02:37:48,240
and

1254
02:37:52,630 --> 02:37:51,120
five three four two

1255
02:37:54,230 --> 02:37:52,640
can you give me that green hook for hand

1256
02:37:56,710 --> 02:37:54,240
real again

1257
02:38:00,870 --> 02:37:56,720
five two three one it's just opposite of

1258
02:38:00,880 --> 02:38:55,030
okay i'm visual

1259
02:38:59,030 --> 02:38:57,110
andy you have any issue with me just

1260
02:39:00,630 --> 02:38:59,040
dropping it right here on

1261
02:39:02,870 --> 02:39:00,640
five

1262
02:39:04,469 --> 02:39:02,880
two zero three which is just right

1263
02:39:05,750 --> 02:39:04,479

adjacent to it then i don't have to

1264

02:39:07,110 --> 02:39:05,760

cross over the top of this stick each

1265

02:39:24,550 --> 02:39:07,120

other

1266

02:39:33,429 --> 02:39:26,870

all right fox 203 it is green hooking's

1267

02:39:38,230 --> 02:39:35,349

copy you can

1268

02:40:02,790 --> 02:39:38,240

translate out to with 27 on p6 where

1269

02:40:02,800 --> 02:40:18,309

you both my real grandma

1270

02:40:24,150 --> 02:40:21,670

okay andy i'm heading out to

1271

02:40:28,469 --> 02:40:24,160

get my rich man found i'll get me all

1272

02:40:28,479 --> 02:40:49,190

coffee

1273

02:41:02,309 --> 02:40:51,830

all right hopper on that p6 the

1274

02:41:05,990 --> 02:41:04,309

okay andy give me that whiff number

1275

02:41:08,309 --> 02:41:06,000

again

1276

02:41:09,990 --> 02:41:08,319

27 so it's on the forward edge it's

1277

02:41:13,910 --> 02:41:10,000

almost about as far out as you can there

1278

02:41:15,590 --> 02:41:13,920

should be an apfr in the adjacent uh

1279

02:41:17,670 --> 02:41:15,600

with 31

1280

02:41:20,389 --> 02:41:17,680

she'll be putting this one in 27 which

1281

02:41:22,150 --> 02:41:20,399

is just next to that

1282

02:41:23,750 --> 02:41:22,160

that is a great detail right next to me

1283

02:41:31,110 --> 02:41:23,760

sorry about that

1284

02:41:40,309 --> 02:41:33,190

i also see the

1285

02:41:40,319 --> 02:42:11,349

all right engine with 27 now

1286

02:42:16,710 --> 02:42:14,630

and ike um when you store the apfr

1287

02:42:26,870 --> 02:42:16,720

caulking is not so important

1288

02:42:30,469 --> 02:42:29,190

okay and the rich man's fair lead is

1289

02:42:33,990 --> 02:42:30,479

down

1290

02:42:39,510 --> 02:42:35,830

copy the first thing you'll be doing is

1291

02:42:41,450 --> 02:42:39,520

retrieving the event tool adapter

1292

02:42:49,349 --> 02:42:41,460

and removing one cap from that

1293

02:42:54,870 --> 02:42:51,510

anti-clocking to 12 it points the boot

1294

02:42:56,950 --> 02:42:54,880

plate in toward the iea

1295

02:42:58,950 --> 02:42:56,960

perfect that gives a hopper

1296

02:43:00,870 --> 02:42:58,960

room to get past it later the other

1297

02:43:06,790 --> 02:43:00,880

settings we have time i think so the

1298

02:43:10,550 --> 02:43:08,710

well it works and it is in with a good

1299

02:43:11,990 --> 02:43:10,560

full test good twist test and it is

1300

02:43:14,309 --> 02:43:12,000

black on black

1301

02:43:16,630 --> 02:43:14,319

indigo indigo didn't work

1302

02:43:24,790 --> 02:43:16,640

good good read back and just give us a

1303

02:43:28,230 --> 02:43:26,389

the astronauts are now at their first

1304

02:43:30,790 --> 02:43:28,240

workstation of the day where they will

1305

02:43:33,670 --> 02:43:30,800

be working on the early ammonia system

1306

02:43:36,469 --> 02:43:33,680

venting two jumpers one of which glover

1307

02:43:38,710 --> 02:43:36,479

will later re-relocate to the outside of

1308

02:43:57,590 --> 02:43:38,720

the airlock remove the cap go ahead and

1309

02:44:02,309 --> 02:43:59,750

there are a lot of moving pieces for

1310

02:44:05,030 --> 02:44:02,319

this first task and you just heard about

1311

02:44:07,349 --> 02:44:05,040

the qd that's the vent tool quick

1312

02:44:08,550 --> 02:44:07,359

disconnect from the locked position it's

1313

02:44:11,030 --> 02:44:08,560

a little sticky

1314

02:44:12,870 --> 02:44:11,040

to push in it wasn't a huge spell 15

1315

02:44:13,910 --> 02:44:12,880

pounds of force maybe and then turning

1316

02:44:16,710 --> 02:44:13,920

it the first

1317

02:44:18,790 --> 02:44:16,720

15 20 degrees it was that same feeling

1318

02:44:20,950 --> 02:44:18,800

because i got the half set it moved

1319

02:44:23,510 --> 02:44:20,960

freely i got it to india india and it

1320

02:44:25,510 --> 02:44:23,520

locked freely and then uh it's the same

1321

02:44:27,349 --> 02:44:25,520

thing the last 20 degrees a little

1322

02:44:31,990 --> 02:44:27,359

ratcheting but it pops out and i can

1323

02:44:48,389 --> 02:44:32,790

we

1324

02:44:51,990 --> 02:44:50,389

okay essential adapter i got the

1325

02:44:54,150 --> 02:44:52,000

calipers off of it

1326

02:44:56,230 --> 02:44:54,160

do an inspection no sockets for you good

1327

02:44:59,590 --> 02:44:56,240

feel

1328

02:45:01,670 --> 02:44:59,600

copy you can uh grab the vent

1329

02:45:03,510 --> 02:45:01,680

or they have the you can remove the plug

1330

02:45:12,790 --> 02:45:03,520

from the vent tool qd and then give us

1331

02:45:12,800 --> 02:45:16,150

and

1332

02:45:20,230 --> 02:45:18,309

once hopkins has removed the plug from

1333

02:45:22,389 --> 02:45:20,240

the event tool quick disconnect he will

1334

02:45:24,870 --> 02:45:22,399

mate that quick disconnect to the event

1335

02:45:26,309 --> 02:45:24,880

tool adapter

1336

02:45:28,790 --> 02:45:26,319

fingers

1337

02:45:31,110 --> 02:45:28,800

it feels

1338

02:45:34,070 --> 02:45:31,120

copy so now we'll mate the vent tool

1339

02:45:39,990 --> 02:45:34,080

adapter to the vent tool qd and i'll

1340

02:45:44,469 --> 02:45:41,990

okay so verify that the female qd is

1341

02:45:46,710 --> 02:45:44,479

ready to mate by making sure the detent

1342

02:45:49,990 --> 02:45:46,720

button is up and the forward white band

1343

02:45:54,309 --> 02:45:52,469

not visible

1344

02:46:20,710 --> 02:45:54,319

go ahead and mate the qd and check that

1345

02:46:24,469 --> 02:46:22,870

next hopper perform a snap back test and

1346

02:46:43,910 --> 02:46:24,479

check that the forward white band is

1347

02:46:48,550 --> 02:46:46,150

and visible

1348

02:46:52,150 --> 02:46:48,560

finally perform a pull test and a visual

1349

02:46:52,160 --> 02:47:00,630

stuff looks good

1350

02:47:00,640 --> 02:47:04,870

and ike once you've uh

1351
02:47:08,630 --> 02:47:06,950
once you've stowed the crew lock bag

1352
02:47:09,830 --> 02:47:08,640
then you can read to the mutt end

1353
02:47:12,309 --> 02:47:09,840
effector

1354
02:47:13,990 --> 02:47:12,319
um and attach the I bracket with

1355
02:47:16,950 --> 02:47:14,000
nozzle to the

1356
02:47:18,630 --> 02:47:16,960
end defector ecom

1357
02:47:21,110 --> 02:47:18,640
okay i'm not doing it let's uh what were

1358
02:47:23,590 --> 02:47:21,120
the settings for the apr indian india

1359
02:47:26,230 --> 02:47:23,600
boss 12 is what i had said

1360
02:47:27,429 --> 02:47:26,240
that's perfect

1361
02:47:28,870 --> 02:47:27,439
okay

1362
02:47:31,510 --> 02:47:28,880
all right now i'll fill the bag and

1363
02:47:32,710 --> 02:47:31,520

where exactly am i putting that

1364

02:47:35,110 --> 02:47:32,720

five three

1365

02:47:37,910 --> 02:47:35,120

three three

1366

02:47:44,790 --> 02:47:37,920

which is right behind you guys okay

1367

02:47:44,800 --> 02:47:54,309

okay i have the

1368

02:47:59,429 --> 02:47:57,429

next we'll open the vent tool qd valve

1369

02:48:01,990 --> 02:47:59,439

and when you're ready for that then you

1370

02:48:04,389 --> 02:48:02,000

can

1371

02:48:05,990 --> 02:48:04,399

depress the detail

1372

02:48:07,750 --> 02:48:06,000

okay go ahead and depress the detent

1373

02:48:20,950 --> 02:48:07,760

button and move the bale to the forward

1374

02:48:24,550 --> 02:48:22,389

okay

1375

02:48:26,710 --> 02:48:24,560

forward position

1376

02:48:29,830 --> 02:48:26,720

detent button is up offline band is

1377

02:48:34,150 --> 02:48:31,510

excellent that means the

1378

02:48:35,510 --> 02:48:34,160

qd is open you can now retrieve retrieve

1379

02:48:55,030 --> 02:48:35,520

the vent tool

1380

02:49:00,870 --> 02:48:58,870

and i got an audible for you that's it

1381

02:49:02,469 --> 02:49:00,880

i'm done what's your audible will you

1382

02:49:03,910 --> 02:49:02,479

can steal the bag since it's behind you

1383

02:49:07,190 --> 02:49:03,920

and i can start on the vent tool bag

1384

02:49:07,200 --> 02:49:25,670

standby

1385

02:49:31,750 --> 02:49:28,309

you um this is ready to my brt

1386

02:49:41,990 --> 02:49:31,760

so it's got a large small and a integral

1387

02:49:42,000 --> 02:50:06,309

you can take your rip

1388

02:50:06,319 --> 02:50:15,590

all right andy i'm at the fence tool bag

1389

02:50:15,600 --> 02:50:20,550

okay so

1390

02:50:25,830 --> 02:50:22,950

ike you can read to the mutt end

1391

02:50:27,590 --> 02:50:25,840

effector from the vent tool bag

1392

02:50:30,630 --> 02:50:27,600

and then you can attach the l bracket

1393

02:50:32,150 --> 02:50:30,640

with the nozzle to the mutt ecom fitting

1394

02:50:34,790 --> 02:50:32,160

the clocking

1395

02:50:36,070 --> 02:50:34,800

is a yaw setting of alpha

1396

02:50:37,590 --> 02:50:36,080

and just double check that the french

1397

02:50:42,230 --> 02:50:37,600

hook from the nozzle is attached to the

1398

02:50:42,240 --> 02:50:50,550

i'm ready to the mud in effect

1399

02:51:00,469 --> 02:50:51,990

that's the

1400

02:51:04,870 --> 02:51:01,910

and you're putting

1401

02:51:05,990 --> 02:51:04,880

that I bracket into the uh

1402

02:51:08,150 --> 02:51:06,000

ecom

1403

02:51:16,309 --> 02:51:08,160

so that the I bracket is parallel to the

1404

02:51:20,389 --> 02:51:18,870

and hopper once you have a red on the

1405

02:51:23,429 --> 02:51:20,399

vent tool and the vent tool adapter

1406

02:51:26,070 --> 02:51:23,439

combo then you can translate down to m10

1407

02:51:27,190 --> 02:51:26,080

on the t6 long spacer that's the inboard

1408

02:51:28,550 --> 02:51:27,200

side of the

1409

02:51:29,750 --> 02:51:28,560

connections

1410

02:51:32,309 --> 02:51:29,760

after that

1411

02:51:34,630 --> 02:51:32,319

i am there

1412

02:51:36,550 --> 02:51:34,640

okay you can remove the wire tie and

1413

02:51:43,110 --> 02:51:36,560

booty and then the spid

1414

02:51:47,030 --> 02:51:45,030

and just a reminder

1415

02:52:02,150 --> 02:51:47,040

for caution here that handrail on the

1416

02:52:05,910 --> 02:52:03,670

all right andy the mud and the bracket

1417

02:52:07,190 --> 02:52:05,920

are together it is uh the bracket alpha

1418

02:52:08,469 --> 02:52:07,200

alpha

1419

02:52:09,990 --> 02:52:08,479

is

1420

02:52:11,030 --> 02:52:10,000

sorry nope it needs to be parallel to

1421

02:52:17,429 --> 02:52:11,040

the handrail

1422

02:52:21,429 --> 02:52:18,950

yeah it looks like you're about 90

1423

02:52:34,469 --> 02:52:21,439

degrees off

1424

02:52:38,150 --> 02:52:36,070

and hopper once you've

1425

02:52:39,910 --> 02:52:38,160

removed the wire tie and the spid you

1426
02:52:42,469 --> 02:52:39,920
can put them in the trash bag which is

1427
02:52:45,830 --> 02:52:42,479
in the crew lock bag

1428
02:52:48,790 --> 02:52:47,030
okay

1429
02:52:50,469 --> 02:52:48,800
alpha alpha is parallel to where the

1430
02:52:52,550 --> 02:52:50,479
hand rail would be

1431
02:52:55,990 --> 02:52:52,560
it is mated

1432
02:52:57,750 --> 02:52:56,000
and if you can really good friendship

1433
02:53:00,630 --> 02:52:57,760
copy and then just check that the ecom

1434
02:53:00,640 --> 02:53:03,830
is lost lock on block

1435
02:53:08,389 --> 02:53:05,429
copy you can unpack the vent tool

1436
02:53:10,710 --> 02:53:08,399
extender and untether it from the bag

1437
02:53:13,030 --> 02:53:10,720
and then you can translate aft to

1438
02:53:16,230 --> 02:53:13,040

handrail 5304 where you'll be attaching

1439

02:53:16,240 --> 02:53:18,790

okay

1440

02:53:23,510 --> 02:53:20,870

it works

1441

02:53:25,590 --> 02:53:23,520

now 40 minutes into today's spacewalk

1442

02:53:27,510 --> 02:53:25,600

our crew members are still getting

1443

02:53:30,630 --> 02:53:27,520

situated for their first task which is

1444

02:53:32,230 --> 02:53:30,640

venting the early ammonia system jumpers

1445

02:53:34,230 --> 02:53:32,240

one of these may potentially be needed

1446

02:53:36,469 --> 02:53:34,240

on the starboard side of the truss so

1447

02:53:39,030 --> 02:53:36,479

once vented victor glover will be taking

1448

02:53:40,630 --> 02:53:39,040

one of the jumpers to the outside of the

1449

02:53:41,910 --> 02:53:40,640

airlock where it will be stowed for

1450

02:53:43,750 --> 02:53:41,920

later use

1451
02:53:45,590 --> 02:53:43,760
have them read to your mini workstation

1452
02:54:13,830 --> 02:53:45,600
and keep in there rather than going back

1453
02:54:32,790 --> 02:54:15,269
all right i'm going to go over the top

1454
02:54:37,790 --> 02:54:34,230
all right andy now i'm on my way give me

1455
02:55:00,389 --> 02:54:40,790
5304 and you'll be attaching the mut so

1456
02:55:05,510 --> 02:55:02,790
and i just make sure please that the uh

1457
02:55:07,510 --> 02:55:05,520
jaws on the end effector are attached to

1458
02:55:09,429 --> 02:55:07,520
the handrail between the two stanchions

1459
02:55:10,870 --> 02:55:09,439
because this one does have a part of the

1460
02:55:12,150 --> 02:55:10,880
stanchion going up

1461
02:55:14,389 --> 02:55:12,160
yeah part of the handrail going over the

1462
02:55:17,510 --> 02:55:14,399
stanchion

1463
02:55:19,030 --> 02:55:17,520

yep i see that and i bought 5 304 and i

1464

02:55:30,790 --> 02:55:19,040

won't put it on those little cantilever

1465

02:55:35,990 --> 02:55:33,990

and hopper once you've removed the spid

1466

02:55:44,950 --> 02:55:36,000

go ahead and push the bale

1467

02:55:44,960 --> 02:56:20,309

um

1468

02:56:20,319 --> 02:56:39,590

bye

1469

02:56:43,190 --> 02:56:41,750

all right andy out the office of the hip

1470

02:56:44,870 --> 02:56:43,200

is in between

1471

02:56:52,070 --> 02:56:44,880

two stanchions

1472

02:56:56,389 --> 02:56:54,950

copy pitch to one is good and then just

1473

02:56:59,190 --> 02:56:56,399

double check that the mutt and effector

1474

02:56:59,200 --> 02:57:03,110

page

1475

02:57:03,120 --> 02:57:27,750

it works

1476

02:57:34,790 --> 02:57:30,950

and so i good position is

1477

02:57:37,750 --> 02:57:34,800

30 degrees from aft so slightly above

1478

02:57:39,429 --> 02:57:37,760

the horizon

1479

02:57:45,429 --> 02:57:39,439

that's uh that's what one lines up with

1480

02:57:45,439 --> 02:57:55,110

this guy's stubborn

1481

02:57:59,670 --> 02:57:57,750

the crew will orient the jumpers so that

1482

02:58:11,349 --> 02:57:59,680

they are venting ammonia away from the

1483

02:58:11,359 --> 02:58:15,510

what are you working on hopper

1484

02:58:23,349 --> 02:58:17,670

doesn't want to

1485

02:58:23,359 --> 02:58:43,269

you're lying

1486

02:58:47,750 --> 02:58:45,670

and hopper you might try pushing forward

1487

02:59:10,550 --> 02:58:47,760

on the qd bale and that might offload

1488

02:59:10,560 --> 02:59:19,750

there we go all right

1489

02:59:22,630 --> 02:59:20,870

and then just

1490

02:59:28,710 --> 02:59:22,640

ensure that the bale is pushed forward

1491

02:59:32,870 --> 02:59:30,469

all right you can remove the second cap

1492

02:59:33,830 --> 02:59:32,880

from the vent tool adapter and inspect

1493

02:59:36,630 --> 02:59:33,840

it for

1494

02:59:48,790 --> 02:59:36,640

fog and debris

1495

02:59:53,910 --> 02:59:50,710

this view from the helmet camera of

1496

02:59:57,510 --> 02:59:53,920

victor glover our ev1 extravehicular one

1497

03:00:02,309 --> 02:59:59,429

the astronauts will be using a vent tool

1498

03:00:04,469 --> 03:00:02,319

and a vent tool extender to vent the

1499

03:00:07,030 --> 03:00:04,479

early ammonia system jumpers which is

1500

03:00:09,269 --> 03:00:07,040

about 90 degrees

1501
03:00:09,750 --> 03:00:09,279
from the

1502
03:00:11,110 --> 03:00:09,760
yep horizon

1503
03:00:13,670 --> 03:00:11,120
looks excellent we're seeing it in your

1504
03:00:18,550 --> 03:00:13,680
helmet cam looks perfect now just uh

1505
03:00:22,630 --> 03:00:21,110
left on black

1506
03:00:28,469 --> 03:00:22,640
excellent you can head back to the vent

1507
03:00:33,190 --> 03:00:30,309
and there you'll be removing the plug

1508
03:00:34,790 --> 03:00:33,200
from the vent tool extender and if you

1509
03:00:36,150 --> 03:00:34,800
need detailed steps i've got them

1510
03:00:42,230 --> 03:00:36,160
otherwise you can go ahead and remove

1511
03:00:47,110 --> 03:00:44,870
okay that's removed

1512
03:00:48,710 --> 03:00:47,120
looking at the male end here

1513
03:00:50,790 --> 03:00:48,720

or five

1514

03:00:54,710 --> 03:00:50,800

squeeze

1515

03:00:59,750 --> 03:00:56,870

coffee sounds good um

1516

03:01:01,429 --> 03:00:59,760

once ike has retrieved eventual extender

1517

03:01:02,710 --> 03:01:01,439

and removed the plug then you can go

1518

03:01:04,870 --> 03:01:02,720

ahead and give them

1519

03:01:06,389 --> 03:01:04,880

him the vent tool nozzle and he'll be

1520

03:02:23,349 --> 03:01:06,399

inserting that into the vent tool

1521

03:02:23,359 --> 03:02:44,870

um

1522

03:02:50,070 --> 03:02:48,230

next to your left arm there all right

1523

03:02:51,349 --> 03:02:50,080

say that the plug is right next to your

1524

03:03:01,590 --> 03:02:51,359

left arm

1525

03:03:01,600 --> 03:03:47,349

okay

1526

03:03:51,110 --> 03:03:49,190

the plug is removed

1527

03:03:52,630 --> 03:03:51,120

andy

1528

03:03:55,429 --> 03:03:52,640

coffee you can get the

1529

03:03:59,510 --> 03:03:55,439

tool nozzle from hopper and insert that

1530

03:04:02,550 --> 03:04:01,429

the vent tool is inserted into the

1531

03:04:04,950 --> 03:04:02,560

extender

1532

03:04:07,190 --> 03:04:04,960

glock soft dock is very very soft so

1533

03:04:15,990 --> 03:04:07,200

it's locked right now but it pulls out

1534

03:04:23,900 --> 03:04:18,389

copy that

1535

03:04:23,910 --> 03:04:35,510

[Music]

1536

03:04:38,230 --> 03:04:37,110

and as you're doing that i'll just give

1537

03:04:40,150 --> 03:04:38,240

you a

1538

03:04:42,630 --> 03:04:40,160

big picture we are about to start

1539

03:04:45,269 --> 03:04:42,640

venting ops we are in

1540

03:04:47,990 --> 03:04:45,279

orbital night so we do have 20 minutes

1541

03:04:51,190 --> 03:04:48,000

um so we do have time for this

1542

03:04:53,750 --> 03:04:51,200

big picture words um

1543

03:04:54,870 --> 03:04:53,760

hopper you'll be working on

1544

03:04:55,910 --> 03:04:54,880

um

1545

03:04:57,990 --> 03:04:55,920

m10

1546

03:04:59,269 --> 03:04:58,000

you'll be closing the qd then you'll be

1547

03:05:01,110 --> 03:04:59,279

demating it

1548

03:05:02,870 --> 03:05:01,120

then you'll be mating it to the event

1549

03:05:05,510 --> 03:05:02,880

tool adapter and then you'll be opening

1550

03:05:07,510 --> 03:05:05,520

the valve

1551

03:05:11,269 --> 03:05:07,520

roger

1552

03:05:22,070 --> 03:05:13,190

yeah my br key right here if i can mess

1553

03:05:22,080 --> 03:05:29,030

and uh

1554

03:05:32,469 --> 03:05:30,950

and i uh obviously had that wrong which

1555

03:05:34,950 --> 03:05:32,479

you probably noticed we're in daylight

1556

03:05:36,550 --> 03:05:34,960

not in night so we have a six minute

1557

03:05:54,150 --> 03:05:36,560

thermal clock to do these four actions

1558

03:05:59,590 --> 03:05:56,950

let's review them already

1559

03:06:01,269 --> 03:05:59,600

so we're going to close this

1560

03:06:06,309 --> 03:06:01,279

mate

1561

03:06:13,190 --> 03:06:08,070

when that last open happens that's when

1562

03:06:20,389 --> 03:06:16,950

and uh just the clarification we are 18

1563

03:06:23,190 --> 03:06:20,399

minutes from night uh which means that

1564

03:06:25,429 --> 03:06:23,200

the six minute timer

1565

03:06:27,030 --> 03:06:25,439

will run into that 15 minute buffer

1566

03:06:29,030 --> 03:06:27,040

before night begin so it actually means

1567

03:06:31,030 --> 03:06:29,040

that we do not have

1568

03:06:34,630 --> 03:06:31,040

a limit on

1569

03:06:43,510 --> 03:06:37,429

okay very nice

1570

03:06:47,590 --> 03:06:45,349

okay ike when you are in a good position

1571

03:06:53,750 --> 03:06:47,600

on the forward edge then i'll start with

1572

03:06:53,760 --> 03:06:59,429

copy are you ready hopper

1573

03:07:04,389 --> 03:07:02,870

okay so you can close the qd extender on

1574

03:07:06,630 --> 03:07:04,399

m10

1575

03:07:09,429 --> 03:07:06,640

and i'll read you the steps

1576

03:07:15,510 --> 03:07:09,439

first step move bail forward to the full

1577

03:07:22,070 --> 03:07:17,910

check that the white the aft white band

1578

03:07:29,190 --> 03:07:25,269

i did not see

1579

03:07:31,910 --> 03:07:29,200

now i do i got an app like damn visible

1580

03:07:33,429 --> 03:07:31,920

check detent button is fully installed

1581

03:07:36,790 --> 03:07:33,439

that it's up and that it can be

1582

03:07:48,309 --> 03:07:40,389

we installed up and depressed

1583

03:07:52,230 --> 03:07:50,230

while depressing the detent button move

1584

03:08:02,469 --> 03:07:52,240

the bale forward to the open position

1585

03:08:12,389 --> 03:08:04,630

then depress the detent button and move

1586

03:08:12,399 --> 03:08:14,870

oh wow

1587

03:08:24,710 --> 03:08:16,950

check forward white band is visible and

1588

03:08:28,630 --> 03:08:26,630

all right we'll now demate so you can

1589

03:08:33,349 --> 03:08:28,640

pull back on the release ring and demate

1590

03:08:33,359 --> 03:08:43,429

after it qd work

1591

03:08:43,439 --> 03:08:52,870

by

1592

03:08:52,880 --> 03:09:03,590

emily

1593

03:09:03,600 --> 03:09:21,670

know if i can help with anything

1594

03:09:25,030 --> 03:09:23,590

yeah you want to grab that

1595

03:09:39,429 --> 03:09:25,040

release tool

1596

03:09:39,439 --> 03:09:45,750

absolutely

1597

03:09:48,950 --> 03:09:47,269

what you're respecting

1598

03:09:51,830 --> 03:09:48,960

exactly what i was expecting okay i'll

1599

03:10:00,150 --> 03:09:51,840

give you some slack on the wrench

1600

03:10:00,160 --> 03:10:05,830

got a handover coming up now

1601
03:10:10,389 --> 03:10:07,510
as you heard we are now in a satellite

1602
03:10:19,429 --> 03:10:12,630
the astronauts continue to prepare to

1603
03:10:23,190 --> 03:10:20,950
just about an hour into today's

1604
03:10:28,389 --> 03:10:23,200
spacewalk and this is the first task for

1605
03:10:32,229 --> 03:10:30,070
at the early ammonia system they will

1606
03:10:34,790 --> 03:10:32,239
vent two jumpers and one will be

1607
03:10:37,670 --> 03:10:34,800
relocated to the outside of the air lock

1608
03:10:41,990 --> 03:10:37,680
for future use

1609
03:10:50,309 --> 03:10:44,309
yeah it's partly in place so if you try

1610
03:10:50,319 --> 03:10:54,229
there we go

1611
03:10:59,910 --> 03:10:55,590
and we're back with you did you say you

1612
03:11:05,269 --> 03:11:02,630
it's released

1613
03:11:18,229 --> 03:11:05,279

copy check release ring is retracted and

1614

03:11:24,870 --> 03:11:22,550

i don't see a white band no white band

1615

03:11:31,269 --> 03:11:24,880

copy inspect male and female qd for

1616

03:11:35,190 --> 03:11:33,349

okay we have a few ammonia crystals that

1617

03:11:35,750 --> 03:11:35,200

are coming

1618

03:11:40,070 --> 03:11:35,760

from out

1619

03:11:40,080 --> 03:11:48,630

yeah we see that

1620

03:11:48,640 --> 03:11:52,389

okay you can see there's a

1621

03:11:56,950 --> 03:11:54,550

yep let's go ahead and make that hopper

1622

03:11:59,030 --> 03:11:56,960

so you can

1623

03:12:00,229 --> 03:11:59,040

you can mate the qd

1624

03:12:02,950 --> 03:12:00,239

extender

1625

03:12:04,790 --> 03:12:02,960

to the event tool adapter

1626

03:12:06,389 --> 03:12:04,800

so verify that it's ready to mint check

1627

03:12:12,790 --> 03:12:06,399

that the detent button is up and the

1628

03:12:16,070 --> 03:12:14,229

button is up forward like that not

1629

03:12:28,950 --> 03:12:16,080

visible

1630

03:12:34,950 --> 03:12:30,710

perform snapback tests and check that

1631

03:12:34,960 --> 03:12:40,790

then a pull test and a visual gap test

1632

03:12:48,790 --> 03:12:42,870

visible

1633

03:12:53,030 --> 03:12:51,750

copy so next we'll be opening

1634

03:12:56,150 --> 03:12:53,040

the

1635

03:13:03,590 --> 03:12:56,160

valve which will start venting so

1636

03:13:12,229 --> 03:13:05,510

hopper you can depress the detent button

1637

03:13:12,239 --> 03:13:20,150

go forward

1638

03:13:20,160 --> 03:13:25,830

copy all

1639

03:13:25,840 --> 03:13:36,229

rate has gone down

1640

03:13:53,510 --> 03:13:38,550

venting has begun of the first jumper on

1641

03:13:57,750 --> 03:13:55,590

oh yeah look at that go can you see that

1642

03:14:00,229 --> 03:13:57,760

in the hecka

1643

03:14:14,389 --> 03:14:00,239

yeah we can just see it on the edge

1644

03:14:14,399 --> 03:14:18,389

okay spit is in the trash bag

1645

03:14:22,229 --> 03:14:20,469

copy that hopper and next you can

1646

03:14:23,990 --> 03:14:22,239

release the wire tie between the two

1647

03:14:25,429 --> 03:14:24,000

jumpers the wire ties should stay

1648

03:14:29,750 --> 03:14:25,439

captive to the jumper that you're

1649

03:14:29,760 --> 03:14:42,469

and there is no wire tie there

1650

03:14:48,349 --> 03:14:44,790

copy so no wire tie between the two

1651

03:14:48,359 --> 03:14:54,710

correct that's affirmative

1652

03:14:54,720 --> 03:15:01,590

get the right view

1653

03:15:06,790 --> 03:15:04,870

there's more than i thought yeah

1654

03:15:13,590 --> 03:15:06,800

hold on

1655

03:15:13,600 --> 03:15:25,110

we're checking

1656

03:15:25,120 --> 03:15:29,429

three closed

1657

03:15:37,670 --> 03:15:32,389

hopper do you want to check if

1658

03:15:37,680 --> 03:15:54,150

on my way

1659

03:15:58,550 --> 03:15:56,150

venting continues of the first jumper on

1660

03:16:00,389 --> 03:15:58,560

the early ammonia system

1661

03:16:28,790 --> 03:16:00,399

that is scheduled to last about five

1662

03:16:28,800 --> 03:16:38,229

foreign

1663

03:16:54,630 --> 03:16:39,190

okay

1664

03:16:54,640 --> 03:16:59,590

go forward white band is visible

1665

03:17:04,150 --> 03:17:01,349

just to confirm hopper you said the

1666

03:17:08,150 --> 03:17:04,160

forward white band is visible on m3 is

1667

03:17:08,160 --> 03:17:12,710

that is correct

1668

03:17:21,110 --> 03:17:15,590

okay that's a good uh config the qd is

1669

03:17:30,870 --> 03:17:22,550

okay

1670

03:17:34,309 --> 03:17:32,229

and hopper next for you you'll be

1671

03:17:39,429 --> 03:17:34,319

working on m3 so no need to put the

1672

03:17:42,950 --> 03:17:41,910

right i think for right too he needs to

1673

03:17:47,670 --> 03:17:42,960

uh

1674

03:17:49,990 --> 03:17:47,680

right to this fh01 is that right

1675

03:17:55,030 --> 03:17:50,000

he'll be taking it once i've released it

1676

03:17:58,070 --> 03:17:56,309

okay

1677

03:17:59,670 --> 03:17:58,080

or

1678

03:18:01,030 --> 03:17:59,680

that's actually right over your shoulder

1679

03:18:04,950 --> 03:18:01,040

there right

1680

03:18:32,630 --> 03:18:07,269

here hold on a sec

1681

03:18:32,640 --> 03:18:42,389

you go like this

1682

03:19:01,349 --> 03:18:43,269

got it

1683

03:19:06,070 --> 03:19:03,269

as venting continues on the early

1684

03:19:07,590 --> 03:19:06,080

ammonia system

1685

03:19:09,429 --> 03:19:07,600

the international space station has

1686

03:19:11,269 --> 03:19:09,439

crossed the terminator line or the

1687

03:19:19,510 --> 03:19:11,279

difference between day and night while

1688

03:19:24,630 --> 03:19:20,950

the international space station now

1689

03:19:46,710 --> 03:19:24,640

flying 262 statute miles southwest of

1690

03:19:51,190 --> 03:19:48,469

all right our five minute vent time has

1691

03:19:53,190 --> 03:19:51,200

expired if you can confirm that you see

1692

03:19:58,150 --> 03:19:53,200

no more venting then we'll go ahead and

1693

03:20:08,309 --> 03:20:00,950

and if you want i see no more venting

1694

03:20:13,030 --> 03:20:10,630

all right ike you can go ahead

1695

03:20:30,630 --> 03:20:13,040

and close the qd extender valve i'll

1696

03:20:35,670 --> 03:20:33,190

venting is complete on the first jumper

1697

03:20:41,030 --> 03:20:35,680

victor glover will disconnect or close

1698

03:20:44,550 --> 03:20:42,870

stand by let me valve my brt back down

1699

03:20:46,389 --> 03:20:44,560

sorry about that

1700

03:20:53,750 --> 03:20:46,399

this is the jumper that he will coil and

1701
03:20:57,190 --> 03:20:55,590
actually the power was off you have no

1702
03:21:01,429 --> 03:20:57,200
light right now now you have a good

1703
03:21:07,030 --> 03:21:03,190
excellent thank you

1704
03:21:07,040 --> 03:21:11,349
hey andy ready for stuff

1705
03:21:14,870 --> 03:21:12,469
so um

1706
03:21:17,429 --> 03:21:14,880
you are going to close the qd extender

1707
03:21:22,830 --> 03:21:17,439
valve and i'll read you the steps when

1708
03:21:36,070 --> 03:21:25,750
ready right you can move bail forward to

1709
03:21:36,080 --> 03:21:42,630
check aft white band is visible

1710
03:21:48,229 --> 03:21:45,590
as the white band is visible

1711
03:21:49,750 --> 03:21:48,239
check detent button is fully installed

1712
03:21:53,990 --> 03:21:49,760
that it's up and that it can be

1713
03:21:54,000 --> 03:21:58,389

fully installed up and depressable

1714

03:22:02,389 --> 03:21:59,990

all right assess and counteract side

1715

03:22:04,389 --> 03:22:02,399

loads and then while depressing the

1716

03:22:06,309 --> 03:22:04,399

detent button move bail forward to the

1717

03:22:17,190 --> 03:22:06,319

full open position with significant

1718

03:22:22,469 --> 03:22:20,710

full open full forward

1719

03:22:37,269 --> 03:22:22,479

alright now depress the detent button

1720

03:22:42,070 --> 03:22:39,429

it is passed and the button has popped

1721

03:22:48,070 --> 03:22:43,429

copy and then just check the forward

1722

03:22:48,080 --> 03:23:04,710

what do i fancy

1723

03:23:09,910 --> 03:23:07,269

all right guys um we'd like to take just

1724

03:23:12,550 --> 03:23:09,920

a minute to stop at this point and have

1725

03:23:14,630 --> 03:23:12,560

a quick discussion about uh your

1726

03:23:26,950 --> 03:23:14,640

impression of the amount of ammonia that

1727

03:23:31,110 --> 03:23:28,550

i felt like it was more than i was

1728

03:23:33,190 --> 03:23:31,120

expecting just in this line

1729

03:23:34,950 --> 03:23:33,200

but it did stop

1730

03:23:37,269 --> 03:23:34,960

uh is him so he talked about what came

1731

03:23:39,349 --> 03:23:37,279

out the nozzle or we

1732

03:23:41,190 --> 03:23:39,359

let's just clarify which which venting

1733

03:23:43,349 --> 03:23:41,200

we're talking about the stuff that was

1734

03:23:45,110 --> 03:23:43,359

close to us with the stuff that went

1735

03:23:47,269 --> 03:23:45,120

we were talking about the stuff that was

1736

03:23:49,750 --> 03:23:47,279

close to you the qd when it was demated

1737

03:24:01,269 --> 03:23:49,760

at m10 and hopper was inspecting it and

1738

03:24:09,910 --> 03:24:03,590

less than 30 did they contact you do you

1739

03:24:17,349 --> 03:24:13,590

i had some contact my advisor

1740

03:24:20,070 --> 03:24:17,359

ev2 the eb1 didn't see any contact uh

1741

03:24:37,990 --> 03:24:20,080

ev2 or ev1 but i was in a

1742

03:24:38,000 --> 03:24:50,469

uh

1743

03:24:54,790 --> 03:24:52,389

all right guys we appreciate the report

1744

03:24:57,590 --> 03:24:54,800

uh from our camera views down here we

1745

03:24:58,630 --> 03:24:57,600

did see what looked like propulsive a

1746

03:25:00,229 --> 03:24:58,640

movement

1747

03:25:02,150 --> 03:25:00,239

of the flakes so we're going to go ahead

1748

03:25:04,710 --> 03:25:02,160

and be conservative and call that a

1749

03:25:07,990 --> 03:25:04,720

suspected case and so at the end of all

1750

03:25:20,950 --> 03:25:08,000

of these ops we'll do a an inspection of

1751
03:25:25,110 --> 03:25:23,190
all right uh so hopper you can make your

1752
03:25:27,830 --> 03:25:25,120
way down to m3

1753
03:25:28,790 --> 03:25:27,840
uh where we'll be starting to demate

1754
03:25:30,150 --> 03:25:28,800
that

1755
03:25:32,469 --> 03:25:30,160
and ike

1756
03:25:35,510 --> 03:25:32,479
if you're you can if you can verify that

1757
03:25:36,389 --> 03:25:35,520
you're tethered to the qd extender then

1758
03:25:38,550 --> 03:25:36,399
we'll

1759
03:25:44,150 --> 03:25:38,560
start working on demating the qd

1760
03:25:49,910 --> 03:25:46,710
okay i'm currently

1761
03:25:51,510 --> 03:25:49,920
ready to the rail of the qd extender

1762
03:25:53,830 --> 03:25:51,520
that's the piece that's

1763
03:25:58,550 --> 03:25:53,840

on the the extra fail that's on the end

1764

03:26:02,950 --> 03:26:00,389

i love the adapter i'm

1765

03:26:04,070 --> 03:26:02,960

ready to avail

1766

03:26:06,070 --> 03:26:04,080

yeah that's fine you're ready for the

1767

03:26:07,349 --> 03:26:06,080

bail of the cutie extender

1768

03:26:09,110 --> 03:26:07,359

that's good

1769

03:26:16,469 --> 03:26:09,120

uh when you're ready then we'll work to

1770

03:26:20,150 --> 03:26:18,229

and hopper are you ready to demate as

1771

03:26:29,190 --> 03:26:20,160

well because then i'll give you the

1772

03:26:33,110 --> 03:26:31,269

okay ike so you are demating the

1773

03:26:35,830 --> 03:26:33,120

extender from the vent tool adapter and

1774

03:26:42,790 --> 03:26:35,840

hopper you are demating the jumper from

1775

03:26:46,790 --> 03:26:44,790

and hopper for you especially you want

1776

03:26:50,950 --> 03:26:46,800

to assess and counteract side loads here

1777

03:27:05,510 --> 03:26:52,870

when you're ready you can both pull back

1778

03:27:08,710 --> 03:27:06,550

once it's

1779

03:27:10,710 --> 03:27:08,720

released then check that the release

1780

03:27:23,190 --> 03:27:10,720

ring is retracted and the forward white

1781

03:27:28,070 --> 03:27:25,830

you can inspect the qd

1782

03:27:40,710 --> 03:27:28,080

the male and female qd for debris damage

1783

03:27:44,790 --> 03:27:42,710

you won both sides

1784

03:27:46,870 --> 03:27:44,800

male and female look good

1785

03:27:48,950 --> 03:27:46,880

you know

1786

03:27:51,590 --> 03:27:48,960

uh male side the uh

1787

03:27:53,429 --> 03:27:51,600

field looks uh uniform

1788

03:27:58,710 --> 03:27:53,439

and i don't see any ammonia crystals on

1789

03:28:02,309 --> 03:27:59,830

i see

1790

03:28:06,630 --> 03:28:02,319

no fog good seals

1791

03:28:12,150 --> 03:28:08,950

copy we appreciate the inspection now

1792

03:28:13,830 --> 03:28:12,160

you'll be swapping what you've got so

1793

03:28:16,469 --> 03:28:13,840

hopper you'll be given

1794

03:28:17,990 --> 03:28:16,479

the jumper to ike and ike you will be

1795

03:28:24,229 --> 03:28:18,000

given the vent tool adapter and vent

1796

03:28:27,269 --> 03:28:25,990

stop that right there at the end i have

1797

03:28:29,510 --> 03:28:27,279

the uh

1798

03:28:31,910 --> 03:28:29,520

i'm pretty in hand hopper roger that let

1799

03:28:33,750 --> 03:28:31,920

me uh get on vrt here and i'll come up

1800

03:28:35,590 --> 03:28:33,760

and get it okay copy it's uh right here

1801
03:28:42,469 --> 03:28:35,600
in the corner of the ia

1802
03:28:46,070 --> 03:28:43,429
and ike

1803
03:28:47,670 --> 03:28:46,080
once you have the jumper then you'll be

1804
03:28:49,110 --> 03:28:47,680
installing the plug

1805
03:28:52,389 --> 03:28:49,120
into the

1806
03:28:54,229 --> 03:28:52,399
qd extender and and closing the booty

1807
03:28:59,510 --> 03:28:54,239
and the booty is

1808
03:28:59,520 --> 03:29:04,150
you could hand it down a little closer

1809
03:29:15,429 --> 03:29:07,030
sorry the the plug that you're in

1810
03:29:20,710 --> 03:29:18,309
okay i have it thank you

1811
03:29:22,389 --> 03:29:20,720
i'll be plugged from the crew lock bag

1812
03:29:23,990 --> 03:29:22,399
install into

1813
03:29:26,309 --> 03:29:24,000

the extender

1814

03:29:29,030 --> 03:29:26,319

it works

1815

03:29:34,550 --> 03:29:29,040

yeah so one plug is on the lanyard and

1816

03:29:44,070 --> 03:29:36,070

like one plug is on the lanyard the

1817

03:29:44,080 --> 03:29:48,870

do you care which i used

1818

03:29:55,190 --> 03:29:50,389

well you'll need to install a plug on

1819

03:29:59,750 --> 03:29:57,750

i see what you mean okay yeah so on the

1820

03:30:02,550 --> 03:29:59,760

extender end there'll be a plug on a

1821

03:30:04,550 --> 03:30:02,560

lanyard on the single qd end you'll have

1822

03:30:21,460 --> 03:30:04,560

to put use a plug from the

1823

03:30:21,470 --> 03:30:28,950

[Music]

1824

03:30:28,960 --> 03:30:33,670

visible

1825

03:30:44,070 --> 03:30:35,269

yep you can remove the

1826
03:30:49,190 --> 03:30:45,910
at hopper you can go ahead and translate

1827
03:30:54,150 --> 03:30:49,200
to the free floating qd on the second

1828
03:30:54,160 --> 03:30:57,030
i got it

1829
03:31:01,190 --> 03:30:58,630
all right you can remove the booty and

1830
03:31:04,309 --> 03:31:01,200
the plug from the extender cutie

1831
03:31:11,429 --> 03:31:06,070
and then have a look check for debris

1832
03:31:11,439 --> 03:31:21,830
okay plug is removed

1833
03:31:25,510 --> 03:31:23,670
and like once you've installed plugs on

1834
03:31:28,229 --> 03:31:25,520
both ends of

1835
03:31:31,190 --> 03:31:28,239
the jumper then you can curl the jumper

1836
03:31:44,550 --> 03:31:31,200
around the

1837
03:31:47,910 --> 03:31:46,150
and you've got a good instruction on the

1838
03:31:48,870 --> 03:31:47,920

extender

1839

03:31:50,309 --> 03:31:48,880

side

1840

03:31:52,830 --> 03:31:50,319

fingers

1841

03:31:58,870 --> 03:31:55,830

seal copy hopper so now we will be

1842

03:32:01,429 --> 03:31:58,880

mating the vent tool adapter to that qd

1843

03:32:03,110 --> 03:32:01,439

extender i will only be mating it and

1844

03:32:04,950 --> 03:32:03,120

not opening it at the moment so when

1845

03:32:09,670 --> 03:32:04,960

you're ready i'll give you the steps for

1846

03:32:09,680 --> 03:32:12,710

thank you ready

1847

03:32:17,110 --> 03:32:15,190

okay so verify is ready for mate so you

1848

03:32:25,110 --> 03:32:17,120

can check that the detent button is up

1849

03:32:28,550 --> 03:32:26,790

a quick satellite handover of the

1850

03:32:30,950 --> 03:32:28,560

tracking and data relay satellite

1851
03:32:33,030 --> 03:32:30,960
systems we've just seen crew members

1852
03:32:35,670 --> 03:32:33,040
mike hawkins and victor glover have

1853
03:32:37,750 --> 03:32:35,680
vented the first jumper on the early

1854
03:32:39,750 --> 03:32:37,760
ammonia system and and now are working

1855
03:32:41,349 --> 03:32:39,760
toward venting the second

1856
03:32:43,750 --> 03:32:41,359
we're coming up on an hour and 20

1857
03:32:46,870 --> 03:32:43,760
minutes into today's spacewalk and

1858
03:32:49,510 --> 03:32:46,880
because of suspected contamination of

1859
03:32:51,910 --> 03:32:49,520
ammonia from the quick disconnect that

1860
03:32:53,110 --> 03:32:51,920
the astronauts were working with earlier

1861
03:32:55,110 --> 03:32:53,120
they will

1862
03:32:57,349 --> 03:32:55,120
inspect each other and

1863
03:32:59,429 --> 03:32:57,359

conduct some tests while in the airlock

1864

03:33:20,469 --> 03:32:59,439

upon the conclusion of the spacewalk

1865

03:33:23,190 --> 03:33:22,150

there are a lot of wire ties on this uh

1866

03:33:27,510 --> 03:33:23,200

qd

1867

03:33:33,510 --> 03:33:29,830

there actually was one wi-fi connecting

1868

03:33:35,830 --> 03:33:33,520

the tube it was near the extender

1869

03:33:41,269 --> 03:33:35,840

originally

1870

03:33:47,670 --> 03:33:44,229

and i am ready to make detent buttons up

1871

03:33:52,309 --> 03:33:49,349

copy and hopper that wire tie that you

1872

03:33:53,830 --> 03:33:52,319

just reported is that uh on the jumper

1873

03:33:55,429 --> 03:33:53,840

that ike has or on the jumper that's

1874

03:33:58,950 --> 03:33:55,439

still uh installed or that you're

1875

03:34:04,150 --> 03:34:00,389

i mode

1876

03:34:06,389 --> 03:34:04,160

and there's like five of them

1877

03:34:07,990 --> 03:34:06,399

all right copy at least you won't run uh

1878

03:34:10,790 --> 03:34:08,000

run out i

1879

03:34:12,550 --> 03:34:10,800

um hopper

1880

03:34:22,150 --> 03:34:12,560

you can meet the qd and check that the

1881

03:34:27,429 --> 03:34:25,110

8x4 right there invisible

1882

03:34:35,830 --> 03:34:27,439

perform snapback test and check forward

1883

03:34:35,840 --> 03:34:38,630

still visible

1884

03:34:52,710 --> 03:34:40,469

all right perform pull test and visual

1885

03:34:59,190 --> 03:34:55,110

okay you can go you can translate over

1886

03:35:09,510 --> 03:34:59,200

to m9 on the p6 long spacer and remove

1887

03:35:12,550 --> 03:35:10,950

you can

1888

03:35:14,229 --> 03:35:12,560

stow the spid temporarily on your mini

1889

03:35:18,790 --> 03:35:14,239

workstation or put it in the crew lock

1890

03:35:18,800 --> 03:35:47,429

this off the timing

1891

03:35:51,110 --> 03:35:49,349

while mike hopkins continues to prepare

1892

03:35:53,670 --> 03:35:51,120

the second jumper for venting on the

1893

03:35:55,750 --> 03:35:53,680

early ammonia system victor glover is

1894

03:35:58,150 --> 03:35:55,760

coiling the first jumper that was vented

1895

03:36:00,229 --> 03:35:58,160

he will relocate that to near the air

1896

03:36:06,150 --> 03:36:00,239

lock and it will be stowed outside the

1897

03:36:06,160 --> 03:37:00,830

wow

1898

03:37:04,550 --> 03:37:02,630

bye

1899

03:37:07,990 --> 03:37:04,560

how's it going like

1900

03:37:08,000 --> 03:37:12,469

i think i got the better of the

1901

03:37:12,479 --> 03:37:16,710

two deals here

1902

03:37:16,720 --> 03:37:25,349

can you talk about it over dinner

1903

03:37:25,359 --> 03:37:30,630

okay one spoon removed

1904

03:37:36,630 --> 03:37:33,990

copy once bit removed um at this point

1905

03:37:37,990 --> 03:37:36,640

were we have 17 minutes of night left so

1906

03:37:40,710 --> 03:37:38,000

we'd like to

1907

03:37:43,590 --> 03:37:40,720

get working on the venting ops ike you

1908

03:37:44,870 --> 03:37:43,600

can finish coiling the jumper after

1909

03:37:47,190 --> 03:37:44,880

we've vented

1910

03:37:49,030 --> 03:37:47,200

so go ahead and get in position at the

1911

03:37:51,670 --> 03:37:49,040

forward edge like before

1912

03:37:55,030 --> 03:37:51,680

and then big picture hopper you'll be

1913

03:37:57,510 --> 03:37:55,040

closing the qd on m9

1914

03:37:59,990 --> 03:37:57,520

and then we'll be opening the qd

1915

03:38:02,630 --> 03:38:00,000

extender that's attached to the vent

1916

03:38:15,750 --> 03:38:02,640

tool adapter

1917

03:38:18,309 --> 03:38:17,269

okay hopper when you're ready then we'll

1918

03:38:21,670 --> 03:38:18,319

close

1919

03:38:25,910 --> 03:38:23,429

ready

1920

03:38:30,710 --> 03:38:25,920

move bail forward to the full open

1921

03:38:35,990 --> 03:38:34,229

check aft white band visible

1922

03:38:38,150 --> 03:38:36,000

visible

1923

03:38:43,189 --> 03:38:38,160

check detent button fully installed that

1924

03:38:47,349 --> 03:38:45,429

often can be depressed

1925

03:38:49,349 --> 03:38:47,359

assess and counteract side loads and

1926

03:38:51,670 --> 03:38:49,359

then while depressing the detent button

1927

03:38:59,750 --> 03:38:51,680

move bail full forward to the open

1928

03:39:13,030 --> 03:39:01,990

then depress detent button and move bail

1929

03:39:13,040 --> 03:39:19,030

you can cover with booty best effort

1930

03:39:26,790 --> 03:39:23,349

and ike are you clear of nozzle

1931

03:39:26,800 --> 03:39:30,870

on the forward edge of the iea

1932

03:39:33,990 --> 03:39:32,870

copy and hopper whenever you're ready

1933

03:39:36,309 --> 03:39:34,000

then

1934

03:39:37,910 --> 03:39:36,319

we'll open the qd extender that's

1935

03:39:40,630 --> 03:39:37,920

attached to the vent to adapter the

1936

03:39:44,070 --> 03:39:40,640

other end of that jumper

1937

03:39:44,080 --> 03:40:26,790

okay i gotta get in position

1938

03:40:26,800 --> 03:40:32,309

um

1939

03:40:32,319 --> 03:40:35,590

hey i'm in position

1940

03:40:40,550 --> 03:40:38,150

copy so you can now depress the detent

1941

03:40:45,990 --> 03:40:40,560

button and move bail to the forward

1942

03:40:51,830 --> 03:40:47,990

position halfway band is visible d10

1943

03:40:54,229 --> 03:40:51,840

button is up we are venting

1944

03:40:58,469 --> 03:40:54,239

copy venting and we have another five

1945

03:41:02,389 --> 03:41:00,309

an hour and 28 minutes into today's

1946

03:41:04,870 --> 03:41:02,399

spacewalk the crew members are now

1947

03:41:07,349 --> 03:41:04,880

venting the second jumper on the early

1948

03:41:09,030 --> 03:41:07,359

ammonia system that will be vented today

1949

03:41:10,870 --> 03:41:09,040

the first we saw that time of five

1950

03:41:13,750 --> 03:41:10,880

minutes and we're looking for the same

1951

03:41:15,429 --> 03:41:13,760

on this one as well

1952

03:41:19,189 --> 03:41:15,439

to release any potential ammonia

1953

03:41:41,189 --> 03:41:21,110

take the tools before storing them in

1954

03:41:45,590 --> 03:41:43,830

and andy while we're waiting

1955

03:41:49,030 --> 03:41:45,600

i'll check

1956

03:41:51,189 --> 03:41:49,040

i've got a lot of like black smudge

1957

03:41:54,229 --> 03:41:51,199

on the fingertips

1958

03:41:56,469 --> 03:41:54,239

from the operations

1959

03:41:58,630 --> 03:41:56,479

right index finger

1960

03:42:00,229 --> 03:41:58,640

a little bit of

1961

03:42:01,590 --> 03:42:00,239

rtd damage

1962

03:42:08,870 --> 03:42:01,600

healing

1963

03:42:08,880 --> 03:42:18,150

yeah we copy and we see hopper

1964

03:42:18,160 --> 03:42:23,110

otherwise they look good

1965

03:42:28,550 --> 03:42:25,670

dry hat

1966

03:42:32,389 --> 03:42:28,560

copy hopper and we'll call that

1967

03:42:40,229 --> 03:42:33,750

you wanna have a dry half i'll give you

1968

03:42:44,150 --> 03:42:41,990

while venting continues the astronauts

1969

03:42:45,110 --> 03:42:44,160

provide the ground with a glove and half

1970

03:42:47,189 --> 03:42:45,120

check

1971

03:42:48,790 --> 03:42:47,199

hab stands for helmet absorption pad to

1972

03:42:52,229 --> 03:42:48,800

make sure there's no liquid that is

1973

03:42:53,990 --> 03:42:52,239

loose in their spacesuit

1974

03:42:54,950 --> 03:42:54,000

and the astronauts of course use their

1975

03:42:57,510 --> 03:42:54,960

hands

1976

03:43:00,150 --> 03:42:57,520

almost exclusively during a space walk

1977

03:43:02,389 --> 03:43:00,160

and so they do frequent glove checks to

1978

03:43:04,710 --> 03:43:02,399

make sure that the gloves are in good

1979

03:43:07,750 --> 03:43:04,720

condition

1980

03:43:10,229 --> 03:43:07,760

if ike you could use your helmet lights

1981

03:43:48,710 --> 03:43:10,239

to look over hopper suit to see if you

1982

03:43:55,349 --> 03:43:51,670

maybe what i can see is clean

1983

03:43:59,269 --> 03:43:55,359

the top of your helmet looks clean

1984

03:44:07,349 --> 03:44:01,349

okay what i can see

1985

03:44:12,790 --> 03:44:10,790

copy so what you look normal

1986

03:44:25,189 --> 03:44:12,800

okay we copy thanks i copper suit looks

1987

03:44:28,229 --> 03:44:26,790

and while we wait hopper if you want to

1988

03:44:31,670 --> 03:44:28,239

take a quick look at ike as well we'd

1989

03:44:31,680 --> 03:44:37,269

stand by

1990

03:44:37,279 --> 03:45:02,790

i was so comfy andy

1991

03:45:06,309 --> 03:45:04,469

the crew members are performing a visual

1992

03:45:17,269 --> 03:45:06,319

check of each other's suits to ensure

1993

03:45:20,870 --> 03:45:19,750

what's good if i didn't have this big uh

1994

03:45:22,790 --> 03:45:20,880

yeah

1995

03:45:25,510 --> 03:45:22,800

that's good for you i can see the top of

1996

03:45:28,070 --> 03:45:25,520

your helmet i can see your light

1997

03:45:33,189 --> 03:45:28,080

cliffs your shoulders

1998

03:45:33,199 --> 03:45:37,670

and i see nothing that's stuck handy

1999

03:45:55,590 --> 03:45:41,110

copy that we appreciate it

2000

03:46:02,710 --> 03:45:58,790

all right so once the vent timer has

2001
03:46:03,990 --> 03:46:02,720
expired uh ike you'll be working to coil

2002
03:46:05,750 --> 03:46:04,000
the jumper

2003
03:46:07,670 --> 03:46:05,760
around that

2004
03:46:09,830 --> 03:46:07,680
mental extender bag

2005
03:46:15,349 --> 03:46:09,840
and then hopper will be working to close

2006
03:46:15,359 --> 03:46:18,870
one two

2007
03:46:24,389 --> 03:46:20,950
and everyone has good gloves they look

2008
03:46:59,429 --> 03:46:24,399
like they did when i got out here

2009
03:47:04,469 --> 03:47:01,670
all right our five-minute event timer

2010
03:47:06,710 --> 03:47:04,479
has expired if you could have a look at

2011
03:47:21,990 --> 03:47:08,309
vet tool extender and see if anything is

2012
03:47:25,110 --> 03:47:23,670
i've got my helmet light shining in that

2013
03:47:27,590 --> 03:47:25,120

direction and

2014

03:47:29,910 --> 03:47:27,600

i do not see anything it is dark though

2015

03:47:55,510 --> 03:47:29,920

but i don't see anything

2016

03:47:58,309 --> 03:47:57,110

yeah we're coughing we're just trying to

2017

03:48:28,389 --> 03:47:58,319

drag our feet a little bit to give it

2018

03:48:33,189 --> 03:48:30,389

all right we'll say that's good for

2019

03:48:35,990 --> 03:48:33,199

venting hopper you can now

2020

03:48:42,309 --> 03:48:36,000

work to close a qd extender and i'll

2021

03:48:49,110 --> 03:48:44,870

all right move bail forward to the full

2022

03:48:56,229 --> 03:48:51,030

wait

2023

03:49:01,910 --> 03:48:58,550

check detent button fully installed it's

2024

03:49:05,110 --> 03:49:01,920

up and can be depressed

2025

03:49:06,950 --> 03:49:05,120

fully installed up and depressed

2026

03:49:08,870 --> 03:49:06,960

assess and counteract side loads and

2027

03:49:11,030 --> 03:49:08,880

then while depressing the detent button

2028

03:49:14,630 --> 03:49:11,040

move bail forward to the open position

2029

03:49:26,950 --> 03:49:16,309

complete

2030

03:49:30,150 --> 03:49:26,960

visible

2031

03:49:36,710 --> 03:49:33,030

copy jumper is closed so you can demate

2032

03:49:38,229 --> 03:49:36,720

the vent tool adapter from the qd

2033

03:49:40,550 --> 03:49:38,239

extender and i'll read you the steps

2034

03:49:43,510 --> 03:49:40,560

when you're ready

2035

03:49:45,830 --> 03:49:43,520

okay hold on one sec when i do this

2036

03:49:48,630 --> 03:49:45,840

vent tool adapter is going to be uh an

2037

03:49:51,590 --> 03:49:48,640

eventual extender will be floating free

2038

03:49:53,429 --> 03:49:51,600

okay so the recipe this is still needed

2039

03:49:55,830 --> 03:49:53,439

i just wanted to might come over towards

2040

03:49:57,269 --> 03:49:55,840

you okay thank you surprised okay and

2041

03:49:59,830 --> 03:49:57,279

they're all hooked together as well so

2042

03:50:04,309 --> 03:49:59,840

yep okay secure all right i'll be on the

2043

03:50:09,429 --> 03:50:07,030

hopper did you say you're ready

2044

03:50:11,269 --> 03:50:09,439

i'm ready

2045

03:50:18,830 --> 03:50:11,279

copy pull back on release string and

2046

03:50:26,630 --> 03:50:22,070

wait checked release ring is retracted

2047

03:50:30,389 --> 03:50:28,070

attractive forward white band not

2048

03:50:31,269 --> 03:50:30,399

visible

2049

03:50:46,469 --> 03:50:31,279

and then

2050

03:50:51,189 --> 03:50:49,110

when you take this up like there's a few

2051
03:50:53,030 --> 03:50:51,199
ammonia flakes on the inside on that

2052
03:50:54,070 --> 03:50:53,040
sleeve

2053
03:50:56,469 --> 03:50:54,080
again

2054
03:50:58,229 --> 03:50:56,479
this adapter

2055
03:51:00,389 --> 03:50:58,239
there's uh it looks there's looks like

2056
03:51:04,630 --> 03:51:00,399
some white flakes on the uh on the

2057
03:51:06,710 --> 03:51:05,429
okay

2058
03:51:07,670 --> 03:51:06,720
uh what do you need me to do with it

2059
03:51:08,710 --> 03:51:07,680
i've got my hands full of this

2060
03:51:11,269 --> 03:51:08,720
experience no i don't need to do

2061
03:51:13,189 --> 03:51:11,279
anything just give me a hook up when uh

2062
03:51:15,030 --> 03:51:13,199
i think that's the part where shake it

2063
03:51:22,150 --> 03:51:15,040

and

2064

03:51:28,469 --> 03:51:23,349

yeah we have

2065

03:51:32,870 --> 03:51:30,630

good fingers good feel

2066

03:51:35,830 --> 03:51:32,880

no crystal

2067

03:51:37,990 --> 03:51:35,840

copy that and i those uh crystals that

2068

03:51:40,070 --> 03:51:38,000

hopper reported should be ice so it

2069

03:51:45,429 --> 03:51:40,080

should be no worries just make sure to

2070

03:51:45,439 --> 03:51:49,269

you're working on the bundle

2071

03:51:51,990 --> 03:51:50,389

copy

2072

03:51:58,469 --> 03:51:52,000

hopper next for you

2073

03:51:58,479 --> 03:52:02,150

okay i'm ready

2074

03:52:06,710 --> 03:52:04,309

m3 no foss

2075

03:52:10,830 --> 03:52:06,720

it feels good sleeve

2076
03:52:18,870 --> 03:52:14,229
puppy so the just check detent button is

2077
03:52:22,229 --> 03:52:20,469
10 button is up forward right there not

2078
03:52:26,229 --> 03:52:22,239
physical

2079
03:52:37,429 --> 03:52:26,239
here we go to make the qd

2080
03:52:44,630 --> 03:52:39,750
both jumpers for the early ammonia

2081
03:52:48,790 --> 03:52:46,309
we're coming up on an hour and 40

2082
03:52:51,349 --> 03:52:48,800
minutes into today's space walk and

2083
03:52:53,110 --> 03:52:51,359
victor glover is working on coiling the

2084
03:52:55,189 --> 03:52:53,120
first jumper that was vented that will

2085
03:52:59,990 --> 03:52:55,199
be relocated to outside of the quest

2086
03:53:04,469 --> 03:53:01,910
the second jumper will remain in place

2087
03:53:06,229 --> 03:53:04,479
on the early ammonia system

2088
03:53:07,670 --> 03:53:06,239

all right perform snapback test and

2089

03:53:13,910 --> 03:53:07,680

check that the forward white band is

2090

03:53:22,229 --> 03:53:16,469

forward right hand still visible

2091

03:53:22,239 --> 03:53:38,229

full

2092

03:53:45,110 --> 03:53:40,790

copy now you can check that the booty is

2093

03:54:12,229 --> 03:53:45,120

installed on that extender

2094

03:54:17,269 --> 03:54:13,830

it's just a heads up we're a minute away

2095

03:54:17,279 --> 03:54:39,030

thank you

2096

03:54:43,189 --> 03:54:40,870

as the crew members wrap up their tasks

2097

03:54:46,550 --> 03:54:43,199

at the early ammonia system

2098

03:54:48,070 --> 03:54:46,560

we have a question from jeffrey who

2099

03:54:49,429 --> 03:54:48,080

wants to know

2100

03:54:51,910 --> 03:54:49,439

do the astronauts need to make

2101
03:54:53,830 --> 03:54:51,920
preparations for sunrises and sunsets

2102
03:54:55,590 --> 03:54:53,840
you just heard that we were less than a

2103
03:54:57,590 --> 03:54:55,600
minute from expecting sunrise on the

2104
03:54:59,269 --> 03:54:57,600
station the astronauts do have

2105
03:55:01,110 --> 03:54:59,279
opportunities with that announcement to

2106
03:55:03,189 --> 03:55:01,120
make some preparations

2107
03:55:07,590 --> 03:55:03,199
they can lower their visors if they'd

2108
03:55:11,110 --> 03:55:09,269
they can also turn on those headlamps

2109
03:55:18,229 --> 03:55:11,120
like you see here if they are entering a

2110
03:55:21,349 --> 03:55:20,229
so when you're in position at m9 let me

2111
03:55:25,349 --> 03:55:21,359
know and i'll give you the steps to

2112
03:55:25,359 --> 03:55:44,710
bye

2113
03:55:44,720 --> 03:56:07,990

um

2114

03:56:08,000 --> 03:56:41,830

uh

2115

03:56:46,070 --> 03:56:43,830

hey andy when can i take my red off of

2116

03:56:58,309 --> 03:56:46,080

the jumper how many wire tires do i need

2117

03:57:00,389 --> 03:56:59,510

yeah we'd

2118

03:57:03,670 --> 03:57:00,399

pre

2119

03:57:06,389 --> 03:57:03,680

adjustable installed

2120

03:57:18,469 --> 03:57:06,399

between the jumper and the bag handrail

2121

03:57:18,479 --> 03:57:22,710

and andy i'm in position

2122

03:57:28,070 --> 03:57:24,710

all right so we are going to work to

2123

03:57:29,990 --> 03:57:28,080

demate the qd from m9

2124

03:57:47,670 --> 03:57:30,000

so first thing you can do is pull back

2125

03:57:55,670 --> 03:57:49,670

check that the release ring is retracted

2126
03:58:01,860 --> 03:57:57,990
not visible

2127
03:58:08,870 --> 03:58:04,229
[Music]

2128
03:58:08,880 --> 03:58:20,870
and standby

2129
03:58:25,110 --> 03:58:23,429
and the qd

2130
03:58:28,630 --> 03:58:25,120
same

2131
03:58:41,590 --> 03:58:28,640
five this feels good fingers

2132
03:58:46,550 --> 03:58:44,070
all right hopper we'll also take please

2133
03:58:49,990 --> 03:58:46,560
an inspection of m10 which is where

2134
03:59:02,389 --> 03:58:50,000
you'll be mating this qd2

2135
03:59:07,910 --> 03:59:05,830
okay we're ready to mate the qd to m10

2136
03:59:09,590 --> 03:59:07,920
so when you're ready and check that the

2137
03:59:13,349 --> 03:59:09,600
detent button is up and the forward

2138
03:59:14,950 --> 03:59:13,359

white band is not visible

2139

03:59:17,269 --> 03:59:14,960

think that an adult four block band is

2140

03:59:19,269 --> 03:59:17,279

not visible

2141

03:59:24,830 --> 03:59:19,279

you can meet the qd and check that the

2142

03:59:29,269 --> 03:59:27,830

visible perform snapback test and check

2143

04:00:05,189 --> 03:59:29,279

that the forward right band is still

2144

04:00:09,189 --> 04:00:07,030

so you can perform a pull test and a

2145

04:00:11,910 --> 04:00:09,199

visual gap test

2146

04:00:13,429 --> 04:00:11,920

and ike your wbs might have switched off

2147

04:00:16,630 --> 04:00:13,439

so if you could uh try to power it off

2148

04:00:18,389 --> 04:00:16,640

back on for us we'd appreciate it

2149

04:00:20,550 --> 04:00:18,399

my hands are busy and when i'm done

2150

04:00:34,950 --> 04:00:20,560

wrestling with this kid this uh jumper i

2151
04:00:40,630 --> 04:00:38,309
copy uh we'll take that as

2152
04:00:45,830 --> 04:00:40,640
mated so you can install the booty over

2153
04:00:45,840 --> 04:00:53,990
okay and you don't need this lock

2154
04:00:59,110 --> 04:00:55,590
that's correct we're going to leave it

2155
04:00:59,120 --> 04:01:15,429
not locked at a lock on it

2156
04:01:15,439 --> 04:01:19,830
popper you mean locked with a speed

2157
04:01:19,840 --> 04:01:25,189
no there's a lock on it

2158
04:01:25,199 --> 04:01:32,229
not the spit just the rotating lock

2159
04:01:36,070 --> 04:01:33,670
yeah we'll take

2160
04:01:38,710 --> 04:01:36,080
the caller into the lock position we'd

2161
04:01:40,229 --> 04:01:38,720
appreciate that please

2162
04:01:42,070 --> 04:01:40,239
okay it's in the lock and i could

2163
04:01:44,070 --> 04:01:42,080

probably go do it on

2164

04:01:55,910 --> 04:01:44,080

m3 as well on that extender i think

2165

04:02:01,830 --> 04:01:57,349

yeah however we'll take it it's not

2166

04:02:07,349 --> 04:02:01,840

actually required but we'd appreciate it

2167

04:02:11,269 --> 04:02:10,229

and before you

2168

04:02:13,110 --> 04:02:11,279

leave that

2169

04:02:17,990 --> 04:02:13,120

worksite we'll also ask you to install a

2170

04:02:18,000 --> 04:03:04,389

yeah i see one i'll get it here

2171

04:03:04,399 --> 04:03:10,870

uh

2172

04:03:14,469 --> 04:03:13,110

and hopper once you've installed the cap

2173

04:03:17,030 --> 04:03:14,479

and you're finished at the work site you

2174

04:03:19,510 --> 04:03:17,040

can retrieve your fair lead and then

2175

04:03:40,870 --> 04:03:19,520

help bike with stowing that jumper

2176

04:04:16,229 --> 04:04:03,670

um

2177

04:04:20,309 --> 04:04:18,070

the first task of the day is almost

2178

04:04:22,309 --> 04:04:20,319

complete with mike hopkins finishing up

2179

04:04:24,950 --> 04:04:22,319

at the early ammonia system

2180

04:04:27,269 --> 04:04:24,960

both jumper cables having been vented

2181

04:04:29,590 --> 04:04:27,279

meanwhile victor glover is coiling the

2182

04:04:31,750 --> 04:04:29,600

first cable that was vented he will be

2183

04:04:33,590 --> 04:04:31,760

taking that back to the quest airlock

2184

04:04:40,389 --> 04:04:33,600

and stowing it outside the international

2185

04:04:44,389 --> 04:04:41,990

in place

2186

04:05:03,269 --> 04:04:44,399

m3

2187

04:05:08,229 --> 04:05:05,990

one hour and 52 minutes into today's

2188

04:05:11,750 --> 04:05:08,239

spacewalk international space station

2189

04:05:18,710 --> 04:05:11,760

currently flying 260 statute miles over

2190

04:05:18,720 --> 04:05:32,150

ugh

2191

04:05:32,160 --> 04:06:31,189

uh

2192

04:06:33,990 --> 04:06:32,389

i don't know if another set of hands is

2193

04:06:36,070 --> 04:06:34,000

going to really do anything if you want

2194

04:06:37,750 --> 04:06:36,080

me just to hold something in place while

2195

04:06:40,710 --> 04:06:37,760

you do your magic

2196

04:06:43,429 --> 04:06:40,720

happy to do that yeah i'm not really

2197

04:06:45,110 --> 04:06:43,439

sure what's going to buy us but

2198

04:06:47,750 --> 04:06:45,120

i'll take the support

2199

04:06:49,429 --> 04:06:47,760

i'm finishing up now working three wire

2200

04:06:53,990 --> 04:06:49,439

tires and the adjustables in it's just

2201
04:06:57,510 --> 04:06:55,830
three wire tires and then adjustable how

2202
04:07:13,750 --> 04:06:57,520
do you see

2203
04:07:17,990 --> 04:07:15,590
all right here we go so you've got a

2204
04:07:19,189 --> 04:07:18,000
perfect job for your hands all right let

2205
04:07:21,830 --> 04:07:19,199
me get a

2206
04:07:31,590 --> 04:07:21,840
vocal down and

2207
04:07:36,389 --> 04:07:34,309
and guys we're almost two hours into the

2208
04:07:39,590 --> 04:07:36,399
eva you guys are doing great we're about

2209
04:07:42,950 --> 04:07:39,600
30 minutes ahead and so no need to rush

2210
04:07:45,429 --> 04:07:42,960
hopper if you want you can assist ike

2211
04:07:47,990 --> 04:07:45,439
the other option is that you are

2212
04:07:49,429 --> 04:07:48,000
tightening this adjustable for me yep

2213
04:07:50,950 --> 04:07:49,439

that would be perfect so i've got them

2214

04:07:52,229 --> 04:07:50,960

i'm beating them to come together to get

2215

04:07:58,950 --> 04:07:52,239

them

2216

04:08:03,830 --> 04:08:01,830

yeah so if there's something i can do to

2217

04:08:09,429 --> 04:08:03,840

some slide for add absolute slack let me

2218

04:08:18,710 --> 04:08:11,670

well there we go that's a little bit off

2219

04:08:18,720 --> 04:08:35,269

um

2220

04:08:39,830 --> 04:08:37,590

okay

2221

04:08:41,349 --> 04:08:39,840

so you want me to pull what do we need

2222

04:08:58,950 --> 04:08:41,359

to do to make that to be able to smoke

2223

04:09:05,590 --> 04:09:00,550

as far as it'll go

2224

04:09:17,750 --> 04:09:08,550

that's about as far as it's going to go

2225

04:09:17,760 --> 04:09:32,229

thank you it wasn't pretty good in here

2226

04:09:36,070 --> 04:09:33,429

i help with

2227

04:09:38,149 --> 04:09:36,080

the vent tool stuff absolutely

2228

04:09:41,510 --> 04:09:38,159

okay i'm gonna put my foot in the trash

2229

04:09:45,590 --> 04:09:44,070

so my stay together is kind of uh

2230

04:09:47,349 --> 04:09:45,600

wound up with all this stuff so that's

2231

04:09:52,630 --> 04:09:47,359

the first thing i wanted to get i'm

2232

04:09:57,110 --> 04:09:54,830

and that's the wire ties i was talking

2233

04:09:59,269 --> 04:09:57,120

about it was not very helpful and i

2234

04:10:03,030 --> 04:09:59,279

couldn't use them to tie it down either

2235

04:10:07,510 --> 04:10:05,510

am i in your way no well i'm

2236

04:10:08,550 --> 04:10:07,520

pretty wonderful kid i can see my face

2237

04:10:11,110 --> 04:10:08,560

each other that's all i just want to

2238

04:10:14,229 --> 04:10:11,120

make sure okay i was clear so

2239

04:10:36,149 --> 04:10:14,239

yeah what you're doing is just

2240

04:10:39,590 --> 04:10:37,830

well i was just putting this spirit in

2241

04:10:41,110 --> 04:10:39,600

the trash bag

2242

04:10:42,950 --> 04:10:41,120

getting it off my rat and then i can do

2243

04:10:45,030 --> 04:10:42,960

an inventory on it if we want

2244

04:10:49,670 --> 04:10:45,040

we got to get this fit tool in the bag

2245

04:10:52,550 --> 04:10:51,030

you want me to go get it since i'm on

2246

04:10:55,910 --> 04:10:52,560

this side if you could that'd be perfect

2247

04:10:57,429 --> 04:10:55,920

because i'm in a good position to yeah

2248

04:11:37,030 --> 04:10:57,439

okay

2249

04:11:39,349 --> 04:11:37,040

good there

2250

04:11:58,950 --> 04:11:39,359

i will head out to

2251

04:12:02,469 --> 04:12:00,710

all right guys hopper

2252

04:12:05,269 --> 04:12:02,479

my understanding that you're going to

2253

04:12:08,070 --> 04:12:05,279

work on the event tool and adapter and

2254

04:12:08,080 --> 04:12:10,870

on my way

2255

04:12:15,349 --> 04:12:13,750

if you pass me that part i can rep to it

2256

04:12:16,710 --> 04:12:15,359

then that way once you can release it

2257

04:12:22,070 --> 04:12:16,720

and i can

2258

04:12:25,269 --> 04:12:23,349

so hopper the first thing you'll want to

2259

04:12:28,950 --> 04:12:25,279

do is install the cap on the vent tool

2260

04:12:31,030 --> 04:12:28,960

adapter it should be a cap on a

2261

04:12:35,830 --> 04:12:33,590

okay got it okay you have it

2262

04:12:37,110 --> 04:12:35,840

all right so i'm gonna go over your

2263

04:12:39,110 --> 04:12:37,120

pick each other back here but i think

2264

04:12:50,950 --> 04:12:39,120

it'll i don't see any

2265

04:12:54,630 --> 04:12:52,870

just telling you i'm going kind of over

2266

04:13:01,189 --> 04:12:54,640

your safety filter here but

2267

04:13:04,790 --> 04:13:03,189

okay so we've gotta demate all these

2268

04:13:13,670 --> 04:13:04,800

pieces right to go in the bag that's the

2269

04:13:18,710 --> 04:13:17,030

and we also do have to close a qd and i

2270

04:13:22,790 --> 04:13:18,720

do have the steps for that so we close

2271

04:13:26,309 --> 04:13:24,630

two hours in today's spacewalk and the

2272

04:13:27,910 --> 04:13:26,319

astronauts are finishing up on their

2273

04:13:29,670 --> 04:13:27,920

first task

2274

04:13:32,149 --> 04:13:29,680

these high definition views coming from

2275

04:13:34,070 --> 04:13:32,159

a camera on mike hopkins spacesuit you

2276

04:13:35,590 --> 04:13:34,080

can see the

2277

04:13:42,630 --> 04:13:35,600

batteries that were removed and replaced

2278

04:13:48,070 --> 04:13:45,030

okay so move bail forward to the full

2279

04:13:54,149 --> 04:13:50,149

it was forward full open the button is

2280

04:13:56,469 --> 04:13:54,159

up at the light band visible

2281

04:13:58,149 --> 04:13:56,479

copy then while depressing the detent

2282

04:14:04,389 --> 04:13:58,159

button move bail forward to open

2283

04:14:09,670 --> 04:14:06,149

seems like it was already full forward

2284

04:14:21,670 --> 04:14:11,910

depress the detent button and move bail

2285

04:14:21,680 --> 04:14:41,429

and we gotta hand over in 20 seconds now

2286

04:14:41,439 --> 04:14:50,950

i'm sorry i didn't fail at that level

2287

04:14:53,990 --> 04:14:52,389

we're in a quick handover of the

2288

04:14:55,830 --> 04:14:54,000

tracking data and relay satellite

2289

04:14:57,910 --> 04:14:55,840

systems this is a mission control

2290

04:14:59,750 --> 04:14:57,920

houston you've got a live look at the

2291

04:15:02,790 --> 04:14:59,760

teams that are

2292

04:15:04,309 --> 04:15:02,800

helping make today's spacewalk happen

2293

04:15:06,550 --> 04:15:04,319

they're monitoring all the systems

2294

04:15:09,750 --> 04:15:06,560

aboard the international space station

2295

04:15:15,269 --> 04:15:09,760

which happens 24 hours a day 365 days a

2296

04:15:18,309 --> 04:15:16,630

this bag is going to be a little bit of

2297

04:15:19,910 --> 04:15:18,319

a mess until we get things tucked down

2298

04:15:21,670 --> 04:15:19,920

anyway okay

2299

04:15:24,309 --> 04:15:21,680

so yeah you can i'm ready for both

2300

04:15:26,229 --> 04:15:24,319

pieces so i've got it now okay i

2301

04:15:28,790 --> 04:15:26,239

got it tended so i'll just try and bring

2302

04:15:31,510 --> 04:15:28,800

it back under control better yep

2303

04:15:33,110 --> 04:15:31,520

okay andy the bale is at lever yeah the

2304

04:15:37,349 --> 04:15:33,120

bail is out the button is up four ways

2305

04:15:37,359 --> 04:15:41,189

copy

2306

04:15:48,070 --> 04:15:43,349

and is the cap installed on the vent

2307

04:15:48,080 --> 04:15:53,030

uh one side has a cap on the gift

2308

04:15:57,030 --> 04:15:55,189

okay excellent so you can now tether the

2309

04:16:06,710 --> 04:15:57,040

vent tool adapter to the bag with an

2310

04:16:10,309 --> 04:16:08,550

and then when you're ready we can demate

2311

04:16:26,389 --> 04:16:10,319

the vent tool adapter from the vent tool

2312

04:16:31,349 --> 04:16:27,910

and i'm assuming i need to cap both of

2313

04:16:34,550 --> 04:16:32,710

that's affirmative

2314

04:16:37,389 --> 04:16:34,560

symmetric steel

2315

04:17:00,950 --> 04:16:37,399

adapter looks good no floss symmetric

2316

04:17:05,269 --> 04:17:03,030

copy so next step will be to remove the

2317

04:17:07,990 --> 04:17:05,279

vent tool from the vent tool

2318

04:17:11,030 --> 04:17:08,000

extender i just want to make sure that

2319

04:17:12,309 --> 04:17:11,040

both pieces are now ready so once you've

2320

04:17:14,790 --> 04:17:12,319

removed the vent tool from the ventral

2321

04:17:19,990 --> 04:17:14,800

extender make sure that hopper is also

2322

04:17:23,910 --> 04:17:21,910

standby i'm not ready to and i do have

2323

04:17:26,149 --> 04:17:23,920

just my mini workstation to it yeah i'm

2324

04:17:27,750 --> 04:17:26,159

not going to disconnect it okay

2325

04:17:29,189 --> 04:17:27,760

you know you don't need to be ready to

2326

04:17:35,269 --> 04:17:29,199

do it if

2327

04:17:42,469 --> 04:17:36,630

that definitely helped control it over

2328

04:17:56,070 --> 04:17:50,790

all right

2329

04:17:58,149 --> 04:17:56,080

and the cap is on the vent tool

2330

04:18:00,950 --> 04:17:58,159

male and female are capped

2331

04:18:18,149 --> 04:18:00,960

and on the uh you know the forward white

2332

04:18:18,159 --> 04:18:22,630

so that's what i'm going to disconnect

2333

04:18:22,640 --> 04:18:26,229

sit under my tether yep

2334

04:18:26,239 --> 04:18:31,990

bye

2335

04:18:32,000 --> 04:18:39,269

you

2336

04:18:44,309 --> 04:18:42,550

okay and i do have a red to this now uh

2337

04:18:45,510 --> 04:18:44,319

you know you can uh disconnect from all

2338

04:18:48,309 --> 04:18:45,520

of it because i'm gonna have to unwind

2339

04:18:50,389 --> 04:18:48,319

it from my face together okay i'm gonna

2340

04:18:52,550 --> 04:18:50,399

do that first

2341

04:18:53,750 --> 04:18:52,560

uh well it just doesn't matter if you

2342

04:18:55,910 --> 04:18:53,760

want to go ahead and disconnect that

2343

04:18:57,110 --> 04:18:55,920

i'll unlock it when and i've got a riff

2344

04:19:06,229 --> 04:18:57,120

to it

2345

04:19:09,349 --> 04:19:07,830

okay

2346

04:19:29,349 --> 04:19:09,359

but i will oh hold on they're also

2347

04:19:32,229 --> 04:19:31,110

take each other

2348

04:19:45,110 --> 04:19:32,239

thank you

2349

04:19:48,710 --> 04:19:46,950

all right hoppers i think i saw you

2350

04:19:53,830 --> 04:19:48,720

install the plug into the vent tool

2351
04:19:57,510 --> 04:19:55,429
and so just give it a pull test once

2352
04:20:00,710 --> 04:19:57,520
you've locked the

2353
04:20:00,720 --> 04:20:06,630
full test

2354
04:20:11,670 --> 04:20:09,990
copy and ike

2355
04:20:13,110 --> 04:20:11,680
the event tool you can go ahead if you

2356
04:20:14,550 --> 04:20:13,120
haven't already you can use an integral

2357
04:20:22,070 --> 04:20:14,560
hook from the bag

2358
04:20:27,030 --> 04:20:24,710
copy and then just one go back just want

2359
04:20:29,269 --> 04:20:27,040
to make you want to make sure that the

2360
04:20:31,990 --> 04:20:29,279
booties are covering both qd's on the

2361
04:20:35,590 --> 04:20:33,269
uh yeah

2362
04:20:36,790 --> 04:20:35,600
yeah maybe i don't know yet if they were

2363
04:20:37,830 --> 04:20:36,800

installed but they come off really

2364

04:20:39,429 --> 04:20:37,840

easily

2365

04:20:45,110 --> 04:20:39,439

so i'll let you know before i pick this

2366

04:20:49,830 --> 04:20:46,790

okay copy we can do that when we're

2367

04:20:53,670 --> 04:20:52,469

yeah much better

2368

04:20:55,429 --> 04:20:53,680

let's see just trying to figure out

2369

04:20:57,189 --> 04:20:55,439

which strap is best to strap that down

2370

04:21:01,269 --> 04:20:57,199

with

2371

04:21:06,830 --> 04:21:03,189

uh yeah

2372

04:21:10,710 --> 04:21:08,950

of thank you

2373

04:21:12,870 --> 04:21:10,720

all right so that piece is in and it's

2374

04:21:13,670 --> 04:21:12,880

connected to the bag

2375

04:21:16,070 --> 04:21:13,680

so

2376

04:21:17,750 --> 04:21:16,080

that's the nice piece of going

2377

04:21:19,750 --> 04:21:17,760

i think that's the only that's the last

2378

04:21:28,950 --> 04:21:19,760

feature we got uh the nozzle comes off

2379

04:21:36,469 --> 04:21:31,110

and then if you uh

2380

04:21:36,479 --> 04:21:39,269

all right

2381

04:21:41,990 --> 04:21:40,070

okay

2382

04:21:44,630 --> 04:21:42,000

and then that's the uh

2383

04:21:46,389 --> 04:21:44,640

the kind of mud end effector interface

2384

04:21:48,149 --> 04:21:46,399

i'm sorry yeah the is not

2385

04:21:49,429 --> 04:21:48,159

that one not that one leave that on the

2386

04:21:50,630 --> 04:21:49,439

bracket and then just take the mud

2387

04:21:53,189 --> 04:21:50,640

detector off

2388

04:21:55,870 --> 04:21:53,199

actually here yep right there okay so uh

2389

04:21:58,870 --> 04:21:55,880

you gotta go to the detector

2390

04:22:00,790 --> 04:21:58,880

[Music]

2391

04:22:02,630 --> 04:22:00,800

to the front the jaws of it yeah that's

2392

04:22:07,269 --> 04:22:02,640

what i meant

2393

04:22:08,630 --> 04:22:07,279

okay yep man i'll have the rest of it

2394

04:22:11,349 --> 04:22:08,640

okay

2395

04:22:13,590 --> 04:22:11,359

so i'm gonna do it here stay firm

2396

04:22:15,990 --> 04:22:13,600

so just just be aware of it

2397

04:22:17,910 --> 04:22:16,000

if if you undo it there

2398

04:22:20,149 --> 04:22:17,920

then the nut needs to be secured

2399

04:22:21,910 --> 04:22:20,159

separately to the bag whereas if you

2400

04:22:23,670 --> 04:22:21,920

undo the nozzle from the l bracket

2401
04:22:27,910 --> 04:22:23,680
there's a lanyard between the nozzle and

2402
04:22:31,110 --> 04:22:29,590
i was just putting it together putting

2403
04:22:34,550 --> 04:22:31,120
it back in the way i took it out but if

2404
04:22:38,950 --> 04:22:36,389
i would leave it all connected

2405
04:22:40,790 --> 04:22:38,960
so i didn't have to rescue it

2406
04:22:42,149 --> 04:22:40,800
what do you want us to do

2407
04:22:44,630 --> 04:22:42,159
it's up to you i was just making a

2408
04:22:52,229 --> 04:22:44,640
suggestion to to make it easier but

2409
04:22:52,239 --> 04:22:57,670
like what do you want

2410
04:23:03,429 --> 04:23:01,670
okay yeah disconnect the uh the nozzle

2411
04:23:05,830 --> 04:23:03,439
they stay connected so yeah they've got

2412
04:23:07,510 --> 04:23:05,840
this one we're storing them you know

2413
04:23:21,189 --> 04:23:07,520

we're both ready to do it so okay gotta

2414

04:23:25,269 --> 04:23:23,030

two hours and 10 minutes into today's

2415

04:23:26,309 --> 04:23:25,279

spacewalk the astronauts are packing the

2416

04:23:29,030 --> 04:23:26,319

bags

2417

04:23:31,830 --> 04:23:29,040

after the first task today which was

2418

04:23:37,910 --> 04:23:31,840

venting the early ammonia system to

2419

04:23:41,910 --> 04:23:39,670

you hear a lot of talk about tools and

2420

04:23:42,950 --> 04:23:41,920

tethers at all times the astronauts

2421

04:23:45,189 --> 04:23:42,960

themselves are tethered to the

2422

04:23:47,510 --> 04:23:45,199

international space station and their

2423

04:24:02,229 --> 04:23:47,520

tools or workstations are tethered to

2424

04:24:05,750 --> 04:24:04,070

following completion of this task victor

2425

04:24:07,429 --> 04:24:05,760

glover will head toward the airlock

2426
04:24:09,670 --> 04:24:07,439
where he will

2427
04:24:12,389 --> 04:24:09,680
place the one of the jumpers vented

2428
04:24:14,550 --> 04:24:12,399
today outside of the airlock

2429
04:24:16,229 --> 04:24:14,560
he will then pick up a new

2430
04:24:19,030 --> 04:24:16,239
wireless video system external

2431
04:24:21,189 --> 04:24:19,040
transceiver assembly

2432
04:24:22,870 --> 04:24:21,199
then head to remove and replace a failed

2433
04:24:25,030 --> 04:24:22,880
one

2434
04:24:26,630 --> 04:24:25,040
meanwhile mike hopkins will go to the

2435
04:24:29,189 --> 04:24:26,640
columbus module where he will be

2436
04:24:30,870 --> 04:24:29,199
performing a variety of tasks

2437
04:24:33,030 --> 04:24:30,880
including connecting some cables on the

2438
04:24:34,870 --> 04:24:33,040

bartolomeo science platform

2439

04:24:37,349 --> 04:24:34,880

and just a heads up for the next 10

2440

04:24:43,830 --> 04:24:37,359

minutes we could have ratty calm do some

2441

04:24:47,349 --> 04:24:45,910

i think i can get my red out of the way

2442

04:24:48,790 --> 04:24:47,359

okay

2443

04:24:55,510 --> 04:24:48,800

yeah if we can just stuff it back into

2444

04:25:56,469 --> 04:24:56,950

the end effector

2445

04:25:56,479 --> 04:26:17,189

you can let the cable go

2446

04:26:17,199 --> 04:26:56,830

uh

2447

04:27:42,149 --> 04:27:00,229

okay now hold or you want to lid

2448

04:27:46,870 --> 04:27:43,910

well i i used to like quarter turn

2449

04:27:46,880 --> 04:27:54,149

that's not these

2450

04:27:58,790 --> 04:27:56,550

okay can you uh pinch the bag

2451
04:28:00,309 --> 04:27:58,800
yeah yeah that gets fun we can stuff it

2452
04:28:06,870 --> 04:28:00,319
out here but it's just like piece delete

2453
04:28:11,429 --> 04:28:09,510
and guys uh before you uh close it back

2454
04:28:14,229 --> 04:28:11,439
completely would like an inventory of

2455
04:28:19,429 --> 04:28:17,030
couldn't see what was okay all right

2456
04:28:20,630 --> 04:28:19,439
stand by anyways

2457
04:28:22,309 --> 04:28:20,640
all right

2458
04:28:24,710 --> 04:28:22,319
do you want a wps or can we just say

2459
04:28:26,710 --> 04:28:24,720
what we put in there

2460
04:28:30,149 --> 04:28:26,720
yeah we have uh we're in ku blockage

2461
04:28:32,710 --> 04:28:30,159
unfortunately so we don't see anything

2462
04:28:38,309 --> 04:28:32,720
okay so the bag has the adapter in it

2463
04:28:42,309 --> 04:28:39,990

then there's the event tool

2464

04:28:44,710 --> 04:28:42,319

which was emailed from the uh adapter

2465

04:28:46,229 --> 04:28:44,720

and it has a cap on it as well

2466

04:28:48,790 --> 04:28:46,239

okay

2467

04:28:48,800 --> 04:28:53,670

and in the extension piece it's a plug

2468

04:28:57,429 --> 04:28:55,990

that has the uh print shape with the

2469

04:29:21,590 --> 04:28:57,439

bracket

2470

04:29:26,309 --> 04:29:24,630

okay we copy all like in that at last we

2471

04:29:31,349 --> 04:29:26,319

just have a if you could just check the

2472

04:29:31,359 --> 04:29:41,030

yeah we'll cuties that here the section

2473

04:29:53,910 --> 04:29:43,429

is actually velcro right there

2474

04:29:56,309 --> 04:29:55,269

oh yes

2475

04:30:01,830 --> 04:29:56,319

that's what i should do is put the

2476

04:30:01,840 --> 04:30:08,309

thanks for the trip

2477

04:30:11,429 --> 04:30:09,830

well you're welcome kg the other side

2478

04:30:15,189 --> 04:30:11,439

too

2479

04:30:15,199 --> 04:30:30,149

okay

2480

04:30:45,349 --> 04:30:32,469

all right that one's done

2481

04:30:48,630 --> 04:30:47,110

and whenever it's convenient for you i

2482

04:30:54,070 --> 04:30:48,640

would appreciate it if you could turn on

2483

04:30:56,790 --> 04:30:55,910

there are all these ties down here if

2484

04:30:58,550 --> 04:30:56,800

you

2485

04:31:01,349 --> 04:30:58,560

use one of those

2486

04:31:06,070 --> 04:31:01,359

i think it's gonna be

2487

04:31:06,080 --> 04:31:15,429

i didn't either

2488

04:31:34,430 --> 04:31:17,110

and hopper that looks good for the mli

2489

04:31:34,440 --> 04:31:46,630

[Music]

2490

04:31:54,469 --> 04:31:48,710

which one

2491

04:31:54,479 --> 04:32:13,110

this one right here

2492

04:32:16,790 --> 04:32:14,630

and ike whenever it's convenient for you

2493

04:32:23,590 --> 04:32:16,800

we'd appreciate it if you'd

2494

04:32:23,600 --> 04:32:31,830

work

2495

04:32:51,110 --> 04:32:34,550

vps powers on

2496

04:32:54,790 --> 04:32:53,269

actually can you uh

2497

04:32:56,550 --> 04:32:54,800

if it's better if

2498

04:32:58,630 --> 04:32:56,560

tighten from that side

2499

04:32:59,750 --> 04:32:58,640

pull the two sides together that makes

2500

04:33:00,550 --> 04:32:59,760

sense

2501

04:33:03,670 --> 04:33:00,560

uh

2502

04:33:06,310 --> 04:33:03,680

okay so i'm working this one right here

2503

04:33:10,470 --> 04:33:08,470

thinking where you are if you pull and

2504

04:33:11,990 --> 04:33:10,480

tighten that way

2505

04:33:14,709 --> 04:33:12,000

it'll pull the two

2506

04:33:23,910 --> 04:33:14,719

ascends together yeah

2507

04:33:23,920 --> 04:33:42,150

that looks like it's doing anything

2508

04:33:45,910 --> 04:33:43,830

two hours and 20 minutes into today's

2509

04:33:49,029 --> 04:33:45,920

space walk this view from victor

2510

04:33:58,390 --> 04:33:49,039

glover's helmet camera he is ev1 today

2511

04:34:02,150 --> 04:33:59,910

the astronauts are still wrapping up

2512

04:34:17,109 --> 04:34:02,160

their first task venting two jumpers on

2513

04:34:21,029 --> 04:34:19,109

coming up next victor glover will head

2514

04:34:24,949 --> 04:34:21,039

back to the airlock to stow one of those

2515

04:34:28,949 --> 04:34:27,269

he'll then work to remove and replace a

2516

04:34:32,780 --> 04:34:28,959

wireless video system external

2517

04:34:32,790 --> 04:34:36,230

[Music]

2518

04:34:45,670 --> 04:34:38,629

excellent good news

2519

04:34:45,680 --> 04:34:57,429

he won't have a dry hat

2520

04:34:57,439 --> 04:35:01,510

change to the gloves

2521

04:35:01,520 --> 04:35:17,830

copyright

2522

04:35:21,269 --> 04:35:19,429

copy so i

2523

04:35:23,670 --> 04:35:21,279

go ahead and check your gauntlets and

2524

04:35:25,910 --> 04:35:23,680

then you can grab the vent tool extender

2525

04:35:27,510 --> 04:35:25,920

bag and head back to the airlock just

2526

04:35:28,910 --> 04:35:27,520

remember to pick up your green hook from

2527

04:35:32,709 --> 04:35:28,920

52

2528

04:35:32,719 --> 04:35:40,470

my officer in place

2529

04:35:51,590 --> 04:35:42,789

get out of your way like

2530

04:35:55,109 --> 04:35:53,109

the hopper once you have room then you

2531

04:36:22,150 --> 04:35:55,119

can grab the crewlock bag and then

2532

04:36:22,160 --> 04:36:52,230

um

2533

04:36:57,349 --> 04:36:54,390

all right andy i've got the bag

2534

04:37:01,429 --> 04:36:58,551

it's clear i'm going to give them a

2535

04:37:07,910 --> 04:37:01,439

green hook

2536

04:37:15,590 --> 04:37:09,349

all right

2537

04:37:19,750 --> 04:37:17,189

victor glover now heading back to the

2538

04:37:21,269 --> 04:37:19,760

airlock the first task being completed

2539

04:37:23,269 --> 04:37:21,279

and we've got a few more ask nasa

2540

04:37:25,349 --> 04:37:23,279

questions coming in

2541

04:37:27,109 --> 04:37:25,359

this one mentioning some major upgrades

2542

04:37:28,629 --> 04:37:27,119

happening on the space station but how

2543

04:37:29,830 --> 04:37:28,639

will that happen without the space

2544

04:37:34,070 --> 04:37:29,840

shuttle

2545

04:37:36,150 --> 04:37:34,080

part of building and upgrading the space

2546

04:37:38,869 --> 04:37:36,160

station and now we're fortunate to work

2547

04:37:40,949 --> 04:37:38,879

with commercial providers and res cosmos

2548

04:37:42,551 --> 04:37:40,959

who are able to use their vehicles to

2549

04:37:44,949 --> 04:37:42,561

help deliver upgrades to the space

2550

04:37:46,390 --> 04:37:44,959

station

2551
04:37:47,910 --> 04:37:46,400
over the last several years we've

2552
04:37:49,910 --> 04:37:47,920
upgraded the batteries on the

2553
04:37:52,709 --> 04:37:49,920
international space station which were

2554
04:37:58,310 --> 04:37:52,719
delivered by the jaxa japanese aerospace

2555
04:38:01,510 --> 04:38:00,070
we have other cargo delivered by

2556
04:38:03,429 --> 04:38:01,520
northrop grumman

2557
04:38:05,510 --> 04:38:03,439
and of course by spacex who will be

2558
04:38:07,670 --> 04:38:05,520
delivering the new solar arrays on their

2559
04:38:09,750 --> 04:38:07,680
cargo dragon later this year at some

2560
04:38:11,510 --> 04:38:09,760
point we'd appreciate a inventory of

2561
04:38:12,949 --> 04:38:11,520
crewlock bag you don't need to open it

2562
04:38:14,310 --> 04:38:12,959
up we'll just take whatever you can see

2563
04:38:15,990 --> 04:38:14,320

through the uh

2564

04:38:17,830 --> 04:38:16,000

that plexiglas

2565

04:38:19,750 --> 04:38:17,840

okay

2566

04:38:21,429 --> 04:38:19,760

all right so here's what i can see

2567

04:38:29,990 --> 04:38:21,439

i've got a

2568

04:38:32,869 --> 04:38:30,000

bail drive lever

2569

04:38:34,310 --> 04:38:32,879

attached to looks like an integral rut

2570

04:38:36,470 --> 04:38:34,320

we've got the quick release tools

2571

04:38:40,551 --> 04:38:36,480

attached to integral rat

2572

04:38:43,590 --> 04:38:40,561

and i've got uh a trash bag

2573

04:38:44,949 --> 04:38:43,600

that's the integral wrap

2574

04:38:46,789 --> 04:38:44,959

excellent that should be it that should

2575

04:38:49,750 --> 04:38:46,799

just be an adjustable large small on the

2576
04:38:53,990 --> 04:38:51,910
and that's affirmative i do have a large

2577
04:38:58,949 --> 04:38:54,000
small on the outside

2578
04:38:58,959 --> 04:39:03,189
this time

2579
04:39:06,310 --> 04:39:04,709
excellent that's a good configure for

2580
04:39:08,070 --> 04:39:06,320
the coolock bag you can grab that and

2581
04:39:18,869 --> 04:39:08,080
then head out to the uh

2582
04:39:22,551 --> 04:39:20,470
i've got my green hook

2583
04:39:24,551 --> 04:39:22,561
instead of back pack isn't it config

2584
04:39:29,830 --> 04:39:24,561
yellow hook is locked

2585
04:39:38,788 --> 04:39:31,429
copy you have a go to head back to the

2586
04:39:41,670 --> 04:39:40,390
and once you get back there the first

2587
04:39:43,990 --> 04:39:41,680
thing you'll be doing is stowing that

2588
04:39:59,830 --> 04:39:44,000

bag up on the zenith portion of the

2589

04:39:59,840 --> 04:40:23,640

okay i'm heading out

2590

04:40:23,650 --> 04:40:31,190

[Music]

2591

04:40:37,030 --> 04:40:33,670

yeah hopper your first task will be to

2592

04:40:50,310 --> 04:40:37,040

relocate the ingress aid from apfr in

2593

04:41:02,070 --> 04:40:51,990

so the first step will be to remove the

2594

04:41:05,830 --> 04:41:03,910

and take a second to see how it's

2595

04:41:07,510 --> 04:41:05,840

installed because you'll be installing a

2596

04:41:35,030 --> 04:41:07,520

wire tie once you've installed the

2597

04:41:40,708 --> 04:41:37,110

this view from a high definition camera

2598

04:41:42,470 --> 04:41:40,718

on mike hopkins space suit

2599

04:41:44,550 --> 04:41:42,480

and clearly in the picture you can see

2600

04:41:47,430 --> 04:41:44,560

the apfr that's the articulating

2601

04:41:49,190 --> 04:41:47,440

portable foot restraint

2602

04:41:50,550 --> 04:41:49,200

that allows the astronauts to secure

2603

04:41:52,070 --> 04:41:50,560

their footing and gives them some

2604

04:41:53,590 --> 04:41:52,080

leverage while working outside on a

2605

04:41:56,070 --> 04:41:53,600

spacewalk

2606

04:41:58,948 --> 04:41:56,080

he is moving the ingress aid from one

2607

04:42:06,868 --> 04:41:58,958

apfr to another for future spacewalk

2608

04:42:11,270 --> 04:42:08,788

meanwhile nasa astronaut victor glover

2609

04:42:13,190 --> 04:42:11,280

is on his way back to the airlock

2610

04:42:15,750 --> 04:42:13,200

he will stow one of the jumper cables

2611

04:42:18,708 --> 04:42:15,760

that was recently vented

2612

04:42:20,550 --> 04:42:18,718

he'll also pick up a new weta that's a

2613

04:42:25,030 --> 04:42:20,560

wireless video system external

2614

04:42:25,040 --> 04:42:29,750

he'll remove and replace

2615

04:42:29,760 --> 04:42:51,350

one that recently failed

2616

04:42:51,360 --> 04:42:55,430

okay is release

2617

04:43:37,990 --> 04:42:57,990

copy you can read to the ingress 8 and

2618

04:43:38,000 --> 04:43:58,830

uh

2619

04:44:21,190 --> 04:44:01,430

yeah well usually the return trip seems

2620

04:44:24,310 --> 04:44:22,948

we have another ask nasa question this

2621

04:44:26,070 --> 04:44:24,320

one from scott

2622

04:44:28,310 --> 04:44:26,080

asking if ground control can see the

2623

04:44:31,030 --> 04:44:28,320

status of the astronaut suits or if

2624

04:44:33,510 --> 04:44:31,040

that's up to the astronauts to monitor

2625

04:44:35,030 --> 04:44:33,520

mission control team here on the ground

2626
04:44:37,270 --> 04:44:35,040
has constant

2627
04:44:39,430 --> 04:44:37,280
observation of the

2628
04:44:41,990 --> 04:44:39,440
suits and are constantly monitoring the

2629
04:44:43,670 --> 04:44:42,000
consumables including the oxygen that

2630
04:44:54,830 --> 04:44:43,680
helps determine the length of the

2631
04:44:58,948 --> 04:44:57,110
okay it is black

2632
04:45:03,670 --> 04:44:58,958
black on black

2633
04:45:10,390 --> 04:45:06,470
excellent and you can install a wire tie

2634
04:45:14,230 --> 04:45:10,400
ideally we'd like a new wire tie

2635
04:45:14,240 --> 04:45:20,070
and i did ask eva for confirmation

2636
04:45:20,080 --> 04:45:28,150
that's all right

2637
04:45:28,160 --> 04:45:39,110
coffee

2638
04:45:43,750 --> 04:45:40,550

andy i'm just putting this back back in

2639

04:46:04,550 --> 04:45:45,270

that's right the

2640

04:46:09,270 --> 04:46:07,510

and i there's a diagram on page three of

2641

04:47:08,070 --> 04:46:09,280

your cuff checklist if you want to have

2642

04:47:11,750 --> 04:47:10,310

our next ask nasa question comes from a

2643

04:47:13,590 --> 04:47:11,760

viewer wanting to know why the

2644

04:47:15,430 --> 04:47:13,600

spacesuits are white instead of any

2645

04:47:17,030 --> 04:47:15,440

other color

2646

04:47:19,190 --> 04:47:17,040

that's a great question

2647

04:47:21,510 --> 04:47:19,200

when the international space station is

2648

04:47:24,390 --> 04:47:21,520

in the sunlight as you can see now

2649

04:47:27,110 --> 04:47:24,400

it can heat up to approximately 250

2650

04:47:28,550 --> 04:47:27,120

degrees fahrenheit outside so in order

2651
04:47:32,150 --> 04:47:28,560
to deflect some of that heat the

2652
04:47:35,350 --> 04:47:33,590
the astronauts also have cooling

2653
04:47:36,868 --> 04:47:35,360
garments on underneath their spacesuits

2654
04:47:49,830 --> 04:47:36,878
and can regulate their temperature to

2655
04:47:49,840 --> 04:48:33,030
hmm

2656
04:48:33,040 --> 04:48:36,948
okay wiretap is installed

2657
04:48:41,510 --> 04:48:39,030
excellent you can now bundle your

2658
04:48:58,708 --> 04:48:41,520
coolart bag to the

2659
04:49:02,390 --> 04:48:59,910
and ike

2660
04:49:04,390 --> 04:49:02,400
that handrail should be pointing port

2661
04:49:08,788 --> 04:49:04,400
we'd appreciate if you could

2662
04:49:08,798 --> 04:51:23,190
okay

2663
04:51:29,910 --> 04:51:25,190

put on my vrt

2664

04:51:34,550 --> 04:51:31,590

that's the firm you can put that

2665

04:51:37,190 --> 04:51:34,560

crewlock bag apfr combo on the brt and

2666

04:51:39,910 --> 04:51:37,200

then you'll be

2667

04:52:10,948 --> 04:51:39,920

putting the apfr from with 27 into with

2668

04:52:10,958 --> 04:52:21,190

okay and how's it

2669

04:52:26,390 --> 04:52:22,868

okay indeed the bag is in place for

2670

04:52:28,708 --> 04:52:26,400

those handrails uh the end of the jumper

2671

04:52:30,628 --> 04:52:28,718

it's over the top the two ends fit over

2672

04:52:32,150 --> 04:52:30,638

the top of the bento center back next to

2673

04:52:37,270 --> 04:52:32,160

it

2674

04:52:44,150 --> 04:52:39,590

we're happy i that looks excellent thank

2675

04:52:44,160 --> 04:52:47,030

you're happy

2676
04:52:51,830 --> 04:52:50,070
next you can open the thermal cover and

2677
04:52:58,868 --> 04:52:51,840
attach your waste tether to the airlock

2678
04:52:58,878 --> 04:53:16,470
work

2679
04:53:16,480 --> 04:53:27,270
um

2680
04:53:31,830 --> 04:53:29,110
all right andy thermal cover is coming

2681
04:53:31,840 --> 04:53:47,110
copy

2682
04:53:52,310 --> 04:53:49,990
each other i see one two three

2683
04:53:54,390 --> 04:53:52,320
four hooks locked

2684
04:53:56,470 --> 04:53:54,400
back on block

2685
04:53:57,510 --> 04:53:56,480
that is a good safety feather chain

2686
04:54:02,150 --> 04:53:57,520
through

2687
04:54:06,708 --> 04:54:03,590
and concur

2688
04:54:09,750 --> 04:54:07,990

then you can

2689

04:54:11,590 --> 04:54:09,760

retrieve the weta bag from the air lock

2690

04:54:26,628 --> 04:54:11,600

and temp store it on the

2691

04:54:33,910 --> 04:54:28,550

and hopper you're looking for a clocking

2692

04:54:33,920 --> 04:54:41,750

okay talking of 12

2693

04:54:44,390 --> 04:54:43,510

and the other setting should still be

2694

04:54:50,868 --> 04:54:44,400

good

2695

04:54:50,878 --> 04:55:01,910

indigo indigo

2696

04:55:07,750 --> 04:55:04,150

when i see fox 12

2697

04:55:16,070 --> 04:55:09,350

give you a good pull and twist this

2698

04:55:16,080 --> 04:55:19,670

paul good twist

2699

04:55:37,350 --> 04:55:21,670

copy and then just uh pitch knob check

2700

04:55:42,868 --> 04:55:40,948

today's spacewalk now at the 2 hour and

2701

04:55:46,390 --> 04:55:42,878

42 minute mark

2702

04:55:48,708 --> 04:55:46,400

this view from the camera on

2703

04:55:50,310 --> 04:55:48,718

mike hopkins space suit he is working

2704

04:55:52,550 --> 04:55:50,320

with the articulating portable foot

2705

04:55:54,470 --> 04:55:52,560

restraint

2706

04:55:56,470 --> 04:55:54,480

meanwhile nasa astronaut victor glover

2707

04:55:58,470 --> 04:55:56,480

is back at the airlock

2708

04:56:00,150 --> 04:55:58,480

translate back to the airlock just a

2709

04:56:03,430 --> 04:56:00,160

reminder to pick up your green hook from

2710

04:56:08,070 --> 04:56:03,440

5223 and check the goblets before you

2711

04:57:00,868 --> 04:56:09,990

right here

2712

04:57:00,878 --> 04:57:25,430

thank you

2713

04:57:25,440 --> 04:57:47,350

uh

2714

04:57:51,110 --> 04:57:48,708

you can see the colors starting to

2715

04:57:52,948 --> 04:57:51,120

change outside the space station

2716

04:57:55,190 --> 04:57:52,958

and that's because the station itself is

2717

04:57:56,628 --> 04:57:55,200

entering an orbital night time

2718

04:57:59,030 --> 04:57:56,638

international space station is currently

2719

04:58:01,990 --> 04:57:59,040

flying 260 statute miles over the

2720

04:58:06,788 --> 04:58:05,430

and at 17 500 miles an hour the station

2721

04:58:12,868 --> 04:58:06,798

orbits earth

2722

04:58:17,590 --> 04:58:14,868

currently at the airlock you can see

2723

04:58:20,070 --> 04:58:17,600

those red stripes that's nasa astronaut

2724

04:58:22,150 --> 04:58:20,080

victor glover today's ev1 or extra

2725

04:58:24,470 --> 04:58:22,160

vehicular crew member one preparing for

2726

04:58:41,030 --> 04:58:24,480

his next task

2727

04:58:46,708 --> 04:58:42,708

coming up next for glover he will be

2728

04:58:51,190 --> 04:58:49,190

that's a wireless video system external

2729

04:58:53,350 --> 04:58:51,200

transceiver assembly there are three

2730

04:58:56,628 --> 04:58:53,360

wetas that receive video from wireless

2731

04:58:58,708 --> 04:58:56,638

video systems

2732

04:59:00,390 --> 04:58:58,718

he will remove the failed one and

2733

04:59:02,948 --> 04:59:00,400

install a spare

2734

04:59:08,830 --> 04:59:02,958

then return to the airlock again to stow

2735

04:59:08,840 --> 04:59:14,310

hardware red reel

2736

04:59:14,320 --> 04:59:32,628

copy

2737

04:59:36,628 --> 04:59:34,628

nasa astronaut mike hawkins is currently

2738

04:59:38,390 --> 04:59:36,638

out of frame but has recently completed

2739

04:59:41,030 --> 04:59:38,400

his tasks relocating

2740

04:59:44,470 --> 04:59:41,040

an ingress aid for the articulating

2741

04:59:48,150 --> 04:59:46,230

coming up next he'll be working at the

2742

04:59:51,110 --> 04:59:48,160

columbus module

2743

04:59:53,590 --> 04:59:51,120

on several tasks

2744

04:59:58,150 --> 04:59:53,600

he'll be working to connect cables from

2745

05:00:02,070 --> 05:00:00,390

he'll also work to secure some clamps on

2746

05:00:24,948 --> 05:00:02,080

the platform as well

2747

05:00:24,958 --> 05:00:39,630

not necessarily in place

2748

05:00:39,640 --> 05:00:44,708

[Music]

2749

05:00:49,910 --> 05:00:47,670

copy now next you can retrieve a crew

2750

05:00:52,150 --> 05:00:49,920

lock bag number one that's the bartow

2751
05:00:54,310 --> 05:00:52,160
mayo columbus crew lock bag and put it

2752
05:01:09,510 --> 05:00:54,320
on the air lock

2753
05:01:13,670 --> 05:01:11,350
and hopper you're

2754
05:01:29,990 --> 05:01:13,680
stopping at the anchor hook location to

2755
05:01:30,000 --> 05:01:34,070
okay i'm in board of the sarge

2756
05:01:34,080 --> 05:02:24,868
copy

2757
05:02:24,878 --> 05:02:29,590
okay happy anchor hooks

2758
05:02:33,030 --> 05:02:31,990
it takes you an 81 for interest i'm

2759
05:02:35,670 --> 05:02:33,040
putting it

2760
05:02:36,708 --> 05:02:35,680
in my red wheel

2761
05:02:39,270 --> 05:02:36,718
okay

2762
05:02:41,350 --> 05:02:39,280
yep that's the firm and ike you're still

2763
05:02:47,030 --> 05:02:41,360

connected to the uh airlock

2764

05:02:59,030 --> 05:02:48,788

good lace-up to the

2765

05:03:03,990 --> 05:03:00,868

the astronauts are getting upset up for

2766

05:03:08,070 --> 05:03:04,000

their next tasks on today's spacewalk

2767

05:03:09,990 --> 05:03:08,080

now two hours and 50 minutes long

2768

05:03:11,830 --> 05:03:10,000

and we have a question from mary's 10

2769

05:03:13,510 --> 05:03:11,840

year old who wants to know how big the

2770

05:03:15,030 --> 05:03:13,520

space station is

2771

05:03:17,270 --> 05:03:15,040

that's a great question the space

2772

05:03:19,590 --> 05:03:17,280

station is 357

2773

05:03:21,030 --> 05:03:19,600

feet if you measured it end to end so if

2774

05:03:22,948 --> 05:03:21,040

you put it on top of an american

2775

05:03:32,150 --> 05:03:22,958

football field it would be almost the

2776

05:03:36,230 --> 05:03:32,948

okay

2777

05:03:37,910 --> 05:03:36,240

eb1 anchor hook is to my red wheel

2778

05:03:41,110 --> 05:03:37,920

it's unlocked very close i don't walk

2779

05:03:43,190 --> 05:03:41,120

lock on black pitfall test

2780

05:03:45,190 --> 05:03:43,200

copy

2781

05:03:50,070 --> 05:03:45,200

you can retrieve your own anchor hook

2782

05:03:50,080 --> 05:04:08,070

okay

2783

05:04:12,470 --> 05:04:09,910

we have another question this one from

2784

05:04:14,788 --> 05:04:12,480

joe wondering how many astronauts are in

2785

05:04:17,030 --> 05:04:14,798

the international space station

2786

05:04:20,070 --> 05:04:17,040

right now there are five astronauts

2787

05:04:21,590 --> 05:04:20,080

inside and two outside so in total seven

2788

05:04:23,910 --> 05:04:21,600

astronauts are living at the

2789

05:04:26,230 --> 05:04:23,920

international space station

2790

05:04:27,910 --> 05:04:26,240

four of those are nasa astronauts mike

2791

05:04:29,430 --> 05:04:27,920

hopkins victor glover the two that you

2792

05:04:32,150 --> 05:04:29,440

see outside today

2793

05:04:34,390 --> 05:04:32,160

shannon walker and kate rubins we have

2794

05:04:36,788 --> 05:04:34,400

japanese aerospace exploration agency

2795

05:04:39,110 --> 05:04:36,798

astronaut soichi naguchi and two

2796

05:04:42,310 --> 05:04:39,120

roscosmos cosmonauts sergey rizhikov and

2797

05:04:48,150 --> 05:04:42,320

sergey kuzkov

2798

05:04:56,948 --> 05:04:49,670

i think it means what you think that it

2799

05:04:56,958 --> 05:05:03,870

okay i'm at the port

2800

05:05:11,750 --> 05:05:10,070

[Music]

2801
05:05:14,628 --> 05:05:11,760
and hopper just a reminder to give a

2802
05:05:16,470 --> 05:05:14,638
double tap to both port and starboard

2803
05:05:20,868 --> 05:05:16,480
cedar cart to break release pedals

2804
05:05:36,550 --> 05:05:23,030
double tap

2805
05:05:36,560 --> 05:05:45,590
we're gonna double check

2806
05:05:49,190 --> 05:05:47,270
well that got me thinking about twinkies

2807
05:05:50,550 --> 05:05:49,200
like i was just thinking it'd be a good

2808
05:05:53,030 --> 05:05:50,560
squeaky night wouldn't that be a good

2809
05:06:00,948 --> 05:05:53,040
twinkie

2810
05:06:05,510 --> 05:06:03,990
search the space station boys

2811
05:06:18,470 --> 05:06:05,520
nice

2812
05:06:24,708 --> 05:06:22,070
okay i come at the starboard

2813
05:06:37,670 --> 05:06:24,718

coming around

2814

05:06:42,390 --> 05:06:40,150

and ike uh we'd love for you to take a

2815

05:06:43,690 --> 05:06:42,400

break and get your

2816

05:06:49,990 --> 05:06:43,700

med rates down a little bit

2817

05:06:50,000 --> 05:07:11,350

i am taking a break

2818

05:07:11,360 --> 05:07:21,910

there's to see this firm

2819

05:07:48,420 --> 05:07:23,830

and like while you're resting we'll take

2820

05:07:48,430 --> 05:08:04,628

[Music]

2821

05:08:07,350 --> 05:08:06,070

copy that

2822

05:08:09,510 --> 05:08:07,360

and hopper you came in a little bit

2823

05:08:11,110 --> 05:08:09,520

broken before um

2824

05:08:14,470 --> 05:08:11,120

next for you you can put

2825

05:08:16,230 --> 05:08:14,480

your anchor hook to the aft d-ring

2826
05:08:17,670 --> 05:08:16,240
and you can then after that put ike's

2827
05:08:24,390 --> 05:08:17,680
anchor hook to the

2828
05:08:28,230 --> 05:08:26,390
work

2829
05:08:47,350 --> 05:08:28,240
and if you want to drop the apfr first

2830
05:08:52,070 --> 05:08:49,270
all right ev2

2831
05:08:53,590 --> 05:08:52,080
has an anchor hook on the last d ring

2832
05:08:58,868 --> 05:08:53,600
bell closed side lock black on black

2833
05:08:58,878 --> 05:09:24,948
that's it

2834
05:09:29,830 --> 05:09:27,030
ones on the forward

2835
05:09:31,990 --> 05:09:29,840
like the real close autolock

2836
05:09:34,708 --> 05:09:32,000
from blackpink pull test that shows him

2837
05:09:37,350 --> 05:09:34,718
two big configs

2838
05:09:40,470 --> 05:09:37,360

cop copy and concur

2839

05:09:45,830 --> 05:09:40,480

and uh you can release yourself from the

2840

05:09:49,030 --> 05:09:47,430

at least

2841

05:09:52,230 --> 05:09:49,040

all right

2842

05:09:55,830 --> 05:09:53,510

here's

2843

05:10:00,948 --> 05:09:55,840

dialogue do you read cinder

2844

05:10:07,110 --> 05:10:03,350

let's see

2845

05:10:12,470 --> 05:10:07,120

i'm gonna try and present it to you

2846

05:10:12,480 --> 05:10:20,070

it's not working very well right now

2847

05:10:20,080 --> 05:10:25,190

there we go

2848

05:10:25,200 --> 05:10:31,910

grab this rope off the dairy center

2849

05:11:01,750 --> 05:10:34,948

above the hfr there

2850

05:11:05,590 --> 05:11:03,510

we're in a satellite handover during

2851

05:11:07,430 --> 05:11:05,600

today's spacewalk both astronauts

2852

05:11:11,830 --> 05:11:07,440

currently at the airlock and preparing

2853

05:11:17,430 --> 05:11:14,070

the first task they completed today was

2854

05:11:18,868 --> 05:11:17,440

venting two jumpers on the early ammonia

2855

05:11:20,868 --> 05:11:18,878

system

2856

05:11:22,948 --> 05:11:20,878

one of those jumpers was relocated to

2857

05:11:31,510 --> 05:11:22,958

the exterior of the airlock for

2858

05:11:43,510 --> 05:11:33,750

yeah atf putting it in the wiff x in

2859

05:11:43,520 --> 05:11:47,750

that's a clocking of 12.

2860

05:11:50,628 --> 05:11:49,430

yeah you might want me to let me get out

2861

05:11:52,070 --> 05:11:50,638

of your way first

2862

05:11:54,470 --> 05:11:52,080

that's kind of right that's the one

2863

05:11:56,150 --> 05:11:54,480

that's over here oh yeah yeah

2864

05:11:59,110 --> 05:11:56,160

let me grab this

2865

05:12:03,750 --> 05:12:02,628

actually i gotta do something with a rat

2866

05:12:14,708 --> 05:12:03,760

for a

2867

05:12:19,110 --> 05:12:16,708

all right andy i mean uh

2868

05:12:25,030 --> 05:12:19,120

i just take the weather and get out of

2869

05:12:29,110 --> 05:12:27,270

yep you can grab the weta and

2870

05:12:30,230 --> 05:12:29,120

make room for hopper if you want

2871

05:12:31,910 --> 05:12:30,240

since you've been in the airlock we'll

2872

05:12:34,150 --> 05:12:31,920

just take a safer handles down check

2873

05:12:35,830 --> 05:12:34,160

please

2874

05:12:42,390 --> 05:12:35,840

yeah they've got two good safer handles

2875

05:12:46,150 --> 05:12:44,150

excellent and i did i copied earlier

2876

05:12:53,990 --> 05:12:46,160

that kudos bag number three is stowed in

2877

05:12:54,000 --> 05:13:14,868

copy

2878

05:13:14,878 --> 05:13:36,470

uh

2879

05:13:36,480 --> 05:13:42,470

hey andy i'm going to get the

2880

05:13:42,480 --> 05:13:48,230

cover closed

2881

05:13:48,240 --> 05:13:54,948

copy

2882

05:13:59,750 --> 05:13:57,910

okay thermal cover is closed

2883

05:14:02,070 --> 05:13:59,760

all right i'm getting out of your way

2884

05:14:15,910 --> 05:14:02,080

roger i'll see ya

2885

05:14:18,310 --> 05:14:17,190

uh hold on

2886

05:14:19,510 --> 05:14:18,320

looks good

2887

05:14:21,830 --> 05:14:19,520

doesn't matter

2888

05:14:23,510 --> 05:14:21,840

nothing

2889

05:14:35,510 --> 05:14:23,520

we're sitting in this other atfr we've

2890

05:14:39,590 --> 05:14:37,510

yeah that other

2891

05:14:40,868 --> 05:14:39,600

apfr that the hopper was referencing

2892

05:14:45,590 --> 05:14:40,878

that's the one you'll be grabbing to

2893

05:14:48,788 --> 05:14:47,590

i'm over about a wedding i'm just going

2894

05:14:50,550 --> 05:14:48,798

to tim still

2895

05:14:54,310 --> 05:14:50,560

the weather bag here and then i'll go

2896

05:14:54,320 --> 05:15:01,030

copy

2897

05:15:01,040 --> 05:15:05,830

okay you want a clock you know 12

2898

05:15:15,430 --> 05:15:07,990

yes please 12

2899

05:15:19,990 --> 05:15:18,150

oh you're getting picky

2900

05:15:38,948 --> 05:15:20,000

all right clacking it's well good black

2901

05:15:38,958 --> 05:16:27,270

um

2902

05:16:30,390 --> 05:16:28,948

all right the weather is trim stowed on

2903

05:16:32,550 --> 05:16:30,400

the uh

2904

05:16:36,470 --> 05:16:32,560

on the note one circular handrail

2905

05:16:48,310 --> 05:16:36,480

from another one uh swagging wheels

2906

05:16:48,320 --> 05:16:59,190

okay andy it's uh

2907

05:17:05,350 --> 05:17:02,230

my mind's in the locked position

2908

05:17:08,628 --> 05:17:05,360

but it's not quite talked out

2909

05:17:10,550 --> 05:17:08,638

i'm gonna call that good for now we can

2910

05:17:12,070 --> 05:17:10,560

get going on the other stuff

2911

05:17:14,550 --> 05:17:12,080

i can finish that up for you since i'm

2912

05:17:15,350 --> 05:17:14,560

doing epfr stuff charger yeah i'd like

2913

05:17:22,070 --> 05:17:15,360

to

2914

05:17:23,750 --> 05:17:22,080

sure

2915

05:17:25,670 --> 05:17:23,760

if you want to grab crewlock bag number

2916

05:17:27,990 --> 05:17:25,680

one and then move out of the way then i

2917

05:17:31,110 --> 05:17:28,000

will take a glove inspection and have

2918

05:17:37,350 --> 05:17:33,510

after that

2919

05:17:38,948 --> 05:17:37,360

like i think if you it's almost there

2920

05:17:40,868 --> 05:17:38,958

you might be able to get this one last

2921

05:18:25,670 --> 05:17:40,878

little

2922

05:18:28,390 --> 05:18:27,190

and if it's okay with you guys i'll give

2923

05:18:30,150 --> 05:18:28,400

you a quick

2924

05:18:32,470 --> 05:18:30,160

big picture summary

2925

05:18:33,510 --> 05:18:32,480

we are exactly on the timeline

2926

05:18:34,550 --> 05:18:33,520

uh

2927

05:18:36,868 --> 05:18:34,560

hopper

2928

05:18:39,030 --> 05:18:36,878

your medics is a limiting factor at six

2929

05:18:40,948 --> 05:18:39,040

hours 22 minutes but this is

2930

05:18:43,430 --> 05:18:40,958

in order to give us the opportunity to

2931

05:18:45,670 --> 05:18:43,440

protect for a ammonia test in the

2932

05:18:47,030 --> 05:18:45,680

airlock if we decide to do it we haven't

2933

05:18:48,390 --> 05:18:47,040

decided to do it yet but we want to

2934

05:18:49,830 --> 05:18:48,400

protect for it

2935

05:19:06,708 --> 05:18:49,840

and finally inhibits are in place both

2936

05:19:09,670 --> 05:19:08,390

it's been three hours and six minutes

2937

05:19:11,590 --> 05:19:09,680

since the astronauts switched their

2938

05:19:20,550 --> 05:19:11,600

suits to internal battery power

2939

05:19:23,830 --> 05:19:22,390

both astronauts are at the airlock at

2940

05:19:26,310 --> 05:19:23,840

the moment preparing to move to their

2941

05:19:28,390 --> 05:19:26,320

next work site

2942

05:19:30,070 --> 05:19:28,400

for victor glover with the red stripes

2943

05:19:32,230 --> 05:19:30,080

around the legs of his space suit as

2944

05:19:35,350 --> 05:19:32,240

extra vehicular crew member one he will

2945

05:19:38,628 --> 05:19:35,360

be removing and replacing a weta

2946

05:19:43,190 --> 05:19:38,638

that's a wireless video system

2947

05:19:46,550 --> 05:19:44,868

mike hopkins will be heading out to the

2948

05:19:48,868 --> 05:19:46,560

columbus module where he'll complete a

2949

05:19:50,628 --> 05:19:48,878

variety of tasks with the bartolomeo

2950

05:20:23,430 --> 05:19:50,638

science platform as well as

2951

05:20:26,070 --> 05:20:24,868

offer is the pitch setting correct

2952

05:20:36,830 --> 05:20:26,080

you're just trying to get the knot off

2953

05:20:41,990 --> 05:20:40,070

okay okay yes it's just really ratchy

2954

05:20:44,548 --> 05:20:42,000

and sticky to the ends if you get

2955

05:20:45,750 --> 05:20:44,558

another 10 degrees and it pops us in and

2956

05:20:46,948 --> 05:20:45,760

out

2957

05:20:50,788 --> 05:20:46,958

it ain't pretty

2958

05:20:53,270 --> 05:20:50,798

but it did pop yep i

2959

05:20:55,990 --> 05:20:53,280

it's locked it's locked in place okay

2960

05:20:57,750 --> 05:20:56,000

i'm out of here right here

2961

05:21:02,150 --> 05:20:57,760

i'll copy andy

2962

05:21:05,990 --> 05:21:03,670

the other settings on this thing are we

2963

05:21:07,670 --> 05:21:06,000

good to go

2964

05:21:09,990 --> 05:21:07,680

the settings were good

2965

05:21:12,310 --> 05:21:10,000

we are good to go so you can grab the

2966

05:21:14,310 --> 05:21:12,320

apfr in with 12

2967

05:21:25,590 --> 05:21:14,320

and then head up to the airlock with six

2968

05:21:28,868 --> 05:21:27,110

and hopper you can make your way to the

2969

05:21:31,030 --> 05:21:28,878

columbus worksite

2970

05:21:35,510 --> 05:21:31,040

you know fairly well so just let me know

2971

05:21:38,868 --> 05:21:36,788

i think i'm okay

2972

05:21:41,430 --> 05:21:38,878

and dropping my

2973

05:21:44,708 --> 05:21:41,440

dream hook right after i get out near

2974

05:21:44,718 --> 05:22:02,070

that's a firm

2975

05:22:39,110 --> 05:22:03,590

fun

2976

05:22:39,120 --> 05:22:48,070

on the lab

2977

05:22:48,080 --> 05:23:43,270

poppy

2978

05:23:43,280 --> 05:23:48,390

the gas spanner

2979

05:23:48,400 --> 05:23:54,470

copy

2980

05:23:58,150 --> 05:23:56,390

and that gas spanner should take you to

2981

05:24:18,390 --> 05:23:58,160

node two handrail zero three four five

2982

05:24:18,400 --> 05:24:44,310

uh

2983

05:24:49,990 --> 05:24:45,670

so you're looking for a clocking of

2984

05:24:54,150 --> 05:24:51,670

i'm gonna give this thing a tug test

2985

05:24:56,948 --> 05:24:54,160

because i know the guy that installed it

2986

05:24:59,030 --> 05:24:56,958

i think this one works

2987

05:25:01,110 --> 05:24:59,040

all right ballistics

2988

05:25:14,310 --> 05:25:01,120

it's solid it's in there

2989

05:25:18,548 --> 05:25:17,030

next settings are

2990

05:25:23,190 --> 05:25:18,558

kilo kilo

2991

05:25:23,200 --> 05:25:36,230

copy that

2992

05:25:36,240 --> 05:26:23,270

um

2993

05:27:04,708 --> 05:26:24,788

all right clocking of eight and then

2994

05:27:08,310 --> 05:27:06,230

and hopper you're looking for handrail

2995

05:27:22,548 --> 05:27:08,320

zero nine four three to stow kulak bag

2996

05:27:22,558 --> 05:27:35,270

copy

2997

05:27:40,788 --> 05:27:37,030

and i did you give it a pull and twist

2998

05:27:43,430 --> 05:27:40,798

test and a black on black check

2999

05:28:02,788 --> 05:27:43,440

black on black

3000

05:28:02,798 --> 05:28:18,470

welcome

3001

05:28:18,480 --> 05:29:05,190

bye

3002

05:29:05,200 --> 05:29:13,430

all right cool from

3003

05:29:26,230 --> 05:29:15,350

all right if you can still reach your

3004

05:29:26,240 --> 05:29:29,590

kilo delta

3005

05:29:32,390 --> 05:29:30,470

the one

3006

05:29:34,310 --> 05:29:32,400

crusade is extended

3007

05:29:37,270 --> 05:29:34,320

it has installed

3008

05:29:39,190 --> 05:29:37,280

a good pull test

3009

05:29:40,310 --> 05:29:39,200

oh sorry hold on i gotta yell a little

3010

05:29:42,470 --> 05:29:40,320

bit more

3011

05:29:52,628 --> 05:29:42,480

i'm a delta 12.

3012

05:29:56,390 --> 05:29:54,310

just a reminder on the warning to avoid

3013

05:30:15,510 --> 05:29:56,400

contacting that white thermal coating on

3014

05:30:18,868 --> 05:30:17,350

this view from victor glover's helmet

3015

05:30:20,948 --> 05:30:18,878

camera you can

3016

05:30:25,990 --> 05:30:20,958

see the number 20 in the bottom denoting

3017

05:30:31,670 --> 05:30:28,788

he's preparing to remove and replace a

3018

05:30:35,270 --> 05:30:31,680

weta wireless video system external

3019

05:30:39,030 --> 05:30:36,948

to do so he'll need to release three

3020

05:30:41,590 --> 05:30:39,040

fasteners before he's able to remove the

3021

05:30:45,190 --> 05:30:41,600

failed unit

3022

05:30:46,788 --> 05:30:45,200

he'll then replace the new unit

3023

05:31:04,230 --> 05:30:46,798

install three fasteners and then return

3024

05:31:08,948 --> 05:31:06,310

meanwhile mike hopkins is at the

3025

05:31:12,548 --> 05:31:08,958

columbus module you'll be looking at

3026
05:31:19,270 --> 05:31:12,558
some plugs and cables on the bartolomeo

3027
05:31:23,510 --> 05:31:21,910
during us eva 69 earlier this year there

3028
05:31:25,270 --> 05:31:23,520
was some difficulty connecting some of

3029
05:31:27,830 --> 05:31:25,280
those cables so he'll be troubleshooting

3030
05:31:29,510 --> 05:31:27,840
that today

3031
05:31:36,788 --> 05:31:29,520
as well as providing more information

3032
05:31:40,788 --> 05:31:38,990
coffee so you can

3033
05:31:42,548 --> 05:31:40,798
[Music]

3034
05:31:45,350 --> 05:31:42,558
excellent so you can release the long

3035
05:31:47,350 --> 05:31:45,360
wire tie go into the p1 lever leave the

3036
05:31:50,788 --> 05:31:47,360
wire tie attached to the handrail and

3037
05:32:29,030 --> 05:31:50,798
then you can de-mate inspect and try to

3038
05:32:35,030 --> 05:32:30,628

whoever installed these wise eyes did a

3039

05:32:35,040 --> 05:32:52,230

yeah kind of a pain

3040

05:32:56,628 --> 05:32:54,390

the two plugs you see hopkins working

3041

05:32:58,548 --> 05:32:56,638

with right now are plugs one and two in

3042

05:33:08,230 --> 05:32:58,558

an intermediate configuration as they

3043

05:33:14,548 --> 05:33:10,548

copy and we've got excellent uh hecka

3044

05:33:20,628 --> 05:33:17,030

i see no fun

3045

05:33:20,638 --> 05:33:24,230

gdmi bin

3046

05:33:24,240 --> 05:33:26,830

on the

3047

05:33:26,840 --> 05:33:38,868

p1 let me come up

3048

05:33:44,310 --> 05:33:41,110

again

3049

05:33:47,990 --> 05:33:46,230

and they are definitely

3050

05:34:32,390 --> 05:33:48,000

close and tight

3051

05:34:32,400 --> 05:34:44,548

okay got a good softball

3052

05:34:44,558 --> 05:34:48,310

and no joy

3053

05:34:53,270 --> 05:34:51,190

coffee no joy so let's go ahead and try

3054

05:34:59,280 --> 05:34:53,280

with the broom tool to expand those

3055

05:35:03,830 --> 05:35:01,750

[Music]

3056

05:35:06,390 --> 05:35:03,840

copper you can grab your pgt

3057

05:35:10,868 --> 05:35:06,400

settings are bravo one counter clockwise

3058

05:35:10,878 --> 05:35:23,750

i'll be on the pal first

3059

05:35:27,190 --> 05:35:25,910

the connections for the first cable mike

3060

05:35:30,948 --> 05:35:27,200

hopkins

3061

05:35:34,310 --> 05:35:32,788

did not fully complete so they are

3062

05:35:39,430 --> 05:35:34,320

working through some troubleshooting

3063

05:35:44,470 --> 05:35:41,190

and you'll be releasing the outer

3064

05:35:45,750 --> 05:35:44,480

fasteners in any order it's 7 to 13

3065

05:35:49,110 --> 05:35:45,760

turns each

3066

05:35:52,868 --> 05:35:49,120

until the bolt pops out

3067

05:35:55,270 --> 05:35:52,878

at the outers first any order 7-13

3068

05:35:58,948 --> 05:35:57,030

all right i definitely see

3069

05:36:05,430 --> 05:35:58,958

the floating around that ike was talking

3070

05:36:21,270 --> 05:36:07,670

the scene on

3071

05:36:27,350 --> 05:36:23,590

during the initial spacewalk to work on

3072

05:36:29,590 --> 05:36:27,360

these connectors there was reported

3073

05:36:32,070 --> 05:36:29,600

that the jack socket tines might be more

3074

05:36:34,948 --> 05:36:32,080

closed in than were initially expected

3075

05:36:36,788 --> 05:36:34,958

so hopkins is using a tool to attempt at

3076

05:36:39,830 --> 05:36:36,798

expanding those times

3077

05:36:43,110 --> 05:36:39,840

in what way pictures

3078

05:36:48,708 --> 05:36:46,310

i guess when i pulled it out

3079

05:36:55,430 --> 05:36:48,718

something caught

3080

05:36:55,440 --> 05:37:01,510

reason attractive

3081

05:37:05,910 --> 05:37:03,670

and this was on the practice socket f

3082

05:37:18,470 --> 05:37:05,920

correct fox

3083

05:37:36,470 --> 05:37:21,030

copy so now you can tether to the failed

3084

05:37:36,480 --> 05:37:40,548

not really

3085

05:37:40,558 --> 05:37:44,788

okay

3086

05:37:50,390 --> 05:37:46,230

all right so i'm going to start with

3087

05:37:59,750 --> 05:37:54,070

it's just going to be a straight in

3088

05:38:03,990 --> 05:38:02,230

just a second hopper could could you try

3089

05:38:05,430 --> 05:38:04,000

to give us a better view if you move

3090

05:38:29,510 --> 05:38:05,440

your helmet

3091

05:38:32,708 --> 05:38:31,350

yeah there's a cable in the way

3092

05:38:33,670 --> 05:38:32,718

unfortunately

3093

05:38:37,430 --> 05:38:33,680

it's kind of

3094

05:38:39,190 --> 05:38:37,440

sticking right in from the heka

3095

05:38:41,670 --> 05:38:39,200

mike hopkins working to give the teams

3096

05:38:49,830 --> 05:38:41,680

here on the ground a better view of

3097

05:38:53,830 --> 05:38:52,150

yeah we've got a good view it's just

3098

05:38:55,750 --> 05:38:53,840

hard for us to see the damage so if you

3099

05:38:58,470 --> 05:38:55,760

could describe it to us we'd really

3100

05:39:03,830 --> 05:39:00,548

okay again so

3101

05:39:06,868 --> 05:39:03,840

get the times and the

3102

05:39:08,548 --> 05:39:06,878

part that pulls folds over so the

3103

05:39:09,830 --> 05:39:08,558

right

3104

05:39:12,628 --> 05:39:09,840

does that make sense to you the part

3105

05:39:15,110 --> 05:39:12,638

that folds over at the top

3106

05:39:15,120 --> 05:39:22,708

okay so one of those has bent up

3107

05:39:25,750 --> 05:39:24,708

okay i understand

3108

05:39:28,230 --> 05:39:25,760

so as

3109

05:39:30,868 --> 05:39:28,240

if it almost kind of grabbed a lip on

3110

05:39:32,628 --> 05:39:30,878

the broom and the broom pulled it out is

3111

05:39:34,390 --> 05:39:32,638

that what we mean

3112

05:39:37,030 --> 05:39:34,400

right right

3113

05:39:39,030 --> 05:39:37,040

or i could have put some side loads into

3114

05:39:40,628 --> 05:39:39,040

it five holes into it

3115

05:39:46,788 --> 05:39:40,638

that

3116

05:39:48,548 --> 05:39:46,798

if we went to the

3117

05:39:51,110 --> 05:39:48,558

pen straightener i think you'd have to

3118

05:40:07,030 --> 05:39:51,120

be careful about that

3119

05:40:13,030 --> 05:40:09,190

all right hopper stand by we're just

3120

05:40:17,270 --> 05:40:15,270

in the meantime ike uh i'm guessing

3121

05:40:18,788 --> 05:40:17,280

you've read it to the failed weather in

3122

05:40:21,990 --> 05:40:18,798

which case you can release the center

3123

05:40:23,830 --> 05:40:22,000

fastener 25 to 31 turns the bolt does

3124

05:40:24,948 --> 05:40:23,840

not pop out but the box will be jacked

3125

05:40:27,990 --> 05:40:24,958

off the

3126

05:40:29,990 --> 05:40:28,000

back side

3127

05:40:32,708 --> 05:40:30,000

have the letter in hand the uh failed

3128

05:40:35,190 --> 05:40:32,718

with a no bent pins on the

3129

05:40:37,430 --> 05:40:35,200

uh stanchion side or the or the uh where

3130

05:40:38,628 --> 05:40:37,440

the plug in just has to look good both

3131

05:40:39,990 --> 05:40:38,638

sides look good

3132

05:40:41,270 --> 05:40:40,000

no fuzz

3133

05:40:48,070 --> 05:40:41,280

and i'm getting ready to put the round

3134

05:40:51,750 --> 05:40:49,270

copy all

3135

05:40:54,390 --> 05:40:51,760

you go to get the round scoop and put

3136

05:40:55,830 --> 05:40:54,400

that um

3137

05:41:21,350 --> 05:40:55,840

on the

3138

05:41:23,990 --> 05:41:21,360

troubleshoot and provide options for the

3139

05:41:26,948 --> 05:41:24,000

columbus bartolomeo platform outside of

3140

05:41:33,190 --> 05:41:30,310

all right hopper i'm back with you um

3141

05:41:35,510 --> 05:41:33,200

let's grab the pin straightener and then

3142

05:41:38,230 --> 05:41:35,520

have you practice on one of the

3143

05:41:39,910 --> 05:41:38,240

practice sockets to see if you can

3144

05:41:44,150 --> 05:41:39,920

expand the tines using the pin

3145

05:41:44,160 --> 05:42:01,830

okay

3146

05:42:07,270 --> 05:42:03,830

teams in houston are also working with

3147

05:42:09,030 --> 05:42:07,280

teams in oberff oberfaffenhofen germany

3148

05:42:11,510 --> 05:42:09,040

the location of the columbus control

3149

05:42:18,708 --> 05:42:13,910

troubleshooting

3150

05:42:21,110 --> 05:42:18,718

these tasks with the bartolomeo platform

3151
05:42:24,548 --> 05:42:21,120
hopkins is now going to move on to try a

3152
05:42:26,230 --> 05:42:24,558
pin straightener tine expansion

3153
05:42:50,070 --> 05:42:26,240
this will provide line of sight to the

3154
05:42:56,788 --> 05:42:53,030
okay practice on g

3155
05:42:56,798 --> 05:43:12,470
noticeable difference

3156
05:43:16,150 --> 05:43:14,070
coffehopper and

3157
05:43:31,350 --> 05:43:16,160
can you see if the tines move when you

3158
05:43:31,360 --> 05:43:35,110
yes

3159
05:43:35,120 --> 05:43:38,230
there is movement

3160
05:43:38,240 --> 05:43:43,270
then it snaps back

3161
05:43:43,280 --> 05:44:16,550
copy

3162
05:44:16,560 --> 05:44:20,708
[Music]

3163
05:44:20,718 --> 05:44:31,590

copyright

3164

05:44:31,600 --> 05:44:35,030

and hopper if you're

3165

05:44:38,948 --> 05:44:37,190

if you're comfortable hopper then you

3166

05:44:41,350 --> 05:44:38,958

can use a pin straightener

3167

05:44:43,750 --> 05:44:41,360

tool on the

3168

05:44:47,830 --> 05:44:43,760

actual sockets alpha

3169

05:44:52,830 --> 05:44:49,910

okay copy that i will

3170

05:44:56,310 --> 05:44:52,840

and just as a comment

3171

05:44:57,830 --> 05:44:56,320

um i commented that they were floating

3172

05:44:59,590 --> 05:44:57,840

it looks like the only ones that are

3173

05:45:02,310 --> 05:44:59,600

really floating in there

3174

05:45:04,708 --> 05:45:02,320

are e f and g

3175

05:45:17,750 --> 05:45:04,718

alpha bravo when i just kind of tap on

3176

05:45:20,788 --> 05:45:18,948

and hopper that

3177

05:45:22,230 --> 05:45:20,798

is what we would expect since the

3178

05:45:23,510 --> 05:45:22,240

practice sockets don't have cables

3179

05:45:27,830 --> 05:45:23,520

attached to the back so that's why

3180

05:45:52,470 --> 05:45:46,470

okay

3181

05:45:54,788 --> 05:45:52,480

hopper and i will see you ready to

3182

05:46:04,070 --> 05:45:54,798

weather you can now release the scoop

3183

05:46:07,190 --> 05:46:05,830

this view from victor glover's helmet

3184

05:46:10,788 --> 05:46:07,200

camera

3185

05:46:12,548 --> 05:46:10,798

as he works to remove and replace a weta

3186

05:46:14,548 --> 05:46:12,558

just a reminder that

3187

05:46:17,110 --> 05:46:14,558

when installing the new weather we need

3188

05:46:20,070 --> 05:46:17,120

running torque in order to determine the

3189

05:46:22,868 --> 05:46:20,080

final pgt setting for torquing it down

3190

05:46:24,708 --> 05:46:22,878

so just a reminder not to

3191

05:46:27,030 --> 05:46:24,718

release the pgt trigger until the

3192

05:46:28,868 --> 05:46:27,040

correct number of turns has reached if

3193

05:46:31,350 --> 05:46:28,878

you do release the pdg

3194

05:46:33,270 --> 05:46:31,360

trigger please report the running torque

3195

05:46:44,390 --> 05:46:33,280

and the turns to us before you restart

3196

05:46:48,390 --> 05:46:46,548

and so to start with ike you'll be using

3197

05:46:51,110 --> 05:46:48,400

uh bravo one

3198

05:46:54,310 --> 05:46:51,120

clockwise two

3199

05:46:56,390 --> 05:46:54,320

and driving the primary bolt 23 turns

3200

05:46:59,110 --> 05:46:56,400

only and then reporting the max running

3201

05:46:59,120 --> 05:47:20,548

got us

3202

05:47:24,788 --> 05:47:22,230

a look on the right of your screen as

3203

05:47:26,150 --> 05:47:24,798

victor glover uses the pgt or the pistol

3204

05:47:28,628 --> 05:47:26,160

grip tool

3205

05:47:29,670 --> 05:47:28,638

to install

3206

05:47:31,990 --> 05:47:29,680

a new

3207

05:47:33,750 --> 05:47:32,000

weta a wireless

3208

05:47:43,190 --> 05:47:33,760

video system external transceiver

3209

05:47:48,070 --> 05:47:45,510

copy that hopper we'll take some photos

3210

05:47:50,150 --> 05:47:48,080

of the sockets now and then after that

3211

05:47:54,628 --> 05:47:50,160

you can try to

3212

05:47:54,638 --> 05:48:00,548

happy handwork

3213

05:48:06,230 --> 05:48:04,390

hey andy 23 turns max running towards

3214

05:48:13,590 --> 05:48:06,240

one decimal six

3215

05:48:24,628 --> 05:48:16,390

0 until turn 21

3216

05:48:24,638 --> 05:48:46,390

huh

3217

05:48:50,868 --> 05:48:47,750

all right ike

3218

05:48:52,628 --> 05:48:50,878

you can set your pdt to alpha 1 and

3219

05:48:53,670 --> 05:48:52,638

leave it in motor

3220

05:48:56,310 --> 05:48:53,680

and then

3221

05:48:58,070 --> 05:48:56,320

drive the primary bolt to torque

3222

05:49:02,548 --> 05:48:58,080

an additional minimum

3223

05:49:07,110 --> 05:49:04,470

okay i want to get this failed one in

3224

05:49:09,750 --> 05:49:07,120

the bag first i'll call you back when

3225

05:49:29,190 --> 05:49:09,760

i'm ready for that

3226

05:50:55,510 --> 05:49:31,590

victor glover now stowing the failed

3227

05:51:00,310 --> 05:50:56,830

good read

3228

05:51:06,548 --> 05:51:00,320

back sorry alpha one clockwise two

3229

05:51:13,350 --> 05:51:09,990

alpha one clockwise two the torque and

3230

05:51:17,030 --> 05:51:13,360

uh minimum of how many turns

3231

05:51:23,910 --> 05:51:18,390

okay

3232

05:51:23,920 --> 05:51:52,548

copy

3233

05:51:57,670 --> 05:51:55,750

over center nice

3234

05:52:03,590 --> 05:51:57,680

and the crowd goes

3235

05:52:06,708 --> 05:52:05,110

say touchdown but you played on the

3236

05:52:09,930 --> 05:52:06,718

wrong side of the ball hey we did

3237

05:52:09,940 --> 05:52:18,470

[Applause]

3238

05:52:18,480 --> 05:52:31,910

standby

3239

05:52:39,190 --> 05:52:33,750

all right that's a good install you can

3240

05:52:39,200 --> 05:52:42,390

and i see uh

3241

05:52:49,270 --> 05:52:44,628

bravo one clockwise two five turns

3242

05:53:05,430 --> 05:52:52,150

yep good word same procedure as for the

3243

05:53:09,510 --> 05:53:07,510

on the left of your screen you saw mike

3244

05:53:10,788 --> 05:53:09,520

hopkins successfully

3245

05:53:12,390 --> 05:53:10,798

mate the

3246

05:53:14,310 --> 05:53:12,400

first plug

3247

05:53:16,948 --> 05:53:14,320

to the bartolomeo science platform they

3248

05:53:19,670 --> 05:53:16,958

will now move on to the second and look

3249

05:53:23,830 --> 05:53:19,680

to expand those tines with the

3250

05:53:23,840 --> 05:54:08,070

okay i copy working the wi-fi

3251
05:54:08,080 --> 05:54:11,270
okay p2

3252
05:54:11,280 --> 05:54:16,868
10 no fraud

3253
05:54:16,878 --> 05:54:21,670
dmr ban

3254
05:54:26,310 --> 05:54:24,470
and i just a reminder five turns only on

3255
05:54:29,110 --> 05:54:26,320
the outer bolts and then report max

3256
05:54:31,270 --> 05:54:29,120
running torque please

3257
05:54:32,708 --> 05:54:31,280
okay i drove the zenith bolt five turns

3258
05:54:34,390 --> 05:54:32,718
zero is the running torque you want to

3259
05:54:39,670 --> 05:54:34,400
do the same on the

3260
05:54:43,190 --> 05:54:41,030
standby

3261
05:54:51,510 --> 05:54:43,200
that was just wonderful

3262
05:54:55,590 --> 05:54:53,590
so i would like you to continue with the

3263
05:54:58,230 --> 05:54:55,600

bolt that you were working on

3264

05:54:59,110 --> 05:54:58,240

but take the pdt to manual ratcheting

3265

05:55:04,548 --> 05:54:59,120

mode

3266

05:55:18,470 --> 05:55:08,070

and your ratchet two decimal files

3267

05:55:18,480 --> 05:55:24,460

all right i'm gonna ratchet clockwise

3268

05:55:24,470 --> 05:55:36,070

[Applause]

3269

05:55:36,080 --> 05:55:44,548

you're turning it until it torques out

3270

05:55:53,190 --> 05:55:46,230

and hopper a small recommendation for

3271

05:55:53,200 --> 05:56:04,868

thank you

3272

05:56:09,590 --> 05:56:07,350

high definition video coming from

3273

05:56:11,510 --> 05:56:09,600

mike hawkins

3274

05:56:13,350 --> 05:56:11,520

as he continues work on the bartolomeo

3275

05:56:17,670 --> 05:56:13,360

platform we saw the first cable

3276

05:56:22,310 --> 05:56:19,990

he's now using the pen straightener tine

3277

05:56:25,910 --> 05:56:22,320

expansion tool to work on the second

3278

05:56:30,230 --> 05:56:27,750

meanwhile victor glover continues

3279

05:56:32,150 --> 05:56:30,240

removal and replacement of a weta a

3280

05:56:53,110 --> 05:56:32,160

wireless video system external

3281

05:56:56,390 --> 05:56:54,948

and i get just a reminder that the bolt

3282

05:56:57,990 --> 05:56:56,400

is spring loaded

3283

05:57:04,788 --> 05:56:58,000

so you might have to push in to get it

3284

05:57:09,590 --> 05:57:06,628

yeah that wasn't it it was not enough

3285

05:57:11,110 --> 05:57:09,600

friction to okay i got five turns on it

3286

05:57:20,470 --> 05:57:11,120

by hand and then a half a turn and it

3287

05:57:20,480 --> 05:57:49,990

standby we're checking

3288

05:57:55,190 --> 05:57:52,310

all right let's proceed with the nader

3289

05:57:58,390 --> 05:57:55,200

bolt so ptt and bravo one

3290

05:58:03,030 --> 05:57:58,400

clockwise two five turns only and please

3291

05:58:15,830 --> 05:58:05,190

level one clockwise two five turns only

3292

05:58:56,310 --> 05:58:18,230

and eva has just reported that the

3293

05:59:01,510 --> 05:58:59,270

we are three hours and 46 minutes since

3294

05:59:03,670 --> 05:59:01,520

the start of today's spacewalk and this

3295

05:59:06,150 --> 05:59:03,680

is the team leading the crew from the

3296

05:59:08,948 --> 05:59:06,160

ground the orbit two team in mission

3297

05:59:11,430 --> 05:59:08,958

control houston

3298

05:59:13,750 --> 05:59:11,440

the astronauts first completed venting

3299

05:59:16,310 --> 05:59:13,760

of the early ammonia system their first

3300

05:59:18,070 --> 05:59:16,320

major task of the day

3301
05:59:20,150 --> 05:59:18,080
they have since moved on to their second

3302
05:59:22,470 --> 05:59:20,160
major task for victor glover that is

3303
05:59:24,070 --> 05:59:22,480
removal and replacement of a

3304
05:59:27,190 --> 05:59:24,080
wireless video system external

3305
05:59:29,430 --> 05:59:27,200
transceiver assembly or weta

3306
05:59:31,670 --> 05:59:29,440
for mike hopkins he is working on the

3307
05:59:35,620 --> 05:59:31,680
bartolomeo platform at the columbus

3308
05:59:35,630 --> 05:59:42,150
[Music]

3309
05:59:52,150 --> 05:59:43,270
all right

3310
05:59:56,150 --> 05:59:53,510
the voice you hear speaking with the

3311
05:59:58,868 --> 05:59:56,160
astronauts is andy mogensen a european

3312
06:00:00,788 --> 05:59:58,878
space agency astronaut

3313
06:00:02,788 --> 06:00:00,798

he's relaying the tasks and guidance

3314

06:00:08,390 --> 06:00:02,798

from the ground to mike hopkins and

3315

06:00:23,910 --> 06:00:09,670

i'm not sure what i'm doing wrong i'm

3316

06:00:23,920 --> 06:00:28,628

high definition view from mike hopkins

3317

06:00:35,270 --> 06:00:30,788

trying to connect that second cable on

3318

06:00:38,470 --> 06:00:35,990

so

3319

06:00:40,628 --> 06:00:38,480

if you want to get it out of the 2.5 you

3320

06:00:43,190 --> 06:00:40,638

can move the

3321

06:00:46,548 --> 06:00:43,200

collar to counterclockwise

3322

06:00:52,628 --> 06:00:49,270

pull that little

3323

06:00:55,910 --> 06:00:54,230

yeah that's what i'm trying to do

3324

06:00:58,548 --> 06:00:55,920

and i'm not getting it to move out of

3325

06:01:51,030 --> 06:00:58,558

2.5

3326

06:01:57,830 --> 06:01:52,868

maybe no joy on

3327

06:02:03,350 --> 06:02:00,548

copy hopper stand by

3328

06:02:04,868 --> 06:02:03,360

and ike um could you double check that

3329

06:02:08,868 --> 06:02:04,878

that you're in

3330

06:02:14,470 --> 06:02:10,868

i tried it in ratchet counterclockwise

3331

06:02:36,470 --> 06:02:14,480

reacted clockwise motor i i

3332

06:02:42,390 --> 06:02:39,670

you guys able to see my wps

3333

06:02:44,708 --> 06:02:42,400

yeah we're looking

3334

06:02:47,670 --> 06:02:46,470

if i didn't do it once let me call you

3335

06:02:49,910 --> 06:02:47,680

i've been sitting here trying the whole

3336

06:02:52,470 --> 06:02:49,920

time

3337

06:03:27,830 --> 06:02:52,480

yeah we understand and we're just

3338

06:03:33,510 --> 06:03:31,110

mike hopkins continues to use the

3339

06:03:36,070 --> 06:03:33,520

pin straightener time time expansion

3340

06:03:37,750 --> 06:03:36,080

tool clockwise and just ratchet and let

3341

06:03:40,628 --> 06:03:37,760

it get right into the

3342

06:03:43,830 --> 06:03:40,638

and it clicked in anyway it's in 30.5

3343

06:03:52,788 --> 06:03:43,840

going to bravo one clockwise to

3344

06:04:13,430 --> 06:03:54,548

good words and your goats drive the five

3345

06:04:16,628 --> 06:04:15,190

and however we see you trying in with

3346

06:04:38,390 --> 06:04:16,638

the pin straightener tool and that's

3347

06:04:42,470 --> 06:04:39,990

there's not enough friction to ratchet

3348

06:04:44,230 --> 06:04:42,480

it so i can give you turns by hand or i

3349

06:04:47,670 --> 06:04:44,240

can turn it with the cgt let me know

3350

06:04:53,190 --> 06:04:49,590

and i will take hand turns until you

3351
06:04:57,110 --> 06:04:54,310
okay

3352
06:04:57,120 --> 06:05:03,110
back to ratchet's clockwise 2.5

3353
06:05:03,120 --> 06:05:11,590
standby

3354
06:05:16,788 --> 06:05:14,230
that's affirmative ike so back to uh

3355
06:05:20,788 --> 06:05:16,798
ratchet uh clockwise

3356
06:05:56,110 --> 06:05:23,110
you want to be there

3357
06:05:56,120 --> 06:06:03,990
[Music]

3358
06:06:04,000 --> 06:06:10,708
clockwise

3359
06:06:10,718 --> 06:06:31,190
three five six

3360
06:06:34,230 --> 06:06:32,628
and hopper if he needs about three

3361
06:06:36,788 --> 06:06:34,240
quarters of a turn

3362
06:06:39,670 --> 06:06:36,798
and two pups

3363
06:06:41,030 --> 06:06:39,680

copy that about three quarters of a turn

3364

06:06:43,590 --> 06:06:41,040

and hopper if you need additional

3365

06:06:45,270 --> 06:06:43,600

leverage you can use an adjustable uh

3366

06:06:48,548 --> 06:06:45,280

the hook from an adjustable onto that

3367

06:06:53,190 --> 06:06:49,350

i'm

3368

06:07:05,430 --> 06:06:56,070

so we'll see or put the the strap of the

3369

06:07:11,990 --> 06:07:07,350

all right andy my ppg is back to nominal

3370

06:07:12,000 --> 06:07:20,470

excellent good news

3371

06:07:20,480 --> 06:07:24,310

and that's a good way to install

3372

06:07:28,548 --> 06:07:27,590

after you have a go to power it up

3373

06:07:30,788 --> 06:07:28,558

at me

3374

06:07:35,270 --> 06:07:30,798

thank you and that's in work and next

3375

06:07:38,310 --> 06:07:36,948

the bag has the failed widow with a

3376

06:07:39,510 --> 06:07:38,320

round soup on it and then there's a

3377

06:07:41,910 --> 06:07:39,520

round scoop

3378

06:07:43,510 --> 06:07:41,920

on the outside there are reds to both of

3379

06:07:45,190 --> 06:07:43,520

those round shoes back to the bag then

3380

06:07:47,110 --> 06:07:45,200

there's an adjustable external and a red

3381

06:07:48,150 --> 06:07:47,120

external

3382

06:07:50,788 --> 06:07:48,160

perfect

3383

06:07:56,948 --> 06:07:54,070

you can egress apfr and stow

3384

06:08:12,708 --> 06:07:56,958

what a bag on whatever airlock handrail

3385

06:08:16,868 --> 06:08:15,110

confirmation of good installation of the

3386

06:08:18,548 --> 06:08:16,878

new weta the

3387

06:08:21,350 --> 06:08:18,558

wireless video system external

3388

06:08:25,270 --> 06:08:21,360

transceiver assembly installed by victor

3389

06:08:31,190 --> 06:08:28,310

he will take the failed weta back to the

3390

06:08:34,390 --> 06:08:33,670

meanwhile mike hopkins continues work on

3391

06:08:58,548 --> 06:08:34,400

the

3392

06:09:09,190 --> 06:09:00,868

already been worth it though

3393

06:09:09,200 --> 06:09:16,868

all right i'll give it one more try

3394

06:09:20,708 --> 06:09:19,190

uh one more try with what

3395

06:09:22,230 --> 06:09:20,718

with the pin straightener

3396

06:09:23,510 --> 06:09:22,240

um

3397

06:09:25,590 --> 06:09:23,520

no i'm going to give it one more try

3398

06:09:39,990 --> 06:09:25,600

here and then be made it see if i can't

3399

06:09:40,000 --> 06:09:45,990

okay no joy

3400

06:09:46,000 --> 06:09:51,110

what would you guys like to do next

3401

06:09:51,120 --> 06:09:56,628

hopper we'd we'd like to move on to p4

3402

06:09:59,190 --> 06:09:57,670

p4

3403

06:10:01,110 --> 06:09:59,200

okay

3404

06:10:06,230 --> 06:10:01,120

so i can just leave this disconnected

3405

06:10:06,240 --> 06:10:09,590

do you want it partially

3406

06:10:12,868 --> 06:10:11,270

we're going to leave it like this right

3407

06:10:14,948 --> 06:10:12,878

for now but before we leave the work

3408

06:10:17,590 --> 06:10:14,958

site we need to return it to its initial

3409

06:10:20,070 --> 06:10:18,708

okay

3410

06:10:21,190 --> 06:10:20,080

and you just confirmed you don't want

3411

06:10:22,708 --> 06:10:21,200

the weather in the airlock you just

3412

06:10:32,230 --> 06:10:22,718

wanted to

3413

06:10:36,470 --> 06:10:34,788

i mean it's it's uh up to you it has to

3414

06:10:39,030 --> 06:10:36,480

go back in the airlock at some point but

3415

06:10:42,948 --> 06:10:39,040

we also want the apfr moved back into

3416

06:10:49,350 --> 06:10:44,868

i'm going to put the weather in the

3417

06:10:49,360 --> 06:10:59,910

it's good for us

3418

06:10:59,920 --> 06:11:05,910

been removed from j04

3419

06:11:12,230 --> 06:11:08,628

copyhopper and i just a question from

3420

06:11:20,470 --> 06:11:12,240

eba for you did you see any flake

3421

06:11:25,270 --> 06:11:22,708

about the white paint right

3422

06:12:47,510 --> 06:11:25,280

that's a firm

3423

06:12:50,868 --> 06:12:49,030

it's nearly four hours since our

3424

06:12:53,110 --> 06:12:50,878

spacewalkers switched their suits to

3425

06:12:57,750 --> 06:12:53,120

internal battery power beginning today's

3426

06:13:01,990 --> 06:12:59,830

we saw the crew members successfully

3427

06:13:04,310 --> 06:13:02,000

vent two jumpers on the early ammonia

3428

06:13:06,948 --> 06:13:04,320

system one of which was relocated to the

3429

06:13:08,628 --> 06:13:06,958

outside of the airlock

3430

06:13:10,230 --> 06:13:08,638

victor glover removed and replaced a

3431

06:13:12,470 --> 06:13:10,240

wireless video system external

3432

06:13:15,590 --> 06:13:12,480

transceiver assembly and will soon

3433

06:13:17,350 --> 06:13:15,600

relocate the failed unit to the airlock

3434

06:13:19,350 --> 06:13:17,360

meanwhile mike hawkins has successfully

3435

06:13:21,910 --> 06:13:19,360

connected one jumper on the bartolomeo

3436

06:14:02,150 --> 06:13:21,920

platform and it continues to work at the

3437

06:14:06,310 --> 06:14:04,628

all right andy floyd has a large small

3438

06:14:09,270 --> 06:14:06,320

red into the airlocks

3439

06:14:11,750 --> 06:14:09,280

i'm about to get the apfr

3440

06:14:18,070 --> 06:14:11,760

actually you want me to uh

3441

06:14:18,080 --> 06:14:33,910

standby

3442

06:14:38,070 --> 06:14:35,030

go ahead and

3443

06:14:39,750 --> 06:14:38,080

retrieve the apfr and resto that in with

3444

06:14:41,670 --> 06:14:39,760

12 and then we'll have you working on

3445

06:14:47,910 --> 06:14:41,680

the airlock stiffener

3446

06:14:47,920 --> 06:14:59,990

okay

3447

06:15:00,000 --> 06:15:03,750

hey andy i've got the

3448

06:15:10,628 --> 06:15:05,750

the caps off of uh

3449

06:15:17,430 --> 06:15:12,470

whatever wire type is

3450

06:15:17,440 --> 06:15:24,230

copy your go to overboard

3451
06:15:32,390 --> 06:15:26,708
copy your go to use a pin straightener

3452
06:15:41,590 --> 06:15:34,470
thank you

3453
06:15:41,600 --> 06:15:45,110
and let me get a picture

3454
06:15:45,120 --> 06:16:06,230
where the sun goes down

3455
06:16:06,240 --> 06:16:52,948
come on

3456
06:16:52,958 --> 06:16:57,030
okay working the pin straightener

3457
06:16:57,040 --> 06:17:00,150
on j04

3458
06:17:00,160 --> 06:17:09,190
copy

3459
06:17:12,230 --> 06:17:10,628
as the crew members continue work

3460
06:17:14,230 --> 06:17:12,240
outside the space station we are

3461
06:17:16,708 --> 06:17:14,240
continuing answering your ask nasa

3462
06:17:20,788 --> 06:17:18,868
this one uh what purpose does the little

3463
06:17:23,190 --> 06:17:20,798

mirror on the left hand of the astronaut

3464

06:17:26,390 --> 06:17:23,200

serve great question

3465

06:17:28,150 --> 06:17:26,400

that mirror provides astronauts a visual

3466

06:17:30,310 --> 06:17:28,160

of the front of their suits and that is

3467

06:17:33,110 --> 06:17:30,320

where astronauts can access

3468

06:17:35,430 --> 06:17:33,120

the comms volume and the temperature

3469

06:17:37,270 --> 06:17:35,440

inside their spacesuits

3470

06:17:38,788 --> 06:17:37,280

all of that is written in mirror image

3471

06:17:40,548 --> 06:17:38,798

so that way when they view it by the

3472

06:17:42,070 --> 06:17:40,558

mirror on their wrist they are able to

3473

06:17:44,310 --> 06:17:42,080

read and adjust

3474

06:17:46,230 --> 06:17:44,320

as they desire and if you're going to

3475

06:17:52,360 --> 06:17:46,240

with 12 where you got it from and you're

3476

06:18:16,948 --> 06:17:54,230

[Music]

3477

06:18:21,030 --> 06:18:18,788

we have another question from mary's

3478

06:18:22,948 --> 06:18:21,040

six-year-old who asks

3479

06:18:24,708 --> 06:18:22,958

uh how high above the earth the space

3480

06:18:26,708 --> 06:18:24,718

station is and where it is over the

3481

06:18:29,910 --> 06:18:26,718

earth right now space station is

3482

06:18:32,310 --> 06:18:29,920

currently flying 266 statute miles over

3483

06:19:11,110 --> 06:18:32,320

the south atlantic ocean coming up on

3484

06:19:16,150 --> 06:19:13,750

oh it's quiet

3485

06:19:18,548 --> 06:19:16,160

i was taking in the view

3486

06:20:11,510 --> 06:19:18,558

and the ocean is beautiful

3487

06:20:15,350 --> 06:20:13,190

okay andy

3488

06:20:17,990 --> 06:20:15,360

take a picture and

3489

06:20:20,548 --> 06:20:18,000

see what we can do with

3490

06:20:57,430 --> 06:20:20,558

before j4

3491

06:21:01,670 --> 06:20:59,590

nasa astronaut mike hopkins continues

3492

06:21:09,110 --> 06:21:01,680

attempting connection of the cables to

3493

06:21:13,830 --> 06:21:11,350

all right andy if you are english 12

3494

06:21:16,830 --> 06:21:13,840

plus 6 good pull and twist test welcome

3495

06:21:16,840 --> 06:21:21,270

copy and the uh

3496

06:21:57,990 --> 06:21:23,110

the rest of the settings kilo kilo fox

3497

06:22:01,190 --> 06:21:59,350

and hopper

3498

06:22:04,150 --> 06:22:01,200

one technique you might want to try to

3499

06:22:04,788 --> 06:22:04,160

use is to use two hands so once you get

3500

06:22:08,628 --> 06:22:04,798

it

3501
06:22:15,030 --> 06:22:08,638
the back shell and one hand on the lever

3502
06:22:15,040 --> 06:22:20,070
right here

3503
06:22:26,230 --> 06:22:22,310
kilo fox nine and the ingress eight is

3504
06:22:26,240 --> 06:22:31,990
copy all

3505
06:22:37,430 --> 06:22:33,670
and the problem with that andy is the

3506
06:22:37,440 --> 06:22:57,030
copy that hopper

3507
06:23:01,110 --> 06:22:58,628
all right hopper if you think you've uh

3508
06:23:02,310 --> 06:23:01,120
exhausted uh

3509
06:23:04,390 --> 06:23:02,320
your attempts

3510
06:23:06,390 --> 06:23:04,400
on the doing it this way what you can do

3511
06:23:09,190 --> 06:23:06,400
is you try to take an adjustable

3512
06:23:18,310 --> 06:23:09,200
put both hooks onto the bale and then

3513
06:23:32,070 --> 06:23:19,910

and again we'll take a glove inspection

3514

06:23:32,080 --> 06:23:38,868

my half is dry

3515

06:23:38,878 --> 06:24:12,550

closer to work

3516

06:24:12,560 --> 06:24:19,110

[Applause]

3517

06:24:25,590 --> 06:24:21,430

d2 again

3518

06:24:25,600 --> 06:24:32,070

and copy nominal gloves

3519

06:24:36,868 --> 06:24:34,310

victor glover reports that his gloves

3520

06:24:41,990 --> 06:24:36,878

look good and his hat is dry his helmet

3521

06:24:46,150 --> 06:24:44,468

he is now preparing to

3522

06:24:48,310 --> 06:24:46,160

work on the stiffener install for the

3523

06:24:51,990 --> 06:24:48,320

thermal cover to keep it from blowing

3524

06:24:56,468 --> 06:24:54,310

mike hopkins has successfully connected

3525

06:24:59,510 --> 06:24:56,478

another cable on the bardo mayo platform

3526
06:25:01,350 --> 06:24:59,520
and will continue to attempt

3527
06:25:37,350 --> 06:25:01,360
doing the same with the

3528
06:27:03,430 --> 06:25:47,670
wow

3529
06:27:03,440 --> 06:28:05,430
huh

3530
06:28:05,440 --> 06:28:08,548
okay no joy on

3531
06:28:13,750 --> 06:28:11,510
yeah we see that hopper

3532
06:28:18,948 --> 06:28:13,760
at this time we suggest moving on to

3533
06:28:18,958 --> 06:28:32,390
okay

3534
06:28:36,230 --> 06:28:34,868
and ike that looks really good

3535
06:28:59,190 --> 06:28:36,240
good position

3536
06:29:03,270 --> 06:29:00,868
this view from victor glover's helmet

3537
06:29:04,548 --> 06:29:03,280
camera as he is now holding

3538
06:29:17,270 --> 06:29:04,558

the

3539

06:29:30,150 --> 06:29:17,280

get a lock extra caps and wire ties

3540

06:29:33,548 --> 06:29:31,830

teams on the ground continued to work

3541

06:29:35,830 --> 06:29:33,558

with the european space agency in

3542

06:29:37,510 --> 06:29:35,840

oberwaffenhuffen germany

3543

06:29:39,750 --> 06:29:37,520

troubleshooting the tasks at the

3544

06:29:43,910 --> 06:29:39,760

bartolomeo payload where mike hopkins

3545

06:29:43,920 --> 06:29:48,468

the extra safety is in place for

3546

06:29:48,478 --> 06:29:55,030

free

3547

06:30:06,468 --> 06:29:57,190

yeah offer extra safety is in place for

3548

06:30:06,478 --> 06:30:14,390

okay thank you

3549

06:30:18,310 --> 06:30:16,150

during venting of the early ammonia

3550

06:30:20,150 --> 06:30:18,320

system earlier the first task of the day

3551

06:30:21,830 --> 06:30:20,160

there was some suspected

3552

06:30:24,708 --> 06:30:21,840

ammonia flakes that may have come into

3553

06:30:26,230 --> 06:30:24,718

contact with the astronaut suits

3554

06:30:28,468 --> 06:30:26,240

however exposure to the sun has

3555

06:30:30,868 --> 06:30:28,478

completed a natural bake out

3556

06:31:25,350 --> 06:30:30,878

of any of those potential flakes from

3557

06:31:30,628 --> 06:31:27,030

and like if you could give us an

3558

06:31:32,070 --> 06:31:30,638

estimate of the turn count both

3559

06:31:33,670 --> 06:31:32,080

what you've done by hand and then also

3560

06:31:39,110 --> 06:31:33,680

later what you do with the pgt we'd

3561

06:31:42,390 --> 06:31:40,948

two turns on that first bolt and i'm

3562

06:31:44,708 --> 06:31:42,400

just getting to the second turn on the

3563

06:31:46,310 --> 06:31:44,718

second one i kind of wanted to get two

3564

06:31:52,708 --> 06:31:46,320

points done just for a little stability

3565

06:31:59,990 --> 06:31:54,390

we agree with that

3566

06:32:05,990 --> 06:32:03,910

well i'm gonna alpha two clockwise two

3567

06:32:11,750 --> 06:32:06,000

overflows six and one

3568

06:32:18,788 --> 06:32:13,590

all bolts should be uh hand started

3569

06:32:18,798 --> 06:32:22,468

i'll start all six

3570

06:32:22,478 --> 06:32:25,510

yes please

3571

06:32:32,548 --> 06:32:29,030

okay just please work

3572

06:32:38,788 --> 06:32:33,990

hey p3

3573

06:32:45,590 --> 06:32:41,590

3dmi band

3574

06:32:48,708 --> 06:32:45,600

and working the pin straightener on

3575

06:32:48,718 --> 06:34:10,468

copy

3576

06:34:10,478 --> 06:34:15,030

two turns on bolt two

3577

06:34:15,040 --> 06:35:24,390

copy

3578

06:35:28,230 --> 06:35:26,150

while victor glover has moved on to

3579

06:35:29,910 --> 06:35:28,240

another major task of the day which is

3580

06:35:31,430 --> 06:35:29,920

installing the thermal cover sniff

3581

06:35:33,030 --> 06:35:31,440

stiffener

3582

06:35:35,990 --> 06:35:33,040

mike hawkins continues work at the

3583

06:35:37,590 --> 06:35:36,000

bartolomeo science platform he is using

3584

06:35:42,390 --> 06:35:37,600

the

3585

06:35:53,590 --> 06:35:44,468

he has used this tool and since success

3586

06:35:56,788 --> 06:35:55,030

all right however

3587

06:35:57,910 --> 06:35:56,798

one four of these bolts so far so the

3588

06:35:59,270 --> 06:35:57,920

stiffener is going well how are you

3589

06:36:01,270 --> 06:35:59,280

doing

3590

06:36:04,150 --> 06:36:01,280

well i've got two or four

3591

06:36:13,430 --> 06:36:06,788

about to try

3592

06:36:13,440 --> 06:36:34,548

i guess right

3593

06:36:34,558 --> 06:36:37,990

all right two turns vault three

3594

06:36:38,000 --> 06:36:56,310

copy

3595

06:37:01,190 --> 06:36:58,788

okay good stuff doc

3596

06:38:05,590 --> 06:37:01,200

two three

3597

06:38:15,350 --> 06:38:08,948

free j3 made it yeah

3598

06:38:21,270 --> 06:38:18,948

using the same technique as on the

3599

06:38:23,750 --> 06:38:21,280

fourth plug earlier mike hopkins has

3600

06:38:46,468 --> 06:38:23,760

successfully connected the third plug to

3601
06:38:50,150 --> 06:38:48,948
all right hopper if your game

3602
06:38:56,548 --> 06:38:50,160
we'd love for you to try the pin

3603
06:38:56,558 --> 06:39:37,830
i am absolutely game

3604
06:39:42,628 --> 06:39:40,070
mike hopkins continues to use the pen

3605
06:39:44,390 --> 06:39:42,638
straightener tine expansion tool to

3606
06:39:48,390 --> 06:39:44,400
expand some of those times that were

3607
06:39:51,190 --> 06:39:48,400
reported initially during eva 69 us eva

3608
06:40:04,868 --> 06:39:51,200
69 to be a little more closed and then

3609
06:40:09,750 --> 06:40:06,390
of course power to the power

3610
06:40:15,190 --> 06:40:09,760
distribution units have been turned off

3611
06:40:18,708 --> 06:40:16,788
meanwhile victor glover continues to

3612
06:40:25,190 --> 06:40:18,718
work on installing a stiffener on the

3613
06:41:12,150 --> 06:40:27,350

[Music]

3614

06:41:17,190 --> 06:41:13,910

let's do this again and

3615

06:41:18,310 --> 06:41:17,200

install another thermal cover stiffener

3616

06:41:30,548 --> 06:41:18,320

dudes

3617

06:41:30,558 --> 06:41:33,590

yeah that makes sense

3618

06:41:36,230 --> 06:41:34,788

getting the

3619

06:41:38,708 --> 06:41:36,240

thermal cover to line up with that is

3620

06:41:40,310 --> 06:41:38,718

that uh yeah

3621

06:41:41,750 --> 06:41:40,320

the first one i was able to obviously

3622

06:41:43,190 --> 06:41:41,760

get over center the rest of them i'd

3623

06:41:44,708 --> 06:41:43,200

have to do some sagging and i'm on the

3624

06:41:46,390 --> 06:41:44,718

last one

3625

06:41:49,510 --> 06:41:46,400

and all that tugging is caught up with

3626
06:41:52,230 --> 06:41:51,030
let's take a break and try to get into

3627
06:41:55,590 --> 06:41:52,240
seconds but

3628
06:42:07,590 --> 06:41:56,868
[Music]

3629
06:42:07,600 --> 06:42:18,548
um

3630
06:42:23,430 --> 06:42:20,948
we're in a quick satellite handover and

3631
06:42:29,270 --> 06:42:23,440
we are watching mike hawkins

3632
06:42:33,590 --> 06:42:31,670
or the second jumper by number we should

3633
06:42:39,750 --> 06:42:33,600
say but he's connected three jumpers to

3634
06:42:44,150 --> 06:42:41,750
victor glover is near the quest airlock

3635
06:42:45,430 --> 06:42:44,160
and he is installing the thermal cover

3636
06:42:48,310 --> 06:42:45,440
stiffener

3637
06:43:28,628 --> 06:42:48,320
we are now four hours and almost

3638
06:43:28,638 --> 06:43:55,510

ugh

3639

06:43:59,670 --> 06:43:56,948

having trouble seeing

3640

06:44:01,750 --> 06:43:59,680

i can see it just

3641

06:44:02,708 --> 06:44:01,760

irritating it's uh trying to keep it

3642

06:44:05,430 --> 06:44:02,718

open

3643

06:44:06,948 --> 06:44:05,440

this eye is fine

3644

06:44:10,150 --> 06:44:06,958

be watery

3645

06:44:12,948 --> 06:44:10,160

taking a break thinking

3646

06:44:15,510 --> 06:44:12,958

uh please water

3647

06:44:21,910 --> 06:44:15,520

you know how that's working

3648

06:44:25,590 --> 06:44:24,150

when i open my right eye it's a little

3649

06:44:31,190 --> 06:44:25,600

irritated

3650

06:44:36,150 --> 06:44:33,910

andy are you talking

3651

06:44:39,190 --> 06:44:36,160

yeah we copy so

3652

06:44:43,350 --> 06:44:39,200

is that water irritating your eye ike is

3653

06:44:49,510 --> 06:44:47,510

negative something i don't know what

3654

06:44:51,510 --> 06:44:49,520

it hurts to keep it open it's irritated

3655

06:44:54,070 --> 06:44:51,520

if i keep it open

3656

06:44:57,190 --> 06:44:54,080

when i close it i'm fine

3657

06:44:59,670 --> 06:44:57,200

slightly irritated and it's watering

3658

06:45:00,868 --> 06:44:59,680

you know tears it's creating tears i'm

3659

06:45:02,548 --> 06:45:00,878

blinking

3660

06:45:04,468 --> 06:45:02,558

it's working

3661

06:45:09,030 --> 06:45:04,478

if i try to keep it open

3662

06:45:16,628 --> 06:45:11,510

it's pure information i did not use

3663

06:45:20,788 --> 06:45:18,070

all right we copy you did not use

3664

06:45:23,270 --> 06:45:20,798

anti-fog and we copy it's your

3665

06:45:25,110 --> 06:45:23,280

irritation in the eye that's causing you

3666

06:45:26,390 --> 06:45:25,120

your eye to water it wasn't water in

3667

06:45:30,708 --> 06:45:26,400

your eye but something else that's

3668

06:45:35,030 --> 06:45:32,310

that's correct

3669

06:45:37,030 --> 06:45:35,040

only chemical in this uh emu is to pipe

3670

06:45:52,788 --> 06:45:37,040

the paste on the uh

3671

06:45:57,030 --> 06:45:55,030

yeah i can uh

3672

06:45:58,868 --> 06:45:57,040

what are you thinking you want to i'm

3673

06:46:00,868 --> 06:45:58,878

good i'm right at the airlock i'm good

3674

06:46:04,310 --> 06:46:00,878

i'm still working on this last one i'll

3675

06:46:06,150 --> 06:46:04,320

keep you posted i'm uh okay let you know

3676

06:46:07,830 --> 06:46:06,160

it keeps getting better blinking is

3677

06:46:13,590 --> 06:46:07,840

working

3678

06:46:13,600 --> 06:46:26,708

no joy on

3679

06:46:30,948 --> 06:46:28,708

victor glover reporting some irritation

3680

06:46:33,830 --> 06:46:30,958

in his eye but that it improves as he

3681

06:46:36,150 --> 06:46:33,840

continues to blink

3682

06:46:38,230 --> 06:46:36,160

he is at the quest airlock installing a

3683

06:46:39,830 --> 06:46:38,240

thermal cover stiffener and mike hopkins

3684

06:47:53,430 --> 06:46:39,840

continues work on the bartolomeo

3685

06:47:53,440 --> 06:48:31,590

sure no yep

3686

06:48:31,600 --> 06:48:47,670

i'm still flying navy

3687

06:48:47,680 --> 06:49:18,468

marginal bfr

3688

06:49:23,030 --> 06:49:19,990

hopper the only other thing we can

3689

06:49:24,868 --> 06:49:23,040

suggest is that you use two adjustables

3690

06:49:26,948 --> 06:49:24,878

uh so you get kind of a

3691

06:49:31,110 --> 06:49:26,958

extra long loop

3692

06:49:31,120 --> 06:49:51,910

thank leverage

3693

06:49:55,430 --> 06:49:53,430

how you doing like looks like you're

3694

06:49:58,310 --> 06:49:55,440

continuing to work on the

3695

06:50:02,230 --> 06:50:00,468

okay so i'm going to try so david this

3696

06:50:03,750 --> 06:50:02,240

is the one where i actually need 3d

3697

06:50:05,190 --> 06:50:03,760

vision and it's

3698

06:50:07,430 --> 06:50:05,200

not helping but i'm going to try putting

3699

06:50:09,670 --> 06:50:07,440

the bulk into the

3700

06:50:11,350 --> 06:50:09,680

into the thermal cover

3701
06:50:12,788 --> 06:50:11,360
and then see if i can line them up that

3702
06:50:27,350 --> 06:50:12,798
way

3703
06:50:27,360 --> 06:51:28,390
come okay

3704
06:51:32,708 --> 06:51:30,548
this is a view from

3705
06:51:34,468 --> 06:51:32,718
mike hopkins suit his high definition

3706
06:51:36,070 --> 06:51:34,478
camera

3707
06:51:38,788 --> 06:51:36,080
providing a view of the plugs on which

3708
06:51:40,390 --> 06:51:38,798
he is working on the bartolomeo

3709
06:51:41,190 --> 06:51:40,400
platform

3710
06:51:43,910 --> 06:51:41,200
one

3711
06:51:45,430 --> 06:51:43,920
hook to the strap on that adjustable and

3712
06:51:47,350 --> 06:51:45,440
then the other end

3713
06:51:48,628 --> 06:51:47,360

around the handrail so you're pulling up

3714

06:51:49,830 --> 06:51:48,638

maybe

3715

06:51:53,190 --> 06:51:49,840

just to give you a different direction

3716

06:51:53,200 --> 06:52:16,230

yeah yep we can try that

3717

06:52:16,240 --> 06:52:21,830

let's try using an adjustable tube

3718

06:52:37,030 --> 06:52:23,750

ah yeah

3719

06:52:37,040 --> 06:52:52,788

uh

3720

06:52:58,150 --> 06:52:55,270

victor glover continues work outside the

3721

06:53:01,270 --> 06:52:58,160

quest airlock on the thermal cover he's

3722

06:53:03,510 --> 06:53:01,280

installing some stiffener tubes

3723

06:53:07,030 --> 06:53:03,520

hand turning some bolts to get them

3724

06:53:26,390 --> 06:53:08,868

this stiffener will help keep the air

3725

06:55:21,430 --> 06:53:31,270

uh

3726

06:55:26,868 --> 06:55:23,590

andy

3727

06:55:26,878 --> 06:55:29,990

in the uh

3728

06:55:36,230 --> 06:55:34,070

staging bag there is a

3729

06:55:38,150 --> 06:55:36,240

long pokey things

3730

06:55:39,670 --> 06:55:38,160

i use that to go through the stiffener

3731

06:55:45,830 --> 06:55:39,680

and into the tube

3732

06:55:45,840 --> 06:55:54,468

standby

3733

06:55:54,478 --> 06:55:58,070

removing the thing that helper has

3734

06:55:58,080 --> 06:56:21,030

yeah the room and our rotation tool

3735

06:56:21,040 --> 06:56:41,670

um

3736

06:56:45,750 --> 06:56:43,350

ike you are go

3737

06:57:05,270 --> 06:56:45,760

to use that tool from the staging bag if

3738

06:57:09,910 --> 06:57:08,310

all right still no joy amy

3739

06:57:13,270 --> 06:57:09,920

how much more you guys want to give this

3740

06:57:22,468 --> 06:57:15,910

give it one more

3741

06:57:26,708 --> 06:57:24,868

all right hopper let's uh try to do the

3742

06:57:28,390 --> 06:57:26,718

plug extender eval

3743

06:57:30,310 --> 06:57:28,400

just so we get an idea of what might be

3744

06:58:17,590 --> 06:57:30,320

wrong and then after that we'll probably

3745

06:58:17,600 --> 06:58:25,670

yeah it goes to hard stuff

3746

06:58:25,680 --> 06:58:29,350

coffee it's a hard stop

3747

06:58:29,360 --> 06:58:37,030

yep

3748

06:58:37,040 --> 06:58:41,430

oh yeah my band looks good

3749

06:58:45,430 --> 06:58:43,910

yeah we copy hopper and

3750

06:58:47,430 --> 06:58:45,440

that's a good eval

3751
06:58:48,150 --> 06:58:47,440
now we're ready to have you just cap

3752
06:58:49,910 --> 06:58:48,160
them

3753
06:58:52,150 --> 06:58:49,920
so you'll want to grab the

3754
06:58:55,030 --> 06:58:52,160
25l cap that's the one with the kapton

3755
06:58:55,040 --> 06:58:58,708
okay so you don't want to

3756
06:59:04,788 --> 06:59:00,310
want to leave it connected with the wire

3757
06:59:04,798 --> 06:59:08,708
no we prefer to have them capped

3758
07:00:20,708 --> 07:00:04,708
okay

3759
07:00:28,708 --> 07:00:22,868
all right

3760
07:00:32,548 --> 07:00:30,628
hey auburn we appreciate all that uh

3761
07:00:36,230 --> 07:00:32,558
extra effort but i think we're ready to

3762
07:00:43,990 --> 07:00:36,240
to move on so you have a go to cap

3763
07:00:48,230 --> 07:00:46,310

uh aubry we'd appreciate you taking

3764

07:00:49,830 --> 07:00:48,240

pictures of the

3765

07:00:53,750 --> 07:00:49,840

connectors

3766

07:01:21,030 --> 07:00:56,548

get one right now

3767

07:01:26,230 --> 07:01:23,590

my hopkins was able to successfully

3768

07:01:33,990 --> 07:01:26,240

connect three of the four plugs he was

3769

07:01:38,390 --> 07:01:36,468

the european space agency and nasa teams

3770

07:01:41,350 --> 07:01:38,400

have agreed that hopkins will take

3771

07:01:52,468 --> 07:01:41,360

pictures of the area

3772

07:01:52,478 --> 07:02:00,390

hey

3773

07:02:04,150 --> 07:02:02,070

this view of victor glover outside the

3774

07:02:11,830 --> 07:02:04,160

quest airlock as he continues installing

3775

07:02:11,840 --> 07:02:19,350

let's call that three turns on uh

3776

07:02:19,360 --> 07:02:33,190

copy

3777

07:02:33,200 --> 07:02:44,150

alpha 2 clockwise 2 to torque right

3778

07:02:49,430 --> 07:02:46,390

and i will take a

3779

07:02:55,670 --> 07:02:49,440

pull test on each hand started bolt

3780

07:02:55,680 --> 07:02:59,270

pull to okay

3781

07:03:02,070 --> 07:03:00,708

can i just do it right before i drive

3782

07:03:07,670 --> 07:03:02,080

each one do i have to go around all

3783

07:03:11,670 --> 07:03:09,670

just right before you drive each one

3784

07:03:14,310 --> 07:03:11,680

it's just to make sure they're not cross

3785

07:03:14,320 --> 07:03:18,230

okay

3786

07:03:23,510 --> 07:03:22,230

andy you said a 25 l right

3787

07:03:42,548 --> 07:03:23,520

that's right that's the one with the

3788

07:03:42,558 --> 07:03:48,390

that mounted easy

3789

07:03:48,400 --> 07:03:55,030

over center

3790

07:03:55,040 --> 07:03:59,990

copy

3791

07:04:00,000 --> 07:04:04,150

and just a straight 25

3792

07:04:04,160 --> 07:04:08,788

comments

3793

07:04:08,798 --> 07:04:13,430

candy a good full test on bowl files

3794

07:04:21,510 --> 07:04:15,830

copy and then it's alpha two clockwise

3795

07:04:28,468 --> 07:04:23,830

four turns

3796

07:04:28,478 --> 07:04:31,750

copy

3797

07:04:31,760 --> 07:04:45,430

had a good pull test on four as well

3798

07:04:48,868 --> 07:04:46,540

three and a half turns

3799

07:05:02,868 --> 07:04:48,878

[Applause]

3800

07:05:02,878 --> 07:05:10,390

standby

3801
07:05:14,390 --> 07:05:12,708
all right you can continue it's uh fewer

3802
07:05:16,788 --> 07:05:14,400
turns than we were expecting so we might

3803
07:05:27,510 --> 07:05:16,798
have to come back but go you're go to

3804
07:05:30,390 --> 07:05:29,110
okay andy

3805
07:05:32,070 --> 07:05:30,400
you wanted inventory while light

3806
07:05:33,670 --> 07:05:32,080
continues

3807
07:05:35,270 --> 07:05:33,680
yeah that'd be great

3808
07:05:39,750 --> 07:05:35,280
turns on three

3809
07:05:41,030 --> 07:05:39,760
green light 3.7 on the tour

3810
07:05:43,830 --> 07:05:41,040
all right i'll just stop talking when

3811
07:05:46,628 --> 07:05:45,510
okay so i got an integral with the trash

3812
07:05:51,350 --> 07:05:46,638
bag

3813
07:05:53,110 --> 07:05:51,360

let's see i need some more wire cards i

3814

07:06:01,910 --> 07:05:53,120

need to take do you want to take these

3815

07:06:01,920 --> 07:06:04,628

yes please

3816

07:06:04,638 --> 07:06:12,548

okay stand by then for the inventory

3817

07:06:20,310 --> 07:06:14,390

and ike what was your report on the last

3818

07:06:20,320 --> 07:06:28,628

3.7 on the torch

3819

07:06:32,070 --> 07:06:30,150

it's a little bit hard to read was it

3820

07:06:37,040 --> 07:06:32,080

two and a half turns or ten and a half

3821

07:06:37,050 --> 07:06:40,788

[Music]

3822

07:06:40,798 --> 07:06:50,948

copy four and a half

3823

07:06:50,958 --> 07:07:17,510

this will test on you

3824

07:07:22,708 --> 07:07:19,190

this view from victor glover's helmet

3825

07:07:25,190 --> 07:07:22,718

camera as he continues using the

3826
07:07:26,788 --> 07:07:25,200
pistol grip tool to install the airlock

3827
07:07:29,270 --> 07:07:26,798
stiffener

3828
07:07:31,350 --> 07:07:29,280
green lights

3829
07:07:38,230 --> 07:07:31,360
i hit the trigger again i lost the torch

3830
07:07:38,240 --> 07:07:45,830
3.6 on the torque

3831
07:07:45,840 --> 07:07:50,468
what was the number of turns

3832
07:08:38,150 --> 07:07:53,030
three and a half turns

3833
07:08:38,160 --> 07:08:47,110
full test on one

3834
07:08:51,110 --> 07:08:48,868
this is a high definition camera view

3835
07:08:52,868 --> 07:08:51,120
from mike hopkins suit and the small

3836
07:09:04,788 --> 07:08:52,878
tool you see him holding is actually his

3837
07:09:10,868 --> 07:09:07,110
and a half turns on one green light 3.6

3838
07:09:16,708 --> 07:09:13,110

hopkins is still at the columbus module

3839

07:09:18,548 --> 07:09:16,718

specifically near the bar limo payload

3840

07:09:21,110 --> 07:09:18,558

you can see the connectors behind him he

3841

07:09:22,628 --> 07:09:21,120

was able to connect three of the four we

3842

07:09:27,270 --> 07:09:22,638

were looking at today

3843

07:09:32,948 --> 07:09:29,110

the european space agency teams will

3844

07:09:46,628 --> 07:09:36,310

green light 3.6 on the torch

3845

07:09:53,510 --> 07:09:48,788

all right give give us a second to

3846

07:09:53,520 --> 07:10:07,750

get all the seconds you need

3847

07:10:11,270 --> 07:10:09,270

it would be strange to me if they were

3848

07:10:16,230 --> 07:10:11,280

out of family but uh given that they all

3849

07:10:21,110 --> 07:10:19,350

we're close

3850

07:10:23,590 --> 07:10:21,120

go ahead and just go

3851
07:10:24,948 --> 07:10:23,600
yeah we concur we're still just uh

3852
07:10:26,548 --> 07:10:24,958
double checking to make sure because

3853
07:10:29,270 --> 07:10:26,558
it's a lot less than the 11 turns we

3854
07:10:34,310 --> 07:10:29,280
were expecting in the meantime

3855
07:10:38,868 --> 07:10:37,030
that's normal

3856
07:10:41,350 --> 07:10:38,878
excellent back to normal

3857
07:10:48,190 --> 07:10:41,360
and if you want to give us a glove check

3858
07:10:48,200 --> 07:10:56,948
[Music]

3859
07:10:56,958 --> 07:11:12,310
other changes

3860
07:11:16,390 --> 07:11:14,468
victor glover here in the center of your

3861
07:11:18,708 --> 07:11:16,400
screen at the quest airlock working on

3862
07:11:20,628 --> 07:11:18,718
installing a thermal cover stiffener

3863
07:11:22,948 --> 07:11:20,638

reporting that his

3864

07:11:24,628 --> 07:11:22,958

eye is back to normal after earlier

3865

07:11:27,190 --> 07:11:24,638

mentioning that it was

3866

07:11:33,910 --> 07:11:28,788

check irritated

3867

07:11:39,110 --> 07:11:36,628

okay so on my left thumb

3868

07:11:43,270 --> 07:11:39,120

you probably see a little bit of thread

3869

07:11:43,280 --> 07:11:55,110

yep we see that

3870

07:11:59,270 --> 07:11:57,350

more

3871

07:12:08,070 --> 07:11:59,280

it's just the rtv on that right index

3872

07:12:08,080 --> 07:12:12,708

a bit of rtv on my right thumb

3873

07:12:12,718 --> 07:12:20,708

check the outside

3874

07:12:29,750 --> 07:12:24,150

well nothing looks good i have

3875

07:12:29,760 --> 07:12:35,350

okay

3876

07:12:38,708 --> 07:12:37,110

back inventory

3877

07:12:40,230 --> 07:12:38,718

so

3878

07:12:43,830 --> 07:12:40,240

i'm gonna have to do this again after we

3879

07:12:47,430 --> 07:12:45,830

uh just second hopper i think eva would

3880

07:12:49,590 --> 07:12:47,440

like a little bit more detail on the

3881

07:12:51,510 --> 07:12:49,600

thread that uh that you showed us

3882

07:12:53,750 --> 07:12:51,520

earlier on the camera that was sticking

3883

07:12:58,868 --> 07:12:53,760

out of your was it your left thumb or

3884

07:13:03,190 --> 07:13:00,468

what about the thread it's a little bit

3885

07:13:04,830 --> 07:13:03,200

of thread on my left

3886

07:13:08,948 --> 07:13:04,840

my left

3887

07:13:11,030 --> 07:13:08,958

thumb it's sticking up

3888

07:13:32,310 --> 07:13:11,040

right next to the rtv

3889

07:13:35,590 --> 07:13:33,830

all right hopper we're just uh double

3890

07:13:40,150 --> 07:13:35,600

checking with the mirror but uh as long

3891

07:13:44,788 --> 07:13:42,150

okay copy that it looks like it is in

3892

07:13:46,628 --> 07:13:44,798

that area see on this inventory am i

3893

07:13:51,990 --> 07:13:46,638

gonna have to do it again if uh when i

3894

07:13:55,670 --> 07:13:53,910

good call we can skip the inventory now

3895

07:13:58,788 --> 07:13:55,680

and we'll go to the

3896

07:14:05,510 --> 07:13:58,798

hem radio worksite

3897

07:14:16,230 --> 07:14:08,948

and hopper we're happy with the gloves

3898

07:14:21,430 --> 07:14:18,230

just over five hours since today's

3899

07:14:24,708 --> 07:14:21,440

spacewalk began at 7 14 a.m central time

3900

07:14:26,548 --> 07:14:24,718

8 14 a.m eastern time

3901

07:14:28,708 --> 07:14:26,558

so far today the crew members have

3902

07:14:30,868 --> 07:14:28,718

vented two of the jumpers on the early

3903

07:14:32,468 --> 07:14:30,878

ammonia system and relocated one of

3904

07:14:36,628 --> 07:14:32,478

those jumper cables to the outside of

3905

07:14:40,390 --> 07:14:38,548

victor glover removed and replaced a

3906

07:14:42,070 --> 07:14:40,400

wireless video system external

3907

07:14:43,910 --> 07:14:42,080

transceiver assembly

3908

07:14:45,510 --> 07:14:43,920

meanwhile mike hopkins successfully

3909

07:14:49,030 --> 07:14:45,520

connected three jumpers on the

3910

07:14:50,468 --> 07:14:49,040

bartolomeo platform and capped one other

3911

07:14:57,190 --> 07:14:50,478

the

3912

07:15:01,190 --> 07:14:57,200

stiffener and also that each bolt head

3913

07:15:01,200 --> 07:15:09,910

with the tube or receptacle

3914

07:15:13,750 --> 07:15:11,990

victor glover continues work on the

3915

07:15:16,548 --> 07:15:13,760

thermal cover stiffener initially

3916

07:15:18,708 --> 07:15:16,558

planned to be a two-person task however

3917

07:15:20,548 --> 07:15:18,718

to allow mike hopkins more time at the

3918

07:15:22,390 --> 07:15:20,558

bartolomeo payload

3919

07:16:39,590 --> 07:15:22,400

platform

3920

07:16:43,670 --> 07:16:41,590

a good view from victor glover's helmet

3921

07:16:45,830 --> 07:16:43,680

camera of the thermal cover where you

3922

07:16:47,590 --> 07:16:45,840

can see underneath he has installed the

3923

07:16:49,270 --> 07:16:47,600

stiffener

3924

07:16:51,670 --> 07:16:49,280

this will help keep the thermal cover

3925

07:16:53,430 --> 07:16:51,680

from blowing open

3926
07:17:03,670 --> 07:16:53,440
doing something what the team calls

3927
07:17:08,230 --> 07:17:06,230
andy they're all flush the

3928
07:17:10,628 --> 07:17:08,240
center to the thermal cover

3929
07:17:12,230 --> 07:17:10,638
and it's like there's like a metallic or

3930
07:17:13,990 --> 07:17:12,240
composite plate

3931
07:17:15,510 --> 07:17:14,000
between the stiffener and the fabric of

3932
07:17:18,388 --> 07:17:15,520
the thermal cover

3933
07:17:20,468 --> 07:17:18,398
and the bolt heads are flush

3934
07:17:21,590 --> 07:17:20,478
there's a stuck washer i mean there's

3935
07:17:25,110 --> 07:17:21,600
the bracket

3936
07:17:29,670 --> 07:17:27,750
the washer on top and three washers

3937
07:17:31,430 --> 07:17:29,680
underneath so there's it's all flush

3938
07:17:33,430 --> 07:17:31,440

there are no gaps in any of it and none

3939

07:17:55,430 --> 07:17:33,440

of it is uh

3940

07:17:55,440 --> 07:18:18,948

stand by ike

3941

07:18:21,670 --> 07:18:19,830

all right

3942

07:18:23,030 --> 07:18:21,680

we'd like to try one

3943

07:18:25,510 --> 07:18:23,040

final thing

3944

07:18:28,548 --> 07:18:25,520

so on one of the bolts either bolt five

3945

07:18:31,110 --> 07:18:28,558

or bolt six which are the two bolts

3946

07:18:33,030 --> 07:18:31,120

at the closest to the hinge

3947

07:18:35,350 --> 07:18:33,040

if you could try to

3948

07:18:37,750 --> 07:18:35,360

install one of those bolts with a ptc

3949

07:18:42,468 --> 07:18:37,760

setting of alpha three clockwise two

3950

07:19:00,468 --> 07:18:46,310

okay i'll try uh a nexus 6

3951
07:19:04,150 --> 07:19:01,830

okay andy

3952
07:19:08,230 --> 07:19:04,160

one last uh

3953
07:19:12,548 --> 07:19:10,230

all right your going to translate to the

3954
07:19:17,030 --> 07:19:12,558

apcu panel

3955
07:19:27,510 --> 07:19:18,628

okay copy that

3956
07:19:30,070 --> 07:19:29,430

and just for your awareness hopper uh

3957
07:19:34,150 --> 07:19:30,080

the

3958
07:19:34,160 --> 07:19:50,310

oh that's good to know thank you

3959
07:19:50,320 --> 07:19:54,310

an additional quarter turn

3960
07:20:08,708 --> 07:19:58,230

turn green light 5.0 on the door

3961
07:20:08,718 --> 07:20:20,948

he keeps us eternal

3962
07:20:23,910 --> 07:20:22,468

all right we appreciate that extra

3963
07:20:25,590 --> 07:20:23,920

effort we're going to say that this is a

3964

07:20:43,830 --> 07:20:25,600

good install and we're done with this

3965

07:20:46,868 --> 07:20:46,070

mike hopkins given some good news that

3966

07:20:52,708 --> 07:20:46,878

the

3967

07:20:56,708 --> 07:20:52,718

he was able to connect today

3968

07:21:01,030 --> 07:20:58,310

victor glover just

3969

07:21:03,590 --> 07:21:01,040

being informed that the

3970

07:21:05,830 --> 07:21:03,600

thermal cover stiffener task is deemed

3971

07:21:08,310 --> 07:21:05,840

complete

3972

07:21:10,628 --> 07:21:08,320

mike hopkins the view here from his

3973

07:21:13,590 --> 07:21:10,638

spacesuit and the high definition camera

3974

07:21:21,030 --> 07:21:13,600

is now on his way to work on the ham

3975

07:21:21,040 --> 07:21:33,190

thank you

3976

07:21:33,200 --> 07:21:39,030

i am at the work site

3977

07:21:42,708 --> 07:21:40,468

all right if you need to you can store

3978

07:21:45,910 --> 07:21:42,718

your crewlock bag and otherwise you'll

3979

07:21:49,590 --> 07:21:45,920

be working to demate the antenna p2 from

3980

07:23:03,510 --> 07:21:53,030

after that i am going to

3981

07:23:07,590 --> 07:23:05,350

five hours and ten minutes into today's

3982

07:23:09,430 --> 07:23:07,600

space walk you just got a glimpse of

3983

07:23:11,990 --> 07:23:09,440

earth specifically the south pacific

3984

07:23:15,110 --> 07:23:12,000

ocean from victor glover's helmet camera

3985

07:23:19,830 --> 07:23:15,120

international space station flying 266

3986

07:23:19,840 --> 07:23:39,030

you have a goat teammate p02 from j02

3987

07:23:45,430 --> 07:23:41,350

mike hopkins has now begun the ham radio

3988

07:23:54,150 --> 07:23:47,830

he will donate two plugs

3989

07:24:00,150 --> 07:23:56,628

on both sides

3990

07:24:06,548 --> 07:24:00,160

copy you can now demate the aeris p02

3991

07:24:06,558 --> 07:24:36,708

all right

3992

07:24:41,110 --> 07:24:39,030

and these

3993

07:24:42,948 --> 07:24:41,120

may have to uh

3994

07:24:43,910 --> 07:24:42,958

uninstall both ones

3995

07:24:47,030 --> 07:24:43,920

on this

3996

07:24:52,388 --> 07:24:50,230

is between the fabric and the plates

3997

07:24:54,708 --> 07:24:52,398

the hook itself it's

3998

07:24:56,230 --> 07:24:54,718

if you can see it in wbsd you'll see it

3999

07:24:57,350 --> 07:24:56,240

then for me to describe what's going on

4000

07:25:01,190 --> 07:24:57,360

but

4001

07:25:01,200 --> 07:25:12,468

yeah we see that

4002

07:25:12,478 --> 07:25:18,150

uninstall one

4003

07:25:21,670 --> 07:25:20,230

give me enough room to keep out of there

4004

07:25:23,030 --> 07:25:21,680

and uh i know what you're thinking

4005

07:25:25,910 --> 07:25:23,040

that's not the reason they didn't go to

4006

07:25:27,030 --> 07:25:25,920

torque that is a long way from 11 turns

4007

07:25:29,590 --> 07:25:27,040

it's going to be the same amount of

4008

07:25:31,910 --> 07:25:29,600

turns when we reinstall it

4009

07:25:33,830 --> 07:25:31,920

yeah are we in the other bolts either

4010

07:25:39,350 --> 07:25:33,840

we agree and uh we're good with your

4011

07:25:39,360 --> 07:25:42,468

please

4012

07:25:49,430 --> 07:25:44,388

step

4013

07:25:49,440 --> 07:25:59,270

the alpha 2 counter 2.

4014

07:25:59,280 --> 07:26:08,708

alpha 2 counter clockwise 2 6

4015

07:26:17,830 --> 07:26:11,110

volt one

4016

07:26:24,548 --> 07:26:20,230

and the antenna they are denated no

4017

07:26:24,558 --> 07:26:31,190

copy

4018

07:26:31,200 --> 07:26:44,070

in just a second

4019

07:26:48,070 --> 07:26:45,990

all right hopper uh you can grab the

4020

07:26:51,110 --> 07:26:48,080

camera and take pictures of the aeros

4021

07:27:00,948 --> 07:26:51,120

p02 the antenna p02 the antenna j02 and

4022

07:27:03,830 --> 07:27:02,310

indeed the bolt

4023

07:27:05,430 --> 07:27:03,840

came apart

4024

07:27:07,990 --> 07:27:05,440

hung out

4025

07:27:09,430 --> 07:27:08,000

and the washers have separated

4026

07:27:13,190 --> 07:27:09,440

it kind of went all directions and the

4027

07:27:18,230 --> 07:27:15,990

yeah we see that there's a washer right

4028

07:27:35,350 --> 07:27:18,240

at the top of your camera view now it's

4029

07:27:40,388 --> 07:27:37,030

i think the bolt i can see is going

4030

07:27:40,398 --> 07:27:58,150

bolt going straight nader

4031

07:28:02,788 --> 07:28:00,548

all right no issue we're still good with

4032

07:28:05,350 --> 07:28:02,798

the number of bolts installed so if you

4033

07:28:09,110 --> 07:28:05,360

can free the the the rets then we'll

4034

07:28:09,120 --> 07:28:13,670

you can work sorry about that

4035

07:28:25,910 --> 07:28:16,230

no no that's not your fault the bolt

4036

07:28:43,610 --> 07:28:27,270

you know i can get another bolt like

4037

07:28:43,620 --> 07:28:53,190

[Applause]

4038

07:29:01,430 --> 07:28:56,788

okay no bolt in there but it's back uh

4039

07:29:06,070 --> 07:29:04,230

and i had to use that uh

4040

07:29:07,190 --> 07:29:06,080

this uh

4041

07:29:09,830 --> 07:29:07,200

i don't know what the heck this is

4042

07:29:13,430 --> 07:29:11,590

long pokey thing i got every the season

4043

07:29:16,788 --> 07:29:13,440

right uh yeah i think we call that the

4044

07:29:45,910 --> 07:29:17,990

there you go

4045

07:29:49,350 --> 07:29:48,070

like we're just talking about that

4046

07:29:51,190 --> 07:29:49,360

lanyard with

4047

07:29:54,788 --> 07:29:51,200

a washer on it that's still attached if

4048

07:29:56,468 --> 07:29:54,798

we need to do something about it

4049

07:30:27,270 --> 07:29:56,478

yep

4050

07:30:31,910 --> 07:30:29,830

while you're talking trying to put this

4051

07:30:36,150 --> 07:30:31,920

probe back in the

4052

07:31:18,230 --> 07:30:37,430

yeah you can put the pro back in the

4053

07:31:18,240 --> 07:31:22,628

okay andy photos are complete

4054

07:31:28,150 --> 07:31:24,230

excellent good news

4055

07:31:33,830 --> 07:31:28,160

so now you can mate the aeris p02 to the

4056

07:31:39,110 --> 07:31:36,708

okay so the air

4057

07:31:40,868 --> 07:31:39,120

e02

4058

07:31:42,070 --> 07:31:40,878

i don't see a label on it but it's

4059

07:31:44,070 --> 07:31:42,080

definitely

4060

07:31:47,190 --> 07:31:44,080

yeah it's it's the cable with only one

4061

07:31:52,230 --> 07:31:47,200

end that's right the other has a y

4062

07:31:52,240 --> 07:32:17,110

okay

4063

07:32:20,310 --> 07:32:18,548

and hopper if

4064

07:32:22,468 --> 07:32:20,320

you need further confirmation on the

4065

07:32:33,510 --> 07:32:22,478

aorus cable that you're mating there

4066

07:32:37,670 --> 07:32:34,868

yeah i've got the right cable i mean the

4067

07:32:39,350 --> 07:32:37,680

other one but why so

4068

07:32:41,750 --> 07:32:39,360

yeah exactly i figured that was a better

4069

07:32:46,788 --> 07:32:41,760

description

4070

07:32:46,798 --> 07:32:56,150

okay i'm soft back

4071

07:32:56,160 --> 07:33:03,590

center

4072

07:33:09,670 --> 07:33:06,230

copy so next you can grab two of the

4073

07:33:24,868 --> 07:33:09,680

size 25 caps from the crew lock bag and

4074

07:33:24,878 --> 07:33:50,868

and those um

4075

07:33:55,590 --> 07:33:54,230

oh i've got a uh

4076
07:33:57,270 --> 07:33:55,600
integral rep that's going to an

4077
07:33:59,910 --> 07:33:57,280
adjustable

4078
07:34:02,548 --> 07:33:59,920
it's attached to a wire tie caddy

4079
07:34:05,030 --> 07:34:02,558
like it's got three

4080
07:34:08,948 --> 07:34:05,040
walls and six longs and then that's also

4081
07:34:13,670 --> 07:34:11,190
coffehopper is always adjustable

4082
07:34:15,430 --> 07:34:13,680
we just had a handover so i got an

4083
07:34:19,990 --> 07:34:15,440
integral red with an adjustable to a

4084
07:34:21,750 --> 07:34:20,000
connector cleaner and a wire tie caddy

4085
07:34:24,548 --> 07:34:21,760
that's the first part

4086
07:34:29,990 --> 07:34:24,558
and i've got an integral rep

4087
07:34:34,868 --> 07:34:31,750
and then i've got the

4088
07:34:36,628 --> 07:34:34,878

camera that's attached to its own wrap

4089

07:34:39,430 --> 07:34:36,638

that's one side of the bag so i'm going

4090

07:36:06,628 --> 07:34:39,440

to close that side up

4091

07:36:11,270 --> 07:36:09,670

okay getting the plug

4092

07:36:20,708 --> 07:36:11,280

on

4093

07:36:23,750 --> 07:36:20,718

the space suit of mike

4094

07:36:27,110 --> 07:36:23,760

mike hopkins today's ev2 or spacewalker

4095

07:36:29,830 --> 07:36:27,120

number two

4096

07:36:52,708 --> 07:36:29,840

he is working to reconfigure the ham

4097

07:36:52,718 --> 07:36:57,510

andy what size uh

4098

07:37:01,590 --> 07:36:59,670

size on the

4099

07:37:04,150 --> 07:37:01,600

hmu 601

4100

07:37:08,150 --> 07:37:04,160

it's just a standard 25

4101
07:37:21,590 --> 07:37:08,160
no no tape on them

4102
07:37:21,600 --> 07:37:27,110
okay two plugs are installed

4103
07:37:27,120 --> 07:37:36,948
copy

4104
07:37:40,548 --> 07:37:38,868
and you ready for an inventory on this

4105
07:37:43,510 --> 07:37:40,558
side

4106
07:37:46,948 --> 07:37:45,670
okay there's an integral

4107
07:37:48,788 --> 07:37:46,958
it's got a

4108
07:37:50,548 --> 07:37:48,798
trash bag

4109
07:37:53,910 --> 07:37:50,558
there's three wire ties in that trash

4110
07:37:58,708 --> 07:37:56,628
there's a dress small small the broom

4111
07:38:00,708 --> 07:37:58,718
tool

4112
07:38:02,548 --> 07:38:00,718
a red small small to the pin

4113
07:38:04,230 --> 07:38:02,558

straightener

4114

07:38:06,230 --> 07:38:04,240

and an integral wreck

4115

07:38:11,670 --> 07:38:06,240

the cap caddy

4116

07:38:11,680 --> 07:38:20,468

five caps on it

4117

07:38:26,468 --> 07:38:22,150

and then on the outside you've got the

4118

07:38:29,590 --> 07:38:28,310

excellent that's a good bag inventory

4119

07:38:31,110 --> 07:38:29,600

you can

4120

07:38:32,868 --> 07:38:31,120

put that on your

4121

07:38:34,468 --> 07:38:32,878

vrt

4122

07:38:37,270 --> 07:38:34,478

and

4123

07:38:38,868 --> 07:38:37,280

i think at this point we'll take a quick

4124

07:38:41,590 --> 07:38:38,878

discussion with you about the forward

4125

07:38:41,600 --> 07:38:46,548

okay

4126
07:38:50,070 --> 07:38:48,070
and one additional thing for you hopper

4127
07:38:51,350 --> 07:38:50,080
we'd like the

4128
07:38:53,990 --> 07:38:51,360
ends of those

4129
07:38:57,830 --> 07:38:54,000
of that y cable restrained

4130
07:39:00,150 --> 07:38:57,840
with a wire tie to our handrail please

4131
07:39:01,430 --> 07:39:00,160
yeah that makes sense the only other

4132
07:39:03,910 --> 07:39:01,440
thing i want to talk to you about i

4133
07:39:07,350 --> 07:39:03,920
don't know if you can see

4134
07:39:10,468 --> 07:39:07,360
the vend radius of this uh

4135
07:39:12,070 --> 07:39:10,478
paris antenna cable coming in

4136
07:39:24,070 --> 07:39:12,080
are you able to see that in the hecka

4137
07:39:35,190 --> 07:39:26,830
yeah we see it hopper just

4138
07:39:39,830 --> 07:39:36,708

all right once you've closed the crew

4139

07:39:42,708 --> 07:39:39,840

lock bag let's get you uh

4140

07:39:45,510 --> 07:39:42,718

working on tying off the end of the

4141

07:39:47,350 --> 07:39:45,520

barco mayo cable and then if we need to

4142

07:39:49,830 --> 07:39:47,360

do anything about that bend radius we'll

4143

07:39:56,708 --> 07:39:49,840

let you know

4144

07:40:02,708 --> 07:39:59,030

so ike it looks like you already have

4145

07:40:08,468 --> 07:40:02,718

the cp8 and cp9 cable reel bags outside

4146

07:40:13,430 --> 07:40:11,430

all right well you read our minds um

4147

07:40:16,150 --> 07:40:13,440

what we suggest going forward we're

4148

07:40:17,750 --> 07:40:16,160

about five and a half hours p-e-t

4149

07:40:19,510 --> 07:40:17,760

so we suggest

4150

07:40:22,070 --> 07:40:19,520

um

4151
07:40:24,150 --> 07:40:22,080
not doing the bartolomeo cable clamps

4152
07:40:27,990 --> 07:40:24,160
but then getting both of you working on

4153
07:40:30,388 --> 07:40:28,000
the cp9 and cp8 cable routing so ike

4154
07:40:34,788 --> 07:40:30,398
you'll be working cp9 and hopper you'll

4155
07:40:34,798 --> 07:40:39,750
bye navy

4156
07:40:43,910 --> 07:40:42,230
excellent uh

4157
07:40:46,468 --> 07:40:43,920
looking at the time there's a good

4158
07:40:48,150 --> 07:40:46,478
chance we won't finish the cp8 cable

4159
07:41:01,030 --> 07:40:48,160
routing and so we'll likely have to tie

4160
07:41:01,040 --> 07:41:17,910
happy though

4161
07:41:22,868 --> 07:41:19,510
all right ike so you can go ahead and

4162
07:41:24,310 --> 07:41:22,878
get started with cp9 and we'll need you

4163
07:41:26,468 --> 07:41:24,320

to take the

4164

07:41:31,750 --> 07:41:26,478

nadir path below lab

4165

07:41:31,760 --> 07:41:50,230

all right we'll do

4166

07:41:56,150 --> 07:41:53,590

as mike hopkins continues reconfiguring

4167

07:41:58,468 --> 07:41:56,160

the ham radio outside the space station

4168

07:42:00,388 --> 07:41:58,478

victor glover is going to begin some

4169

07:42:03,190 --> 07:42:00,398

cable routing procedures scheduled for

4170

07:42:05,990 --> 07:42:03,200

the spacewalk

4171

07:42:07,590 --> 07:42:06,000

we are now almost five and a half hours

4172

07:42:09,670 --> 07:42:07,600

since the spacewalkers turned their

4173

07:43:03,670 --> 07:42:09,680

suits onto internal battery power this

4174

07:43:07,510 --> 07:43:05,510

excellent you can retrieve the crew log

4175

07:43:25,590 --> 07:43:07,520

back put in your brt grab your green

4176

07:43:30,708 --> 07:43:27,190

yeah we're happy there's not much we can

4177

07:43:32,788 --> 07:43:30,718

do about it in any case so go ahead and

4178

07:43:42,070 --> 07:43:32,798

stow the bag in your vrt grab your green

4179

07:43:47,510 --> 07:43:45,670

all right andy i've got the cp9

4180

07:43:49,670 --> 07:43:47,520

little bag b

4181

07:43:53,190 --> 07:43:49,680

and i'm starting my translation

4182

07:43:58,310 --> 07:43:56,150

copy and once you get to the

4183

07:44:11,590 --> 07:43:58,320

port side of the lab you're looking for

4184

07:44:15,030 --> 07:44:13,510

i'll put your real beds on the airlock

4185

07:44:17,510 --> 07:44:15,040

circular handrail

4186

07:44:45,110 --> 07:44:17,520

oh i bet you're gonna take it off for me

4187

07:44:49,190 --> 07:44:46,708

a recap at the progress throughout

4188

07:44:53,110 --> 07:44:49,200

today's spacewalk so far the spacewalk

4189

07:44:55,510 --> 07:44:53,120

began at 7 14 a.m central time 8 14 a.m

4190

07:44:57,110 --> 07:44:55,520

eastern time putting us now at over five

4191

07:44:59,190 --> 07:44:57,120

and a half hours

4192

07:45:01,110 --> 07:44:59,200

of this spacewalk

4193

07:45:03,430 --> 07:45:01,120

the crew members first invented two

4194

07:45:05,270 --> 07:45:03,440

jumpers on the early ammonia system and

4195

07:45:09,590 --> 07:45:05,280

relocated one jumper cable to the

4196

07:45:13,190 --> 07:45:11,430

glover removed and replaced a wireless

4197

07:45:15,510 --> 07:45:13,200

video system external transceiver

4198

07:45:18,230 --> 07:45:15,520

assembly which has recently received a

4199

07:45:20,548 --> 07:45:18,240

successful checkout

4200

07:45:22,708 --> 07:45:20,558

mike hopkins successfully connected

4201
07:45:24,948 --> 07:45:22,718
three jumpers on the bartolomeo platform

4202
07:45:27,030 --> 07:45:24,958
and capped one other this leaves sparta

4203
07:45:29,350 --> 07:45:27,040
mayo in a mostly operational state with

4204
07:45:32,708 --> 07:45:29,360
power checkouts good on those

4205
07:45:36,628 --> 07:45:34,548
victor glover recently installed the

4206
07:45:38,708 --> 07:45:36,638
thermal cover stiffener

4207
07:45:41,350 --> 07:45:38,718
while mike hopkins worked to reconfigure

4208
07:45:43,190 --> 07:45:41,360
the ham radio

4209
07:45:45,590 --> 07:45:43,200
as he continues to work on this task

4210
07:45:47,510 --> 07:45:45,600
victor glover is getting ahead with some

4211
07:45:52,708 --> 07:45:47,520
cable routing tasks planned for this

4212
07:46:41,590 --> 07:45:55,190
copy hopper standby for just a second

4213
07:47:00,388 --> 07:46:43,030

and i think

4214

07:47:00,398 --> 07:47:18,310

um

4215

07:47:22,150 --> 07:47:20,310

this is the handrail route you can see

4216

07:47:23,990 --> 07:47:22,160

another way to get there

4217

07:47:26,468 --> 07:47:24,000

and then get across this gap of

4218

07:47:27,910 --> 07:47:26,478

handrails

4219

07:47:29,830 --> 07:47:27,920

that spanner

4220

07:47:31,670 --> 07:47:29,840

that's the one i was looking for

4221

07:47:33,030 --> 07:47:31,680

yeah it looks right it looks looks like

4222

07:47:35,510 --> 07:47:33,040

you're on the right track

4223

07:47:40,628 --> 07:47:37,670

i'm looking at 285 now getting ready to

4224

07:47:40,638 --> 07:47:58,150

copy this is where i was going

4225

07:48:03,270 --> 07:48:00,788

what are we thinking andy

4226
07:48:06,788 --> 07:48:03,280
yeah i apologize hopper we're discussing

4227
07:48:08,310 --> 07:48:06,798
how much pet we actually have um give us

4228
07:48:10,468 --> 07:48:08,320
a few minutes because there's no point

4229
07:48:12,150 --> 07:48:10,478
in getting you started on cpa if we only

4230
07:48:13,990 --> 07:48:12,160
have say half an hour then we might as

4231
07:48:16,388 --> 07:48:14,000
well do the columbus or the bartomeu

4232
07:48:42,468 --> 07:48:16,398
clamps

4233
07:48:46,948 --> 07:48:44,060
copy

4234
07:48:49,910 --> 07:48:46,958
[Applause]

4235
07:48:50,948 --> 07:48:49,920
you can translate aft on esp1 to the lab

4236
07:49:05,350 --> 07:48:50,958
and cone

4237
07:49:10,070 --> 07:49:07,270
all right hopper we've made a decision

4238
07:49:11,750 --> 07:49:10,080

we do have enough time to go to a pet of

4239

07:49:13,190 --> 07:49:11,760

6 45 so we'll

4240

07:49:17,270 --> 07:49:13,200

get you headed back to the airlock and

4241

07:49:17,280 --> 07:49:40,788

okay

4242

07:49:40,798 --> 07:49:47,270

all right andy i can see the c2v2 cable

4243

07:49:51,670 --> 07:49:49,430

all right so

4244

07:50:08,628 --> 07:49:51,680

you're then looking for the

4245

07:50:12,468 --> 07:50:10,388

and once you find that spider cable

4246

07:50:14,628 --> 07:50:12,478

you'll be pulling out the p8 from your

4247

07:50:16,468 --> 07:50:14,638

cable reel bag with about 10 feet of

4248

07:50:18,548 --> 07:50:16,478

slack

4249

07:50:21,910 --> 07:50:18,558

and then mating it

4250

07:50:21,920 --> 07:50:30,610

j8 on the spyder cable

4251
07:50:30,620 --> 07:50:39,110

[Music]

4252
07:50:44,150 --> 07:50:42,150
for is it four three zero zero whiskey

4253
07:50:46,948 --> 07:50:44,160
four three zero zero

4254
07:50:46,958 --> 07:50:56,230
okay found it

4255
07:51:00,310 --> 07:50:57,670
so you'll

4256
07:51:02,310 --> 07:51:00,320
demate the cap from p8

4257
07:51:04,708 --> 07:51:02,320
on the in the cable reel bag and also

4258
07:51:21,350 --> 07:51:04,718
demate the cap from the j8 on the spyder

4259
07:51:21,360 --> 07:51:24,468
about 10 feet

4260
07:51:29,270 --> 07:51:26,310
and just a reminder that the cable goes

4261
07:51:34,628 --> 07:51:29,280
on the forward side of the inner board

4262
07:51:34,638 --> 07:51:38,150
thank you for that reminder

4263
07:52:06,788 --> 07:51:40,628

all right gents i want to see the store

4264

07:52:09,990 --> 07:52:08,548

actually andy i'm going to stay over on

4265

07:52:13,030 --> 07:52:10,000

that so that's a good position but i'm

4266

07:52:16,070 --> 07:52:13,040

going to put the bag on the other side

4267

07:52:25,670 --> 07:52:16,080

so that reminder again

4268

07:52:31,110 --> 07:52:27,830

and hopper you can just temp sew the

4269

07:52:33,270 --> 07:52:31,120

coolock bag on the outside

4270

07:52:41,190 --> 07:52:33,280

of the airlock and then grab

4271

07:52:44,548 --> 07:52:42,948

and before you leave the airlock we'll

4272

07:53:40,388 --> 07:52:44,558

take a glove inspection and have check

4273

07:53:45,910 --> 07:53:43,590

getting a look at what the

4274

07:53:46,868 --> 07:53:45,920

cable routing procedures look like for

4275

07:53:49,670 --> 07:53:46,878

the

4276

07:53:53,270 --> 07:53:49,680

cp8 and cp9 cables

4277

07:53:55,750 --> 07:53:53,280

victor glover has now started this task

4278

07:53:57,990 --> 07:53:55,760

he will retrieve one of these cable bags

4279

07:54:00,788 --> 07:53:58,000

and begin routing it eventually once

4280

07:54:28,610 --> 07:54:00,798

connected these will provide a wi-fi

4281

07:54:28,620 --> 07:54:33,350

[Music]

4282

07:54:33,360 --> 07:54:43,110

copy

4283

07:54:43,120 --> 07:54:47,590

i'm looking for which one to mate it to

4284

07:54:51,510 --> 07:54:49,670

p8 to j8

4285

07:54:57,910 --> 07:54:51,520

j8 is on the

4286

07:55:00,468 --> 07:54:58,890

okay i found it

4287

07:55:03,590 --> 07:55:00,478

[Applause]

4288

07:55:05,990 --> 07:55:03,600

an adjustable hook on that cap

4289

07:55:09,510 --> 07:55:06,000

while we wait to regain video you still

4290

07:55:11,110 --> 07:55:09,520

have audio with the astronauts

4291

07:55:13,270 --> 07:55:11,120

no change to the glove since the last

4292

07:55:14,548 --> 07:55:13,280

report

4293

07:55:16,868 --> 07:55:14,558

copy it

4294

07:55:18,230 --> 07:55:16,878

and there's no change to growth

4295

07:55:21,190 --> 07:55:18,240

excellent

4296

07:55:22,708 --> 07:55:21,200

you can grab the cp8 cable reel bag and

4297

07:55:27,590 --> 07:55:22,718

then translate

4298

07:55:37,190 --> 07:55:27,600

port to the rats nest and if you need to

4299

07:55:41,670 --> 07:55:39,270

the voices you currently hear are of

4300

07:55:43,910 --> 07:55:41,680

astronaut victor glover

4301
07:55:46,230 --> 07:55:43,920
you may hear him referred to as ike that

4302
07:55:49,590 --> 07:55:46,240
is his call sign or sort of a nickname

4303
07:55:51,590 --> 07:55:49,600
given to him by his crewmates

4304
07:55:55,910 --> 07:55:51,600
i don't see any of my band on this side

4305
07:56:00,468 --> 07:55:58,230
copy and just double check that you're

4306
07:56:07,830 --> 07:56:00,478
not trapping your safety tether when

4307
07:56:07,840 --> 07:56:11,350
i will verify that

4308
07:56:15,110 --> 07:56:12,868
speaking with the astronauts here in

4309
07:56:17,350 --> 07:56:15,120
mission control houston you have

4310
07:56:21,190 --> 07:56:17,360
andy mogensen european space agency

4311
07:56:25,990 --> 07:56:22,708
that's the firm

4312
07:56:37,030 --> 07:56:26,000
right that's right up the cetera spur

4313
07:56:43,670 --> 07:56:39,670

victor glover has started on the cp-9

4314

07:56:46,150 --> 07:56:43,680

that's camera port 9 cable routing task

4315

07:56:48,150 --> 07:56:46,160

we suggest putting in a fair lead on

4316

07:56:52,788 --> 07:56:48,160

three four three seven and three four

4317

07:56:57,350 --> 07:56:55,030

three four three seven

4318

07:56:58,388 --> 07:56:57,360

from there

4319

07:57:00,388 --> 07:56:58,398

all right andy

4320

07:57:04,388 --> 07:57:00,398

lever is forward over center

4321

07:57:08,548 --> 07:57:06,230

together

4322

07:57:10,708 --> 07:57:08,558

copy that so you can begin

4323

07:57:12,868 --> 07:57:10,718

your translation

4324

07:57:15,270 --> 07:57:12,878

part and

4325

07:57:27,030 --> 07:57:15,280

where possible uses existing wire ties

4326
07:57:31,030 --> 07:57:29,350
and just a caution to avoid contact with

4327
07:57:40,388 --> 07:57:31,040
the target radiator beam once you get

4328
07:57:48,708 --> 07:57:42,948
glover confirms he has connected plug

4329
07:58:04,230 --> 07:57:52,310
and uh i just wanna conf

4330
07:58:08,628 --> 07:58:06,310
all right like again just

4331
07:58:10,708 --> 07:58:08,638
double check that the cable is routed on

4332
07:58:17,830 --> 07:58:10,718
the forward side of the inboard most

4333
07:58:25,830 --> 07:58:20,628
you seen the wvs

4334
07:58:30,948 --> 07:58:27,350
okay

4335
07:58:33,270 --> 07:58:30,958
going directly from the the spider cable

4336
07:58:35,430 --> 07:58:33,280
to uh on that handrail

4337
07:58:37,430 --> 07:58:35,440
uh three five two one

4338
07:58:39,910 --> 07:58:37,440

it's not going around any any of the

4339

07:58:41,990 --> 07:58:39,920

stanchions it's forward of what i see as

4340

07:58:43,510 --> 07:58:42,000

the inboard most

4341

07:58:46,468 --> 07:58:43,520

engines

4342

07:59:05,030 --> 07:58:46,478

like the cqb2 cable

4343

07:59:07,750 --> 07:59:05,910

and i

4344

07:59:09,670 --> 07:59:07,760

i've got handrail suggestions for wire

4345

07:59:11,590 --> 07:59:09,680

ties but it's up to you

4346

07:59:13,030 --> 07:59:11,600

if you decide to do

4347

07:59:18,468 --> 07:59:13,040

it on your own just let us know which

4348

07:59:18,478 --> 07:59:31,670

okay see if i got it

4349

07:59:35,990 --> 07:59:33,350

on the outboard most strut where the

4350

07:59:38,150 --> 07:59:36,000

c2v2 cable goes outboard

4351
07:59:39,590 --> 07:59:38,160
there is a uh

4352
07:59:40,708 --> 07:59:39,600
wire tire so i'm just going to put one

4353
07:59:43,350 --> 07:59:40,718
there just to keep going the right

4354
07:59:43,360 --> 07:59:52,388
it'll be flat

4355
07:59:56,468 --> 07:59:54,310
after reporting a good configuration

4356
08:00:00,150 --> 07:59:56,478
victor glover has now begun routing the

4357
08:00:23,670 --> 08:00:00,160
cp9 cable

4358
08:00:23,680 --> 08:00:28,070
all right andy continuing outboard

4359
08:00:28,080 --> 08:00:32,868
copy

4360
08:00:36,708 --> 08:00:34,548
i'm gonna skip three five four three

4361
08:00:38,708 --> 08:00:36,718
just because i wire tied right at the uh

4362
08:00:41,430 --> 08:00:38,718
that top of the strip like i mentioned

4363
08:00:41,830 --> 08:00:41,440

i'm looking for three six

4364

08:00:44,868 --> 08:00:41,840

the two

4365

08:00:47,270 --> 08:00:44,878

available wire size

4366

08:00:49,750 --> 08:00:47,280

copy that's perfect yep that said along

4367

08:00:51,910 --> 08:00:49,760

the c2 v2 cable route and hopefully

4368

08:01:00,948 --> 08:00:51,920

there should be wire ties for you to use

4369

08:01:00,958 --> 08:01:07,990

okay andy i'm here

4370

08:01:12,468 --> 08:01:09,670

all right so

4371

08:01:14,788 --> 08:01:12,478

you can pull p7 connector from your

4372

08:01:15,990 --> 08:01:14,798

cable reel bag with about 10 feet of

4373

08:01:18,628 --> 08:01:16,000

slack

4374

08:01:19,910 --> 08:01:18,638

and you want to route that

4375

08:01:20,708 --> 08:01:19,920

forward

4376

08:01:23,350 --> 08:01:20,718

on

4377

08:01:26,070 --> 08:01:23,360

forward of the inboard most strut so

4378

08:01:31,110 --> 08:01:26,080

basically the same route that i grouted

4379

08:01:35,430 --> 08:01:33,750

i see here

4380

08:01:36,830 --> 08:01:35,440

cable

4381

08:01:39,750 --> 08:01:36,840

my next one is

4382

08:01:41,830 --> 08:01:39,760

3620. this one's got a short wire type

4383

08:01:43,670 --> 08:01:41,840

goes here do i need to put three twists

4384

08:01:47,030 --> 08:01:43,680

in or

4385

08:01:57,350 --> 08:01:49,510

no no no need for 323 it's not going to

4386

08:01:57,360 --> 08:02:05,030

yeah no problem

4387

08:02:09,030 --> 08:02:07,510

and hopper you can demate the cap from

4388

08:02:11,830 --> 08:02:09,040

p7

4389

08:02:19,590 --> 08:02:11,840

and then you're looking for j7 on the

4390

08:02:24,468 --> 08:02:20,548

all right you're gonna have to give that

4391

08:02:26,548 --> 08:02:24,478

to me again i'm not quite ready for it

4392

08:02:28,868 --> 08:02:26,558

sure no home

4393

08:02:36,230 --> 08:02:28,878

okay and andy i'm moving to the i'm

4394

08:02:36,240 --> 08:02:41,030

yeah we copy

4395

08:02:41,040 --> 08:02:58,788

i'm looking for 3637.

4396

08:03:03,910 --> 08:03:01,190

with the completion of the ham radio

4397

08:03:06,788 --> 08:03:03,920

reconfiguration mike hopkins is now

4398

08:03:08,548 --> 08:03:06,798

joining victor glover in cable routing

4399

08:03:13,830 --> 08:03:08,558

running right over the top of pmm okay

4400

08:03:13,840 --> 08:03:19,350

i give my wheel or my

4401

08:03:19,360 --> 08:03:29,110

not turning very easy

4402

08:03:29,120 --> 08:03:33,110

suggestions andy

4403

08:03:36,468 --> 08:03:35,030

yeah we see that you're having trouble

4404

08:03:40,628 --> 08:03:36,478

pulling the cable out of the real bag

4405

08:03:40,638 --> 08:04:02,388

yeah it's tightening up

4406

08:04:05,590 --> 08:04:03,510

all right

4407

08:04:07,030 --> 08:04:05,600

hopper i've got some crib sheet steps

4408

08:04:10,548 --> 08:04:07,040

for you

4409

08:04:12,948 --> 08:04:10,558

so first of all you can pull black tab

4410

08:04:24,388 --> 08:04:12,958

on the mli flap to

4411

08:04:24,398 --> 08:04:28,868

okay

4412

08:04:34,150 --> 08:04:31,190

complete

4413

08:04:45,270 --> 08:04:34,160

and then verify happy mli it's just it's

4414

08:04:45,280 --> 08:05:00,230

it's not turning

4415

08:05:00,240 --> 08:05:11,830

i said

4416

08:05:11,840 --> 08:05:25,350

stand by hopper

4417

08:05:28,468 --> 08:05:26,708

so hopper

4418

08:05:33,350 --> 08:05:28,478

you might want to look for

4419

08:05:35,830 --> 08:05:33,360

a tape that says remove before eva that

4420

08:05:38,388 --> 08:05:35,840

might be preventing it it should be

4421

08:05:40,230 --> 08:05:38,398

sort of if you look inside the where the

4422

08:06:24,230 --> 08:05:40,240

opening is

4423

08:06:27,750 --> 08:06:26,310

now that tape would be inside the

4424

08:06:29,270 --> 08:06:27,760

opening the next thing you can do is

4425

08:07:02,548 --> 08:06:29,280

check if the cable is caught between the

4426

08:07:05,910 --> 08:07:03,750

it looks like there are multiple

4427

08:07:07,270 --> 08:07:05,920

openings on this bag doesn't it

4428

08:07:08,948 --> 08:07:07,280

yeah

4429

08:07:10,948 --> 08:07:08,958

i don't see any cable that's caught

4430

08:07:27,190 --> 08:07:10,958

between

4431

08:07:31,270 --> 08:07:29,510

hey alvaro we're gonna need a few more

4432

08:07:49,830 --> 08:07:31,280

seconds to talk about this on the ground

4433

08:07:57,110 --> 08:07:52,708

victor glover continues routing the cp9

4434

08:08:00,948 --> 08:07:58,388

ah there we go

4435

08:08:04,388 --> 08:08:00,958

it says remove before eva

4436

08:08:11,270 --> 08:08:05,430

i thought those things were supposed to

4437

08:08:11,280 --> 08:08:15,990

yeah no shooting

4438

08:08:20,708 --> 08:08:17,910

mike hopkins dealing with the snag in

4439

08:08:24,230 --> 08:08:20,718

the cp-8 cable and may have located the

4440

08:09:17,270 --> 08:08:26,788

currently 5 hours and 55 minutes since

4441

08:09:25,190 --> 08:09:19,350

and a hopper you might want to try to

4442

08:09:31,990 --> 08:09:27,910

behind the wire tie caddy or something

4443

08:09:32,000 --> 08:09:37,670

i'm at 3687 at the base of the cp-9

4444

08:09:37,680 --> 08:09:42,708

say again sorry ike

4445

08:09:51,670 --> 08:09:49,110

i'm at handrail 3687 at the base of cp-9

4446

08:09:53,030 --> 08:09:51,680

copy that excellent so you can reel out

4447

08:09:55,510 --> 08:09:53,040

excess cable

4448

08:09:56,948 --> 08:09:55,520

so you get the other connector out

4449

08:09:58,868 --> 08:09:56,958

and then

4450

08:10:01,750 --> 08:09:58,878

you'll be removing the connector from

4451
08:10:08,310 --> 08:10:01,760
the cable reel bag and routing it to

4452
08:10:11,350 --> 08:10:10,388
and then you can loop the excess or the

4453
08:10:12,868 --> 08:10:11,360
slack

4454
08:10:15,150 --> 08:10:12,878
and you can can

4455
08:10:18,948 --> 08:10:15,160
tie down or secure the slack between

4456
08:10:20,310 --> 08:10:18,958
3687 and 3688 which should be

4457
08:10:39,270 --> 08:10:20,320
forward of where

4458
08:10:42,310 --> 08:10:41,030
do you need it to be touching both of

4459
08:10:47,750 --> 08:10:42,320
those handrails or do you just want me

4460
08:10:47,760 --> 08:11:01,910
standby

4461
08:11:06,788 --> 08:11:05,030
that works a little easier andy

4462
08:11:08,548 --> 08:11:06,798
that's good news

4463
08:11:15,830 --> 08:11:08,558

and i get you can just loop it around

4464

08:11:19,350 --> 08:11:17,430

the important important thing is to make

4465

08:11:26,788 --> 08:11:19,360

sure that the target rotation plane is

4466

08:11:32,708 --> 08:11:28,388

okay we can talk about that in a second

4467

08:11:36,310 --> 08:11:34,070

all right andy which one of these am i

4468

08:11:39,190 --> 08:11:36,320

going for

4469

08:11:45,910 --> 08:11:39,200

you are going to juliet 7 on a spider

4470

08:11:49,590 --> 08:11:47,990

yeah the labels are just past the

4471

08:11:55,430 --> 08:11:49,600

connector

4472

08:11:55,440 --> 08:12:02,388

yeah we're not in an awesome location

4473

08:12:05,670 --> 08:12:03,750

and there should be a cap on there that

4474

08:12:09,030 --> 08:12:05,680

you'll need to remove

4475

08:12:13,910 --> 08:12:11,830

it has three connectors right there yeah

4476
08:12:15,990 --> 08:12:13,920
and one of them is the one i connected

4477
08:12:18,070 --> 08:12:16,000
right and then if you follow the

4478
08:12:19,910 --> 08:12:18,080
connector past the metal back shell

4479
08:12:22,628 --> 08:12:19,920
about within six inches of the back of

4480
08:12:24,948 --> 08:12:22,638
the back shell along the table there's a

4481
08:12:27,510 --> 08:12:24,958
p something label

4482
08:12:30,628 --> 08:12:27,520
right to it

4483
08:12:34,150 --> 08:12:30,638
that's on the other side

4484
08:12:41,590 --> 08:12:34,160
if it's not in an awesome location

4485
08:12:44,708 --> 08:12:43,590
and there's a wire tie right on top of

4486
08:12:49,030 --> 08:12:44,718
it

4487
08:12:52,310 --> 08:12:50,868
all right and just a reminder before you

4488
08:13:07,910 --> 08:12:52,320

make the connection double check your

4489

08:13:11,750 --> 08:13:09,830

and again also just double check that

4490

08:13:13,350 --> 08:13:11,760

you're routing it forward

4491

08:13:18,868 --> 08:13:13,360

of the

4492

08:13:18,878 --> 08:13:36,070

this forward

4493

08:13:41,510 --> 08:13:38,548

today's spacewalk now at a total time of

4494

08:13:45,030 --> 08:13:43,350

both crew members are working on cable

4495

08:13:48,708 --> 08:13:45,040

routing and once connected these cables

4496

08:13:50,468 --> 08:13:48,718

will provide a wi-fi hotspot

4497

08:13:52,628 --> 08:13:50,478

that connection won't take place today

4498

08:14:26,468 --> 08:13:52,638

this is simply routing those cables in

4499

08:14:26,478 --> 08:14:30,868

in my van

4500

08:14:30,878 --> 08:14:42,070

copy go to mate p7 to j7

4501
08:15:58,948 --> 08:14:44,230
made it

4502
08:16:05,030 --> 08:16:00,548
okay andy let me see what i'm doing with

4503
08:16:05,040 --> 08:16:09,670
go ahead you ready

4504
08:16:14,788 --> 08:16:12,388
there's one twist around

4505
08:16:16,788 --> 08:16:14,798
the uh the cable

4506
08:16:18,070 --> 08:16:16,798
that handrail three six eight seven i

4507
08:16:19,830 --> 08:16:18,080
think it was

4508
08:16:21,670 --> 08:16:19,840
then i'm going to take the bundle and

4509
08:16:23,190 --> 08:16:21,680
put it under one twist

4510
08:16:24,628 --> 08:16:23,200
that way when they release this bundle

4511
08:16:25,510 --> 08:16:24,638
there's still one twist holding the base

4512
08:16:29,750 --> 08:16:25,520
of

4513
08:16:29,760 --> 08:16:34,548

copy good plan

4514

08:16:38,548 --> 08:16:36,708

in the charge rotation plane i'm

4515

08:16:40,708 --> 08:16:38,558

actually facing the loop forward so i

4516

08:16:42,070 --> 08:16:40,718

think the charge rotation point is asked

4517

08:16:44,150 --> 08:16:42,080

it's still curled up right at the base

4518

08:16:46,150 --> 08:16:44,160

of the vss just

4519

08:16:48,788 --> 08:16:46,160

whatever the stance is called

4520

08:16:51,190 --> 08:16:48,798

right at the base of it and uh just over

4521

08:16:52,948 --> 08:16:51,200

the handrail

4522

08:16:54,070 --> 08:16:52,958

i don't think the charge rotation plane

4523

08:16:59,110 --> 08:16:54,080

is an issue

4524

08:16:59,120 --> 08:17:07,430

that looks excellent to us ike

4525

08:17:11,270 --> 08:17:08,628

all right so would you shooting for

4526

08:17:18,070 --> 08:17:14,948

you going offer good i got your first

4527

08:17:19,510 --> 08:17:18,080

it's your first wire tie

4528

08:17:20,230 --> 08:17:19,520

and that was actually one that was on

4529

08:17:22,468 --> 08:17:20,240

year

4530

08:17:32,150 --> 08:17:22,478

so night that i used it as well that's

4531

08:17:35,990 --> 08:17:33,830

and then the handrail split and i went

4532

08:17:41,990 --> 08:17:36,000

forward so you'll be on that you're just

4533

08:17:45,190 --> 08:17:43,670

should i wait out here andy am i gonna

4534

08:17:46,948 --> 08:17:45,200

is it a conflict for me to what do you

4535

08:17:49,590 --> 08:17:46,958

want me to do now

4536

08:17:56,948 --> 08:17:49,600

i would like you to reclock the cp9

4537

08:17:56,958 --> 08:18:01,750

okay it works

4538

08:18:06,468 --> 08:18:03,750

and uh just a caution not to translate

4539

08:18:38,468 --> 08:18:06,478

or maneuver on the cp9 oru due to the

4540

08:18:43,590 --> 08:18:39,990

say that last part again you don't want

4541

08:18:52,388 --> 08:18:44,708

uh

4542

08:18:56,150 --> 08:18:54,070

okay but the station i can go on the

4543

08:18:57,190 --> 08:18:56,160

fiesta the bss attention

4544

08:18:58,468 --> 08:18:57,200

um

4545

08:19:00,388 --> 08:18:58,478

i might be able to reach you from the

4546

08:19:03,990 --> 08:19:00,398

racetrack but i might have to go to the

4547

08:19:08,468 --> 08:19:06,708

yeah that's fine

4548

08:19:09,910 --> 08:19:08,478

two lower bolts

4549

08:19:11,670 --> 08:19:09,920

okay

4550

08:19:37,190 --> 08:19:11,680

i'll go slow and i'll try not to put

4551
08:19:37,200 --> 08:19:58,308
uh

4552
08:20:02,150 --> 08:20:00,150
and it wants to be crooked

4553
08:20:22,150 --> 08:20:02,160
a little under a little over

4554
08:20:25,030 --> 08:20:23,510
you're getting a look inside the

4555
08:20:26,948 --> 08:20:25,040
international space station flight

4556
08:20:28,548 --> 08:20:26,958
control room

4557
08:20:30,708 --> 08:20:28,558
flight controllers all monitoring the

4558
08:20:32,308 --> 08:20:30,718
systems and the suits and the astronauts

4559
08:20:37,190 --> 08:20:32,318
aboard the international space station

4560
08:20:42,070 --> 08:20:38,868
all right andy that's about as square as

4561
08:20:48,388 --> 08:20:43,910
well we don't have ku just at this

4562
08:20:48,398 --> 08:20:54,308
okay well then it's perfect

4563
08:21:10,468 --> 08:20:57,870

we wouldn't imagine anything else

4564

08:21:15,350 --> 08:21:12,788

okay

4565

08:21:19,110 --> 08:21:15,360

just so you know where i am 3620 of the

4566

08:21:36,548 --> 08:21:30,628

all right

4567

08:21:43,030 --> 08:21:39,270

so i think uh handrail 3620 is a good

4568

08:21:45,110 --> 08:21:43,040

place to tie down the cp8 cable reel bag

4569

08:21:46,150 --> 08:21:45,120

and that's what we would suggest that

4570

08:21:48,070 --> 08:21:46,160

you do

4571

08:21:49,830 --> 08:21:48,080

so we'll get it tied down

4572

08:21:54,388 --> 08:21:49,840

nice and tight and then we can head back

4573

08:22:01,190 --> 08:21:58,708

okay 3620 is a short handrail

4574

08:22:01,200 --> 08:22:06,308

maybe two copies um

4575

08:22:06,318 --> 08:22:19,430

do you prefer it on a longer handrail

4576

08:22:23,110 --> 08:22:20,788

it's probably easier if you tie down

4577

08:22:24,948 --> 08:22:23,120

between the two rows of handrails so

4578

08:22:26,150 --> 08:22:24,958

there's the the after row and the four

4579

08:22:31,270 --> 08:22:26,160

row

4580

08:22:31,280 --> 08:22:40,070

okay

4581

08:22:51,510 --> 08:22:42,070

and just a reminder to push the bag

4582

08:22:55,590 --> 08:22:53,270

make sure i didn't get your

4583

08:22:56,788 --> 08:22:55,600

sleep each other oh yeah you did i'm

4584

08:22:58,308 --> 08:22:56,798

sorry

4585

08:23:01,030 --> 08:22:58,318

put your right leg back

4586

08:23:02,388 --> 08:23:01,040

it's clear now pitch the other way okay

4587

08:23:10,788 --> 08:23:02,398

yeah

4588

08:23:18,948 --> 08:23:13,830

today's spacewalk has now been going for

4589

08:23:18,958 --> 08:23:23,350

greatly minutes here

4590

08:23:28,070 --> 08:23:26,468

give you what i got left

4591

08:23:30,308 --> 08:23:28,080

ain't a whole lot

4592

08:23:34,150 --> 08:23:30,318

the astronauts are routing the cp8 and

4593

08:23:36,548 --> 08:23:34,160

cp9 cables

4594

08:23:40,230 --> 08:23:36,558

glover's cable has been routed to the

4595

08:23:45,590 --> 08:23:43,990

there's two adjustables right on there

4596

08:23:47,350 --> 08:23:45,600

cable routing will end a little early

4597

08:23:49,590 --> 08:23:47,360

for mike hawkins and they are tying the

4598

08:23:51,670 --> 08:23:49,600

bag down outside where it can remain

4599

08:23:53,430 --> 08:23:51,680

indefinitely

4600

08:23:55,110 --> 08:23:53,440

however both of these will be accessed

4601
08:24:23,990 --> 08:23:55,120
on future spacewalks and eventually

4602
08:24:50,948 --> 08:24:26,070
leaving one country

4603
08:24:55,990 --> 08:24:52,788
okay and i've got room to finish my side

4604
08:24:58,468 --> 08:24:56,000
over here okay hold on

4605
08:25:00,308 --> 08:24:58,478
let it get the

4606
08:25:02,230 --> 08:25:00,318
extra cable

4607
08:25:05,590 --> 08:25:02,240
well actually you know what this is just

4608
08:25:07,350 --> 08:25:05,600
connected to the bag loop and then erect

4609
08:25:19,830 --> 08:25:07,360
oh yeah that bag loop okay there we go

4610
08:25:23,750 --> 08:25:21,910
all right we're back from you with you

4611
08:25:26,868 --> 08:25:23,760
from after a longer than expected

4612
08:25:29,510 --> 08:25:26,878
handover just a reminder to bring back

4613
08:25:31,190 --> 08:25:29,520

to the airlock the two

4614

08:25:32,868 --> 08:25:31,200

wire tie caddies

4615

08:25:35,030 --> 08:25:32,878

and any additional

4616

08:25:37,990 --> 08:25:35,040

rats and adjustables that aren't used to

4617

08:25:41,830 --> 08:25:38,830

oh

4618

08:25:43,590 --> 08:25:41,840

okay so we're going to

4619

08:25:45,830 --> 08:25:43,600

all right

4620

08:25:49,430 --> 08:25:45,840

and remember you put a piece of tape

4621

08:25:49,440 --> 08:25:52,230

yeah

4622

08:25:52,240 --> 08:25:57,590

all right let's see here

4623

08:26:01,670 --> 08:26:00,070

and if it helps you can put the uh fire

4624

08:26:04,948 --> 08:26:01,680

tie caddies and other pieces of

4625

08:26:20,230 --> 08:26:04,958

equipment in ike's bag or an ice bag

4626
08:26:25,270 --> 08:26:22,708
remove one side

4627
08:26:29,910 --> 08:26:25,280
that's an adjustable

4628
08:26:33,270 --> 08:26:31,750
let's see

4629
08:26:35,670 --> 08:26:33,280
so just remember the hook goes through

4630
08:26:38,868 --> 08:26:35,680
both the bag and the

4631
08:26:38,878 --> 08:26:41,830
roger

4632
08:26:46,388 --> 08:26:43,110
okay

4633
08:26:47,190 --> 08:26:46,398
so i don't think that uh wirefraction

4634
08:26:58,628 --> 08:26:47,200
is

4635
08:27:00,468 --> 08:26:58,638
can you have enough to slide it down

4636
08:27:02,468 --> 08:27:00,478
i've got the yeah i've got one right now

4637
08:27:04,388 --> 08:27:02,478
to tie it down okay so this tether

4638
08:27:06,308 --> 08:27:04,398

that's on both of these i'm going to

4639

08:27:08,548 --> 08:27:06,318

take both of them on this adjustable

4640

08:27:12,708 --> 08:27:08,558

that's on my side

4641

08:27:17,110 --> 08:27:15,430

if you have any other connections to the

4642

08:27:20,628 --> 08:27:17,120

wire tie caddies on your side you can

4643

08:27:24,948 --> 08:27:23,270

okay now i've got these

4644

08:27:27,030 --> 08:27:24,958

uh let's see

4645

08:27:29,110 --> 08:27:27,040

if you have one

4646

08:27:31,030 --> 08:27:29,120

you don't have this one no this one yeah

4647

08:27:32,060 --> 08:27:31,040

the side facing me i guess

4648

08:27:33,190 --> 08:27:32,070

yeah so these two

4649

08:27:34,708 --> 08:27:33,200

[Music]

4650

08:27:34,980 --> 08:27:34,718

lead connected and take them off with

4651
08:27:37,510 --> 08:27:34,990
that

4652
08:27:38,948 --> 08:27:37,520
[Applause]

4653
08:27:40,708 --> 08:27:38,958
all right so can you just confirm right

4654
08:27:42,628 --> 08:27:40,718
here that this wire tie caddy has got a

4655
08:27:55,270 --> 08:27:42,638
red on this side you're still on point

4656
08:27:58,830 --> 08:27:57,350
andy there's a large small here that i

4657
08:28:01,910 --> 08:27:58,840
think we want to take into is that

4658
08:28:10,150 --> 08:28:01,920
correct believe it

4659
08:28:15,270 --> 08:28:13,030
so everything comes back inside except

4660
08:28:19,270 --> 08:28:15,280
for the two adjustables that are used to

4661
08:28:22,868 --> 08:28:20,388
okay

4662
08:28:24,948 --> 08:28:22,878
so i've got an adjustable in each wire

4663
08:28:40,830 --> 08:28:24,958

tie cap okay you can release everything

4664

08:29:00,468 --> 08:28:43,830

okay i've got the one on this side this

4665

08:29:00,478 --> 08:29:35,590

nice catch

4666

08:29:44,388 --> 08:29:38,628

let's see where's the opening see the

4667

08:29:44,398 --> 08:29:53,590

i'm still ready i can take this off

4668

08:29:53,600 --> 08:29:58,070

i'm going to pass it through the handle

4669

08:29:58,080 --> 08:30:01,670

you want it like this

4670

08:30:06,548 --> 08:30:04,230

yeah and uh just to confirm we'd like

4671

08:30:08,788 --> 08:30:06,558

the large small adjustable to come

4672

08:30:20,388 --> 08:30:08,798

inside so please use two small small

4673

08:30:20,398 --> 08:30:23,350

okay ike

4674

08:30:26,628 --> 08:30:25,030

i'm

4675

08:30:38,070 --> 08:30:26,638

trying to put these watertight kitties

4676
08:30:38,080 --> 08:31:04,308
as easy as it seemed in my head

4677
08:31:08,788 --> 08:31:06,548
nasa astronauts mike hopkins and victor

4678
08:31:11,430 --> 08:31:08,798
glover outside on today's spacewalk

4679
08:31:14,468 --> 08:31:11,440
working to tie down the cp-8 that's

4680
08:31:16,468 --> 08:31:14,478
camera port 8 cable bag

4681
08:31:27,750 --> 08:31:16,478
that cable was partially routed in

4682
08:31:35,510 --> 08:31:29,670
this is the last major task for the

4683
08:31:41,670 --> 08:31:38,308
all right andy i got a small small

4684
08:32:09,990 --> 08:31:41,680
that's coming off the cta bag

4685
08:32:10,000 --> 08:32:15,030
a large small

4686
08:32:19,670 --> 08:32:17,110
it's also coming off

4687
08:32:26,150 --> 08:32:19,680
cp8 and going on my nwf

4688
08:32:26,160 --> 08:32:39,670

okay

4689

08:32:42,708 --> 08:32:40,708

so

4690

08:32:44,548 --> 08:32:42,718

what we can see looks good hopper you

4691

08:32:45,670 --> 08:32:44,558

can remove your red to the bag if you

4692

08:32:47,350 --> 08:32:45,680

want

4693

08:32:50,708 --> 08:32:47,360

and then you can cinch it down the

4694

08:32:54,708 --> 08:32:52,468

right here

4695

08:32:56,708 --> 08:32:54,718

our room decision on this side too okay

4696

08:32:59,030 --> 08:32:56,718

let me get my red off i tightened it up

4697

08:33:04,388 --> 08:32:59,040

too much

4698

08:33:10,868 --> 08:33:06,830

okay i'm

4699

08:33:14,868 --> 08:33:13,110

okay that's snug that's nice that's nice

4700

08:33:18,628 --> 08:33:14,878

i agree

4701

08:33:22,468 --> 08:33:20,868

excellent and if there's any

4702

08:33:23,990 --> 08:33:22,478

loops of cable

4703

08:33:25,430 --> 08:33:24,000

we just want to make sure that they're

4704

08:33:29,750 --> 08:33:25,440

also secured so that they're not

4705

08:33:33,510 --> 08:33:31,830

i've got one loop on this side how big

4706

08:33:36,868 --> 08:33:33,520

did it look on your side there right

4707

08:33:39,830 --> 08:33:36,878

about eight inches into the handrail um

4708

08:33:41,110 --> 08:33:39,840

but it looks it it looks like you're

4709

08:33:42,468 --> 08:33:41,120

going towards the charge that's going

4710

08:33:43,990 --> 08:33:42,478

facing forward

4711

08:33:49,510 --> 08:33:44,000

i agree

4712

08:33:49,520 --> 08:33:57,670

all right looks like a good tie down

4713

08:33:57,680 --> 08:34:15,110

ready

4714

08:34:18,948 --> 08:34:16,468

all right when you guys are happy you

4715

08:34:20,868 --> 08:34:18,958

can head back to the airlock

4716

08:34:22,868 --> 08:34:20,878

follow your safety tethers back and i

4717

08:34:28,468 --> 08:34:22,878

remember to pick up your green hook from

4718

08:34:35,990 --> 08:34:31,110

i'll follow you from here though

4719

08:34:36,000 --> 08:34:51,910

more

4720

08:34:56,070 --> 08:34:53,910

now that looks like the picture that's a

4721

08:34:57,750 --> 08:34:56,080

nice job on that bag

4722

08:35:00,150 --> 08:34:57,760

that came out all right didn't it yeah

4723

08:35:02,468 --> 08:35:00,160

dude

4724

08:35:08,070 --> 08:35:02,478

must be the same person who did the uh

4725

08:35:08,080 --> 08:35:11,868

i don't know that person because that

4726
08:35:11,878 --> 08:35:25,590
was a little hard

4727
08:35:31,590 --> 08:35:27,270
and i think this is where we park

4728
08:35:37,350 --> 08:35:33,270
so

4729
08:35:45,270 --> 08:35:38,868
sergeant i'm gonna thank each other's

4730
08:35:49,270 --> 08:35:47,350
crew members have wrapped up their tasks

4731
08:35:51,430 --> 08:35:49,280
for the day and the sun rises on the

4732
08:35:54,230 --> 08:35:51,440
international space station as it orbits

4733
08:35:56,548 --> 08:35:54,240
260 statute miles over the north pacific

4734
08:35:59,990 --> 08:35:56,558
ocean

4735
08:36:02,388 --> 08:36:00,000
got a small glimpse from a helmet camera

4736
08:36:04,070 --> 08:36:02,398
of the solar arrays

4737
08:36:05,670 --> 08:36:04,080
the next major upgrades for the

4738
08:36:07,670 --> 08:36:05,680

international space station will be

4739

08:36:10,388 --> 08:36:07,680

installation of new solar arrays

4740

08:36:12,708 --> 08:36:10,398

arriving later this year

4741

08:36:17,030 --> 08:36:12,718

these are known as irosa standing for

4742

08:36:20,628 --> 08:36:18,868

this technology is not only being used

4743

08:36:22,868 --> 08:36:20,638

on the space station but also for the

4744

08:36:25,190 --> 08:36:22,878

power and propulsion element for nasa's

4745

08:36:26,868 --> 08:36:25,200

gateway lunar outpost

4746

08:36:29,030 --> 08:36:26,878

the main difference between those two

4747

08:36:30,868 --> 08:36:29,040

solar arrays is that these on the space

4748

08:36:32,788 --> 08:36:30,878

station will be installed and deployed

4749

08:36:34,788 --> 08:36:32,798

manually through spacewalks

4750

08:36:36,868 --> 08:36:34,798

but those on gateway for the power and

4751
08:36:50,788 --> 08:36:36,878
propulsion element will be deployed

4752
08:36:54,230 --> 08:36:52,628
so while you guys are translating back

4753
08:36:55,990 --> 08:36:54,240
uh i'll just give you an update on the

4754
08:37:00,308 --> 08:36:56,000
ammonia situation

4755
08:37:02,788 --> 08:37:00,318
you've now had three full bake outs

4756
08:37:05,430 --> 08:37:02,798
and combined with the fact that

4757
08:37:08,868 --> 08:37:05,440
you didn't see any contamination on your

4758
08:37:11,670 --> 08:37:08,878
suits and that the propulsive stream

4759
08:37:13,670 --> 08:37:11,680
wasn't directed at you directly

4760
08:37:16,468 --> 08:37:13,680
then our recommendation is that we do

4761
08:37:18,150 --> 08:37:16,478
not do an ammonia measurement test

4762
08:37:23,590 --> 08:37:18,160
inside the airlock

4763
08:37:27,350 --> 08:37:25,510

what do you think

4764

08:37:31,510 --> 08:37:27,360

i i think we're okay i'm comfortable

4765

08:37:47,430 --> 08:37:33,510

excellent then we'll

4766

08:37:52,708 --> 08:37:51,110

idv2 is at the airlock

4767

08:37:57,270 --> 08:37:52,718

idv1

4768

08:38:01,190 --> 08:37:58,948

you can see from the high definition

4769

08:38:08,070 --> 08:38:01,200

camera on his spacesuit mike hopkins has

4770

08:38:11,990 --> 08:38:10,230

as victor glover makes his way there as

4771

08:38:14,868 --> 08:38:12,000

well just a quick recap of what our

4772

08:38:17,030 --> 08:38:14,878

astronauts accomplished today

4773

08:38:19,270 --> 08:38:17,040

it's now been six hours and 25 minutes

4774

08:38:22,708 --> 08:38:19,280

since the start of the spacewalk

4775

08:38:24,388 --> 08:38:22,718

that began at 7 14 a.m central 8 14 a.m

4776

08:38:26,230 --> 08:38:24,398

eastern

4777

08:38:28,230 --> 08:38:26,240

the crew members vented two jumpers on

4778

08:38:30,150 --> 08:38:28,240

the early ammonia system and relocated

4779

08:38:32,388 --> 08:38:30,160

one jumper cable to the outside of the

4780

08:38:33,910 --> 08:38:32,398

quest airlock

4781

08:38:35,750 --> 08:38:33,920

copy that

4782

08:38:37,510 --> 08:38:35,760

victor glover removed and replaced a

4783

08:38:39,830 --> 08:38:37,520

wireless video system external

4784

08:38:42,230 --> 08:38:39,840

transceiver assembly which recently

4785

08:38:43,990 --> 08:38:42,240

received a successful checkout

4786

08:38:46,388 --> 08:38:44,000

if you want to get your waste tether

4787

08:38:54,150 --> 08:38:46,398

connected to the airlock d-ring extender

4788

08:39:00,150 --> 08:38:55,990

mike hopkins successfully connected

4789

08:39:01,830 --> 08:39:00,160

three jumpers on the bartolomeo platform

4790

08:39:03,750 --> 08:39:01,840

that task had recently given astronauts

4791

08:39:06,868 --> 08:39:03,760

some trouble on a spacewalk earlier this

4792

08:39:09,270 --> 08:39:06,878

year he also capped one of those jumpers

4793

08:39:11,990 --> 08:39:09,280

leaving five out of six connectors mated

4794

08:39:12,948 --> 08:39:12,000

and bartolomeo in a mostly operational

4795

08:39:14,788 --> 08:39:12,958

state

4796

08:39:17,510 --> 08:39:14,798

european space agency teams will

4797

08:39:19,030 --> 08:39:17,520

evaluate a future course of action

4798

08:39:23,030 --> 08:39:19,040

and the small hook

4799

08:39:23,040 --> 08:39:25,670

copy that

4800

08:39:29,430 --> 08:39:27,670

and i think i heard you say that uh

4801
08:39:33,350 --> 08:39:29,440
you're going to retrieve that columbus

4802
08:39:33,360 --> 08:39:44,948
it's in work

4803
08:39:44,958 --> 08:39:56,070
uh

4804
08:40:00,070 --> 08:39:57,990
power checkouts were reported to be

4805
08:40:02,388 --> 08:40:00,080
successful on the jumpers connected on

4806
08:40:04,548 --> 08:40:02,398
the bartolomeo platform today

4807
08:40:07,190 --> 08:40:04,558
victor glover installed a thermal cover

4808
08:40:08,548 --> 08:40:07,200
stiffener to keep the thermal cover from

4809
08:40:11,350 --> 08:40:08,558
blowing open

4810
08:40:13,910 --> 08:40:11,360
i'm affordable i think i am right so if

4811
08:40:16,308 --> 08:40:13,920
you are on the floor okay we do kind of

4812
08:40:19,990 --> 08:40:16,318
have a cross it's gonna hang out here

4813
08:40:24,948 --> 08:40:20,000

yeah okay i've got the red

4814

08:40:29,110 --> 08:40:27,510

apfr is kind of serving as a fair lead

4815

08:40:37,030 --> 08:40:29,120

for me so

4816

08:40:39,990 --> 08:40:37,990

okay

4817

08:40:43,830 --> 08:40:40,000

would it be better if i couldn't do that

4818

08:40:45,030 --> 08:40:43,840

uh i'm i'm about ready to go in okay

4819

08:40:48,548 --> 08:40:45,040

i'm gonna do

4820

08:40:48,558 --> 08:40:52,868

all right

4821

08:40:58,230 --> 08:40:55,110

other tasks completed today include mike

4822

08:41:01,190 --> 08:40:58,240

hopkins reconfiguring the ham radio

4823

08:41:02,948 --> 08:41:01,200

all right let's go

4824

08:41:05,910 --> 08:41:02,958

and both astronauts worked to route

4825

08:41:07,670 --> 08:41:05,920

camera port cables the cp-9 cable was

4826
08:41:12,628 --> 08:41:07,680
rounded to its intended destination for

4827
08:41:17,030 --> 08:41:13,910
yep

4828
08:41:20,948 --> 08:41:19,350
okay so uh once you're

4829
08:41:22,388 --> 08:41:20,958
satisfied that you're connected to the

4830
08:41:23,670 --> 08:41:22,398
airlock d-ring extender i think you

4831
08:41:25,510 --> 08:41:23,680
already checked that then you can give

4832
08:41:36,230 --> 08:41:25,520
ike a go

4833
08:41:39,750 --> 08:41:37,590
you can take hopper's anchor hook and

4834
08:41:46,070 --> 08:41:39,760
put it on your waste tether

4835
08:41:46,080 --> 08:42:13,510
okay

4836
08:42:17,430 --> 08:42:15,190
earrings

4837
08:42:19,510 --> 08:42:17,440
roger black on black gate closed to my

4838
08:42:22,070 --> 08:42:19,520

waist tether which is also locked up on

4839

08:42:25,510 --> 08:42:22,080

black he's closed roger

4840

08:42:32,150 --> 08:42:28,468

i've also got this real bag

4841

08:42:34,708 --> 08:42:33,910

another uh actually you know what it's

4842

08:42:52,308 --> 08:42:34,718

got

4843

08:42:56,868 --> 08:42:54,230

both astronauts are back at the airlock

4844

08:42:59,270 --> 08:42:56,878

but the spacewalk itself and its clock

4845

08:43:01,430 --> 08:42:59,280

will not be complete until

4846

08:43:18,788 --> 08:43:01,440

re-pressurization of the crew lock

4847

08:43:24,070 --> 08:43:20,070

okay

4848

08:43:33,830 --> 08:43:26,308

roger that

4849

08:43:37,430 --> 08:43:35,750

then i you can retrieve your own anchor

4850

08:43:39,190 --> 08:43:37,440

hook and stow it on your mini

4851
08:43:43,110 --> 08:43:39,200
workstation

4852
08:43:47,990 --> 08:43:44,948
i've got to get together chain through

4853
08:43:50,830 --> 08:43:48,000
my waist header still locked

4854
08:43:57,270 --> 08:43:52,468
and

4855
08:44:01,030 --> 08:43:59,190
okay

4856
08:44:03,350 --> 08:44:01,040
there we go

4857
08:44:05,110 --> 08:44:03,360
i am locked

4858
08:44:08,548 --> 08:44:05,120
[Applause]

4859
08:44:11,270 --> 08:44:08,558
i've got both anchors up

4860
08:44:13,270 --> 08:44:11,280
let me pull this

4861
08:44:30,708 --> 08:44:13,280
p8 in

4862
08:44:36,230 --> 08:44:32,708
you are clear

4863
08:44:45,110 --> 08:44:36,240

all right keep my brt situated and i'll

4864

08:44:45,120 --> 08:44:54,150

all right here we go

4865

08:44:54,160 --> 08:45:20,468

um

4866

08:45:20,478 --> 08:45:32,708

that's much better

4867

08:45:32,718 --> 08:45:52,250

uh

4868

08:45:52,260 --> 08:45:56,070

[Music]

4869

08:45:59,670 --> 08:45:57,670

want you to verify that the pit pin is

4870

08:46:00,788 --> 08:45:59,680

in place the same one as before it's the

4871

08:46:05,830 --> 08:46:00,798

the aft

4872

08:46:05,840 --> 08:46:15,190

and then also something new

4873

08:46:22,948 --> 08:46:17,110

and now there should be a hope that you

4874

08:46:28,628 --> 08:46:24,070

no no don't

4875

08:46:33,990 --> 08:46:30,868

and the pin looks like it did when we

4876
08:46:37,510 --> 08:46:35,110
copy that

4877
08:46:39,750 --> 08:46:37,520
so you can now close the the hook

4878
08:46:41,990 --> 08:46:39,760
and cinch the strap

4879
08:46:43,670 --> 08:46:42,000
until it's

4880
08:46:50,868 --> 08:46:43,680
fairly snug and then let us know how

4881
08:46:56,628 --> 08:46:54,388
i smoked it and it essentially

4882
08:46:59,190 --> 08:46:56,638
take up all the slides so it's one two

4883
08:47:01,030 --> 08:46:59,200
three four five six

4884
08:47:02,468 --> 08:47:01,040
which is i think all of them that you

4885
08:47:06,150 --> 08:47:02,478
could

4886
08:47:06,160 --> 08:47:12,468
yeah we copy and we see that in your wbs

4887
08:47:15,190 --> 08:47:13,590
so you can

4888
08:47:28,708 --> 08:47:15,200

remove the scu from the pouch and

4889

08:47:32,308 --> 08:47:30,548

before you do that can you check that

4890

08:47:34,708 --> 08:47:32,318

the velcro

4891

08:47:38,388 --> 08:47:34,718

the strap is not blocking access to the

4892

08:47:42,150 --> 08:47:40,150

the strawberry is not

4893

08:47:45,430 --> 08:47:42,160

strapped is what

4894

08:47:48,308 --> 08:47:45,440

the feather is connected to

4895

08:47:56,090 --> 08:47:48,318

you talking about this other velcro

4896

08:47:56,100 --> 08:48:03,030

[Music]

4897

08:48:07,030 --> 08:48:04,708

velcro is now out of

4898

08:48:09,670 --> 08:48:07,040

is not

4899

08:48:13,910 --> 08:48:11,510

okay

4900

08:48:15,750 --> 08:48:13,920

all right if you could uh

4901
08:48:17,270 --> 08:48:15,760
a little more

4902
08:48:19,270 --> 08:48:17,280
whatever size you're on the reputation

4903
08:48:20,868 --> 08:48:19,280
forward they do

4904
08:48:22,070 --> 08:48:20,878
a little bit more that way

4905
08:48:23,510 --> 08:48:22,080
right here

4906
08:48:28,070 --> 08:48:23,520
and then towards the hatch so i can move

4907
08:48:31,990 --> 08:48:30,308
look at my sc even work

4908
08:48:34,948 --> 08:48:32,000
that made a lot of room whatever you did

4909
08:48:35,990 --> 08:48:34,958
i kind of rotated a little bit

4910
08:48:40,468 --> 08:48:36,000
hold

4911
08:48:53,510 --> 08:48:41,830
and hopper is your

4912
08:48:59,670 --> 08:48:55,430
and hopper this time you can turn your

4913
08:49:07,110 --> 08:49:01,670

roger

4914

08:49:12,070 --> 08:49:10,070

the heck it is off

4915

08:49:21,350 --> 08:49:12,080

both astronauts are now in the airlock

4916

08:49:31,670 --> 08:49:23,830

this view from nasa astronaut victor

4917

08:49:35,830 --> 08:49:33,990

and this one coming from the other side

4918

08:49:37,270 --> 08:49:35,840

of the quest airlock

4919

08:49:38,788 --> 08:49:37,280

this is from a camera inside the

4920

08:49:40,308 --> 08:49:38,798

equipment lock portion where the

4921

08:49:41,270 --> 08:49:40,318

astronauts suited up earlier this

4922

08:49:43,590 --> 08:49:41,280

morning

4923

08:49:46,388 --> 08:49:43,600

scu cooling so now at this point you can

4924

08:49:59,670 --> 08:49:46,398

switch your water to off off

4925

08:50:10,708 --> 08:50:01,830

copy and we need to wait two minutes

4926
08:50:10,718 --> 08:50:33,510
one two

4927
08:50:41,910 --> 08:50:36,150
and i got an o2 use

4928
08:50:41,920 --> 08:50:44,628
copy

4929
08:50:44,638 --> 08:50:48,150
happy

4930
08:50:48,160 --> 08:50:51,990
family message

4931
08:50:55,830 --> 08:50:54,230
the only message

4932
08:51:33,830 --> 08:50:55,840
i guess we're doing as much as we can do

4933
08:51:38,308 --> 08:51:36,150
so hopper you're on scu so we don't see

4934
08:51:39,750 --> 08:51:38,318
uh an immediate problem with the o2u's

4935
08:51:41,910 --> 08:51:39,760
high message

4936
08:51:43,510 --> 08:51:41,920
uh your suit pressure also looks good

4937
08:51:50,230 --> 08:51:43,520
we'll wait for one more day to pass just

4938
08:51:53,110 --> 08:51:51,830

no

4939

08:52:41,030 --> 08:51:53,120

just trying to get in position to hit

4940

08:52:44,830 --> 08:52:42,708

the astronauts work is done for the day

4941

08:52:47,270 --> 08:52:44,840

however the spacewalk is not over until

4942

08:52:48,708 --> 08:52:47,280

repressurization begins due to a

4943

08:52:51,910 --> 08:52:48,718

backfill of the tank so we're going to

4944

08:52:58,548 --> 08:52:51,920

go and go ahead and press with a nominal

4945

08:53:02,468 --> 08:53:00,628

so this point uh water's been off for

4946

08:53:04,308 --> 08:53:02,478

more than two minutes so i you can go

4947

08:53:05,830 --> 08:53:04,318

ahead and verify that the outer hatch is

4948

08:53:08,150 --> 08:53:05,840

clear of hardware

4949

08:53:10,388 --> 08:53:08,160

verify the handle position for the hatch

4950

08:53:14,628 --> 08:53:10,398

decal and then go ahead and close and

4951

08:53:20,070 --> 08:53:17,030

um

4952

08:53:22,230 --> 08:53:20,080

things are out of the way of the hatch

4953

08:53:24,468 --> 08:53:22,240

can you pull the safety feathers fortune

4954

08:53:27,510 --> 08:53:24,478

yep sure can stay on there

4955

08:53:30,150 --> 08:53:27,520

there's a large small it's

4956

08:53:32,468 --> 08:53:30,160

perfectly in the wrong spot

4957

08:53:34,708 --> 08:53:32,478

that large small that's hanging off

4958

08:53:40,150 --> 08:53:34,718

don't forget which uh it's right on the

4959

08:53:48,788 --> 08:53:43,030

right on safety feathers great

4960

08:53:54,760 --> 08:53:51,270

oh that's uh

4961

08:53:56,548 --> 08:53:54,770

there's a longer this cpa bag how's that

4962

08:54:01,350 --> 08:53:56,558

[Music]

4963

08:54:13,270 --> 08:54:02,868

okay now i'm going to come back toward

4964

08:54:22,468 --> 08:54:15,110

am i bumping up against you or is that

4965

08:54:22,478 --> 08:54:44,868

oh now

4966

08:54:44,878 --> 08:55:16,308

okay hit the button again

4967

08:55:16,318 --> 08:55:28,868

uh

4968

08:55:41,830 --> 08:55:31,380

action

4969

08:55:57,670 --> 08:55:42,708

okay

4970

08:55:57,680 --> 08:56:08,628

counter clockwise

4971

08:56:08,638 --> 08:56:16,230

i think that is all the way

4972

08:56:21,590 --> 08:56:17,830

i thought this lock tab would get all

4973

08:56:21,600 --> 08:56:24,308

no

4974

08:56:29,510 --> 08:56:27,190

and the track handle is all the way

4975

08:56:31,510 --> 08:56:29,520

hard stuff oh there we go it is flush

4976

08:56:34,230 --> 08:56:31,520

okay

4977

08:56:37,510 --> 08:56:34,240

all right here's a loop so the patches

4978

08:56:43,190 --> 08:56:39,270

excellent if you could just report the

4979

08:56:46,628 --> 08:56:43,200

gauge rally to us please

4980

08:56:47,510 --> 08:56:46,638

uh maybe 0.1 it's just on me

4981

08:56:50,468 --> 08:56:47,520

right

4982

08:56:52,468 --> 08:56:50,478

the left edge of the zero

4983

08:56:55,590 --> 08:56:52,478

all right we copy so we'll move on to

4984

08:56:57,990 --> 08:56:55,600

the uh depressed request cue card so on

4985

08:57:02,788 --> 08:56:58,000

your dcm just double check that the scu

4986

08:57:02,798 --> 08:57:05,670

one two

4987

08:57:10,468 --> 08:57:08,150

and i can confirm your water has been

4988

08:57:12,948 --> 08:57:10,478

off for two minutes so

4989

08:57:17,030 --> 08:57:12,958

on the crew lock check that the ev hatch

4990

08:57:22,308 --> 08:57:18,948

anyone

4991

08:57:27,030 --> 08:57:22,318

on the uia check that the oxygen valves

4992

08:57:32,150 --> 08:57:28,948

open e1

4993

08:57:42,860 --> 08:57:32,160

or emu1 open emu

4994

08:57:42,870 --> 08:57:46,548

[Music]

4995

08:57:53,750 --> 08:57:48,788

excellent check that the ev one and two

4996

08:57:55,910 --> 08:57:53,760

volts are 18 to 19.

4997

08:57:59,430 --> 08:57:55,920

18.6 cd1

4998

08:58:15,270 --> 08:58:02,548

finally on your dcm switch power to scu

4999

08:58:19,190 --> 08:58:16,628

it's been a pleasure working with you

5000

08:58:24,070 --> 08:58:19,200

again i'll hand you over at this point

5001
08:58:30,070 --> 08:58:26,868
sandy thanks uh to the upgrades 3.5 team

5002
08:58:33,830 --> 08:58:31,590
thanks everyone

5003
08:58:37,430 --> 08:58:33,840
yeah we agree great job outside we

5004
08:58:42,388 --> 08:58:39,830
thank you

5005
08:58:44,308 --> 08:58:42,398
yeah thanks andy and from here suit ib

5006
08:58:45,350 --> 08:58:44,318
will take over on the crew of great

5007
08:59:01,670 --> 08:58:45,360
press

5008
08:59:05,270 --> 08:59:03,430
with both astronauts in the airlock and

5009
08:59:07,430 --> 08:59:05,280
the hatch closed we will be looking for

5010
08:59:13,430 --> 08:59:07,440
repressurization to begin and mark the

5011
08:59:17,190 --> 08:59:15,030
this view of the equipment lot portion

5012
08:59:19,830 --> 08:59:17,200
of the quest airlock where soichinoguchi

5013
08:59:31,750 --> 08:59:19,840

and kate rubins await the astronauts to

5014

08:59:38,708 --> 08:59:36,150

and probably eb1 and ub2 both press

5015

08:59:44,788 --> 08:59:38,718

that's the first video dd2 is for us

5016

08:59:51,430 --> 08:59:47,350

and check the eb one check eb hatch

5017

08:59:56,708 --> 08:59:53,670

pretty close

5018

08:59:59,670 --> 08:59:56,718

okay if i needed to we're gonna start

5019

09:00:01,990 --> 08:59:59,680

repressing ib hatch equalization above

5020

09:00:02,868 --> 09:00:02,000

i'll cover stuff from the very small

5021

09:00:05,670 --> 09:00:02,878

rate

5022

09:00:17,270 --> 09:00:05,680

and see how it goes see how needed to

5023

09:00:23,270 --> 09:00:19,430

it's not that we press says say right

5024

09:00:36,948 --> 09:00:24,230

either

5025

09:00:42,070 --> 09:00:38,788

just let you know we are all awake

5026

09:00:42,080 --> 09:00:46,230

tv1 is good

5027

09:00:51,910 --> 09:00:48,868

maybe two is good

5028

09:01:08,150 --> 09:00:51,920

can i slowly pick up the

5029

09:01:12,628 --> 09:01:09,590

with a space walk that began this

5030

09:01:14,948 --> 09:01:12,638

morning at 7 14 a.m central time

5031

09:01:18,230 --> 09:01:14,958

we have just seen repressurization begin

5032

09:01:20,868 --> 09:01:18,240

at 201 pm central time bringing us to a

5033

09:01:24,388 --> 09:01:20,878

total of six hours and 47 minutes for

5034

09:01:28,468 --> 09:01:26,548

a wave to the camera from soichinoguchi

5035

09:01:30,548 --> 09:01:28,478

we will remain on air until the

5036

09:01:32,230 --> 09:01:30,558

astronauts are back inside the equipment

5037

09:01:37,830 --> 09:01:32,240

lock portion of the quest airlock and

5038

09:01:44,628 --> 09:01:39,830

while we wait another recap of what the

5039

09:01:48,548 --> 09:01:46,468

we saw them work together to vent two

5040

09:01:50,468 --> 09:01:48,558

jumpers on the early ammonia system and

5041

09:01:52,468 --> 09:01:50,478

relocate one of those to the outside of

5042

09:01:54,150 --> 09:01:52,478

the airlock

5043

09:01:55,910 --> 09:01:54,160

victor glover removed and replaced a

5044

09:01:58,868 --> 09:01:55,920

wireless video system external

5045

09:02:00,468 --> 09:01:58,878

transceiver assembly or a weta

5046

09:02:02,548 --> 09:02:00,478

that was recently reported to have a

5047

09:02:04,548 --> 09:02:02,558

successful checkout

5048

09:02:07,910 --> 09:02:04,558

mike hopkins connected jumpers on the

5049

09:02:10,070 --> 09:02:07,920

bartolimio platform and capped one

5050

09:02:12,548 --> 09:02:10,080

connected three jumpers that means five

5051
09:02:14,070 --> 09:02:12,558
out of the six connectors are now mated

5052
09:02:26,948 --> 09:02:14,080
and leaves bartolomeo in a mostly

5053
09:02:30,868 --> 09:02:29,030
the power checkouts on those cables

5054
09:02:32,628 --> 09:02:30,878
connected today were good and the

5055
09:02:38,230 --> 09:02:32,638
european space agency teams will

5056
09:02:42,948 --> 09:02:40,388
victor glover installed a thermal cover

5057
09:02:45,430 --> 09:02:42,958
stiffener to keep the thermal cover from

5058
09:02:47,430 --> 09:02:45,440
blowing open

5059
09:02:50,868 --> 09:02:47,440
and mike hopkins reconfigured the ham

5060
09:02:53,670 --> 09:02:50,878
radio also near columbus

5061
09:02:57,590 --> 09:02:53,680
the astronauts then routed the cp9 cable

5062
09:03:00,468 --> 09:02:57,600
and partially routed cp8

5063
09:03:17,670 --> 09:03:00,478

bringing us to a total of 6 hours and 47

5064

09:03:17,680 --> 09:03:35,070

three point one

5065

09:03:59,270 --> 09:03:49,630

[Applause]

5066

09:04:03,050 --> 09:04:00,788

there's 4.0

5067

09:04:14,410 --> 09:04:03,060

look it's all

5068

09:04:14,420 --> 09:04:59,830

[Applause]

5069

09:05:05,910 --> 09:05:02,868

happy now it's equalization values off

5070

09:05:31,190 --> 09:05:05,920

and i'll take two minutes to saturday so

5071

09:05:37,270 --> 09:05:33,430

and if you're on eb2 this is the best

5072

09:05:38,628 --> 09:05:37,280

time to accept dinner order

5073

09:05:41,190 --> 09:05:38,638

yes hot

5074

09:05:55,030 --> 09:05:43,190

[Music]

5075

09:05:59,190 --> 09:05:56,868

kate just gave me all the options so

5076
09:06:01,110 --> 09:05:59,200
good i'm gonna stop walking and go to

5077
09:06:02,788 --> 09:06:01,120
the you know

5078
09:06:12,548 --> 09:06:02,798
not quite yet

5079
09:06:17,350 --> 09:06:14,388
a little bit of that same irritation

5080
09:06:19,510 --> 09:06:17,360
this time in my left side

5081
09:06:23,588 --> 09:06:19,520
excuse me right now right now yeah much

5082
09:06:26,068 --> 09:06:23,598
more mild though it's just noticeable

5083
09:06:28,548 --> 09:06:26,078
my radar is sorry

5084
09:07:17,830 --> 09:06:28,558
i haven't done or changed anything in

5085
09:07:17,840 --> 09:07:24,830
t1 is 244 decimal

5086
09:07:24,840 --> 09:07:49,030
85 okay we're copying good numbers

5087
09:07:53,748 --> 09:07:50,950
with the completion of today's spacewalk

5088
09:07:55,830 --> 09:07:53,758

at 201 pm central time we've got some

5089

09:07:58,630 --> 09:07:55,840

updated statistics for you based on

5090

09:08:02,228 --> 09:07:58,640

spacewalks at the station today's lasted

5091

09:08:04,388 --> 09:08:02,238

6 hours and 47 minutes and was the 237th

5092

09:08:06,548 --> 09:08:04,398

spacewalk in support of station assembly

5093

09:08:08,470 --> 09:08:06,558

maintenance and upgrades

5094

09:08:11,830 --> 09:08:08,480

it was the fifth spacewalk conducted in

5095

09:08:13,428 --> 09:08:11,840

2021 but the sixth for expedition 64.

5096

09:08:15,908 --> 09:08:13,438

with one of those originating from the

5097

09:08:17,428 --> 09:08:15,918

poisk airlock and five from the quest

5098

09:08:19,112 --> 09:08:17,438

airlock

5099

09:08:21,510 --> 09:08:19,122

this was the fourth spacewalk for victor

5100

09:08:22,630 --> 09:08:21,520

glover totaling 26 hours and seven

5101
09:08:25,588 --> 09:08:22,640
minutes

5102
09:08:28,388 --> 09:08:25,598
the fifth for mike hopkins totaling 32

5103
09:08:30,228 --> 09:08:28,398
hours and one minute

5104
09:08:32,708 --> 09:08:30,238
today's spacewalk itself as we mentioned

5105
09:08:35,030 --> 09:08:32,718
six hours and 47 minutes

5106
09:08:37,510 --> 09:08:35,040
and of all time that brings total

5107
09:08:39,510 --> 09:08:37,520
spacewalks for space station assembly

5108
09:08:47,670 --> 09:08:39,520
maintenance and upgrades to a total of

5109
09:08:51,350 --> 09:08:49,748
and i assume there's no car for this yes

5110
09:08:55,588 --> 09:08:51,360
they're going to continue

5111
09:08:58,310 --> 09:08:55,598
ev1 uh eb1 eb2 both autolox trader to

5112
09:09:15,510 --> 09:08:58,320
ivy

5113
09:09:15,520 --> 09:09:20,388

anyone id db2

5114

09:09:25,510 --> 09:09:23,428

i'll start the equalization again and

5115

09:09:33,990 --> 09:09:25,520

again it's starting slow and i pick up

5116

09:09:34,000 --> 09:09:49,670

instead of reverse

5117

09:09:53,510 --> 09:09:51,510

new one's good

5118

09:10:24,388 --> 09:09:53,520

good

5119

09:10:28,868 --> 09:10:27,030

while repressurization continues in the

5120

09:10:31,030 --> 09:10:28,878

crew lock portion of the quest airlock

5121

09:10:33,510 --> 09:10:31,040

we've got a couple more ask and ask

5122

09:10:35,908 --> 09:10:33,520

questions that we can answer

5123

09:10:38,950 --> 09:10:35,918

this one asking are the suits one size

5124

09:10:40,790 --> 09:10:38,960

fits all or are there different sizes

5125

09:10:42,950 --> 09:10:40,800

engineers on the ground take about 80

5126
09:10:45,350 --> 09:10:42,960
measurements to ensure each spacewalker

5127
09:10:47,830 --> 09:10:45,360
has the best fitting spacesuit and there

5128
09:10:49,830 --> 09:10:47,840
are about 16 major elements that compose

5129
09:10:52,790 --> 09:10:49,840
the suit that's about three different

5130
09:10:56,548 --> 09:10:52,800
sizes of torsos eight sizes of elbow

5131
09:10:59,908 --> 09:10:56,558
joint pieces two adjustable waist sizes

5132
09:11:20,068 --> 09:10:59,918
five sizes of knee joint pieces and 65

5133
09:11:23,908 --> 09:11:21,990
the next question comes from kylie who

5134
09:11:25,510 --> 09:11:23,918
wants to know how long these astronauts

5135
09:11:26,868 --> 09:11:25,520
have been on the station and how long

5136
09:11:28,310 --> 09:11:26,878
they will stay

5137
09:11:30,068 --> 09:11:28,320
the astronauts currently living on the

5138
09:11:32,630 --> 09:11:30,078

space station arrived on two separate

5139

09:11:34,548 --> 09:11:32,640

vehicles the first of those was nasa

5140

09:11:36,470 --> 09:11:34,558

astronaut kate rubins and rose cosmos

5141

09:11:38,068 --> 09:11:36,480

cosmonauts sergey ryjikov and sergey

5142

09:11:39,670 --> 09:11:38,078

kuzkov

5143

09:11:41,908 --> 09:11:39,680

they arrived at the international space

5144

09:11:47,030 --> 09:11:41,918

station on october 14th after launching

5145

09:11:50,830 --> 09:11:48,228

they will remain aboard the

5146

09:11:52,470 --> 09:11:50,840

international space station until next

5147

09:11:54,150 --> 09:11:52,480

month

5148

09:11:57,510 --> 09:11:54,160

meanwhile the other

5149

09:12:02,068 --> 09:11:57,520

four crew members five four crew members

5150

09:12:07,670 --> 09:12:05,748

they arrived on november 17th

5151
09:12:11,040 --> 09:12:07,680
and will stay on board until the arrival

5152
09:12:32,310 --> 09:12:11,050
of the crew 2 mission

5153
09:12:46,240 --> 09:12:34,740
and loud

5154
09:12:46,250 --> 09:14:31,670
[Applause]

5155
09:15:13,990 --> 09:14:33,748
we copy and concur we'll stand by for

5156
09:15:19,112 --> 09:15:17,030
and houston station on one uh it's it's

5157
09:15:21,428 --> 09:15:19,122
now quiet and looks like it's the

5158
09:15:23,830 --> 09:15:21,438
pressure is equalized if the guy's okay

5159
09:15:25,588 --> 09:15:23,840
we're not stopped uh opening the hatch

5160
09:15:30,068 --> 09:15:25,598
and i understand we're blocked for you

5161
09:15:35,588 --> 09:15:32,150
sweetie we are go for you to open the iv

5162
09:15:39,150 --> 09:15:37,268
with the crew lock portion of the quest

5163
09:15:41,908 --> 09:15:39,160

airlock repressurized

5164

09:15:44,310 --> 09:15:41,918

suici and kate rubins prepared to open

5165

09:16:05,350 --> 09:15:44,320

the hatch separating them from mike

5166

09:16:12,470 --> 09:16:08,950

how was your uh uh epa in dgl

5167

09:16:14,470 --> 09:16:12,480

mine was like butter oh yeah

5168

09:16:16,470 --> 09:16:14,480

those were so weird little teeny tiny

5169

09:16:18,228 --> 09:16:16,480

weenies

5170

09:16:19,670 --> 09:16:18,238

it should make them all anywhere you can

5171

09:16:26,150 --> 09:16:19,680

go

5172

09:16:30,470 --> 09:16:28,150

make more of them

5173

09:16:47,908 --> 09:16:30,480

gotta go high voltage a lot of peony we

5174

09:16:55,830 --> 09:16:49,908

and crew members we have no detectable

5175

09:17:00,708 --> 09:16:58,548

that is good news okay that puts us on

5176
09:17:02,950 --> 09:17:00,718
the nominal post eva and we'll restore

5177
09:17:05,588 --> 09:17:02,960
the equipment you got out earlier later

5178
09:17:10,708 --> 09:17:06,388
okay

5179
09:17:14,470 --> 09:17:12,630
as a reminder one of the astronauts

5180
09:17:16,630 --> 09:17:14,480
tasked today specifically their first

5181
09:17:18,868 --> 09:17:16,640
task was to vent ammonia

5182
09:17:20,950 --> 09:17:18,878
from the early ammonia system

5183
09:17:23,350 --> 09:17:20,960
confirmation from kate rubins that there

5184
09:17:32,708 --> 09:17:23,360
does not appear to be any ammonia

5185
09:17:59,748 --> 09:17:35,908
oh let's see is my waist feather still

5186
09:17:59,758 --> 09:19:25,746
uh

5187
09:19:28,950 --> 09:19:27,746
and airlock houston on one just letting

5188
09:19:31,586 --> 09:19:28,960

you know

5189

09:19:33,830 --> 09:19:31,596

ev crew is no longer hotline on space to

5190

09:19:35,586 --> 09:19:33,840

ground one and then for

5191

09:19:37,390 --> 09:19:35,596

kate and suici we just want to make sure

5192

09:19:40,550 --> 09:19:37,400

that you open the

5193

09:19:43,350 --> 09:19:40,560

1.240 post cva procedure from optimus

5194

09:19:45,510 --> 09:19:43,360

because it's an xtp version and not from

5195

09:19:49,746 --> 09:19:45,520

the link in the ammonia decontamination

5196

09:19:49,756 --> 09:19:55,266

keep your version

5197

09:20:02,150 --> 09:19:57,586

mike hopkins now back in the equipment

5198

09:20:02,160 --> 09:20:07,110

both both tvs are not top-notch

5199

09:20:07,120 --> 09:21:21,586

good copy

5200

09:21:26,870 --> 09:21:23,510

okay rubens and suicina gucci are

5201
09:21:29,510 --> 09:21:26,880
removing the safer backpack and houston

5202
09:21:30,630 --> 09:21:29,520
station one we're picking up the first

5203
09:21:33,030 --> 09:21:30,640
eva

5204
09:21:37,426 --> 09:21:33,040
and we're starting step seven for the

5205
09:21:43,266 --> 09:21:40,710
wait should we copy

5206
09:21:45,110 --> 09:21:43,276
the safer is the simplified aid for eva

5207
09:21:47,510 --> 09:21:45,120
rescue and it's a compressed

5208
09:21:49,110 --> 09:21:47,520
nitrogen-powered backpack

5209
09:21:51,586 --> 09:21:49,120
obviously we didn't see those in use

5210
09:21:53,830 --> 09:21:51,596
today they are reserved for use in case

5211
09:21:55,426 --> 09:21:53,840
a crew member were to become detached

5212
09:23:55,510 --> 09:21:55,436
from the space station and needed to

5213
09:24:01,030 --> 09:23:57,830

another look at today's spacewalk by the

5214

09:24:02,950 --> 09:24:01,040

numbers this was the 237th spacewalk in

5215

09:24:05,266 --> 09:24:02,960

support of station assembly maintenance

5216

09:24:08,070 --> 09:24:05,276

and upgrades and the fifth spacewalk of

5217

09:24:09,990 --> 09:24:08,080

this year it was the sixth spacewalk for

5218

09:24:11,990 --> 09:24:10,000

expedition 64. one of those being

5219

09:24:14,870 --> 09:24:12,000

conducted out of the poisk module and

5220

09:24:17,830 --> 09:24:14,880

the other five out of the quest

5221

09:24:19,670 --> 09:24:17,840

airlock which we saw today

5222

09:24:21,830 --> 09:24:19,680

this was the fourth space walk for

5223

09:24:24,230 --> 09:24:21,840

victor glover and now has a total of

5224

09:24:25,190 --> 09:24:24,240

spacewalking time of 26 hours and seven

5225

09:24:26,790 --> 09:24:25,200

minutes

5226

09:24:29,830 --> 09:24:26,800

mike hopkins completed his fifth

5227

09:24:32,070 --> 09:24:29,840

spacewalk today totaling out at 32 hours

5228

09:24:34,710 --> 09:24:32,080

and one minute

5229

09:24:37,426 --> 09:24:34,720

today's spacewalk lasted 6 hours and 47

5230

09:24:41,110 --> 09:24:37,436

minutes starting at 7 14 a.m central

5231

09:24:44,870 --> 09:24:41,120

time and ending at 201 pm central time

5232

09:24:46,630 --> 09:24:44,880

and in total of those 237 spacewalks in

5233

09:24:50,710 --> 09:24:46,640

support of station assembly maintenance

5234

09:26:25,746 --> 09:24:50,720

and upgrades you see 62 days 3 hours and

5235

09:26:29,990 --> 09:26:28,230

the four astronauts in frame

5236

09:26:32,870 --> 09:26:30,000

were

5237

09:26:35,030 --> 09:26:32,880

leading today's spacewalk on orbit mike

5238

09:26:37,266 --> 09:26:35,040

hawkins and victor glover being our

5239

09:26:40,230 --> 09:26:37,276

spacewalkers and suicinaguchi and kate

5240

09:26:41,990 --> 09:26:40,240

rubins serving to help them get suited

5241

09:26:43,830 --> 09:26:42,000

and unsuited

5242

09:26:46,150 --> 09:26:43,840

the team here on the ground consisting

5243

09:26:48,870 --> 09:26:46,160

of flight director chris edelen

5244

09:26:51,190 --> 09:26:48,880

lead spacewalk officer art thomason

5245

09:26:54,870 --> 09:26:51,200

and ground iv who was relaying the tasks

5246

09:26:58,230 --> 09:26:54,880

to the astronauts andy mogensen an esa

5247

09:27:00,390 --> 09:26:58,240

or european space agency astronaut

5248

09:27:02,070 --> 09:27:00,400

and capcom kathy bolt spoke with the

5249

09:28:44,230 --> 09:27:02,080

astronauts inside the international

5250

09:28:48,550 --> 09:28:46,630

both mike hopkins and victor glover back

5251
09:28:50,790 --> 09:28:48,560
inside the equipment lot portion of the

5252
09:30:01,426 --> 09:28:50,800
quest airlock where they were this

5253
09:30:04,550 --> 09:30:03,426
as we await for the astronauts helmets

5254
09:30:06,630 --> 09:30:04,560
to be removed

5255
09:30:09,746 --> 09:30:06,640
a recap of today's spacewalk and

5256
09:30:12,390 --> 09:30:09,756
everything our crew members accomplished

5257
09:30:14,390 --> 09:30:12,400
the spacewalk began at 7 14 a.m central

5258
09:30:16,470 --> 09:30:14,400
time and the first task for our crew

5259
09:30:20,390 --> 09:30:16,480
members was to vent two

5260
09:30:22,230 --> 09:30:20,400
kit jumpers on the early ammonia system

5261
09:30:23,830 --> 09:30:22,240
victor glover relocated one of those

5262
09:30:25,350 --> 09:30:23,840
jumper cables to the outside of the

5263
09:30:27,266 --> 09:30:25,360

quest airlock

5264

09:30:29,266 --> 09:30:27,276

then removed and replaced a wireless

5265

09:30:30,390 --> 09:30:29,276

video system external transceiver

5266

09:30:32,070 --> 09:30:30,400

assembly

5267

09:30:34,070 --> 09:30:32,080

we've received confirmation that there

5268

09:30:37,830 --> 09:30:34,080

was a successful checkout of that

5269

09:30:41,906 --> 09:30:39,670

mike hopkins successfully connected

5270

09:30:43,830 --> 09:30:41,916

three jumpers on the bartolomeo platform

5271

09:30:46,790 --> 09:30:43,840

continuing work that was started earlier

5272

09:30:48,630 --> 09:30:46,800

this year he also capped one jumper

5273

09:30:50,550 --> 09:30:48,640

meaning five out of the six connectors

5274

09:30:54,230 --> 09:30:50,560

are now mated and bartolomeo is in a

5275

09:30:58,390 --> 09:30:56,150

european space agency teams reported

5276

09:31:00,630 --> 09:30:58,400

that power checkouts were good and they

5277

09:31:05,426 --> 09:31:00,640

will continue evaluating a future course

5278

09:31:09,510 --> 09:31:07,266

victor glover installed a new thermal

5279

09:31:11,426 --> 09:31:09,520

cover stiffener preventing the thermal

5280

09:31:12,710 --> 09:31:11,436

cover on the quest airlock from blowing

5281

09:31:15,030 --> 09:31:12,720

open

5282

09:31:18,950 --> 09:31:15,040

and mike hawkins reconfigured the ham

5283

09:31:23,110 --> 09:31:20,630

the astronauts finished out the day by

5284

09:31:25,670 --> 09:31:23,120

routing the cp-9 that's camera port 9

5285

09:31:27,830 --> 09:31:25,680

cable and partially routing the cp8

5286

09:31:29,746 --> 09:31:27,840

cable once connected these will provide

5287

09:31:33,266 --> 09:31:29,756

a wi-fi hotspot for the international

5288

09:31:38,550 --> 09:31:35,990

today's spacewalk ended at 201 pm

5289

09:34:44,710 --> 09:31:38,560

central time for a total spacewalk time

5290

09:34:48,150 --> 09:34:46,070

astronauts victor glover and mike

5291

09:34:49,586 --> 09:34:48,160

hopkins getting a chance to flex their

5292

09:34:52,790 --> 09:34:49,596

hands

5293

09:34:54,790 --> 09:34:52,800

after a taxing eva of course all work on

5294

09:34:57,190 --> 09:34:54,800

a spacewalk is performed by the

5295

09:34:58,710 --> 09:34:57,200

astronauts hands and so at the end of

5296

09:35:00,470 --> 09:34:58,720

the day working with those heavy

5297

09:35:01,906 --> 09:35:00,480

pressurized gloves

5298

09:35:03,990 --> 09:35:01,916

it feels good to

5299

09:37:57,830 --> 09:35:04,000

take those off and

5300

09:38:02,310 --> 09:38:00,230

and with helmets off of victor glover

5301

09:38:04,870 --> 09:38:02,320

and mike hopkins that wraps up our

5302

09:38:09,110 --> 09:38:04,880

coverage for today's spacewalk totaling

5303

09:38:11,510 --> 09:38:09,120

at six hours and 47 minutes

5304

09:38:13,426 --> 09:38:11,520

coming up next for space station events

5305

09:38:15,586 --> 09:38:13,436

we will have mark vanda high

5306

09:38:20,150 --> 09:38:15,596

participating in a live news conference

5307

09:38:21,746 --> 09:38:20,160

monday march 15th at 11 a.m eastern time

5308

09:38:24,150 --> 09:38:21,756

vanda high will be flying as part of

5309

09:38:35,990 --> 09:38:24,160

expedition 65 to the international space

5310

09:38:40,950 --> 09:38:38,310

good attitudes and a successful day of

5311

09:38:43,350 --> 09:38:40,960

work completed by our two astronauts

5312

09:38:45,586 --> 09:38:43,360

mike hopkins and victor glover and with

5313

09:38:53,770 --> 09:38:45,596

that we are signing off this is mission